

**SIEMENS**  
*Ingenuity for life*

# Building Control GAMMA instabus

Product catalog 2020

[siemens.com/gamma](https://www.siemens.com/gamma)

Smart home  
and building  
solutions.  
Global. Secure.  
Connected.





# GAMMA

## Building Control

GAMMA instabus from Siemens is based on the world-wide KNX standard for home and Building Control, which guarantees interoperability with all certified KNX devices on the market.

As a leading manufacturer Siemens offers a comprehensive product portfolio consisting of intelligent KNX devices and allows networked applications. Lighting, solar protection, heating, ventilation and air-conditioning can be controlled by display and operation units.



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**SIEMENS**  
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We create buildings that care



# Dear customers

Smart infrastructure from Siemens intelligently connects energy systems, buildings and industries to adapt and evolve the way we live and work. We work together with customers and partners to create an ecosystem that intuitively responds to the needs of people and helps customers to better use resources. It helps our customers to thrive, communities to progress and supports sustainable development.

People spend 90% of their lives in buildings. The quality of the interior environment has a profound impact on quality of life. Though innovative building technology we provide intelligent automation technologies and services for commercial, industrial and public buildings and infrastructures. As a trusted advisor and reliable partner, a system integrator, service provider and product vendor, we help to create efficient, safe, responsive and responsible environments – and so we are creating perfect places.

This catalog presents the KNX portfolio and gives for example a detailed and comprehensive overview on the GAMMA instabus products, KNX thermostats as well as Synco products. With its extensive product portfolio range, GAMMA instabus ensures efficient and economical operation across the entire lifecycle of a building. The GAMMA instabus and Synco products provide optimal comfort solutions and energy-efficient applications. The interaction between lighting, solar protection, heating, ventilation and air-conditioning helps to achieve the greatest possible energy savings. Additionally, Building Control GAMMA instabus offers compliance with the KNX standard and the highest levels of flexibility.



# Smart Infrastructure

## A consistent strategy



Making real what matters: Humans care. We want an urban, sustainable, livable world that optimally combines real and digital solutions. We address infrastructure challenges, contributing to sustainable development and creating the best possible environments in which to live and work.

Smart infrastructure supports the way we all want to live – happily, comfortably, sustainably and in harmony. It supports the way industry and organizations want

to be – efficient, responsible and smarter. Technology and the ingenuity of people come together to be at one with our environments and to care for our world. We do this from the macro to the micro level, from physical products, components and systems to connected, cloud-based digital offerings and services. From intelligent grid control and electrification to smart storage solutions, from building automation and control systems to switches, valves and sensors.

### Control Products



- Industrial controls
- Starting devices for motors
- Switching and protection with contactors
- Functional and safety relays

### Low Voltage Products



- Low-voltage power distribution
- Medium-voltage vacuum circuit breakers

### Building Products



- Building and room automation
- Integrated building management systems

### Distribution Systems



- Medium- and low-voltage switchgears
- Distribution solutions
- Energy storage systems

### Digital Grid



- Energy automation and Smart Grid
- Grid operation and control
- Grid planning and simulation

### Solution and Service Portfolio



- Building operations
- Service and migration

Creating environments that care.



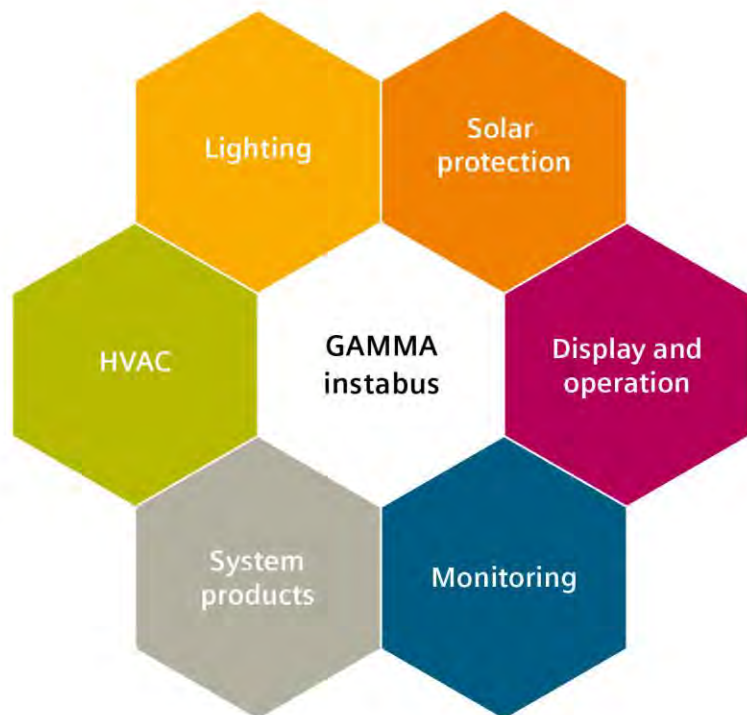
# Building Control GAMMA instabus

Energy efficient room and Building Control



## Building Control

GAMMA instabus from Siemens is based on the worldwide KNX standard for home and Building Control, which guarantees interoperability with all certified KNX devices on the market. The comprehensive product portfolio consists of smart field devices and enables networked applications. GAMMA instabus offers products for lighting, solar protection, display and operation, energy monitoring, system products as well as heating, ventilation and air-conditioning. With GAMMA instabus and Synco primary control, it is possible to reach efficiency class A in buildings according to the BACS Energy Performance Classes EN 15232 or other energy labels. Through the standardized commissioning software (ETS) and products for different installation standards (IEC and UL/NEMA) ensure applications for the worldwide markets. So, if GAMMA instabus operates a building, the lifecycle costs are low.



### Lighting

The GAMMA instabus product portfolio offers regarding lighting compact KNX/DALI Gateway as well as LED dimmer. For this, there are many sensors for detecting presence, motion, and controlling lighting levels.



### Solar protection

For controlling solar protection, door and window contact actuators, the GAMMA product portfolio offers blind actuators and weather stations to measure light, temperature, wind and rain.



### Display and operation

The GAMMA instabus product portfolio offers various alternatives for display and operation for lighting, solar protection and HVAC: Starting from easy pushbuttons and room thermostat, multi functional room operation units to web based systems.



### Heating, ventilation and air-conditioning (HVAC)

For heating, ventilation and air-conditioning (HVAC) in a room and building, the GAMMA instabus product portfolio offers room temperature controller, thermal actuators and actuating drives.



### System products

The system products of GAMMA instabus such as power supply, IP Router, line coupler, Gateways, Automation Controller and modular actuators are available for several installation standards (IEC and UL/NEMA).



### Monitoring

Monitoring enables to measure, compare and evaluate electrical power and performance, heat flow volume, consumption of gas, water and oil in various line and bar charts.



# Tools and Apps

## GAMMA-TD

The GAMMA-TD website contains technical information about all KNX products from Siemens. You can download operating and installation instructions, descriptions of individual applications, product databases, technical product information, specification texts for invitations to tender as well as CE certificates. Furthermore, additional software (firmware download tool, ...), drawing files (eplan, DXF, DWG) and many other information can be found for the effective planning, commissioning and operation of KNX systems.



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gamma-td



## ETS – Engineering Tool Software

ETS stands for Engineering Tool Software and is based on the world's only open standard for home and Building Control. ETS is a manufacturer-independent configuration tool that can be used to design and configure intelligent home and Building Control installations based on KNX. ETS is a software, which runs on Windows®-based computers and is maintained by the KNX Association. ETS can be used to commission any KNX product, making it possible to generate complete project documentation at any time.



knx.org



## ETS Inside

The ETS Inside is a software tool of the KNX Association, which enables to adapt functions in a house individually. All GAMMA instabus-products, which don't have an ETS Plugin, can be commissioned with the ETS Inside. A list of all GAMMA and HVAC-products you can find on the GAMMA-TD: „ETS Inside Information“. (siemens.com/gamma-td)

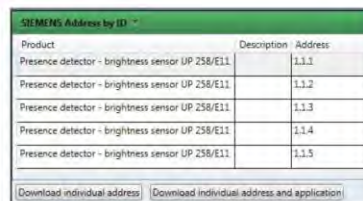


etsinside.  
knx.org



## ETS Apps

Some users want additional functions when using KNX. With the ETS apps you can realize even more creative ideas to make your automation project even more attractive. The ETS apps offer limitless possibilities, but are still compatible with the entire KNX system. Owners of the ETS who desire additional capabilities only need to download, install, and



siemens.com/  
ets-apps



## HIT Portal

Supports the European energy efficiency standard EN 15232. This tool provides more than 300 preconfigured standard HVAC configurations classified according to their energy saving potential. This allows users to select the application that best matches their requirements. Documents linked to the applications describe the conditions that have to be met to ensure compliance with one of the energy efficiency classes defined in EN 15232.



siemens.com/  
hit





Siemens actively supports every phase of your project with tools and apps.

### Industry Mall

All automation, drive and installation products, including products from the HVAC and GAMMA portfolios, are listed in the Industry Mall, a consolidated information and order platform.



[siemens.com/industrymall](https://siemens.com/industrymall)



### EPC – Energy Performance Classification Tool

The EPC Tool helps users determine the actual state of an existing building automation system and rates it according to one of four efficiency classes (A to D). When the building automation system is upgraded, the EPC Tool can be used to determine the system's new efficiency class. In addition, the EPC Tool helps users identify the profitability of modernization measures and to quickly prepare customized documentation.



[siemens.com/epc](https://siemens.com/epc)



### SIOS – Siemens Industry Online System

The Siemens Industry Online System (SIOS) is an Internet portal containing technical information about all KNX products from Siemens. You can download operating and installation instructions, descriptions of individual applications, VD files, technical product information, specification texts for invitations to tender as well as CE certificates. This makes the SIOS the go-to destination



[support.automation.siemens.com](https://support.automation.siemens.com)



### Siemens Download Center

The Download Center app allows you to download all brochures, instructions, specifications and datasheets to your smartphone or tablet.



[siemens.com/download-center](https://siemens.com/download-center)



### Siemens Youtube Channel

On the official Siemens channel on YouTube you can watch the latest videos of the company. Siemens videos show the wide range of our expertise, from Energy Efficiency to Sustainable Cities, Industrial Productivity, as well as Next-Generation Healthcare.



[youtube.com/siemens](https://youtube.com/siemens)







## How we support you

In order to transform buildings into efficient systems that operate economically and reliably as well as to achieve higher returns, we offer a wide-ranging support. GAMMA instabus from Siemens is based on the worldwide KNX standard for home and building systems, so interoperability with all certified KNX devices on the market is guaranteed. With the KNX technology you can flexibly realize and optimize simple and also cross-discipline solutions according to individual needs. KNX products are produced by more than 400 manufacturers worldwide. By interacting with other systems, there is a unique flexibility not only in the planning phase but also in usage changes.

Comprehensive solutions enable networked applications. Lighting, solar protection, heating, ventilation and air conditioning can be controlled via display and operation units. All information about products and systems can be found on our online databases. In addition, our regional sales support you as well as our general support. There are also extensive KNX training courses offered for the GAMMA products.

support.  
automation.  
[siemens.com](https://www.siemens.com)





# Building information modeling (BIM)

## Understanding the language of buildings



BIM is the equivalent of digitalization in the construction industry: A digitally supported process for planning, constructing and operating buildings that enables a significant productivity increase in the construction industry.

BIM helps to plan, build and operate buildings with greater insight. BIM data combined with real-time building data will enhance predictive data analytics over the building life-cycle. This enables significant gains around productivity, efficiency, reliability and overall quality.

Siemens owes its success in delivering digital services to its strengths and competencies in building

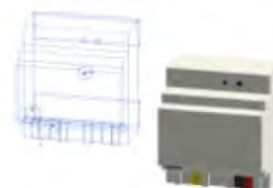
management and predictive data analytics, supported by reliable and secure infrastructure. With our trusted domain and IT expertise, we have built long-standing credibility around all disciplines of building technologies. In our pursuit of excellence to deliver the perfect place, you essentially benefit from our years of experience in building technologies.

### Siemens BIM-compliant product data: the basis of the BIM process

Siemens BIM-compliant product data allows easy integration of the data into authoring processes. With more than 4,000 products already available and more to come, Siemens is setting the benchmark for BIM-compliant product data.

### Benefits at a glance:

- Fast download of all data
- Support for 2D and 3D planning
- Simple product search and download
- Visualize data before downloading
- Regular plug-in update to keep data current
- Continuous expansion of BIM data



Graphic: IP Control Center – digital in BIM





# GAMMA instabus – New products



## IP Router Secure N 146/03

The KNX IP-Router Secure ensures secure data transfer between KNX devices. This ensures secure communication between lines, areas and systems via an IP-based network.



## IP Interface Secure N 148/23

This device serves as a secure interface between a PC and the KNX installation in an IP-based network. The device prevents unauthorized access to the KNX installation due to secure authentication procedures. The telegrams between PC and interface are encrypted. In addition, secure display and operation of functions is possible locally or remotely.



## Solar protection actuator N 543D51

The new sun protection actuators keep workspaces glare-free during the day and prevent rooms from heating up. The automatic travel time determination ensures easy and fast commissioning. With flexible override blocks, the shades can be protected against wind, rain and frost. When used in combination with a weather station, the actuators can meet complex requirements of a state-of-the-art sun protection control solution.



## Switching/dimming actuator N 536D51

This new actuators are used for intelligent lighting control and ensure very comfortable lighting. They support low-energy switching and dimming of LEDs and fluorescent lamps via 1 ... 10 Volt control outputs or LED drivers.



## Switching actuator with load current detection N 535D51

The new switching actuators with load current detection are suitable for high, capacitive, inductive and ohmic loads, especially those with high inrush peaks. The additional load current monitoring can identify changes in load behavior.



## Touch screen room control RDF870KN

The unit monitors the levels of PM2.5 and CO<sub>2</sub> received via bus or external inputs and provides fan control accordingly for fresh air units or purifiers.





# GAMMA instabus

Available in combination with DELTA frames

## DELTA miro Aluminium

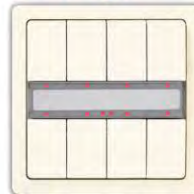


Natural/



Yellow oxide/

## DELTA style



Titanium white



Platinum metallic

## DELTA line



Titanium white



Aluminum metallic



## DELTA miro Glas



Crystal green/  
aluminum metallic



White/  
titanium white



Black/  
aluminum metallic



Orient/  
titanium white



Arena/  
titanium white

## DELTA miro Color



Titanium white



Aluminum metallic



Carbon metallic

## DELTA miro wood



Maple red



Maple





# Training GAMMA instabus

Certified training options in all areas of GAMMA Building Control

## KNX – a strong partner for your success

KNX – the worldwide standard for home and building control – enables on demand and cross-discipline control of room temperature and energy management as well as lighting and shading. Installed by qualified Building Control technicians, the intelligent networking of building automation products offers completely new ways to increase energy efficiency, security and comfort.

The certified training program from Siemens provides you with comprehensive and in-depth knowledge on every aspect of KNX. The GAMMA training kit offers you an extremely simple self-instruction option for training in a wide range of functions and applications, as well as for consolidating your knowledge and abilities in the KNX field – leading you step by step to success.



## Practical learning made easy

With our wide range of courses and practical trainings you can gain the extra edge you need to take the lead in the market. For your certified training and future-proof specialization, we offer you a wide choice of courses:

- KNX Basic Course (with Certification)
- KNX Advanced Course (with Certification)
- KNX Trainer Course (with Certification)
- KNX and DALI Diagnostics/ Failure Resolution
- Web-Visualization
- IP Basics KNXnet/IP
- Integrated Applications

## Putting theory into practice from the start

Our training courses offer a balanced mix of theory and practice and so contribute to your success in the market. Our high quality training courses are distinguished by their high level of practical content.

[siemens.com/sitrain-knx](https://www.siemens.com/sitrain-knx)





# GAMMA Training Kit

## KNX Training with the GAMMA Training Kit (GTK)

A fully equipped training case is suitable for the organization of mobile KNX classes for system integrators, electrical installers and planners alike. The training cases offer the option to mount three additional modules individually and add also the DALI module when required. The standard modules provide a pushbutton mounted with a configurable push-button interface and a room control unit.

All GAMMA Training Kits are robust and built as a Trolley for a safe and easy transportation of the technical equipment. To order the GAMMA Training Kit and the Operation and Function Modules, please contact your local sales for receiving an offer.



## Contact and support

Further information can be found here:



Building Control  
GAMMA instabus:  
[siemens.com/gamma](https://siemens.com/gamma)



SIOS:  
[siemens.com/sios](https://siemens.com/sios)



Technical documentation:  
[siemens.com/gamma-td](https://siemens.com/gamma-td)



Web based trainings:  
[siemens.com/web-based-training](https://siemens.com/web-based-training)



HIT Portal:  
[siemens.com/hit](https://siemens.com/hit)

### Support

Mail: [support.automation@siemens.com](mailto:support.automation@siemens.com);  
Website: [siemens.com/automation/support-request](https://siemens.com/automation/support-request)

## Type Overview

Stock no.	Product no.	Product Title	Data sheet	Page
4AC2402	4AC2402	Electronic power supply unit, 350 mA		360
5TC7220-0	5TC72200	Surface-mounting motion detector, AC 230 V 50 Hz		324
5TC7220-1	5TC72201	Flush-mounting motion detector, AC 230 V 50 Hz		324
5TG1111-0	5TG11110	Frame, DELTA miro color, plastic, titanium white (similar to RAL 9010), single	A6V10332363	53
5TG1111-1	5TG11111	Frame, DELTA miro color, plastic, aluminum metallic (similar to RAL 9006), single	A6V10332364	53
5TG1111-2	5TG11112	Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016), single	A6V10332365	54
5TG1112-0	5TG11120	Frame, DELTA miro color, plastic, titanium white (similar to RAL 9010),Double	A6V10332366	53
5TG1112-1	5TG11121	Frame, DELTA miro color, plastic, aluminum metallic (similar to RAL 9006), double	A6V10332367	53
5TG1112-2	5TG11122	Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016), double	A6V10332368	54
5TG1113-0	5TG11130	Frame, DELTA miro color, plastic, titanium white (similar to RAL 9010), triple	A6V10332369	53
5TG1113-1	5TG11131	Frame, DELTA miro color, plastic, aluminum metallic (similar to RAL 9006), triple	A6V10332370	53
5TG1113-2	5TG11132	Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016), triple	A6V10332371	54
5TG1114-0	5TG11140	Frame, DELTA miro color, plastic, titanium white (similar to RAL 9010), quadruple	A6V10332372	53
5TG1114-1	5TG11141	Frame, DELTA miro color, plastic, aluminum metallic (similar to RAL 9006), quadruple	A6V10332373	53
5TG1114-2	5TG11142	Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016), quintuple	A6V10332374	54
5TG1115-0	5TG11150	Frame, DELTA miro color, plastic, titanium white (similar to RAL 9010), quintuple	A6V10332375	53
5TG1115-1	5TG11151	Frame, DELTA miro color, plastic, aluminum metallic (similar to RAL 9006), quintuple	A6V10332376	53
5TG1115-2	5TG11152	Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016), quintuple,	A6V10332377	54
5TG1121-0	5TG11210	Frame, DELTA miro aluminum, real aluminum, natural, single	A6V10332378	58
5TG1121-3	5TG11213	Frame, DELTA miro aluminum, real aluminum, yellow oxide, single	A6V10332381	58
5TG1122-0	5TG11220	Frame, DELTA miro aluminum, real aluminum, natural, double	A6V10332382	58
5TG1122-3	5TG11223	Frame, DELTA miro aluminum, real aluminum, yellow oxide, double	A6V10332385	58
5TG1123-0	5TG11230	Frame, DELTA miro aluminum, real aluminum, natural, triple	A6V10332386	58
5TG1123-3	5TG11233	Frame, DELTA miro aluminum, real aluminum, yellow oxide, triple	A6V10332389	58
5TG1124-0	5TG11240	Frame, DELTA miro aluminum, real aluminum, natural, quadruple	A6V10332390	58
5TG1124-3	5TG11243	Frame, DELTA miro aluminum, real aluminum, yellow oxide, quadruple	A6V10332393	58
5TG1125-0	5TG11250	Frame, DELTA miro aluminum, real aluminum, natural, quintuple	A6V10332394	58
5TG1125-3	5TG11253	Frame, DELTA miro aluminum, real aluminum, yellow oxide, quintuple	A6V10332397	58
5TG1201	5TG1201	Frame, DELTA miro glass, real glass, crystal green, single	A6V10332406	55
5TG1201-1	5TG12011	Frame, DELTA miro glass, real glass, white, single	A6V10332402	55
5TG1201-2	5TG12012	Frame, DELTA miro glass, real glass, black, single	A6V10332403	56
5TG1201-3	5TG12013	Frame, DELTA miro glass, real glass, orient, single	A6V10332404	56
5TG1201-4	5TG12014	Frame, DELTA miro glass, real glass, arena, single	A6V10332405	57
5TG1202	5TG1202	Frame, DELTA miro glass, real glass, crystal green, double	A6V10332411	55
5TG1202-1	5TG12021	Frame, DELTA miro glass, real glass, white, double	A6V10332407	55
5TG1202-2	5TG12022	Frame, DELTA miro glass, real glass, black, double	A6V10332408	56
5TG1202-3	5TG12023	Frame, DELTA miro glass, real glass, orient, double	A6V10332409	56
5TG1202-4	5TG12024	Frame, DELTA miro glass, real glass, arena, double	A6V10332410	57
5TG1203	5TG1203	Frame, DELTA miro glass, real glass, crystal green, triple	A6V10332416	55
5TG1203-1	5TG12031	Frame, DELTA miro glass, real glass, white, triple	A6V10332412	55
5TG1203-2	5TG12032	Frame, DELTA miro glass, real glass, black, triple	A6V10332413	56



Stock no.	Product no.	Product Title	Data sheet	Page
5TG1203-3	5TG12033	Frame, DELTA miro glass, real glass, orient, triple	A6V10332414	56
5TG1203-4	5TG12034	Frame, DELTA miro glass, real glass, arena, triple	A6V10332415	57
5TG1204	5TG1204	Frame, DELTA miro glass, real glass, crystal green, quadruple	A6V10332421	55
5TG1204-1	5TG12041	Frame, DELTA miro glass, real glass, white, quadruple	A6V10332417	55
5TG1204-2	5TG12042	Frame, DELTA miro glass, real glass, black, quadruple	A6V10332418	56
5TG1204-3	5TG12043	Frame, DELTA miro glass, real glass, orient, quadruple	A6V10332419	56
5TG1204-4	5TG12044	Frame, DELTA miro glass, real glass, arena, quadruple	A6V10332420	57
5TG1205	5TG1205	Frame, DELTA miro glass, real glass, crystal green, quintuple	A6V10332426	55
5TG1205-1	5TG12051	Frame, DELTA miro glass, real glass, white, quintuple	A6V10332422	55
5TG1205-2	5TG12052	Frame, DELTA miro glass, real glass, black, quintuple	A6V10332423	56
5TG1205-3	5TG12053	Frame, DELTA miro glass, real glass, orient, quintuple	A6V10332424	56
5TG1205-4	5TG12054	Frame, DELTA miro glass, real glass, arena, quintuple	A6V10332425	57
5TG1321	5TG1321	Frame, DELTA style, titanium white (similar to RAL 9010), single	A6V10332430	59
5TG1321-1	5TG13211	Frame, DELTA style, platinum metallic, single	A6V10332429	59
5TG1322	5TG1322	Frame, DELTA style, titanium white (similar to RAL 9010), double	A6V10332432	59
5TG1322-1	5TG13221	Frame, DELTA style, platinum metallic, double	A6V10332431	59
5TG1323	5TG1323	Frame, DELTA style, titanium white (similar to RAL 9010), triple	A6V10332434	59
5TG1323-1	5TG13231	Frame, DELTA style, platinum metallic, triple	A6V10332433	59
5TG1324	5TG1324	Frame, DELTA style, titanium white (similar to RAL 9010), quadruple	A6V10332436	59
5TG1324-1	5TG13241	Frame, DELTA style, platinum metallic, quadruple	A6V10332435	59
5TG1325	5TG1325	Frame, DELTA style, titanium white (similar to RAL 9010), quintuple	A6V10332438	59
5TG1325-1	5TG13251	Frame, DELTA style, platinum metallic, quintuple	A6V10332437	59
5TG1327	5TG1327	DELTA style titanium white int. frame 55	A6V1033244	59
5TG1327-1	5TG13271	DELTA style platinum met. int. frame 55	A6V10332260	59
5TG2551-0	5TG25510	Frames, DELTA line, Titanium white (similar to RAL 9010), single	A6V10332469	48
5TG2551-1	5TG25511	Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), single	A6V10332470	50
5TG2551-3	5TG25513	Frames, DELTA line, aluminum metallic (similar to RAL 9006), single	A6V10332471	49
5TG2551-4	5TG25514	Frames, DELTA line, with labeling field, aluminum metallic (similar to RAL 9006), single	A6V10332472	51
5TG2551-6	5TG25516	Frames, DELTA line, carbon metallic (similar to RAL 7016), single	A6V10332473	49
5TG2551-7	5TG25517	Frames, DELTA line, with labeling field, carbon metallic (similar to RAL 7016), single	A6V10332474	52
5TG2552-0	5TG25520	Frames, DELTA line, Titanium white (similar to RAL 9010), double	A6V10332475	48
5TG2552-1	5TG25521	Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), double, horizontal	A6V10332476	50
5TG2552-2	5TG25522	Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), double, vertical	A6V10332477	50
5TG2552-3	5TG25523	Frames, DELTA line, aluminum metallic (similar to RAL 9006), double	A6V10332478	49
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BPZ:OZW772.16	OZW772.16	Web server for 16 Synco devices	N5701	83
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BPZ:QAA2012	QAA2012	Room temperature sensor Pt1000	N1745	236
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BPZ:RXB21.1/FC-11	RXB21.1/FC-11	Room controller for 3-speed fan	N3873	226
BPZ:RXB22.1/FC-12	RXB22.1/FC-12	Room controller with 3-speed fan and electric heating coil	N3873	226
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S55770-T293	RDF600KN	Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment	N3076	73
S55770-T297	RDG160KN	Room thermostat with KNX communications, AC 24 V, for fan coil units and universal applications, heat pump, fan (1-/ 3-speed, DC), valves (2-point, DC)	N3191	77
S55770-T347	RDG165KN	Room thermostat with KNX communications and built-in humidity sensor and humidity control, AC 24 V, for fan coil units and universal applications, heat pump, fan (1-/ 3-speed, DC), valves (2-point, DC)	N3191	78
S55770-T348	RDG405KN	Room thermostat for temperature and air quality control with KNX communications, AC 24 V, VAV heating and cooling systems	N3192	79
S55770-T350	RDF800KN	Touch screen room thermostat with KNX communications, for 2-/4- pipe fan coil, universal applications or compressors in DX-type equipment	N3174	74
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S55770-T407	RDF870KN	Touch Screen Flush-mount PM2.5 & IAQ Controller with KNX	A6V11439454	75
S55770-T430	RDF600KN/VB	Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment for both round and square conduit boxes, black	N3076	73
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## Display and operation units

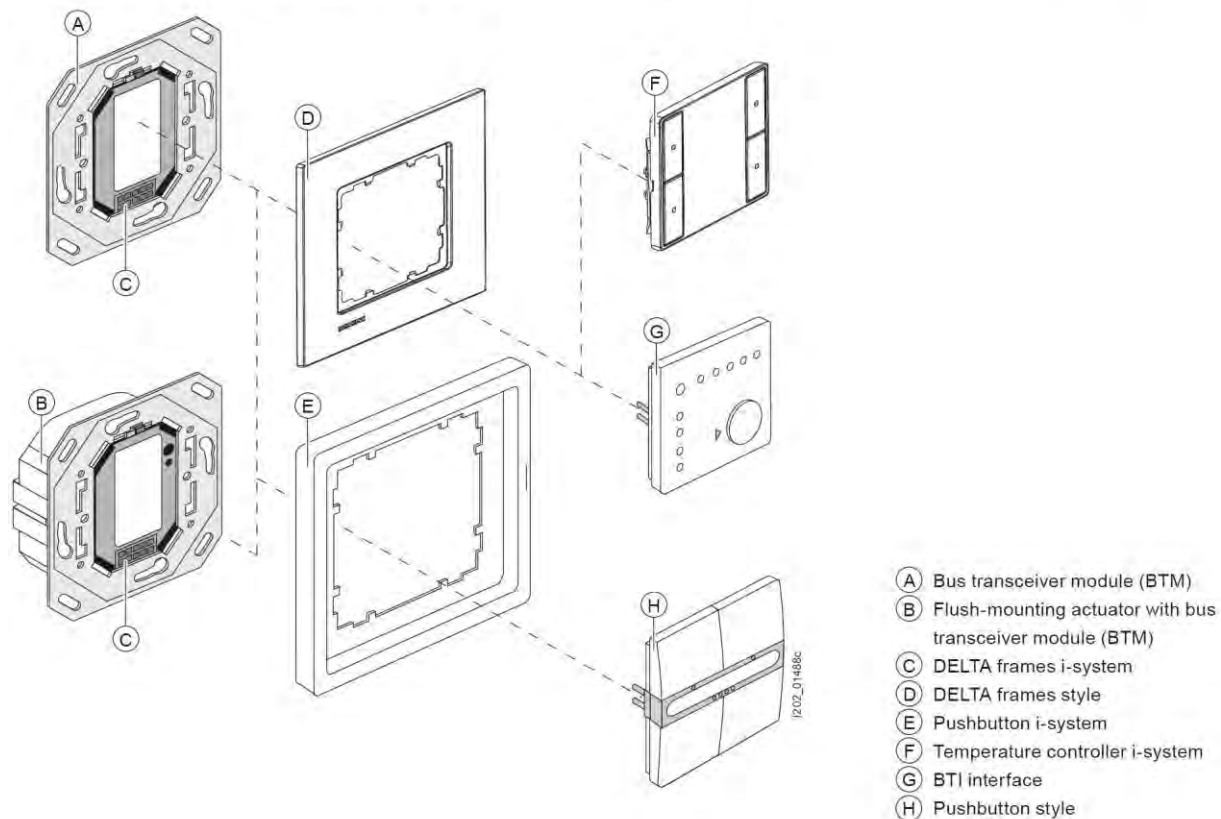
### Overview and selection tools

#### Modular bus transceiver module and flush-mounting actuator

A key feature of the GAMMA instabus is its uniform bus transceiver module. The bus transceiver module (BTM) can be used as a stand-alone unit, as well as a combined version in various devices of the flush-mounting actuator range.

Implementation of the BTI interface (Bus Transceiver Interface) with the bus transceiver module (BTM) ensures maximum flexibility and an impressive range of functions. Bus coupling units (BTM) and flush-mounting actuators with integrated bus transceiver modules (BTM) enable the use of GAMMA display/operator interfaces, such as pushbuttons, room temperature controllers and operation units in a wide range of designs. Thus, all GAMMA instabus operator interfaces with BTI interface in the design lines i-system and DELTA style can be combined with either a bus transceiver module (BTM) or a flush-mounting actuator with bus transceiver module (BTM).

This reduces planning work and facilitates installation and commissioning. The application programs of the flush-mounting actuators are identical to those of the functionally equivalent devices from the modular room control range. This means that all devices have the same standard application program - regardless of mounting type - whether flush-mounting, with or without mounting frame - or whether designed for installation in the room control box and automation module box.





### GAMMA arina-Taster

#### Touch sensors GAMMA arina – in a matching design program

The attractive design of the touch sensors GAMMA arina is harmonized with the switch and socket program DELTA arina. GAMMA arina was designed in China for the Asian market. This design line consists of several switches and a communicative KNX thermostat. The arina program is a complete comprehensive solution for room automation. Switches, sockets and data outlets in the arina program together with intelligent display and operation units generate a coordinated, harmonious appearance in the room.

#### Harmony in variety and function

The parameters of the touch sensors GAMMA arina are conform to the parameters and functions of the existing program DELTA i-system and style. The installers and system integrators can parameterize with a continuous, harmonious application program in the usual structure. With the touch sensors GAMMA arina all standard functions in a room can be controlled.

There are 1-fold, 2-fold and 4-fold sensors, with orientation lights, with or without status LED to choose. The 4-fold touch sensors can be featured with a temperature sensor. Therefore the integration into a room temperature control is possible. Another version of the 4-fold touch sensors is equipped with an IR receiver decoder. All room functions for lighting, solar protection and room climate can be controlled via mobile remote control. With the integrated scene control a complete scene can be controlled with a single touch.

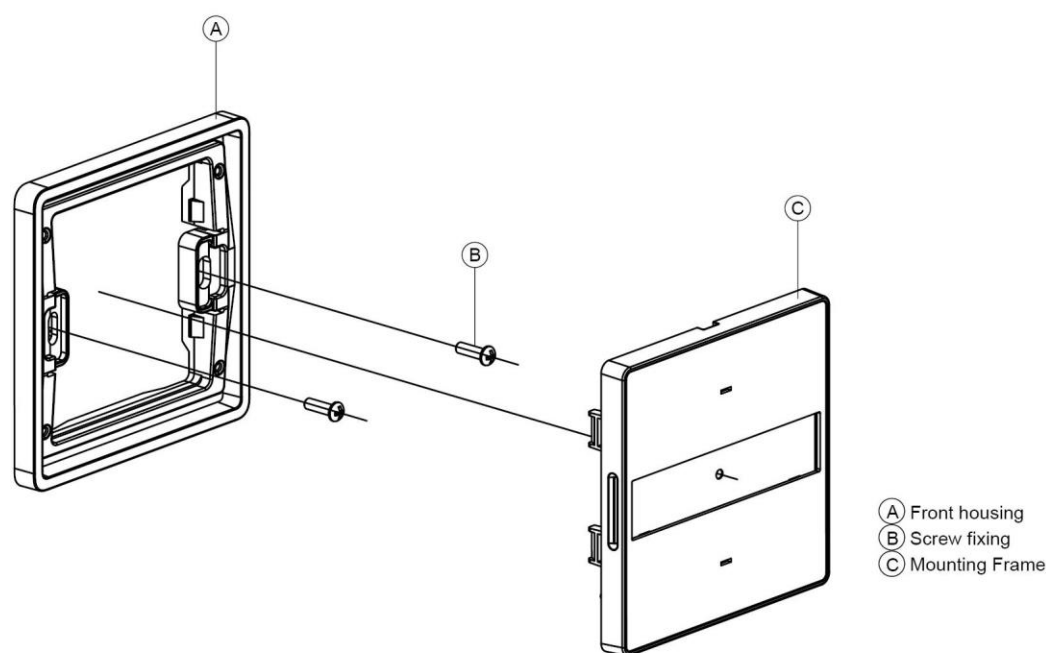
#### Technical structure

The touch sensors GAMMA arina are designed as a compact mono block version. A separate bus connection is not necessary. The structure and installation of the touch sensors GAMMA arina are similar to the product line arina. The device block is square shaped and can only be picked up from a square shaped installation box (86 x 86 millimeters). The program is issued to the UK installation standard or for the area Asia Pacific/ China.

The touch sensors GAMMA arina are installed in a mounting frame. They can be mounted in simple or multiple frames. The mounting frames must be ordered separately.

#### Note:

The touch sensors GAMMA arina are not designed for round installation boxes in accordance with DIN / VDE.



## Display and operation units

### Overview and selection tools

#### Overview IR products

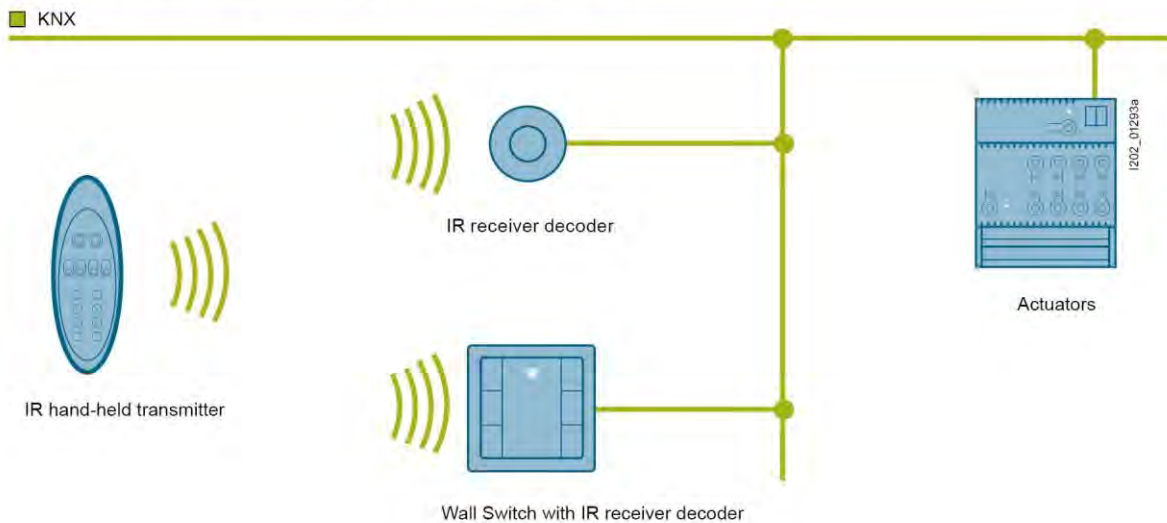
IR products are available for the remote control of room functions. Compared to radio solutions, IR is particularly interesting because

- there are applications in which radio-based remote control is not permitted (e. g. hospitals)
- the frequencies used are not allowed in all countries

#### Application

- Remote control of room functions: Lighting, sun protection, room climate, scenes, etc.
- Mounting on "movable" walls
- Use in hospitals where radio solutions are often prohibited
- Additional room functions which can be operated only by remote control (e. g. by service personnel, doctors, teachers, etc.)

#### System overview about IR products in a KNX installation system





## Display and operation units

### Overview and selection tools

#### Visualization with a PC



#### Visualization with a tablet



#### Web visualization for a KNX system

The IP Control Center N 152 allows web visualization of KNX systems on various web-based operating devices. The visualization controller can be used to design intuitive operating and display interfaces for PCs, laptops, tablets or smartphones on an individual basis.

Up to 1250 values and states can be set for the various building and room functions, as well as a high-performance application module and the scope also includes an annual time switch program with an astronomic calendar, while the scene control allows you to call up and record up to 5000 scenes and events. A range of data points, e.g. consumption values and weather records can also be shown in the form of curve or bar charts, while data can be monitored and stored to facilitate fault diagnosis and via an interface, IP devices can be controlled using TCP/UDP commands. Alarm notifications are signaled both visually and audibly as well as being managed in an alarm history. Alarm notifications can also be sent as recorded trend data or monitor data by email.

Your choice of web content can be shown, such as news or weather forecasts, as well as scope to display images or films from IP cameras.

The commissioning process is performed with the ETS, while a graphic editor and smart editor are permanently installed in the device to help when developing projects.

The web editor allows wide-ranging display and operating elements to be arranged using the drag-and-drop approach, while the user interface can be individually configured with personal or pre-existing elements from a comprehensive library. The scope also extends to six different selectable styles and building views and floor plans can be depicted as background images.

The Smart Editor allows you to develop visualizations specially tailored for mobile browsers on smartphones or tablets, swiftly and intuitively.

#### Visualization with a smartphone



A clear model project is available via download for the IP Control Center.

For applications in industrial environment, e.g. installation in a control board, are powerful operation terminals SIMATIC ITC from 12" to 22" available. For further information see:

[www.siemens.com/simatic-thin-client](http://www.siemens.com/simatic-thin-client)

## Display and operation units

### Overview and selection tools

#### Overview ComBridge Studio Evolution



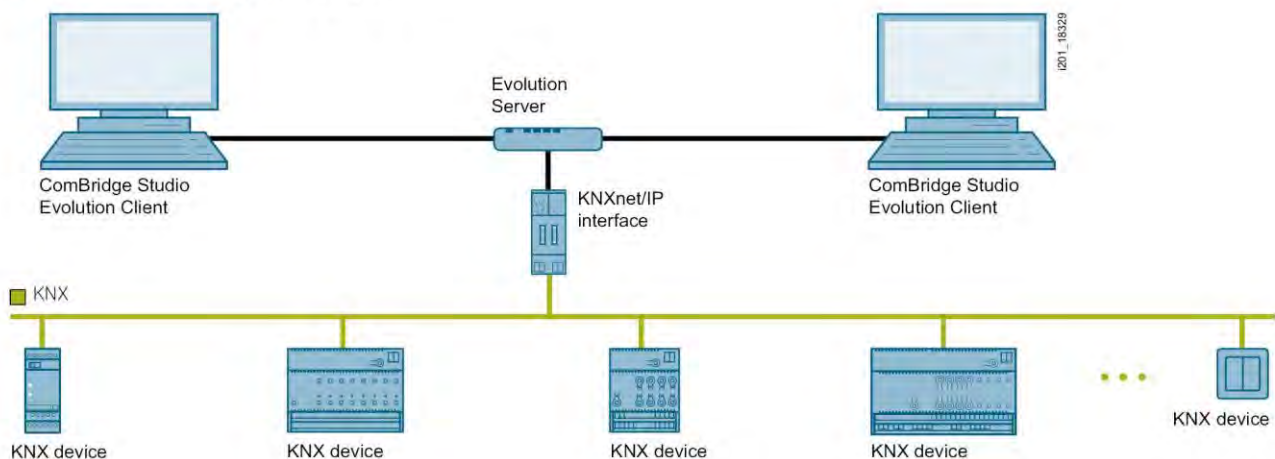
IPAS is one of the leading providers of web-based visualization. With ComBridge Studio Suite, the HTML-based visualization software, IPAS was already able to offer solutions for individual large-scale projects, such as airports, shopping centers, administration buildings and distributed locations.

All this experience flowed into the latest development of ComBridge Studio Evolution, which now permits extremely high quantities of data, or hundreds of KNXnet/IP interfaces in a project with several hundred users to be realized. As well as the representation of statuses and the operation of functions, ComBridge Studio Evolution offers optimum support for the configuration of complex functions, such as scenes, yearly programs, graphical logics and much, much more. Based on Adobe Flash, it now couldn't be easier to insert design-oriented elements and functions in visualizations, so that mapping the actual situation is child's play.

ComBridge Studio Evolution also now enables the representation of even complex database analyses in an individual and attractive design. A particular highlight of ComBridge Studio Evolution is the Smart Metering module. This module analyses consumption data that are stored in the database. Based on current consumption data, the Smart Metering module calculates the probable weekly, monthly and yearly consumption, so that users are always informed as to what costs are generated by their energy consumption in a given period. It is also possible to graphically compare different periods and evaluate them. The visualization can be created in HTML web technology so that any standard browser can be used as an application browser.

Another huge advantage is that it is operating system-independent ComBridge Studio Evolution is configured directly on the ComBridge Studio Evolution server. The visualization can be created in HTML web technology so that any standard browser can be used as an application browser.

#### The Evolution Server for large-scale projects





For further information:  
[www.ipas-products.com](http://www.ipas-products.com)  
 Order address:  
 IPAS GmbH  
 Hölscherstrasse 27  
 47167 Duisburg, Germany  
 Telephone: +49 203 37867-0  
 Fax: +49 203 37867-10



## Display and operation units


### Overview and selection tools

Pushbuttons bus transceiver module (BTM)																
Design	i-system								DELTA style							
																
Type	UP 221/..2	UP 221/..3	UP 222/..2	UP 222/..3	UP 223/..2	UP 223/..3	UP 223/..4	UP 223/..5	UP 285/..2	UP 285/..3	UP 286/..2	UP 286/..3	UP 287/..2	UP 287/..3	UP 287/..4	UP 287/..5
Application program <sup>1)</sup>	909301															
Enclosure data																
Dimensions																
• Width [mm]	55								68							
• Height [mm]	55								68							
• Depth [mm]	11								14							
Display/control elements																
Individual pushbuttons	2	2	4	4	6	6	6	6	2	2	4	4	8	8	8	8
Pushbutton pairs	1	1	2	2	3	3	3	3	1	1	2	2	4	4	4	4
Operation (v: vertical, h: horizontal)	h	h	h	h	h	h	h	h	v	v	v	v	v	v	v	v
LED per pushbutton pair for status indication		2		2		2	2	2		2		2		2	2	2
LED for orientation light (ON/OFF configurable/dimmable)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
IR activity display configurable via LED								■								■
LED brightness configurable and controllable via object	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Bus connection																
For plugging onto a bus transceiver module (BTM) or a flush-mounting actuator with bus transceiver module (BTM)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Inputs																
IR receiver decoder								■								■
IR channels in blocks of 64								16								16
Integrated room temperature sensor							■								■	
Proximity sensor																
Input functions																
Switching																
Switching ON/OFF/OVER	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Pushbutton function (bell function)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Dimming																
Dimming with stop telegram (4-bit)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
• Short button press, ON/OFF	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
• Long button press, BRIGHTER/DARKER	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
One-pushbutton dimming	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Value transmission																
8 bit/percent/16 bit	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Brightness value	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Temperature value	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Positively driven operation	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Time-delayed transmission of a second telegram, depending on main function	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Button deactivation	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Shutter/blind																
Shutter/blind control	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
• Short button press, slat OPEN/CLOSED or STOP	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
• Long button press, UP/DOWN	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
One-pushbutton sun protection	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Scene																
Integrated 8-bit scene control (channels)								8	8						8	8
Assignments per channel								8	8						8	8
Store and call up scene, 8-bit	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Store and call up scene, 1-bit	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Short or long button press (store/call up scene), configurable	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Status																
LED on/off/flashing depending on the value (1 bit/8 bit/16 bit)		■		■		■	■	■		■		■		■	■	■
Pushbutton operation display configurable via LED		■		■		■	■	■		■		■		■	■	■

<sup>1)</sup> For current application programs, see [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)

## Display and operation units

### Overview and selection tools




Pushbuttons flush-mounted								
Design	<div>GAMMA arina</div> 							
Type	UP 201/..2	UP 201/..3	UP 202/..2	UP 202/..3	UP 203/..2	UP 203/..3	UP 203/..4	UP 203/..5
Application program <sup>1)</sup>	910301							
Enclosure data								
Dimensions								
• Width [mm]	86							
• Height [mm]	86							
• Depth [mm]	14,6							
Display/control elements								
Individual pushbuttons	2	2	4	4	8	8	8	8
Pushbutton pairs	1	1	2	2	4	4	4	4
Operation (v: vertical, h: horizontal)	v	v	v	v	v	v	v	v
LED per pushbutton pair for status indication		2		2		2	2	2
LED for orientation light (ON/OFF configurable/dimmable)	■	■	■	■	■	■	■	■
IR activity display configurable via orientation LED								■
LED brightness configurable and controllable via object	■	■	■	■	■	■	■	■
Bus connection								
Monoblock	■	■	■	■	■	■	■	■
Inputs								
IR receiver decoder								■
IR channels in blocks of 64								16
Integrated room temperature sensor							■	
Input functions								
Switching								
Switching ON/OFF/OVER	■	■	■	■	■	■	■	■
Pushbutton function (bell function)	■	■	■	■	■	■	■	■
Dimming								
Dimming with stop telegram (4-bit)	■	■	■	■	■	■	■	■
• Short button press, ON/OFF	■	■	■	■	■	■	■	■
• Long button press, BRIGHTER/DARKER	■	■	■	■	■	■	■	■
One-pushbutton dimming	■	■	■	■	■	■	■	■
Value transmission								
8 bit/percent/16 bit	■	■	■	■	■	■	■	■
Brightness value	■	■	■	■	■	■	■	■
Temperature value	■	■	■	■	■	■	■	■
Positively driven operation	■	■	■	■	■	■	■	■
Time-delayed transmission of a second telegram, depending on main function	■	■	■	■	■	■	■	■
Button deactivation	■	■	■	■	■	■	■	■
Shutter/blind control								
• Short button press, slat OPEN/CLOSED or STOP	■	■	■	■	■	■	■	■
• Long button press, UP/DOWN	■	■	■	■	■	■	■	■
One-pushbutton sun protection	■	■	■	■	■	■	■	■
Scene								
Integrated 8-bit scene control (channels)							8	8
Assignments per channel							8	8
Store and call up scene, 8-bit	■	■	■	■	■	■	■	■
Store and call up scene, 1-bit	■	■	■	■	■	■	■	■
Short or long button press (store/call up scene), configurable	■	■	■	■	■	■	■	■
Status								
LED on/off/flashing depending on the value (1 bit/8 bit/16 bit)	■	■	■	■	■	■	■	■
Pushbutton operation display configurable via LEDr	■	■	■	■	■	■	■	■

<sup>1)</sup> For current application programs, see [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)



## Display and operation units



### Overview and selection tools

Pushbuttons with IR receiver decoder			
	i-system	DELTA style	GAMMA arina
			
Design			
Type	UP 223/..5	UP 287/..5	UP 203/..5
Application program <sup>1)</sup>	909301		910301
Enclosure data			
Dimensions			
• Width [mm]	55	68	86
• Height [mm]	55	68	86
• Depth [mm]	11	14	14.6
Display/control elements			
Individual pushbuttons	6	8	8
Pushbutton pairs	3	4	4
Operation (v: vertical, h: horizontal)	h	v	v
LED per pushbutton pair for status indication	2	2	2
LED for orientation light (ON/OFF configurable/dimmable)	■		■
IR activity display configurable via orientation LED	■	■	■
LED brightness configurable and controllable via object	■	■	■
Bus connection			
For plugging onto a bus transceiver module (BTM) or a flush-mounting actuator with bus transceiver module (BTM)	■	■	
Inputs			
IR receiver decoder	■	■	■
IR channels in blocks of 64	16	16	16
Input functions			
Switching			
Switching ON/OFF/OVER	■	■	■
Pushbutton function (bell function)	■	■	■
Dimming			
Dimming with stop telegram (4-bit)	■	■	■
• Short button press, ON/OFF	■	■	■
• Long button press, BRIGHTER/DARKER	■	■	■
One-pushbutton dimming	■	■	
Value transmission			
8 bit/percent/16 bit	■	■	■
Brightness value	■	■	■
Temperature value	■	■	■
Positively driven operation	■	■	■
Time-delayed transmission of a second telegram, depending on main function	■	■	■
Button deactivation	■	■	■
Shutter/blind control			
• Short button press, slat OPEN/CLOSED or STOP	■	■	■
• Long button press, UP/DOWN	■	■	■
One-pushbutton sun protection	■	■	■
Scene			
Integrated 8-bit scene control (channels)	8	8	8
Assignments per channel	8	8	8
Store and call up scene, 8-bit	■	■	■
Store and call up scene, 1-bit	■	■	■
Short or long button press (store/call up scene), configurable	■	■	■
Status			
LED on/off/flashing depending on the value (1 bit/8 bit/16 bit)	■	■	■
Pushbutton operation display configurable via LED	■	■	■

<sup>1)</sup> For current application programs, see [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)

## Display and operation units

### Overview and selection tools

Room temperature controller									
									
Type	RDF600KN	RDF600KN/S	RDF800KN	RDF870KN	RDG100KN	RDG160KN	RDG165KN	RDG405KN	UP 237K i-system
<b>Design</b>									
Wall mounted					■	■	■	■	
Semi-Flush Mounted	■	■	■	■					■
For VDE/CEE box	■	■	■	■					■
For British Standard box	■	■	■	■					
<b>Housing</b>									
Digital display	■	■	■	■	■	■	■	■	
Touch Screen Display			★	■					
LED indicators									■
Setpoint rotary knob					■	■	■	■	■
Operating mode button	■	■			■	■	■	■	■
Fan speed button	■	■			■	■	■	■	
Buttons for light and blind control		★							
<b>Bus connection</b>									
Integrated bus coupling units	■	■	■	■	■	■	■	■	
For plugging onto a bus coupling units (BTM)									■
<b>Power supply</b>									
Bus-powered electronic									■
Terminal voltage AC 230 V	■	■	■	■	■				
Terminal voltage AC 24 V						■	■	■	
<b>Integrated sensor</b>									
Room temperature sensor	■	■	■	■	■	■	■	■	■
Humidity sensor							■		
<b>Inputs</b>									
Multifunctional inputs digital/analog	2	2	2	2	3	3	3	2	
Input DC 0...10 V				■				1	
<b>Outputs</b>									
ON/OFF (PWM) Triac (H/C)					■			■	
ON/OFF Relay (H/C)	★	★	■			■	■		
Analog outputs DC 0...10 V (H/C)						★	★	■	
3-stage Relay (fan)	■	■	■	■ <sup>4)</sup>	■	■	■		
Analog DC 0...10 V (fan)				■		★	★		
<b>Applications</b>									
Fancoil 2-/4-pipe	■	■	■		■	■	■		
Fancoil with electrical heater	■	■	■		■	■	■		
Fancoil with Radiator					■	■	■		
Heating / Cooling 2-/4-pipe			■		■	■	■		■
Heating / Cooling with 6-port valve						★			
Humidity control							■		
Indoor Air Quality				★ <sup>3)</sup>				■	
Heat Pump System	■	■	■			■	■		■
Variable Air Volume (VAV)								■	
VAV with electrical heater								■	
VAV with radiator / Heat-Cool coil								■	
<b>Functionalities</b>									
2-position control	■	■	■	■ <sup>5)</sup>	■	■	■	■	■
Modulating control	■ <sup>2)</sup>	■ <sup>2)</sup>	■ <sup>2)</sup>	■ <sup>5)</sup>	■	■	■	■	■
2-stage control sequence for heating or cooling	■ <sup>1)</sup>	■ <sup>1)</sup>	■ <sup>1)</sup>		■	■	■		■
<b>Operating mode</b>									
Comfort, Economy, Protection	■	■	■	■ <sup>5)</sup>	■	■	■	■	■
Pre-Comfort									■
Manual / Auto operating mode	■	■	■	■ <sup>5)</sup>	■	■	■	■	■

<sup>1)</sup> only for 2-stage heating   <sup>2)</sup> modulating output only for 2-pipe applications   <sup>3)</sup> PM2.5 or CO<sub>2</sub> or both controls plus display VOC

<sup>4)</sup> available for 1-/3-/4-stage Relay (fan)   <sup>5)</sup> only fan control functions

■ valid for all variants   ★ main feature



## Display and operation units

### Overview and selection tools

Multifunction devices					
					
Type	UP227	QMX3.P34	QMX3.P74	QMX3.P02	QMX3.P37
<b>Mounting</b>					
Wall mounted		■	■	■	■
Flush mounted	■ <sup>1)</sup>				
<b>Display/operating elements</b>					
Display	■	■	■		■
Capacitive buttons	■			■	■
Rotary/push-button, Setpoint rotary wheel					
LED indicators per button				■	■
LED indicators central	■				
<b>Sensors</b>					
Temperature	■	■	■	■	■
Humidity			■		
Air quality CO <sub>2</sub>			■		
<b>Bus interface</b>					
- Integrated bus coupling unit	■	■	■	■	■
- Separate bus coupling unit					
<b>Power supply</b>					
- KNX bus voltage	■	■	■	■	■
- Additional power supply DC 24 V					
<b>Functionalities</b>					
Switching ON/OFF/OVER	■			■	■
Pushbutton function (bell function)	■				
Dimming	■			■	■
Send Values					
- 8 bit/percent	■			■	■
- 16 bit	■				
- Brightness value	■				
- Temperature value	■				
- Wind speed value	■				
- 4 Byte					
display value					
- 1 bit	■				
- 8 bit/percent/16 bit	■				
- Brightness value	■				
- Temperature value	■	■	■		■
- Wind speed value	■				
- Text messages	■				
Alarmhandling	■				
Forced control	■				
Shutter-blind control	■			■	■
Call and save scene, 1 bit	■				
Call and save scene, 8 bit	■			■	■
Button deactivation	■	■	■		■
Time switch schedules	■				
<b>Room temperature controller functionality</b>					
Setpoint value setting, absolute	■	■	■		■
Setpoint value shifting	■	■	■		■
Setting operating modes	■	■	■		■
Setting comfort prolongation	■	■	■		■
Heating/Cooling	■	■	■		■
Two-point control	■	■	■		■
Continuous control	■	■	■		■
Two-level heating and cooling (sequenz)	■	■	■		■
<b>Applications</b>					
Radiator	■	■	■	■	■
Underfloor heating	■	■	■	■	■
Fancoil	■				
Threshold control for humidity		■	■	■	■
Threshold control for air quality		■	■	■	■

<sup>1)</sup> Design line i-system



## Display and operation units

### Pushbuttons

#### Pushbuttons bus transceiver module (BTM)

##### UP 22..



##### Pushbutton, i-system

- Pushbutton in pair
- Horizontal operation
- Per pushbutton selectable function
- LED for orientation light
- Labeling field
- Connectable bus coupling unit (BTM) or flush-mounted actuators via BTI



##### Range overview UP 22..

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Pushbutton, single, without status LED, titanium white, i-system	55 x 55 x 11	5WG1221-2DB12	<b>UP 221/12</b>
Pushbutton, single, with status LED, titanium white, i-system	55 x 55 x 11	5WG1221-2DB13	<b>UP 221/13</b>
Pushbutton, single, without status LED, aluminum metallic	55 x 55 x 11	5WG1221-2DB32	<b>UP 221/32</b>
Pushbutton, single, with status LED, aluminum metallic	55 x 55 x 11	5WG1221-2DB33	<b>UP 221/33</b>
Pushbutton, double, without status LED, titanium white, i-system	55 x 55 x 11	5WG1222-2DB12	<b>UP 222/12</b>
Pushbutton, double, with status LED, titanium white, i-system	55 x 55 x 11	5WG1222-2DB13	<b>UP 222/13</b>
Pushbutton, double, without status LED, aluminum metallic	55 x 55 x 11	5WG1222-2DB32	<b>UP 222/32</b>
Pushbutton, double, with status LED, aluminum metallic	55 x 55 x 11	5WG1222-2DB33	<b>UP 222/33</b>
Pushbutton, triple, without status LED, titanium white	55 x 55 x 11	5WG1223-2DB12	<b>UP 223/12</b>
Pushbutton, triple, with status LED, titanium white	55 x 55 x 11	5WG1223-2DB13	<b>UP 223/13</b>
Pushbutton, triple, without status LED, aluminum metallic	55 x 55 x 11	5WG1223-2DB32	<b>UP 223/32</b>
Pushbutton, triple, with status LED, aluminum metallic	55 x 55 x 11	5WG1223-2DB33	<b>UP 223/33</b>

The bus transceiver module (BTM) (see Chapter System Products and Accessories) or flush-mounting actuator with bus transceiver module (BTM) must be ordered separately. The matching design frame must be ordered separately. See Chapter Display and Operation Units – Pushbutton accessories.

## Display and operation units

## Pushbuttons

## Pushbuttons bus transceiver module (BTM)

## Pushbutton with scene controller and room temperature sensor, i-system

UP 223/..4

- Pushbutton in 3 pairs
- Horizontal operation
- Per pushbutton selectable function, scene controller
- LED for orientation light
- Labeling field
- Temperature sensor
- Connectable bus coupling unit (BTM) or flush-mounted actuators via BTI



Data sheet

A6V10416510

## Range overview UP 223/..4

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Wall switch, triple, with status LED, neutral, with scene controller, with room temperature sensor, DELTA i-system, titanium white	55 x 55 x 11	5WG1223-2AB14	UP 223/14
Wall switch, triple, with status LED, neutral, with scene controller, with room temperature sensor, DELTA i-system, aluminum metallic	55 x 55 x 11	5WG1223-2AB34	UP 223/34

The bus transceiver module (BTM) (see Chapter System Products and Accessories) or flush-mounting actuator with bus transceiver module (BTM) must be ordered separately. The matching design frame must be ordered separately. See Chapter Display and Operation Units - Pushbutton accessories.

## Pushbutton with scene controller and IR receiver decoder, i-system

UP 223/..5

- Pushbutton in 3 pairs
- Horizontal operation
- Per pushbutton selectable function, scene controller
- LED for orientation light
- Labeling field
- IR receiver for IR handheld transmitter S 425/72
- Connectable bus coupling unit (BTM) or flush-mounted actuators via BTI



Data sheet

A6V11619239

## Range overview UP 223/..5

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Pushbutton, triple, with status LED, with scene controller, with IR receiver decoder, titanium white	55 x 55 x 11	5WG1223-2DB15	UP 223/15
Pushbutton, triple, with status LED, with scene controller, with IR receiver decoder, aluminum metallic	55 x 55 x 11	5WG1223-2DB35	UP 223/35

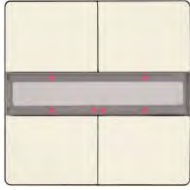
The bus transceiver module (BTM) (see Chapter System Products and Accessories) or flush-mounting actuator with bus transceiver module (BTM) must be ordered separately. The matching design frame must be ordered separately. See Chapter Display and Operation Units - Pushbutton accessories.

## Display and operation units

### Pushbuttons

#### Pushbuttons bus transceiver module (BTM)

##### UP 28..



##### Pushbutton, DELTA style

- Pushbutton in pair
- Vertical operation
- Per pushbutton selectable function
- LED for orientation light
- Labeling field
- Connectable bus coupling unit (BTM) or flush-mounted actuators via BTI



##### Range overview UP 28..

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Pushbutton, single, without status LED, titanium white, DELTA style	68 x 68 x 14	5WG1285-2DB12	<b>UP 285/12</b>
Pushbutton, single, with status LED, titanium white, DELTA style	68 x 68 x 14	5WG1285-2DB13	<b>UP 285/13</b>
Pushbutton, single, without status LED, platinum metallic	68 x 68 x 14	5WG1285-2DB42	<b>UP 285/42</b>
Pushbutton, single, with status LED, platinum metallic	68 x 68 x 14	5WG1285-2DB43	<b>UP 285/43</b>
Pushbutton, double, without status LED, titanium white, DELTA style	68 x 68 x 14	5WG1286-2DB12	<b>UP 286/12</b>
Pushbutton, double, with status LED, titanium white, DELTA style	68 x 68 x 14	5WG1286-2DB13	<b>UP 286/13</b>
Pushbutton, double, without status LED, platinum metallic	68 x 68 x 14	5WG1286-2DB42	<b>UP 286/42</b>
Pushbutton, double, with status LED, platinum metallic	68 x 68 x 14	5WG1286-2DB43	<b>UP 286/43</b>
Pushbutton, quadruple, without status LED, titanium white	68 x 68 x 14	5WG1287-2DB12	<b>UP 287/12</b>
Pushbutton, quadruple, with status LED, titanium white	68 x 68 x 14	5WG1287-2DB13	<b>UP 287/13</b>
Pushbutton, quadruple, without status LED, platinum metallic	68 x 68 x 14	5WG1287-2DB42	<b>UP 287/42</b>
Pushbutton, quadruple, with status LED, platinum metallic	68 x 68 x 14	5WG1287-2DB43	<b>UP 287/43</b>

The bus transceiver module (BTM) (see Chapter System Products and Accessories) or flush-mounting actuator with bus transceiver module (BTM) must be ordered separately. The matching design frame must be ordered separately. See Chapter Display and Operation Units - Pushbutton accessories.



## Display and operation units

## Pushbuttons

## Pushbuttons bus transceiver module (BTM)

## Pushbutton with scene controller and room temperature sensor, DELTA style

UP 287/..4

- Pushbutton in 4 pairs
- Vertical operation
- Per pushbutton selectable function, scene controller
- LED for orientation light
- Labeling field
- Temperature sensor
- Connectable bus coupling unit (BTM) or flush-mounted actuators via BTI



Data sheet

A6V10416538



## Range overview UP 287/..4

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Wall switch, quadruple, with status LED, neutral, DELTA style, titanium white	68 x 68 x 14	5WG1287-2AB14	UP 287/14
Wall switch, quadruple, with status LED, neutral, DELTA style, platinum metallic	68 x 68 x 14	5WG1287-2AB44	UP 287/44

The bus transceiver module (BTM) (see Chapter System Products and Accessories) or flush-mounting actuator with bus transceiver module (BTM) must be ordered separately. The matching design frame must be ordered separately. See Chapter Display and Operation Units - Pushbutton accessories.

## Pushbutton with scene controller and IR receiver decoder, DELTA style

UP 287/..5

- Pushbutton in 4 pairs
- Vertical operation
- Per pushbutton selectable function, scene controller
- LED for orientation light
- Labeling field
- IR receiver for IR handheld transmitter S 425/72
- Connectable bus coupling unit (BTM) or flush-mounted actuators via BTI



Data sheet

A6V11619332



## Range overview UP 287/..5

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Pushbutton, quadruple, with status LED, with scene controller, with IR receiver decoder, titanium white	68 x 68 x 14	5WG1287-2DB15	UP 287/15
Pushbutton, quadruple, with status LED, with scene controller, with IR receiver decoder, platinum metallic	68 x 68 x 14	5WG1287-2DB45	UP 287/45

The bus transceiver module (BTM) (see Chapter System Products and Accessories) or flush-mounting actuator with bus transceiver module (BTM) must be ordered separately. The matching design frame must be ordered separately. See Chapter Display and Operation Units - Pushbutton accessories.

## Display and operation units

### Pushbuttons

#### Pushbuttons flush-mounted

##### UP 20..



##### Touch Sensors GAMMA arina

- Pair of touch areas for vertical operation
- Per touch area selectable function
- LED for orientation light
- Labeling field
- Integrated bus coupling unit

The mounting frame must be ordered separately. See **Accessories for Touch sensors GAMMA arina**.

#### Range overview UP 201.., UP 202.., UP 203..

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Touch sensor, single, without status LED, GAMMA arina, white	86 x 86 x 14.6	5WG1201-2DB12	<b>UP 201/12</b>
Touch sensor, single, with status LED, GAMMA arina, white	86 x 86 x 14.6	5WG1201-2DB13	<b>UP 201/13</b>
Touch sensor, double, without status LED, GAMMA arina, white	86 x 86 x 14.6	5WG1202-2DB12	<b>UP 202/12</b>
Touch sensor, double, with status LED, GAMMA arina, white	86 x 86 x 14.6	5WG1202-2DB13	<b>UP 202/13</b>
Touch sensor, quadruple, without status LED, GAMMA arina, white	86 x 86 x 14.6	5WG1203-2DB12	<b>UP 203/12</b>
Touch sensor, quadruple, with status LED, GAMMA arina, white	86 x 86 x 14.6	5WG1203-2DB13	<b>UP 203/13</b>

The mounting frame must be ordered separately. See **Accessories for UP 20..** below.

##### UP 203/14



##### Touch sensor with status LED, scene controller and room temperature sensor, GAMMA arina, white

- Pair of touch areas for vertical operation
- Per touch area selectable function
- LED for orientation light
- Labeling field
- Room temperature sensor
- Integrated bus coupling unit

The mounting frame must be ordered separately. See **Accessories for Touch sensors**.

Data sheet

A6V10438647

Dimensions (W x H x D)

86 x 86 x 14 mm



Stock no. Product no.

5WG1203-2DB14 **UP 203/14**

##### UP 203/15



##### Touch sensor with status LED, scene controller and IR receiver decoder, GAMMA arina, white

- Pair of touch areas for vertical operation
- Per touch area selectable function
- LED for orientation light
- Labeling field
- IR receiver decoder
- IR activity display configurable via orientation LED
- Integrated bus coupling unit

The mounting frame must be ordered separately. See **Accessories for Touch sensors**.

Data sheet

A6V10438647



Stock no. Product no.

5WG1203-2DB15 **UP 203/15**

## Display and operation units

### Pushbuttons

### Pushbuttons flush-mounted

#### Accessoires for UP 20..

#### RDF8../NF, RDD8../NF Mounting Frames (DELTA arina)

**ARG800.1**

Single Mounting Frame, ivory white

Packaging unit	20 pcs
Dimensions (W x H x D)	86 x 86 x 9.40 mm

Stock no.	Product no.
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S55770-T370	<b>ARG800.1</b>
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## Display and operation units

## IR-System

## Pushbuttons IR receiver decoder

## UP 223/..5



## Pushbutton with scene controller and IR receiver decoder, i-system

- Pushbutton in 3 pairs
- Horizontal operation
- Per pushbutton selectable function, scene controller
- LED for orientation light
- Labeling field
- IR receiver for IR handheld transmitter S 425/72
- Connectable bus coupling unit (BTM) or flush-mounted actuators via BTI

Data sheet

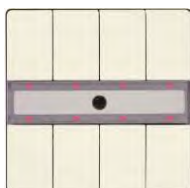
A6V11619239

## Range overview UP 223/..5

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Pushbutton, triple, with status LED, with scene controller, with IR receiver decoder, titanium white	55 x 55 x 11	5WG1223-2DB15	<b>UP 223/15</b>
Pushbutton, triple, with status LED, with scene controller, with IR receiver decoder, aluminum metallic	55 x 55 x 11	5WG1223-2DB35	<b>UP 223/35</b>

The bus transceiver module (BTM) (see Chapter System Products and Accessories) or flush-mounting actuator with bus transceiver module (BTM) must be ordered separately. The matching design frame must be ordered separately. See Chapter Display and Operation Units - Pushbutton accessories.

## UP 287/..5



## Pushbutton with scene controller and IR receiver decoder, DELTA style

- Pushbutton in 4 pairs
- Vertical operation
- Per pushbutton selectable function, scene controller
- LED for orientation light
- Labeling field
- IR receiver for IR handheld transmitter S 425/72
- Connectable bus coupling unit (BTM) or flush-mounted actuators via BTI

Data sheet

A6V11619332

## Range overview UP 287/..5

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Pushbutton, quadruple, with status LED, with scene controller, with IR receiver decoder, titanium white	68 x 68 x 14	5WG1287-2DB15	<b>UP 287/15</b>
Pushbutton, quadruple, with status LED, with scene controller, with IR receiver decoder, platinum metallic	68 x 68 x 14	5WG1287-2DB45	<b>UP 287/45</b>

The bus transceiver module (BTM) (see Chapter System Products and Accessories) or flush-mounting actuator with bus transceiver module (BTM) must be ordered separately. The matching design frame must be ordered separately. See Chapter Display and Operation Units - Pushbutton accessories.

## Display and operation units

### IR-System

### Pushbuttons IR receiver decoder

#### Touch sensor with status LED, scene controller and IR receiver decoder, GAMMA arina, white

UP 203/15

- Pair of touch areas for vertical operation
- Per touch area selectable function
- LED for orientation light
- Labeling field
- IR receiver decoder
- IR activity display configurable via orientation LED
- Integrated bus coupling unit



The mounting frame must be ordered separately. See **Accessories for Touch sensors**.

Data sheet

A6V10438647

Stock no.

Product no.

5WG1203-2DB15 UP 203/15

## Display and operation units

## IR-System

## IR hand-held transmitter

## S 425/72

## IR remote, silver



IR hand-held transmitters:

- For wireless control of actuators via infrared signals, e.g. for switching on/off/toggle, dimming, send value, control solar protection or recall/save scenes
- 1 LED per group for control of transmission and battery
- Infrared wave length: 890 nm
- Infrared frequency: 455 kHz
- Transmission range: 20 m, non-directional
- Power supply by two commercially available 1.5 V batteries type Alkaline LR03/AAA

The 2 batteries of type LR03/AAA (1.5 V) required for operation are not included in delivery.

Data sheet

A6V10416143

Dimensions (W x H x D)

55 x 154 x 24 mm

Stock no.

Product no.

5WG1425-7AB72

**S 425/72**



S 450/03

**IR receiver decoder**

- For receiving IR signals transmitted from IR hand-held transmitters
- Conversion of IR signals received from up to 32 IR channels into bus telegrams
- Configurable evaluation of the IR signals per IR channel as single button or as button pair
- Per IR button selectable functions
  - Switching on/off/over
  - Switching on or off at either rising or falling edge
  - Single button dimming
  - Single button sun protection control
  - 1-/8-bit scene control
  - 8-/16-bit value
  - Percentage value
  - Temperature value
  - Brightness value
  - Positively driven operation
- Depending on the selected main function
  - Per IR button selectable additional function executed either after a time delay (time delay configurable from 100 ms to 6550 s) or alternatively on a long button press
- Per IR button pair selectable functions
  - 2-button dimming with stop telegram
  - 2-button sun protection control
  - Transmission variable percentage value
  - Transmission variable 8-bit value
  - 1-/8-bit scene control
  - Positively driven operation
- Depending on the selected main function: per IR button selectable additional functions
  - Switching on/off
  - 8-16-bit value
  - Percentage value
  - Temperature value
  - Brightness value
  - Recall/save 1-bit scene 1
  - Recall/save 1-bit scene 2
  - Recall 8-bit scene
  - Positively driven on/off/deactivate
- Blocking can selected for each IR button and configured individually
- Integrated bus coupling units, Bus connection via bus terminal
- Bus-powered electronics
- Including clamping spring and rosette for installation in ceilings, walls or lights
- For commissioning when mounted, a magnet is required

Data sheet A6V10416144  
 Dimensions (W x H x D) 25 x 26 x 75 mm

Stock no. Product no.

5WG1450-7AB03 S 450/03

## Display and operation units

## Pushbutton accessories

## Frames DELTA line

## 5TG255...-0

## Frames, DELTA line, Titanium white (similar to RAL 9010)



Frames, DELTA line, Titanium white (similar to RAL 9010), for combinations, for horizontal and vertical mounting

## Range overview 5TG255...-0

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frames, DELTA line, Titanium white (similar to RAL 9010), single	80 x 80 mm	5TG2551-0	<b>5TG25510</b>
Frames, DELTA line, Titanium white (similar to RAL 9010), double	151 x 80 mm	5TG2552-0	<b>5TG25520</b>
Frames, DELTA line, Titanium white (similar to RAL 9010), triple	222 x 80 mm	5TG2553-0	<b>5TG25530</b>
Frames, DELTA line, Titanium white (similar to RAL 9010), quadruple	293 x 80 mm	5TG2554-0	<b>5TG25540</b>
Frames, DELTA line, Titanium white (similar to RAL 9010), quintuple	364 x 80 mm	5TG2555-0	<b>5TG25550</b>

## 5TG258...-0

## Frames, DELTA line, Electrical white (similar to RAL 1013)



Frames, DELTA line, Electrical white (similar to RAL 1013), for combinations, for horizontal and vertical mounting

## Range overview 5TG258...-0

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frames, DELTA line, electrical white (similar to RAL 1013), single	80 x 80 mm	5TG2581-0	<b>5TG25810</b>
Frames, DELTA line, electrical white (similar to RAL 1013), double	151 x 80 mm	5TG2582-0	<b>5TG25820</b>
Frames, DELTA line, electrical white (similar to RAL 1013), triple	222 x 80 mm	5TG2583-0	<b>5TG25830</b>
Frames, DELTA line, electrical white (similar to RAL 1013), quadruple	293 x 80 mm	5TG2584-0	<b>5TG25840</b>
Frames, DELTA line, electrical white (similar to RAL 1013), quintuple	364 x 80 mm	5TG2585-0	<b>5TG25850</b>

## Display and operation units

### Pushbutton accessories

#### Frames DELTA line

#### Frames, DELTA line, aluminum metallic (similar to RAL 9006)

5TG255..-3

Frames, DELTA line, Aluminum metallic (similar to RAL 9006), for combinations, for horizontal and vertical mounting



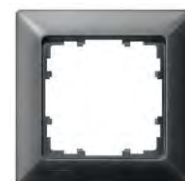
#### Range overview 5TG255..-3

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frames, DELTA line, aluminum metallic (similar to RAL 9006), single	80 x 80 mm	5TG2551-3	5TG25513
Frames, DELTA line, aluminum metallic (similar to RAL 9006), double	151 x 80 mm	5TG2552-3	5TG25523
Frames, DELTA line, aluminum metallic (similar to RAL 9006), triple	222 x 80 mm	5TG2553-3	5TG25533
Frames, DELTA line, aluminum metallic (similar to RAL 9006), quadruple	293 x 80 mm	5TG2554-3	5TG25543
Frames, DELTA line, aluminum metallic (similar to RAL 9006), quintuple	364 x 80 mm	5TG2555-3	5TG25553

#### Frames, DELTA line, carbon metallic (similar to RAL 7016)

5TG255..-6

Frames, DELTA line, Carbon metallic (similar to RAL 7016), for combinations, for horizontal and vertical mounting



#### Range overview 5TG255..-6

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frames, DELTA line, carbon metallic (similar to RAL 7016), single	80 x 80 mm	5TG2551-6	5TG25516
Frames, DELTA line, carbon metallic (similar to RAL 7016), double	151 x 80 mm	5TG2552-6	5TG25526
Frames, DELTA line, carbon metallic (similar to RAL 7016), triple	222 x 80 mm	5TG2553-6	5TG25536
Frames, DELTA line, carbon metallic (similar to RAL 7016), quadruple	293 x 80 mm	5TG2554-6	5TG25546
Frames, DELTA line, carbon metallic (similar to RAL 7016), quintuple	364 x 80mm	5TG2555-6	5TG25556



## Display and operation units

## Pushbutton accessories

## Frames DELTA line

## 5TG255..a



## Frames, DELTA line, with labeling field, Titanium white (similar to RAL 9010)

Frames, DELTA line, with labeling field, Titanium white (similar to RAL 9010), for combinations, for horizontal and vertical mounting



## Range overview 5TG255..a

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), single	80 x 80 mm	5TG2551-1	<b>5TG25511</b>
Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), double, horizontal	151 x 80 mm	5TG2552-1	<b>5TG25521</b>
Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), double, vertical	80 x 151 mm	5TG2552-2	<b>5TG25522</b>
Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), triple, horizontal	222 x 80 mm	5TG2553-1	<b>5TG25531</b>
Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), triple, vertical	80 x 222 mm	5TG2553-2	<b>5TG25532</b>
Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), quadruple, horizontal	293 x 80 mm	5TG2554-1	<b>5TG25541</b>
Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), quadruple, vertical	80 x 293 mm	5TG2554-2	<b>5TG25542</b>

For individual labeling we recommend our labeling tool which is for free.

Download: [www.siemens.com/gamma-labels](http://www.siemens.com/gamma-labels)

## Display and operation units

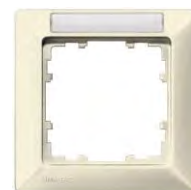
### Pushbutton accessories

#### Frames DELTA line

#### Frames, DELTA line, with labeling field, Electrical white (similar to RAL 1013)

5TG258..

Frames, DELTA line, with labeling field, Electrical white (similar to RAL 1013), for combinations, for horizontal and vertical mounting



#### Range overview 5TG258..

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frames, DELTA line, with labeling field, electrical white (similar to RAL 1013), single	80 x 80 mm	5TG2581-1	<b>5TG25811</b>
Frames, DELTA line, with labeling field, electrical white (similar to RAL 1013), double, horizontal	151 x 80 mm	5TG2582-1	<b>5TG25821</b>
Frames, DELTA line, with labeling field, electrical white (similar to RAL 1013), double, vertical	80 x 151 mm	5TG2582-2	<b>5TG25822</b>
Frames, DELTA line, with labeling field, electrical white (similar to RAL 1013), triple, horizontal	222 x 80 mm	5TG2583-1	<b>5TG25831</b>
Frames, DELTA line, with labeling field, electrical white (similar to RAL 1013), triple, vertical	80 x 222 mm	5TG2583-2	<b>5TG25832</b>
Frames, DELTA line, with labeling field, electrical white (similar to RAL 1013), quadruple, horizontal	293 x 80 mm	5TG2584-1	<b>5TG25841</b>
Frames, DELTA line, with labeling field, electrical white (similar to RAL 1013), quadruple, vertical	80 x 293 mm	5TG2584-2	<b>5TG25842</b>

For individual labeling we recommend our labeling tool which is for free.

Download: [www.siemens.com/gamma-labels](http://www.siemens.com/gamma-labels)

#### Frames, DELTA line, with labeling field, aluminum metallic (similar to RAL 9006)

5TG255..b

Frames, DELTA line, with labeling field, Aluminum metallic (similar to RAL 9006), for combinations, for horizontal and vertical mounting



#### Range overview 5TG255..b

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frames, DELTA line, with labeling field, aluminum metallic (similar to RAL 9006), single	80 x 80 mm	5TG2551-4	<b>5TG25514</b>
Frames, DELTA line, with labeling field, aluminum metallic (similar to RAL 9006), double, horizontal	151 x 80 mm	5TG2552-4	<b>5TG25524</b>
Frames, DELTA line, with labeling field, aluminum metallic (similar to RAL 9006), double, vertical	80 x 151 mm	5TG2552-5	<b>5TG25525</b>

For individual labeling we recommend our labeling tool which is for free.

Download: [www.siemens.com/gamma-labels](http://www.siemens.com/gamma-labels)

## Display and operation units

## Pushbutton accessories

## Frames DELTA line

## 5TG255..c

## Frames, DELTA line, with labeling field, Carbon metallic (similar to RAL 7016)



Frames, DELTA line, with labeling field, Carbon metallic (similar to RAL 7016), for combinations, for horizontal and vertical mounting



## Range overview 5TG255..c

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frames, DELTA line, with labeling field, carbon metallic (similar to RAL 7016), single	80 x 80 mm	5TG2551-7	<b>5TG25517</b>
Frames, DELTA line, with labeling field, carbon metallic (similar to RAL 7016), double, horizontal	151 x 80 mm	5TG2552-7	<b>5TG25527</b>
Frames, DELTA line, with labeling field, carbon metallic (similar to RAL 7016), double, vertical	80 x 151 mm	5TG2552-8	<b>5TG25528</b>

For individual labeling we recommend our labeling tool which is for free.

Download: [www.siemens.com/gamma-labels](http://www.siemens.com/gamma-labels)



## Display and operation units

### Pushbutton accessories

#### Frames DELTA miro color

##### Frame, DELTA miro color, plastic, titanium white (similar to RAL 9010)

5TG111..-0

Frames, DELTA miro color, plastic, Titanium white (similar to RAL 9010), for combinations, for horizontal and vertical mounting



##### Range overview 5TG111..-0

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frame, DELTA miro color, plastic, titanium white (similar to RAL 9010), single	90 x 90 mm	5TG1111-0	5TG11110
Frame, DELTA miro color, plastic, titanium white (similar to RAL 9010), Double	90 x 161 mm	5TG1112-0	5TG11120
Frame, DELTA miro color, plastic, titanium white (similar to RAL 9010), triple	90 x 232 mm	5TG1113-0	5TG11130
Frame, DELTA miro color, plastic, titanium white (similar to RAL 9010), quadruple	90 x 303 mm	5TG1114-0	5TG11140
Frame, DELTA miro color, plastic, titanium white (similar to RAL 9010), quintuple	90 x 374 mm	5TG1115-0	5TG11150

##### Frame, DELTA miro color, plastic, aluminum metallic (similar to RAL 9006)

5TG111..-1

Frames, DELTA miro color, plastic, Aluminum metallic (similar to RAL 9006), for combinations, for horizontal and vertical mounting



##### Range overview 5TG111..-1

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frame, DELTA miro color, plastic, aluminum metallic (similar to RAL 9006), single	90 x 90 mm	5TG1111-1	5TG11111
Frame, DELTA miro color, plastic, aluminum metallic (similar to RAL 9006), double	90 x 161 mm	5TG1112-1	5TG11121
Frame, DELTA miro color, plastic, aluminum metallic (similar to RAL 9006), triple	90 x 232 mm	5TG1113-1	5TG11131
Frame, DELTA miro color, plastic, aluminum metallic (similar to RAL 9006), quadruple	90 x 303 mm	5TG1114-1	5TG11141
Frame, DELTA miro color, plastic, aluminum metallic (similar to RAL 9006), quintuple	90 x 374 mm	5TG1115-1	5TG11151

## Display and operation units

## Pushbutton accessories

## Frames DELTA miro color

## 5TG111...-2



## Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016)

Frames, DELTA miro color, plastic, Carbon metallic (similar to RAL 7016), for combinations, for horizontal and vertical mounting



## Range overview 5TG111...-2

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016), single	90 x 90 mm	5TG1111-2	<b>5TG11112</b>
Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016), double	90 x 161 mm	5TG1112-2	<b>5TG11122</b>
Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016), triple	90 x 232 mm	5TG1113-2	<b>5TG11132</b>
Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016), quintuple	90 x 303 mm	5TG1114-2	<b>5TG11142</b>
Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016), quintuple,	90 x 374 mm	5TG1115-2	<b>5TG11152</b>

## Display and operation units

### Pushbutton accessories

#### Frames DELTA miro glass

#### Frames, DELTA miro glass, real glass, crystal green

5TG120..

Frames, DELTA miro glass, real glass, crystal green, for combinations, for horizontal and vertical mounting



#### Range overview 5TG120..

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frame, DELTA miro glass, real glass, crystal green, single	90 x 90 mm	5TG1201	<b>5TG1201</b>
Frame, DELTA miro glass, real glass, crystal green, double	90 x 161 mm	5TG1202	<b>5TG1202</b>
Frame, DELTA miro glass, real glass, crystal green, triple	90 x 232 mm	5TG1203	<b>5TG1203</b>
Frame, DELTA miro glass, real glass, crystal green, quadruple	90 x 303 mm	5TG1204	<b>5TG1204</b>
Frame, DELTA miro glass, real glass, crystal green, quintuple	90 x 374 mm	5TG1205	<b>5TG1205</b>

#### Frames, DELTA miro glass, real glass, white

5TG120..-1

Frames, DELTA miro glass, real glass, white, for combinations, for horizontal and vertical mounting



#### Range overview 5TG120..-1

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frame, DELTA miro glass, real glass, white, single	90 x 90 mm	5TG1201-1	<b>5TG12011</b>
Frame, DELTA miro glass, real glass, white, double	90 x 161 mm	5TG1202-1	<b>5TG12021</b>
Frame, DELTA miro glass, real glass, white, triple	90 x 232 mm	5TG1203-1	<b>5TG12031</b>
Frame, DELTA miro glass, real glass, white, quadruple	90 x 303 mm	5TG1204-1	<b>5TG12041</b>
Frame, DELTA miro glass, real glass, white, quintuple	90 x 374 mm	5TG1205-1	<b>5TG12051</b>



## Display and operation units

## Pushbutton accessories

## Frames DELTA miro glass

## 5TG120...-2

## Frames, DELTA miro glass, real glass, black



Frames, DELTA miro glass, real glass, black, for combinations, for horizontal and vertical mounting



## Range overview 5TG120...-2

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frame, DELTA miro glass, real glass, black, single	90 x 90 mm	5TG1201-2	<b>5TG12012</b>
Frame, DELTA miro glass, real glass, black, double	90 x 161 mm	5TG1202-2	<b>5TG12022</b>
Frame, DELTA miro glass, real glass, black, triple	90 x 232 mm	5TG1203-2	<b>5TG12032</b>
Frame, DELTA miro glass, real glass, black, quadruple	90 x 303 mm	5TG1204-2	<b>5TG12042</b>
Frame, DELTA miro glass, real glass, black, quintuple	90 x 374 mm	5TG1205-2	<b>5TG12052</b>

## 5TG120...-3

## Frames, DELTA miro glass, real glass, orient



Frames, DELTA miro glass, real glass, orient, for combinations, for horizontal and vertical mounting



## Range overview 5TG120...-3

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frame, DELTA miro glass, real glass, orient, single	90 x 90 mm	5TG1201-3	<b>5TG12013</b>
Frame, DELTA miro glass, real glass, orient, double	90 x 161 mm	5TG1202-3	<b>5TG12023</b>
Frame, DELTA miro glass, real glass, orient, triple	90 x 232 mm	5TG1203-3	<b>5TG12033</b>
Frame, DELTA miro glass, real glass, orient, quadruple	90 x 303 mm	5TG1204-3	<b>5TG12043</b>
Frame, DELTA miro glass, real glass, orient, quintuple	90 x 374 mm	5TG1205-3	<b>5TG12053</b>

## Display and operation units

### Pushbutton accessories

#### Frames DELTA miro glass

#### Frames, DELTA miro glass, real glass, arena

5TG120..-4

Frames, DELTA miro glass, real glass, arena, for combinations, for horizontal and vertical mounting



#### Range overview 5TG120..-4

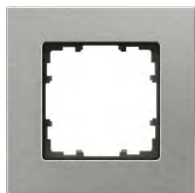
Product Title	Dimensions (W x H)	Stock no.	Product no.
Frame, DELTA miro glass, real glass, arena, single	90 x 90 mm	5TG1201-4	<b>5TG12014</b>
Frame, DELTA miro glass, real glass, arena, double	90 x 161 mm	5TG1202-4	<b>5TG12024</b>
Frame, DELTA miro glass, real glass, arena, triple	90 x 232 mm	5TG1203-4	<b>5TG12034</b>
Frame, DELTA miro glass, real glass, arena, quadruple	90 x 303 mm	5TG1204-4	<b>5TG12044</b>
Frame, DELTA miro glass, real glass, arena, quintuple	90 x 374 mm	5TG1205-4	<b>5TG12054</b>

## Display and operation units

### Pushbutton accessories

#### Frames DELTA miro aluminium

##### 5TG112...-0



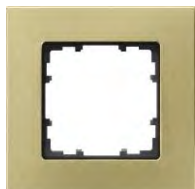
##### Frame, DELTA miro aluminum, real aluminum, natural

Frames, DELTA miro aluminum, real aluminum, natural, for combinations, for horizontal and vertical mounting

##### Range overview 5TG112...-0

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frame, DELTA miro aluminum, real aluminum, natural, single	90 x 90 mm	5TG1121-0	<b>5TG11210</b>
Frame, DELTA miro aluminum, real aluminum, natural, double	90 x 161 mm	5TG1122-0	<b>5TG11220</b>
Frame, DELTA miro aluminum, real aluminum, natural, triple	90 x 232 mm	5TG1123-0	<b>5TG11230</b>
Frame, DELTA miro aluminum, real aluminum, natural, quadruple	90 x 303 mm	5TG1124-0	<b>5TG11240</b>
Frame, DELTA miro aluminum, real aluminum, natural, quintuple	90 x 374 mm	5TG1125-0	<b>5TG11250</b>

##### 5TG112...-3



##### Frame, DELTA miro aluminum, real aluminum, yellow oxide

Frames, DELTA miro aluminum, real aluminum, yellow oxide, for combinations, for horizontal and vertical mounting



##### Range overview 5TG112...-3

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frame, DELTA miro aluminum, real aluminum, yellow oxide, single	90 x 90 mm	5TG1121-3	<b>5TG11213</b>
Frame, DELTA miro aluminum, real aluminum, yellow oxide, double	90 x 161 mm	5TG1122-3	<b>5TG11223</b>
Frame, DELTA miro aluminum, real aluminum, yellow oxide, triple	90 x 232 mm	5TG1123-3	<b>5TG11233</b>
Frame, DELTA miro aluminum, real aluminum, yellow oxide, quadruple	90 x 303 mm	5TG1124-3	<b>5TG11243</b>
Frame, DELTA miro aluminum, real aluminum, yellow oxide, quintuple	90 x 374 mm	5TG1125-3	<b>5TG11253</b>



## Display and operation units

### Pushbutton accessories

#### Frames DELTA style

#### Frame, DELTA style, titanium white (similar to RAL 9010)

5TG132..

Frames, DELTA style, Titanium white (similar to RAL 9010), for combinations, for horizontal and vertical mounting



#### Range overview 5TG132..

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frame, DELTA style, titanium white (similar to RAL 9010), single	82 x 82 mm	5TG1321	<b>5TG1321</b>
Frame, DELTA style, titanium white (similar to RAL 9010), double	82 x 153 mm	5TG1322	<b>5TG1322</b>
Frame, DELTA style, titanium white (similar to RAL 9010), triple	82 x 224 mm	5TG1323	<b>5TG1323</b>
Frame, DELTA style, titanium white (similar to RAL 9010), quadruple	82 x 295 mm	5TG1324	<b>5TG1324</b>
Frame, DELTA style, titanium white (similar to RAL 9010), quintuple	82 x 366 mm	5TG1325	<b>5TG1325</b>

#### Frame, DELTA style, platinum metallic

5TG132..-1

Frames, DELTA style, Platinum metallic (similar to RAL 9007), for combinations, for horizontal and vertical mounting



#### Range overview 5TG132..-1

Product Title	Dimensions (W x H)	Stock no.	Product no.
Frame, DELTA style, platinum metallic, single	82 x 82 mm	5TG1321-1	<b>5TG13211</b>
Frame, DELTA style, platinum metallic, double	82 x 153 mm	5TG1322-1	<b>5TG13221</b>
Frame, DELTA style, platinum metallic, triple	82 x 224 mm	5TG1323-1	<b>5TG13231</b>
Frame, DELTA style, platinum metallic, quadruple	82 x 295 mm	5TG1324-1	<b>5TG13241</b>
Frame, DELTA style, platinum metallic, quintuple	82 x 366 mm	5TG1325-1	<b>5TG13251</b>

#### DELTA style int. frame 55

5TG1327..

DELTA style intermediate frame 68x68 mm for installing devices with cover plate 55x55 mm



#### Range overview 5TG1327..

Product Title	Stock no.	Product no.
DELTA style titanium white int. frame 55	5TG1327	<b>5TG1327</b>
DELTA style platinum met. int. frame 55	5TG1327-1	<b>5TG13271</b>

## Display and operation units

## Pushbutton accessories

## Frames GAMMA UL/NEMA

**S 221N12**

**Frame 55 - 4 x 4, titanium white (similar to RAL 9010), for 4" x 4" Box (double gang box)**

- For user operation interfaces in the design i-system
- For mounting on a bus coupling unit (BTM) UP 117C12 for NEMA wall boxes

Dimensions (W x H x D)

120 x 120 x 9,5 mm



Stock no.

Product no.

5WG1221-8NB12

**S 221N12**

**S 281U12**

**Frame 68 - 4 x 4, titanium white (similar to RAL 9010), for 4" x 4" Box (double gang box)**

- For user operation interfaces in the design DELTA style
- For mounting on a bus coupling unit (BTM) UP 117C12 for NEMA wall boxes

Dimensions (W x H x D)

120 x 120 x 9,5 mm



Stock no.

Product no.

5WG1281-8UB12

**S 281U12**

## Display and operation units

### Pushbutton accessories

### Wall-mounted enclosures

#### Surface-mounting enclosures for flush-mounting devices, DELTA line, DELTA style, titanium white

5TG290..

Flame-retardant base plate, for combinations, for horizontal and vertical mounting



#### Range overview 5TG290..

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Surface-mounting enclosure, for flush-mounting devices, DELTA line, DELTA style, titanium white, single	84 x 84 x 42.5	5TG2901	<b>5TG2901</b>
Surface-mounting enclosure, for flush-mounting devices, DELTA line, DELTA style, titanium white, double	84 x 155 x 42.5	5TG2902	<b>5TG2902</b>
Surface-mounting enclosure, for flush-mounting devices, DELTA line, DELTA style, titanium white, triple	84 x 226 x 42.5	5TG2903	<b>5TG2903</b>

#### Surface-mounting enclosures for flush-mounting devices, DELTA line, Electrical white

5TG286..

Flame-retardant base plate, for combinations, for horizontal and vertical mounting



#### Range overview 5TG286..

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Surface-mounting enclosure, for flush-mounting devices, DELTA line, electrical white, single	84 x 84 x 42.5	5TG2861	<b>5TG2861</b>
Surface-mounting enclosure, for flush-mounting devices, DELTA line, electrical white, double	84 x 155 x 42.5	5TG2862	<b>5TG2862</b>
Surface-mounting enclosure, for flush-mounting devices, DELTA line, electrical white, triple	84 x 226 x 42.5	5TG2863	<b>5TG2863</b>

## Display and operation units

### Room temperature controllers with integrated sensor and operation i-system

#### UP 237K..



#### Temperature controller, i-system

- Integrated room temperature sensors
- Control can be set as a two-point control and/or continuous-action control (P or PI algorithm), for heating only, for cooling only, or for heating and cooling mode
- Operating modes that can be switched via KNX: comfort mode, pre-comfort mode, energy-saving mode and frost or heat protection mode
- Presence pushbutton to locally switch between comfort and pre-comfort mode or comfort and energy-saving mode and to extend comfort mode after operating energy-saving or protection mode
- Pushbutton for switching over between manual and automatic mode
- The room temperature setpoint value for comfort mode can be set via an interchangeable rotary button (+/-) on the controller and via the KNX
- Basic setpoint of the room temperature for comfort mode which can be set via the KNX
- Setpoint value for comfort mode in °C which can be set via an interchangeable rotary button on the controller
- Adjustable dead zone between the heating setpoint and the cooling setpoint for comfort mode
- Two-level heating or cooling
- Output of the control variable(s) either as an on/off switch command or as a positioning command in the range of 0...100 %
- 5 LEDs to display manual mode and the current operating modes
- 4 LEDs to display heating/cooling valve open, dew point alarm and open window
- For plugging onto a bus transceiver module (BTM) or a flush-mounting actuator with bus transceiver module (BTM)

Data sheet

A6V10416651

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Temperature controller, titanium white	55 x 55 x 16	5WG1237-2KB11	<b>UP 237K11</b>

The bus transceiver module (BTM) (see Chapter System Products and Accessories) or flush-mounting actuator with bus transceiver module (BTM) must be ordered separately. The matching design frame must be ordered separately. See Chapter Display and Operation Units - Pushbutton accessories.



