**SIEMENS**

The worldwide standard for home and building control

**KNX**®

# Gamma
# Building control

**Product Catalog ET G1 · 2015**

www.siemens.com/gamma

# Gamma
# Building control

## Future-proof electrical installations based on KNX®

## Product Catalog 2015

Refer to the HIT online catalog for current
updates of this catalog: www.siemens.com/hit

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# Future-proof building control for energy-efficient and comfortable rooms

Dear Customers and Partners,

In many countries, energy generation, distribution and consumption are issues of vital importance and receive top priority. Yet the challenges for the world's energy markets could not be more different: Energy demand in growth markets is increasing rapidly, but in developed countries the focus is on cost effectiveness and climate protection.

State-of-the-art smart buildings play a key role in the advanced power grids known as smart grids. By expertly combining building technology with energy transmission and distribution, smart grids can significantly improve energy efficiency while reducing greenhouse gas emissions with groundbreaking effect. And the results continue to get better as the buildings are integrated more closely in the grid and as individual disciplines interact more effectively.

Efficiency, however, goes beyond the aspect of energy: Our integrated KNX applications connect several disciplines in a building; our controllers and operator units are intuitive and easy to operate, and our field devices offer impressive technical efficiency. Modular system design, in addition to compliance with standards and compatibility, allow for a wide range of flexible customization options and provide long-term investment protection.

Wherever possible, our offerings cover efficiency and cost effectiveness throughout the entire life cycle of a building. Gamma building control systems provide optimal comfort solutions and energy-efficient controls. The interaction between lighting and shading, heating, ventilation and air conditioning helps achieve the greatest possible energy savings. Additionally, the building control systems have a uniform standard and are extremely versatile.

Benefit from our comprehensive range of innovative products, systems and tested applications to enhance the efficiency in rooms and to protect the environment. Siemens provides comprehensive support through tools and new apps for smart phones and tablets so that you can quickly find the right product from our extensive product range.

# Can old buildings be just as energy-efficient as new ones?

Intelligent and energy-efficient building technologies from Siemens reduce emissions and costs, in any building.

# Setting a course for energy efficiency and comfort

### Intelligent technologies for sustainable buildings

Industrial nations today are facing an enormous challenge: increasing energy efficiency and lowering $CO_2$ emissions without sacrificing comfort and quality of life. The answer is to use resources responsibly and switch to renewable energy sources.

Efficient energy use can slow down the rate of climate change and preserve our planet for future generations. Siemens believes it has a special responsibility in this context. Smart products and systems play a crucial role in saving energy around the world and using existing resources as efficiently as possible – without sacrificing comfort.

### Future-proof KNX-based electrical installations

Gamma building control plays a crucial role in making buildings and rooms more efficient. Energy and operating costs can be sustainably reduced by automatically controlling and regulating lighting, shading and the room climate.

For building operators, this means lower maintenance costs without sacrificing user comfort.

Thanks to the use of the internationally recognized KNX communication standard for home and building control, additional functions can be added easily and flexibly – without having to lay new lines.

### Highlights

- Maximum comfort with reduced energy consumption
- Interdisciplinary building and room automation lowers maintenance costs
- Investment protection and flexibility, thanks to the open KNX communication standard

**The worldwide standard for home and building control**

KNX

# New developments

## For the latest developments, please visit: www.siemens.com/gamma

**IP Control Center N 152**

Custom design of user interfaces for room and building functions for web-enabled end devices such as tablets or smart phones.

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**KNX/DALI-Gateway Twin Plus N 141/21**

Two independent DALI outputs, automatic emergency lighting during DALI power failure, and replacement of defective ECGs without software (ETS).

→ Page 5-20, 10-13

**IP Gateway KNX/BACnet N 143**

KNX-certified gateway for easy integration of KNX installations in BACnet systems. Configuration via ETS through the integrated KNXnet/IP interface.

→ Page 10-17, 13-17

**RMB795B**

Centralized operation of up to ten room groups using KNX room temperature controllers as well as evaluation and forwarding of request signals to the primary side.

→ Page 7-48

**RXB39.1/FC-13 room controller**

This room temperature controller is used for fan-coil systems in individual rooms.

→ Page 7-35

**RDF800KN**

This room thermostat offers touch screen-based control and switching of all room functions, including heating, cooling, ventilation and air conditioning.

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The worldwide standard for home and building control

KNX

# Gamma *instabus* – available in all DELTA product ranges

**Increased safety and comfort with maximum efficiency – enabled by the building control on the basis of the global KNX standard – and compatible with all DELTA programs.**

### DELTA miro color

Titanium white

Aluminum metallic

### DELTA style
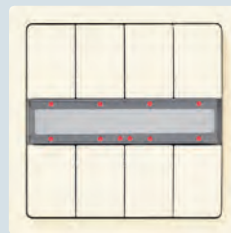
Titanium white

Platinum metallic

### DELTA line

Titanium white

Aluminum metallic

### DELTA miro Artist, Design Tom's Drag

Titanium white

Aluminum metallic

### DELTA miro glass

Crystal green/aluminum metallic

White/titanium white

Black/aluminum metallic

Orient/titanium white
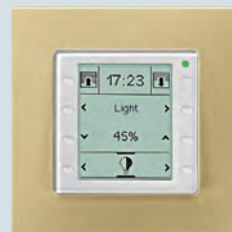
Arena/titanium white

### DELTA miro aluminum

Natural/aluminum metallic

Titanium/titanium white

Graphite/titanium white

Yellow oxide/titanium white

# Tools and apps

Siemens tools und apps help users not only plan new projects but also calculate potential energy savings by modernizing their building automation system. Using Siemens apps online and on your smart phone allows you to quickly find the right product and calculate a building's energy savings potential. This makes routine tasks easier and simpler and speeds up the search for suitable products.

## Gamma-TD



The Gamma-TD Web page contains 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. For more information about KNX products, please visit: **www.siemens.com/gamma-td**

## HIT – HVAC Integrated Tool
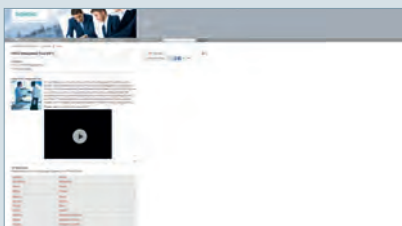


Supports the European energy efficiency standard EN 15232. This tool provides more than 300 preconfigured standard HVAC configurations classified according to their energy saving potential. This allows users to select the application that best matches their requirements. Documents linked to the applications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

## 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. For more information, please visit: **www.siemens.com/industrymall**

## Gamma Planner and Installer Tool

On the DIN Bau Portal you can access the Gamma Catalog from Siemens for building control products, compile product descriptions and specifications, and download them in multiple formats – online and as STLB Bau-compliant documents. The Siemens Gamma Planner Tool offers the same functionality for creating master building specifications that will stand up to inspections by building authorities. In addition, the Siemens Gamma Installer Tool allows you to quickly create complete tenders. For more information, please visit*: **www.din-bauportal.de/siemens**

*Available only in German

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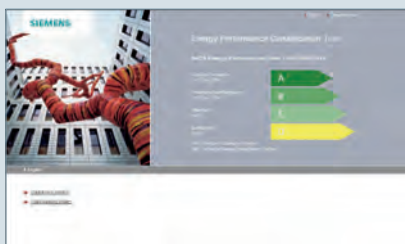
The EPC Tool helps users determine the actual state of an existing building automation system and rates it according to one of four efficiency classes (A through D). When the building automation system is upgraded, the EPC Tool can be used to determine the system's new efficiency class. In addition,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

## ETS – Engineering Tool Software

Engineering Tool Software (ETS) 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 with the KNX system. ETS 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. For more information, please visit: **www.knx.org**

## 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 for all your questions about KNX products:
**http://support.automation.siemens.com**
The SIOS also provides support for your questions and comments. The same product information and support features can also be accessed using the following app.

## Siemens Building Technologies Download Center – app for smart phones

The Download Center app allows you to download all brochures, instructions, specifications and datasheets published by the Siemens Building Technologies to your smart phone or tablet.

# Practical trainings and support

**KNX – a strong partner for your success**
KNX, the worldwide standard for home and building control, controls lighting, sun protection and temperature as well as energy management according to requirements and across all building trades. Installed by qualified building control technicians, the intelligent networking system by KNX offers completely new ways to increase energy efficiency, safety and convenience. Our certified training program provides you with comprehensive and solid knowledge about KNX. The Gamma training kit allows you to easily train yourself in the wide range of functions and applications as well as to consolidate your expertise and abilities – leading you step by step toward success.

**Practical learning made easy**
With our wide range of practical training courses 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 selection of courses and modules:
– KNX basic course
– KNX advanced course
– KNX/DALI diagnostics/troubleshooting
– Web visualization
– IP basics, KNXnet/IP
– Integrated applications
– Migrating from ETS3/4 to ETS5

**Putting theory into practice**
Our training courses offer a balanced mix of theory and practice and thus have an immediate bearing on your success. For more information, please visit: **www.siemens.com/sitrain-knx**

**Technical support**
Competent support for technical issues through a broad range of requirements-based services for our products and systems. For more information, please visit: **www.siemens.com/lowvoltage/technical-support**

# Synco – communicating HVAC controllers

**Synco™ 700 – versatile HVAC controller range of modular design**

Synco 700 manages the primary energy plant, controls and monitors the HVAC plant and communicates via KNX. Synco offers straightforward and efficient operation for maximum user and service friendliness. Pretested applications and energy saving functions come up to standard, allowing you to save time and costs during planning, engineering and commissioning. Custom configurations are easy to create. Thanks to their compact DIN design and the use of state-of-the-art spring-cage terminals, Synco 700 controllers save space and costs when mounted in control panels. The extension modules simply click onto the controllers.

**Maximum energy efficiency thanks to KNX and energy indicator**

The controllers exchange energy-related information via KNX, ensuring that units such as heating boilers, chillers or pumps are switched on only when required to maintain the required comfort level. This approach increases energy efficiency and helps attain efficiency class A as per EN 15232. The energy indicator monitors the settings made by end users, shows when limit values are exceeded and notifies occupants at regular intervals via remote access. A leaf symbol indicates the energy status based on the setting. Green means that the setting is energy-efficient; orange means the setting is unfavorable. Deviations are transparent and visible at any time. From a PC or smart phone, users can check their settings from anywhere and at any time via the Internet or the HomeControl app.

For more information, please visit:
**www.siemens.com/synco**

Synco supports the entire life cycle of small to medium-size buildings. Thanks to their modular design and open communication, the controllers can be extended and adapted at any time. This allows you to make investments in phases.

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| **numerics** | | | | |
| 4AC2402 | Electronic power supply units | 13-12 | B | 1 ST |
| 5TC7900 | Special base, accessory for AP 251 surface-mounting motion detectors, IP55, titanium white (similar to RAL9010) | 11-10 | A | 1 ST |
| 5TC7901 | Special base, accessory for AP 251 surface-mounting motion detectors, IP55, anthracite | 11-10 | A | 1 ST |
| 5TC7902 | IR remote control accessory for motion detectors AP 251 and 5TC721.. | 11-11 | A | 1 ST |
| 5TG1111-0 | Frame, DELTA miro color, plastic, titanium white (similar to RAL 9010), single | 1-29 | A | 1 ST |
| 5TG1111-1 | Frame, DELTA miro color, plastic, aluminum metallic (similar to RAL 9006), single | 1-29 | A | 1 ST |
| 5TG1111-2 | Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016), single | 1-30 | A | 1 ST |
| 5TG1112-0 | Frame, DELTA miro color, plastic, titanium white (similar to RAL 9010),Double | 1-29 | A | 1 ST |
| 5TG1112-1 | Frame, DELTA miro color, plastic, aluminum metallic (similar to RAL 9006), double | 1-29 | A | 1 ST |
| 5TG1112-2 | Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016), double | 1-30 | A | 1 ST |
| 5TG1113-0 | Frame, DELTA miro color, plastic, titanium white (similar to RAL 9010), triple | 1-29 | A | 1 ST |
| 5TG1113-1 | Frame, DELTA miro color, plastic, aluminum metallic (similar to RAL 9006), triple | 1-29 | A | 1 ST |
| 5TG1113-2 | Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016), triple | 1-30 | A | 1 ST |
| 5TG1114-0 | Frame, DELTA miro color, plastic, titanium white (similar to RAL 9010), quadruple | 1-29 | A | 1 ST |
| 5TG1114-1 | Frame, DELTA miro color, plastic, aluminum metallic (similar to RAL 9006), quadruple | 1-29 | A | 1 ST |
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| 5TG1115-0 | Frame, DELTA miro color, plastic, titanium white (similar to RAL 9010), quintuple | 1-29 | A | 1 ST |
| 5TG1115-1 | Frame, DELTA miro color, plastic, aluminum metallic (similar to RAL 9006), quintuple | 1-29 | A | 1 ST |
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| 5TG1121-1 | Frame, DELTA miro aluminum, real aluminum, titanium, single | 1-34 | X | 1 ST |
| 5TG1121-2 | Frame, DELTA miro aluminum, real aluminum, graphite, single | 1-35 | A | 1 ST |
| 5TG1121-3 | Frame, DELTA miro aluminum, real aluminum, yellow oxide, single | 1-35 | X | 1 ST |
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| 5TG1122-1 | Frame, DELTA miro aluminum, real aluminum, titanium, double | 1-34 | A | 1 ST |
| 5TG1122-2 | Frame, DELTA miro aluminum, real aluminum, graphite, double | 1-35 | A | 1 ST |
| 5TG1122-3 | Frame, DELTA miro aluminum, real aluminum, yellow oxide, double | 1-35 | A | 1 ST |
| 5TG1123-0 | Frame, DELTA miro aluminum, real aluminum, natural, triple | 1-34 | A | 1 ST |
| 5TG1123-1 | Frame, DELTA miro aluminum, real aluminum, titanium, triple | 1-34 | X | 1 ST |
| 5TG1123-2 | Frame, DELTA miro aluminum, real aluminum, graphite, triple | 1-35 | A | 1 ST |
| 5TG1123-3 | Frame, DELTA miro aluminum, real aluminum, yellow oxide, triple | 1-35 | X | 1 ST |
| 5TG1124-0 | Frame, DELTA miro aluminum, real aluminum, natural, quadruple | 1-34 | A | 1 ST |
| 5TG1124-1 | Frame, DELTA miro aluminum, real aluminum, titanium, quadruple | 1-34 | A | 1 ST |
| 5TG1124-2 | Frame, DELTA miro aluminum, real aluminum, graphite, quadruple | 1-35 | X | 1 ST |
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| 5TG1125-1 | Frame, DELTA miro aluminum, real aluminum, titanium, quintuple | 1-34 | X | 1 ST |
| 5TG1125-2 | Frame, DELTA miro aluminum, real aluminum, graphite, quintuple | 1-35 | A | 1 ST |
| 5TG1125-3 | Frame, DELTA miro aluminum, real aluminum, yellow oxide, quintuple | 1-35 | X | 1 ST |
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| 5TG1133-0 | Frames, Artist, Tom´s Drag, triple | 1-28 | B | 1 ST |

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| 5TG1201-1 | Frame, DELTA miro glass, real glass, white, single | 1-31 | X | 1 ST |
| 5TG1201-2 | Frame, DELTA miro glass, real glass, black, single | 1-32 | A | 1 ST |
| 5TG1201-3 | Frame, DELTA miro glass, real glass, orient, single | 1-32 | X | 1 ST |
| 5TG1201-4 | Frame, DELTA miro glass, real glass, arena, single | 1-33 | A | 1 ST |
| 5TG1202 | Frame, DELTA miro glass, real glass, crystal green, double | 1-31 | A | 1 ST |
| 5TG1202-1 | Frame, DELTA miro glass, real glass, white, double | 1-31 | A | 1 ST |
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| 5TG1203-1 | Frame, DELTA miro glass, real glass, white, triple | 1-31 | X | 1 ST |
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| 5TG1204 | Frame, DELTA miro glass, real glass, crystal green, quadruple | 1-31 | A | 1 ST |
| 5TG1204-1 | Frame, DELTA miro glass, real glass, white, quadruple | 1-31 | A | 1 ST |
| 5TG1204-2 | Frame, DELTA miro glass, real glass,  black, quadruple | 1-32 | X | 1 ST |
| 5TG1204-3 | Frame, DELTA miro glass, real glass, orient, quadruple | 1-32 | A | 1 ST |
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| 5TG1205-1 | Frame, DELTA miro glass, real glass, white, quintuple | 1-31 | X | 1 ST |
| 5TG1205-2 | Frame, DELTA miro glass, real glass, black, quintuple | 1-32 | A | 1 ST |
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| 5TG1321 | Frame, DELTA style, titanium white (similar to RAL 9010), single | 1-36 | A | 1 ST |
| 5TG1321-1 | Frame, DELTA style, platinum metallic, single | 1-37 | X | 1 ST |
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| 5TG1322-1 | Frame, DELTA style, platinum metallic, double | 1-37 | A | 1 ST |
| 5TG1323 | Frame, DELTA style, titanium white (similar to RAL 9010), triple | 1-36 | A | 1 ST |
| 5TG1323-1 | Frame, DELTA style, platinum metallic, triple | 1-37 | A | 1 ST |
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| 5TG1324-1 | Frame, DELTA style, platinum metallic, quadruple | 1-37 | A | 1 ST |
| 5TG1325 | Frame, DELTA style, titanium white (similar to RAL 9010), quintuple | 1-36 | A | 1 ST |
| 5TG1325-1 | Frame, DELTA style, platinum metallic, quintuple | 1-37 | A | 1 ST |
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| 5TG1328-1 | Intermediate frame, DELTA style, platinum metallic (similar to RAL 9007) | 1-37 | A | 1 ST |
| 5TG2551-0 | Frames, DELTA line, Titanium white (similar to RAL 9010), single | 1-23 | A | 1 ST |
| 5TG2551-1 | Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), single | 1-25 | A | 1 ST |
| 5TG2551-3 | Frames, DELTA line, aluminum metallic (similar to RAL 9006), single | 1-24 | A | 1 ST |
| 5TG2551-4 | Frames, DELTA line, with labeling field, aluminum metallic (similar to RAL 9006), single | 1-27 | A | 1 ST |
| 5TG2551-6 | Frames, DELTA line, carbon metallic (similar to RAL 7016), single | 1-24 | A | 1 ST |
| 5TG2551-7 | Frames, DELTA line, with labeling field, carbon metallic (similar to RAL 7016), single | 1-27 | A | 1 ST |
| 5TG2552-0 | Frames, DELTA line, Titanium white (similar to RAL 9010), double | 1-23 | A | 1 ST |
| 5TG2552-1 | Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), double, horizontal | 1-25 | A | 1 ST |
| 5TG2552-2 | Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), double, vertical | 1-25 | A | 1 ST |
| 5TG2552-3 | Frames, DELTA line, aluminum metallic (similar to RAL 9006), double | 1-24 | A | 1 ST |
| 5TG2552-4 | Frames, DELTA line, with labeling field, aluminum metallic (similar to RAL 9006), double, horizontal | 1-27 | A | 1 ST |

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| 5TG2553-0 | Frames, DELTA line, Titanium white (similar to RAL 9010), triple | 1-23 | A | 1 ST |
| 5TG2553-1 | Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), triple, horizontal | 1-25 | A | 1 ST |
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| 5TG2555-0 | Frames, DELTA line, Titanium white (similar to RAL 9010), quintuple | 1-23 | A | 1 ST |
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| 5TG2863 | Surface-mounting enclosure, for flush-mounting devices, DELTA line, electrical white, triple | 1-40 | A | 1 ST |
| 5TG2901 | Surface-mounting enclosure, for flush-mounting devices, DELTA line, DELTA style, titanium white, single | 1-40 | A | 1 ST |
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| S55770-T104 | Semi Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment | 1-44 | C | 1 ST |
| S55770-T105 | Semi Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment, four buttons for switching lights and blinds | 1-44 | D | 1 ST |
| S55770-T106 | Semi Flush-mount room thermostat for rectangular conduit box with KNX communications, for VAV application | 1-45 | A | 1 ST |
| S55770-T137 | Conduit box 75 x 75 x 51 mm | 1-46 | A | 1 ST |
| S55770-T163 | Room thermostat with KNX communications, AC 230 V, for fan coil units and universal applications | 1-47 | A | 1 ST |
| S55770-T165 | Room thermostat with KNX communications, AC 24 V, VAV heating and cooling systems | 1-49 | A | 1 ST |
| S55770-T293 | Semi Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment | 1-44 | A | 1 ST |
| S55770-T297 | 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) | 1-48 | A | 1 ST |
| S55770-T325 | Condensation monitor, AC/DC 24 V | 11-30 | A | 1 ST |
| S55770-T326 | Condensation monitor, AC/DC 24 V, with remote sensor head (cable length 1.5 m) | 11-30 | A | 1 ST |
| S55770-T334 | Hotel Semi Flush-mount room thermostat with KNX, 2-/4-pipe fan coils or DX type equipment, four buttons hotel functions | 1-44 | B | 1 ST |
| S55770-T350 | Touch screen room thermostat with KNX communications, for 2-/4- pipe fan coil, universal applications or compressors in DX-type equipment | 1-43 | A | 1 ST |
| S55800-Y100 | Commissioning and plant operating software | 7-62 | C | 1 ST |
| S55842-Z101 | Radio frequency receiver with Gateway EnOcean/KNX | 10-21 | A | 1 ST |

NEW PRODUCTS

**1**

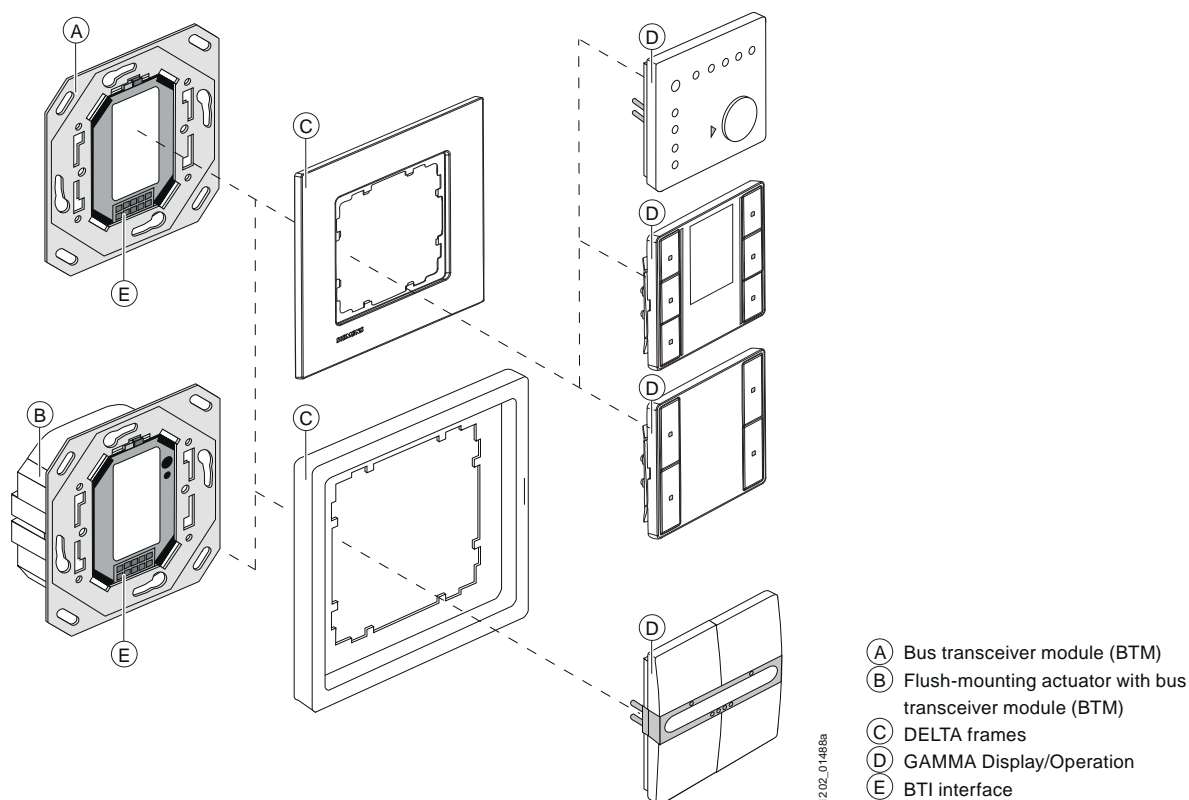Display and Operation Units
**Overview and selection guides**
**Pushbuttons bus transceiver module (BTM)**

**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.
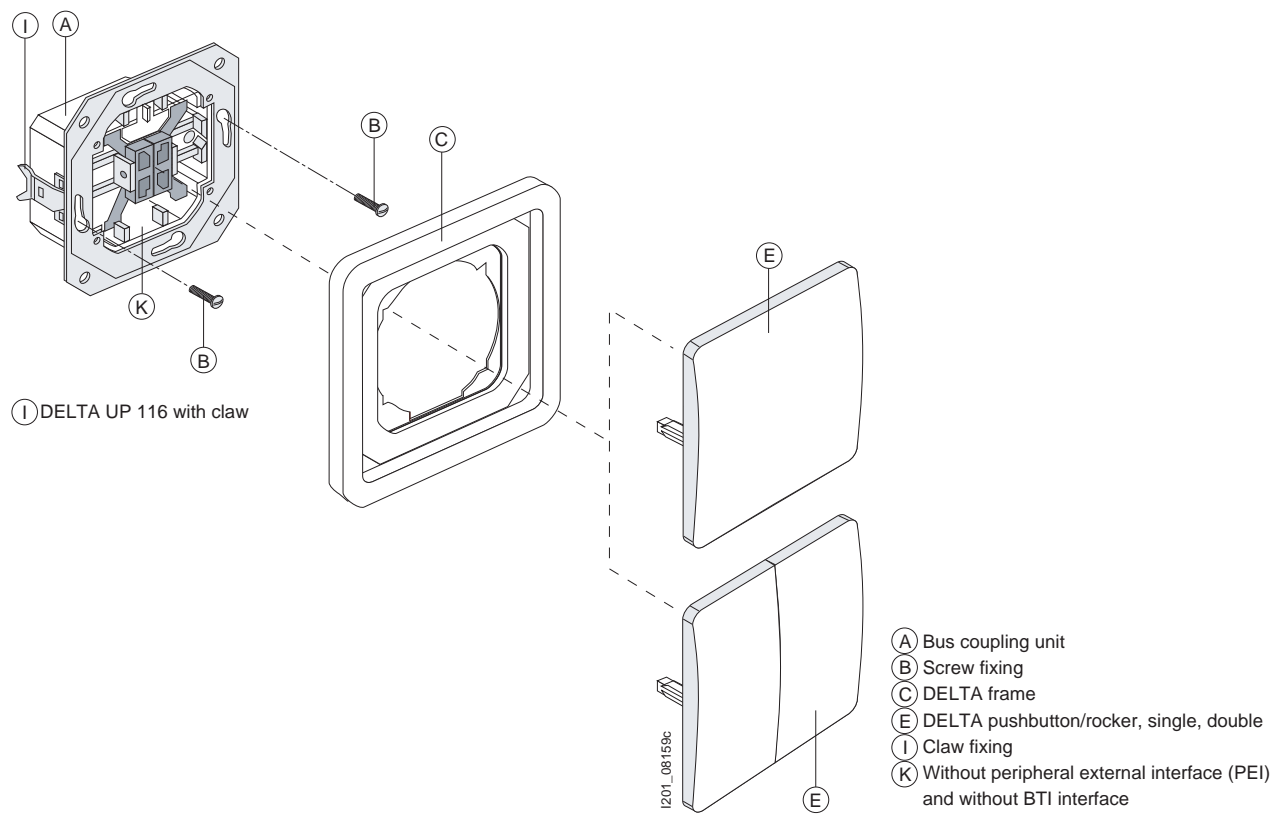
Implementation of the BTI interface (Bus Transceiver Interface) with the bus transceiver module (BTM) ensures maximum flexibility and an impressive range of functions. Bus coupling units (BTM) and flush-mounting actuators with integrated bus transceiver modules (BTM) enable the use of Gamma display/operator interfaces, such as pushbuttons, text displays, 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/profil 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.



A Bus transceiver module (BTM)
B Flush-mounting actuator with bus transceiver module (BTM)
C DELTA frames
D GAMMA Display/Operation
E BTI interface

i202_01488a

**1**

Display and Operation Units
**Overview and selection guides**
**Pushbuttons for DELTA bus coupling units**

**Operator interfaces with DELTA bus coupling unit**



Ⓘ DELTA UP 116 with claw

Ⓐ Bus coupling unit
Ⓑ Screw fixing
Ⓒ DELTA frame
Ⓔ DELTA pushbutton/rocker, single, double
Ⓘ Claw fixing
Ⓚ Without peripheral external interface (PEI)
and without BTI interface

I201_08159c

**1**

Display and Operation Units
## Overview and selection guides
## Pushbuttons with IR receiver decoder
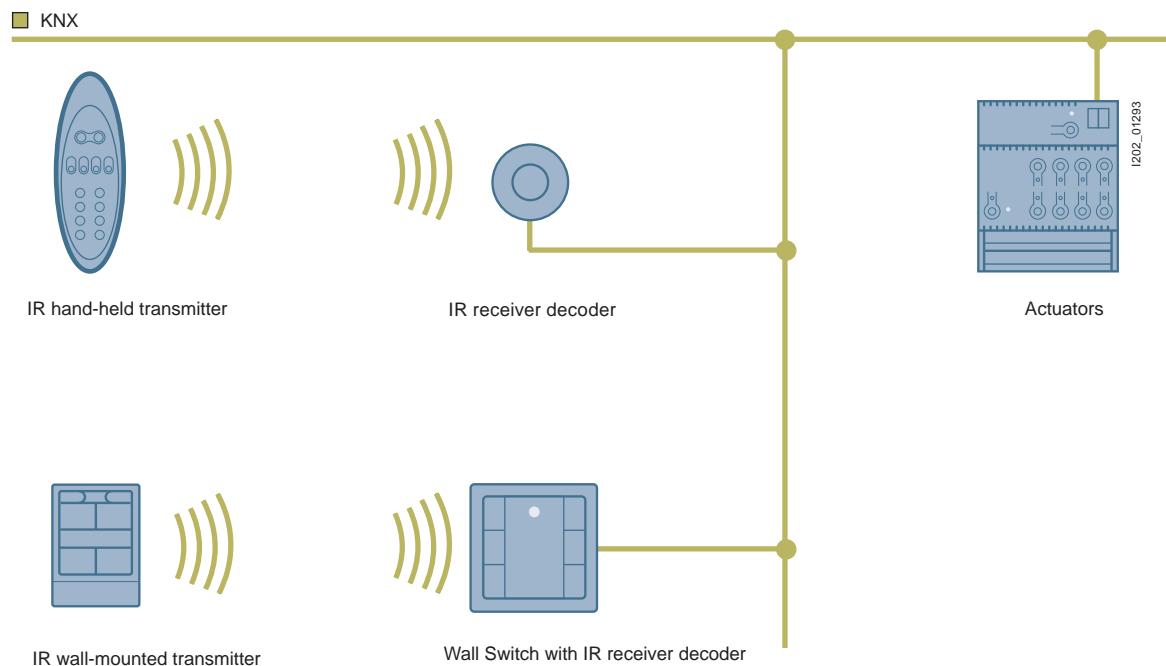
### Overview IR products

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 countri

### 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.)

☐ KNX

IR hand-held transmitter          IR receiver decoder          Actuators

IR wall-mounted transmitter       Wall Switch with IR receiver decoder

*System overview of IR products*

## IP Control Center, N152

The IP Control Center N 152 permits comfortable remote operation of KNX plants including lighting, solar protection, or heating/ventilation/air conditioning using web-capable operator units. Intuitive user and display interfaces can be individually designed for PCs, notebooks, tablets or smartphones using the compact visualization controller. Up to 250 values and states are available for various building and room functions as well as powerful application modules including yearly schedulers, scene control, logic functions, or alarm messages with email notifications.

The display of any WEB content including notifications or weather forecasts is possible. IP cameras can be integrated in the display. Graphical engineering via the integrated web editor is easy and does not require additional software. A comprehensive library is available to design operating or display elements in six different styles. Building views and floor plans can be displayed as wallpaper. The integrated KNX interface saves money commissioning KNX plants and remote servicing of the plant is possible using an additional router.

An easy-to-understand sample project for the IP Control Center is available for download.



1-5
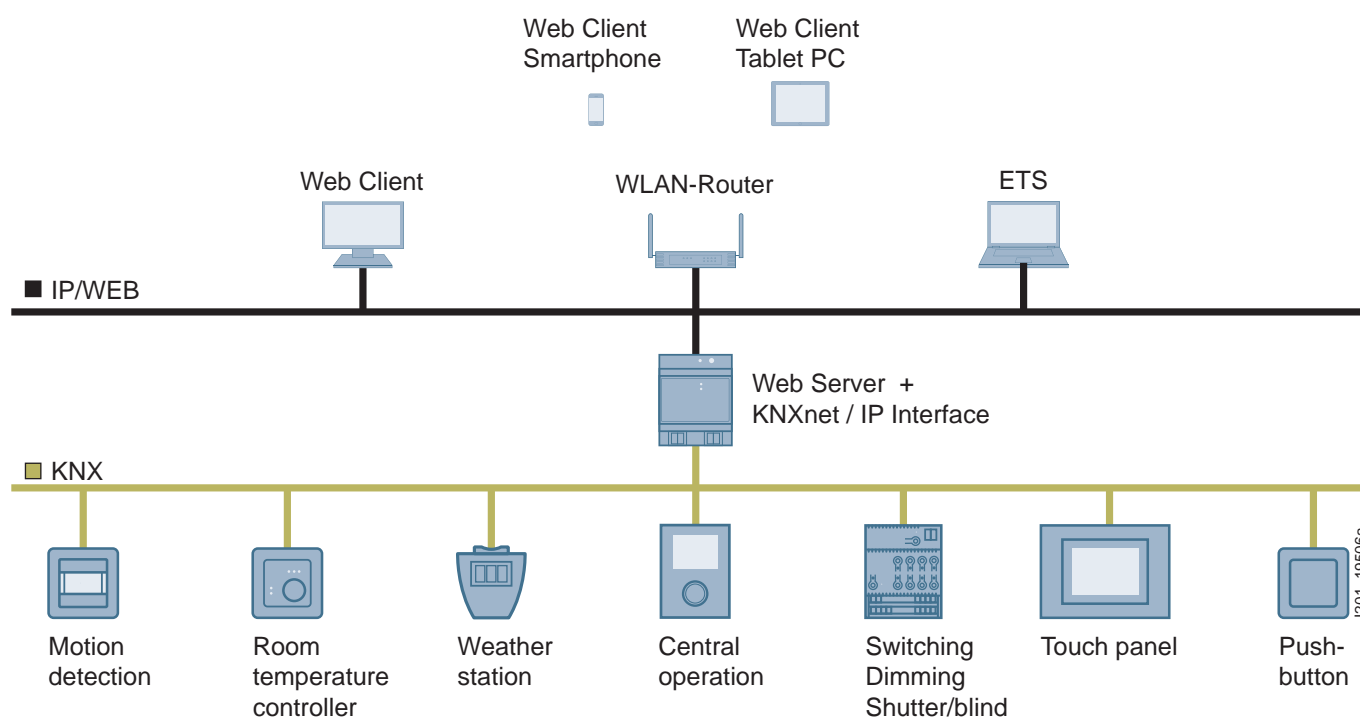
## Display and Operation Units
# Overview and selection guides
# Visualization, software
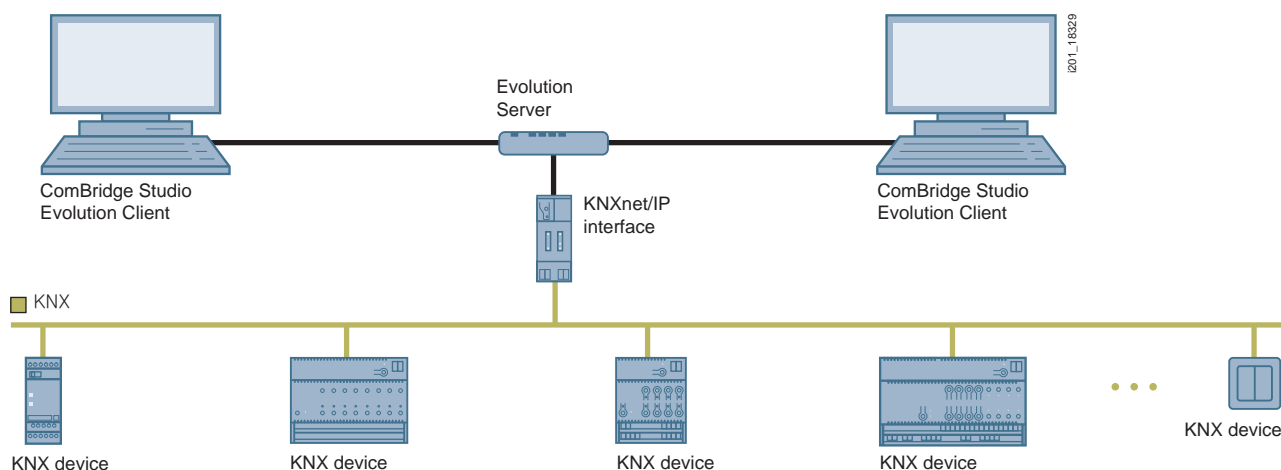
**Overview ComBridge Studio Evolution**



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 consumption data can be evaluated directly from KNX counters, such as Siemens energy counters (see Chapter Counters).

Another huge advantage is that it is operating system-independent ComBridge Studio Evolution is configured directly on the ComBridge Studio Evolution server. The application tool is a standard browser in connection with Adobe Flash Player. Adobe Flash Player can be downloaded free from the Internet.

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

| Pushbutton | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **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[1]** | 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 | | | | | | | ■ | | | | | | | | ■ | |
| **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 | | ■ | | ■ | | ■ | ■ | ■ | | ■ | | ■ | | ■ | ■ | ■ |

[1] For current application programs, see www.siemens.com/gamma-td.

## Technical specifications
### Pushbuttons with IR receiver decoder

| Pushbuttons with IR receiver decoder | | |
|---|---|---|
| Design | i-system | DELTA style |
| Type | UP 223/..5 | UP 287/..5 |
| Application program[1] | 909301 | |
| **Enclosure data** | | |
| **Dimensions** | | |
| • Width [mm] | 55 | 68 |
| • Height [mm] | 55 | 68 |
| • Depth [mm] | 11 | 14 |
| **Display/control elements** | | |
| Individual pushbuttons | 6 | 8 |
| Pushbutton pairs | 3 | 4 |
| Operation (v: vertical, h: horizontal) | h | v |
| LED per pushbutton pair for status indication | 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 |
| **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 |
| 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 LED | ■ | ■ |

[1] For current application programs, see www.siemens.com/gamma-td

| Pushbuttons for DELTA bus coupling units | | | | |
|---|---|---|---|---|
| Type | UP 116/01 | UP 116/11 | UP 116/21 | UP 116/31 |
| | | | | |
| Application program[1] | 211001 | 221001 | 210F01 | 220F01 |
| **Enclosure data** | | | | |
| For installation in flush-mounting switch and socket boxes with Ø = 60 mm | ■ | ■ | ■ | ■ |
| **Dimensions** | | | | |
| • Width [mm] | 71 | 71 | 71 | 71 |
| • Height [mm] | 71 | 71 | 71 | 71 |
| • Depth [mm] | 32 | 32 | 32 | 32 |
| **Mounting type** | | | | |
| Claw fixing | ■ | ■ | ■ | ■ |
| Screw fixing | ■ | ■ | ■ | ■ |
| **Display/control elements** | | | | |
| LED per pushbutton pair for status indication or configurable as orientation light | 1 | 1 | 1 | 1 |
| Mounting of rockers from the DELTA product ranges | ■ | ■ | ■ | ■ |
| Rocker button, intermediate position (pushbutton with 2 operating points) | 1 | 2 | | |
| Rocker button, pushbutton position (pushbutton with 1 operating point) | | | 1 | 2 |
| **Bus connection** | | | | |
| Integrated bus coupling units | ■ | ■ | ■ | ■ |
| **General functions** | | | | |
| Max. number of group addresses | 4 | 8 | 3 | 4 |
| Max. number of assignments | 4 | 8 | 3 | 5 |
| **Input functions** | | | | |
| **Switching** | | | | |
| Switching ON/OFF | ■ | ■ | ■ | ■ |
| Switching OVER | ■ | ■ | ■ | ■ |
| **Dimming** | | | | |
| Dimming with stop telegram (4-bit) Short button press, ON/OFF Long button press, BRIGHTER/DARKER | ■ | ■ | | ■ |
| Dimming with cyclic transmission (4-bit) Short button press, ON/OFF Long button press, BRIGHTER/DARKER | ■ | ■ | | ■ |
| **Shutter/blind** | | | | |
| Shutter/blind control Short button press, slat OPEN/CLOSED or STOP Long button press, UP/DOWN | ■ | ■ | | ■ |
| **Scene** | | | | |
| Store and call up scene, 1-bit in conjunction with scene module | 1 | 2 | | |
| Short or long button press (store/call up scene), configurable | ■ | ■ | | |
| **Status** | | | | |
| Display of any status objects (1-bit) | ■ | | | |
| Display of pushbutton objects | ■ | | ■ | ■ |

[1] For current application programs, see www.siemens.com/gamma-td.