## Display and operation units

### Multifunction device i-system

UP 227



#### Room Control Unit

- Multifunctional display-/control panel for KNX with Dot-Matrix LCD display 96 x 128 pixels
- 8 capacitive touch buttons for horizontal operation
- For the display and control of at least 10 adjustable room control functions: Switching toggle/On/Off, Dimming, Door bell function On/Off, Solar protection control; send 1 Byte/2 Byte value; display 1 Bit/1 Byte/2 Byte value; Forced control; display text messages; warning and alarm messaging; recall and save scenes; warning and alarm messaging
- Room control functions lockable via KNX-bus
- Green/red LED as orientation light, as status indication, as a response to pressing a button respectively to the signalling of alarm reports
- A signaler for acoustical alarm reports respectively as a status of the touch operation
- Integrated room temperature sensor
- Evaluation and weighting of an external inside temperature sensor
- Room temperature control configurable as two-step control and/or continuous control, for exclusive heating operation, exclusive cooling operation or heating and cooling operation
- Selectable operating modes over the KNX: Comfort, Pre-comfort, Energy-savings and protection
- Local indication
  - Of the active operating modes or automatic- respectively manual mode
  - Inside temperature or outside temperature
  - Heating or cooling mode
  - Dew point alarm
  - Open window
- Local switching between
  - Manual- and automatic mode
  - Comfort, pre-comfort, energy-saving- and protection mode
- Adjustable time-limited extension of the comfort mode
- Adjustable room temperature setpoint shifting for comfort mode
- Via KNX set basic setpoint value of the room temperature for comfort mode
- An outside temperature based temperature setpoint value tracing in the cooling operation
- Adjustable dead zone between the heating setpoint value and the cooling setpoint value for comfort mode
- Transmission of controller output(s) either as On/Off switching commands or as control commands in the range 0...100 %
- Local display of the manually selected fan rotational speed respectively of the automatic adjustment of the fan rotational speed
- Adjustable fan rotational speed respectively automatic adjustment of the fan rotational speed on the controller
- Weekly schedule programme for controller- operating modes, automatic mode and at the least 8 room control functions
- At the least 40 schedule tasks and Display and set of the date and time
- User control of LCD background lighting and Background color
- Display system settings and room temperature controller in the languages: German, English, French, Italian od Spanish
- User setting of at least 3 operating languages also Integrated bus coupling unit, bus connection via bus terminal possible
- Flush mounted device for the mounting in an flush wall box Ø 60 mm, for fixing on the mounting plate AQR2500NF via lateral springs (separately specified)

The matching design frame must be ordered separately. See chapter Display and Operation Units - Pushbuttons accessories.

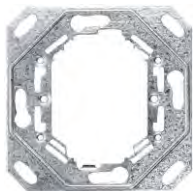
The mounting plate AQR2500.. must be ordered separately.

Data sheet A6V10416250  
Dimensions (W x H x D) 55 x 55 x 37,2 mm

Stock no. Product no.

5WG1227-2AB11 UP 227

## Display and operation units

Multifunction device  
i-system Accessories**AQR2500NF****Mounting plate EU (CEE/VDE)**

- Mounting plates to plug onto the front module

Data sheet

Mechanical design

Dimensions (W x H)

N1408

EU (CEE/VDE)

70.8 x 70.8 mm

Stock no.

Product no.

S55720-S161

**AQR2500NF****AQR2500NG****Mounting plate IT (3 modular)**

- Mounting plates to plug onto the front module

Data sheet

Mechanical design

Dimensions (W x H)

N1408

IT (3 modular)

110 x 64 mm

Stock no.

Product no.

S55720-S163

**AQR2500NG****AQR2500NJ****Mounting plate US (UL)**

- Mounting plates to plug onto the front module

Data sheet

Mechanical design

Dimensions (W x H)

N1408

US (UL)

64 x 110 mm

Stock no.

Product no.

S55720-S164

**AQR2500NJ**

## Display and operation units

### Multifunction device

### Wall-mounted

#### Room operator unit KNX with temperature sensor, configurable touchkeys, LED display, white

QMX3.P02



##### Functions:

- Temperature sensor
- Configurable touchkeys with LED display
- Switching and control of lighting, blinds, scenes
- Window for labels
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO2 concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO2)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO2)
- Setpoint for room temperature and relative humidity and CO2 concentration adjustable via KNX

Data sheet	N1602
Voltage supply	KNX bus
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link
	KNX S-Mode
Color	White
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H107

QMX3.P02

## Display and operation units

## Multifunction device

## Wall-mounted

## QMX3.P02-1BSC

**Room operator unit KNX with temperature sensor, configurable touchkeys, LED display, black**

## Functions:

- Temperature sensor
- Configurable touchkeys with LED display
- Switching and control of lighting, blinds, scenes
- Window for labels
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO<sub>2</sub> concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO<sub>2</sub>)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO<sub>2</sub>)
- Setpoint for room temperature and relative humidity and CO<sub>2</sub> concentration adjustable via KNX

Data sheet	N1602
Voltage supply	KNX bus
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link
	KNX S-Mode
Color	Black
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H128

QMX3.P02-1BSC



## Display and operation units

### Multifunction device

### Wall-mounted

#### Room operator unit KNX with temperature sensor, segmented backlit display, touchkeys, white

QMX3.P34



##### Functions:

- Temperature sensor
- Segmented backlit display and touchkeys
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO2 concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO2)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO2)
- Setpoint for room temperature and relative humidity and CO2 concentration adjustable via KNX

Data sheet	N1602
Voltage supply	KNX bus
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link KNX S-Mode
Color	White
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H105

QMX3.P34

## Display and operation units

## Multifunction device

## Wall-mounted

## QMX3.P34-1BSC

**Room operator unit KNX with temperature sensor, segmented backlit display, touchkeys, black**

## Functions:

- Temperature sensor
- Segmented backlit display and touchkeys
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO<sub>2</sub> concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO<sub>2</sub>)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO<sub>2</sub>)
- Setpoint for room temperature and relative humidity and CO<sub>2</sub> concentration adjustable via KNX

Data sheet	N1602
Voltage supply	KNX bus
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link KNX S-Mode
Color	Black
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H126

**QMX3.P34-1BSC**

## Display and operation units

### Multifunction device

### Wall-mounted

#### Room operator unit KNX with temperature sensor, segmented backlit display, configurable touchkeys, LED display, white

QMX3.P37



##### Functions:

- Temperature sensor
- Segmented backlit display and touchkeys
- Configurable touchkeys with LED display
- Switching and control of lighting, blinds, scenes
- Window for labels
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO2 concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO2)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO2)
- Setpoint for room temperature and relative humidity and CO2 concentration adjustable via KNX

Data sheet	N1602
Voltage supply	KNX bus
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link
	KNX S-Mode
Color	White
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H108

QMX3.P37

## Display and operation units

## Multifunction device

## Wall-mounted

## QMX3.P37-1BSC

**Room operator unit KNX with temperature sensor, segmented backlit display, configurable touchkeys, LED display, black**

## Functions:

- Temperature sensor
- Segmented backlit display and touchkeys
- Configurable touchkeys with LED display
- Switching and control of lighting, blinds, scenes
- Window for labels
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO<sub>2</sub> concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO<sub>2</sub>)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO<sub>2</sub>)
- Setpoint for room temperature and relative humidity and CO<sub>2</sub> concentration adjustable via KNX

Data sheet	N1602
Voltage supply	KNX bus
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link
	KNX S-Mode
Color	Black
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H129

**QMX3.P37-1BSC**



## Display and operation units

### Multifunction device

### Wall-mounted

#### Room operator unit KNX with sensors for temperature, humidity, CO<sub>2</sub>, segmented backlit display, touchkeys, white

QMX3.P74

##### Functions:

- multisensor for temperature, humidity and CO<sub>2</sub>
- Segmented backlit display and touchkeys
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO<sub>2</sub> concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO<sub>2</sub>)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO<sub>2</sub>)
- Setpoint for room temperature and relative humidity and CO<sub>2</sub> concentration adjustable via KNX



Data sheet	N1602
Voltage supply	KNX bus
Measuring range	NTC: 0...50 °C CO <sub>2</sub> : 400...10000 ppm Humidity: 10%...95 % r.F.
Sensing element	Temperature sensor, CO <sub>2</sub> sensor, relative humidity sensor
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link KNX S-Mode
Color	White
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H106

QMX3.P74

## Display and operation units

## Multifunction device

## Wall-mounted

## QMX3.P74-1BSC

Room operator unit KNX with sensors for temperature, humidity, CO<sub>2</sub>, segmented backlit display, touchkeys, black

## Functions:

- Multisensor for temperature, humidity and CO<sub>2</sub>
- Segmented backlit display and touchkeys
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO<sub>2</sub> concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO<sub>2</sub>)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO<sub>2</sub>)
- Setpoint for room temperature and relative humidity and CO<sub>2</sub> concentration adjustable via KNX

Data sheet	N1602
Voltage supply	KNX bus
Measuring range	NTC: 0...50 °C CO <sub>2</sub> : 400...10000 ppm Humidity: 10%...95 % r.F.
Sensing element	Temperature sensor, CO <sub>2</sub> sensor, relative humidity sensor
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link KNX S-Mode
Color	Black
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H127

QMX3.P74-1BSC

## Accessories for QMX3..

## QMX3.MP1



## Basic plate for conduit and cavity wall box

Basic plate for conduit box / cavity wall box with 68 mm diameter hole

20 pcs. per package

Data sheet	N1602
Dimensions (W x H)	80.5 x 115 mm

Stock no.

Product no.

S55624-H110

QMX3.MP1

## Display and operation units

## Room thermostats

## Flush-mounted

## Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment for both round and square conduit boxes RDF6..KNX Flush Mount



Flush-mount room thermostat with LCD for fan coil units and compressors in DX-type equipment

- KNX communications
- For heating and/or cooling applications
- 2 or 3-position control outputs
- Output for 1-speed or 3-speed fan
- 2 multifunctional inputs for keycard contact, external room / return air temperature (QAH11.1, QAA32), heat / cool changeover, operation mode changeover, window contact on/off, dewpoint monitor, electrical heater enabled, fault contact, presence detector
- Operating modes: Comfort, Economy and Protection
- Automatic or manual heating/cooling changeover
- Adjustable commissioning and control parameters
- Minimum and maximum setpoint limitation
- Backlit display
- Color of housing: signal white (RAL 9003)
- Independent function for window contact, presence detector (standard presence and hotel presence)

Application selectable:

- 2-pipe system
- 2-pipe system with electrical heater
- 4-pipe system

Data sheet	N3076
Operating voltage	AC 230 V
Power consumption	2 VA
Switching differential	0.5...6 K
Communication	KNX
Analog inputs, number	2
Relay outputs	Fan: N.O. contacts, non-floating Valve: N.O. contacts, non-floating
Relay outputs, number	5
Relay output, switching voltage	AC 230 V
Relay output, switching current	5 (2) A
Type of fixing	With screws on recessed round conduit box diameter min. 60 mm
Dimensions (W x H x D)	86 x 86 x 46 mm

### Range overview RDF6..KNX Flush Mount

Product Title	Stock no.	Product no.
Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment	S55770-T293	<b>RDF600KN</b>
Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment, with KNX switching group, four buttons for switching lights and blinds	S55770-T400	<b>RDF600KN/S</b>
Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment for both round and square conduit boxes, black	S55770-T430	<b>RDF600KN/VB</b>

## Display and operation units

## Room thermostats

## Flush-mounted

## RDF800KN


**Touch screen room thermostat with KNX communications, for 2-/4- pipe fan coil, universal applications or compressors in DX-type equipment**

- KNX communications
- Operating modes: Comfort, Economy and Protection
- For heating and/or cooling applications
- 2 or 3-position control outputs
- Output for 1-speed or 3-speed fan
- 2 multifunctional inputs for keycard contact, external room / return air temperature (QAH11.1, QAA32), heat / cool changeover, window contact on/off, dewpoint monitor, electrical heater enabled, fault contact, presence detector
- Automatic or manual heating/cooling changeover
- Adjustable commissioning and control parameters
- Minimum and maximum setpoint limitation
- Color of housing: Ivory white
- Backlit display

## Application selectable:

- 2-pipe system
- 2-pipe system with electrical heater
- 4-pipe system

Data sheet	N3174
Operating voltage	AC 230 V
Power consumption	6 VA
Setpoint setting range	5...40 °C
Switching differential	0.5...6 K
Communication	Bus: KNX (S-mode and LTE mode with Synco 700)
Analog inputs, number	2
Relay outputs	Fan: N.O. contacts, non-floating Valve: N.O. contacts, non-floating
Relay outputs, number	5
Relay output, switching voltage	AC 230 V
Relay output, switching current	5 (2) A
Type of fixing	With screws on recessed round conduit box diameter min. 60 mm
Degree of protection	IP30
Dimensions (W x H x D)	86 x 86 x 47 mm

Stock no. Product no.

S55770-T350 **RDF800KN**



## Display and operation units

## Room thermostats

## Flush-mounted

## Touch Screen Flush-mount PM2.5 &amp; IAQ Controller with KNX

RDF870KN



- AC 230 V operating voltage, large, backlit display
- Display and setpoint adjustment for PM2.5 and CO2 control
- Display of room temperature, outside temperature, VOC (volatile organic compound) and RH (relative humidity)
- Support 1-/3-/4-speed On/Off fan or DC fan output
- Two multifunctional inputs for external passive and DC 0...10 V sensors
- Operating modes: Comfort, Economy and Protection
- KNX S-Mode
- KNX commissioning via ETS or local control parameters
- KNX integration into Desigo via group (ETS) or individual addressing
- KNX integration into third-party system via group addressing (ETS)
- Mounting on recessed square 86 mm box or round 60 mm with 60 mm fixing centers and minimum 40 mm depth

Application selectable:

- PM2.5 control only
- CO2 control only
- PM2.5 & CO2 controls (CO2 higher priority in control)
- Ventilation control

2x sensor inputs are selectable:

0: No function

1: Temperature (AI) (NTC 10k)

2: Temperature (AI) (0...10 V)

3: PM2.5 (AI) µg/m3 (0...10 V)

4: CO2 (AI) ppm (0...10 V)

5: VOC (AI) % (0...10 V)

6: VOC (AI) mg/m3 (0...10 V)

7: RH (AI) % (0...10 V)

8: Alarm input (DI)

9: Dummy AI (0...10 V) (RU only)

Data sheet

A6V11439454

Operating voltage

AC 230 V

Power consumption

Max. 7.0 VA / 2.5 W

Communication

KNX S-Mode

Analog outputs

DC 0...10 V for ECM fan output

Relay outputs

Fan: N.O. contacts, non-floating

Valve: N.O. contacts, non-floating

Degree of protection

IP30

Dimensions (W x H x D)

86 x 86 x 47 mm

Color

White

Stock no.

Product no.

S55770-T407

RDF870KN

## Display and operation units

## Room thermostats

## Wall-mounted

## RDG100KN

**Room thermostat with KNX communications, AC 230 V, for fan coil units and universal applications**

- KNX communications
- 3 multifunctional inputs for keycard contact, external room / return air temperature (QAH11.1, QAA32), heat / cool changeover, operation mode changeover, window contact on/off, dewpoint monitor, electrical heater enabled, fault contact
- Operating modes: Comfort, Economy and Protection
- 2-position, 3-position or PWM control outputs
- Automatic or manual fan speed for 1-speed, 3-speed fan
- Automatic or manual heating / cooling changeover
- Adjustable commissioning and control parameters
- Minimum and maximum setpoint limitation
- Backlit display

## Application selectable:

- 2-pipe system
- 2-pipe system with electrical heater
- 2-pipe system and radiator / floor heating
- 4-pipe system
- 4-pipe system with electrical heater
- 2-stage heating or cooling system

Data sheet	N3191
Operating voltage	AC 230 V
Power consumption	8 VA / 1 W
Setpoint setting range	5...40 °C
Switching differential	Heating: 0.5...6 K Cooling: 0.5...6 K
Communication	Bus: KNX (S-Mode und LTE-Mode mit Synco 700)
Analog inputs, number	2
Digital inputs, number	1
Relay outputs	Fan: 1- or 3-speed
Relay outputs, number	3
Relay output, switching voltage	AC 230 V
Relay output, switching current	5 (4) A
Triac outputs	Valve, el. heater 2-position, PWM, 3-position
Triac outputs, number	3
Triac output, switching voltage	AC 230 V
Triac output, switching current	Max. 1 A
Type of fixing	Wall mounting with screws
Degree of protection	IP30
Dimensions (W x H x D)	93 x 128 x 30.8 mm

Stock no.	Product no.
S55770-T163	<b>RDG100KN</b>

## Display and operation units

## Room thermostats

## Wall-mounted

**Room thermostat with KNX communications, AC 24 V, for fan coil units and universal applications, heat pump, fan (1-/ 3-speed, DC), valves (2-point, DC)****RDG160KN**

- KNX communications
- For applications with DC control outputs and DC or 3-speed fan output
- For applications with 2-position control output with DC fan output
- 3 multifunctional inputs for keycard contact, external room / return air temperature (QAH11.1, QAA32), heat / cool changeover, operation mode changeover, window contact on/off, dewpoint monitor, electrical heater enabled, fault contact, presence detector
- Operating modes: Comfort, Economy and Protection
- Automatic or manual EC fan or 1-/3-speed
- Automatic or manual heating / cooling changeover
- Adjustable commissioning and control parameters
- Minimum and maximum setpoint limitation
- Backlit display
- Master / Slave function in KNX S-mode

## Application selectable:

- 2-pipe system
- 2-pipe system with electrical heater
- 2-pipe system and radiator / floor heating
- 4-pipe system
- 2-stage heating or cooling system
- Heating / cooling with 6-port ball valves

Data sheet	N3191
Operating voltage	AC 24 V
Power consumption	2 VA / 2 W
Setpoint setting range	5...40 °C
Switching differential	Heating: 0.5...6 K Cooling: 0.5...6 K
Communication	Bus: KNX (S-Mode und LTE-Mode mit Synco 700)
Analog inputs, number	2
Analog outputs	Valve, el. heater: 2
	Fan: 1 (ECM)
Analog outputs, number	3
Analog output, signal	DC 0...10 V
Analog output, current	Max. ±1 mA
Digital inputs, number	1
Relay outputs	Valve, compressor or el. heater: 2 outputs, 2-position Fan: 1- or 3-speed
Relay outputs, number	3
Relay output, switching voltage	AC 24...230 V
Relay output, switching current	5 (4) A
Type of fixing	Wall mounting with screws
Degree of protection	IP30
Dimensions (W x H x D)	93 x 128 x 30.8 mm

Stock no.

Product no.

S55770-T297

RDG160KN

## Display and operation units

## Room thermostats

## Wall-mounted

## RDG165KN



**Room thermostat with KNX communications and built-in humidity sensor and humidity control, AC 24 V, for fan coil units and universal applications, heat pump, fan (1-/ 3-speed, DC), valves (2-point, DC)**

- KNX communications
- For applications with DC control outputs and DC or 3-speed fan output
- For applications with 2-position control output with DC fan output
- 3 multifunctional inputs for keycard contact, external room / return air temperature (QAH11.1, QAA32), heat / cool changeover, Presence detector, window contact on/off, dewpoint monitor, electrical heater enabled, fault contact
- Operating modes: Comfort, Economy and Protection
- Automatic or manual EC fan or 1-/3-speed
- Automatic or manual heating / cooling changeover
- Adjustable commissioning and control parameters
- Minimum and maximum setpoint limitation
- Backlit display
- Built-in humidity sensor and humidity control

Application selectable:

- 2-pipe system
- 2-pipe system with electrical heater
- 2-pipe system and radiator / floor heating
- 4-pipe system
- 2-stage heating or cooling system

Data sheet	N3191
Operating voltage	AC 24 V
Power consumption	2 VA / 2 W
Setpoint setting range	5...40 °C
Switching differential	Heating: 0.5...6 K Cooling: 0.5...6 K
Communication	Bus: KNX (S-Mode und LTE-Mode mit Synco 700)
Analog inputs, number	2
Analog outputs	Valve, el. heater: 2 Fan: 1 (ECM)
Analog outputs, number	3
Analog output, signal	DC 0...10 V
Analog output, current	Max. ±1 mA
Digital inputs, number	1
Relay outputs	Valve, compressor or el. heater: 2 outputs, 2-position Fan: 1- or 3-speed
Relay outputs, number	3
Relay output, switching voltage	AC 24...230 V
Relay output, switching current	5 (4) A
Type of fixing	Wall mounting with screws
Degree of protection	IP30
Dimensions (W x H x D)	93 x 128 x 30.8 mm

Stock no.	Product no.
S55770-T347	<b>RDG165KN</b>



## Display and operation units

## Room thermostats

## Wall-mounted

**Room thermostat for temperature and air quality control with KNX communications, AC 24 V, VAV heating and cooling systems**

RDG405KN



- KNX communications
- Output DC 0...10 V for VAV actuator and auxiliary output ON/OFF, PWM or 3-position or 3-position for VAV actuator and auxiliary output DC 0...10 V
- 2 multifunctional inputs for keycard contact, external room / return air temperature (1x, QAH11.1, QAA32), heat / cool changeover, operation mode changeover, window contact on/off, dewpoint monitor, electrical heater enabled, fault contact, presence detector
- 1 input DC 0...10 V for damper position feedback, for CO2 sensor
- Operating modes: Comfort, Economy and Protection
- Modulating PI control
- Control depending on the room or the return air temperature and air quality
- Automatic or manual heating / cooling changeover
- Adjustable commissioning and control parameters
- Minimum and maximum setpoint limitation
- Minimum and maximum limitation of air flow signal
- Output signal inversion (DC 0...10 V) as an option
- Backlit display

## Application selectable:

- Single-duct system
- Single-duct system with electrical heater
- Single-duct system and radiator / floor heating
- Single-duct system with heating / cooling coil

Data sheet	N3192
Operating voltage	AC 24 V
Power consumption	2 VA
Setpoint setting range	5...40 °C
Switching differential	Heating: 0.5...6 K Cooling: 0.5...6 K
Communication	Bus: KNX (S-mode and LTE mode with Synco 700)
Analog inputs, number	2
Analog outputs	VAV actuator, electric heater, valve
Analog outputs, number	1
Analog output, signal	DC 0...10 V
Analog output, current	Max. ±1 mA
Digital inputs, number	1
Triac outputs	VAV actuator, valve, el. heater 2-position, PWM, 3-position
Triac outputs, number	1
Triac output, switching voltage	AC 24 V
Triac output, switching current	Max. 1 A
Type of fixing	Wall mounting with screws
Degree of protection	IP30
Dimensions (W x H x D)	93 x 128 x 30.8 mm

Stock no.

Product no.

S55770-T348

RDG405KN

## Display and operation units

### Touch panels

#### UP 588/..3



#### Touch Panel

- Multifunctional display/operating device for the KNX, with 320 x 240 pixels, 5.7" TFT color display and touch screen
- Dimming of LED background lighting over the operator interface
- For the display and operation of at least 210 communication objects on at least 20 display pages
- An additional page for the display and acknowledgement of at least 16 alarms
- Time program as weekly program for at least 110 communication objects and at least 10 switching tasks per weekday
- Presence simulation for at least 50 communication objects
- A trend module for storing and displaying graphics of the status values
- 1-bit or 8-bit scene control for at least 64 scenes
- At least 32 AND/OR operations, each comprising up to at least 4 communication objects
- At least 16 reference conditions for tripping one switching task respectively
- Individual password protection for each display page
- Buffered real-time clock and display of time and date
- Selection of at least 4 different design templates as operator and display interface
- Display of a loadable image as a start screen page or with display of a slide show containing at least 100 loadable images instead of a start screen page
- USB interface for loading images and symbols
- USB cable, 1 m long and a transfer rate of 480 MBit/sec.
- Pushbutton for device reset
- Integrated bus coupling units, Bus connection via bus terminal
- Flush-mounting device in flush-mounting/hollow-wall box

The matching design frame and the flush-mounting/hollow-wall box must be ordered separately.

#### Range overview 588/..3

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Touch Panel, AC 230 V, 50 Hz	161.5 x 135 x 64	5WG1588-2AB13	<b>UP 588/13</b>
Touch Panel, AC/DC 24 V	161.5 x 135 x 64	5WG1588-2AB23	<b>UP 588/23</b>

#### S 588/12



#### Design frame for touch panel UP 588/..3, aluminium

Design frames aluminium for UP 588/3

Data sheet A6V11637841  
Dimensions (W x H x D) 194 x 156 x 5 mm

Stock no. Product no.  
5WG1588-8AB12 **S 588/12**

#### S 588/13



#### Design frame for touch panel UP 588/..3, stainless steel design

Design frames stainless steel for UP 588/3

Data sheet A6V11637841  
Dimensions (W x H x D) 194 x 156 x 5 mm

Stock no. Product no.  
5WG1588-8AB13 **S 588/13**

## Display and operation units

### Touch panels

#### Design frame for touch panel UP 588/..3, glass black

S 588/14

Design frames black glass for UP 588/3 touch panels

Data sheet A6V11637841  
 Dimensions (W x H x D) 194 x 156 x 5 mm



Stock no. Product no.

5WG1588-8AB14 S 588/14

#### Design frame for touch panel UP 588/..3, glass white

S 588/15

Design frames white glass for UP 588/3 touch panels

Data sheet A6V11637841  
 Dimensions (W x H x D) 194 x 156 x 5 mm



Stock no. Product no.

5WG1588-8AB15 S 588/15

#### Flush-type box for all touch panel UP 588

UP 588E01

Flush-mounting/hollow-wall boxes for UP 588 touch panels

Data sheet A6V11637841  
 Dimensions (W x H x D) 161,5 x 135 x 64 mm



Stock no. Product no.

5WG1588-8EB01 UP 588E01

## Display and operation units

### Visualization, server

#### N 152/01



#### IP Control Center

Visualisation controller for full-graphic visualizations on web-compatible end devices such as PCs, tablets and smart phones with a standard web browser.

For communication between KNX devices and PCs and, in connection with a LAN-/WLAN modem or DSL router, for remote access to a KNX installation, for usage as an interface for the ETS 3/4/5 and as an interface for a visualization, with usage of the KNXnet/IP protocol, with the following simultaneously usable functions:

- Web server for operating and monitoring up to 1250 statuses and values transmitted by the KNX network, which can be displayed using a standard browser on PCs, tablets, or smartphones connected to the IP network
- Special web-configuration page for a firmware update, to set the IP configuration, SMTP server, security settings, password protection, certificates, Sonos module, API connection and restart
- Graphical web editor for a creation of fully graphical visualization with control and display elements, configurable in various styles
- Smart editor for the creation of a visualisation, tuned for mobile browsers, smartphones, tablets with control and display elements, configurable in various styles and layouts
- Annual timer, with astronomical calendar, for 300 time switch schedules with up to 30 time switch commands per time switch schedule
- Scene module with up to 5000 scenes or events
- Chart module for recording and reporting of up to 10 data points
- Monitoring module for monitoring and storage of up to 1000 events into a ring buffer
- IP interface for control of up to 20 IP-devices via up to 20 TCP/UDP commands per IP-device
- Fully graphical logic module with up to 1000 logic functions
- Alarm function for up to 250 different alarms
- E-mail function, with up to 20 contacts, for transmission of chart data from chart module, logged data from monitoring module or alarm data
- Data point management for viewing, managing, editing and categorizing all available data points
- Module for controlling SONOS loudspeakers
- Module for controlling the Philips HUE LED lighting system
- Ethernet interface 10/100 Mbits/s with RJ45 socket for connection to the IP network using the Internet Protocol
- 2 LED displays for IP connection/communication and for error messages
- Integrated bus connector and bus terminal for connection to a KNX network
- Power supply of the electronics by an external voltage source for AC/DC 24 V, 50 mA
- Series installation device for mounting on support rails TH35 DIN EN 60715

Data sheet

A6V10417875

Dimension width (1 MW = 18 mm)

4 MW

Stock no. Product no.

5WG1152-1AB01 **N 152/01**

#### Accessories for N 152/01

Product Title	Stock no.	Product no.
Electronic power supply unit, 350 mA	4AC2402	<b>4AC2402</b>
LOGO! Power 24 V/1.3 A	6EP3331-6SB00-0AY0	<b>LOGO!POWER 24 V/1,3 A</b>



## Display and operation units

### Visualization, server

#### Web server for Synco devices

OZW772..

Web server OZW772 allows for remote plant control and monitoring via the web.

- Operate web browser via PC/laptop and Smartphone
- Operate ACS (PC/laptop with ACS plant operating software)
- Connections: USB and Ethernet
- Display fault messages in the web browser
- Send fault messages to a maximum of 4 e-mail recipients
- Periodically send system reports to e-mail recipients
- Visualize the plants in the web browser based on standard plant diagrams and customized plant web pages
- Acquire and display consumption data
- Send consumption data file to 2 email recipients
- Function "Energy indicator" to monitor data points for energy-related limit values, or "Green limits"
- Web services for external applications via Web API (Web Application Programming Interface)
- Encrypted with https and TLS for e-mails
- Record of trends, display and dispatch to 2 e-mail recipients
- Integration up to 237 S-Mode data points of KNX devices (not OZW772.01)
- Direct commissioning with web browser or ACS service tool
- Easy and secure remote access and plant overview with Synco IC Remote Access - a web-based service for secure remote access ([www.siemens-syncoic.com](http://www.siemens-syncoic.com))



Internet portal Synco IC offers simple and secure access to your plants

- Simple and fast set up of access via the Internet (fixed net- or mobile router)
- The portal provides additional functions:
  - Manage one or multiple plants
  - Central user management
  - Display of plant overview, state of Energy indicators and alarms
  - Send alarm notifications per e-mail
  - Secured communications through encryption (https)

Web servers OZW772.01, OZW772.04, OZW772.16, OZW772.250 can connect 1, 4, 16, or 250 KNX devices from the product ranges Synco 700, Synco RXB, and RDG/RDF room thermostats, and the QAX Synco living central apartment units.

Data sheet	N5701
Operating voltage	Power pack: AC 230 V Web server: DC 24 V
Communication	KNX TP (twisted pair) Ethernet, RJ45 plug socket (shielded) USB V2.0
Mounting	On DIN rails With Screws
Degree of protection	IP30
Dimensions (W x H x D)	87.5 x 90 x 40 mm

#### Range overview OZW772..

Product Title	Stock no.	Product no.
Web server for 1 Synco device	BPZ:OZW772.01	<b>OZW772.01</b>
Web server for 4 Synco devices	BPZ:OZW772.04	<b>OZW772.04</b>
Web server for 16 Synco devices	BPZ:OZW772.16	<b>OZW772.16</b>
Web server for 250 Synco devices	BPZ:OZW772.250	<b>OZW772.250</b>



# Output devices



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Combination switching actuators	

## Output devices

### Overview and selection tools

The binary output devices from Siemens can be flexibly used in many applications. The extensive product range for all standard loads (AC1, AC3, AX, C-Load) includes modular extensible switching actuators with integrated load current detection.

#### Usage of load types AC1, AC3, AX and C load

The industrial and building control sector have seen the establishment of a range of different switching capacities and outputs. These tend to be specific to the respective applications and are specified in the corresponding national and international standards. The tests are defined such that they reproduce typical applications, such as motor loads (industry) or fluorescent lamps (buildings).

The AC1 and AC3 details are switching capacity specifications which have become established in the industrial sector:

- AC1: refers to the switching of predominantly resistive loads (p.f. = 0.8)
  - AC3: refers to an (inductive) motor load (p.f. = 0.45)
- These switching capacities are defined in the standard EN 60947-4-1. „Contactors and motor starters – Electromechanical contactors and motor starters“. The standard describes starters and/or contactors, which are originally used in industrial applications.

The designation AX has become established in building controls:

- AX: refers to a (capacitive) fluorescent lamp load

Switchable capacitive loads (200 µF, 140 µF, 70 µF or 35 µF), at a load of 200µF „C load“, and are mentioned in conjunction with fluorescent lamp loads. This switching capacity refers to the standard EN 60669 „Switches for household and similar fixed electrical installations – Particular requirements“, which is primarily implemented for applications in building control. For 6A devices a test with 70 µF and for 10A devices a test with 140 µF is required. The switching capacity declarations AC and AX are directly comparable with each other.

#### Modular switching actuators

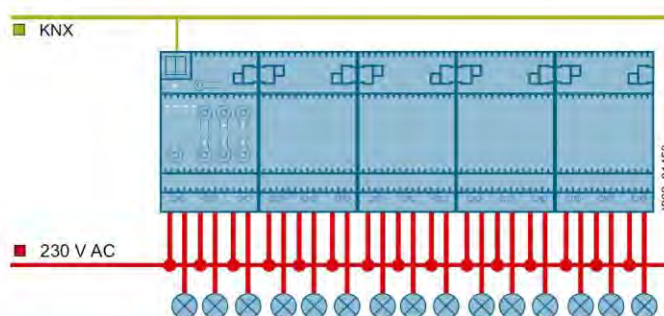


The modular design of the GAMMA instabus switching actuators guarantees the flexible design for each case of application. Up to four switching actuator extensions can be connected to the 6-pin interface on the main module using a jumper. In this manner, a 3-fold switching actuator can be extended to 6/9/12 or 15-fold switching actuators and flexibly adapted to the number and size of loads to be switched. The variety of the functionality of the application software covers a broad spectrum: Ranging from multistage fan control, operating hours and switching cycle counters to scene control, thermal actuator control up to load recognition and monitoring of load current per channel.

The extensive application program controls both the outputs of the main units and the outputs of all connected expansions. This includes:

- Recording and monitoring of load current per output for load failure or overload
- Detection of a significant equipment failure
- Preventive detection of failures due to continuous monitoring of the current
- Detection of load circuit interruption
- Simultaneous switching of all three outputs
- Implementation of a rotational speed stated as a percentage, in 1 to 3-stage switching commands (fan speed control)
- Implementation of a valve position stated as a percentage in a pulse width modulated switching command (thermal drive control)
- Switching operation and operating hours counter with limit monitoring per output
- Integrated 8-bit scene control, with each output assignable to up to 8 scenes

Diagram of 15-fold switching actuator



The depicted diagram is an example of schematic interconnection and connection of individual switching actuator modules. All modules labeled 10 AX, 16 AX and 20 AX are compatible and therefore can be used together. Detailed information is available on our Internet page with technical documentation: [www.siemens.de/gamma-td](http://www.siemens.de/gamma-td)





### Switching Actuators N 53x

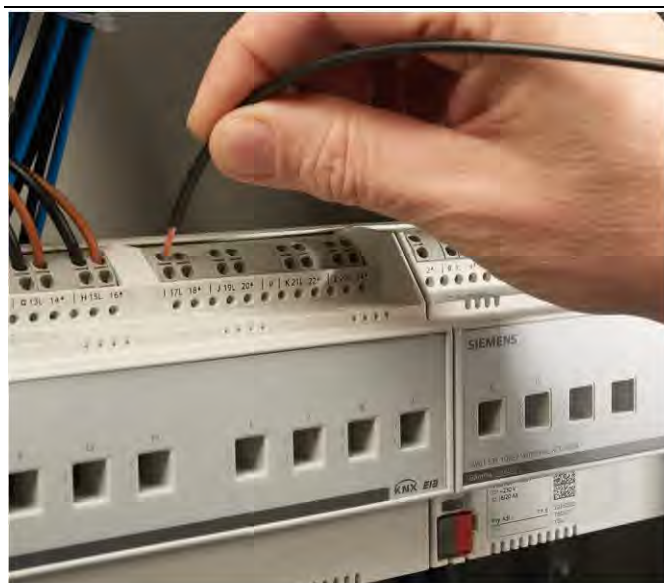
The new DIN Switching Actuators N 53x are intended for installation in distribution boxes or small cabinets and are installed by snapping onto a 35 mm top hat rail according to EN 60715-TH35.

All nine switching actuators have the following common features.

- The rated contact operating voltage of the switching actuators is AC 230 V
- The products are equipped with maintenance-free terminals
- The terminals are designed for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>. Stranded and multi-core conductors can be pushed into the terminals without ferrules
- One relay contact per output as switching element (ON/OFF)
- Per output there is a mechanical display of the switching status via a slide switch, which can also be used for direct manual operation (ON/OFF switching) of the switching output
- The electronics of the devices are powered via the bus voltage
- All switching actuators are connected to the bus via bus terminal block
- The device has a red LED for indicating activation of addressing mode or device operation
- The housing is of plastic, N-system
- Color RAL 7035 (light grey)
- DIN rail mounted device for mounting on rail TH35 according to DIN EN 60715
- Type of protection: IP 20

## Output devices

### Overview and selection tools



#### Automation functions

The switching actuators provide many control functions per output. The basic function of the new DIN rail mounted devices is switching with status feedback. Very powerful relays are also employed for switching capacitive loads. Via ETS configuration the basic function can be expanded by control functions (logic, timer, scenes, central switching control), override functions (manual ON, continuous OFF, blocking, forced control) up to diagnostic functions (counting of operating hours and switching cycles without and with threshold monitoring). The extent of the control, override and diagnostic functions is illustrated in detail below.

#### Control functions

The new switching actuators provide automation of lighting or control of motors. These control functions are available for that purpose:

- Switching input: control input for ON respectively OFF commands
- Control value input: A control value input with configurable thresholds for On and Off switching can be used as an alternative to a switching input. The control value input is a control input for an analog control value e.g. temperature, percent value, power, illuminance and integer numbers. The control value input is transformed via an upper and a lower threshold into an ON respectively an OFF command.
- Alternatively available operating types:
  - Normal operation
  - Timer operation
  - Flashing operation
- Logic operations (AND, OR, NAND, XOR, NOR, FILTER, TRIGGER)
- Central switching
- 8-bit scene control
- day / night operation

Each output of the actuator can be individually set to one of these operating modes:

- Normal operation
- Timer operation
- Flashing operation

In the operation mode „normal operation“ the timer functions for delayed On and Off switching and timer night mode operation are available.

In the operation mode „timer operation“ the functions timer day operation and timer night operation are available. In the operation mode „Flashing“ the output is cyclically turned on and off with configurable on and off duty cycles. In timer day or night operation switching On of the output can be time limited (e.g. for cleaning lighting), if applicable with warning before switching off via off and on switching of the output (single flashing).

Per output there is an integrated 8-bit scene control with each output assignable to up to 8 scenes.



### Override control functions

To realize special functions which have a higher priority than standard control functions. Up to seven different override function blocks can be activated to override the control functions.

Per actuator output up to seven different override functions (1 to 7) can be freely selected. The override control function 7 has the highest priority, the override function 1 the lowest. For each one of the activated override functions one of the following functions can be chosen:

- Manual override ON
- Permanent OFF
- Blocking function
- Central override
- User-defined override function
- Forced control

This allows to flexibly configure a different priority dependent override for each actuator output. For the override functions a control valve input can be selected instead of a switching control input. Override functions can be used to address special cases in room and building control like fire alarm, evacuation or maintenance work.

For instance, in case of a fire by switching off loads the ignition respectively support energy for the fire is removed. In case of evacuation the evacuation route lighting can be force controlled switched on. To avoid person and property damage during maintenance work an output can be switched off and switching on of the output can be blocked during maintenance.

### Diagnostic functions

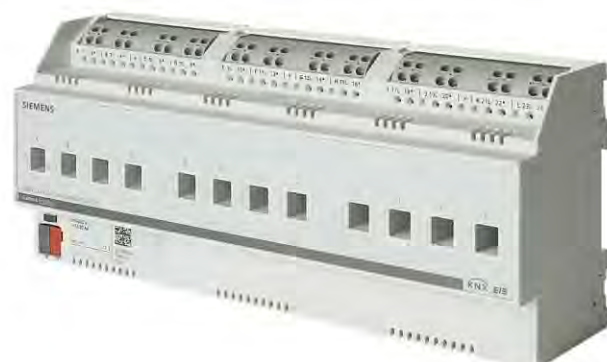
The diagnostic functions support supervisory systems with their display, monitoring and archiving functions. For this purpose these diagnostic functions are available:

- Device function: The switching actuator cyclically sends a function signal allowing a supervisory system to control its function.
- Status indication: Sending of the switching status can be activated per output. The current status can be read via the bus or transmitted cyclically.
- Status retrieval: For all outputs sending the current status can be triggered via a central status retrieval object. With a single message a visualization (e.g. IP Control Center) can update its status information and display.
- Switching cycle count with or without threshold monitoring: The switching cycle count can be activated per output. The number of switching cycles can be read via the bus. This allows for monitoring of the switching cycles and a switching cycle dependent maintenance. If the threshold monitoring is activated the device sends a signal onto the bus when the set threshold is reached. The exceedance of the threshold is automatically signaled respectively this can be sent as an email by the IP Control Center or can be displayed by a warning light.
- Operating hour count with or without threshold monitoring: The operating hour count can be activated per output. The number of operating hours can be read via the bus. This allows for monitoring of the operating hours and an operating hour dependent maintenance, e.g. if after 10,000 hours of operation lamps shall be replaced. If the threshold monitoring is activated the device sends a signal onto the bus when the set threshold is reached. The exceedance of the threshold is automatically signaled respectively this can be sent as an email by the IP Control Center or can be displayed by a warning light.

### • Load Check (only Type N 535)







With switching actuators of type N 535, the load check can optionally be measured and the status sent via the bus. The load check can also be monitored with regard to exceedance or falling short of load check limit values. An adjustment factor and offset value can be specified.

The control, override and diagnostic functions can be realized in the device itself without additional control modules or a controller. With these functions the switching actuators are getting into the functional class of a micro-PLC with powerful relays.



## Output devices

### Overview and selection tools

Switching actuators											Modular switching actuators					
Type	N 530D31	N 530D51	N 530D61	N 532D31	N 532D51	N 532D61	N 534D31	N 534D51	N 534D61	N 535D51	Main modules			Expansions		
																
<b>Enclosure data</b>																
Design	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Modular installation devices for mounting on TH35 EN 60715 mounting rail	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Interface for connection of a switch actuator expansion											■	■	■	■	■	■
<b>Dimensions</b>																
Width (1 MW = 18 mm)	4 MW	8 MW	12 MW	4 MW	8 MW	12 MW	4 MW	8 MW	12 MW	8 MW	3 MW	3 MW	3 MW	3 MW	3 MW	3 MW
<b>Display/control elements</b>																
Direct operation (local operation)											■	■	■	■ <sup>1)</sup>	■ <sup>1)</sup>	■ <sup>1)</sup>
Mechanical local operation	■	■	■	■	■	■	■	■	■	■						
Mechanical switching position indication	■	■	■	■	■	■	■	■	■	■						
LED for indicating direct operation											■	■	■			
LED for indicating the selected device											■	■	■			
LED for status indication per output											■	■	■	■ <sup>1)</sup>	■ <sup>1)</sup>	■ <sup>1)</sup>
<b>Power supply</b>																
Bus-powered electronics	■	■	■	■	■	■	■	■	■	■	■	■	■	■ <sup>1)</sup>	■ <sup>1)</sup>	■ <sup>1)</sup>
<b>Bus connection</b>																
Integrated bus coupling units	■	■	■	■	■	■	■	■	■	■	■	■	■			
Bus connection via bus terminal	■	■	■	■	■	■	■	■	■	■	■	■	■			
<b>Outputs</b>																
<b>Load output</b>																
Floating relay contacts	4	8	12	4	8	12	4	8	12	8	3	3	3	3	3	3
Rated contact voltage, AC [V]	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230
<b>Rated contact current</b>																
• AX (200 µF) acc. to EN 50428 [AX]	6 <sup>3)</sup>	6 <sup>3)</sup>	6 <sup>3)</sup>	10 <sup>2)</sup>	10 <sup>2)</sup>	10 <sup>2)</sup>	16	16	16	16	10 <sup>2)</sup>	16	20	10 <sup>2)</sup>	16	20
• AC1 (p.f. = 0.8) acc. to EN 50428 [A]	10	10	10	16	16	16	20 <sup>4)</sup>	20 <sup>4)</sup>	20 <sup>4)</sup>	20 <sup>4)</sup>	16	16	20	16	16	20
• AC3 (p.f. = 0.45) acc. to DIN EN 60497-4-1 [A]	6	6	6	8	8	8	16	16	16	16	10	16	16	10	16	16
• DC 24 V (resistive load) [A]	10	10	10	10	10	10	10	10	10	10	10	16	20	10	16	20
Three-phase switching (3 outputs simultaneously)											■	■	■	■	■	■

<sup>1)</sup> Via main module<sup>2)</sup> 140 µF<sup>3)</sup> 70 µF<sup>4)</sup> 20 A only up to 35 °C ambient temperature and neighboring channel current-free



...Continuation of the table		Switching actuators										Modular switching actuators					
		N 530D31	N 530D51	N 530D61	N 532D31	N 532D51	N 532D61	N 534D31	N 534D51	N534D61	N 535D51	Main modules			Expansions		
Type												N 562/11	N 512/11	N 513/11	N 562/21	N 512/21	N 513/21
Application program <sup>1)</sup>		9A0101	9A0201	9A0301	9A0101	9A0201	9A0301	9A0101	9A0201	9A0301	9A0903	982002			2)		
Output functions																	
Max. number of group addresses		2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	511	511	511			
Max. number of assignments		2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	511	511	511			
Max. number of expansion modules that can be butt-mounted												4	4	4			
Blocking function		■	■	■	■	■	■	■	■	■	■						
Configurable behavior in the event of a bus voltage failure		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Configurable behavior in the event of a bus voltage recovery		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Behavior in the event of mains voltage failure																	
• Positive OFF switching of the outputs																	
• Unchanged switching state of outputs		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Heating control																	
Controlling electrothermal actuators												■	■	■	■	■	■
Scene control																	
Integrated 8-bit scene control		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Scenes to be integrated per channel		8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Time functions																	
OFF delay		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
ON delay		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Timer mode (automatic stairwell switch)		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Night mode (lighting for cleaning)		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Warning of impending OFF		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Logical functions																	
Positively driven operation		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Logic function (1 object)		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Logic function (2 objects)		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Can be inverted per output (NO contact/NC contact)		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Status																	
Transmitting status per channel		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Operating hours counter with limit monitoring per channel		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Switching cycle counter with limit monitoring per channel		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Load current recording / monitoring per channel											■	■	■	■	■	■	■

<sup>1)</sup> For current application programs, see [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td).<sup>2)</sup> Via main module

## Output devices

### Overview and selection tools

Binary output devices													
Type	N 567/22	N 512C01	N 502/02	UP 510/03	UP 510/13	UP 562/31	UP 511/10	RS 510/23	JB 510C23	RL 512/23	JB 512C23	RL 513D23	JB 513C23
<b>Enclosure data</b>													
Design	N	N	N	UP	UP	UP	UP	RS	JB	RL	JB	RL	JB
Modular installation devices for mounting on TH35 EN 60715 mounting rail	■	■	■										
For installation in flush-mounting switch and socket boxes with Ø 60 mm				■	■	■	■						
Modular installation device for mounting in AP 118 automation module box or AP 641 room control box <sup>1)</sup>								■		■		■	
Modular installation device for mounting in Junction Box 4" x 4"									■		■		■
10-pole BTI socket (BTI - Bus Transceiver Interface) for plugging of bus terminal devices with BTI connector				■									
<b>Dimensions</b>													
• Width/Ø [mm] (1 MW = 18 mm)	8 MW	8 MW	8 MW	71	50	Ø 53	Ø 53	50.2	70	47.8	70	47.8	70
• Height [mm]				71	50.9	28	28	48.8	90	86.5	90	86.5	90
• Depth [mm]				42	41.3			35.5	44.6	36.2	44.6	36.2	44.6
<b>Mounting type</b>													
Screw fixing				■									
<b>Display/control elements</b>													
Direct operation (local operation)	■		■										
Mechanical local operation		■											
Mechanical switching position indication		■											
LED for status indication per output	■		■										
LED for indicating direct operation	■		■										
<b>Power supply</b>													
Bus-powered electronics		■		■	■	■	■	■	■	■	■	■	■
Electronics powered via an integrated power supply unit for supply voltage AC 230 V	■		■										
<b>Bus connection</b>													
Integrated bus coupling units	■	■	■	■	■	■	■	■	■	■	■	■	■
Bus connection via bus terminal	■	■	■	■	■	■	■	■	■	■	■	■	■
Bus connection via contact system to data rail	■	■	■										
<b>Outputs</b>													
<b>Load output</b>													
Floating relay contacts	16 <sup>2)</sup>	8	8 <sup>2)</sup>	2	2	2	1	2	2	1	1	3	3
Rated contact voltage, AC [V]	230	230 <sup>3)</sup>	230	230	230	230	230	230	277	230	347	230	277
Rated contact current [A]	10	16	16	10	10	6	16	10	10	16	20	20	10
<b>Inputs</b>													
Max. cable length, unshielded, twisted [m]			100			5	5						
<b>Pushbutton inputs</b>													
For signal input (floating contacts)			8			2	2						
Determination of switching state by means of the voltage generated in the device						■	■						
For voltage input AC/DC 12...230 V			8										

<sup>1)</sup> The AP 641 room control box and AP 118 automation module box must be ordered separately, see Chapter Quick-assembly system - Room control box - Module boxes

<sup>2)</sup> Except channel A

<sup>3)</sup> Also available as cUL version: AC 120 V / AC 277V / AC 347 V, 20 A, Order No.: 5WG1512-1CB01



## ...Continuation of the table

Type	N 567/22	N 512C01	N 502/02	UP 510/03	UP 510/13	UP 562/31	UP 511/10	RS 510/23 <sup>2)</sup>	RL 512/23 <sup>3)</sup>	RL 513/23 <sup>4)</sup>
Application program <sup>1)</sup>	981C01	908301	981601	982E01	982E01	207101	207201	982E01	982D01	982F02
<b>Output functions</b>										
Max. number of group addresses	106	49	120	120	120	26	26	120	120	120
Max. number of assignments	106	49	120	120	120	27	27	120	120	120
Blocking function						■	■			
Configurable behavior in the event of a bus voltage failure			■	■	■	■	■	■	■	■
Configurable behavior in the event of a bus voltage recovery		■	■	■	■	■	■	■	■	■
Configurable behavior in the event of a mains voltage recovery	■		■							
<b>Behavior in the event of mains voltage failure</b>										
• Positive OFF switching of the outputs										
• Unchanged switching state of outputs	■	■	■	■	■	■	■	■	■	■
<b>Heating control</b>										
Controlling electrothermal actuators										
<b>Scene control</b>										
Integrated 8-bit scene control	■		■	■	■			■	■	■
Scenes to be integrated per channel	8		8	8	8			8	8	8
<b>Time functions</b>										
OFF delay	■	■	■	■	■	■	■	■	■	■
ON delay	■	■	■	■	■	■	■	■	■	■
Timer mode (automatic stairwell switch)	■	■	■	■	■	■	■	■	■	■
Night mode (lighting for cleaning)	■		■	■	■			■	■	■
Warning of impending OFF	■	■	■	■	■			■	■	■
<b>Logical functions</b>										
Positively driven operation		■		■	■	■	■	■	■	■
Logic function (1 object)	■	■	■			■	■			
Logic function (2 objects)				■	■	■	■	■	■	■
Can be inverted per output (NO contact/NC contact)		■	■	■	■	■	■	■	■	■
<b>Status</b>										
Transmitting status per channel	■	■	■	■	■	■	■	■	■	■

<sup>1)</sup> For current application programs, see [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)<sup>2)</sup> Identical functions as JB 510C23<sup>3)</sup> Identical functions as JB 512C23<sup>4)</sup> Identical functions as JB 513C23

## Output devices

### Overview and selection tools

#### Load data for switching actuators per channel

Type	N 530D31 N 530D51 N 530D61			N 532D31 N 532D51 N 532D61			N 534D31 N 534D51 N 534D61 N 535D51			N 562/11 N 562/21		N 512/11 N 512/21		N 513/11 N 513/21		N 512C01 <sup>1)</sup>
<b>Contact current</b>																
Rated current, AC [A]	6 AX			10 AX			16/20 AX			10 AX <sup>3)</sup>		16 AX		20 AX		16
AC1 operation (p.f. = 0.8) [A]	10			16			16			16		16		20		16
AC3 operation (p.f. = 0.45) [VA]	2300			2500			3680			2300		3680		3680		3680
24 V DC (resistive load) [A]	6			10			10			10		16		20		10
Maximum switch-on peak current																
• t = 150 µs [A]	400			400			600			450		450		450		600
• t = 250 µs [A]	320			320			480			350		350		350		480
• t = 600 µs [A]	200			200			300			220		220		2200		300
<b>Contact voltage</b>																
Rated voltage, AC [V]	230			230			230			230		230		230		230
<b>Service life</b>																
Mechanical service life																
Switching operations in millions	1			1			1			1		1		1		1
Electrical service life																
Switching operations in millions	2)			2)			2)			0.1		0.1		0.1		2)
<b>Power loss</b>																
Maximum power loss per device at rated power [W]	1	2	2	2	4	6	3	6	8	3		3		3		9
<b>Switching capacities/load types, loads</b>																
Resistive load [W]	2300			3680			3680			3680		3680		4600		3680
Minimum switching capacity [V/mA]	12/100			12/100			12/100			12/100		12/100		12/100		12/100
DC switching capacity [VA]	24/10			24/10			24/10			24/10		24/16		24/20		24/10
Maximum capacitive load [µF]	70			140			200			200		200		200		200
<b>Incandescent lamps</b>																
Incandescent lamps [W]	2300			3680			3680			2300		3680		3680		3680
Halogen lamp 230 V [W]	2300			3680			3680			2300		3680		3680		3680
LV halogen lamp with conventional transformer (inductive) [VA]	500			500			2000			1200		2000		2000		2000
<b>T5/T8 fluorescent lamps</b>																
Uncorrected [VA]	1380			2300			3680			2300		3680		3680		3680
Parallel corrected (at max. possible C) [W]	1300 (140 µF)			1300 (140 µF)			2500 (200 µF)			1500		2500		2500		2500 (200 µF)
DUO circuit [VA]	1380			2300			3680			1500		3680		3680		3680
<b>Compact lamps</b>																
Uncorrected [VA]	1380			1600			3680			1600		3680		3680		3680
Parallel corrected (at max. possible C) [W]	1100 (140 µF)			1100 (140 µF)			3000 (200 µF)			1100		2500		2500		3000 (200 µF)

<sup>1)</sup> Also available as UL version: 120 V AC, 20 A, Order No.: 5WG1512-1CB01

<sup>2)</sup> On request

<sup>3)</sup> Further information see chapter Output devices

<sup>4)</sup> The number of ECG types takes into account the use of miniature circuit breakers with characteristic B

For complete technical specifications, see: [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)



## ... Continuation of the table

Type	N 567/22	N 502/02	UP 510/03 UP 510/13 RS 510/23 JB 510C23	UP 511/10	UP 562/31	RL 512/23 JB 512C23	RL513D23 JB 513C23
<b>Contact current</b>							
Rated current, AC [A]	10	16	10	16	6	16 AX	10
AC1 operation (p.f. = 0.8) [A]	<sup>1)</sup>	<sup>1)</sup>	<sup>1)</sup>	<sup>1)</sup>	<sup>1)</sup>	<sup>1)</sup>	<sup>1)</sup>
AC3 operation (p.f. = 0.45) [VA]	500	500	500	500	500	3680	500
DC 24 V (resistive load) [A]	10	<sup>1)</sup>	<sup>1)</sup>	<sup>1)</sup>	<sup>1)</sup>	<sup>1)</sup>	<sup>1)</sup>
Maximum switch-on peak current							
• t = 150 µs [A]	200	200	200	450	450	450	200
• t = 250 µs [A]	160	160	160	320	320	320	160
• t = 600 µs [A]	100	100	100	220	220	220	100
<b>Contact voltage</b>							
Rated voltage, AC [V]	230	230	230	230	230	230	230
<b>Service life</b>							
Mechanical service life							
Switching operations in millions	30	30	10	2	2	1	10
Electrical service life							
Switching operations in millions	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Power loss</b>							
Maximum power loss per device at rated power [W]	9	13	3	2	1	3	3
<b>Switching capacities/load types, loads</b>							
Resistive load [W]	2300	3680	2300	3680	1380	3680	2300
Minimum switching capacity [V/mA]	24/100	24/100	24/10	<sup>1)</sup>	<sup>1)</sup>	12/100	24/10
DC switching capacity [VA]	24/10	24/16	30/10	<sup>1)</sup>	<sup>1)</sup>	24/16	30/10
Maximum capacitive load [µF]	35	35	35	105	105	200	35
<b>Incandescent lamps</b>							
Incandescent lamps [W]	1000	1000	1000	2500	1380	3680	1000
Halogen lamp 230 V [W]	1000	1000	1000	2200	1380	3680	1000
LV halogen lamp with conventional transformer (inductive) [VA]	500	500	200 ... 500	1000	1000	2000	200 ... 500
<b>T5/T8 fluorescent lamps</b>							
Uncorrected [VA]	500	500	500	28 x 58	1380	3680	500
Parallel corrected (at max. possible C) [W]	2 x 58	2 x 58	2 x 58	15 x 58	15 x 58	2500	2 x 58
DUO circuit [VA]	1000	1000	1000	28 x 58	1380	3680	1000
<b>Compact lamps</b>							
Uncorrected [VA]	500	500	500	<sup>1)</sup>	<sup>1)</sup>	3680	500
Parallel corrected (at max. possible C) [W]	300 (35 µF)	300 (35 µF)	300 (35 µF)	<sup>1)</sup>	<sup>1)</sup>	2500	300

<sup>1)</sup> On requestFor complete technical specifications, see: [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)

N 53x/..

**Switching actuator**

- One relay contact per output as switching element
- Rated contact operating voltage AC 230 V
- Rated contact frequency: 50/60 Hz
- Per output with mechanical display of the switching status via slide switches, which can also be used for direct manual operation of the switching output
- Maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
- One phase terminal per output
- Bus-powered electronics
- Integrated bus coupling unit, bus connection via bus terminal block
- Red LED for display of the activation of the addressing mode as well as the operational readiness
- Housing: plastic, color RAL 7035 (light grey), N-system
- DIN rail mounted device for mounting on rail TH35 according to DIN EN 60715
- Type of protection: IP 20

## Per output

- selectable operating mode (normal mode, time switch mode, flashing mode)
- selectable relay mode (NC/NO)
- variable On and Off delay times
- two selectable logic operations (AND, OR, NAND, NOR, XOR, FILTER, TRIGGER)
- selectable sending of status objects on request, cyclically and/or automatically after a change
- selectable switching state on bus voltage failure
- selectable start value of the switching object on bus voltage recovery
- optional addition of a night mode object for time-limited switching On of the output, i.e. the illumination, at night
- variable On period at night or time switch mode
- selectable addition of an object to change the On period at night or time switch mode
- selectable post-triggering (1x, 2x, 3x, 4x, 5x) of the On period in time switch mode
- selectable warning signal prior to imminent switching-off by brief off and on switching (flashing) at night or in time switch mode and/or via an optional warning object

## Per output selectable functions:

- For manual override ON
- For permanent OFF switching
- Blocking of the output
- For switching on or off in forced mode
- Counting of operating hours and threshold monitoring
- Counting of load cycles and threshold monitoring
- Integrated 8-bit scene control with up to 8 scenes per output
- Construction site function switching
- Object for monitoring of device function
- Object for targeted retrieval of status values

# Output devices

## Binary output devices

### Switching actuators/DIN rail mounted devices

2

#### Switching actuator 4 x AC 230 V, 6 AX, C-Load

N 530D31

Rated contact current according to DIN EN 60669: 6 AX (70 µF fluorescent lamp load), 10 A (resistive load)

Data sheet A6V11252211  
Dimension width (1 MW = 18 mm) 4 MW



Stock no.	Product no.
5WG1530-1DB31	N 530D31

#### Switching actuator 8 x AC 230 V, 6 AX, C-Load

N 530D51

Rated contact current according to DIN EN 60669: 6 AX (70 µF fluorescent lamp load), 10 A (resistive load)

Data sheet A6V11252211  
Dimension width (1 MW = 18 mm) 8 MW



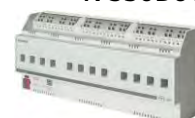
Stock no.	Product no.
5WG1530-1DB51	N 530D51

#### Switching actuator 12 x AC 230 V, 6 AX, C-Load

N 530D61

Rated contact current according to DIN EN 60669: 6 AX (70 µF fluorescent lamp load), 10 A (resistive load)

Data sheet A6V11252211  
Dimension width (1 MW = 18 mm) 12 MW



Stock no.	Product no.
5WG1530-1DB61	N 530D61

## Output devices

## Binary output devices

## Switching actuators/DIN rail mounted devices

**N 532D31****Switching actuator 4 x AC 230 V, 10 AX, C-Load**

Rated contact current according to DIN EN 60669: 10 AX (140 µF fluorescent lamp load), 10 A (resistive load)

Data sheet

A6V11252211

Dimension width (1 MW = 18 mm)

4 MW



Stock no.

Product no.

5WG1532-1DB31

**N 532D31**

**N 532D51****Switching actuator 8 x AC 230 V, 10 AX, C-Load**

Rated contact current according to DIN EN 60669: 10 AX (140 µF fluorescent lamp load), 10 A (resistive load)

Data sheet

A6V11252211

Dimension width (1 MW = 18 mm)

8 MW



Stock no.

Product no.

5WG1532-1DB51

**N 532D51**

**N 532D61****Switching actuator 12 x AC 230 V, 10 AX, C-Load**

Rated contact current according to DIN EN 60669: 10 AX (140 µF fluorescent lamp load), 10 A (resistive load)

Data sheet

A6V11252211

Dimension width (1 MW = 18 mm)

12 MW



Stock no.

Product no.

5WG1532-1DB61

**N 532D61**



# Output devices

## Binary output devices

### Switching actuators/DIN rail mounted devices

2

#### Switching actuator 4 x AC 230 V, 16/20 AX, C-Load

N 534D31

Rated contact current according to DIN EN 60669: 16 AX / 20 AX (200 µF fluorescent lamp load)

Data sheet A6V11252211  
 Dimension width (1 MW = 18 mm) 4 MW



Stock no.	Product no.
5WG1534-1DB31	N 534D31

#### Switching actuator 8 x AC 230 V, 16/20 AX, C-Load

N 534D51

Rated contact current according to DIN EN 60669: 16 AX / 20 AX (200 µF fluorescent lamp load)

Data sheet A6V11252211  
 Dimension width (1 MW = 18 mm) 8 MW



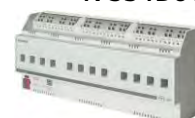
Stock no.	Product no.
5WG1534-1DB51	N 534D51

#### Switching actuator 12 x AC 230 V, 16/20 AX, C-Load

N 534D61

Rated contact current according to DIN EN 60669: 16 AX / 20 AX (200 µF fluorescent lamp load)

Data sheet A6V11252211  
 Dimension width (1 MW = 18 mm) 12 MW



Stock no.	Product no.
5WG1534-1DB61	N 534D61

## Output devices

## Binary output devices

## Switching actuators/DIN rail mounted devices

## N 535D51



## Switching actuator 8 x AC 230 V, 16/20 AX, C-Load, Load Check

- One relay contact per output as switching element with load current measurement
- Rated contact operating voltage AC 230 V
- Rated contact frequency: 50/60 Hz
- Per output with mechanical display of the switching status via slide switches, which can also be used for direct manual operation of the switching output
- Maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
- One phase terminal per output
- Fluorescent lamp load according to DIN EN 60669: 16 AX / 20AX (200 µF) at AC 230 V
- Bus-powered electronics
- Housing: plastic, color RAL 7035 (light grey), N-system
- DIN rail mounted device for mounting on rail TH35 according to DIN EN 60715
- Type of protection: IP 20
- Max. width 8 TE (1 TE = 18 mm)
- One switching and status object per output
- Selectable operating mode (normal mode, time switch mode, flashing mode),
- Selectable relay mode NC contact / NO contact, On and Off delay times, control value input object
- Logic operation (AND/OR/NAND/NOR/EXOR/FILTER/TRIGGER)
- Selectable sending of status objects on request, cyclically and/or after a change
- Selectable switching state on bus voltage failure and value of the switching object on bus voltage recovery
- Night mode for time-limited switching On of the output, and hence the illumination, at night
- Variable On period at night or time switch mode, time limit in timer switch mode, warning signal prior to imminent switching-off
- Manual override, permanent OFF switching, forced control, locking mode
- Counting of operating hours and counting of load cycles with threshold monitoring
- Measurement of load current values with threshold monitoring and monitoring of contact faults
- Integrated 8-bit scene control and linking of each output into up to 8 scenes
- Surveillance of device function

Data sheet	A6V11252211
Rated current	20 A
Relay outputs, number	8
Dimensions (W x H x D)	144 x 55 x 90 mm
Dimension width (1 MW = 18 mm)	8 MW

Stock no. Product no.

5WG1535-1DB51

**N 535D51**

## Switch actuator

N 567/..



- One potential-free relay contact per output channel
- Electronics powered via an integrated power supply unit for AC 230 V
- Pushbutton for switching between bus operation and local operation
- A yellow LED indicating local operation
- 1 red LED per output channel to indicate switch status
- One pushbutton per output channel to activate the output through a UM-function in local operating mode
- Operational with an AC 230 V supply, (even with no bus voltage and faulty or not activated bus communication)
- Choice between identical or individually parameterized outputs
- Operating mode selectable for each channel (normal operation, time switch operation)
- Adjustable switching on/off delay
- Selectable logic link (AND/OR) between two communication objects and presettable logic operator for bus voltage return
- Possibility to add an additional night operation object per output channel for time limited activation of output (lighting) at night
- Selectable warning signal prior to imminent switching off in form of three times short off/on switching (flashing)
- Possibility to add one additional status indicator object per output channel, sending of status objects on request and/or automatically after change
- Possibility to add additional object to drive the integrated 8-bit scene controller, integrated 8 bit scene control and linking each output channel to up to 8 scenes
- Unchanged switch state for all output channels in case of power failure
- Selectable switch state after return of power for each output channel
- Integrated bus coupling units, bus connection via bus terminal or contact system to data rail, only 50% of standard busload
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Data sheet

A6V10416608

Product Title	Dimension width (1 MW = 18 mm)	Stock no.	Product no.
Switch actuator, 16 x AC 230 V, 10 A	8 MW	5WG1567-1AB22	N 567/22

## Load switch

N 512..01



- 8 Floating relay contacts
- Switching contacts can also be operated manually via slide switches
- Can be inverted per output (NO contact/NC contact)
- Configurable timer mode with configurable on/off delay
- Logic operation (AND/OR) of two communication objects and adjustable start value of operation in the event of bus voltage recovery
- Status object
- Positively driven operation
- Switching option on bus voltage failure and bus voltage recovery
- Bus-powered electronics
- Integrated bus coupling units, Bus connection via bus terminal or contact system to data rail
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Data sheet

A6V11786005

Product Title	Dimension width (1 MW = 18 mm)	Stock no.	Product no.
Load switch, 8 x AC 120 V / AC 277 V / AC 347 V, 20 A, C load (cUL listed)	8 MW	5WG1512-1CB01	N 512C01

## Output devices

## Binary output devices

## Modular switching actuators/DIN rail mounted devices

## N 5.../11



## Switch actuator, main module

- 3 Floating relay contacts
- Rated contact voltage, AC 230 V
- Interface for connecting a switching actuator submodule and software for controlling up to 4 switching actuator submodules
- Selectable 3-phase switching function (simultaneous switching of 3 outputs)
- Direct operation (local operation)
- LED for indicating direct operation
- LED for indicating the selected device
- LED for status indication per output
- Selectable 1- to 3-stage fan speed control function
- Function for controlling thermo-electrical drives
- Integrated 8-bit scene control
- Time functions: off delay, on delay, timer mode (automatic stairwell switch), night mode (lighting for cleaning), Warning of impending off
- Logical functions: Positively driven operation, Logic function (2 objects), Can be inverted per output (NO contact/NC contact)
- Per channel: transmitting status, Operating hours counter with limit monitoring, Switching cycle counter with limit monitoring, Load current recording, Load current monitoring
- Power supply for its own electronics and for the electronics of the connected switching actuator submodules via the bus voltage
- Bus connection via bus terminal

## Range overview N 562/11, N 512/11, N 513/11

Product Title	Dimension width (1 MW = 18 mm)	Stock no.	Product no.
Switch actuator, main module, 3 x AC 230/400 V, 10 AX, C load, Load-check	3 MW	5WG1562-1AB11	<b>N 562/11</b>
Switch actuator, main module, 3 x AC 230/400 V, 16 AX, C load, Load-check	3 MW	5WG1512-1AB11	<b>N 512/11</b>
Switch actuator, main module, 3 x AC 230/400 V, 20 AX, C load, Load-check	3 MW	5WG1513-1AB11	<b>N 513/11</b>



## Switch actuator, submodule

N 5../21

- 3 Floating relay contacts
- Rated contact voltage, AC 230 V
- Interface for connecting a switching actuator submodule and software for controlling up to 4 switching actuator submodules
- Selectable 3-phase switching function (simultaneous switching of 3 outputs)
- Direct operation (local operation via main module)
- LED for indicating direct operation for each output via main module
- Selectable 1- to 3-stage fan speed control function
- Function for controlling thermo-electrical drives
- Integrated 8-bit scene control
- Time functions: off delay, on delay, Timer mode (automatic stairwell switch), Night mode (lighting for cleaning), Warning of impending off
- Logical functions: Positively driven operation, Logic function (2 objects), Can be inverted per output (NO contact/NC contact)
- Per channel: transmitting status, Operating hours counter with limit monitoring, Switching cycle counter with limit monitoring, Load current recording, Load current monitoring
- Power supply for its own electronics and for the electronics of the connected switching actuator submodules via the bus voltage
- Bus connection via bus terminal



## Range overview N 562/21, N 512/21, N 513/21

Product Title	Dimension width (1 MW = 18 mm)	Stock no.	Product no.
Switch actuator submodule, 3 x AC 230/400 V, 10 AX, C load, Load-check	3 MW	5WG1562-1AB21	<b>N 562/21</b>
Switch actuator submodule, 3 x AC 230/400 V, 16AX, C load, load-check	3 MW	5WG1512-1AB21	<b>N 512/21</b>
Switch actuator submodule, 3 x AC 230/400 V, 20 AX, C load, load-check	3 MW	5WG1513-1AB21	<b>N 513/21</b>

## Output devices

## Binary output devices

## Switching actuators/Modular installation system

## UP 510/..3



## Binary Output 2 x AC 230 V, 10 A

- Rated contact voltage AC 230 V
- 2 floating relay contacts
- Rated contact current 10 A
- Screwless terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5...2.5 mm<sup>2</sup>
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal
- For insertion in flush-mounting switch and socket boxes 60 mm in diameter and 60 mm deep
- Configurable behavior in the event of a bus voltage failure/recovery
- Unchanged switching state of outputs in the event of system voltage failure
- Integrated 8-bit scene control
- Time functions: off delay, on delay, timer mode (automatic stairwell switch), night mode (lighting for cleaning), Warning of impending off
- Logical functions: Positively driven operation, logic function (1 object), logic function (2 objects), can be inverted per output (NO contact/NC contact)
- Transmitting status per channel

## Range overview UP 510/..3

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Binary Output 2 x AC 230 V, 10 A, with mounting frame and BTI interface	71 x 71 x 42	5WG1510-2AB03	<b>UP 510/03</b>
Binary Output 2 x AC 230 V, 10 A	50 x 50,9 x 41,3	5WG1510-2AB13	<b>UP 510/13</b>

**Binary Output, 2 x AC 230 V, 10 A (resistive load)**

RS 510/23

- 2 floating relay contacts
  - Rated contact frequency: 50/60 Hz
  - Contact rated current according to DIN EN 60669-1: 10 A (resistive load)
  - Bus-powered electronics
  - Integrated bus coupling unit, bus connection via bus terminal
  - Type of protection: IP 20
  - Rated contact voltage AC 230 V
  - Screw-less terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
  - With bus connection module
  - Modular installation device for mounting in AP 118 automation module box or AP 641 room control box
- 
- For each output:
    - Selectable operating mode (normal mode/time switch mode)
    - Selectable relay mode (NO contact/NC contact)
    - Status object as optional addition
    - Variable On and Off delay times
    - Selectable logic operation (AND/OR) of two communication objects
    - Selectable switching state at bus voltage failure and recovery
    - Optional addition of night mode object for time-limited switching On of the output (and hence the illumination) at night
    - Variable On period at night or time switch mode
    - Selectable post-triggering of the On period (On period extension) in time switch mode
    - Selectable warning signal prior to imminent switching-off by means of three-times short off and on switching (flashing) at night or in time switch mode
    - Selectable function:
      - Including additional communication object for manual override of an output
      - Forced control, including additional communication object for switching an output on or off in forced mode
      - Counting of operating hours and with threshold monitoring of the operating hours
      - Counting of load cycles and with threshold monitoring of the load cycles
    - Integrated 8-bit scene control and linking of each output into up to 8 scenes



The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See chapter Modular Installation System - Room control box - Module boxes.

Data sheet	A6V10416153
Rated voltage	AC 230 V
Rated current	10 A
Number of channels	2
Dimensions (W x H x D)	50,2 x 48,8 x 35,5 mm

Stock no.	Product no.
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5WG1510-2AB23	RS 510/23
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## Output devices

## Binary output devices

## Switching actuators/Modular installation system

## JB 510C23



## Binary Output, 2 x AC 120...277 V, 10 A (resistive load)

- 2 floating relay contacts
- Rated contact frequency: 50/60 Hz
- Contact rated current according to DIN EN 60669-1: 10 A (resistive load)
- Bus-powered electronics
- Integrated bus coupling unit, bus connection via bus terminal
- Type of protection: IP 20
- Rated contact operating voltage AC 120...277 V
- As built-in device with 1/2 inch thread connection for mounting to or in a UL/NEMA Junction Box with feedthrough of the function wires through the 1/2 inch threaded connector
- For each output:
  - Selectable operating mode (normal mode/time switch mode)
  - Selectable relay mode (NO contact/NC contact)
  - Status object as optional addition
  - Variable On and Off delay times
  - Selectable logic operation (AND/OR) of two communication objects
  - Selectable switching state at bus voltage failure and recovery
  - Optional addition of night mode object for time-limited switching On of the output (and hence the illumination) at night
- Variable On period at night or time switch mode
- Selectable post-triggering of the On period (On period extension) in time switch mode
- Selectable warning signal prior to imminent switching-off by means of three-times short off and on switching (flashing) at night or in time switch mode
- Selectable function:
  - Including additional communication object for manual override of an output
  - Forced control, including additional communication object for switching an output on or off in forced mode
  - Counting of operating hours and with threshold monitoring of the operating hours
  - Counting of load cycles and with threshold monitoring of the load cycles
- Integrated 8-bit scene control and linking of each output into up to 8 scenes

Data sheet

A6V11786004

Dimensions (W x H x D)

70 x 90 x 44,6 mm

Stock no.

Product no.

5WG1510-4CB23

JB 510C23



**Switching actuator 1 x AC 230 V, 16 AX, C load****RL 512/23**

- One relay contact as switching element
  - Bus-powered electronics
  - Integrated bus coupling unit, Bus connection via bus terminal block
  - Type of protection: IP 20
  - Rated contact voltage AC 230 V
  - Rated contact frequency: 50/60 Hz
  - Rated contact current 16 AX / 20 A
  - Screw-less terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5...2.5 mm<sup>2</sup>
  - For mounting in AP 118 automation module box or AP 641 room control box
- 
- Selectable operating mode (normal mode, time switch mode)
  - Selectable relay mode (NO contact / NC contact)
  - Status object as an optional addition
  - Variable On and Off delay times
  - Selectable logic operation (AND/OR) of two communication objects
  - Selectable switching state at bus voltage failure and recovery
  - Optional addition of a night mode object for time-limited switching On of the output (and hence the illumination) at night
  - Variable On period at night or time switch mode
  - Selectable post-triggering of the On period (On period extension) in time switch mode
  - Selectable warning signal prior to imminent switching-off by means of three-times short off and on switching (flashing) at night or in time switch mode
  - Selectable function:
    - Including additional communication object for manual override of an output
    - Selectable forced control, including additional communication object for switching an output on or off in forced mode
    - Selectable counting of operating hours with threshold monitoring of the operating hours
    - Selectable counting of load cycles with threshold monitoring of the load cycles
  - Integrated 8-bit scene control and linking of each output into up to 8 scenes

The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See chapter Modular Installation System - Room control box - Module boxes.

Data sheet	A6V10416159
Rated voltage	AC 230 V
Rated current	16 A
Number of channels	1
Dimensions (W x H x D)	86,5 x 47,8 x 36,2 mm

Stock no.	Product no.
5WG1512-4AB23	<b>RL 512/23</b>

## Output devices

## Binary output devices

## Switching actuators/Modular installation system

## JB 512C23



## Switching actuator 1 x AC 120...277 V, 20 A or 1 x AC 347 V, 15 AX, C load

- One relay contact as switching element
- Bus-powered electronics
- Integrated bus coupling unit, Bus connection via bus terminal block
- Type of protection: IP 20
- Rated contact operating voltage AC 120...277 V, AC 347 V
- Rated contact frequency: 50/60 Hz
- Fluorescent lamp load acc. to DIN EN 60669-1: 20 AX (200 µF) at AC 120/277 V, 15 AX (200 µF) at AC 347 V
- As built-in device with 1/2 inch thread connection for mounting to or in a UL/NEMA Junction Box with feedthrough of the function wires through the 1/2 inch threaded connector
- Selectable operating mode (normal mode, time switch mode)
- Selectable relay mode (NO contact / NC contact)
- Status object as an optional addition
- Variable On and Off delay times
- Selectable logic operation (AND/OR) of two communication objects
- Selectable switching state at bus voltage failure and recovery
- Optional addition of a night mode object for time-limited switching On of the output (and hence the illumination) at night
- Variable On period at night or time switch mode
- Selectable post-triggering of the On period (On period extension) in time switch mode
- Selectable warning signal prior to imminent switching-off by means of three-times short off and on switching (flashing) at night or in time switch mode
- Selectable function:
  - Including additional communication object for manual override of an output
  - Selectable forced control, including additional communication object for switching an output on or off in forced mode
  - Selectable counting of operating hours with threshold monitoring of the operating hours
  - Selectable counting of load cycles with threshold monitoring of the load cycles
- Integrated 8-bit scene control and linking of each output into up to 8 scenes

Data sheet

A6V11786007

Dimensions (W x H x D)

70 x 90 x 44,6 mm

Stock no.

Product no.

5WG1512-4CB23

JB 512C23

**Binary Output 3 x 6 A, AC 230 V****RL 513D23**

- 3 floating relay contact
- One relay contact per output as switching element
- Contact rated current according to DIN EN 60669-1: 6 A (resistive load)
- Bus-powered electronics
- Integrated bus coupling unit, bus connection via bus terminal block
- Type of protection: IP 20
- Rated contact operating voltage AC 230 V
- Rated contact frequency: 50/60 Hz
- Screw-less terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5...2.5 mm<sup>2</sup>
- For mounting in AP 118 automation module box or AP 641 room control box
- For each output:
  - Selectable operating mode (normal mode, time switch mode)
  - Selectable relay mode (NO contact / NC contact)
  - Status object as an optional addition
  - Variable On and Off delay times
  - Selectable logic operation (AND/OR) of two communication objects
  - Selectable switching state at bus voltage failure and recovery
  - Optional addition of a night mode object for time-limited switching On of the output (and hence the illumination) at night
  - Variable On period at night or time switch mode
  - Selectable post-triggering of the On period (On period extension) in time switch mode
  - Selectable warning signal prior to imminent switching-off by means of three-times short off and on switching (flashing) at night or in time switch mode
  - Selectable function:
    - Including additional communication object for manual override of an output
    - Selectable forced control, including additional communication object for switching an output on or off in forced mode
    - Selectable counting of operating hours and with threshold monitoring of the operating hours
    - Selectable counting of load cycles and with threshold monitoring of the load cycles
- Integrated 8-bit scene control and linking of each output into up to 8 scenes

The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See chapter Modular Installation System - Room control box - Module boxes.

Data sheet	A6V11375522
Rated voltage	AC 230 V
Rated current	6 A
Number of channels	3
Dimensions (W x H x D)	86,5 x 47,8 x 36,2 mm

Stock no.	Product no.
5WG1513-4DB23	RL 513D23

## Output devices

## Binary output devices

## Switching actuators/Modular installation system

## JB 513C23



## Binary Output 3 x 10 A, AC 120...277 V

- 3 floating relay contact
  - One relay contact per output as switching element
  - Contact rated current according to DIN EN 60669-1: 6 A (resistive load)
  - Bus-powered electronics
  - Integrated bus coupling unit, bus connection via bus terminal block
  - Type of protection: IP 20
  - One relay contact per output as switching element
  - Rated contact operating voltage AC 120...277 V
  - Rated contact frequency: 50/60 Hz
  - As built-in device with 1/2 inch thread connection for mounting to or in a UL/NEMA Junction Box with feedthrough of the function wires through the 1/2 inch threaded connector
- 
- For each output:
    - Selectable operating mode (normal mode, time switch mode)
    - Selectable relay mode (NO contact / NC contact)
    - Status object as an optional addition
    - Variable On and Off delay times
    - Selectable logic operation (AND/OR) of two communication objects
    - Selectable switching state at bus voltage failure and recovery
    - Optional addition of a night mode object for time-limited switching On of the output (and hence the illumination) at night
    - Variable On period at night or time switch mode
    - Selectable post-triggering of the On period (On period extension) in time switch mode
    - Selectable warning signal prior to imminent switching-off by means of three-times short off and on switching (flashing) at night or in time switch mode
    - Selectable function:
      - Including additional communication object for manual override of an output
      - Selectable forced control, including additional communication object for switching an output on or off in forced mode
      - Selectable counting of operating hours and with threshold monitoring of the operating hours
      - Selectable counting of load cycles and with threshold monitoring of the load cycles
    - Integrated 8-bit scene control and linking of each output into up to 8 scenes

Data sheet

A6V11786008

Dimensions (W x H x D)

70 x 90 x 44,6 mm

Stock no.

Product no.

5WG1513-4CB23

JB 513C23



### Combi switching actuator 8 x AC 230 V, 16 A, 8 x binary inputs

N 502/02



- 8 inputs AC/DC 12...230 V
- 8 relay contact outputs
- Rated contact voltage AC 230 V
- Rated contact operating current 16 A, p.f. = 1
- Electronics power supply via an integrated power supply unit for AC 230 V
- Device functional even without bus connection or if bus voltage absent or bus communication interrupted or not yet activated
- Push button to switch between bus and direct mode
- Push button for each output to switch the output in direct mode via a toggling function by a short actuation and for changing the output mode between remote control relay and time switch relay by holding down the push button for some seconds
- Device preset at the factory for direct switching of an output through a toggling function via the input of the same name
- Selectable function for each input when using the Engineering Tool Software (ETS):
  - Switching status / binary value transmission
  - Switching, short / long operation
  - Single button dimming, single button sun protection control, 1-button group control (sequence control)
  - 1-bit scene control
  - 8-bit scene control, 8-bit value, edge-triggered, 8-bit value, short / long operation
  - 16-bit floating point value, edge-triggered, 16-bit value, short / long operation, 16-bit value, edge-triggered, 16-bit floating point value, short / long operation
- Selectable function for each pair of inputs:
  - 2-button dimming with stop telegram or with cyclical sending
  - 2-pushbutton shutter/blind control
- Selectable blocking / releasing of each input via a corresponding blocking object
- Sending of the input objects after a change of status
- Selectable logic operation (AND/OR) for one input with a further communication object and with variable start value of the logic operation at bus voltage recovery
- Setting by means of the ETS, whether all outputs are to be configured identically or individually
- Selectable mode for each output (normal mode, time switch mode)
- Optional addition of a night mode object for each output for time-limited switching On of the output (and hence the illumination) at night
- Variable On and Off delay times for each output
- Variable On period in night mode or in time switch mode
- Selectable warning signal prior to imminent switching-off by means of three-times short off and on switching (flashing) in night mode or in time switch mode
- Optional status object per output for status reporting
- Sending of status objects on request and/or automatically after a change
- Integrated 8-bit scene control and linking of each output with up to 8 scenes
- Selectable switching state for each output at mains or bus power failure as well as after bus or mains voltage recovery
- Integrated bus coupling unit with only half a standard bus load
- Bus connection via bus terminal or contact system to data rail
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Data sheet	A6V10416148
Rated voltage	AC 230 V
Rated current	16 A
Number of channels	8
Number of inputs potentialfree	8
Dimension width (1 MW = 18 mm)	8 MW

Stock no. Product no.

5WG1502-1AB02 N 502/02

## Output devices

## Binary output devices

## Combination switching actuators

## UP 5..



## Switch actuator

- Rated contact voltage AC 230 V
- 2 binary inputs for potential-free contacts
- 20 cm long wires for connecting phase conductor, output, inputs and bus
- Output to be configured as NO or NC contact
- Selectable preferred output state at bus voltage failure and recovery
- Switching status object
- Selectable additional functions:
  - On/off delay
  - Time-switch
  - Logic operation, function forced positioning
- Selectable function of the binary inputs:
  - Acting as secondary inputs directly on the switching outputs or acting as independent binary inputs with bus communication
  - Free allocation of the functions switching, dimming, solar protection control, send value and scene control to the inputs
  - Two independent switching objects per input
  - Blocking object for each input
  - Separately selectable behaviour per input at bus voltage recovery
  - Telegram rate limitation for both inputs
- Integrated bus coupling units, bus-powered electronics
- Enclosed bus terminal for bus connection
- Installation in a flush-mounting wall or ceiling box with Ø 60 mm

Dimension (Ø x H)

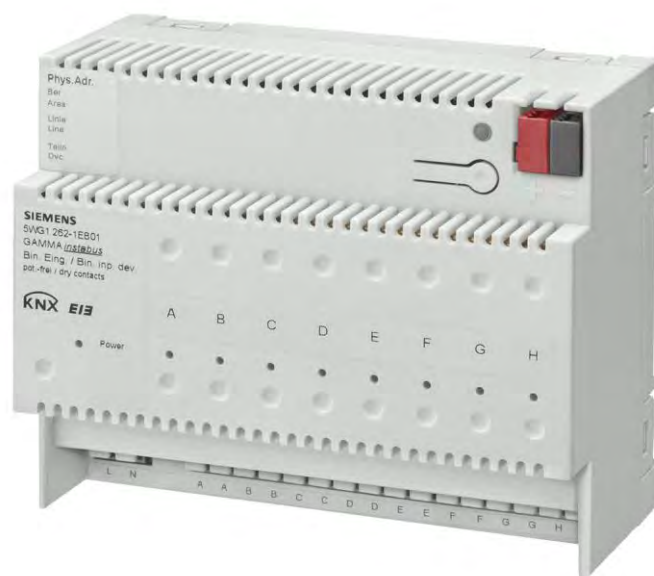
53 x 28 mm

## Range overview UP 5..

Product Title	Stock no.	Product no.
Switching actuator 1 x AC 230 V, 16 A; 2 x binary input	5WG1511-2AB10	<b>UP 511/10</b>
Switch actuator 2 x AC 230 V, 6 A; 2 x binary input	5WG1562-2AB31	<b>UP 562/31</b>

# Input devices

3



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## Input devices

### Overview and selection tools

3

Binary input devices															
Type	N 262E01	N 262E11	N 263E01	N 263E11	N 264E11	RL 260/23	JB 260C23	UP 220/21	UP 220D31	N 501/01	N 502/02	UP 511/10	UP 562/31	UP 520/31	UP 525/31
<b>Enclosure data</b>															
Design	N	N	N	N	N	RL	JB	UP	UP	N	N	UP	UP	UP	UP
Modular installation devices for mounting on TH35 EN 60715 mounting rail	■	■	■	■	■					■	■				
For inserting into flush-mounting switch and socket boxes with Ø = 60 mm								■	■			■	■	■	■
Modular installation device for mounting in AP 118 automation module box or AP 641 room control box <sup>1)</sup>						■									
Modular installation device for mounting in Junction Box 4" x 4"							■								
<b>Dimensions</b>															
• Width [mm] (1 MW = 18 mm)	6 MW	6 MW	6 MW	6 MW	6 MW	47.8	70	42	42	8 MW	8 MW	Ø 53	Ø 53	Ø 53	Ø 53
• Height [mm]						86.5	90	42	42						
• Depth [mm]						36.2	44.6	8.5	8.5			28	28	28	28
<b>Display/control elements</b>															
LED for status indication per input	■	■	■	■	■					■	■				
<b>Power supply</b>															
Bus-powered electronics						■	■	■	■			■	■	■	■
Electronics powered via an integrated power supply unit for supply voltage AC 230 V	■	■	■	■	■					■	■				
<b>Bus connection</b>															
Integrated bus coupling units	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Bus connection via contact system to data rail	■	■	■	■	■					■	■				
Bus connection via bus terminal	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Inputs</b>															
Max. cable length, unshielded, twisted [m]	100	100	100	100	100	100	100	10	10	100	100	5	5	5	5
<b>Pushbutton inputs</b>															
For signal input (floating contacts)	8	16			8			2 <sup>2)</sup>	4 <sup>2)</sup>			2	2	2	2
Determination of switching state by means of the voltage generated in the device	■	■			■			■	■			■	■	■	■
For voltage input			■	■	■	■	■			■	■				
• AC 230 V															
• AC/DC 24 V															
• AC/DC 12...230 V			8 <sup>3)</sup>		8 <sup>3)</sup>	4	4			8	8				
• AC 12...230 V/DC 12...115 V				16 <sup>3)</sup>											

<sup>1)</sup> The AP 641 room control box and AP 118 automation module box must be ordered separately, see Chapter Quick-assembly system - Room control box-Module boxes

<sup>2)</sup> Inputs, alternatively can be used as outputs for controlling LEDs up to a maximum of 2 mA

<sup>3)</sup> The pushbutton inputs are mutually insulated from the base



## ... Continuation of the table

Type	N 262E01	N 262E11	N 263E01	N 263E11	N 264E11	RL 260/23 <sup>2)</sup>	UP 220/21	UP 220D31	N 501/01	N 502/02	UP 511/10	UP 562/31	UP 520/31	UP 525/31
Application program <sup>1)</sup>	980903	980D03	980903	980D03	980D03	983101	982301	982201	981701	981601	207201	207101	207301	301901
<b>Input functions</b>														
Max. number of group addresses	97	97	97	97	97	120	120	120	220	120	26	26	26	26
Max. number of assignments	97	97	97	97	97	120	120	120	220	120	27	27	27	27
Telegram rate limitations	■	■	■	■	■						■	■	■	■
Configurable debounce time	■	■	■	■	■						■	■	■	■
Locking of inputs using blocking objects	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Adjustable duration of long button press	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Configurable contact type (NO contact/NC contact)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Transmission parameters</b>														
Adjustable cyclic transmission	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Configurable transmission in the event of changes to the input	■	■	■	■	■	■			■	■				
Configurable transmission in the event of bus voltage recovery	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Transmission delay with adjustable delay time														
Configurable event-controlled transmission						■	■							
<b>Switching</b>														
Switching ON/OFF														
• Rising edge	■	■	■	■	■	■	■	■	■	■	■	■	■	■
• Falling edge	■	■	■	■	■	■	■	■	■	■	■	■	■	■
• Rising and falling edge	■	■	■	■	■	■	■	■	■	■	■	■	■	■
• Short/long button press can be evaluated	■	■	■	■	■	■	■	■	■	■				
Switching OVER														
• Rising edge	■	■	■	■	■	■	■	■	■	■	■	■	■	■
• Falling edge	■	■	■	■	■	■	■	■	■	■	■	■	■	■
• Rising and falling edge	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Value transmission</b>														
8 bit														
• Rising edge	■	■	■	■	■	■	■	■	■	■	■	■	■	■
• Falling edge	■	■	■	■	■	■	■	■	■	■				
• Rising and falling edge	■	■	■	■	■	■	■	■	■	■				
• Short/long button press can be evaluated	■	■	■	■	■	■	■	■	■	■				
16 bit														
• Rising edge	■	■	■	■	■	■	■	■	■	■				
• Falling edge	■	■	■	■	■	■	■	■	■	■				
• Rising and falling edge	■	■	■	■	■	■	■	■	■	■				
• Configurable short/long button press	■	■	■	■	■	■	■	■	■	■				
<b>Dimming</b>														
1-pushbutton dimming	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2-pushbutton dimming with stop telegram (4 bit)	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2-pushbutton dimming with cyclic transmission (4 bit)						■	■	■	■	■	■	■	■	■
2-pushbutton dimming with value setting (8 bit)						■	■	■						
Short/long button press can be evaluated	■	■	■	■	■	■	■	■	■	■				
<b>Shutter/blind</b>														
1-pushbutton shutter/blind control	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2-pushbutton shutter/blind control	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Short/long button press can be evaluated	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Scene</b>														
Store and call up scene, 8-bit	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Store and call up scene, 1-bit in conjunction with scene module	■	■	■	■	■	■	■	■	■	■	■	■	■	■
<b>Pulse counting</b>														
Pulse counting with/without limit value monitoring (8 bit, 16 bit, 32 bit)	■	■	■	■	■	■	■	■	■	■				
<b>Group control</b>														
1-pushbutton group control	■	■	■	■	■	■	■	■	■	■				

<sup>1)</sup> For current application programs, see [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)<sup>2)</sup> Identical functions as JB 260C23

## Input devices

## Binary input devices

## Binary inputs/DIN rail mounted devices

3

## N 26..E/..1



## Binary input device

- Length of unshielded connecting cable per input of max. 100 m
- LED per binary input for status display
- Input functions: Telegram rate limitations, configurable debounce time, locking of inputs using blocking objects, adjustable duration of long button press, Configurable contact type (NO contact/NC contact)
- Transmission parameters: Adjustable cyclic transmission, Configurable transmission in the event of changes to the input, Configurable transmission in the event of bus voltage recovery
- Short/long button press can be evaluated
- Switching on/off/over
- Value transmission 8 bit, 16 bit
- Dimming: single button dimming, 2-pushbutton dimming with stop telegram (4 bit)
- 1-/2-pushbutton shutter/blind control
- Store and call up scene, 1-bit in conjunction with scene module
- Pulse counting with/without limit value monitoring (8 bit, 16 bit, 32 bit)
- 1-pushbutton group control
- Integrated power supply for AC 230 V to supply the electronics
- Integrated bus coupling units, Bus connection via contact system to data rail, bus connection via bus terminal

## Range overview N26..E/..1

Product Title	Dimension width (1 MW = 18 mm)	Stock no.	Product no.
Binary input device 8 x potential-free contacts	6 MW	5WG1262-1EB01	<b>N 262E01</b>
Binary input device 16 x potential-free contacts	6 MW	5WG1262-1EB11	<b>N 262E11</b>
Binary input device 8 x AC/DC 12...230 V	6 MW	5WG1263-1EB01	<b>N 263E01</b>
Binary input device 16 x AC 12...230 V / DC 12...115 V	6 MW	5WG1263-1EB11	<b>N 263E11</b>
Binary input device 8 x AC/DC 12...230 V + 8 x potential-free contacts	6 MW	5WG1264-1EB11	<b>N 264E11</b>

# Input devices

## Binary input devices

### Binary inputs/Modular installation system

3

#### Binary Input 4 x AC/DC 12...230 V

RL 260/23

- 4 Inputs for AC/DC 12...230 V
- Max. cable length, unshielded, twisted 100 m
- Bus-powered electronics
- Integrated bus coupling unit, with bus connection via bus terminal block
- Type of protection: IP 20
- Screw-less terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5...2.5 mm<sup>2</sup>
- For mounting in AP 118 automation module box or AP 641 room control box
- The following functions can be selected per input:
  - Switching state/send binary value/Transmission of the input objects after change
  - Switch edge, short/long switch, 8-bit value edge, 8-bit value short/long
  - Dimming, shading control, single button group control
  - 1/8-bit scene control
  - 16-bit floating-point value edge and 16-bit floating-point short/long
  - Pulse counting with/without limit value monitoring (8/16/32 Bit)
- The following functions can be selected per input pair:
  - 2-pushbutton dimming with stop telegram and 2-pushbutton shading control
- Optional blocking of each input by means of the respective blocking object
- Optional cyclic transmission of input objects



The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See Chapter Modular Installation System - Room control box - Module boxes.

Data sheet A6V10416114  
Dimensions (W x H x D) 86,5 x 47,8 x 36,2 mm

Stock no. Product no.  
5WG1260-4AB23 RL 260/23

#### Binary Input 4 x AC/DC 12...230 V

JB 260C23

- 4 Inputs for AC/DC 12...230 V
- Max. cable length, unshielded, twisted 100 m
- Bus-powered electronics
- Integrated bus coupling unit, with bus connection via bus terminal block
- Type of protection: IP 20
- As built-in device with 1/2 inch thread connection for mounting to or in a UL/NEMA Junction Box with feedthrough of the function wires through the 1/2 inch threaded connector
- The following functions can be selected per input:
  - Switching state/send binary value/Transmission of the input objects after change
  - Switch edge, short/long switch, 8-bit value edge, 8-bit value short/long
  - Dimming, shading control, single button group control
  - 1/8-bit scene control
  - 16-bit floating-point value edge and 16-bit floating-point short/long
  - Pulse counting with/without limit value monitoring (8/16/32 Bit)
- The following functions can be selected per input pair:
  - 2-pushbutton dimming with stop telegram and 2-pushbutton shading control
- Optional blocking of each input by means of the respective blocking object
- Optional cyclic transmission of input objects



Data sheet A6V11786003  
Dimensions (W x H x D) 70 x 90 x 44,6 mm

Stock no. Product no.  
5WG1260-4CB23 JB 260C23

## Input devices

### Binary input devices

### Pushbutton interface

3

#### UP 220/..



#### Pushbutton interface

- Inputs / outputs each configurable for potential-free contacts or for control of an LED
- Generation of the sensing voltage for potential-free contacts
- For inserting into flush-mounting switch and socket boxes with  $\varnothing = 60$  mm
- Inputs max. 10 m cable length, unshielded, twisted
- Input functions: Locking of inputs using blocking objects, Adjustable duration of long button press, Configurable contact type (NO contact/NC contact)
- Transmission parameters: Adjustable cyclic transmission, Configurable transmission in the event of bus voltage recovery
- Short/long button press can be evaluated
- Switching on/off/toggle
- Value transmission 8 Bit, 16 Bit
- Single button dimming
- 2-pushbutton dimming with stop telegram (4 bit)
- 1-/2-pushbutton shutter/blind control
- Scene store and call up scene: 8 Bit, in conjunction with scene module 1 Bit
- Pulse counting with/without limit value monitoring (8 bit, 16 bit, 32 bit)
- 1-pushbutton group control
- Bus-powered electronics
- Integrated bus coupling unit, bus connection via bus terminal

#### Range overview UP 220/..

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Pushbutton interface 2 x potential-free contact, output for LED control	42 x 42 x 8.5	5WG1220-2AB21	<b>UP 220/21</b>
Pushbutton interface 4 x potential-free contact, output for LED control	42 x 42 x 8,5	5WG1220-2DB31	<b>UP 220D31</b>

Recommendation: LED light insert, for switches and pushbutton inserts, red, 1.5 V DC, 1 mA



N 502/02



3



### Combi switching actuator 8 x AC 230 V, 16 A, 8 x binary inputs

- 8 inputs AC/DC 12...230 V
- 8 relay contact outputs
- Rated contact voltage AC 230 V
- Rated contact operating current 16 A, p.f. = 1
- Electronics power supply via an integrated power supply unit for AC 230 V
- Device functional even without bus connection or if bus voltage absent or bus communication interrupted or not yet activated
- Push button to switch between bus and direct mode
- Push button for each output to switch the output in direct mode via a toggling function by a short actuation and for changing the output mode between remote control relay and time switch relay by holding down the push button for some seconds
- Device preset at the factory for direct switching of an output through a toggling function via the input of the same name
- Selectable function for each input when using the Engineering Tool Software (ETS):
  - Switching status / binary value transmission
  - Switching, short / long operation
  - Single button dimming, single button sun protection control, 1-button group control (sequence control)
  - 1-bit scene control
  - 8-bit scene control, 8-bit value, edge-triggered, 8-bit value, short / long operation
  - 16-bit floating point value, edge-triggered, 16-bit value, short / long operation, 16-bit value, edge-triggered, 16-bit floating point value, short / long operation
- Selectable function for each pair of inputs:
  - 2-button dimming with stop telegram or with cyclical sending
  - 2-pushbutton shutter/blind control
- Selectable blocking / releasing of each input via a corresponding blocking object
- Sending of the input objects after a change of status
- Selectable logic operation (AND/OR) for one input with a further communication object and with variable start value of the logic operation at bus voltage recovery
- Setting by means of the ETS, whether all outputs are to be configured identically or individually
- Selectable mode for each output (normal mode, time switch mode)
- Optional addition of a night mode object for each output for time-limited switching On of the output (and hence the illumination) at night
- Variable On and Off delay times for each output
- Variable On period in night mode or in time switch mode
- Selectable warning signal prior to imminent switching-off by means of three-times short off and on switching (flashing) in night mode or in time switch mode
- Optional status object per output for status reporting
- Sending of status objects on request and/or automatically after a change
- Integrated 8-bit scene control and linking of each output with up to 8 scenes
- Selectable switching state for each output at mains or bus power failure as well as after bus or mains voltage recovery
- Integrated bus coupling unit with only half a standard bus load
- Bus connection via bus terminal or contact system to data rail
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Data sheet	A6V10416148
Rated voltage	AC 230 V
Rated current	16 A
Number of channels	8
Number of inputs potentialfree	8
Dimension width (1 MW = 18 mm)	8 MW

Stock no. Product no.

5WG1502-1AB02 N 502/02

## Input devices

### Binary input devices

### Combination actuators

3

N 501/01



#### Combination blind actuator 4 x AC 230 V, 6 A, 8 x binary inputs

- 8 inputs for DC or AC in the range from 12 to 230 V
- 8 relay contact outputs locked in pairs against each other for controlling 4 x AC 230 V sunblind drives
- Contact rated voltage AC 230 V
- Contact rated current 6 A, p.f. = 1
- Electronics powered by a AC 230 V integrated power supply
- Device functional even without bus connection or if the bus communication fails
- Preset on delivery for direct output control for each blind button function via momentary contact switches connected to the inputs
- Key for switching between bus and direct mode
- Button for each relay contact output, for switching the output in direct mode
- Selectable function for each input when using the ETS:
  - Switching status, send binary value
  - Switching on leading edge, switching Short/Long
  - 1-pushbutton dimming, sunblind control, group control
  - 1-bit/8-bit scene control
  - 8-bit/16-bit value leading edge, Short/Long
  - 16-bit floating point value leading edge, Short/Long
- Or for each pair of inputs:
  - Acting directly on the corresponding outputs as blind button
  - 2-button dimming with stop telegram or with cyclical sending
  - 2-pushbutton sunblind control
- Selectable blocking of each input via a corresponding blocking object
- Sending of input objects after change
- Selectable cyclical input object sending
- Individual or shared configuration of actuator channels
- Communication objects for each blind channel for driving the sun protection into the end positions or for stopping the procedure and adjusting the blind slats in steps
- Communication objects for setting position of slats and blinds in percentage information
- Automatic opening of the blind slats to a preconfigured nominal setting after uninterrupted driving down of the blind from the top to the bottom end position, with integrated 1-bit scene control for storing and calling up (reproduction) of 2 interim blind and slat settings
- Integrated 1-bit/8-bit scene control, 8 scenes can be integrated per channel
- Optional "Sun" object for integration in a sunlight tracking control system
- Differentiation between automatic and manual mode and with automatic switchover from automatic to manual mode for the channel in question by pressing a bus button for manual control of the corresponding sun protection
- Manual mode taking precedence over automatic position commands
- Optional central command for each device or each channel for switching the relevant channels to automatic mode and driving the sun protection into the up or down end position
- Alarm: move to safety position, Locking in this position for as long as alarm is active
- Travel lock (e. g. for cleaning the outer shutter/blinds)
- Status objects for each channel for querying or for automatic sending of sun protection and slat settings as a percentage value
- Optional status objects for reporting that the up or down position has been reached
- Integrated bus coupling unit, Bus connection via bus terminal or contact system to data rail
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Data sheet	A6V10416147
Rated voltage	AC 230 V
Rated current	6 A
Number of channels	4
Number of inputs potentialfree	8
Dimension width (1 MW = 18 mm)	8 MW

Stock no.	Product no.
5WG1501-1AB01	<b>N 501/01</b>

UP 5..

3

## Switch actuator

- Rated contact voltage AC 230 V
- 2 binary inputs for potential-free contacts
- 20 cm long wires for connecting phase conductor, output, inputs and bus
- Output to be configured as NO or NC contact
- Selectable preferred output state at bus voltage failure and recovery
- Switching status object
- Selectable additional functions:
  - On/off delay
  - Time-switch
  - Logic operation, function forced positioning
- Selectable function of the binary inputs:
  - Acting as secondary inputs directly on the switching outputs or acting as independant binary inputs with bus communication
  - Free allocation of the functions switching, dimming, solar protection control, send value and scene control to the inputs
  - Two independent switching objects per input
  - Blocking object for each input
  - Separately selectable behaviour per input at bus voltage recovery
  - Telegram rate limitation for both inputs
- Integrated bus coupling units, bus-powered electronics
- Enclosed bus terminal for bus connection
- Installation in a flush-mounting wall or ceiling box with Ø 60 mm



Dimension (Ø x H)

53 x 28 mm

## Range overview UP 5..

Product Title	Stock no.	Product no.
Switching actuator 1 x AC 230 V, 16 A; 2 x binary input	5WG1511-2AB10	<b>UP 511/10</b>
Switch actuator 2 x AC 230 V, 6 A; 2 x binary input	5WG1562-2AB31	<b>UP 562/31</b>

## Input devices

### Binary input devices

### Combination actuators

3

UP 520/31



#### Venetian blind actuator 1 x AC 230 V, 6 A, 2 x binary inputs

- Electrically interlocked relay contacts as switching elements
- Contact rated operational voltage AC 230 V
- Contact rated current 6 A at  $\cos \phi = 1$
- Selectable type of sunblind (Venetian blind / roller shutter)
- Configurable stop time at change of movement direction
- Object for activation / de-activation of the sun protection function
- Configurable sunblind position after activation / de-activation of the sun protection function
- Two safety objects
- Selectable cyclical monitoring of the safety objects
- Moving into a configurable end position on activation or deactivation of the safety function
- Configurable reaction at bus voltage failure and recovery
- 2 binary inputs for potential-free contacts
- Selectable function of the binary inputs: acting as secondary inputs directly on the switching outputs or acting as independant binary inputs with bus communication
- Free allocation of the functions switching, dimming, solar protection control, send value and scene control to the inputs
- Two independent switching objects per input
- Blocking object for each input
- Separately selectable behaviour per input at bus voltage recovery
- Telegram rate limitation for both inputs
- About 20 cm long wires for connecting phase conductor, outputs, inputs and bus
- Bus-powered electronics
- Integrated bus coupling unit
- Enclosed bus terminal for bus connection
- For installation in a flush-mounting wall or ceiling box with 60 mm diameter

Data sheet

A6V10416165

Dimension (Ø x H)

53 x 28 mm

Stock no.

Product no.

5WG1520-2AB31

UP 520/31



### Universal dimmer UP 525/31, 210 VA, AC 230 V, 50 Hz (R,L,C load)

UP 525/31



- One output for switching and dimming resistive, inductive or capacitive loads
- With semiconductor output for switching and dimming of lamps
- Rated operational voltage AC 230 V, 50/60 Hz
- Connected load 50...210 VA
- Settable switching and dimming behaviour
- Selectable mode of operation (normal mode, timer mode)
- Soft on, Soft off
- Dimming or jumping to a new dimming value
- Time-delayed switch-off when dimming below a settable dimming value
- Status objects for switching and dimming value
- Short-circuit message
- Message of a load failure
- Integrated 8-bit scene control
- Object for blocking the output
- Configurable brightness value at start and end of a blocking phase
- Adjustable behaviour of the output after bus voltage recovery
- 2 binary inputs for potential-free contacts
- Selectable function of the binary inputs: acting as secondary inputs directly on the switching outputs or acting as independant binary inputs with bus communication
- Free allocation of the functions switching, dimming, solar protection control, send value and scene control to the inputs
- Two independent switching objects per input
- Blocking object for each input
- Separately selectable behaviour per input at bus voltage recovery
- Telegram rate limitation for both inputs
- About 20 cm long wires for connecting phase conductor, output, inputs and bus
- Bus-powered electronics
- Integrated bus coupling unit, bus connection via bus terminal
- For installation in a flush-mounting wall or ceiling box with Ø 60 mm

Data sheet

A6V10416182

Dimension (Ø x H)

53 x 28 mm

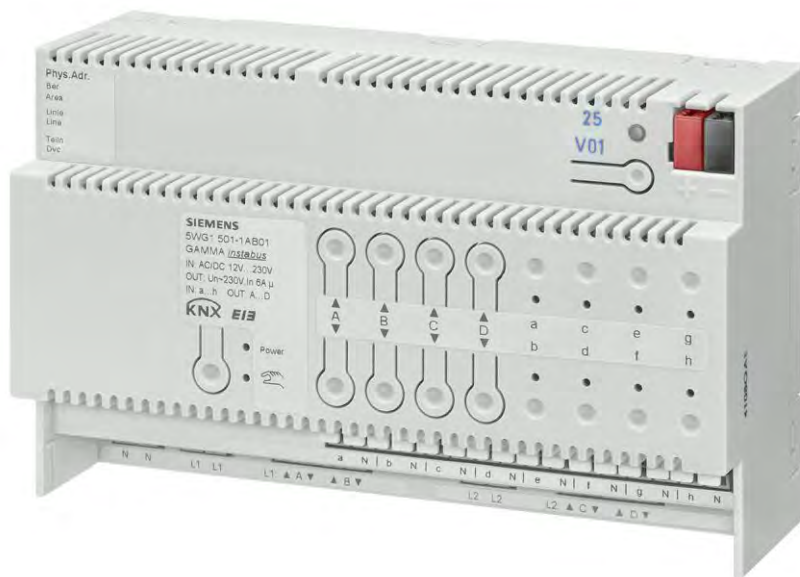
Stock no.

Product no.

5WG1525-2AB31 UP 525/31



# Combination devices



4

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Accessories for UP 220/..	129

## Combination devices

### Overview and selection tools

4

Input/output devices								
Type	N 501/01	N 502/02	UP 511/10	UP 562/31	UP 520/31	UP 525/31	UP 220/21	UP 220D31
Application program <sup>1)</sup>	981701	981601	207201	207101	207301	301901	982301	982201
<b>Enclosure data</b>								
Design	N	N	UP	UP	UP	UP	UP	UP
Modular installation device for mounting on TH35 EN 60715 mounting rail.	■	■						
For installation in flush-mounting switch and socket boxes with Ø = 60 mm			■	■	■	■	■	■
<b>Dimensions</b>								
• Width/Ø [mm] (1 MW = 18 mm)	8 MW	8 MW	Ø 53	Ø 53	Ø 53	Ø 53	Ø 42	Ø 42
• Depth [mm]			28	28	28	28	8.5	8.5
<b>Display/control elements</b>								
LED for status indication per input	■	■						
LED for status indication per output	■	■						
LED for operation/status display	■	■						
Pushbuttons for local operation on the device	■	■						
<b>Power supply</b>								
Electronics powered via an integrated power supply unit for supply voltage AC 230 V	■	■						
Bus-powered electronics			■	■	■	■	■	■
Bus-dependent operation possible	■	■ <sup>2)</sup>						
<b>Bus connection</b>								
Integrated bus coupling units	■	■	■	■	■	■	■	■
Bus connection via bus terminal	■	■	■	■	■	■	■	■
Bus connection via contact system to data rail	■	■						
<b>Outputs</b>								
<b>Load output</b>								
Floating relay contact		8 <sup>3)</sup>	1	2	1	1		
Silent semiconductor switch								
Electrically interlocked relays (for reversing direction of rotation)	4							
<b>Load types</b>								
Rated contact voltage, AC [V]	230	230	230	230	230	230		
Rated contact current [A]	6	16	16	6	6			
Max. short-time current [A]								
Switching capacity for permanent loading [W]								
<b>Protection</b>								
Electronic protection of outputs against overload and short circuit					■	■		
<b>Universal inputs/outputs</b>								
Adjustable universal inputs/outputs								
<b>Inputs</b>								
Max. cable length, unshielded, twisted [m]	100	100	5	5	5	5	10	10
For signal input (floating contact)			2	2	2	2	2 <sup>4)</sup> 5)	4 <sup>4)</sup> 5)
Determination of switching state by means of the voltage generated in the device			■	■	■	■	■	■
For voltage input AC/DC 12...230 V	8	8						
PT1000 temperature sensor input								

<sup>1)</sup> For current application programs, see [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)

<sup>2)</sup> Each input affects the output of the same name, adjustable as timer or impulse relay

<sup>3)</sup> Except channel A

<sup>4)</sup> The inputs are mutually insulated from the base

<sup>5)</sup> Inputs, alternatively can be used as outputs for controlling LEDs up to a maximum of 2 mA



**Combi switching actuator 8 x AC 230 V, 16 A, 8 x binary inputs****N 502/02****4**

- 8 inputs AC/DC 12...230 V
- 8 relay contact outputs
- Rated contact voltage AC 230 V
- Rated contact operating current 16 A, p.f. = 1
- Electronics power supply via an integrated power supply unit for AC 230 V
- Device functional even without bus connection or if bus voltage absent or bus communication interrupted or not yet activated
- Push button to switch between bus and direct mode
- Push button for each output to switch the output in direct mode via a toggling function by a short actuation and for changing the output mode between remote control relay and time switch relay by holding down the push button for some seconds
- Device preset at the factory for direct switching of an output through a toggling function via the input of the same name
- Selectable function for each input when using the Engineering Tool Software (ETS):
  - Switching status / binary value transmission
  - Switching, short / long operation
  - Single button dimming, single button sun protection control, 1-button group control (sequence control)
  - 1-bit scene control
  - 8-bit scene control, 8-bit value, edge-triggered, 8-bit value, short / long operation
  - 16-bit floating point value, edge-triggered, 16-bit value, short / long operation, 16-bit value, edge-triggered, 16-bit floating point value, short / long operation
- Selectable function for each pair of inputs:
  - 2-button dimming with stop telegram or with cyclical sending
  - 2-pushbutton shutter/blind control
- Selectable blocking / releasing of each input via a corresponding blocking object
- Sending of the input objects after a change of status
- Selectable logic operation (AND/OR) for one input with a further communication object and with variable start value of the logic operation at bus voltage recovery
- Setting by means of the ETS, whether all outputs are to be configured identically or individually
- Selectable mode for each output (normal mode, time switch mode)
- Optional addition of a night mode object for each output for time-limited switching On of the output (and hence the illumination) at night
- Variable On and Off delay times for each output
- Variable On period in night mode or in time switch mode
- Selectable warning signal prior to imminent switching-off by means of three-times short off and on switching (flashing) in night mode or in time switch mode
- Optional status object per output for status reporting
- Sending of status objects on request and/or automatically after a change
- Integrated 8-bit scene control and linking of each output with up to 8 scenes
- Selectable switching state for each output at mains or bus power failure as well as after bus or mains voltage recovery
- Integrated bus coupling unit with only half a standard bus load
- Bus connection via bus terminal or contact system to data rail
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Data sheet	A6V10416148
Rated voltage	AC 230 V
Rated current	16 A
Number of channels	8
Number of inputs potentialfree	8
Dimension width (1 MW = 18 mm)	8 MW

Stock no. Product no.

5WG1502-1AB02 **N 502/02**

## Combination devices

### Input/Output devices

N 501/01



4



#### Combination blind actuator 4 x AC 230 V, 6 A, 8 x binary inputs

- 8 inputs for DC or AC in the range from 12 to 230 V
- 8 relay contact outputs locked in pairs against each other for controlling 4 x AC 230 V sunblind drives
- Contact rated voltage AC 230 V
- Contact rated current 6 A, p.f. = 1
- Electronics powered by a AC 230 V integrated power supply
- Device functional even without bus connection or if the bus communication fails
- Preset on delivery for direct output control for each blind button function via momentary contact switches connected to the inputs
- Key for switching between bus and direct mode
- Button for each relay contact output, for switching the output in direct mode
- Selectable function for each input when using the ETS:
  - Switching status, send binary value
  - Switching on leading edge, switching Short/Long
  - 1-pushbutton dimming, sunblind control, group control
  - 1-bit/8-bit scene control
  - 8-bit/16-bit value leading edge, Short/Long
  - 16-bit floating point value leading edge, Short/Long
- Or for each pair of inputs:
  - Acting directly on the corresponding outputs as blind button
  - 2-button dimming with stop telegram or with cyclical sending
  - 2-pushbutton sunblind control
- Selectable blocking of each input via a corresponding blocking object
- Sending of input objects after change
- Selectable cyclical input object sending
- Individual or shared configuration of actuator channels
- Communication objects for each blind channel for driving the sun protection into the end positions or for stopping the procedure and adjusting the blind slats in steps
- Communication objects for setting position of slats and blinds in percentage information
- Automatic opening of the blind slats to a preconfigured nominal setting after uninterrupted driving down of the blind from the top to the bottom end position, with integrated 1-bit scene control for storing and calling up (reproduction) of 2 interim blind and slat settings
- Integrated 1-bit/8-bit scene control, 8 scenes can be integrated per channel
- Optional "Sun" object for integration in a sunlight tracking control system
- Differentiation between automatic and manual mode and with automatic switchover from automatic to manual mode for the channel in question by pressing a bus button for manual control of the corresponding sun protection
- Manual mode taking precedence over automatic position commands
- Optional central command for each device or each channel for switching the relevant channels to automatic mode and driving the sun protection into the up or down end position
- Alarm: move to safety position, Locking in this position for as long as alarm is active
- Travel lock (e. g. for cleaning the outer shutter/blinds)
- Status objects for each channel for querying or for automatic sending of sun protection and slat settings as a percentage value
- Optional status objects for reporting that the up or down position has been reached
- Integrated bus coupling unit, Bus connection via bus terminal or contact system to data rail
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Data sheet	A6V10416147
Rated voltage	AC 230 V
Rated current	6 A
Number of channels	4
Number of inputs potentialfree	8
Dimension width (1 MW = 18 mm)	8 MW

Stock no.	Product no.
5WG1501-1AB01	<b>N 501/01</b>

**Pushbutton interface**

- Inputs / outputs each configurable for potential-free contacts or for control of an LED
- Generation of the sensing voltage for potential-free contacts
- For inserting into flush-mounting switch and socket boxes with Ø = 60 mm
- Inputs max. 10 m cable length, unshielded, twisted
- Input functions: Locking of inputs using blocking objects, Adjustable duration of long button press, Configurable contact type (NO contact/NC contact)
- Transmission parameters: Adjustable cyclic transmission, Configurable transmission in the event of bus voltage recovery
- Short/long button press can be evaluated
- Switching on/off/toggle
- Value transmission 8 Bit, 16 Bit
- Single button dimming
- 2-pushbutton dimming with stop telegram (4 bit)
- 1-/2-pushbutton shutter/blind control
- Scene store and call up scene: 8 Bit, in conjunction with scene module 1 Bit
- Pulse counting with/without limit value monitoring (8 bit, 16 bit, 32 bit)
- 1-pushbutton group control
- Bus-powered electronics
- Integrated bus coupling unit, bus connection via bus terminal

UP 220/..



4

**Range overview UP 220/..**

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Pushbutton interface 2 x potential-free contact, output for LED control	42 x 42 x 8.5	5WG1220-2AB21	UP 220/21
Pushbutton interface 4 x potential-free contact, output for LED control	42 x 42 x 8,5	5WG1220-2DB31	UP 220D31

Recommendation: LED light insert, for switches and pushbutton inserts, red, 1.5 V DC, 1 mA

**Accessories for UP 220/..**

Product Title	Stock no.	Product no.
LED light insert	5TG7318	5TG7318

## Combination devices

### Input/Output devices

#### UP 5..



#### Switch actuator

- Rated contact voltage AC 230 V
- 2 binary inputs for potential-free contacts
- 20 cm long wires for connecting phase conductor, output, inputs and bus
- Output to be configured as NO or NC contact
- Selectable preferred output state at bus voltage failure and recovery
- Switching status object
- Selectable additional functions:
  - On/off delay
  - Time-switch
  - Logic operation, function forced positioning
- Selectable function of the binary inputs:
  - Acting as secondary inputs directly on the switching outputs or acting as independant binary inputs with bus communication
  - Free allocation of the functions switching, dimming, solar protection control, send value and scene control to the inputs
  - Two independent switching objects per input
  - Blocking object for each input
  - Separately selectable behaviour per input at bus voltage recovery
  - Telegram rate limitation for both inputs
- Integrated bus coupling units, bus-powered electronics
- Enclosed bus terminal for bus connection
- Installation in a flush-mounting wall or ceiling box with Ø 60 mm

Dimension (Ø x H)

53 x 28 mm

#### Range overview UP 5..

Product Title	Stock no.	Product no.
Switching actuator 1 x AC 230 V, 16 A; 2 x binary input	5WG1511-2AB10	<b>UP 511/10</b>
Switch actuator 2 x AC 230 V, 6 A; 2 x binary input	5WG1562-2AB31	<b>UP 562/31</b>

**Venetian blind actuator 1 x AC 230 V, 6 A, 2 x binary inputs**

UP 520/31



4

- Electrically interlocked relay contacts as switching elements
- Contact rated operational voltage AC 230 V
- Contact rated current 6 A at  $\cos \phi = 1$
- Selectable type of sunblind (Venetian blind / roller shutter)
- Configurable stop time at change of movement direction
- Object for activation / de-activation of the sun protection function
- Configurable sunblind position after activation / de-activation of the sun protection function
- Two safety objects
- Selectable cyclical monitoring of the safety objects
- Moving into a configurable end position on activation or deactivation of the safety function
- Configurable reaction at bus voltage failure and recovery
- 2 binary inputs for potential-free contacts
- Selectable function of the binary inputs: acting as secondary inputs directly on the switching outputs or acting as independant binary inputs with bus communication
- Free allocation of the functions switching, dimming, solar protection control, send value and scene control to the inputs
- Two independent switching objects per input
- Blocking object for each input
- Separately selectable behaviour per input at bus voltage recovery
- Telegram rate limitation for both inputs
- About 20 cm long wires for connecting phase conductor, outputs, inputs and bus
- Bus-powered electronics
- Integrated bus coupling unit
- Enclosed bus terminal for bus connection
- For installation in a flush-mounting wall or ceiling box with 60 mm diameter

Data sheet

A6V10416165

Dimension (Ø x H)

53 x 28 mm

Stock no.

Product no.

5WG1520-2AB31

UP 520/31



## Combination devices

### Input/Output devices

#### UP 525/31



4



#### Universal dimmer UP 525/31, 210 VA, AC 230 V, 50 Hz (R,L,C load)

- One output for switching and dimming resistive, inductive or capacitive loads
- With semiconductor output for switching and dimming of lamps
- Rated operational voltage AC 230 V, 50/60 Hz
- Connected load 50...210 VA
- Settable switching and dimming behaviour
- Selectable mode of operation (normal mode, timer mode)
- Soft on, Soft off
- Dimming or jumping to a new dimming value
- Time-delayed switch-off when dimming below a settable dimming value
- Status objects for switching and dimming value
- Short-circuit message
- Message of a load failure
- Integrated 8-bit scene control
- Object for blocking the output
- Configurable brightness value at start and end of a blocking phase
- Adjustable behaviour of the output after bus voltage recovery
- 2 binary inputs for potential-free contacts
- Selectable function of the binary inputs: acting as secondary inputs directly on the switching outputs or acting as independant binary inputs with bus communication
- Free allocation of the functions switching, dimming, solar protection control, send value and scene control to the inputs
- Two independent switching objects per input
- Blocking object for each input
- Separately selectable behaviour per input at bus voltage recovery
- Telegram rate limitation for both inputs
- About 20 cm long wires for connecting phase conductor, output, inputs and bus
- Bus-powered electronics
- Integrated bus coupling unit, bus connection via bus terminal
- For installation in a flush-mounting wall or ceiling box with Ø 60 mm

Data sheet

A6V10416182

Dimension (Ø x H)

53 x 28 mm

Stock no.

Product no.

5WG1525-2AB31

UP 525/31

# Lighting



5

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## Lighting

### Overview and selection tools

5



#### Channel bundling of up to four channels for high output

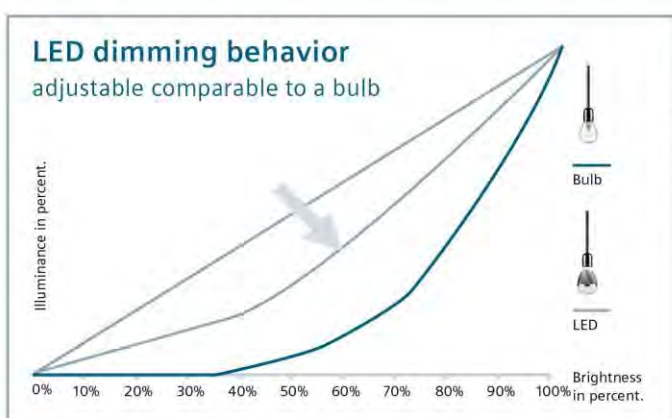
Strong illumination can be realized by bundling channels up to 100 VA. Bundling two channels increases the output to 300 VA and 500 VA. Bundling three channels increases the output to 750 VA and four channels to 1,000 VA. Adjacent channels can be bundled as follows: A+B|C|D, A|B+C|D, A|B|C+D, A +B|C+D, A+B+C|D, A|B+C+D and A+B +C+D.

#### Universal dimmer for LEDs and conventional illuminants

The new universal dimmer N 554 in the new design with DIN rail-mounted devices expands the Siemens GAMMA instabus lighting control product range. Its four independent channels enable the new product to deliver seamless dimming adjustment for dimmable LED retrofit bulbs and bulbs in all other dimmable categories, with no minimum load. The universal dimmer's front panel makes it easy to check and operate. Channel bundling allows outputs to be combined so the load can be increased up to 1,000 VA.













#### Intuitive front panel

Status LEDs and push-buttons permit convenient operation at the front panel to check the installation. With one click, users can switch and dim the ballasts, configure the channel bundling, and detect faults. Channel bundling can be adjusted directly, without ETS.



#### Adjustable dimming curves

For greater comfort and flexibility, the universal dimmer offers the option to adjust the dimming behavior of LEDs so that it resembles that of conventional bulbs. The graph shows the typical dimming behavior of an LED compared with a bulb. In the ETS, users can adjust the setting of the LED dimming curve to parametrize the control of brightness relative to dimness. These bulbs can be dimmed brighter or darker in the mid-dim region.

Dimmers						
						
Type	N 528D01 N 528C01	N 554D31	UP 525/03	UP 525/13	UP 525/31	RS 525/23
<b>Enclosure data</b>						
Design	N	N	UP	UP	UP	RS
Modular installation devices for mounting on TH35 EN 60715 mounting rail	■	■				
For installation in flush-mounting switch and socket boxes with Ø = 60 mm			■	■	■	
10-pole BTI socket (BTI - Bus Transceiver Interface) for plugging of bus terminal devices with BTI connector			■			
Modular installation device for mounting in AP 118 automation module box or AP 641 room control box <sup>1)</sup>						■
<b>Dimensions</b>						
• Width/Ø [mm] (1 MW = 18 mm)	4 MW	8MW	71	50	53	50
• Height [mm]			71	41.3	28	35
• Depth [mm]			41.5	50.9		
<b>Mounting type</b>						
Screw fixing			■			
<b>Power supply</b>						
Bus-powered electronics	■	■	■	■	■	■
Electronics powered via an integrated power supply unit, for supply voltage AC 230 V						
<b>Power loss</b>						
max. power loss [W]	6	7	2	2	2	2
<b>Bus connection</b>						
Integrated bus coupling units	■	■	■	■	■	■
Bus connection via bus terminal	■	■	■	■	■	■
<b>Outputs</b>						
<b>Load output</b>						
Number of channels	2	4	1	1	1	1
Load type						
<b>Load</b>						
Contact rated voltage, AC [V]	230 or 120	230	230	230	230	230
Dimmer output [VA]	0... 300 <sup>2)</sup> or 0... 150	0... 300 <sup>3)</sup>	10... 250	10... 250	50... 210	10... 250
<b>Protection</b>						
Electronic protection of outputs against overload and short circuit	■	■	■	■	■	■
<b>Inputs</b>						
Max. cable length, unshielded, twisted [m]					5	
For signal inputs (floating contact)					2	
Determination of switching state by means of the voltage generated in the device					■	
For conventional pushbuttons AC 230 V						

<sup>1)</sup> The AP 641 room control box and AP 118 automation module box must be ordered separately, see Chapter Quick-assembly system - Room control box - Module boxes

<sup>2)</sup> Max. 500 VA or 250 VA one channel only used







<sup>3)</sup> With channel bundling up to 500, 750, 1000 VA



## Lighting

### Overview and selection tools

#### Continuation of the table ...

						
Type	N 528D01 N 528C01	N 554D31	UP 525/03	UP 525/13	UP 525/31	RS 525/23
Application program <sup>1)</sup>	9839xx <sup>1)</sup>	910A01	982C01	982C01	301901	982C01
<b>Output functions</b>						
Max. number of group addresses	127	2000	120	120	26	120
Max. number of assignments	127	2000	120	120	27	120
Blocking function	■	■	■	■		■
Configurable behavior in the event of a bus voltage failure	■	■	■	■	■	■
Configurable behavior in the event of a bus voltage recovery	■	■	■	■	■	■
<b>Switching</b>						
Switching ON/OFF	■	■	■	■	■	■
Configurable starting value	■	■	■	■	■	■
Blocking object per channel	■	■	■	■	■	■
<b>Dimming</b>						
BRIGHTER/DARKER dimming	■	■	■	■	■	■
Adjustable dimming range	■	■	■	■	■	■
Minimum dimming value (basic brightness)	■	■	■	■	■	■
Maximum dimming value	■	■	■	■	■	■
Configurable dimming curves		6				
Dim or startup 8-bit value	■	■	■	■	■	■
Logic gates per channel		2				
<b>Scenes</b>						
1-bit scene						
8-bit scene	■	■	■	■	■	■
Scenes to be integrated per channel	8	8	8	8	8 <sup>2)</sup>	8
<b>Status</b>						
Transmitting switch and dimming status	■	■	■	■	■	■
Fault indications overload/short circuit/ overtemperature on bus		■			■	

<sup>1)</sup> For current application programs, see [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)

<sup>2)</sup> Only assignment of scene number 1...8 possible



**KNX and DALI – a strong team**

The Digital Addressable Lighting Interface (DALI) was introduced in 2004 to replace the classic 1...10 V interface on the market. The manufacturer neutral DALI bus is a system control electronic control gear (ballast or ECG) in lighting technology. International standard IEC 62386 specifies the DALI communication interface. In addition to ECGs, the DALI interface also supports selected sensors.



DALI communication allows all DALI devices to be simultaneously controlled with same command (broadcast). When controlled via broadcast, all DALI devices respond as if they were jointly controlled via one 1...10 V interface. A second control method under DALI is to assign a DALI device to one of up to 16 groups (group addressing) or to control each individual DALI device (individual addressing).

DALI is not limited to receiving just switching and dimming commands, but can also report status information on lighting status or fault states, e.g. in the event a luminaire or ECG fails.

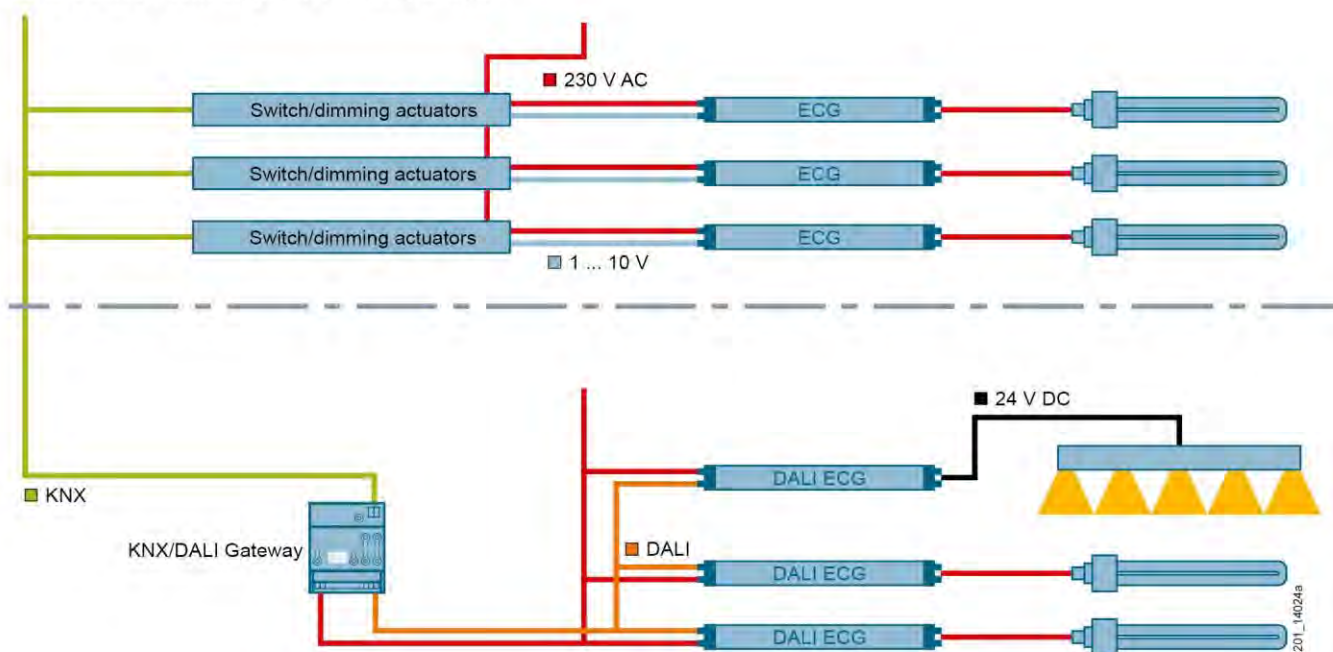
DALI can assign DALI devices to up to 16 scenes. The specific settings for each scene are then stored in the individual DALI devices and can be started with a single command allowing complex scenes or very fast command processing. And yet the expense of dimming with KNX and DALI does not exceed 1...10 V. In fact, if you compare wiring expenses for DALI and 1...10 V as well as the difference in costs for materials and work, you can implement a project with DALI at approximately one third less than with 1...10 V.

In the simplest level, a control device for lighting control with DALI can include a brightness sensor, presence detector, or a combination of brightness sensor/presence detector that controls a group of luminaires by occupancy and daylight. For these simple, local applications, where DALI from one sensor is used as the interface to one or more DALI devices, the broadcast is used as a replace for classic control via 1...10 V. In this regard, these applications are not considered networked systems.

In just one DALI line, up to 64 individual DALI ECGs (slaves) can be connected by the connected control device/gateway (master). The ECG receives an address generated automatically during DALI commissioning and in another commissioning step, receives a short address of 0...63 based on the initial address. The device assignment is random since the address assignment is automatic and the individual ECG/luminaires must be initially identified as the commissioning process proceeds. Individual ECG are addressed either based on the short address (individual control) or based on a DALI group address (group addressing). To this end, any number of ECG from one line may be assigned in up to 16 DALI groups. The group addressing in the DALI system ensures that switching and dimming actions are executed by the various luminaires within a system at the same time (i.e. without delay). Individual luminaire values can be compiled in individual DALI ECG, in addition to addressing by short addresses and group addresses and initiated via scene addressing.

With the release of DALI edition 2 all DALI devices will be tested and certified properly. Especially ECGs will be more compatible to KNX/DALI Gateways caused by these standized tests. DALI edition 2 ECG are backwards compatible to DALI edition 1 ECG.

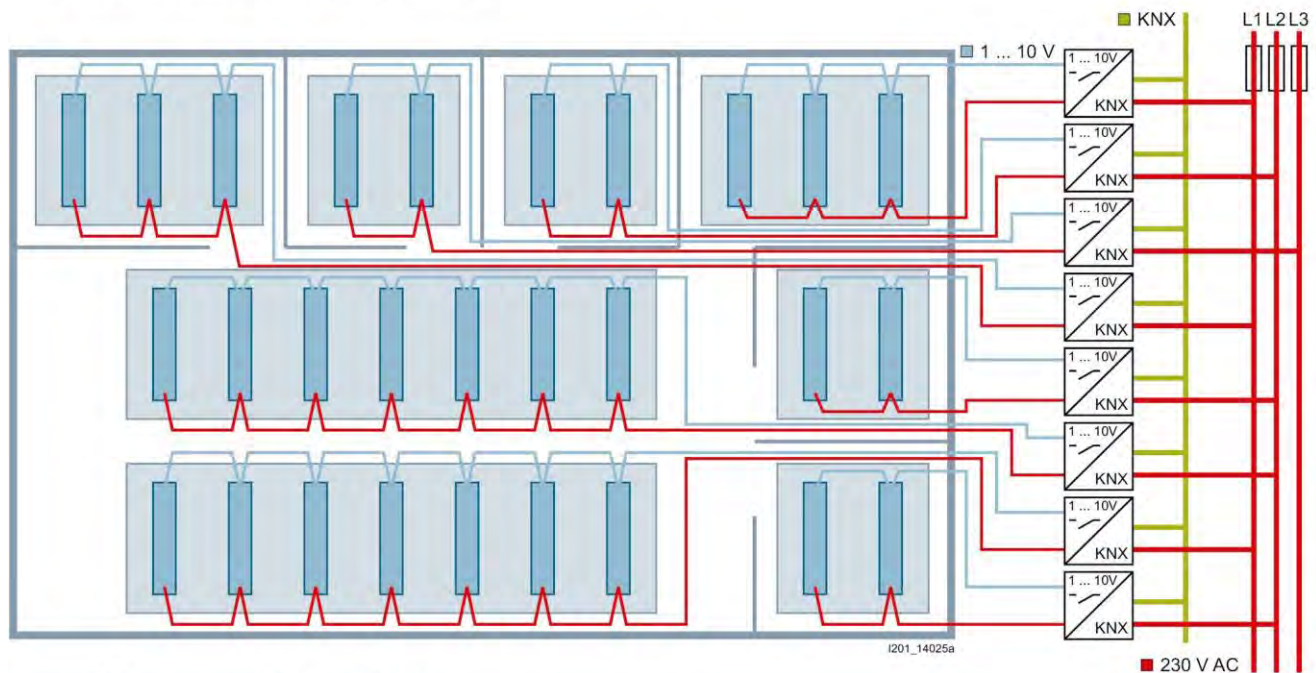
Additional information on DALI is available in the DALI technical manual at: [www.digitalilluminationinterface.org](http://www.digitalilluminationinterface.org)

**Compare 1...10 V control system to DALI with KNX**

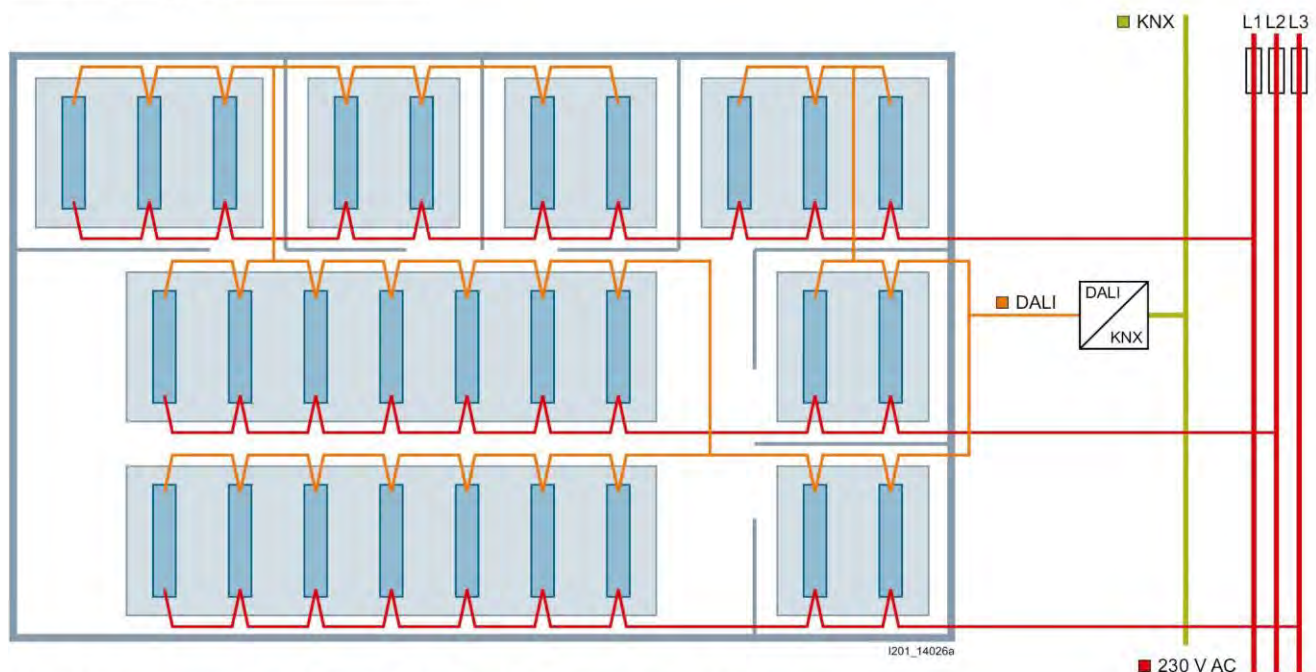
## Lighting

### Overview and selection tools

#### Wiring of lighting groups 1...10 V control with KNX



#### Wiring of lighting groups with DALI with KNX



Modern lighting systems can be controlled efficiently and conveniently with DALI. Their efficiency can be increased even more when combined with the advantages of KNX. That's why KNX/DALI gateways from Siemens offer both standards directly: for DALI digital lighting (IEC 62386) and for KNX building control (ISO/IEC 14543-3 or DIN EN 50090). It's possible to integrate DALI lighting into KNX installations quickly and easily.

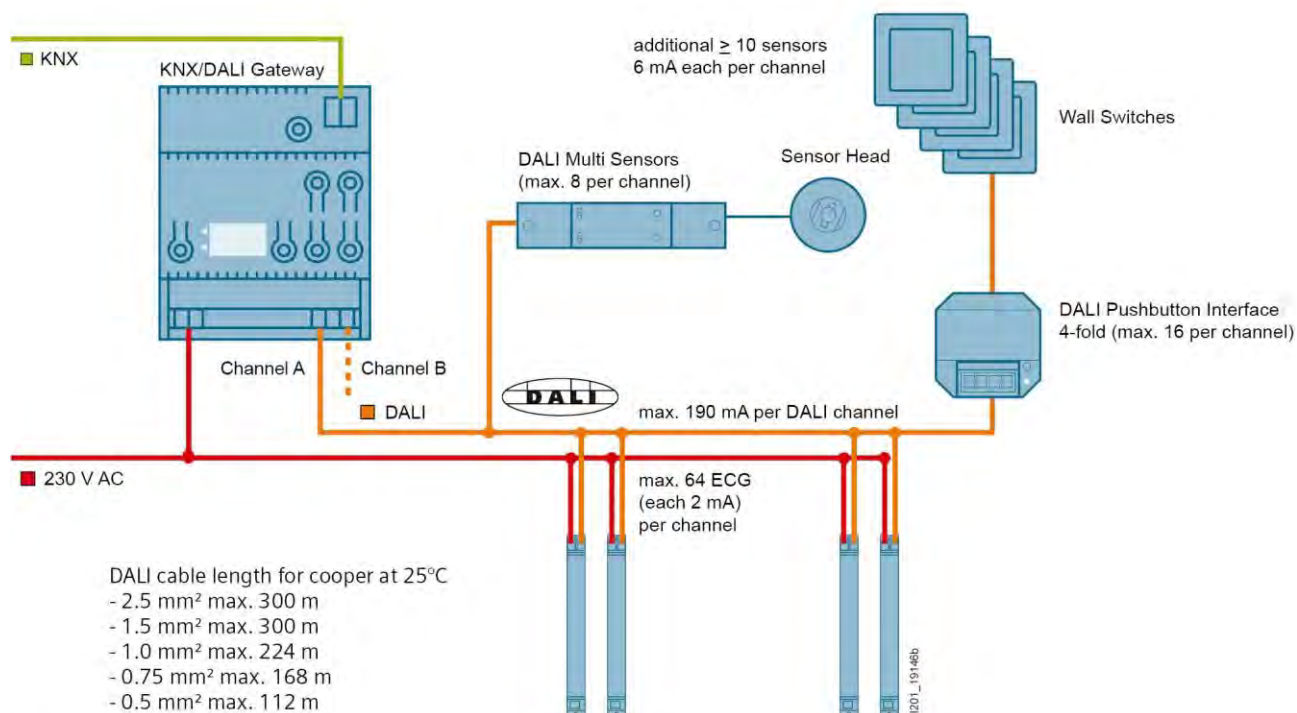
#### Benefits:

- Lighting groups are not hardwire-connected
- Possible to plan control lines and power supply separately
- Even, uniform load distribution throughout the power supply network
- Lower fire load thanks to fewer cables
- Planning is simpler and faster
- Integration of emergency lighting into the general lighting
- Support for selected sensors with DALI interface
- Switching off standby when lighting is turned off
- Replacement of defective single-channel ballasts without software



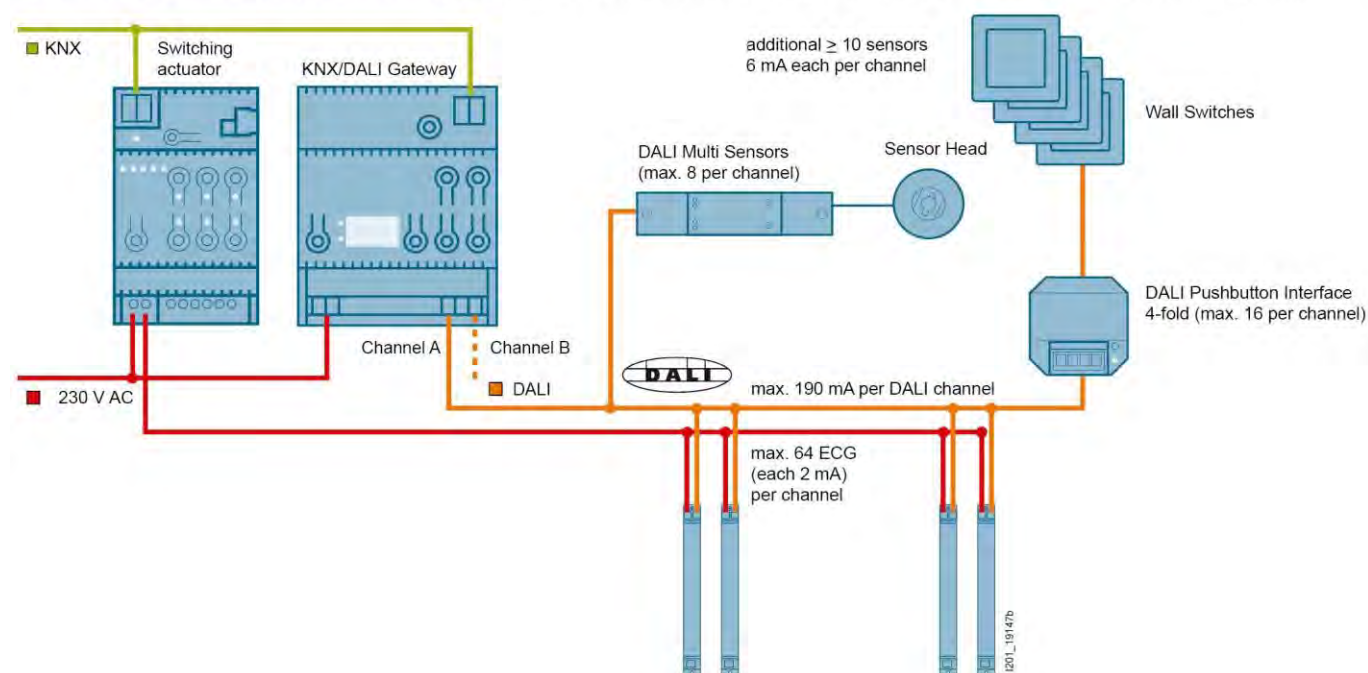
### DALI topology with sensors

The KNX/DALI gateway can control up to 64 ballasts per channel. In addition, selected DALI sensors that meet specifications from Siemens can be commissioned together with KNX/DALI gateway. The maximum number of DALI devices is limited to the guaranteed rated current of 190 mA per channel or to the maximum number of the DALI sensor type.



### Switching off standby with DALI

Luminaires with electronic ballasts usually need a closed-circuit current, even when the lighting system is turned off or is in standby mode. This energy consumption adds up, but can be conserved using the KNX/DALI gateway Twin plus: by automatically cutting off power to the electronic ballasts. After the lighting is turned off and as soon as all electronic ballasts in the defined area are no longer needed for lighting, the ballasts can be disconnected from the power supply via a command from a switch actuator controlled for this purpose. If one or more luminaires are in operation, the switch actuator first restores power to the electronic ballast, and the gateway dims the luminaire to the required brightness.



## Lighting

### Overview and selection tools

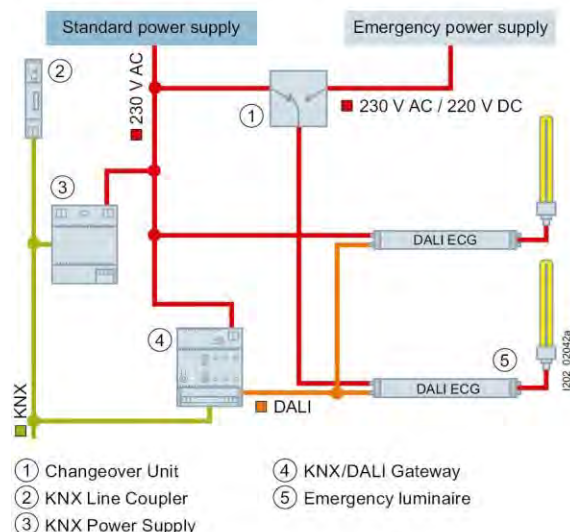
#### Emergency lighting with KNX and DALI

##### Simple solution with KNX/DALI gateway

The KNX/DALI Gateway supports both luminaires, which are used in common lighting as emergency lights, and self-contained emergency lighting. In normal mode the failure indication messages during test can be prevented.

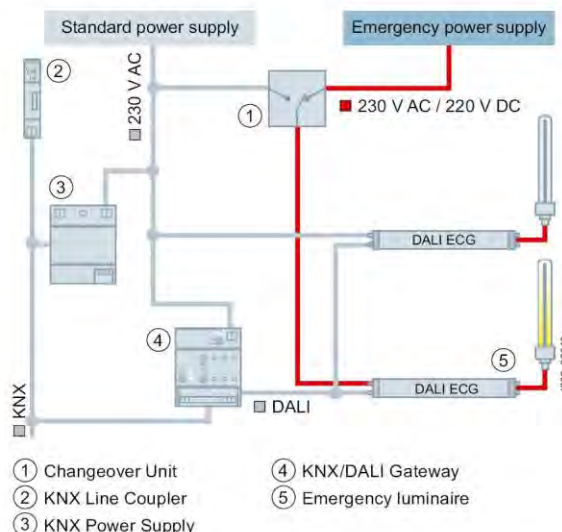
##### Normal mode

- Lighting control with DALI
- Feedback of fault indications and failure of lighting and ECGs to building control



##### Emergency operation

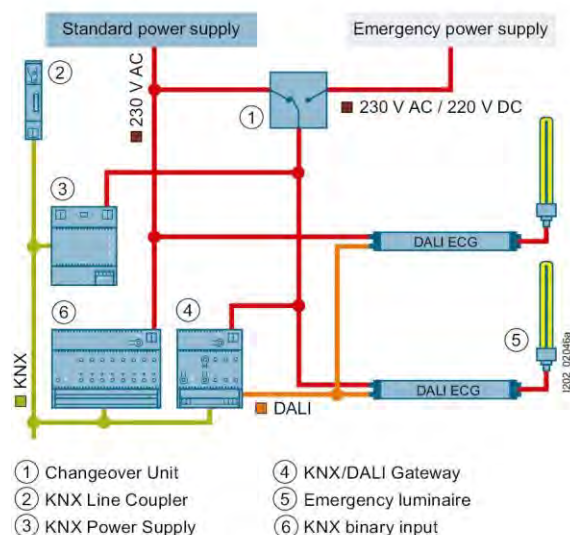
- Automatic emergency lighting in the event of DALI voltage failure
- Parameterization of dimming value of DALI-ECG for emergency lighting via KNX/DALI gateway



#### Intelligent solution via safety supply and KNX/DALI gateway with status indication in emergency mode

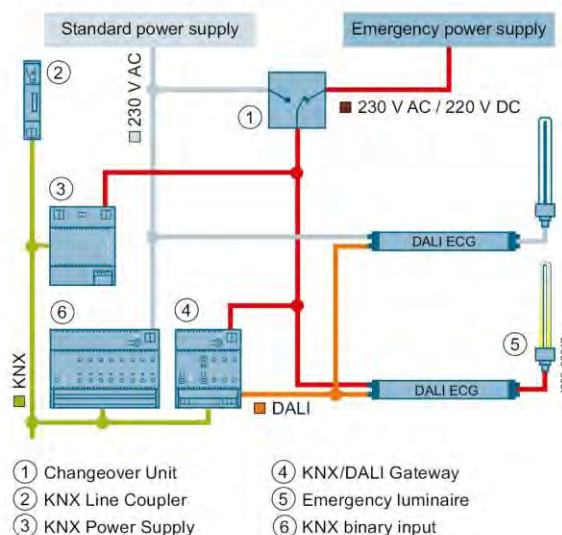
##### Normal mode

- Lighting control with DALI
- Feedback of fault indications and failure of lighting and ECGs to building control



##### Emergency operation

- Parameterization of dimming value of DALI-ECG in emergency operation via KNX/DALI gateway
- The continued transmission of status indications in emergency operation is possible because there is no interruption of supply to KNX and DALI.

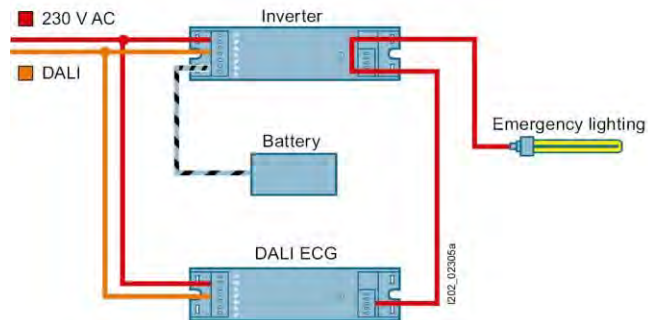


### Emergency lighting with single battery and KNX/DALI gateway

In case of self-contained emergency lighting according to IEC 62386-202 the mandatory self-tests are supported. The test results will be transmitted via KNX or stored in the KNX/DALI gateway. The test result memory can be read and saved using ETS.

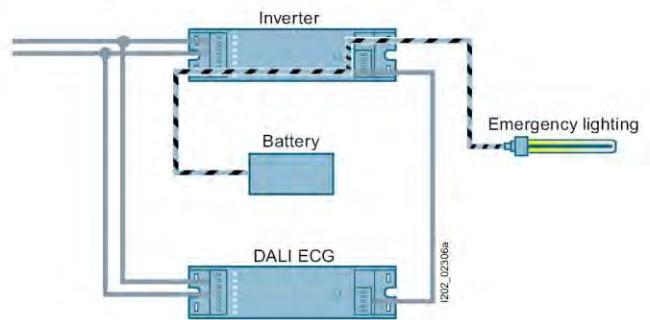
### Normal mode with two DALI devices

- Lighting control with DALI
- Initiate/record/save tests

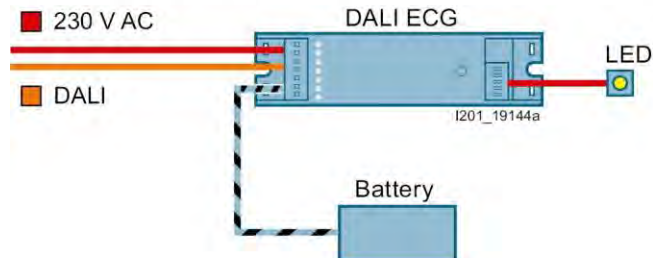


### Emergency operation with two DALI devices

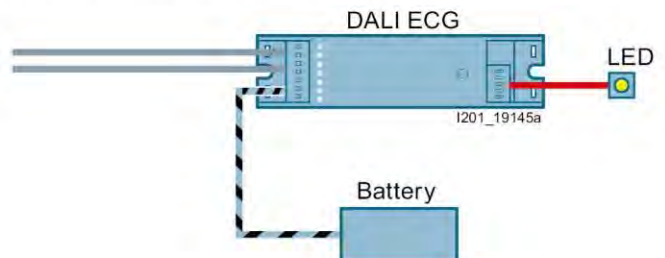
- Automatic emergency lighting acc. to parameterization via KNX/DALI gateway



### Normal mode with one DALI device



### Emergency mode with one DALI device



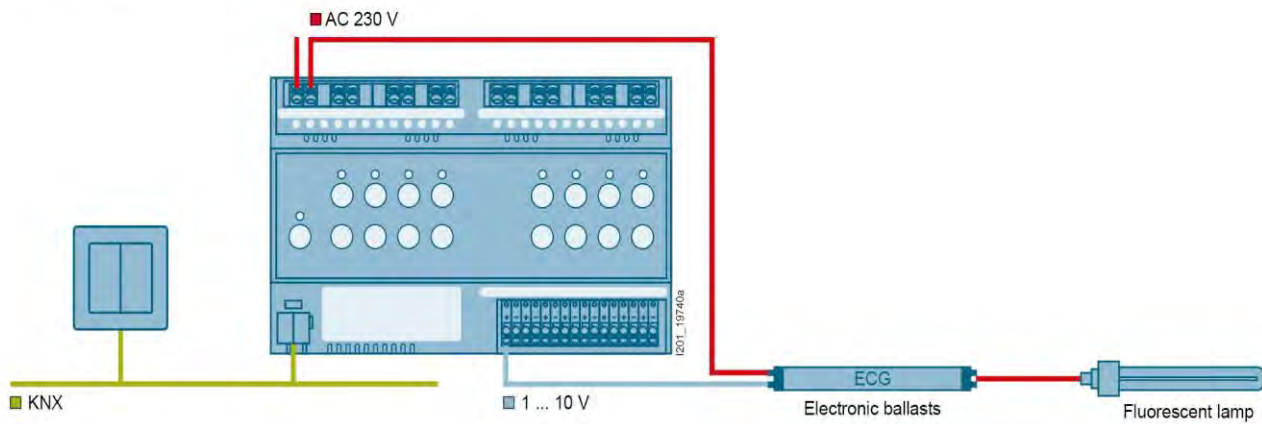


## Lighting

## Overview and selection tools

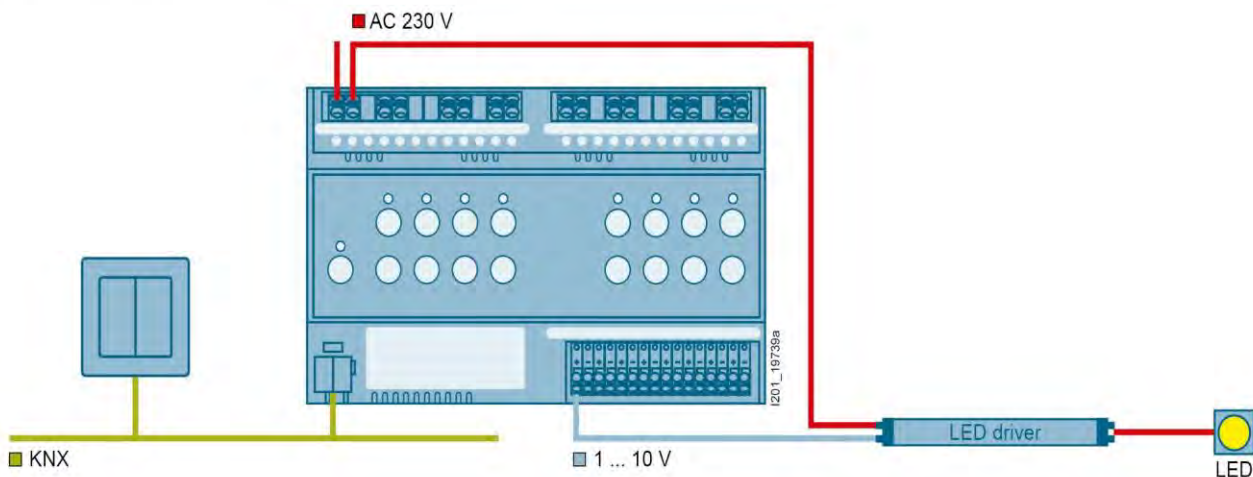
## High lighting convenience with dimmable ECG

Lighting types that cannot be dimmed directly are controlled by way of electronic ballasts (ECG). For example, fluorescent lamps are dimmed via ECG featuring a 1...10 V control input. The new switching/dimming actuators N 536D offer the corresponding control output.








## Switching and dimming LEDs via LED drivers

The use of switching/dimming actuators N 536D together with the suitable LED driver offers the possibility of creating pleasant lighting moods with LEDs. The control of fluorescent lamps and LEDs via the corresponding ballasts enables optimal workplace lighting in offices and conference rooms.



## Switching/dimming actuators

	DALI control outputs				Control outputs 1...10 V
					
Type	N 141/21	N 141/03	N 141/31	N 525E01	N 536D51
Name	Twin plus	plus	Twin		
<b>Enclosure data</b>					
Design	N	N	N	N	N
Modular installation devices for mounting on TH35 EN 60715 mounting rail	■	■	■	■	■
<b>Dimensions</b>					
Width [mm] (1 MW = 18 mm)	4 MW	4 MW	4 MW	4 MW	8 MW
<b>Display/control elements</b>					
Mechanical switching position indication for status indication per output					
LED for status indication per output	■	■	■	■	■
LEDs for fault indication (lighting failure) per output				■	
Pushbuttons for local operation on the device	■	■	■	■	■
Direct operation (local operation)	■	■	■	■	■
Mechanical local operation with switching position indication					
<b>Power supply</b>					
Bus-powered electronics					■
Electronics powered via an integrated power supply unit	■	■	■	■	
DALI outputs powered via an integrated power supply unit	■	■	■	■	
<b>Power loss</b>					
maximum power loss [W]	11	6	11	6	12
<b>Bus connection</b>					
Integrated bus coupling units	■	■	■	■	■
Bus connection via contact system to data rail				■	
Bus connection via bus terminal	■	■	■	■	■
<b>Outputs</b>					
<b>Control output</b>					
1...10 V DC					8
DALI outputs (lines)	2	1	2	8	
Max. ECG per output (units)	64	64	64	8	47 <sup>1)</sup>
<b>Load output</b>					
Floating relay contacts					8
Contact rated voltage, AC [V]					230
Contact rated current [A]					16

<sup>1)</sup> 2 mA per ECG








## Lighting

### Overview and selection tools

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#### Continuation of the table ...

	DALI control outputs				Control outputs 1...10 V	
						
Type	N 141/21	N 141/03	N 141/31	N 525E01	N 536D51	
Application program <sup>1)</sup>	9834xx <sup>1)</sup>	9837xx <sup>1)</sup>	9833xx <sup>1)</sup>	983Dxx	980801	
Name	Twin plus	plus	Twin	Twin		
<b>Functions</b>						
Max. number of group addresses	3000	3000	3000	3000	108	2000
Max. number of assignments	3000	3000	3000	3000	107	2000
Integrated constant light level control	16	16				
Configurable behavior in the event of a bus voltage failure	■	■	■	■	■	■
Configurable behavior in the event of a bus voltage recovery	■	■	■	■	■	■
Configurable behavior in the event of a system voltage failure	■	■	■	■	■	
Configurable behavior in the event of a system voltage recovery	■	■	■	■	■	
<b>Control functions</b>						
Broadcast	■	■	■	■	■	
Groups	32	16	32	32		
Individual ECG	128	64		128		
<b>Switching</b>						
Switching ON/OFF	■	■	■	■	■	■
Configurable starting value	■	■	■	■	■	■
Switching ON/OFF possible via BRIGHTER/DARKER dimming	■	■	■	■	■	■
<b>Dimming</b>						
BRIGHTER/DARKER dimming	■	■	■	■	■	■
Adjustable dimming time	■	■	■	■	■	■
Brightness limitation, adjustable min. dimming value/max. dimming value	■	■	■	■	■	■
<b>Value transmission</b>						
Set 8-bit value	■	■	■	■	■	■
<b>Scene control</b>						
Integrated 8-bit scene control	■	■	■	■	■	■
Scenes to be integrated per DALI output	16	16	16	16	16	
Scenes to be integrated per channel						8
<b>Effect control</b>						
Integrated effect control (one-off or cyclic chaselight operation, color control)	4	4				
<b>Emergency lighting</b>						
Support for prescribed test sequences for emergency lights	■	■		■		
Controlling single battery lights	■	■		■		
Saves test results of emergency lighting	■	■				
<b>Status</b>						
DALI short circuit	■	■	■	■	■ <sup>2)</sup>	
DALI power supply	■	■	■	■	■	
Status output (ON/OFF, value, lamp fault, ECG fault)					■	■ <sup>3)</sup>
Status group (ON/OFF, value, lamp fault, ECG fault)	■	■	■	■		
Status ECG (ON/OFF, value, lamp fault, ECG fault)	■	■		■		
<b>Time functions</b>						
ON/OFF delay	■	■	■	■	■	■
Timer mode, 1-step (stairwell circuits)	■	■	■	■	■	■
Timer mode, 2-step	■	■	■	■	■	■
Night mode (lighting for cleaning)	■	■	■	■	■	■
Warning of impending OFF	■	■	■	■	■	■
<b>Further functions</b>						
DALI sensors <sup>4)</sup> /2-point-control	■	■	■	■		
Stand-by shut down (areas)	12	6		12		
Function burn-in	■	■		■		
Renew defective ECG without software	■	■	■	■	■	
Stand-alone mode	■	■	■	■		
Pre-loaded applications	■	■				

<sup>1)</sup> For current application programs, see [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)

<sup>2)</sup> Per channel

<sup>3)</sup> Status ON/OFF, value

<sup>4)</sup> Only selected DALI sensors are supported, see APB [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)

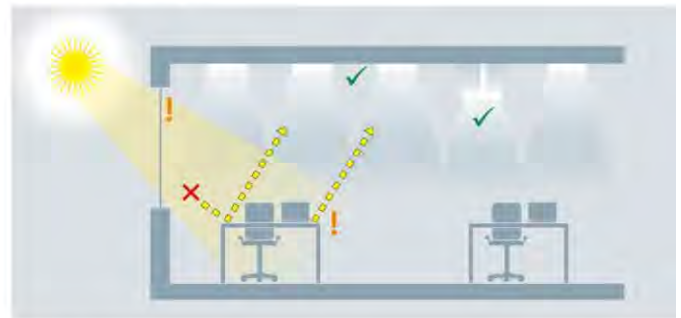
### Presence- and daylightdependent control



The presence detector with integrated brightness control regulates up to three independent output channels for various functions in the room, such as lighting, sun protection and HVAC systems. The automation serves to optimally adjust the room temperature and brightness to the room's actual use on a presence-dependent basis. That means optimum comfort and always a pleasant room climate, yet with low energy consumption.

At the start and end of every movement, each output channel individually actuates the respective functions. The follow-up times and brightness thresholds can be set independently of each other.

### Brightness sensors



#### Mounting guidelines for brightness sensors

- Make sure that the brightness sensor measures only indirect, reflected light; direct sunlight distorts the measurement results
- Avoid shiny surfaces that are highly reflective, as this interferes with measurement
- Avoid surfaces that are too dark with low light reflection properties, as this impedes measurement of the current brightness level
- Keep in mind that thermal protection glass can influence the daylight measurement; the tripping value will be lower

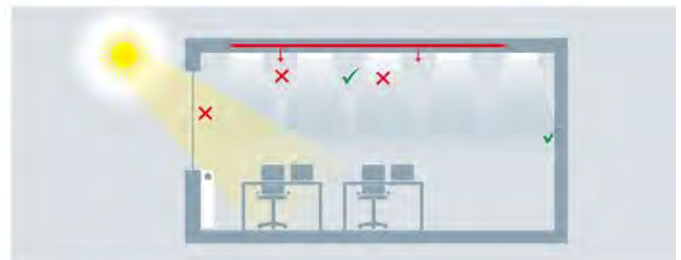
### Motion and presence detectors

#### Mounting guidelines for motion and presence detectors in a room

- Do not expose motion detectors to direct sunlight
- Do not mount any lamps within the detection zone
- Avoid placing any sources of rapid temperature changes within the detection zone, e.g. air vents, fan heaters or incandescent and halogen lamps
- Ensure that the direction of air flows moves laterally to the detection zone
- Detection depends on the temperature difference between the surrounding ambient zone and the object to be detected
- The detection zone of a presence detector should not be impeded or blocked by shelves, plants or glass walls
- Minimum distance of 50 cm from cables and radiators

#### Mounting guidelines for motion detectors on a building

- Do not mount motion detectors on moving supports, such as poles
- In outdoor applications, mount presence detectors on stable walls
- The detection range of a presence detector should be free of interferences








## Lighting

### Overview and selection tools


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Light level controls				
				
Type	UP 258E22	UP 258D12	UP 255D21	AP 254/02
<b>Enclosure data</b>				
Design	UP/AP	UP/AP	UP/AP	AP
<b>Dimensions</b>				
• Width/Ø [mm](1 MW = 18 mm)	88	88	88	72
• Height [mm]	63 <sup>1)</sup>	63 <sup>1)</sup>	63 <sup>1)</sup>	110
• Depth [mm]				54
<b>Power supply</b>				
Bus-powered electronics	■	■	■	■
<b>Bus connection</b>				
Integrated bus coupling units	■	■	■	■
Bus connection via bus terminal	■	■	■	■
<b>Control</b>				
Integrated constant light level control	1-channel		1-channel	
Integrated two-step control	1-channel	1-channel	1-channel	
Light level controls dependent on surrounding light				■
Offset groups	4 channels		4 channels	
<b>Sensors</b>				
Outdoor brightness				■
Brightness (Contrast measurement)	■	■	■	
Motion <sup>2)</sup>	■	■		
Presence <sup>2)</sup>	■	■		
IR receiver <sup>3)</sup>	■	■	■	

<sup>1)</sup> For flush mounting, mounting height approx. 31 mm, for surface mounting with AP 258E01 surface-mounting enclosure, approx. 73 mm.

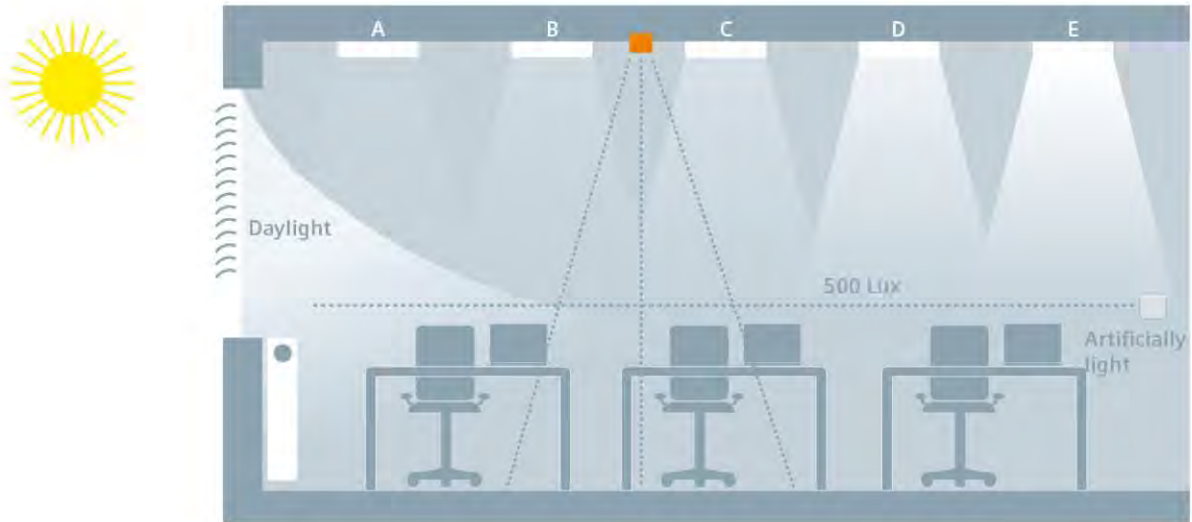
<sup>2)</sup> Detection range see chapter Physical Sensors

<sup>3)</sup> Use with IR remote control S 255/11

Function overview								
		Independent output channels			Locking function	Integrated light controller		IR receiver
Type		Motion Channel 1 (Lighting)	Presence Channel 2 (Sun protection)	HVAC Channel 3 (HVAC)		2-step light control (switching) one lighting group	Constant light level control (dimming) up to five lighting groups A - E	
UP 258E22	Brightness sensor Motion sensor	■	■	■	■	■	■	■
UP 258D12	Brightness sensor Motion sensor	■	■	■	■	■	—	■
UP 255D21	Brightness sensor	—	—	—	—	■	■	■

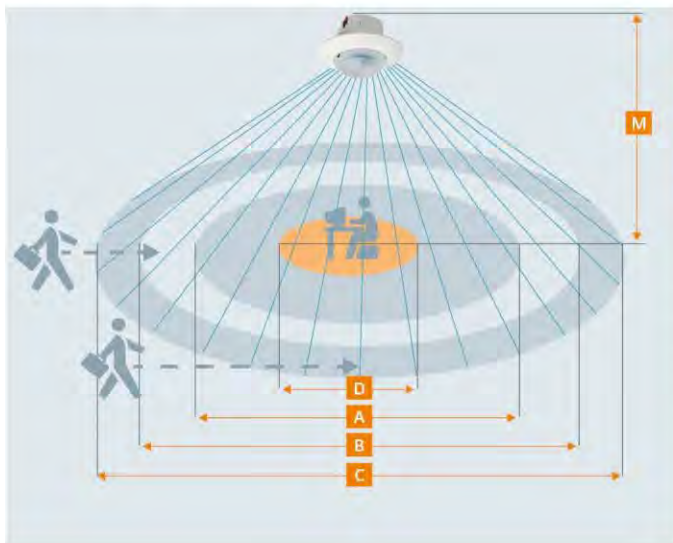
- Device variants have identical functional units
- Shared motion and brightness sensor for the output channels movement and presence
- Brightness-independent output channel for HVAC systems with special evaluation logic
- A switching 2-step light control and dimming constant light controller independently usable
- IR receiver for convenient operation of room functions

## Constant light control for up to five light groups



- Integrated constant light level controller with main lighting group and up to four lighting subgroups with one brightness sensor
- Automatic assignment of the artificial light distribution in the room to enable constant light level control of the up to five lighting groups via control characteristics
- Entry of five brightness values, measured under the lights during pure daylight, as a parameter in ETS
- Automatic measurement of artificial lighting in the room when it is dark (without daylight) through targeted on/off switching of the lighting groups and simultaneous measurement at the brightness sensor of the detector

## Function overview



The maximum detection ranges to be achieved are as follows divided:

- A** Sitting person: moving hand ~ 25 cm at working desk height 0.8 m
- B** Walking person straight: Step ~ 1 m straight to detector at floor level
- C** Walking person: Step ~ 1 m across the detector at floor level
- D** Brightness area at working desk height 0.8 m
- M** Mounting height from floor level

Maximum achievable detection ranges  
for UP 258E22 / UP 258D12 (in meters)

M	A	B	C	D
5.0	–	Ø 8.5	Ø 14	Ø 3,0
4.0	–	Ø 7.5	Ø 12	Ø 2.3
3.5	Ø 5.5	Ø 6.5	Ø 10	Ø 2.0
3.0	Ø 5.0	Ø 6.0	Ø 8	Ø 1.6
2.5	Ø 4.5	Ø 5.0	Ø 7	Ø 1.2

## Lighting Dimmers

### N 554D31



### Universal dimmer 4 x 300 VA / 1 x 1000 VA, AC 230 V

- Four outputs for switching and dimming of resistive, inductive and capacitive loads
- Automatic adjustment to leading edge or trailing edge control, depending on the type of load
- Rated operational voltage AC 230 V
- Rated frequency 50 and 60 Hz
- Rated power at +45°C ambient temperature: up to 300 VA per output, up to 1000 VA with bundling of adjacent outputs, without minimum load per output
- Electronic protection per output against overload, short circuit and temperature rise
- Maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5...2.5 mm<sup>2</sup>
- Manual operation buttons on the device for switching, dimming and activation of direct mode operation
- Bus-powered electronics
- DIN-rail mounted device for mounting on rail TH35 according to DIN EN 60715
- Building site function for bundling the outputs and switching the building site lighting without prior configuration of the device via ETS
- Object for surveillance of device function
- Object for retrieval of status values
- Per output with selectable operation mode (normal mode, one- or two-level timer mode, blinking)
- Adjustable ON-OFF-delay
- Object Central Switching with separately configurable on/off delay selectable
- Separately adjustable dimming time from 0% to 100% for switching on/off and dimming brighter/darker
- Switch an output on or off by dimming brighter/darker
- Configurable dimming curves for optimization of the dimming operation of lights
- Additional status object switching and/or status object dimming value
- Additional object for dimming with individually adjustable dimming time
- Configurable maximum and minimum dimming value via parameter and object
- Selectable object for limiting the maximum dimming value
- Selectable object for reporting of overload, short circuit and temperature rise
- Adjustable blocking time for sending status objects after restart and bus voltage recovery
- Integrated 8-bit scene control, linking of the output in up to 8 scenes
- Additional night mode object for time-limited switching on the output at night
- Post-triggering of the On period (On period extension) in time switch mode up to a selectable maximum On period extension via repeated (2x, 3x, 4x, 5x) post-triggering
- Selectable warning signal prior to imminent switching-off by brief off and on switching (flashing) or by cutting the current dimming value in half at night or in time switch mode
- Selectable counting with threshold monitoring: operating hours, load cycles

Data sheet	A6V11418996
Rated voltage	AC 230 V
Rated current	1.3 A
Number of channels	4
Dimension width (1 MW = 18 mm)	8 MW

Stock no. Product no.

5WG1554-1DB31 **N 554D31**

**Universal dimmer, 2 x 300 VA, AC 230 V****N 528D01****5**

- Two outputs for switching and dimming resistive, inductive or capacitive loads
  - Automatic adjustment to leading edge or trailing edge control, depending on the type of load
  - Rated operational voltage AC 230 V
  - Rated frequency 50 / 60 Hz
  - Rated power at +35°C ambient temperature: 300 VA per output or 500 VA for single output usage, without any minimal load per output
  - Electronic protection of each output against overload, short circuit and temperature rise
  - Screw terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
  - Bicolor LED for indicating the switch status (red = on, green = off) or an error (orange, blinking) per output
  - Bus-powered electronics
  - Integrated bus coupling unit, bus connection via bus terminal block
  - Device for DIN-rail mounting on a TH35 mounting rail according to DIN EN 60715
- 
- Per output with selectable mode (normal mode, one- or two-level timer mode, blinking)
  - Adjustable ON- and OFF-delay
  - Separately adjustable dimming time from 0% to 100% for switching on/off and dimming brighter/darker
  - The ability to switch an output on or off by dimming brighter/darker
  - Adjustable dimming value when switching on
  - Immediate activation (jumping) or dimming to a new dimming value
  - Selectable additional status object switching and/or status object dimming value for each output
  - Additional object for each output for blocking/releasing the output
  - Sending of status objects on request and/or automatically after a change
  - Adjustable blocking time for sending status objects after restart and bus voltage recovery
  - Adjustable dimming value for each output in the event of bus voltage failure and recovery
  - Additional night mode object for time-limited switching on the output (and hence illumination) at night
  - Adjustable ON period at night or with timer mode
  - Selectable warning of imminent switching off the illumination by dimming to 50% of the previous dimming value during night mode or timer mode
  - Integrated 8-bit scene control and integration of each output in up to 8 scenes
  - Separately adjustable dimming time for scene control
  - Selectable counting of operating hours and with threshold monitoring of the operating hours
  - Selectable counting of load cycles and with threshold monitoring of the load cycles
  - Optional disabling of the ripple control compensation in an electrical grid with frequency fluctuations
  - Building site function for switching the building site lighting on and off even if the bus devices have not yet been commissioned with ETS

Data sheet A6V10892651  
 Dimension width (1 MW = 18 mm) 4 MW

Stock no. Product no.

5WG1528-1DB01 **N 528D01**



## Lighting Dimmers

### UP 525/..3



### Universal dimmer 1 x AC 230 V, 10 ... 250 VA

- One output for switching and dimming resistive, inductive or capacitive loads
- Automatic adjustment to leading edge or trailing edge control, depending on the type of load
- Rated operational voltage AC 230 V
- Rated frequency 50...60 Hz
- Rated power at +35°C ambient temperature: 10...250 VA
- Electronic protection of the output against overload, short circuit and temperature rise
- Screwless terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5...2.5 mm<sup>2</sup>
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal
- For insertion in flush-mounting switch and socket boxes 60 mm in diameter and 60 mm deep
- Reporting of overload, short circuit and temperature rise via the bus
- Selectable mode for each output (normal mode, one- or two-level timer mode, blinking)
- Adjustable on- and off-delay
- Separately adjustable dimming time from 0% to 100% for switching on / off and dimming brighter / darker
- Two dimming value objects, each with individually adjustable dimming time from 0...100%
- The ability to switch an output on or off by dimming brighter / darker
- Adjustable dimming value when switching on
- Immediate activation (jumping) or dimming to a new dimming value
- Selectable additional status object switching and / or status object dimming value for each output
- Additional object for each output for blocking / releasing the output
- Sending of status objects on request and / or automatically after a change
- Adjustable blocking time for sending status objects after restart and bus voltage recovery
- Adjustable dimming value for each output in the event of bus voltage failure and recovery, as well as for mains voltage recovery
- Additional night mode object for time-limited switching on the output (and hence illumination) at night
- Adjustable on period at night or with timer mode
- Selectable warning of imminent switching off the illumination by dimming to 50% of the previous dimming value during night mode or timer mode
- Integrated 8-bit scene control and integration of each output in up to 8 scenes
- Separately adjustable dimming time for scene control
- Selectable counting of operating hours and with threshold monitoring of the operating hours
- Selectable counting of load cycles and with threshold monitoring of the load cycles

### Range overview UP 525/..3

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Universal dimmer 1 x AC 230 V, 10 ... 250 VA, with mounting frame and BTI interface	71 x 71 x 42	5WG1525-2AB03	<b>UP 525/03</b>
Universal dimmer 1 x AC 230 V, 10...250 VA	50 x 50,9 x 41,3	5WG1525-2AB13	<b>UP 525/13</b>

**Universal dimmer, 2 x 150 VA, AC 120 V****N 528C01****5**

- Two outputs for switching and dimming resistive, inductive or capacitive loads
- Automatic adjustment to leading edge or trailing edge control, depending on the type of load
- Rated operational voltage AC 120 V
- Rated frequency 50 / 60 Hz
- Rated power at +35°C ambient temperature: 150 VA per output or 250 VA for single output usage, without any minimal load per output
- Electronic protection of each output against overload, short circuit and temperature rise
- Screw terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm², AWG 20-13
- Bicolor LED for indicating the switch status (red = on, green = off) or an error (orange, blinking) per output
- Bus-powered electronics
- Integrated bus coupling unit
- Bus connection via bus terminal block
- As a device for DIN-rail mounting on a TH35 mounting rail according to DIN EN 60715
- Per output with selectable mode (normal mode, one- or two-level timer mode, blinking)
- Adjustable ON- and OFF-delay
- Separately adjustable dimming time from 0% to 100% for switching on / off and dimming brighter / darker
- The ability to switch an output on or off by dimming brighter / darker
- Adjustable dimming value when switching on
- Immediate activation (jumping) or dimming to a new dimming value
- Selectable additional status object switching and / or status object dimming value for each output
- Additional object for each output for blocking / releasing the output
- Sending of status objects on request and / or automatically after a change
- Adjustable blocking time for sending status objects after restart and bus voltage recovery
- Adjustable dimming value for each output in the event of bus voltage failure and recovery
- Additional night mode object for time-limited switching on the output (and hence illumination) at night
- Adjustable ON period at night or with timer mode
- Selectable warning of imminent switching off the illumination by dimming to 50% of the previous dimming value during night mode or timer mode
- Integrated 8-bit scene control and integration of each output in up to 8 scenes
- Separately adjustable dimming time for scene control
- Selectable counting of operating hours and with threshold monitoring of the operating hours
- Selectable counting of load cycles and with threshold monitoring of the load cycles
- Optional disabling of the ripple control compensation in an electrical grid with frequency fluctuations
- Building site function for switching the building site lighting on and off even if the bus devices have not yet been commissioned with ETS

Data sheet

A6V11642308

Dimension width (1 MW = 18 mm)

4 MW

Stock no.

Product no.

5WG1528-1CB01

**N 528C01**

## RS 525/23



## Universal dimmer 1 x AC 230 V, 10...250 VA, (R,L,C load)

- Output for switching and dimming resistive, inductive or capacitive loads
- Automatic adjustment to leading edge or trailing edge control, depending on the type of load
- Rated frequency 50...60 Hz
- Electronic protection of the output against overload, short circuit and temperature rise
- Bus-powered electronics
- Integrated bus coupling unit, Bus connection via bus terminal block
- Type of protection: IP 20
- Rated operational voltage AC 230 V
- Rated power at +35°C ambient temperature: 10...250 VA
- Screw-less terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
- With bus connection module
- Modular installation device for mounting in AP 118 automation module box or AP 641 room control box
- Selectable mode for each output (normal mode, one- or two-level timer mode, blinking)
- Adjustable on- and off-delay
- Separately adjustable dimming time from 0...100 % for switching on / off and dimming brighter / darker
- Two dimming value objects, each with individually adjustable dimming time from 0...100 %
- The ability to switch an output on or off by dimming brighter/darker
- Adjustable dimming value when switching on
- Immediate activation (jumping) or dimming to a new dimming value
- Selectable additional status object switching and / or status object dimming value for each output
- Additional object for each output for blocking / releasing the output
- Sending of status objects on request and / or automatically after a change
- Adjustable blocking time for sending status objects after restart and bus voltage recovery
- Adjustable dimming value for each output in the event of bus voltage failure and recovery, as well as for mains voltage recovery
- Additional night mode object for time-limited switching on the output (and hence illumination) at night
- Adjustable on period at night or with timer mode
- Selectable warning of imminent switching off the illumination by dimming to 50 % of the previous dimming value during night mode or timer mode
- Integrated 8-bit scene control and integration of each output in up to 8 scenes
- Separately adjustable dimming time for scene control
- Selectable counting of operating hours and with threshold monitoring of the operating hours
- Selectable counting of load cycles and with threshold monitoring of the load cycles

The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See chapter Modular Installation System - Room control box - Module boxes.

Data sheet	A6V10416181
Rated voltage	AC 230 V
Rated current	1 A
Number of channels	1
Dimensions (W x H x D)	50,2 x 48,8 x 35,5 mm

Stock no.	Product no.
5WG1525-2AB23	<b>RS 525/23</b>

**Universal dimmer UP 525/31, 210 VA, AC 230 V, 50 Hz (R,L,C load)****UP 525/31**

- One output for switching and dimming resistive, inductive or capacitive loads
- With semiconductor output for switching and dimming of lamps
- Rated operational voltage AC 230 V, 50/60 Hz
- Connected load 50...210 VA
- Settable switching and dimming behaviour
- Selectable mode of operation (normal mode, timer mode)
- Soft on, Soft off
- Dimming or jumping to a new dimming value
- Time-delayed switch-off when dimming below a settable dimming value
- Status objects for switching and dimming value
- Short-circuit message
- Message of a load failure
- Integrated 8-bit scene control
- Object for blocking the output
- Configurable brightness value at start and end of a blocking phase
- Adjustable behaviour of the output after bus voltage recovery
- 2 binary inputs for potential-free contacts
- Selectable function of the binary inputs: acting as secondary inputs directly on the switching outputs or acting as independant binary inputs with bus communication
- Free allocation of the functions switching, dimming, solar protection control, send value and scene control to the inputs
- Two independent switching objects per input
- Blocking object for each input
- Separately selectable behaviour per input at bus voltage recovery
- Telegram rate limitation for both inputs
- About 20 cm long wires for connecting phase conductor, output, inputs and bus
- Bus-powered electronics
- Integrated bus coupling unit, bus connection via bus terminal
- For installation in a flush-mounting wall or ceiling box with Ø 60 mm

Data sheet

A6V10416182

Dimension (Ø x H)

53 x 28 mm

Stock no.

Product no.

5WG1525-2AB31 UP 525/31



## Lighting

### Switching/dimming actuators

#### DALI control output

N 141/03, N 141/21



#### KNX/DALI Gateway plus/Twin plus

- With emergency lighting, with sensors
- For communication via KNX EIB with electronic ballasts (ECG) with a DALI interface
- DALI outputs acc. to IEC 62386, each for communication with up to 64 DALI ECG and at least 10 sensors
- Integrated power supply with input voltage AC 110-240 V, 50-60 Hz or DC 120-240 V for powering the gateway electronics and DALI output
- Maximum DALI output voltage of 19 V, short circuit resistant
- Incorrect voltage detection during commissioning, whether incorrect power line is connected to a DALI output
- LED display for displaying operation mode and error messages
- Pushbutton for switching between bus and direct operating mode
- One pair of pushbuttons for switching On/Off of all connected DALI ECG
- One LED per DALI output for status signal of all connected luminaires in direct mode
- Configurable assignment of max. 64 DALI ECG per channel to max. 16 DALI groups per channel, exclusive controlled in groups or single (switching, dimming, set dimming value) and feedback for group status and lamp failure
- Configurable behaviour for bus failure (stand-alone mode)
- Configurable pre-loaded applications without software (ETS)
- Configurable function burn-in for all ECG via pushbutton or single via object
- Scheduler for day, week, date and additional astro function
- Control (switching, dimming, set dimming value) of all connected luminaires together in broadcast mode
- Status signal and display of lamp and ECG failure per group and per DALI device
- Transformation of dimming commands into a temporary set point adjustment for ECG with integrated constant light level control and directly connected light level sensor
- One or two level timer
- Up to four integrated one time or cyclical control of repeatable sequences or color effects
- Distinction between self-contained emergency luminaires with one or two DALI devices
- Starting the self-conducted testing of each individual inverter and reporting the test result via bus or save in a persistent memory with memory space monitoring over object
- Distinction between function test, short duration test, and long duration test
- Optional configuration of any DALI ECG to dim to a preset dimming value in case of emergency mode
- Locking of switching and dimming commands as well as configuration while emergency mode is activated
- Activation of emergency mode based on a configurable number of failed DALI ECG
- Lock object to elimination of failure messages interruption of ECG during emergency lighting testing
- Inhibit mode for disabling battery mode of self-contained emergency luminaires over pushbutton
- Per channel up to six stand-by-area analysis for activation of switch actuators
- Integrated scene control for up to 16 scenes per channel
- 16 integrated 2-level-controller for brightness control
- 16 integrated constant light level controller for main luminaires group and up to four additional luminaires groups
- Possible assignment of a CIN to a DALI ECG
- Possibility to reintegrate defective DALI ECG without software (ETS)
- Assignment of DALI ECG to groups and test option for ECG, groups, scenes and effects via ETS during commissioning
- Assignment of DALI sensors and test option of sensors via ETS during commissioning
- Integrated bus coupling unit with only half a standard bus load, bus connection via bus terminal
- Mounting on DIN rail EN 60715-TH35-7.5

Data sheet

A6V10466086

#### Range overview N 141/03, N 141/21

Product Title	Dimension width (1 MW = 18 mm)	Stock no.	Product no.
KNX/DALI Gateway Twin plus, 2 channels	4 MW	5WG1141-1AB21	<b>N 141/21</b>
KNX/DALI Gateway plus, 1 channel	4 MW	5WG1141-1AB03	<b>N 141/03</b>

## KNX/DALI Gateway Twin

N 141/31



5

- Communication via KNX EIB with electronic ballasts (ECG) with a DALI interface
- Two (2) DALI output acc. to IEC 62386, each for communication with up to 64 DALI ballasts and at least 10 sensors
- Integrated power supply with input voltage AC 110...240 V, 50...60 Hz or DC 120...240 V for powering the gateway electronics and DALI output
- Maximum DALI output voltage of 19 V, short circuit resistant
- Incorrect voltage detection during commissioning, whether incorrect power line is connected to a DALI output
- LED display for displaying operation mode and error messages
- Pushbutton for switching between bus and direct operating mode
- One pair of pushbuttons for switching On/Off of all connected DALI ballasts
- One LED per DALI output for status signal of all connected luminaries in direct mode
- Configurable behaviour for bus failure (stand-alone mode)
- Control (switching, dimming, set dimming value) of all connected luminaries together in broad-cast mode
- Status signal and display of lamp and ECG failure per group and per DALI device
- One or two level timer
- Integrated scene control for up to 32 scenes
- Assignment of DALI ECG to groups and test option for ECG, groups and scenes via ETS during commissioning
- Possibility to reintegrate defective DALI ECG without software
- Integrated bus coupling unit with only half a standard bus load
- Bus connection via bus terminal
- Mounting on DIN rail EN 60715-TH35-7.5

The following options are selectable, depending on the application program:

- Configurable assignment of max. 128 DALI ECG to max. 32 DALI groups, exclusive controlled in groups or single (switching, dimming, set dimming value) and feedback for group status and lamp failure
- Configurable function burn-in for all ECG via pushbutton or single via object
- Up to twelve stand-by-area analysis for activation of switch actuators
- Distinction between self-contained emergency luminaries with one or two DALI devices
- Optional configuration of any DALI ECG to dim to a preset dimming value in case of emergency mode
- Locking of switching and dimming commands as well as configuration while emergency mode is activated
- Activation of emergency mode based on a configurable number of failed DALI ECG
- Lock object to elimination of failure messages interruption of ECG during emergency lighting testing
- Inhibit mode for disabling battery mode of self-contained emergency luminaries over pushbutton
- 16 integrated 2-level-controller for brightness control
- Assignment of DALI sensors and test option of sensors via ETS during commissioning

Data sheet

A6V10466084

Dimension width (1 MW = 18 mm)

4 MW

Stock no.

Product no.

5WG1141-1AB31

N 141/31

## Lighting

### Switching/dimming actuators

### DALI control output

#### Accessories for KNX/DALI Gateway

UP 141/71



#### DALI Push button interface 4fold

- Binary input device
- 4 inputs to connect installation buttons
- Supported actions per input
  - Short button press
  - Long button press
- Integrated DALI bus coupling unit for communicating with a central DALI controller/gateway
- Power supply through DALI line with 6 mA DALI bus load
- For flush-mounting wall or ceiling outlet installations with a 60 mm diameter and depth of 60 mm
- Plug-in terminals for connecting the DALI line
- Cable set for connecting pushbuttons

Data sheet

A6V11786002

Dimensions (W x H x D)

43 x 43 x 11 mm



Stock no. Product no.

5WG1141-2AB71 **UP 141/71**

## Lighting

### Switching/dimming actuators

#### DALI control output

#### Switch/dimming actuator, 8 x DALI, 8 ECGs per DALI output

N 525E01

- 8 DALI outputs
- Control capacity for up to 8 DALI-ECGs per DALI output
- Power supplied to the electronics and the DALI outputs through an integrated power supply unit for AC 230 V
- Green LED for status display
- Pushbutton for selecting and switching over 4 DALI outputs respectively between bus and direct mode
- Yellow LED for indicating which 4 DALI outputs the direct mode is activated for
- 1 red LED per DALI output for indicating the circuit state or fault (e.g. lighting medium failure) of the connected group
- Four pushbutton pairs for switching and dimming of 4 DALI outputs in direct mode, functional when AC 230 V is applied (also when no bus voltage is connected and also when bus communication has not yet been started or is interrupted)
- Selection of identical or individual configuration of all DALI outputs
- Selectable operating mode per DALI output (normal mode, 1-level or 2-level time-switch mode)
- Per DALI output with command objects for switching on/off, dimming brighter/darker and setting dimming value
- Per DALI output optionally with up to 4 add-on status objects (circuit state and lighting medium failure, dimming value status and DALI status)
- Sending of status objects on request and/or automatically after change
- Per DALI output with add-on object for time-limited switching on of lighting in night mode (cleaning light)
- Warning approx. 1 minute before imminent switching off, by dimming to 50% of former dimming value in night or timer mode
- Adjustable switching on and/or off of a channel through dimming brighter/darker, dimming value when switching on, actuating or dimming a new dimming value, dimming time from 0% to 100%
- Adjustable behavior on bus voltage or mains voltage failure and bus voltage or mains voltage recovery
- Add-on object and integrated 8bit scene control for saving and restoring up to 16 scenes per DALI output
- Integrated bus coupling unit as only half standard bus load, bus connection through bus terminal
- Device for mounting on rail TH35 DIN EN 60715



5

Data sheet	A6V10416176
Rated voltage	AC 120 V AC 230 V
Number of channels	2
Dimension width (1 MW = 18 mm)	4 MW

Stock no.                      Product no.