## Technical specifications
### Surface-mounting pushbuttons, IP44

| Surface-mounting pushbuttons, IP44 | | | | |
|---|---|---|---|---|
| Type | AP 115/01 | AP 115/11 | AP 115/21 | AP 115/31 |
| Application program[1] | 211001 | 221001 | 210F01 | 220F01 |
| **Enclosure data** | | | | |
| Surface-mounting enclosures | ■ | ■ | ■ | ■ |
| Degree of protection | IP44 | IP44 | IP44 | IP44 |
| **Dimensions** | | | | |
| • Width [mm] | 66 | 66 | 66 | 66 |
| • Height [mm] | 75 | 75 | 75 | 75 |
| • Depth [mm] | 52 | 52 | 52 | 52 |
| **Display/control elements** | | | | |
| LED per pushbutton pair for status indication or configurable as orientation light | 1 | | 1 | |
| Rocker button, intermediate position (pushbutton with 2 operating points) | 1 | 2 | | |
| Rocker button, pushbutton position (pushbutton with 1 operating point) | | | 1 | 2 |
| **Bus connection** | | | | |
| Integrated bus coupling units | ■ | ■ | ■ | ■ |
| **General functions** | | | | |
| Max. number of group addresses | 4 | 8 | 3 | 4 |
| Max. number of assignments | 4 | 8 | 3 | 5 |
| **Input functions** | | | | |
| **Switching** | | | | |
| Switching ON/OFF | ■ | ■ | ■ | ■ |
| Switching OVER | ■ | ■ | ■ | ■ |
| **Dimming** | | | | |
| Dimming with stop telegram (4-bit) Short button press, ON/OFF Long button press, BRIGHTER/DARKER | ■ | ■ | | ■ |
| Dimming with cyclic transmission (4-bit) Short button press, ON/OFF Long button press, BRIGHTER/DARKER | ■ | ■ | | ■ |
| **Shutter/blind** | | | | |
| Shutter/blind control Short button press, slat OPEN/CLOSED or STOP Long button press, UP/DOWN | ■ | ■ | | ■ |
| **Scene** | | | | |
| Store and call up scene, 1-bit in conjunction with scene module | 1 | 2 | | |
| Short or long button press (store/call up scene), configurable | ■ | ■ | | |
| **Status** | | | | |
| Display of any status objects (1-bit) | ■ | | | |
| Display of pushbutton objects | ■ | | ■ | ■ |

[1] For current application programs, see www.siemens.com/gamma-td

## Room control units

| Type | RDG100KN | RDG160KN | RDG400KN | RDF800KN | RDF600KN | RDF301 | RDF301.50 | RDF301.50H | RDU341 | UP 237 K i-system | UP 254 K DELTA style |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Design** | | | | | | | | | | | |
| Wall mounted | ■ | ■ | ■ | | | | | | | | |
| Semi-Flush Mounted | | | | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Flush Mounted | | | | | | | | | | ■ | ■ |
| for VDE/CEE box | | | | ✪ | ✪ | | | | | ■ | ■ |
| for British Standard box | | | | ■ | ■ | ✪ | ■ | ■ | ■ | | |
| **Housing** | | | | | | | | | | | |
| Digital display | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Touch Screen Display | | | | ✪ | | | | | | | |
| LED indicators | | | | | | | | | | ■ | ■ |
| Setpoint knob | ■ | ■ | ■ | | | | | | | ■ | ■ |
| Operating mode button | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | | ■ | |
| Fan speed button | ■ | ■ | | | ■ | ■ | ■ | ■ | | | |
| Buttons for light and blind control | | | | | | | ✪ | | | | |
| Button for Hotel application | | | | | | | | ✪ | | | |
| **Bus connection** | | | | | | | | | | | |
| Integrated bus coupling units | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| For plugging onto a bus coupling units (BTM) | | | | | | | | | | ■ | ■ |
| **Power supply** | | | | | | | | | | | |
| Bus-powered electronic | | | | | | | | | | ■ | ■ |
| Terminal voltage AC 230 V | ■ | | | ■ | ■ | ■ | ■ | ■ | | | |
| Terminal voltage AC 24 V | | ■ | ■ | | | | | | ■ | | |
| **Integrated room temperature sensor** | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Inputs** | | | | | | | | | | | |
| Multifunctional inputs digital/analog | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| **Outputs** | | | | | | | | | | | |
| ON/OFF (PWM) Triac (H/C) | ■ | | ■ | | | | | | | | |
| ON/OFF Relay (H/C) | | ■ | | ■ | ✪ | ✪ | ■ | ■ | ■ | | |
| Analog outputs DC 0..10V (H/C) | | ✪ | ■ | | | | | | ■ | | |
| 3-stage Relay (fan) | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | | | |
| Analog DC 0..10 V (fan) | | ✪ | | | | | | | | | |
| **Applications** | | | | | | | | | | | |
| Fancoil 2-/4-pipe | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | | | |
| Fancoil with electrical heater | ■ | ■ | | ■ | ■ | ■ | ■ | | | | |
| Fancoil with Radiator | ■ | ■ | | | | | | | | | |
| Heating / Cooling 2-/4-pipe | ■ | ■ | | ■ | | | | | | ■ | ■ |
| Heat Pump System | | ■ | | ■ | ■ | ■ | ■ | | | ■ | ■ |
| Variable Air Volume (VAV) | | | ■ | | | | | | ■ | | |
| VAV with electrical heater | | | ■ | | | | | | ■ | | |
| VAV with radiator / Heat-Cool coil | | | ■ | | | | | | | | |
| **Functionalities** | | | | | | | | | | | |
| 2-position control | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Modulating control | ■ | ■ | ■ | ■2) | ■2) | ■2) | ■2) | ■2) | ■ | ■ | ■ |
| 2-stage control sequence for heating or cooling | ■ | ■ | | ■1) | ■1) | ■1) | ■1) | ■1) | | ■ | ■ |
| **Operating mode** | | | | | | | | | | | |
| Comfort | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Pre-Comfort | | | | | | | | | | ■ | ■ |
| Economy | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Protection | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Manual / Auto operating mode | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |

1) only for 2-stage heating

2) modulating output only for 2-pipe applications

■ valid for all variants  ✪ main feature

## Multifunction devices, wall mounted



| Type | P34 | P74 | P02 | P37 |
|---|:---:|:---:|:---:|:---:|
| **Design** | | | | |
| Wall mounted | ■ | ■ | ■ | ■ |
| **Display / operating** | | | | |
| LCD display with 8 capacitive keys | ■ | ■ | | ■ |
| 8 capacitive keys with LED, parameterizable or 4 two-button keys | | | ■ | ■ |
| **Sensor** | | | | |
| Temperatur | ■ | ■ | ■ | ■ |
| Humidity | | ■ | | |
| Air quality | | ■ | | |
| **Bus interface** | | | | |
| integrated bus coupling unit | ■ | ■ | ■ | ■ |
| **Function** | | | | |
| Setpoint | ■ | ■ | | ■ |
| Plant mode | ■ | ■ | | ■ |
| Room temperatur | ■ | ■ | | ■ |
| Room humidity | ■ | ■ | | ■ |
| Room air quality | ■ | ■ | | ■ |
| Fan speed | ■ | ■ | | ■ |
| Occupancy | ■ | ■ | | ■ |
| Switching, light | | | ■ | ■ |
| Dimming, light | | | ■ | ■ |
| Blinds | | | ■ | ■ |
| Scene, up to 8 | | | ■ | ■ |
| State indication on LED | | | ■ | ■ |
| **Controlling** | | | | |
| Controller enable /disable | ■ | ■ | ■ | ■ |
| PID controller for heating and/or cooling | ■ | ■ | ■ | ■ |
| Threshold controller for humidity | ■ | ■ | ■ | ■ |
| Threshold controller for air quality | ■ | ■ | ■ | ■ |

[1]Air quality indication on LED

## Pushbutton, i-system UP 22..

| Dimensions (W x H x D) | 55 x 55 x 11 mm |
|---|---|

### Range overview UP 22..

| Product Title | Stock No. | Product No. |
|---|---|---|
| Pushbutton, single, without status LED, titanium white | 5WG1221-2DB12 | **UP 221/12** |
| Pushbutton, single, with status LED, titanium white | 5WG1221-2DB13 | **UP 221/13** |
| Pushbutton, single, without status LED, aluminum metallic | 5WG1221-2DB32 | **UP 221/32** |
| Pushbutton, single, with status LED, aluminum metallic | 5WG1221-2DB33 | **UP 221/33** |
| Pushbutton, double, without status LED, titanium white | 5WG1222-2DB12 | **UP 222/12** |
| Pushbutton, double, with status LED, titanium white | 5WG1222-2DB13 | **UP 222/13** |
| Pushbutton, double, without status LED, aluminum metallic | 5WG1222-2DB32 | **UP 222/32** |
| Pushbutton, double, with status LED, aluminum metallic | 5WG1222-2DB33 | **UP 222/33** |
| Pushbutton, triple, without status LED, titanium white | 5WG1223-2DB12 | **UP 223/12** |
| Pushbutton, triple, with status LED, titanium white | 5WG1223-2DB13 | **UP 223/13** |
| Pushbutton, triple, without status LED, aluminum metallic | 5WG1223-2DB32 | **UP 223/32** |
| Pushbutton, triple, with status LED, aluminum metallic | 5WG1223-2DB33 | **UP 223/33** |

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 room temperature sensor, i-system UP 223/..4

| Dimensions (W x H x D) | 55 x 55 x 11 mm |
|---|---|

### Range overview UP 223/4

| Product Title | Stock No. | Product No. |
|---|---|---|
| Wall switch, triple, with status LED, neutral, with scene controller, with room temperature sensor, DELTA i-system, titanium white | 5WG1223-2AB14 | **UP 223/14** |
| Wall switch, triple, with status LED, neutral, with scene controller, with room temperature sensor, DELTA i-system, aluminum metallic | 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.

## Pushbuttons
## Pushbuttons bus transceiver module (BTM)

**UP 223/..5**        **Pushbutton with scene controller and IR receiver decoder, i-system**

Dimensions (W x H x D)        55 x 55 x 11 mm

### Range overview UP 223/..5

| Product Title | Stock No. | Product No. |
|---|---|---|
| Pushbutton, triple, with status LED, with scene controller, with IR receiver decoder, titanium white | 5WG1223-2DB15 | **UP 223/15** |
| Pushbutton, triple, with status LED, with scene controller, with IR receiver decoder, aluminum metallic | 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.

**UP 28..**        **Pushbutton, DELTA style**

Dimensions (W x H x D)        68 x 68 x 14 mm

### Range overview UP 28..

| Product Title | Stock No. | Product No. |
|---|---|---|
| Pushbutton, single, without status LED, titanium white | 5WG1285-2DB12 | **UP 285/12** |
| Pushbutton, single, with status LED, titanium white | 5WG1285-2DB13 | **UP 285/13** |
| Pushbutton, single, without status LED, platinum metallic | 5WG1285-2DB42 | **UP 285/42** |
| Pushbutton, single, with status LED, platinum metallic | 5WG1285-2DB43 | **UP 285/43** |
| Pushbutton, double, without status LED, titanium white | 5WG1286-2DB12 | **UP 286/12** |
| Pushbutton, double, with status LED, titanium white | 5WG1286-2DB13 | **UP 286/13** |
| Pushbutton, double, without status LED, platinum metallic | 5WG1286-2DB42 | **UP 286/42** |
| Pushbutton, double, with status LED, platinum metallic | 5WG1286-2DB43 | **UP 286/43** |
| Pushbutton, quadruple, without status LED, titanium white | 5WG1287-2DB12 | **UP 287/12** |
| Pushbutton, quadruple, with status LED, titanium white | 5WG1287-2DB13 | **UP 287/13** |
| Pushbutton, quadruple, without status LED, platinum metallic | 5WG1287-2DB42 | **UP 287/42** |
| Pushbutton, quadruple, with status LED, platinum metallic | 5WG1287-2DB43 | **UP 287/43** |

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 room temperature sensor, DELTA style — UP 287/..4

| Dimensions (W x H x D) | 68 x 68 x 14 mm |
|---|---|
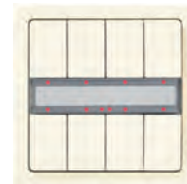
### Range overview UP 287/..4

| Product Title | Stock No. | Product No. |
|---|---|---|
| Wall switch, quadruple, with status LED, neutral, DELTA style, titanium white | 5WG1287-2AB14 | **UP 287/14** |
| Wall switch, quadruple, with status LED, neutral, DELTA style, platinum metallic | 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

| Dimensions (W x H x D) | 68 x 68 x 14 mm |
|---|---|

### Range overview UP 287/..5

| Product Title | Stock No. | Product No. |
|---|---|---|
| Pushbutton, quadruple, with status LED, with scene controller, with IR receiver decoder, titanium white | 5WG1287-2DB15 | **UP 287/15** |
| Pushbutton, quadruple, with status LED, with scene controller, with IR receiver decoder, platinum metallic | 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.

# IR-System
## Pushbuttons IR receiver decoder

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**UP 223/..5**

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

Dimensions (W x H x D)          55 x 55 x 11 mm

### Range overview UP 223/..5

| Product Title | Stock No. | Product No. |
|---|---|---|
| Pushbutton, triple, with status LED, with scene controller, with IR receiver decoder, titanium white | 5WG1223-2DB15 | **UP 223/15** |
| Pushbutton, triple, with status LED, with scene controller, with IR receiver decoder, aluminum metallic | 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.

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**UP 287/..5**

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

Dimensions (W x H x D)          68 x 68 x 14 mm

### Range overview UP 287/..5

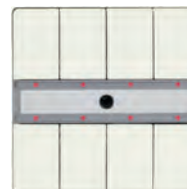| Product Title | Stock No. | Product No. |
|---|---|---|
| Pushbutton, quadruple, with status LED, with scene controller, with IR receiver decoder, titanium white | 5WG1287-2DB15 | **UP 287/15** |
| Pushbutton, quadruple, with status LED, with scene controller, with IR receiver decoder, platinum metallic | 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.

## IR remote, silver

**S 425/72**

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

Dimensions (W x H x D)                55 x 154 x 24 mm

The 2 batteries of type LR03/AAA (1.5 V) required for operation are included in delivery.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1425-7AB72 | **S 425/72** |

## IR wall switch, titanium white

**AP 42../13**

- For wireless control of actuators via infrared signals, e.g. for switching On/Off/Over, dimming, value transmission, shutter/blind control or call up/store scenes
- 1 LED for control of transmission and battery
- Red LED cover
- DIP switches for selection of the channel number (1...64)
- Infrared wave length: 890 nm
- Infrared frequency: 455 kHz
- Transmitter range: 8 m, non-directional
- Power supply by two commercially available 1.5 V batteries type Alkaline LR03/AAA
- Mounting frame for mounting on a flush-mounting wall box, on a wall surface or with adhesive tape on an even surface

Dimensions (W x H x D)                82 x 115 x 21 mm

### Range overview  AP 42../13

| Product Title | Stock No. | Product No. |
|---|---|---|
| IR wall switch, single, titanium white | 5WG1420-3AB13 | **AP 420/13** |
| IR wall switch, double, titanium white | 5WG1421-3AB13 | **AP 421/13** |
| IR wall switch, quadruple, titanium white | 5WG1422-3AB13 | **AP 422/13** |

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

**S 450/03**

### IR Receiver decoder



- For receiving IR signals transmitted from IR wall-mounted transmitters or 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, such as a 5WG1 590-8AH01 programming magnet

Dimensions (W x H x D)          25 x 26 x 75 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1450-7AB03 | **S 450/03** |

The programming magnet must be ordered separately.

**S 590H01**

### Programming magnet for IR receiver decoders

Programming magnet for S 450 IR receiver decoders

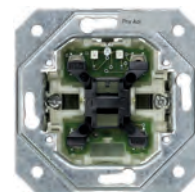| | Stock No. | Product No. |
|---|---|---|
| | 5WG1590-8AH01 | **S 590H01** |

## DELTA Bus coupling unit

**UP 116..**

- For installation in flush-mounting switch and socket boxes with diameter = 60 mm, for Screw fixing and prepared for Claw fixing
- LED per pushbutton pair for status indication or configurable as orientation light
- Mounting of rockers from the DELTA product ranges
- Integrated bus coupling units, bus connection via bus terminal

Dimensions (W x H x D)          71 x 71 x 32 mm

### DELTA bus coupling unit, single, intermediate position, with 2 LEDs

**UP 116/01**

- One Rocker button, intermediate position (pushbutton with 2 operating points)
- The following functions can be assigned per operating point as required:
- Switching on/off/over
- Dimming with stop telegram (4-bit) Short button press, on/off Long button press, brighter/darker
- Dimming with cyclic transmission (4-bit) Short button press, on/off Long button press, brighter/darker
- Shutter/blind control Short button press, slat open/closed or stop Long button press, up/down
- Store and call up scene, 1-bit in conjunction with scene module
- Short or long button press (store/call up scene), configurable
- Display of any status objects (1-bit)
- Display of pushbutton objects

The required single or multiple rocker (with or without window) must be ordered separately.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1116-2AB01 | **UP 116/01** |

### DELTA bus coupling unit, single, pushbutton position, with 2 LEDs

**UP 116/21**

- One Rocker button, pushbutton position (pushbutton with 1 operating point)
- Optional assigned functions Switching on/off/over
- Display of pushbutton objects

The required single or multiple rocker (with or without window) must be ordered separately.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1116-2AB21 | **UP 116/21** |

### DELTA bus coupling unit, double, intermediate position, with 2 LEDs

**UP 116/11**

- Two Rocker button, intermediate position (pushbutton with 2 operating points)
- The following functions can be assigned per operating point as required:
- Switching on/off/over
- Dimming with stop telegram (4-bit) Short button press, on/off Long button press, brighter/darker
- Dimming with cyclic transmission (4-bit) Short button press, on/off Long button press, brighter/darker
- Shutter/blind control Short button press, slat open/closed or stop Long button press, up/down
- Store and call up scene, 1-bit in conjunction with scene module
- Short or long button press (store/call up scene), configurable

The required single or multiple rocker (with or without window) must be ordered separately.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1116-2AB11 | **UP 116/11** |

| UP 116/31 | **DELTA bus coupling unit, double, pushbutton position, with 2 LEDs** |



- Two Rocker button, pushbutton position (pushbutton with 1 operating point)
- The following functions can be assigned per operating point as required:
- Switching on/off/over
- Dimming with stop telegram (4-bit) Short button press, on/off Long button press, brighter/darker
- Dimming with cyclic transmission (4-bit) Short button press, on/off Long button press, brighter/darker
- Shutter/blind control Short button press, slat open/closed or stop Long button press, up/down
- Display of pushbutton objects

The required single or multiple rocker (with or without window) must be ordered separately.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1116-2AB31 | **UP 116/31** |

### Accessories for UP 116..

| Product Title | Stock No. | Product No. |
|---|---|---|
| Sealing sets for rockers, IP44,  for single or double rockers | 5TG4324 | **5TG4324** |
| One set contains four insert seals | | |

## Surface-mounting pushbuttons IP44 {#ap-115}

AP 115..

- Surface-mounting enclosures, Degree of protection IP44
- Switching on/off/over
- Integrated bus coupling units

Dimensions (W x H x D)          66 x 75 x 52 mm

## Surface-mounting pushbuttons IP44

AP 115/01

- LED for status indication or configurable as orientation light
- Single, pushbutton position
- Dimming with stop telegram (4-bit) Short button press, on/off Long button press, brighter/darker
- Dimming with cyclic transmission (4-bit) Short button press, on/off Long button press, brighter/darker
- Shutter/blind control Short button press, slat open/closed or stop Long button press, up/down
- Store and call up scene, 1-bit in conjunction with scene module

| Stock No. | Product No. |
|---|---|
| 5WG1115-3AB01 | **AP 115/01** |

## Surface-mounting pushbuttons IP44

AP 115/11

- Double, middle position
- Dimming with stop telegram (4-bit) Short button press, on/off Long button press, brighter/darker
- Dimming with cyclic transmission (4-bit) Short button press, on/off Long button press, brighter/darker
- Shutter/blind control Short button press, slat open/closed or STOP Long button press, up/down
- Store and call up 2 scene, 1-bit in conjunction with scene module

| Stock No. | Product No. |
|---|---|
| 5WG1115-3AB11 | **AP 115/11** |

## Pushbutton, single, pushbutton position, 1 LED, IP 44, gray

AP 115/21

- LED for status indication or configurable as orientation light
- Single, pushbutton position

| Stock No. | Product No. |
|---|---|
| 5WG1115-3AB21 | **AP 115/21** |

| AP 115/31 | Pushbutton, double, pushbutton position, IP 44, gray |



- Double, middle position
- Dimming with stop telegram (4-bit) Short button press, on/off Long button press, brighter/darker
- Dimming with cyclic transmission (4-bit) Short button press, on/off Long button press, brighter/darker
- Shutter/blind control Short button press, slat open/closed or STOP Long button press, up/down

| | Stock No. | Product No. |
| --- | --- | --- |
| | 5WG1115-3AB31 | **AP 115/31** |

## Frames, DELTA line, Titanium white (similar to RAL 9010)                    5TG255..-0

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 | **5TG25510** |
| Frames, DELTA line, Titanium white (similar to RAL 9010), double | 151 x 80 mm | 5TG2552-0 | **5TG25520** |
| Frames, DELTA line, Titanium white (similar to RAL 9010), triple | 222 x 80 mm | 5TG2553-0 | **5TG25530** |
| Frames, DELTA line, Titanium white (similar to RAL 9010), quadruple | 293 x 80 mm | 5TG2554-0 | **5TG25540** |
| Frames, DELTA line, Titanium white (similar to RAL 9010), quintuple | 364 x 80 mm | 5TG2555-0 | **5TG25550** |

## Frames, DELTA line, Electrical white (similar to RAL 1013)                    5TG258..-0

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 | **5TG25810** |
| Frames, DELTA line, electrical white (similar to RAL 1013), double | 151 x 80 mm | 5TG2582-0 | **5TG25820** |
| Frames, DELTA line, electrical white (similar to RAL 1013), triple | 222 x 80 mm | 5TG2583-0 | **5TG25830** |
| Frames, DELTA line, electrical white (similar to RAL 1013),quadruple | 293 x 80 mm | 5TG2584-0 | **5TG25840** |
| Frames, DELTA line, electrical white (similar to RAL 1013), quintuple | 364 x 80 mm | 5TG2585-0 | **5TG25850** |

**5TG255..-3**

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

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** |

**5TG255..-6**

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

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** |

**Frames, DELTA line, with labeling field, Titanium white (similar to RAL 9010)**      **5TG255..a**

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 | **5TG25511** |
| Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), double, horizontal | 151 x 80 mm | 5TG2552-1 | **5TG25521** |
| Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), double, vertical | 80 x 151 mm | 5TG2552-2 | **5TG25522** |
| Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), triple, horizontal | 222 x 80 mm | 5TG2553-1 | **5TG25531** |
| Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), triple, vertical | 80 x 222 mm | 5TG2553-2 | **5TG25532** |
| Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), quadruple, horizontal | 293 x 80 mm | 5TG2554-1 | **5TG25541** |
| Frames, DELTA line, with labeling field, titanium white (similar to RAL 9010), quadruple, vertical | 80 x 293 mm | 5TG2554-2 | **5TG25542** |

For individueak labeling we recommend our labeling tool which is for free.
Download: www.siemens.de/beschriftungstool

## Pushbutton accessories
## DELTA line frames

**5TG258..** | **Frames, DELTA line, with labeling field, Electrical white (similar to RAL 1013)**

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 | **5TG25811** |
| Frames, DELTA line, with labeling field, electrical white (similar to RAL 1013), double, horizontal | 151 x 80 mm | 5TG2582-1 | **5TG25821** |
| Frames, DELTA line, with labeling field, electrical white (similar to RAL 1013), double, vertical | 80 x 151 mm | 5TG2582-2 | **5TG25822** |
| Frames, DELTA line, with labeling field, electrical white (similar to RAL 1013), triple, horizontal | 222 x 80 mm | 5TG2583-1 | **5TG25831** |
| Frames, DELTA line, with labeling field, electrical white (similar to RAL 1013), triple, vertical | 80 x 222 mm | 5TG2583-2 | **5TG25832** |
| Frames, DELTA line, with labeling field, electrical white (similar to RAL 1013),quadruple, horizontal | 293 x 80 mm | 5TG2584-1 | **5TG25841** |
| Frames, DELTA line, with labeling field, electrical white (similar to RAL 1013), quadruple, vertical | 80 x 293 mm | 5TG2584-2 | **5TG25842** |

For individueak labeling we recommend our labeling tool which is for free.
Download: www.siemens.de/beschriftungstool

## 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
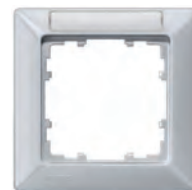
### Range overview 5TG255..b

| 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 | **5TG25514** |
| Frames, DELTA line, with labeling field, aluminum metallic (similar to RAL 9006), double, horizontal | 151 x 80 mm | 5TG2552-4 | **5TG25524** |
| Frames, DELTA line, with labeling field, aluminum metallic (similar to RAL 9006), double, vertical | 80 x 151 mm | 5TG2552-5 | **5TG25525** |

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

**5TG255..c**

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 | **5TG25517** |
| Frames, DELTA line, with labeling field, carbon metallic (similar to RAL 7016), double, horizontal | 151 x 80 mm | 5TG2552-7 | **5TG25527** |
| Frames, DELTA line, with labeling field, carbon metallic (similar to RAL 7016), double, vertical | 80 x 151 mm | 5TG2552-8 | **5TG25528** |

**5TG113..-0**          **Frames, Artist, Tom´s Drag**



Frames, Artist, Tom´s Drag

**Range overview 5TG113..-0**

| Product Title | Dimensions (W x H) | Stock No. | Product No. |
|---|---|---|---|
| Frames, Artist, Tom´s Drag, single | 90 x 90 mm | 5TG1131-0 | **5TG11310** |
| Frames, Artist, Tom´s Drag, double | 90 x 161 mm | 5TG1132-0 | **5TG11320** |
| Frames, Artist, Tom´s Drag, triple | 90 x 232 mm | 5TG1133-0 | **5TG11330** |
| Frames, Artist, Tom´s Drag, quadruple | 90 x 303 mm | 5TG1134-0 | **5TG11340** |

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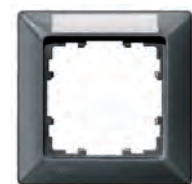
### Range overview 5TG111..-1

| 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** |

| 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 | **5TG11112** |
| Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016), double | 90 x 161 mm | 5TG1112-2 | **5TG11122** |
| Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016), triple | 90 x 232 mm | 5TG1113-2 | **5TG11132** |
| Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016), quintuple | 90 x 303 mm | 5TG1114-2 | **5TG11142** |
| Frame, DELTA miro color, plastic, carbon metallic (similar to RAL7016), quintuple, | 90 x 374 mm | 5TG1115-2 | **5TG11152** |

## 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 | **5TG1201** |
| Frame, DELTA miro glass, real glass, crystal green, double | 90 x 161 mm | 5TG1202 | **5TG1202** |
| Frame, DELTA miro glass, real glass, crystal green, triple | 90 x 232 mm | 5TG1203 | **5TG1203** |
| Frame, DELTA miro glass, real glass, crystal green, quadruple | 90 x 303 mm | 5TG1204 | **5TG1204** |
| Frame, DELTA miro glass, real glass, crystal green, quintuple | 90 x 374 mm | 5TG1205 | **5TG1205** |

## 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 | **5TG12011** |
| Frame, DELTA miro glass, real glass, white, double | 90 x 161 mm | 5TG1202-1 | **5TG12021** |
| Frame, DELTA miro glass, real glass, white, triple | 90 x 232 mm | 5TG1203-1 | **5TG12031** |
| Frame, DELTA miro glass, real glass, white, quadruple | 90 x 303 mm | 5TG1204-1 | **5TG12041** |
| Frame, DELTA miro glass, real glass, white, quintuple | 90 x 374 mm | 5TG1205-1 | **5TG12051** |

## 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 | **5TG12012** |
| Frame, DELTA miro glass, real glass, black, double | 90 x 161 mm | 5TG1202-2 | **5TG12022** |
| Frame, DELTA miro glass, real glass, black, triple | 90 x 232 mm | 5TG1203-2 | **5TG12032** |
| Frame, DELTA miro glass, real glass, black, quadruple | 90 x 303 mm | 5TG1204-2 | **5TG12042** |
| Frame, DELTA miro glass, real glass, black, quintuple | 90 x 374 mm | 5TG1205-2 | **5TG12052** |

## 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 | **5TG12013** |
| Frame, DELTA miro glass, real glass, orient, double | 90 x 161 mm | 5TG1202-3 | **5TG12023** |
| Frame, DELTA miro glass, real glass, orient, triple | 90 x 232 mm | 5TG1203-3 | **5TG12033** |
| Frame, DELTA miro glass, real glass, orient, quadruple | 90 x 303 mm | 5TG1204-3 | **5TG12043** |
| Frame, DELTA miro glass, real glass, orient, quintuple | 90 x 374 mm | 5TG1205-3 | **5TG12053** |

## 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 | **5TG12014** |
| Frame, DELTA miro glass, real glass, arena, double | 90 x 161 mm | 5TG1202-4 | **5TG12024** |
| Frame, DELTA miro glass, real glass, arena, triple | 90 x 232 mm | 5TG1203-4 | **5TG12034** |
| Frame, DELTA miro glass, real glass, arena, quadruple | 90 x 303 mm | 5TG1204-4 | **5TG12044** |
| Frame, DELTA miro glass, real glass, arena, quintuple | 90 x 374 mm | 5TG1205-4 | **5TG12054** |

**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 | **5TG11210** |
| Frame, DELTA miro aluminum, real aluminum, natural, double | 90 x 161 mm | 5TG1122-0 | **5TG11220** |
| Frame, DELTA miro aluminum, real aluminum, natural, triple | 90 x 232 mm | 5TG1123-0 | **5TG11230** |
| Frame, DELTA miro aluminum, real aluminum, natural, quadruple | 90 x 303 mm | 5TG1124-0 | **5TG11240** |
| Frame, DELTA miro aluminum, real aluminum, natural, quintuple | 90 x 374 mm | 5TG1125-0 | **5TG11250** |

**5TG112..-1**          **Frame, DELTA miro aluminum, real aluminum, titanium**



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

## Range overview 5TG112..-2

| Product Title | Dimensions (W x H) | Stock No. | Product No. |
|---|---|---|---|
| Frame, DELTA miro aluminum, real aluminum, titanium, single | 90 x 90 mm | 5TG1121-1 | **5TG11211** |
| Frame, DELTA miro aluminum, real aluminum, titanium, double | 90 x 161 mm | 5TG1122-1 | **5TG11221** |
| Frame, DELTA miro aluminum, real aluminum, titanium, triple | 90 x 232 mm | 5TG1123-1 | **5TG11231** |
| Frame, DELTA miro aluminum, real aluminum, titanium, quadruple | 90 x 303 mm | 5TG1124-1 | **5TG11241** |
| Frame, DELTA miro aluminum, real aluminum, titanium, quintuple | 90 x 374 mm | 5TG1125-1 | **5TG11251** |

## Frame, DELTA miro aluminum, real aluminum, graphite

**5TG112..-2**

Frames, DELTA miro aluminum, real aluminum, graphit, for combinations, for horizontal and vertical mounting
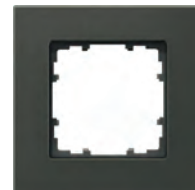
### Range overview 5TG112..-2

| Product Title | Dimensions (W x H) | Stock No. | Product No. |
| --- | --- | --- | --- |
| Frame, DELTA miro aluminum, real aluminum, graphite, single | 90 x 90 mm | 5TG1121-2 | **5TG11212** |
| Frame, DELTA miro aluminum, real aluminum, graphite, double | 90 x 161 mm | 5TG1122-2 | **5TG11222** |
| Frame, DELTA miro aluminum, real aluminum, graphite, triple | 90 x 232 mm | 5TG1123-2 | **5TG11232** |
| Frame, DELTA miro aluminum, real aluminum, graphite, quadruple | 90 x 303 mm | 5TG1124-2 | **5TG11242** |
| Frame, DELTA miro aluminum, real aluminum, graphite, quintuple | 90 x 374 mm | 5TG1125-2 | **5TG11252** |

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

**5TG112..-3**

Frames, DELTA miro aluminum, real aluminum, yellow oxide, for combinations, for horizontal and vertical mounting
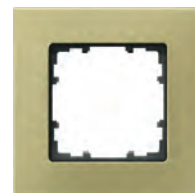
### Range overview 5TG112..-3

| 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 | **5TG11213** |
| Frame, DELTA miro aluminum, real aluminum, yellow oxide, double | 90 x 161 mm | 5TG1122-3 | **5TG11223** |
| Frame, DELTA miro aluminum, real aluminum, yellow oxide, triple | 90 x 232 mm | 5TG1123-3 | **5TG11233** |
| Frame, DELTA miro aluminum, real aluminum, yellow oxide, quadruple | 90 x 303 mm | 5TG1124-3 | **5TG11243** |
| Frame, DELTA miro aluminum, real aluminum, yellow oxide, quintuple | 90 x 374 mm | 5TG1125-3 | **5TG11253** |

## Pushbutton accessories
## DELTA style frames

| 5TG132.. | **Frame, DELTA style, titanium white (similar to RAL 9010)** |
|---|---|

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 | **5TG1321** |
| Frame, DELTA style, titanium white (similar to RAL 9010), double | 82 x 153 mm | 5TG1322 | **5TG1322** |
| Frame, DELTA style, titanium white (similar to RAL 9010), triple | 82 x 224 mm | 5TG1323 | **5TG1323** |
| Frame, DELTA style, titanium white (similar to RAL 9010), quadruple | 82 x 295 mm | 5TG1324 | **5TG1324** |
| Frame, DELTA style, titanium white (similar to RAL 9010), quintuple | 82 x 366 mm | 5TG1325 | **5TG1325** |

## Frame, DELTA style, platinum metallic                                   5TG132..-1

Frames, DELTA style, Platinum metallic (similar to RAL 9007), for combinations, for horizontal and vertical mounting
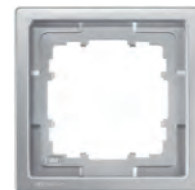
### Range overview 5TG132..-1

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

## Intermediate frame, DELTA style                                         5TG13..8

Intermediate frame, DELTA style, for inserting devices with cover plate 65 mm x 65 mm

### Range overview 5TG13..8

| Product Title | Dimensions (W x H) | Stock No. | Product No. |
|---|---|---|---|
| Intermediate frame, DELTA style, titanium white (similar to RAL 9010) | 68 x 68 mm | 5TG1328 | **5TG1328** |
| Intermediate frame, DELTA style, platinum metallic (similar to RAL 9007) | 68 x 68 mm | 5TG1328-1 | **5TG13281** |

**AQR2510NGW**



**Frame DELTA azio for front module**

Design frames for front modules.

Dimensions (W x H)                    80 x 120 mm / 120 x 80 mm

For horizontal and vertical mounting.

| | Stock No. | Product No. |
|---|---|---|
| | S55720-S160 | **AQR2510NGW** |

## Frames, DELTA, titanium white

**5WG12408CB11**

| Dimensions (W x H) | 80 x 122 mm / 122 x 80 mm |

Frame for NEMA box. For matching DELTA profil operator interfaces, see Chapter System Products and Accessories –System products. Matching to DELTA style operator interfaces with intermediate frame DELTA Style see Chapter Display and Operation Units – Pushbutton accessories.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1240-8CB11 | **5WG12408CB11** |

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| 5TG290.. | **Surface-mounting enclosures for flush-mounting devices, DELTA line, DELTA style, titanium white** |

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

### Range overview 5TG290..

| Product Title | Dimensions (W x H x D) | Stock No. | Product No. |
|---|---|---|---|
| Surface-mounting enclosure, for flush-mounting devices, DELTA line, DELTA style, titanium white, single | 84 x 84 x 42.5 mm | 5TG2901 | **5TG2901** |
| Surface-mounting enclosure, for flush-mounting devices, DELTA line, DELTA style, titanium white, double | 84 x 155 x 42.5 mm | 5TG2902 | **5TG2902** |
| Surface-mounting enclosure, for flush-mounting devices, DELTA line, DELTA style, titanium white, triple | 84 x 226 x 42.5 mm | 5TG2903 | **5TG2903** |

| 5TG286.. | **Surface-mounting enclosures for flush-mounting devices, DELTA line, Electrical white** |

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

### Range overview 5TG286..

| Product Title | Dimensions (W x H x D) | Stock No. | Product No. |
|---|---|---|---|
| Surface-mounting enclosure, for flush-mounting devices, DELTA line, electrical white, single | 84 x 84 x 42.5 mm | 5TG2861 | **5TG2861** |
| Surface-mounting enclosure, for flush-mounting devices, DELTA line, electrical white, double | 84 x 155 x 42.5 mm | 5TG2862 | **5TG2862** |
| Surface-mounting enclosure, for flush-mounting devices, DELTA line, electrical white, triple | 84 x 226 x 42.5 mm | 5TG2863 | **5TG2863** |

## 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)

Dimensions (W x H x D)          55 x 55 x 16 mm

## Range overview UP 237K..

| Product Title | Stock No. | Product No. |
|---|---|---|
| Temperature controller, titanium white | 5WG1237-2KB11 | **UP 237K11** |
| Temperature controller, aluminum metallic | 5WG1237-2KB31 | **UP 237K31** |

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 254K** | **Temperature controller, DELTA style** |

- 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)

Dimensions (W x H x D)          68 x 68 x 16 mm

## Range overview UP 254K

| Product Title | Stock No. | Product No. |
|---|---|---|
| Temperature controller, titanium white/metallic silver | 5WG1254-2KB13 | **UP 254K13** |
| Temperature controller, platinmetallic | 5WG1254-2KB43 | **UP 254K43** |

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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**1**

**Display and Operation Units**
## Room temperature controllers
## Room thermostat flush mount

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

**RDF800KN**

Touch screen room thermostat 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 |
| Switching differential | 0.5...6 K |
| Setpoint setting range | 5...40 °C |
| Analog inputs, number | 2 |
| Relay outputs, number | 5 |
| Relay outputs | Fan: N.O. contacts, non-floating |
| | Valve: N.O. contacts, non-floating |
| 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 |
| Communication | Bus: KNX (S-mode and LTE mode with Synco 700) |

| | Stock No. | Product No. |
|---|---|---|
| | S55770-T350 | **RDF800KN** |

**NEW PRODUCT**

**1**

Display and Operation Units
**Room temperature controllers**
**Room thermostat flush mount**

**RDF..KNX Semi Flush
Mount**



Semi Flush Mount room thermostat with LCD for fan coil units and 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, operation mode changeover, window contact on/off, dewpoint monitor, electrical heater enabled, fault contact
- Automatic or manual heating/cooling changeover
- Adjustable commissioning and control parameters
- Minimum and maximum setpoint limitation
- Color of housing: signal white (RAL 9003)
- Backlit display

Application selectable:
- 2-pipe system
- 2-pipe system with electrical heater
- 4-pipe system

| | |
|---|---|
| Operating voltage | AC 230 V |
| Setpoint setting range | 5...40 ℃ |
| Analog inputs, number | 2 |
| Relay outputs, number | 5 |
| Relay outputs | Fan: N.O. contacts, non-floating |
| | Valve: N.O. contacts, non-floating |
| Relay output, switching voltage | AC 230 V |
| Relay output, switching current | 5 (2) A |
| Type of fixing | Recessed rectangular conduit box BS4662 with fixing centres of 60.3 mm (ARG71) |
| Degree of protection | IP30 |

**Range overview RDF..KNX Semi Flush Mount**

| Product Title | Type of fixing | Dimensions (W x H x D) | Stock No. | Product No. |
|---|---|---|---|---|
| Semi Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment | With screws on recessed round conduit box diameter min. 60 mm | 86 x 86 x 46 mm | S55770-T293 | **RDF600KN** |
| Semi Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment | Recessed rectangular conduit box BS4662 with fixing centres of 60.3 mm (ARG71) | 86 x 86 x 57 mm | S55770-T104 | **RDF301** |
| Semi Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment, four buttons for switching lights and blinds | Recessed rectangular conduit box BS4662 with fixing centres of 60.3 mm (ARG71) | 86 x 86 x 57 mm | S55770-T105 | **RDF301.50** |
| Hotel Semi Flush-mount room thermostat with KNX, 2-/4-pipe fan coils or DX type equipment, four buttons hotel functions | Recessed rectangular conduit box BS4662 with fixing centres of 60.3 mm (ARG71) | 86 x 86 x 57 mm | S55770-T334 | **RDF301.50H** |

The matching ARG71 flush-mounting box must be ordered separately. See chapter Display and Operation untis - Room Temperature Controller.

**1**

Display and Operation Units
# Room temperature controllers
## Room thermostat flush mount

## Semi Flush-mount room thermostat for rectangular conduit box with KNX communications, for VAV application

**RDU341**

Semi Flush-mount room thermostat for VAV application
- KNX communications
- Output for a DC 0...10 V actuator and AC 230V electrical heater (ON-OFF)
- 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
- Operating modes: Comfort, Economy and Protection
- Modulating PI control
- Control depending on the room or the return air temperature
- Automatic or manual heating/cooling changeover
- Adjustable commissioning and control parameters
- Minimum and maximum setpoint limitation
- Adjustable minimum and maximum limitation for air flow signal DC 0...10V
- Output signal inversion as an option

Application selectable:
- Single-duct system
- Single-duct system with electrical heater

| | |
|---|---|
| Operating voltage | AC 24 V |
| Setpoint setting range | 5...40 °C |
| Analog inputs, number | 2 |
| Analog outputs, number | 1 |
| Analog output, signal | DC 0...10 V |
| Analog output, current | Max. ±1 mA |
| Relay outputs, number | 1 |
| Relay outputs | N.O. contact, potential-free |
| Relay output, switching voltage | AC 230 V |
| Relay output, switching current | Max. 5 (2) A |
| Type of fixing | Recessed rectangular conduit box BS4662 (ARG71) with fixing centres of 60.3 mm |
| Degree of protection | IP30 |
| Dimensions (W x H x D) | 86 x 86 x 57 mm |

| | Stock No. | Product No. |
|---|---|---|
| | S55770-T106 | **RDU341** |

The matching ARG71 flush-mounting box must be ordered separately. See chapter Display and Operation untis - Room Temperature Controller.

| ARG71 | **Conduit box 75 x 75 x 51 mm** | |
|---|---|---|
|  | Dimensions (W x H x D) | 75 x 75 x 51 mm |

| | Stock No. | Product No. |
|---|---|---|
| | S55770-T137 | **ARG71** |

**Display and Operation Units**
**Room temperature controllers**
**Accessories for RDU341**

1-46

Siemens Switzerland Ltd
Building Technologies Division

www.siemens.com/gamma

2015

**1**

Display and Operation Units
## Room temperature controllers
### Room thermostat wall mount

## 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

| | |
|---|---|
| Operating voltage | AC 230 V |
| Switching differential | Heating: 0.5...6 K |
| | Cooling: 0.5...6 K |
| Analog inputs, number | 2 |
| Analog input, signal | NTC 3k |
| | Switch |
| Digital inputs, number | 1 |
| Relay outputs, number | 3 |
| Relay outputs | Fan: 1- or 3-speed |
| Relay output, switching voltage | AC 230 V |
| Relay output, switching current | 5 (4) A |
| Triac outputs, number | 3 |
| Triac outputs | Valve, el. heater |
| | 2-position, PWM, 3-position |
| 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** |

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**1**

Display and Operation Units
**Room temperature controllers**
**Room thermostat wall mount**

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**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
- 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

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

| | Stock No. | Product No. |
|---|---|---|
| | S55770-T297 | **RDG160KN** |

**1**

Display and Operation Units
**Room temperature controllers
Room thermostat wall mount**

## Room thermostat with KNX communications, AC 24 V, VAV heating and cooling systems

**RDG400KN**

- 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
- 1 input DC 0...10 V for damper position feedback
- Operating modes: Comfort, Economy and Protection
- Modulating PI control
- Control depending on the room or the return air temperature
- 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

| | |
|---|---|
| Operating voltage | AC 24 V |
| Setpoint setting range | 5...40 °C |
| Analog inputs, number | 2 |
| Analog input, signal | NTC 3k |
| | DC 0...10 V |
| Digital inputs, number | 1 |
| Analog outputs, number | 1 |
| Analog outputs | VAV actuator, electric heater, valve |
| Analog output, signal | DC 0...10 V |
| Analog output, current | Max. ±1 mA |
| Triac outputs, number | 1 |
| Triac outputs | VAV actuator, valve, el. heater |
| | 2-position, PWM, 3-position |
| 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-T165 | **RDG400KN** |

**UP 204/..1**

**Room Controller Contouch, incl. bus coupling unit**

- Multifunctional display/operating device for KNX, with 320 x 240 pixel, 2.8" LCD color display
- For the display and operation of at least 18 configurable room operator functions:
- Switching On/Off/Over and Pushbutton function (bell function)
- Shutter/blind/roller control
- Value transmission: 1 byte in %, 1 byte integer without prefix, 1 byte integer with prefix, 2 byte integer without prefix, 2 byte integer with prefix
- Positively driven operation
- Scene control: Store and call up scene 8 bit, store and call up scene 1 bit
- Text display and warning and alarm indications
- Operation using touch screen and/or by turning/pushing rotary/push button
- RGB LED as orientation light or for signaling alarm indications
- Buzzer for acoustic alarm indication or as feedback when operating touch screen
- Integrated room temperature sensors
- Analysis and weighting of an external inside temperature sensor
- Room temperature control can be set as a two-point control and/or continuous-action control 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
- Local displaying of active operating modes or automatic or manual modes
- Local displaying of heating/cooling valve open, dew point alarm and open window
- Local switchover between automatic or manual mode, and between comfort, pre-comfort, energy-saving and protection modes
- Local, time-adjustable extension of comfort mode
- The room temperature setpoint value for comfort mode can be set via a rotary button on the room controller
- Basic room temperature setpoint value for comfort mode which can be set via the KNX
- Outdoor temperature-based tracking of temperature setpoint value in cooling mode
- 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%
- Local displaying of manually set fan speed step or automatic speed input
- Fan speed step can be set via the rotary button or entered automatically by the controller
- Weekly scheduling program for controller operating modes and for 18 room operator functions
- At least 16 time switching points per function per weekday
- Display of date and time
- Selection of at least 4 different design templates as operator and display interface
- Local activation of a cleaning function to lock the touch screen and the rotary/push button
- Slot for a micro SD card for transferring firmware and configuration data
- incl. bus coupling unit (included in delivery)
- Bus connection via bus terminal
- Connection of the separate 24 V DC boost voltage, power consumption approx. 50 mA
- Flush-mounting device for mounting in a Ø 60 mm installation box, with screw fixing

| Dimensions (W x H x D) | 86 x 116 x 30 mm |
|---|---|

**Range overview UP 204/..1**

| Product Title | Stock No. | Product No. |
|---|---|---|
| Room Controller Contouch, incl. bus coupling unit, titanium white | 5WG1204-2AB11 | **UP 204/11** |
| Room Controller Contouch, incl. bus coupling unit, carbon metallic | 5WG1204-2AB21 | **UP 204/21** |
| Room Controller Contouch, incl. bus coupling unit, aluminium metallic | 5WG1204-2AB31 | **UP 204/31** |
| Room Controller Contouch, incl. bus coupling unit, piano black | 5WG1204-2AB51 | **UP 204/51** |

## Accessories for UP 204/..1

| Product Title | Stock No. | Product No. |
|---|---|---|
| Contouch flash kit, with micro SDHC card and adapters for USB and SD | 5WG1204-8AB01 | **S 204/01** |
| Electronic power supply units | 4AC2402 | **4AC2402** |