5WG1525-1EB01    **N 525E01**



## Lighting

### Switching/dimming actuators

#### Control output 1...10 V DC

#### N 536D51



#### Switch/dimming actuator 8 x AC 230 V, 10 AX, 1...10 V

- One relay contact per output as switching element
  - Rated contact operating voltage AC 230 V
  - Rated contact frequency: 50/60 Hz
  - Rated contact current: 16 A
  - Control voltage output DC 1-10 V per channel for controlling dimmable electronic ballasts
  - Per output direct operation function on the device for switching and dimming and indication of the switching status via LED
  - Button on the device front for deactivation of the direct mode operation and LED to indicate activation direct mode operation
  - Maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
  - With one phase terminal per output
  - Bus-powered electronics
  - Housing: plastic, color RAL 7035 (light grey), N-system
  - DIN rail mounted device for mounting on rail TH35 according to DIN EN 60715
  - Type of protection: IP 20
  - max. width 8 TE (1 TE = 18 mm)
- 
- One switching and status object per output
  - One dimming and status object per output
  - Selectable operation mode (normal mode, time switch mode, blinking)
  - Adjustable ON- and OFF-delay, control value input object, central switching
  - Two logic operation (AND/OR/NAND/NOR/EXOR/FILTER/TRIGGER)
  - Adjustable dimming time for switching and dimming
  - Switch an output on or off by dimming
  - Configurable dimming curves
  - Maximum and minimum dimming value
  - Configurable sending of status objects on request, cyclically, and / or automatically after a change
  - Configurable state on bus voltage failure and dimming value on bus voltage recovery
  - Night mode for time-limited switching the output, i.e. the lighting, at night
  - Night mode for time-limited switching the output, i.e. the lighting, at night
  - Variable On period at night or time switch mode, time limit in timer switch mode, warning signal prior to imminent switching-off
  - Manual override, permanent OFF switching, forced control, locking mode
  - Counting of operating hours and counting of load cycles with threshold monitoring
  - Integrated 8-bit scene control and linking of each output into up to 8 scenes
  - Surveillance of device function

Data sheet	A6V11632774
Rated current	10 A
Relay outputs, number	8
Dimension width (1 MW = 18 mm)	8 MW

Stock no.	Product no.
5WG1536-1DB51	<b>N 536D51</b>

# Lighting

## Switching/dimming actuators

### Control output 1...10 V DC

#### Switch-/dimm actuator, 2 x AC 277 V, 20 A, 1...10 V

JB 526C23



5

- Protruding wires stranded AWG 12
- A phase connection for an output that is equipped with a relay contact per output as a switching element
- Contact rated operational voltage AC 120 V, AC 230 V, AC 277 V, AC 347 V
- Contact rated operational voltage AC/DC 24 V
- Contact rated current according to DIN EN 60669-1: 16 A / 20 A (resistive load)
- Fluorescent lamp load according to DIN EN 60669-1: 16 AX / 20 AX (200 µF) at AC 230 V
- Bus-powered electronics
- Integrated bus coupling unit
- Bus connection via bus terminal
- Red LED for display of the activation of the addressing mode as well as the operational readiness
- Housing: plastics
- For installation in 4" x 4" Junction box (UL/NEMA)
- Degree of protection IP 20

- For switching and dimming of fluorescent lamps with dimmable electronic ballasts
- Independent control voltage DC 0/1...10 V per output

#### Per output

- command objects for switching on/off, dimming brighter/darker and setting dimming value
- adjustable ON- and OFF-delay
- switching status object and/or dimming value status object as an optional addition
- adjustable sending of status objects on demand, cyclically and/or automatically after modification
- adjustable ON period during night and/or time switch operation
- selectable counting of operating hours and threshold monitoring of the operating hours
- selectable counting of load cycles and threshold monitoring of the load cycles
- selectable function blocking of the output
- selectable mode (normal mode, night mode, one- or two-level timer mode, flashing)
- separately adjustable dimming time from minimum to 100% for switching on/off, brighter/darker dimming and dimming value setting
- selectable sending of status objects on request, cyclically and / or automatically after a change or bus voltage recovery
- selectable warning of impending OFF by dimming to 50% of the previous dimming value during night mode or timer mode
- separately adjustable dimming time for scene control
- adjustable dimming curve correction
- construction site function for switching the construction site lighting on and off even if the bus devices have not yet been commissioned with ETS
- Integrated 8-bit scene control and integration of each output in up to 8 scenes
- Optional disabling of the ripple control compensation in an electrical grid with frequency fluctuations

Data sheet

A6V11786012

Dimensions (W x H x D)

70 x 90 x 44,6 mm

Stock no.

Product no.

5WG1526-4CB23 JB 526C23

## Lighting

### Switching/dimming actuators

#### Control output 1...10 V DC

JB 527C23



#### Switch-/dimming actuator 1 x AC 277 V, 20 A, 1...10 V

- Protruding wires stranded AWG 12
- A phase connection for an output that is equipped with a relay contact per output as a switching element
- Contact rated operational voltage AC120 V, AC 230 V, AC 277 V, AC 347 V
- Contact rated operational voltage AC / DC 24 V
- Contact rated current according to DIN EN 60669-1: 16 A / 20 A (resistive load)
- Fluorescent lamp load according to DIN EN 60669-1: 16 AX / 20 AX (200 µF) at AC 230 V
- Bus-powered electronics
- Integrated bus coupling unit
- Bus connection via bus terminal
- Red LED for display of the activation of the addressing mode as well as the operational readiness
- Housing: plastics
- For installation in 4" x 4" Junction box (UL/NEMA)
- Degree of protection IP 20

- For switching and dimming of fluorescent lamps with dimmable electronic ballasts
- Independent control voltage DC 0/1...10 V per output

#### Per output

- command objects for switching on/off, dimming brighter/darker and setting dimming value
- adjustable ON- and OFF-delay
- switching status object and/or dimming value status object as an optional addition
- adjustable sending of status objects on demand, cyclically and/or automatically after modification
- adjustable ON period during night and/or time switch operation
- selectable counting of operating hours and threshold monitoring of the operating hours
- selectable counting of load cycles and threshold monitoring of the load cycles
- selectable function blocking of the output
- selectable mode (normal mode, night mode, one- or two-level timer mode, flashing)
- separately adjustable dimming time from minimum to 100% for switching on/off, brighter/darker dimming and dimming value setting
- selectable sending of status objects on request, cyclically and / or automatically after a change or bus voltage recovery
- selectable warning of impending OFF by dimming to 50% of the previous dimming value during night mode or timer mode
- separately adjustable dimming time for scene control
- adjustable dimming curve correction
- construction site function for switching the construction site lighting on and off even if the bus devices have not yet been commissioned with ETS
- integrated 8-bit scene control and integration of each output in up to 8 scenes
- optional disabling of the ripple control compensation in an electrical grid with frequency fluctuations

Data sheet

A6V11786013

Dimensions (W x H x D)

70 x 90 x 44,6 mm

Stock no.

Product no.

5WG1527-4CB23

JB 527C23

**Presence Detector WIDE**

UP 258D..1

- Passive infrared detector for ceiling installation
  - Horizontal 360° motion detection area
  - Presence/motion detection up to 64 m<sup>2</sup> / 400 m<sup>2</sup> (depending on mounting or room height)
  - A 7-level setting to adjust the presence detection range
  - Brightness and temperature measurement
  - Integrated IR receiver and IR decoder for IR remote control with six pairs of buttons
  - LED for display of detected motions in the delivery state for easy commissioning
  - Programming button operable from the front
  - Integrated bus coupler, bus connection via bus terminal, operation of electronics with bus voltage
  - Mounting on the ceiling on a flush-mounting box with diameter of 60 mm, in a separately ordered housing for surface mounting or mounting plate for 4 x 4 boxes
  - Color white (similar to RAL 9016)
- 
- Presence detection for three function blocks (presence, HVAC, slave)
  - Two selectable functions per function block at the start and two further functions at expiration of presence detection
  - Parallel operation of more presence detectors (master-slave, master-master) possible
  - Locking and output object for each function block
  - Extension inputs for semi-automatic mode
  - Adjustable sensitivity of detection
  - Deactivation of the individual 4 PIR sensors
  - Calibration of brightness measurement with correction factor/offset, via object mixed light-artificial light and two objects artificial light-daylight
  - Constant light control for one main row of lamps and up to four additional rows of lamps
  - 2-point light control
  - Adjustable temperature control as 2-point and/or steady control, heating/cooling operation
  - Sequence control for PI temperature control
  - Adjustable ventilator speed level
  - Object for dew point alarm
  - Comparator for analog values
  - Min., max. and composite calculator for brightness, temperature, humidity and CO<sub>2</sub>
  - Threshold monitoring for brightness, temperature, humidity and CO<sub>2</sub>

Dimensions (W x H)

120 mm x 120 mm



## Lighting Light level controls

5

### UP 258D31



#### Presence Detector WIDE

- For ceiling installation indoors and outdoors (e.g. garages)
- Protection type: IP 54
- Presence detection for three function blocks (presence, HVAC, slave)
- Two selectable functions per function block at the start and two further functions at expiration of presence detection
- Parallel operation of more presence detectors (master-slave, master-master) possible
- Locking and output object for each function block
- Extension inputs for semi-automatic mode
- Adjustable sensitivity of detection
- Deactivation of the individual 4 PIR sensors
- Calibration of brightness measurement with correction factor/offset, via object mixed light-artificial light and two objects artificial light-daylight
- Constant light control for one main row of lamps and up to four additional rows of lamps
- 2-point light control
- Adjustable temperature control as 2-point and/or steady control, heating/cooling operation
- Sequence control for PI temperature control
- Adjustable ventilator speed level
- Object for dew point alarm
- Comparator for analog values
- Min., max. and composite calculator for brightness, temperature, humidity and CO2
- Threshold monitoring for brightness, temperature, humidity and CO2

Stock no.	Product no.
5WG1258-2DB31	UP 258D31

### UP 258D41



#### Presence Detector WIDE pro

- Ceiling installation indoors
- Relative humidity measurement
- Protection type: IP 20
- Integrated humidity controller via 3 switching thresholds
- Dew point calculation

Stock no.	Product no.
5WG1258-2DB41	UP 258D41

### UP 258D51



#### Presence Detector WIDE multi

- Ceiling installation indoors
- Relative humidity and CO2 measurement
- Protection type: IP 20
- Integrated humidity and CO2 controller via 3 switching thresholds
- Dew point calculation

Stock no.	Product no.
5WG1258-2DB51	UP 258D51

**PresenceDetect. WIDE DualTech****UP 258D61**

- Ultrasound for reliable detection for ceiling installation indoors even behind objects
  - Additional detection options through PIR technology
  - Horizontal 360° motion detection area
  - Presence/motion detection up to 28 m<sup>2</sup> / 79 m<sup>2</sup> (depending on mounting or room height)
  - Brightness and temperature measurement
  - Integrated IR receiver and IR decoder for IR remote control with six pairs of buttons
  - LED for display of detected motions in the delivery state for easy commissioning
  - Programming button operable from the front
  - Integrated bus coupler, bus connection via bus terminal, operation of electronics with bus voltage
  - Mounting on the ceiling on a flush-mounting box with diameter of 60 mm, in a separately ordered housing for surface mounting or mounting plate for 4 x 4 boxes
  - Color white (similar to RAL 9016)
- 
- Presence detection for three function blocks (presence, HVAC, slave)
  - Two selectable functions per function block at the start and two further functions at expiration of presence detection
  - Parallel operation of more presence detectors (master-slave, master-master) possible
  - Locking and output object for each function block
  - Extension inputs for semi-automatic mode
  - Adjustable sensitivity of detection
  - Calibration of brightness measurement with correction factor/offset, via object mixed light-artificial light and two objects artificial light-daylight
  - Constant light control for one main row of lamps and up to four additional rows of lamps
  - 2-point light control
  - Adjustable temperature control as 2-point and/or steady control, heating/cooling operation
  - Sequence control for PI temperature control
  - Adjustable ventilator speed level
  - Object for dew point alarm
  - Comparator for analog values
  - Min., max. and composite calculator for brightness, temperature, humidity and CO<sub>2</sub>
  - Threshold monitoring for brightness, temperature, humidity and CO<sub>2</sub>

Dimensions (W x H x D)

134.5 x 120 x 40.9 mm

Stock no.

Product no.

5WG1258-2DB61

**UP 258D61**

## Lighting

### Light level controls

#### UP 258E22



#### Presence detector / Motion detector with constant light level control

Passive infrared detector for ceiling mounting indoors

- Optional blinding of parts of the detection area
- Mixed light measurement
- Cyclical sending or sending on change of value of the measured brightness value (Lux)
- Integrated two-position controller
- Constant light level control for a main group of luminaries and up to four additional groups of luminaries
- Lighting control configurable as fully automatic or semi-automatic
- Motion detection for three function blocks (presence detector, motion detector, and HVAC detector)
- 2 per function block selectable functions (A, B) on start of the presence detection and two per function block selectable functions (C, D) on expiration of the presence detection
- Configurable delay of 0...255 seconds between sending of function A and B respectively C and D
- Selection per function (A, B, C, D) switching On/Off, 8-bit value, selectable 8-bit value, 16-bit value, temperature value, brightness value, 8-bit scene control
- Blocking object per function block
- Per function block configurable overshoot time, in each case configurable as a fixed time, as switchable between two times via the bus, or settable to a value via the bus
- Parallel operation of several presence detectors (master-slave, master-master) without additional logic module
- Integrated IR receiver and IR decoder for IR remote controls with six pairs of pushbuttons
- Functions of the IR remote control selectable per pair of pushbuttons or per each single pushbutton of a button pair
- Per pushbutton selectable function toggle, switching on, switching off, 8-bit scene recall, 8-bit value, 16-bit value, temperature value, brightness value
- For each pair of pushbuttons selectable function switching On/Off, 2-button dimming with stop telegram, 2-button solar protection control, variable 8-bit value, 8-bit scene control
- Blocking object for IR decoder
- Test mode for easy start-up
- LED for display of detected movements in test mode, to be configured using ETS
- Integrated bus coupling unit, bus connection via bus terminal, Power supply over the bus line
- Ceiling mounting on a flush-mounting box with 60 mm diameter and min. 40 mm depth or in a housing for surface-mounting (to be ordered separately)
- Monitoring motion range horizontal 360°, vertical approx. 105°
- Monitoring motion of an area of diameter 8 m (depending on mounting/room height)
- Programming button reachable from front

Data sheet

A6V10489482

Dimension (Ø x H)

88 x 63 mm

Stock no.

Product no.

5WG1258-2EB22

**UP 258E22**

#### UP 258D12



#### Presence detector with brightness sensor

- Passive infrared detector for ceiling mounting indoors
- Mixed light measurement
- Ceiling mounting on a flush-mounting box with 60 mm diameter and min. 40 mm depth or in a housing for surface-mounting (to be ordered separately)
- Integrated IR decoder for S 255/11
- Programming button reachable from front

Data sheet

A6V10489482

Dimension (Ø x H)

88 x 63 mm

Stock no.

Product no.

5WG1258-2DB12

**UP 258D12**

**Brightness sensor with constant light level controller****UP 255D21**

- Mixed light measurement
- Ceiling mounting on a flush-mounting box with 60 mm diameter and min. 40 mm depth or in a housing for surface-mounting (to be ordered separately)
- Programming button reachable from front
- Integrated IR decoder for S 255/11
- Integrated 2-point control (switching)
- Constant light level control for main group of luminaires and up to 4 additional groups of luminaires incl. automatic calibrating



Data sheet A6V10489482  
 Dimension (Ø x H) 88 x 63 mm

Stock no. Product no.  
 5WG1255-2DB21 UP 255D21

**Accessories for UP 258..****Surface-mounting enclosure****AP 258E01**

- For fixing the presence detectors UP 258D12 and UP 258E22 and the brightness sensor UP 255D21 as a surface mounting device



Data sheet A6V10416111  
 Dimension (Ø x H) 88 x 44 mm

Stock no. Product no.  
 5WG1258-7EB01 AP 258E01

**Surface Mounting Box Type B****AP 258E11**

- Mounting presence detector UP 258Dx1 as a surface-mounted device
- Color white (similar to RAL 9016)



Stock no. Product no.  
 5WG1258-7EB11 AP 258E11

**Mounting plate****S 258/12**

- Mounting presence detector UP 258Dx1 with 4x4 boxes
- Color white (similar to RAL 9016)



Stock no. Product no.  
 5WG1258-8AB12 S 258/12



## Lighting Light level controls

### S 255/11



#### IR remote control

- 6 pushbutton pairs for the remote control of lighting, shutter/blinds and scenes
- Parameterization is via ETS in the presence detectors UP 258E and UP 258D and in the brightness sensor UP 255D21
- Range: approx. up to 10 m
- Power supply: CR2025 lithium button cell
- Degree of protection (acc. to EN 60529): IP40
- 6 pushbutton pairs for the remote control of lighting, shutter/blinds and scenes via UP 258E21 or UP 258D11 presence detector
- Range: approx. 4.5 m
- Power supply: CR2025 lithium button cell
- Degree of protection (acc. to EN 60529): IP40

Data sheet

A6V11786011

Dimensions (W x H x D)

40 x 87 x 6 mm



Stock no.

Product no.

5WG1255-7AB11

**S 255/11**

### AP 254/02



#### Dual sensor for brightness measurement, temperature measurement, sun protection control, lighting control

- Brightness measurement, temperature measurement, sun protection control, lighting control
- For the detection and transmission of brightness and temperature
  - Temperature measuring range -25 °C...+55 °C
  - Brightness measuring range 1 Lux...100 kLux
  - Horizontal sensing angle -60°...+60°, vertical -35°...+66.5°
- For the control of switch, dimming and shutter/blind actuators, depending on the ambient luminosity and/or ambient temperature
- One sun protection channel for the automatic control of sun protection equipment, with
  - Starting and stopping of automation by means of an object or a dusk threshold
  - Up to three brightness thresholds for determining the height and position of the shutters/blinds or roller shutters
  - Optional teach-in of dusk thresholds and brightness thresholds by means of a teach-in facility
  - Blocking object for the temporary deactivation of the sun protection channel function
- Up to four universal channels for the control of switch, dimming and shutter/blind actuators, depending on ambient luminosity and/or temperature. Optionally available with:
  - Threshold switches for brightness
  - Threshold switches for temperature
  - Threshold switches with logical combination of brightness and temperature
  - Optional teach-in of brightness threshold for each universal channel by means of an associated teach-in facility
  - Deactivation option for each universal channel by means of an associated blocking object (1 bit)
  - Optional second object for transmission of a second telegram on fulfillment of threshold conditions
- Bus-powered electronics
- Integrated bus coupling units
- Bus connection via bus terminal
- Surface mounting
- Degree of protection: IP54

Data sheet

A6V10416100

Dimensions (W x H x D)

72 x 110 x 54 mm



Stock no.

Product no.

5WG1254-3EY02

**AP 254/02**

# Solar protection, anti-glare protection, utilization of daylight



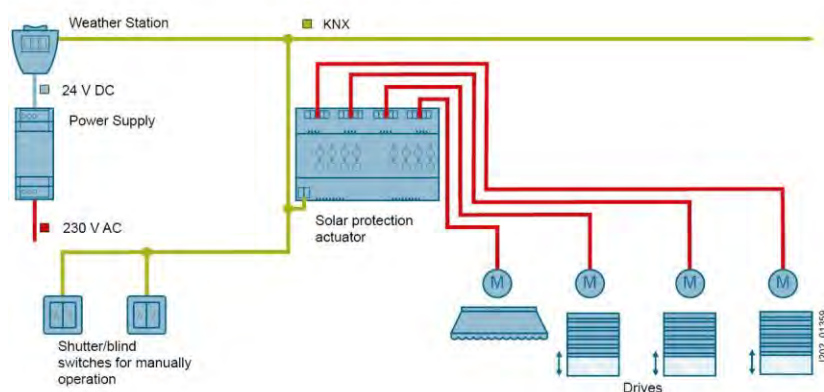
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## Solar protection, anti-glare protection, utilization of daylight

### Overview and selection tools

#### Sunlight tracking control

With sunlight tracking control, the position of the sun is tracked so that the blind slats are not completely closed, but rather automatically adjusted to prevent the sun from shining directly into the room. The spacing between the blind slats still allows diffuse daylight to enter the room and contribute to ensuring glare-free room lighting while lowering electricity costs.



#### Benefits

- Reduced energy consumption and costs for room lighting
- Optimum room climate
- Glare-free workplaces

#### You will need

- Weather station AP 257
- Electronic power supply unit
- Sunblind actuator N 543D51
- Pushbutton, double UP 222/3
- Drives
- Bus coupling unit UP 117/12 (for pushbuttons)

## Solar protection, anti-glare protection, utilization of daylight Overview and selection tools

### Shadow tracking control

With shadow tracking control, sun protection is not lowered completely but only so far that the sun can still shine into the room for a certain distance (e.g. 50 cm), which can be set by adjustable parameters.

#### Benefits

This enables room occupants to look outside through the lower part of the window, and plants arranged on the windowsill can still be exposed to direct sunlight, while the room occupants are protected. This creates an optimum room climate, ensures glare-free workplaces and lowers energy demand and costs for room lighting.



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### Sunlight tracking control with shadow tracking control

The functions of sunlight tracking control and shadow tracking control can be performed with the same devices individually or in combination.



#### You will need

- Weather station AP 257
- Electronic power supply unit
- Sunblind actuator N 543D51
- Pushbutton, double UP 222/3
- Drive
- Bus coupling unit UP 117/12 (for pushbuttons)



## Solar protection, anti-glare protection, utilization of daylight

### Overview and selection tools

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Anti-glare/sun protection actuators												
	N 543D51	N 523/02	N 523/03	N 523/04 <sup>1)</sup>	N 501/01	UP 520/03	UP 520/13	UP 520/31	RS 520/23	JB 520C23	RL 521/23	JB 521C23
<b>Type</b>												
<b>Enclosure data</b>												
Design	N	N	N	N	N	UP	UP	UP	RS	JB	RL	JB
Modular installation devices for mounting on TH35 EN 60715 mounting rail	■	■	■	■	■							
For installation in flush-mounting switch and socket boxes with Ø = 60 mm						■	■	■				
Modular installation device for mounting in AP 118 automation module box or AP 641 room control box <sup>2)</sup>									■		■	
Modular installation device for mounting in Junction Box 4" x 4"										■		■
10-pole BTI socket (BTI - Bus Transceiver Interface) for plugging of bus terminal devices with BTI connector						■						
<b>Dimensions</b>												
• Width/Ø [mm] (1 MW = 18 mm)	8 MW	4 MW	4 MW	4 MW	8 MW	71	50	53	50.2	70	47.8	70
• Height [mm]						71	50.9		35.5	90	86.5	90
• Depth [mm]						42	41.3	28	48.8	44.6	36.2	44.6
<b>Mounting type</b>												
Screw fixing						■						
<b>Display/control elements</b>												
LED for status indication per output	■	■	■	■	■							
Direct operation (local operation)	■	■	■	■	■							
<b>Power supply</b>												
Bus-powered electronics	■					■	■	■	■	■	■	■
Electronics powered via an integrated power supply unit. Supply voltage AC 230 V		■	■	■	■							
<b>Bus connection</b>												
Integrated bus coupling units	■	■	■	■	■	■	■	■	■	■	■	■
Bus connection via bus terminal	■	■	■	■	■	■	■	■	■	■	■	■
Bus connection via contact system to data rail		■	■	■	■							
<b>Outputs</b>												
<b>Load output</b>												
Number of channels (one UP and one DOWN each)	8	4 <sup>3)</sup>	4 <sup>3)</sup>	4 <sup>3)</sup>	4 <sup>3)</sup>	1	1	1	1	1	2	2
Electrically interlocked relays (for reversing direction of rotation)	■	■	■	■	■	■	■	■	■	■	■	■
Contact rated voltage												
• AC 230 V/50 Hz	■	■	■	■	■	■	■	■	■		■	
• AC 120 V										■		■
• DC 24 V												
Contact rated current [A]	6	6	6	6	6	6	6	6	6	6	6	6
<b>Inputs</b>												
Max. cable length, unshielded, twisted [m]					100			5				
For signal inputs (floating contact)								2				
Determination of switching state by means of the voltage generated in the device								■				

<sup>1)</sup> Also available as c-UL version, Product No.: 5WG1 523-1CB04

<sup>2)</sup> The AP 641 room control box and AP 118 automation module box must be ordered separately, see Chapter Quick-assembly system - Room control box - enclosure

<sup>3)</sup> 2 floating



## Solar protection, anti-glare protection, utilization of daylight

### Overview and selection tools

#### ... Continuation of the table

Type	N 543D51	N 523/02	N 523/03	N 523/04 <sup>2)</sup>	N 501/01	UP 520/03	UP 520/13	UP 520/31	RS 520/23	JB 520C23	RL 521/23	JB 521C23
Application program <sup>1)</sup>	9A0C01	980103	980183	981202	981701	982A01	982A01	207301	982A01	982A01	982B01	982B01
<b>Output functions</b>												
Max. number of group addresses	2000	100	100	110	220	120	120	26	120	120	120	120
Max. number of assignments	2000	100	100	125	220	120	120	27	120	120	120	120
Configurable behavior in the event of a bus voltage failure	■				■	■	■	■	■	■	■	■
Configurable behavior in the event of a bus voltage recovery	■				■	■	■	■	■	■	■	■
Configurable behavior in the event of a system voltage recovery					■							
<b>Operating mode</b>												
Automatic mode for sunlight tracking control	■			■	■	■	■		■	■	■	■
Manual mode	■			■	■	■	■		■	■	■	■
Standard mode	■	■	■	■	■	■	■	■	■	■	■	■
<b>Status</b>												
Transmitting status per channel	■	■	■	■	■	■	■		■	■	■	■
Indication of direct operation with status object	■			■	■							
Status position of sun protection, 8-bit	■	■	■	■	■	■	■		■	■	■	■
Status position of slats, 8-bit	■	■		■	■	■	■		■	■	■	■
<b>Scene control</b>												
Integrated 1-bit scene control	■	■	■		■	■	■		■	■	■	■
Integrated 8-bit scene control	■				■	■	■		■	■	■	■
Scenes to be integrated per channel	8	2	2		8	8	8		8	8	8	8
<b>Shutter/blind control</b>												
Travel lock (e. g. for cleaning the outer shutter/blinds)	■	■	■	■	■	■	■	■	■	■	■	■
Separate raising/lowering protection	■	■	■		■						■	
<b>Alarm</b>												
• Move to safety position	■	■	■	■	■	■	■	■	■	■	■	■
• Locking in this position for as long as alarm is active	■	■	■	■	■	■	■	■	■	■	■	■
• Alarm check, wire break, alarm delayed	■	■	■	■	■	■	■	■	■	■	■	■
• Channels single lockable during alarm	■	■	■	■	■	■	■	■	■	■	■	■
Individual configuration of actuator channels	■	■	■	■	■	■	■	■	■	■	■	■
Shared configuration of actuator channels		■	■	■	■							
Adaptation of objects and functions to drive type	■	■	■	■	■	■	■		■	■	■	■
Delay time adjustable	■			■								
Suitable for integration in a sunlight tracking control system	■			■	■	■	■		■	■	■	■
End position detection	■					■	■		■	■	■	■
<b>Sun protection control (UP/DOWN)</b>												
Using position data (8-bit value)	■			■	■	■	■		■	■	■	■
Travel to end position, stopping, stepwise adjustment	■	■	■	■	■	■	■	■	■	■	■	■
<b>Slat control (OPEN/CLOSE)</b>												
Using position data (8-bit value)	■			■	■	■	■		■	■	■	■
Travel to end position, stopping, stepwise adjustment	■	■		■	■	■	■	■	■	■	■	■
Step adjustable <sup>3)</sup>	n			n	n	n	n		n	n	n	n

<sup>1)</sup> For current application programs, see [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)

<sup>2)</sup> Also available as UL version, Product No.: 5WG1 523-1CB04

<sup>3)</sup> n = number, % = %-value

## Solar protection, anti-glare protection, utilization of daylight

### Overview and selection tools

#### Load data for shutter/blind actuators per channel

	N 543D51	N 501/01	N 523/02 N 523/03 N 523/04	RL 521/23	JB 521C23	UP 520/03 UP520/13 RS 520/23	JB 520C23
Type							
<b>Contact current</b>							
Rated current [A]	6 (AC)	6 (AC)	6 (AC)	6 (AC)	6 (AC)	6 (AC)	6 (AC)
AC3 operation (p.f. = 0.45)[VA]		200	200	500	500	500	500
<b>Contact voltage</b>							
Rated voltage [V]	AC 230	AC 230	AC 230	AC 230	AC 120	AC 230	AC 120
<b>Service life</b>							
Mechanical service life Switching operations in millions	50	20	20	10	10	10	10
Electrical service life Switching operations in millions	0,1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Power loss</b>							
Maximum power loss per device at rated power [W]	7	7	3	5	5	3	3
<b>Switching capacities/load types, loads</b>							
Resistive load [W]	1380	1380	1380	1380	1380	1380	1380
Minimum switching capacity [V/mA]	5/10	6/10	6/10	24/10	24/10	24/10	24/10
DC switching capacity [V/A]	30/6	24/6	24/6	30/10	30/10	30/10	30/10

For complete technical specifications, see: [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)

## Solar protection, anti-glare protection, utilization of daylight

### Anti-glare/solar protection actuators

#### Solar protection actuator 8 x AC 230 V, 6 A, with end position detection

N 543D51



- For control of drives with a motor for AC 230 V
  - Electrically interlocked relays to reverse the direction of rotation
  - Rated contact operating voltage AC 230 V
  - Rated contact frequency: 50/60 Hz
  - Rated contact current: 6 A
  - Electronics for detection of the actuation of an electromechanical and electronic limit switches
  - Automatic travel time determination via current measurement
  - Per actuator channel direct operation function on the device for driving solar protection up/down, stop command and slat adjustment
  - Two status LEDs per actuator channel to indicate the direction of travel and an override
  - Button on the device front for deactivation of the direct mode operation and LED to indicate activation direct mode operation
  - Maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
  - Two terminals per actuator channel for motor connection (up, down)
  - At least one phase connection terminal for two actuator channel each
  - Bus-powered electronics
  - Housing: plastic, color RAL 7035 (light grey), N-system
  - DIN rail mounted device for mounting on rail TH35 according to DIN EN 60715
  - Type of protection: IP 20
  - max. width 8 MW (1 MW = 18 mm)
- 
- Selectable operation mode blinds, shutter/awning, ventilation flap
  - Per actuator channel motion commands for moving and stopping the solar protection or for adjustment of blind slats
  - Per actuator channel direct movement to a position of the sunblind and the blind slats
  - Per actuator channel central movement of the solar protection in manual mode and automatic mode and delay time for Up / Down
  - Distinction between automatic and manual mode (position of the sunblind and blind slats) and adjustable behaviour in sunshine
  - Programming and recalling preset positions 1-4 and 8-bit scene control
  - Adjustable behaviour in case of override (wind, rain, frost, lock, forced position, forced control, range limitation)
  - Adjustable reverse pause time and delay times of the drives
  - Per actuator channel configurable state on bus voltage failure and start value on bus voltage recovery
  - Adjustable transmission of status objects (direct operation, automatic operation, curtain and slat position, travel, calibration travel time to end positions, overriding) on request, cyclically and/or upon change
  - Adjustable transmission time of the status objects after bus voltage recovery and transmission delay between the status objects
  - Surveillance of device function

Data sheet	A6V11252211
Rated current	6 A
Relay outputs, number	8
Relay output, switching voltage	AC 230 V
Dimension width (1 MW = 18 mm)	8 MW

Stock no.	Product no.
5WG1543-1DB51	N 543D51

## Solar protection, anti-glare protection, utilization of daylight

### Anti-glare/solar protection actuators

N 523/..

#### Shutter/blind actuators

- Rated contact current 6 A
- LED for status indication per output
- Direct operation (local operation)
- Electrically interlocked relays (for reversing direction of rotation)
- Transmitting status per channel
- Status Position Sonnenschutz 8 Bit
- Travel lock (e. g. for cleaning the outer shutter/blinds)
- Alarm: Move to safety position, locking in this position for as long as alarm is active
- Individual or shared configuration of actuator channels
- Adaptation of objects and functions to drive type
- Sun protection control (up/down): travel to end position, stopping, stepwise adjustment
- Integrated bus coupling units
- Bus connection via bus terminal or contact system to data rail
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

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N 523/02



#### Venetian blind actuator, 4 x AC 230 V, 6 A

- 4 channels
- For the separate control per actuator channel of a sun protection, damper, door or window drive with a motor for AC 230 V and electromechanical limit switches
- Rated contact voltage AC 230 V, 50 Hz
- Status position of slats, 8-bit
- Integrated 1-bit scene control, 2 Scenes to be integrated per channel
- Separate raising/lowering protection
- Integrated power supply unit for the electronics, connected to AC 230 V
- Sun protection control (up/down) using position data (8-bit value)

Data sheet

A6V10416171

Dimension width (1 MW = 18 mm)

4 MW

Stock no.

Product no.

5WG1523-1AB02

N 523/02

N 523/03

#### Roller shutter actuator, 4 x AC 230 V, 6 A



- 4 channels (one up and one down each)
- Rated contact voltage AC 230 V, 50 Hz
- Integrated 1-bit scene control, 2 Scenes to be integrated per channel
- Integrated power supply unit for the electronics, connected to AC 230 V
- Separate raising/lowering protection

Data sheet

A6V10416172

Dimension width (1 MW = 18 mm)

4 MW

Stock no.

Product no.

5WG1523-1AB03

N 523/03



## Solar protection, anti-glare protection, utilization of daylight

### Anti-glare/solar protection actuators

#### Venetian blind actuator, 4 x AC 230 V, 6 A, with sunlight tracking of slats

N 523/04

- 4 channels
- For the separate control per actuator channel of a sun protection, damper, door or window drive with a motor for AC 230 V and electromechanical limit switches
- Rated contact voltage AC 230 V, 50 Hz
- Automatic mode for sunlight tracking control
- Manual mode
- Indication of direct operation with status object
- Status position of slats, 8-bit
- Suitable for integration in a sunlight tracking control system
- Sun protection control (up/down) using position data (8-bit value)
- Integrated power supply unit for the electronics, connected to AC 230 V
- Slat control (open/close) using position data (8-bit value) or travel to end position, stopping, stepwise adjustment



Data sheet A6V10416173  
Dimension width (1 MW = 18 mm) 4 MW

Stock no. Product no.  
5WG1523-1AB04 N 523/04

#### Venetian blind actuator, 4 x AC 120 V, 6 A, with sunlight tracking of slats, UL standard

N 523C04

- 4 channels
- For the separate control per actuator channel of a sun protection, damper, door or window drive with a motor for AC 120 V and electromechanical limit switches
- Rated contact voltage AC 120 V, 50 Hz
- Automatic mode for sunlight tracking control
- Manual mode
- Indication of direct operation with status object
- Status position of slats, 8-bit
- Suitable for integration in a sunlight tracking control system
- Sun protection control (up/down) using position data (8-bit value)
- Integrated power supply unit for the electronics, connected to AC 120 V
- Slat control (open/close) using position data (8-bit value) or travel to end position, stopping, stepwise adjustment



Data sheet A6V10416584  
Dimension width (1 MW = 18 mm) 4 MW

Stock no. Product no.  
5WG1523-1CB04 N 523C04

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## Solar protection, anti-glare protection, utilization of daylight

### Anti-glare/solar protection actuators

N 501/01



#### Combination blind actuator 4 x AC 230 V, 6 A, 8 x binary inputs

- 8 inputs for DC or AC in the range from 12 to 230 V
- 8 relay contact outputs locked in pairs against each other for controlling 4 x AC 230 V sunblind drives
- Contact rated voltage AC 230 V
- Contact rated current 6 A, p.f. = 1
- Electronics powered by a AC 230 V integrated power supply
- Device functional even without bus connection or if the bus communication fails
- Preset on delivery for direct output control for each blind button function via momentary contact switches connected to the inputs
- Key for switching between bus and direct mode
- Button for each relay contact output, for switching the output in direct mode
- Selectable function for each input when using the ETS:
  - Switching status, send binary value
  - Switching on leading edge, switching Short/Long
  - 1-pushbutton dimming, sunblind control, group control
  - 1-bit/8-bit scene control
  - 8-bit/16-bit value leading edge, Short/Long
  - 16-bit floating point value leading edge, Short/Long
- Or for each pair of inputs:
  - Acting directly on the corresponding outputs as blind button
  - 2-button dimming with stop telegram or with cyclical sending
  - 2-pushbutton sunblind control
- Selectable blocking of each input via a corresponding blocking object
- Sending of input objects after change
- Selectable cyclical input object sending
- Individual or shared configuration of actuator channels
- Communication objects for each blind channel for driving the sun protection into the end positions or for stopping the procedure and adjusting the blind slats in steps
- Communication objects for setting position of slats and blinds in percentage information
- Automatic opening of the blind slats to a preconfigured nominal setting after uninterrupted driving down of the blind from the top to the bottom end position, with integrated 1-bit scene control for storing and calling up (reproduction) of 2 interim blind and slat settings
- Integrated 1-bit/8-bit scene control, 8 scenes can be integrated per channel
- Optional "Sun" object for integration in a sunlight tracking control system
- Differentiation between automatic and manual mode and with automatic switchover from automatic to manual mode for the channel in question by pressing a bus button for manual control of the corresponding sun protection
- Manual mode taking precedence over automatic position commands
- Optional central command for each device or each channel for switching the relevant channels to automatic mode and driving the sun protection into the up or down end position
- Alarm: move to safety position, Locking in this position for as long as alarm is active
- Travel lock (e. g. for cleaning the outer shutter/blinds)
- Status objects for each channel for querying or for automatic sending of sun protection and slat settings as a percentage value
- Optional status objects for reporting that the up or down position has been reached
- Integrated bus coupling unit, Bus connection via bus terminal or contact system to data rail
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Data sheet	A6V10416147
Rated voltage	AC 230 V
Rated current	6 A
Number of channels	4
Number of inputs potentialfree	8
Dimension width (1 MW = 18 mm)	8 MW

Stock no.	Product no.
5WG1501-1AB01	<b>N 501/01</b>

## Solar protection, anti-glare protection, utilization of daylight

### Anti-glare/solar protection actuators

#### Shutter Blind Actuator, 1 x AC 230 V, 6 A

UP 520/..3

- Electrically interlocked relays (drive protection)
- End position detection
- Screwless terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5...2.5mm<sup>2</sup>
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal
- For insertion in flush-mounting switch and socket boxes 60 mm in diameter and 60 mm deep
- Configurable behavior in the event of a bus voltage failure and recovery
- Automatic mode for sunlight tracking control
- Manual or standard mode
- Status: transmitting status per channel, status position of sun protection 8-bit, status position of slats 8-bit
- Integrated 1-/8-bit scene control
- 8 scenes to be integrated per channel
- Travel lock (e. g. for cleaning the outer shutter/blinds)
- Separate raising/lowering protection
- Alarm (Wind, Rain, Frost): Move to safety position, locking in this position for as long as alarm is active
- Individual or shared configuration of actuator channels
- Adaptation of objects and functions to drive type
- Suitable for integration in a sunlight tracking control system
- Using position data (8-bit value) travel to end position, stopping, stepwise adjustment sun protection control (up/down) and Slat control (open/closed)



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#### Range overview UP 520/..3

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Shutter Blind Actuator, 1 x AC 230 V, 6 A, with mounting frame and BTI interface	71 x 71 x 42	5WG1520-2AB03	UP 520/03
Shutter Blind Actuator UP, 1 x AC 230 V, 6 A	50 x 50,9 x 41,3	5WG1520-2AB13	UP 520/13

RS 520/23, RL 521/23: The AP 641 room control box and AP 118 automation module box must be ordered separately. See Chapter Quick-Assembly System, Room Control Box.

## Solar protection, anti-glare protection, utilization of daylight

### Anti-glare/solar protection actuators

#### RS 520/23



#### Shutter Blind Actuator RS, 1 x AC 230 V, 6 A

- 1 channel
- Electrically interlocked relays to reverse the direction of rotation
- Integrated electronics for detection of the actuation of an electromechanical limit switch and with auto-calibration of the travel time from one limit switch to the other
- Bus-powered electronics
- Integrated bus coupling unit, Bus connection via bus terminal block
- Type of protection: IP 20
- For the separate control per actuator channel of a sun protection, damper, door or window drive with a motor for AC 230 V and electromechanical limit switches
- Screw-less terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
- With bus connection module
- Modular installation device for mounting in AP 118 automation module box or AP 641 room control box
- Configurable behavior in the event of a bus voltage failure/recovery
- Automatic mode for sunlight tracking control
- Manual and standard mode
- Status: Transmitting status per channel, status position of sun protection, 8-bit, status position of slats, 8-bit
- Integrated 1-bit/8-bit scene control
- 8 scenes to be integrated per channel
- Travel lock (e. g. for cleaning the outer shutter/blinds)
- Separate raising/lowering protection
- Alarm (Wind, Rain, Frost): Move to safety position, locking in this position for as long as alarm is active
- Individual configuration of actuator channels
- Adaptation of objects and functions to drive type
- Suitable for integration in a sunlight tracking control system
- End position detection
- Using position data (8-bit value) for sun protection control (up/down) and slat control (open/closed)

The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See chapter Modular Installation System - Room control box - Module boxes.

Data sheet	A6V10416164
Rated voltage	AC 230 V
Rated current	6 A
Number of channels	1
Dimensions (W x H x D)	50,2 x 48,8 x 35,5 mm

Stock no.	Product no.
5WG1520-2AB23	<b>RS 520/23</b>

## Solar protection, anti-glare protection, utilization of daylight

### Anti-glare/solar protection actuators

#### Shutter Blind Actuator, 1 x AC 120 V, 6 A

JB 520C23

- 1 channel
- Electrically interlocked relays to reverse the direction of rotation
- Integrated electronics for detection of the actuation of an electromechanical limit switch and with auto-calibration of the travel time from one limit switch to the other
- Bus-powered electronics
- Integrated bus coupling unit, Bus connection via bus terminal block
- Type of protection: IP 20
- For control of sun protection, door or window drive with a motor for AC 120 V and electromechanical or electronic limit switches per actuator channel
- Relay contacts rated for nominal voltage AC 120 V, 6 A (resistive load)
- As built-in device with 1/2 inch thread connection for mounting to or in a UL/NEMA Junction Box with feedthrough of the function wires through the 1/2 inch threaded connector
- Configurable behavior in the event of a bus voltage failure/recovery
- Automatic mode for sunlight tracking control
- Manual and standard mode
- Status: Transmitting status per channel, status position of sun protection, 8-bit, status position of slats, 8-bit
- Integrated 1-bit/8-bit scene control
- 8 scenes to be integrated per channel
- Travel lock (e. g. for cleaning the outer shutter/blinds)
- Separate raising/lowering protection
- Alarm (Wind, Rain, Frost): Move to safety position, locking in this position for as long as alarm is active
- Individual configuration of actuator channels
- Adaptation of objects and functions to drive type
- Suitable for integration in a sunlight tracking control system
- End position detection
- Using position data (8-bit value) for sun protection control (up/down) and slat control (open/closed)



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Data sheet A6V11786009  
 Dimensions (W x H x D) 70 x 90 x 44,6 mm

Stock no.	Product no.
5WG1520-4CB23	<b>JB 520C23</b>

## Solar protection, anti-glare protection, utilization of daylight

### Anti-glare/solar protection actuators

#### UP 520/31



#### Venetian blind actuator 1 x AC 230 V, 6 A, 2 x binary inputs

- Electrically interlocked relay contacts as switching elements
- Contact rated operational voltage AC 230 V
- Contact rated current 6 A at  $\cos \phi = 1$
- Selectable type of sunblind (Venetian blind / roller shutter)
- Configurable stop time at change of movement direction
- Object for activation / de-activation of the sun protection function
- Configurable sunblind position after activation / de-activation of the sun protection function
- Two safety objects
- Selectable cyclical monitoring of the safety objects
- Moving into a configurable end position on activation or deactivation of the safety function
- Configurable reaction at bus voltage failure and recovery
- 2 binary inputs for potential-free contacts
- Selectable function of the binary inputs: acting as secondary inputs directly on the switching outputs or acting as independant binary inputs with bus communication
- Free allocation of the functions switching, dimming, solar protection control, send value and scene control to the inputs
- Two independent switching objects per input
- Blocking object for each input
- Separately selectable behaviour per input at bus voltage recovery
- Telegram rate limitation for both inputs
- About 20 cm long wires for connecting phase conductor, outputs, inputs and bus
- Bus-powered electronics
- Integrated bus coupling unit
- Enclosed bus terminal for bus connection
- For installation in a flush-mounting wall or ceiling box with 60 mm diameter

Data sheet

A6V10416165

Dimension (Ø x H)

53 x 28 mm

Stock no.

Product no.

5WG1520-2AB31

UP 520/31



## Solar protection, anti-glare protection, utilization of daylight

### Anti-glare/solar protection actuators

#### Shutter Blind Actuator, 2 x AC 230 V, 6 A

RL 521/23



- 2 channels
- Electrically interlocked relays to reverse the direction of rotation
- Integrated electronics for detection of the actuation of an electromechanical limit switch and with auto-calibration of the travel time from one limit switch to the other
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal
- Type of protection: IP 20
- For the separate control per actuator channel of a sun protection, damper, door or window drive with a motor for AC 230 V and electromechanical limit switches
- Screw-less terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
- For mounting in AP 118 automation module box or AP 641 room control box
- Communication objects per actuator channel for moving the sun protection to limit positions or to stop travel and for step-by-step adjustment of blind slats
- Communication objects for moving the sun protection and adjusting blind slats directly to a new position by positioning commands as percentage values
- Automatic opening of blind slats up to a set position after the blinds have been lowered without any stop from upper to lower limit position
- Integrated 1-bit scene control for programming/recalling of 2 favored positions of blind and slats
- Integrated 8-bit scene control and assignment of up to 8 scenes per channel
- An optional object "Sunshine" for activation/deactivation of sunlight tracking of the slats for shading with greatest possible daylight component
- Differentiation between automatic and manual mode and with automatic switch-over from automatic to manual mode of the respective actuator channel on activation of a bus pushbutton for manual control of the sun blind
- Priority of manual mode over automatic positioning commands
- Optional central command object for switching-over of all actuator channels to automatic mode and for moving the sun blinds to the upper or lower limit position
- Alarm object wind/rain/frost per channel for moving the sun protection to the configured safety position in the event of an alarm and with blocking of travel to another position as long as alarm pending
- Travel blocking object per device or per channel for blocking the sun protection in its current position (e.g. during cleaning of an outdoor Venetian blind)
- Status objects per actuator channel for query or automatic transmission of sun blind and slat position as percentage values
- Optional status objects for signalling that the lower or upper limit position has been reached

The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See chapter Modular Installation System - Room control box - Module boxes.

Data sheet	A6V10416169
Rated voltage	AC 230 V
Rated current	6 A
Number of channels	2
Dimensions (W x H x D)	47,8 x 86,5 x 36,2 mm

Stock no.	Product no.
5WG1521-4AB23	RL 521/23

## Solar protection, anti-glare protection, utilization of daylight

### Anti-glare/solar protection actuators

#### JB 521C23



#### Shutter Blind Actuator, 2 x AC 120 V, 6 A

- 2 channels
- Electrically interlocked relays to reverse the direction of rotation
- Integrated electronics for detection of the actuation of an electromechanical limit switch and with auto-calibration of the travel time from one limit switch to the other
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal
- Type of protection: IP 20
- For separate control of a sun protection, door or window drive with a motor for AC 120 V and electromechanical or electronic limit switches per actuator channel
- Relay contacts rated for AC 120 V, 6 A (resistive load)
- As built-in device with 1/2 inch thread connection for mounting to or in a UL/NEMA Junction Box with feedthrough of the function wires through the 1/2 inch threaded connector
- Communication objects per actuator channel for moving the sun protection to limit positions or to stop travel and for step-by-step adjustment of blind slats
- Communication objects for moving the sun protection and adjusting blind slats directly to a new position by positioning commands as percentage values
- Automatic opening of blind slats up to a set position after the blinds have been lowered without any stop from upper to lower limit position
- Integrated 1-bit scene control for programming/recalling of 2 favored positions of blind and slats
- Integrated 8-bit scene control and assignment of up to 8 scenes per channel
- An optional object "Sunshine" for activation/deactivation of sunlight tracking of the slats for shading with greatest possible daylight component
- Differentiation between automatic and manual mode and with automatic switch-over from automatic to manual mode of the respective actuator channel on activation of a bus pushbutton for manual control of the sun blind
- Priority of manual mode over automatic positioning commands
- Optional central command object for switching-over of all actuator channels to automatic mode and for moving the sun blinds to the upper or lower limit position
- Alarm object wind/rain/frost per channel for moving the sun protection to the configured safety position in the event of an alarm and with blocking of travel to another position as long as alarm pending
- Travel blocking object per device or per channel for blocking the sun protection in its current position (e.g. during cleaning of an outdoor Venetian blind)
- Status objects per actuator channel for query or automatic transmission of sun blind and slat position as percentage values
- Optional status objects for signalling that the lower or upper limit position has been reached

Data sheet

A6V11786010

Dimensions (W x H x D)

70 x 90 x 44,6 mm

Stock no.

Product no.

5WG1521-4CB23

JB 521C23

## Solar protection, anti-glare protection, utilization of daylight

### Central weather/solar protection systems

#### Weather-/sun station

AP 257/..2

- Receiver for GPS time signal
- Input the assembly location by selecting country and city or by stating the GPS longitude/latitude coordinates
- Transmission and receipt of date and time over bus
- Transmission of all measured values via bus
- Functions:
  - Monitoring of all measured values up to 3 limit values each
  - Sensor monitoring
  - Sunlight tracking control
  - Shadow outline tracking
  - Central command for activation/deactivation of sun protection at the start and end of sunshine
  - 4 AND operations
  - 4 OR operations
  - 8 OR operations for alarm/fault indications
  - Blocking function for window cleaning tasks
  - Safety/alarm objects
- LED for the display of GPS reception
- Heated sensor for measuring wind speed without mechanically moved parts, measuring range at least 0...35 m/s
- Brightness sensor, measuring range min. 0...150 klx
- Dusk detection, measuring range min. 0...1000 lx
- Outdoor temperature sensor, measuring range min. -35...+80 °C
- Integrated bus coupling units
- Bus connection via bus terminal



6

Data sheet

A6V10416520

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Weather center (GPS), 8 facade sectors, sun tracking	96 x 77 x 118	5WG1257-3AB22	<b>AP 257/22</b>

#### Accessories for AP 257/..2

Product Title	Stock no.	Product no.
Electronic power supply unit, 350 mA	4AC2402	<b>4AC2402</b>

## Solar protection, anti-glare protection, utilization of daylight

### Central weather/solar protection systems

#### AP 257/51



#### Weather station

- Sensor for measuring wind speed, measuring range 2-30 m/s
- Three independent brightness sensors, measuring range 1-100 k Lux
- Consideration of up to two external brightness sensors
- Outdoor temperature sensor, measuring range -30 ... +60°C
- Transmission of all measurement readings via the bus
- Monitoring of all measurement readings
- Consideration of the alignment of up to 3 facades and automatic activation / deactivation of the solar protection of a facade during the time in which the sun shines on the respective facade
- Safety alarm for deactivating the solar protection, initiated by an external safety object or by logical AND/ OR operations of the measured weather data
- 4 threshold switches, independant of the weather data, each with 2 output objects
- 6 logical AND, OR or XOR operations, independant of the whether data, of respectively up to 4 input objects and each with 2 output objects
- Integrated bus coupling unit, bus connection via a bus terminal block
- As a compact unit for mast or wall mounting, including mast fixture for diameter 48-60 mm

Data sheet

A6V11418967

Dimensions (W x H x D)

121 x 108 x 227 mm

Stock no.

Product no.

5WG1257-3AB51

**AP 257/51**

#### AP 257/61



#### Weather station

- Sensor for measuring wind speed, measuring range 2-30 m/s
- Three independent brightness sensors, measuring range 1-100000 Lux
- Consideration of up to two external brightness sensors
- Outdoor temperature sensor, measuring range -30 ... +60°C
- Heated precipitation sensor
- Transmission of date and time via the bus
- Transmission of GPS position via the bus
- Transmission of all measurement readings via the bus
- Monitoring of all measurement readings
- Input of the geographical location of the installation site via the entry of longitude and latitude or automatic detection via GPS
- Calculation and transmission of the angle data (azimuth and elevation) for current position of the sun
- Consideration of the alignment of up to 8 facades and automatic activation / deactivation of the solar protection of a facade during the time in which the sun shines on the respective facade
- Sun tracking control of the slats position for solar protection, so that no direct sunshine, but as much diffuse daylight as possible reaches the room
- Safety alarm for deactivating the solar protection, initiated by an external safety object or by logical AND/ OR operations of the measured weather data
- 4 threshold switches, independant of the weather data, each with 2 output objects
- 6 logical AND, OR or XOR operations, independant of the weather data, of respectively up to 4 input objects and each with 2 output objects
- External power supply of the heating for the precipitation sensor via 24 V DC, 210 mA
- Feed of the additional auxiliary power supply via the white / yellow twisted pair of the bus cable
- Integrated bus coupling unit, bus connection via a bus terminal block
- Compact unit for mast or wall mounting, including mast fixture for diameter 48-60 mm

Data sheet

A6V11418967

Dimensions (W x H x D)

121 x 108 x 227 mm

Stock no.

Product no.

5WG1257-3AB61

**AP 257/61**

# Heating, ventilation and air conditioning - room temperature control



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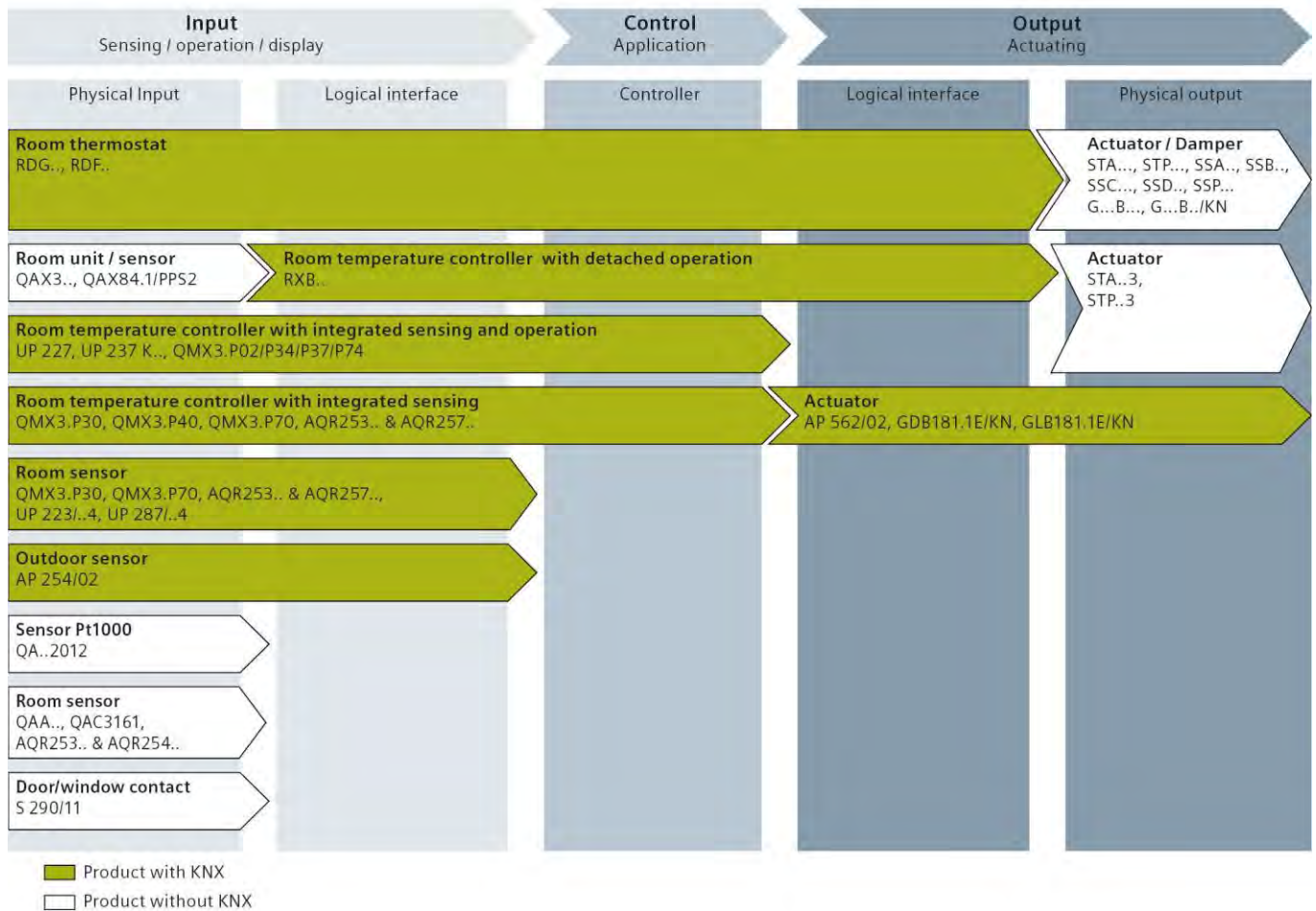


## Heating, ventilation and air conditioning - room temperature control

### Overview and selection tools

#### KNX room temperature controllers, sensors and actuators

The following table describes the different device categories for room temperature control with the corresponding device families. For each category it shows the covered functions (sensing, operation, display, control, actuating) and the interfaces to other categories. It is shown which device combinations are necessary or possible to implement a full room temperature control solution and serves as first step of device selection. More detailed differences between and within the device categories are described in the technical overviews and product descriptions on the following pages.



## Heating, ventilation and air conditioning - room temperature control

### Overview and selection tools

#### Overview room temperature controllers

Room thermostats	RDG100KN, RDG160KN, RDG165KN, RDG405KN, RDF600KN, RDF600KN/S, RDF800KN, RDF870KN
Room temperature controllers with integrated sensing and operation	UP 227, QMX3.P34, QMX3.P74, QMX3.P02, QMX3.P37
Room temperature controllers with integrated sensing	QMX3.P30, QMX3.P40, QMX3.P70, AQR253.. & AQR257..
Room temperature controllers w/ detached operation	RXB21.., RXB22.., RXB24.., RXB39..

#### Room temperature controllers

	Room thermostats	Room temperature controllers with integrated sensing and operation	Room temperature controllers with integrated sensing	Room temperature controllers with detached operation
<b>Application</b>				
Fancoil	RDF.., RDG1..	UP 227	-	RXB21.., RXB22.., RXB39..
Radiator	RDG1..	All	All	RXB24..
Chilled / heated ceiling	RDG1.., RDF800KN	-	-	RXB24..
Floor heating	RDG1..	All	All	RXB24..
Heat pump	RDF.., RDG1..	-	-	-
VAV	RDG405KN	-	-	-
Fresh air / Ventilation	RDF870KN			
<b>Sensing</b>				
Temperature	All	All	All	-
Air Quality (PM2.5, CO <sub>2</sub> , VOC)	RDG405KN <sup>1)</sup> , RDF870KN <sup>2)</sup>	QMX3.P74	QMX3.P70, AQR253.. & AQR257..	-
Relative humidity	RDG165KN, RDF870KN <sup>2)</sup>	QMX3.P74	QMX3.P40, QMX3.P70, AQR253.. & AQR257..	-
<b>Display &amp; Operation</b>				
Display	All	All	-	-
Touch operation	RDF800KN		-	-
Rotary wheel for setpoint setting	RDG..			
Push buttons	RDF..	QMX3.P02, QMX3.P37, UP 227	-	-
<b>Installation</b>				
Flush mounted	RDF..	UP 227	AQR253.. & AQR257..	-
Fit to Delta line / miro	-	UP 227	AQR253.. & AQR257..	-
Wall mounted	RDG..	QMX3..	QMX3..	-
DIN-rail	-	-	-	All

<sup>1)</sup> IAQ control with RDG405KN needs an external CO<sub>2</sub>/VOC sensor

<sup>2)</sup> PM2.5 and CO<sub>2</sub> control with RDF870KN needs either external PM2.5 and CO<sub>2</sub> sensors or values via bus

## Heating, ventilation and air conditioning - room temperature control

### Overview and selection tools

#### Central collection of heating and cooling demands from rooms

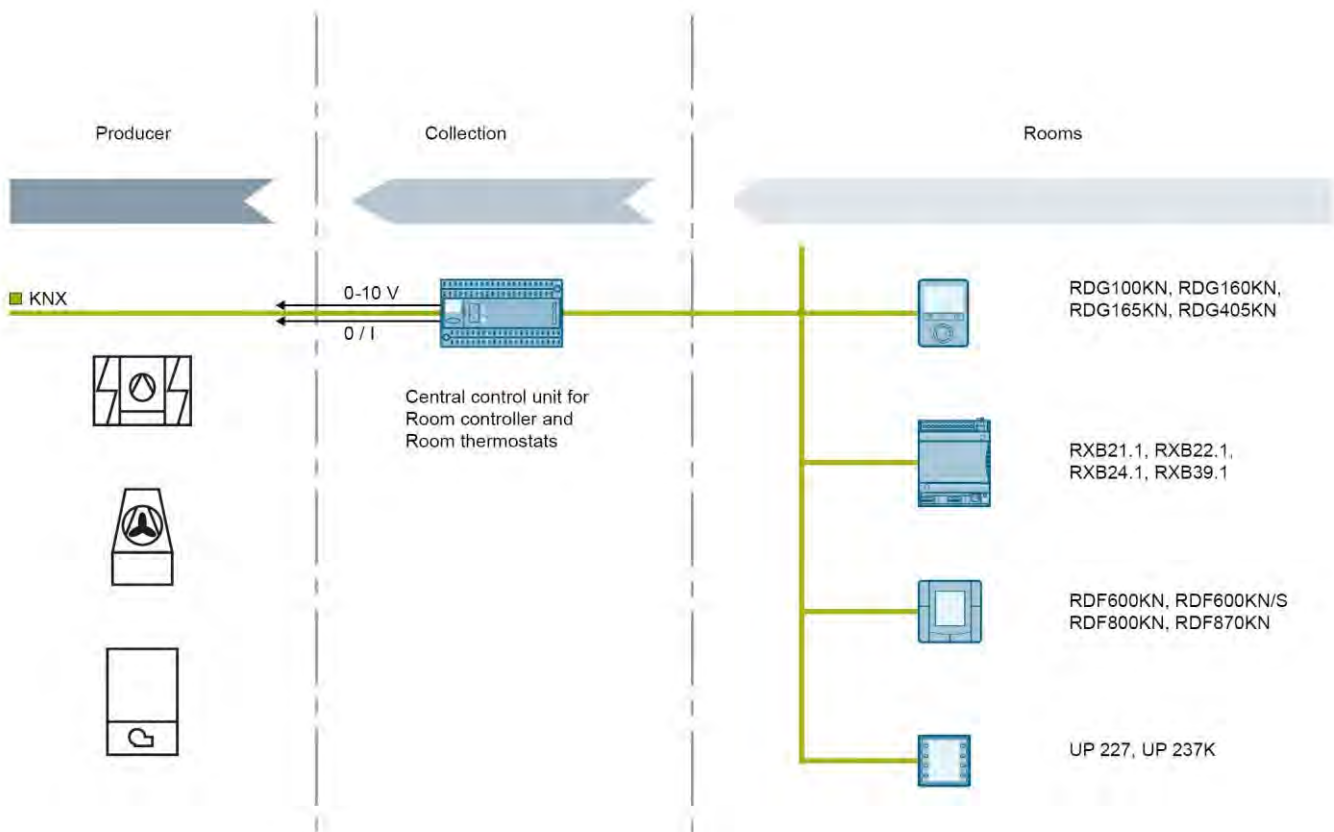
The central control unit RMB795B-1 collects the heating and cooling demands from different devices/room controllers and forwards the calculated demands to the primary controller (producer).

The RMB795B-1 further supplies the room controllers with the following information:

- Time controlled operating mode for room groups
- Room group set points
- Adjustment of the room groups set point
- Emergency and application operating modes
- Device monitoring

#### Note:

The KNX room controllers must be able to send every 15 minutes a 1-Byte control or request signal on the bus.





## Heating, ventilation and air conditioning - room temperature control

### Overview and selection tools

#### Smart Thermostat



The new room thermostat, Smart Thermostat RDS110, is characterized by its simple and intuitive user interface. The display is reduced to the essentials to enable fast and easy operation.

The thermostat for heating applications has a number of integrated sensors and offers many benefits, such as control of room temperature and humidity or monitoring of air quality. In addition, the Smart Thermostat can be combined with external sensors for window opening and outside temperature. Because of its adaptive control and Optimum Start control, the Smart Thermostat helps reduce energy consumption and/or improve comfort. The adaptive control is a self-learning algorithm for analyzing the dynamic behavior of the room temperature according to the heating system. It optimizes the parameters for each building type to achieve a better control loop.

Optimum Start Control is a self-learning algorithm that learns how long it takes to heat up the room so that the system can be turned on in a timely manner.

The Smart Thermostat comes with a navigation wizard so commissioning takes just a few minutes. Thanks to the unique two-step commissioning concept, installation can be completed during construction while the actual setup can be performed later.

#### Access to the Smart Thermostat from anywhere and at any time






With the Smart Thermostat app, end users can control and monitor the temperature anywhere and at any time. Various setpoints can be defined in the scheduler program for a perfect room climate around the clock. In addition, you can switch between operating modes (e.g. absent/away, at home) with a single click.

#### Maximum consumption and cost efficiency

The included energy matrix enhances energy efficiency awareness. Benefits of this feature include understanding past energy consumption trends and improving energy consumption patterns.

## Heating, ventilation and air conditioning - room temperature control

### Overview and selection tools

Room thermostats								
								
Type	RDF600KN	RDF600KN/S	RDF800KN	RDF870KN	RDG100KN	RDG160KN	RDG165KN	RDG405KN
<b>Design</b>								
Wall mounted					■	■	■	■
Flush Mounted	■	■	■	■				
For VDE box	■	■	■	■				
For British Standard box	■	■	■	■				
<b>Housing</b>								
Digital display	■	■	■	■	■	■	■	■
Touch Screen Display			★	■				
Setpoint knob					■	■	■	■
Operating mode button	■	■			■	■	■	■
Fan speed button	■	■			■	■	■	■
Buttons for light and blind control		★						
<b>Bus connection</b>								
Integrated bus coupling units	■	■	■	■	■	■	■	■
<b>Power supply</b>								
Terminal voltage AC 230 V	■	■	■	■	■			
Terminal voltage AC 24 V						■	■	■
<b>Integrated sensor</b>								
Room temperature sensor	■	■	■	■	■	■	■	■
Humidity sensor							■	
<b>Inputs</b>								
Multifunctional inputs digital/analog	2	2	2	2	3	3	3	2
Input DC 0...10 V				■				1
<b>Outputs</b>								
ON/OFF (PWM) Triac (H/K)					■			■
ON/OFF Relay (H/C)	★	★	■			■	■	
Analog outputs DC 0...10 V (H/K)						★	★	■
3-stage Relay (fan)	■	■	■	■ <sup>4)</sup>	■	■	■	
Analog DC 0...10 V (fan)				■		★	★	
<b>Applications</b>								
Fancoil 2-/4-pipe	■	■	■		■	■	■	
Fancoil with electrical heater	■	■	■		■	■	■	
Fancoil with Radiator					■	■	■	
Heating / Cooling 2-/4-pipe			■		■	■	■	
Heating / Cooling with 6-port ball valve						★		
Humidity control							■	
Indoor Air Quality				★ <sup>3)</sup>				■
Heat Pump System	■	■	■			■	■	
Variable Air Volume (VAV)								■
VAV with electrical heater								■
VAV with radiator / Heat-Cool coil								■
<b>Functionalities</b>								
Master / Slave						★		
2-position control	■	■	■	■ <sup>5)</sup>	■	■	■	■
Modulating control	■ <sup>2)</sup>	■ <sup>2)</sup>	■ <sup>2)</sup>	■ <sup>5)</sup>	■	■	■	■
2-stage control sequence for heating or cooling	■ <sup>1)</sup>	■ <sup>1)</sup>	■ <sup>1)</sup>		■	■	■	
<b>Operating mode</b>								
Comfort, Economy, Protection	■	■	■	■ <sup>5)</sup>	■	■	■	■
Manual / Auto operating mode	■	■	■	■ <sup>5)</sup>	■	■	■	■

<sup>1)</sup> only for 2-stage heating<sup>2)</sup> modulating output only for 2-pipe applications<sup>3)</sup> PM2.5 or CO<sub>2</sub> or both controls plus display VOC<sup>4)</sup> available for 1-/3-/4-stage Relay (fan)<sup>5)</sup> only fan control functions

■ valid for all variants

★ main feature



# Heating, ventilation and air conditioning - room temperature control










## Overview and selection tools

Room temperature controllers with integrated sensing and operation						
Type	 UP 237K	 UP 227	 QMX3.P34	 QMX3.P74	 QMX3.P02	 QMX3.P37
<b>Mounting</b>						
Wall mounted			■	■	■	■
Flush mounted	■ <sup>1)</sup>	■ <sup>1)</sup>				
<b>Display-/operating elements</b>						
Display		■	■	■		■
Capacitive buttons		■			■	■
Rotary/push-button, Setpoint rotary wheel	■					
LED indicators per button					■	■
LED indicators central	■ <sup>2)</sup>	■				
<b>Sensors</b>						
Temperature	■	■	■	■	■	■
Humidity				■		
Air quality CO <sub>2</sub>				■		
<b>Bus interface</b>						
- Integrated bus coupling unit		■	■	■	■	■
- Separate bus coupling unit	■					
<b>Power supply</b>						
- KNX bus voltage	■	■	■	■	■	■
- Additional power supply DC 24 V						
<b>Functionalities</b>						
Switching ON/OFF/OVER		■			■	■
Pushbutton function (bell function)		■				
Dimming		■			■	■
Send Values						
- 8 bit/percent		■			■	■
- 16 bit		■				
- Brightness value		■				
- Temperature value		■				
- Wind speed value		■				
- 4 Byte						
display value						
- 1 bit		■				
- 8 bit/percent/16 bit		■				
- Brightness value		■				
- Temperature value		■	■	■		■
- Wind speed value		■				
- Text messages		■				
Alarmhandling		■				
Forced control		■				
Shutter-/blind control		■			■	■
Call and save scene, 1 bit		■				
Call and save scene, 8 bit		■			■	■
Button deactivation		■	■	■		■
Time switch schedules		■				
<b>Room temperature controller functionality</b>						
Setpoint value setting, absolute	■	■	■	■		■
Setpoint value shifting	■	■	■	■		■
Setting operating modes	■	■	■	■		■
Setting comfort prolongation	■	■	■	■		■
Heating/Cooling	■	■	■	■		■
Two-point control	■	■	■	■		■
Continuous control	■	■	■	■		■
Two-level heating and cooling (sequenz)	■	■	■	■		■
<b>Applications</b>						
Radiator	■	■	■	■	■	■
Underfloor heating	■	■	■	■	■	■
Fancoil		■				
Threshold control for humidity			■	■	■	■
Threshold control for air quality			■	■	■	■

<sup>1)</sup> Design line i-system<sup>2)</sup> Display operating modes, manual mode, heating/cooling, alarms

## Heating, ventilation and air conditioning - room temperature control

### Overview and selection tools

Room temperature controllers with integrated sensing									
Basic module + Front module									
Type	QMX3.P30	QMX3.P40	QMX3.P70	AQR2570Nx + AQR2532NNW	AQR2570Nx + AQR2535NNW	AQR2576Nx + AQR2530NNW	AQR2576Nx + AQR2532NNW	AQR2576Nx + AQR2535NNW	AQR2576Nx + AQR2535NNWQ
Design									
Wall mounted	■	■	■						
Flush mounted				■	■	■	■	■	■
Display / operating									
LCD display with 8 capacitive keys									
Air quality indication on LED			■						■
Sensor									
Temperature	■	■	■	■	■		■	■	■
Humidity		■	■		■			■	■
Air quality CO <sub>2</sub>			■			■	■	■	■
Bus interface									
Integrated bus coupling unit	■	■	■	■	■	■	■	■	■
Controlling									
Controller enable /disable	■	■	■	■	■	■	■	■	■
PID controller for heating and/or cooling	■	■	■	■	■		■	■	■
Threshold controller for humidity	■	■	■		■			■	■
Threshold controller for air quality	■	■	■			■	■	■	■
Input									
Passive Temperature NTC 10k				■	■	■	■	■	■
Two potential-free contacts				■	■	■	■	■	■

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## Heating, ventilation and air conditioning - room temperature control

### Overview and selection tools






#### Fields of application

The scope of RXB is defined by the preprogrammed application software. The following pages provide an overview of the options and the corresponding devices, divided into different areas of application. The devices are supplied preprogrammed with the applications. The required application can be selected by means of the ETS, Synco™ tool or the Handy tool QAX34.3.

Due to the fact that the applications are predefined, engineering simply involves the definition of a small number of parameters, e. g.:







- PWM or 3-position control of the valves and actuators
- Temperature setpoints
- Manual or automatic fan control
- Room operating units QAX3.., QAX84.1 (PPS2 interface), or UP2... / QMX3.P34 via KNX

#### Room temperature controllers with detached operation

					
Type	RXB21.1/ FC-10	RXB21.1/ FC-11	RXB22.1/ FC-12	RXB24.1/ CC-02	RXB39.1/ FC-13
<b>Applications</b>					
FNC02: Two-pipe system with change-over	■				■
FNC03: Two-pipe system with change-over and electric heater			■		■
FNC04: Four-pipe system	■				■
FNC05: Four-pipe system with electric heater			■		
FNC08: Four-pipe system with room supply air cascade control	■				■
FNC10: Two-pipe system with change-over outside air damper		■			
FNC12: 4-pipe system with outside air damper		■			
FNC18: Two-pipe system with change-over and radiator		■			
FNC20: Four-pipe system with control of a single damper	■				
CLC01: Chilled ceiling				■	
CLC02: Chilled ceiling and radiator, dew point monitoring, Radiator with downdraft compensation				■	
RAD01: Radiator with downdraft compensation				■	
<b>Functionality</b>					
Temperature setpoints, 4 operating modes Comfort, Pre-Comfort, Economy, Protection	■	■	■	■	■
Digital inputs for window contact, presence detector, dew point sensor	2	2	2	2	
Analog Input for optional LG-Ni 1000 temperature sensor	1	1	1	1	1
3-speed fan control	■	■	■		
Continuous fan control 0-10 V (EC fan motor)					■
PWM valve actuator control	■	■	■	■	
3-Position valve actuator control	■	■	■	■	
KNX valve actuator control	■	■	■	■	■
Motoric 0-10 V valve actuator control					■
Electric reheater control		■			■
Room unit range QAX.. over PPS2 Interface with temperature sensor, set-point adjustment, Standby/Auto/Fan switch, display	■	■	■	■	■
Room units via KNX (UP2.../QMX3.P34)	■	■	■	■	■
parameterization of applications over handy tool QAX34.3	■	■	■	■	■
Power supply	AC 230 V	AC 230 V	AC 230 V	AC 230 V	AC 230 V

## Heating, ventilation and air conditioning - room temperature control

### Overview and selection tools




Damper and rotary actuators						
						
	Actuators for air volume controllers 300 Pa operating range		Rotary actuators for ball valves		Rotary actuators for air dampers	
Type	GDB181.1E/KN	GLB181.1E/KN	GDB111.9E/KN	GLB111.9E/KN	GDB111.1E/KN	GLB111.1E/KN
	GDB 300 Pa VAV compact controller 5 Nm for approx. 0.8 m² damper area 150 s running time	GLB 300 Pa VAV compact controller 10 Nm for approx. 1.5 m² damper area 150 s running time	GDB Rotary actuator for 2-port, 3-port and 6-port control ball valves up to DN 25 5 Nm 150 s running time	GLB Rotary actuator for 2-port, 3-port and 6-port control ball valves up to DN 50 10 Nm 150 s running time	GDB Damper actuator 5 Nm (non-spring return) for approx. 0.8 m² damper area, 150 s running time	GLB Damper actuator 10 Nm (non-spring return) for approx. 1.5 m² damper area, 150 s running time
Control signal	KNX S-Mode KNX LTE-Mode KNX PL-Link	KNX S-Mode KNX LTE-Mode KNX PL-Link	KNX S-Mode KNX PL-Link	KNX S-Mode KNX PL-Link	KNX S-Mode KNX PL-Link	KNX S-Mode KNX PL-Link
Operating voltage	AC 24 V	AC 24 V	AC 24 V	AC 24 V	AC 24 V	AC 24 V
Standard model	GDB181.1E/KN	GLB181.1E/KN	GDB111.9E/KN	GLB111.9E/KN	GDB111.1E/KN	GLB111.1E/KN
Dimensions, round damper shaft (mm)	8...16	8...16	-	-	-	-
Dimensions, square damper shaft (mm)	6...12.8	6...12.8	-	-	-	-

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## Heating, ventilation and air conditioning - room temperature control

### Overview and selection tools

#### Electrothermal valve actuators without KNX

									
Type	STA23	STA63	STA73	STP23	STP63	STP73	SSA31	SSA61	SSA81
<b>Enclosure data</b>									
<b>Dimensions</b>									
• Width/Ø [mm]	44	44	44	44	44	44	48	48	48
• Max. height [mm]	74	74	74	74	74	74	77	77	77
• Min. height [mm]	69	69	69	69	9	69	77	77	77
<b>Output</b>									
• AC 230 V	■			■			■		
• AC 24 V		■	■		■	■		■	■
• DC 24 V			■			■		■	
Control signal	Two-step	0 ... 10 V DC	Two-step	Two-step	0 ... 10 V DC	Two-step	Three-step	0 ... 10 V	Three-step
Valve position in de-energized state <sup>1)</sup>	NC	NC	NC	NO	NO	NO	NC	NC	NC
Fail Safe Function	Y	Y	Y	Y	Y	Y	N	N	N
Max. lift [mm]	4.5	4.5	4.5	4.5	4.5	4.5	5.5	5.5	5.5
Max. positioning force [mm/N]	100	100	100	100	100	100	100	100	100
Max. open/close time [sec.]	210	270	270	210	270	270	330	75	330
Length of connecting lead [m]	1	2	1	1	2	1	1.5	1.5	1.5
Ambient temperature for operation [°C]	+5 ... +50	+5 ... +50	+5 ... +50	+5 ... +50	+5 ... +50	+5 ... +50	+1 ... +50	+1 ... +50	+1 ... +50
Power Consumption [W/VA]	2.5 W	2.5 W	2.5 W	2.5 W	2.5 W	2.5 W	6 VA	2.5 VA	0.8 VA
Mounting	360°, also upside down						180°, not upside down		
Degree of protection	IP54	IP54	IP54	IP54	IP54	IP54	IP40	IP40	IP40

<sup>1)</sup> Closed (NC), open (NO).

For further information regarding accessories (adapter, connector cable, ...) use the HIT-portal: [www.siemens.com/hit](http://www.siemens.com/hit)



## Heating, ventilation and air conditioning - room temperature control

### Smart thermostats

#### RDS110



#### Smart Room Thermostat

Room thermostat for the control of heating applications in apartments, single family homes, dormitories and other residential-type as well as light commercial spaces. With remote access via computer, tablet, or smartphone using the Siemens Comfort Cloud service.

##### Room thermostat features

- Backlit, auto-dimming 90 mm color LCD touch screen for intuitive local operation
- Mobile app for smartphones
- Air quality indication via built-in sensor
- Operate automatically following a scheduler
- Direct temperature and operating mode selection
- RoomOptiControl function with Green leaf button for energy-optimized operation
- Temperature setting limitation for use in public spaces
- Screen lock protection against unauthorized access
- Manual switchover between "Home", "Away" and "OFF" on touch screen
- Room temperature control using the built-in temperature sensor or an optional remote sensor
- Optional temperature averaging using an additional remote temperature sensor
- Patented self-learning algorithm with PID response (patent pending) guaranteeing optimum temperature control performance in all room types
- Optimum start control function that advances the switch-on time to ensure the selected setpoint is reached as required
- Floor temperature limitation using a remote sensor in electric floor-heating applications
- Humidity control using the built-in humidity sensor or an optional remote sensor
- Presence detection using a built-in PIR sensor or approach sensor
- Two multifunctional inputs, optional and configurable for operating mode switchover contact (e.g. window contact), remote room temperature sensor, floor temperature sensor, outside air temperature sensor, remote humidity sensor
- Two relay outputs for heating equipment, extra output for domestic hot water (DHW) boiler, humidifier or dehumidifier
- Periodic pump/valve operation to protect against seizing
- Navigation wizard for guided, fast commissioning
- Remote firmware upgrade capability

##### Remote operation and monitoring

- Mobile App for smartphones and tablets based on iOS and Android
- Individual time program for each day of the week
- Energy consumption indication
- Manual switchover between "Home", "Away" and "OFF" operating modes on mobile app
- Individual scheduler for domestic hot water boiler
- User account management

Data sheet	A6V10807602
Operating voltage	AC 230 V
Setpoint setting range	5...40 °C
Switching differential	0.5...6 K
Communication	Connectable with a WLAN (802.11b/g/n) compatible router
Analog inputs, number	2
Relay outputs	1. Heating: Boiler, valve, radiator, pump, fan 2. DHW, humidifier, dehumidifier
Relay outputs, number	2
Relay output, switching voltage	AC 24...230 V or potential free
Relay output, switching current	5 (2) A
Type of fixing	Wall mounting with screws
Degree of protection	IP30
Dimensions (W x H x D)	91 x 91 x 26 mm

Stock no.	Product no.
S55772-T100	<b>RDS110</b>

## Heating, ventilation and air conditioning - room temperature control

### Smart thermostats

#### Smart Thermostat Wireless

RDS110.R

Room thermostat for the control of heating applications in apartments, single family homes, dormitories and other residential-type as well as light commercial spaces. With remote access via computer, tablet, or smartphone using the Siemens Comfort Cloud service.



##### Room thermostat features

- Backlit, auto-dimming 90 mm color LCD touch screen for intuitive local operation
- Mobile app for smartphones
- Air quality indication via built-in sensor
- Operate automatically following a scheduler
- Direct temperature and operating mode selection
- RoomOptiControl function with Green leaf button for energy-optimized operation
- Temperature setting limitation for use in public spaces
- Screen lock protection against unauthorized access
- Manual switchover between "Home", "Away" and "OFF" on touch screen
- Room temperature control using the built-in temperature sensor or an optional remote sensor
- Optional temperature averaging using an additional remote temperature sensor
- Patented self-learning algorithm with PID response (patent pending) guaranteeing optimum temperature control performance in all room types
- Optimum start control function that advances the switch-on time to ensure the selected setpoint is reached as required
- Floor temperature limitation using a remote sensor in electric floor-heating applications
- Humidity control using the built-in humidity sensor or an optional remote sensor
- Presence detection using a built-in PIR sensor or approach sensor
- Two multifunctional inputs, optional and configurable for operating mode switchover contact (e.g. window contact), remote room temperature sensor, floor temperature sensor, outside air temperature sensor, remote humidity sensor
- Two relay outputs for heating equipment, extra output for domestic hot water (DHW) boiler, humidifier or dehumidifier
- Periodic pump/valve operation to protect against seizing
- Navigation wizard for guided, fast commissioning
- Remote firmware upgrade capability

##### Remote operation and monitoring

- Mobile App for smartphones and tablets based on iOS and Android
- Individual time program for each day of the week
- Energy consumption indication
- Manual switchover between "Home", "Away" and "OFF" operating modes on mobile app
- Individual scheduler for domestic hot water boiler
- User account management

Data sheet	A6V11562461
Operating voltage	AC 230 V
Power consumption	Max. 9 VA
Setpoint setting range	0...50 °C
Switching differential	0.5...6 K
Communication	Connectable with a WLAN (802.11b/g/n) compatible router
Analog inputs, number	2
Relay outputs	1. Heating: Boiler, valve, radiator, pump, fan 2. DHW, humidifier, dehumidifier
Relay outputs, number	2
Relay output, switching voltage	AC 24...230 V or potential free
Relay output, switching current	5 (2) A
Type of fixing	Wall mounting with screws
Degree of protection	IP30
Dimensions (W x H x D)	91 x 91 x 26 mm

Stock no.

Product no.

S55772-T103

RDS110.R

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## Heating, ventilation and air conditioning - room temperature control

## Room thermostats

## Flush-mounted

## RDF6..KNX Flush Mount

## Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment for both round and square conduit boxes



Flush-mount room thermostat with LCD for fan coil units and compressors in DX-type equipment

- KNX communications
- For heating and/or cooling applications
- 2 or 3-position control outputs
- Output for 1-speed or 3-speed fan
- 2 multifunctional inputs for keycard contact, external room / return air temperature (QAH11.1, QAA32), heat / cool changeover, operation mode changeover, window contact on/off, dewpoint monitor, electrical heater enabled, fault contact, presence detector
- Operating modes: Comfort, Economy and Protection
- Automatic or manual heating/cooling changeover
- Adjustable commissioning and control parameters
- Minimum and maximum setpoint limitation
- Backlit display
- Color of housing: signal white (RAL 9003)
- Independent function for window contact, presence detector (standard presence and hotel presence)

Application selectable:

- 2-pipe system
- 2-pipe system with electrical heater
- 4-pipe system

Data sheet	N3076
Operating voltage	AC 230 V
Power consumption	2 VA
Switching differential	0.5...6 K
Communication	KNX
Analog inputs, number	2
Relay outputs	Fan: N.O. contacts, non-floating Valve: N.O. contacts, non-floating
Relay outputs, number	5
Relay output, switching voltage	AC 230 V
Relay output, switching current	5 (2) A
Type of fixing	With screws on recessed round conduit box diameter min. 60 mm
Dimensions (W x H x D)	86 x 86 x 46 mm

## Range overview RDF6..KNX Flush Mount

Product Title	Stock no.	Product no.
Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment	S55770-T293	<b>RDF600KN</b>
Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment, with KNX switching group, four buttons for switching lights and blinds	S55770-T400	<b>RDF600KN/S</b>
Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment for both round and square conduit boxes, black	S55770-T430	<b>RDF600KN/VB</b>

**Touch screen room thermostat with KNX communications, for 2-/4- pipe fan coil, universal applications or compressors in DX-type equipment****RDF800KN**

- KNX communications
- Operating modes: Comfort, Economy and Protection
- For heating and/or cooling applications
- 2 or 3-position control outputs
- Output for 1-speed or 3-speed fan
- 2 multifunctional inputs for keycard contact, external room / return air temperature (QAH11.1, QAA32), heat / cool changeover, window contact on/off, dewpoint monitor, electrical heater enabled, fault contact, presence detector
- Automatic or manual heating/cooling changeover
- Adjustable commissioning and control parameters
- Minimum and maximum setpoint limitation
- Color of housing: Ivory white
- Backlit display

Application selectable:

- 2-pipe system
- 2-pipe system with electrical heater
- 4-pipe system

Data sheet	N3174
Operating voltage	AC 230 V
Power consumption	6 VA
Setpoint setting range	5...40 °C
Switching differential	0.5...6 K
Communication	Bus: KNX (S-mode and LTE mode with Synco 700)
Analog inputs, number	2
Relay outputs	Fan: N.O. contacts, non-floating Valve: N.O. contacts, non-floating
Relay outputs, number	5
Relay output, switching voltage	AC 230 V
Relay output, switching current	5 (2) A
Type of fixing	With screws on recessed round conduit box diameter min. 60 mm
Degree of protection	IP30
Dimensions (W x H x D)	86 x 86 x 47 mm

Stock no.

Product no.

S55770-T350

**RDF800KN**



## Heating, ventilation and air conditioning - room temperature control

## Room thermostats

## Flush-mounted

## RDF870KN



## Touch Screen Flush-mount PM2.5 &amp; IAQ Controller with KNX

- AC 230 V operating voltage, large, backlit display
- Display and setpoint adjustment for PM2.5 and CO2 control
- Display of room temperature, outside temperature, VOC (volatile organic compound) and RH (relative humidity)
- Support 1-/3-/4-speed On/Off fan or DC fan output
- Two multifunctional inputs for external passive and DC 0...10 V sensors
- Operating modes: Comfort, Economy and Protection
- KNX S-Mode
- KNX commissioning via ETS or local control parameters
- KNX integration into Desigo via group (ETS) or individual addressing
- KNX integration into third-party system via group addressing (ETS)
- Mounting on recessed square 86 mm box or round 60 mm with 60 mm fixing centers and minimum 40 mm depth

## Application selectable:

- PM2.5 control only
- CO2 control only
- PM2.5 & CO2 controls (CO2 higher priority in control)
- Ventilation control

## 2x sensor inputs are selectable:

- 0: No function
- 1: Temperature (AI) (NTC 10k)
- 2: Temperature (AI) (0...10 V)
- 3: PM2.5 (AI) µg/m<sup>3</sup> (0...10 V)
- 4: CO2 (AI) ppm (0...10 V)
- 5: VOC (AI) % (0...10 V)
- 6: VOC (AI) mg/m<sup>3</sup> (0...10 V)
- 7: RH (AI) % (0...10 V)
- 8: Alarm input (DI)
- 9: Dummy AI (0...10 V) (RU only)

## Data sheet

Operating voltage  
Power consumption  
Communication  
Analog outputs  
Relay outputs

Degree of protection  
Dimensions (W x H x D)  
Color

A6V11439454

AC 230 V  
Max. 7.0 VA / 2.5 W  
KNX S-Mode  
DC 0...10 V for ECM fan output  
Fan: N.O. contacts, non-floating  
Valve: N.O. contacts, non-floating  
IP30  
86 x 86 x 47 mm  
White

Stock no.

Product no.

S55770-T407

RDF870KN

**Room thermostat with KNX communications, AC 230 V, for fan coil units and universal applications****RDG100KN**

- KNX communications
- 3 multifunctional inputs for keycard contact, external room / return air temperature (QAH11.1, QAA32), heat / cool changeover, operation mode changeover, window contact on/off, dewpoint monitor, electrical heater enabled, fault contact
- Operating modes: Comfort, Economy and Protection
- 2-position, 3-position or PWM control outputs
- Automatic or manual fan speed for 1-speed, 3-speed fan
- Automatic or manual heating / cooling changeover
- Adjustable commissioning and control parameters
- Minimum and maximum setpoint limitation
- Backlit display

Application selectable:

- 2-pipe system
- 2-pipe system with electrical heater
- 2-pipe system and radiator / floor heating
- 4-pipe system
- 4-pipe system with electrical heater
- 2-stage heating or cooling system

Data sheet	N3191
Operating voltage	AC 230 V
Power consumption	8 VA / 1 W
Setpoint setting range	5...40 °C
Switching differential	Heating: 0.5...6 K Cooling: 0.5...6 K
Communication	Bus: KNX (S-Mode und LTE-Mode mit Synco 700)
Analog inputs, number	2
Digital inputs, number	1
Relay outputs	Fan: 1- or 3-speed
Relay outputs, number	3
Relay output, switching voltage	AC 230 V
Relay output, switching current	5 (4) A
Triac outputs	Valve, el. heater 2-position, PWM, 3-position
Triac outputs, number	3
Triac output, switching voltage	AC 230 V
Triac output, switching current	Max. 1 A
Type of fixing	Wall mounting with screws
Degree of protection	IP30
Dimensions (W x H x D)	93 x 128 x 30.8 mm

Stock no.

Product no.

S55770-T163

**RDG100KN**

## Heating, ventilation and air conditioning - room temperature control

## Room thermostats

## Wall-mounted

## RDG160KN

**Room thermostat with KNX communications, AC 24 V, for fan coil units and universal applications, heat pump, fan (1-/ 3-speed, DC), valves (2-point, DC)**

- KNX communications
- For applications with DC control outputs and DC or 3-speed fan output
- For applications with 2-position control output with DC fan output
- 3 multifunctional inputs for keycard contact, external room / return air temperature (QAH11.1, QAA32), heat / cool changeover, operation mode changeover, window contact on/off, dewpoint monitor, electrical heater enabled, fault contact, presence detector
- Operating modes: Comfort, Economy and Protection
- Automatic or manual EC fan or 1-/3-speed
- Automatic or manual heating / cooling changeover
- Adjustable commissioning and control parameters
- Minimum and maximum setpoint limitation
- Backlit display
- Master / Slave function in KNX S-mode

## Application selectable:

- 2-pipe system
- 2-pipe system with electrical heater
- 2-pipe system and radiator / floor heating
- 4-pipe system
- 2-stage heating or cooling system
- Heating / cooling with 6-port ball valves

Data sheet	N3191
Operating voltage	AC 24 V
Power consumption	2 VA / 2 W
Setpoint setting range	5...40 °C
Switching differential	Heating: 0.5...6 K Cooling: 0.5...6 K
Communication	Bus: KNX (S-Mode und LTE-Mode mit Synco 700)
Analog inputs, number	2
Analog outputs	Valve, el. heater: 2
Analog outputs, number	Fan: 1 (ECM) 3
Analog output, signal	DC 0...10 V
Analog output, current	Max. ±1 mA
Digital inputs, number	1
Relay outputs	Valve, compressor or el. heater: 2 outputs, 2-position Fan: 1- or 3-speed
Relay outputs, number	3
Relay output, switching voltage	AC 24...230 V
Relay output, switching current	5 (4) A
Type of fixing	Wall mounting with screws
Degree of protection	IP30
Dimensions (W x H x D)	93 x 128 x 30.8 mm

Stock no.	Product no.
S55770-T297	<b>RDG160KN</b>

### Room thermostat with KNX communications and built-in humidity sensor and humidity control, AC 24 V, for fan coil units and universal applications, heat pump, fan (1-/ 3-speed, DC), valves (2-point, DC)

RDG165KN



- KNX communications
- For applications with DC control outputs and DC or 3-speed fan output
- For applications with 2-position control output with DC fan output
- 3 multifunctional inputs for keycard contact, external room / return air temperature (QAH11.1, QAA32), heat / cool changeover, Presence detector, window contact on/off, dewpoint monitor, electrical heater enabled, fault contact
- Operating modes: Comfort, Economy and Protection
- Automatic or manual EC fan or 1-/3-speed
- Automatic or manual heating / cooling changeover
- Adjustable commissioning and control parameters
- Minimum and maximum setpoint limitation
- Backlit display
- Built-in humidity sensor and humidity control

#### Application selectable:

- 2-pipe system
- 2-pipe system with electrical heater
- 2-pipe system and radiator / floor heating
- 4-pipe system
- 2-stage heating or cooling system

Data sheet	N3191
Operating voltage	AC 24 V
Power consumption	2 VA / 2 W
Setpoint setting range	5...40 °C
Switching differential	Heating: 0.5...6 K Cooling: 0.5...6 K
Communication	Bus: KNX (S-Mode und LTE-Mode mit Synco 700)
Analog inputs, number	2
Analog outputs	Valve, el. heater: 2 Fan: 1 (ECM)
Analog outputs, number	3
Analog output, signal	DC 0...10 V
Analog output, current	Max. ±1 mA
Digital inputs, number	1
Relay outputs	Valve, compressor or el. heater: 2 outputs, 2-position Fan: 1- or 3-speed
Relay outputs, number	3
Relay output, switching voltage	AC 24...230 V
Relay output, switching current	5 (4) A
Type of fixing	Wall mounting with screws
Degree of protection	IP30
Dimensions (W x H x D)	93 x 128 x 30.8 mm

Stock no.

Product no.

S55770-T347

RDG165KN

## Heating, ventilation and air conditioning - room temperature control

## Room thermostats

## Wall-mounted

## RDG405KN

**Room thermostat for temperature and air quality control with KNX communications, AC 24 V, VAV heating and cooling systems**

- KNX communications
- Output DC 0...10 V for VAV actuator and auxiliary output ON/OFF, PWM or 3-position or 3-position for VAV actuator and auxiliary output DC 0...10 V
- 2 multifunctional inputs for keycard contact, external room / return air temperature (1x, QAH11.1, QAA32), heat / cool changeover, operation mode changeover, window contact on/off, dewpoint monitor, electrical heater enabled, fault contact, presence detector
- 1 input DC 0...10 V for damper position feedback, for CO2 sensor
- Operating modes: Comfort, Economy and Protection
- Modulating PI control
- Control depending on the room or the return air temperature and air quality
- Automatic or manual heating / cooling changeover
- Adjustable commissioning and control parameters
- Minimum and maximum setpoint limitation
- Minimum and maximum limitation of air flow signal
- Output signal inversion (DC 0...10 V) as an option
- Backlit display

## Application selectable:

- Single-duct system
- Single-duct system with electrical heater
- Single-duct system and radiator / floor heating
- Single-duct system with heating / cooling coil

Data sheet	N3192
Operating voltage	AC 24 V
Power consumption	2 VA
Setpoint setting range	5...40 °C
Switching differential	Heating: 0.5...6 K Cooling: 0.5...6 K
Communication	Bus: KNX (S-mode and LTE mode with Synco 700)
Analog inputs, number	2
Analog outputs	VAV actuator, electric heater, valve
Analog outputs, number	1
Analog output, signal	DC 0...10 V
Analog output, current	Max. ±1 mA
Digital inputs, number	1
Triac outputs	VAV actuator, valve, el. heater 2-position, PWM, 3-position
Triac outputs, number	1
Triac output, switching voltage	AC 24 V
Triac output, switching current	Max. 1 A
Type of fixing	Wall mounting with screws
Degree of protection	IP30
Dimensions (W x H x D)	93 x 128 x 30.8 mm

Stock no.	Product no.
S55770-T348	<b>RDG405KN</b>



## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with integrated sensing and operation i-system

#### Temperature controller, i-system

UP 237K..

- Integrated room temperature sensors
- Control can be set as a two-point control and/or continuous-action control (P or PI algorithm), for heating only, for cooling only, or for heating and cooling mode
- Operating modes that can be switched via KNX: comfort mode, pre-comfort mode, energy-saving mode and frost or heat protection mode
- Presence pushbutton to locally switch between comfort and pre-comfort mode or comfort and energy-saving mode and to extend comfort mode after operating energy-saving or protection mode
- Pushbutton for switching over between manual and automatic mode
- The room temperature setpoint value for comfort mode can be set via an interchangeable rotary button (+/-) on the controller and via the KNX
- Basic setpoint of the room temperature for comfort mode which can be set via the KNX
- Setpoint value for comfort mode in °C which can be set via an interchangeable rotary button on the controller
- Adjustable dead zone between the heating setpoint and the cooling setpoint for comfort mode
- Two-level heating or cooling
- Output of the control variable(s) either as an on/off switch command or as a positioning command in the range of 0...100 %
- 5 LEDs to display manual mode and the current operating modes
- 4 LEDs to display heating/cooling valve open, dew point alarm and open window
- For plugging onto a bus transceiver module (BTM) or a flush-mounting actuator with bus transceiver module (BTM)



Data sheet

A6V10416651

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Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Temperature controller, titanium white	55 x 55 x 16	5WG1237-2KB11	<b>UP 237K11</b>

The bus transceiver module (BTM) (see Chapter System Products and Accessories) or flush-mounting actuator with bus transceiver module (BTM) must be ordered separately. The matching design frame must be ordered separately. See Chapter Display and Operation Units - Pushbutton accessories.

## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with integrated sensing and operation i-system

#### UP 227



#### Room Control Unit

- Multifunctional display-/control panel for KNX with Dot-Matrix LCD display 96 x 128 pixels
- 8 capacitive touch buttons for horizontal operation
- For the display and control of at least 10 adjustable room control functions: Switching toggle/On/Off, Dimming, Door bell function On/Off, Solar protection control; send 1 Byte/2 Byte value; display 1 Bit/1 Byte/2 Byte value; Forced control; display text messages; warning and alarm messaging; recall and save scenes; warning and alarm messaging
- Room control functions lockable via KNX-bus
- Green/red LED as orientation light, as status indication, as a response to pressing a button respectively to the signalling of alarm reports
- A signaller for acoustical alarm reports respectively as a status of the touch operation
- Integrated room temperature sensor
- Evaluation and weighting of an external inside temperature sensor
- Room temperature control configurable as two-step control and/or continuous control, for exclusive heating operation, exclusive cooling operation or heating and cooling operation
- Selectable operating modes over the KNX: Comfort, Pre-comfort, Energy-savings and protection
- Local indication
  - Of the active operating modes or automatic- respectively manual mode
  - Inside temperature or outside temperature
  - Heating or cooling mode
  - Dew point alarm
  - Open window
- Local switching between
  - Manual- and automatic mode
  - Comfort, pre-comfort, energy-saving- and protection mode
- Adjustable time-limited extension of the comfort mode
- Adjustable room temperature setpoint shifting for comfort mode
- Via KNX set basic setpoint value of the room temperature for comfort mode
- An outside temperature based temperature setpoint value tracing in the cooling operation
- Adjustable dead zone between the heating setpoint value and the cooling setpoint value for comfort mode
- Transmission of controller output(s) either as On/Off switching commands or as control commands in the range 0...100 %
- Local display of the manually selected fan rotational speed respectively of the automatic adjustment of the fan rotational speed
- Adjustable fan rotational speed respectively automatic adjustment of the fan rotational speed on the controller
- Weekly schedule programme for controller- operating modes, automatic mode and at the least 8 room control functions
- At the least 40 schedule tasks and Display and set of the date and time
- User control of LCD background lighting and Background color
- Display system settings and room temperature controller in the languages: German, English, French, Italian od Spanish
- User setting of at least 3 operating languages also Integrated bus coupling unit, bus connection via bus terminal possible
- Flush mounted device for the mounting in an flush wall box Ø 60 mm, for fixing on the mounting plate AQR2500NF via lateral springs (separately specified)

The matching design frame must be ordered separately. See chapter Display and Operation Units - Pushbuttons accessories.

The mounting plate AQR2500.. must be ordered separately.

Data sheet

A6V10416250

Dimensions (W x H x D)

55 x 55 x 37,2 mm

Stock no.

Product no.

5WG1227-2AB11

UP 227

# Heating, ventilation and air conditioning - room temperature control

## Room temperature controllers with integrated sensing and operation i-system

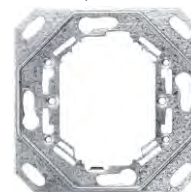
### Accessories for UP 227

#### Mounting plate EU (CEE/VDE)

- Mounting plates to plug onto the front module

Data sheet	N1408
Mechanical design	EU (CEE/VDE)
Dimensions (W x H)	70.8 x 70.8 mm

AQR2500NF



Stock no.	Product no.
S55720-S161	AQR2500NF

#### Mounting plate IT (3 modular)

- Mounting plates to plug onto the front module

Data sheet	N1408
Mechanical design	IT (3 modular)
Dimensions (W x H)	110 x 64 mm

AQR2500NG



Stock no.	Product no.
S55720-S163	AQR2500NG

#### Mounting plate US (UL)

- Mounting plates to plug onto the front module

Data sheet	N1408
Mechanical design	US (UL)
Dimensions (W x H)	64 x 110 mm

AQR2500NJ



Stock no.	Product no.
S55720-S164	AQR2500NJ

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## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with integrated sensing and operation

#### Wall-mounted

#### QMX3.P02



#### Room operator unit KNX with temperature sensor, configurable touchkeys, LED display, white

##### Functions:

- Temperature sensor
- Configurable touchkeys with LED display
- Switching and control of lighting, blinds, scenes
- Window for labels
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO2 concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO2)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO2)
- Setpoint for room temperature and relative humidity and CO2 concentration adjustable via KNX

Data sheet	N1602
Voltage supply	KNX bus
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link
	KNX S-Mode
Color	White
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.	Product no.
S55624-H107	<b>QMX3.P02</b>

## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with integrated sensing and operation

#### Wall-mounted

#### Room operator unit KNX with temperature sensor, configurable touchkeys, LED display, black

QMX3.P02-1BSC

##### Functions:

- Temperature sensor
- Configurable touchkeys with LED display
- Switching and control of lighting, blinds, scenes
- Window for labels
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO<sub>2</sub> concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO<sub>2</sub>)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO<sub>2</sub>)
- Setpoint for room temperature and relative humidity and CO<sub>2</sub> concentration adjustable via KNX



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Data sheet	N1602
Voltage supply	KNX bus
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link KNX S-Mode
Color	Black
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.	Product no.
S55624-H128	QMX3.P02-1BSC



## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with integrated sensing and operation

#### Wall-mounted

#### QMX3.P34



#### Room operator unit KNX with temperature sensor, segmented backlit display, touchkeys, white

##### Functions:

- Temperature sensor
- Segmented backlit display and touchkeys
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO<sub>2</sub> concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO<sub>2</sub>)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO<sub>2</sub>)
- Setpoint for room temperature and relative humidity and CO<sub>2</sub> concentration adjustable via KNX

Data sheet	N1602
Voltage supply	KNX bus
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link KNX S-Mode
Color	White
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.	Product no.
S55624-H105	<b>QMX3.P34</b>

## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with integrated sensing and operation

#### Wall-mounted

#### Room operator unit KNX with temperature sensor, segmented backlit display, touchkeys, black

QMX3.P34-1BSC



##### Functions:

- Temperature sensor
- Segmented backlit display and touchkeys
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO2 concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO2)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO2)
- Setpoint for room temperature and relative humidity and CO2 concentration adjustable via KNX

Data sheet	N1602
Voltage supply	KNX bus
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link KNX S-Mode
Color	Black
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H126

QMX3.P34-1BSC

## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with integrated sensing and operation

#### Wall-mounted

#### QMX3.P37



#### Room operator unit KNX with temperature sensor, segmented backlit display, configurable touchkeys, LED display, white

##### Functions:

- Temperature sensor
- Segmented backlit display and touchkeys
- Configurable touchkeys with LED display
- Switching and control of lighting, blinds, scenes
- Window for labels
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO<sub>2</sub> concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO<sub>2</sub>)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO<sub>2</sub>)
- Setpoint for room temperature and relative humidity and CO<sub>2</sub> concentration adjustable via KNX

Data sheet	N1602
Voltage supply	KNX bus
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link
	KNX S-Mode
Color	White
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.	Product no.
S55624-H108	<b>QMX3.P37</b>

## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with integrated sensing and operation

#### Wall-mounted

#### Room operator unit KNX with temperature sensor, segmented backlit display, configurable touchkeys, LED display, black

QMX3.P37-1BSC

##### Functions:

- Temperature sensor
- Segmented backlit display and touchkeys
- Configurable touchkeys with LED display
- Switching and control of lighting, blinds, scenes
- Window for labels
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO<sub>2</sub> concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO<sub>2</sub>)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO<sub>2</sub>)
- Setpoint for room temperature and relative humidity and CO<sub>2</sub> concentration adjustable via KNX



Data sheet	N1602
Voltage supply	KNX bus
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link KNX S-Mode
Color	Black
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

	Stock no.	Product no.
	S55624-H129	QMX3.P37-1BSC

## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with integrated sensing and operation

#### Wall-mounted

#### QMX3.P74



#### Room operator unit KNX with sensors for temperature, humidity, CO2, segmented backlit display, touchkeys, white

##### Functions:

- multisensor for temperature, humidity and CO2
- Segmented backlit display and touchkeys
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO2 concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO2)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO2)
- Setpoint for room temperature and relative humidity and CO2 concentration adjustable via KNX

##### Data sheet

N1602

##### Voltage supply

KNX bus

##### Measuring range

NTC: 0...50 °C

CO2: 400...10000 ppm

Humidity: 10%...95 % r.F.

##### Sensing element

Temperature sensor, CO2 sensor, relative humidity sensor

##### Measuring range, temperature

0...50 °C

##### Sensing element, temperature

NTC

##### Communication

KNX PL-Link

KNX S-Mode

##### Color

White

##### Mounting

Wall-mounting

##### Degree of protection

IP30

##### Dimensions (W x H x D)

88.4 x 133.4 x 18 mm

##### Stock no.

S55624-H106

##### Product no.

QMX3.P74



## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with integrated sensing and operation

#### Wall-mounted

#### Room operator unit KNX with sensors for temperature, humidity, CO2, segmented backlit display, touchkeys, black

**QMX3.P74-1BSC**

**Functions:**

- Multisensor for temperature, humidity and CO2
- Segmented backlit display and touchkeys
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO2 concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO2)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO2)
- Setpoint for room temperature and relative humidity and CO2 concentration adjustable via KNX

Data sheet	N1602
Voltage supply	KNX bus
Measuring range	NTC: 0...50 °C CO2: 400...10000 ppm Humidity: 10%...95 % r.F.
Sensing element	Temperature sensor, CO2 sensor, relative humidity sensor
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link KNX S-Mode
Color	Black
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.	Product no.
S55624-H127	<b>QMX3.P74-1BSC</b>

#### Accessories for QMX3..

##### Basic plate for conduit and cavity wall box

Basic plate for conduit box / cavity wall box with 68 mm diameter hole

20 pcs. per package

Data sheet	N1602
Dimensions (W x H)	80.5 x 115 mm

**QMX3.MP1**


Stock no.	Product no.
S55624-H110	<b>QMX3.MP1</b>

## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with integrated sensing i-system

#### AQR2530NNW



#### Front module for base module, without sensor

- Front module without sensor for plugging onto the Base module
- Matching the DELTA line and DELTA miro frame program

Data sheet	N1411
Color	Titanium white
Degree of protection	IP30
Dimensions (W x H)	55 x 55 mm

Stock no.

Product no.

S55720-S137

**AQR2530NNW**

Matching the DELTA line and DELTA miro frame program. See chapter Display and Operation Units.  
The relevant base modules must be ordered separately. See chapter Physical sensors.

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#### AQR2532NNW



#### Front module for base modules, temperature (active)

- Front module with sensor for plugging onto the Base module
- Matching the DELTA line and DELTA miro frame program

Data sheet	N1411
Measuring range, temperature	0...50 °C
Signal output temperature	Active
Color	Titanium white
Degree of protection	IP30
Dimensions (W x H)	55 x 55 mm

Stock no.

Product no.

S55720-S136

**AQR2532NNW**

Matching the DELTA line and DELTA miro frame program. See chapter Display and Operation Units.  
The relevant base modules must be ordered separately. See chapter Physical sensors.

## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with integrated sensing i-system

#### Front module for base modules, humidity and temperature (active)

AQR2535NNW

- Front module with humidity and temperature sensor for plugging onto the Base module
- Matching the DELTA line and DELTA miro frame program



Data sheet	N1411
Measurement range humidity	0...100 %
Sensing element, temperature	Active
Measuring range, temperature	0...50 °C
Signal output temperature	Active
Color	Titanium white
Degree of protection	IP30
Dimensions (W x H)	55 x 55 mm

Stock no.

Product no.

S55720-S141

AQR2535NNW

Matching the DELTA line and DELTA miro frame program. See chapter Display and Operation Units.  
The relevant base modules must be ordered separately. See chapter Physical sensors.

#### Front module for base module, humidity and temperature, with LED

AQR2535NNWQ

- Front module with humidity and temperature sensor and CO2 indicator for plugging onto the Base module
- Matching the DELTA line and DELTA miro frame program



Data sheet	N1411
Measurement range humidity	0...100 %
Sensing element, temperature	Active
Measuring range, temperature	0...50 °C
Signal output temperature	Active
Display	CO2 indicator by LED
Color	Titanium white
Degree of protection	IP30
Dimensions (W x H)	55 x 55 mm

Stock no.

Product no.

S55720-S219

AQR2535NNWQ

Matching the DELTA line and DELTA miro frame program. See chapter Display and Operation Units.  
The relevant base modules must be ordered separately. See chapter Physical sensors - Without KNX connection.

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## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with integrated sensing i-system

#### AQR2570..



#### Base module with KNX for temperature and humidity measurement

- Base module without sensor for plugging onto a front module
- 1 analog input to connect temperature sensors with NTC 10k sensing element to measure room, floor, or ceiling temperature
- 2 multifunctional binary inputs to connect window contacts or buttons
- Power supply via KNX bus, bus load < 5 mA
- Communication: KNX S-Mode, KNX PL-Link
- Temperature control as continuous control (PID algorithm) for pure heating operation, heating and cooling operation, and adjustable positioning variable as continuous positioning signal 0...100%, or as pulse-width modulated (PWM) switching signal On/Off,
- Ventilation control across 3 settable switching steps for relative humidity, and 3 switching signal objects On/Off, or one positioning signal object 0...100% to control a ventilation actor
- Via setpoints for room temperature and relative humidity adjustable via KNX bus
- Adjustable commissioning and control parameters
- Integrated bus coupler with programming button and LED

Data sheet

N1411

Voltage supply

KNX bus

Analog inputs, number

1

Analog inputs

Passive temperature sensor NTC 10k

Digital inputs, number

2

Digital inputs

Potential-free contacts

#### Range overview AQR2570..

Mechanical design	Dimensions (W x H)	Stock no.	Product no.
EU (CEE/VDE)	70.8 x 70.8 mm	S55720-S203	<b>AQR2570NF</b>
IT (3 Modular)	110 x 64 mm	S55720-S205	<b>AQR2570NG</b>
UK (British Standard)	83 x 83 mm	S55720-S204	<b>AQR2570NH</b>
US (UL)	64 x 110 mm	S55720-S206	<b>AQR2570NJ</b>

## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with integrated sensing i-system

#### Base modules with KNX for CO<sub>2</sub> measurement

AQR2576..

- Base module with maintenance and recalibration-free CO<sub>2</sub> sensor to plug onto a front module
- 1 analog input to connect temperature sensors with NTC 10k sensing element to measure room, floor, or ceiling temperature
- 2 multifunctional binary inputs to connect window contacts or buttons
- Power supply via KNX bus, bus load < 5 mA



- Communication: KNX S-Mode, KNX PL-Link

- Ventilation control across 3 settable switching steps for relative humidity & CO<sub>2</sub> concentration, and 3 switching signal objects On/Off, or one positioning signal object 0...100% to control a ventilation actor
- Temperature control as continuous control (PID algorithm) for pure heating operation, heating and cooling operation, and adjustable positioning variable as continuous positioning signal 0...100%, or as pulse-width modulated (PWM) switching signal On/Off
- Via setpoints for room temperature and relative humidity, and CO<sub>2</sub> concentration, adjustable via KNX bus
- Adjustable commissioning and control parameters
- Integrated bus coupler with programming button and LED



Data sheet	N1411
Voltage supply	KNX bus
Measuring range	CO <sub>2</sub> : 0...5000 ppm
Analog inputs, number	1
Analog inputs	Passive temperature sensor NTC 10k
Digital inputs, number	2
Digital inputs	Potential-free contacts

#### Range overview AQR2576..

Mechanical design	Dimensions (W x H)	Stock no.	Product no.
EU (CEE/VDE)	70.8 x 70.8 mm	S55720-S207	AQR2576NF
IT (3 Modular)	110 x 64 mm	S55720-S209	AQR2576NG
UK (British Standard)	83 x 83 mm	S55720-S208	AQR2576NH
US (UL)	64 x 110 mm	S55720-S210	AQR2576NJ

#### Remote sensor for AQR257..

Product Title	Data sheet	Stock no.	Product no.
Front module with passiv temperature measurement, LG-Ni1000	N1408	S55720-S133	AQR2531ANW
Mounting plate EU (CEE/VDE)	N1408	S55720-S161	AQR2500NF
Cable temperature sensor PVC 2 m, NTC 10k	N1831	BPZ:QAP1030.200	QAP1030.200



## Heating, ventilation and air conditioning - room temperature control

## Room temperature controllers with integrated sensing

## Wall-mounted

## QMX3.P30



## Room sensor KNX for temperature, white

## Functions:

- Temperature sensor
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO<sub>2</sub> concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO<sub>2</sub>)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO<sub>2</sub>)
- Setpoint for room temperature and relative humidity and CO<sub>2</sub> concentration adjustable via KNX

## Data sheet

## Voltage supply

## Measuring range, temperature

## Sensing element, temperature

## Communication

## Color

## Mounting

## Degree of protection

## Dimensions (W x H x D)

N1602

KNX bus

0...50 °C

NTC

KNX PL-Link

KNX S-Mode

KNX LTE-Mode

White

Wall-mounting

IP30

88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H103

QMX3.P30

## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with integrated sensing

#### Wall-mounted

#### Room sensor KNX for temperature, black

QMX3.P30-1BSC

##### Functions:

- Temperature sensor
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO<sub>2</sub> concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO<sub>2</sub>)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO<sub>2</sub>)
- Setpoint for room temperature and relative humidity and CO<sub>2</sub> concentration adjustable via KNX



Data sheet	N1602
Voltage supply	KNX bus
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link KNX S-Mode KNX LTE-Mode
Color	Black
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H123

QMX3.P30-1BSC

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## Heating, ventilation and air conditioning - room temperature control

## Room temperature controllers with integrated sensing

## Wall-mounted

## QMX3.P40



## Room sensor KNX for temperature and humidity, white

## Functions:

- Multisensor for temperature and humidity
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO<sub>2</sub> concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO<sub>2</sub>)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO<sub>2</sub>)
- Setpoint for room temperature and relative humidity and CO<sub>2</sub> concentration adjustable via KNX

## Data sheet

N1602

## Voltage supply

KNX bus

## Measuring range

NTC: 0...50 °C

Humidity: 10%...95 % r.F.

## Sensing element

Temperature sensor and humidity sensor

## Measuring range, temperature

0...50 °C

## Sensing element, temperature

NTC

## Communication

KNX PL-Link

KNX S-Mode

## Color

White

## Mounting

Wall-mounting

## Degree of protection

IP30

## Dimensions (W x H x D)

88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H116

QMX3.P40

## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with integrated sensing

#### Wall-mounted

#### Room sensor KNX for temperature and humidity, black

QMX3.P40-1BSC

##### Functions:

- Multisensor for temperature and humidity
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO<sub>2</sub> concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO<sub>2</sub>)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO<sub>2</sub>)
- Setpoint for room temperature and relative humidity and CO<sub>2</sub> concentration adjustable via KNX



Data sheet	N1602
Voltage supply	KNX bus
Measuring range	NTC: 0...50 °C Humidity: 10%...95 % r.F.
Sensing element	Temperature sensor, relative humidity sensor
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link KNX S-Mode
Color	Black
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H124

QMX3.P40-1BSC

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## Heating, ventilation and air conditioning - room temperature control

## Room temperature controllers with integrated sensing

## Wall-mounted

## QMX3.P70

## Room sensor KNX for temperature, humidity, CO2, white



## Functions:

- Multisensor for temperature, humidity and CO2
- Air quality indicator with LED
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO2 concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO2)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO2)
- Setpoint for room temperature and relative humidity and CO2 concentration adjustable via KNX

## Data sheet

N1602

## Voltage supply

KNX bus

## Measuring range

NTC: 0...50 °C

CO2: 400...10000 ppm

Humidity: 10%...95 % r.F.

## Sensing element

Temperature sensor, CO2 sensor, relative humidity sensor

## Measuring range, temperature

0...50 °C

## Sensing element, temperature

NTC

## Communication

KNX PL-Link

KNX S-Mode

KNX LTE-Mode

## Color

White

## Mounting

Wall-mounting

## Degree of protection

IP30

## Dimensions (W x H x D)

88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H104

**QMX3.P70**



## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with integrated sensing

#### Wall-mounted

#### Room sensor KNX for temperature, humidity, CO2, black

**QMX3.P70-1BSC**
**Functions:**

- multisensor for temperature, humidity and CO2
- Air quality indicator with LED
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO2 concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO2)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO2)
- Setpoint for room temperature and relative humidity and CO2 concentration adjustable via KNX



Data sheet	N1602
Voltage supply	KNX bus
Measuring range	NTC: 0...50 °C CO2: 400...10000 ppm Humidity: 10%...95 % r.F.
Sensing element	Temperature sensor, CO2 sensor, relative humidity sensor
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link KNX S-Mode KNX LTE-Mode
Color	Black
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

	Stock no.	Product no.
	S55624-H125	<b>QMX3.P70-1BSC</b>

**Accessories for QMX3..**

Product Title	Packaging unit	Data sheet	Stock no.	Product no.
Basic plate for conduit and cavity wall box		N1602	S55624-H110	<b>QMX3.MP1</b>

## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with detached operation

#### RXB

##### RXB2..



##### Room controller with KNX communication

The controllers are used for temperature control in individual rooms.

- For 2-pipe with changeover or 4-pipe fan coil systems
- For radiator and chilled ceiling (RXB24.1 only)
- Control of thermal valve actuators AC 24 V, PWM, valve actuators AC 24 V (3-position) as well as KNX bus actuators
- Potential-free relay contacts for fan speed control
- Connecting relay for electric heating (RXB22.1 und RXB39.1)
- KNX bus communication
- Connection to Design building automation and control system via PX KNX
- Commissioning with "Handy Tool" QAX34.3 or Synco ACS

Application description fan coil: CM110672

Application description RAD/CLC: CM110671

Data sheet	N3873
Operating voltage	AC 230 V
Frequency	50/60 Hz
Power consumption	Max. 12 VA
Control algorithm	PI
Communication	Bus: KNX (S-mode and LTE mode)
Service plug	Room unit: PPS2
Digital inputs, number	RXT20.1
Relay output, switching voltage	2
Relay output, switching current	AC 250 V
Triac outputs	5 (4) A
	PWM
	3-position
Triac output, switching voltage	AC 24 V
Triac output, switching current	0.5 A
Interface type	KNX-bus
Mounting	On DIN rail
	With screws
Mounting location	Ceiling voids with cover
	Fan coil
	Panel
Degree of protection	IP30
Dimensions (W x H x D)	113 x 167 x 62 mm

##### Range overview RXB2..

Product Title	Triac outputs, number	Relay outputs, number	Stock no.	Product no.
Room controller for 3-speed fan	4	3	BPZ:RXB21.1/FC-10	<b>RXB21.1/FC-10</b>
Room controller for 3-speed fan	4	3	BPZ:RXB21.1/FC-11	<b>RXB21.1/FC-11</b>
Room controller with 3-speed fan and electric heating coil	2	4	BPZ:RXB22.1/FC-12	<b>RXB22.1/FC-12</b>
Room controller for chilled ceilings and radiators	4	0	BPZ:RXB24.1/CC-02	<b>RXB24.1/CC-02</b>

The application determines the usable actuator (PWM /3-position) with the triac output

## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with detached operation

#### RXB

#### Room controller for fan-coil applications with KNX communication

RXB39.1/FC-13

The RXB39.1 room controller is used for temperature control in individual rooms.

- For 2-pipe and 4-pipe fan coil systems with or without changeover
- PI control
- KNX bus communication
- Connection to Desigo building automation and control system via PX KNX
- DC 0...10 V control of valve and actuators, fan (ECM), and electric heater
- 2 Potential-free relay contacts to release fan and electric heating
- Commissioning with ETS Professional, "Handy Tool" QAX34.3 or Synco ACS
- Operating voltage AC 230 V
- Plug-in screw terminals



Data sheet	N3875
Operating voltage	AC 230 V
Frequency	50/60 Hz
Power consumption	12 VA
Control algorithm	PI
Communication	Bus: KNX Room unit: PPS2
Service plug	ETS Professional, ACS, HandyTool
Analog inputs, number	2
Analog outputs, number	3
Analog output, signal	DC 0...10 V
Digital inputs, number	4
Relay outputs, number	1
Electric reheater relay	1
Relay output, switching voltage	AC 250 V
Relay output, switching current	5 (4) A
Mounting	On DIN rail
Mounting location	Ceiling voids with cover Fan coil Panel
Degree of protection	IP20
Dimensions (W x H x D)	152 x 120 x 62 mm

Stock no.

Product no.

S55373-C121

**RXB39.1/FC-13**

## Heating, ventilation and air conditioning - room temperature control

## Room temperature controllers with detached operation

## Accessories for RXB..

## RXZ20.1



## Terminal cover for RXB2../RXC2../RXM2..

Data sheet

N3834

Stock no.

Product no.

BPZ:RXZ20.1

RXZ20.1

## RXZ30.1

## Terminal cover for RXB3../RXC3../RXM3..

Data sheet

N3840

Stock no.

Product no.

BPZ:RXZ30.1

RXZ30.1

## QAX3..

## Room unit with PPS2 interface

Room units for acquiring the room temperature and operation of individual room control.

Voltage supply	PPS2
Power consumption	0.10 VA
Time constant	≤8 min
Measuring range, temperature	0...40 °C
Sensing element, temperature	NTC
Measurement accuracy	±0.25 K at 25 °C ±0.5 K at 5...30 °C
Setpoint readjustment range	±12 K
Mounting location	Indoors
Mounting	Directly on wall In recessed or top-mounted conduit box
Degree of protection	IP30

## QAX30.1



## Room unit with sensor and PPS2 interface

- Acquisition of room temperature

Data sheet

N1741

Dimensions (W x H x D)

90 x 100 x 32 mm

Stock no.

Product no.

BPZ:QAX30.1

QAX30.1

## QAX31.1



## Room unit with sensor, setpoint adjuster and PPS2 interface

- Acquisition of room temperature
- Setpoint adjuster for room temperature

Data sheet

N1741

Dimensions (W x H x D)

90 x 100 x 36 mm

Stock no.

Product no.

BPZ:QAX31.1

QAX31.1

## Heating, ventilation and air conditioning - room temperature control

### Room temperature controllers with detached operation

### Accessories for RXB..

#### Room unit with sensor, setpoint and operating mode selector and PPS2 interface

- Acquisition of room temperature
- Setpoint adjuster for room temperature
- Rocker switch for mode selection (Off / Auto)

Data sheet N1641  
Dimensions (W x H x D) 90 x 100 x 36 mm

QAX32.1



Stock no.	Product no.
BPZ:QAX32.1	QAX32.1

#### Room unit with sensor, setpoint and operating mode selector, fan speed selection, and PPS2 interface

- Acquisition of room temperature
- Setpoint adjuster for room temperature
- Rocker switch for mode selection (Off/Auto) and for manual fan control with fan coil systems (up to 3 speeds)

Data sheet N1642  
Dimensions (W x H x D) 90 x 100 x 36 mm

QAX33.1



Stock no.	Product no.
BPZ:QAX33.1	QAX33.1

#### Room unit with sensor, setpoint and operating mode selector, display and PPS2 interface

- Acquisition of room temperature
- Rocker switch for adjustment of room temperature setpoint
- Rocker switch for mode selection (Off/Auto) and for manual fan control with fan coil systems (up to 3 speeds)
- LCD with display of room temperature and control mode
- Together with the RXB controllers for parameter setting

Data sheet N1640  
Dimensions (W x H x D) 96 x 119 x 24 mm

QAX34.3



Stock no.	Product no.
BPZ:QAX34.3	QAX34.3

#### Universal setpoint adjuster with PPS2 interface

- Setpoint adjuster for room temperature

Data sheet N1646  
Dimensions (W x H x D) 48 x 48 x 15 mm

QAX39.1



Stock no.	Product no.
BPZ:QAX39.1	QAX39.1



## Heating, ventilation and air conditioning - room temperature control

## Room temperature controllers with detached operation

## Accessories for RXB..

## QAX84.1/PPS2



## Flush-mounted room unit complete with PPS2 interface and design frame

The set consists of:

- Operator unit,
- PPS2 bus coupling unit and
- Design frame DELTA line in titanium white.

Functionality:

- Acquisition of room temperature
- Switch for adjustment of room temperature setpoint
- Switch for mode selection (Off/Auto) and for manual fan control with fan coil systems (up to 3 speeds)
- LCD with display of room temperature and control mode

The room unit is complete with Siemens bezel DELTA-i line (titanium white).

Data sheet	N1649
Voltage supply	PPS2
Measuring range, temperature	0...40 °C
Sensing element, temperature	NTC
Mounting	Flush or wall-mounted conduit box
Degree of protection	IP30
Dimensions (W x H x D)	80 x 80 x 30.5 mm

Stock no. Product no.

BPZ:QAX84.1/PPS2 **QAX84.1/PPS2**

## Heating, ventilation and air conditioning - room temperature control

### Room sensors with KNX i-system

#### Pushbutton with scene controller and room temperature sensor, i-system

UP 223/..4

- Pushbutton in 3 pairs
- Horizontal operation
- Per pushbutton selectable function, scene controller
- LED for orientation light
- Labeling field
- Temperature sensor
- Connectable bus coupling unit (BTM) or flush-mounted actuators via BTI



Data sheet

A6V10416510

#### Range overview UP 223/..4

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Wall switch, triple, with status LED, neutral, with scene controller, with room temperature sensor, DELTA i-system, titanium white	55 x 55 x 11	5WG1223-2AB14	UP 223/14
Wall switch, triple, with status LED, neutral, with scene controller, with room temperature sensor, DELTA i-system, aluminum metallic	55 x 55 x 11	5WG1223-2AB34	UP 223/34

The bus transceiver module (BTM) (see Chapter System Products and Accessories) or flush-mounting actuator with bus transceiver module (BTM) must be ordered separately. The matching design frame must be ordered separately. See Chapter Display and Operation Units - Pushbutton accessories.

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## Heating, ventilation and air conditioning - room temperature control

## Room sensors with KNX

## DELTA style

## UP 287/..4



## Pushbutton with scene controller and room temperature sensor, DELTA style

- Pushbutton in 4 pairs
- Vertical operation
- Per pushbutton selectable function, scene controller
- LED for orientation light
- Labeling field
- Temperature sensor
- Connectable bus coupling unit (BTM) or flush-mounted actuators via BTI

Data sheet

A6V10416538

## Range overview UP 287/..4

Product Title	Dimensions (WxHxD) [mm]	Stock no.	Product no.
Wall switch, quadruple, with status LED, neutral, DELTA style, titanium white	68 x 68 x 14	5WG1287-2AB14	<b>UP 287/14</b>
Wall switch, quadruple, with status LED, neutral, DELTA style, platinum metallic	68 x 68 x 14	5WG1287-2AB44	<b>UP 287/44</b>
The bus transceiver module (BTM) (see Chapter System Products and Accessories) or flush-mounting actuator with bus transceiver module (BTM) must be ordered separately. The matching design frame must be ordered separately. See Chapter Display and Operation Units - Pushbutton accessories.			

## Heating, ventilation and air conditioning - room temperature control

## Room sensors with KNX

## GAMMA arina

**Touch sensor with status LED, scene controller and room temperature sensor,  
GAMMA arina, white**

UP 203/14

- Pair of touch areas for vertical operation
- Per touch area selectable function
- LED for orientation light
- Labeling field
- Room temperature sensor
- Integrated bus coupling unit



The mounting frame must be ordered separately. See **Accessories for Touch sensors**.

Data sheet

A6V10438647

Dimensions (W x H x D)

86 x 86 x 14 mm

Stock no.

Product no.

5WG1203-2DB14 UP 203/14

## Heating, ventilation and air conditioning - room temperature control

### Room sensors without KNX i-system

#### AQR253..



#### Front modules for base module

- Front module with sensors
- Matching the DELTA line and DELTA miro frame program

Data sheet	N1411
Color	Titanium white
Degree of protection	IP30
Dimensions (W x H)	55 x 55 mm

#### Range overview AQR253..

Measuring range, temperature [°C]	Signal output temperature	Measurement range humidity [%]	Display	Stock no.	Product no.
				S55720-S137	<b>AQR2530NNW</b>
0...50	Active			S55720-S136	<b>AQR2532NNW</b>
0...50	Active	0...100		S55720-S141	<b>AQR2535NNW</b>
0...50	Active	0...100	CO2 indicator by LED	S55720-S219	<b>AQR2535NNWQ</b>

Matching the DELTA line and DELTA miro frame program. See chapter Display and Operation Units.  
The relevant base modules must be ordered separately. See chapter Physical sensors.



## Heating, ventilation and air conditioning - room temperature control

## Room sensors without KNX

## Wall-mounted

## Room temperature sensor DC 0...10 V

QAA2061

Data sheet	N1749
Operating voltage	AC 24 V DC 13.5...35 V
Power consumption	≤ 1 VA
Measuring range, temperature	0...50 °C
Time constant	7 min
Measurement accuracy	At -50...50 °C: ±0.9 K
Connection, electrical	Screw terminals
Analog output, signal	DC 0...10 V
Degree of protection	IP30
Dimensions (W x H x D)	90 x 100 x 36 mm



Stock no.

Product no.

BPZ:QAA2061

QAA2061

## Room temperature sensor DC 0...10 V, with display

QAA2061D

\* Digital display

Data sheet	N1749
Operating voltage	AC 24 V DC 13.5...35 V
Power consumption	≤ 1 VA
Measuring range, temperature	0...50 °C
Time constant	7 min
Measurement accuracy	At -50...50 °C: ±0.9 K
Display	LCD
Connection, electrical	Screw terminals
Analog output, signal	DC 0...10 V
Degree of protection	IP30
Dimensions (W x H x D)	90 x 100 x 36 mm



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Stock no.

Product no.

BPZ:QAA2061D

QAA2061D

## Strap-on temperature sensor Pt1000

QAD2012

- Supplied complete with strap for pipe diameters from 15...140 mm.

Data sheet	N1801
Measuring range, temperature	-30...130 °C
Sensing element, temperature	Pt1000
Time constant	3 s
Connection, electrical	Screw terminals
Degree of protection	IP42
Dimensions (W x H x D)	60 x 67 x 43 mm



Stock no.

Product no.

BPZ:QAD2012

QAD2012

## Heating, ventilation and air conditioning - room temperature control

## Room sensors without KNX

## Wall-mounted

## QAA2012



## Room temperature sensor Pt1000

- Passive sensors for acquiring the temperature in rooms.

Data sheet	N1745
Sensing element, temperature	Pt1000
Time constant	7 min
Measuring range, temperature	0...50 °C
Measurement accuracy	At 0...50 °C: ±0.6 K
Connection, electrical	Screw terminals
Degree of protection	IP30
Dimensions (W x H x D)	90 x 100 x 32 mm

Stock no.

Product no.

BPZ:QAA2012

QAA2012

## QAC3161



## Outside/room temperature sensor DC 0...10 V

Active sensor for acquiring the outside temperature. For use in heating, ventilation and air conditioning plants.

The QAC31.. may be used as an high-quality room sensor.

Data sheet	N1814
Operating voltage	AC 24 V
	DC 13.5...35 V
Power consumption	≤ 1 VA
Sensing element, temperature	Pt1000
Measuring range, temperature	-50...50 °C
Measurement accuracy	At -50...50 °C: ±0.9 K
Time constant	20 min
Connection, electrical	Screw terminals
Analog output, signal	DC 0...10 V
Degree of protection	IP65
Dimensions (W x H x D)	80 x 88 x 39 mm

Stock no.

Product no.

BPZ:QAC3161

QAC3161

## Heating, ventilation and air conditioning - room temperature control

Actuators with KNX  
Electromotive valve actuators

## Electromotive valve actuator with LED valve position indication

AP 562/02

Electromotive, proportional (constant) valve actuator with LED valve position indication and with integrated bus coupling unit for direct connection to KNX:

- For latching to valve adapter
- Delivery with valve adapter rings suitable for Siemens (VDN../VEN.., VPD../VPE.., VD...CLC, V..I46.., V..P47..) Danfoss RA, Heimeier, MNG, Schlösser ab 3/93, Honeywell, Braukmann, Dumser (distribution board), Reich (distribution board), Oventrop, Herb, Onda
- Max. positioning force: 120 N
- Cable permanently connected to the enclosure for bus connection and two additional signaling contacts (e. g. window contacts), which can be connected as binary inputs
- For operation solely with the bus voltage, i. e. without external auxiliary power
- Maintenance-free, silent drive
- Automatic valve stroke detection, through which the actuator travel is adjusted to the valve used



Data sheet	A6V10416192
Number of channels	1
Relay outputs, number	2
Triac outputs, number	0
Dimensions (W x H x D)	50 x 82 x 65 mm

Stock no.

Product no.

5WG1562-7AB02 AP 562/02

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## Heating, ventilation and air conditioning - room temperature control

## Actuators with KNX

## Damper and rotary actuators

## G..B181.1E/KN



## VAV compact controller KNX

- Compact controller with KNX communication for plants with variable or constant air volume flow
- Integrated, highly precise differential pressure sensor, damper actuator and digitally configurable air volume controller
- Nominal torque 5 or 10 Nm
- Air damper rotation angle mechanically adjustable between 0 and 90°
- Configurable as single device per room or for cascade control with pressure ratio 1:1, positive pressure, or negative pressure
- Prewired with a 0.9 m cable and a 0.9 m cable

Can be configured as damper actuator (without air volume control) with ETS.



Data sheet	N3547
Angular rotation	90 °
Positioning time	150 s
Communication	KNX S-Mode KNX LTE-Mode KNX PL-Link
Cable length	0.9 m
Degree of protection	IP54
Dimensions (W x H x D)	71 x 158 x 61 mm

## Range overview G..B181.1E/KN

Torque [Nm]	Operating voltage [V]	Air damper area [m²]	Power consumption	Stock no.	Product no.
5	AC 24	0.8	3 VA 2.5 W	S55499-D134	GDB181.1E/KN
5	AC 24	0.8	3 VA 2.5 W	S55499-D505	GDB181.1EMKN
10	AC 24	1.5	3 VA 2.5 W	S55499-D135	GLB181.1E/KN

GDB181.EMKN packaging unit 18 pieces.

Basic Documentation No.: P3547

## Heating, ventilation and air conditioning - room temperature control

Actuators with KNX  
Damper and rotary actuators**Electromotoric rotary actuator KNX for control ball valves up to DN25****GDB111.9E/KN**

Electromotoric rotary actuator

- for KNX S-Mode or KNX PL-Link communication
- for 2-/3-port control ball valves up to DN25
- for 6-port control ball valves up to DN25
- without spring-return
- pre-wired with two 0.9 m connection cables

Operating Mode 1:

- Use of two separate setpoints 0..100% for heating and cooling

Operating Mode 2:

- Use of one setpoint 0..100% for actuator position



Data sheet	A6V10725318
Torque	5 Nm
Angular rotation	90 °
Power consumption	3 VA
	2.5 W
Positioning time	150 s
Cable length	0.9 m
Communication	KNX S-Mode or KNX PL-Link
Positioning signal	KNX S-Mode or KNX PL-Link
Spring return function	No
Degree of protection	IP54
Dimensions (W x H x D)	88 x 112 x 143 mm
Mounting position	Horizontal or vertical
Operating voltage	AC 24 V
Position feedback	KNX S-Mode or KNX PL-Link
Auxiliary switch	0

Stock no.

Product no.

S55499-D203

**GDB111.9E/KN****Electromotoric rotary actuator KNX for control ball valves up to DN50****GLB111.9E/KN**

Electromotoric rotary actuator

- for KNX S-Mode or KNX PL-Link communication
- for 2-/3-port control ball valves up to DN50
- without spring-return
- pre-wired with two connection cables



Data sheet	A6V10725318
Torque	10 Nm
Angular rotation	90 °
Power consumption	3 VA
	2.5 W
Positioning time	150 s
Cable length	0.9 m
Communication	KNX S-Mode or KNX PL-Link
Positioning signal	KNX S-Mode or KNX PL-Link
Spring return function	No
Degree of protection	IP54
Dimensions (W x H x D)	88 x 112 x 143 mm
Mounting position	Upright to horizontal
Operating voltage	AC 24 V
Position feedback	KNX S-Mode or KNX PL-Link
Auxiliary switch	0

Stock no.

Product no.

S55499-D207

**GLB111.9E/KN**



## Heating, ventilation and air conditioning - room temperature control

## Actuators without KNX

## Electrothermal valve actuators

## STA..3



## Electrothermal actuators with/ without connecting cable for radiator, small, and zone valves

Electrothermal actuators, stem opened in a deenergized state, with or without connection cable for:

- Radiator valves VDN.., VEN.., VUN..
- MCV MiniCombiValves VPD.., VPE..
- Small valves VD1..CLC..
- Zone valves V..I46..
- Combi valves VPP46.., VPI46..
- Valves of other manufacturers

Actuators without connecting cable can be equipped with:

- Connecting cable up to 15 m, halogen-free up to 10 m
- Connecting cable with LED operation indicator
- Connecting cable with auxiliary switch or DC 0...10 V module

The given positioning time refers to the maximum stroke of 4.5 mm.

Data sheet	N4884
Stroke	4.5 mm
Degree of protection	IP54
Mounting position	Any, 360°
Power consumption	2.5 W

## Range overview STA..3

Operating voltage [V]	Positioning time [s]	Positioning signal	Cable length [m]	Stock no.	Product no.
AC 230	210	2-position	1	S55174-A101	<b>STA23</b>
AC 24	270	DC 0...10 V	2	S55174-A104	<b>STA63</b>
AC 24 V	270	2-position	1	S55174-A100	<b>STA73</b>
DC 24		PDM			

The given positioning time is related to the maximum stroke of 4.5 mm.

## Heating, ventilation and air conditioning - room temperature control

### Actuators without KNX

### Electrothermal valve actuators

#### Electrothermal actuators with and without connecting cable for small valves

STP..3

Electrothermal actuators, stem closed in a deenergized state, with or without connection cable for:

- Small valves V..P47..
- Valves of other manufacturers



Actuators without connecting cable can be equipped with:

- Connecting cable up to 15 m, halogen-free up to 10 m
- Connecting cable with LED operation indicator
- Connecting cable with auxiliary switch or DC 0...10 V module

Data sheet	N4884
Stroke	4.5 mm
Degree of protection	IP54
Mounting position	Any, 360°
Power consumption	2.5 W

#### Range overview STP..3

Operating voltage [V]	Positioning time [s]	Positioning signal	Cable length [m]	Stock no.	Product no.
AC 230	210	2-position	1	S55174-A103	<b>STP23</b>
AC 24	270	DC 0...10 V	2	S55174-A105	<b>STP63</b>
AC 24 DC 24	270	2-position PDM	1	S55174-A102	<b>STP73</b>

The given positioning time is related to the maximum stroke of 4.5 mm.

## Heating, ventilation and air conditioning - room temperature control

### Actuators without KNX

#### Electromotoric valve actuators

##### SSA..



##### Electromotoric actuators 100 N for valves with 2.5/5 mm stroke

For radiator valves, small valves and Combi valves

Electromotoric actuators for modulating or 3-position control of heating systems, chilled ceilings and terminal units. With automatic stroke adaption, force-dependent switching off in the end position, position indication, manual control and plug-in type connecting cable. Suited for use with Siemens radiator valves VDN../VEN../VUN../VPD../VPE.., Siemens small valves VD1..CLC and on radiator valves with M30 x 1.5 connection (Heimeier, Cazzaniga, Oventrop M30x1,5, Honeywell-Braukmann, MNG, Junkers, Beulco new). Further valves of other manufacture on request. Suited for Siemens Combi valves VPP46../VPI46.. with 2.5 and 5 mm stroke.

For fitting to the valve: Cap nut M30 x 1.5

SSA61...: 1.5 mm minimal stroke required for self calibration

Data sheet	N4893
Stroke	2.5 mm 5 mm
Positioning force	100 N
Degree of protection	IP40
Medium temperature	1...110 °C
Mounting position	Upright to 90° inclined

##### Range overview SSA..

Operating voltage [V]	Positioning signal	Power consumption [VA]	Auxiliary switch	Cable length [m]	Stock no.	Product no.
AC 230	3-position	6	0	1.5	BPZ:SSA31	<b>SSA31</b>
AC 24 DC 24	DC 0...10 V	2.5	0	1.5	BPZ:SSA61	<b>SSA61</b>
AC 24	3-position	0.8	0	1.5	BPZ:SSA81	<b>SSA81</b>

Positioning time for 2.5 mm stroke.

Auxiliary switch: Changeover contact AC 250 V, 1 A res., 0.5 A ind., adjustable switching point 0...100 %

## Central control unit for room controllers and room thermostats

## RMB795B-1



- Central control unit with integrated control and supervisory functions for individual room control with RXB room controllers and room thermostats RDG/RDF
- Central collection of heating and cooling demands from any KNX room controllers
- Control of any HVAC primary controllers in dependence on the received and calculated heating/cooling demands
- Individual time programs for room groups
- Preselected operating modes and setpoints, minimum / maximum temperature supervision and supervision of RXB room controllers and room thermostats RDG/RDF
- Trend and fault reporting functions for the input variables temperature, relative / absolute humidity, pressure / differential pressure, volumetric air flow, indoor air quality, etc.
- Heating / cooling changeover function for operation with 2-pipe systems
- Flexible configuration
- Clear-text operation with separate operator unit (plug-in type or detached)
- Integrated KNX bus communication
- No commissioning tool required

The RMB795B-1 supports the languages: English, German, French, Italian, Spanish, Portuguese, Dutch, Danish, Finnish, Norwegian, Swedish, Polish, Czech, Hungarian, Russian, Slovak, Bulgarian, Greek, Romanian, Slovenian, Serbian, Croatian, Turkish, Chinese.

Extension modules complement the central control unit and offer extra functions. They are attached to the controller via plug-in connectors. The extension modules do not operate autonomously. The operation of the device from commissioning to enduser operation can be done via the operator unit.

Available extension modules:

- 1 universal module RMZ785
- 2 universal modules RMZ787

A total of 3 extension modules can simultaneously be used with the central control unit.

Available operator units:

- Plug-in type operator unit RMZ790
- Detached operator unit RMZ791
- Bus operator unit RMZ792

Data sheet	N3122
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	12 VA
Communication	KNX (KNX TP1)
Analog outputs, number	2
Analog output, signal	DC 0...10 V
Analog output, current	Max. 1 mA
Universal inputs, number	6
Universal input, signal	2 x LG-Ni1000 DC 0...10 V Potential-free digital status contact LG-Ni1000 Pt1000 T1 (PTC)
Relay outputs, number	4
Relay output, switching voltage	AC 19...250 V
Relay output, switching current	4 (3) A
Degree of protection	IP20
Dimensions (W x H x D)	173 x 90 x 80 mm

Stock no.

Product no.

S55370-C162

RMB795B-1

## Heating, ventilation and air conditioning - room temperature control

## Other products

## Window contacts

## S 290/11



## Door/window contact, white

- Opening alarm for the monitoring of windows and doors, comprising:
  - 1 magnet (Ø 8 x 30 mm)
  - 1 magnetically operated contact in a fully cast plastic enclosure (Ø 8 x 30 mm)
  - Switching voltage: max. DC 110 V
  - Switching current: 10...100 mA
  - Contact current carrying capacity: max. 5 W
  - Contact resistance: max. 150 mW
  - VdS-class B
  - 5 m long connection cable LiYY 4 x 0,14 mm<sup>2</sup>
- Suitable for flush and surface mounting
- 2 surface-mounting enclosure tops (43 x 12 x 12 mm)
- 2 surface-mounting enclosure bottoms
- 4 spacer plates (thickness: 2 x 4 mm or 2 x 2 mm)
- 2 flush-mounting flanges
- 4 antimagnetic countersunk self-tapping screws DIN 7982-ST2, 9 x 16-A2

Data sheet

A6V11793756

Dimensions (W x H x D)

43 x 12 x 12 mm

Stock no.

Product no.

5WG1290-7AB11

**S 290/11**



**Dual sensor for brightness measurement, temperature measurement, sun protection control, lighting control**

AP 254/02

- Brightness measurement, temperature measurement, sun protection control, lighting control
- For the detection and transmission of brightness and temperature
  - Temperature measuring range -25 °C...+55 °C
  - Brightness measuring range 1 Lux...100 kLux
  - Horizontal sensing angle -60°...+60°, vertical -35°...+66.5°
- For the control of switch, dimming and shutter/blind actuators, depending on the ambient luminosity and/or ambient temperature
- One sun protection channel for the automatic control of sun protection equipment, with
  - Starting and stopping of automation by means of an object or a dusk threshold
  - Up to three brightness thresholds for determining the height and position of the shutters/blinds or roller shutters
  - Optional teach-in of dusk thresholds and brightness thresholds by means of a teach-in facility
  - Blocking object for the temporary deactivation of the sun protection channel function
- Up to four universal channels for the control of switch, dimming and shutter/blind actuators, depending on ambient luminosity and/or temperature. Optionally available with:
  - Threshold switches for brightness
  - Threshold switches for temperature
  - Threshold switches with logical combination of brightness and temperature
  - Optional teach-in of brightness threshold for each universal channel by means of an associated teach-in facility
  - Deactivation option for each universal channel by means of an associated blocking object (1 bit)
  - Optional second object for transmission of a second telegram on fulfillment of threshold conditions
- Bus-powered electronics
- Integrated bus coupling units
- Bus connection via bus terminal
- Surface mounting
- Degree of protection: IP54



7

Data sheet A6V10416100  
 Dimensions (W x H x D) 72 x 110 x 54 mm

Stock no. Product no.  
 5WG1254-3EY02 AP 254/02

**Outside sensor Pt1000**

QAC2012

- For acquiring the outside temperature and – to a lesser degree – solar radiation, the effect of wind and the temperature of the wall.



Data sheet N1811  
 Measuring range, temperature -50...70 °C  
 Sensing element, temperature Pt1000  
 Time constant 14 min  
 Measurement accuracy At 0 °C: ±0.3 K  
 Connection, electrical Screw terminals  
 Material Plastic (ASA)  
 Degree of protection IP54  
 Dimensions (W x H x D) 80 x 92 x 50 mm

Stock no. Product no.  
 BPZ:QAC2012 QAC2012

## Heating, ventilation and air conditioning - room temperature control

## Other products

## Outside temperature sensors

## QAC3161



## Outside/room temperature sensor DC 0...10 V

Active sensor for acquiring the outside temperature. For use in heating, ventilation and air conditioning plants.

The QAC31.. may be used as an high-quality room sensor.

Data sheet	N1814
Operating voltage	AC 24 V DC 13.5...35 V
Power consumption	≤ 1 VA
Sensing element, temperature	Pt1000
Measuring range, temperature	-50...50 °C
Measurement accuracy	At -50...50 °C: ±0.9 K
Time constant	20 min
Connection, electrical	Screw terminals
Analog output, signal	DC 0...10 V
Degree of protection	IP65
Dimensions (W x H x D)	80 x 88 x 39 mm

Stock no.

Product no.

BPZ:QAC3161

QAC3161

**Condensation monitor**

QXA21..

For preventing condensation in buildings with chilled ceilings or in cooling plants.



Data sheet	A6V10741072
Operating voltage	AC 24 V DC 24 V
Power consumption	1 VA
Digital outputs	1-pin Potential-free Changeover contact
Switching point	95 ± 4 % r.h.
Connection, electrical	Screw terminals
Digital output, switching voltage	AC/DC 1...30 V
Digital output, switching current	0.02...1 (1) A
Degree of protection	IP40
Dimensions (W x H x D)	60 x 83 x 37 mm

**Range overview QXA21..**

Product Title	Stock no.	Product no.
Condensation monitor	S55770-T375	<b>QXA2100</b>
Condensation monitor with remote sensor head (cable length 1 m)	S55770-T376	<b>QXA2101</b>



# Heating, ventilation and air conditioning - primary control



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## Heating, ventilation and air conditioning - primary control

### Overview and selection tools

#### KNX - One system for all types of applications

##### Synco tool – support functions for quick commissioning

To facilitate commissioning, the Synco tool offers you a host of help functions and choices: Diagnostics including trending, for example, straightforward fault tracing thanks to access to all data points of all controllers, saving all settings on the PC, or printing commissioning reports.

##### Synco operating – efficient operation of plant with straightforward remote control

Thanks to the Synco web server, plant operation and monitoring can be effected from a PC or smartphone at any time and from any location. An alarm system delivers fault status or maintenance messages in due time, also via SMS or e-mail, if required. The app allows your customers operation from underway or from the sofa.

##### Simple concept for opening communication

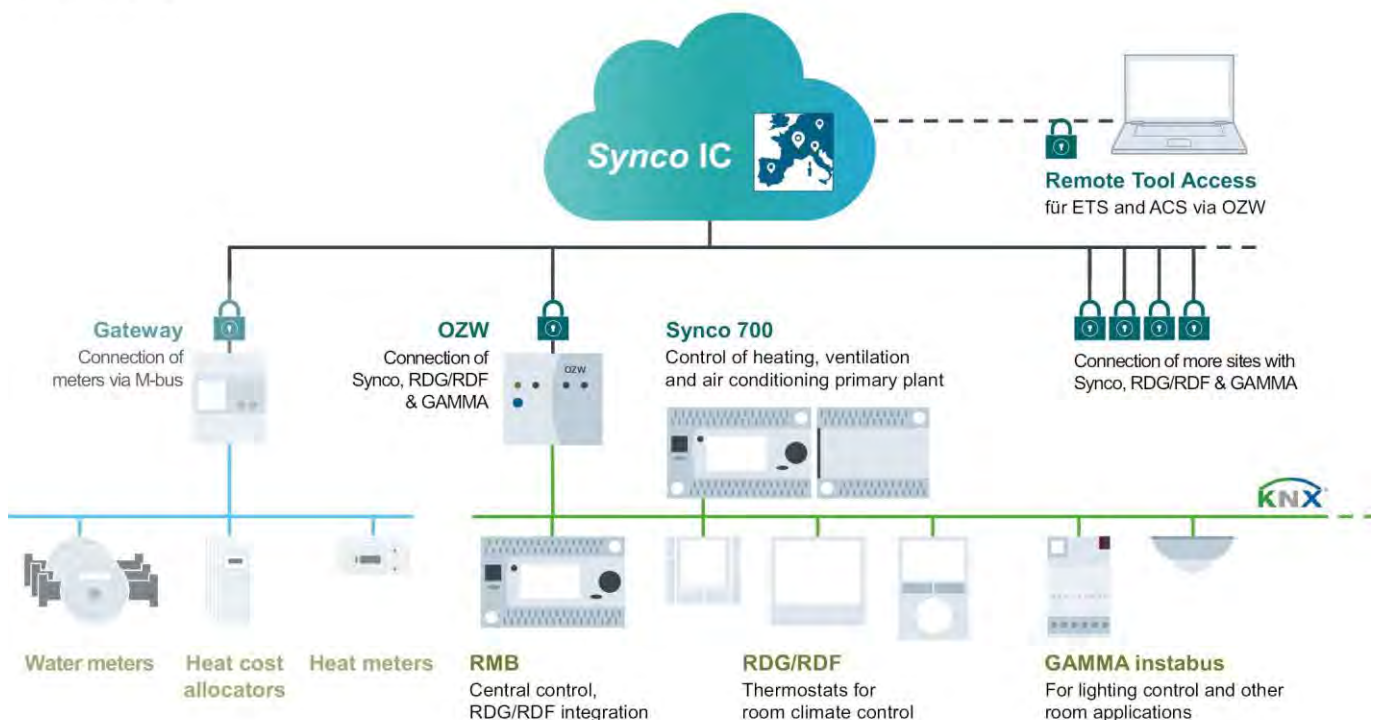
With Synco, defining and commissioning of communication is child's play: Simply inter-connect the units, activate the bus power supply on the controller and set the device address. All relevant settings can be made directly via local operation.

##### GAMMA Building Control - simply add more functionality with KNX

With KNX, the functionalities of the system can be significantly enlarged, for example with lighting or shading control. The GAMMA portfolio offers corresponding actuators, sensors and interfaces, for example DALI and BACnet. Commissioning of those extensions is done with ETS (Engineering Tool Software). For example, simultaneous control of the ventilation system and of lighting via the same presence detectors, is possible.

##### Synco IC - easy and secure remote access



Synco IC is a web-based remote access system. Just connect your web server with the internet, create your account on the [www.siemens-syncoic.com](http://www.siemens-syncoic.com) and enter the key for your web server. Setting up a secure internet access to your plant is therefore child's play.



# Heating, ventilation and air conditioning - primary control

## Overview and selection tools

### Product details communicating controllers Synco™

Type													
	RMB795B-1	RMH760B-1	RMK770-1	RMU..			RMS705B-1	RMZ..					
				710B-1	720B-1	730B-1		782B	783B	785	787	788	789
	Central control unit RMB795B for room controllers and room thermostats	Modular heating controller max. 3 heating circuit	Boiler sequence controller	Modular universal controller, 1 control loop	Modular universal controller, 2 control loops	Modular universal controller, 3 control loops	Switching and Monitoring Device	Heating circuit module 3UI, 3DO, 1AO	DHW module 4UI, 5DO, 1AO	Universal module, 8UI	Universal module, 4UI, 4DO	Universal module, 4UI, 2DO, 2AO	Universal module, 6UI, 2AO, 4DO
Operation	■ <sup>1)</sup>	■ <sup>1)</sup>	■ <sup>1)</sup>	■ <sup>1)</sup>	■ <sup>1)</sup>	■ <sup>1)</sup>	■ <sup>1)</sup>						
KNX communication	■	■	■	■	■	■	■						
7-day time switch and holiday/special day programm	■	■	■	■	■	■	■						
Supervision	■	■	■	■	■	■	■						
Logic functions	■	■	■	■	■	■	■						
<b>Outputs</b>													
Step switch		■	■	■	■	■	■						
Relay	4	5	7	2	4	6	6	3	5		4	2	4
3-position		1	3					1	1				2
DC 0...10 V	2	2	2	2	3	4	4	1	1			2	2
<b>Universal inputs</b>													
T1	■	■	■	■	■	■	■	■	■	■	■	■	■
Pt1000	■	■	■	■	■	■	■	■	■	■	■	■	■
DC 0...10 V	■	■	■	■	■	■	■	■	■	■	■	■	■
Digital	■	■	■	■	■	■	■	■	■	■	■	■	■
LG-Ni 1000	■	■	■	■	■	■	■	■	■	■	■	■	■
Number of universal inputs	6	6	8	6	8	8	8	3	4	8	4	4	6
<b>Controlled variable</b>													
Universal	■	■	■	■	■	■	■						
Temperatur °C	■	■	■	■	■	■	■						
<b>Control mode</b>													
PID		■	■	■	■	■	■						
P/PI		■	■	■	■	■	■						
<b>Control loops</b>													
Cascade		■	■	■	■	■							
Number		6	7	1	2	3	3						

■<sup>1)</sup> Optional operation:  
 RMZ790: Plug-in operator unit  
 RMZ791: Detached operator unit  
 RMZ792: Bus operator unit

AO Analog output  
 DO Digital output  
 UI Universal inputs

## Heating, ventilation and air conditioning - primary control

### Communicating controllers - Synco™ 700

#### Central control unit RMB795B..

##### RMB795B-1



##### Central control unit for room controllers and room thermostats

- Central control unit with integrated control and supervisory functions for individual room control with RXB room controllers and room thermostats RDG/RDF
- Central collection of heating and cooling demands from any KNX room controllers
- Control of any HVAC primary controllers in dependence on the received and calculated heating/cooling demands
- Individual time programs for room groups
- Preselected operating modes and setpoints, minimum / maximum temperature supervision and supervision of RXB room controllers and room thermostats RDG/RDF
- Trend and fault reporting functions for the input variables temperature, relative / absolute humidity, pressure / differential pressure, volumetric air flow, indoor air quality, etc.
- Heating / cooling changeover function for operation with 2-pipe systems
- Flexible configuration
- Clear-text operation with separate operator unit (plug-in type or detached)
- Integrated KNX bus communication
- No commissioning tool required

The RMB795B-1 supports the languages: English, German, French, Italian, Spanish, Portuguese, Dutch, Danish, Finnish, Norwegian, Swedish, Polish, Czech, Hungarian, Russian, Slovak, Bulgarian, Greek, Romanian, Slovenian, Serbian, Croatian, Turkish, Chinese.

Extension modules complement the central control unit and offer extra functions. They are attached to the controller via plug-in connectors. The extension modules do not operate autonomously.

The operation of the device from commissioning to enduser operation can be done via the operator unit.

Available extension modules:

- 1 universal module RMZ785
- 2 universal modules RMZ787

A total of 3 extension modules can simultaneously be used with the central control unit.

Available operator units:

- Plug-in type operator unit RMZ790
- Detached operator unit RMZ791
- Bus operator unit RMZ792

Data sheet	N3122
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	12 VA
Communication	KNX (KNX TP1)
Analog outputs, number	2
Analog output, signal	DC 0...10 V
Analog output, current	Max. 1 mA
Universal inputs, number	6
Universal input, signal	2 x LG-Ni1000 DC 0...10 V Potential-free digital status contact LG-Ni1000 Pt1000 T1 (PTC)
Relay outputs, number	4
Relay output, switching voltage	AC 19...250 V
Relay output, switching current	4 (3) A
Degree of protection	IP20
Dimensions (W x H x D)	173 x 90 x 80 mm

Stock no.	Product no.
S55370-C162	RMB795B-1

# Heating, ventilation and air conditioning - primary control

## Communicating controllers - Synco™ 700

### Heating controller RMH760B..

#### Heating controller

**RMH760B-1**

- Heating controller as primary controller or main controller (district heat) or heating circuit controller
- Boiler temperature control
- Control of max. 3 heating circuits and DHW heating (7 variants available) with optional extension modules
- Tested, predefined applications (refer to Application Catalog)
- Flexible configuration
- Clear-text operation with separate operator unit (plug-in type or detached)
- Integrated KNX bus communication
- No commissioning tool required



The RMH760B-1 supports the languages: English, German, French, Italian, Spanish, Portuguese, Dutch, Danish, Finnish, Norwegian, Swedish, Polish, Czech, Hungarian, Russian, Slovak, Bulgarian, Greek, Romanian, Slovenian, Serbian, Croatian, Turkish.

Extension modules complement the heating controller and offer extra functions. They are attached to the controller via plug-in connectors. The extension modules do not operate autonomously. The operation of the device from commissioning to enduser operation can be done via the operator unit.

Available extension modules:

- 2 heating circuit modules RMZ782B
- 1 DHW module RMZ783B
- 1 universal module RMZ787
- 2 universal modules RMZ789

A total of 4 extension modules can simultaneously be used with the heating controller.

Available operator units:

- Plug-in type operator unit RMZ790
- Detached operator unit RMZ791
- Bus operator unit RMZ792

Data sheet	N3133
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	12 VA
Communication	KNX (KNX TP1)
Analog outputs, number	2
Analog output, signal	DC 0...10 V
Analog output, current	Max. 1 mA
Universal inputs, number	6
Universal input, signal	T1 (PTC) Pt1000 Potential-free digital status contact NTC 575 LG-Ni1000 Digital pulse contact DC 0...10 V 2 x LG-Ni1000 1000...1175 Ohm 0...1000 Ohm
Relay outputs, number	5
Relay output, switching voltage	AC 19...250 V
Relay output, switching current	4 (3) A
Degree of protection	IP20
Dimensions (W x H x D)	173 x 90 x 80 mm

Stock no.

Product no.

BPZ:RMH760B-1

RMH760B-1



## Heating, ventilation and air conditioning - primary control

## Communicating controllers - Synco™ 700

## Boiler sequence controller RMK770..

## RMK770-1



## Boiler sequence controller

Modular heating controller with integrated control and supervisory functions for:

- Up to 6 boilers, multistage or modulating burners
- Precontrol, heating circuit
- Tested, predefined applications (refer to Application Catalog)
- Flexible configuration
- Clear-text operation with separate operator unit (plug-in type or detached)
- Integrated KNX bus communication
- No commissioning tool required

The RMK770-1 supports the languages: English, German, French, Italian, Spanish, Portuguese, Dutch, Danish, Finnish, Norwegian, Swedish, Polish, Czech, Hungarian, Russian, Slovak, Bulgarian, Greek, Romanian, Slovenian, Serbian, Croatian, Turkish.

Extension modules complement the boiler sequence controller and offer extra functions. They are attached to the controller via plug-in connectors. The extension modules do not operate autonomously. The operation of the device from commissioning to enduser operation can be done via the operator unit.

Available extension modules:

- 3 universal modules RMZ785
- 3 universal modules RMZ787
- 3 universal modules RMZ788
- 3 universal modules RMZ789

A total of 3 extension modules can simultaneously be used with the boiler sequence controller.

Available operator units:

- Plug-in type operator unit RMZ790
- Detached operator unit RMZ791
- Bus operator unit RMZ792

Data sheet	N3132
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	12 VA
Communication	KNX (KNX TP1)
Analog outputs, number	2
Analog output, signal	DC 0...10 V
Analog output, current	Max. 1 mA
Digital inputs, number	2
Digital inputs	Potential-free input signal
Digital input, contact query	5 mA
	DC 15 V
Universal inputs, number	8
Universal input, signal	T1 (PTC)
	Pt1000
	Potential-free digital status contact
	LG-Ni1000
	DC 0...10 V
	2 x LG-Ni1000
	1000...1175 Ohm
	0...1000 Ohm
Relay outputs, number	7
Relay output, switching voltage	AC 19...250 V
Relay output, switching current	4 (3) A
Degree of protection	IP20
Dimensions (W x H x D)	173 x 90 x 80 mm

Stock no.

Product no.

BPZ:RMK770-1

RMK770-1



## Heating, ventilation and air conditioning - primary control

## Communicating controllers - Synco™ 700

## Universal controllers RMU7..0B..

## Universal controller

RMU7..0B-1



- Universal controllers with integrated control and supervisory functions
- Suited for the controlled variables temperature, relative / absolute humidity, pressure / differential, air flow rate, indoor air quality, etc.
- Autonomous sequence controllers with P, PI or PID mode
- Tested, predefined applications (refer to Application Catalog)
- Flexible configuration
- Clear-text operation with separate operator unit (plug-in type or detached)
- Integrated KNX bus communication
- No commissioning tool required

The RMU7..0B-1 supports the languages: English, German, French, Italian, Spanish, Portuguese, Dutch, Danish, Finnish, Norwegian, Swedish, Polish, Czech, Hungarian, Russian, Slovak, Bulgarian, Greek, Romanian, Slovenian, Serbian, Croatian, Turkish, Chinese.

Extension modules complement the universal controller and offer extra functions. They are attached to the controller via plug-in connectors. The extension modules do not operate autonomously. The operation of the device from commissioning to enduser operation can be done via the operator unit.

Available extension modules:

- 1 universal module RMZ785
- 2 universal modules RMZ787
- 2 universal modules RMZ788

A total of 4 extension modules can simultaneously be used with the universal controller.

Available operator units:

- Plug-in type operator unit RMZ790
- Detached operator unit RMZ791
- Bus operating unit RMZ792

Data sheet	N3150
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	12 VA
Communication	KNX (KNX TP1)
Analog output, signal	DC 0...10 V
Analog output, current	Max. 1 mA
Universal input, signal	LG-Ni1000
	T1 (PTC)
	Pt1000
	0...1000 Ohm
	1000...1175 Ohm
	DC 0...10 V
	Digital pulse contact
	Potential-free digital status contact
	2 x LG-Ni1000
Relay output, switching voltage	AC 19...250 V
Relay output, switching current	4 (3) A
Degree of protection	IP20
Dimensions (W x H x D)	173 x 90 x 80 mm

## Range overview RMU7..0B..

Analog outputs, number	Universal inputs, number	Relay outputs, number	Control loops, number	Stock no.	Product no.
2	6	2	1	BPZ:RMU710B-1	<b>RMU710B-1</b>
3	8	4	2	BPZ:RMU720B-1	<b>RMU720B-1</b>
4	8	6	3	BPZ:RMU730B-1	<b>RMU730B-1</b>

## Heating, ventilation and air conditioning - primary control

### Communicating controllers - Synco™ 700

#### Switching and monitoring device RMS705B..

##### RMS705B-1



##### Switching and monitoring device

The RMS705B-1 complements the range of Synco700 products as a freely configurable unit for

- control and supervisory functions in heating, ventilation and refrigeration plant
- non-standard applications

and, for this reason, offers no predefined standard applications.

The RMS705B-1 is especially suited for the following functions:

- Connection of additional universal alarm inputs
- Adding free inputs for display and supervision
- Event logging (e.g. legionella function)
- Additional time programs (ON / OFF) for basic functions
- Calculation of enthalpy, enthalpy differential, absolute humidity, dewpoint and wet bulb temperature
- Logic function blocks for switching on / off depending on different conditions
- Lead / lag control of pumps, fans, motors, etc., with automatic changeover
- Step switch with linear, binary or flexible functionality

The RMS705B-1 supports the languages: English, German, French, Italian, Spanish, Portuguese, Dutch, Danish, Finnish, Norwegian, Swedish, Polish, Czech, Hungarian, Russian, Slovak, Bulgarian, Greek, Romanian, Slovenian, Serbian, Croatian, Turkish, Chinese.

Extension modules complement the switching and monitoring device and offer extra functions. They are attached to the controller via plug-in connectors. The extension modules do not operate autonomously. The operation of the device from commissioning to enduser operation can be done via the operator unit.

Available extension modules:

- 1 universal module RMZ785
- 2 universal modules RMZ787
- 2 universal modules RMZ788

A total of 4 extension modules can simultaneously be used with the switching and monitoring device.

Available operator units:

- Plug-in operator unit RMZ790
- Detached operator unit RMZ791
- Bus operating unit RMZ792

Data sheet	N3124
Operating voltage	AC 24 V
Frequency	50/60 Hz
Power consumption	12 VA
Communication	KNX (KNX TP1)
Analog outputs, number	4
Analog output, signal	DC 0...10 V
Analog output, current	Max. 1 mA
Universal inputs, number	8
Universal input, signal	T1 (PTC) Pt1000 Potential-free digital status contact LG-Ni1000 Digital pulse contact DC 0...10 V 2 x LG-Ni1000 0...1000 Ohm
Relay outputs, number	6
Relay output, switching voltage	AC 19...250 V
Relay output, switching current	4 (3) A
Degree of protection	IP20
Dimensions (W x H x D)	173 x 90 x 80 mm

Stock no.	Product no.
S55370-C100	RMS705B-1

## Heating, ventilation and air conditioning - primary control

### Communicating controllers - Synco™ 700

#### Extension modules and operator units for RMB, RMH, RMK, RMU and RMS

##### Plug-in type operator unit

RMZ790

- Operator unit plugs into the Synco™ 700 controllers
- For displaying and changing plant data for service staff and enduser
- Clear-text operation
- Can be plugged in and removed during operation
- Power supply via the controller



Data sheet	N3111
Degree of protection	IP20(IP40)
Dimensions (W x H x D)	145 x 44 x 23 mm

Stock no.	Product no.
BPZ:RMZ790	RMZ790

##### Detached operator unit with 3 m cable

RMZ791

Like plug-in type operator unit, but:

- Other mounting choices (typically for control panel door or wall mounting)
- Larger display
- Connection via a prefabricated 3 m cable, supplied as standard



Data sheet	N3112
Degree of protection	IP20
Dimensions (W x H x D)	145 x 96 x 34 mm

Stock no.	Product no.
BPZ:RMZ791	RMZ791

##### Bus operator unit

RMZ792

Communicating operator unit for operating up to 150 controllers, room units and central units from the Synco™ 700 range via KNX bus.

Favorite pages can be freely defined. Designed for fixed installation or mobile use.



Data sheet	N3113
Operating voltage	AC 24 V
Voltage supply	KNX bus
Power consumption	2.5 VA
Degree of protection	IP20
Dimensions (W x H x D)	145 x 96 x 34 mm

Stock no.	Product no.
BPZ:RMZ792	RMZ792

## Heating, ventilation and air conditioning - primary control

## Communicating controllers - Synco™ 700

## Extension modules and operator units for RMB, RMH, RMK, RMU and RMS

## QAW740

## Room unit with KNX bus



Configurable unit with display of operating mode, timer, temperatures and fault.

With 3 operating elements:

- Knob for setpoint readjustments
- Operating mode button
- Timer button

Data sheet

N1633

Voltage supply

KNX bus

Measuring range, temperature

0...45 °C

Setpoint readjustment range

±3 K

Communication

KNX (KNX TP1)

Connection cable

2-wire

Degree of protection

IP20

Dimensions (W x H x D)

96 x 96 x 47 mm

Stock no.

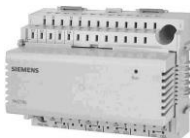
Product no.

BPZ:QAW740

**QAW740**

## RMZ78..

## Universal modules



Additional inputs and outputs required by the Synco™ 700 controllers can be provided by these modules. A description of the functions is given with the relevant controller module.

Data sheet

N3146

Voltage supply

Supply from controller module

Power consumption

3 VA

Analog output, signal

DC 0...10 V

Analog output, current

Max. 1 mA

Universal input, signal

0...1000 Ohm

1000...1175 Ohm

DC 0...10 V

Potential-free digital status contact

LG-Ni1000

Pt1000

T1 (PTC)

2 x LG-Ni1000

Relay outputs

switching contact, potential-free

Relay output, switching voltage

AC 19...265 V

Relay output, switching current

4 (3) A

Degree of protection

IP20

Dimensions (W x H x D)

117 x 90 x 75 mm

## Range overview RMZ78..

Universal inputs, number	Analog outputs, number	Relay outputs, number	Stock no.	Product no.
4	2	2	BPZ:RMZ788	<b>RMZ788</b>
6	2	4	BPZ:RMZ789	<b>RMZ789</b>
8	0	0	BPZ:RMZ785	<b>RMZ785</b>
4	0	4	BPZ:RMZ787	<b>RMZ787</b>

# Heating, ventilation and air conditioning - primary control

## Communicating controllers - Synco™ 700

### Extension modules and operator units for RMB, RMH, RMK, RMU and RMS

#### Heating circuit module

#### RMZ782B

- Weather-compensated flow temperature control via heating circuit's mixing valve
- Control of heating circuit pump

The available heating circuit control and supervisory functions are the same as those of the RMH760B-1



Data sheet	N3136
Voltage supply	Supply from controller module
Power consumption	3 VA
Analog outputs, number	1
Analog output, signal	DC 0...10 V
Analog output, current	Max. 1 mA
Universal inputs, number	3
Universal input, signal	LG-Ni1000 0...1000 Ohm 1000...1175 Ohm DC 0...10 V Pt1000 NTC 575 T1 (PTC) 2 x LG-Ni1000
Relay outputs, number	3
Relay outputs	Switching contact, potential-free
Relay output, switching voltage	AC 19...265 V
Relay output, switching current	4 (3) A
Degree of protection	IP20
Dimensions (W x H x D)	117 x 90 x 75 mm

Stock no.

Product no.

BPZ:RMZ782B

RMZ782B



## Heating, ventilation and air conditioning - primary control

## Communicating controllers - Synco™ 700

## Extension modules and operator units for RMB, RMH, RMK, RMU and RMS

## RMZ783B



## DHW module

- Control of the storage tank temperature
- Storage tank charging with integrated coil, with pump or mixing valve
- Storage tank charging with detached heat exchanger, with pump and mixing valve
- Storage tank charging according to a time program
- Control of the circulating pump according to a time program

Data sheet	N3136
Voltage supply	Supply from controller module
Power consumption	3 VA
Analog outputs, number	1
Analog output, signal	DC 0...10 V
Analog output, current	Max. 1 A
Universal inputs, number	4
Universal input, signal	LG-Ni1000 0...1000 Ohm 1000...1175 Ohm DC 0...10 V Pt1000 NTC 575 T1 (PTC) 2 x LG-Ni1000
Relay outputs, number	5
Relay outputs	Switching contact, potential-free
Relay output, switching voltage	AC 19...265 V
Relay output, switching current	4 (3) A
Degree of protection	IP20
Dimensions (W x H x D)	117 x 90 x 75 mm

Stock no.	Product no.
BPZ:RMZ783B	<b>RMZ783B</b>

## RMZ780



## Module connector

Module connector for detached mounting of extension modules within the control panel.

Data sheet	N3138
Max. cable length	10 m
Dimensions (W x H x D)	18.5 x 87.5 x 22.5 mm

Stock no.	Product no.
BPZ:RMZ780	<b>RMZ780</b>

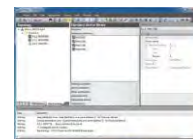
## Heating, ventilation and air conditioning - primary control

### Communicating controllers - Synco™ 700

#### Software, web and remote access

#### Commissioning and plant operating software

ACS790



PC software for commissioning, operating and supervision of HVAC plants.  
Consists of 3 programs: ACS Tool, ACS Alarm and Remote Tool Access.

##### ACS Tool:

for plant commissioning, operating and service

- Popcard (standard and customized)
- Plant diagram (standard and customized)
- Plant view (standard and customized)
- Trend functions (online and offline)
- File transfer
- Parameter settings
- Commissioning protocol

##### ACS Alarm:

- For receiving and managing alarms

##### Remote Tool Access:

On web servers as of V7.0, you can establish a secure connection to the web server OZW672 or OZW772 with the ACS790 and the "Remote Tool Access" software via Synco IC portal.

#### Commissioning and service via OCI7.. service interface

Compatible devices see OCI700.1 and OCI702.

#### Plant operation and supervision for

KNX systems

- Web server: OZW772
- Synco™ living: QAX9...
- Controllers: Synco™700, Synco RXB
- Thermostats: RDF..., RDG...
- Sensors: QMX3.P30, QMX3.P70, AQR253.. and AQR257..

The software can be downloaded for free via <http://www.siemens.com/acs790>.

Data sheet

N5649

Stock no.

Product no.

S55800-Y100

ACS790

#### USB - KNX Service interface

OCI702



The service interface consists of:

- OCI702 service interface
- USB 2.0 cable (Type A / B)
- KNX service cable for Synco™ controllers (RJ45 / RJ45)
- KNX service cable for Desigo™ TRA (RJ45 / jack plug 2.5 mm)
- KNX service cable (RJ45 / KNX bus terminal)

With the respective PC software, the interfaces allows to commission and service devices with KNX communication, e.g. from the following ranges:

- Synco™ 700 controllers and room devices
- KNX room thermostats RDF..., RDG..
- Individual room controllers RXB..
- Synco™ living central apartment units QAX9...
- Desigo TRA
- GAMMA devices

Data sheet

A6V10438951

Stock no.

Product no.

S55800-Y101

OCI702

## Heating, ventilation and air conditioning - primary control

### Communicating controllers - Synco™ 700

#### Software, web and remote access

##### OZW772..



##### Web server for Synco devices

Web server OZW772 allows for remote plant control and monitoring via the web.

- Operate web browser via PC/laptop and Smartphone
- Operate ACS (PC/laptop with ACS plant operating software)
- Connections: USB and Ethernet
- Display fault messages in the web browser
- Send fault messages to a maximum of 4 e-mail recipients
- Periodically send system reports to e-mail recipients
- Visualize the plants in the web browser based on standard plant diagrams and customized plant web pages
- Acquire and display consumption data
- Send consumption data file to 2 email recipients
- Function "Energy indicator" to monitor data points for energy-related limit values, or "Green limits"
- Web services for external applications via Web API (Web Application Programming Interface)
- Encrypted with https and TLS for e-mails
- Record of trends, display and dispatch to 2 e-mail recipients
- Integration up to 237 S-Mode data points of KNX devices (not OZW772.01)
- Direct commissioning with web browser or ACS service tool
- Easy and secure remote access and plant overview with Synco IC Remote Access - a web-based service for secure remote access ([www.siemens-syncoic.com](http://www.siemens-syncoic.com))

Internet portal Synco IC offers simple and secure access to your plants

- Simple and fast set up of access via the Internet (fixed net- or mobile router)
- The portal provides additional functions:
  - Manage one or multiple plants
  - Central user management
  - Display of plant overview, state of Energy indicators and alarms
  - Send alarm notifications per e-mail
  - Secured communications through encryption (https)

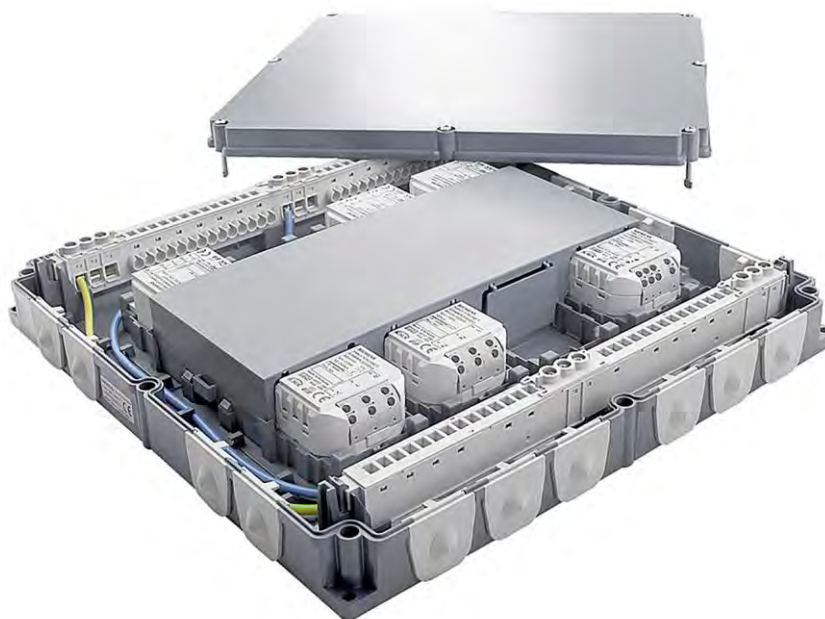
Web servers OZW772.01, OZW772.04, OZW772.16, OZW772.250 can connect 1, 4, 16, or 250 KNX devices from the product ranges Synco 700, Synco RXB, and RDG/RDF room thermostats, and the QAX Synco living central apartment units.

Data sheet	N5701
Operating voltage	Power pack: AC 230 V Web server: DC 24 V
Communication	KNX TP (twisted pair) Ethernet, RJ45 plug socket (shielded) USB V2.0
Mounting	On DIN rails With Screws
Degree of protection	IP30
Dimensions (W x H x D)	87.5 x 90 x 40 mm

##### Range overview OZW772..

Product Title	Stock no.	Product no.
Web server for 1 Synco device	BPZ:OZW772.01	<b>OZW772.01</b>
Web server for 4 Synco devices	BPZ:OZW772.04	<b>OZW772.04</b>
Web server for 16 Synco devices	BPZ:OZW772.16	<b>OZW772.16</b>
Web server for 250 Synco devices	BPZ:OZW772.250	<b>OZW772.250</b>

# Modular installation system, room control box



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## Modular installation system, room control box

### Overview and selection tools

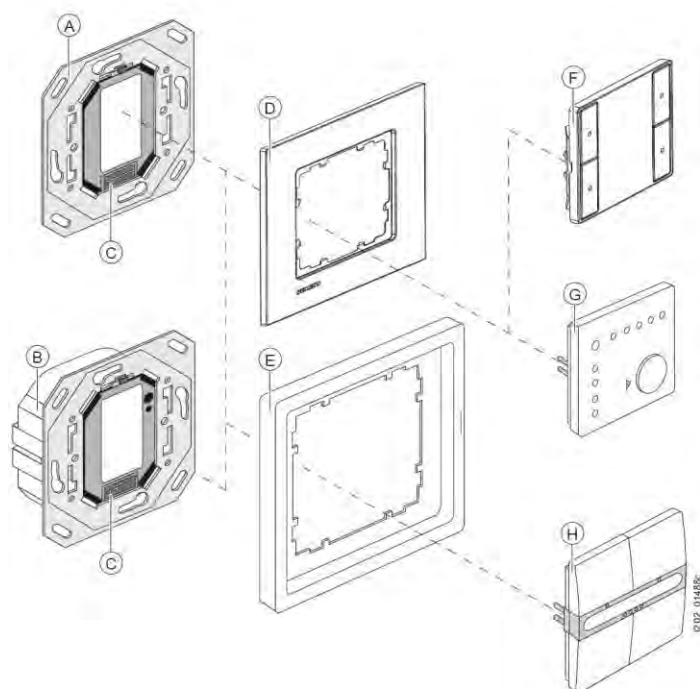
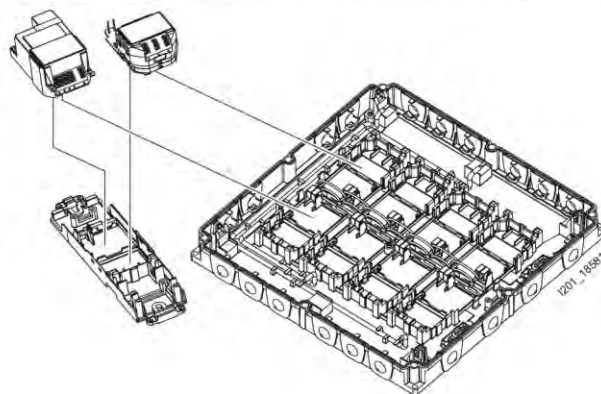
A new chapter for GAMMA instabus – decentralized and yet modular room automation with its own KNX components for flexible use in the room, based on one platform – regardless of installation location and type.

The different mounting forms allow a flexible installation in different locations in the room: in installation ducts, under a raised floor, above a suspended ceiling, and in wall boxes. The system presented here offers a great functional variety for installation in-wall, on-wall, in parapet ducts, in suspended ceilings, and under raised floors.

The Room Control Box AP 641, the Control Module Box AP 118, and the in-wall mounted UP devices enable distributed room control with a few devices, high flexibility, great adaptability and modularity. Both control boxes are assembled with RS or RL sensor/actuator modules in a special quick-mount design. The available modules are full KNX bus participants functioning as binary inputs and outputs, as well as blind actuators, universal dimmer, and switch actuators. The RS and RL modules have the same functionality as the flush-mounting UP actuators. Therefore identical functionality is available for different installation types or locations featuring the same configuration possibilities. As a result, the devices use a common application program regardless of mounting variant – i.e. devices for installation in the Room Control Box and automation control box as well as flush-mount with or without mounting frame.

#### Advantages of the modular installation systems

- with maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors,
- the actuator can be placed close to where the function is executed, i.e. the user operation interface and the actuator can be installed in the same location,
- Reduced wiring and less wall boxes must be installed. The actuator is accessible under the user operation interface for maintenance.



- Ⓐ Bus transceiver module (BTM)
- Ⓑ Flush-mounting actuator with bus transceiver module (BTM)
- Ⓒ DELTA frames i-system
- Ⓓ DELTA frames style
- Ⓔ Pushbutton i-system
- Ⓕ Temperature controller i-system
- Ⓖ BTI interface



## Modular installation system, room control box

### Overview and selection tools

#### Modular bus transceiver module and flush-mounting actuator

A key feature of the GAMMA instabus is its uniform bus transceiver module. The bus transceiver module (BTM) can be used as a stand-alone unit, as well as a combined version in various devices of the flush-mounting actuator range.

Implementation of the BTI interface (Bus Transceiver Interface) with the bus transceiver module (BTM) ensures maximum flexibility and an impressive range of functions. Bus coupling units (BTM) and flush-mounting actuators with integrated bus transceiver modules (BTM) enable the use of GAMMA display/operator interfaces with BTI interface in the design

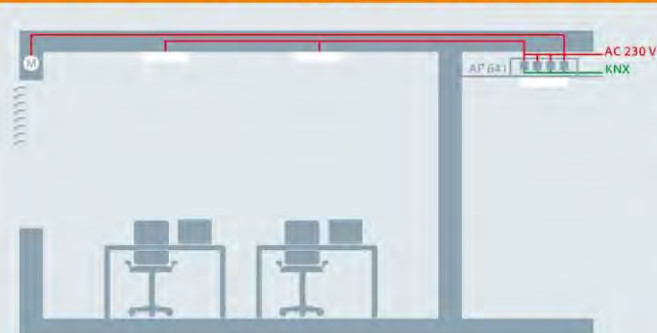
lines i-system and DELTA style can be combined with either a bus transceiver module (BTM) or a flushmounting actuator with bus transceiver module (BTM).

This reduces planning work and facilitates installation and commissioning. The application programs of the flush-mounting actuators are identical to those of the functionally equivalent devices from the modular room control range. This means that all devices have the same application program - regardless of mounting type - whether flush-mounting, with or without mounting frame - or whether designed for installation in the Room Control Box and Control Module Box.

#### Modular system for function-oriented installation of room automation

Siemens is the only company marketing a complete range of products for room automation and offering the highest flexibility when it comes to selecting the type and place of installation.

##### Solution 1: Room Control Box (AP 641) – compact and easy to install



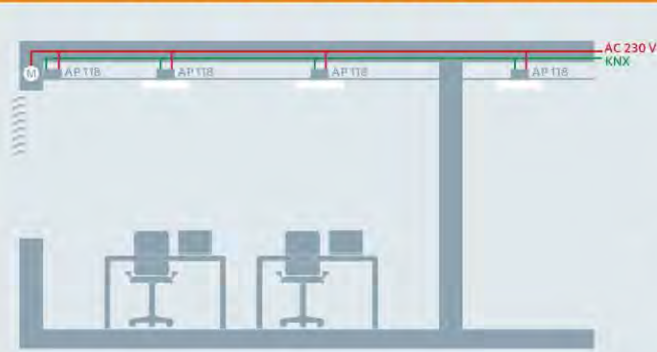
###### Place of installation:

- In corridors above the false ceiling
- Power and bus lines are run to the Room Control Box AP 641.
- Load lines are run to the lights and the blind motors from the Room Control Box AP 641.

###### Benefits:

- Space-saving installation in a false ceiling and a raised floor
- Multifunctional, can be combined in a room-oriented way
- Can be flexibly equipped with actuator and sensor modules
- Low wiring costs
- Low fire load

##### Solution 2: Control Module Box (AP 118) – flexible and function-oriented



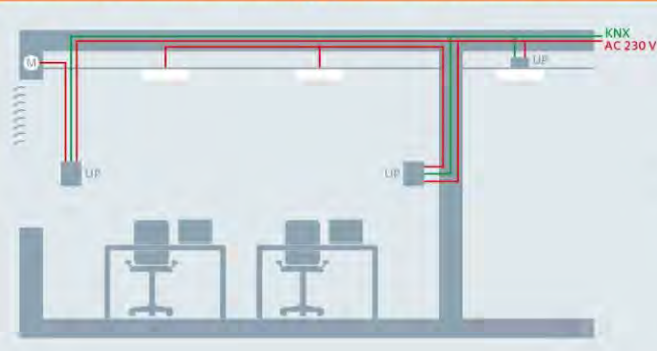
###### Place of installation:

- In a parapet duct and above the false ceiling (alternatively: in the lamps)
- Power and bus lines are run directly to the Control Module Boxes AP 118.
- The load lines are run to the lamps or the blind motors from the respective Control Module Box AP 118.

###### Benefits:

- Decentralized installation in false ceiling, cable duct and lamp housing
- Function-oriented installation
- Free choice of room-related functions
- Low fire load

##### Solution 3: Flush mounting (UP) – conventional and smart



###### Place of installation:

- In flush-mounting boxes or parapet ducts
- Power and bus lines are run to the flush-mounting boxes.
- The load lines are run to the lamps or the blind motors from the respective flush-mounting actuator.

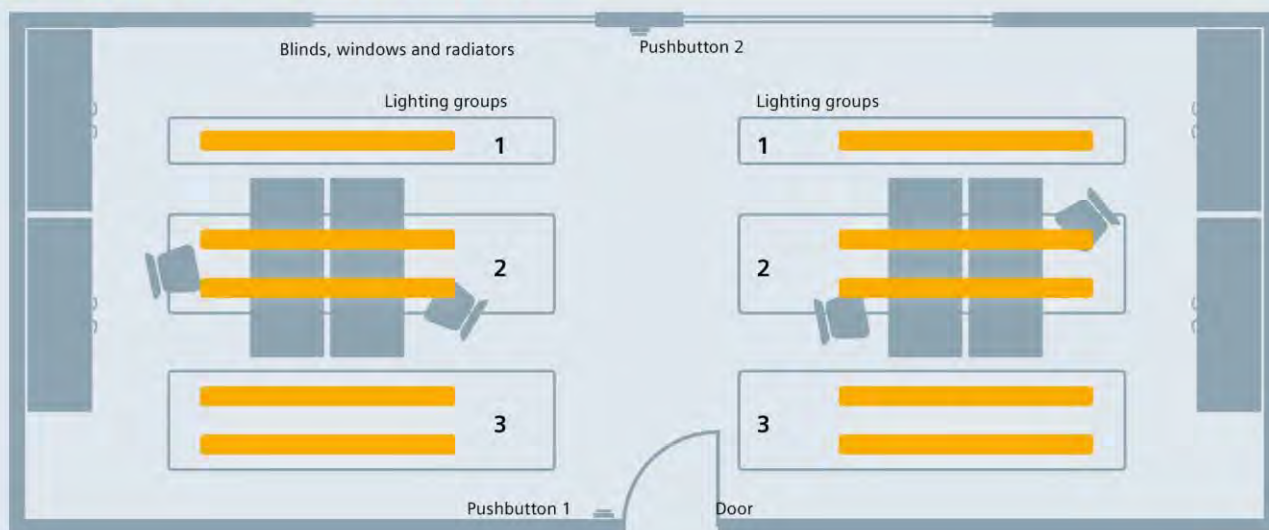
###### Benefits:

- Flexible combination of user interfaces and actuators
- Function-oriented installation
- Straightforward upgrading from conventional to KNX installations (e.g. for modernization)

## Modular installation system, room control box

### Overview and selection tools

#### Decentrally installed Room Control Box in office



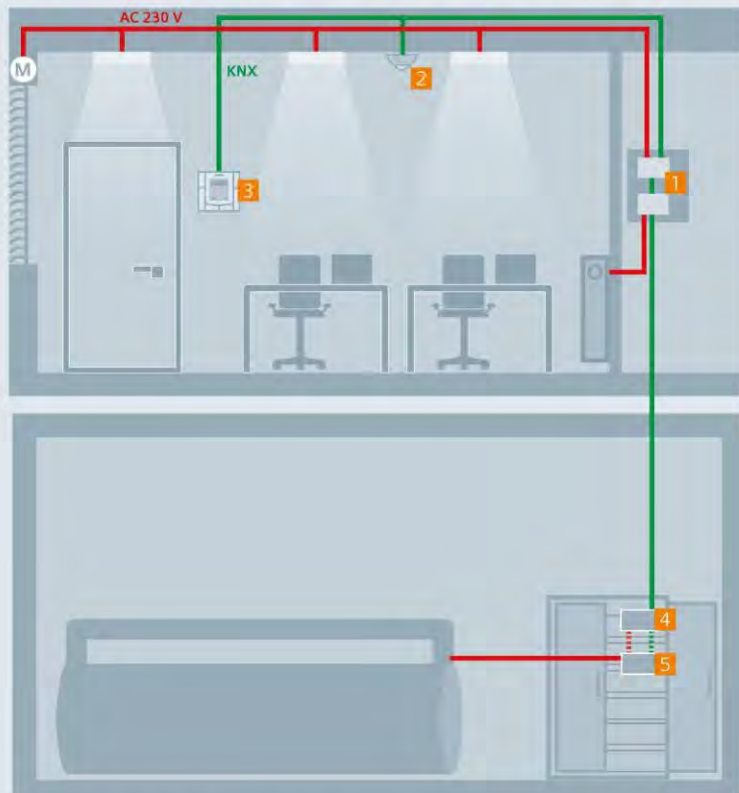
#### A decentrally installed Room Control Box for room functions

In an office with four workplaces, a window facade with two windows, three lighting groups, two blinds, two switched outlets, two radiators and two pushbuttons, the room function controls are to be installed simply, flexibly and decentralized. This is done by equipping a Room Control Box with two switching actuators RL 513/23 for the two groups of three lights, a shutter blind actuator RL 521/23 for the two blinds, two switching actuators RL 512 for two outlets, a thermo drive actuator RL 510K23 for the two radiators and a decentralized power supply RL 125 for additional island solutions. Seven of the eight slots in the Room Control Box are thus occupied, controlling the room with all of the required functions.