# Multifunction devices
## i-system

| UP 227 | **Room Control Unit** |
|---|---|

- Multifunctional display-/control panel for KNX with Dot-Matrix LCD display 96 x 128 pixels
- For the display and control of at least 10 adjustable room control functions:
- Switching toggle/On/Off
- Door bell function On/Off
- Dimming
- Solar protection control
- Send 1 Byte/2 Byte value
- Display 1 Bit/1 Byte/2 Byte value
- Forced control
- Display text messages
- Recall and save scenes
- Warning and alarm messaging
- 8 capacitive touch buttons for horizontal operation, blocking selectable for each function and configurable for each function depending on the value of the blocking object
- Green/red LED als Orientierungslicht, 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 windows
- 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)

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

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1227-2AB11 | **UP 227** |

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

**Accessories for UP 227**

### Mounting plate EU (CEE/VDE)                          AQR2500NF

Dimensions (W x H)              70.8 x 70.8 mm
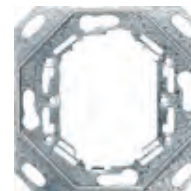


| | Stock No. | Product No. |
|---|---|---|
| | S55720-S161 | **AQR2500NF** |

### Mounting plate IT (3 modular)                        AQR2500NG

Dimensions (W x H)              110 x 64 mm



| | Stock No. | Product No. |
|---|---|---|
| | S55720-S163 | **AQR2500NG** |

### Mounting plate UK (British Standard)                 AQR2500NH

Dimensions (W x H)              83 x 83 mm



| | Stock No. | Product No. |
|---|---|---|
| | S55720-S162 | **AQR2500NH** |

### Mounting plate US (UL)                               AQR2500NJ

Dimensions (W x H)              64 x 110 mm



| | Stock No. | Product No. |
|---|---|---|
| | S55720-S164 | **AQR2500NJ** |

## Multifunction devices
## Wall mount

| QMX3.. | **Wall-mounted room sensors and operator units for KNX** |

The wall-mounted room unit QMX3.. consists of:
- Base plate
- Sensor or room operator unit

The following functions are (depending on type):
- Temperature sensor or multisensor (T, r.h., CO2)
- Backlit display or LED display
- Touchkeys
- Switching and control of lighting, blinds, scenes

- 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
- Output for 1, 2, or 3-stage fans (humidity and CO2)
- Output for 1, 2, or 3-point positioning signal (humidity and CO2)
- Setpoint for room temperature and relative humidity and CO2 concentration adjustable via KNX

| | |
|---|---|
| Measuring range, temperature | 0...50 °C |
| Sensing element, temperature | NTC |
| Degree of protection | IP30 |
| Mounting | Wall-mounting |
| Dimensions (W x H x D) | 88.4 x 133.4 x 18 mm |

| QMX3.P34 | **Room operator unit KNX with temperature sensor, segmented backlit display, touchkeys** |

Functions:
- Temperature sensor
- Segmented backlit display and touchkeys

| | Stock No. | Product No. |
|---|---|---|
| | S55624-H105 | **QMX3.P34** |

### Room operator unit KNX with sensors for temperature, humidity, CO2, segmented backlit display, touchkeys

QMX3.P74

Functions:
- multisensor for temperature, humidity and CO2
- Segmented backlit display and touchkeys

| Stock No. | Product No. |
|---|---|
| S55624-H106 | **QMX3.P74** |

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

QMX3.P02

Functions:
- Temperature sensor
- Configurable touchkeys with LED display
- Switching and control of lighting, blinds, scenes
- Window for labels

| Stock No. | Product No. |
|---|---|
| S55624-H107 | **QMX3.P02** |

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

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

| Stock No. | Product No. |
|---|---|
| S55624-H108 | **QMX3.P37** |

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**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

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

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

**Range overview 588/..3**

| Product Title | Stock No. | Product No. |
|---|---|---|
| Touch Panel, 230 V AC, 50 Hz | 5WG1588-2AB13 | **UP 588/13** |
| Touch Panel,  24 V AC/DC | 5WG1588-2AB23 | **UP 588/23** |

**S 588/12**



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

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**

Dimensions (W x H x D)          194 x 156 x 5 mm

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

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

**S 588/14**

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**

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**

Dimensions (W x H x D)                161.5 x 135 x 64 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1588-8EB01 | **UP 588E01** |

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**N 151/01**

### IP viewer

Interface converter between a KNX and an IP network, with the following simultaneously executable functions:
- As a WebServer for monitoring and control of up to 40 states and values transmitted via the KNX network, which can be displayed on up to 5 image pages of a PC connected to the IP network using Internet Explorer 6.0, 7.0, 8.0 or Firefox 3.0 (for other browsers, see documentation at www.siemens.com/gamma-td)
- For the parameterization of a KNX system using ETS3.0f/ETS4
- For communication between the KNX network and a ComBridge Studio visualization software
- Special WEB page for the multilanguage adaptation of the presentation of an image page and a special WEB page for firmware upgrades
- Ethernet interface for connection to the IP network using the Internet Protocol
- RJ45 socket for connection to Ethernet 10 Mbits/s
- 2 LED displays for indication of ready-to-run state and for IP communication
- Integrated bus coupling units
- KNX bus connection via bus terminal
- Electronics powered via an external 24 V AC/DC power supply unit
- Connection of external power supply unit via an extra-lowvoltage terminal
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)        4 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1151-1AB01 | **N 151/01** |

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**N 152/01**

### IP Control Center

Visualization controller for full-graphic visualizations on web-compatible end devices such as PCs, laptops, tablets and smart phones with a standard web browser.
- Web server to operate and monitor up to 250 transmitted operation states and values
- Web editor for graphic engineering of web visualization and application modules such as:
- Scheduler program with up to 300 editable commands per week
- Scene module with up to 5,000 scenes or events
- Full-graphic logic module providing up to 1,000 logic functions
- Alarm function for up to 250 different alarm messages
- E-mail function with up to 20 contacts
- Special web site relating to firmware upgrade
- KNXnet/IP interface to parameterize a KNX plant
- Ethernet interface 10/100 Mbits/s with RJ45 socket for connection to the IP network through the internet protocol
- 2 LEDs for indication of IP connection/communication and error messages
- Built-in bus coupler and bus terminal for connection to a KNX network
- Power supply for electronics via external DC 24 V power source. Connection of external power source via low-voltage terminal
- Device for top hat rail mounting on TH35 rails conforming to DIN EN 60715

Dimension width (1 MW = 18 mm)        4 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1152-1AB01 | **N 152/01** |

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### Accessories for N 151/01 and N 152/01

| Product Title | Stock No. | Product No. |
|---|---|---|
| Electronic power supply units | 4AC2402 | **4AC2402** |

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**NEW PRODUCT**

## 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

| | |
|---|---|
| Data sheet | N5701 |
| | |
| Operating voltage | Power pack: AC 230 V |
| | Web server: DC 24 V |
| Communication | KNX TP1 (wire-Bus) |
| | Ethernet, RJ45 plug socket (shielded) |
| | USB V2.0 (universal serial bus) |
| 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 4 Synco devices | BPZ:OZW772.04 | **OZW772.04** |
| Web server for 16 Synco devices | BPZ:OZW772.16 | **OZW772.16** |
| Web server for 250 Synco devices | BPZ:OZW772.250 | **OZW772.250** |

# Output Devices

**Output Devices**
## Overview and selection guides
## Binary output devices

**2**

The binary output devices by Siemens offer numerous and flexible applications through manual extendable switch actuators as well as integrated load current detection by application programs. Furthermore, this section discusses the use of standard details including AC1, AC3, AX and C load.

**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 overwhelmingly 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.

Output Devices
## Overview and selection guides
## Binary output devices

2

**Modular switch actuators**
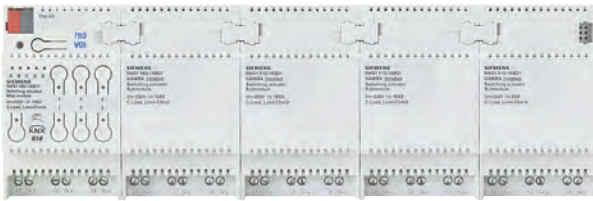


The modular design of the Gamma _instabus_® switch actuators guarantees the flexible design for each use and requirement page. Up to four switch actuator extensions can be connected to the 6-pin interface on the main module using a jumper. In this manner, a 3-fold switch actuator can be extended to 6/9/12 or 15-fold switch 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
• 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, for which each output can be integrated in up to eight scenes

**Diagram of 15-way switch actuator** [1) 2)]
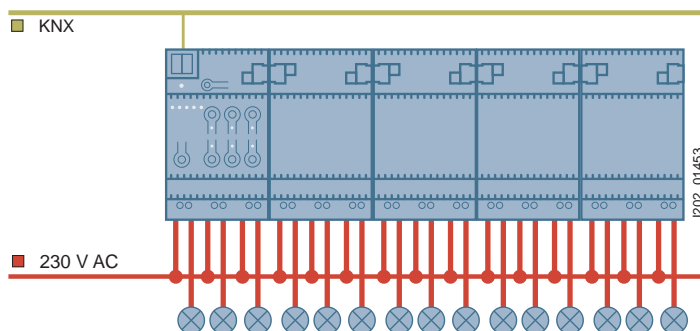


The depicted diagram is an example of schematic interconnection and connection of individual switch actuator modules.
All modules labeled 10 AX, 16 AX and 20 AX are compatible and therefore can be used together. For detailed information is available on our Internet page on technical documentation: www.siemens.de/gamma-td

**Application**

The switch actuators for top hat rail mounting can be used in both commercial and residential construction and used for the following applications:
• Switching of loads up to 20 AX per channel
• Three-phase switching of drives/loads
• Control of 1 to 3-stage supply air / ventilation systems
• Load current detection
• Detection of a significant equipment failure
• Preventive detection of failures through continuous current monitoring
• Recording of operating hours and switching operations
• Report of maintenance or service work
• Detection of circuit interruptions

| Modular swich acutators | | | | | | |
|---|---|---|---|---|---|---|
| | Main modules | | | Expansions | | |
| Type | N 562/11 | N 512/11 | N 513/11 | N 562/21 | N 512/21 | N 513/21 |
| Application program[1] | 982002 | | | [1] | | |
| **Enclosure data** | | | | | | |
| Design | 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 | ■ | ■ | ■ | ■ | ■ | ■ |
| **Dimensions** | | | | | | |
| Width (1 MW = 18 mm) | 3 MW | 3 MW | 3 MW | 3 MW | 3 MW | 3 MW |
| **Display/control elements** | | | | | | |
| Direct operation (local operation) | ■ | ■ | ■ | ■[2] | ■[2] | ■[2] |
| LED for indicating direct operation | ■ | ■ | ■ | | | |
| LED for indicating the selected device | ■ | ■ | ■ | | | |
| LED for status indication per output | ■ | ■ | ■ | ■[2] | ■[2] | ■[2] |
| **Power supply** | | | | | | |
| Bus-powered electronics | ■ | ■ | ■ | ■[2] | ■[2] | ■[2] |
| **Bus connection** | | | | | | |
| Integrated bus coupling units | ■ | ■ | ■ | | | |
| Bus connection via bus terminal | ■ | ■ | ■ | | | |
| **Outputs** | | | | | | |
| **Load output** | | | | | | |
| Floating relay contacts | 3 | 3 | 3 | 3 | 3 | 3 |
| Rated contact voltage, AC [V] | 230 | 230 | 230 | 230 | 230 | 230 |
| Rated contact current | | | | | | |
| • AX (200 µF) acc. to EN 60669-1 [AX] | 10 (140 µF) | 16 | 20 | 10 (140 µF) | 16 | 20 |
| • AC1 (p.f. = 0.8) [A] | 16 | 16 | 20 | 16 | 16 | 20 |
| • AC3 (p.f. = 0.45) acc. to DIN EN 60497-4-1 [A] | 10 | 16 | 16 | 10 | 16 | 16 |
| • 24 V DC [A] | 10 | 16 | 20 | 10 | 16 | 20 |
| Three-phase switching (3 outputs simultaneously) | ■ | ■ | ■ | ■ | ■ | ■ |
| Last check | ■ | ■ | ■ | ■ | ■ | ■ |
| **Output functions** | | | | | | |
| Max. number of group addresses | 511 | 511 | 511 | | | |
| Max. number of assignments | 511 | 511 | 511 | | | |
| Max. number of expansion modules that can be butt-mounted | 4 | 4 | 4 | | | |
| 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 system voltage failure<br>• Unchanged switching state of outputs | ■ | ■ | ■ | ■ | ■ | ■ |
| **Ventilator control** | | | | | | |
| Speed control 1...3-step | ■ | ■ | ■ | ■ | ■ | ■ |
| **Heating control** | | | | | | |
| Controlling electrothermal actuators | ■ | ■ | ■ | ■ | ■ | ■ |
| **Scene control** | | | | | | |
| Integrated 8-bit scene control | ■ | ■ | ■ | ■ | ■ | ■ |
| Scenes to be integrated per channel | 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 (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 per channel | ■ | ■ | ■ | ■ | ■ | ■ |
| Load current monitoring per channel | ■ | ■ | ■ | ■ | ■ | ■ |

[1] For current application programs, see www.siemens.com/gamma-td.
[2] Via main module

## Binary output devices

| Type | N 567/01 | N 567/12 | N 567/11 | N 567/22 | N 510/03 | N 510/04 | N 512 | N 511/02 | N 502/02 | N 562/01 | UP 510/03 | UP 510/13 | UP 562/31 | UP 511/10 | RS 510/23 | RL 512/23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Enclosure data** | | | | | | | | | | | | | | | | |
| Design | N | N | N | N | N | N | N | N | N | N | UP | UP | UP | UP | RS | RL |
| 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[1] | | | | | | | | | | | | | | | ■ | ■ |
| 10-pole BTI socket (BTI - Bus Transceiver Interface) for plugging of bus terminal devices with BTI connector | | | | | | | | | | | ■ | | | | | |
| **Dimensions** | | | | | | | | | | | | | | | | |
| • Width/Ø [mm] (1 MW = 18 mm) | 4 MW | 4 MW | 4 MW | 8 MW | 4 MW | 4 MW | 8 MW | 8 MW | 8 MW | 2 MW | 71 | 50 | Ø 53 | Ø 53 | 50.2 | 47.8 |
| • Height [mm] | | | | | | | | | | | 42 | 41.3 | | | 35.5 | 36.2 |
| • Depth [mm] | | | | | | | | | | | 71 | 50.9 | 28 | 28 | 48.8 | 86.5 |
| **Mounting type** | | | | | | | | | | | | | | | | |
| Screw fixing | | | | | | | | | | | ■ | | | | | |
| **Display/control elements** | | | | | | | | | | | | | | | | |
| Direct operation (local operation) | ■ | ■ | ■ | ■ | | | | ■ | ■ | | | | | | | |
| Mechanical local operation | | | | | ■ | ■ | ■ | | | | | | | | | |
| Mechanical switching position indication | | | | | ■ | ■ | ■ | | | | | | | | | |
| LED for status indication per output | ■ | ■ | ■ | ■ | | | | ■ | ■ | | | | | | | |
| LED for indicating direct operation | ■ | ■ | ■ | ■ | | | | ■ | ■ | | | | | | | |
| **Power supply** | | | | | | | | | | | | | | | | |
| Bus-powered electronics | | | | | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ | ■ |
| Electronics powered via an integrated power supply unit for supply voltage 230 V AC | ■ | ■ | ■ | ■ | | | | ■ | ■ | | | | | | | |
| **Bus connection** | | | | | | | | | | | | | | | | |
| Integrated bus coupling units | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Bus connection via bus terminal | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Bus connection via contact system to data rail | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | |
| **Outputs** | | | | | | | | | | | | | | | | |
| **Load output** | | | | | | | | | | | | | | | | |
| Floating relay contacts | 4[2] | 8[2] | 8[2] | 16[2] | 4 | 4 | 8 | 8 | 8[2] | 2 | 2 | 2 | 2 | 1 | 2 | 1 |
| Rated contact voltage, AC [V] | 230 | 230 | 230 | 230 | 230 | 230 | 230[3] | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| Rated contact current [A] | 8 | 2 | 8 | 10 | 16 | 16 | 16 | 16 | 16 | 10 | 10 | 10 | 6 | 16 | 10 | 16 |
| **Inputs** | | | | | | | | | | | | | | | | |
| Max. cable length, unshielded, twisted [m] | | | | | | | | | 100 | | | | 5 | 5 | | |
| **Pushbutton inputs** | | | | | | | | | | | | | | | | |
| For signal input (floating contacts) | | | | | | | | | 8 | | | | 2 | 2 | | |
| Determination of switching state by means of the voltage generated in the device | | | | | | | | | | | | | ■ | ■ | | |
| For voltage input 12...230 V AC/DC | | | | | | | | | 8 | | | | | | | |

[1] 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.
[2] Except channel A.
[3] Also available as C-UL version: AC 120 V / AC 277V / AC 347V, 20 A, 20 A, Order No.: 5WG1512-1CB01.

## ...Continuation of the table

| Type | N 567/01 | N 567/12 | N 567/11 | N 567/22 | N 510/03 | N 510/04 | N 512 | | N 511/02 | N 502/02 | N 562/01 | | | | | UP 510/03 | UP 510/13 | UP 562/31 | UP 511/10 | RS 510/23 | RL 512/23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Application program[1] | 980303 | 980304 | 980302 | 981C01 | 906401 | 906401 | 900701 | 908301 | 981D01 | 981601 | 520401 | 520501 | 520901 | 520B01 | 520802 | 982E01 | 982E01 | 207101 | 207101 | 982E01 | 982D01 |
| **Output functions** | | | | | | | | | | | | | | | | | | | | | |
| Max. number of group addresses | 100 | 100 | 100 | 106 | 55 | 55 | 52 | 49 | 106 | 120 | 11 | 19 | 11 | 17 | 10 | 120 | 120 | 26 | 26 | 120 | 120 |
| Max. number of assignments | 100 | 100 | 100 | 106 | 56 | 56 | 52 | 49 | 74 | 120 | 11 | 20 | 12 | 17 | 10 | 120 | 120 | 27 | 27 | 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 system voltage recovery | ■ | ■ | ■ | ■ | | | | | ■ | ■ | | | | | | | | | | | |
| Behavior in the event of system 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 |
| **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 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | ■ | ■ | ■ | ■ | ■ | ■ |

[1] For current application programs, see www.siemens.com/gamma-td.

## Load data for switch actuators per channel

| | N 562/11 switch actuators, main module / N 562/21 switch actuators, expansion | N 512/11 switch actuators, main module / N 512/21 switch actuators, expansion | N 513/11 switch actuators, main module / N 513/21 switch actuators, expansion | N 562/01 binary outputs | N 510/03 load switches | N 510/04 load switches | N 512 load switches[1] | N 511/02 switch actuators | N 567/01 switch actuators | N 567/11 switch actuators |
|---|---|---|---|---|---|---|---|---|---|---|
| **Contact current** | | | | | | | | | | |
| Rated current, AC [A] | 10 AX[3] | 16 AX | 20 AX | 10 | 16 | 16 | 16 | 16 | 8 | 8 |
| AC3 operation (p.f. = 0.45) [VA] | 2300 | 3680 | 3680 | 500 | 2500 | 3680 | 3680 | [2] | 500 | 500 |
| Maximum switch-on peak current (if more than one, specification of the highest current value) [A/ms] | [2] | [2] | [2] | [2] | 400/0.15 | 600/0.15 | 600/0.15 | [2] | [2] | 110/50 |
| **Contact voltage** | | | | | | | | | | |
| Rated voltage, AC [V] | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| **Service life** | | | | | | | | | | |
| Mechanical service life Switching operations in millions | 1 | 1 | 1 | 50 | 1 | 1 | 1 | 30 | 2 | 10 |
| Electrical service life Switching operations in millions | 0.1 | 0.1 | 0.1 | 0.1 | [2] | [2] | [2] | 0.1 | 0.1 | 0.1 |
| **Power loss** | | | | | | | | | | |
| Maximum power loss per device at rated power [W] | 3 | 3 | 3 | 1 | 5 | 5 | 9 | 10 | 5 | 4 |
| **Switching capacities/load types, loads** | | | | | | | | | | |
| Resistive load [W] | 3680 | 3680 | 4600 | 2300 | 3680 | 3680 | 3680 | 3680 | 1840 | 1840 |
| Minimum switching capacity [V/mA] | 12/100 | 12/100 | 12/100 | 24/10 | 12/100 | 12/100 | 12/100 | [2] | 5/100 | 24/10 |
| DC switching capacity [VA] | 24/10 | 24/16 | 24/20 | 30/10 | 24/10 | 24/10 | 24/10 | 24/16 | 24/8 | 30/10 |
| Maximum capacitive load [µF] | 200 | 200 | 200 | 35 | 140 | 200 | 200 | 35 | 35 | 35 |
| **Incandescent lamps** | | | | | | | | | | |
| Incandescent lamps [W] | 2300 | 3680 | 3680 | 1000 | 2500 | 3680 | 3680 | 1000 | 1000 | 1000 |
| Halogen lamp 230 V [W] | 2300 | 3680 | 3680 | 1000 | 2500 | 3680 | 3680 | 1000 | 1000 | 1000 |
| LV halogen lamp with conventional transformer (inductive) [VA] | 1200 | 2000 | 2000 | 500 | 500 | 2000 | 2000 | 500 | 200…500 | 200…500 |
| **T5/T8 fluorescent lamps** | | | | | | | | | | |
| Uncorrected [VA] | 2300 | 3680 | 3680 | 500 | 2500 | 3680 | 3680 | 500 | 500 | 500 |
| Parallel corrected (at max. possible C) [W] | 1500 | 2500 | 2500 | 2 x 58 | 1300 | 2500 | 2500 | 2 x 58 | 2 x 58 | 2 x 58 |
| DUO circuit [VA] | 1500 | 3680 | 3680 | 1000 | 2500 | 3680 | 3680 | 1000 | 1000 | 1000 |
| ECG Osram QTI 1 x 28/54 W [Unit(s)] [4] | 37 | 59 | 59 | 37 | 59 | 59 | 59 | 59 | 37 | 37 |
| ECG Osram QTP8 1 x 36 W [Unit(s)] | 16 | 31 | 31 | 14 | 31 | 31 | 31 | 14 | 14 | 14 |
| ECG Osram QTI 1 x 35/49/80 W; QTM 1 x 26-42 [4] | 11 | 21 | 21 | 10 | 21 | 21 | 21 | 10 | 10 | 10 |
| ECG Osram QTP8 2 x 58 W; QTI 2 x 35/49/80 [4] | 5 | 9 | 9 | 5 | 9 | 9 | 9 | 5 | 5 | 5 |
| **Compact lamps** | | | | | | | | | | |
| Uncorrected [VA] | 1600 | 3680 | 3680 | 500 | 1600 | 3680 | 3680 | 500 | 500 | 500 |
| Parallel corrected (at max. possible C) [W] | 1100 | 2500 | 2500 | 300 | 1100 | 3000 | 3000 | 300 | 300 | 300 |
| ECG Osram Duluxtronics DT [Unit(s)] [4] | 15 | 25 | 25 | 15 | 25 | 25 | 25 | 25 | 15 | 15 |
| **Mercury-vapor lamps** | | | | | | | | | | |
| ECG Osram PTI 35/220-240S [Unit(s)] [4] | 7 | 14 | 14 | 7 | 14 | 14 | 14 | 7 | 7 | 7 |
| ECG Osram PTI 70/220-240S [Unit(s)] [4] | 4 | 8 | 8 | 4 | 8 | 8 | 8 | 4 | 4 | 4 |

[1] Also available as UL version: 120 V AC, 20 A, Order No.: 5WG1512-1CB01.
[2] On request.
[3] Further information see chapter Output devices.
[4] 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.

## ... Continuation of the table

| | N 567/12 switch actuators | N 567/22 switch actuators | N 502/02 combination switch actuators | UP 510/03 binary outputs<br>UP 510/13 binary outputs<br>RS 510/23 binary outputs | UP 511/10 switch actuators | UP 562/31 switch actuators | RL 512/23 switch actuators |
|---|---|---|---|---|---|---|---|
| **Contact current** | | | | | | | |
| Rated current, AC [A] | 2 | 10 | 16 | 10 | 16 | 6 | 16 AX |
| AC3 operation (p.f. = 0.45) [VA] | [1] | 500 | 500 | 500 | 500 | 500 | 3680 |
| Maximum switch-on peak current (if more than one, specification of the highest current value) [A/ms] | [1] | 80/20 | 80/20 | 110/50 | 400/20 | 400/20 | [1] |
| **Contact voltage** | | | | | | | |
| Rated voltage, AC [V] | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| **Service life** | | | | | | | |
| Mechanical service life<br>Switching operations in millions | 20 | 30 | 30 | 10 | 5 | 5 | 1 |
| Electrical service life<br>Switching operations in millions | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| **Power loss** | | | | | | | |
| Maximum power loss per device at rated power [W] | 5 | 9 | 13 | 3 | 2 | 1 | 3 |
| **Switching capacities/load types, loads** | | | | | | | |
| Resistive load [W] | 460 | 2300 | 3680 | 2300 | 3680 | 1380 | 3680 |
| Minimum switching capacity [V/mA] | 5/10 | 24/100 | 24/100 | 24/10 | [1] | [1] | 12/100 |
| DC switching capacity [VA] | 24/8 | 24/10 | 24/16 | 30/10 | [1] | [1] | 24/16 |
| Maximum capacitive load [μF] | 12 | 35 | 35 | 35 | 105 | 105 | 200 |
| **Incandescent lamps** | | | | | | | |
| Incandescent lamps [W] | 500 | 1000 | 1000 | 1000 | 2500 | 1380 | 3680 |
| Halogen lamp 230 V [W] | 500 | 1000 | 1000 | 1000 | 2200 | 1000 | 3680 |
| LV halogen lamp with conventional transformer (inductive) [VA] | 200 | 500 | 500 | 200...500 | 1000 | 1000 | 2000 |
| **T5/T8 fluorescent lamps** | | | | | | | |
| Uncorrected [VA] | 200 | 500 | 500 | 500 | 28 x 58 | 1380 | 3680 |
| Parallel corrected (at max. possible C) [W] | 200 | 2 x 58 | 2 x 58 | 2 x 58 | 15 x 58 | 15 x 58 | 2500 |
| DUO circuit [VA] | 200 | 1000 | 1000 | 1000 | 28 x 58 | 1380 | 3680 |
| ECG Osram QTI 1 x 28/54 W [Unit(s)][2] | 22 | 37 | 59 | 37 | 59 | 26 | 59 |
| ECG Osram QTP8 1 x 36 W [Unit(s)] | 7 | 14 | 14 | 14 | 28 | 28 | 31 |
| ECG Osram QTI 1 x 35/49/80 W; QTM 1 x 26-42 [Unit(s)][2] | 5 | 10 | 10 | 10 | 21 | 21 | 21 |
| ECG Osram QTP8 2 x 58 W; QTI 2 x 35/49/80 [Unit(s)][2] | 2 | 5 | 5 | 5 | 9 | 9 | 9 |
| **Compact lamps** | | | | | | | |
| Uncorrected [VA] | 200 | 500 | 500 | 500 | [1] | [1] | 3680 |
| Parallel corrected (at max. possible C) [W] | 200 | 300 | 300 | 300 | [1] | [1] | 2500 |
| ECG Osram Duluxtronics DT [Unit(s)][2] | 7 | 15 | 15 | 15 | 25 | 25 | 25 |
| **Mercury-vapor lamps** | | | | | | | |
| ECG Osram PTI 35/220-240S [Unit(s)][2] | 3 | 7 | 7 | 7 | 14 | 14 | 14 |
| ECG Osram PTI 70/220-240S [Unit(s)][2] | 2 | 4 | 4 | 4 | 8 | 8 | 8 |

[1] On request.
[2] 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.

Output Devices
# Binary output devices
## Modular switch actuators

**2**

## Switch actuator, main module

N 562/11..512/11..513/11

- 3 Floating relay contacts
- Rated contact voltage, 230 V AC
- 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

Dimension width (1 MW = 18 mm)        3 MW

### Range overview switch actuators, main modules

| Product Title | Stock No. | Product No. |
|---|---|---|
| Switch actuator, main module, 3 x AC 230/400 V, 10 AX, C load, Load-check | 5WG1562-1AB11 | **N 562/11** |
| Switch actuator, main module, 3 x AC 230/400 V, 16 AX, C load, Load-check | 5WG1512-1AB11 | **N 512/11** |
| Switch actuator, main module, 3 x AC 230/400 V, 20 AX, C load, Load-check | 5WG1513-1AB11 | N 513/11 |

**Output Devices**
**Binary output devices**
**Modular switch actuators**

**2**

### N 562/21..512/21..513/21    Switch actuator, submodule

- 3 Floating relay contacts
- Rated contact voltage, 230 V AC
- 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

Dimension width (1 MW = 18 mm)        3 MW

### Range overview expansion

| Product Title | Stock No. | Product No. |
|---|---|---|
| Switch actuator submodule, 3 x AC 230/400 V, 10 AX, C load, Load-check | 5WG1562-1AB21 | **N 562/21** |
| Switch actuator submodule, 3 x AC 230/400 V, 16AX, C load, load-check | 5WG1512-1AB21 | **N 512/21** |
| Switch actuator submodule, 3 x AC 230/400 V, 20 AX, C load- Load-check | 5WG1513-1AB21 | **N 513/21** |

## Switch actuator

N 567/..

- One potential-free relay contact per output channel
- Electronics powered via an integrated power supply unit for 230 V AC
- 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 230 V AC 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

## Range overview switch actuators N567/..

| Product Title | Dimension width (1 MW = 18 mm) | Stock No. | Product No. |
|---|---|---|---|
| Switch actuator, 4 x 230 V AC, 8 A | 4 MW | 5WG1567-1AB01 | **N 567/01** |
| Switch actuator, 8 x 230 V AC, 8 A | 4 MW | 5WG1567-1AB11 | **N 567/11** |
| Switch actuator, 8 x 230 V AC, 2 A | 4 MW | 5WG1567-1AB12 | **N 567/12** |
| Switch actuator, 16x AC 230 V, 10 A | 8 MW | 5WG1567-1AB22 | **N 567/22** |

The optional data rail must be ordered separately. See chapter System Products and Accessories - Data rails.

**N 511/02**

### Switch actuator 8 x 230 V AC, 16A

- One relay contact per output as switching element
- Rated operating voltage of relay contact: 230 V AC
- Rated current of relay contact: 16 A, p.f. = 1
- Integrated power supply for the electronics, connected to 230 V AC
- Push button to switch between bus operation and direct operation
- Yellow LED to indicate direct operation activated
- 1 red LED per output to indicate the switching state
- One push button per output to switch the output via a toggling function in direct operation mode, functional if 230 V AC present, (even if bus voltage absent or interrupted or bus communication not yet activated)
- Selection whether outputs are to be configured identically or individually
- Operation mode selectable for each output (normal mode, time switch mode)
- Selectable switching behaviour for each output (NO contact/NC contact)
- Adjustable On and Off delay times
- Selectable logic operation (AND/OR) for two communication objects and variable start value of the logic operation at bus voltage recovery
- Selectable additional night mode object for each output for time-limited switching on of the illumination at night
- Adjustable On period for night or time switch operation mode
- Selectable warning signal prior to imminent switching-off by means of three-times short off and on switching (flashing) at night or time switch operation mode
- Possibility to add one additional status indication 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 into up to 8 scenes
- Unchanged switching state of all outputs if there is a power failure
- Adjustable switching state per output after mains voltage recovery
- Integrated bus coupling unit
- Bus connection both via bus terminal and contact system to a data rail
- Only half a standard bus load
- Rail-mounted device for mounting on rail TH 35 according to DIN EN 60715

Dimension width (1 MW = 18 mm)          8 MW

The optional data rail must be ordered separately. See chapter System Products and Accessories - data rails.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1511-1AB02 | **N 511/02** |

## Switching actuator, 1 x AC 230 V, C load

**RL 512/23**



- 1 floating relay contact
- Rated contact voltage, 230 V AC
- Rated contact current 16 AX / 20 AX
- Modular installation device for mounting in AP 118 automation module box or AP 641 room control box
- Switching operation and operating hours counter
- 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
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal

Dimensions (W x H x D)                86.5 x 47.8 x 36.2 mm

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

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1512-4AB23 | **RL 512/23** |

## Switch actuator

**UP 5..**



- 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 60 mm diameter

Dimension (Ø x H)                53 x 28 mm

### Range overview UP 5..

| Product Title | Stock No. | Product No. |
|---|---|---|
| Switch actuator, 1 x AC 230 V, 16 A; 2 x binary input | 5WG1511-2AB10 | **UP 511/10** |
| Switch actuator, 2 x AC 230 V, 6 A; 2 x binary input | 5WG1562-2AB31 | **UP 562/31** |

Output Devices
**Binary output devices**
**Combination switch actuators**

**2**

**N 502/02** | **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
- Green LED to indicate operational readiness
- Push button to switch between bus and direct mode
- Yellow LED to indicate direct mode activated
- 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
- 1 red LED per output to indicate the switching state
- 1 red LED per input to indicate the current signal state
- 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, 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
- Status object for reporting direct 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 units 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

Dimension width (1 MW = 18 mm)        8 MW

The optional data rail must be ordered separately. See chapter System Products and Accessories - data rails.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1502-1AB02 | **N 502/02** |

## Load switch

**N 510/..**

- 4 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
- Status object
- Positively driven operation
- Configurable behavior in the event of a  bus voltage failure
- Bus-powered electronics
- Integrated bus coupling units, Bus connection via bus terminal or contact system to data rail

Dimension width (1 MW = 18 mm)        4 MW

### Range overview load switches N 510/..

| Product Title | Stock No. | Product No. |
|---|---|---|
| Load switch, 4x 230 V AC, 16 A | 5WG1510-1AB03 | **N 510/03** |
| Load switch, 4x 230 V AC, 16 A, C load | 5WG1510-1AB04 | **N 510/04** |

The optional data rail must be ordered separately. See chapter System Products and Accessories - Data rails.

## 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

Dimension width (1 MW = 18 mm)        8 MW

### Range overview load switches N 512..01

| Product Title | Stock No. | Product No. |
|---|---|---|
| Load switch, 8x 230 V AC, 16 A, C load | 5WG1512-1AB01 | **N 512/01** |
| Load switch, 8 x AC 120 V / AC 277V / AC 347V, 20 A, C load (cUL listed) | 5WG1512-1CB01 | **N 512C01** |

The optional data rail must be ordered separately. See chapter System Products and Accessories - Data rails.

## N 562/01

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

- with one potential-free relay contact per output
- rated voltage 230 V AC
- rated current 10 A at p.f. = 1
- with selectable programs for the independent switching on/off of electrical loads, either with direct operation or with forced control, with status objects
- with operation as time switch or with on/off delay
- with logic operation (AND/OR) of two communication objects for channel A
- with selectable relay operating mode (NC contact / NO contact)
- with control of an electro thermal valve actuator or electrical heating
- with monitoring of the room temperature controller
- with adjustable characteristics of thermal drive (valve opened or closed for isolated drive)
- with communication object for reception of up to three window contact data per channel and closing of the valve if the window is open
- with communication objects for the reception of a frost alarm signal per channel
- with activation of the heating to 50 % of the On period (corresponds to a half-opened valve) if a frost alarm is received and on failure of communication with the room temperature controller
- with configurable output state in case of bus voltage failure and bus voltage recovery
- with bus-powered electronics
- with integrated bus coupling unit, bus connection via contact system to data rail
- for mounting on DIN rail EN 60715-TH35-7.5.

Dimension width (1 MW = 18 mm)          2 MW

The data rail must be ordered separately. See chapter System Products and Accessories - data rails.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1562-1AB01 | **N 562/01** |

## RS 510/23

### Binary output devices, 2 x 230 V AC, 10 A (resistive load)

- 2 Floating relay contacts
- Rated contact voltage AC 230 V
- Rated contact current 10 A
- Integrated bus coupling unit
- Modular installation device for mounting in AP 118 automation module box or AP 641 room control box
- Bus-powered electronics
- Bus connection via bus terminal, Integrated bus coupling units
- 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
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal

Dimensions (W x H x D)                 50.2 x 48.8 x 35.5 mm

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

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1510-2AB23 | **RS 510/23** |

## Binary Output

**UP 510/..3**

- Rated contact voltage, 230 V AC
- Bus-powered electronics
- Bus connection via bus terminal, Integrated bus coupling units
- Configurable behavior in the event of a  bus voltage failure
- Configurable behavior in the event of a  bus voltage recovery
- Unchanged switching state of outputs
- 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 binary output devices UP 510/..3

| Product Title | Dimensions (W x H x D) | Stock No. | Product No. |
|---|---|---|---|
| Binary Output, 2 x 230 V AC, 10A, 10-pole BTI socket for plugging of bus terminal devices and mounting frame | 71 x 71 x 42 mm | 5WG1510-2AB03 | **UP 510/03** |
| Binary Output, 2 x 230 V AC, 10A, without mounting frame | 50 x 50.9 x 41.3 mm | 5WG1510-2AB13 | **UP 510/13** |
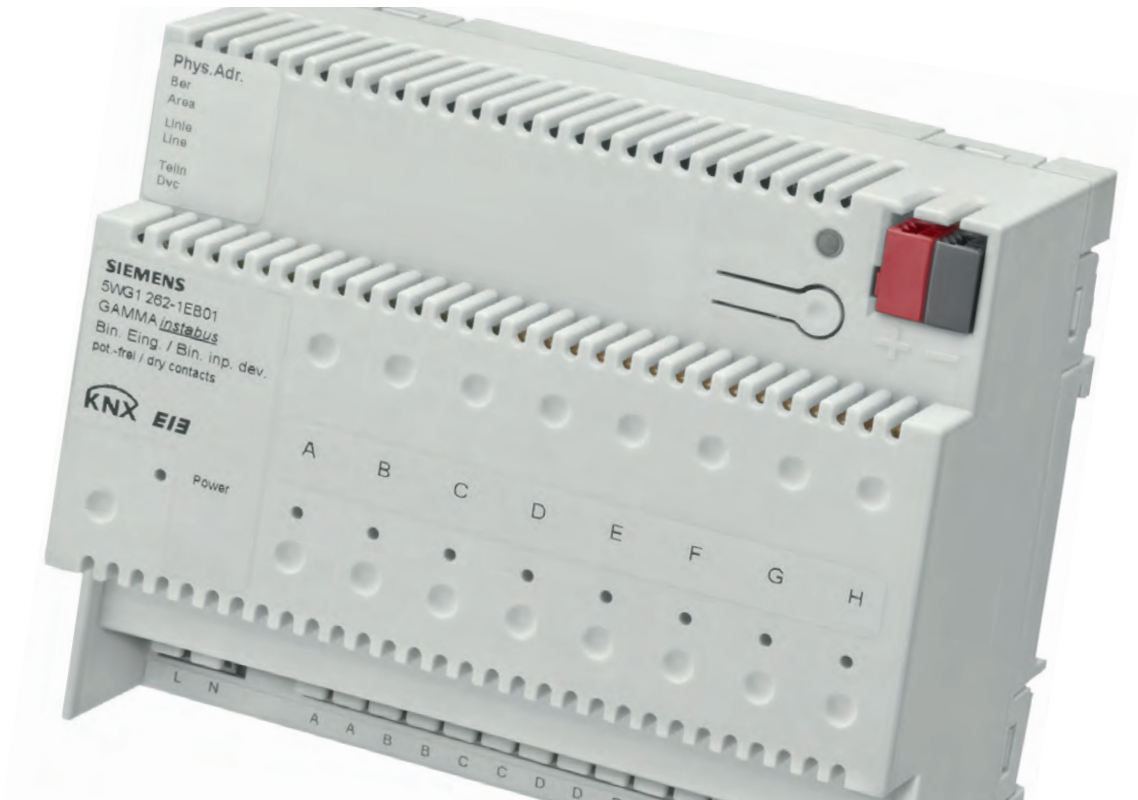
# Input devices

**3**

## Binary input devices

| Type | N 262E01 | N 263E01 | N 262E11 | N 263E11 | N 264E11 | N 260 | N 261[1] | RL 260/23 | UP 220/21 | UP 220D31 | N 501 | N 502/02 | UP 511/10 | UP 520/31 | UP 525/31 | UP 562/31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Enclosure data** | | | | | | | | | | | | | | | | |
| Design | N | N | N | N | N | N | N | RL | 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[2] | | | | | | | | ■ | | | | | | | | |
| **Dimensions** | | | | | | | | | | | | | | | | |
| • Width [mm] (1 MW = 18 mm) | 6 MW | 6 MW | 6 MW | 6 MW | 6 MW | 2 MW | 2 MW | 47.8 | 42 | 42 | 8 MW | 8 MW | Ø 53 | Ø 53 | Ø 53 | Ø 53 |
| • Height [mm] | | | | | | | | 36.2 | 42 | 42 | | | | | | |
| • Depth [mm] | | | | | | | | 86.5 | 8.5 | 8.5 | | | 28 | 28 | 28 | 28 |
| **Display/control elements** | | | | | | | | | | | | | | | | |
| LED for status indication per input | ■ | ■ | ■ | ■ | ■ | | | | | | ■ | ■ | | | | |
| **Power supply** | | | | | | | | | | | | | | | | |
| Bus-powered electronics | | | | | | ■ | | | ■ | ■ | | | ■ | ■ | ■ | ■ |
| Electronics powered via an integrated power supply unit for supply voltage 230 V AC | ■ | ■ | ■ | ■ | ■ | | | | | | ■ | ■ | | | | |
| **Bus connection** | | | | | | | | | | | | | | | | |
| Integrated bus coupling units | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Bus connection via contact system to data rail | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | ■ | ■ | | | | |
| Bus connection via bus terminal | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Inputs** | | | | | | | | | | | | | | | | |
| Max. cable length, unshielded, twisted [m] | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 10 | 10 | 100 | 100 | 5 | 5 | 5 | 5 |
| **Pushbutton inputs** | | | | | | | | | | | | | | | | |
| For signal input (floating contacts) | 8 | | 16 | | 8 | | | | 2[3] | 4[3] | | | 2 | 2 | 2 | 2 |
| Determination of switching state by means of the voltage generated in the device | ■ | | ■ | | ■ | | | | ■ | ■ | | | ■ | ■ | ■ | ■ |
| For voltage input | | ■ | | ■ | ■ | ■ | ■ | ■ | | | ■ | ■ | | | | |
| • 230 V AC | | | | | | 4[4] | | | | | | | | | | |
| • 24 V AC/DC | | | | | | | | | | 4[5] | | | | | | |
| • 12...230 V AC/DC | | 8[6] | | | 8[6] | | | 4 | | | 8 | 8 | | | | |
| • 12...230 V AC/12...115 V DC | | | | 16[6] | | | | | | | | | | | | |

[1] Also available as c-UL version, Order No.: 5WG1261-1CB01.
[2] 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
[3] Inputs, alternatively can be used as outputs for controlling LEDs up to a maximum of 2 mA.
[4] Pushbutton inputs with shared ground (N).
[5] Pushbutton inputs with shared ground (COM-).
[6] The pushbutton inputs are mutually insulated from the base.

## ... Continuation of the table

| Type | N 262E01 | N 263E01 | N 262E11 | N 263E11 | N 264E11 | N 260 | | | N 261 | | | RL 260/23 | UP 220/21 | UP 220D31 | N 501 | N 502/02 | UP 511/10 | UP 520/31 | UP 525/31 | UP 562/31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Application program[1] | 980902 | 980902 | 980D02 | 980D02 | 980D02 | 240505 | 240A01 | 220703 | 240505 | 240A01 | 220703 | 983101 | 982301 | 982201 | 981701 | 981601 | 207201 | 207301 | 301901 | 207101 |
| **Input functions** | | | | | | | | | | | | | | | | | | | | |
| Max. number of group addresses | 97 | 97 | 97 | 97 | 97 | 14 | 8 | 27 | 14 | 8 | 27 | 120 | 120 | 120 | 220 | 120 | 26 | 26 | 26 | 26 |
| Max. number of assignments | 97 | 97 | 97 | 97 | 97 | 16 | 9 | 27 | 16 | 9 | 27 | 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) | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Transmission parameters** | | | | | | | | | | | | | | | | | | | | |
| 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 | | | | | | ■ | | | ■ | | | ■ | ■ | | | | | | | |
| **Switching** | | | | | | | | | | | | | | | | | | | | |
| 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 | ■ | ■ | ■ | ■ | ■ | | | ■ | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Value transmission** | | | | | | | | | | | | | | | | | | | | |
| 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 | ■ | ■ | ■ | ■ | ■ | | | | | | | ■ | ■ | ■ | ■ | ■ | | | | |
| **Dimming** | | | | | | | | | | | | | | | | | | | | |
| 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 | ■ | ■ | ■ | ■ | ■ | | | | | | | ■ | ■ | ■ | ■ | ■ | | | | |
| **Shutter/blind** | | | | | | | | | | | | | | | | | | | | |
| 1-pushbutton shutter/blind control | ■ | ■ | ■ | ■ | ■ | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 2-pushbutton shutter/blind control | ■ | ■ | ■ | ■ | ■ | | | ■ | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Short/long button press can be evaluated | ■ | ■ | ■ | ■ | ■ | | | | | | | ■ | ■ | ■ | ■ | ■ | | | | |
| **Scene** | | | | | | | | | | | | | | | | | | | | |
| Store and call up scene, 8-bit | ■ | ■ | ■ | ■ | ■ | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Store and call up scene, 1-bit in conjunction with scene module | ■ | ■ | ■ | ■ | ■ | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Pulse counting** | | | | | | | | | | | | | | | | | | | | |
| Pulse counting with/without limit value monitoring (8 bit, 16 bit, 32 bit) | ■ | ■ | ■ | ■ | ■ | | | | | | | ■ | ■ | ■ | ■ | ■ | | | | |
| **Group control** | | | | | | | | | | | | | | | | | | | | |
| 1-pushbutton group control | ■ | ■ | ■ | ■ | ■ | | | | | | | ■ | ■ | ■ | ■ | ■ | | | | |

[1] For current application programs, see www.siemens.com/gamma-td

**Notes**

3

## Binary input device                                                    N 26..E/..1

- 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 230 V AC to supply the electronics
- Integrated bus coupling units, Bus connection via contact system to data rail, bus connection via bus terminal

Dimension width (1 MW = 18 mm)        6 MW

### Range overview binary input devices N26..E/..1

| Product Title | Stock No. | Product No. |
|---|---|---|
| Binary input device, 8 x potential-free contacts | 5WG1262-1EB01 | **N 262E01** |
| Binary input device, 8 x AC/DC 12...230 V | 5WG1263-1EB01 | **N 263E01** |
| Binary input device, 16 x potential-free contacts | 5WG1262-1EB11 | **N 262E11** |
| Binary input device, 16 x AC 12...230 V / DC 12...115 V | 5WG1263-1EB11 | **N 263E11** |
| Binary input device, 8 x AC/DC 12...230 V + 8 x potential-free contacts | 5WG1264-1EB11 | **N 264E11** |

The optional data rail must be ordered separately. See chapter System Products and Accessories - Data rails.