## Modular installation system, room control box

### Overview and selection tools

#### Decentralized solution for a presence- and time-dependent temperature control



#### Legend:

- 1 Room Control Box AP 641 with actuators and sensors for room automation
- 2 Presence detector
- 3 Room temperature controller
- 4 Central control unit RMB795B
- 5 Heating controller with 0...10 V heating demand input or KNX interface

#### Optimal use of the thermo drive actuator

A room temperature controller installed in a room controls the thermo drive actuator installed in a Room Control Box to minimize the energy demand in the room. The energy demand is simultaneously transmitted via KNX to the central control unit RMB795, which determines the exact quantity of energy required for heating or cooling in all rooms, compares this demand with the time-controlled demands and transmits it to the heating or cooling controllers. This ensures the highest possible energy efficiency.



## Modular installation system, room control box

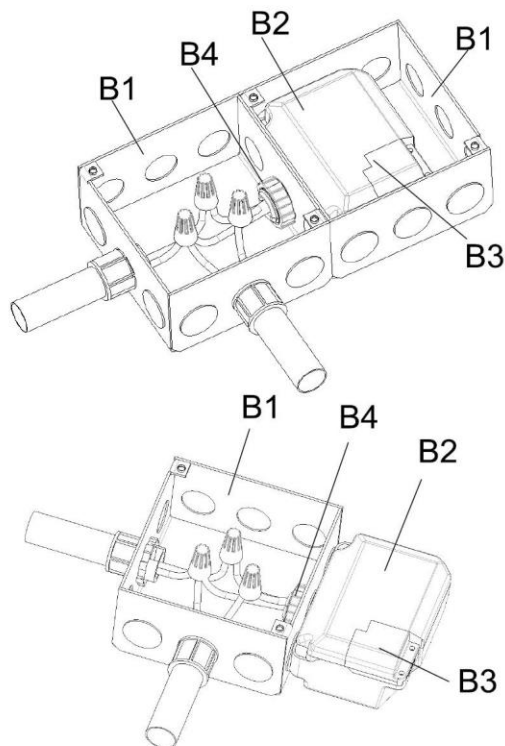
### Overview and selection tools

#### Modular room control for UL/NEMA markets

The modular installation system is also available for installation in standard 4" x 4" UL/NEMA junction boxes.

The full range of control devices comprises of a decentralized power supply, binary input, binary outputs (single, dual, triple), switching/dimming actuators, solar protection actuators, and universal dimmer.

These devices can either be mounted inside a standard 4" x 4" junction box or attached to a standard 4" x 4" junction box.



- B1 4" x 4" Junction Box
- B2 Device
- B3 Bus terminal block for single core conductors with 0.6...0.8 mm Ø
- B4 1/2 inch screw nut

9

The decentralized power supply unit JB 125/23 provides the system power necessary for the instabus KNX.

For each bus line, at least one decentralized power supply unit JB 125/23 is needed. The decentralized power supply provides 80 mA bus current. Up to eight decentralized power supply units JB 125/23 may be attached in parallel to a single bus line providing a total bus current of 640 mA.

With the decentralized power supply independently operating control zones can be designed.

Placing the control devices close to the point of control allows for minimized wiring and thus significant installation cost reduction.

## Modular installation system, room control box

## Room control box

## Module boxes

**Control Module Box**

AP 118/01

- 1 slot for a sensor/actuator module, type RS or RL
- Separate connection compartment and strain relief for bus cable and functional lines
- Modular installation device with screw fixing for installation in linking ducts, under raised floors or for surface mounting on the ceiling
- Enclosure: Plastic
- Degree of protection: IP20



Data sheet

A6V11438329

Dimensions (W x H x D)

180 x 50 x 41,1 mm

Stock no.

Product no.

5WG1118-4AB01

AP 118/01

**Room Control Box**

AP 641/01

- 8 slots for a sensor/actuator module, type RS or RL
- Internal bus cable for connection of the sensor/actuator module to the bus
- Separate connection compartment and strain relief for functional lines
- Two PE/N bars for accommodation of the PE and neutral conductor of the functional lines
- Bus connection via bus terminal
- Modular installation device with screw fixing for installation under raised floors, on the wall or ceiling or in wet rooms
- Enclosure: Plastic
- Degree of protection: IP54



Data sheet

A6V10416220

Dimensions (W x H x D)

300 x 300 x 50 mm

Stock no.

Product no.

5WG1641-3AB01

AP 641/01



## Modular installation system, room control box

## Room control box

## Modules

## RL 125/23



## Decentralized power supply, 80 mA, AC 230 V

- Integrated choke
- Output voltage DC 29 V
- Output current 80 mA
- Connection of choke-protected output voltage via a plug-in extra-low voltage terminal or bus terminal
- Type of protection: IP 20 (installed)
- Rated operational voltage AC 120...230 V, 50...60 Hz, DC 220 V
- For mounting in AP 118 automation module box or AP 641 room control box

The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See Chapter Modular Installation System - Room control box - Module boxes.

Data sheet

A6V11535388

Dimensions (W x H x D)

86,5 x 47,8 x 36,2 mm

Stock no.

Product no.

5WG1125-4AB23

RL 125/23

## RL 260/23



## Binary Input 4 x AC/DC 12...230 V

- 4 Inputs for AC/DC 12...230 V
- Max. cable length, unshielded, twisted 100 m
- Bus-powered electronics
- Integrated bus coupling unit, with bus connection via bus terminal block
- Type of protection: IP 20
- Screw-less terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5...2.5 mm<sup>2</sup>
- For mounting in AP 118 automation module box or AP 641 room control box
- The following functions can be selected per input:
  - Switching state/send binary value/Transmission of the input objects after change
  - Switch edge, short/long switch, 8-bit value edge, 8-bit value short/long
  - Dimming, shading control, single button group control
  - 1/8-bit scene control
  - 16-bit floating-point value edge and 16-bit floating-point short/long
  - Pulse counting with/without limit value monitoring (8/16/32 Bit)
- The following functions can be selected per input pair:
  - 2-pushbutton dimming with stop telegram and 2-pushbutton shading control
- Optional blocking of each input by means of the respective blocking object
- Optional cyclic transmission of input objects

The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See Chapter Modular Installation System - Room control box - Module boxes.

Data sheet

A6V10416114

Dimensions (W x H x D)

86,5 x 47,8 x 36,2 mm

Stock no.

Product no.

5WG1260-4AB23

RL 260/23

**Binary Output, 2 x AC 230 V, 10 A (resistive load)****RS 510/23**

- 2 floating relay contacts
  - Rated contact frequency: 50/60 Hz
  - Contact rated current according to DIN EN 60669-1: 10 A (resistive load)
  - Bus-powered electronics
  - Integrated bus coupling unit, bus connection via bus terminal
  - Type of protection: IP 20
  - Rated contact voltage AC 230 V
  - Screw-less terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
  - With bus connection module
  - Modular installation device for mounting in AP 118 automation module box or AP 641 room control box
- For each output:
    - Selectable operating mode (normal mode/time switch mode)
    - Selectable relay mode (NO contact/NC contact)
    - Status object as optional addition
    - Variable On and Off delay times
    - Selectable logic operation (AND/OR) of two communication objects
    - Selectable switching state at bus voltage failure and recovery
    - Optional addition of night mode object for time-limited switching On of the output (and hence the illumination) at night
    - Variable On period at night or time switch mode
    - Selectable post-triggering of the On period (On period extension) in time switch mode
    - Selectable warning signal prior to imminent switching-off by means of three-times short off and on switching (flashing) at night or in time switch mode
    - Selectable function:
      - Including additional communication object for manual override of an output
      - Forced control, including additional communication object for switching an output on or off in forced mode
      - Counting of operating hours and with threshold monitoring of the operating hours
      - Counting of load cycles and with threshold monitoring of the load cycles
    - Integrated 8-bit scene control and linking of each output into up to 8 scenes



The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See chapter Modular Installation System - Room control box - Module boxes.

Data sheet	A6V10416153
Rated voltage	AC 230 V
Rated current	10 A
Number of channels	2
Dimensions (W x H x D)	50,2 x 48,8 x 35,5 mm

Stock no.	Product no.
5WG1510-2AB23	RS 510/23

## Modular installation system, room control box

## Room control box

## Modules

## RL 512/23



## Switching actuator 1 x AC 230 V, 16 AX, C load

- One relay contact as switching element
- Bus-powered electronics
- Integrated bus coupling unit, Bus connection via bus terminal block
- Type of protection: IP 20
- Rated contact voltage AC 230 V
- Rated contact frequency: 50/60 Hz
- Rated contact current 16 AX / 20 A
- Screw-less terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5...2.5 mm<sup>2</sup>
- For mounting in AP 118 automation module box or AP 641 room control box
- Selectable operating mode (normal mode, time switch mode)
- Selectable relay mode (NO contact / NC contact)
- Status object as an optional addition
- Variable On and Off delay times
- Selectable logic operation (AND/OR) of two communication objects
- Selectable switching state at bus voltage failure and recovery
- Optional addition of a night mode object for time-limited switching On of the output (and hence the illumination) at night
- Variable On period at night or time switch mode
- Selectable post-triggering of the On period (On period extension) in time switch mode
- Selectable warning signal prior to imminent switching-off by means of three-times short off and on switching (flashing) at night or in time switch mode
- Selectable function:
  - Including additional communication object for manual override of an output
  - Selectable forced control, including additional communication object for switching an output on or off in forced mode
  - Selectable counting of operating hours with threshold monitoring of the operating hours
  - Selectable counting of load cycles with threshold monitoring of the load cycles
- Integrated 8-bit scene control and linking of each output into up to 8 scenes

The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See chapter Modular Installation System - Room control box - Module boxes.

Data sheet	A6V10416159
Rated voltage	AC 230 V
Rated current	16 A
Number of channels	1
Dimensions (W x H x D)	86,5 x 47,8 x 36,2 mm

Stock no.	Product no.
5WG1512-4AB23	<b>RL 512/23</b>

**Binary Output 3 x 6 A, AC 230 V****RL 513D23**

- 3 floating relay contact
  - One relay contact per output as switching element
  - Contact rated current according to DIN EN 60669-1: 6 A (resistive load)
  - Bus-powered electronics
  - Integrated bus coupling unit, bus connection via bus terminal block
  - Type of protection: IP 20
  - Rated contact operating voltage AC 230 V
  - Rated contact frequency: 50/60 Hz
  - Screw-less terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5...2.5 mm<sup>2</sup>
  - For mounting in AP 118 automation module box or AP 641 room control box
- For each output:
    - Selectable operating mode (normal mode, time switch mode)
    - Selectable relay mode (NO contact / NC contact)
    - Status object as an optional addition
    - Variable On and Off delay times
    - Selectable logic operation (AND/OR) of two communication objects
    - Selectable switching state at bus voltage failure and recovery
    - Optional addition of a night mode object for time-limited switching On of the output (and hence the illumination) at night
  - Variable On period at night or time switch mode
  - Selectable post-triggering of the On period (On period extension) in time switch mode
  - Selectable warning signal prior to imminent switching-off by means of three-times short off and on switching (flashing) at night or in time switch mode
  - Selectable function:
    - Including additional communication object for manual override of an output
    - Selectable forced control, including additional communication object for switching an output on or off in forced mode
    - Selectable counting of operating hours and with threshold monitoring of the operating hours
    - Selectable counting of load cycles and with threshold monitoring of the load cycles
  - Integrated 8-bit scene control and linking of each output into up to 8 scenes



The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See chapter Modular Installation System - Room control box - Module boxes.

Data sheet	A6V11375522
Rated voltage	AC 230 V
Rated current	6 A
Number of channels	3
Dimensions (W x H x D)	86,5 x 47,8 x 36,2 mm

Stock no.	Product no.
5WG1513-4DB23	RL 513D23

## Modular installation system, room control box

## Room control box

## Modules

## RS 520/23



## Shutter Blind Actuator RS, 1 x AC 230 V, 6 A

- 1 channel
- Electrically interlocked relays to reverse the direction of rotation
- Integrated electronics for detection of the actuation of an electromechanical limit switch and with auto-calibration of the travel time from one limit switch to the other
- Bus-powered electronics
- Integrated bus coupling unit, Bus connection via bus terminal block
- Type of protection: IP 20
- For the separate control per actuator channel of a sun protection, damper, door or window drive with a motor for AC 230 V and electromechanical limit switches
- Screw-less terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
- With bus connection module
- Modular installation device for mounting in AP 118 automation module box or AP 641 room control box
- Configurable behavior in the event of a bus voltage failure/recovery
- Automatic mode for sunlight tracking control
- Manual and standard mode
- Status: Transmitting status per channel, status position of sun protection, 8-bit, status position of slats, 8-bit
- Integrated 1-bit/8-bit scene control
- 8 scenes to be integrated per channel
- Travel lock (e. g. for cleaning the outer shutter/blinds)
- Separate raising/lowering protection
- Alarm (Wind, Rain, Frost): Move to safety position, locking in this position for as long as alarm is active
- Individual configuration of actuator channels
- Adaptation of objects and functions to drive type
- Suitable for integration in a sunlight tracking control system
- End position detection
- Using position data (8-bit value) for sun protection control (up/down) and slat control (open/closed)

The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See chapter Modular Installation System - Room control box - Module boxes.

Data sheet	A6V10416164
Rated voltage	AC 230 V
Rated current	6 A
Number of channels	1
Dimensions (W x H x D)	50,2 x 48,8 x 35,5 mm

Stock no.	Product no.
5WG1520-2AB23	<b>RS 520/23</b>



**Shutter Blind Actuator, 2 x AC 230 V, 6 A****RL 521/23**

- 2 channels
  - Electrically interlocked relays to reverse the direction of rotation
  - Integrated electronics for detection of the actuation of an electromechanical limit switch and with auto-calibration of the travel time from one limit switch to the other
  - Bus-powered electronics
  - Integrated bus coupling units, bus connection via bus terminal
  - Type of protection: IP 20
  - For the separate control per actuator channel of a sun protection, damper, door or window drive with a motor for AC 230 V and electromechanical limit switches
  - Screw-less terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
  - For mounting in AP 118 automation module box or AP 641 room control box
- 
- Communication objects per actuator channel for moving the sun protection to limit positions or to stop travel and for step-by-step adjustment of blind slats
  - Communication objects for moving the sun protection and adjusting blind slats directly to a new position by positioning commands as percentage values
  - Automatic opening of blind slats up to a set position after the blinds have been lowered without any stop from upper to lower limit position
  - Integrated 1-bit scene control for programming/recalling of 2 favored positions of blind and slats
  - Integrated 8-bit scene control and assignment of up to 8 scenes per channel
  - An optional object "Sunshine" for activation/deactivation of sunlight tracking of the slats for shading with greatest possible daylight component
  - Differentiation between automatic and manual mode and with automatic switch-over from automatic to manual mode of the respective actuator channel on activation of a bus pushbutton for manual control of the sun blind
  - Priority of manual mode over automatic positioning commands
  - Optional central command object for switching-over of all actuator channels to automatic mode and for moving the sun blinds to the upper or lower limit position
  - Alarm object wind/rain/frost per channel for moving the sun protection to the configured safety position in the event of an alarm and with blocking of travel to another position as long as alarm pending
  - Travel blocking object per device or per channel for blocking the sun protection in its current position (e.g. during cleaning of an outdoor Venetian blind)
  - Status objects per actuator channel for query or automatic transmission of sun blind and slat position as percentage values
  - Optional status objects for signalling that the lower or upper limit position has been reached

The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See chapter Modular Installation System - Room control box - Module boxes.

Data sheet	A6V10416169
Rated voltage	AC 230 V
Rated current	6 A
Number of channels	2
Dimensions (W x H x D)	47,8 x 86,5 x 36,2 mm

Stock no.	Product no.
5WG1521-4AB23	RL 521/23

## Modular installation system, room control box

## Room control box

## Modules

## RS 525/23



## Universal dimmer 1 x AC 230 V, 10...250 VA, (R,L,C load)

- Output for switching and dimming resistive, inductive or capacitive loads
- Automatic adjustment to leading edge or trailing edge control, depending on the type of load
- Rated frequency 50...60 Hz
- Electronic protection of the output against overload, short circuit and temperature rise
- Bus-powered electronics
- Integrated bus coupling unit, Bus connection via bus terminal block
- Type of protection: IP 20
- Rated operational voltage AC 230 V
- Rated power at +35°C ambient temperature: 10...250 VA
- Screw-less terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
- With bus connection module
- Universal installation device for mounting in AP 118 automation module box or AP 641 room control box
- Selectable mode for each output (normal mode, one- or two-level timer mode, blinking)
- Adjustable on- and off-delay
- Separately adjustable dimming time from 0...100 % for switching on / off and dimming brighter / darker
- Two dimming value objects, each with individually adjustable dimming time from 0...100 %
- The ability to switch an output on or off by dimming brighter/darker
- Adjustable dimming value when switching on
- Immediate activation (jumping) or dimming to a new dimming value
- Selectable additional status object switching and / or status object dimming value for each output
- Additional object for each output for blocking / releasing the output
- Sending of status objects on request and / or automatically after a change
- Adjustable blocking time for sending status objects after restart and bus voltage recovery
- Adjustable dimming value for each output in the event of bus voltage failure and recovery, as well as for mains voltage recovery
- Additional night mode object for time-limited switching on the output (and hence illumination) at night
- Adjustable on period at night or with timer mode
- Selectable warning of imminent switching off the illumination by dimming to 50 % of the previous dimming value during night mode or timer mode
- Integrated 8-bit scene control and integration of each output in up to 8 scenes
- Separately adjustable dimming time for scene control
- Selectable counting of operating hours and with threshold monitoring of the operating hours
- Selectable counting of load cycles and with threshold monitoring of the load cycles

The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See chapter Modular Installation System - Room control box - Module boxes.

Data sheet	A6V10416181
Rated voltage	AC 230 V
Rated current	1 A
Number of channels	1
Dimensions (W x H x D)	50,2 x 48,8 x 35,5 mm

Stock no.	Product no.
5WG1525-2AB23	<b>RS 525/23</b>

**Thermo Drive Actuator, 2 x 1.5 A, AC 24...230 V / DC 24 V****RS 510K23**

- 2 switching outputs for control of electro-thermal drives for heating radiator and cooling ceiling valves
- Per output up to 4 connected electro-thermal drives with in total up to 1.5 A in the on-state and up to 58 W power consumption when switched on
- One relay contact per output as switching element
- Rated contact operating voltage AC 24...230 V or DC 24 V
- Rated contact frequency: 50/60 Hz
- Contact rated current according to DIN EN 60669-1: 1.5 A (resistive load)
- Screw-less terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5...2.5 mm<sup>2</sup>
- With bus connection module
- Bus-powered electronics
- Integrated bus coupling unit, bus connection via bus terminal
- Modular installation device for mounting in AP 118 automation module box or AP 641 room control box
- Selectable control via switching commands (on-off control) or via control commands in percent (continuous control)
- Conversion of control commands in percent into pulse width modulated (PWM) switching commands
- Additional functions for avoiding calcification of a valve and forced position as well as a status object per output
- Status object as an optional addition for each output
- Selectable switching state for each output on bus voltage failure and recovery



The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See chapter Modular Installation System - Room control box - Module boxes.

Data sheet	A6V10532363
Rated voltage	AC 24 V
Rated current	1.5 A
Number of channels	2
Relay outputs, number	2
Triac outputs, number	0
Dimensions (W x H x D)	50,2 x 48,8 x 35,5 mm

Stock no.	Product no.
5WG1510-2KB23	RS 510K23

## Modular installation system, room control box

### Junction box (UL/NEMA) devices

#### JB 125C23



#### Decentralized Power Supply, 80 mA, AC 120 V

- Integrated choke
- Output voltage DC 29 V
- Output current 80 mA
- Connection of choke-protected output voltage via a plug-in extra-low voltage terminal or bus terminal
- Type of protection: IP 20 (installed)
- Rated operational voltage AC 120 V, 50...60 Hz
- Built-in device with 1/2 inch thread connection for mounting to or in a UL/NEMA Junction Box with feedthrough of the function wires through the 1/2 inch threaded connector

Data sheet

A6V11808808

Dimensions (W x H x D)

70 x 90 x 44,6 mm

Stock no.

Product no.

5WG1125-4CB23

**JB 125C23**

#### JB 260C23



#### Binary Input 4 x AC/DC 12...230 V

- 4 Inputs for AC/DC 12...230 V
- Max. cable length, unshielded, twisted 100 m
- Bus-powered electronics
- Integrated bus coupling unit, with bus connection via bus terminal block
- Type of protection: IP 20
- As built-in device with 1/2 inch thread connection for mounting to or in a UL/NEMA Junction Box with feedthrough of the function wires through the 1/2 inch threaded connector
- The following functions can be selected per input:
  - Switching state/send binary value/Transmission of the input objects after change
  - Switch edge, short/long switch, 8-bit value edge, 8-bit value short/long
  - Dimming, shading control, single button group control
  - 1/8-bit scene control
  - 16-bit floating-point value edge and 16-bit floating-point short/long
  - Pulse counting with/without limit value monitoring (8/16/32 Bit)
- The following functions can be selected per input pair:
  - 2-pushbutton dimming with stop telegram and 2-pushbutton shading control
- Optional blocking of each input by means of the respective blocking object
- Optional cyclic transmission of input objects

Data sheet

A6V11786003

Dimensions (W x H x D)

70 x 90 x 44,6 mm

Stock no.

Product no.

5WG1260-4CB23

**JB 260C23**

## Modular installation system, room control box

### Junction box (UL/NEMA) devices

#### Binary Output, 2 x AC 120...277 V, 10 A (resistive load)

JB 510C23

- 2 floating relay contacts
- Rated contact frequency: 50/60 Hz
- Contact rated current according to DIN EN 60669-1: 10 A (resistive load)
- Bus-powered electronics
- Integrated bus coupling unit, bus connection via bus terminal
- Type of protection: IP 20
- Rated contact operating voltage AC 120...277 V
- As built-in device with 1/2 inch thread connection for mounting to or in a UL/NEMA Junction Box with feedthrough of the function wires through the 1/2 inch threaded connector
- For each output:
  - Selectable operating mode (normal mode/time switch mode)
  - Selectable relay mode (NO contact/NC contact)
  - Status object as optional addition
  - Variable On and Off delay times
  - Selectable logic operation (AND/OR) of two communication objects
  - Selectable switching state at bus voltage failure and recovery
  - Optional addition of night mode object for time-limited switching On of the output (and hence the illumination) at night
  - Variable On period at night or time switch mode
  - Selectable post-triggering of the On period (On period extension) in time switch mode
  - Selectable warning signal prior to imminent switching-off by means of three-times short off and on switching (flashing) at night or in time switch mode
  - Selectable function:
    - Including additional communication object for manual override of an output
    - Forced control, including additional communication object for switching an output on or off in forced mode
    - Counting of operating hours and with threshold monitoring of the operating hours
    - Counting of load cycles and with threshold monitoring of the load cycles
- Integrated 8-bit scene control and linking of each output into up to 8 scenes



Data sheet

A6V11786004

Dimensions (W x H x D)

70 x 90 x 44,6 mm

Stock no.

Product no.

5WG1510-4CB23

JB 510C23



## Modular installation system, room control box

### Junction box (UL/NEMA) devices

#### JB 512C23



#### Switching actuator 1 x AC 120...277 V, 20 A or 1 x AC 347 V, 15 AX, C load

- One relay contact as switching element
- Bus-powered electronics
- Integrated bus coupling unit, Bus connection via bus terminal block
- Type of protection: IP 20
- Rated contact operating voltage AC 120...277 V, AC 347 V
- Rated contact frequency: 50/60 Hz
- Fluorescent lamp load acc. to DIN EN 60669-1: 20 AX (200 µF) at AC 120/277 V, 15 AX (200 µF) at AC 347 V
- As built-in device with 1/2 inch thread connection for mounting to or in a UL/NEMA Junction Box with feedthrough of the function wires through the 1/2 inch threaded connector
- Selectable operating mode (normal mode, time switch mode)
- Selectable relay mode (NO contact / NC contact)
- Status object as an optional addition
- Variable On and Off delay times
- Selectable logic operation (AND/OR) of two communication objects
- Selectable switching state at bus voltage failure and recovery
- Optional addition of a night mode object for time-limited switching On of the output (and hence the illumination) at night
- Variable On period at night or time switch mode
- Selectable post-triggering of the On period (On period extension) in time switch mode
- Selectable warning signal prior to imminent switching-off by means of three-times short off and on switching (flashing) at night or in time switch mode
- Selectable function:
  - Including additional communication object for manual override of an output
  - Selectable forced control, including additional communication object for switching an output on or off in forced mode
  - Selectable counting of operating hours with threshold monitoring of the operating hours
  - Selectable counting of load cycles with threshold monitoring of the load cycles
- Integrated 8-bit scene control and linking of each output into up to 8 scenes

Data sheet

A6V11786007

Dimensions (W x H x D)

70 x 90 x 44,6 mm

Stock no.

Product no.

5WG1512-4CB23

JB 512C23

## Modular installation system, room control box

### Junction box (UL/NEMA) devices

#### Binary Output 3 x 10 A, AC 120...277 V

JB 513C23

- 3 floating relay contact
- One relay contact per output as switching element
- Contact rated current according to DIN EN 60669-1: 6 A (resistive load)
- Bus-powered electronics
- Integrated bus coupling unit, bus connection via bus terminal block
- Type of protection: IP 20
- One relay contact per output as switching element
- Rated contact operating voltage AC 120...277 V
- Rated contact frequency: 50/60 Hz
- As built-in device with 1/2 inch thread connection for mounting to or in a UL/NEMA Junction Box with feedthrough of the function wires through the 1/2 inch threaded connector



- For each output:
  - Selectable operating mode (normal mode, time switch mode)
  - Selectable relay mode (NO contact / NC contact)
  - Status object as an optional addition
  - Variable On and Off delay times
  - Selectable logic operation (AND/OR) of two communication objects
  - Selectable switching state at bus voltage failure and recovery
  - Optional addition of a night mode object for time-limited switching On of the output (and hence the illumination) at night
- Variable On period at night or time switch mode
- Selectable post-triggering of the On period (On period extension) in time switch mode
- Selectable warning signal prior to imminent switching-off by means of three-times short off and on switching (flashing) at night or in time switch mode
- Selectable function:
  - Including additional communication object for manual override of an output
  - Selectable forced control, including additional communication object for switching an output on or off in forced mode
  - Selectable counting of operating hours and with threshold monitoring of the operating hours
  - Selectable counting of load cycles and with threshold monitoring of the load cycles
- Integrated 8-bit scene control and linking of each output into up to 8 scenes

Data sheet

A6V11786008

Dimensions (W x H x D)

70 x 90 x 44,6 mm

Stock no.

Product no.

5WG1513-4CB23

JB 513C23

## Modular installation system, room control box

### Junction box (UL/NEMA) devices

#### JB 526C23



#### Switch-/dimm actuator, 2 x AC 277 V, 20 A, 1...10 V

- Protruding wires stranded AWG 12
- A phase connection for an output that is equipped with a relay contact per output as a switching element
- Contact rated operational voltage AC 120 V, AC 230 V, AC 277 V, AC 347 V
- Contact rated operational voltage AC/DC 24 V
- Contact rated current according to DIN EN 60669-1: 16 A / 20 A (resistive load)
- Fluorescent lamp load according to DIN EN 60669-1: 16 AX / 20 AX (200 µF) at AC 230 V
- Bus-powered electronics
- Integrated bus coupling unit
- Bus connection via bus terminal
- Red LED for display of the activation of the addressing mode as well as the operational readiness
- Housing: plastics
- For installation in 4" x 4" Junction box (UL/NEMA)
- Degree of protection IP 20

- For switching and dimming of fluorescent lamps with dimmable electronic ballasts
- Independent control voltage DC 0/1...10 V per output

#### Per output

- command objects for switching on/off, dimming brighter/darker and setting dimming value
- adjustable ON- and OFF-delay
- switching status object and/or dimming value status object as an optional addition
- adjustable sending of status objects on demand, cyclically and/or automatically after modification
- adjustable ON period during night and/or time switch operation
- selectable counting of operating hours and threshold monitoring of the operating hours
- selectable counting of load cycles and threshold monitoring of the load cycles
- selectable function blocking of the output
- selectable mode (normal mode, night mode, one- or two-level timer mode, flashing)
- separately adjustable dimming time from minimum to 100% for switching on/off, brighter/darker dimming and dimming value setting
- selectable sending of status objects on request, cyclically and / or automatically after a change or bus voltage recovery
- selectable warning of impending OFF by dimming to 50% of the previous dimming value during night mode or timer mode
- separately adjustable dimming time for scene control
- adjustable dimming curve correction
- construction site function for switching the construction site lighting on and off even if the bus devices have not yet been commissioned with ETS
- Integrated 8-bit scene control and integration of each output in up to 8 scenes
- Optional disabling of the ripple control compensation in an electrical grid with frequency fluctuations

Data sheet

A6V11786012

Dimensions (W x H x D)

70 x 90 x 44,6 mm

Stock no.

Product no.

5WG1526-4CB23

JB 526C23

## Modular installation system, room control box

### Junction box (UL/NEMA) devices

#### Switch-/dimming actuator 1 x AC 277 V, 20 A, 1...10 V

JB 527C23

- Protruding wires stranded AWG 12
  - A phase connection for an output that is equipped with a relay contact per output as a switching element
  - Contact rated operational voltage AC120 V, AC 230 V, AC 277 V, AC 347 V
  - Contact rated operational voltage AC / DC 24 V
  - Contact rated current according to DIN EN 60669-1: 16 A / 20 A (resistive load)
  - Fluorescent lamp load according to DIN EN 60669-1: 16 AX / 20 AX (200 µF) at AC 230 V
  - Bus-powered electronics
  - Integrated bus coupling unit
  - Bus connection via bus terminal
  - Red LED for display of the activation of the addressing mode as well as the operational readiness
  - Housing: plastics
  - For installation in 4" x 4" Junction box (UL/NEMA)
  - Degree of protection IP 20
- For switching and dimming of fluorescent lamps with dimmable electronic ballasts
  - Independent control voltage DC 0/1...10 V per output



#### Per output

- command objects for switching on/off, dimming brighter/darker and setting dimming value
- adjustable ON- and OFF-delay
- switching status object and/or dimming value status object as an optional addition
- adjustable sending of status objects on demand, cyclically and/or automatically after modification
- adjustable ON period during night and/or time switch operation
- selectable counting of operating hours and threshold monitoring of the operating hours
- selectable counting of load cycles and threshold monitoring of the load cycles
- selectable function blocking of the output
- selectable mode (normal mode, night mode, one- or two-level timer mode, flashing)
- separately adjustable dimming time from minimum to 100% for switching on/off, brighter/darker dimming and dimming value setting
- selectable sending of status objects on request, cyclically and / or automatically after a change or bus voltage recovery
- selectable warning of impending OFF by dimming to 50% of the previous dimming value during night mode or timer mode
- separately adjustable dimming time for scene control
- adjustable dimming curve correction
- construction site function for switching the construction site lighting on and off even if the bus devices have not yet been commissioned with ETS
- integrated 8-bit scene control and integration of each output in up to 8 scenes
- optional disabling of the ripple control compensation in an electrical grid with frequency fluctuations

Data sheet

A6V11786013

Dimensions (W x H x D)

70 x 90 x 44,6 mm

Stock no.

Product no.

5WG1527-4CB23 JB 527C23

## Modular installation system, room control box

### Junction box (UL/NEMA) devices

#### JB 520C23



#### Shutter Blind Actuator, 1 x AC 120 V, 6 A

- 1 channel
- Electrically interlocked relays to reverse the direction of rotation
- Integrated electronics for detection of the actuation of an electromechanical limit switch and with auto-calibration of the travel time from one limit switch to the other
- Bus-powered electronics
- Integrated bus coupling unit, Bus connection via bus terminal block
- Type of protection: IP 20
- For control of sun protection, door or window drive with a motor for AC 120 V and electromechanical or electronic limit switches per actuator channel
- Relay contacts rated for nominal voltage AC 120 V, 6 A (resistive load)
- As built-in device with 1/2 inch thread connection for mounting to or in a UL/NEMA Junction Box with feedthrough of the function wires through the 1/2 inch threaded connector
- Configurable behavior in the event of a bus voltage failure/recovery
- Automatic mode for sunlight tracking control
- Manual and standard mode
- Status: Transmitting status per channel, status position of sun protection, 8-bit, status position of slats, 8-bit
- Integrated 1-bit/8-bit scene control
- 8 scenes to be integrated per channel
- Travel lock (e. g. for cleaning the outer shutter/blinds)
- Separate raising/lowering protection
- Alarm (Wind, Rain, Frost): Move to safety position, locking in this position for as long as alarm is active
- Individual configuration of actuator channels
- Adaptation of objects and functions to drive type
- Suitable for integration in a sunlight tracking control system
- End position detection
- Using position data (8-bit value) for sun protection control (up/down) and slat control (open/closed)

Data sheet

A6V11786009

Dimensions (W x H x D)

70 x 90 x 44,6 mm

Stock no.

Product no.

5WG1520-4CB23

**JB 520C23**



## Modular installation system, room control box

### Junction box (UL/NEMA) devices

#### Shutter Blind Actuator, 2 x AC 120 V, 6 A

JB 521C23

- 2 channels
- Electrically interlocked relays to reverse the direction of rotation
- Integrated electronics for detection of the actuation of an electromechanical limit switch and with auto-calibration of the travel time from one limit switch to the other
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal
- Type of protection: IP 20
- For separate control of a sun protection, door or window drive with a motor for AC 120 V and electromechanical or electronic limit switches per actuator channel
- Relay contacts rated for AC 120 V, 6 A (resistive load)
- As built-in device with 1/2 inch thread connection for mounting to or in a UL/NEMA Junction Box with feedthrough of the function wires through the 1/2 inch threaded connector



- Communication objects per actuator channel for moving the sun protection to limit positions or to stop travel and for step-by-step adjustment of blind slats
- Communication objects for moving the sun protection and adjusting blind slats directly to a new position by positioning commands as percentage values
- Automatic opening of blind slats up to a set position after the blinds have been lowered without any stop from upper to lower limit position
- Integrated 1-bit scene control for programming/recalling of 2 favored positions of blind and slats
- Integrated 8-bit scene control and assignment of up to 8 scenes per channel
- An optional object "Sunshine" for activation/deactivation of sunlight tracking of the slats for shading with greatest possible daylight component
- Differentiation between automatic and manual mode and with automatic switch-over from automatic to manual mode of the respective actuator channel on activation of a bus pushbutton for manual control of the sun blind
- Priority of manual mode over automatic positioning commands
- Optional central command object for switching-over of all actuator channels to automatic mode and for moving the sun blinds to the upper or lower limit position
- Alarm object wind/rain/frost per channel for moving the sun protection to the configured safety position in the event of an alarm and with blocking of travel to another position as long as alarm pending
- Travel blocking object per device or per channel for blocking the sun protection in its current position (e.g. during cleaning of an outdoor Venetian blind)
- Status objects per actuator channel for query or automatic transmission of sun blind and slat position as percentage values
- Optional status objects for signalling that the lower or upper limit position has been reached

Data sheet A6V11786010  
 Dimensions (W x H x D) 70 x 90 x 44,6 mm

Stock no. Product no.

5WG1521-4CB23 JB 521C23

## Modular installation system, room control box

### Junction box (UL/NEMA) devices

#### JB 525C23



#### Universal Dimmer, 1 x AC 120 V, 10...125 VA (R,L,C load)

- Output for switching and dimming resistive, inductive or capacitive loads
- Automatic adjustment to leading edge or trailing edge control, depending on the type of load
- Rated frequency 50...60 Hz
- Electronic protection of the output against overload, short circuit and temperature rise
- Bus-powered electronics
- Integrated bus coupling unit, Bus connection via bus terminal block
- Type of protection: IP 20
- Rated operational voltage AC 120 V
- Rated power at +35°C ambient temperature: 10...125 VA
- Selectable mode for each output (normal mode, one- or two-level timer mode, blinking)
- As built-in device with 1/2 inch thread connection for mounting to or in a UL/NEMA Junction Box with feedthrough of the function wires through the 1/2 inch threaded connector
- Selectable mode for each output (normal mode, one- or two-level timer mode, blinking)
- Adjustable on- and off-delay
- Separately adjustable dimming time from 0...100 % for switching on / off and dimming brighter / darker
- Two dimming value objects, each with individually adjustable dimming time from 0...100 %
- The ability to switch an output on or off by dimming brighter/darker
- Adjustable dimming value when switching on
- Immediate activation (jumping) or dimming to a new dimming value
- Selectable additional status object switching and / or status object dimming value for each output
- Additional object for each output for blocking / releasing the output
- Sending of status objects on request and / or automatically after a change
- Adjustable blocking time for sending status objects after restart and bus voltage recovery
- Adjustable dimming value for each output in the event of bus voltage failure and recovery, as well as for mains voltage recovery
- Additional night mode object for time-limited switching on the output (and hence illumination) at night
- Adjustable on period at night or with timer mode
- Selectable warning of imminent switching off the illumination by dimming to 50 % of the previous dimming value during night mode or timer mode
- Integrated 8-bit scene control and integration of each output in up to 8 scenes
- Separately adjustable dimming time for scene control
- Selectable counting of operating hours and with threshold monitoring of the operating hours
- Selectable counting of load cycles and with threshold monitoring of the load cycles

Data sheet

A6V11808810

Dimensions (W x H x D)

70 x 90 x 44,6 mm

Stock no.

Product no.

5WG1525-4CB23

JB 525C23

# Gateways, interface converters



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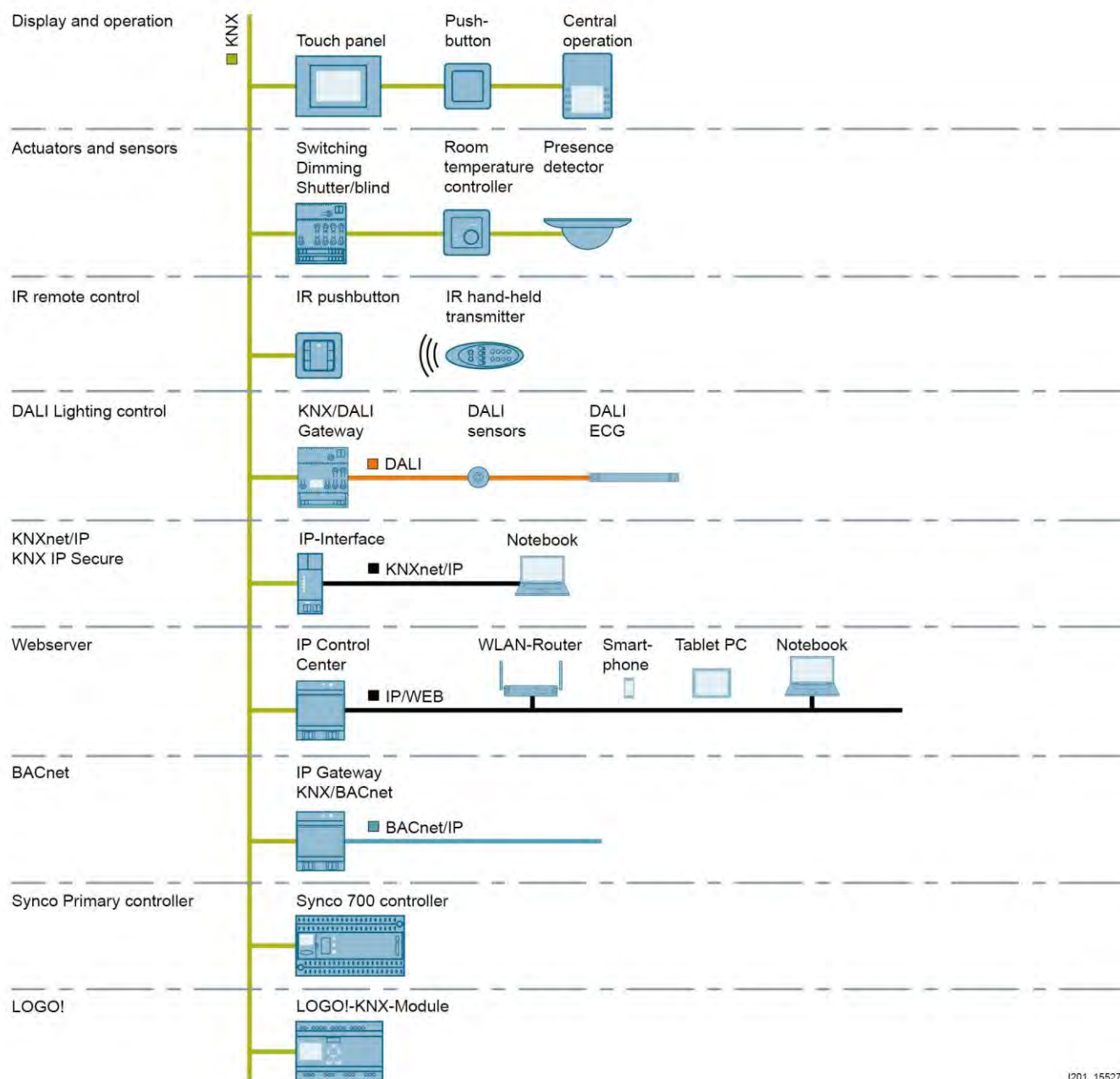
## Gateways, interface converters

### Overview and selection tools

#### The KNX network

GAMMA instabus offers interfaces to many other technologies, such as Ethernet (LAN) and lighting controls with DALI and BACnet network, making it easy to exchange information and data via the KNX network.

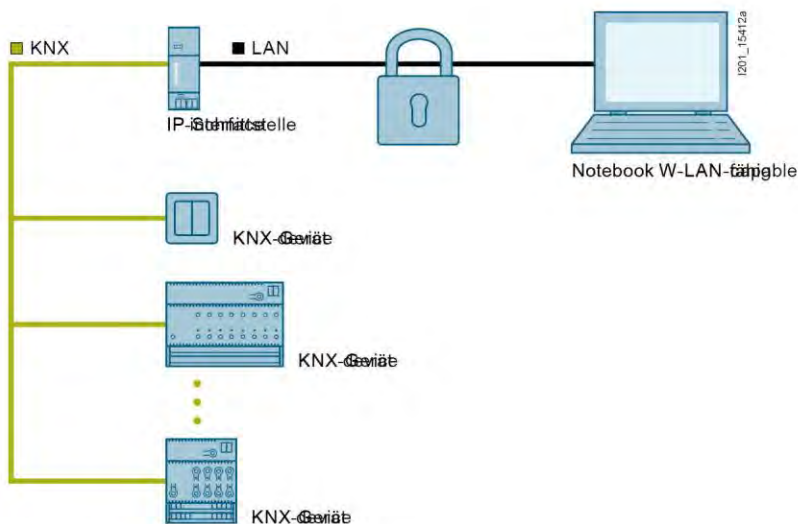
#### Interfaces to KNX



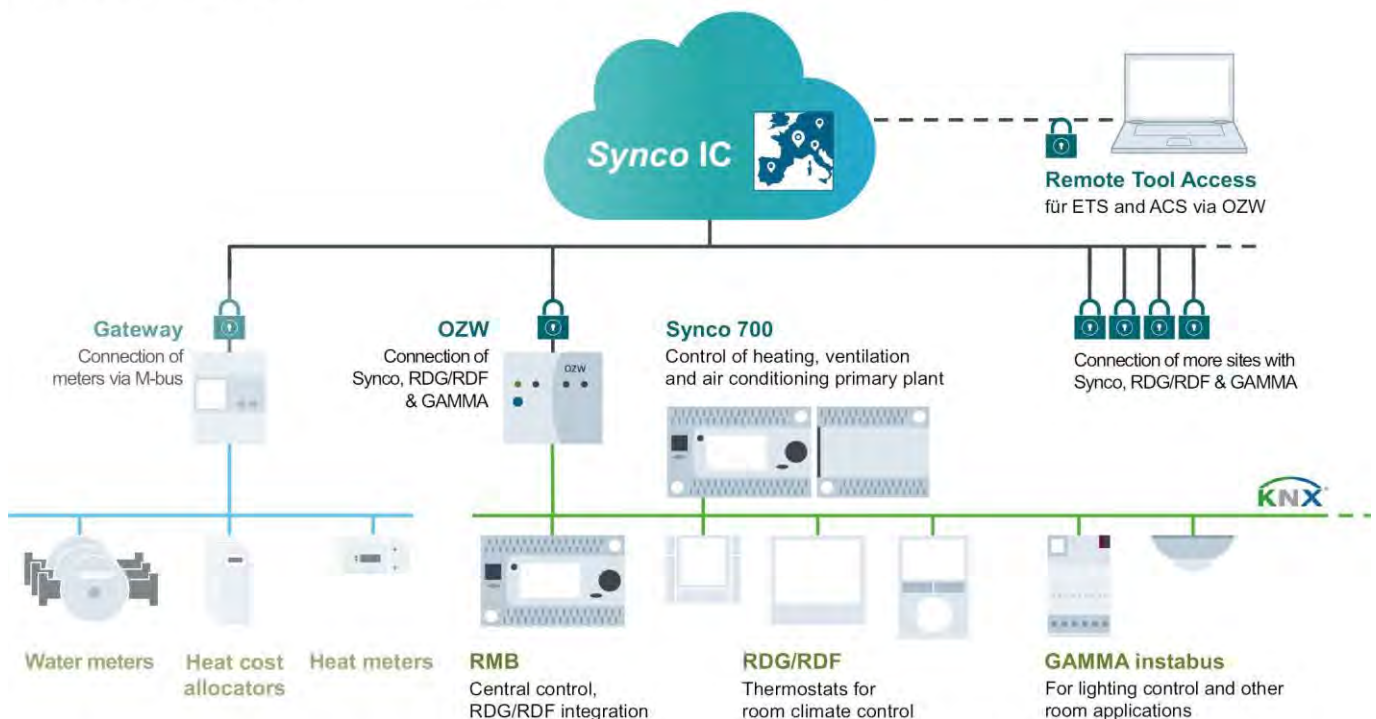
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**KNX IP Secure****Faster and secure downloads save time**

With the KNX IP Secure standard, KNX telegrams can be secure transmitted via Ethernet (LAN). This enables applications and solutions. Existing network infrastructures and technologies are used to transmit KNX data over greater distances. Links between buildings and/or building levels can be clearly and easily implemented using KNXnet/IP.

**Synco IC**






Synco is a web based remote access system for easy and secure monitoring and operation of your plant. More info at [siemens.com/syncoic](http://siemens.com/syncoic).









## Gateways, interface converters

### Overview and selection tools

KNX/Ethernet					
					
Type	N 148/23	N 146/03	N 143/01	N 152/01	OZW772..
<b>Enclosure data</b>					
Design	N	N	N	N	REG
Modular installation devices for mounting on TH35 EN 60715 mounting rail	■	■	■	■	■
Width (1 MW = 18 mm)	2 MW	2 MW	4 MW	4 MW	88 x 90 x 40
<b>Display/control elements</b>					
LEDs for indicating that the device is ready-to-run, KNX communication, IP communication	■	■	■	■	■
<b>Power supply</b>					
Electronics powered via an external nominal AC/DC power supply unit for	AC/DC 24 V	AC/DC 24 V	AC/DC 24 V	DC 24 V	AC 230 V
Power consumption at DC 24 V [mA]	60	60	40	50	
Power supply for the electronics via "Power over Ethernet" according to IEEE 802.3af	■	■			
<b>Bus connection</b>					
Integrated bus coupling units	■	■	■	■	■
Bus connection via bus terminal	■	■	■	■	
<b>Main connection</b>					
Ethernet connection via RJ45 socket	■	■	■	■	■
Plug-in terminal block for the connection of an external power supply unit	■	■	■	■	
<b>Gateway</b>					
Supports KNX IP Secure	Ja	Ja			
Supports KNXnet/IP	■	■	■	■	■
Line coupler function (Routing)		■			
Interface functions (Tunneling)	4	4	1	1	1
Weekly scheduling program				■	
Astro function				■	
Yearly time switching functions				■	
Event entries				■	
Logic gates				■	
Web servers			■	■	■

## Gateways, interface converters

### Overview and selection tools





KNX/DALI				
				
Type	N 141/21	N 141/03	N 141/31	N 525E01
Name	Twin plus	plus	Twin	
<b>Enclosure data</b>				
Design	N	N	N	N
Modular installation devices for mounting on TH35 EN 60715 mounting rail	■	■	■	■
<b>Dimensions</b>				
Width [mm] (1 MW = 18 mm)	4MW	4 MW	4 MW	4 MW
<b>Display/control elements</b>				
Status indication per output	LED + 7 Segment	LED + 7 Segment	LED + 7 Segment	LED
<b>Power supply</b>				
Electronics powered via an integrated power supply unit	■	■	■	■
DALI outputs powered via an integrated power supply unit	■	■	■	■
<b>Power loss</b>				
Max. power loss [W]	11	6	11	6
<b>Bus connection</b>				
Integrated bus coupling units	■	■	■	■
Bus connection via bus terminal	■	■	■	■
<b>Outputs</b>				
<b>Control outputs</b>				
DALI outputs (lines)	2	1	2	8
DALI output acc. to IEC 60929 for DALI ECG (16 V, floating, short-circuit resistant)	■	■	■	■
Max. ECG per output	64	64	64	8
Selected DALI sensors	■	■	■	
<b>Functions</b>				
Direct operation	■	■	■	■
Broadcast operation	■	■	■	■
Standalone operation	■	■	■	
Configurable behavior in the event of a bus voltage failure/recovery	■	■	■	■
Support of CIN	■	■		
<b>Scene control</b>				
Integrated 8-bit scene control	■	■	■	■
Scenes to be integrated per DALI output	16	16	16	16
<b>Effect control</b>				
Integrated effect control (one-off or cyclic chaselight operation, color control)	4	4		
<b>Test function via ETS</b>				
Testing individual ECGs	■	■	■	
Testing group assignment	■	■	■	
Testing scenes	■	■	■	
Testing effects	■	■		
<b>Group control</b>				
Up to 16 groups per DALI output				
• Switching ON/OFF	■	■	■	
• BRIGHTER/DARKER dimming	■	■	■	
• Set value	■	■	■	
<b>Individual ECG control</b>				
Operation of individual ECG with				
• Switching ON/OFF	■	■	■ <sup>1)</sup>	
• BRIGHTER/DARKER dimming	■	■	■ <sup>1)</sup>	
• Set value	■	■	■ <sup>1)</sup>	
ETSAp in KNX Online Shop	■	■	■	
Pre-loaded applications	■	■		
Replace defective ECG without software	■	■	■	■

<sup>1)</sup> Only with application program 983Dxx

## Gateways, interface converters

### Overview and selection tools

#### ... Continuation of the table

					
Type	N 141/21	N 141/03	N 141/31		N 525E01
Application program <sup>1)</sup>	9834xx <sup>1)</sup>	9837xx <sup>1)</sup>	9833xx <sup>1)</sup>	983Dxx	980801
Name	Twin plus	plus	Twin	Twin	
<b>Time functions</b>					
Timer mode, 1-step (automatic stairwell switch)	■	■	■	■	■
Timer mode, 2-step	■	■	■	■	■
Night mode (lighting for cleaning)	■	■	■	■	■
Warning of impending OFF	■	■	■	■	■
<b>Dimming</b>					
BRIGHTER/DARKER dimming	■	■	■	■	■
Adjustable dimming time	■	■	■	■	■
Brightness limitation, adjustable min. dimming value/max. dimming value	■	■	■	■	■
<b>Switching</b>					
Switching ON/OFF	■	■	■	■	■
Configurable starting value	■	■	■	■	■
Switching ON/OFF possible via BRIGHTER/DARKER dimming	■	■	■	■	■
<b>Emergency lighting</b>					
Support for prescribed test sequences for emergency lights	■	■		■	
Controlling single battery lights	■	■		■	
Internal memory for test results	■	■			
<b>Status</b>					
DALI short circuit	■	■	■	■	■ <sup>2)</sup>
DALI power supply	■	■	■	■	■
Status output (ON/OFF, value, lamp fault, ECG fault)					■
Status group (ON/OFF, value, lamp fault, ECG fault)	■	■	■	■	
Status ECG (ON/OFF, value, lamp fault, ECG fault)	■	■		■	
<b>Further Functions</b>					
DALI sensors <sup>3)/</sup> 2-point-control	■	■	■	■	
Stand-by shut down (areas)	12	6		12	
Function burn-in	■	■		■	
Renew defective ECG without software	■	■	■	■	■
Stand-alone mode	■	■	■	■	
Pre-loaded applications	■	■			

<sup>1)</sup> For current application programs, see [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)

<sup>2)</sup> Per channel (line)

<sup>3)</sup> Only selected DALI sensors are supported, see APB [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)



**IP Interface Secure****N 148/23**

- For communication between KNX devices and PCs or other devices with Ethernet (10BaseT or 100BaseT) interface, for remote access to an KNX installation
- Uses the KNXnet/IP protocol or secured access and data transmission via KNXnet/IP Secure
- Up to four KNXnet/IP Tunneling connections for parallel bus access by ETS and further PC software
- Assignment of the network parameters by the installer using ETS, automatically by a DHCP server in the network
- 5 LEDs for display of availability, KNX communication and IP communication
- Electronics powered via "Power over Ethernet" according to IEEE 802.3af or alternatively by an external safety extra low voltage power supply for AC/DC 24V
- Pluggable terminal block for connection of external power supply unit (not included)
- Ethernet connection via RJ45 socket
- Housing: plastic, color RAL 7035 (light grey), N-system
- DIN rail mounted device for mounting on rail TH35 according to DIN EN 60715
- Type of protection: IP 20



Data sheet A6V11689764  
 Dimension width (1 MW = 18 mm) 2 MW

Stock no. Product no.  
 5WG1148-1AB23 **N 148/23**

**Accessories for N 148/23**

Product Title	Stock no.	Product no.
Electronic power supply unit, 350 mA	4AC2402	<b>4AC2402</b>
LOGO! Power 24 V/1.3 A	6EP3331-6SB00-0AY0	<b>LOGO!POWER 24 V/1,3 A</b>

**IP-Router Secure****N 146/03**

- For interconnection of bus lines or bus areas via a fast data network (Ethernet 10BaseT or 100BaseT) with Internet Protocol (IP)
- To be used as line, area and system coupler
- Uses the KNXnet/IP protocol or secured access and data transmission via KNXnet/IP Secure
- Up to four KNXnet/IP Tunneling connections for parallel bus access by ETS and further PC software
- Assignment of the network parameters by the installer using ETS, automatically by a DHCP server in the network
- 5 LEDs for display of availability, KNX communication and IP communication
- Electronics powered via "Power over Ethernet" according to IEEE 802.3af or alternatively by an external safety extra low voltage power supply for AC/DC 24 V
- Pluggable terminal block for connection of external power supply unit (not included)
- Ethernet connection via RJ45 socket
- Housing: plastic, color RAL 7035 (light grey), N-system
- DIN rail mounted device for mounting on rail TH35 according to DIN EN 60715
- Type of protection: IP 20



Data sheet A6V11656735  
 Dimension width (1 MW = 18 mm) 2 MW

Stock no. Product no.  
 5WG1146-1AB03 **N 146/03**

**Accessories for N 146/03**

Product Title	Stock no.	Product no.
Electronic power supply unit, 350 mA	4AC2402	<b>4AC2402</b>
LOGO! Power 24 V/1.3 A	6EP3331-6SB00-0AY0	<b>LOGO!POWER 24 V/1,3 A</b>

## Gateways, interface converters

### KNX/Ethernet

#### N 152/01



#### IP Control Center

Visualisation controller for full-graphic visualizations on web-compatible end devices such as PCs, tablets and smart phones with a standard web browser.

For communication between KNX devices and PCs and, in connection with a LAN-/WLAN modem or DSL router, for remote access to a KNX installation, for usage as an interface for the ETS 3/4/5 and as an interface for a visualization, with usage of the KNXnet/IP protocol, with the following simultaneously usable functions:

- Web server for operating and monitoring up to 1250 statuses and values transmitted by the KNX network, which can be displayed using a standard browser on PCs, tablets, or smartphones connected to the IP network
- Special web-configuration page for a firmware update, to set the IP configuration, SMTP server, security settings, password protection, certificates, Sonos module, API connection and restart
- Graphical web editor for a creation of fully graphical visualization with control and display elements, configurable in various styles
- Smart editor for the creation of a visualisation, tuned for mobile browsers, smartphones, tablets with control and display elements, configurable in various styles and layouts
- Annual timer, with astronomical calendar, for 300 time switch schedules with up to 30 time switch commands per time switch schedule
- Scene module with up to 5000 scenes or events
- Chart module for recording and reporting of up to 10 data points
- Monitoring module for monitoring and storage of up to 1000 events into a ring buffer
- IP interface for control of up to 20 IP-devices via up to 20 TCP/UDP commands per IP-device
- Fully graphical logic module with up to 1000 logic functions
- Alarm function for up to 250 different alarms
- E-mail function, with up to 20 contacts, for transmission of chart data from chart module, logged data from monitoring module or alarm data
- Data point management for viewing, managing, editing and categorizing all available data points
- Module for controlling SONOS loudspeakers
- Module for controlling the Philips HUE LED lighting system
- Ethernet interface 10/100 Mbits/s with RJ45 socket for connection to the IP network using the Internet Protocol
- 2 LED displays for IP connection/communication and for error messages
- Integrated bus connector and bus terminal for connection to a KNX network
- Power supply of the electronics by an external voltage source for AC/DC 24 V, 50 mA
- Series installation device for mounting on support rails TH35 DIN EN 60715

Data sheet

A6V10417875

Dimension width (1 MW = 18 mm)

4 MW

Stock no. Product no.

5WG1152-1AB01 **N 152/01**

#### Accessories for N 152/01

Product Title	Stock no.	Product no.
Electronic power supply unit, 350 mA	4AC2402	<b>4AC2402</b>
LOGO! Power 24 V/1.3 A	6EP3331-6SB00-0AY0	<b>LOGO!POWER 24 V/1,3 A</b>



## Web server for Synco devices

**OZW772..**

Web server OZW772 allows for remote plant control and monitoring via the web.

- Operate web browser via PC/laptop and Smartphone
- Operate ACS (PC/laptop with ACS plant operating software)
- Connections: USB and Ethernet
- Display fault messages in the web browser
- Send fault messages to a maximum of 4 e-mail recipients
- Periodically send system reports to e-mail recipients
- Visualize the plants in the web browser based on standard plant diagrams and customized plant web pages
- Acquire and display consumption data
- Send consumption data file to 2 email recipients
- Function "Energy indicator" to monitor data points for energy-related limit values, or "Green limits"
- Web services for external applications via Web API (Web Application Programming Interface)
- Encrypted with https and TLS for e-mails
- Record of trends, display and dispatch to 2 e-mail recipients
- Integration up to 237 S-Mode data points of KNX devices (not OZW772.01)
- Direct commissioning with web browser or ACS service tool
- Easy and secure remote access and plant overview with Synco IC Remote Access - a web-based service for secure remote access ([www.siemens-syncoic.com](http://www.siemens-syncoic.com))



Internet portal Synco IC offers simple and secure access to your plants

- Simple and fast set up of access via the Internet (fixed net- or mobile router)
- The portal provides additional functions:
  - Manage one or multiple plants
  - Central user management
  - Display of plant overview, state of Energy indicators and alarms
  - Send alarm notifications per e-mail
  - Secured communications through encryption (https)

Web servers OZW772.01, OZW772.04, OZW772.16, OZW772.250 can connect 1, 4, 16, or 250 KNX devices from the product ranges Synco 700, Synco RXB, and RDG/RDF room thermostats, and the QAX Synco living central apartment units.

Data sheet	N5701
Operating voltage	Power pack: AC 230 V Web server: DC 24 V
Communication	KNX TP (twisted pair) Ethernet, RJ45 plug socket (shielded) USB V2.0
Mounting	On DIN rails With Screws
Degree of protection	IP30
Dimensions (W x H x D)	87.5 x 90 x 40 mm

## Range overview OZW772..

Product Title	Stock no.	Product no.
Web server for 1 Synco device	BPZ:OZW772.01	<b>OZW772.01</b>
Web server for 4 Synco devices	BPZ:OZW772.04	<b>OZW772.04</b>
Web server for 16 Synco devices	BPZ:OZW772.16	<b>OZW772.16</b>
Web server for 250 Synco devices	BPZ:OZW772.250	<b>OZW772.250</b>

## Gateways, interface converters

### KNX/DALI

#### N 141/03, N 141/21



#### KNX/DALI Gateway plus/Twin plus

- With emergency lighting, with sensors
- For communication via KNX EIB with electronic ballasts (ECG) with a DALI interface
- DALI outputs acc. to IEC 62386, each for communication with up to 64 DALI ECG and at least 10 sensors
- Integrated power supply with input voltage AC 110-240 V, 50-60 Hz or DC 120-240 V for powering the gateway electronics and DALI output
- Maximum DALI output voltage of 19 V, short circuit resistant
- Incorrect voltage detection during commissioning, whether incorrect power line is connected to a DALI output
- LED display for displaying operation mode and error messages
- Pushbutton for switching between bus and direct operating mode
- One pair of pushbuttons for switching On/Off of all connected DALI ECG
- One LED per DALI output for status signal of all connected luminaires in direct mode
- Configurable assignment of max. 64 DALI ECG per channel to max. 16 DALI groups per channel, exclusive controlled in groups or single (switching, dimming, set dimming value) and feedback for group status and lamp failure
- Configurable behaviour for bus failure (stand-alone mode)
- Configurable pre-loaded applications without software (ETS)
- Configurable function burn-in for all ECG via pushbutton or single via object
- Scheduler for day, week, date and additional astro function
- Control (switching, dimming, set dimming value) of all connected luminaires together in broadcast mode
- Status signal and display of lamp and ECG failure per group and per DALI device
- Transformation of dimming commands into a temporary set point adjustment for ECG with integrated constant light level control and directly connected light level sensor
- One or two level timer
- Up to four integrated one time or cyclical control of repeatable sequences or color effects
- Distinction between self-contained emergency luminaires with one or two DALI devices
- Starting the self-conducted testing of each individual inverter and reporting the test result via bus or save in a persistent memory with memory space monitoring over object
- Distinction between function test, short duration test, and long duration test
- Optional configuration of any DALI ECG to dim to a preset dimming value in case of emergency mode
- Locking of switching and dimming commands as well as configuration while emergency mode is activated
- Activation of emergency mode based on a configurable number of failed DALI ECG
- Lock object to elimination of failure messages interruption of ECG during emergency lighting testing
- Inhibit mode for disabling battery mode of self-contained emergency luminaires over pushbutton
- Per channel up to six stand-by-area analysis for activation of switch actuators
- Integrated scene control for up to 16 scenes per channel
- 16 integrated 2-level-controller for brightness control
- 16 integrated constant light level controller for main luminaires group and up to four additional luminaires groups
- Possible assignment of a CIN to a DALI ECG
- Possibility to reintegrate defective DALI ECG without software (ETS)
- Assignment of DALI ECG to groups and test option for ECG, groups, scenes and effects via ETS during commissioning
- Assignment of DALI sensors and test option of sensors via ETS during commissioning
- Integrated bus coupling unit with only half a standard bus load, bus connection via bus terminal
- Mounting on DIN rail EN 60715-TH35-7.5

Data sheet

A6V10466086

#### Range overview N 141/03, N 141/21

Product Title	Dimension width (1 MW = 18 mm)	Stock no.	Product no.
KNX/DALI Gateway Twin plus, 2 channels	4 MW	5WG1141-1AB21	<b>N 141/21</b>
KNX/DALI Gateway plus, 1 channel	4 MW	5WG1141-1AB03	<b>N 141/03</b>

**KNX/DALI Gateway Twin****N 141/31**

- Communication via KNX EIB with electronic ballasts (ECG) with a DALI interface
- Two (2) DALI output acc. to IEC 62386, each for communication with up to 64 DALI ballasts and at least 10 sensors
- Integrated power supply with input voltage AC 110...240 V, 50...60 Hz or DC 120...240 V for powering the gateway electronics and DALI output
- Maximum DALI output voltage of 19 V, short circuit resistant
- Incorrect voltage detection during commissioning, whether incorrect power line is connected to a DALI output
- LED display for displaying operation mode and error messages
- Pushbutton for switching between bus and direct operating mode
- One pair of pushbuttons for switching On/Off of all connected DALI ballasts
- One LED per DALI output for status signal of all connected luminaries in direct mode
- Configurable behaviour for bus failure (stand-alone mode)
- Control (switching, dimming, set dimming value) of all connected luminaries together in broad-cast mode
- Status signal and display of lamp and ECG failure per group and per DALI device
- One or two level timer
- Integrated scene control for up to 32 scenes
- Assignment of DALI ECG to groups and test option for ECG, groups and scenes via ETS during commissioning
- Possibility to reintegrate defective DALI ECG without software
- Integrated bus coupling unit with only half a standard bus load
- Bus connection via bus terminal
- Mounting on DIN rail EN 60715-TH35-7.5

The following options are selectable, depending on the application program:

- Configurable assignment of max. 128 DALI ECG to max. 32 DALI groups, exclusive controlled in groups or single (switching, dimming, set dimming value) and feedback for group status and lamp failure
- Configurable function burn-in for all ECG via pushbutton or single via object
- Up to twelve stand-by-area analysis for activation of switch actuators
- Distinction between self-contained emergency luminaries with one or two DALI devices
- Optional configuration of any DALI ECG to dim to a preset dimming value in case of emergency mode
- Locking of switching and dimming commands as well as configuration while emergency mode is activated
- Activation of emergency mode based on a configurable number of failed DALI ECG
- Lock object to elimination of failure messages interruption of ECG during emergency lighting testing
- Inhibit mode for disabling battery mode of self-contained emergency luminaries over pushbutton
- 16 integrated 2-level-controller for brightness control
- Assignment of DALI sensors and test option of sensors via ETS during commissioning

Data sheet A6V10466084  
 Dimension width (1 MW = 18 mm) 4 MW

Stock no. Product no.

5WG1141-1AB31 **N 141/31**

## Gateways, interface converters

### KNX/DALI

#### N 525E01



#### Switch/dimming actuator, 8 x DALI, 8 ECGs per DALI output

- 8 DALI outputs
- Control capacity for up to 8 DALI-ECGs per DALI output
- Power supplied to the electronics and the DALI outputs through an integrated power supply unit for AC 230 V
- Green LED for status display
- Pushbutton for selecting and switching over 4 DALI outputs respectively between bus and direct mode
- Yellow LED for indicating which 4 DALI outputs the direct mode is activated for
- 1 red LED per DALI output for indicating the circuit state or fault (e.g. lighting medium failure) of the connected group
- Four pushbutton pairs for switching and dimming of 4 DALI outputs in direct mode, functional when AC 230 V is applied (also when no bus voltage is connected and also when bus communication has not yet been started or is interrupted)
- Selection of identical or individual configuration of all DALI outputs
- Selectable operating mode per DALI output (normal mode, 1-level or 2-level time-switch mode)
- Per DALI output with command objects for switching on/off, dimming brighter/darker and setting dimming value
- Per DALI output optionally with up to 4 add-on status objects (circuit state and lighting medium failure, dimming value status and DALI status)
- Sending of status objects on request and/or automatically after change
- Per DALI output with add-on object for time-limited switching on of lighting in night mode (cleaning light)
- Warning approx. 1 minute before imminent switching off, by dimming to 50% of former dimming value in night or timer mode
- Adjustable switching on and/or off of a channel through dimming brighter/darker, dimming value when switching on, actuating or dimming a new dimming value, dimming time from 0% to 100%
- Adjustable behavior on bus voltage or mains voltage failure and bus voltage or mains voltage recovery
- Add-on object and integrated 8bit scene control for saving and restoring up to 16 scenes per DALI output
- Integrated bus coupling unit as only half standard bus load, bus connection through bus terminal
- Device for mounting on rail TH35 DIN EN 60715

Data sheet	A6V10416176
Rated voltage	AC 120 V AC 230 V
Number of channels	2
Dimension width (1 MW = 18 mm)	4 MW

Stock no. Product no.

5WG1525-1EB01 **N 525E01**

## Accessories for KNX / DALI Gateway

## DALI Push button interface 4fold

- Binary input device
- 4 inputs to connect installation buttons
- Supported actions per input
  - Short button press
  - Long button press
- Integrated DALI bus coupling unit for communicating with a central DALI controller/gateway
- Power supply through DALI line with 6 mA DALI bus load
- For flush-mounting wall or ceiling outlet installations with a 60 mm diameter and depth of 60 mm
- Plug-in terminals for connecting the DALI line
- Cable set for connecting pushbuttons

Data sheet

A6V11786002

Dimensions (W x H x D)

43 x 43 x 11 mm

UP 141/71



Stock no.

Product no.

5WG1141-2AB71

UP 141/71



## Gateways, interface converters

### KNX/BACnet

#### N 143/01



#### IP Gateway KNX/BACnet

- BACnet Application Specific Controller (B-ASC) as Gateway between KNX TP and BACnet IP
- BTL certified
- Up to 250 BACnet objects
- Up to 455 BACnet COV subscriptions
- Automatic translation of KNX communication objects into BACnet objects according to the configuration with ETS
- For communication between KNX EIB devices and PCs or other devices with Ethernet (10BaseT) interface, as well as in conjunction with a LAN modem or DSL router for remote access to an KNX EIB installation
- For use as an interface e.g. for ETS3 or for visualization software
- Use the KNXnet/IP protocol
- KNXnet/IP Tunneling connection for parallel bus access by ETS and further PC software
- ObjectServer connection for visualization via network connections with long signal transmission duration
- Assignment of the network parameters by the installer using ETS, or automatically by a DHCP server in the network
- 2 LEDs for display of operational availability and IP communication
- Additional power supply by an external safety extra low voltage power supply for AC/DC 24 V, 40 mA
- Pluggable terminal block for connection of external power supply unit (not included)
- Integrated bus coupling unit with bus connection via bus terminal
- Ethernet connection via RJ45 socket
- Mounting on DIN rail EN 60715-TH35-7.5

Data sheet

A6V10466141

Dimension width (1 MW = 18 mm)

4 MW

Stock no.

Product no.

5WG1143-1AB01

**N 143/01**

#### Accessories for N 143/01

Product Title	Stock no.	Product no.
Electronic power supply unit, 350 mA	4AC2402	<b>4AC2402</b>
LOGO! Power 24 V/1.3 A	6EP3331-6SB00-0AY0	<b>LOGO!POWER 24 V/1,3 A</b>

**USB Interface****N 148/12**

- Compatible with USB 2.0 and USB 3.0
- For isolated access to the bus line over the built-in USB socket (type B)
- For connection of a PC for addressing, parameterization, visualization, logging and diagnosis of bus devices
- Access to all bus devices in the whole bus system
- Support of bus telegrams with up to 64 bytes length
- Power supply over the bus line and over USB through the connected PC
- Integrated bus coupling unit, bus connection over bus terminal
- Transmission at USB 2.0 speed (max. 12 Mbit/s) between PC and USB interface
- Modular installation device for mounting on TH35 DIN EN 60715 mounting rail



Data sheet

A6V11535346

Dimension width (1 MW = 18 mm)

1 MW

Stock no.

Product no.

5WG1148-1AB12

**N 148/12****USB - KNX Service interface****OCI702**

The service interface consists of:

- OCI702 service interface
- USB 2.0 cable (Type A / B)
- KNX service cable for Synco™ controllers (RJ45 / RJ45)
- KNX service cable for Desigo™ TRA (RJ45 / jack plug 2.5 mm)
- KNX service cable (RJ45 / KNX bus terminal)



With the respective PC software, the interfaces allows to commission and service devices with KNX communication, e.g. from the following ranges:

- Synco™ 700 controllers and room devices
- KNX room thermostats RDF..., RDG..
- Individual room controllers RXB..
- Synco™ living central apartment units QAX9...
- Desigo TRA
- GAMMA devices

Data sheet

A6V10438951

Stock no.

Product no.

S55800-Y101

**OCI702**

## Gateways, interface converters

### KNX/LOGO!

#### LOGO! CMK2000



#### Communication Module LOGO! CMK2000

- For communication between LOGO! 8 and KNX devices via the KNX bus
- Transformation of typical PLC signals into KNX telegrams and vice versa
- Linking transmitted KNX data points and LOGO! inputs and outputs via logic and control functions through LOGO!
- The following channels are available at the maximum configuration level of the LOGO!:
  - 24 binary inputs
  - 20 binary outputs
  - 8 analog inputs
  - 8 analog outputs
- Date and time can be synchronized via KNX
- 50 configurable communication objects
- Communication via Ethernet with LOGO! 8

Data sheet

A6V11642346

Dimension width (1 MW = 18 mm)

4 MW

Stock no.

Product no.

6BK1700-0BA20-0AA0

**LOGO! CMK2000**

# Physical sensors



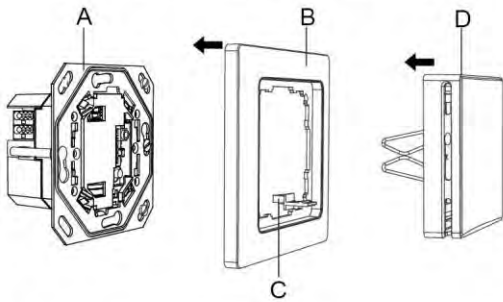
Overview and selection tools		304
with KNX connection	Motion/presence	307
	Brightness	309
	Temperature, humidity	310
	Temperature, humidity, air quality	317
	Multisensors	320
without KNX connection	Motion	324
	Temperature	325
	Humidity	328
	Air quality	332
	Sunlight intensity	336

## Physical sensors

## Overview and selection tools

## Room sensors for flush mounting

The Symaro sensor front module is equipped with spring clips. The spring clips ensure easy and error-free mounting of the front module to the basic module. In addition, an anti-theft device prevents unauthorized removal of the front module.



A: Basic module AQR257../AQR254...

B: DELTA frame see chapter Display and operation units - Pushbutton accessories

C: Anti-theft device

D: Front module AQR253..

## Overview of module combinations – Room sensors

Communicating sensors		Mounting <sup>1)</sup>	Measuring Variables			Display	Input	
Basic module	Front module		CO2	Relative humidity	Temperature	CO2-indicator	passive Temperature NTC 10k	Two potential-free contacts
AQR2570Nx	+ AQR2532NNW	UP			■		■	■
AQR2570Nx	+ AQR2535NNW	UP		■	■		■	■
AQR2576Nx	+ AQR2530NNW	UP	■				■	■
AQR2576Nx	+ AQR2532NNW	UP	■		■		■	■
AQR2576Nx	+ AQR2535NNW	UP	■	■	■		■	■
AQR2576Nx	+ AQR2535NNWQ	UP	■	■	■ (radial)	■	■	■
QMX3.P30		AP			■			
QMX3.P40		AP		■	■			
QMX3.P70		AP	■	■	■	■		

Replace x with:

– F for VDE/CEE (70x70 mm)

– H for British Standard (83x83 mm)

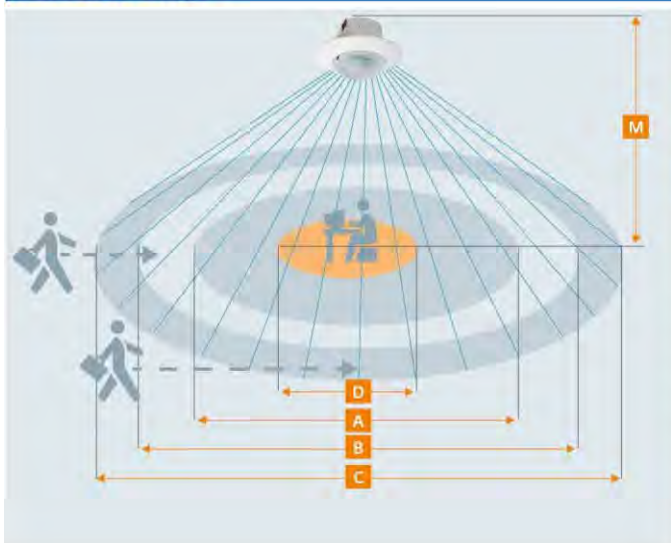
– G for Italian Standard 3 modular (110x64 mm)

– J for UL Standard 2" x 4" (64x110 mm)

<sup>1)</sup> AP surface mounted, UP flush mounted

11

## Detection range



The maximum detection ranges to be achieved are as follows divided:

- A** Sitting person
- B** Walking person straight
- C** Walking person crosswise (tangential)
- D** Brightness measurement
- M** Mounting height from floor level






Maximum achievable detection ranges  
for UP 258E22 / UP 258D12 (in meters)

M	A	B	C	D
5.0	–	Ø 8.5	Ø 14	Ø 3.0
4.0	–	Ø 7.5	Ø 12	Ø 2.3
3.5	Ø 5.5	Ø 6.5	Ø 10	Ø 2.0
3.0	Ø 5.0	Ø 6.0	Ø 8	Ø 1.6
2.5	Ø 4.5	Ø 5.0	Ø 7	Ø 1.2



## Physical sensors

### Overview and selection tools

Physical Sensors with KNX connection					
					
Type	UP 258E22 UP 258D12	UP 255D21	AP 254/02	AQR257..	QMX3..
<b>Enclosure data</b>					
Mounting <sup>1)</sup>	UP/AP	UP	AP	UP	AP
Degree of protection	IP20	IP20	IP54	IP20	IP30
<b>Dimensions</b>					
• Width/Ø [mm] (1 MW = 18 mm)	88	88	72	71	89
• Height [mm]	63 <sup>2)</sup>	63 <sup>2)</sup>	110	71	134
• Depth [mm]			54	39	18
<b>Power supply</b>					
Bus-powered electronics	KNX	KNX	KNX	KNX	KNX
<b>Bus connection</b>					
Integrated bus coupling units	■	■	■	■	■
Bus connection via bus terminal	■	■	■	■	■
Bus connection via contact system to data rail					
Transmission of sensor values via bus	■	■	■	■	■
<b>Motion/presence</b>					
Motion	■				
Presence	■				
HVCA message output	■				
Horizontal sensing angle	360°				
Vertical sensing angle	105°				
Range to the front [m]					
Range on each side, up to [m]	7 <sup>3)</sup>				
Adjustable range					
<b>Brightness</b>					
Measuring range [Lux]	20...1000	20...1000	1...100000		
For measuring outdoor brightness			■		
For measuring indoor brightness (mixed light)	■	■			
<b>Temperature</b>					
Measuring range [°C]			-25...+55	0...50 <sup>4)</sup>	0...50 <sup>4)</sup>
Temperature sensor inputs				NTC 10k <sup>4)</sup>	
Max. cable length, unshielded, twisted [m]				10 <sup>4)</sup>	
Humidity [% r.F.]				0...100 <sup>4)</sup>	0...100 <sup>4)</sup>
CO2 [ppm]				0...5000 <sup>4)</sup>	0...5000 <sup>4)</sup>

<sup>1)</sup> AP surface mounted, UP flush mounted

<sup>2)</sup> For flush mounting, mounting height approx. 31 mm, for surface mounting with AP 258E surface-mounting enclosure, approx. 73 mm.

<sup>3)</sup> For complete technical data visit [www.siemens.de/gamma-td](http://www.siemens.de/gamma-td)

<sup>4)</sup> Only available with appropriate module combination or variant.

## Physical sensors

### Overview and selection tools

Physical Sensors without KNX connection										
Active sensors			Mounting <sup>4)</sup>	Measuring Variables					Display	Relay contact
Basic module	+	Front module		CO <sub>2</sub>	VOC	Relative humidity	Active temp.	Passive temp.	CO <sub>2</sub> -indicator	
AQR2540Nx	+	AQR2532NNW	UP				■			
AQR2540Nx	+	AQR2535NNW	UP			■	■			
AQR2540Nx	+	AQR2534ANW	UP			■	■	LG-Ni1000		
AQR2546Nx	+	AQR2530NNW	UP	■						
AQR2546Nx	+	AQR2532NNW	UP	■			■			
AQR2546Nx	+	AQR2535NNW	UP	■		■	■ <sup>2)</sup>			
AQR2546Nx	+	AQR2535NNWQ	UP	■		■	■ <sup>2)</sup>		■	
AQR2546Nx	+	AQR2534ANW	UP	■		■	■ <sup>2)</sup>	LG-Ni1000		
AQR2547Nx	+	AQR2530NNW	UP		■		■			
AQR2547Nx	+	AQR2532NNW	UP		■		■			
AQR2547Nx	+	AQR2535NNW	UP		■	■	■ <sup>2)</sup>			
AQR2547Nx	+	AQR2534ANW	UP		■	■	■ <sup>2)</sup>	LG-Ni1000		
AQR2548Nx	+	AQR2530NNW	UP	■	■ <sup>1)</sup>					
AQR2548Nx	+	AQR2532NNW	UP	■	■ <sup>1)</sup>		■			
AQR2548Nx	+	AQR2535NNW	UP	■	■ <sup>1)</sup>	■	■ <sup>2)</sup>			
AQR2548Nx	+	AQR2535NNWQ	UP	■	■ <sup>1)</sup>	■	■ <sup>2)</sup>		■	
AQR2548Nx	+	AQR2534ANW	UP	■	■ <sup>1)</sup>	■	■ <sup>2)</sup>	LG-Ni1000		
AQR2500Nx	+	AQR2531ANW	UP					LG-Ni1000		
<b>Room sensor</b>										
QAA2012			AP							
QAA2061			AP				■ <sup>3)</sup>			
QAA2061D			AP				■ <sup>3)</sup>			
QAA2071			AP				■ <sup>3)</sup>			
<b>Contact sensor</b>										
QAD2012			AP							
<b>External sensor</b>										
QAC2012			AP							
QAC3161			AP				■ <sup>3)</sup>			
<b>Room sensor</b>										
QFA2000			AP			■				
QFA2060			AP			■	■ <sup>3)</sup>			
QFA2060D			AP			■	■ <sup>3)</sup>		■	
<b>Hygrostats</b>										
QFA1000			AP			■ <sup>3)</sup>				■
QFA1001			AP			■ <sup>3)</sup>				■
<b>Room sensor</b>										
QPA2000			AP	■						
QPA2002			AP	■	■					
QPA2060			AP	■			■ <sup>3)</sup>			
QPA2062			AP	■		■	■ <sup>3)</sup>			
QPA2062D			AP	■		■	■ <sup>3)</sup>		■	

<sup>1)</sup> Here, the in-door air quality is calculated from the CO<sub>2</sub> and VOC measuring variables. VOC is not available as direct measuring variable

<sup>2)</sup> The measuring variable is solely available as switch output

<sup>3)</sup> Measuring range adjustable

<sup>4)</sup> AP surface mounted, UP flush mounted

**Presence detector / Motion detector with constant light level control****UP 258E22**

Passive infrared detector for ceiling mounting indoors

- Optional blinding of parts of the detection area
- Mixed light measurement
- Cyclical sending or sending on change of value of the measured brightness value (Lux)
- Integrated two-position controller
- Constant light level control for a main group of luminaries and up to four additional groups of luminaries
- Lighting control configurable as fully automatic or semi-automatic
- Motion detection for three function blocks (presence detector, motion detector, and HVAC detector)
- 2 per function block selectable functions (A, B) on start of the presence detection and two per function block selectable functions (C, D) on expiration of the presence detection
- Configurable delay of 0...255 seconds between sending of function A and B respectively C and D
- Selection per function (A, B, C, D) switching On/Off, 8-bit value, selectable 8-bit value, 16-bit value, temperature value, brightness value, 8-bit scene control
- Blocking object per function block
- Per function block configurable overshoot time, in each case configurable as a fixed time, as switchable between two times via the bus, or settable to a value via the bus
- Parallel operation of several presence detectors (master-slave, master-master) without additional logic module
- Integrated IR receiver and IR decoder for IR remote controls with six pairs of pushbuttons
- Functions of the IR remote control selectable per pair of pushbuttons or per each single pushbutton of a button pair
- Per pushbutton selectable function toggle, switching on, switching off, 8-bit scene recall, 8-bit value, 16-bit value, temperature value, brightness value
- For each pair of pushbuttons selectable function switching On/Off, 2-button dimming with stop telegram, 2-button solar protection control, variable 8-bit value, 8-bit scene control
- Blocking object for IR decoder
- Test mode for easy start-up
- LED for display of detected movements in test mode, to be configured using ETS
- Integrated bus coupling unit, bus connection via bus terminal, Power supply over the bus line
- Ceiling mounting on a flush-mounting box with 60 mm diameter and min. 40 mm depth or in a housing for surface-mounting (to be ordered separately)
- Monitoring motion range horizontal 360°, vertical approx. 105°
- Monitoring motion of an area of diameter 8 m (depending on mounting/room height)
- Programming button reachable from front



Data sheet A6V10489482  
 Dimension (Ø x H) 88 x 63 mm

Stock no. Product no.  
 5WG1258-2EB22 UP 258E22

**Presence detector with brightness sensor****UP 258D12**

- Passive infrared detector for ceiling mounting indoors
- Mixed light measurement
- Ceiling mounting on a flush-mounting box with 60 mm diameter and min. 40 mm depth or in a housing for surface-mounting (to be ordered separately)
- Integrated IR decoder for S 255/11
- Programming button reachable from front



Data sheet A6V10489482  
 Dimension (Ø x H) 88 x 63 mm

Stock no. Product no.  
 5WG1258-2DB12 UP 258D12

## Physical sensors with KNX connection Motion/presence

### Accessories for UP 258D12, UP 258E22 and UP 255D21

#### AP 258E01



#### Surface-mounting enclosure

- For fixing the presence detectors UP 258D12 and UP 258E22 and the brightness sensor UP 255D21 as a surface mounting device

Data sheet

A6V10416111

Dimension (Ø x H)

88 x 44 mm



Stock no.

Product no.

5WG1258-7EB01

**AP 258E01**

#### S 255/11



#### IR remote control

- 6 pushbutton pairs for the remote control of lighting, shutter/blinds and scenes
- Parameterization is via ETS in the presence detectors UP 258E and UP 258D and in the brightness sensor UP 255D21
- Range: approx. up to 10 m
- Power supply: CR2025 lithium button cell
- Degree of protection (acc. to EN 60529): IP40
- 6 pushbutton pairs for the remote control of lighting, shutter/blinds and scenes via UP 258E21 or UP 258D11 presence detector
- Range: approx. 4.5 m
- Power supply: CR2025 lithium button cell
- Degree of protection (acc. to EN 60529): IP40

Data sheet

A6V11786011

Dimensions (W x H x D)

40 x 87 x 6 mm



Stock no.

Product no.

5WG1255-7AB11

**S 255/11**



## Physical sensors with KNX connection Brightness

### Brightness sensor with constant light level controller

UP 255D21

- Mixed light measurement
- Ceiling mounting on a flush-mounting box with 60 mm diameter and min. 40 mm depth or in a housing for surface-mounting (to be ordered separately)
- Programming button reachable from front
- Integrated IR decoder for S 255/11
- Integrated 2-point control (switching)
- Constant light level control for main group of luminaries and up to 4 additional groups of luminaries incl. automatic calibrating



Data sheet A6V10489482  
Dimension (Ø x H) 88 x 63 mm

Stock no. Product no.  
5WG1255-2DB21 UP 255D21

### Dual sensor for brightness measurement, temperature measurement, sun protection control, lighting control

AP 254/02

- Brightness measurement, temperature measurement, sun protection control, lighting control
- For the detection and transmission of brightness and temperature
  - Temperature measuring range -25 °C...+55 °C
  - Brightness measuring range 1 Lux...100 kLux
  - Horizontal sensing angle -60°...+60°, vertical -35°...+66.5°
- For the control of switch, dimming and shutter/blind actuators, depending on the ambient luminosity and/or ambient temperature
- One sun protection channel for the automatic control of sun protection equipment, with
  - Starting and stopping of automation by means of an object or a dusk threshold
  - Up to three brightness thresholds for determining the height and position of the shutters/blinds or roller shutters
  - Optional teach-in of dusk thresholds and brightness thresholds by means of a teach-in facility
  - Blocking object for the temporary deactivation of the sun protection channel function
- Up to four universal channels for the control of switch, dimming and shutter/blind actuators, depending on ambient luminosity and/or temperature. Optionally available with:
  - Threshold switches for brightness
  - Threshold switches for temperature
  - Threshold switches with logical combination of brightness and temperature
  - Optional teach-in of brightness threshold for each universal channel by means of an associated teach-in facility
  - Deactivation option for each universal channel by means of an associated blocking object (1 bit)
  - Optional second object for transmission of a second telegram on fulfillment of threshold conditions
- Bus-powered electronics
- Integrated bus coupling units
- Bus connection via bus terminal
- Surface mounting
- Degree of protection: IP54



Data sheet A6V10416100  
Dimensions (W x H x D) 72 x 110 x 54 mm

Stock no. Product no.  
5WG1254-3EY02 AP 254/02



## Physical sensors with KNX connection Temperature, humidity

### AQR2530NNW



#### Front module for base module, without sensor

- Front module without sensor for plugging onto the Base module
- Matching the DELTA line and DELTA miro frame program

Data sheet	N1411
Color	Titanium white
Degree of protection	IP30
Dimensions (W x H)	55 x 55 mm

Stock no.

Product no.

S55720-S137

**AQR2530NNW**

Matching the DELTA line and DELTA miro frame program. See chapter Display and Operation Units.  
The relevant base modules must be ordered separately. See chapter Physical sensors.

### AQR2532NNW



#### Front module for base modules, temperature (active)

- Front module with sensor for plugging onto the Base module
- Matching the DELTA line and DELTA miro frame program

Data sheet	N1411
Measuring range, temperature	0...50 °C
Signal output temperature	Active
Color	Titanium white
Degree of protection	IP30
Dimensions (W x H)	55 x 55 mm

Stock no.

Product no.

S55720-S136

**AQR2532NNW**

Matching the DELTA line and DELTA miro frame program. See chapter Display and Operation Units.  
The relevant base modules must be ordered separately. See chapter Physical sensors.

## Physical sensors with KNX connection Temperature, humidity

### Front module for base modules, humidity and temperature (active)

AQR2535NNW

- Front module with humidity and temperature sensor for plugging onto the Base module
- Matching the DELTA line and DELTA miro frame program



Data sheet	N1411
Measurement range humidity	0...100 %
Sensing element, temperature	Active
Measuring range, temperature	0...50 °C
Signal output temperature	Active
Color	Titanium white
Degree of protection	IP30
Dimensions (W x H)	55 x 55 mm

Stock no. Product no.

S55720-S141 AQR2535NNW

Matching the DELTA line and DELTA miro frame program. See chapter Display and Operation Units.  
The relevant base modules must be ordered separately. See chapter Physical sensors.

### Base module with KNX for temperature and humidity measurement

AQR2570..

- Base module without sensor for plugging onto a front module
- 1 analog input to connect temperature sensors with NTC 10k sensing element to measure room, floor, or ceiling temperature
- 2 multifunctional binary inputs to connect window contacts or buttons
- Power supply via KNX bus, bus load < 5 mA
- Communication: KNX S-Mode, KNX PL-Link
- Temperature control as continuous control (PID algorithm) for pure heating operation, heating and cooling operation, and adjustable positioning variable as continuous positioning signal 0...100%, or as pulse-width modulated (PWM) switching signal On/Off,
- Ventilation control across 3 settable switching steps for relative humidity, and 3 switching signal objects On/Off, or one positioning signal object 0...100% to control a ventilation actor
- Via setpoints for room temperature and relative humidity adjustable via KNX bus
- Adjustable commissioning and control parameters
- Integrated bus coupler with programming button and LED



Data sheet	N1411
Voltage supply	KNX bus
Analog inputs, number	1
Analog inputs	Passive temperature sensor NTC 10k
Digital inputs, number	2
Digital inputs	Potential-free contacts

### Range overview AQR2570..

Mechanical design	Dimensions (W x H)	Stock no.	Product no.
EU (CEE/VDE)	70.8 x 70.8 mm	S55720-S203	AQR2570NF
IT (3 Modular)	110 x 64 mm	S55720-S205	AQR2570NG
UK (British Standard)	83 x 83 mm	S55720-S204	AQR2570NH
US (UL)	64 x 110 mm	S55720-S206	AQR2570NJ

## Physical sensors with KNX connection Temperature, humidity

### AP 254/02



### Dual sensor for brightness measurement, temperature measurement, sun protection control, lighting control

- Brightness measurement, temperature measurement, sun protection control, lighting control
- For the detection and transmission of brightness and temperature
  - Temperature measuring range -25 °C...+55 °C
  - Brightness measuring range 1 Lux...100 kLux
  - Horizontal sensing angle -60°...+60°, vertical -35°...+66.5°
- For the control of switch, dimming and shutter/blind actuators, depending on the ambient luminosity and/or ambient temperature
- One sun protection channel for the automatic control of sun protection equipment, with
  - Starting and stopping of automation by means of an object or a dusk threshold
  - Up to three brightness thresholds for determining the height and position of the shutters/blinds or roller shutters
  - Optional teach-in of dusk thresholds and brightness thresholds by means of a teach-in facility
  - Blocking object for the temporary deactivation of the sun protection channel function
- Up to four universal channels for the control of switch, dimming and shutter/blind actuators, depending on ambient luminosity and/or temperature. Optionally available with:
  - Threshold switches for brightness
  - Threshold switches for temperature
  - Threshold switches with logical combination of brightness and temperature
  - Optional teach-in of brightness threshold for each universal channel by means of an associated teach-in facility
  - Deactivation option for each universal channel by means of an associated blocking object (1 bit)
  - Optional second object for transmission of a second telegram on fulfillment of threshold conditions
- Bus-powered electronics
- Integrated bus coupling units
- Bus connection via bus terminal
- Surface mounting
- Degree of protection: IP54

Data sheet

A6V10416100

Dimensions (W x H x D)

72 x 110 x 54 mm

Stock no.

Product no.

5WG1254-3EY02

**AP 254/02**

## Physical sensors with KNX connection Temperature, humidity

### Room sensor KNX for temperature, white

QMX3.P30

#### Functions:

- Temperature sensor
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO<sub>2</sub> concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO<sub>2</sub>)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO<sub>2</sub>)
- Setpoint for room temperature and relative humidity and CO<sub>2</sub> concentration adjustable via KNX



Data sheet	N1602
Voltage supply	KNX bus
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link KNX S-Mode KNX LTE-Mode
Color	White
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H103

QMX3.P30

## Physical sensors with KNX connection Temperature, humidity

### QMX3.P30-1BSC

### Room sensor KNX for temperature, black



#### Functions:

- Temperature sensor
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO<sub>2</sub> concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO<sub>2</sub>)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO<sub>2</sub>)
- Setpoint for room temperature and relative humidity and CO<sub>2</sub> concentration adjustable via KNX

Data sheet	N1602
Voltage supply	KNX bus
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link
	KNX S-Mode
	KNX LTE-Mode
Color	Black
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H123

QMX3.P30-1BSC



## Physical sensors with KNX connection Temperature, humidity

### Room sensor KNX for temperature and humidity, white

QMX3.P40

#### Functions:

- Multisensor for temperature and humidity
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO<sub>2</sub> concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO<sub>2</sub>)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO<sub>2</sub>)
- Setpoint for room temperature and relative humidity and CO<sub>2</sub> concentration adjustable via KNX



Data sheet	N1602
Voltage supply	KNX bus
Measuring range	NTC: 0...50 °C Humidity: 10%...95 % r.F.
Sensing element	Temperature sensor and humidity sensor
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link KNX S-Mode
Color	White
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H116

QMX3.P40

## Physical sensors with KNX connection Temperature, humidity

### QMX3.P40-1BSC



### Room sensor KNX for temperature and humidity, black

#### Functions:

- Multisensor for temperature and humidity
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO2 concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO2)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO2)
- Setpoint for room temperature and relative humidity and CO2 concentration adjustable via KNX

Data sheet	N1602
Voltage supply	KNX bus
Measuring range	NTC: 0...50 °C Humidity: 10%...95 % r.F.
Sensing element	Temperature sensor, relative humidity sensor
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link KNX S-Mode
Color	Black
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.	Product no.
S55624-H124	<b>QMX3.P40-1BSC</b>

### Accessories for QMX3..

Product Title	Dimensions (W x H)	Stock no.	Product no.
Basic plate for conduit and cavity wall box	80.5 x 115 mm	S55624-H110	<b>QMX3.MP1</b>

### QAP1030.200



### Cable temperature sensor PVC 2 m, NTC 10k

Data sheet	N1831
Measuring range, temperature	-25...95 °C
Sensing element, temperature	NTC 10k
Measurement accuracy	At -25...95 °C: ±1.4 K
Time constant	Fitted to pipe: <20 s
Protection pocket	40,5 x 6 mm
Material, protection pocket	Stainless steel
Connection cable	PVC
Cable length	2 m
Type of fixing	Cable tie or with accessories
Degree of protection	IP65

Stock no.	Product no.
BPZ:QAP1030.200	<b>QAP1030.200</b>

## Physical sensors with KNX connection Temperature, humidity, air quality

### Front modules for base module

AQR253..

- Front module with sensors
- Matching the DELTA line and DELTA miro frame program

Data sheet	N1411
Color	Titanium white
Degree of protection	IP30
Dimensions (W x H)	55 x 55 mm



### Range overview AQR253..

Measuring range, temperature [°C]	Signal output temperature	Measurement range humidity [%]	Display	Stock no.	Product no.
0...50	Active			S55720-S137	AQR2530NNW
0...50	Active			S55720-S136	AQR2532NNW
0...50	Active	0...100		S55720-S141	AQR2535NNW
0...50	Active	0...100	CO2 indicator by LED	S55720-S219	AQR2535NNWQ

Matching the DELTA line and DELTA miro frame program. See chapter Display and Operation Units.  
The relevant base modules must be ordered separately. See chapter Physical sensors.

### Base modules with KNX for CO<sub>2</sub> measurement

AQR2576..