## Binary input device                                                    N 26../01

- Max. cable length, unshielded, twisted 100 m
- Configurable function per single input:
- Switching state/send binary value
- Switch edge, switching on short / long pulse
- 8-bit value edge
- Configurable function per pair of inputs:
- 2-pushbutton dimming with stop telegram, 2-pushbutton shutter/blind control
- Transmission of the input objects after a change of status
- Configurable cyclic transmission of the input objects
- Bus-powered electronics
- Integrated bus coupling units, bus connection via contact system to data rail

Dimension width (1 MW = 18 mm)        2 MW

### Range overview N 26../01

| Product Title | Stock No. | Product No. |
|---|---|---|
| Binary input device, 4 x AC 230 V | 5WG1260-1AB01 | **N 260/01** |
| Binary input device, 4 x AC/DC 24 V | 5WG1261-1AB01 | **N 261/01** |
| Binary input device, 4 x AC/DC 24 V (UL listed) | 5WG1261-1CB01 | **N 261C01** |

The data rail must be ordered separately. See chapter System Products and Accessories - Data rails.

**3**

### RL 260/23

### Binary Input, 4 inputs for 12 ... AC/DC 230 V

- 4 Inputs for AC/DC 12...230 V
- Max. cable length, unshielded, twisted 100 m
- Maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm [/2]
- The following functions can be selected per input:
- Switching state/send binary value
- Switch edge/short/long switch
- Dimming, shading control, single button group control
- 1/8-bit scene control
- 8-bit value edge
- 8-bit value short/long
- 16-bit floating-point value edge
- 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 (4 bit) and 2-pushbutton shading control
- Optional blocking of each input by means of the respective blocking object
- Transmission of the input objects after change
- Optional cyclic transmission of input objects
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal

Dimensions (W x H x D)          86.5 x 47.8 x 36.2 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1260-4AB23 | **RL 260/23** |

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

### 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 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
- Szene 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

Dimensions (W x H x D)          42 x 42 x 8.5 mm

### Range overview I/O pushbutton interface

| Product Title | Stock No. | Product No. |
|---|---|---|
| Pushbutton interface, 2 x potential-free contact, output for LED control | 5WG1220-2AB21 | **UP 220/21** |
| Pushbutton interface, 4 x potential-free contact, output for LED control | 5WG1220-2DB31 | **UP 220D31** |

Recommendation: LED light insert, for switches and pushbutton inserts, red, 1.5 V DC, 1 mA (Stock No.: 5TG7318).

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

**N 501/01**

- 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 × AC 230V sunblind drives
- Contact rated voltage AC 230 V
- Contact rated current 6 A, p.f. = 1
- Electronics powered by a 230 V AC 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
- Green LED to indicate standby
- Key for switching between bus and direct mode
- Yellow LED for indicating direct mode activated
- Button for each relay contact output, for switching the output in direct mode while the button is held down
- LED per input to indicate the relevant signal status
- 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

Dimension width (1 MW = 18 mm)        8 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1501-1AB01 | **N 501/01** |

The optional data rail must be ordered separately. See chapter System Products and Accessories - data rails.

**3**

## N 502/02



### 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
- Green LED to indicate operational readiness
- Push button to switch between bus and direct mode
- Yellow LED to indicate direct mode activated
- 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
- 1 red LED per output to indicate the switching state
- 1 red LED per input to indicate the current signal state
- 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, 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
- Status object for reporting direct 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 units 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

Dimension width (1 MW = 18 mm)        8 MW

The optional data rail must be ordered separately. See chapter System Products and Accessories - data rails.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1502-1AB02 | **N 502/02** |

**3**

## Switch actuator

UP 5..

- 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 60 mm diameter

Dimensions (Ø x H)                53 x 28 mm

## Range overview UP 5..

| Product Title | Stock No. | Product No. |
| --- | --- | --- |
| Switch actuator, 1 x AC 230 V, 16 A; 2 x binary input | 5WG1511-2AB10 | **UP 511/10** |
| Switch actuator, 2 x AC 230 V, 6 A; 2 x binary input | 5WG1562-2AB31 | **UP 562/31** |

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

UP 520/31

- 1 x AC 230 V, 6 A, 2 x binary inputs
- 1 channel
- 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
- Electrically interlocked relays (for reversing direction of rotation)
- Max. cable length, unshielded, twisted 5 m
- For 2 signal inputs (floating contact)
- Determination of switching state by means of the voltage generated in the device
- Configurable behavior in the event of a  bus voltage failure
- Configurable behavior in the event of a  bus voltage recovery
- Transmitting status per channel
- Travel lock (e. g. for cleaning the outer shutter/blinds)
- Alarm (Wind, Rain, Frost): Move to safety position, locking in this position for as long as alarm is active
- Individual configuration of actuator channels
- Travel to end position, stopping, stepwise adjustment
- Bus-powered electronics
- Integrated bus coupling units
- Bus connection via bus terminal
- For installation in flush-mounting switch and socket boxes with Ø 60 mm

Dimension (Ø x H)                53 x 28 mm

| | Stock No. | Product No. |
| --- | --- | --- |
| | 5WG1520-2AB31 | **UP 520/31** |

**3**

### UP 525/31

### 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
- Enclosed bus terminal for bus connection
- For installation in a flush-mounting wall or ceiling box with 60 mm diameter

Dimension (Ø x H)                          53 x 28 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1525-2AB31 | **UP 525/31** |

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# Combination Devices

**4**

| Input/output devices | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Type | N 501/01 | N 502/02 | N 605/01 | UP 511/10 | UP 562/31 | UP 520/31 | UP 525/31 | UP 220/21 | UP 220D31 |
| Application program[1] | 981701 | 981601 | 906101 | 207201 | 207101 | 207301 | 301901 | 982301 | 982201 |
| **Enclosure data** | | | | | | | | | |
| Design | N | 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 | | | | ■ | ■ | ■ | ■ | ■ | ■ |
| **Dimensions** | | | | | | | | | |
| • Width/Ø [mm] (1 MW = 18 mm) | 8 MW | 8 MW | 6 MW | Ø 53 | Ø 53 | Ø 53 | Ø 53 | Ø 42 | Ø 42 |
| • Depth [mm] | | | | 28 | 28 | 28 | 28 | 8.5 | 8.5 |
| **Display/control elements** | | | | | | | | | |
| LED for status indication per input | ■ | ■ | | | | | | | |
| LED for status indication per output | ■ | ■ | ■ | | | | | | |
| LED for operation/status display | ■ | ■ | ■ | | | | | | |
| Pushbuttons for local operation on the device | ■ | ■ | ■ | | | | | | |
| **Power supply** | | | | | | | | | |
| Electronics powered via an integrated power supply unit for supply voltage 230 V AC | ■ | ■ | ■ | | | | | | |
| Bus-powered electronics | | | | ■ | ■ | ■ | ■ | ■ | ■ |
| Bus-dependent operation possible | ■ | ■[2] | ■ | | | | | | |
| **Bus connection** | | | | | | | | | |
| Integrated bus coupling units | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Bus connection via bus terminal | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Bus connection via contact system to data rail | ■ | ■ | | | | | | | |
| **Outputs** | | | | | | | | | |
| **Load output** | | | | | | | | | |
| Floating relay contact | | 8[3] | | 1 | 2 | 1 | 1 | | |
| Silent semiconductor switch | | | 6 | | | | | | |
| Electrically interlocked relays (for reversing direction of rotation) | 4 | | | | | | | | |
| **Load types** | | | | | | | | | |
| Rated contact voltage, AC [V] | 230 | 230 | 230 | 230 | 230 | 230 | 230 | | |
| Rated contact current [A] | 6 | 16 | | 16 | 6 | 6 | | | |
| Max. short-time current | | | 1.5 | | | | | | |
| Switching capacity for permanent loading | | | | | | | | | |
| **Protection** | | | | | | | | | |
| Electronic protection of outputs against overload and short circuit | | | ■ | | | | ■ | ■ | |
| **Universal inputs/outputs** | | | | | | | | | |
| Adjustable universal inputs/outputs | | | | | | | | | |
| **Inputs** | | | | | | | | | |
| Max. cable length, unshielded, twisted [m] | 100 | 100 | 50 | 5 | 5 | 5 | 5 | 10 | 10 |
| For signal input (floating contact) | | | 2 x 3 | 2 | 2 | 2 | 2 | 2[4] | 4[4] |
| 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 | [5] | [5] | | | | | | | |

[1] For current application programs, see www.siemens.com/gamma-td
[2] Each input affects the output of the same name, adjustable as timer or impulse relay.
[3] Except channel A.
[4] The inputs are mutually insulated from the base.
[5] Inputs, alternatively can be used as outputs for controlling LEDs up to a maximum of 2 mA.

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

**N 501/01**



- 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 × AC 230V sunblind drives
- Contact rated voltage AC 230 V
- Contact rated current 6 A, p.f. = 1
- Electronics powered by a 230 V AC 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
- Green LED to indicate standby
- Key for switching between bus and direct mode
- Yellow LED for indicating direct mode activated
- Button for each relay contact output, for switching the output in direct mode while the button is held down
- LED per input to indicate the relevant signal status
- 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

Dimension width (1 MW = 18 mm)        8 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1501-1AB01 | **N 501/01** |

The optional data rail must be ordered separately. See chapter System Products and Accessories - data rails.

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### N 502/02

**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
- Green LED to indicate operational readiness
- Push button to switch between bus and direct mode
- Yellow LED to indicate direct mode activated
- 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
- 1 red LED per output to indicate the switching state
- 1 red LED per input to indicate the current signal state
- 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, 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
- Status object for reporting direct 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 units 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

Dimension width (1 MW = 18 mm)        8 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1502-1AB02 | **N 502/02** |

The optional data rail must be ordered separately. See chapter System Products and Accessories - data rails.

## Thermal drive actuator

### N 605..

- Can be operated with instabus Room temperature controllers
- Direct operation (local operation), LED for operation/status display
- Rated voltage 230 V AC, 6 silent semiconductor switch
- Electronic protection of outputs against overload and short circuit
- 6 signal inputs (floating contacts), Determination of switching state by means of the voltage generated in the device, max. 50 m cable length, unshielded, twisted
- Funktionen Ausgänge: Switching (on/off per channel), Configurable transmission of input status objects
- Configurable behavior in the event of a bus voltage failure/recovery
- Electronics powered via an integrated power supply unit for supply voltage 230 V AC
- Integrated bus coupling units, Bus connection via bus terminal
- Modular installation device for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)      6 MW

### Range overview N 605..

| Product Title | Stock No. | Product No. |
|---|---|---|
| Thermal drive actuator, 6 inputs, 6 outputs | 5WG1605-1AB01 | **N 605/01** |

## Switch actuator

### UP 5..

- 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 60 mm diameter

Dimensions (Ø x H)           53 x 28 mm

### Range overview UP 5..

| Product Title | Stock No. | Product No. |
|---|---|---|
| Switch actuator, 1 x AC 230 V, 16 A; 2 x binary input | 5WG1511-2AB10 | **UP 511/10** |
| Switch actuator, 2 x AC 230 V, 6 A; 2 x binary input | 5WG1562-2AB31 | **UP 562/31** |

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**UP 520/31**

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

- 1 x AC 230 V, 6 A, 2 x binary inputs
- 1 channel
- 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
- Electrically interlocked relays (for reversing direction of rotation)
- Max. cable length, unshielded, twisted 5 m
- For 2 signal inputs (floating contact)
- Determination of switching state by means of the voltage generated in the device
- Configurable behavior in the event of a  bus voltage failure
- Configurable behavior in the event of a  bus voltage recovery
- Transmitting status per channel
- Travel lock (e. g. for cleaning the outer shutter/blinds)
- Alarm (Wind, Rain, Frost): Move to safety position, locking in this position for as long as alarm is active
- Individual configuration of actuator channels
- Travel to end position, stopping, stepwise adjustment
- Bus-powered electronics
- Integrated bus coupling units
- Bus connection via bus terminal
- For installation in flush-mounting switch and socket boxes with Ø 60 mm

Dimension (Ø x H)          53 x 28 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1520-2AB31 | **UP 520/31** |

**UP 525/31**

**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
- Enclosed bus terminal for bus connection
- For installation in a flush-mounting wall or ceiling box with 60 mm diameter

Dimension (Ø x H)          53 x 28 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1525-2AB31 | **UP 525/31** |

4

## Pushbutton interface                                          UP 220/..

- 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
- Szene 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

Dimensions (W x H x D)                42 x 42 x 8.5 mm

### Range overview I/O pushbutton interface

| Product Title | Stock No. | Product No. |
|---|---|---|
| Pushbutton interface, 2 x potential-free contact, output for LED control | 5WG1220-2AB21 | **UP 220/21** |
| Pushbutton interface, 4 x potential-free contact, output for LED control | 5WG1220-2DB31 | **UP 220D31** |

Recommendation: LED light insert, for switches and pushbutton inserts, red, 1.5 V DC, 1 mA (Stock No.: 5TG7318).

### Accessories for UP 220/..

| Product Title | Stock No. | Product No. |
|---|---|---|
| LED light insert | 5TG7318 | **5TG7318** |

# Lighting



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### Universal dimmers

Universal dimmers are dimmers which automatically determine the load type connected to their outputs (resistive, inductive or capacitive) and switch over accordingly to leading-edge phase mode (for a resistive or inductive load such as incandescent lamps or LV halogen lamps with an upstream conventional transformer) or trailing-edge phase mode (for a capacitive load such as LV halogen lamps with an upstream electronic transformer).

Block diagram 1:

1-channel operation without KNX, control via conventional pushbuttons at the two inputs (E1, E2)[1]

Universal dimmer expansion



E1
E2

■ 230 V AC

300 VA
500 VA
1000 VA

I202_02034
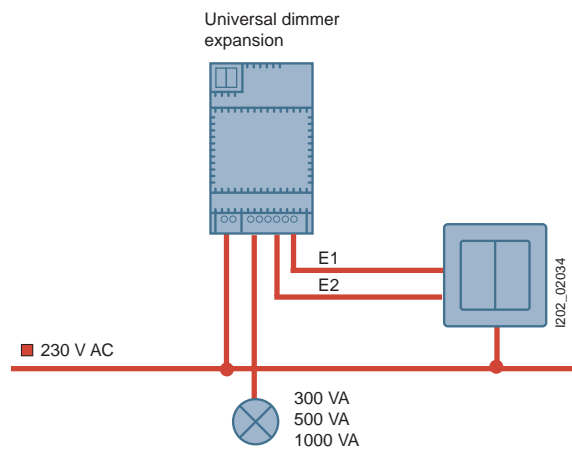
Block diagram 2:

Combination options for universal dimmers, main modules and expansions.[1]

max. 6 units, max. cable length 2 m



| Main Module | Submodules | | | | |
| --- | --- | --- | --- | --- | --- |
| 300 VA 500 VA | 300 VA 500 VA 1000 VA | 300 VA 500 VA 1000 VA | 300 VA 500 VA 1000 VA | 300 VA 500 VA 1000 VA | 300 VA 500 VA 1000 VA |

I202_02288

Mixed operation
all combinations possible
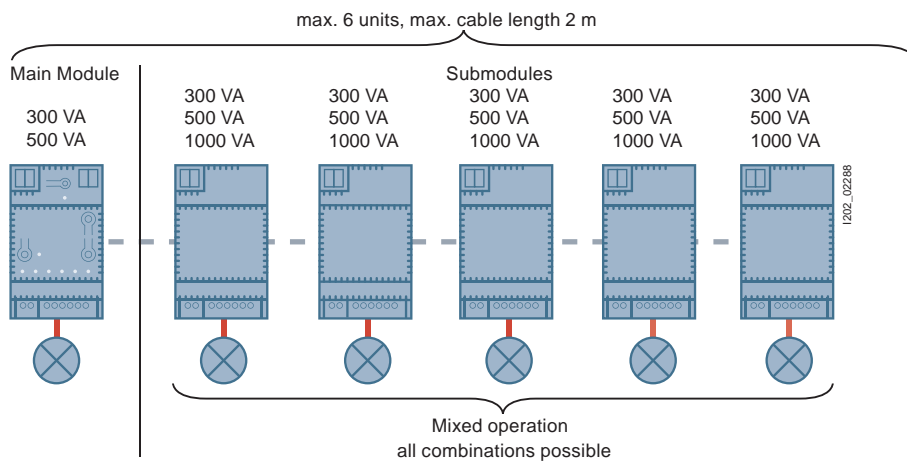
Block diagram 3:

Combination options for universal dimmers, main modules and expansions, as well as for increased performance.[1]

max. 6 units, max. cable length 2 m



Main Module
300 VA
500 VA

Submodules

1000 VA    1000 VA

1000 VA    1000 VA

300 VA
500 VA
1000 VA

2000 VA

2000 VA

I202_02289

Only the submodules 1000 VA may be used in parallel mode.
300 VA and 500 VA modules must not be used in parallel mode.
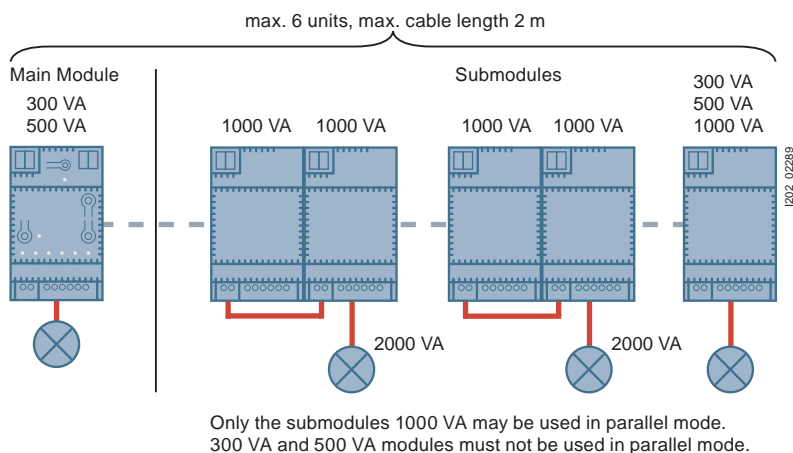
[1] The block diagrams shown here are just an example of how modules can be interconnected and interfaced. For more detailed information, see www.siemens.com/gamma-td

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### DALI – simple and easy to manage

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 inteface 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.

Additional information on DALI is available in the DALI technical manual at: www.dali-ag.org

**Compare 1...10 V control system to DALI with KNX**
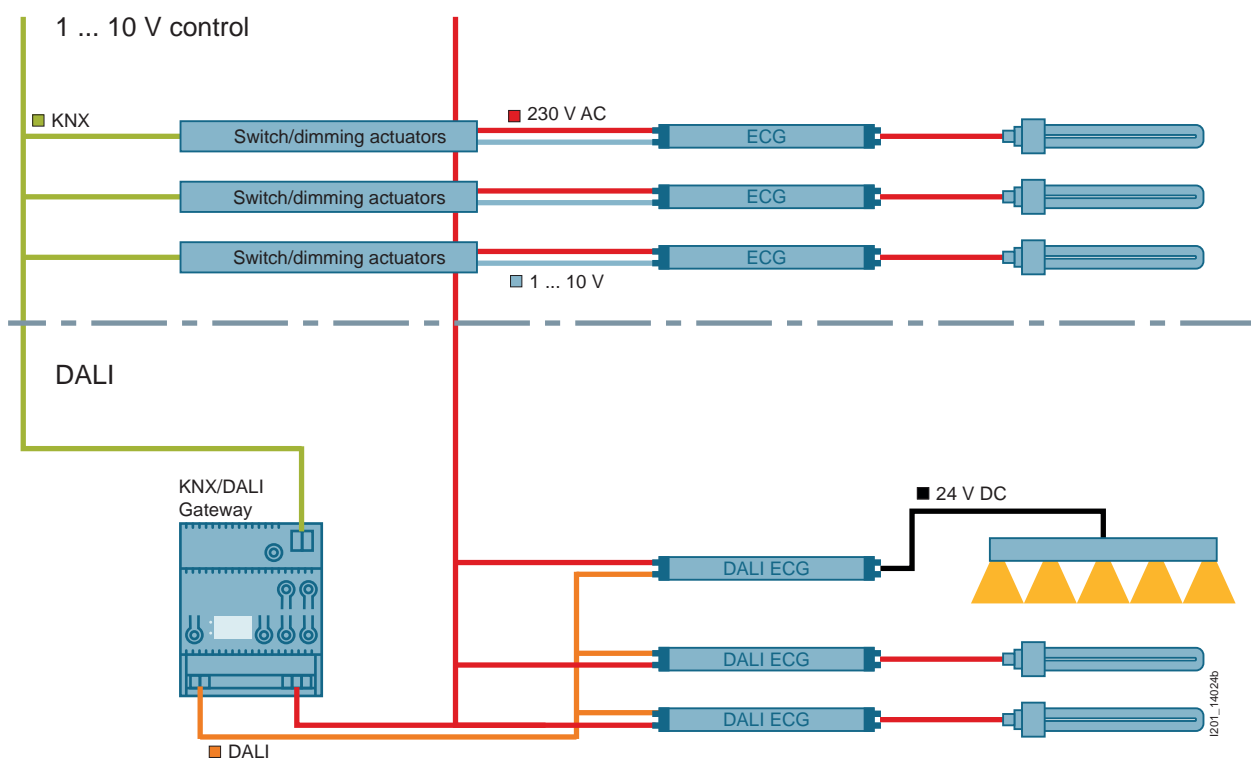
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Wiring of lighting groups 1...10 V control with KNX



I201_14025a
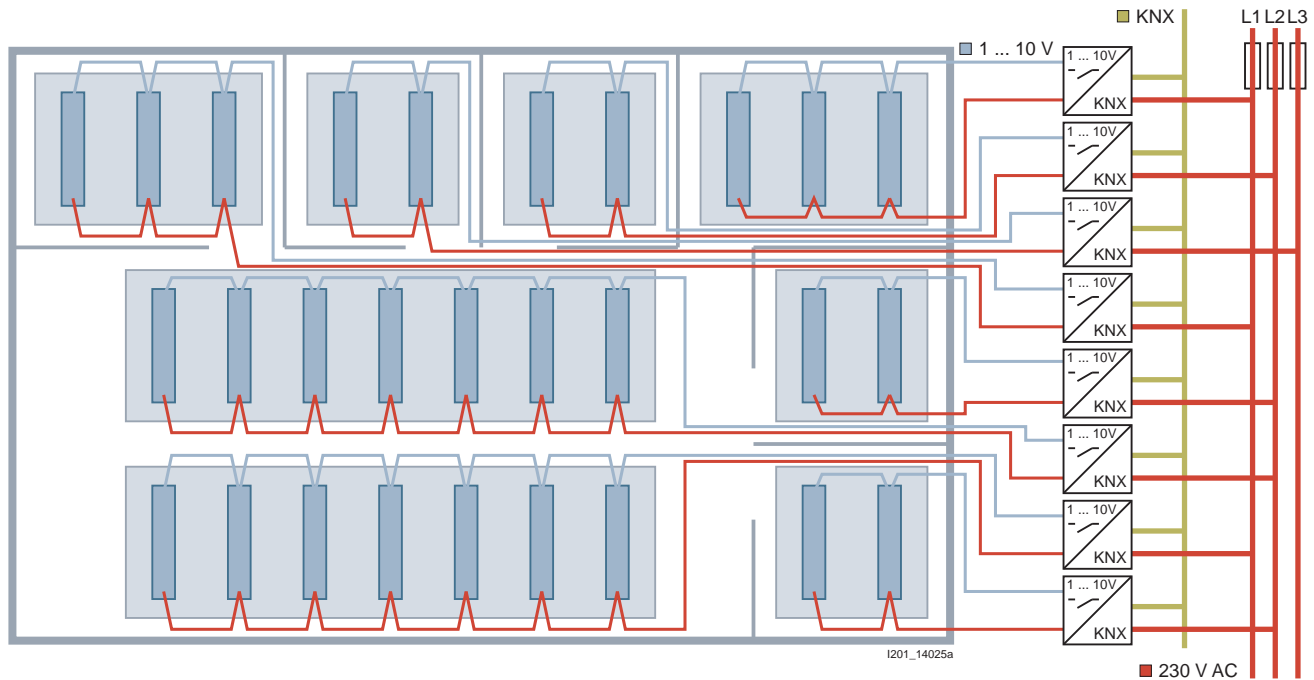
Wiring of lighting groups with DALI with KNX



I201_14026a
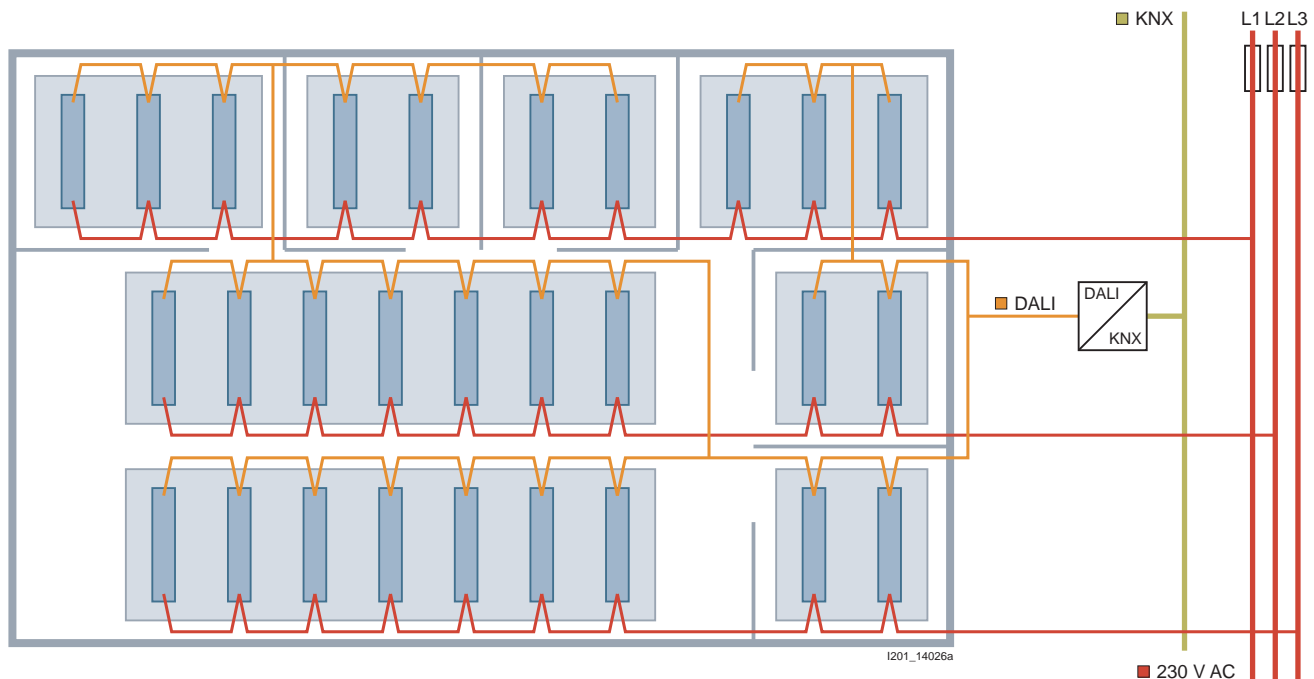
**Advantages:**

• Light groups are not hard-wired
• Separate planning of control cables and power supply
• Even load distribution in the power supply
• Lower fire load due to fewer cables
• Planning is easier and faster
• Integration of emergency lighting in general lighting
• New: Supports sensors with the DALI interface
• New: Stand-by shut down when lighting is switched off

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**Application Example**

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

In emergency mode, communication is maintained via the safety supply from KNX and DALI.
The failure detection of the general supply is executed via a KNX binary input, which the KNX/DALI gateway switches to emergency mode. It is not possible to manually operate the emergency lights in emergency mode.

**Topology**



**Stand-by shut down**

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## Simple solution with KNX/DALI gateway

### Normal mode

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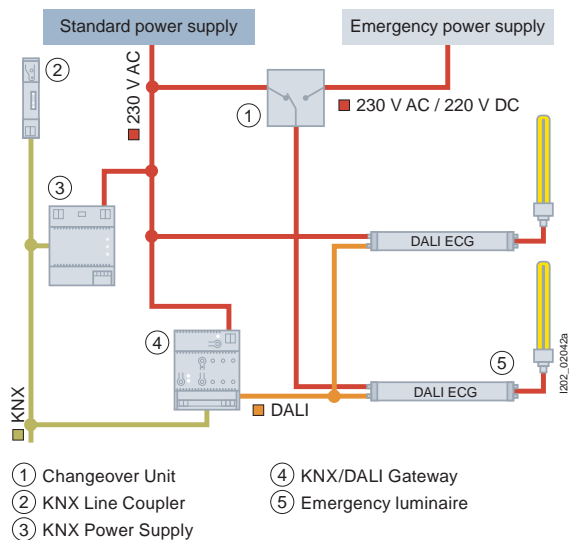
### Emergency operation

- Automatic emergency lighting in the event of DALI voltage failure
- Parameterization of dimming value of DALI-ECG for emergency lighting via KNX/DALI gateway
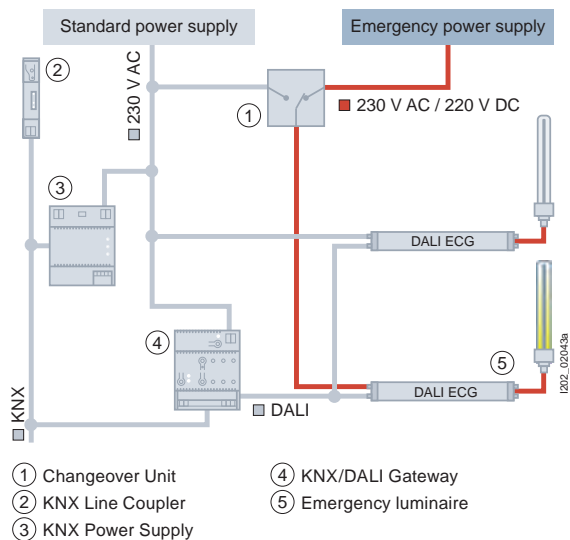
① Changeover Unit  ④ KNX/DALI Gateway
② KNX Line Coupler  ⑤ Emergency luminaire
③ KNX Power Supply

① Changeover Unit  ④ KNX/DALI Gateway
② KNX Line Coupler  ⑤ Emergency luminaire
③ KNX Power Supply

## 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.

① Changeover Unit  ④ KNX/DALI Gateway
② KNX Line Coupler  ⑤ Emergency luminaire
③ KNX Power Supply  ⑥ KNX binary input

① Changeover Unit  ④ KNX/DALI Gateway
② KNX Line Coupler  ⑤ Emergency luminaire
③ KNX Power Supply  ⑥ KNX binary input

## Emergency lighting with single battery KNX/DALI gateway

**Lighting**
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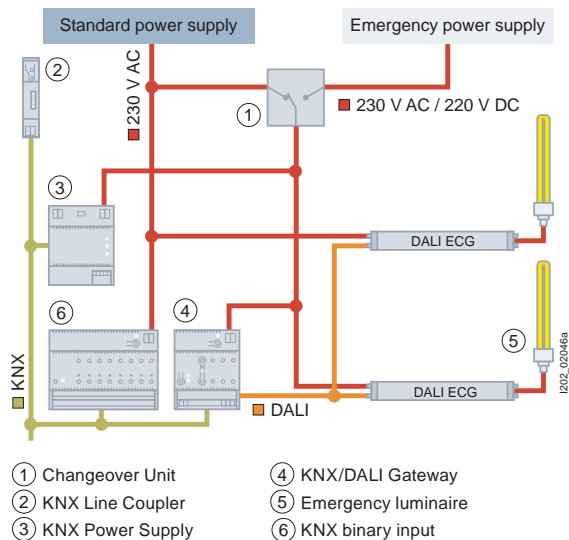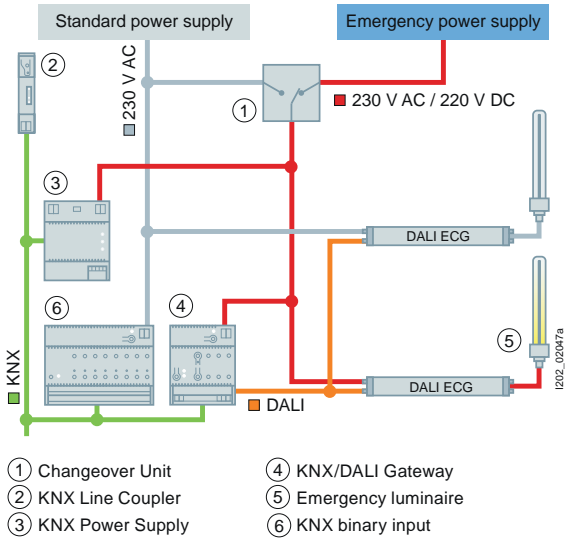
## Normal mode with two DALI devices

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



230 V AC

DALI

Inverter

Battery

DALI ECG

Emergency lighting

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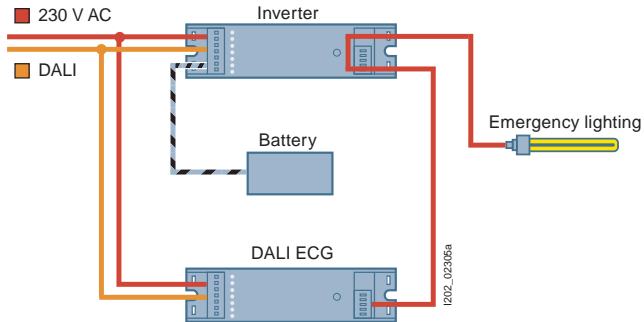
## Emergency operation with two DALI devices

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



Inverter

Battery

DALI ECG

Emergency lighting

I202_02306a
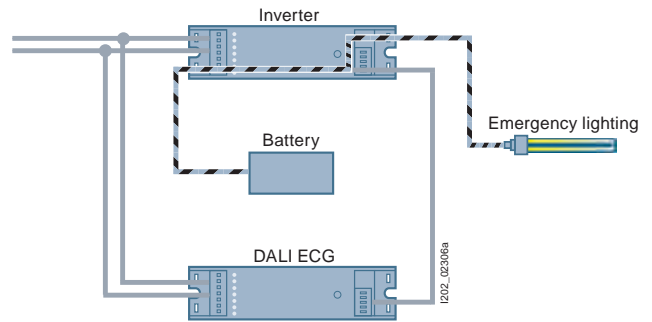
## Normal mode with one DALI device



230 V AC

DALI

DALI ECG

LED

Battery

I201_19144a
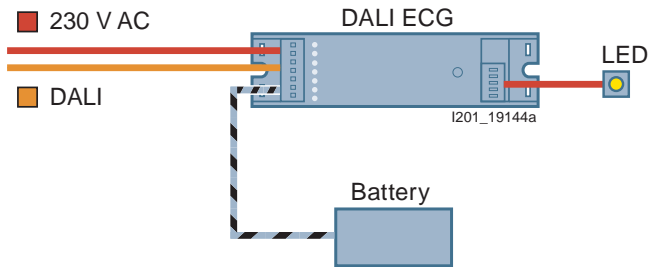
## Emergency mode with one DALI device



DALI ECG

LED

Battery

I201_19145a

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| Dimmers | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Type | N 527/31 N527/32[1] | N 528/31 | N 528/41[2] | N 527/41[2][1] N527/42[2] | N 527/51[2][1] N527/52[1] | UP 525/03 | UP 525/13 | UP 525/31 | RS 525/23 |
| **Enclosure data** | | | | | | | | | |
| Design | N | N | N | 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[5] | | | | | | | | | ■ |
| Interface for connection of a universal dimmer expansion | ■ | ■ | ■ | ■ | ■ | | | | |
| **Dimensions** | | | | | | | | | |
| • Width/Ø [mm] (1 MW = 18 mm) | 3 MW | 3 MW | 3 MW | 3 MW | 3 MW | 71 | 50 | Ø 53 | 50.2 |
| • Height [mm] | | | | | | 71 | 41.3 | | 35.5 |
| • Depth [mm] | | | | | | 41,5 | 50.9 | 28 | 48.8 |
| **Mounting type** | | | | | | | | | |
| Screw fixing | | | | | | ■ | | | |
| **Power supply** | | | | | | | | | |
| Bus-powered electronics | | | | | | ■ | ■ | ■ | ■ |
| Electronics powered via an integrated power supply unit, for supply voltage 230 V AC | ■ | ■ | ■ | ■ | ■ | | | | |
| **Bus connection** | | | | | | | | | |
| Integrated bus coupling units | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Bus connection via bus terminal | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Outputs** | | | | | | | | | |
| **Load output** | | | | | | | | | |
| Number of channels | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Load type | R, L, C | R, L, C | R, L, C | R, L, C | R, L, C | R, L, C | R, L, C | R, L, C | R, L, C |
| **Load** | | | | | | | | | |
| Contact rated voltage, AC [V] | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 | 230 |
| Dimmer output [VA] | 20... 500[4] | 20... 300[4] | 20... 300[4] | 20... 500[4] | 20... 1000[3][4] | 10... 250 | 10... 250 | 50... 210 | 10... 250 |
| **Protection** | | | | | | | | | |
| Electronic protection of outputs against overload and short circuit | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Inputs** | | | | | | | | | |
| Max. cable length, unshielded, twisted [m] | 100 | 100 | 100 | 100 | 100 | | | 5 | |
| For signal inputs (floating contact) | | | | | | | | 2 | |
| Determination of switching state by means of the voltage generated in the device | ■ | ■ | ■ | ■ | ■ | | | ■ | |
| For conventional pushbuttons 230 V AC | 2 | 2 | 2 | 2 | 2 | | | | |

[1] For islanding.
[2] Bus operation only when used together with N 527/31, N527/32 or N 528/31.
[3] Increased performance through parallel switching of the outputs of two N 527/51 to 40...2000 VA, (for electronic transformers 80...2000 VA) only in conjunction with main module N 527/31, N527/32 or N 528/31 and ETS parameterization.
[4] Low-voltage halogen lamps with electronic transformers require a minimum load of 40 VA.
[5] 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.

## Continuation of the table ...

| Type | N 527/31 N527/32 | N 528/31 | UP 525/03 | UP 525/13 | UP 525/31 | RS 525/23 |
|---|---|---|---|---|---|---|
| **Application program[1]** | 982101 | 982101 | 982C01 | 982C01 | 301901 | 982C01 |
| **Output functions** | | | | | | |
| Max. number of group addresses | 255 | 255 | 120 | 120 | 26 | 120 |
| Max. number of assignments | 383 | 383 | 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 | ▪ | ▪ | ▪ | ▪ | ▪ | ▪ |
| **Switching** | | | | | | |
| Switching ON/OFF | ▪ | ▪ | ▪ | ▪ | ▪ | ▪ |
| Configurable starting value | ▪ | ▪ | ▪ | ▪ | ▪ | ▪ |
| Blocking object per channel | ▪ | ▪ | ▪ | ▪ | ▪ | ▪ |
| **Dimming** | | | | | | |
| BRIGHTER/DARKER dimming | ▪ | ▪ | ▪ | ▪ | ▪ | ▪ |
| Adjustable dimming range Minimum dimming value (basic brightness) Maximum dimming value | ▪ | ▪ | ▪ | ▪ | ▪ | ▪ |
| Operation of 2 dimming modules (using two different dimming time curves) | ▪ | ▪ | ▪ | ▪ | | ▪ |
| Dim or startup 8-bit value | ▪ | ▪ | ▪ | ▪ | ▪ | ▪ |
| **Scenes** | | | | | | |
| 1-bit scene | ▪ | ▪ | | | | |
| 8-bit scene | ▪ | ▪ | ▪ | ▪ | ▪ | ▪ |
| Scenes to be integrated per channel | 8[1] | 8[1] | 8 | 8 | 8[1] | 8 |
| **Status** | | | | | | |
| Transmitting switch and dimming status | ▪ | ▪ | ▪ | ▪ | ▪ | ▪ |
| Fault indications overload/short circuit/ overtemperature on bus | ▪ | ▪ | ▪ | ▪ | ▪ | ▪ |

[1] For current application programs, see www.siemens.com/gamma-td
[2] Only assignment of scene number 1...8 possible.

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## Switching/dimming actuators

| Type | DALI control outputs | | | | Control outputs 1...10 V | |
|---|---|---|---|---|---|---|
| | N 141/21 | N 141/03 | N 141/31 | N 525E01 | N 526E02 | N 526/02 |
| Application program[1] | 9834xx[1] | 9837xx[1] | 9833xx[1] | 980801 | 981301 | 905303 |
| **Enclosure data** | | | | | | |
| Design | ■ | N | N | N | N | N |
| Modular installation devices for mounting on TH35 EN 60715 mounting rail | ■ | ■ | ■ | ■ | ■ | ■ |
| **Dimensions** | | | | | | |
| Width [mm] (1 MW = 18 mm) | 4 MW | 4 MW | 4 MW | 4 MW | 8 MW | 6 MW |
| **Display/control elements** | | | | | | |
| 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 | | | | | ■ | |
| **Power supply** | | | | | | |
| Bus-powered electronics | | | | | ■ | |
| Electronics powered via an integrated power supply unit | ■ | ■ | ■ | ■ | | ■ |
| DALI outputs powered via an integrated power supply unit | ■ | ■ | ■ | ■ | | |
| **Bus connection** | | | | | | |
| Integrated bus coupling units | ■ | ■ | ■ | ■ | ■ | ■ |
| Bus connection via contact system to data rail | | | | ■ | ■ | |
| Bus connection via bus terminal | ■ | ■ | ■ | ■ | ■ | ■ |
| **Outputs** | | | | | | |
| **Control output** | | | | | | |
| 1...10 V DC | | | | | 8 | 3 |
| DALI outputs (lines) | 2 | 1 | 2 | 8 | | |
| Max. ECG per output (Osram Dynamik 58 W) | 64 units | 64 units | 64 units | 8 units | 60 units | 20 units |
| **Load output[2]** | | | | | | |
| Floating relay contacts | | | | | 8 | 3[2] |
| Contact rated voltage, AC [V] | | | | | 230 | 120 |
| Contact rated current [A] | | | | | 16 | 6 |

[1] For current application programs, see www.siemens.com/gamma-td
[2] Except channel C

## Continuation of the table ...

| Type | DALI control outputs | | | | Control outputs 1...10 V | |
|---|---|---|---|---|---|---|
| | N 141/21 | N 141/03 | N 141/31 | N 525E01 | N 526E02 | N 526/02 |
| **Application program[1]** | 9834xx[1] | 9837xx[1] | 9833xx[1] | 980801 | 981301 | 905303 |
| **Functions** | | | | | | |
| Max. number of group addresses | 4500 | 4500 | 3000 | 108 | 250 | 35 |
| Max. number of assignments | 4500 | 4500 | 3000 | 107 | 250 | 47 |
| Integrated constant light level control | 16 | 16 | | | | 3 |
| 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 | ■ | ■ | ■ | ■ | | ■ |
| **Control functions** | | | | | | |
| Broadcast | ■ | ■ | ■ | ■ | | |
| Groups | 32 | 16 | 32 | | | |
| Individual ECG | 128 | 64 | | | | |
| **Switching** | | | | | | |
| Switching ON/OFF | ■ | ■ | ■ | ■ | ■ | ■ |
| Configurable starting value | ■ | ■ | ■ | ■ | ■ | ■ |
| Switching ON/OFF possible via BRIGHTER/DARKER dimming | ■ | ■ | ■ | ■ | ■ | ■ |
| **Dimming** | | | | | | |
| BRIGHTER/DARKER dimming | ■ | ■ | ■ | ■ | ■ | ■ |
| Adjustable dimming time | ■ | ■ | ■ | ■ | ■ | ■ |
| Brightness limitation, adjustable min. dimming value/max. dimming value | ■ | ■ | ■ | ■ | ■ | ■ |
| **Value transmission** | | | | | | |
| Set 8-bit value | ■ | ■ | ■ | ■ | ■ | ■ |
| **Scene control** | | | | | | |
| Integrated 8-bit scene control | ■ | ■ | ■ | ■ | ■ | ■ |
| Scenes to be integrated per DALI output | 16 | 16 | 16 | 16 | | |
| Scenes to be integrated per channel | | | | | 8 | |
| **Effect control** | | | | | | |
| Integrated effect control (one-off or cyclic chaselight operation, color control) | 4 | 4 | | | | |
| **Emergency lighting** | | | | | | |
| Support for prescribed test sequences for emergency lights | ■ | ■ | | | | |
| Controlling single battery lights | ■ | ■ | | | | |
| Saves test results of emergency lighting | ■ | ■ | | | | |
| **Status** | | | | | | |
| DALI short circuit | ■ | ■ | ■ | ■[2] | | |
| DALI power supply | ■ | ■ | ■ | ■ | | |
| Status output (ON/OFF, value, lamp fault, ECG fault) | | | | ■ | ■[3] | ■[3] |
| Status group (ON/OFF, value, lamp fault, ECG fault) | ■ | ■ | ■ | | | |
| Status ECG (ON/OFF, value, lamp fault, ECG fault) | ■ | ■ | | | | |
| **Time functions** | | | | | | |
| ON/OFF delay | ■ | ■ | ■ | ■ | ■ | ■ |
| Timer mode, 1-step (stairwell circuits) | ■ | ■ | ■ | ■ | ■ | |
| Timer mode, 2-step | ■ | ■ | ■ | ■ | ■ | |
| Night mode (lighting for cleaning) | ■ | ■ | ■ | ■ | ■ | ■ |
| Warning of impending OFF | ■ | ■ | ■ | ■ | ■ | |
| **Further functions** | | | | | | |
| DALI sensors[4] | ■ | ■ | ■ | | | |
| Stand-by shut down (areas) | 12 | 6 | | | | |
| Renew defective ECG without software | ■ | ■ | ■ | ■ | ■ | ■ |

[1] For current application programs, see www.siemens.com/gamma-td
[2] Per channel.
[3] Status ON/OFF, value.
[4] Only selected DALI sensors are supported, see APB www.siemens.com/gamma-td

| Switching/dimming actuators | | |
|---|---|---|
| | **N 526E02** | **N 526/02** |
| **Contact current** | | |
| Rated current, AC [A] | 16 | 6 |
| Maximum switch-on peak current (if more than one, specification of the highest current value)[A/ms] | 400/0.15 | 120/20 |
| **Contact voltage** | | |
| Rated voltage, AC [V] | 230 | 230 |
| **Service life** | | |
| Mechanical service life Switching operations in millions | 1 | 10 |
| Electrical service life Switching operations in millions | [1] | 0.4 |
| **Power loss** | | |
| Maximum power loss per device at rated power [W] | 9 | 6 |
| **Switching capacities/load types, loads** | | |
| Resistive load [W] | 3680 | 1380 |
| Minimum switching capacity [V/mA] | 12/100 | [1] |
| DC switching capacity [V/A] | 24/10 | 30/8 |
| Maximum capacitive load [μF] | 140 | 163 |
| **Incandescent lamps** | | |
| Incandescent lamps [W] | 2500 | 1380 |
| Halogen lamp 230 V [W] | 2500 | 1380 |
| LV halogen lamp with conventional transformer (inductive) [VA] | 500 | 500 |
| **T5/T8 fluorescent lamps** | | |
| Uncorrected [VA] | 2500 | 1380 |
| Parallel corrected (at max. possible C)[W] | 1300 | 1380 |
| DUO circuit [VA] | 2500 | 1380 |
| ECG Osram QTI 1 x 28/54W [Unit(s)] | 59 | 22 |
| ECG Osram QTP 1 x 18/24/36 W [Unit(s)] | 31 | 9 |
| ECG Osram QTP 1 x 58 W [Unit(s)] | 21 | 6 |
| ECG Osram QTP 2 x 18/24/58 W; 3 x 18 W; 4 x 18 W [Unit(s)] | 9 | 2 |
| **Compact lamps** | | |
| Uncorrected [VA] | 1600 | 1380 |
| Parallel corrected (at max. possible C)[W] | 1100 | 1380 |
| ECG Osram Duluxtronics DT [Unit(s)] | 25 | 9 |
| **Mercury-vapor lamps** | | |
| ECG Osram PTI 35/220-240S [Unit(s)] | 14 | 4 |
| ECG Osram PTI 70/220-240S [Unit(s)] | 8 | 2 |

[1] On request.

For complete technical specifications, see: www.siemens.com/gamma-td

## Sensors

| Type | UP 258E21 | UP 285D11 | UP 255/11 | AP 255/12 | GE 255/13 | AP 254/02 |
|---|---|---|---|---|---|---|
| **Enclosure data** | | | | | | |
| Design | UP/AP | UP/AP | UP | AP | GE | AP |
| For installation in lights | | | | | ■ | |
| **Dimensions** | | | | | | |
| • Width/Ø [mm](1 MW = 18 mm) | 88 | 88 | 75 | 75 | 50 | 72 |
| • Height [mm] | 63[1] | 63[1] | 20 | 27 | 20 | 110 |
| • Depth [mm] | | | | | 35 | 54 |
| **Power supply** | | | | | | |
| Bus-powered electronics | ■ | ■ | | ■ | | ■ |
| **Bus connection** | | | | | | |
| Integrated bus coupling units | ■ | ■ | | ■ | | ■ |
| Bus connection via bus terminal | ■ | ■ | | ■ | | ■ |
| **Control** | | | | | | |
| 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 | | |
| **Light sensor** | | | | | | |
| External light | | | | | | ■ |
| Indoor brightness | ■ | ■ | | ■ | | |
| Indoor brightness (indirect lighting) | ■ | ■ | | ■ | | |
| Transmission of brightness values over KNX | ■ | ■ | | ■ | | ■ |

[1] For flush mounting, mounting height approx. 31 mm, for surface mounting with AP 258E surface-mounting enclosure, approx. 73 mm.

**Notes**

5

## Universal Dimmer, main modul (R,L,C load)

- One output for switching and dimming resistive, inductive or capacitive loads
- Interface for connecting universal dimmer submodules and with software for controlling up to 5 universal dimmer submodules
- Automatic adjustment to leading edge or trailing edge control, depending on the type of load
- Integrated power supply unit for the electronics, connected to 230 V AC
- A pushbutton on top of the device for switching between bus mode and direct mode and for selecting the device (output A...F) to be switched directly
- Two pushbuttons on top of the device for switching and dimming the selected output in direct operating mode
- 6 bicolor LEDs for indicating the switch status or an error (blinking) in the selected device (output)
- Selectable mode for each output (normal mode, one- or two-level timer mode, blinking)
- Integrated 8-bit scene control and integration of each output in up to 8 scenes
- Integrated bus coupling units, Bus connection via bus terminal
- Electronic protection of the output against overload, short circuit and temperature rise
- 2 subsidiary inputs for 230 V AC (with neutral line as reference potential) for connecting 2 conventional pushbuttons for direct switching and dimming of the output and with selectable additional transmission of these switching and dimming commands via the bus
- Max. length of connecting lines on the subsidiary inputs up to 100 m
- Determination of switching state by means of the voltage generated in the device

Dimension width (1 MW = 18 mm)          3 MW

### Range overview universal dimmer main modules N 52../31

| Product Title | Stock No. | Product No. |
|---|---|---|
| Universal Dimmer, main modul, 20 ... 300 VA, AC 230 V, (R,L,C load) | 5WG1528-1AB31 | **N 528/31** |
| Universal Dimmer, main modul, 20 ... 500 VA, AC 230 V, (R,L,C load) | 5WG1527-1AB31 | **N 527/31** |
| Universal Dimmer, main modul, 20 ... 500 VA, for Islanding | 5WG1527-1AB32 | **N 527/32** |

Low-voltage halogen lamps with electronic transformers require a minimum load of 40 VA.

**5**

**N 527../528..**

## Universal Dimmer, expansions, (R,L,C load)

- One output for switching and dimming resistive, inductive or capacitive loads
- Interface for connecting the universal dimmer submodule to the universal dimmer main module and / or connecting further universal dimmer submodules
- Rotary switch for adjusting the device (output) address to B...F
- Selectable objects and adjustable operation mode of each device (output) as well as for the main module via the main module's application program
- Automatic adjustment to leading edge or trailing edge control, depending on the type of load
- Electronics powered via an integrated power supply unit, for supply voltage 230 V AC
- Integrated 8-bit scene control and integration of each output in up to 8 scenes
- Selectable mode for each output (normal mode, one- or two-level timer mode, blinking)
- Electronic protection of the output against overload, short circuit and temperature rise
- 2 subsidiary inputs for 230 V AC (with neutral line as reference potential) for connecting 2 conventional pushbuttons for direct switching and dimming of the output and with selectable additional transmission of these switching and dimming commands via the bus
- Length of connecting lines on the subsidiary inputs up to 100 m
- Determination of switching state by means of the voltage generated in the device

Dimension width (1 MW = 18 mm)        3 MW

## Range overview universal dimmer expansions

| Product Title | Stock No. | Product No. |
|---|---|---|
| Universal Dimmer, expansions, 20…300 VA, AC 230 V, (R,L,C load) | 5WG1528-1AB41 | **N 528/41** |
| Universal Dimmer, expansions, 20…500 VA, AC 230 V, (R,L,C load) | 5WG1527-1AB41 | **N 527/41** |
| Universal Dimmer, expansions, 20…1000 VA, AC 230 V, (R,L,C load) | 5WG1527-1AB51 | **N 527/51** |
| Universal Dimmer, expansions, 20…500 VA, AC 230 V, for Islanding, (R,L,C load) | 5WG1527-1AB42 | **N 527/42** |
| Universal Dimmer, expansions, 20…1000 VA, AC 230 V, for Islanding, (R,L,C load) | 5WG1527-1AB52 | **N 527/52** |

Low-voltage halogen lamps with electronic transformers require a minimum load of 40 VA.

## Universal Dimmer, (R,L,C load)   UP 525/..3

- 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 230 V AC
- 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
- Reporting of overload, short circuit and temperature rise via the bus
- Screwless terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5...2.5mm²
- 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
- Bus-powered electronics
- Integrated bus coupling units, Bus connection via bus terminal

### Range overview universal dimmer

| Product Title | Stock No. | Product No. |
|---|---|---|
| Universal Dimmer, 1 x 230 V AC, 10 … 250 VA, with mounting frame and BTI interface | 5WG1525-2AB03 | **UP 525/03** |
| Universal Dimmer, 1 x 230 V AC, 10 … 250 VA, without mounting frame | 5WG1525-2AB13 | **UP 525/13** |

**5**

**RS 525/23**

**Universal Dimmer, 1 x 230 V AC, 250 VA, (R,L,C load)**

- 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
- Reporting of overload, short circuit and temperature rise via the bus
- Maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5...2.5mm²
- 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
- Bus-powered electronics
- Integrated bus coupling units, Bus connection via bus terminal

Dimensions (W x H x D)          50.2 x 48.8 x 35.5 mm

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

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1525-2AB23 | **RS 525/23** |

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

UP 525/31

5

- 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
- Enclosed bus terminal for bus connection
- For installation in a flush-mounting wall or ceiling box with 60 mm diameter

Dimension (Ø x H)                    53 x 28 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1525-2AB31 | **UP 525/31** |

Lighting
## Switch/dimming actuators
## DALI control outputs

**5**

| | |
|---|---|
| **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 push buttons for switching On/Off of all connected DALI ECG
- One LED per DALI output for status signal of all connected luminaries 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 luminaries 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 luminaries 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 luminaries 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 luminaries group and up to four additional luminaries 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

Dimension width (1 MW = 18 mm)        4 MW

## Range overview for KNX / DALI Gateway N 141/03 and N 141/21

| Product Title | Stock No. | Product No. |
|---|---|---|
| KNX / DALI Gateway plus, 1 channel | 5WG1141-1AB03 | **N 141/03** |
| KNX / DALI Gateway Twin plus, 2 channels | 5WG1141-1AB21 | **N 141/21** |

**NEW PRODUCT**

Lighting
# Switch/dimming actuators
## DALI control outputs

## 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 60929, each for communication with up to 64 DALI ballasts and at least 10 sensors
- Integrated power supply with input voltage 110…240 V AC, 50…60 Hz or 120…240 V DC 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
- LC display for displaying operation mode and error messages
- Pushbutton for switching between bus and direct operating mode
- One pair of push buttons 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 assignment of max. 128 DALI ECG to max. 32 DALI groups, exclusive controlled in groups (switching, dimming, set dimming value) and feedback for group status and lamp failure
- 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
- Possibility to reintegrate defective DALI ECG without software
- One or two level timer
- Integrated scene control for up to 32 scenes
- 16 integrated 2-level-controller for brightness control
- Assignment of DALI ECG to groups and test option for ECG, groups and scenes 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

Dimension width (1 MW = 18 mm)        4 WM

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1141-1AB31 | **N 141/31** |

Lighting
## Switch/dimming actuators
## DALI control outputs

**5**

## Accessories for KNX / DALI Gateway

**UP 141/51**



### DALI Multisensor office

- Used as passive infrared detector for indoor ceiling installation
- Sensing range, horizontal 360 °, vertical approx. 80 °
- For monitoring an area with a diameter of approx. 4 m to approx. 7 m (depending on mounting and room height)
- LED on sensor head for display
- Used as brightness sensor
- Cone–shaped detection area, opening angle 90 °
- Measuring range 20 to 1000 lx
- Integrated DALI bus coupling unit for communicating with a central DALI controller
- Power supply through DALI line with 5 mA DALI bus load
- Plug-in terminals for connecting the DALI line
- For installation in suspended ceilings

Dimensions (Ø x H)                          40 x 19 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1141-2AB51 | **UP 141/51** |

**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
- 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

Dimensions (W x H x D)                      43 x 43 x 11 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1141-2AB71 | **UP 141/71** |

Lighting
## Switch/dimming actuators
### DALI control outputs

## 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 230 V AC
- 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 230 V AC 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 as well as contact system to data rail
- Device for mounting on rail TH35 DIN EN 60715

Dimension width (1 MW = 18 mm)        4 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1525-1EB01 | **N 525E01** |

The data rail must be ordered separately. See chapter system products and accessories - data rails.

**5**

| N 526E02 | **Switch/dimming actuator 8 x AC 230 V, 16 A, 1...10 V, UL standard** |
|---|---|

- For switching and dimming of eight mutually independent groups (channels) of fluorescent lamps with dimmable electronic control gear (ECG)
- 8 control voltage outputs 1...10 V DC
- Control power min. 60 OSRAM ECG dynamic each
- 8 switching outputs (relay contacts) for 230 V AC, 50/60 Hz, 16 A at p.f. = 1
- Each of them for connection of min. 30 OSRAM ECG dynamic for 58 W fluorescent lamps
- Slide switch per relay output for manual operation and switch position indication
- Selection between identical or individual configuration of all channels
- Command objects for each actuator channel for switching on/off, dimming brighter/darker and set/value
- One 1-bit and one 8-bit-status object (switching state and dimming value) per output
- Per channel configurable time-limited activation of the lighting during night mode (base lighting)
- Warning 30 seconds prior to imminent switch off by dimming to 50 % of the previous dimming value for each channel with time-limited operation
- Switching on or off of a channel by dimming brighter/darker
- Configurable dimming value upon switching on
- Jumping or dimming to a new dimming value
- Configurable dimming time from 0...100%
- Integrated 8 bit scene control and assignment of each output to up to 8 scenes
- Transmission of status objects on request, cyclically and/or automatically after changes
- Configurable behaviour on bus voltage failure and recovery
- Bus-powered electronics
- 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

Dimension width (1 MW = 18 mm)        8 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1526-1EB02 | **N 526E02** |

The data rail must be ordered separately. See chapter system products and accessories - data rails.

## Switch / dimming actuator, triple, 230 V AC, 50 / 60Hz, 6A, with integrated constant light level control

- Can be operated per channel as a pure switching/dimming actuator or as a constant light controller in master or slave operation mode
- 3 switch outputs for the connection of max. 30 electronic ballasts for 2 x 36 W FL/max. 20 electronic ballasts for 1 x 58 W FL or max. 15 electronic ballasts for 2 x 36 W FL/max. 10 electronic ballasts for 2 x 58 W FL
- 3 control voltage outputs DC 1-10 V for the connection of max. 50 dimmable electronic ballasts
- 3 inputs for the connection of one brightness sensor GE 255/x each via a 3-core, max. 100 m long cable, which is also used as a power supply for the sensor electronics
- Communication objects for sending the measured brightness values
- Communication objects per actuator channel to control the following operating modes: comfort mode, automatic mode and night operation as well as switching, dimming and value setting
- Time-dependent activation of the lighting during night operation (lighting for cleaners)
- Automatic toggling from automatic to manual operation of the relevant actuator channel when the bus push button is pressed for manual switching and dimming of this channel (constant light control inactive during manual operation)
- Status objects per channel for switching state or dimming value
- Integrated power supply unit for AC 230 V, 50 Hz to supply the actuator electronics and a green LED for operational display
- Push button per actuator channel for local switching of the outputs or for starting a calibration of the sensor, integrated in the actuator housing and able to function even when the bus cable is not installed and when there is a failure of the bus communication
- Connection of the 230 V supply voltage and all the outputs/inputs via screw terminals 0.5 ... 4 mm
- Integrated bus coupling unit, bus connection via bus terminal
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)      6 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1526-1AB02 | **N 526/02** |

**5**

| UP 258.B..1 | **Presence detectors** |
|---|---|

- Used as passive infrared detector for indoor ceiling installation
- Sensing range, horizontal 360 °, vertical approx. 100°, rotating/swiveling sensor head, optionally for shading off parts of the sensing range
- For monitoring an area for presence up to approx. 6 x 3.5 m, for a mounting height of 2.8 m (presence detection), motion detection up to 5 x 3.5 m
- Mixed light measurement, measuring range 20…1000 lux
- Presence detection for three function blocks (presence detector, motion detector and HVAC detector)
- Functions: Switching on/off, 8-bit value, 16-bit value, temperature value, brightness value, 8-bit scene control
- Blocking object per function module
- Adjustable delay time per function module, which can be optionally set to a fixed time, or two times that can be switched between via bus, or set to one value via bus
- Parallel operation of several presence detectors (master-slave, master-master) without logic modules
- Integrated IR receiver for S 255/11 IR remote control with six pushbutton pairs (see accessories)
- In the case of individual pushbuttons, selectable function per pushbutton: Switching Over, Switching On, Switching Off, call up 8-bit scene, 8-bit value, 16-bit value, temperature value, brightness value
- In the case of pushbutton pairs, selectable function Switching on/off, switching over/over, 2-pushbutton dimming with stop telegram, 2-pushbutton sun protection control, transmit variable 8-bit value, 8-bit scene control
- Blocking object for IR receiver decoder
- LED for display of detected motions in test mode
- Mounting on the ceiling in a flush-mounting device box with 60 mm diameter and at least 40 mm mounting depth, or in an AP 258E surface-mounting enclosure, which must be ordered separately (see accessories)

Dimension (Ø x H)          88 x 63 mm

| UP 258E21 | **Presence detector with brightness sensor** |
|---|---|

- Integrated constant light level control and 2-step light control, optionally available in fully automatic or semi-automatic version
- 4 channels for offset groups

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1258-2EB21 | **UP 258E21** |

| UP 258D11 | **Motion detector with brightness sensor** |
|---|---|

- Integrated 2-step light control, optionally available in fully automatic or semi-automatic version
- 3 independent control channels each with 2 start objects and 2 end objects

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1258-2DB11 | **UP 258D11** |

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## Accessories for UP 258.B..1

### IR remote control accessories for UP 258E21 or UP 258D11                    S 255/11

- 6 pushbutton pairs for the remote control of lighting, shutter/blinds and scenes via UP 258E21 or UP 258D11 presence detector
- Parameterization is via ETS in the 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

Dimensions (W x H x D)              40 x 87 x 6 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1255-7AB11 | **S 255/11** |

### Surface-mounting enclosures for UP 258E21 or UP 258D11                    AP 258E01

For fixing the presence detector as a surface mounting device

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1258-7EB01 | **AP 258E01** |

**5**

**UP 255/11, AP 255/12, GE 255/13**

**Brightness controller**

- For measuring the brightness on an illuminated work area through measurement of the reflected light
- Measuring range 0…2000 lux (with a reflectance of the illuminated area of approx. 30%)
- Including two rigid optical fiber rods:
- Parallel light-sensitive surface for mounting surface
- Inclined (30°) light-sensitive surface for mounting surface
- Integrated infrared receiver for calibration of the brightness measurement via the S 255 infrared remote calibration tool
- Transmission of the brightness measured value, either in the event of change and/or cyclically
- Discretionary set-point as a parameter or a communication object
- Optional two-step dimmer control for lights that can only be switched or constant light level control for lights that can be switched and dimmed
- Selectable starting value of the lighting at the start of constant light level control
- Optionally with dimming of up to 4 further lighting groups to the dimming value of the constant light level control or a dimming value that differs from the dimming value of the constant light level controller by an offset value, which can be set per group
- The constant light level control is automatically deactivated by manually dimming, or by dimming to a preset value
- Configurable behavior in the event of a  bus voltage recovery

**Range overview UP 255/11, AP 255/12, GE 255/13**

| Product Title | Dimensions (W x H x D) | Dimension (Ø x H) | Stock No. | Product No. |
|---|---|---|---|---|
| UP-Brightness-controller | | 75 x 20 mm | 5WG1255-4AB11 | **UP 255/11** |
| Brightness controller | | 75 x 27 mm | 5WG1255-4AB12 | **AP 255/12** |
| Brightness controller | 50 x 35 x 20 mm | | 5WG1255-4AB13 | **GE 255/13** |

Low-voltage halogen lamps with electronic transformers require a minimum load of 40 VA.

**Accessories for UP 255/11, AP 255/12, GE 255/13**

**S 255/01**

**IR remote calibration, accessories for UP 255/11, AP 255/12, GE 255/13**

- Range: up to approx. 4.5 m
- Power supply: CR2025 lithium button cell (included in delivery)
- Degree of protection (acc. to EN 60529): IP40

Dimensions (W x H x D)          40 x 86 x 6 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1255-7AB01 | **S 255/01** |

## 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

Dimensions (W x H x D)         72 x 110 x 54 mm
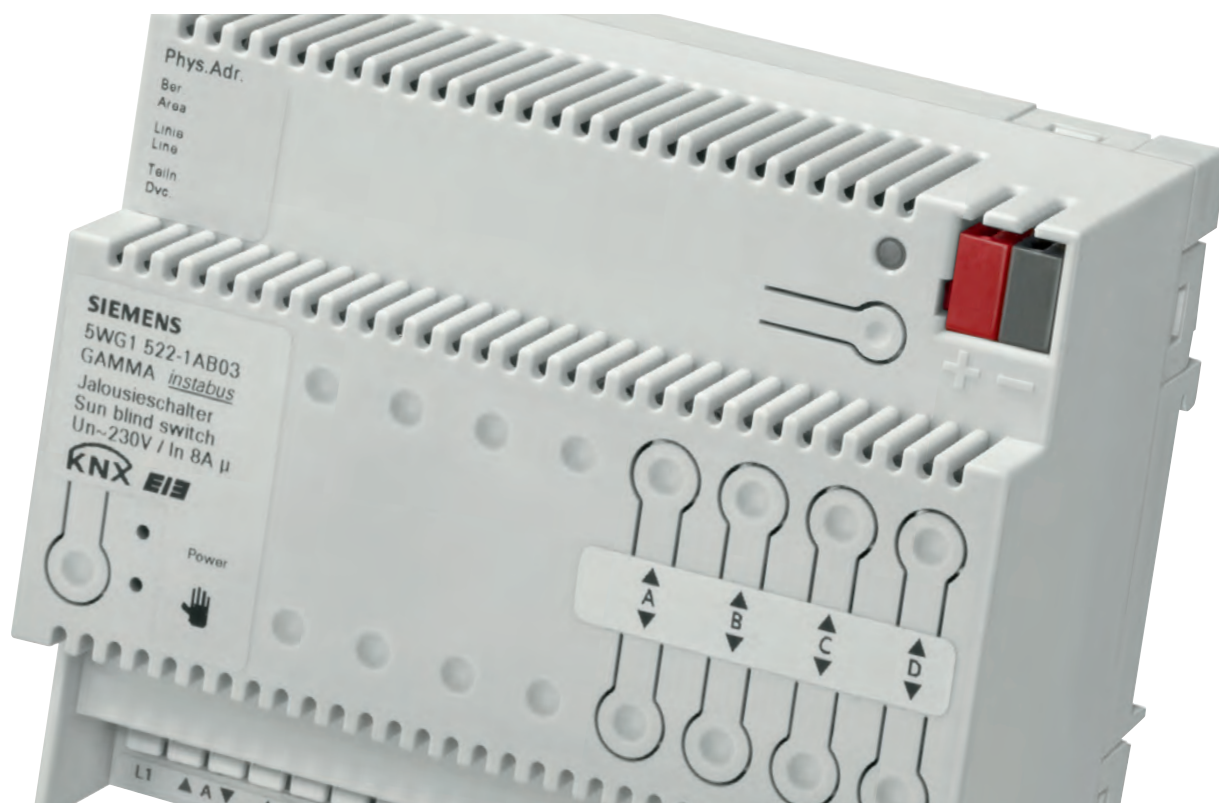
| | Stock No. | Product No. |
|---|---|---|
| | 5WG1254-3EY02 | **AP 254/02** |

5-15

# Sun Protection, Anti-Glare Protection, Utilization of Daylight

**6**

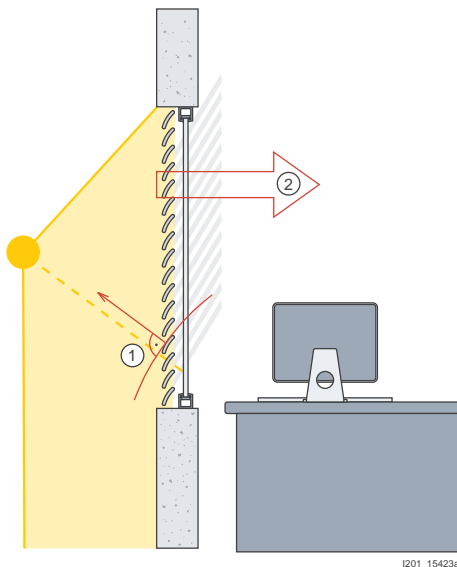### Sunlight tracking control

When using the sunlight tracking control, the blind slats are not completely closed but track the current sun position so that the sun cannot shine directly into the room. However, the spaces between the slats allow as much diffuse daylight into the room as possible and ensure maximum daylight with minimum glare, while at the same time reducing energy costs.
The sunlight tracking function continually adjusts the blind slats so that they are constantly placed vertical to the sun. This optimizes the utilization of daylight.
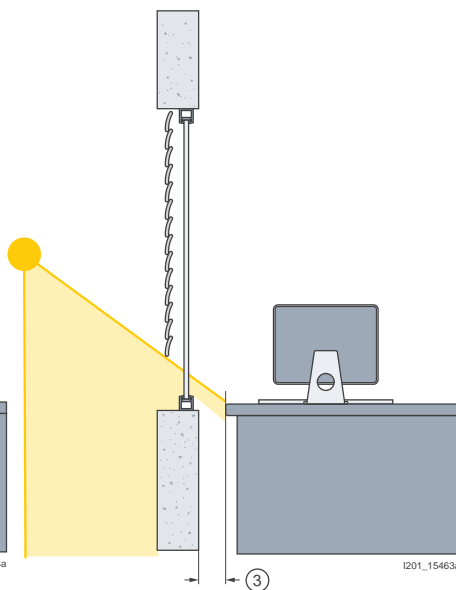
### Shadow outline tracking

With activated shadow outline tracking, the sun protection is not fully extended, rather it is extended for a configurable distance (e. g. 50 cm) to allow a specified amount of sunshine to penetrate the room.
Advantages: it is still possible to look out of the lower part of the window, any plants on the window sill still benefit from the sunshine, while occupants of the room are protected from its glare.

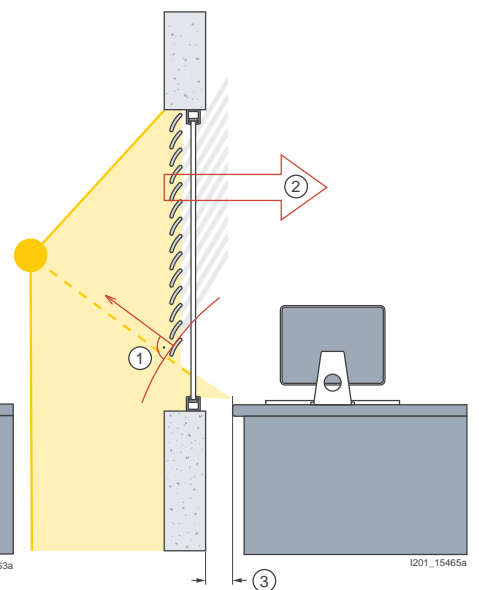### Sunlight tracking control and shadow outline tracking combined

It goes without saying that the two principles can be combined, thus offering optimum sun protection.
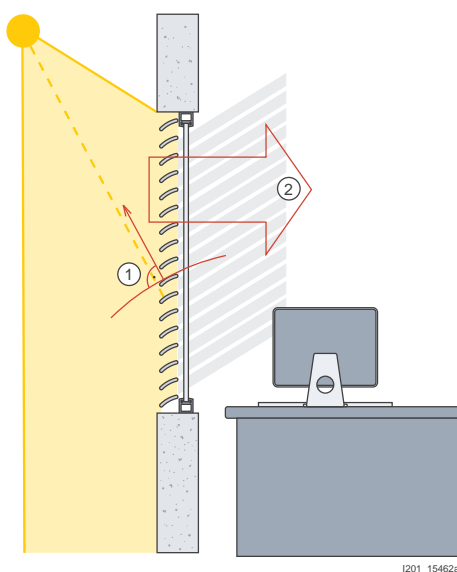
I201_15423a

① Total reflection from direct sunshine
② Proportion of diffuse daylight

I201_15463a

③ Maximum depth of sunlight penetration

I201_15465a

① Total reflection from direct sunshine
② Proportion of diffuse daylight
③ Maximum depth of sunlight penetration

I201_15462a

① Total reflection from direct sunshine
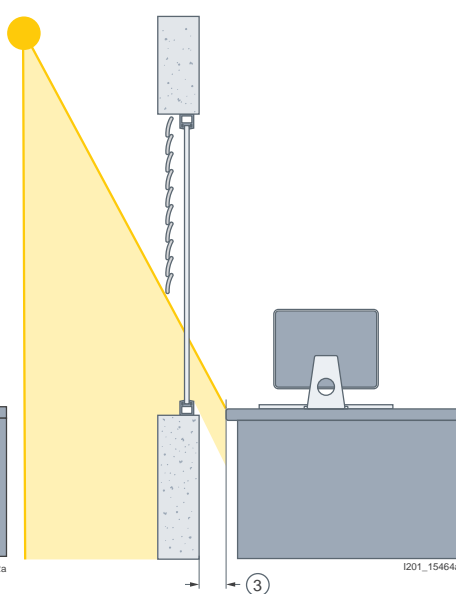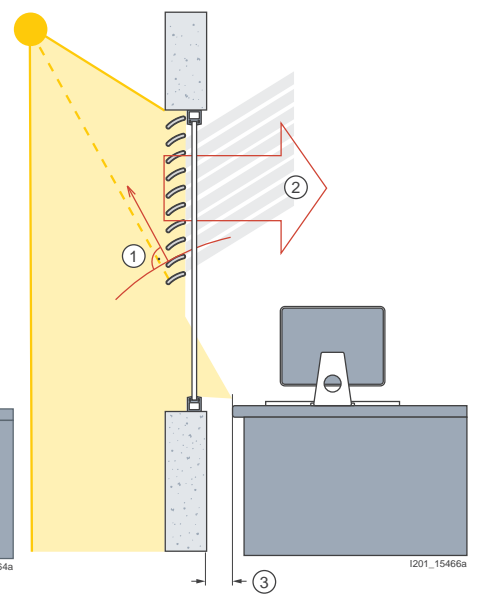② Proportion of diffuse daylight

I201_15464a

③ Maximum depth of sunlight penetration

I201_15466a

① Total reflection from direct sunshine
② Proportion of diffuse daylight
③ Maximum depth of sunlight penetration

## Anti-glare/sun protection actuators

| Type | N 522/03 | N 523/02 | N 523/03 | N 523/04[1] | N 523/11 | N 501 | N 524 | N 521 | UP 520/03 | UP 520/13 | UP 520/31 | RS 520/23 | RL521/23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Enclosure data** | | | | | | | | | | | | | |
| Design | N | N | N | N | N | N | N | N | UP | UP | UP | RS | RL |
| 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[2] | | | | | | | | | | | | ■ | ■ |
| 10-pole BTI socket (BTI - Bus Transceiver Interface) for plugging of bus terminal devices with BTI connector | | | | | | | | | ■ | | | | |
| **Dimensions** | | | | | | | | | | | | | |
| • Width/Ø [mm] (1 MW = 18 mm) | 6 MW | 4 MW | 4 MW | 4 MW | 8 MW | 8 MW | 6 MW | 3 MW | 71 | 50 | 53 | 50.2 | 47.8 |
| • Height [mm] | | | | | | | | | 71 | 50.9 | | 35.5 | 36.2 |
| • Depth [mm] | | | | | | | | | 42 | 41.3 | 28 | 48.8 | 86.5 |
| **Mounting type** | | | | | | | | | | | | | |
| Screw fixing | | | | | | | | | ■ | | | | |
| **Display/control elements** | | | | | | | | | | | | | |
| LED for status indication per output | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | |
| Direct operation (local operation) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | |
| **Power supply** | | | | | | | | | | | | | |
| Bus-powered electronics | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ |
| Electronics powered via an integrated power supply unit. Supply voltage 230 V AC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | |
| **Bus connection** | | | | | | | | | | | | | |
| Integrated bus coupling units | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Bus connection via bus terminal | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ |
| Bus connection via contact system to data rail | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | | | | | |
| **Outputs** | | | | | | | | | | | | | |
| **Load output** | | | | | | | | | | | | | |
| Number of channels (one UP and one DOWN each) | 4 | 4[3] | 4[3] | 4[3] | 8[4] | 4[3] | 4 | 2 | 1 | 1 | 1 | 1 | 2 |
| Integrated isolating relay function for connection of 2 drives per channel | | | | | | | | ■ | | | | | |
| Electrically interlocked relays (for reversing direction of rotation) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Contact rated voltage | | | | | | | | | | | | | |
| • 230 V AC/50 Hz | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ |
| • 24 V DC | | | | | | | ■ | | | | | | |
| Contact rated current | 8 | 6 | 6 | 6 | 6 | 6 | 1 DC | 6 | 6 | 6 | 6 | 6 | 6 |
| **Inputs** | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | ■ | | |

[1] Also available as c-UL version (5WG1523-1CB04).
[2] 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.
[3] 2 floating.
[4] 6 floating.

## Technical specifications
## Anti-glare/sun protection actuators

### ... Continuation of the table

| Type | N522/03 | N 523/02 | N 523/03 | N 523/04[2] | N 523/11 | N 501 | N 524 | N 521 | UP 520/03 | UP 520/13 | UP 520/31 | RS 520/23 | RL521/23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Application program[1] | 981101 | 980103 | 980181 | 981201 | 980601 | 981701 | 980201 | 520206 | 982A01 | 982A01 | 207301 | 982A01 | 982B01 |
| **Output functions** | | | | | | | | | | | | | |
| Max. number of group addresses | 114 | 100 | 100 | 110 | 200 | 220 | 40 | 11 | 120 | 120 | 26 | 120 | 120 |
| Max. number of assignments | 156 | 100 | 100 | 125 | 200 | 220 | 65 | 12 | 120 | 120 | 27 | 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 | ■ | | | | ■ | ■ | ■ | | | | | | |
| **Operating mode** | | | | | | | | | | | | | |
| Automatic mode for sunlight tracking control | ■ | | | ■ | ■ | ■ | ■ | | ■ | ■ | | ■ | ■ |
| Manual mode | ■ | | | ■ | ■ | ■ | ■ | | ■ | ■ | | ■ | ■ |
| Standard mode | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Status** | | | | | | | | | | | | | |
| Transmitting status per channel | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | | ■ | ■ |
| Indication of direct operation with status object | ■ | | | ■ | ■ | ■ | | | | | | | |
| Status position of sun protection, 8-bit | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | | ■ | ■ |
| Status position of slats, 8-bit | ■ | ■ | | ■ | ■ | ■ | ■ | | ■ | ■ | | ■ | ■ |
| **Scene control** | | | | | | | | | | | | | |
| 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 |
| **Shutter/blind control** | | | | | | | | | | | | | |
| Travel lock (e. g. for cleaning the outer shutter/blinds) | ■ | ■ | ■ | ■ | ■ | | | | ■ | ■ | ■ | ■ | ■ |
| Separate raising/lowering protection | ■ | ■ | ■ | | ■ | | | | | | | | ■ |
| Alarm • 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 | | | | | | | | | ■ | ■ | | ■ | ■ |
| Adaptation of objects and functions to electronic limit switch | | | | | | | | | | | | | |
| **Sun protection control (UP/DOWN)** | | | | | | | | | | | | | |
| Using position data (8-bit value) | | | | ■ | ■ | ■ | ■ | | ■ | ■ | | ■ | ■ |
| Travel to end position, stopping, stepwise adjustment | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Slat control (OPEN/CLOSE)** | | | | | | | | | | | | | |
| Using position data (8-bit value) | | | | ■ | ■ | ■ | ■ | | ■ | ■ | | ■ | ■ |
| Travel to end position, stopping, stepwise adjustment | | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Step adjustable[3] | | | | ■ | ■ | ■ | ■ | | ■ | ■ | | ■ | ■ |
| | | | | n | n | n | % | | n | n | | n | n |

[1] For current application programs, see www.siemens.com/gamma-td
[2] Also available as UL version (5WG1523-1CB04).
[3] n = number, % = %-value.

## Load data for shutter/blind actuators per channel

| | N 501 combination shutter/blind actuators | N 521 shutter/blind actuators | N 523/02 shutter/blind actuators<br>N 523/03 roller shutter actuators<br>N 523/04 shutter/blind actuators | N 523/11 shutter/blind actuators | N 522/03 shutter/blind actuators | N 524 shutter/blind actuators | RL 521/23 shutter/blind actuators | UP 520/03 shutter/blind actuators<br>UP520/13 shutter/blind actuators<br>RS 520/23 shutter/blind actuators |
|---|---|---|---|---|---|---|---|---|
| **Contact current** | | | | | | | | |
| Rated current [A] | 6 (AC) | 6 (AC) | 6 (AC) | 6 (AC) | 8 (AC) | 1 (DC) | 6 (AC) | 6 (AC) |
| AC3 operation (p.f. = 0.45)[VA] | 200 | 500 | 200 | 200 | 200 | 200 | 500 | 500 |
| **Contact voltage** | | | | | | | | |
| Rated voltage [V] | AC 230 | AC 230 | AC 230 | AC 230 | AC 230 | DC 24 | AC 230 | AC 230 |
| **Service life** | | | | | | | | |
| Mechanical service life<br>Switching operations in millions | 20 | 50 | 20 | 20 | 20 | 20 | 10 | 10 |
| Electrical service life<br>Switching operations in millions | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0,1 | 0,1 |
| **Power loss** | | | | | | | | |
| Maximum power loss per device at rated power [W] | 7 | 2 | 3 | 5 | 8 | 6 | 4,5 | 2,3 |
| **Switching capacities/load types, loads** | | | | | | | | |
| Resistive load [W] | 1380 | 1380 | 1380 | 1380 | 1840 | 24 | 1380 | 1380 |
| Minimum switching capacity [V/mA] | 5/10 | 24/10 | 5/10 | 5/10 | 5/10 | 5/10 | 24/10 | 24/10 |
| DC switching capacity [V/A] | 24/8 | 30/10 | 24/8 | 24/8 | 24/8 | 24/8 | 30/10 | 30/10 |

[1] On request.

For complete technical specifications, see: www.siemens.com/gamma-td.

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**Notes**

www.siemens.com/gamma

2015

## Venetian blind actuator, 4 x AC 230 V, 8 A, with limit position detection and sunlight tracking

N 522/03

- 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 or electronic limit switches
- 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
- Electrically interlocked relays to reverse the direction of rotation
- Relay contacts rated for nominal voltage AC 230 V, 8 A (resistive load)
- Configuration by the user whether all actuator channels are to be identically or individually parameterized
- Communication objects per actuator channel for moving the sun protection to the limit positions or to stop travel and for step-by-step adjustment of the blind slats
- Communication objects for moving the sun protection and adjusting the blind slats directly to a new position (as precisely as drive mechanics permit) 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 the upper to the lower limit position
- Integrated 1-bit scene control for save and recall of 2 favored positions of blind and slats
- Integrated 8-bit scene control and assignment of up to 8 scenes per channel
- 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 switchover 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
- Alarm object per device or per channel for moving the sun protection to the configured safety position in the event of a wind alarm e.g. 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 (needed during cleaning of an outdoor Venetian blind e.g.)
- Status objects per actuator channel for query or automatic transmission of sun blind and slat position as percentage value
- Electronics powered via an integrated power supply unit for AC 230 V
- Green LED for displaying the 230 V operating voltage
- Pushbutton for switchover between bus mode and direct mode
- Yellow LED for display of activated direct mode
- Two pushbuttons each per actuator channel for drive control in direct mode
- Integrated in the actuator housing and operational if the actuator is supplied with AC 230 V (even if bus voltage missing or communication not operational)
- 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

Dimension width (1 MW = 18 mm)        6 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1522-1AB03 | **N 522/03** |

The optional data rail must be ordered separately. See chapter System Products and Accessories - data rails.

# Anti-glare/sun protection actuators

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**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

**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)

Dimension width (1 MW = 18 mm)        4 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1523-1AB02 | **N 523/02** |

The optional data rail must be ordered separately. See chapter System Products and Accessories - data rails.

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**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

Dimension width (1 MW = 18 mm)        4 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1523-1AB03 | **N 523/03** |

The optional data rail must be ordered separately. See chapter System Products and Accessories - data rails.

## 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

Dimension width (1 MW = 18 mm)        4 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1523-1AB04 | **N 523/04** |

The optional data rail must be ordered separately. See chapter System Products and Accessories - data rails.

## 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 Vand 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

Dimension width (1 MW = 18 mm)        4 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1523-1CB04 | **N 523C04** |

The optional data rail must be ordered separately. See chapter System Products and Accessories - data rails.

**N 523/11**

### Venetian blind actuator, 8x AC 230 V, 6A, with sunlight tracking of slats

- 8 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
- Configurable behavior in the event of a  bus voltage failure
- Configurable behavior in the event of a system voltage recovery
- Automatic mode for sunlight tracking control
- Manual mode
- Indication of direct operation with status object
- Status position of slats, 8-bit
- Integrated 1-/8-bit-scene control, 8 Scenes to be integrated per channel
- 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

Dimension width (1 MW = 18 mm)        8 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1523-1AB11 | **N 523/11** |

The optional data rail must be ordered separately. See chapter System Products and Accessories - data rails.

## Combination blind actuator, 4 x AC 230 V, 6 A, 8 x binary inputs                N 501/01

- 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 × AC 230V sunblind drives
- Contact rated voltage AC 230 V
- Contact rated current 6 A, p.f. = 1
- Electronics powered by a 230 V AC 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
- Green LED to indicate standby
- Key for switching between bus and direct mode
- Yellow LED for indicating direct mode activated
- Button for each relay contact output, for switching the output in direct mode while the button is held down
- LED per input to indicate the relevant signal status
- 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

Dimension width (1 MW = 18 mm)        8 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1501-1AB01 | **N 501/01** |

The optional data rail must be ordered separately. See chapter System Products and Accessories - data rails.