- Base module with maintenance and recalibration-free CO<sub>2</sub> sensor to plug onto a front module
- 1 analog input to connect temperature sensors with NTC 10k sensing element to measure room, floor, or ceiling temperature
- 2 multifunctional binary inputs to connect window contacts or buttons
- Power supply via KNX bus, bus load < 5 mA
- Communication: KNX S-Mode, KNX PL-Link
- Ventilation control across 3 settable switching steps for relative humidity & CO<sub>2</sub> concentration, and 3 switching signal objects On/Off, or one positioning signal object 0...100% to control a ventilation actor
- Temperature control as continuous control (PID algorithm) for pure heating operation, heating and cooling operation, and adjustable positioning variable as continuous positioning signal 0...100%, or as pulse-width modulated (PWM) switching signal On/Off
- Via setpoints for room temperature and relative humidity, and CO<sub>2</sub> concentration, adjustable via KNX bus
- Adjustable commissioning and control parameters
- Integrated bus coupler with programming button and LED



Data sheet	N1411
Voltage supply	KNX bus
Measuring range	CO <sub>2</sub> : 0...5000 ppm
Analog inputs, number	1
Analog inputs	Passive temperature sensor NTC 10k
Digital inputs, number	2
Digital inputs	Potential-free contacts

### Range overview AQR2576..

Mechanical design	Dimensions (W x H)	Stock no.	Product no.
EU (CEE/VDE)	70.8 x 70.8 mm	S55720-S207	AQR2576NF
IT (3 Modular)	110 x 64 mm	S55720-S209	AQR2576NG
UK (British Standard)	83 x 83 mm	S55720-S208	AQR2576NH
US (UL)	64 x 110 mm	S55720-S210	AQR2576NJ

## Physical sensors with KNX connection Temperature, humidity, air quality

### QMX3.P70

### Room sensor KNX for temperature, humidity, CO2, white



#### Functions:

- Multisensor for temperature, humidity and CO2
- Air quality indicator with LED
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO2 concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO2)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO2)
- Setpoint for room temperature and relative humidity and CO2 concentration adjustable via KNX

#### Data sheet

N1602

#### Voltage supply

KNX bus

#### Measuring range

NTC: 0...50 °C

CO2: 400...10000 ppm

Humidity: 10%...95 % r.F.

#### Sensing element

Temperature sensor, CO2 sensor, relative humidity sensor

#### Measuring range, temperature

0...50 °C

#### Sensing element, temperature

NTC

#### Communication

KNX PL-Link

KNX S-Mode

KNX LTE-Mode

#### Color

White

#### Mounting

Wall-mounting

#### Degree of protection

IP30

#### Dimensions (W x H x D)

88.4 x 133.4 x 18 mm

Stock no.

Product no.

S55624-H104

**QMX3.P70**

# Physical sensors with KNX connection Temperature, humidity, air quality

## Room sensor KNX for temperature, humidity, CO2, black

QMX3.P70-1BSC

### Functions:

- multisensor for temperature, humidity and CO2
- Air quality indicator with LED
- Temperature control, adjustable as PWM control and/or modulating control (PID algorithm), for pure heating mode, pure cooling mode, heating and cooling mode
- Operating modes switchable via KNX and/or display: Comfort mode, Pre-Comfort, energy savings and protection mode
- Adjustable commissioning and control parameters for radiated heating, slow and fast, floor heating slow and fast
- Integrated bus coupling unit
- 3 independently adjustable switching values for CO2 concentration and relative air humidity for air quality control
- Actuating variable for 1, 2, or 3-stage fans (humidity and CO2)
- Actuating variable for 1, 2, or 3-point positioning signal (humidity and CO2)
- Setpoint for room temperature and relative humidity and CO2 concentration adjustable via KNX



Data sheet	N1602
Voltage supply	KNX bus
Measuring range	NTC: 0...50 °C CO2: 400...10000 ppm Humidity: 10%...95 % r.F.
Sensing element	Temperature sensor, CO2 sensor, relative humidity sensor
Measuring range, temperature	0...50 °C
Sensing element, temperature	NTC
Communication	KNX PL-Link KNX S-Mode KNX LTE-Mode
Color	Black
Mounting	Wall-mounting
Degree of protection	IP30
Dimensions (W x H x D)	88.4 x 133.4 x 18 mm

Stock no.	Product no.
S55624-H125	QMX3.P70-1BSC

## Accessories for QMX3..

Product Title	Dimensions (W x H)	Stock no.	Product no.
Basic plate for conduit and cavity wall box	80.5 x 115 mm	S55624-H110	QMX3.MP1

## Cable temperature sensor PVC 2 m, NTC 10k

QAP1030.200

Data sheet	N1831
Measuring range, temperature	-25...95 °C
Sensing element, temperature	NTC 10k
Measurement accuracy	At -25...95 °C: ±1.4 K
Time constant	Fitted to pipe: <20 s
Protection pocket	40,5 x 6 mm
Material, protection pocket	Stainless steel
Connection cable	PVC
Cable length	2 m
Type of fixing	Cable tie or with accessories
Degree of protection	IP65



Stock no.	Product no.
BPZ:QAP1030.200	QAP1030.200



## Physical sensors with KNX connection Multisensors

### UP 258D..1

#### Presence Detector WIDE

- Passive infrared detector for ceiling installation
- Horizontal 360° motion detection area
- Presence/motion detection up to 64 m<sup>2</sup> / 400 m<sup>2</sup> (depending on mounting or room height)
- A 7-level setting to adjust the presence detection range
- Brightness and temperature measurement
- Integrated IR receiver and IR decoder for IR remote control with six pairs of buttons
- LED for display of detected motions in the delivery state for easy commissioning
- Programming button operable from the front
- Integrated bus coupler, bus connection via bus terminal, operation of electronics with bus voltage
- Mounting on the ceiling on a flush-mounting box with diameter of 60 mm, in a separately ordered housing for surface mounting or mounting plate for 4 x 4 boxes
- Color white (similar to RAL 9016)
- Presence detection for three function blocks (presence, HVAC, slave)
- Two selectable functions per function block at the start and two further functions at expiration of presence detection
- Parallel operation of more presence detectors (master-slave, master-master) possible
- Locking and output object for each function block
- Extension inputs for semi-automatic mode
- Adjustable sensitivity of detection
- Deactivation of the individual 4 PIR sensors
- Calibration of brightness measurement with correction factor/offset, via object mixed light-artificial light and two objects artificial light-daylight
- Constant light control for one main row of lamps and up to four additional rows of lamps
- 2-point light control
- Adjustable temperature control as 2-point and/or steady control, heating/cooling operation
- Sequence control for PI temperature control
- Adjustable ventilator speed level
- Object for dew point alarm
- Comparator for analog values
- Min., max. and composite calculator for brightness, temperature, humidity and CO<sub>2</sub>
- Threshold monitoring for brightness, temperature, humidity and CO<sub>2</sub>

Dimensions (W x H)

120 mm x 120 mm

## Physical sensors with KNX connection Multisensors

### Presence Detector WIDE

UP 258D31



- For ceiling installation indoors and outdoors (e.g. garages)
- Protection type: IP 54
- Presence detection for three function blocks (presence, HVAC, slave)
- Two selectable functions per function block at the start and two further functions at expiration of presence detection
- Parallel operation of more presence detectors (master-slave, master-master) possible
- Locking and output object for each function block
- Extension inputs for semi-automatic mode
- Adjustable sensitivity of detection
- Deactivation of the individual 4 PIR sensors
- Calibration of brightness measurement with correction factor/offset, via object mixed light-artificial light and two objects artificial light-daylight
- Constant light control for one main row of lamps and up to four additional rows of lamps
- 2-point light control
- Adjustable temperature control as 2-point and/or steady control, heating/cooling operation
- Sequence control for PI temperature control
- Adjustable ventilator speed level
- Object for dew point alarm
- Comparator for analog values
- Min., max. and composite calculator for brightness, temperature, humidity and CO2
- Threshold monitoring for brightness, temperature, humidity and CO2

Stock no.

Product no.

5WG1258-2DB31

UP 258D31

### Presence Detector WIDE pro

UP 258D41



- Ceiling installation indoors
- Relative humidity measurement
- Protection type: IP 20
- Integrated humidity controller via 3 switching thresholds
- Dew point calculation

Stock no.

Product no.

5WG1258-2DB41

UP 258D41

### Presence Detector WIDE multi

UP 258D51



- Ceiling installation indoors
- Relative humidity and CO2 measurement
- Protection type: IP 20
- Integrated humidity and CO2 controller via 3 switching thresholds
- Dew point calculation

Stock no.

Product no.

5WG1258-2DB51

UP 258D51

11

## Physical sensors with KNX connection Multisensors

### UP 258D61



### PresenceDetect. WIDE DualTech

- Ultrasound for reliable detection for ceiling installation indoors even behind objects
  - Additional detection options through PIR technology
  - Horizontal 360° motion detection area
  - Presence/motion detection up to 28 m² / 79 m² (depending on mounting or room height)
  - Brightness and temperature measurement
  - Integrated IR receiver and IR decoder for IR remote control with six pairs of buttons
  - LED for display of detected motions in the delivery state for easy commissioning
  - Programming button operable from the front
  - Integrated bus coupler, bus connection via bus terminal, operation of electronics with bus voltage
  - Mounting on the ceiling on a flush-mounting box with diameter of 60 mm, in a separately ordered housing for surface mounting or mounting plate for 4 x 4 boxes
  - Color white (similar to RAL 9016)
- 
- Presence detection for three function blocks (presence, HVAC, slave)
  - Two selectable functions per function block at the start and two further functions at expiration of presence detection
  - Parallel operation of more presence detectors (master-slave, master-master) possible
  - Locking and output object for each function block
  - Extension inputs for semi-automatic mode
  - Adjustable sensitivity of detection
  - Calibration of brightness measurement with correction factor/offset, via object mixed light-artificial light and two objects artificial light-daylight
  - Constant light control for one main row of lamps and up to four additional rows of lamps
  - 2-point light control
  - Adjustable temperature control as 2-point and/or steady control, heating/cooling operation
  - Sequence control for PI temperature control
  - Adjustable ventilator speed level
  - Object for dew point alarm
  - Comparator for analog values
  - Min., max. and composite calculator for brightness, temperature, humidity and CO2
  - Threshold monitoring for brightness, temperature, humidity and CO2

Dimensions (W x H x D)

134.5 x 120 x 40.9 mm

Stock no.

Product no.

5WG1258-2DB61

**UP 258D61**

### Accessories for multisensors

### AP 258E11



### Surface Mounting Box Type B

- Mounting presence detector UP 258Dx1 as a surface-mounted device
- Color white (similar to RAL 9016)

Stock no.

Product no.

5WG1258-7EB11

**AP 258E11**

### S 258/12



### Mounting plate

- Mounting presence detector UP 258Dx1 with 4x4 boxes
- Color white (similar to RAL 9016)

Stock no.

Product no.

5WG1258-8AB12

**S 258/12**

**IR remote control**
**S 255/11**

- 6 pushbutton pairs for the remote control of lighting, shutter/blinds and scenes
- Parameterization is via ETS in the presence detectors UP 258E and UP 258D and in the brightness sensor UP 255D21
- Range: approx. up to 10 m
- Power supply: CR2025 lithium button cell
- Degree of protection (acc. to EN 60529): IP40
- 6 pushbutton pairs for the remote control of lighting, shutter/blinds and scenes via UP 258E21 or UP 258D11 presence detector
- Range: approx. 4.5 m
- Power supply: CR2025 lithium button cell
- Degree of protection (acc. to EN 60529): IP40

Data sheet

A6V11786011

Dimensions (W x H x D)

40 x 87 x 6 mm



Stock no.

Product no.

5WG1255-7AB11

**S 255/11**

## Physical sensors without KNX connection Motion

### 5TC72200



### Surface-mounting motion detector, AC 230 V 50 Hz

- Surface-mounting motion detector for ceilings
- AC 230 V 50 Hz
- Power consumption < 1 W
- Contact Capacity: 16 A cos  $\phi$  = 1
- Switching capacity:
  - Incandescent lamps or halogen lamps 230 V: 3000 W
  - Halogen lamps with electronic transformer: 3000 W
  - Halogen lamps with ferromagnetic transformer: 2400 W
  - Fluorescent lamps: 1300 W (130  $\mu$ F)
  - Compact lamps: 18 x 7 W, 12 x 11 W, 10 x 15 W, 10 x 20 W, 10 x 23 W
  - LED lamps
- Capture area: 360° circle
- Capture area: Ø m at 2,5 m installation height and a temperature of 18°C
- Configuration via potentiometer
- Luminance: 5 - 1200 Lux
- Adjustable time period: from 6 seconds up to 12 minutes
- Dimensions (mounted): 118,5 mm x 45 mm. Protection class: IP40 / class II. Allowed operating temperature: -10°C to + 45°C.

Dimensions (W x H)

118.5 x 45 mm

Stock no.

Product no.

5TC7220-0

5TC72200

### 5TC72201



### Flush-mounting motion detector, AC 230 V 50 Hz

- Flush-mounting motion detector for ceilings
- AC 230 V 50 Hz
- Power consumption < 1 W
- Contact Capacity: 16 A cos  $\phi$  = 1
- Switching capacity:
  - Incandescent lamps or halogen lamps 230 V: 3000 W
  - Halogen lamps with electronic transformer: 3000 W
  - Halogen lamps with ferromagnetic transformer: 2400 W
  - Fluorescent lamps: 1300 W (130  $\mu$ F)
  - Compact lamps: 18 x 7 W, 12 x 11 W, 10 x 15 W, 10 x 20 W, 10 x 23 W
  - LED lamps
- Capture area: 360° circle
- Capture area: Ø m at 2,5 m installation height and a temperature of 18°C
- Configuration via potentiometer
- Luminance: 5 - 1200 Lux
- Adjustable time period: from 6 seconds up to 12 minutes
- Dimensions (mounted): 118,5 mm x 45 mm. Protection class: IP40 / class II. Allowed operating temperature: -10°C to + 45°C.

Dimensions (W x H)

118.5 x 45 mm

Stock no.

Product no.

5TC7220-1

5TC72201



## Physical sensors without KNX connection Temperature

### Front module for base modules, temperature (active)

AQR2532NNW

- Front module with sensor for plugging onto the Base module
- Matching the DELTA line and DELTA miro frame program

Data sheet	N1411
Measuring range, temperature	0...50 °C
Signal output temperature	Active
Color	Titanium white
Degree of protection	IP30
Dimensions (W x H)	55 x 55 mm



Stock no.	Product no.
S55720-S136	AQR2532NNW

Matching the DELTA line and DELTA miro frame program. See chapter Display and Operation Units.  
The relevant base modules must be ordered separately. See chapter Physical sensors.

### Base modules for temperature and humidity measurement

AQR2540..

- Base module without sensor for plugging onto a front module

Data sheet	N1410
Operating voltage	AC 24 V
	DC15...36 V
Connection, electrical	Screw terminals
Analogue output, signal	DC 0...10 V
	DC 2...10 V
	DC 0...5 V
	DC 0...20 mA
	DC 4...20 mA
	DC 0...10 mA
Digital outputs	1-pin
	Potential-free
	Changeover contact



### Range overview AQR2540..

Mechanical design	Dimensions (W x H)	Stock no.	Product no.
EU (CEE/VDE)	70.8 x 70.8 mm	S55720-S142	AQR2540NF

### Strap-on temperature sensor Pt1000

QAD2012

- Supplied complete with strap for pipe diameters from 15...140 mm.

Data sheet	N1801
Measuring range, temperature	-30...130 °C
Sensing element, temperature	Pt1000
Time constant	3 s
Connection, electrical	Screw terminals
Degree of protection	IP42
Dimensions (W x H x D)	60 x 67 x 43 mm



Stock no.	Product no.
BPZ:QAD2012	QAD2012

## Physical sensors without KNX connection Temperature

### QAA20..1



#### Room temperature sensors, active

Data sheet	N1749
Measuring range, temperature	0...50 °C
Time constant	7 min
Measurement accuracy	at AC 24 V in the range of -25 °C...+25 °C ± 0.75 K -50 °C...+50 °C ± 0.9 K
Connection, electrical	Screw terminals
Degree of protection	IP30
Dimensions (W x H x D)	90 x 100 x 36 mm

### Range overview QAA20..1

Analog output, signal	Operating voltage [V]	Display	Stock no.	Product no.
DC 0...10 V	AC 24 DC 13.5...35		BPZ:QAA2061	<b>QAA2061</b>
DC 0...10 V	AC 24 DC 13.5...35	LCD	BPZ:QAA2061D	<b>QAA2061D</b>
DC 4...20 mA	DC 13.5...35		BPZ:QAA2071	<b>QAA2071</b>

### QAA2012



#### Room temperature sensor Pt1000

- Passive sensors for acquiring the temperature in rooms.

Data sheet	N1745
Sensing element, temperature	Pt1000
Time constant	7 min
Measuring range, temperature	0...50 °C
Measurement accuracy	At 0...50 °C: ±0.6 K
Connection, electrical	Screw terminals
Degree of protection	IP30
Dimensions (W x H x D)	90 x 100 x 32 mm

Stock no.	Product no.
BPZ:QAA2012	<b>QAA2012</b>

### QAC2012



#### Outside sensor Pt1000

- For acquiring the outside temperature and – to a lesser degree – solar radiation, the effect of wind and the temperature of the wall.

Data sheet	N1811
Measuring range, temperature	-50...70 °C
Sensing element, temperature	Pt1000
Time constant	14 min
Measurement accuracy	At 0 °C: ±0.3 K
Connection, electrical	Screw terminals
Material	Plastic (ASA)
Degree of protection	IP54
Dimensions (W x H x D)	80 x 92 x 50 mm

Stock no.	Product no.
BPZ:QAC2012	<b>QAC2012</b>

# Physical sensors without KNX connection Temperature

## Outside/room temperature sensor DC 0...10 V

QAC3161

Active sensor for acquiring the outside temperature. For use in heating, ventilation and air conditioning plants.

The QAC31.. may be used as an high-quality room sensor.

Data sheet	N1814
Operating voltage	AC 24 V DC 13.5...35 V
Power consumption	≤ 1 VA
Sensing element, temperature	Pt1000
Measuring range, temperature	-50...50 °C
Measurement accuracy	At -50...50 °C: ±0.9 K
Time constant	20 min
Connection, electrical	Screw terminals
Analog output, signal	DC 0...10 V
Degree of protection	IP65
Dimensions (W x H x D)	80 x 88 x 39 mm



Stock no.

Product no.

BPZ:QAC3161

QAC3161

## Physical sensors without KNX connection Humidity

### AQR2540..



### Base modules for temperature and humidity measurement

- Base module without sensor for plugging onto a front module

Data sheet	N1410
Operating voltage	AC 24 V DC 15...36 V
Connection, electrical	Screw terminals
Analog output, signal	DC 0...10 V DC 2...10 V DC 0...5 V DC 0...20 mA DC 4...20 mA DC 0...10 mA
Digital outputs	1-pin Potential-free Changeover contact

### Range overview AQR2540..

Mechanical design	Dimensions (W x H)	Stock no.	Product no.
EU (CEE/VDE)	70.8 x 70.8 mm	S55720-S142	<b>AQR2540NF</b>

### AQR2535NNW



### Front module for base modules, humidity and temperature (active)

- Front module with humidity and temperature sensor for plugging onto the Base module
- Matching the DELTA line and DELTA miro frame program

Data sheet	N1411
Measurement range humidity	0...100 %
Sensing element, temperature	Active
Measuring range, temperature	0...50 °C
Signal output temperature	Active
Color	Titanium white
Degree of protection	IP30
Dimensions (W x H)	55 x 55 mm

Stock no.	Product no.
S55720-S141	<b>AQR2535NNW</b>

Matching the DELTA line and DELTA miro frame program. See chapter Display and Operation Units.  
The relevant base modules must be ordered separately. See chapter Physical sensors.

# Physical sensors without KNX connection Humidity

## Room sensor for humidity (DC 0...10 V)

QFA2000

- For relative humidity and temperature.

Data sheet	N1857
Operating voltage	AC 24 V DC 13.5...35 V
Measurement range humidity	0...95 % r.h.
Measurement accuracy	At 0...95 % r.h. and 23 °C: ±5 % At 30...70 % r.h. and 23 °C: ±3 %
Time constant	Humidity <20 s Temperature <8.5 min
Connection, electrical	Screw terminals
Type of fixing	Screws
Signal output humidity	DC 0...10 V
Degree of protection	IP30
Dimensions (W x H x D)	90 x 100 x 36 mm



Stock no.

Product no.

BPZ:QFA2000

QFA2000

## Room sensor for humidity (DC 0...10 V) and temperature (DC 0...10 V)

QFA2060

- For relative humidity and temperature.

Data sheet	N1857
Operating voltage	AC 24 V DC 13.5...35 V
Sensing element, temperature	DC 0...10 V
Measuring range, temperature	0...50 °C -35...35 °C -40...70 °C
Measurement range humidity	0...95 % r.h.
Measurement accuracy	At 0...95 % r.h. and 23 °C: ±5 % At 30...70 % r.h. and 23 °C: ±3 %
Time constant	Humidity <20 s Temperature <8.5 min
Connection, electrical	Screw terminals
Type of fixing	Screws
Signal output temperature	DC 0...10 V
Signal output humidity	DC 0...10 V
Degree of protection	IP30
Dimensions (W x H x D)	90 x 100 x 36 mm



Stock no.

Product no.

BPZ:QFA2060

QFA2060



## Physical sensors without KNX connection Humidity

### QFA2060D



#### Room sensor for humidity (DC 0...10 V) and temperature (DC 0...10 V), with digital Display

- For relative humidity and temperature.

Data sheet	N1857
Operating voltage	AC 24 V DC 13.5...35 V
Sensing element, temperature	DC 0...10 V
Measuring range, temperature	0...50 °C -35...35 °C -40...70 °C
Measurement range humidity	0...95 % r.h.
Measurement accuracy	At 0...95 % r.h. and 23 °C: ±5 % At 30...70 % r.h. and 23 °C: ±3 %
Time constant	Humidity <20 s Temperature <8.5 min
Display	LCD
Connection, electrical	Screw terminals
Type of fixing	Screws
Signal output temperature	DC 0...10 V
Signal output humidity	DC 0...10 V
Degree of protection	IP30
Dimensions (W x H x D)	90 x 100 x 36 mm

Stock no.

Product no.

BPZ:QFA2060D

QFA2060D

### QFA1000



#### Room hygrostat, setpoint setting range 30...90 % r.h., setpoint adjuster inside device

- 2-position controller with humidity sensor
- Setpoint adjuster inside device

Data sheet	N1518
Setpoint setting range	30...90 % r.h.
Switching differential	6 % r.h.
Time constant	At v = 0.2 m/s: 5 min
Digital outputs	1-pin Potential-free Changeover contact
Connection, electrical	Screw terminals
Digital output, switching voltage	AC 230 V
Digital output, switching current	5 (3) A
Degree of protection	IP20
Dimensions (W x H x D)	76 x 76 x 34 mm

Stock no.

Product no.

BPZ:QFA1000

QFA1000

# Physical sensors without KNX connection Humidity

## Room hygrostat, setpoint setting range 30...90 % r.h., external setpoint adjustment

QFA1001



- 2-position controller with humidity sensor
- External setpoint adjustment

Data sheet	N1518
Setpoint setting range	30...90 % r.h.
Switching differential	6 % r.h.
Digital outputs	1-pin
	Potential-free
	Changeover contact
Connection, electrical	Screw terminals
Digital output, switching voltage	AC 230 V
Digital output, switching current	5 (3) A
Degree of protection	IP20
Dimensions (W x H x D)	76 x 76 x 34 mm

Stock no.

Product no.

BPZ:QFA1001

QFA1001

## Physical sensors without KNX connection Air quality

### AQR253..



#### Front modules for base module

- Front module with sensors
- Matching the DELTA line and DELTA miro frame program

Data sheet	N1411
Color	Titanium white
Degree of protection	IP30
Dimensions (W x H)	55 x 55 mm

#### Range overview AQR253..

Measuring range, temperature [°C]	Signal output temperature	Measurement range humidity [%]	Display	Stock no.	Product no.
				S55720-S137	<b>AQR2530NNW</b>
0...50	Active			S55720-S136	<b>AQR2532NNW</b>
0...50	Active	0...100		S55720-S141	<b>AQR2535NNW</b>
0...50	Active	0...100	CO2 indicator by LED	S55720-S219	<b>AQR2535NNWQ</b>

Matching the DELTA line and DELTA miro frame program. See chapter Display and Operation Units.  
The relevant base modules must be ordered separately. See chapter Physical sensors.

### AQR2546..



#### Base modules with integrated CO<sub>2</sub> measurement

- Base module with maintenance-free CO<sub>2</sub> sensing element to plug onto a front module

Data sheet	N1410
Operating voltage	AC 24 V DC15...36 V
Analog output, signal	DC 0...10 V DC 2...10 V DC 0...5 V DC 0...20 mA DC 4...20 mA DC 0...10 mA
Measuring range	CO <sub>2</sub> : 0...2000 ppm
Connection, electrical	Screw terminals
Digital outputs	1-pin Potential-free Changeover contact

#### Range overview AQR2546..

Mechanical design	Dimensions (W x H)	Stock no.	Product no.
EU (CEE/VDE)	70.8 x 70.8 mm	S55720-S147	<b>AQR2546NF</b>

**Base modules with integrated VOC measurement****AQR2547..**

- Base module with VOC sensing element to plug onto a front module

Data sheet	N1410
Operating voltage	AC 24 V
	DC 15...36 V
Analog output, signal	DC 0...10 V
	DC 2...10 V
	DC 0...5 V
	DC 0...20 mA
	DC 4...20 mA
	DC 0...10 mA
Measuring range	VOC: 0...100 %
Connection, electrical	Screw terminals
Digital outputs	1-pin
	Potential-free
	Changeover contact

**Range overview AQR2547..**

Mechanical design	Dimensions (W x H)	Stock no.	Product no.
EU (CEE/VDE)	70.8 x 70.8 mm	S55720-S146	AQR2547NF

**Base modules with integrated CO<sub>2</sub> and VOC measurement****AQR2548..**

- Base module with maintenance-free CO<sub>2</sub>/VOC sensing element to plug onto a front module

Data sheet	N1410
Operating voltage	AC 24 V
	DC 15...36 V
Analog output, signal	DC 0...10 V
	DC 2...10 V
	DC 0...5 V
	DC 0...20 mA
	DC 4...20 mA
	DC 0...10 mA
Measuring range	CO <sub>2</sub> + VOC: 0...100 %
	CO <sub>2</sub> : 0...2000 ppm
Connection, electrical	Screw terminals
Digital outputs	1-pin
	Potential-free
	Changeover contact

**Range overview AQR2548..**

Mechanical design	Dimensions (W x H)	Stock no.	Product no.
EU (CEE/VDE)	70.8 x 70.8 mm	S55720-S148	AQR2548NF

## Physical sensors without KNX connection Air quality

### QPA2000

#### Room air quality sensor CO<sub>2</sub>



Note: Not suited for safety-related applications!

Data sheet	N1961
Operating voltage	AC 24 V DC 15...35 V
Analog output, signal	DC 0...5 V DC 0...10 V DC 4...20 mA
Ambient temperature, operation	0...50 °C
Connection, electrical	Screw terminals
Degree of protection	IP30
Dimensions (W x H x D)	90 x 100 x 36 mm

Stock no.	Product no.
BPZ:QPA2000	<b>QPA2000</b>

### QPA2002

#### Room air quality sensor CO<sub>2</sub>+VOC



Note: Not suited for safety-related applications!

Data sheet	N1961
Operating voltage	AC 24 V DC 15...35 V
Analog output, signal	DC 0...5 V DC 0...10 V DC 4...20 mA
Ambient temperature, operation	0...50 °C
Connection, electrical	Screw terminals
Degree of protection	IP30
Dimensions (W x H x D)	90 x 100 x 36 mm

Stock no.	Product no.
BPZ:QPA2002	<b>QPA2002</b>

### QPA2060

#### Room air quality sensor CO<sub>2</sub>+temperature



Note: Not suited for safety-related applications!

Data sheet	N1961
Operating voltage	AC 24 V DC 15...35 V
Analog output, signal	DC 0...5 V DC 0...10 V DC 4...20 mA
Measuring range, temperature	0...50 °C -35...35 °C
Ambient temperature, operation	0...50 °C
Connection, electrical	Screw terminals
Degree of protection	IP30
Dimensions (W x H x D)	90 x 100 x 36 mm

Stock no.	Product no.
BPZ:QPA2060	<b>QPA2060</b>



# Physical sensors without KNX connection Air quality

## Room air quality sensor CO<sub>2</sub>+temperature+rel. air humidity

QPA2062

Note: Not suited for safety-related applications!

Data sheet	N1961
Operating voltage	AC 24 V
	DC 15...35 V
Analog output, signal	DC 0...5 V
	DC 0...10 V
	DC 4...20 mA
Measuring range, temperature	0...50 °C
	-35...35 °C
Measurement range humidity	0...95 % r.H.
Ambient temperature, operation	0...50 °C
Connection, electrical	Screw terminals
Degree of protection	IP30
Dimensions (W x H x D)	90 x 100 x 36 mm



Stock no.

Product no.

BPZ:QPA2062

QPA2062

## Room air quality sensor CO<sub>2</sub>+temperature+rel. air humidity with display

QPA2062D

Note: Not suited for safety-related applications!

Data sheet	N1961
Operating voltage	AC 24 V
	DC 15...35 V
Analog output, signal	DC 0...5 V
	DC 0...10 V
	DC 4...20 mA
Measuring range, temperature	0...50 °C
	-35...35 °C
Measurement range humidity	0...95 % r.H.
Ambient temperature, operation	0...50 °C
Connection, electrical	Screw terminals
Degree of protection	IP30
Dimensions (W x H x D)	90 x 100 x 36 mm



Stock no.

Product no.

BPZ:QPA2062D

QPA2062D

## Physical sensors without KNX connection Sunlight intensity

### QLS60



### Solar sensor

- For measuring the solar radiation intensity.

Data sheet	N1943
Operating voltage	AC 24 V DC 18...30 V
Power consumption	2.5 VA
Measuring range	0...1000 W/m <sup>2</sup>
Time constant	≤2 s
Connection, electrical	Screw terminals
Analog output, signal	DC 0...10 V DC 4...20 mA
Degree of protection	IP65
Dimensions (W x H x D)	51 x 92 x 46 mm

Stock no.

Product no.

BPZ:QLS60

**QLS60**



# Control and automation devices



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## Control and automation devices

### Overview and selection tools

Logic and control functions		
	IP control device	Scene / event controller
		
Type	N 152/01	N 305/01
Application program	983501	750006
<b>Enclosure data</b>		
Modular installation devices for mounting on TH35 EN 60715 mounting rail		
Width (1 MW = 18 mm)	4 MW	1 MW
Ethernet connection via RJ45 socket	■	
<b>Power supply</b>		
Bus-powered electronics		■
Electronics powered via an external power supply unit [V]	DC 12...30	
<b>Bus connection</b>		
Integrated bus coupling units	■	■
Bus connection via bus terminal	■	■
Bus connection via contact system to data rail		■
<b>Functions</b>		
Logic gate	1.000	
Scheduled entries	300 <sup>1)</sup>	
Master clock (time source)	■ <sup>2)</sup>	
Event entries	5.000 <sup>3)</sup>	80 <sup>4)</sup>
Scenes	5.000 <sup>3)</sup>	8
Effect control	5.000 <sup>3)</sup>	
Alarms	250	
Email contacts	20	

<sup>1)</sup> Per week<sup>2)</sup> Via time server<sup>3)</sup> The sum of event entries, scenes and effects can be 5.000 maximum<sup>4)</sup> 10 entries per trip unit (8)

## Programmable logic controllers

	LOGO! 8 Basic modules					LOGO! 8 Expansion modules						
												
Type	LOGO! CMK2000	LOGO! 12/24 RCE	LOGO! 230 RCE	LOGO! 12/24 RCEo	LOGO! 230 RCEo	LOGO! DM8 12/24 R	LOGO! DM8 230 R	LOGO! DM16 24 R	LOGO! DM16 230 R	LOGO! AM2	LOGO! AM2 RTD	LOGO! AM2 AQ
<b>Enclosure data</b>												
<b>Dimensions</b>												
• Width [mm] (1 MW = 18 mm)	4 MW	4 MW	4 MW	4 MW	4 MW	2 MW	2 MW	4 MW	4 MW	2 MW	2 MW	2 MW
• Height [mm]	90	90	90	90	90	90	90	90	90	90	90	90
• Depth [mm]	58,5	60	60	60	60	58	58	60	60	58	58	58
<b>Power supply</b>												
Power supply AC/DC 115...230 V			■		■		■		■			
Power supply DC 12...24 V		■		■		■				■	■	
Power supply DC 24 V	■							■				■
<b>Inputs</b>												
<b>Control inputs</b>												
• Digital input		8 (4) <sup>1)</sup>	8	8 (4) <sup>1)</sup>	8	4	4	8	8			
• Analog input (0...10 V)		up to 4		up to 4								
• Analog input (0...10 V or 0/4...20 mA)										2 <sup>2)</sup>		
<b>Sensor inputs</b>												
Temperature sensor input PT100 and/or PT1000 automatic detection											2	
Measuring range [°C]											-50... +200 <sup>3)</sup>	
<b>Outputs</b>												
Digital output, relais		4	4	4	4	4	4	8	8			
Analog output (0...10 V or 0/4...20 mA)												2 <sup>2)</sup>
Rated current [A] resistive load/ inductive load		10/ 3	10/ 3	10/ 3	10/ 3	5/ 3	5/ 3	5/ 3	5/ 3			
LCD display, 6 lines		■	■									
Cursor keys		■	■									
Ethernet interface	■	■	■	■	■							
Modbus TCP/IP (client/server) <sup>4)</sup>		■	■	■	■							
Time synchronisation via NTP (client and server) <sup>4)</sup>		■	■	■	■							
Integrated web server		■	■	■	■							

<sup>1)</sup> 8 digital inputs, of which 4 can be used as analog inputs 0...10 V<sup>2)</sup> resolution 10 bit<sup>3)</sup> resolution 0,25°C<sup>4)</sup> function is available in basic modules issue status FS:04 and higher



## Control and automation devices

## Logic and control functions

## IP control devices

## N 152/01



## IP Control Center

Visualisation controller for full-graphic visualizations on web-compatible end devices such as PCs, tablets and smart phones with a standard web browser.

For communication between KNX devices and PCs and, in connection with a LAN-/WLAN modem or DSL router, for remote access to a KNX installation, for usage as an interface for the ETS 3/4/5 and as an interface for a visualization, with usage of the KNXnet/IP protocol, with the following simultaneously usable functions:

- Web server for operating and monitoring up to 1250 statuses and values transmitted by the KNX network, which can be displayed using a standard browser on PCs, tablets, or smartphones connected to the IP network
- Special web-configuration page for a firmware update, to set the IP configuration, SMTP server, security settings, password protection, certificates, Sonos module, API connection and restart
- Graphical web editor for a creation of fully graphical visualization with control and display elements, configurable in various styles
- Smart editor for the creation of a visualisation, tuned for mobile browsers, smartphones, tablets with control and display elements, configurable in various styles and layouts
- Annual timer, with astronomical calendar, for 300 time switch schedules with up to 30 time switch commands per time switch schedule
- Scene module with up to 5000 scenes or events
- Chart module for recording and reporting of up to 10 data points
- Monitoring module for monitoring and storage of up to 1000 events into a ring buffer
- IP interface for control of up to 20 IP-devices via up to 20 TCP/UDP commands per IP-device
- Fully graphical logic module with up to 1000 logic functions
- Alarm function for up to 250 different alarms
- E-mail function, with up to 20 contacts, for transmission of chart data from chart module, logged data from monitoring module or alarm data
- Data point management for viewing, managing, editing and categorizing all available data points
- Module for controlling SONOS loudspeakers
- Module for controlling the Philips HUE LED lighting system
- Ethernet interface 10/100 Mbits/s with RJ45 socket for connection to the IP network using the Internet Protocol
- 2 LED displays for IP connection/communication and for error messages
- Integrated bus connector and bus terminal for connection to a KNX network
- Power supply of the electronics by an external voltage source for AC/DC 24 V, 50 mA
- Series installation device for mounting on support rails TH35 DIN EN 60715

Data sheet

A6V10417875

Dimension width (1 MW = 18 mm)

4 MW

Stock no. Product no.

5WG1152-1AB01 **N 152/01**

## Accessories for N 152/01

Product Title	Stock no.	Product no.
Electronic power supply unit, 350 mA	4AC2402	<b>4AC2402</b>
LOGO! Power 24 V/1.3 A	6EP3331-6SB00-0AY0	<b>LOGO!POWER 24 V/1,3 A</b>

## Control and automation devices

### Logic and control functions

#### Scene/event controller

#### Scene-/Event Controller

N 305/01

- 80 Event entries, 8 Event trigger, Sequence control
- 1-bit-/8-bit integrated scene control, 8 scenes to be integrated
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal or contact system to data rail
- Modular installation devices for mounting on TH35 EN 60715 mounting rail



Data sheet

A6V10416128

Dimension width (1 MW = 18 mm)

1 MW

Stock no.

Product no.

5WG1305-1AB01 N 305/01

## Control and automation devices

### Programmable logic controllers

#### LOGO! Communication module

##### LOGO! CMK2000



##### Communication Module LOGO! CMK2000

- For communication between LOGO! 8 and KNX devices via the KNX bus
- Transformation of typical PLC signals into KNX telegrams and vice versa
- Linking transmitted KNX data points and LOGO! inputs and outputs via logic and control functions through LOGO!
- The following channels are available at the maximum configuration level of the LOGO!:
  - 24 binary inputs
  - 20 binary outputs
  - 8 analog inputs
  - 8 analog outputs
- Date and time can be synchronized via KNX
- 50 configurable communication objects
- Communication via Ethernet with LOGO! 8

Data sheet

A6V11642346

Dimension width (1 MW = 18 mm)

4 MW

Stock no.

Product no.

6BK1700-0BA20-0AA0

**LOGO! CMK2000**

##### LOGO! CSM 12/24



##### Communication Module LOGO! CSM 12/24

- Connect LOGO! and up to three additional devices to an Ethernet network with 10/100 Mbps in line, tree, or star topology
- Unmanaged 4-port switch, one port at the front for easy diagnostic access
- Easy connection via four RJ45 connectors
- Cost-efficient solution to realize small, local Ethernet networks, also stand-alone
- Power supply DC 12/24 V

Dimension width (1 MW = 18 mm)

4 MW

Stock no.

Product no.

6GK7177-1MA20-0AA0

**LOGO! CSM 12/24**

## Control and automation devices

### Programmable logic controllers

#### LOGO8! Basic modules

#### Basic Modules

LOGO! 8 12/24 RCE, RCEo

- Power supply DC 12...24 V
- 8 digital inputs DC 12/24 V, of which 4 can be used as analog inputs (0...10 V)
- 4 floating relay contacts 10 A
- Integrated time switch
- Ethernet interface
- Integrated customer specific web server
- Modbus TCP/IP (client/ server)
- Time synchronisation via NTP (client and server)
- 400 function blocks linkable
- Expandable with extra modules

#### Basic Module LOGO! 8 12/24 RCE

LOGO! 8 12/24 RCE

- 6-line LCD display and cursor keys
- Power supply DC 12...24 V
- 8 digital inputs DC 12/24 V, of which 4 can be used as analog inputs (0...10 V)
- 4 floating relay contacts 10 A
- Integrated time switch
- Ethernet interface
- Integrated customer specific web server
- Modbus TCP/IP (client/ server)
- Time synchronisation via NTP (client and server)
- 400 function blocks linkable
- Expandable with extra modules



Dimension width (1 MW = 18 mm)

4 MW

Stock no.

Product no.

6ED1052-1MD08-0BA0

LOGO! 8 12/24 RCE

#### Basic Module LOGO! 8 12/24 RCEo

LOGO! 8 12/24 RCEo

- Power supply DC 12...24 V
- 8 digital inputs DC 12/24 V, of which 4 can be used as analog inputs (0...10 V)
- 4 floating relay contacts 10 A
- Integrated time switch
- Ethernet interface
- Integrated customer specific web server
- Modbus TCP/IP (client/ server)
- Time synchronisation via NTP (client and server)
- 400 function blocks linkable
- Expandable with extra modules



Dimension width (1 MW = 18 mm)

4 MW

Stock no.

Product no.

6ED1052-2MD08-0BA0

LOGO! 8 12/24 RCEo

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## Control and automation devices

### Programmable logic controllers

#### LOGO! Basic modules

##### LOGO! 8 230 RCE, RCEo

##### Basic Modules

- Power supply AC/DC 115...230 V
- 8 digital inputs AC/DC 115...230 V
- 4 floating relay contacts 10 A
- Integrated time switch
- Ethernet interface
- Integrated customer specific web server
- Modbus TCP/IP (client/ server)
- Time synchronisation via NTP (client and server)
- 400 function blocks linkable
- Expandable with extra modules

##### LOGO! 8 230 RCE



##### Basic Module LOGO! 8 230 RCE

- 6-line LCD display and cursor keys
- Power supply AC/DC 115...230 V
- 8 digital inputs AC/DC 115...230 V
- 4 floating relay contacts 10 A
- Integrated time switch
- Ethernet interface
- Integrated customer specific web server
- Modbus TCP/IP (client/ server)
- Time synchronisation via NTP (client and server)
- 400 function blocks linkable
- Expandable with extra modules

Dimension width (1 MW = 18 mm)

4 MW

Stock no.

Product no.

6ED1052-1FB08-0BA0

**LOGO! 8 230 RCE**

##### LOGO! 8 230 RCEo



##### Basic Module LOGO! 8 230 RCEo

- Power supply AC/DC 115...230 V
- 8 digital inputs AC/DC 115...230 V
- 4 floating relay contacts 10 A
- Integrated time switch
- Ethernet interface
- Integrated customer specific web server
- Modbus TCP/IP (client/ server)
- Time synchronisation via NTP (client and server)
- 400 function blocks linkable
- Expandable with extra modules

Dimension width (1 MW = 18 mm)

4 MW

Stock no.

Product no.

6ED1052-2FB08-0BA0

**LOGO! 8 230 RCEo**

## Control and automation devices

### Programmable logic controllers

#### LOGO8! Expansion modules

##### Expansion Module LOGO! DM8 12/24 R

- Power supply DC 12...24 V
- 4 digital inputs DC 12...24 V
- 4 floating relay contacts 5 A

Dimension width (1 MW = 18 mm)

2 MW

##### LOGO! DM8 12/24 R



Stock no.

Product no.

6ED1055-1MB00-0BA2

LOGO! DM8 12/24 R

##### Expansion Module LOGO! DM16 24 R

- Power supply DC 24 V
- 8 digital inputs DC 24 V
- 8 floating relay contacts 5 A

Dimension width (1 MW = 18 mm)

4 MW

##### LOGO! DM16 24 R



Stock no.

Product no.

6ED1055-1NB10-0BA2

LOGO! DM16 24 R

##### Expansion Modules

Power supply AC/DC 115...230 V

##### LOGO! DM..230 R

##### Expansion Modules LOGO! DM 8 230 R

- Power supply AC/DC 115...230 V
- 4 digital inputs AC/DC 115...230 V
- 4 floating relay contacts 5 A

Dimension width (1 MW = 18 mm)

2 MW

##### LOGO! DM 8 230 R



Stock no.

Product no.

6ED1055-1FB00-0BA2

LOGO! DM 8 230 R

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## Control and automation devices

### Programmable logic controllers

### LOGO! Expansion modules

#### LOGO! DM 16 230 R



#### Expansion Module LOGO! DM 16 230 R

- Power supply AC/DC 115...230 V
- 8 digital inputs AC/DC 115...230 V
- 8 floating relay contacts 5 A

Dimension width (1 MW = 18 mm)

4 MW

Stock no.

Product no.

6ED1055-1FB10-0BA2

LOGO! DM 16 230 R

#### LOGO! AM2



#### Expansion Module LOGO! AM2

- Power supply DC 12...24 V
- 2 analog inputs 0...10 V or 0/4...20 mA, resolution 10 bit

Dimension width (1 MW = 18 mm)

2 MW

Stock no.

Product no.

6ED1055-1MA00-0BA2

LOGO! AM2

#### LOGO! AM2 RTD



#### Expansion Module LOGO! AM2 RTD

- Power supply DC 12...24 V
- 2 analog inputs PT 100/1000, temperature range -50 °C...200 °C

Dimension width (1 MW = 18 mm)

2 MW

Stock no.

Product no.

6ED1055-1MD00-0BA2

LOGO! AM2 RTD

Control and automation devices  
**Programmable logic controllers**  
**LOGO8! Expansion modules**

### Expansion Module LOGO! AM2 AQ

- Power supply DC 24 V
- 2 analog outputs 0...10 V or 0/4...20 mA, resolution 10 bit

Dimension width (1 MW = 18 mm)

2 MW

### LOGO! AM2 AQ



Stock no.

Product no.

6ED1055-1MM00-0BA2

LOGO! AM2 AQ

## Control and automation devices

### Programmable logic controllers

### LOGO! Power

#### LOGO!POWER 12 V/0,9 A LOGO! Power 12 V/0.9 A



- Controlled power supply 12 V/ DC 0.9 A
- For connection to a 1-phase AC system
- Rated input voltage AC 100...240 V wide-range input
- Range input voltage AC 85...264 V/DC 110...300 V
- Nominal output voltage DC 12 V
- Nominal output current 0.9 A
- Efficiency during operation at rated value typ. 78 %
- Power loss < 0.3 Watt
- Ambient temperature -25...70 °C
- Protection class II, Degree of protection: IP20
- Potential separation SELV acc. to EN 60950 and EN 50178
- Emitted interference class B acc. to EN 55022
- Approval acc. to CE, cULus, cURus, NEC Class 2, FM, ATEX
- Marine approval DNV GL, ABS

Dimension width (1 MW = 18 mm)

1 MW

Stock no.

Product no.

6EP3320-6SB00-0AY0

LOGO!POWER 12 V/0,9 A

#### LOGO!POWER 12 V/1,9 A LOGO! Power 12 V/1.9 A



- Controlled power supply DC 12 V/1.9 A
- For connection to a 1-phase AC system
- Rated input voltage AC 100...240 V wide-range input
- Range input voltage AC 85...264 V/DC 110...300 V
- Nominal output voltage DC 12 V, setting range 10.5...16.1 V
- Nominal output current 1.9 A
- Measuring point for output voltage
- Efficiency during operation at rated value typ. 81 %
- Power loss < 0.3 Watt
- Ambient temperature -25...70 °C
- Protection class II, Degree of protection: IP20
- Potential separation SELV acc. to EN 60950 and EN 50178
- Emitted interference class B acc. to EN 55022
- Approval acc. to CE, cULus, cURus, NEC Class 2, FM, ATEX
- Marine approval DNV GL, ABS

Dimension width (1 MW = 18 mm)

2 MW

Stock no.

Product no.

6EP3321-6SB00-0AY0

LOGO!POWER 12 V/1,9 A

### LOGO! Power 12 V/4.5 A

### LOGO!POWER 12 V/4,5 A

- Controlled power supply DC 12 V/4.5 A
- For connection to a 1-phase AC system
- Rated input voltage AC 100...240 V wide-range input
- Range input voltage AC 85...264 V/DC 110...300 V
- Nominal output voltage DC 12 V, setting range 10.5...16.1 V
- Nominal output current 4.5 A
- Measuring point for output voltage
- Efficiency during operation at rated value typ. 87 %
- Power loss < 0.3 Watt
- Ambient temperature -25...70 °C
- Protection class II, Degree of protection: IP20
- Potential separation SELV acc. to EN 60950 and EN 50178
- Emitted interference class B acc. to EN 55022
- Approval acc. to CE, cULus, cURus, NEC Class 2, FM, ATEX
- Marine approval DNV GL, ABS



Dimension width (1 MW = 18 mm)

3 MW

Stock no.

Product no.

6EP3322-6SB00-0AY0

LOGO!POWER 12 V/4,5 A

### LOGO! Power 24 V/0.6 A

### LOGO!POWER 24 V/0,6 A

- Controlled power supply DC 24 V/0.6 A
- For connection to a 1-phase AC system
- Rated input voltage AC 100...240 V wide-range input
- Range input voltage AC 85...264 V/DC 110...300 V
- Nominal output voltage DC 24 V
- Nominal output current 0.6 A
- Efficiency during operation at rated value typ. 81 %
- Power loss < 0.3 Watt
- Ambient temperature -25...70 °C
- Protection class II, Degree of protection: IP20
- Potential separation SELV acc. to EN 60950 and EN 50178
- Emitted interference class B acc. to EN 55022
- Approval acc. to CE, cULus, cURus, NEC Class 2, FM, ATEX
- Marine approval DNV GL, BV, LRS, ABS



Dimension width (1 MW = 18 mm)

1 MW

Stock no.

Product no.

6EP3330-6SB00-0AY0

LOGO!POWER 24 V/0,6 A

## Control and automation devices

### Programmable logic controllers

#### LOGO! Power

#### LOGO!POWER 24 V/1,3 A LOGO! Power 24 V/1.3 A



- Controlled power supply DC 24 V/1.3 A
- For connection to a 1-phase AC system
- Rated input voltage AC 100...240 V wide-range input
- Range input voltage AC 85...264 V/DC 110...300 V
- Nominal output voltage DC 24 V, setting range DC 22.2...26.4 V
- Nominal output current 1.3 A
- Measuring point for output voltage
- Efficiency typ. 86 %
- Power loss < 0.3 Watt
- Ambient temperature -25...70 °C
- Protection class II, Degree of protection: IP20
- Potential separation SELV acc. to EN 60950 and EN 50178
- Emitted interference class B acc. to EN 55022
- Approval acc. to CE, cULus, cURus, NEC Class 2, FM, ATEX
- Marine approval DNV GL, BV, LRS, ABS

Dimension width (1 MW = 18 mm)

2 MW

Stock no.

Product no.

6EP3331-6SB00-0AY0

LOGO!POWER 24 V/1,3 A

#### LOGO!POWER 24 V/2,5 A LOGO! Power 24 V/2.5 A



- Controlled power supply DC 24 V/2.5 A
- For connection to a 1-phase AC system
- Rated input voltage AC 100...240 V wide-range input
- Range input voltage AC 85...264 V/DC 110...300 V
- Nominal output voltage DC 24 V, setting range DC 22.2...26.4 V
- Nominal output current 2.5 A
- Measuring point for output voltage
- Efficiency typ. 90 %
- Power loss < 0.3 Watt
- Ambient temperature -25...70 °C
- Protection class II, Degree of protection: IP20
- Potential separation SELV acc. to EN 60950 and EN 50178
- Emitted interference class B acc. to EN 55022
- Approval acc. to CE, cULus, cURus, NEC Class 2, FM, ATEX
- Marine approval DNV GL, BV, LRS, ABS

Dimension width (1 MW = 18 mm)

3 MW

Stock no.

Product no.

6EP3332-6SB00-0AY0

LOGO!POWER 24 V/2,5 A

## LOGO! Power 24 V/4 A

- Controlled power supply DC 24 V/4 A
- For connection to a 1-phase AC system
- Rated input voltage AC 100...240 V wide-range input
- Range input voltage AC 85...264 V/DC 110...300 V
- Nominal output voltage DC 24 V, setting range DC 22.2...26.4 V
- Nominal output current 4 A
- Measuring point for output voltage
- Efficiency typ. 89 %
- Power loss < 0.3 Watt
- Ambient temperature -25...70 °C
- Protection class II, Degree of protection: IP20
- Potential separation SELV acc. to EN 60950 and EN 50178
- Emitted interference class B acc. to EN 55022
- Approval acc. to CE, cULus, cURus, FM, ATEX
- Marine approval DNV GL, BV, LRS, ABS

Dimension width (1 MW = 18 mm)

4 MW

## LOGO!POWER 24 V/4 A



	Stock no.	Product no.
	6EP3333-65B00-0AY0	LOGO!POWER 24 V/4 A

## Accessories for programmable logic controllers LOGO!

Product Title	Product Description	Stock no.	Product no.
LOGO! 8 12/24 V Starter Kit	LOGO! 12/24 RCE, LOGO! Power 24 V, 1,3 A	6ED1057-3BA01-0AA8	LOGO! 8 12/24 V Starter Kit
LOGO! 8 230 V Starter Kit	LOGO! 230 RCE	6ED1057-3BA03-0AA8	LOGO! 8 230 V Starter Kit
LOGO! 8 TDE Starter Kit	LOGO! 12/24 RCEo, LOGO! Power 24 V, 1,3 A, LOGO! TDE	6ED1057-3BA11-0AA8	LOGO! 8 TDE Starter Kit
LOGO! 8 12/24 V + KP300 Basic Starter Kit	LOGO! 12/24 RCE, LOGO! Power 24 V, 1,3 A, SIMATIC HMI KP300 Basic mono PN	6AV2132-0HA00-0AA1	LOGO! 8 12/24 V + KP300
LOGO! 8 12/24 V + KTP400 Basic Starter Kit	LOGO! 12/24 RCE, LOGO! Power 24 V, 1,3 A, SIMATIC HMI KTP400 Basic	6AV2132-0KA00-0AA1	LOGO! 8 12/24 V + KTP400
LOGO! 8 12/24 V + KTP700 Basic Starter Kit	LOGO! 12/24 RCE, LOGO! Power 24 V, 1,3 A, SIMATIC HMI KTP700 Basic	6AV2132-3GB00-0AA1	LOGO! 8 12/24 V + KTP700
LOGO! Soft Comfort V8	for Windows 8, 7, XP, Linux and Mac OSX, on DVD, downwards compatible	6ED1058-0BA08-0YA1	LOGO! Soft Comfort V8





# System products and accessories



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## System products and accessories

### Overview and selection tools

#### Fitting power supplies for every KNX system

Each bus line needs its own power supply unit. The power supply unit provides the system power necessary for the instabus KNX. The KNX system provides for decentralized and central power supply units. Central power supply units are installed as DIN rail mounted devices in distribution boards and control cabinets, while decentralized power supply units are designed for installation in junction boxes, in parapet channels or in room control boxes.

Central power supply units provide 160 mA, 320 mA or 640 mA bus current. Maximum up to two central power supply units may be attached to a single bus line. A second unit is not required unless the supply voltage at a bus device is less than 21 V. When more than 30 bus devices are installed in short bus cable distance (e.g. 10 m), e.g. in distribution boards, the power supply unit should be arranged near these bus devices. The distance between power supply unit and any of its bus devices must not exceed 350 m.

A decentralized power supply provides 80 mA bus current. This allows for decentralized solutions for self-sufficient control of a single room or, by integration of several room control islands, of a floor or even a complete building. Up to eight decentralized power supply units may be operated in parallel, such that a complete KNX bus line can be setup with e.g. eight room control boxes.

When several bus devices are installed in short bus cable distance (e.g. 10 m), e.g. in distribution boards, or in a room control box AP 641, the power supply units shall be arranged near these bus devices. The distance along the bus wire between any bus device and the closest power supply unit must not exceed 350 m. If only the decentralized power supply RL 125/23 is used, then the maximum KNX cable length in a bus line is 350 m for one, 700 m for two, and 1000 m for 3 or more decentralized power supplies RL 125/23.

In principle, central and decentralized power supply units can be operated in parallel with each other. Consideration must be taken regarding the sum of the short circuit currents of the power supply units, which must be lower than 3 amperes.

The following table shows the respective short circuit current:

Material number	Type	Short circuit current	Bus current
5WG1 125-4AB23	RL 125/23	< 0.2 A	80 mA
5WG1 125-1AB02	N 125/02	< 1.0 A	160 mA
5WG1 125-1AB12	N 125/12	< 1.0 A	320 mA
5WG1 125-1AB22	N 125/22	< 1.5 A	640 mA

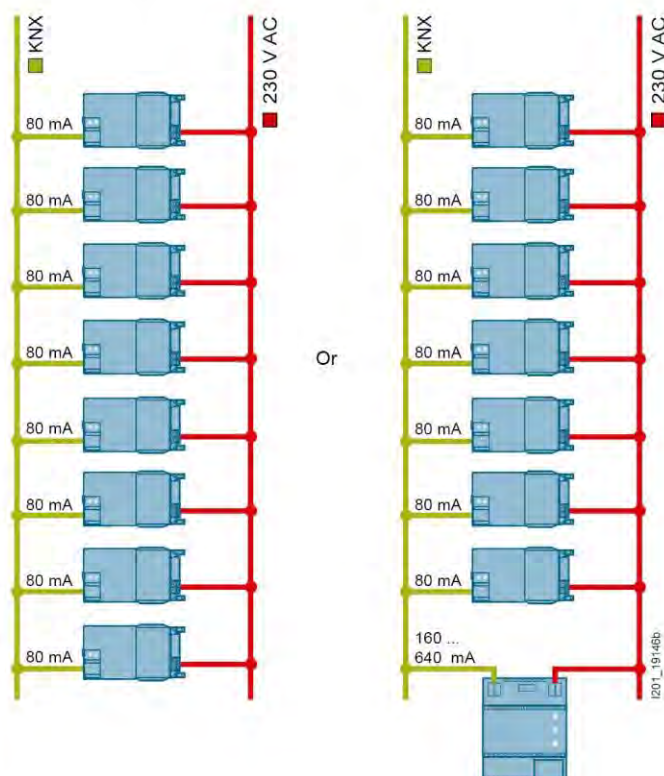
With eight decentralized power supply units RL 125/23 operated in parallel the maximum short circuit current is 1.6 A.

Additionally, it is possible to operate a power supply unit N 125/02 or N 125/12 in parallel to eight RL 125/23. Only with the power supply unit N 125/22 observe that it has a short circuit current of 1.5 A, which is why only seven decentralized power supply units can be operated in parallel.

To ensure an uninterrupted power supply a separate circuit with safety separation should be used for the power supply unit N 125/x2 power supply line.

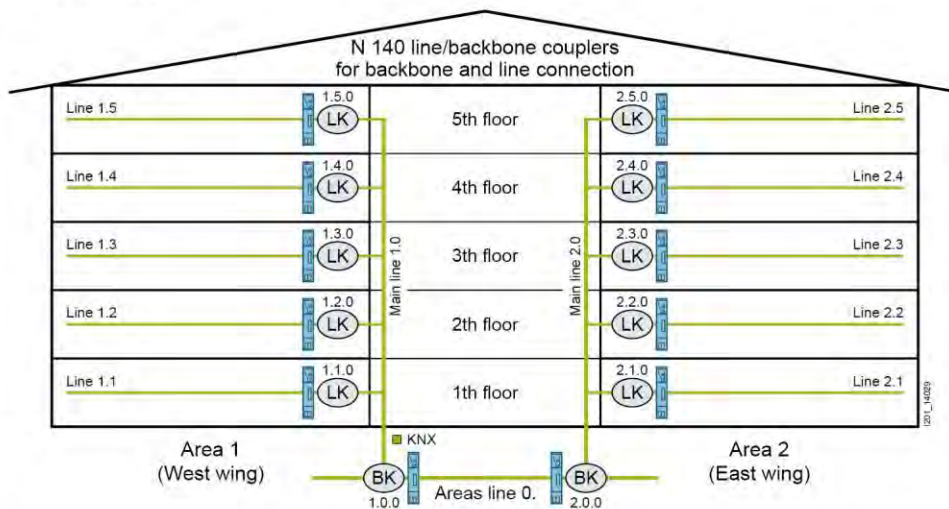
The power supply units N 125/x2 can supply DC 24 V power from an additional pair of terminals (yellow-white). This DC 24 V output voltage can be used to power e.g. an additional line via a separate choke N 120.

All power supply units N 125/x2, RL 125/23 and JB 125C23 can be powered by AC 120...230 V or by DC 220 V. A minimum cable length is not required between these power supply units from Siemens.



For example

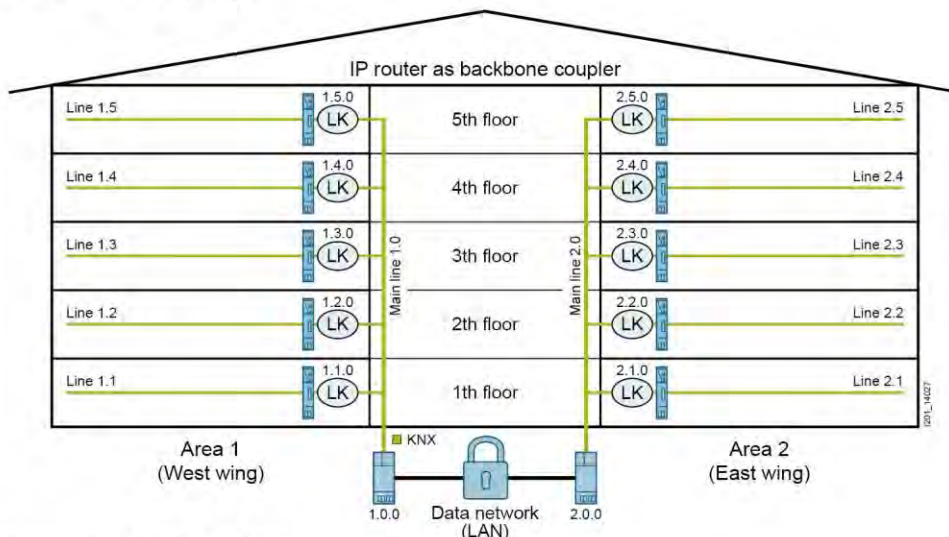
### Classic topology



In conventional topologies, all line and backbone couplers have usually been designed as KNX couplers.

This topology is proven and widely used. For the most part, the bus line lengths are limited to one building.

### Modern and safe topology

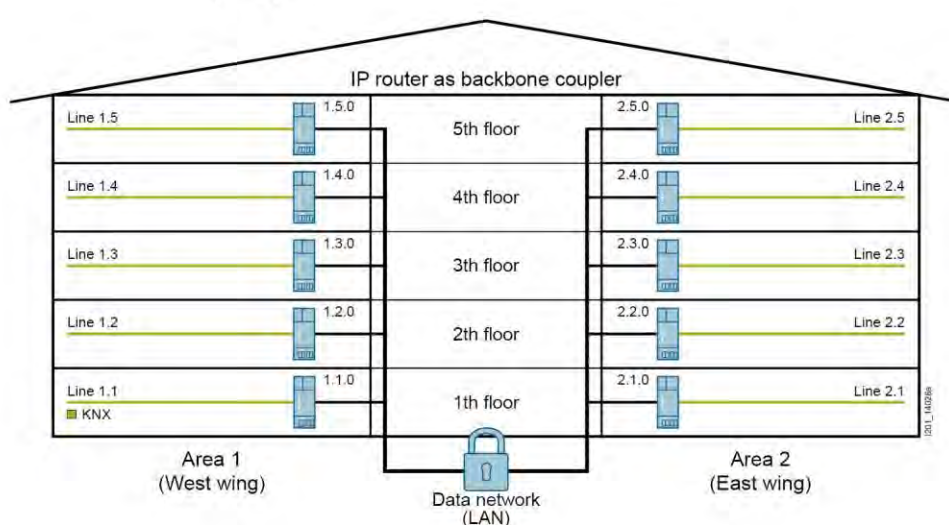


In this modern and save topology, the backbone couplers are replaced with IP routers Secure.

Thanks to the use of standard network components, the connection for example of two building sections is no longer limited to bus line lengths.

Use of other media such as fiberoptic cabling or WLAN is also possible for the purpose of coupling distant buildings and exchanging group address telegrams.

### Innovative and save topology



In this innovative and save topology, all line couplers are replaced with IP routers Secure.

Backbone couplers are no longer needed. This configuration allows to connect every building floor by Ethernet (LAN) and utilize existing LAN networks safe.






Moreover, correct configuration of the IP router enables major projects to be commissioned as smaller, individual subprojects in a simpler, clearer manner.

It's possible to exchange group address telegrams despite the separation into individual projects.







## System products and accessories

### Overview and selection tools

Power supply units					
Type	 N 125/02	 N 125/12	 N 125/22	 RL 125/23	 JB 125C23
<b>Enclosure data</b>					
Modular installation devices for mounting on TH35 EN 60715 mounting rail	■	■	■		
Device for installation in Control Module Box AP 118 or Room Control Box AP 641				■	
Device for installation in Junction Box 4" x 4"					■
<b>Dimensions</b>					
• Width (1 MW = 18 mm)	4 MW	4 MW	4 MW	47.8 mm	70 mm
• Height [mm]				86.5 mm	90 mm
• Depth [mm]				36.2 mm	44.6 mm
<b>Bus connection</b>					
Integrated chokes	■	■	■	■	■
Bus connection via bus terminal	■	■	■	■	■
<b>Outputs</b>					
Rated operational voltage					
• AC V	120...230	120...230	120...230	120...230	120...230
• DC V	220	220	220	220	220
50...60 Hz	■	■	■	■	■
Output voltage, DC [V]	29	29	29	29	29
Output current [mA]	160	320	640	80	80
Additional unchoked output for DC 29 V, for powering a second bus line via an external choke (e. g. N 120/02)	■	■	■		

## System products and accessories

### Overview and selection tools

Network gateways				
				
Type	N 148/23	N 146/03	N 152/01	N 143/01
<b>Enclosure data</b>				
Design	N	N	N	N
Modular installation devices for mounting on TH35 EN 60715 mounting rail	■	■	■	■
<b>Dimensions</b>				
Width (1 MW = 18 mm)	2 MW	2 MW	4 MW	4 MW
<b>Display/control elements</b>				
LEDs for indicating that the device is ready-to-run, KNX communication, IP communication	■	■	■	■
<b>Power supply</b>				
Electronics powered via an external nominal AC/DC power supply unit for	AC/DC 24 V	AC/DC 24 V	DC 24 V	AC/DC 24 V
Power consumption at DC 24 V [mA]	60	60	50	60
Power supply for the electronics via "Power over Ethernet" according to IEEE 802.3af	■	■		
<b>Bus connection</b>				
Integrated bus coupling units	■	■	■	■
Bus connection via bus terminal	■	■	■	■
<b>Mains connection</b>				
Ethernet connection via RJ45 socket	■	■	■	■
Plug-in terminal block for the connection of an external power supply unit	■	■	■	■
<b>Gateway</b>				
Supports KNXnet/IP	■	■	■	■
Supports KNX IP Secure	Yes	Yes	No	No
Line coupler function (Routing)		■		
Interface functions (Tunneling)	4	4	1	1
Weekly scheduling program			■	
Astro function			■	
Yearly time switching functions			■	
Event entries			■	
Logic gates			■	
Web servers			■	■



## System products and accessories

System products  
Bus coupling units

## UP 117/12



## Bus transceiver modules, mounting depth 18 mm

- For connection of a modular bus device to the bus line
- 10-pole BTI socket (BTI - Bus Transceiver Interface) for plugging of bus terminal devices with BTI connector
- For installation in flush-mounting switch and socket boxes with Ø 60 mm in diameter 40 mm deep
- Screw fixing
- Bus connection via bus terminal

Data sheet

A6V10416065

Dimensions (W x H x D)

71 x 71 x 18 mm

Stock no.

Product no.

5WG1117-2AB12

UP 117/12

## UP 117C12



## Bus Coupling Unit (BTM), NEMA

- For connection of a modular bus device to the bus line
- 10-pole Bus Transceiver Interface (BTI) socket for clipping on an application module with BTI plug connector, with DC converter with output voltage / current of DC 5 V / 30 mA and DC 20 V / 25 mA for supply of the clipped on bus device via the bus line
- Mounting bracket for installation in a NEMA wall box with minimum inside dimensions 50 x 89 x 40 mm (W x H x D), with screw connection
- Mounting depth 19mm
- Bus connection via bus terminal
- Type of protection: IP 20

The matching design frame must be ordered separately. See Chapter Display and Operation Units - Pushbutton accessories.

Data sheet

A6V11808813

Dimensions (W x H x D)

111 x 65 x 19 mm

Stock no.

Product no.

5WG1117-2CB12

UP 117C12

**Power supply unit**

- Integrated chokes
- Bus connection via bus terminal or contact system to data rail
- Parallel operating mode power supplies
- Rated operational voltage AC 120...230 V, 50...60 Hz, DC 220 V
- Output voltage DC 29 V
- Additional unchoked output for DC 29 V, for powering a second bus line via an external choke N 120/2
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Data sheet

A6V10416488

**N 125/..2****Range overview N 125/..2**

Product Title	Dimension width (1 MW = 18 mm)	Stock no.	Product no.
Power supply unit DC 29 V, 160 mA with additional unchoked output, N 125/02	4 MW	5WG1125-1AB02	<b>N 125/02</b>
Power supply unit DC 29 V, 320 mA with additional unchoked output, N 125/12	4 MW	5WG1125-1AB12	<b>N 125/12</b>
Power supply unit DC 29 V, 640 mA with additional unchoked output, N 125/22	4 MW	5WG1125-1AB22	<b>N 125/22</b>

**Decentralized power supply, 80 mA, AC 230 V**

- Integrated choke
- Output voltage DC 29 V
- Output current 80 mA
- Connection of choke-protected output voltage via a plug-in extra-low voltage terminal or bus terminal
- Type of protection: IP 20 (installed)
- Rated operational voltage AC 120...230 V, 50...60 Hz, DC 220 V
- For mounting in AP 118 automation module box or AP 641 room control box

The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See Chapter Modular Installation System - Room control box - Module boxes.

Data sheet

A6V11535388

Dimensions (W x H x D)

86,5 x 47,8 x 36,2 mm

**RL 125/23**

Stock no.	Product no.
5WG1125-4AB23	<b>RL 125/23</b>

## System products and accessories

System products  
Power supply units

## JB 125C23



## Decentralized Power Supply, 80 mA, AC 120 V

- Integrated choke
- Output voltage DC 29 V
- Output current 80 mA
- Connection of choke-protected output voltage via a plug-in extra-low voltage terminal or bus terminal
- Type of protection: IP 20 (installed)
- Rated operational voltage AC 120 V, 50...60 Hz
- Built-in device with 1/2 inch thread connection for mounting to or in a UL/NEMA Junction Box with feedthrough of the function wires through the 1/2 inch threaded connector

Data sheet

A6V11808808

Dimensions (W x H x D)

70 x 90 x 44,6 mm

Stock no.

Product no.

5WG1125-4CB23

JB 125C23

## N 120/02



## Choke, 640 mA

- For operation with a KNX power supply without integrated choke or for connection to the unchoked output of the KNX N 125/x2 power supplies
- Low-voltage terminal for unchoked voltage and bus
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Data sheet

A6V10416067

Dimension width (1 MW = 18 mm)

2 MW

Stock no.

Product no.

5WG1120-1AB02

N 120/02

## 4AC2402



## Electronic power supply unit, 350 mA

- Max. cable length between power supply unit and weather system: 100 m
- Rated operational voltage 85...265 V AC (50/60 Hz), 85...300 V DC
- Rated secondary voltage 24 V DC, +5 %,
- Residual ripple < 100 mV
- Rated secondary current 0.35 A
- Electronic overload protection
- Permissible ambient operating temperature: - 20...+60 °C
- Degree of protection: IP20
- For mounting on EN 60715-TH35-7.5 mounting rail

Dimension width (1 MW = 18 mm)

2 MW

Stock no.

Product no.

4AC2402

4AC2402

**IP-Router Secure****N 146/03**

- For interconnection of bus lines or bus areas via a fast data network (Ethernet 10BaseT or 100BaseT) with Internet Protocol (IP)
- To be used as line, area and system coupler
- Uses the KNXnet/IP protocol or secured access and data transmission via KNXnet/IP Secure
- Up to four KNXnet/IP Tunneling connections for parallel bus access by ETS and further PC software
- Assignment of the network parameters by the installer using ETS, automatically by a DHCP server in the network
- 5 LEDs for display of availability, KNX communication and IP communication
- Electronics powered via "Power over Ethernet" according to IEEE 802.3af or alternatively by an external safety extra low voltage power supply for AC/DC 24 V
- Pluggable terminal block for connection of external power supply unit (not included)
- Ethernet connection via RJ45 socket
- Housing: plastic, color RAL 7035 (light grey), N-system
- DIN rail mounted device for mounting on rail TH35 according to DIN EN 60715
- Type of protection: IP 20



Data sheet A6V11656735  
 Dimension width (1 MW = 18 mm) 2 MW

Stock no. Product no.  
 5WG1146-1AB03 **N 146/03**

**Accessories for N 146/03**

Product Title	Stock no.	Product no.
Electronic power supply unit, 350 mA	4AC2402	<b>4AC2402</b>
LOGO! Power 24 V/1.3 A	6EP3331-6SB00-0AY0	<b>LOGO!POWER 24 V/1,3 A</b>

**Line/backbone coupler****N 140/13**

- For data exchange between two KNX bus lines with telegrams of up to 64 byte
- For use as line coupler for connecting a line to the main line or as backbone coupler for connecting a main line to the backbone line or as repeater for connecting two segments of the same line, with electrical isolation of the two bus lines
- Loadable filter table for control of the data exchange between the two bus lines
- Additional loadable filter table for telegrams with LTE addressing
- Detection of a communication fault on the lower-level line and signaling to the higher-level line
- 3 LEDs for display of availability and receipt of a telegram per line
- Power supply from the main line
- Modular installation devices for mounting on TH35 EN 60715 mounting rail
- With bus connection to the line and to the main line via bus terminal.



Data sheet A6V10416071  
 Dimension width (1 MW = 18 mm) 2 MW

Stock no. Product no.  
 5WG1140-1AB13 **N 140/13**

## System products and accessories

## System products

## Network gateways

## N 148/23

## IP Interface Secure



- For communication between KNX devices and PCs or other devices with Ethernet (10BaseT or 100BaseT) interface, for remote access to an KNX installation
- Uses the KNXnet/IP protocol or secured access and data transmission via KNXnet/IP Secure
- Up to four KNXnet/IP Tunneling connections for parallel bus access by ETS and further PC software
- Assignment of the network parameters by the installer using ETS, automatically by a DHCP server in the network
- 5 LEDs for display of availability, KNX communication and IP communication
- Electronics powered via "Power over Ethernet" according to IEEE 802.3af or alternatively by an external safety extra low voltage power supply for AC/DC 24V
- Pluggable terminal block for connection of external power supply unit (not included)
- Ethernet connection via RJ45 socket
- Housing: plastic, color RAL 7035 (light grey), N-system
- DIN rail mounted device for mounting on rail TH35 according to DIN EN 60715
- Type of protection: IP 20

Data sheet

A6V11689764

Dimension width (1 MW = 18 mm)

2 MW

Stock no.

Product no.

5WG1148-1AB23

N 148/23

## Accessories for N 148/23

Product Title	Stock no.	Product no.
Electronic power supply unit, 350 mA	4AC2402	4AC2402
LOGO! Power 24 V/1.3 A	6EP3331-6SB00-0AY0	LOGO!POWER 24 V/1,3 A

## N 146/03

## IP-Router Secure



- For interconnection of bus lines or bus areas via a fast data network (Ethernet 10BaseT or 100BaseT) with Internet Protocol (IP)
- To be used as line, area and system coupler
- Uses the KNXnet/IP protocol or secured access and data transmission via KNXnet/IP Secure
- Up to four KNXnet/IP Tunneling connections for parallel bus access by ETS and further PC software
- Assignment of the network parameters by the installer using ETS, automatically by a DHCP server in the network
- 5 LEDs for display of availability, KNX communication and IP communication
- Electronics powered via "Power over Ethernet" according to IEEE 802.3af or alternatively by an external safety extra low voltage power supply for AC/DC 24 V
- Pluggable terminal block for connection of external power supply unit (not included)
- Ethernet connection via RJ45 socket
- Housing: plastic, color RAL 7035 (light grey), N-system
- DIN rail mounted device for mounting on rail TH35 according to DIN EN 60715
- Type of protection: IP 20

Data sheet

A6V11656735

Dimension width (1 MW = 18 mm)

2 MW

Stock no.

Product no.

5WG1146-1AB03

N 146/03

## Accessories for N 146/03

Product Title	Stock no.	Product no.
Electronic power supply unit, 350 mA	4AC2402	4AC2402
LOGO! Power 24 V/1.3 A	6EP3331-6SB00-0AY0	LOGO!POWER 24 V/1,3 A

**IP Control Center****N 152/01**

Visualisation controller for full-graphic visualizations on web-compatible end devices such as PCs, tablets and smart phones with a standard web browser.

For communication between KNX devices and PCs and, in connection with a LAN-/WLAN modem or DSL router, for remote access to a KNX installation, for usage as an interface for the ETS 3/4/5 and as an interface for a visualization, with usage of the KNXnet/IP protocol, with the following simultaneously usable functions:

- Web server for operating and monitoring up to 1250 statuses and values transmitted by the KNX network, which can be displayed using a standard browser on PCs, tablets, or smartphones connected to the IP network
- Special web-configuration page for a firmware update, to set the IP configuration, SMTP server, security settings, password protection, certificates, Sonos module, API connection and restart
- Graphical web editor for a creation of fully graphical visualization with control and display elements, configurable in various styles
- Smart editor for the creation of a visualisation, tuned for mobile browsers, smartphones, tablets with control and display elements, configurable in various styles and layouts
- Annual timer, with astronomical calendar, for 300 time switch schedules with up to 30 time switch commands per time switch schedule
- Scene module with up to 5000 scenes or events
- Chart module for recording and reporting of up to 10 data points
- Monitoring module for monitoring and storage of up to 1000 events into a ring buffer
- IP interface for control of up to 20 IP-devices via up to 20 TCP/UDP commands per IP-device
- Fully graphical logic module with up to 1000 logic functions
- Alarm function for up to 250 different alarms
- E-mail function, with up to 20 contacts, for transmission of chart data from chart module, logged data from monitoring module or alarm data
- Data point management for viewing, managing, editing and categorizing all available data points
- Module for controlling SONOS loudspeakers
- Module for controlling the Philips HUE LED lighting system
- Ethernet interface 10/100 Mbits/s with RJ45 socket for connection to the IP network using the Internet Protocol
- 2 LED displays for IP connection/communication and for error messages
- Integrated bus connector and bus terminal for connection to a KNX network
- Power supply of the electronics by an external voltage source for AC/DC 24 V, 50 mA
- Series installation device for mounting on support rails TH35 DIN EN 60715



Data sheet A6V10417875  
Dimension width (1 MW = 18 mm) 4 MW

Stock no. Product no.

5WG1152-1AB01 **N 152/01**

**Accessories for N 152/01**

Product Title	Stock no.	Product no.
Electronic power supply unit, 350 mA	4AC2402	<b>4AC2402</b>
LOGO! Power 24 V/1.3 A	6EP3331-6SB00-0AY0	<b>LOGO!POWER 24 V/1,3 A</b>



## System products and accessories

System products  
Network gateways

## N 143/01



## IP Gateway KNX/BACnet

- BACnet Application Specific Controller (B-ASC) as Gateway between KNX TP and BACnet IP
- BTL certified
- Up to 250 BACnet objects
- Up to 455 BACnet COV subscriptions
- Automatic translation of KNX communication objects into BACnet objects according to the configuration with ETS
- For communication between KNX EIB devices and PCs or other devices with Ethernet (10BaseT) interface, as well as in conjunction with a LAN modem or DSL router for remote access to an KNX EIB installation
- For use as an interface e.g. for ETS3 or for visualization software
- Use the KNXnet/IP protocol
- KNXnet/IP Tunneling connection for parallel bus access by ETS and further PC software
- ObjectServer connection for visualization via network connections with long signal transmission duration
- Assignment of the network parameters by the installer using ETS, or automatically by a DHCP server in the network
- 2 LEDs for display of operational availability and IP communication
- Additional power supply by an external safety extra low voltage power supply for AC/DC 24 V, 40 mA
- Pluggable terminal block for connection of external power supply unit (not included)
- Integrated bus coupling unit with bus connection via bus terminal
- Ethernet connection via RJ45 socket
- Mounting on DIN rail EN 60715-TH35-7.5

Data sheet

A6V10466141

Dimension width (1 MW = 18 mm)

4 MW

Stock no.

Product no.

5WG1143-1AB01

**N 143/01**

## Accessories for N 143/01

Product Title	Stock no.	Product no.
Electronic power supply unit, 350 mA	4AC2402	<b>4AC2402</b>
LOGO! Power 24 V/1.3 A	6EP3331-6SB00-0AY0	<b>LOGO!POWER 24 V/1,3 A</b>

## S 193/01



## Bus terminal, 2-pole, 4 plug-in connectors, red/dark gray

- For connection of bus devices to the bus cable
- For connection of up to 4 bus cables
- Comprising two engaged clamp parts + (red) and - (dark gray), each with 4 screwless plug-in terminals per clamp part for solid conductors, Ø 0.6 mm...0.8 mm

Dimensions (W x H x D)

10 x 12.4 x 10 mm

Stock no.

Product no.

5WG1193-8AB01

**S 193/01**

### Overvoltage protection, as fine protection for bus devices

S 190/01

- For the overvoltage fine protection of bus devices
- For inserting in a bus device instead of a 193 bus terminal or for direct connection to a bus terminal
- For surge protection through connection of the yellow/green ground conductor to the next grounding point
- 2 socket contacts (1 mm Ø) for insertion in bus devices
- 2 solid wires (0.8 mm Ø) for connection to the bus terminal
- A solid wire (0.75 mm Ø) for surge protection
- Rated voltage DC 24 V
- Rated current 6 A
- Rated discharge surge current 5 kA
- Protection level 350 V



Data sheet

A6V10416502

Dimensions (W x H x D)

11.6 x 10.5 x 11.1 mm

Stock no.

Product no.

5WG1190-8AD01 S 190/01



# Home automation system



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## Home automation system

### Overview and selection tools

#### Central apartment unit (1)



The heart and brain of the system. From here you can control all different functions for up to 12 rooms quickly and easily and monitor them via the display.

#### Room unit / room temperature sensor (2)



The room unit measures the room temperature and allows the settings entered into the central apartment unit, such as temperature and operating parameters, to be adjusted for individual rooms. The comfort settings can be extended at the push of a button. The room temperature sensor measures the room temperature and communicates this by radio to the central apartment unit.

#### Radiator control actuator (3)



The radiator control actuator receives the pre-set desired temperature for this room by radio signal from the central apartment unit and regulates room temperature by adjusting the radiator valve. It can also be regulate up to 5 additional radiators per room, thereby ensuring an even temperature between radiators.

#### Heating circuit controller / Multicontroller (4)



The heating circuit controller compares the actual values and setpoints for each room communicated from the central apartment unit via RF and regulates the temperature by adjusting the valve settings of the heat distributor. The multicontroller is for precontrol of up to 2 independent hydraulic room groups (e.g. radiators, floor heating) or for control of ventilation plant with up to 3 stages.

#### Web server (5)



The web server connects the home automation system to the internet. It allows you to access and operate the system from a remote location via Smartphone, tablet or PC. With the HomeControl app from Siemens, you have an intuitive and simple control for your heating, air conditioning and ventilation system, as well as light and shading control. Alarm messages, reports and consumption data can be sent to email recipients as required.

#### Consumption data interface (6)



The consumption data interface collects consumption data of heat/cool energy, electricity, water and gas.

#### Meteo sensor (7)



The meteo sensor acquires the outside temperature and atmospheric pressure and communicates this via RF to the central apartment unit.

#### Lighting and blind control (8)



Convenient control of lighting and blinds – centrally, locally in the room, or as a scene. Naturally, the components can also be operated automatically, e.g. via time programs or simulation of presence.

#### Door / window contact (9)



The door / window contact monitors the status of windows, doors and gates and transmits the relevant data to the central apartment unit. In the case of deviations from the norm, the system can alert you in a variety of ways. In addition, it saves energy and stay comfortable.



## Home automation system Overview and selection tools

### Use Synco™ living – and technology becomes your valued companion in the house

Synco™ living is the outstanding modular Homeautomation system from Siemens. It offers central operation and adapts all parameters for comfortable living, such as optimum room temperatures, air and light conditions, safety and security, plus economical use of energy and financial resources, to individual needs. The system can be dynamically matched to changing living conditions. Information within the system is transmitted either wire-bound (KNX TP) or via radio (KNX RF).

To be able to satisfy all kinds of requirements in the residential sector, today's Homeautomation systems must be compatible with a large number of systems on the market. Synco™ living offers absolute openness. This means that – now or later – you can integrate almost any type of system into your Synco™ living configuration conforming to international KNX standard.

More information about Synco living see [www.siemens.com/syncoliving](http://www.siemens.com/syncoliving)





## Home automation system

### Overview and selection tools

#### Synco living – more comfort at home

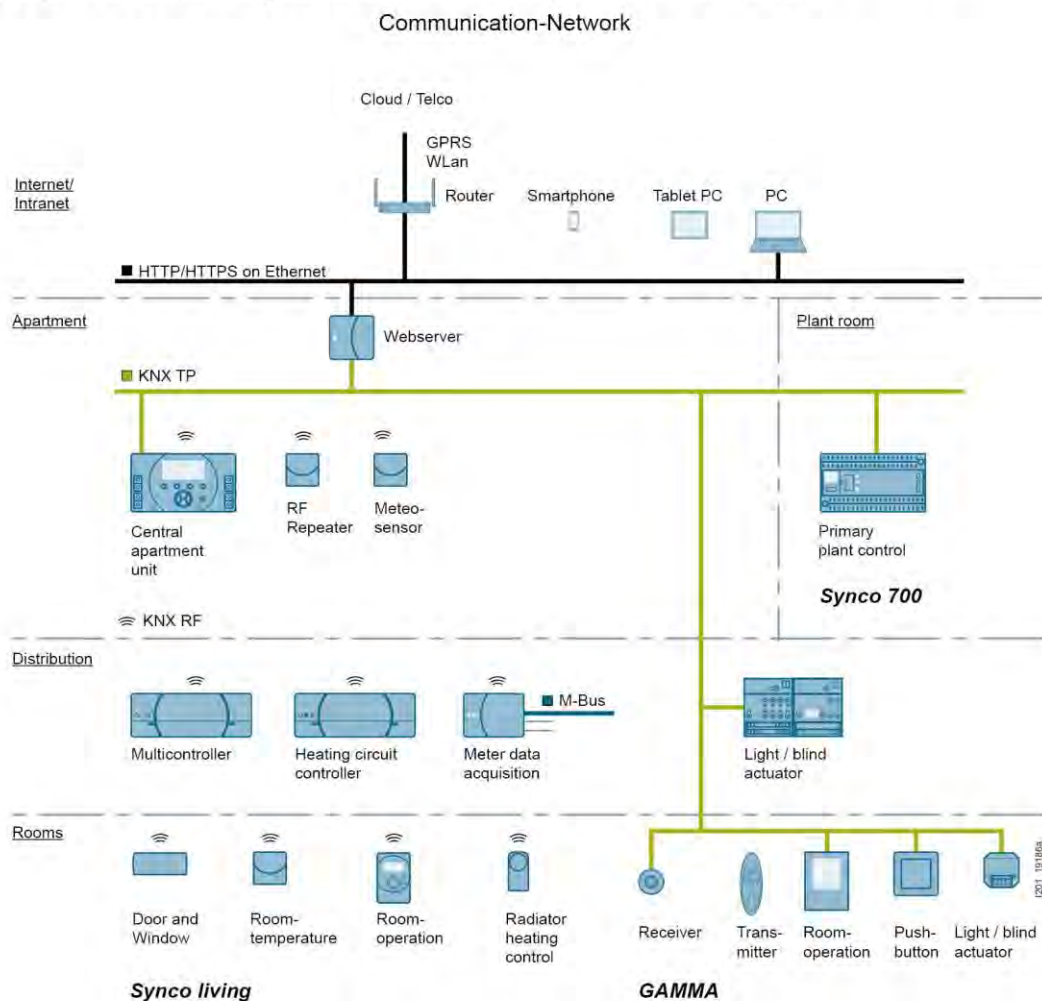
Synco living is specially tailored to the needs of private areas. The unique home automation system unites all functions such as heating, ventilation, lighting, blinds, security technology as well as consumption data acquisition. All components can be integrated wired or wireless in a flexible way. The control in line with the demand allows up to 30% less heating energy use – and lower CO<sub>2</sub> emissions for your home. Synco living fulfils all requirements to achieve energy efficiency class A in accordance with EN 15232. In addition the eu.bac certification demonstrates proven quality and energy efficiency according to European standards and directives.

#### Synco operating – efficient operation of plant with straightforward remote control

Thanks to Synco's Web server, plant operation and monitoring can be effected from a PC or Smartphone at any time and from any location. An alarm system delivers fault status or maintenance messages in due time, also via SMS or e-mail, if required. The app allows operation from under way or from the sofa.

#### Monitored energy efficiency

The energy indicator monitors end user settings, shows exceeded limit values and reports them to the residents periodically via e-mail or app. A leaf symbol shows the energy status for each setting: Green means that the setting is correct from an energetic point of view; orange signals that a setting is energetically unfavorable. This way, each deviation is made transparent and visible at all times.



#### GAMMA - The tried-and-tested building control

Building GAMMA instabuss control enables all components in house and building control systems to be networked flexibly via the two wires of the bus cable. Whether you want to realize highly complex multi-utility systems or are looking for small solutions – this technology can be adapted to your individual requirements.

#### Synco 700 – versatile HVAC controller range of modular design

Being the heart for manages the primary energy plant. This modular product range controls and monitors the HVAC plant. Installation and commissioning work can be performed quickly and efficiently: The extension modules simply click onto the controllers. Thanks to standard applications integrated in the controllers, there is no need for programming. The documentation gives you an overview of all integrated applications. Also, customized configurations can be made very straightforwardly.

# Home automation system

## Overview and selection tools

Overview															
Type	AP 260/11	ERF910	OZW772..	QAA910	QAC910	QAW910	QAW912	QAX903-9	QAX913-9	RRV912	RRV918	RRV934	SSA955	WRI982	
Enclosure data															
Dimension															
• Width [mm]	87	84	87.5	84	80	84	84	84	230	230	180	245	245	48	120
• Height [mm]	36	84	90	84	92	84	130	130	130	130	98	98	98	95	90
• Depth [mm]	27	23	40	23	50	23	23.6	23.6	29.7	29.7	50	50	50	80.6	50
Mounting															
Wall mounting															
• With screws	■	■	■	■	■	■	■	■	■	■	■	■	■		■
• Adhesive fastening	■														
On TH35 EN 60715 mounting rail			■								■	■	■		■
Direct mounting on valve															
• M30 x 1.5 Siemens														■	
• With adaptors for other manufacturers														■	
Display/control elements															
Pushbuttons	1	1	2	1		1	1	1	5	5	2	2	2	1	2
• Operating mode									■	■					
• Apartment timer									■	■					
• Absence									■	■					
• Domestic hot water/ventilation									- / ■	■ / ■					
• Info pages									■	■					
• Programming RF	■	■		■		■	■	■	■	■	■	■	■	■	■
• Addressing mode			■												
• Remote-button			■												
Two-way pushbuttons										4					
• Switching										■					
• Dimming										■					
• Shutter/Blind										■					
• Scene										■					
• Info pages										■					
Display															
LCD with rotary switch							■	■							
LCD with menu control									■	■					
LED status display	1	1	4	1		1	1	1			8	12	13	1	7
• Channel status											■	■	■		■
• Communication status	■	■	■	■		■	■	■	■	■	■	■	■	■	■
• Power supply status											■	■	■		■
• Operation , portal connection and „Energy indicator“			■												
• Fault			■												
• Addressing mode bus			■												
Power supply															
Electronics powered via an integrated power supply unit for supply voltage									■	■	■	■	■		■
Electronics powered via an external AC 230 V wall power supply (enclosed)		■	■												
Electronics powered by alkaline cells LR6 (AA), 1.5 V (enclosed)				2 x		2 x	2 x	2 x						3 x	
Electronics powered by a lithium battery ½ AA, 3.6 V (enclosed)	1 x														
Bus connection															
Integrated bus coupling unit			■						■	■					
Bus connection via screw terminal			■						■	■					
KNX RF with integrated antenna	■	■		■		■	■	■	■	■	■	■	■	■	■



## Home automation system




### Overview and selection tools

... Continuation of the table														
Type	AP 260/11	ERF910	OZW772..	QAA910	QAC910	QAW910	QAW912	QAX903-9	QAX913-9	RRV912	RRV918	RRV934	SSA955	WRI982
<b>Inputs</b>														
Universal inputs	1							1	1	1	1	4		
• Digital 0/1	■							■	■	■	■	■		
• LG-Ni1000								■	■	■	■	■		
• DC 0...10 V												■		
Pulse inputs														2
• Reed contact														■
• Reed contact with NAMUR-circuitry														■
M-Bus channels														3
Selected M-Bus meters														■
<b>Outputs</b>														
Universal outputs										1		2		
DC 0...10 V (max. DC 1 mA)										■		■		
Relay outputs								1	1	2	1	4 / 5		
• Universal								■	■	■	■	■		
• 3-position actuator												■		
NO contact, AC 24...230 V, AC 0,02...2 (2) A								■	■	■	■	■		
Controller outputs										2	8			
• PWM, NO or NC										■	■			
• 3-position										■				
TRIAC, AC 230V, AC 5..30 mA										■	■			

## Home automation system

### Overview and selection tools

#### Central functions

	Central apartment unit		Multicontroller
			
Type	QAX903-9	QAX913-9	RRV934
<b>Basis function</b>			
Clock with power reserve	■	■	
Meteorological forecast	■	■	
Warning messages and failure indication	■	■	
Device supervision	■	■	
<b>Activation</b>			
• Present / absent	■	■	
• Partial or entire monitoring		■	
<b>Monitoring functions</b>			
Fault inputs via RF and TP		■	
Monitoring delay		■	
Triggering of switching groups / scenes		■	
Tripping of cut-off valves		■	
Announcement delay		■	
Fault outputs via RF and TP		■	
<b>Light, blind and scene control</b>			
Switching, dimming		■	
Open, close, steps		■	
Triggering		■	
Time program including absent logic		■	
Twilight control		■	
Presence simulation		■	
<b>HVAC apartment functions</b>			
Setpoint limitation (heating, cooling)	■	■	
Antitime function	■	■	
<b>Outside temperature controlled...</b>			
• night setback	■	■	
• minimum flow setpoint	■	■	
<b>Summer operation mode with predefined valve position</b>			
• Manuel	■	■	
• Fixed date	■	■	
• Outside temperature dependent	■	■	
• Digital input	■	■	

## Home automation system



### Overview and selection tools

... Continuation of the table			
Type	Central apartment unit		Multicontroller
	QAX903-9	QAX913-9	RRV934
<b>Domestic hot water</b>			
• Charge, changeover, release		■	
• Temperature control		■	
• Time program		■	
<b>Floor cooling</b>			
• Override of room controller	■	■	
• Flow temperature control with cooling curve	■	■	
• Dew point monitoring			■
• Cooling demand per room group			■
<b>Domestic ventilation</b>			
• Fan steps	3	3	3
• Night cooling	■	■	
• Operation-hour counter / maintenance message	■	■	
<b>Superordinated HVAC functions</b>			
<b>Demand signals</b>			
• Heat request, switching / continuous	■ / ■	■ / ■	
• Refrigeration request, switching / continuous	■ / ■	■ / ■	
<b>Room groups / zone control</b>			
• Room group pump	■	■	■
• Flow temperature control			■
• Flow temperature limitation			■
• Return temperature limitation			■







## Home automation system

### Overview and selection tools

#### Individual room control

	Central apartment unit	
		
Type	QAX903-9	QAX913-9
<b>HVAC room functions</b>		
Number of rooms / zones	12	12
Heating setpoints and room operation modes	■	■
Cooling setpoints and room operation modes	■	■
Weekly time program	■	■
Room unit / room temperature sensor with averaging	1 + 2	1 + 2
Window monitoring	■	■
<b>Parallel operation</b>		
• Heating circuits	■	■
• Radiator control actuator	■	■
Refrigeration release	■	■
Control of external air con	■	■

#### Individual room control





	Radiator control actuator	Heating circuit controller		Room temperature sensor / Room unit		Door / window contact
						
Typ	SSA955	RRV912	RRV918	QAA910	QAW910	AP 260/11
<b>Room control</b>						
<b>Sensor</b>						
• Room temperature	■ <sup>1)</sup>			■	■	
• Window contact (intern + terminal block)						■
<b>Control</b>						
• Operation modes with individual setpoint	■	■	■			
• PID control	■	■	■			
• Thermal actuator		■	■			
• Electromotoric actuator	■	■				

<sup>1)</sup> Limited temperature measurement accuracy due to mounting condition



## Home automation system

### Overview and selection tools

Consumption data acquisition				
	Consumption data interface	Central apartment unit		Web server
				
Type	WRI982	QAX903-9	QAX913-9	OZW772..
<b>Inputs</b>				
Pulse inputs	2			
• Reed contact	■			
• Reed contact with NAMUR circuitry	■			
M-bus channels	3			
Selected M-Bus meters	■			
<b>Display</b>				
<b>Type of meters</b>				
• Heat and / or cooling energy meter		4	4	■
• Cold water meter		4	4	■
• Hot water meter		4	4	■
• Power meter		3	3	■
• Gas meter		3	3	■
• Other meter		2	2	■
<b>Functions</b>				
Current value	■	■	■	■
Monthly values, due date values	■	■	■	■
Billing data transmission		■	■	■
<b>Reporting</b>				
<b>Consumption data file</b>				
• Remote read out via Web				■
• Periodical transmission to email receivers				2
• Encryption				■

## Central apartment unit for HVAC and energy consumption data collection

**QAX903-9**

The central apartment unit serves as an operator and display unit for an apartment. It manages individual room control (heating/cooling) of up to 12 rooms, comfort ventilation, precontrol, control of air conditioning equipment, and acquires the consumption data of heat, water, electricity and gas.