# Anti-glare/sun protection actuators

**6**

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**N 524/01**

**Shutter / blind actuator, 4 x DC 6 ... 24 V, 1 A**

- LED for status indication per output
- Direct operation (local operation)
- 4 channels
- For the separate control per actuator channel of a sun protection, damper, door or window drive with a motor for DC 24 V and electromechanical limit switches
- Electrically interlocked relays (for reversing direction of rotation)
- Configurable behavior in the event of a system voltage recovery
- Configurable behavior in the event of a  bus voltage failure
- Automatic mode for sunlight tracking control
- Manual or standard mode
- Transmitting status
- Per channel
- 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
- Alarm: Move to safety position, locking in this position for as long as alarm is active
- Adaptation of objects and functions to drive type
- Suitable for integration in a sunlight tracking control system
- Sun protection control (up/down)
- Using position data (8-bit value)
- Travel to end position, stopping, stepwise adjustment
- Slat control (open/close)
- Using position data (8-bit value)
- Travel to end position, stopping, stepwise adjustment
- Electronics powered via an integrated power supply unit. Supply voltage AC 230 V
- Integrated bus coupling units, Bus connection via bus terminal

Dimension width (1 MW = 18 mm)        6 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1524-1AB01 | **N 524/01** |

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**N 521/01**

**Shutter / blind actuator, 4 x AC 230 V, 6 A (2 x parallel)**

- 2 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
- Integrated isolating relay function for connection of 2 drives per channel
- Electrically interlocked relays (for reversing direction of rotation)
- Rated contact voltage AC 230 V, 50 Hz
- Rated contact current 6 A
- Configurable behavior in the event of a  bus voltage failure
- Alarm (Wind, Rain, Frost):  Move to safety position, locking in this position for as long as alarm is active
- Shared configuration of actuator channels
- Adaptation of objects and functions to drive type
- Sun protection control (up/down)
- Using position data (8-bit value)
- Travel to end position, stopping, stepwise adjustment
- Slat control (open/closed)
- Using position data (8-bit value)
- Travel to end position, stopping, stepwise adjustment sun protection control (up/down) and slat control (open/close)
- 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

Dimension width (1 MW = 18 mm)        3 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1521-1AB01 | **N 521/01** |

The data rail must be ordered separately. See chapter System Products and Accessories - data rails.

## Shutter actuators

UP 520/..3

- Electrically interlocked relays (drive protection)
- 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
- End position detection
- Using position data (8-bit value) travel to end position, stopping, stepwise adjustment sun protection control (up/down) and Slat control (open/closed)
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal

### Range overview UP 520/..3

| Product Title | Dimensions (W x H x D) | Stock No. | Product No. |
|---|---|---|---|
| Shutter Actuator with mounting frame and BTI socket | 71 x 71 x 42 mm | 5WG1520-2AB03 | **UP 520/03** |
| Shutter Actuator without mounting frame | 50 x 50.9 x 41.3 mm | 5WG1520-2AB13 | **UP 520/13** |

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

UP 520/31

- 1 x AC 230 V, 6 A, 2 x binary inputs
- 1 channel
- 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
- Electrically interlocked relays (for reversing direction of rotation)
- Max. cable length, unshielded, twisted 5 m
- For 2 signal inputs (floating contact)
- Determination of switching state by means of the voltage generated in the device
- Configurable behavior in the event of a  bus voltage failure
- Configurable behavior in the event of a  bus voltage recovery
- Transmitting status per channel
- Travel lock (e. g. for cleaning the outer shutter/blinds)
- Alarm (Wind, Rain, Frost): Move to safety position, locking in this position for as long as alarm is active
- Individual configuration of actuator channels
- Travel to end position, stopping, stepwise adjustment
- Bus-powered electronics
- Integrated bus coupling units
- Bus connection via bus terminal
- For installation in flush-mounting switch and socket boxes with Ø 60 mm

Dimension (Ø x H)                      53 x 28 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1520-2AB31 | **UP 520/31** |

**RS 520/23**

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

- 1 channel
- 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
- Electrically interlocked relays (for reversing direction of rotation)
- maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm$^2$
- 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)
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal

Dimensions (W x H x D)                 50.2 x 48.8 x 35.5 mm

The AP 641 room control box and AP 118 automation module box must be ordered separately.
See Chapter Quick-assembly system - Room control box.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1520-2AB23 | **RS 520/23** |

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

RL 521/23

- 2 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
- Electrically interlocked relays (for reversing direction of rotation)
- maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm$^2$
- 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/close)
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal
- For mounting in AP 118 automation module box or AP 641 room control box

Dimensions (W x H x D)              86.5 x 47.8 x 36.2 mm

The AP 641 room control box and AP 118 automation module box must be ordered separately.
See Chapter Quick-assembly system - Room control box.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1521-4AB23 | **RL 521/23** |

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### AP 257/..2

### Weather-/sun station

- 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

Dimensions (W x H x D)           96 x 77 x 118 mm

The 4AC2402 electronic power pack is recommended for the power supply.

### Range overview AP 257/..2

| Product Title | Stock No. | Product No. |
|---|---|---|
| Weather center (GPS), 8 facade sectors, sun tracking | 5WG1257-3AB22 | **AP 257/22** |
| Weather station WS1 (GPS) | 5WG1257-3AB32 | **AP 257/32** |

### AP 257/42

### Wind sensor

- Windspeed Measuring range 0...35 m/s
- Recording, querying and resetting the maximum wind speed
- Automatic indication in the event of a defective sensor
- Mast mountings
- Limit value monitoring (3 limit values)
- Transmission of sensor values via bus
- Logic operations (8 AND, 8 OR)
- Electronics powered via an external power supply unit
- Integrated bus coupling units, bus connection via bus terminal
- Surface mounting, degree of protection IP44

Dimensions (W x H x D)           96 x 77 x 118 mm

The 4AC2402 electronic power pack is recommended for the power supply.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1257-3AB42 | **AP 257/42** |

**Accessories for AP 257/..2**

| Product Title | Stock No. | Product No. |
|---|---|---|
| Electronic power supply units | 4AC2402 | **4AC2402** |

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# Heating, Cooling, Ventilation, Air-Conditioning



**7**

| Communicating sensors | | | Measuring Variables | | | Display | Input | |
|---|---|---|---|---|---|---|---|---|
| Basic module | + | Front module | $CO_2$ | Relative humidity | Temperature | $CO_2$-indicator | passive Temperature NTC 10k | Two potential-free contacts |
| AQR2570Nx | + | AQR2532NNW | | | ■ | | ■ | ■ |
| AQR2570Nx | + | AQR2533NNW | | ■ | | | ■ | ■ |
| AQR2570Nx | + | AQR2535NNW | | ■ | ■ | | ■ | ■ |
| AQR2576Nx | + | AQR2530NNW | ■ | | | | ■ | ■ |
| AQR2576Nx | + | AQR2532NNW | ■ | | ■ | | ■ | ■ |
| AQR2576Nx | + | AQR2533NNW | ■ | ■ | | | ■ | ■ |
| AQR2576Nx | + | AQR2535NNW | ■ | ■ | ■ | | ■ | ■ |
| AQR2576Nx | + | AQR2535NNWQ | ■ | ■ | ■ | ■ | ■ | ■ |

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## Room thermostats

| Type | RDG100KN | RDG160KN | RDG400KN | RDF800KN | RDF600KN | RDF301 | RDF301.50 | RDF301.50H | RDU341 | UP 237 K i-system | UP 254 K DELTA style |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Design** | | | | | | | | | | | |
| Wall mounted | ■ | ■ | ■ | | | | | | | | |
| Semi-Flush Mounted | | | | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Flush Mounted | | | | | | | | | | ■ | ■ |
| for VDE/CEE box | | | | ✪ | ✪ | | | | | ■ | ■ |
| for British Standard box | | | | ■ | ■ | ✪ | ■ | ■ | ■ | | |
| **Housing** | | | | | | | | | | | |
| Digital display | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| Touch Screen Display | | | | ✪ | | | | | | | |
| LED indicators | | | | | | | | | | ■ | ■ |
| Setpoint knob | ■ | ■ | ■ | | | | | | | ■ | ■ |
| Operating mode button | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Fan speed button | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | | |
| Buttons for light and blind control | | | | | | | ✪ | | | | |
| Button for Hotel application | | | | | | | | ✪ | | | |
| **Bus connection** | | | | | | | | | | | |
| Integrated bus coupling units | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | |
| For plugging onto a bus coupling units (BTM) | | | | | | | | | | ■ | ■ |
| **Power supply** | | | | | | | | | | | |
| Bus-powered electronic | | | | | | | | | | ■ | ■ |
| Terminal voltage AC 230 V | ■ | | | ■ | ■ | ■ | ■ | ■ | | | |
| Terminal voltage AC 24 V | | ■ | ■ | | | | | | ■ | | |
| **Integrated room temperature** | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Inputs** | | | | | | | | | | | |
| Multifunctional inputs digital/analog | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | | |
| **Outputs** | | | | | | | | | | | |
| ON/OFF (PWM) Triac (H/C) | ■ | | ■ | | | | | | | | |
| ON/OFF Relay (H/C) | | ■ | | ■ | ✪ | ✪ | ■ | ■ | ■ | | |
| Analog outputs DC 0..10V (H/C) | | ✪ | ■ | | | | | | ■ | | |
| 3-stage Relay (fan) | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | | | |
| Analog DC 0..10 V (fan) | | ✪ | | | | | | | | | |
| **Applications** | | | | | | | | | | | |
| Fancoil 2-/4-pipe | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | | | |
| Fancoil with electrical heater | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | | | |
| Fancoil with Radiator | ■ | ■ | | | | | | | | | |
| Heating / Cooling 2-/4-pipe | ■ | ■ | | ■ | | | | | | ■ | ■ |
| Heat Pump System | | ■ | | ■ | ■ | ■ | ■ | | | ■ | ■ |
| Variable Air Volume (VAV) | | | ■ | | | | | | ■ | | |
| VAV with electrical heater | | | ■ | | | | | | ■ | | |
| VAV with radiator / Heat-Cool coil | | | ■ | | | | | | | | |
| **Functionalities** | | | | | | | | | | | |
| 2-position control | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Modulating control | ■ | ■ | ■ | ■[2] | ■[2] | ■[2] | ■[2] | ■[2] | ■ | ■ | ■ |
| 2-stage control sequence for heating or cooling | ■ | ■ | | ■[1] | ■[1] | ■[1] | ■[1] | ■[1] | | ■ | ■ |
| **Operating mode** | | | | | | | | | | | |
| Comfort | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Pre-Comfort | | | | | | | | | | ■ | ■ |
| Economy | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Protection | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Manual / Auto operating mode | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |

[1] only for 2-stage heating

[2] modulating output only for 2-pipe applications

■ valid for all variants       ✪ main feature

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## Room controllers

| | QMX3.. | | | | | |
|---|---|---|---|---|---|---|
| Type | P30 | P70 | P34 | P74 | P02 | P37 |
| **Design** | | | | | | |
| Wall mounted | ■ | ■ | ■ | ■ | ■ | ■ |
| **Display / operating** | | | | | | |
| LCD display with 8 capacitive keys | | | ■ | ■ | | ■ |
| 8 capacitive keys with LED, parameterizable or 4 two-button keys | | | | | ■ | ■ |
| **Sensor** | | | | | | |
| Temperatur | ■ | ■ | ■ | ■ | ■ | ■ |
| Humidity | | ■ | | ■ | | |
| Air quality | | ■ | | ■ | | |
| **Bus interface** | | | | | | |
| integrated bus coupling unit | ■ | ■ | ■ | ■ | ■ | ■ |
| **Function** | | | | | | |
| Setpoint | | | ■ | ■ | | ■ |
| Plant mode | | | ■ | ■ | | ■ |
| Room temperatur | | | ■ | ■ | | ■ |
| Room humidity | | | ■ | ■ | | ■ |
| Room air quality | | ■⌂[1] | ■ | ■ | | ■ |
| Fan speed | | | ■ | ■ | | ■ |
| Occupancy | | | ■ | ■ | | ■ |
| Switching, light | | | | | ■ | ■ |
| Dimming, light | | | | | ■ | ■ |
| Blinds | | | | | ■ | ■ |
| Scene, up to 8 | | | | | ■ | ■ |
| State indication on LED | | | | | ■ | ■ |
| **Controlling** | | | | | | |
| Controller enable /disable | ■ | ■ | ■ | ■ | ■ | ■ |
| PID controller for heating and/or cooling | ■ | ■ | ■ | ■ | ■ | ■ |
| Threshold controller for humidity | ■ | ■ | ■ | ■ | ■ | ■ |
| Threshold controller for air quality | ■ | ■ | ■ | ■ | ■ | ■ |

[1] Air quality indication on LED

## Actuators for HVAC

| Type | N 605/01 | N 605/11 | REG 540/01 | REG 540/11 |
|---|---|---|---|---|
| **Application program** | 906101 | 906202 | 49550 | 49551 |
| **Enclosure data** | | | | |
| **Design** | N | N | REG | REG |
| Modular installation devices for mounting on TH35 EN 60715 mounting rail | ■ | ■ | ■ | ■ |
| **Dimensions** | | | | |
| • Width [mm] (1 MW = 18 mm) | 6 MW | 6 MW | 6 MW | 4 MW |
| • Length [mm] | 90 | 90 | 90 | 90 |
| • Height [mm] | 55 | 55 | 55 | 55 |
| **Display/control elements** | | | | |
| LED for operation/status display | ■ | ■ | ■ | ■ |
| Can be operated with | [1] | [1] | UP 227, UP 204 | UP 227, UP 204 |
| Direct operation (local operation) | ■(manual) | ■(manual) | ■(test mode) | ■(test mode) |
| **Power supply** | | | | |
| Electronics powered via an external 24 V AC/DC power supply unit | | | | ■(AC only) |
| Electronics powered via an integrated power supply unit. Supply voltage 230 V AC | ■ | ■ | ■ | |
| **Bus connection** | | | | |
| Integrated bus coupling units | ■ | ■ | ■ | ■ |
| Bus connection via contact system to data rail | | | | |
| Bus connection via bus terminal | ■ | ■ | | |
| Bus connection via screw terminals | | | ■ | ■ |
| **Outputs** | | | | |
| **Load output** | | | | |
| Floating relay contact | | | 3 | 3 |
| • Rated contact voltage, AC | | | 230 | 230 |
| • Rated contact current (p.f. = 1) | | | 6 | 6 |
| Silent semiconductor switch | 6 | 6 | 2 | 2 |
| • Rated voltage, AC | 230 | 230 | 24 | 24 |
| • Max. permanent loading (p.f. = 1) | 12 | 6 | 5 | 15 |
| **Protection** | | | | |
| Electronic protection of outputs against overload and short circuit | ■ | ■ | | |
| **Inputs** | | | | |
| **Pushbutton inputs** | | | | |
| For signal input (floating contacts) | 6 | 6 | 2 | 1 |
| Determination of switching state by means of the voltage generated in the device | ■ | ■ | ■ | ■ |
| **Sensor inputs** | | | | |
| PT1000 temperature sensor input | | | | |
| Temperature sensor input | | | 1[2] | 1[2] |
| Potentiometer input (setpoint adjustment) | | | 1 | |
| Max. cable length, unshielded, twisted | 50 | 50 | 30 | 30 |

[1] *instabus* room temperature controllers.
[2] M 540 temperature sensors.
[3] On request.

## ...Continuation of the table

| Type | N 605/01 | N 605/11 | REG 540/01 | REG 540/11 |
|---|---|---|---|---|
| **Application program**[1] | 906101 | 906202 | 49550 | 49551 |
| **Output functions** | | | | |
| Switching (ON/OFF per channel) | ■ | ■ | ■ | ■ |
| Value setting per channel, 8-bit | ■ | | ■ | ■ |
| Positively driven operation | ■ | | | |
| Configurable transmission of output status | ■ | ■ | | |
| Transmitting status | | ■ | | |
| **Input functions** | | | | |
| Configurable debounce time | | | | |
| Configurable pulse edge evaluation | | | | |
| Configurable transmission of input status objects | ■ | ■ | | |
| **General functions** | | | | |
| Max. number of group addresses | 35 | 40 | [2] | [2] |
| Max. number of assignments | 55 | 65 | [2] | [2] |
| Integrated controllers with PI algorithms | | | ■ | ■ |
| Comfort mode | | | ■ | ■ |
| Standby mode | | | ■ | ■ |
| Night mode | | | ■ | ■ |
| Frost protection mode | | | ■ | ■ |
| Heat protection mode | | | ■ | ■ |
| Energy-saving function | | ■ | | |
| Calcification protection | ■ | | | |
| Configurable behavior in the event of a bus voltage failure | ■ | ■ | | |
| Configurable behavior in the event of a bus voltage recovery | ■ | ■ | | |

[1] For current application programs, see www.siemens.com/gamma-td
[2] On request.

**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

| | RXB21.1/ FC-10 | RXB21.1/ FC-11 | RXB22.1/ FC-12 | RXB24.1/ CC-02 | RXB39.1/ FC-13 |
|---|---|---|---|---|---|
| Applications | | | | | |
| 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 montoring, Radiator with down-draft compensation | | | | ■ | |
| RAD01: Radiator with downdraft compensation | | | | ■ | |
| Functionality | | | | | |
| Temperature setpoints, 4 operating modes Comfort, Pre-Comfort, Econo-my, 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 0-10V (EC fan motor) | | | | | ■ |
| PWM valve actuator control | ■ | ■ | ■ | ■ | |
| 3-Position valve actuator control | ■ | ■ | ■ | ■ | |
| KNX valve actuator control | ■ | ■ | ■ | ■ | ■ |
| Motoric 0-10V valve actuator control | | | | | ■ |
| Electric reheater control | | ■ | | | ■ |
| | | | | | |
| Room unit range QAX.. over PPS2 Interface with temperature sensor, setpoint adjustment,  Standby/Auto/Fan switch, display | ■ | ■ | ■ | ■ | ■ |
| Room units via KNX (UP2.../QMX3.P34) | ■ | ■ | ■ | ■ | ■ |
| parameterization of applications over handy tool QAX34.3 | ■ | ■ | ■ | ■ | ■ |
| | | | | | |
| Power supply | 230VAC | 230VAC | 230VAC | 230VAC | 230VAC |

**7**

7-7

| Compact controller for HVAC | | |
|---|---|---|
| |  |  |
| | Actuators for air volume controllers 300 Pa application range | |
| Type | GDB181.1E/KN | GLB181.1E/KN |
| | GDB 300 Pa<br>VAV compact controller [1]<br>5 Nm for approx.<br>0.8 m² damper area<br>150 s running time | GLB 300 Pa<br>VAV compact controller [1]<br>10 Nm for approx.<br>1.5 m² damper area<br>150 s running time |
| Control signal | KNX S-Mode<br>KNX LTE-Mode<br>KNX PL-Link | KNX S-Mode<br>KNX LTE-Mode<br>KNX PL-Link |
| Operating voltage | AC 24 V | AC 24 V |
| Standard model | GDB181.1E/KN | GLB181.1E/KN |
| Dimensions, round damper shaft (mm) | 8...16 | 8...16 |
| Dimensions, square damper shaft (mm) | 6...12,8 | 6...12,8 |

[1] Available to OEMs only

**7**

| Type | AP 561/01[1] | AP 561/02[1] | AP 561/03 | AP 561/04 | STA23 | STA73 | STA73HD | STP23[1] |
|---|---|---|---|---|---|---|---|---|
| **Enclosure data** | | | | | | | | |
| **Dimensions** | | | | | | | | |
| • Height [mm] | 58 | 58 | 58 | 58 | 74 | 74 | 74 | 74 |
| • Width/Ø [mm] | 44.5 | 44.5 | 44.5 | 44.5 | 44 | 44 | 44 | 44 |
| **Output** | | | | | | | | |
| Electrothermal actuators (silent) | | | | | | | | |
| • 230 V AC | ▪ | ▪ | | | ▪ | | | ▪ |
| • 24 V AC/DC | | | ▪ | ▪ | | ▪ | ▪ | |
| Valve position in de-energized state[2] | NC | NO | NC | NO | NC | NC | NC | NO |
| Valve position indication | ▪ | | ▪ | | ▪ | ▪ | ▪ | ▪ |
| Max. lift / max. positioning force [mm/N] | 3.5/105 | 2.6/105 | 3.5/105 | 2.6/105 | 4.5/100 | 4.5/100 | 4.5/90 | 4.5/100 |
| Max. open/close time [Min.] | 3 | Approx. 3 | Approx. 3 | Approx. 3 | 3.5 | 4.5 | 4.5 | 3.5 |
| Actuating signal | Two-step | Two-step | Two-step | Two-step | Two-step | Two-step | Two-step | Two-step |
| Length of connecting lead [m] | 1 | 1 | 1 | 1 | 1 | 1 | 0.8 | 1 |
| Ambient temperature for operation [°C] | 0...+50 | 0...+50 | 0...+50 | 0...+50 | +5...+50 | +5...+50 | +5...+50 | +5...+50 |
| Power inputs [W] | 3 | 3 | 3 | 3 | 2.5 | 2.5 | 2.5 | 2.5 |
| Mounting | Horizontal, horizontal/standing | | | | 360°, also headfirst | | | |
| Degree of protection | IP43 | IP43 | IP43 | IP43 | IP54 | IP54 | IP54 | IP54 |

[1] Suitable for N 605/01 and N 650/11 thermal drive actuators, see Chapter Heating, Cooling, Ventilation, Air-Conditioning - Actuators for HVAC.
[2] Closed (NC), open (NO).

**7**

Heating, Cooling, Ventilation, Air-Conditioning
**Overview and selection tools**
**Product range overview**

**7**

# One system for all types of applications

Synco tool

For commissioning and diagnostics

PC with
ACS software

## 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 your customers operation from underway or from the sofa.

## 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.

## Simple concept for opening communication

With Synco, opening and starting communication is child's play: Simply interconnect 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.

## Open data exchange via KNX standard bus, irrespective of supplier

The KNX standard bus facilitates interconnections of HVAC, lighting and blind control, for instance, regardless of the supplier – for simultaneous control of the ventilation system and of lighting via presence detectors, for example.

Control and switching unit for heating, ventilation and air conditioning plants

Synco 700

### Universal controllers

| | |
|---|---|
| RMU710 | modular universal controller, 1 control loop |
| RMU720 | modular universal controller, 2 control loops |
| RMU730 | modular universal controller, 3 control loops |
| RMS705 | switching and monitoring device |

### Universal extension modules (for all types of controllers)

| | |
|---|---|
| RMZ785 | universal module |
| RMZ787 | universal module |
| RMZ788 | universal module |

### Operator units (for all types of controllers)

| | |
|---|---|
| RMZ790 | plug-in type operator unit |
| RMZ791 | detached operator unit (3 m) |
| RMZ792 | bus operator unit |

### Field devices

| | |
|---|---|
| GDB181.1E/KN | VAV compact controller (5 Nm) |
| GLB181.1E/KN | VAV compact controller (10 Nm) |

Heating, Cooling, Ventilation, Air-Conditioning
**Overview and selection tools**
**Product range overview**

## Synco operating

Efficient operation of plant including alarm reporting



Smartphone

PC with
Web browser

Internet/Intranet

Standard
gateway

**KNX**
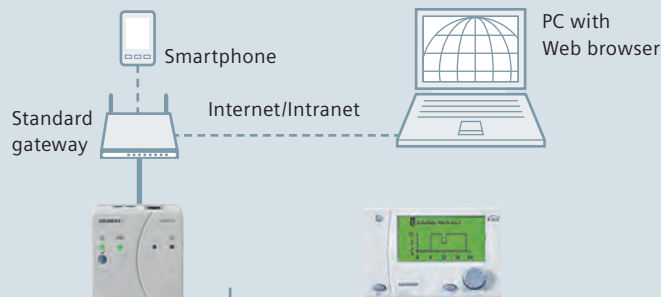
The world's only open
standard for home
and building control –
ISO/IEC 14543-3

**7**

Control and switching unit for heating,
ventilation and air conditioning plants

Central control unit and room controller
for individual room climate

Synco RXB/RXL room controllers, Synco RDG/RDF/RDU room thermostats

**Heating controllers**
RMH760     modular heating controller
RMK770     boiler sequence controller

**Extension modules for heating
controllers**
RMZ782     heating circuit module
RMZ783     DHW module
RMZ787     universal module
RMZ789     universal module

**Room unit**
QAW740     room unit

**Synco operating**

OZW772     Web server (Ethernet)

**Synco tool**
OCI700.1   service tool
ACS790     commissioning software

**Central control unit**
RMB795
– Central control unit for room controllers

**Room controllers**
RXB21.1, RXB22.1, RXB39.1
– Fan coil units

RXB24.1
– Chilled ceiling or radiator

**Room thermostats**
RDG100KN, RDG160KN
– Fan coil units
– Universal system, chilled/heated
  ceiling and radiator
– Heat pump systems

RDG400KN
– Variable air volume system

RDF301, RDF301.50, RDF600KN
– Fan coil units
– Heat pump systems
– Semi flush mount

RDU341
– Variable air volume system
– Semi flush mount

RDF800KN, RDD810KN/NF

Heating, Cooling, Ventilation, Air-Conditioning
## Overview and selection tools
## Product details communicating controllers Synco™

**Product details communicating controllers Synco™**

| Type | RMB.. 795B | RMH.. 760 | RMK.. 770 | RMU.. 710 | RMU.. 720 | RMU.. 730 | RMS.. 705 | RMZ.. 782B | RMZ.. 783B | RMZ.. 785 | RMZ.. 787 | RMZ.. 788 | RMZ.. 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 | UUniversal module, 6UI, 2AO, 4DO |
| Bedienung | ■ | ■1) | ■ | ■1) | ■1) | ■1) | ■1) | | | | | | |
| Kommunikation KNX | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | |
| Wochenschaltuhr und Ferien-/ Sondertagsprogramm | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | |
| Überwachung | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | |
| Steuerung | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | |
| **Ausgänge** | | | | | | | | | | | | | |
| Stufenschalter | | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | |
| Relais | 4 | 5 | 7 | 2 | 4 | 6 | 6 | 3 | 5 | | 4 | 2 | 4 |
| 3-Punkt | 2 | 1 | 2 | | | | | | | | | | |
| DC 0...10V | | 2 | 2 | 2 | 3 | 4 | 4 | 1 | 1 | | | 2 | 2 |
| **Universale Eingänge** | | | | | | | | | | | | | |
| T1 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Pt1000 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| DC 0...10V | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Digital | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| LG-Ni 1000 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Anzahl universale Eingänge | 6 | ■ | ■ | 6 | 8 | 8 | 8 | 3 | 4 | 8 | 4 | 4 | 6 |
| **Regelgrösse** | | | | | | | | | | | | | |
| Universal | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | |
| Temperatur °C | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | |
| **Regelverhalten** | | | | | | | | | | | | | |
| PID | | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | |
| P/PI | | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | |
| **Regelkreise** | | | | | | | | | | | | | |
| Kaskade | | ■ | ■ | ■ | ■ | ■ | | | | | | | |
| Anzahl | | 6 | 7 | 1 | 2 | 3 | 3 | | | | | | |

■ 1) Optional operation:
RMZ790: Plug-in operator unit
RMZ791: Detached operator unit
RMZ792: Bus operator unit

AO   Analog output
DO   Digital output
UI   Universal inputs

### Temperature sensor 4 x Pt1000

**N 258/02**

- For four Pt1000 sensors
- For the measurement and transmission of 4 temperatures in the range -40...+150 °C
- For connection of four Pt1000 temperature sensors2), each via a 2-wire cable up to 50 m in length
- Configurable smoothing of a measured value through mean value generation
- Monitoring of a lower and upper limit value for each measured value, with configurable hysteresis for limit value signals
- Electronics powered via an integrated power supply unit for 230 V AC
- Green LED for displaying ready-to-run status
- 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

Dimension width (1 MW = 18 mm)          4 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1258-1AB02 | **N 258/02** |

### 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

Dimensions (W x H x D)          72 x 110 x 54 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1254-3EY02 | **AP 254/02** |

## Sensors for HVAC

---

### AQR253..



### Front modules for base modules

| | |
|---|---|
| Color | Titanium white |
| Degree of protection | IP30 |
| Dimensions (W x H) | 55 x 55 mm |

### Range overview AQR253..

| Measuring range, temperature | Signal output temperature | Measurement range humidity | Stock No. | Product No. |
|---|---|---|---|---|
| 0...50 °C | Active | | S55720-S136 | **AQR2532NNW** |
| | | 0...100 % | S55720-S140 | **AQR2533NNW** |
| 0...50 °C | Active | 0...100 % | S55720-S141 | **AQR2535NNW** |

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

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### AQR2570..



### Base module with KNX for temperature and humidity measurement

- The room sensor for flush mounting consists of a base - and front module
- Temperature control as continuous control (PID algorithm) for pure heating operation, heating and cooling operation, and adjustable control value as continuous control value 0...100%, or as pulse-width modulated (PWM) switching signal On/Off
- Ventilation control across 3 settable switching points for relative humidity, and 3 switching signal objects On/Off, or one control value object 0...100% to control a ventilation actuator
- Setpoints for room temperature and relative humidity adjustable via KNX bus
- 1 analog input to connect temperature sensors with NTC 10k sensing element to measure room, floor, or ceiling temperature
- 2 multi-functional binary inputs to control window contacts or switches for blinds and/or lighting control
- Settable commissioning and control parameters
- Power supply via KNX-bus, bus load < 5 mA
- Integrated bus coupler with programming button and LED

| | |
|---|---|
| Voltage supply | KNX bus |
| Analog inputs | Passive temperature sensor NTC 10k |
| Analog inputs, number | 1 |
| Digital inputs | Potential-free contacts |
| Digital inputs, number | 2 |
| Connection, electrical | Bus connection: spring terminal sensor inputs: 4 screw terminals |

### 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** |
| UK (British Standard) | 83 x 83 mm | S55720-S204 | **AQR2570NH** |
| IT (3 Modular) | 110 x 64 mm | S55720-S205 | **AQR2570NG** |
| US (UL) | 64 x 110 mm | S55720-S206 | **AQR2570NJ** |

## Front modules for base modules

AQR253..

| | |
|---|---|
| Color | Titanium white |
| Degree of protection | IP30 |
| Dimensions (W x H) | 55 x 55 mm |

### Range overview AQR253..

| Measuring range, temperature | Signal output temperature | Measurement range humidity | Stock No. | Product No. |
|---|---|---|---|---|
| | | | S55720-S137 | **AQR2530NNW** |
| 0...50 °C | Active | | S55720-S136 | **AQR2532NNW** |
| | | 0...100 % | S55720-S140 | **AQR2533NNW** |
| 0...50 °C | Active | 0...100 % | S55720-S141 | **AQR2535NNW** |
| 0...50 °C | Active | 0...100 % | S55720-S219 | **AQR2535NNWQ** |

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

## Base modules with KNX for $CO_2$ measurement

AQR2576..

- The room sensor for flush mounting consists of a base - and front module
- Integrated maintenance- and recalibration-free CO2 sensor
- Ventilation control across 3 settable switching points for relative humidity and CO2-concentration, and 3 switching signal objects On/Off, or one control value object 0...100% to control a ventilation actuator
- Setpoints for room temperature,relative humidity and CO2-concentration adjustable via KNX bus
- Temperature control as continuous control (PID algorithm) for pure heating operation, heating and cooling operation, and adjustable control value as continuous control value 0...100%, or as pulse-width modulated (PWM) switching signal On/Off
- 1 analog input to connect temperature sensors with NTC 10k sensing element to measure room, floor, or ceiling temperature
- 2 multi-functional binary inputs to control window contacts or switches for blinds and/or lighting control
- Settable commissioning and control parameters
- Power supply via KNX-bus, bus load < 15 mA
- Integrated bus coupler with programming button and LED

| | |
|---|---|
| Voltage supply | KNX bus |
| Analog inputs | Passive temperature sensor NTC 10k |
| Analog inputs, number | 1 |
| Digital inputs | Potential-free contacts |
| Digital inputs, number | 2 |
| Measuring range | $CO_2$: 0...5000 ppm |
| Connection, electrical | Bus connection: spring terminal  sensor inputs: 4 screw terminals |

### 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** |
| UK (British Standard) | 83 x 83 mm | S55720-S208 | **AQR2576NH** |
| IT (3 Modular) | 110 x 64 mm | S55720-S209 | **AQR2576NG** |
| US (UL) | 64 x 110 mm | S55720-S210 | **AQR2576NJ** |

## Room temperature controllers
## 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)

Dimensions (W x H x D)                55 x 55 x 16 mm

### Range overview UP 237K..

| Product Title | Stock No. | Product No. |
| --- | --- | --- |
| Temperature controller, titanium white | 5WG1237-2KB11 | **UP 237K11** |
| Temperature controller, aluminum metallic | 5WG1237-2KB31 | **UP 237K31** |

The bus coupling module (BTM) (see chapter Systemproducts and Accessories) or flush-mounting actuator wih bus coupling (BTM) must be ordered separately. The matching design frame must be ordered separately. See chapter Display and Operation Units - Pushbutton Accessories.

## Temperature controller, DELTA style

**UP 254K**

- 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)

Dimensions (W x H x D)          68 x 68 x 16 mm

## Range overview UP 254K

| Product Title | Stock No. | Product No. |
|---|---|---|
| Temperature controller, titanium white/metallic silver | 5WG1254-2KB13 | **UP 254K13** |
| Temperature controller, platinmetallic | 5WG1254-2KB43 | **UP 254K43** |

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.

## Room temperature controllers
## Room thermostat flush mount

**RDF800KN**

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

Touch screen room thermostat 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 |
| Switching differential | 0.5...6 K |
| Setpoint setting range | 5...40 °C |
| Analog inputs, number | 2 |
| Relay outputs, number | 5 |
| Relay outputs | Fan: N.O. contacts, non-floating<br>Valve: N.O. contacts, non-floating |
| 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 |
| Communication | Bus: KNX (S-mode and LTE mode with Synco 700) |

| | Stock No. | Product No. |
|---|---|---|
| | S55770-T350 | RDF800KN |

**7**

NEW PRODUCT

Heating, Ventilation, Air-Conditioning, Cooling
## Room temperature controllers
## Room thermostat flush mount

Semi Flush Mount room thermostat with LCD for fan coil units and 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, operation mode changeover, window contact on/off, dewpoint monitor, electrical heater enabled, fault contact
- Automatic or manual heating/cooling changeover
- Adjustable commissioning and control parameters
- Minimum and maximum setpoint limitation
- Color of housing: signal white (RAL 9003)
- Backlit display

Application selectable:
- 2-pipe system
- 2-pipe system with electrical heater
- 4-pipe system

**RDF..KNX Semi Flush Mount**

| Operating voltage | AC 230 V |
|---|---|
| Setpoint setting range | 5...40 °C |
| Analog inputs, number | 2 |
| Relay outputs, number | 5 |
| Relay outputs | Fan: N.O. contacts, non-floating<br>Valve: N.O. contacts, non-floating |
| Relay output, switching voltage | AC 230 V |
| Relay output, switching current | 5 (2) A |
| Type of fixing | Recessed rectangular conduit box BS4662 with fixing centres of 60.3 mm (ARG71) |
| Degree of protection | IP30 |

### Range overview RDF..KNX Semi Flush Mount

| Product Title | Type of fixing | Dimensions (W x H x D) | Stock No. | Product No. |
|---|---|---|---|---|
| Semi Flush-mount thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment | With screws on recessed round conduit box diameter min. 60 mm | 86 x 86 x 46 mm | S55770-T293 | **RDF600KN** |
| Semi Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment | Recessed rectangular conduit box BS4662 with fixing centres of 60.3 mm (ARG71) | 86 x 86 x 57 mm | S55770-T104 | **RDF301** |
| Semi Flush-mount room thermostat with KNX communications, 2-/4-pipe fan coils or DX type equipment, four buttons for switching lights and blinds | Recessed rectangular conduit box BS4662 with fixing centres of 60.3 mm (ARG71) | 86 x 86 x 57 mm | S55770-T105 | **RDF301.50** |
| Hotel Semi Flush-mount room thermostat with KNX, 2-/4-pipe fan coils or DX type equipment, four buttons hotel functions | Recessed rectangular conduit box BS4662 with fixing centres of 60.3 mm (ARG71) | 86 x 86 x 57 mm | S55770-T334 | **RDF301.50H** |

The matching ARG71 flush-mounting box must be ordered separately. See chapter Display and Operation untis - Room Temperature Controller.

Heating, Ventilation, Air-Conditioning, Cooling
**Room temperature controllers**
**Room thermostat flush mount**

| RDU341 | **Semi Flush-mount room thermostat for rectangular conduit box with KNX communications, for VAV application** |
|---|---|

Semi Flush-mount room thermostat for VAV application
- KNX communications
- Output for a DC 0...10 V actuator and AC 230V electrical heater (ON-OFF)
- 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
- Operating modes: Comfort, Economy and Protection
- Modulating PI control
- Control depending on the room or the return air temperature
- Automatic or manual heating/cooling changeover
- Adjustable commissioning and control parameters
- Minimum and maximum setpoint limitation
- Adjustable minimum and maximum limitation for air flow signal DC 0...10V
- Output signal inversion as an option

Application selectable:
- Single-duct system
- Single-duct system with electrical heater

| | |
|---|---|
| Operating voltage | AC 24 V |
| Setpoint setting range | 5...40 °C |
| Analog inputs, number | 2 |
| Analog outputs, number | 1 |
| Analog output, signal | DC 0...10 V |
| Analog output, current | Max. ±1 mA |
| Relay outputs, number | 1 |
| Relay outputs | N.O. contact, potential-free |
| Relay output, switching voltage | AC 230 V |
| Relay output, switching current | Max. 5 (2) A |
| Type of fixing | Recessed rectangular conduit box BS4662 (ARG71) with fixing centres of 60.3 mm |
| Degree of protection | IP30 |
| Dimensions (W x H x D) | 86 x 86 x 57 mm |

| | Stock No. | Product No. |
|---|---|---|
| | S55770-T106 | **RDU341** |

The matching ARG71 flush-mounting box must be ordered separately. See chapter Display and Operation untis - Room Temperature Controller.

## Conduit box 75 x 75 x 51 mm           ARG71

Dimensions (W x H x D)           75 x 75 x 51 mm

| | Stock No. | Product No. |
|---|---|---|
| | S55770-T137 | **ARG71** |

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## Room temperature controllers
## Room thermostat wall mounting

**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

| | |
|---|---|
| Operating voltage | AC 230 V |
| Switching differential | Heating: 0.5...6 K |
| | Cooling: 0.5...6 K |
| Analog inputs, number | 2 |
| Analog input, signal | NTC 3k |
| | Switch |
| Digital inputs, number | 1 |
| Relay outputs, number | 3 |
| Relay outputs | Fan: 1- or 3-speed |
| Relay output, switching voltage | AC 230 V |
| Relay output, switching current | 5 (4) A |
| Triac outputs, number | 3 |
| Triac outputs | Valve, el. heater |
| | 2-position, PWM, 3-position |
| 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, Air-Conditioning, Cooling
## Room temperature controllers
## Room thermostat wall mounting

## 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
- 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

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

| | Stock No. | Product No. |
|---|---|---|
| | S55770-T297 | **RDG160KN** |

## Room temperature controllers
## Room thermostat wall mounting

**RDG400KN**

### Room thermostat 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
- 1 input DC 0...10 V for damper position feedback
- Operating modes: Comfort, Economy and Protection
- Modulating PI control
- Control depending on the room or the return air temperature
- 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

| | |
|---|---|
| Operating voltage | AC 24 V |
| Setpoint setting range | 5...40 °C |
| Analog inputs, number | 2 |
| Analog input, signal | NTC 3k |
| | DC 0...10 V |
| Digital inputs, number | 1 |
| Analog outputs, number | 1 |
| Analog outputs | VAV actuator, electric heater, valve |
| Analog output, signal | DC 0...10 V |
| Analog output, current | Max. ±1 mA |
| Triac outputs, number | 1 |
| Triac outputs | VAV actuator, valve, el. heater |
| | 2-position, PWM, 3-position |
| 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-T165 | **RDG400KN** |

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Heating, Ventilation, Air-Conditioning, Cooling
## Room temperature controllers
## Room controllers flush mount

## Room Controller Contouch, incl.  bus coupling unit

<div align="right"><strong>UP 204/..1</strong></div>

- Multifunctional display/operating device for KNX, with 320 x 240 pixel, 2.8" LCD color display
- For the display and operation of at least 18 configurable room operator functions:
- Switching On/Off/Over and Pushbutton function (bell function)
- Shutter/blind/roller control
- Value transmission: 1 byte in %, 1 byte integer without prefix, 1 byte integer with prefix, 2 byte integer without prefix, 2 byte integer with prefix
- Positively driven operation
- Scene control: Store and call up scene 8 bit,  store and call up scene 1 bit
- Text display and warning and alarm indications
- Operation using touch screen and/or by turning/pushing rotary/push button
- RGB LED as orientation light or for signaling alarm indications
- Buzzer for acoustic alarm indication or as feedback when operating touch screen
- Integrated room temperature sensors
- Analysis and weighting of an external inside temperature sensor
- Room temperature control can be set as a two-point control and/or continuous-action control 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
- Local displaying of active operating modes or automatic or manual modes
- Local displaying of heating/cooling valve open, dew point alarm and open window
- Local switchover between automatic or manual mode, and between comfort, pre-comfort, energy-saving and protection modes
- Local, time-adjustable extension of comfort mode
- The room temperature setpoint value for comfort mode can be set via a rotary button on the room controller
- Basic room temperature setpoint value for comfort mode which can be set via the KNX
- Outdoor temperature-based tracking of temperature setpoint value in cooling mode
- 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%
- Local displaying of manually set fan speed step or automatic speed input
- Fan speed step can be set via the rotary button or entered automatically by the controller
- Weekly scheduling program for controller operating modes and for 18 room operator functions
- At least 16 time switching points per function per weekday
- Display of date and time
- Selection of at least 4 different design templates as operator and display interface
- Local activation of a cleaning function to lock the touch screen and the rotary/push button
- Slot for a micro SD card for transferring firmware and configuration data
- incl. bus coupling unit (included in delivery)
- Bus connection via bus terminal
- Connection of the separate 24 V DC boost voltage, power consumption approx. 50 mA
- Flush-mounting device for mounting in a Ø 60 mm installation box, with screw fixing

Dimensions (W x H x D)          86 x 116 x 30 mm

## Range overview UP 204/..1

| Product Title | Stock No. | Product No. |
|---|---|---|
| Room Controller Contouch, incl.  bus coupling unit, titanium white | 5WG1204-2AB11 | **UP 204/11** |
| Room Controller Contouch, incl. bus coupling unit, carbon metallic | 5WG1204-2AB21 | **UP 204/21** |
| Room Controller Contouch, incl. bus coupling unit, aluminium metallic | 5WG1204-2AB31 | **UP 204/31** |
| Room Controller Contouch, incl. bus coupling unit, piano black | 5WG1204-2AB51 | **UP 204/51** |

**Accessories for UP 204/..1**

| Product Title | Stock No. | Product No. |
|---|---|---|
| Contouch flash kit, with micro SDHC card and adapters for USB and SD | 5WG1204-8AB01 | **S 204/01** |
| Electronic power supply units | 4AC2402 | **4AC2402** |

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Heating, Ventilation, Air-Conditioning, Cooling
**Room temperature controllers**
**Room controllers i-system**

## Room Control Unit

**UP 227**

- Multifunctional display-/control panel for KNX with Dot-Matrix LCD display 96 x 128 pixels
- For the display and control of at least 10 adjustable room control functions:
- Switching toggle/On/Off
- Door bell function On/Off
- Dimming
- Solar protection control
- Send 1 Byte/2 Byte value
- Display 1 Bit/1 Byte/2 Byte value
- Forced control
- Display text messages
- Recall and save scenes
- Warning and alarm messaging
- 8 capacitive touch buttons for horizontal operation, blocking selectable for each function and configurable for each function depending on the value of the blocking object
- Green/red LED als Orientierungslicht, 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 windows
- 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)

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

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1227-2AB11 | **UP 227** |

**AQR2500NF**

**Mounting plate EU (CEE/VDE)**

| | Dimensions (W x H) | 70.8 x 70.8 mm |
|---|---|---|

| | Stock No. | Product No. |
|---|---|---|
| | S55720-S161 | **AQR2500NF** |

**AQR2500NG**

**Mounting plate IT (3 modular)**

| | Dimensions (W x H) | 110 x 64 mm |
|---|---|---|

| | Stock No. | Product No. |
|---|---|---|
| | S55720-S163 | **AQR2500NG** |

**AQR2500NH**

**Mounting plate UK (British Standard)**

| | Dimensions (W x H) | 83 x 83 mm |
|---|---|---|

| | Stock No. | Product No. |
|---|---|---|
| | S55720-S162 | **AQR2500NH** |

**AQR2500NJ**

**Mounting plate US (UL)**

| | Dimensions (W x H) | 64 x 110 mm |
|---|---|---|

| | Stock No. | Product No. |
|---|---|---|
| | S55720-S164 | **AQR2500NJ** |

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Heating, Ventilation, Air-Conditioning, Cooling
## Room temperature controllers
## Room controllers wall mounting

## Wall-mounted room sensors and operator units for KNX                    QMX3..

The wall-mounted room unit QMX3.. consists of:
- Base plate
- Sensor or room operator unit

The following functions are (depending on type):
- Temperature sensor or multisensor (T, r.h., $CO_2$)
- Backlit display or LED display
- Touchkeys
- Switching and control of lighting, blinds, scenes

- 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 $CO_2$ concentration and relative air humidity for air quality control
- Output for 1, 2, or 3-stage fans (humidity and $CO_2$)
- Output for 1, 2, or 3-point positioning signal (humidity and $CO_2$)
- Setpoint for room temperature and relative humidity and $CO_2$ concentration adjustable via KNX

| | |
|---|---|
| Measuring range, temperature | 0...50 °C |
| Sensing element, temperature | NTC |
| Degree of protection | IP30 |
| Mounting | Wall-mounting |
| Dimensions (W x H x D) | 88.4 x 133.4 x 18 mm |

## Room sensor KNX for temperature                    QMX3.P30

Functions:
- Temperature sensor



| | Stock No. | Product No. |
|---|---|---|
| | S55624-H103 | **QMX3.P30** |

## Room sensor KNX for temperature, humidity, CO2                    QMX3.P70

Functions:
- multisensor for temperature, humidity and $CO_2$
- Air quality indicator with LED



| | Stock No. | Product No. |
|---|---|---|
| | S55624-H104 | **QMX3.P70** |

## Room temperature controllers
## Room controllers wall mounting

**QMX3.P34**

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

Functions:
- Temperature sensor
- Segmented backlit display and touchkeys

| | Stock No. | Product No. |
|---|---|---|
| | S55624-H105 | **QMX3.P34** |

**QMX3.P74**

**Room operator unit KNX with sensors for temperature, humidity, CO2, segmented backlit display, touchkeys**

Functions:
- multisensor for temperature, humidity and CO2
- Segmented backlit display and touchkeys

| | Stock No. | Product No. |
|---|---|---|
| | S55624-H106 | **QMX3.P74** |

**QMX3.P02**

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

Functions:
- Temperature sensor
- Configurable touchkeys with LED display
- Switching and control of lighting, blinds, scenes
- Window for labels

| | Stock No. | Product No. |
|---|---|---|
| | S55624-H107 | **QMX3.P02** |

Heating, Ventilation, Air-Conditioning, Cooling
**Room temperature controllers**
**Room controllers wall mounting**

**Room operator unit KNX with temperature sensor, segmented backlit display,**          QMX3.P37
**configurable touchkeys, LED display**

Functions:
- Temperature sensor
- Segmented backlit display and touchkeys
- Configurable touchkeys with LED display
- Switching and control of lighting, blinds, scenes
- Window for labels

| | Stock No. | Product No. |
|---|---|---|
| | S55624-H108 | **QMX3.P37** |

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| | |
|---|---|
| **N 605..** | **Thermal drive actuator** |

- Can be operated with instabus Room temperature controllers
- Direct operation (local operation), LED for operation/status display
- Rated voltage 230 V AC, 6 silent semiconductor switch
- Electronic protection of outputs against overload and short circuit
- 6 signal inputs (floating contacts), Determination of switching state by means of the voltage generated in the device, max. 50 m cable length, unshielded, twisted
- Funktionen Ausgänge: Switching (on/off per channel), Configurable transmission of input status objects
- Configurable behavior in the event of a bus voltage failure/recovery
- Electronics powered via an integrated power supply unit for supply voltage 230 V AC
- Integrated bus coupling units, Bus connection via bus terminal
- Modular installation device for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)         6 MW

**Range overview N 605..**

| Product Title | Stock No. | Product No. |
|---|---|---|
| Thermal drive actuator, 6 inputs, 6 outputs | 5WG1605-1AB01 | **N 605/01** |
| Thermal drive actuator, 6 inputs, 2 x 3 outputs for control of 2 heating / cooling ceilings | 5WG1605-1AB11 | **N 605/11** |

| | |
|---|---|
| **REG 540..** | **Fan-Coil Unit Controller** |

- Possible modes: comfort mode, standby mode, Night mode, frost protection mode, Heat protection mode
- Direct operation (test mode)
- Input for M 540 temperature sensor
- Potentiometer input (setpoint adjustment), max. 30 m cable length, unshielded, twisted
- Switching (on/off per channel)
- Value setting per channel, 8-bit
- Integrated controllers with PI algorithms
- Integrated bus coupling units, Bus connection via screw terminals

| | |
|---|---|
| **REG 540/01** | **Fan-Coil Unit Controller, 230 V AC** |

- 3 x 230 V AC, 6 A (p.f. = 1)
- 2 x 24 V AC, 5 W (p.f. = 1)
- Electronics powered via an integrated 24 V AC/DC power supply unit
- 2 signal input (floating contacts), Determination of switching state by means of the voltage generated in the device

Dimension width (1 MW = 18 mm)         6 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1540-5AS01 | **REG 540/01** |

| | |
|---|---|
| **REG 540/11** | **Fan-coil unit controller, 24 V AC** |

- 3 x 230 V AC, 6 A (p.f. = 1)
- 2 x 24 V AC, 15 W (p.f. = 1)
- Electronics powered via an external 24 V AC/DC power supply unit
- 1 signal input (floating contacts), Determination of switching state by means of the voltage generated in the device

Dimension width (1 MW = 18 mm)         4 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1540-5AS11 | **REG 540/11** |

## Temperature sensor                                                                M 540/01

- Including a 2 m long connecting lead with terminal plug

|  | Stock No. | Product No. |
|---|---|---|
|  | 5WG1540-8AS01 | **M 540/01** |

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| 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, 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
- Commissioning with "Handy Tool" QAX34.3 or Synco ACS

| | |
|---|---|
| Operating voltage | AC 230 V |
| Frequency | 50/60 Hz |
| Power consumption | Max. 12 VA |
| Control algorithm | PI |
| Digital inputs, number | 2 |
| Triac output, switching voltage | AC 24 V |
| Triac output, switching current | 0.5 A |
| Relay output, switching voltage | AC 250 V |
| Relay output, switching current | 5 (4) A |
| Communication | Bus: KNX (S-mode and LTE mode) |
| | Room unit: PPS2 |
| Service plug | RXT20.1 |
| Mounting location | Ceiling voids with cover |
| | Fan coil |
| | Panel |
| Mounting | On DIN rail |
| | With screws |
| Dimensions (W x H x D) | 113 x 167 x 62 mm |

| RXB21.1/FC-10 | Room controller for 3-speed fan |

For fan coil UNITS with 3-speed fan.

| | |
|---|---|
| Triac outputs, number | 4 |
| Relay outputs, number | 3 |

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:RXB21.1/FC-10 | **RXB21.1/FC-10** |

| RXB21.1/FC-11 | Room controller for 3-speed fan |

For fan coil units with 3-speed fan.

| | |
|---|---|
| Triac outputs, number | 4 |
| Relay outputs, number | 3 |

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:RXB21.1/FC-11 | **RXB21.1/FC-11** |

### Room controller with 3-speed fan and electric heating coil

**RXB22.1/FC-12**

For fan coil units with 3-speed fan and electric heating coil.

| | |
|---|---|
| Triac outputs, number | 2 |
| Relay outputs, number | 4 |
| Relay outputs | 1 for electric heating coil |
| | 3 for 3-speed fan control |

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:RXB22.1/FC-12 | **RXB22.1/FC-12** |

### Room controller for chilled ceilings and radiators

**RXB24.1/CC-02**

| | |
|---|---|
| Triac outputs, number | 4 |
| Relay outputs, number | 0 |

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:RXB24.1/CC-02 | **RXB24.1/CC-02** |

### 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
- 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

| | |
|---|---|
| Operating voltage | AC 230 V |
| Frequency | 50/60 Hz |
| Power consumption | 12 VA |
| Control algorithm | PI |
| Digital inputs, number | 4 |
| Digital outputs, number | 0 |
| Analog inputs, number | 2 |
| Analog outputs, number | 3 |
| 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** |

**Accessories for RXB..**

**RXZ20.1**  **Terminal cover for RXB../ RXL2../ RXC2..**

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:RXZ20.1 | **RXZ20.1** |

**Accessories for RXB39.1/FC-13**

**RXZ30.1**  **Terminal cover for RXB3.. / RXL3.. / RXC3..**

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:RXZ30.1 | **RXZ30.1** |

**Accessories for REG540 and RXB..**

**S 290/..1**  **door/window contact**



- 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 mA...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 mm2
- 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

Dimensions (W x H x D)          43 x 12 x 12 mm

**Range overview S 290/..1**

| Product Title | Stock No. | Product No. |
|---|---|---|
| Door/window contact, white | 5WG1290-7AB11 | **S 290/11** |
| Door/window contact, brown | 5WG1290-7AB81 | **S 290/81** |

## Room unit with PPS2 interface                                          QAX3..

Room units for acquiring the room temperature and operation of individual room control.

| | |
|---|---|
| Power consumption | 0.10 VA |
| Interface for controller | PPS2 |
| Interface for service | PPS2 on RJ45 |
| Sensing element, temperature | NTC |
| Measuring range, temperature | 0...40 °C |
| Time constant | ≤8 min |
| Measurement accuracy | ±0.25 K at 25 °C |
| | ±0.5 K at 5...30 °C |
| Setpoint readjustment range | ±12 K |
| Degree of protection | IP30 |
| Mounting location | Indoors |
| Mounting | Directly on wall |
| | In recessed or top-mounted conduit box |

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## Room unit with sensor and PPS2 interface                              QAX30.1

- Acquisition of room temperature

| | |
|---|---|
| Data sheet | N1741 |
| | |
| Voltage supply | PPS2 |
| Dimensions (W x H x D) | 90 x 100 x 32 mm |

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:QAX30.1 | **QAX30.1** |

## Room unit with sensor, setpoint adjuster and PPS2 interface            QAX31.1

- 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** |

## Room unit with sensor, setpoint and operating mode selector and PPS2 interface                                          QAX32.1

- 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 |

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:QAX32.1 | **QAX32.1** |

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### QAX33.1

### 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 |
|---|---|

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:QAX33.1 | **QAX33.1** |

### QAX34.1

### 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

| Data sheet | N1645 |
|---|---|

| Dimensions (W x H x D) | 90 x 100 x 36 mm |
|---|---|

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:QAX34.1 | **QAX34.1** |

### QAX34.3

### 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 new RXB and RXL controllers for parameter setting

| Data sheet | N1640 |
|---|---|

| Dimensions (W x H x D) | 96 x 119 x 24 mm |
|---|---|

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:QAX34.3 | **QAX34.3** |

### QAX39.1

### 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 |
|---|---|

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:QAX39.1 | **QAX39.1** |

## Flush-mounted room unit complete with PPS2 interface and design frame

**QAX84.1/PPS2**

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

| | |
|---|---|
| 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** |

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## VAV compact controller for HVAC
## Accessories for RDG400KN, RDU341 und RMU7..

**G..B181.1E/KN**

**VAV compact controller KNX**

- Networked compact controller with KNX capability 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 connecting cable and a 0.9 m KNX bus cable

Can be configured as damper actuator (without air volume control) with ETS.

Dimensions (W x H x D)          71 x 158 x 61 mm

### Range overview G..B181.1E/KN

| Product Title | Stock No. | Product No. |
|---|---|---|
| VAV compact controller KNX, 24 V, 5 Nm, 150 s, 300 Pa | S55499-D134 | **GDB181.1E/KN** |
| VAV compact controller KNX, 24 V, 10 Nm, 150 s, 300 Pa | S55499-D135 | **GLB181.1E/KN** |

## 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

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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## Electrothermal valve actuators for HVAC

**AP 561/0..**

**Valve actuator**

- Electrothermal valve actuator (noiseless)
- Max. open/close time 3 Min.
- Max. positioning force 105 N
- Two-step actuating signal
- Length of connecting lead 1 m
- Ambient temperature for operation 0...+50 °C
- Power inputs 3 W
- Mounting: horizontal, horizontal/standing
- Degree of protection IP43

Dimensions (Ø x H)                    44.5 x 58 mm

### Range overview AP 561/0..

| Product Title | Stock No. | Product No. |
|---|---|---|
| Valve actuator (electrothermal), AC/DC 230 V, NC, deenergized closed | 5WG1561-7AH01 | **AP 561/01** |
| Valve actuator (electrothermal), AC/DC 230 V, NO, deenergized open | 5WG1561-7AH02 | **AP 561/02** |
| Valve actuator (electrothermal), AC/DC 24 V, NC, deenergized closed | 5WG1561-7AH03 | **AP 561/03** |
| Valve actuator (electrothermal), AC/DC 24 V, NO, deenergized open | 5WG1561-7AH04 | **AP 561/04** |

### Accessories for AP 561/0..

| Product Title | Stock No. | Product No. |
|---|---|---|
| Adapter to AP 561H for Herz valves | 5WG1561-8AH01 | **S 561H01** |
| Adapter to AP 561H for Vaillant valves | 5WG1561-8AH02 | **S 561H02** |
| Adapter to AP 561H for Danfoss RS2000 valves | 5WG1561-8AH03 | **S 561H03** |
| Adapter to AP 561H for TA valves | 5WG1561-8AH04 | **S 561H04** |
| Adapter to AP 561H for Danfoss valves with clamp-connection | 5WG1561-8AH05 | **S 561H05** |
| MNG adapter-sleeve to AP 561H for Onda valves | 5WG1561-8AH06 | **S 561H06** |

AP 561/01 and AP 561/02 are suitable for N 605 and N 650/11 thermal drive actuators, see chapter Heating, Cooling, Ventilation, Air-Conditioning - Actuators for HCVA.

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### Electrothermal actuators with/ without connecting cable for radiator, small, and zone valves

STA..3

Electrothermal actuators with and without connecting 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, also halogen-free
- 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 actuators STA..3

| Operating voltage | Positioning time [s] | Positioning signal | Cable length [m] | Stock No. | Product No. |
|---|---|---|---|---|---|
| AC 230 V | 210 | 2-position | 1 | S55174-A101 | **STA23** |
| AC 24 V | 270 | DC 0...10 | 1 | S55174-A104 | **STA63** |
| AC 24 V DC 24 V | 270 | 2-position PDM | 1 | S55174-A100 | **STA73** |
| AC 230 V | 210 | 2-position | 0.8 | S55174-A107 | **STA23HD** |
| AC 24 V DC 24 V | 270 | 2-position | 0.8 | S55174-A106 | **STA73HD** |
| AC 230 V | 210 | 2-position | | S55174-A110 | **STA23/00** |
| AC 230 V | 210 | 2-position | | S55174-A118 | **STA23B/00** |
| AC 230 V | 210 | 2-position | | S55174-A114 | **STA23MP/00** |
| AC 24 V DC 24 V | 270 | 2-position PDM | | S55174-A109 | **STA73/00** |
| AC 24 V DC 24 V | 270 | 2-position PDM | | S55174-A117 | **STA73B/00** |
| AC 24 V DC 24 V | 270 | 2-position PDM | | S55174-A113 | **STA73MP/00** |
| AC 24 V DC 24 V | 270 | 2-position PDM/parallel operation | | S55174-A115 | **STA73PR/00** |

The given positioning time is related to the maximum stoke of 4.5 mm.

/00 = without cable

xxB = colore black

xxMP = multi pack 50 pce

## Connection cable for STA..3

For suitable combination of actuator STA.. and connection cable ASY.., see chapter introduction page 7-4

| Positioning signal | Auxiliary switch | Display | Color | Cable length | Material | Stock No. | Product No. |
|---|---|---|---|---|---|---|---|
| 2-position | 0 | | White | 0.8 m | PVC | S55174-A121 | **ASY23L08** |
| 2-position | 0 | | White | 1 m | PVC | S55174-A122 | **ASY23L10** |
| 2-position | 0 | | White | 2 m | PVC | S55174-A123 | **ASY23L20** |
| 2-position | 0 | | White | 3 m | PVC | S55174-A124 | **ASY23L30** |
| 2-position | 0 | | White | 4 m | PVC | S55174-A125 | **ASY23L40** |
| 2-position | 0 | | White | 5 m | PVC | S55174-A126 | **ASY23L50** |
| 2-position | 0 | | White | 6 m | PVC | S55174-A127 | **ASY23L60** |
| 2-position | 0 | | White | 7 m | PVC | S55174-A128 | **ASY23L70** |
| 2-position | 0 | | White | 10 m | PVC | S55174-A129 | **ASY23L100** |
| 2-position | 0 | | White | 15 m | PVC | S55174-A130 | **ASY23L150** |
| 2-position | 0 | | Black | 3 m | PVC | S55174-A131 | **ASY23L30B** |
| 2-position | 0 | | Black | 5 m | PVC | S55174-A132 | **ASY23L50B** |
| 2-position | 0 | | Black | 10 m | PVC | S55174-A133 | **ASY23L100B** |
| 2-position | 0 | | White | 2 m | Halogen-free | S55174-A134 | **ASY23L20HF** |
| 2-position | 0 | | White | 5 m | Halogen-free | S55174-A135 | **ASY23L50HF** |
| 2-position | 0 | | White | 10 m | Halogen-free | S55174-A136 | **ASY23L100HF** |
| DC 0...10 V | 0 | | White | 2 m | PVC | S55174-A137 | **ASY6AL20** |
| DC 0...10 V | 0 | | White | 5 m | PVC | S55174-A138 | **ASY6AL50** |
| DC 0...10 V | 0 | | White | 7 m | PVC | S55174-A139 | **ASY6AL70** |
| 2-position | 1 | | White | 1 m | PVC | S55174-A153 | **ASA23U10** |
| 2-position | 1 | | White | 2 m | PVC | S55174-A154 | **ASA23U20** |
| 2-position | 0 | LED | White | 2 m | PVC | S55174-A157 | **ASY23L20LD** |
| 2-position | 0 | LED | White | 5 m | PVC | S55174-A158 | **ASY23L50LD** |

## Accessories for STA..3

| Product Title | Data sheet | Stock No. | Product No. |
|---|---|---|---|
| Third-party valve adapter on Danfoss RA-N (RA2000) | N2100 | BPZ:AV53 | **AV53** |
| Adapter for Giacomini | N4884 | S55174-A165 | **AV63** |
| Adapter for Vaillant | N2100 | BPZ:AV59 | **AV59** |
| Adapter for Pettinaroli M28 x 1.5 | N4884 | S55174-A166 | **AV64** |
| Retrofit adapter for installed 2W..., 3W..., 4W... valves | N4878 | BPZ:AL100 | **AL100** |
| Adapter for valves with M30 x 1.5 | N2179 | S55174-A159 | **AV301** |
| Adapter for valves with M28 x 1.5, Comap, Markaryd, Herz | N4884 | S55174-A160 | **AV302** |
| Adapter for valves with M30 x 1, TA | N4884 | S55174-A161 | **AV303** |
| Adapter various (5 pieces) | N4884 | S55174-A167 | **AV304** |
| Standard adapter, M30x1,5 | N4884 | S55174-A169 | **AV305** |

**NEW PRODUCT**

## Electrothermal actuators with and without connecting cable for small valves

STP..3

Electrothermal actuators with and without connecting cable for:
- Small valves V..P47..
- Valves of other manufacturers

Actuators without connecting cable can be equipped with:
- Connecting cable up to 15 m, also halogen-free
- 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 actuators STP..3

| Operating voltage | Positioning time [s] | Positioning signal | Cable length [m] | Stock No. | Product No. |
|---|---|---|---|---|---|
| AC 230 V | 210 | 2-position | 1 | S55174-A103 | **STP23** |
| AC 24 V | 270 | DC 0...10 | 1 | S55174-A105 | **STP63** |
| AC 24 V DC 24 V | 270 | 2-position PDM | 1 | S55174-A102 | **STP73** |
| AC 230 V | 210 | 2-position | | S55174-A112 | **STP23/00** |
| AC 230 V | 210 | 2-position | | S55174-A120 | **STP23B/00** |
| AC 24 V DC 24 V | 270 | 2-position PDM | | S55174-A111 | **STP73/00** |
| AC 24 V DC 24 V | 270 | 2-position PDM | | S55174-A119 | **STP73B/00** |
| AC 24 V DC 24 V | 270 | 2-position PDM/parallel operation | | S55174-A116 | **STP73PR/00** |

The given positioning time is related to the maximum stoke of 4.5 mm.

/00 = without cable

xxB = colore black

# Electrothermal valve actuators for HVAC
## Positioning force 100 N: STP..3

## Connection cable for STP..3

For suitable combination of actuator STP.. and connection cable ASY.., see chapter introduction page 7-4.

| Positioning signal | Auxiliary switch | Display | Color | Cable length | Material | Stock No. | Product No. |
|---|---|---|---|---|---|---|---|
| 2-position | 0 | | White | 0.8 m | PVC | S55174-A121 | **ASY23L08** |
| 2-position | 0 | | White | 1 m | PVC | S55174-A122 | **ASY23L10** |
| 2-position | 0 | | White | 2 m | PVC | S55174-A123 | **ASY23L20** |
| 2-position | 0 | | White | 3 m | PVC | S55174-A124 | **ASY23L30** |
| 2-position | 0 | | White | 4 m | PVC | S55174-A125 | **ASY23L40** |
| 2-position | 0 | | White | 5 m | PVC | S55174-A126 | **ASY23L50** |
| 2-position | 0 | | White | 6 m | PVC | S55174-A127 | **ASY23L60** |
| 2-position | 0 | | White | 7 m | PVC | S55174-A128 | **ASY23L70** |
| 2-position | 0 | | White | 10 m | PVC | S55174-A129 | **ASY23L100** |
| 2-position | 0 | | White | 15 m | PVC | S55174-A130 | **ASY23L150** |
| 2-position | 0 | | Black | 3 m | PVC | S55174-A131 | **ASY23L30B** |
| 2-position | 0 | | Black | 5 m | PVC | S55174-A132 | **ASY23L50B** |
| 2-position | 0 | | Black | 10 m | PVC | S55174-A133 | **ASY23L100B** |
| 2-position | 0 | | White | 2 m | Halogen-free | S55174-A134 | **ASY23L20HF** |
| 2-position | 0 | | White | 5 m | Halogen-free | S55174-A135 | **ASY23L50HF** |
| 2-position | 0 | | White | 10 m | Halogen-free | S55174-A136 | **ASY23L100HF** |
| DC 0...10 V | 0 | | White | 2 m | PVC | S55174-A140 | **ASY6PL20** |
| DC 0...10 V | 0 | | White | 5 m | PVC | S55174-A141 | **ASY6PL50** |
| DC 0...10 V | 0 | | White | 7 m | PVC | S55174-A142 | **ASY6PL70** |
| DC 0...10 V | 0 | | Black | 2 m | PVC | S55174-A146 | **ASY6PL20B** |
| DC 0...10 V | 0 | | White | 2 m | Halogen-free | S55174-A150 | **ASY6PL20HF** |
| DC 0...10 V | 0 | | White | 5 m | Halogen-free | S55174-A151 | **ASY6PL50HF** |
| DC 0...10 V | 0 | | White | 7 m | Halogen-free | S55174-A152 | **ASY6PL70HF** |
| 2-position | 1 | | White | 1 m | PVC | S55174-A155 | **ASP23U10** |
| 2-position | 1 | | White | 2 m | PVC | S55174-A156 | **ASP23U20** |
| 2-position | 0 | LED | White | 2 m | PVC | S55174-A157 | **ASY23L20LD** |
| 2-position | 0 | LED | White | 5 m | PVC | S55174-A158 | **ASY23L50LD** |

## Accessories for STP..3

| Product Title | Data sheet | Stock No. | Product No. |
|---|---|---|---|
| Third-party valve adapter on Danfoss RA-N (RA2000) | N2100 | BPZ:AV53 | **AV53** |
| Adapter for Giacomini | N4884 | S55174-A165 | **AV63** |
| Adapter for Vaillant | N2100 | BPZ:AV59 | **AV59** |
| Adapter for Pettinaroli M28 x 1.5 | N4884 | S55174-A166 | **AV64** |
| Retrofit adapter for installed 2W..., 3W..., 4W... valves | N4878 | BPZ:AL100 | **AL100** |
| Adapter for valves with M30 x 1.5 | N2179 | S55174-A159 | **AV301** |
| Adapter for valves with M28 x 1.5, Comap, Markaryd, Herz | N4884 | S55174-A160 | **AV302** |
| Adapter for valves with M30 x 1, TA | N4884 | S55174-A161 | **AV303** |
| Adapter various (5 pieces) | N4884 | S55174-A167 | **AV304** |
| Standard adapter, M30x1,5 | N4884 | S55174-A169 | **AV305** |

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**NEW PRODUCT**

**RMB795B..**



## Central control unit RMB795B for room controllers and room thermostats

- Central control unit with integrated control and supervisory functions for individual room control with RXB and RXL room controllers and room thermostats RDG/RDF/RDU
- 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/RXL room controllers and room thermostats RDG/RDF/RDU
- Operation and monitoring of individual RXB/RXL room controllers
- 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
- Functionality can be extended (extension modules)
- Clear-text operation with separate operator unit (plug-in type or detached)
- Integrated KNX bus communication
- No extra commissioning tool required

Extension modules complement the RMB795B central control unit and offer extra functions. The extension modules are attached to the RMB795B central control unit. Full operation from commissioning to enduser operation via operator unit.

Available extension modules:
- max. 1 universal module RMZ785
- max. 2 universal modules RMZ787

Available operator units:
- Plug-in type operator unit RMZ790

| | |
|---|---|
| Data sheet | N3122 |
| | |
| Operating voltage | AC 24 V |
| Frequency | 50/60 Hz |
| Power consumption | 12 VA |
| Universal inputs, number | 6 |
| Universal input, signal | 0...1000 Ohm |
| | 1000...1175 Ohm |
| | 2 x LG-Ni1000 |
| | DC 0...10 V |
| | Potential-free digital status contact |
| | LG-Ni1000 |
| | Pt1000 |
| | T1 (PTC) |
| Analog outputs, number | 2 |
| Analog output, signal | DC 0...10 V |
| Analog output, current | Max. 1 mA |
| Relay outputs | Potential-free switching contact |
| Relay outputs, number | 4 |
| Relay output, switching voltage | AC 19...250 V |
| Relay output, switching current | 4 (3) A |
| Communication | KNX (KNX TP1) |

**Range overview RMB795B..**

| Product Title | Stock No. | Product No. |
|---|---|---|
| Central control unit RMB795B-1 with languages de, fr, it, es, pt | S55370-C162 | **RMB795B-1** |
| Central control unit RMB795B-2 with languages de, fr, nl, en | S55370-C163 | **RMB795B-2** |
| Central control unit RMB795B-3 with languages da, fi, no, sv | S55370-C164 | **RMB795B-3** |
| Central control unit RMB795B-4 with languages cs, sk, pl, hu, ru, bg | S55370-C165 | **RMB795B-4** |
| Central control unit RMB795B-5 with languages ro, sl, sr, hr, el, tr | S55370-C166 | **RMB795B-5** |
| Central control unit RMB795B-6 with language zh | S55370-C167 | **RMB795B-6** |

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**RMH760B..**

### Heating controller

- 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

Extension modules complement the Synco 700 heating controller and offer extra functions. Controller and extension modules are interconnected via plug-in connectors. The extension modules are attached to the controller and do not operate autonomously. Full operation from commissioning to enduser operation 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 Synco 700 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 |
| Universal inputs, number | 6 |
| Universal input, signal | LG-Ni1000 |
| | 2 x LG-Ni1000 |
| | T1 (PTC) |
| | Pt1000 |
| | NTC 575 |
| | 0...1000 Ohm |
| | 1000...1175 Ohm |
| | DC 0...10 V |
| | Digital pulse contact |
| | Potential-free digital status contact |
| Analog outputs, number | 2 |
| Analog output, signal | DC 0...10 V |
| Analog output, current | Max. 1 mA |
| Relay outputs, number | 5 |
| Relay outputs | Potential-free switching contact |
| Relay output, switching voltage | AC 19...250 V |
| Relay output, switching current | 4 (3) A |
| Communication | KNX (KNX TP1) |

**Range overview RMH760B..**

| Product Title | Data sheet | Stock No. | Product No. |
|---|---|---|---|
| Heating controller with languages de, fr, it, es | N3133 | BPZ:RMH760B-1 | **RMH760B-1** |
| Heating controller with languages de, en, fr, nl | N3133 | BPZ:RMH760B-2 | **RMH760B-2** |
| Heating controller with languages da, fi, sv, no | N3133 | BPZ:RMH760B-3 | **RMH760B-3** |
| Heating controller with languages pl, cs, sk, hu, ru, bg | N3133 | BPZ:RMH760B-4 | **RMH760B-4** |
| Heating controller with languages sr, hr, sl, ro, el, tr | N3133 | BPZ:RMH760B-5 | **RMH760B-5** |

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# Communicating HVAC controllers - Synco™ 700
## Extension modules for RMH..

| RMZ782B | **Heating circuit module** |
|---|---|

- 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

| | |
|---|---|
| Data sheet | N3136 |
| | |
| Voltage supply | Supply from controller module |
| Power consumption | 2 VA |
| Universal inputs, number | 3 |
| Universal input, signal | LG-Ni1000 |
| | 0...1000 Ohm |
| | 1000...1175 Ohm |
| | DC 0...10 V |
| | Pt1000 |
| | NTC 575 |
| | T1 (PTC) |
| Analog outputs, number | 1 |
| Analog output, signal | DC 0...10 V |
| Analog output, current | Max. 1 mA |
| Relay outputs, number | 3 |
| Relay outputs | Switching contact, potential-free |
| Relay output, switching voltage | AC 19...250 V |
| Relay output, switching current | 4 (3) A |

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:RMZ782B | **RMZ782B** |

| 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

The technical data correspond to the heating circuit module RMZ782B, except:

| | |
|---|---|
| Data sheet | N3136 |
| | |
| Universal inputs, number | 4 |
| Analog outputs, number | 1 |
| Relay outputs, number | 5 |

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:RMZ783B | **RMZ783B** |

## Boiler sequence controller

**RMK770..**

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

Extension modules complement the Synco 700 boiler sequence controller and offer extra functions. The extension modules are attached to the controller. They do not operate autonomously. Full operation from commissioning to enduser operation 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 Synco 700 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 |
| Universal inputs, number | 8 |
| Universal input, signal | 0...1000 Ohm |
| | 1000...1175 Ohm |
| | 2 x LG-Ni1000 |
| | DC 0...10 V |
| | Potential-free digital status contact |
| | LG-Ni1000 |
| | Pt1000 |
| | T1 (PTC) |
| Digital inputs, number | 2 |
| Digital inputs | Potential-free input signal |
| Digital input, contact query | 5 mA |
| | DC 15 V |
| Analog outputs, number | 2 |
| Analog output, signal | DC 0...10 V |
| Analog output, current | Max. 1 mA |
| Relay outputs, number | 7 |
| Relay outputs | AC 19...265 V, max. 4(3) A |
| | Potential-free switching contact |
| Communication | KNX (KNX TP1) |

**Communicating HVAC controllers - Synco™ 700**
**Boiler sequence controllers RMK..**

## Range overview RMK770..

| Product Title | Data sheet | Stock No. | Product No. |
|---|---|---|---|
| Boiler sequence controller with languages de, fr, it, es | N3132 | BPZ:RMK770-1 | **RMK770-1** |
| Boiler sequence controller with languages de, fr, en, nl | N3132 | BPZ:RMK770-2 | **RMK770-2** |
| Boiler sequence controller with languages da, fi, sv, no | N3132 | BPZ:RMK770-3 | **RMK770-3** |
| Boiler sequence controller with languages pl, cs, sk, hu, ru, bg | N3132 | BPZ:RMK770-4 | **RMK770-4** |
| Boiler sequence controller with languages sr, hr, sl, ro, el, tr | N3132 | BPZ:RMK770-5 | **RMK770-5** |

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www.siemens.com/gamma

## Universal controller

RMU..

- Universal controllers with integrated control and supervisory functions
- Tested, predefined applications (refer to Application Catalog)
- Flexible configuration
- 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
- Functions can be extended (extension modules)
- Clear-text operation with separate operator unit (plug-in type or detached)
- Integrated KNX bus communication
- No commissioning tool required

Extension modules complement the Synco 700 universal controllers and offer extra functions. The extension modules are attached to the controller. Full operation from commissioning to enduser operation via the operator unit.

Available extension modules:
- 1 universal module RMZ785
- 2 universal modules RMZ787
- 2 universal modules RMZ788

Total maximal 4 extension modules per RMU7..B can be connected.

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 |
| Universal input, signal | LG-Ni1000 |
| | 2 x LG-Ni1000 |
| | T1 (PTC) |
| | Pt1000 |
| | 0...1000 Ohm |
| | 1000...1175 Ohm |
| | DC 0...10 V |
| | Digital pulse contact |
| | Potential-free digital status contact |
| Analog output, signal | DC 0...10 V |
| Analog output, current | Max. 1 mA |
| Relay outputs | Potential-free switching contact |
| Relay output, switching voltage | AC 19...250 V |
| Relay output, switching current | 4 (3) A |
| Communication | KNX (KNX TP1) |
| Dimensions (W x H x D) | 173 x 90 x 80 mm |

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**Range overview RMU..**

| Universal inputs, number | Analog outputs, number | Relay outputs, number | Control loops, number | Loaded languages | Stock No. | Product No. |
|---|---|---|---|---|---|---|
| 6 | 2 | 2 | 1 | de, fr, it, es | BPZ:RMU710B-1 | **RMU710B-1** |
| 6 | 2 | 2 | 1 | de, en, fr, nl | BPZ:RMU710B-2 | **RMU710B-2** |
| 6 | 2 | 2 | 1 | da, fi, sv, no | BPZ:RMU710B-3 | **RMU710B-3** |
| 6 | 2 | 2 | 1 | cs, hu, pl, sk, ru, bg | BPZ:RMU710B-4 | **RMU710B-4** |
| 6 | 2 | 2 | 1 | sr, hr, sl, ro, el, tr | BPZ:RMU710B-5 | **RMU710B-5** |
| 6 | 2 | 2 | 1 | zh | S55370-C159 | **RMU710B-6** |
| 8 | 3 | 4 | 2 | de, fr, it, es | BPZ:RMU720B-1 | **RMU720B-1** |
| 8 | 3 | 4 | 2 | de, en, fr, nl | BPZ:RMU720B-2 | **RMU720B-2** |
| 8 | 3 | 4 | 2 | da, fi, sv, no | BPZ:RMU720B-3 | **RMU720B-3** |
| 8 | 3 | 4 | 2 | cs, hu, pl, sk, ru, bg | BPZ:RMU720B-4 | **RMU720B-4** |
| 8 | 3 | 4 | 2 | sr, hr, sl, ro, el, tr | BPZ:RMU720B-5 | **RMU720B-5** |
| 8 | 3 | 4 | 2 | zh | S55370-C160 | **RMU720B-6** |
| 8 | 4 | 6 | 3 | de, fr, it, es | BPZ:RMU730B-1 | **RMU730B-1** |
| 8 | 4 | 6 | 3 | de, en, fr, nl | BPZ:RMU730B-2 | **RMU730B-2** |
| 8 | 4 | 6 | 3 | da, fi, sv, no | BPZ:RMU730B-3 | **RMU730B-3** |
| 8 | 4 | 6 | 3 | cs, hu, pl, sk, ru, bg | BPZ:RMU730B-4 | **RMU730B-4** |
| 8 | 4 | 6 | 3 | sr, hr, sl, ro, el, tr | BPZ:RMU730B-5 | **RMU730B-5** |
| 8 | 4 | 6 | 3 | zh | S55370-C161 | **RMU730B-6** |

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## Switching and monitoring device

RMS705B..

In connection with the function blocks, the RMS705B 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 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
- Maximum and minimum selection
- Calculation of average
- 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, chillers, etc., with automatic changeover
- Step switch with linear, binary or flexible functionality
- Autonomous sequence controllers with P, PI or PID mode

Available extension modules:
- 1 universal module RMZ785
- 2 universal modules RMZ787
- 2 universal modules RMZ788

Total maximal 4 extension modules per RMS705B can be connected.

Suitable types of operator units:
- Plug-in operator unit type RMZ790
- Detached operator unit type RMZ791
- Bus operating unit type RMZ792

| | |
|---|---|
| Data sheet | N3124 |
| | |
| Operating voltage | AC 24 V |
| Frequency | 50/60 Hz |
| Power consumption | 12 VA |
| Universal inputs, number | 8 |
| Universal input, signal | LG-Ni1000 |
| | 2 x LG-Ni1000 |
| | T1 (PTC) |
| | Pt1000 |
| | 0...1000 Ohm |
| | DC 0...10 V |
| | Digital pulse contact |
| | Potential-free digital status contact |
| Analog outputs, number | 4 |
| Analog output, signal | DC 0...10 V |
| Analog output, current | Max. 1 mA |
| Relay outputs, number | 6 |
| Relay outputs | Potential-free switching contact |
| Relay output, switching voltage | AC 19...250 V |
| Relay output, switching current | 4 (3) A |
| Communication | KNX (KNX TP1) |
| Degree of protection | IP20 |
| Dimensions (W x H x D) | 173 x 90 x 80 mm |

**Communicating HVAC controllers - Synco™ 700**
**Switching and monitoring device RMS..**

**Range overview RMS705B..**

| Product Title | Data sheet | Stock No. | Product No. |
|---|---|---|---|
| Switching and monitoring device with languages de, fr, it, es, pt | N3124 | S55370-C100 | **RMS705B-1** |
| Switching and monitoring device with languages de, fr, nl, en | N3124 | S55370-C101 | **RMS705B-2** |
| Switching and monitoring device with languages da, fi, no, sv | N3124 | S55370-C102 | **RMS705B-3** |
| Switching and monitoring device with languages pl, cs, hu, ru, sk, bg | N3124 | S55370-C103 | **RMS705B-4** |
| Switching and monitoring device with languages el, ro, sl, sr, hr, tr | N3124 | S55370-C104 | **RMS705B-5** |
| Switching and monitoring device with language zh | N3124 | S55370-C105 | **RMS705B-6** |

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## 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

| 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

| 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

| Stock No. | Product No. |
| --- | --- |
| BPZ:RMZ792 | **RMZ792** |

## Room unit with KNX bus

**QAW740**

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

| | |
| --- | --- |
| Setpoint readjustment range | ±3 K |
| Measuring range, temperature | 0...50 °C |
| Communication | KNX TP1 EE |
| 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 |

| | |
|---|---|
| Power consumption | 2 VA |
| Universal input, signal | 0...1000 Ohm |
| | 1000...1175 Ohm |
| | 2 x LG-Ni1000 |
| | DC 0...10 V |
| | Potential-free digital status contact |
| | LG-Ni1000 |
| | Pt1000 |
| | T1 (PTC) |
| Analog output, signal | DC 0...10 V |
| Analog output, current | Max. 1 mA |
| Relay outputs | switching contact, potential-free |
| Relay output, switching voltage | AC 19...265 V |
| Relay output, switching current | 4 (3) A |

### Range overview RMZ78..

| Universal inputs, number | Analog outputs, number | Relay outputs, number | Stock No. | Product No. |
|---|---|---|---|---|
| 8 | 0 | 0 | BPZ:RMZ785 | **RMZ785** |
| 4 | 0 | 4 | BPZ:RMZ787 | **RMZ787** |
| 4 | 2 | 2 | BPZ:RMZ788 | **RMZ788** |
| 6 | 2 | 4 | BPZ:RMZ789 | **RMZ789** |

**RMZ780**

### Module connector

Module connector for detached mounting of extension modules within the control panel.
Distance for detached mounting: Maximum 10 m.

| | |
|---|---|
| Data sheet | N3138 |

| | | Stock No. | Product No. |
|---|---|---|---|
| | | BPZ:RMZ780 | **RMZ780** |

## 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

| | |
|---|---|
| Data sheet | N5701 |
| Operating voltage | Power pack: AC 230 V<br>Web server: DC 24 V |
| Communication | KNX TP1 (wire-Bus)<br>Ethernet, RJ45 plug socket (shielded)<br>USB V2.0 (universal serial bus) |
| Mounting | On DIN rails<br>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 | **OZW772.01** |
| Web server for 4 Synco devices | BPZ:OZW772.04 | **OZW772.04** |
| Web server for 16 Synco devices | BPZ:OZW772.16 | **OZW772.16** |
| Web server for 250 Synco devices | BPZ:OZW772.250 | **OZW772.250** |

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**ACS790**

### Commissioning and plant operating software

PC software for commissioning, operating and supervision of HVAC plants.
Consists of 2 programs: ACS-Tool and ACS-Alarm.
**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

**Commissioning and service via OCI700 service interface**
Compatible devices see OCI700.1.

**Plant operation and supervision for**
KNX systems
- Central units: OZW772
- Synco™ living: QAX9...
- Controllers: Synco™700, Synco RXB/RXL
- Thermostats: RDF..., RDG..., RDU341
- Sensors:  QMX3.P30, QMX3.P70, AQR253.. and AQR257..

Data sheet                              N5649

| | Stock No. | Product No. |
|---|---|---|
| - | S55800-Y100 | **ACS790** |

**OCI700.1**

### Service tool for KNX / LPB

The service tool consists of:
- ACS790 CD-ROM
- OCI700 service interface
- USB cable
- Service cable for Synco™ controllers

Commissioning and diagnostics of the following devices:

Synco devices:
- Central communication units OZW772
- Heating controllers RMH of the 700-series
- Boiler sequence controllers RMK of the 700-series
- Universal controllers RMU of the 700-series
- Switching and monitoring devices RMS of the 700-series
- Room unit QAW740
- Central control units RMB of the 700-series
- Individual room controllers RXB.. / RXL..
- Synco™ living central apartment unit QAX9..
- Synco™ thermostats RDF.., RDG.., RDU341
- Sensores: QMX3.P30, QMX3.P70, AQR253.. and AQR257..