- Management of heating and cooling control for one apartment
  - Suited for heating and cooling plants with central distribution (e.g. underfloor heating) and radiators with decentral connections
  - Selection of operating mode, timer and holidays / special day function for the apartment
  - Independent time switches and operating modes for 12 rooms
  - Flow temperature control of 2 independent room groups including limitation (min. / max.) and maintained return temperature (high / low)
  - Increase of economy room temperature setpoint and minimum flow temperature setpoint depending on the composite outside temperature
  - Collection of heat / cooling requests from the individual rooms and forwarding the requests to the heat/cooling sources via wired bus, heat/cooling demand relay or DC 0...10 V output to the RRV912 or RRV934
- Absence function (heating, cooling, ventilation)
- Management of 3-stage ventilation plant via RRV934 multicontroller, incl. night cooling
- Control of air conditioners (split units) via universal outputs (locally and RRV91x) or via S-Mode (KNX TP)
- Collection of meter data (heat / cool, electricity, water, gas) to support automated meter reading & billing
- Display of meteorological data
- Presentation of key data on info pages
- Plain text output in bg, cs, de, dk, el, en, es, fi, fr, hr, hu, it, nl, no, pl, pt, ro, ru, sk, sl, sr, sv, tr
- Wireless communication with the devices of Synco living product ranges
- Remote access via Siemens web server OZW772.xx
- Intuitive and simple control with Android or IOS App

Data sheet	N2741
Operating voltage	AC 230 V
Frequency	50 Hz
Power consumption	7 VA
Display	Full graphic backlit display
Communication	KNX RF-compatible, 868.3 MHz bidirectional (RF) and KNX TP (wired bus)
Indoor wireless range	30 m
Universal inputs, number	1
Universal inputs	Digital 0/1 LG-Ni1000
Universal input, signal	Digital 0/1 LG-Ni1000
Relay outputs, number	1
Relay output, switching voltage	AC 24...230 V NO - contact
Relay output, switching current	AC 0.02...2 (2) A
Mounting	With screws
Degree of protection	IP20D
Dimensions (W x H x D)	230 x 130 x 29.7 mm

Stock no.	Product no.
S55621-H125	<b>QAX903-9</b>

Manuals in several languages are available for download as PDF files from [www.siemens.com/syncoliving-td](http://www.siemens.com/syncoliving-td)

## Home automation system

### Synco™ living

### Central apartment unit QAX9..

#### QAX913-9



#### Central apartment unit with energy consumption data collection

The central apartment unit serves as an operator and display unit for an apartment. It manages individual room control (heating/cooling) of up to 12 rooms, comfort ventilation, precontrol and DHW control, control of air conditioning equipment, and acquires the consumption data of heat, water, electricity and gas. Additional functions include the control of lights and blinds. Door and window contacts plus smoke detectors and water monitors can be integrated for monitoring purposes.

- Management of heating and cooling control for one apartment
- Suited for heating and cooling plants with central distribution (e.g. underfloor heating) and radiators with decentral connections
- Selection of operating mode, timer and holidays / special day function for the apartment
- Independent time switches and operating modes for 12 rooms
- Flow temperature control of 2 independent room groups including limitation (min. / max.) and maintained return temperature (high / low)
- Increase of economy room temperature setpoint and minimum flow temperature setpoint depending on the composite outside temperature
- Collection of heat / cooling requests from the individual rooms and forwarding the requests to the heat/cooling sources via wired bus, heat/cooling demand relay or DC 0...10 V output to the RRV912 or RRV934
- Absence function (heating, cooling, ventilation, lights) with simulation of presence (lights)
- DHW heating with time switch and selection of operating mode
- Management of 3-stage ventilation plant via RRV934 multicontroller, incl. night cooling
- Control of air conditioners (split units) via universal outputs (locally and RRV91x) or via S-Mode (KNX TP)
- Collection of meter data (heat / cool, electricity, water, gas) to support automated meter reading & billing
- Operation of lights and blinds via 4 softkeys, time switch and events
- Monitoring door contacts, window contacts and smoke detectors
- Display of meteorological data
- Presentation of key data on info pages
- Plain text output in bg, cs, de, dk, el, en, es, fi, fr, hr, hu, it, nl, no, pl, pt, ro, ru, sk, sl, sr, sv, tr
- Remote access via Siemens web server OZW772.xx
- Intuitive and simple control with Android or IOS App

Data sheet	N2740
Operating voltage	AC 230 V
Frequency	50 Hz
Power consumption	7 VA
Display	Full graphic backlit display
Communication	KNX RF-compatible, 868.3 MHz bidirectional (RF) and KNX TP (wired bus)
Indoor wireless range	30 m
Universal inputs, number	1
Universal inputs	Digital 0/1 LG-Ni1000
Universal input, signal	Digital 0/1 LG-Ni1000
Relay outputs, number	1
Relay output, switching voltage	AC 24...230 V NO - contact
Relay output, switching current	AC 0.02...2 (2) A
Mounting	With screws
Degree of protection	IP20D
Dimensions (W x H x D)	230 x 130 x 29.7 mm

Stock no. Product no.

S55621-H126 **QAX913-9**

Manuals in several languages are available for download as PDF files from [www.siemens.com/syncoliving-td](http://www.siemens.com/syncoliving-td)

**Web server for QAX9..**

Product Title	Data sheet	Stock no.	Product no.
Web server for 1 Synco device	N5701	BPZ:OZW772.01	<b>OZW772.01</b>
Web server for 4 Synco devices	N5701	BPZ:OZW772.04	<b>OZW772.04</b>
Web server for 16 Synco devices	N5701	BPZ:OZW772.16	<b>OZW772.16</b>
Web server for 250 Synco devices	N5701	BPZ:OZW772.250	<b>OZW772.250</b>

## Home automation system

## Synco™ living

## Room unit QAW91.. and room sensor QAA91..

## QAW910



## Room unit

Wireless room unit.

The QAW910 is used for the operation and display of basic space heating functions. It also forwards the acquired room temperature to the central apartment unit QAX9.., either periodically or when changes occur. The room temperature is shown on the display of the QAW910.

- Operation and display of space heating functions
- Selection of room operating mode, timer function and room temperature setpoint readjustment
- Display of space heating function and status messages
- Acquisition of the room temperature
- Battery-powered by commercially available 1.5 V batteries (contained in the scope of delivery)
- Especially suited for:
  - Renovation projects (old buildings, museums, churches, historical buildings, etc.)
  - Difficult wall-mounting situations (sandstone, glass, etc.)
  - Variable floor plans (different décors, furniture changes)
  - New houses and buildings
- RF communication based on KNX standard (868 MHz, bidirectional)

Data sheet	N2703
Voltage supply	Mignon (2xAA) LR6
Battery capacity	2.5 Ah
Battery life	3 years
Measuring range, temperature	0...50 °C
Display	Segment LCD
Display size	Resolution 0.1 °C
Communication	KNX RF-compatible, 868.3 MHz bidirectional (RF)
Indoor wireless range	30 m
Degree of protection	IP40
Dimensions (W x H x D)	84 x 130 x 23.6 mm

Stock no.	Product no.
BPZ:QAW910	<b>QAW910</b>

**Room unit with KNX RF for 2 heating zones****QAW912**

## Wireless room unit

The QAW912 manages room heating control of up to 2 heating zones (rooms) and 6 SSA955 radiator control actuators. The unit facilitates full control of the room heating functions. All data are clearly shown on the display. Furthermore, the QAW912 acquires the room temperature in the relevant room. Operation and display of the room heating functions of both heating zones:

- Selection of room operating mode
- Activation of comfort timer / absence timer
- Setting of 7-day time switch, holiday period and room temperature setpoints
- Display of room heating function and status messages (incl. all SSA955 connected via radio link)
- Acquisition of the room temperature in one room
- Battery-powered by commercially available 1.5 V batteries (supplied with the unit)
- Collection of heat requests from both rooms and forwarding them to heat generation via the RRV912

## Specifically suited:

- For renovation projects (old building, museums, churches, historical building, etc)
- When wall mounting is difficult (sandstone, glass, etc.)
- If flexible floor plans are required (changing decor, different furniture)
- For new buildings
- Radio communication based on KNX standard (868 MHz bidirectional)
- Commissioning via operating buttons - no tools required



Data sheet	N2720
Voltage supply	Mignon (2xAA) LR6
Battery life	Typically 2 years (with battery capacity $\geq 2.5$ Ah)
Measuring range, temperature	0...50 °C
Display	Segment LCD
Display size	Resolution 0.1 °C
Communication	KNX RF-compatible, bidirectional, 868.3 MHz
Indoor wireless range	30 m
Degree of protection	IP40
Dimensions (W x H x D)	84 x 130 x 23.6 mm

Stock no.

Product no.

S55621-H102

**QAW912****Room temperature sensor****QAA910**

Wireless room temperature sensor for acquiring the room temperature.

During operation, the QAA910 forwards the acquired room temperature to the central apartment unit QAX9..., either periodically or in the case of changes.

- Battery-powered by commercially available 1.5 V batteries (contained in the scope of delivery)
- Especially suited for:
  - Renovation projects (old buildings, museums, churches, historical buildings, etc.)
  - Difficult wall-mounting situations (sandstone, glass, etc.)
  - Variable floor plans (different décors, furniture changes)
- New construction projects
- RF communication based on KNX standard (868 MHz, unidirectional)



Data sheet	N2701
Voltage supply	Mignon (2xAA) LR6
Battery capacity	2.5 Ah
Battery life	3 years
Measuring range, temperature	0...50 °C
Communication	KNX RF-compatible, 868.3 MHz unidirectional (RF)
Indoor wireless range	30 m
Degree of protection	IP40
Dimensions (W x H x D)	84 x 84 x 23 mm

Stock no.

Product no.

BPZ:QAA910

**QAA910**



## Home automation system

## Synco™ living

## Radiator control actuator SSA95..

## SSA911.01TH

## Radiator valve actuator



- Battery-powered radiator valve actuator
- Communication with SIEMENS Smart Thermostat
- THREAD protocol IPv6
- Display with user interface
- Integrated temperature sensor
- 2x AA alkaline batteries (2 years battery life)
- M30 x 1.5 valve connection

Data sheet	A6V11739247
Positioning force	100 N
Stroke	5 mm
Communication	THREAD, MHz
Degree of protection	IP30
Medium temperature	< 70 °C
Dimensions (W x H x D)	57 x 103 x 57 mm
Operating voltage	4.5 V

Stock no.

Product no.

S55181-A101

SSA911.01TH

## SSA955

## Radiator control actuator



RF-based actuator for radiator valves.

The SSA955 controls the room temperature based on the data forwarded by the central apartment unit QAX9...

- Battery-powered by commercially available 1.5 V batteries (contained in the scope of delivery)
- Silent mode (e.g. for use in sleeping rooms)
- Automatic identification of valve stroke
- Parallel connection of multiple actuators possible
- Integrated temperature sensor
- For direct mounting with coupling nut (no tools required)
- Manual adjustment
- RF communication based on KNX standard (868 MHz, bidirectional)

Suitable adaptors for valves of other manufacturers refer to AV5.. and AV6..

Data sheet	N2700
Voltage supply	Mignon (3xAA) LR6
Battery life	3 years (2 years in silent mode)
Battery capacity	2.5 Ah
Communication	KNX RF-compatible, 868.3 MHz bidirectional (RF)
Indoor wireless range	30 m
Sound power level	Silent mode: <25 dB (A) Normal mode: <30 dB (A)
Stroke	2.5 mm
Positioning force	110 N
Medium temperature	1...110 °C
Measuring range, temperature	0...50 °C
Ambient temperature, operation	1...50 °C
Connecting thread	M30 x 1.5
Mounting position	Upright to 90° inclined
Degree of protection	IP40
Dimensions (W x H x D)	48 x 95 x 80.6 mm

Stock no.

Product no.

BPZ:SSA955

SSA955

# Home automation system

## Synco™ living

### Heating circuit controller RRV912

RRV912



#### Heating circuit controller, 2 heating circuits

RF-based heating circuit controller for up to 2 heating circuits and DHW heating.

In operation, the RRV912 maintains the required room temperature of the individual heating circuits. The central apartment unit QAX9.. forwards the relevant data via RF.

- Suited for use in heating and cooling plants
- With central distributors (e.g. underfloor heating or soft steel piping system)
- For use with motorized radiator valves (e.g. with sill covers)
- Heating circuit control with 2- or 3-position actuators
- 2 universal relay outputs, e.g. for control of the room group pump and DHW heating
- 1 universal input, e.g. for connection of a DHW temperature sensor or an alarm
- 1 universal output DC 0...10 V for forwarding the heat / cooling demand signal
- RF communication based on KNX standard (868 MHz, bidirectional)

Data sheet	N2705
Operating voltage	AC 230 V
Frequency	50 Hz
Power consumption	7 VA
Control algorithm	2-position: PID, 3-position: PID
Communication	KNX RF-compatible, 868.3 MHz bidirectional (RF)
Universal inputs, number	1
Universal input, signal	Digital 0/1 LG-Ni1000
Measuring range, temperature	0...120 °C
Universal outputs, number	1
Universal output, signal	DC 0...10 V
Universal output, current	max. DC 1 mA
Relay outputs, number	2
Relay output, switching voltage	AC 24...230 V NO - contact
Relay output, switching current	AC 0.02...2 (2) A
Triac outputs, number	2
Triac output, switching voltage	AC 230 V
Triac output, switching current	30 mA
Mounting	On DIN rail With screws
Degree of protection	IP30
Dimensions (W x H x D)	180 x 98 x 50 mm

Stock no.

Product no.

BPZ:RRV912

RRV912

## Home automation system

## Synco™ living

## Heating circuit controller RRV91..

## RRV918



## Heating circuit controller, 8 heating circuits

RF-based heating circuit controller for up to 8 heating circuits.

In operation, the RRV918 maintains the required room temperature of the individual heating circuits. The central apartment unit QAX9.. forwards the relevant data via RF.

- Suited for use in heating and cooling plants
- With central distributors (e.g. underfloor heating or soft steel piping system)
- For use with motorized radiator valves (e.g. with sill covers)
- Connection facility for up to eight 2-position actuators
- 1 Universal relay output, e.g. for control of the room group pump and DHW heating
- 1 Universal input, e.g. for connection of a DHW temperature sensor or an alarm
- RF communication based on KNX standard (868 MHz, bidirectional)

Data sheet	N2706
Operating voltage	AC 230 V
Frequency	50 Hz
Power consumption	7 VA
Control algorithm	2-position PID
Communication	KNX RF-compatible, 868.3 MHz bidirectional (RF)
Universal inputs, number	1
Universal input, signal	Digital 0/1
	LG-Ni1000
Measuring range, temperature	0...120 °C
Universal outputs, number	1
Relay outputs, number	1
Relay output, switching voltage	AC 24...230 V
	NO - contact
Relay output, switching current	AC 0.02...2 (2) A
Triac outputs, number	8
Triac output, switching voltage	AC 230 V
Triac output, switching current	30 mA
Mounting	On DIN rail
	With screws
Degree of protection	IP30
Dimensions (W x H x D)	245 x 98 x 50 mm

Stock no.

Product no.

BPZ:RRV918

RRV918

# Home automation system

## Synco™ living

### Multi controller RRV93..

#### Multicontroller

RRV934



RF-based multicontroller for precontrol of up to 2 room groups or control of ventilation plant with up to 3 stages. All inputs and outputs are also suited for universal use. The relevant data are forwarded wirelessly by the central apartment unit QAX9...

- Suited for use in heating and cooling plants for precontrol of up to 2 room groups
- 2 primary controllers each with a DC 0...10 V actuator
- 1 primary controller with a DC 0...10 V actuator and 1 primary controller with a 3-position actuator
- Flow and return temperature limitation, optional control of room group pumps and DHW heating
- Suited for control of 3-stage ventilation plant incl. HR bypass, with impact from humidity, indoor air quality or CO<sub>2</sub>- level, incl. fault monitoring
- Forwarding the heat / cooling demand signal to primary energy plant
- RF communication based on KNX standard (868 MHz, bidirectional)

Data sheet	N2709
Operating voltage	AC 230 V
Frequency	50 Hz
Power consumption	7 VA
Control algorithm	Precontroller: PI
Communication	KNX RF-compatible, 868.3 MHz bidirectional (RF)
Indoor wireless range	30 m
Universal inputs, number	4
Universal input, signal	Digital 0/1 LG-Ni1000 DC 0...10 V
Measuring range, temperature	0...120 °C
Universal outputs, number	2
Universal output, signal	DC 0...10 V
Universal output, current	max. DC 1 mA
Relay outputs, number	4
Relay output, switching voltage	AC 24...230 V NO - contact
Relay output, switching current	AC 0,02...2 (2) A
Mounting	On DIN rail With screws
Degree of protection	IP30
Dimensions (W x H x D)	245 x 98 x 50 mm

Stock no.

Product no.

BPZ:RRV934

**RRV934**

## Home automation system

## Synco™ living

## Consumption data interface WRI982

## WRI982



## Consumption data interface

The consumption data interface collects consumption (meter) data and communicates these data using KNX RF directly to the central apartment unit (QAX913 or QAX903). Meters may be connected either via Impulse inputs or via M-Bus (wired). There is an additional interface for communication with the Synergry central communication device, OZW30, for the purpose system migration.

- M-Bus MiniMaster for up to 3 M-Bus meters
- 2 Impulse inputs for impulse meters
- BatiBus communication to Synergry OZW30
- KNX RF communication to QAX913 or QAX903

Data sheet	N2735
Operating voltage	AC 230 V
Frequency	50 Hz
Power consumption	7 VA
Communication	KNX RF-compatible, 868.3 MHz bidirectional (RF) BatiBus communication to Synergry OZW30
Indoor wireless range	30 m
Mounting	On DIN rail or with screws
Degree of protection	IP30
Dimensions (W x H x D)	120 x 90 x 50 mm

Stock no.	Product no.
S55621-H112	<b>WRI982</b>

**Meteo sensor****QAC910**

Wireless sensor for acquiring outside temperature and atmospheric pressure.

In operation, the QAC910 forwards the acquired outside temperature and atmospheric pressure to the central apartment unit QAX9.., either periodically or when changes occur.

- Battery-powered by commercially available 1.5 V batteries (contained in the scope of delivery)
  - Especially suited for:
    - Renovation projects (old buildings, museums, churches, historical buildings, etc.)
    - Difficult wall-mounting situations (sandstone, glass, etc.)
    - Variable floor plans (different décors, other furniture)
    - New houses or buildings
  - RF communication based on KNX standard (868 MHz, unidirectional)
- 2-Wire cable between meteo sensor and transmitter required

- Dimensions (W x H x D):
  - Outside sensor: 80 x 92 x 50 mm
  - RF transmitter: 84 x 84 x 23 mm

Data sheet	N2702
Voltage supply	Mignon (2xAA) LR6
Battery capacity	2.5 Ah
Battery life	3 years
Measuring range, temperature	-50...50 °C
Communication	KNX RF-compatible, 868.3 MHz unidirectional (RF)
Indoor wireless range	30 m
Degree of protection	IP40



Stock no. Product no.

BPZ:QAC910 QAC910



## Home automation system

## Synco™ living

## RF repeater ERF910

## ERF910



## RF repeater

Wireless RF repeater for extending plant.

In operation, the ERF910 repeats the RF telegrams from the devices attuned to it.

- Extending and ensuring RF coverage in the Siemens Synco living system
- Especially suited for:
  - Renovation projects (old buildings, museums, churches, historical buildings, etc.)
  - Difficult wall-mounting situations (sandstone, glass, etc.)
  - Variable floor plans (different décors, furniture changes)
- New houses and buildings
- External power pack
- RF communication based on KNX standard (868 MHz, bidirectional)

Data sheet	N2704
Operating voltage	AC 230 V
Power consumption	0.2 VA
Communication	KNX RF-compatible, 868.3 MHz bidirectional (RF)
Indoor wireless range	30 m
Degree of protection	IP40
Dimensions (W x H x D)	84 x 84 x 23 mm

Stock no.

Product no.

BPZ:ERF910

**ERF910**

Home automation system  
**Synco™ living**  
**Door/window contact AP 260**

**Door/window contact with battery, titanium white**

AP 260/11

- For detecting the state (closed/open) of a door or window via the reed contact integrated in the device, with actuation of the reed contact through the supplied magnet for attachment to the moving part of the door or window
- Connection for an external floating contact
- 4 plug-in terminals for wire cross-sections (solid or finely stranded) of 0.14...0.5 mm<sup>2</sup> for connection of the external contact and to allow setting via a wire jumper, whether monitoring is to cover internal contact only, external contact only, or both contacts
- KNX-RF transmitter for 868.3 MHz
- Electronics powered by a lithium battery (1/2 AA 3.6 V), with a battery service life of approx. 5 years, with signaling of battery status every 24 hours, and with an LED that flashes every 10 seconds to indicate that the battery needs replacing
- Commissioning using a pushbutton located on the front of the sensor – no additional aids required
- Surface mounting
- Comprising one mounting plate for screw or adhesive fastening, clip-on radio sensor with integrated reed contact and trigger solenoid. Battery included in delivery.

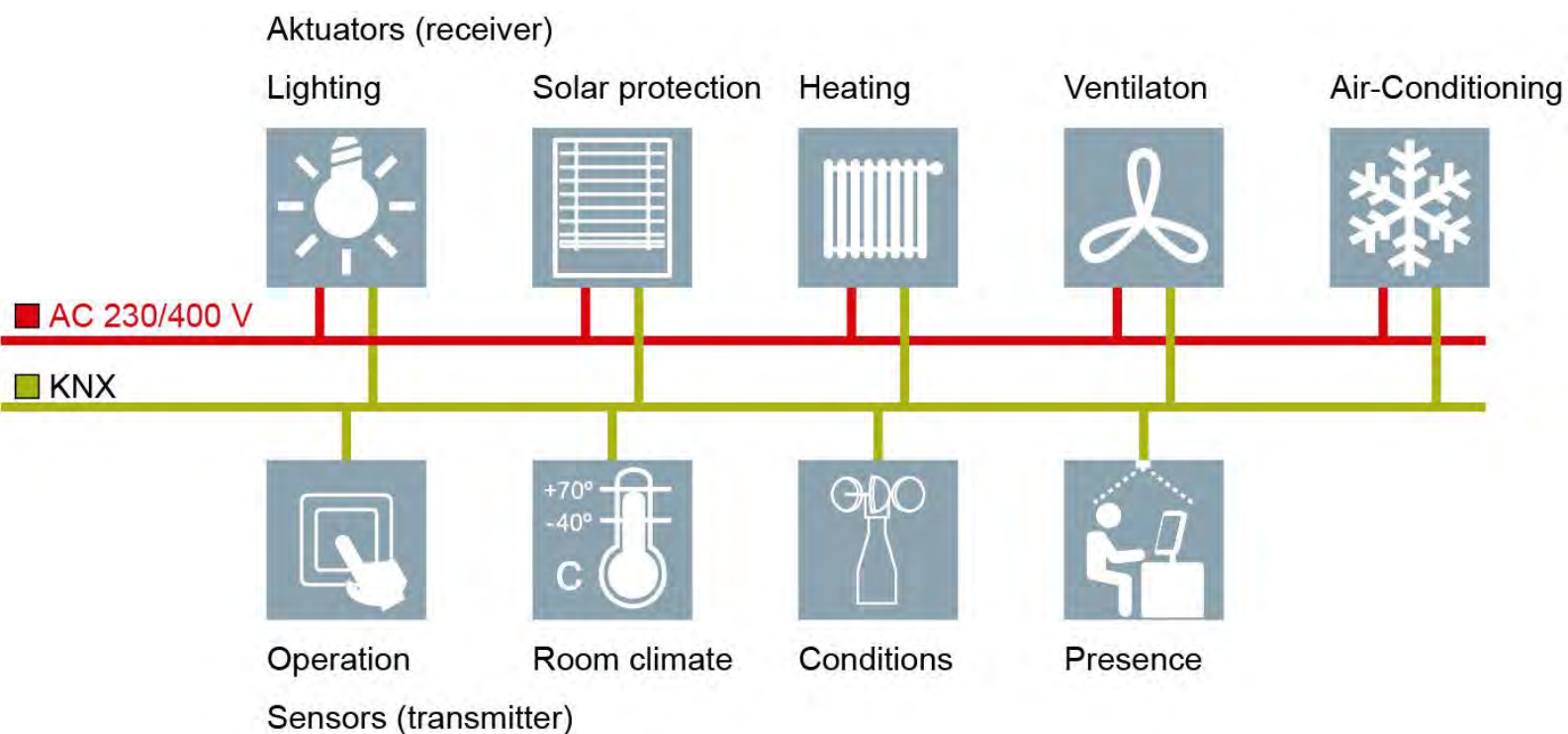


Data sheet A6V10416211  
 Dimensions (W x H x D) 87 x 36 x 27 mm

Stock no.	Product no.
5WG3260-3AB11	AP 260/11



# Technical Information and Application Examples



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## Technical Information and Application Examples

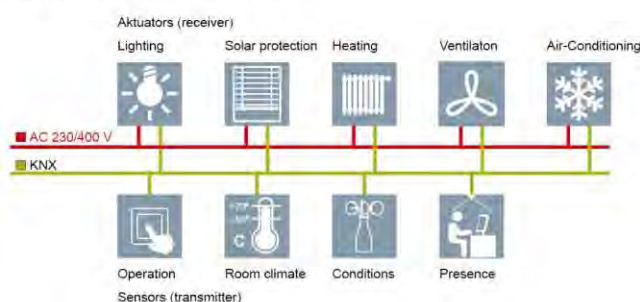
### Technical Information

#### System overview

##### Building Control GAMMA instabus – future proof installation system based on KNX

GAMMA instabus is an event-oriented, distributed control installation system based on KNX, the worldwide standard for home and building control. KNX is approved as an International Standard (ISO/IEC 14543-3), as a European Standard (CENELEC EN 50090 and CEN EN 13321-1) and as a Chinese Standard (GB/T 20965). Hence, KNX is future-proof. KNX products of different vendors can be combined - the KNX logo guarantees networking and interworking. KNX is the only world-wide open standard for control of residential and non-residential including industrial buildings. With the consistent bus system KNX control information (from command senders) is sent to all building control components. The actuators (command recipients) receive these commands via the KNX bus line and act accordingly.

##### Installation system with KNX



Examples of application with KNX:

- Lighting
- Solar protection
- Heating, including demand driven control of primary system
- Ventilation
- Air conditioning
- Display and operation
- Room climate to measure CO<sub>2</sub>, air quality and air humidity
- Evaluation of weather data such as wind force, solar radiation, day and night time
- Presence in a room

In residential and non-residential buildings, KNX integrates many building functions which used to be realized with separated systems until now. The demand for comfort in rooms increases and can be realized with daytime and presence dependent air conditioning and lighting. Furthermore, the efficient use of energy is getting more and more important. An intelligent monitoring and control of all products implies the wiring of all sensors and actuators with the central supervisory monitoring and control system. The conventional wiring leads to cable loads and to higher planning and installation efforts, fire risk and rapidly increasing costs. Using the intelligent networking of all bus devices via KNX bus wiring, the wiring and thus the fire load is reduced. The mains power is directly wired to the loads and with the decentralized actuators being close to the load the power wiring can be run from one load to another load. The sensors are connected via the bus line. The KNX system is designed for integrating several disciplines i.e., using a multi pushbutton user control the lighting can be controlled, the solar protection moved and the ventilation can be turned on and off.

An installation on basis KNX offers the following advantages:

- Installation of a future-proof system technology
- Reduction of wiring
- Fast and easy retrofitting of additional functions
- Cross-discipline usage of products from several different vendors is possible
- Reduction of power demand and operating costs
- Reduced costs for later changes in room usage and changes of the original room setup (change of configuration versus change of installation)
- Remote maintenance and surveillance via IP network connection for distributed facilities

##### System design

KNX is an upwards-compatible, flexible, and innovative system for various residential and non-residential building applications. The bus wiring KNX TP (Twisted Pair), but also Ethernet KNXnet/IP, Radio System KNX RF (Radio frequency) and Infrared can be used as transmission medium. Thus KNX helps to implement specific customer requests and perform a fast and easy change in use of rooms and buildings.

##### KNX TP (Twisted Pair)

The signal transmission of KNX TP (Twisted Pair) happens via the certified bus wire. Using this wiring as the transfer medium assures a high resistance to interference.

##### KNXnet/IP and KNX IP Secure (Ethernet)

Information transmission with KNXnet/IP is done using the Internet Protocol (IP). It allows using the existing network infrastructure (LAN). Coupling between KNX and the local area network (LAN) is done via KNXnet/IP interfaces. This allows for coupling of complete KNX installations between buildings and the remote access via Internet/Intranet. KNX IP Secure is available for the secure transfer of data and protection against unauthorized access. This standard allows KNX IP devices to be connected directly to the Internet.

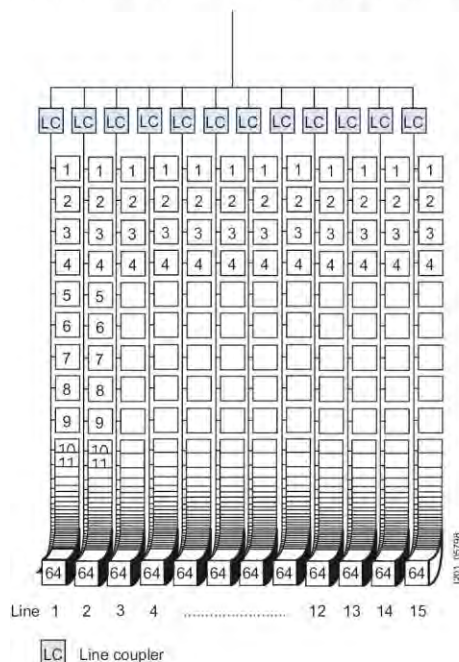
##### KNX RF (radio frequency)

KNX device supporting this communication medium uses radio frequency (RF) to transmit KNX telegrams. These are transmitted on the 868 MHz frequency band.

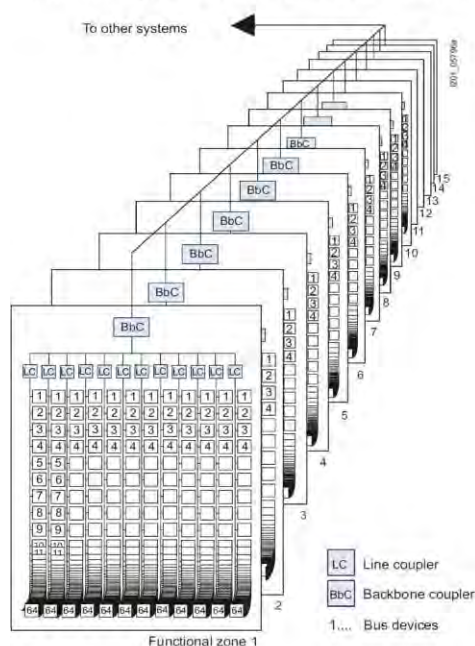


**Topology**

KNX is hierarchically structured and can be adjusted individually to the size of the installation. The smallest part in a KNX installation is a line. Each line, also the main line, includes up to 64 bus devices. Via the line coupler (LC) a maximum of 15 lines can be combined to a functional zone.

**Installation system with KNX - one functional zone with 15 lines**

Via the backbone coupler (BbC) the 15 functional zones can be combined once again. Thus, more than 14,400 KNX devices can be controlled and such a KNX installation can be further expanded via repeaters.

**Installation system with KNX - 15 functional zones combined**

If more than 64 devices are necessary in one line, up to 4 line segments can be combined via a line amplifier. This line amplifier can also be used to extend the line length beyond the maximum line length. One line segment needs one KNX power supply.

For each line segment there are the same rules about the maximum amount of devices to connect and the distances to each other as well as the length of the lines. In one line a maximum amount of further 3 line couplers is allowed, leading to a maximum amount of 4 times 64, i.e. 256, bus devices allowed to be installed in one line. At the main line and the functional zone there are no line amplifiers allowed. With each line having its own power supply, each line needs to galvanically isolated using line/backbone couplers. This guarantees that a failure of a line does not impact the remainder of the system.

Another advantage of separating a system in lines and functional zones is to limit the transmission of such data to the functions within one line. The line and backbone couplers transfer only those telegrams which are relevant for these lines or zones. This also enables a parallel communication in several lines and functional zones at the same time. Due to the hierarchical organization of a KNX system, a clear commissioning, diagnose and maintenance is possible any time. In case the disciplines shall be structured independently, the topology or the system design with lines and functional zones provides suitable solutions. The system can be structured like this: line structure, star structure, tree structure and a mixed structure out of these three designs. Within a line there are the following wire installation rules to note:

- Maximum length of wire in one line: 1000 m
- Maximum distance between two participants: 700 m
- Maximum distance between participant and power supply: 350 m

**Transmission Technology**

The individual bus participants exchange information via telegrams. The telegram contains for example switching commands or status messages. As the bus wire is symmetrically structured and the wiring is installed floating potential free to Earth ground, a potential difference between the two wire cores does not cause disturbances with reference to the earth potential. Regarding transmission speed, pulse generation and pulse reception the transmission technology is designed that no termination resistor is necessary and any wiring topology is possible. The transmission rate of KNX TP is 9600 bit/s, which are about 40 to 50 telegrams per second.

The bus access of each KNX product secures a well ordered information exchange. This is guaranteed by a serial and asynchronous transmission on the bus line. For increasing the reliability and targeting highest transmission rate, KNX applies the CSMA/CA- bus access procedures (Carrier Sense Multiple Access with Collision Avoidance). With the help of this procedure no telegram gets lost when several KNX users are sending telegrams and the higher prioritized telegram gets through the line first.

All KNX participants are always listening to the bus. The participant decides on its own when the telegram is sent to the bus as long as the bus is not busy with transmitting information. The transmission of KNX is event-driven, that means, the telegrams are only sent to the bus when the event actually happens and the transmission of information is necessary.



## Technical Information and Application Examples

### Technical Information

#### System overview

##### Telegram structure

A telegram consists of a sequence of characters. Each character has 11 Bit, which contains a Start Bit, followed by eight data bits, a parity Bit and a stop Bit. The telegram is a sequence of information, the bus specific information and the user specific information. To begin transmission of the information, the KNX needs to be free for a certain time in order to start the sending procedure.

First, a control field is sent, which contains information about the system e.g. the priority of the transmission or whether it is the first or a repeated telegram. The control field is followed by the address field. This consists of the source address and the target address of the telegram. The source address is the physical address of the sender and the target address of the receiving participant. The target address can be a physical or group address. After the address field is sent out, the data field with the user data information follows. The security field serves to check and secure the telegram (vertical parity). After the security field, the bus is silent for a certain time (break). After that all the addressed participants confirm the error-free receipt of the telegram.

If the telegram is not understood right, the participant who received that signal sends out in the confirm field NAK (Not Acknowledge) and repeats the whole telegram. If no participant confirms the telegram, the sender repeats the telegram.

A KNX participant sends out up to three repetitions. A telegram signed NAK is higher prioritized than an understood telegram

(ACK = Acknowledge) which leads to a repetition of the telegram.

##### Addressing

Communication among KNX participants can be distinguished between two kinds of addressing:

##### Physical address

The address of the product is also called „physical address“. It serves for a unique naming for the sending KNX participant (name). Due to this rule, the sender can be tracked. When a certain participant is addressed, i.e. the telegram is sent to a specific device, then, the target address is the unique physical address. This is the case when an application program of the ETS (Engineering Tool Software) is loaded to a KNX participant via the KNX interface. Normally, the target address is a group address.

##### Group address

A group address is associated with a specific function e.g. switching, dimming or heating. In this case, information is sent from a sensor to an actuator function using a group address. As all KNX participants are informed via the KNX bus they check each telegram whether the telegram contains a group address determined for them. If the target address is identical with a group address registered in the participant, the telegram initiates the pre-defined function. If different push-buttons control the same actuators, the same function can be triggered by several sensors.

A participant sends a telegram with a group address and any number of participant listen to this (multicast). Thus, one pushbutton can control different actuators and cause an execution of a function. Central functions e.g. turn off the window-side luminaries on the South-facing façade can be implemented in a building.

**Sensors** are for example pushbuttons, motion detectors, room temperature controllers, brightness sensors, and combined meters for wind speed and wind direction, binary input (e.g. window contact for window surveillance/switching status)

**Actuators** are for example load switches, dimmers, binary outputs, solar protection actuators, valve actuator for heating

##### Engineering Tool Software (ETS)

The ETS (Engineering Tool Software) is a vendor-neutral software, which supports planning, project configuration, commissioning up to failure diagnosis of KNX systems. It is easy and clearly structured and thus optimally suitable for all user groups.

With the ETS, consultant engineers, planners and electrical installers can plan the whole plant, set the device configuration as well as establish the function assignment of the sensors and actuators. After project planning it is possible to export the single work steps and to give them to the installer.

In principle, members of the KNX Association provide their KNX product data base to the ETS users. The current KNX product data base can be downloaded from the Internet, in order for the user to quickly receive the latest data of the KNX products.

In addition to the ETS, several manufacturers offer ETSApps, which are additional software providing specific or advanced functions for project planning, commissioning or data transfer.

Link: [www.knx.org](http://www.knx.org)



# Technical Information and Application Examples

## Technical Information

### System overview

#### System data

##### Bus cable

• Cable type	mm <sup>2</sup>	YCYM 2 x 2 x 0.8 One core pair (red, black) for signal transmission and power supply, one core pair (yellow, white) for additional applications (SELV or voice)
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##### Cable length

• Cable lengths of one line in total (core diameter: 0.8 mm)	m	max. 1000 (including all junctions)
• Length between two bus devices	m	Max. 700
• Length between bus device and power supply unit (320 mA)/choke	m	Max. 350
• Length between power supply unit (320 mA) and choke		Side-by-side mounting necessary (on standard mounting rail with integrated data rail)

##### Bus devices

• Number of areas		Max. 15
• Number of lines per area		Max. 15
• Number of bus devices per line		Max. 64

##### Topology

• Topology structure		Line, star or tree structure
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##### Power supply

• Power supply	V DC	24 (SELV safety extra-low voltage)
• Power supply units per line		Minimum one power supply unit (160, 320 or 640 mA or 2 x 640 mA)

##### Transmission

• Transmission technology		Distributed, event-controlled, serial, symmetric
• Baud rate	bit/s	9600

#### Device characteristics (unless otherwise specified)

##### Device properties

Degree of protection according to EN 60529		IP20
Protective measure		Bus: safety extra-low voltage SELV 24 V DC
Overvoltage category		III
Rated insulation voltage Ui	V	250
Degree of pollution		2
EMC requirements		complies with EN 50428
Resistance to climate		EN50491-2

##### Operating conditions

Application		For fixed installation indoors, for dry rooms and installation in heavy-current distribution boards
Ambient operating temperature	°C	-5 to +45
Humidity in operation	%	Max. 93
Storage temperature	°C	-25 to +70
Humidity in storage	%	Max. 93
Certification		KNX certified
CE marking		Compliant with EMC Directive (residential and non-residential buildings), Low Voltage Directive



## Technical Information and Application Examples

### Technical Information

#### System overview

#### Fitting power supplies for every KNX system

Each bus line needs its own power supply unit. The power supply unit provides the system power necessary for the instabus KNX. The KNX system provides for decentralized and central power supply units. Central power supply units are installed as DIN rail mounted devices in distribution boards and control cabinets, while decentralized power supply units are designed for installation in junction boxes, in parapet channels or in room control boxes.

Central power supply units provide 160 mA, 320 mA or 640 mA bus current. Maximum up to two central power supply units may be attached to a single bus line. A second unit is not required unless the supply voltage at a bus device is less than 21 V. When more than 30 bus devices are installed in short bus cable distance (e.g. 10 m), e.g. in distribution boards, the power supply unit should be arranged near these bus devices. The distance between power supply unit and any of its bus devices must not exceed 350 m.

A decentralized power supply provides 80 mA bus current. This allows for decentralized solutions for self-sufficient control of a single room or, by integration of several room control islands, of a floor or even a complete building. Up to eight decentralized power supply units may be operated in parallel, such that a complete KNX bus line can be setup with e.g. eight room control boxes.

When several bus devices are installed in short bus cable distance (e.g. 10 m), e.g. in distribution boards, or in a room control box AP 641, the power supply units shall be arranged near these bus devices. The distance along the bus wire between any bus device and the closest power supply unit must not exceed 350 m. If only the decentralized power supply RL 125/23 is used, then the maximum KNX cable length in a bus line is 350 m for one, 700 m for two, and 1000 m for 3 or more decentralized power supplies RL 125/23.

In principle, central and decentralized power supply units can be operated in parallel with each other. Consideration must be taken regarding the sum of the short circuit currents of the power supply units, which must be lower than 3 amperes.

The following table shows the respective short circuit current:

Material number	Type	Short circuit current	Bus current
5WG1125-4AB23	RL 125/23	< 0.2 A	80 mA
5WG1125-1AB02	N 125/02	< 1.0 A	160 mA
5WG1125-1AB12	N 125/12	< 1.0 A	320 mA
5WG1125-1AB22	N 125/22	< 1.5 A	640 mA

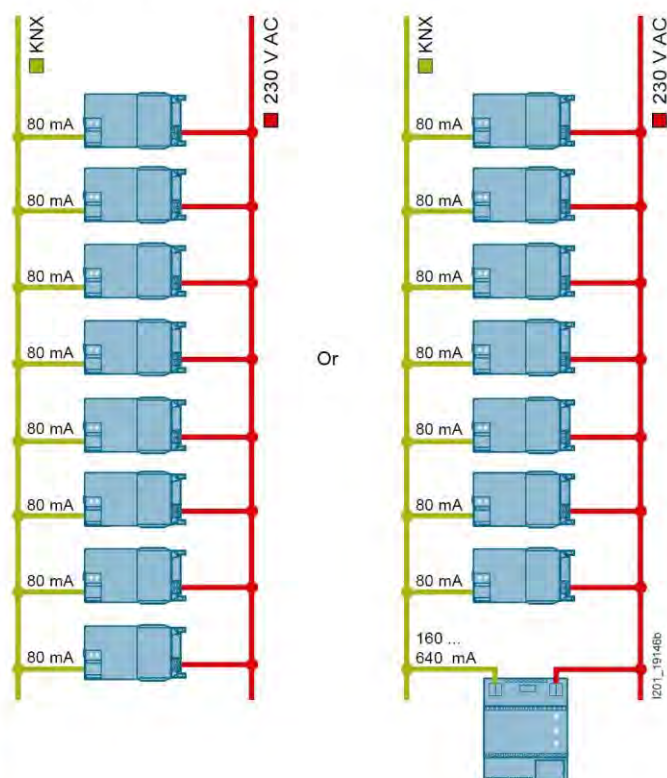
With eight decentralized power supply units RL 125/23 operated in parallel the maximum short circuit current is 1.6 A.

Additionally, it is possible to operate a power supply unit N 125/02 or N 125/12 in parallel to eight RL 125/23. Only with the power supply unit N 125/22 observe that it has a short circuit current of 1.5 A, which is why only seven decentralized power supply units can be operated in parallel.

To ensure an uninterrupted power supply a separate circuit with safety separation should be used for the power supply unit N 125/x2 power supply line.

The power supply units N 125/x2 can supply DC 24 V power from an additional pair of terminals (yellow-white). This DC 24 V output voltage can be used to power e.g. an additional line via a separate choke N 120.

All power supply units N 125/x2, RL 125/23 and JB 125C23 can be powered by AC 120...230 V or by DC 220 V. A minimum cable length is not required between these power supply units from Siemens.



## Technical Information and Application Examples

### Technical Information

### Fast Download using ETS5 with KNX "Long Frames"

#### GAMMA instabus devices and fast download with ETS

Starting with ETS5, in addition to KNX Standard Telegrams ETS supports Telegrams with „Long Frames“, which allow sending longer telegrams on the KNX bus.

For devices supporting the reception of these „Long Frames“ more user data can be packed into a telegram. This leads to shorter download times of downloads with ETS5.

#### Following GAMMA KNX products support the „Long Frame“ Download with ETS5

Product Title	Stock No.
Line/backbone coupler N 140/13	5WG1140-1AB13
IP Router 146/03	5WG1146-1AB03
Interface N 148/12 USB	5WG1148-1AB12
IP Interface N 148/23	5WG1148-1AB23
Push button interface 4x potential-free contact UP 220/31	5WG1220-2DB31
Push button single i-system UP 221/2	5WG1221-2DB12
Push button single i-system UP 221/3	5WG1221-2DB13
Push button single i-system UP 221/2	5WG1221-2DB32
Push button single i-system UP 221/3	5WG1221-2DB33
Push button double i-system UP 222/2	5WG1222-2DB12
Push button double i-system UP 222/3	5WG1222-2DB13
Push button double i-system UP 222/2	5WG1222-2DB32
Push button double i-system UP 222/3	5WG1222-2DB33
Push button triple i-system UP 223/2	5WG1223-2DB12
Push button triple i-system UP 223/3	5WG1223-2DB13
Push button triple i-system, temperature sensor UP 223/4	5WG1223-2AB14
Push button triple i-system, IR Receiver-Decoder UP 223/5	5WG1223-2DB15
Push button triple i-system UP 223/2	5WG1223-2DB32
Push button triple i-system UP 223/3	5WG1223-2DB33
Push button triple i-system, temperature sensor UP 223/4	5WG1223-2AB34
Push button triple i-system, IR Receiver-Decoder UP 223/5	5WG1223-2DB35
UP 255D21 Brightness sensor with constant light level control	5WG1255-2DB21
UP 258D12 Presence detector DESK	5WG1258-2DB12
Binary input RL 260/23	5WG1260-4AB23
Binary input JB 260C23	5WG1260-4CB23
Push button single style UP 285/2	5WG1285-2DB12
Push button single style UP 285/3	5WG1285-2DB13
Push button single style UP 285/2	5WG1285-2DB42
Push button single style UP 285/3	5WG1285-2DB43
Push button double style UP 286/2	5WG1286-2DB12
Push button double style UP 286/3	5WG1286-2DB13
Push button double style UP 286/2	5WG1286-2DB42
Push button double style UP 286/3	5WG1286-2DB43



## Technical Information and Application Examples

### Technical Information

### Fast Download using ETS5 with KNX "Long Frames"

#### Following GAMMA KNX products support the „Long Frame“ Download with ETS5

Product Title	Stock No.
Push button quadruple style UP 287/2	5WG1287-2DB12
Push button quadruple style UP 287/3	5WG1287-2DB13
Push button quadruple style, temperature sensor UP 287/4	5WG1287-2AB14
Push button quadruple style, IR Reveiver-Decoder UP 287/5	5WG1287-2DB15
Push button quadruple style UP 287/2	5WG1287-2DB42
Push button quadruple style UP 287/3	5WG1287-2DB43
Push button quadruple style, temperature sensor UP 287/4	5WG1287-2AB44
Push button quadruple style, IR Reveiver-Decoder UP 287/5	5WG1287-2DB45
Binary output device UP 510/03	5WG1510-2AB03
Binary output device UP 510/13	5WG1510-2AB13
Binary output device RS 510/23	5WG1510-2AB23
Binary output device JB 510C23	5WG1510-4CB23
Thermo drive actuator RS 510K23	5WG1510-2KB23
Switching actuator RL 512/23	5WG1512-4AB23
Switching actuator JB 512C23	5WG1512-4CB23
Binary output 3x6A RL 513D23	5WG1513-4DB23
Binary output JB 513C23	5WG1513-4CB23
Solar protection actuator UP 520/03	5WG1520-2AB03
Solar protection actuator UP 520/13	5WG1520-2AB13
Solar protection actuator RS 520/23	5WG1520-2AB23
Solar protection actuator JB 520C23	5WG1520-4CB23
Solar protection actuator RL 521/23	5WG1521-4AB23
Solar protection actuator JB 521C23	5WG1521-4CB23
Universal dimmer UP 525/03	5WG1525-2AB03
Universal dimmer UP 525/13	5WG1525-2AB13
Universal dimmer RS 525/23	5WG1525-2AB23
Universal dimmer JB 525C23	5WG1525-4CB23
Switch-/Dimming actuator JB 526C23	5WG1526-4CB23
Switch-/Dimming actuator JB 527C23	5WG1527-4CB23
Universal dimmer N 528D01, 2 x 300 VA, AC 230 V	5WG1528-1DB01
Switching actuator N 530D31 4x AC 230 V 6 AX	5WG1530-1DB31
Switching actuator N 530D51 8x AC 230 V 6 AX	5WG1530-1DB51
Switching actuator N 530D61 12x AC 230 V 6 AX	5WG1530-1DB61
Switching actuator N 532D31 4x AC 230 V 10 AX	5WG1532-1DB31
Switching actuator N 532D51 8x AC 230 V 10 AX	5WG1532-1DB51
Switching actuator N 532D61 12x AC 230 V 10 AX	5WG1532-1DB61
Switching actuator N 534D31 4x AC 230 V 16/20 AX	5WG1534-1DB31
Switching actuator N 534D51 8x AC 230 V 16/20 AX	5WG1534-1DB51
Switching actuator N 534D61 12x AC 230 V 16/20 AX	5WG1534-1DB61
Switching actuator N 535D51 8x AC 230 V 16/20 AX, with Load-Check	5WG1535-1DB51
Switch-/Dimming actuator N 536D51	5WG1536-1DB51
Solar protection actuator N 543D51	5WG1543-1DB51

**GAMMA instabus Devices comply with UL standard****Broad spectrum**

UL standards are used in North America, but also in several other countries. The mark UL (Underwriters Laboratories) is allowed to print on the product when the security check was successfully done according to the UL guidelines. This is of particular importance to European exporters of electrical switchgear equipment for machines who export to the USA, as their products will only be accepted if they meet the relevant UL standards. UL 508A describes the design of control cabinets and implementation of integral components with reference to other pertinent UL standards where applicable. It therefore represents the basic standard for all electrical systems used in North America. A wide range of GAMMA instabus devices comply with UL standards and are therefore suitable for implementation worldwide in both IEC/EN and UL applications within the framework of their specified use.

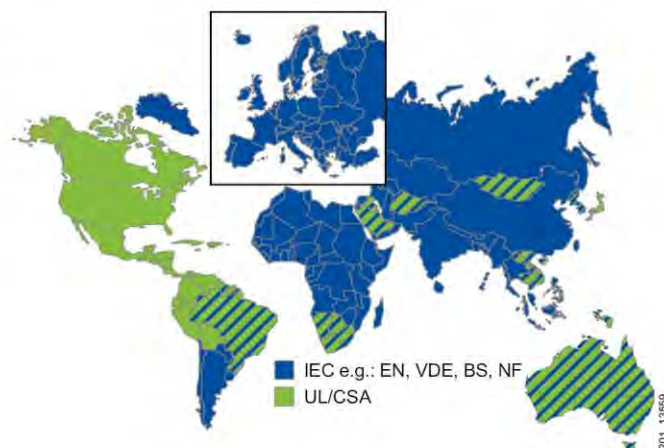
**Further links:**

For general information about the UL standard: [www.ul.com](http://www.ul.com)

Online database for UL products: [www.ul.com/database](http://www.ul.com/database)

For information about UL certification: [www.ul-certification.com](http://www.ul-certification.com)

For information about GAMMA products: [www.siemens.com/gamma](http://www.siemens.com/gamma)

**Worldwide application of EN/IEC or UL standards****Low-voltage systems in the USA**

While a variety of different systems are used in the USA, three-phase systems with 240 V as well 480 V and 3- and 4-wire systems are the most common, with 208 V and 600 V playing a considerably smaller role. Residential buildings are primarily fitted with 120 V to 240 V single-phase systems. A frequency of 60 Hz is standard in North America.

Industry and commercial		Residential
Three-phase, 4 wires	Three-phase, 3 wires	Single-phase, 3 wires
Three-phase wye, 4 wires	Three-phase delta, 3 wires, grounded corner	Single phase, 120 V/240 V, grounded midpoint
Caution: The PE must not be used for electricity. There is no PEN conductor => N = „Grounded Conductor“ (white or gray), separate wires must be used for PE and N.		
480 V Y/277 V <sup>1)</sup>	240 V	240 V, phase conductor
600 V Y/347 V <sup>1)</sup>	480 V	120 V to ground
240 V Y/131 V <sup>1)</sup>	600 V	
208 V Y/120 V <sup>1)</sup>		







<sup>1)</sup> "Y" describes the „Solidly grounded circuit“. The „Y“ value specifies the voltage between the phases (e. g. 480 V), the value after the slash specifies the voltage between the phase and the grounding (e.g. 277 V at 480 V voltage between the phases).




## Technical Information and Application Examples

### Technical Information

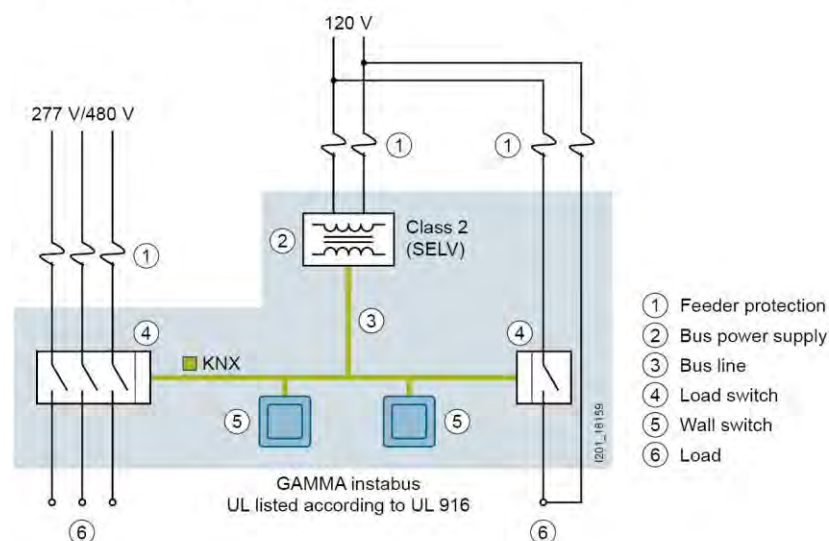
#### UL standard

Explanation of UL symbols	
Symbol	Application
	<b>UL symbol</b> This is the most used UL symbol. This UL mark lines out that the products fulfill the security check. The security check follows guidelines published by UL (UL standard).
	<b>c-UL symbol</b> This mark applies to products for the Canadian market. Products with this mark have been examined by UL in accordance with Canadian safety directives, which differ in some points from the US directives.
	<b>c-UL US symbol</b> This symbol was introduced at the beginning of 1998. It means that the device bearing this mark complies with both UL and Canadian regulations.
	<b>UR, c-UR and c-UR us symbol</b> These symbols are seldom seen by consumers as they are affixed to special components that are part of a larger system or product. These components may have technical or design restrictions.
	The Component Recognition symbol can be on a large number of products, such as switches, power supplies, printed boards, switching devices and many other products. Products for Canada have an additional „c“.
	The c UR us symbol was introduced in 1998 and means that the marked components meet both the UL and CSA regulations.

The „UL listed“ symbol ® is applied to devices that can be installed universally and without further instructions or any restriction of their respective applicability, e. g. contactors to UL 508, miniature circuit breakers to UL 489, energy management devices according to UL 916 ...

The „UL Recognized“ symbol  is intended for devices that may only be installed by experts as components, e. g. miniature circuit breakers to UL 1077, time switches to UL 917, SITOP fuses and so on.

#### KNX installation system in a UL standard installation system



#### SWG1 energy management devices . . . according to UL 916

The UL 916 requirements cover energy management equipment rated 600 V or less intended for installation in accordance with the National Electrical Code NFPA 70. This primarily applies to devices for the control of electrical loads to achieve the desired use of electrical power. Such equipment controls electrical loads by responding to sensors and actuators.

All devices that are powered by the bus voltage or by an external fewer DC 30 V and fewer 1.5 A power supply, and that are not connected to voltages greater than AC/DC 30 V, meet the conditions the UL standard. These devices can be used as energy management equipment according to UL 916 (energy management equipment accessories).

## The following KNX products of the GAMMA portfolio have a UL mark

	Product title	Article No.	Type
	Power supply unit <sup>®</sup> Integrated choke, 640 mA additional unchoked output, DC 29 V	5WG1125-1AB22	N 125/22
	Power supply units <sup>®</sup> Integrated choke, 340 mA additional unchoked output, DC 29 V	5WG1125-1AB12	N 125/12
	Power supply unit <sup>®</sup> Integrated choke, 160 mA additional unchoked output, DC 29 V	5WG1125-1AB02	N 125/02
	KNX/DALI Gateway plus, 1 channel <sup>®</sup>	5WG1141-1AB03	N 141/03
	KNX/DALI Gateway Twin plus, 2 channels <sup>®</sup>	5WG1141-1AB21	N 141/21
	KNX/DALI Gateway Twin <sup>®</sup>	5WG1141-1AB31	N 141/31
	Load switch <sup>®</sup> 8 x AC 120 V/277 V, 20 A; AC 347 V, 15 A	5WG1512-1CB01	N 512
	Shutter/blind actuator <sup>®</sup> 4 x AC 120 V, 6 A	5WG1523-1CB04	N 523C04
	Universal Dimmer <sup>®</sup> 2 x 150 VA, AC 120 V	5WG1528-1CB01	N 528C01
	Switching actuator <sup>®</sup> 3 x AC 230/400 V, 20 AX	5WG1513-1AB11	N 513/11
	Switching actuator submodule <sup>®</sup> 3 x AC 230/400 V, 20 AX	5WG1513-1AB21	N 513/21

# Technical Information and Application Examples

## Technical Information

### UL standard

The following KNX products of the GAMMA portfolio have a UL mark			
	Product title	Article No.	Type
	Decentralized Power Supply <sup>®</sup> 80 mA, AC 120 V	5WG1125-4CB23	JB 125C23
	Binary Input <sup>®</sup> 4 x AC/DC 12-230 V	5WG1260-4CB23	JB 260C23
	Binary Output <sup>®</sup> 2 x AC 120-277 V, 10 A (resistive load)	5WG1510-4CB23	JB 510C23
	Switching Actuator <sup>®</sup> 1 x AC 120-277 V, 20 A or 1 x AC 347 V, 15 A (resistive load)	5WG1512-4CB23	JB 512C23
	Binary Output <sup>®</sup> 3 x AC 120-277 V, 6 A	5WG1513-4CB23	JB 513C23
	Solar Protection Actuator <sup>®</sup> 1 x AC 120 V, 6 A	5WG1520-4CB23	JB 520C23
	Solar Protection Actuator <sup>®</sup> 2 x AC 120 V, 6 A	5WG1521-4CB23	JB 521C23
	Universal Dimmer <sup>®</sup> 1 x AC 120 V, 10...125 VA	5WG1525-4CB23	JB 525C23
	Switching/dimming actuators <sup>®</sup> 2 x 20 A, AC 277 V / AC 347 V, 0/1...10 V	5WG1526-4CB23	JB 526C23
	Switching/dimming actuators <sup>®</sup> 1 x 20 A, AC 277 V / AC 347 V, 0/1...10 V	5WG1527-4CB23	JB 527C23



## Technical Information and Application Examples

### Application Examples

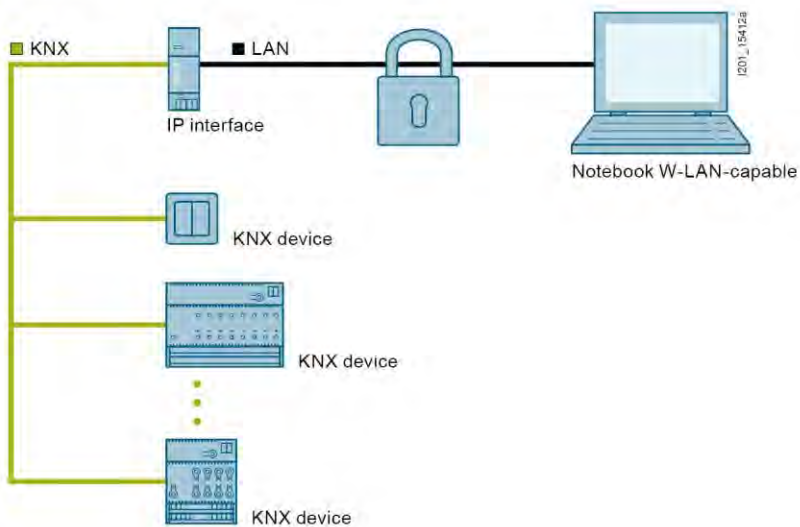
#### Commissioning a KNX system via Ethernet (LAN)

##### Fast and secure download saves time

In every GAMMA instabus project, the devices are commissioned after their installation. Once the physical addresses have been assigned, application programs, parameters and addresses are loaded to the devices. This can take some time in large-scope projects with many devices.

The LAN connection from Siemens makes it all go much faster, saving you time and money. Simply connect your notebook to the GAMMA instabus via an IP interface and start the download. With a LAN connection, the download takes only half as long as it does with USB.

##### The solution



##### Benefits

- Plan, configure, commission and diagnose with ETS, the KNX commissioning software
- Simply connect your notebook and start the download
- Downloading takes only half as long, thereby halving commissioning times and significantly reducing time at the project site

##### Note:

LAN stands for Local Area Network. In LANs, data transport is organized using the IP (Internet Protocol) – the standard network protocol on the Internet.

##### Follow these steps

- Connect the IP interface to the KNX bus line
- Connect the notebook to the IP interface using the Ethernet cable – and start the download.

##### You will need

- An IP interface, for example
- 24-V power supply for IP interface, e.g. Power over Ethernet, unchoked bus voltage
- LAN-enabled notebook
- ETS; see [knx.org](http://knx.org) for the latest version

## Technical Information and Application Examples

### Application Examples

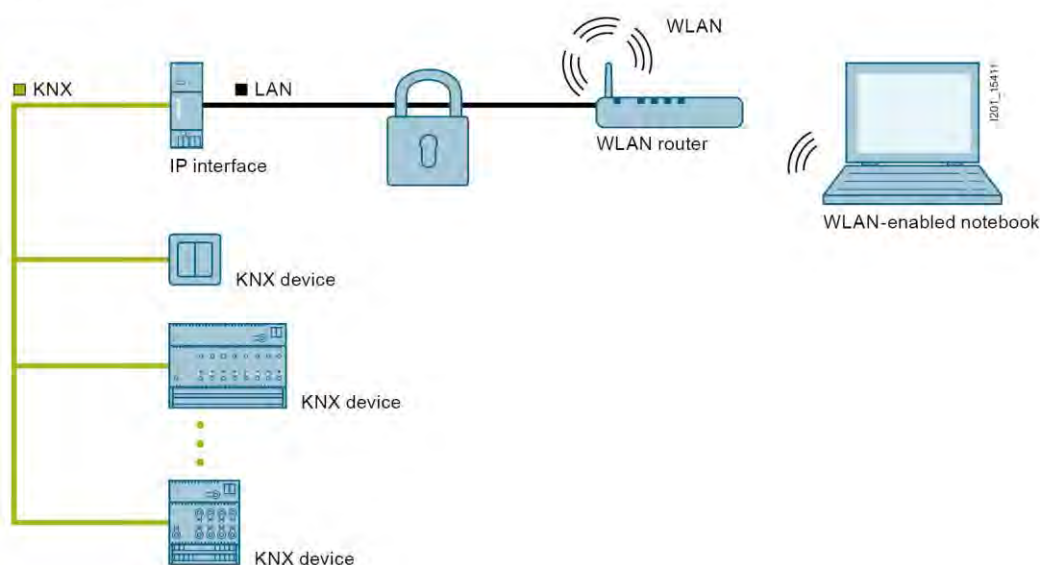
#### Commissioning a KNX system via Ethernet (WLAN)

##### Commissioning – Easy and safe access via WLAN

In every GAMMA instabus project, the devices are commissioned after their installation. First, the physical addresses must be assigned. To do this, select the device in ETS on the notebook and press the programming key on the device. If you have various devices at different places such as flush-mounted bus coupling units, this can result in intensive walkways. That's the reason why two people usually perform the commissioning.

You can save yourself this considerable extra work by connecting your notebook wirelessly to the KNX via WLAN. This lets you move about freely during commissioning – just take your notebook with you to each room. Any errors such as mixup of devices due to misunderstandings are ruled out.

##### The solution



##### Benefits

- Wireless GAMMA instabus commissioning via WLAN
- Possible to move freely throughout the building
- Only one person needed for commissioning

##### Follow these steps

- Connect the IP interface with the KNX, and connect the WLAN router to the IP interface using the Ethernet cable – and you can go to each individual room with your notebook and the ETS
- The related safety and security requirements governing the LAN and WLAN have to be observed

##### You will need

- An IP interface, for example
- 24-V power supply for IP interface, e.g. Power over Ethernet, unchoked bus voltage
- Ethernet
- WLAN router
- WLAN-enabled notebook
- ETS; see knx.org for the latest version

##### Note:

WLAN stands for Wireless Local Area Network and describes a „wireless“ local radio network for data transmission.

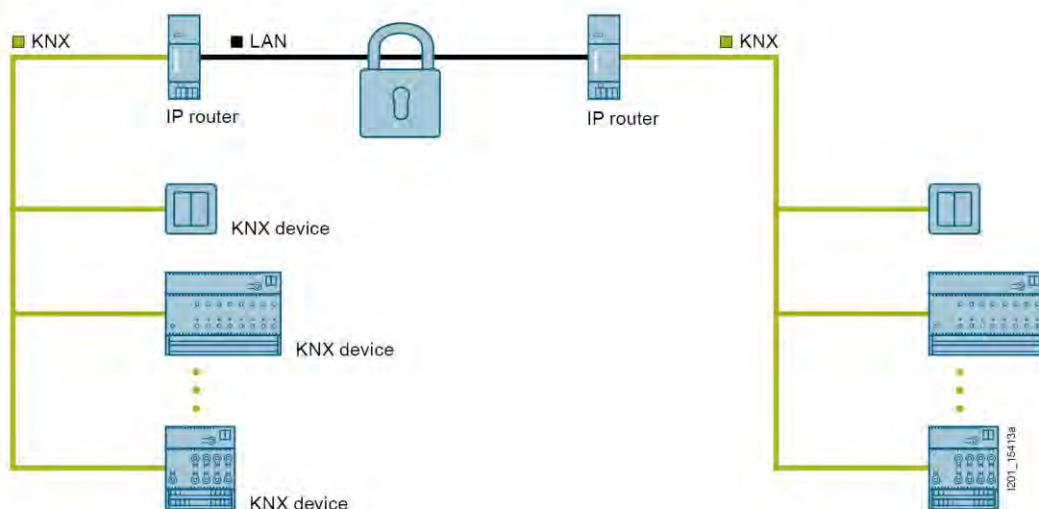
WLANs are quick and easy to install, cover large areas and operate cost-effectively.

**Connect main and backbone lines via KNXnet/IP and KNX IP Secure**

The new KNXnet/IP standard enables KNX telegrams to be transmitted via Ethernet (LAN), which leads to new applications and solutions.

Existing network infrastructure and technologies are used to securely transmit KNX data over longer distances.

Connections between buildings or floors can be clearly and easily implemented with KNXnet/IP.

The solutionBenefits

- LAN as the main and backbone line
- Data can be transmitted over longer distances
- Existing data network and components (LAN) can be used

Follow these steps

- Connect an IP router to every KNX line (instead of a line coupler N 140)
- Connect the IP router via a multicaster-enabled LAN
- Commission each IP router just like a "conventional" line/backbone coupler using ETS
- Observe the related safety and security requirements governing the LAN

You will need

- One IP router per line
- 24-V power supply for IP router, e.g. Power over Ethernet, unchoked bus voltage
- Ethernet patch cable or LAN, depending on the size
- ETS; see knx.org for the latest version

Note:

LAN stands for Local Area Network. In LANs, data transport is organized using the IP (Internet Protocol) – the standard network protocol on the Internet.

Multicast-capable: multicast telegrams can simultaneously operate several IP devices in the LAN. In the case of network components (network switches, routers) this requires the appropriate configuration.



## Technical Information and Application Examples

### Application Examples

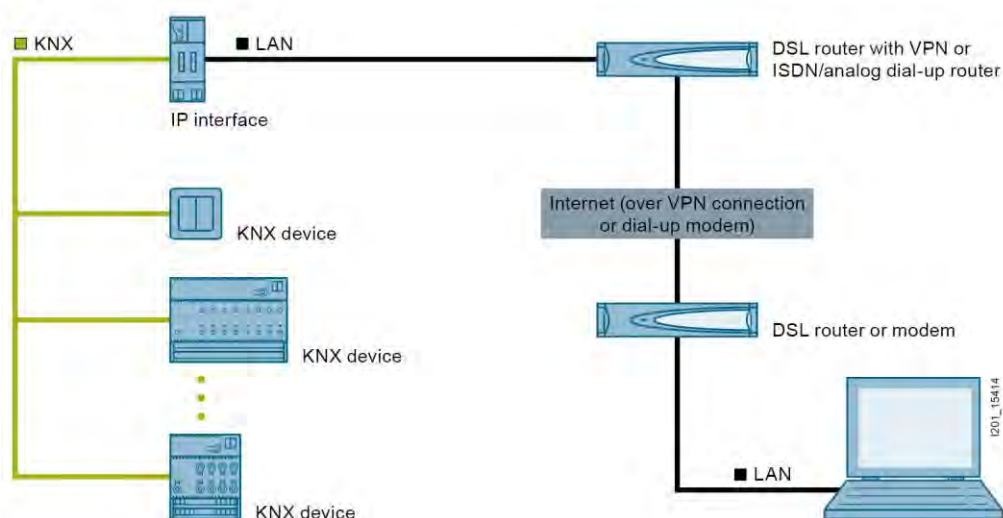
#### Remote access a KNX system via the Internet

##### Easy remote access

In almost every project, changes are often requested during building completion or after the building goes into operation, for example if the set lighting times are too long. Up to now this meant making an appointment with the customer, driving to the property, changing the parameter settings, driving back again.

Now you can cut time and costs by making these changes remotely from your office via Internet, LAN or a wired broadband connection (fiber optics or DSL). Most buildings already have an Internet and LAN connection – thus providing global connectivity. This is why data security must be ensured using a VPN DSL router or dial-up router respectively.

##### The solution



##### Benefits

- Parameters can be quickly changed by remote access
- Remote access saves driving time and costs
- Data security is ensured

##### Follow these steps

- Connect IP interface to the KNX and LAN
- Configure the VPN DSL router or dial-up router

##### You will need

- An IP interface, for example
- 24-V power supply for IP interface, e.g. Power over Ethernet, unchoked bus voltage
- VPN DSL router or ISDN/analog dial-up router
- ETS; see knx.org for the latest version

##### Note:

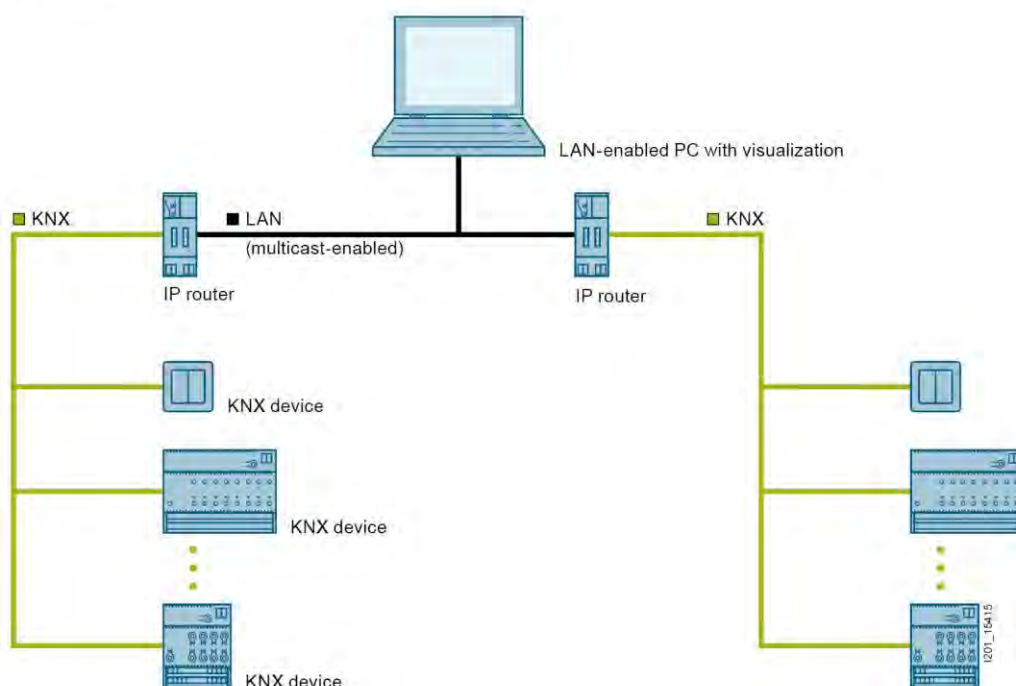
LAN stands for Local Area Network. In LANs, data transport is organized using the IP (Internet Protocol) – the standard network protocol on the Internet.

VPN (Virtual Private Network) lets you set up a secure subnetwork via an open, unsecured network (Internet, wireless network) by protecting all communication against access or being tapped into by unauthorized third parties. This is achieved by means of „tunneling“ the data traffic via a VPN server, which means that any connections must be authenticated and that all data is also encoded.

**Visualization – up to 200 times faster with KNXnet/IP**

When retrieving large numbers of data points cyclically for visualization in large projects, waiting periods can sometimes occur while data is being updated.

Use your LAN as the main and backbone line and connect your PC for visualization to the LAN. This makes visualization up to 200 times faster: you can monitor larger numbers of data points and the data volume is no longer important.

The solutionBenefits

- LAN as the main and backbone line
- Visualization up to 200 times faster than previously
- High data volume possible
- No data concentrators needed

Follow these steps

- Commission the KNX devices, including the IP router
- Install the visualization software
- Find and connect the IP router as the visualization interface
- Configure the visualization
- Observe the related safety and security requirements governing the LAN

You will need

- One IP router per line
- IP Control Center N 152
- 24-V power supply for IP interface, e.g. Power over Ethernet, unchoked bus voltage
- Ethernet network (LAN)
- ETS; see knx.org for the latest version

Note:

LAN stands for Local Area Network. In LANs, data transport is organized using the IP (Internet Protocol) – the standard network protocol on the Internet.

Multicast-capable: multicast telegrams can simultaneously operate several IP devices in the LAN. In the case of network components (network switches, routers) this requires the appropriate configuration.

## Technical Information and Application Examples

### Application Examples

#### Remote access to several locations

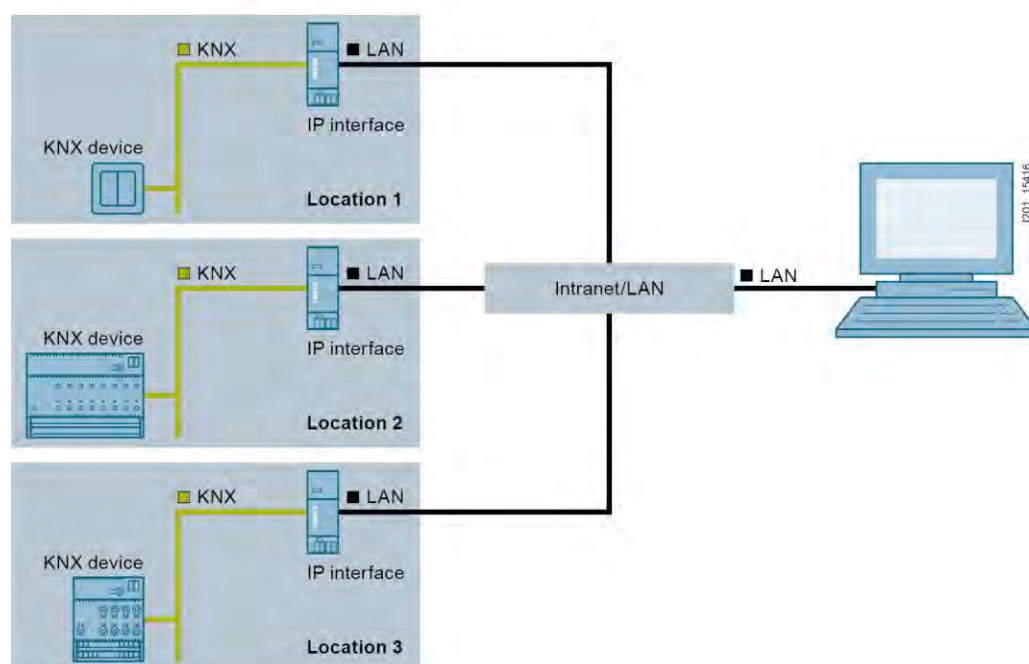
##### Remote operation and remote visualization

In many cases, several locations need to be managed simultaneously. There are many such examples:

- Monitoring of cooling temperatures in several supermarkets or warehouses
- Monitoring of fans for failure
- Monitoring of temperature and humidity in several greenhouses

It is now possible to carry out these monitoring tasks centrally via the Internet/Intranet from absolutely anywhere. This saves you human resources, time and money. And the Internet/Intranet is available everywhere. Commissioning is further facilitated by the fact that distributed locations can be configured identically.

##### The solution



##### Benefits

- Plants and locations can be remotely visualized, controlled and monitored via existing networks
- Simple commissioning thanks to options for identical configuration of different locations

##### Note:

LAN stands for Local Area Network. In LANs, data transport is organized using the IP (Internet Protocol) – the standard network protocol on the Internet.

##### Follow these steps

- Connect one IP interface per location to the KNX
- Connect the IP interface to the LAN
- Configure the IP interface via the Intranet/Internet
- Define the IP interface

##### You will need

- One IP interface for each property, for example
- 24-V power supply for IP interface, e.g. Power over Ethernet, unchoked bus voltage
- Visualization software
- ETS; see [knx.org](http://knx.org) for the latest version

## Technical Information and Application Examples

### Application Examples

#### Monitoring properties with KNX via Ethernet (LAN)

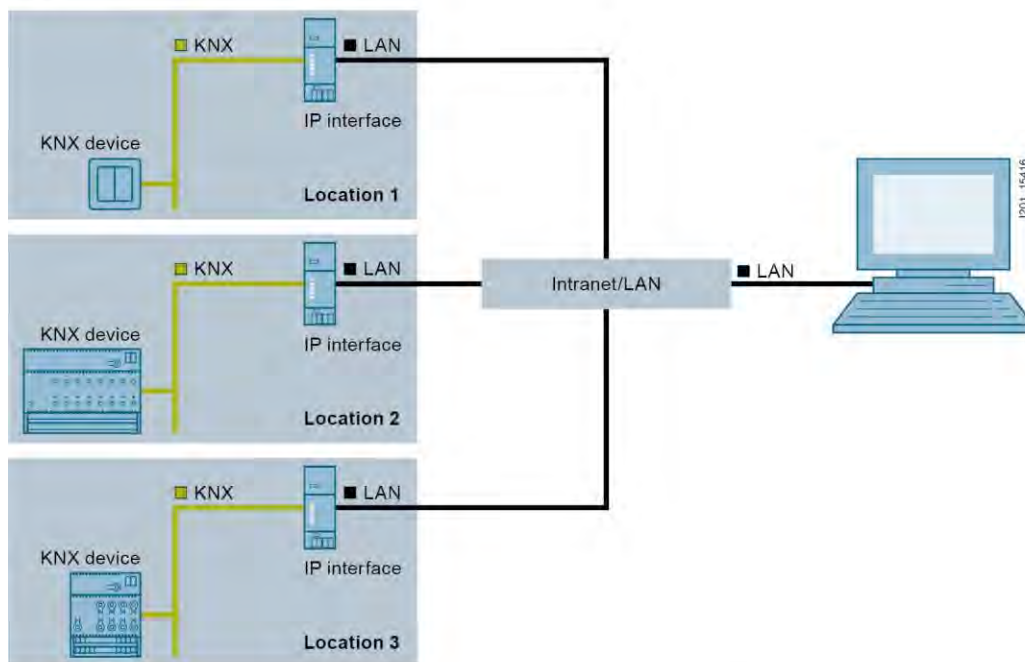
##### Demand-oriented maintenance through remote signaling

Some distributed properties need to be checked regularly for certain conditions and maintained accordingly, for example the fill levels of oil tanks in distributed apartment buildings or the operating hours of consumers.

These states can now be reported centrally to any location.

This can eliminate the need for cyclical inspection walkthroughs and appropriate maintenance can be carried out when needed, such as refilling the oil tanks in distributed properties. You can even select the best time to do this, such as when oil prices are lowest.

##### The solution



##### Benefits

- Central status messages for distributed properties
- Less maintenance required
- Optimization of maintenance costs

##### Note:

LAN stands for Local Area Network. In LANs, data transport is organized using the IP (Internet Protocol) – the standard network protocol on the Internet.

##### Follow these steps

- Connect one IP interface to the KNX for each property
- Connect the IP interface to the LAN
- Configure the IP interface via the Internet/intranet for accessibility
- Define the IP interface in the visualization software or ETS respectively
- Observe the related safety and security requirements governing the LAN

##### You will need

- One IP interface for each property, for example
- 24-V power supply for IP interface, e.g. Power over Ethernet, unchoked bus voltage
- Visualization software
- ETS; see knx.org for the latest version



## Technical Information and Application Examples

### Application Examples

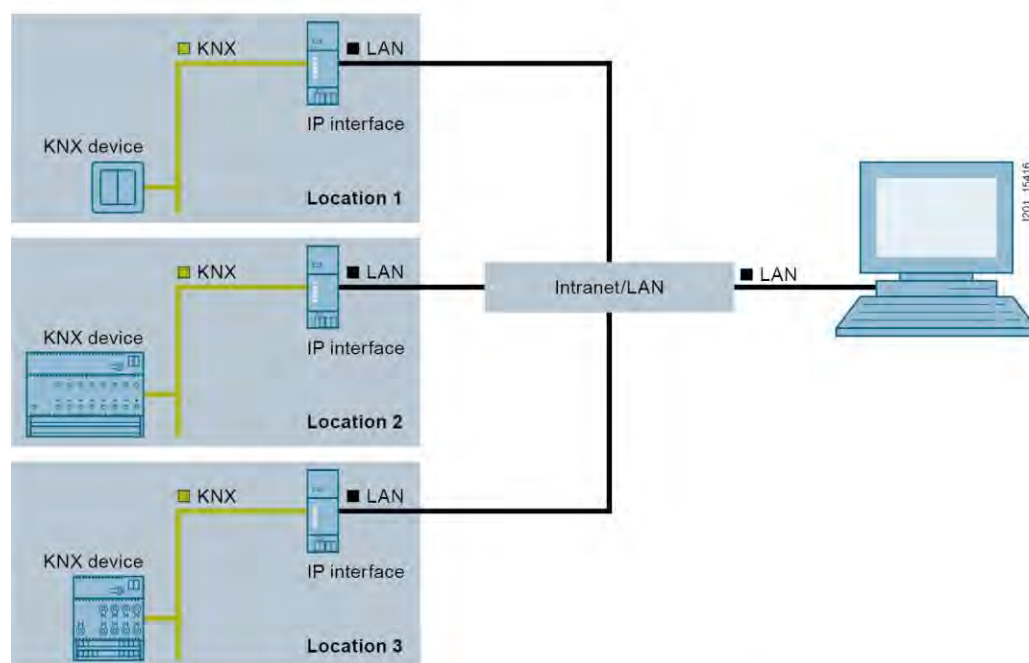
#### Fault indication via Ethernet (LAN)

##### Enhanced plant availability due to early fault detection

Whether dealing with a lamp failure in depots or offices, a drop in pressure in filters, or pump failure - automated plants in distributed locations are constantly subject to possible faults/malfunctions. The earlier such faults are detected, the less costly they are to remedy.

If such plants are being controlled with GAMMA instabus and are connected over LAN/IP, these types of fault indications can be forwarded over the Internet. A fast response means that the functionality of the plant is quickly restored and costs are kept to a minimum.

##### The solution



##### Benefits

- Central solution for distributed locations
- Fast forwarding of fault indications
- Fast responses mean less damage

##### Follow these steps

- Connect one IP interface per location to the KNX
- Connect the IP interface to the LAN
- Configure the IP interface over the Intranet/Internet
- Define the IP interface in your visualization program/ETS

##### You will need

- One IP interface for each property, for example
- 24-V power supply for IP interface, e.g. Power over Ethernet, unchoked bus voltage
- Visualization software
- ETS; see knx.org for the latest version

##### Note:

LAN stands for Local Area Network. In LANs, data transport is organized using the IP (Internet Protocol) – the standard network protocol on the Internet.

VPN (Virtual Private Network) lets you set up a secure subnetwork via an open, unsecured network (Internet, wireless network) by protecting all communication against access or being tapped into by unauthorized third parties. This is achieved by means of „tunneling“ the data traffic via a VPN server, which means that any connections must be authenticated and that all data is also encoded.

## Technical Information and Application Examples

### Application Examples

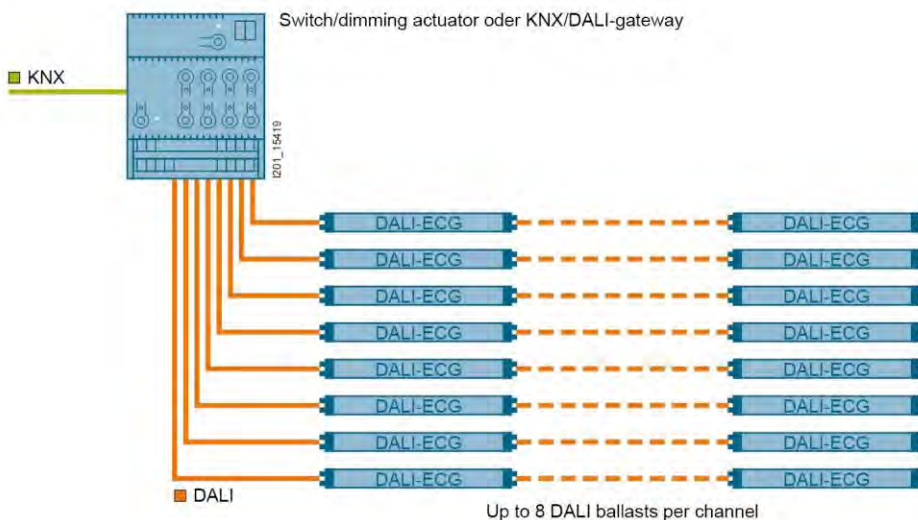
#### Using DALI luminaires with easy KNX commissioning

##### Using DALI lighting without complicated DALI commissioning

Ballasts with a DALI interface are used in lighting controls, e.g. to report lamp failure. The N 525E switch/dimmer actuator now makes it possible to completely replace DALI devices with GAMMA instabus without any knowledge of DALI or DALI commissioning procedures.

The N 525E switch/dimmer actuator switches and dims eight independent groups of fluorescent lamps with dimmable ballasts and DALI interfaces. Up to eight DALI ballasts can be connected to each of the eight channels.

##### The solution



##### Benefits

- True 0 to 100% light value control
- High operating safety due to targeted shutdown in the event of an error
- Error messages for luminaire groups
- For individual room lighting control

##### Note:

DALI stands for Digital Addressable Lighting Interface. DALI is a digital interface that is integrated in the controlgear of lights and enables flexible wiring and commissioning. As well as switching and dimming functions, they are also able to detect and signal lighting failures.

##### Follow these steps

- Connect the switch/dimmer actuator N 525E to the KNX
- Connect each group of DALI ballasts to be controlled jointly to one output of the switch/dimmer actuator N 525E
- Configure each channel in ETS just as you would a conventional actuator and program the device

##### You will need

- Switch/dimmer actuator N 525E
- Dimmable ballasts with DALI interfaces
- ETS; see knx.org for the latest version



## Technical Information and Application Examples

### Application Examples

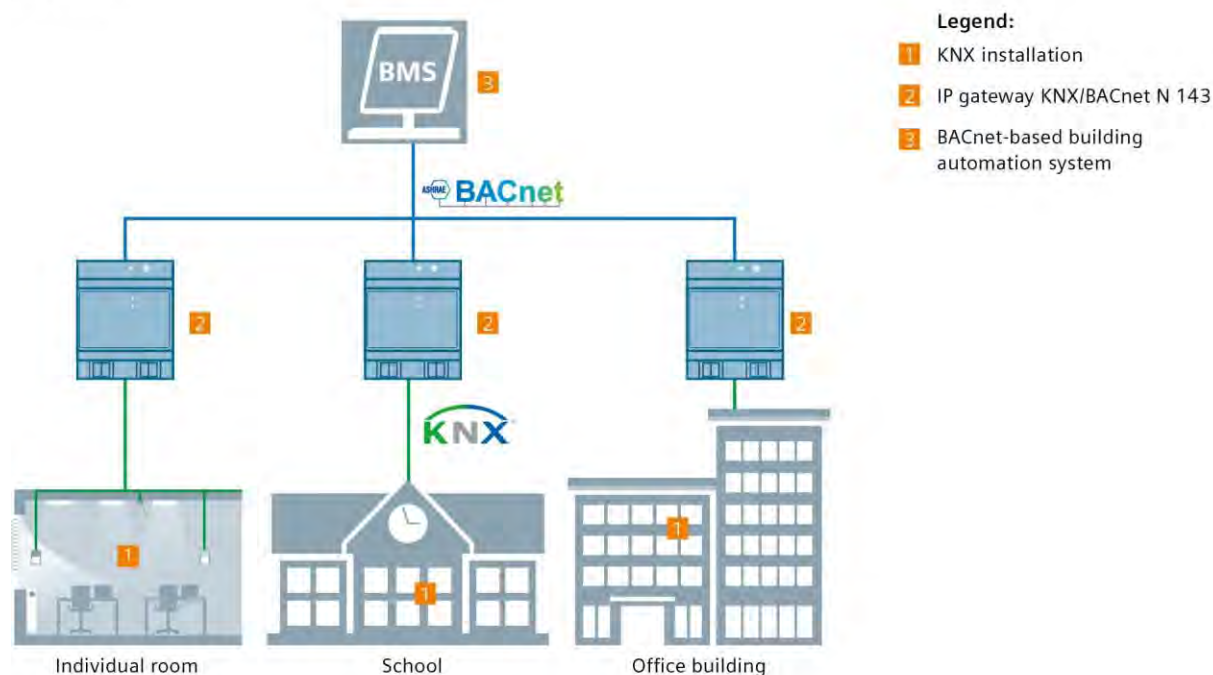
#### Integrating KNX into BACnet

##### Easy combination of a KNX installation into a BACnet installation system

The IP gateway KNX/BACnet enables KNX installations to be integrated into BACnet-based networks and building automation systems quickly, simply and efficiently. No separate commissioning interface is needed owing to the KNXnet/IP interface integrated into the gateway. This facilitates for example the integration of new KNX installations into already existing building management systems that use BACnet as their system protocol.

It enables building automation systems to be expanded simply and costefficiently. Thanks to its KNXnet/IP interface, the KNX installation technician can commission the gateway using the ETS. The system integrator that recognizes the IP gateway KNX/BACnet as controller (B-ASC) is responsible for the integration into the BACnet system.

##### The solution



##### Benefits

- Commissioning of the IP gateway KNX/BACnet N 143 by the KNX installation technician only using the ETS
- Integration of a KNX installation into a BACnet system without KNX knowledge by the BACnet system integrator
- Clear separation of responsibility for KNX installation and BACnet system integration/building management
- Simple, flexible integration of a KNX installation
- Integrated Web server for documentation of the configuration and export of an EDE file
- Configuration of a KNX installation via IP gateway KNX/BACnet N 143

##### Follow these steps

- Connect the IP gateway KNX/BACnet N 143 to the KNX, configure and program it in ETS
- 250 BACnet objects can be created, for which up to 455 BACnet entries for automatic forwarding of BACnet object values can be stored

##### You will need

- IP gateway KNX/BACnet N 143
- ETS; see knx.org for the latest version

## Technical Information and Application Examples

### Application Examples

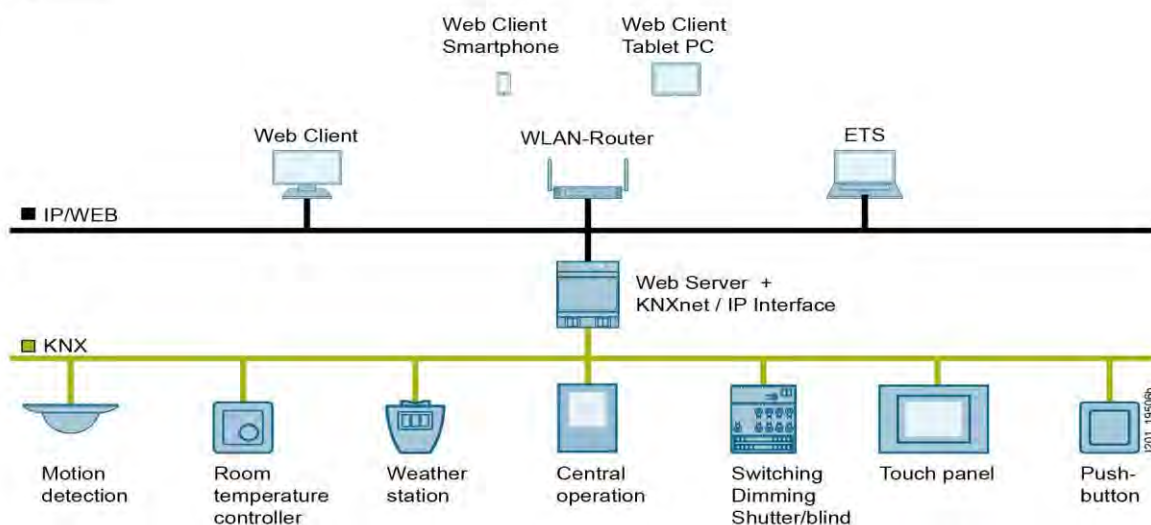
#### Web-based visualization

#### WEB Visualization of a KNX installation with an IP Control Center

The Control Center N 152 is a compact visualization controller. It enables the entire room and building automation to be conveniently operated and visualized via Web-enabled PCs, tablets and smartphones – also in a wireless configuration via WLAN. Up to 1250 KNX objects and group addresses are available for this purpose.

In the event of a fault, an alarm message is sent via e-mail. The integrated KNX interface allows commissioning of the KNX installation. With an additional router, the KNX installation can be serviced via remote maintenance.

#### The solution



#### Benefits

- IP Control Center N 152
- An integrated Web editor
- For all Web-enabled operating devices such as PCs, notebooks, tablets and smartphones
- Create customized visualization of operating and display interfaces

#### Follow these steps

- Connect the IP Control Center N 152 to the KNX, configure and program it in ETS
- Create the visualization of the operating and display interfaces via the Web editor
- The related safety and security requirements governing the WLAN shall be observed

#### You will need

- IP Control Center N 152
- ETS; see knx.org for the latest version

#### Note:

To handle comprehensive building and room functions, up to 1250 KNX objects are available with the IP Control Center. In addition, there are powerful application modules for scene control, scheduler programs, chart modules, data login, alarm reporting and logic functions for use in connection with central control. A clear model project is available via download for the IP Control Center.



# Appendix



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## Appendix

### Catalog notes

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#### Trademarks

All product designations may be registered trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes may violate the rights of the owner.

#### Amendments

All technical data, dimensions and weights are subject to change without notice unless otherwise specified on the pages of this catalog.

#### Dimensions

All dimensions are in millimeter (mm).

#### Images

The illustrations are not binding.

#### Technical data

The technical data are for general information purposes only. Always read the operating instructions and notices on individual products during assembly, operation and maintenance.

Further technical information is available at:

[www.siemens.com/GAMMA-TD](http://www.siemens.com/GAMMA-TD)

and

[www.siemens.com/sios](http://www.siemens.com/sios)

under „Product-Support“ -> „Entry type“:

- Application examples
- Certificates
- Characteristics
- Downloads
- FAQs
- Manual
- Product notes
- Software archive
- Technical Data

#### Assembly, operation and maintenance

The instruction manuals and the operating instructions on the products must be observed during assembly, operation and maintenance.



### General ordering information

Unless stated otherwise in the „Selection and ordering data“ of this catalog, our products are supplied individually packed. It is essential that whole number multiples of these quantities be ordered to ensure satisfactory quality of the products and problem-free order processing. The products are delivered in a neutral carton. The label includes warning notices, the CE marking, and device descriptions in English and German. In addition to the Article No. (MLFB) and the number of items in the packaging, the operating instructions order number (Instr.-Order-No.) is also specified. Most device Article No.'s can be obtained by means of the EAN barcode to simplify ordering and storage logistics. The associated master data is available from your local Siemens representative, too.

### Ordering very small quantities

When very small quantities are ordered, the cost of order processing often exceeds the order value. We therefore recommend that you combine several small orders. Where this is not possible, we regret that we are obliged to make a small processing charge: for orders with a net goods value of less than € 200 we charge a € 25 supplement to cover our order processing and invoicing costs.

### Explanations on the selection and ordering data

#### Delivery time class (DT=LK)

The delivery time class (DT) lines out the delivery time starting from the shipping point from Siemens AG (products ready for dispatch). If ordered in normal quantities, the products are usually delivered within the specified delivery times, calculated from the date we receive your order. In exceptional cases, delivery times may vary from those specified. The delivery times are valid ex works from Siemens AG (products ready for dispatch). The goods shipping time depends on the destination and the method of shipping.

In this catalog, the following delivery time classes are mentioned:

A = 1 – 2 days  
B = 3 – 7 days  
C = 8 – 21 days  
D = 22 – 30 days  
X = more than 30 days

#### Price

The price refers to the price unit (PU).

#### Price unit (PU)

The price unit defines the number of units, sets or meters to which the specified price and weight apply.

#### Price group (PG)

Each product is allocated to a price group.

#### Weight

The defined weight is the net weight in kg and refers to the price unit (PU).

#### Example

DT	Article-No.	Price per PU	PU	PG
A	5WG1125-1AB02		1 ST	A21

DT: Delivery time class A = two workdays

Price: Price per Price Unit (PU)

PU: One unit (on which price is based)

PG: Price group A21

# Notes

Smart Infrastructure intelligently connects energy systems, buildings and industries to adapt and evolve the way we live and work.

We work together with customers and partners to create an ecosystem that intuitively responds to the needs of people and helps customers to better use resources.

It helps our customers to thrive, communities to progress and supports sustainable development.

Creating environments that care.  
[siemens.com/smart-infrastructure](https://siemens.com/smart-infrastructure)

**Published by**  
**Siemens Switzerland Ltd**

Smart Infrastructure  
Global Headquarters  
Theilerstrasse 1a  
6301 Zug  
Switzerland  
Tel. +41 58 724 24 24

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