Data sheet                              N5655

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:OCI700.1 | **OCI700.1** |

# Load Management

8

**Notes**

8

## Peak load limiter

**N 360/01**

- For peak load limitation in plants with tariff-based power measurement
- Value of an energy pulse configurable in watt hours
- Configurable peak load limit of 30...1000 kW, with configurable warning limit of 25...1000 kW
- Configurable measuring period of 15, 30 or 60 minutes for the calculation of the power mean value
- Configurable cycle time of 15, 30, 60, 120 or 240 seconds for the load extrapolation interval
- Value of pulse 10...20000 W/h
- Up to 120 loads assignable to peak load limitation
- State monitoring and switching of loads via KNX
- With parameters assignable per load
- Power consumption of the load
- Turn-off priority (1...10)
- Release/locking of load
- Minimum make time
- Minimum break time
- Maximum break time
- Number of permissible switching cycles in 24 h
- Transmission of extrapolation data via KNX after each extrapolation
- Transmission of statistics data via KNX at the end of each measuring period
- 3 LEDs for display of availability (operating voltage), of an impending exceeding of the maximum value and of a missing synchronization pulse
- 5 LEDs for display of the current time interval within the measuring interval
- 8 LEDs for displaying the status of the first 8 loads
- Inputs for connection of energy pulses generated by utility company counters and for connection of synchronous pulses and high/low-tariff contacts
- Electronics powered via an integrated power supply unit for AC 230 V
- Date and time required via bus
- Integrated bus coupling units
- Bus connection via bus terminal and contact system to data rail
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)        4 MW

The optional data rail must be ordered separately.
See chapter System Products and Accessories - data rails.
Like the documentation, the statistics software for the peak load limiter can be downloaded free of charge from the Internet at: www.siemens.com/gamma-td

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1360-1AB01 | **N 360/01** |
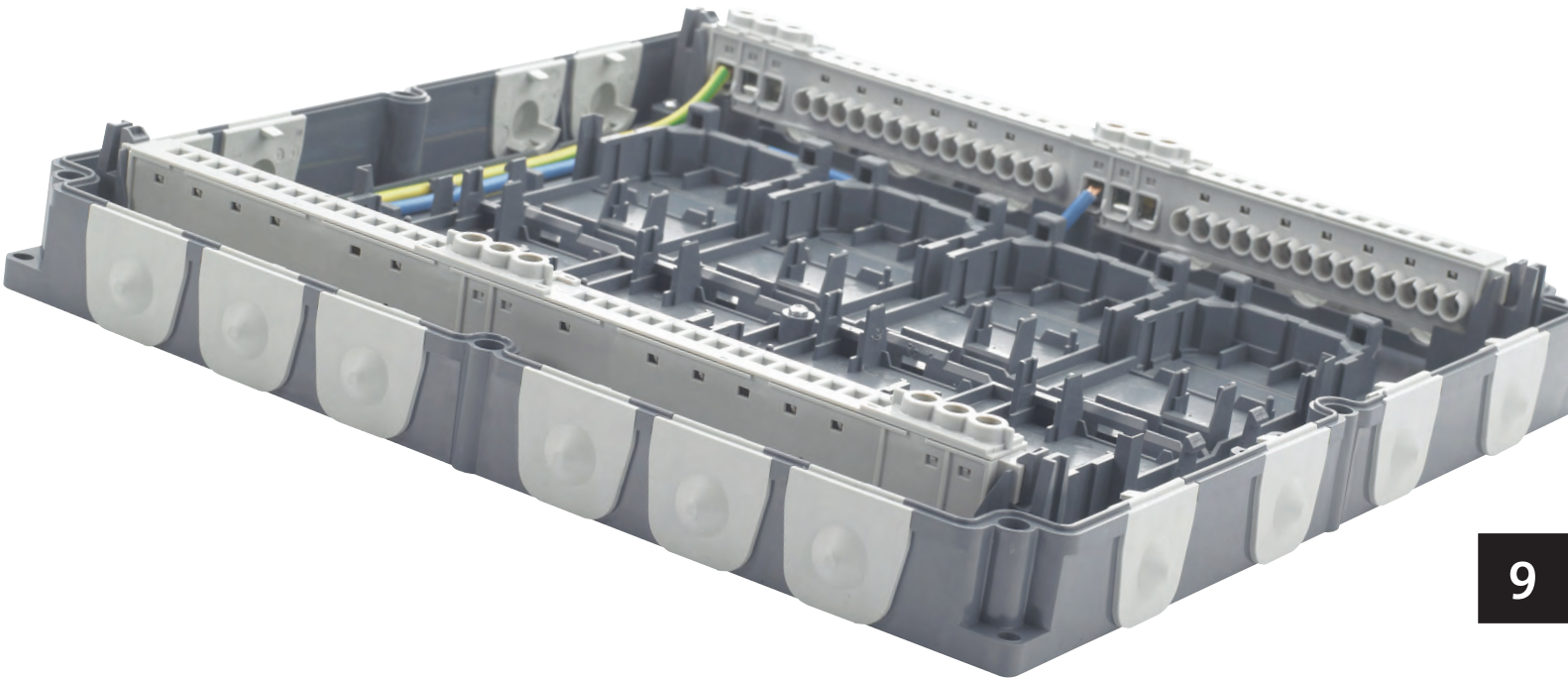
**8**

# Modular Installationsystem, Room Control Box

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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 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. 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.
For surface mounting, for example, in a room or hallway, we recommend the new room automation box, providing space for eight KNX sensor/actuator modules. Moreover, the automation module box further permits the addition of an independent KNX sensor/actuator module close to the actual application, for example, in wall ducts, blind boxes or light housings.

Both automation 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 for flush-mounting actuators as well 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 automation box and automation module box as well as flush-mount with or without mounting frame.



(A) Bus transceiver module (BTM)
(B) Flush-mounting actuator with bus transceiver module (BTM)
(C) DELTA frames
(D) GAMMA Display/Operation
(E) BTI interface

**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, text displays, 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/profil 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 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.

**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 automation box (AP 641) – compact and easy to install
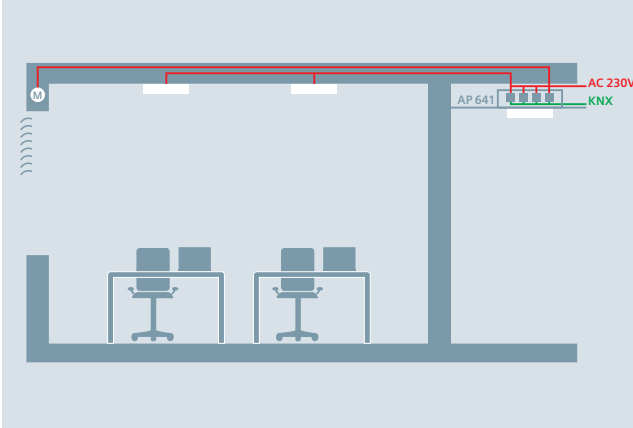
**Place of installation:**
- In suspended ceilings of corridors
- Power and bus lines are run to the AP 641 room automation box
- From the AP 641 room automation box, the load lines are run to the lamps and the blind motors

**Benefits:**
- Space-saving installation in false ceiling/floor
- Multifunctional, can be combined in a room-oriented way
- Can be equipped with actuator and sensor modules as required
- Low wiring costs
- Low combustible load

### Solution 2: Automation module box (AP 118) – flexible and function-oriented
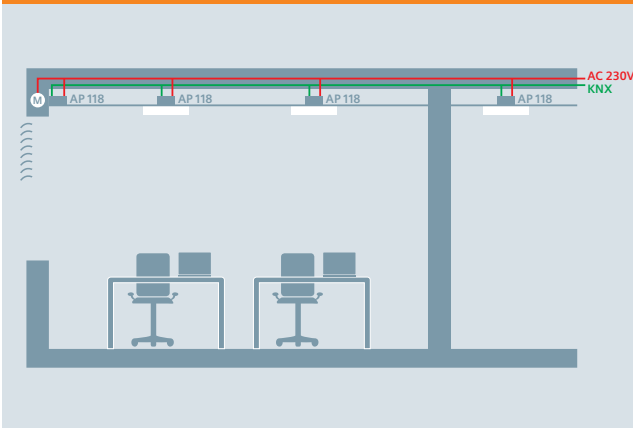
**Place of installation:**
- In sill-type trunking and suspended ceilings (alternatively in lamps)
- Power and bus lines are run directly to the automation module boxes AP 118
- From the respective automation module box AP 118, the load lines are run to the lamps or the blind motors

**Benefits:**
- Decentral installation in false ceilings, cable ducts, or lamp housings
- Function-oriented installation
- Choice of room-related functions
- Low combustible load

### Solution 3: Flush-mounting UP – conventional and smart
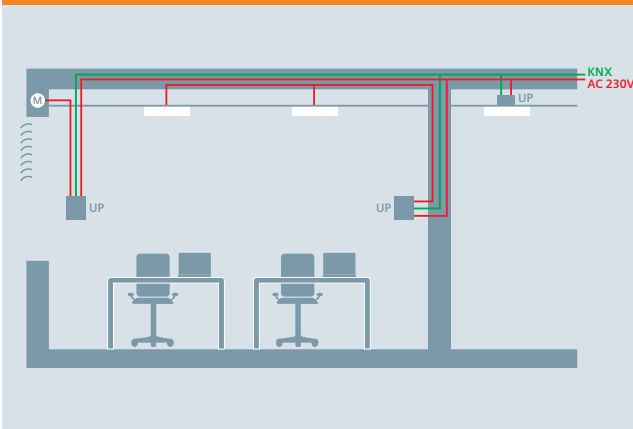
**Place of installation:**
- In recessed conduit boxes or sill-type trunking
- Power and bus line are run to the recessed conduit boxes
- From the respective flush-mounting actuator, the load lines are run to the lamps or the blind motors

**Benefits:**
- Flexible combination of user interfaces and actuators
- Function-oriented installation
- Straightforward upgrading from conventional to KNX installations (e.g. for modernization)

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**Notes**

## Control Module Box, 1 slot for a sensor/actuator module, type RS or RL

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

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, 8 slots for a sensor/actuator module, type RS or RL

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

Dimensions (W x H x D)             300 x 300 x 50 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1641-3AB01 | **AP 641/01** |

**9**

# Room control box
## Modules

**9**

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### RL 260/23

### Binary Input, 4 inputs for 12 ... AC/DC 230 V

- 4 Inputs for AC/DC 12...230 V
- Max. cable length, unshielded, twisted 100 m
- Maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm [/2]
- The following functions can be selected per input:
- Switching state/send binary value
- Switch edge/short/long switch
- Dimming, shading control, single button group control
- 1/8-bit scene control
- 8-bit value edge
- 8-bit value short/long
- 16-bit floating-point value edge
- 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 (4 bit) and 2-pushbutton shading control
- Optional blocking of each input by means of the respective blocking object
- Transmission of the input objects after change
- Optional cyclic transmission of input objects
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal

Dimensions (W x H x D)            86.5 x 47.8 x 36.2 mm

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

| | Stock No. | Product No. |
|---|---|---|
| - | 5WG1260-4AB23 | **RL 260/23** |

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### RS 510/23

### Binary output devices, 2 x 230 V AC, 10 A (resistive load)

- 2 Floating relay contacts
- Rated contact voltage AC 230 V
- Rated contact current 10 A
- Integrated bus coupling unit
- Modular installation device for mounting in AP 118 automation module box or AP 641 room control box
- Bus-powered electronics
- Bus connection via bus terminal, Integrated bus coupling units
- 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
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal

Dimensions (W x H x D)            50.2 x 48.8 x 35.5 mm

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

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1510-2AB23 | **RS 510/23** |

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www.siemens.com/gamma                    2015

## Switching actuator, 1 x AC 230 V, C load

**RL 512/23**

- 1 floating relay contact
- Rated contact voltage, 230 V AC
- Rated contact current 16 AX / 20 AX
- Modular installation device for mounting in AP 118 automation module box or AP 641 room control box
- Switching operation and operating hours counter
- 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
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal

Dimensions (W x H x D)          86.5 x 47.8 x 36.2 mm

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

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1512-4AB23 | **RL 512/23** |

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

**RS 520/23**

- 1 channel
- 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
- Electrically interlocked relays (for reversing direction of rotation)
- maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm$^2$
- 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)
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal

Dimensions (W x H x D)          50.2 x 48.8 x 35.5 mm

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

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1520-2AB23 | **RS 520/23** |

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**RL 521/23**

**Shutter Actuator, 2 x AC 230 V, 6 A**

- 2 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
- Electrically interlocked relays (for reversing direction of rotation)
- maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm²
- 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/close)
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal
- For mounting in AP 118 automation module box or AP 641 room control box

Dimensions (W x H x D)          86.5 x 47.8 x 36.2 mm

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

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1521-4AB23 | **RL 521/23** |

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

**RS 525/23**

- 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
- Reporting of overload, short circuit and temperature rise via the bus
- Maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5...2.5mm²
- 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
- Bus-powered electronics
- Integrated bus coupling units, Bus connection via bus terminal

Dimensions (W x H x D)          50.2 x 48.8 x 35.5 mm

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

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1525-2AB23 | **RS 525/23** |

# Gateways, Interface Converters

**10**

Gateways, Interface Converters
## Overview and selection guides
## Gateways in the KNX network

### 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. In particular, the KNXnet/IP supports connection to building control (OPC, PROFINET, SIMATIC S7, etc.).

## Interfaces to KNX
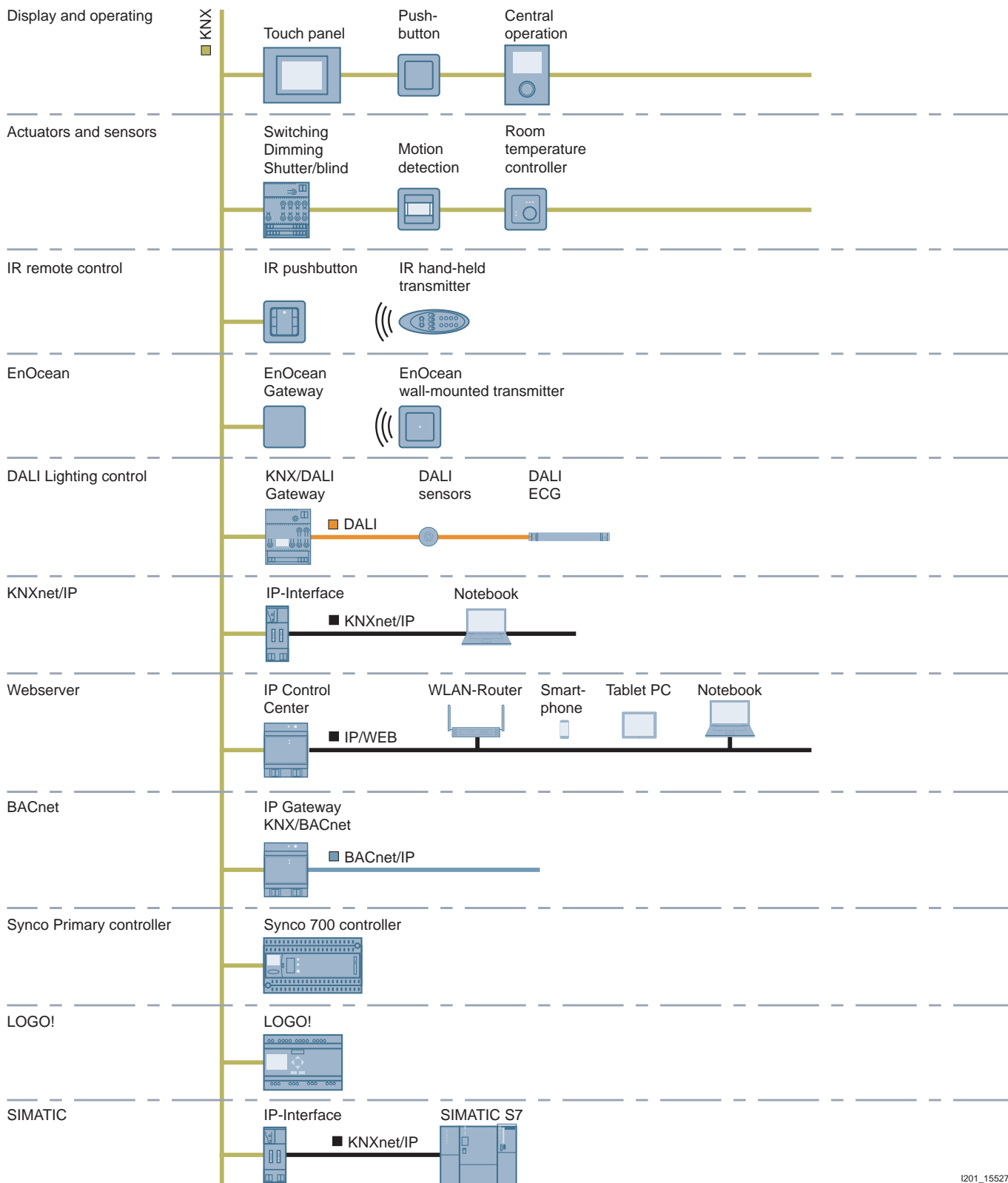


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## KNX/Ethernet

**Faster downloads save time**

With the KNXnet/IP standard, KNX telegrams can be 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.
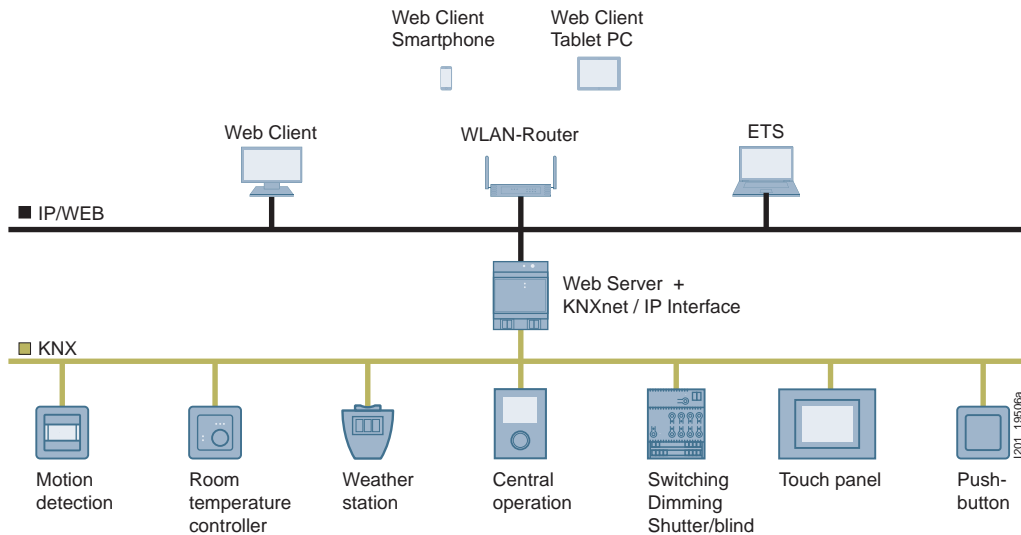


## KNX/infrared

**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, shading, 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.)
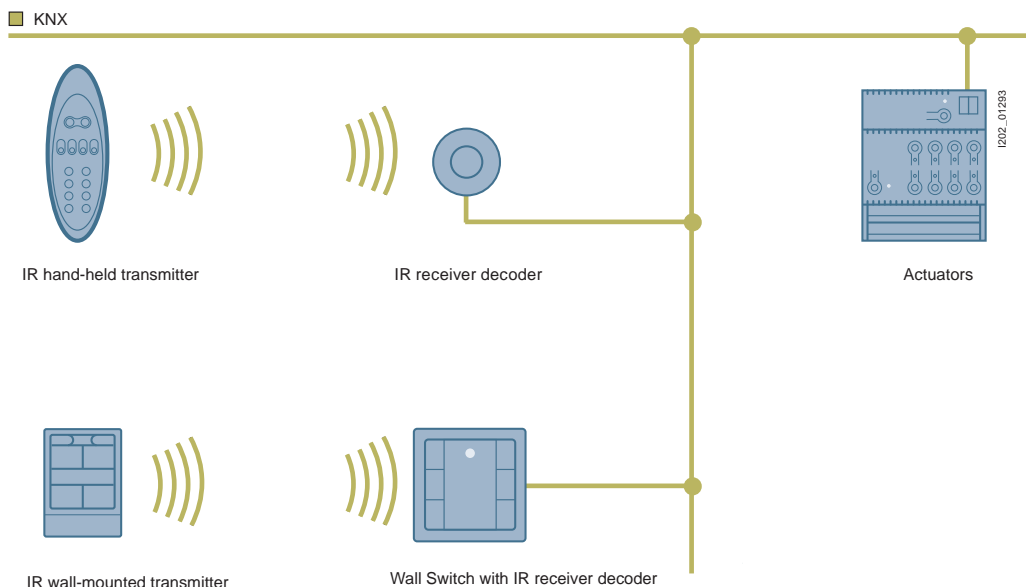


System overview of IR products

For IR remote controls and IR wall-mounted transmitters (see chapter Display and Operation Units)

The level of automated applications is also increasing in the area of building automation. Customers are interested in using components from the field of industrial automation for the automation of infrastructure facilities. This is now possible using SIEMENS IP/Ethernet components.

### Benefits

Use of tried and tested industrial components in the field of building automation, i. e. utilization of building automation data for the automation of factories. Simple transfer of configuration data from ETS3.

### Application

Automation and monitoring of buildings using KNX devices with components from the SIMATIC product range.

### Function

Modules for communication of a SIMATIC S7 with KNX bus via IP/Ethernet using a KNXnet/IP interface:
• N 146/02 IP routers
• N 148/22 IP interfaces
• IP Control Center and BACnet-Gateway
• N 350E IP controllers
• N 151 IP viewers
• N 152/01 IP Control Center
• BACnet-Gateway

The KNX/EIB2S7 program package comprises modules for communication to the IP router/interface/controller/viewer and an editor for user-friend-ly parameterization of the modules.

Addressing is implemented by means of group addresses in the case of KNX and with DB and DW in the case of SIMATIC. Assignment of the various address terms to one another is implemented largely automatically in the KNX/EIB2S7 Editor.

One SIMATIC S7 can be connected to up to 5 KNXnet/IP interfaces, which permits the monitoring, operation and reading of a total of up to 7000 group addresses (depending on control type and the number of KNXnet/IP interfaces connected).

The modules also support the cyclic reading of values in 5 different, freely configurable cycles (10 min. - 1 x daily).

The following data point types are supported:

| Data point type | Application | Length | Receive | Write | Read |
|---|---|---|---|---|---|
| EIS 1 | Switching | 1 Bit | X | X | X |
| EIS 2 | Dimming | 4 Bit | X | X | X |
| EIS 3 | Time | 3 Byte | | X | |
| EIS 4 | Date | 3 Byte | | X | |
| EIS 5 | Floating-point | 2 Byte | X | X | X |
| EIS 6 | Scaling | 8 Bit | X | X | X |
| EIS 7 | Motor control | 1 Bit | X | X | X |
| EIS 8 | Priority | 2 Bit | X | X | |
| EIS 9 | Floating-point | 4 Byte | X | X | X |
| EIS 11 | 32-bit counter | 4 Byte | X | X | X |
| EIS 14 | 8-bit counter | 1 Byte | X | X | X |
| EIS 15 | String | 14 Byte | | X | |

KNX/EIB2S7 supports the following SIMATIC S7 CPUs:
• ET 200
  - IM 151-8 PN/DP CPU
• S7 300/400
  - CPU 315-2 PN/DP
  - CPU 317-2 PN/DP
  - CPU 319-3 PN/DP
  - CPU 414-3 PN/DP
  - CPU 416-3 PN/DP
• Soft PLC
  - SIMATIC WinAC RTX 2008 SP 1
• SIMATIC S7 300 with CP 343 - 1
  - CPU 315-2 DP
  - CPU 317-2 DP
  - CPU 319-3 PN/DP
• SIMATIC S7 400 with CP 443 - 1 Advanced
  - CPU 412-2 MPI/DP
  - CPU 414-2 MPI/DP
  - CPU 416-2 MPI
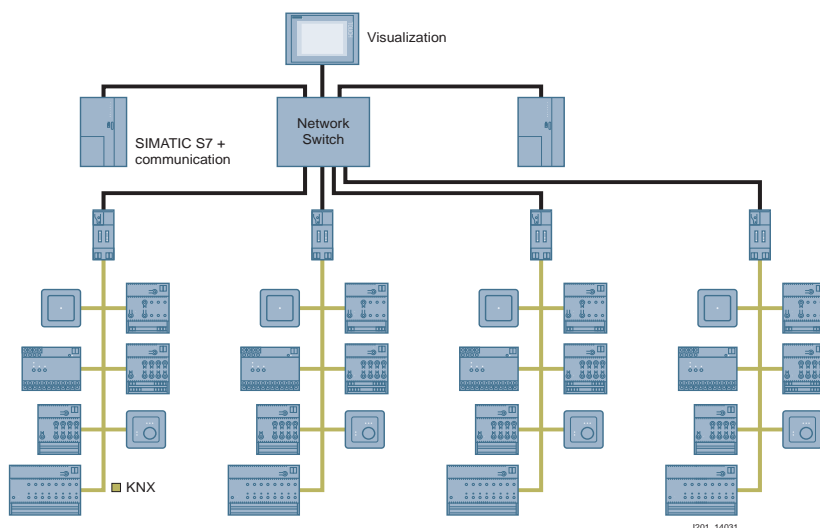


Further information and ordering data for KNX/EIB2S7 see www.siemens.de/simatic.

## KNX/Ethernet

| Type | N 148/22 | N 146/02 | N 350E | N 151 | N 143 |
|---|---|---|---|---|---|
| **Enclosure data** | | | | | |
| Design | N | N | N | N | N |
| Modular installation devices for mounting on TH35 EN 60715 mounting rail | ■ | ■ | ■ | ■ | ■ |
| Width (1 MW = 18 mm) | 2 MW | 2 MW | 4 MW | 4 MW | 4 MW |
| **Display/control elements** | | | | | |
| LEDs for indicating that the device is ready-to-run, KNX communication, IP communication | ■ | ■ | ■ | ■ | ■ |
| LCD | | | ■ | | |
| **Power supply** | | | | | |
| Electronics powered via an external nominal AC/DC power supply unit  for 24 V DC | ■ | ■ | ■ | ■ | ■ |
| Power consumption at 24 V DC [mA] | 57 | 57 | 60 | 60 | 60 |
| Power supply for the electronics via "Power over Ethernet" according to IEEE 802.3af | ■ (0.8 W) | ■ (0.8 W) | | | |
| **Bus connection** | | | | | |
| Integrated bus coupling units | ■ | ■ | ■ | ■ | ■ |
| Bus connection via bus terminal | ■ | ■ | ■ | ■ | ■ |
| **Mains connection** | | | | | |
| Ethernet connection via RJ45 socket | ■ | ■ | ■ | ■ | ■ |
| Plug-in terminal block for the connection of an external power supply unit | ■ | ■ | ■ | | |
| **Gateway** | | | | | |
| Supports KNXnet/IP | ■ | ■ | ■ | ■ | ■ |
| line coupler function (Routing) | | ■ | | | |
| Interface functions (Tunneling) | 4 | 4 | 1 | 1 | 1 |
| Interface functions (object server) | 1 | 1 | 1 | 1 | 1 |
| Integrated real-time clock weekly scheduling program for 100 scheduled entries/Astro function | | | ■ | | |
| Yearly time switching functions | | | ■ | | |
| Event entries | | | 200 | | |
| Logic gates | | | 30 | | |
| Web servers | | | | ■ | ■ |

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| KNX/DALI | | | | |
|---|---|---|---|---|
| | | | | |
| Type | N 141/21 | N 141/03 | N 141/31 | N 525E |
| **Enclosure data** | | | | |
| Design | N | N | N | N |
| Modular installation devices for mounting on TH35 EN 60715 mounting rail | ■ | ■ | ■ | ■ |
| **Dimensions** | | | | |
| Width [mm] (1 MW = 18 mm) | 4MW | 4 MW | 4 MW | 4 MW |
| **Display/control elements** | | | | |
| Status indication per output | LED + 7 Seg-ment | LED + 7 Seg-ment | LED + 7 Seg-ment | LED |
| **Power supply** | | | | |
| Electronics powered via an integrated power supply unit | ■ | ■ | ■ | ■ |
| DALI outputs powered via an integrated power supply unit | ■ | ■ | ■ | ■ |
| **Bus connection** | | | | |
| Integrated bus coupling units | ■ | ■ | ■ | ■ |
| Bus connection via contact system to data rail | | | | ■ |
| Bus connection via bus terminal | ■ | ■ | ■ | ■ |
| **Outputs** | | | | |
| **Control outputs** | | | | |
| 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 (Osram Dynamik 58 W) | 64 | 64 | 64 | 8 |
| Selected DALI sensors[3] | ■ | ■ | ■ | |
| **Functions** | | | | |
| Direct operation | ■ | ■ | ■ | ■ |
| Broadcast operation | ■ | ■ | ■ | ■ |
| Standalone operation | ■ | ■ | ■ | |
| Configurable behavior in the event of a bus voltage failure/recovery | ■ | ■ | ■ | ■ |
| Support of CIN | ■ | | | |
| **Scene control** | | | | |
| Integrated 8-bit scene control | ■ | ■ | ■ | ■ |
| Scenes to be integrated per DALI output | 16 | 16 | 16 | 16 |
| **Effect control** | | | | |
| Integrated effect control (one-off or cyclic chaselight operation, color control) | 4 | 4 | | |
| **Test function via ETS** | | | | |
| Testing individual ECGs | ■ | ■ | ■ | |
| Testing group assignment | ■ | ■ | ■ | |
| Testing scenes | ■ | ■ | ■ | |
| Testing effects | ■ | ■ | | |
| **Group control** | | | | |
| Up to 16 groups per DALI output<br>• Switching ON/OFF<br>• BRIGHTER/DARKER dimming<br>• Set value | ■ | ■ | ■ | |
| **Individual ECG control** | | | | |
| Operation of individual ECG with<br>• Switching ON/OFF<br>  BRIGHTER/DARKER dimming<br>  Set value | ■<br>■ | ■<br>■ | ■<br>■ | |
| • ETSApp in KNX Online Shop | ■ | ■ | ■ | |
| • Stand-by shut down | ■ | ■ | | |
| • Pre-loaded applications | ■ | ■ | | |
| • Reintegrate defective ECG without software | ■ | ■ | ■ | |

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| ... Continuation of the table | | | | |
|---|---|---|---|---|
| **Type** | **N 141/21** | **N 141/03** | **N 141/31** | **N 525E** |
| **Application program[1]** | 9834xx[1] | 9837xx[1] | 9833xx[1] | 980801 |
| **Time functions** | | | | |
| Timer mode, 1-step (automatic stairwell switch) | ■ | ■ | ■ | ■ |
| Timer mode, 2-step | ■ | ■ | ■ | ■ |
| Night mode (lighting for cleaning) | ■ | ■ | ■ | ■ |
| Warning of impending OFF | ■ | ■ | ■ | ■ |
| **Dimming** | | | | |
| BRIGHTER/DARKER dimming | ■ | ■ | ■ | ■ |
| Adjustable dimming time | ■ | ■ | ■ | ■ |
| Brightness limitation, adjustable min. dimming value/max. dimming value | ■ | ■ | ■ | ■ |
| **Switching** | | | | |
| Switching ON/OFF | ■ | ■ | ■ | ■ |
| Configurable starting value | ■ | ■ | ■ | ■ |
| Switching ON/OFF possible via BRIGHTER/DARKER dimming | ■ | ■ | ■ | ■ |
| **Emergency lighting** | | | | |
| Support for prescribed test sequences for emergency lights | ■ | ■ | | |
| Controlling single battery lights | ■ | ■ | | |
| Internal memory for test results | ■ | ■ | | |
| **Status** | | | | |
| DALI short circuit | ■ | ■ | ■ | ■[2] |
| 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) | ■ | ■ | | |

[1] For current application programs, see www.siemens.com/gamma-td
[2] Per channel (line).
[3] Only selected DALI sensors are supported, see APB www.siemens.com/gamma-td

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10-7

## KNX/Infrared

| Design | i-system | DELTA style |
|---|---|---|
| Type | UP 223/5 | UP 287/..5 |
| Application program[1] | 909301 | |
| **Enclosure data** | | |
| **Dimensions** | | |
| • Width [mm] | 55 | 68 |
| • Height [mm] | 55 | 68 |
| • Depth [mm] | 11 | 14 |
| **Display/control elements** | | |
| Individual pushbuttons | 6 | 8 |
| Pushbutton pairs | 3 | 4 |
| Operation (v: vertical, h: horizontal) | h | v |
| LED per pushbutton pair for status indication | 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 coupling unit (BTM) or a flush-mounting actuator with bus coupling unit (BTM) | ■ | ■ |
| **Inputs** | | |
| IR receiver decoder | ■ | ■ |
| IR channels in blocks of 64 | 16 | 16 |
| **Input functions** | | |
| **Switching** | | |
| Switching ON/OFF/OVER | ■ | ■ |
| Pushbutton function (bell function) | ■ | ■ |
| **Dimming** | | |
| • Dimming with stop telegram (4-bit)<br>• Short button press, ON/OFF<br>• 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<br>short button press, slat OPEN/CLOSED or STOP,<br>long button press, UP/DOWN | ■ | ■ |
| One-pushbutton sun protection | ■ | ■ |
| **Scene** | | |
| Integrated 8-bit scene control (channels) | ■ | ■ |
| 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<br>(1 bit/8 bit/16 bit) | ■ | ■ |
| Pushbutton operation display configurable via LED | ■ | ■ |

IR remote controls and IR wall-mounted transmitters must be ordered separately. see chapter Display and Operation Units - Pushbutton with IR receiver decoder.

[1] For current application programs, see www.siemens.com/gamma-td

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## IP interface

**N 148/22**

- LEDs for indicating that the device is ready-to-run, KNX communication, IP communication
- Electronics powered via an external nominal 24 V  AC/DC power supply unit
- Power consumption at 24 V DC, 57 mA
- Power supply for the electronics via "Power over Ethernet" according to IEEE 802.3af
- Integrated bus coupling units, Bus connection via bus terminal
- Ethernet connection via RJ45 socket
- Plug-in terminal block for the connection of an external power supply unit
- Supports KNXnet/IP
- 4 Interface functions (Tunneling)
- 1 Interface functions (object server)
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)        2 MW

The external 24 V AC/DC power supply unit must be ordered separately (e. g. 4AC2402).

| Stock No. | Product No. |
|---|---|
| 5WG1148-1AB22 | **N 148/22** |

## IP router

**N 146/02**

- LEDs for indicating that the device is ready-to-run, KNX communication, IP communication
- Electronics powered via an external nominal 24 V AC/DC power supply unit
- Power consumption at 24 V DC 57 mA
- Power supply for the electronics via "Power over Ethernet" according to IEEE 802.3af
- Integrated bus coupling units
- Bus connection via bus terminal
- Ethernet connection via RJ45 socket
- Plug-in terminal block for the connection of an external power supply unit
- Supports KNXnet/IP
- Line coupler function (Routing)
- 4 Interface functions (Tunneling)
- 1 Interface functions (object server)
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)        2 MW

The external 24 V AC/DC power supply unit must be ordered separately (e. g. 4AC2402).

| Stock No. | Product No. |
|---|---|
| 5WG1146-1AB02 | **N 146/02** |

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**N 350E01**

## IP controller

- LEDs for indicating that the device is ready-to-run, KNX communication, IP communication
- LC-Display
- Electronics powered via an external nominal 24 V AC/DC power supply unit
- Integrated bus coupling units
- Bus connection via bus terminal
- Ethernet connection via RJ45 socket
- Plug-in terminal block for the connection of an external power supply unit
- Supports KNXnet/IP
- 1 Interface functions (Tunneling)
- 1 Interface functions (object server)
- Integrated real-time clock weekly scheduling program for 100 scheduled entries/Astro function
- Yearly time switching functions
- 200 Event entries
- 30 Logic gates
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)          4 MW

The external 24 V AC/DC power supply unit must be ordered separately (e. g. 4AC2402).

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1350-1EB01 | **N 350E01** |

**N 151/01**

## IP viewer

Interface converter between a KNX and an IP network, with the following simultaneously executable functions:
- As a WebServer for monitoring and control of up to 40 states and values transmitted via the KNX network, which can be displayed on up to 5 image pages of a PC connected to the IP network using Internet Explorer 6.0, 7.0, 8.0 or Firefox 3.0 (for other browsers, see documentation at www.siemens.com/gamma-td)
- For the parameterization of a KNX system using ETS3.0f/ETS4
- For communication between the KNX network and a ComBridge Studio visualization software
- Special WEB page for the multilanguage adaptation of the presentation of an image page and a special WEB page for firmware upgrades
- Ethernet interface for connection to the IP network using the Internet Protocol
- RJ45 socket for connection to Ethernet 10 Mbits/s
- 2 LED displays for indication of ready-to-run state and for IP communication
- Integrated bus coupling units
- KNX bus connection via bus terminal
- Electronics powered via an external 24 V AC/DC power supply unit
- Connection of external power supply unit via an extra-lowvoltage terminal
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)          4 MW

The external 24 V AC/DC power supply unit must be ordered separately (e. g. 4AC2402).

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1151-1AB01 | **N 151/01** |

## IP Control Center

**N 152/01**

Visualization controller for full-graphic visualizations on web-compatible end devices such as PCs, laptops, tablets and smart phones with a standard web browser.
- Web server to operate and monitor up to 250 transmitted operation states and values
- Web editor for graphic engineering of web visualization and application modules such as:
- Scheduler program with up to 300 editable commands per week
- Scene module with up to 5,000 scenes or events
- Full-graphic logic module providing up to 1,000 logic functions
- Alarm function for up to 250 different alarm messages
- E-mail function with up to 20 contacts
- Special web site relating to firmware upgrade
- KNXnet/IP interface to parameterize a KNX plant
- Ethernet interface 10/100 Mbits/s with RJ45 socket for connection to the IP network through the internet protocol
- 2 LEDs for indication of IP connection/communication and error messages
- Built-in bus coupler and bus terminal for connection to a KNX network
- Power supply for electronics via external DC 24 V power source. Connection of external power source via low-voltage terminal
- Device for top hat rail mounting on TH35 rails conforming to DIN EN 60715

Dimension width (1 MW = 18 mm)      4 MW

|  | Stock No. | Product No. |
|---|---|---|
|  | 5WG1152-1AB01 | **N 152/01** |

### Accessories

| Product Title | Stock No. | Product No. |
|---|---|---|
| Electronic power supply units | 4AC2402 | **4AC2402** |

**10**

**NEW PRODUCT**

**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

| | |
|---|---|
| Data sheet | N5701 |
| Operating voltage | Power pack: AC 230 V |
| | Web server: DC 24 V |
| Communication | KNX TP1 (wire-Bus) |
| | Ethernet, RJ45 plug socket (shielded) |
| | USB V2.0 (universal serial bus) |
| 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 4 Synco devices | BPZ:OZW772.04 | **OZW772.04** |
| Web server for 16 Synco devices | BPZ:OZW772.16 | **OZW772.16** |
| Web server for 250 Synco devices | BPZ:OZW772.250 | **OZW772.250** |

**10**

### KNX / DALI Gateway plus/ Twin plus

N 141/03, N 141/21

- 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 push buttons for switching On/Off of all connected DALI ECG
- One LED per DALI output for status signal of all connected luminaries 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 luminaries 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 luminaries 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 luminaries 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 luminaries group and up to four additional luminaries 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

Dimension width (1 MW = 18 mm)        4 MW

### Range overview for KNX / DALI Gateway N 141/03 and N 141/21

| Product Title | Stock No. | Product No. |
|---|---|---|
| KNX / DALI Gateway plus, 1 channel | 5WG1141-1AB03 | N 141/03 |
| KNX / DALI Gateway Twin plus, 2 channels | 5WG1141-1AB21 | N 141/21 |

**10**

NEW PRODUCT

**N 141/31**

**KNX / DALI Gateway Twin**

- Communication via KNX EIB with electronic ballasts (ECG) with a DALI interface
- Two (2) DALI output acc. to IEC 60929, each for communication with up to 64 DALI ballasts and at least 10 sensors
- Integrated power supply with input voltage 110...240 V AC, 50...60 Hz or 120...240 V DC 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
- LC display for displaying operation mode and error messages
- Pushbutton for switching between bus and direct operating mode
- One pair of push buttons 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 assignment of max. 128 DALI ECG to max. 32 DALI groups, exclusive controlled in groups (switching, dimming, set dimming value) and feedback for group status and lamp failure
- 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
- Possibility to reintegrate defective DALI ECG without software
- One or two level timer
- Integrated scene control for up to 32 scenes
- 16 integrated 2-level-controller for brightness control
- Assignment of DALI ECG to groups and test option for ECG, groups and scenes 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

Dimension width (1 MW = 18 mm)          4 WM

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1141-1AB31 | **N 141/31** |

**10**

## Accessories for KNX / DALI Gateway

### DALI Multisensor office                                                    UP 141/51

- Used as passive infrared detector for indoor ceiling installation
- Sensing range, horizontal 360 °, vertical approx. 80 °
- For monitoring an area with a diameter of approx. 4 m to approx. 7 m (depending on mounting and room height)
- LED on sensor head for display
- Used as brightness sensor
- Cone–shaped detection area, opening angle 90 °
- Measuring range 20 to 1000 lx
- Integrated DALI bus coupling unit for communicating with a central DALI controller
- Power supply through DALI line with 5 mA DALI bus load
- Plug-in terminals for connecting the DALI line
- For installation in suspended ceilings

Dimensions (Ø x H)                    40 x 19 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1141-2AB51 | **UP 141/51** |

### DALI Push button interface 4fold                                           UP 141/71

- 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
- 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

Dimensions (W x H x D)                43 x 43 x 11 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1141-2AB71 | **UP 141/71** |

**10**

**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 230 V AC
- 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 230 V AC 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 as well as contact system to data rail
- Device for mounting on rail TH35 DIN EN 60715

Dimension width (1 MW = 18 mm)      4 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1525-1EB01 | **N 525E01** |

The data rail must be ordered separately. See chapter system products and accessories - data rails.

## IP Gateway KNX-BACnet

**N 143/01**

- BACnet Application Specific Controller (B-ASC) as Gateway between KNX TP and BACnet IP
- 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
- Up to four KNXnet/IP Tunneling connections 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 DC 24 V
- 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

Dimension width (1 MW = 18 mm)    4 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1143-1AB01 | **N 143/01** |

**10**

**NEW PRODUCT**

**N 148/11**

**USB interface**

- Electronics powered via bus voltage or via USB by a connected PC
- Integrated bus coupling units
- Bus connection via bus terminal or contact system to data rail
- Transmission PC – USB USB 1.1 or higher
- Electrically isolated access to the bus line via integrated socket USB (Typ B)
- Access to all bus devices in the system
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)        1 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1148-1AB11 | **N 148/11** |

The data rail must be ordered separately. See chapter System Products and Accessories - data rails.

**10**

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

**UP 223/..5**

Dimensions (W x H x D)          55 x 55 x 11 mm



### Range overview UP 223/..5

| Product Title | Stock No. | Product No. |
|---|---|---|
| Pushbutton, triple, with status LED, with scene controller, with IR receiver decoder, titanium white | 5WG1223-2DB15 | **UP 223/15** |
| Pushbutton, triple, with status LED, with scene controller, with IR receiver decoder, aluminum metallic | 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.

IR remote controls and IR wall-mounted transmitters must be ordered separately. See chapter Display and Operation Units - Remote controls.

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

**UP 287/..5**

Dimensions (W x H x D)          68 x 68 x 14 mm



**10**

### Range overview UP 287/..5

| Product Title | Stock No. | Product No. |
|---|---|---|
| Pushbutton, quadruple, with status LED, with scene controller, with IR receiver decoder, titanium white | 5WG1287-2DB15 | **UP 287/15** |
| Pushbutton, quadruple, with status LED, with scene controller, with IR receiver decoder, platinum metallic | 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.

IR remote controls and IR wall-mounted transmitters must be ordered separately. See chapter Display and Operation Units - Remote controls.

---

**S 450/03**

**IR Receiver decoder**

- For receiving IR signals transmitted from IR wall-mounted transmitters or 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, such as a 5WG1 590-8AH01 programming magnet

Dimensions (W x H x D)                25 x 26 x 75 mm

The programming magnet must be ordered separately.

|  | Stock No. | Product No. |
|---|---|---|
|  | 5WG1450-7AB03 | **S 450/03** |

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**S 590H01**

**Programming magnet for IR receiver decoders**

Programming magnet for S 450 IR receiver decoders

The matching IR remote controls and IR wall-mounted transmitters must be ordered separately. See Chapter Display and Operation Units - Remote controls.

|  | Stock No. | Product No. |
|---|---|---|
|  | 5WG1590-8AH01 | **S 590H01** |

## Radio frequency receiver with Gateway EnOcean/KNX

**RXZ97.1/KNX**

- Evaluation of up to 32 EnOcean channels
- With RXB, other EnOcean functions may also be integrated: switches, window contacts, motion detectors
- Other EnOcean functions (dimming, blinds, light sensors) can be realized in KNX systems
- Powered via KNX bus
- With internal antenna

| | |
|---|---|
| Operating voltage | DC 24 V |
| Power consumption | 0.6 VA |
| Ambient temperature, operation | -5...45 °C |
| Ambient humidity, operation | 5...93 % r.H. |
| Degree of protection | IP20 |
| Dimensions (W x H x D) | 71 x 71 x 27 mm |
| Weight | 0.07 kg |

For more products, see Chapter Radio system – EnOcean.

| | Stock No. | Product No. |
|---|---|---|
| | S55842-Z101 | **RXZ97.1/KNX** |

**10**

**CM KNX**

**LOGO! communication module KNX/LOGO!**

- For connection of LOGO! to KNX, as communication module for the LOGO! logic module (12/24 V or 115/240 V) and as bus device on KNX
- For linking transmitted KNX data points and LOGO! inputs and outputs via logic and control functions through LOGO!
- For the linking and transmitting via KNX of up to
- 8 LOGO! binary inputs and 4 LOGO! binary outputs
- 16 virtual KNX binary inputs
- 12 virtual KNX binary outputs
- 8 virtual KNX analog inputs
- 8 virtual KNX analog outputs
- Transmission of date and time of the LOGO! real-time clock via KNX
- Two LEDs for the display of the communication status of LOGO! and KNX
- Electronics powered via an external 24 V AC/DC power supply unit, 25 mA
- Integrated bus coupling units, bus connection via screw terminals
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)        2 MW

For more LOGO! Products, see Chapter Control and Automation Devices.
The external 24 V AC/DC power supply unit must be ordered separately (e. g. 4AC2402).

|  | Stock No. | Product No. |
|---|---|---|
|  | 6BK1700-0BA00-0AA2 | **CM KNX** |

## Accessories

| Product Title | Stock No. | Product No. |
|---|---|---|
| Electronic power supply units | 4AC2402 | **4AC2402** |

# Physical Sensors

## Technical specification
## Physical Sensors with KNX connection

### Overview of module combinations – Room sensors for surface mounting

| Communicating sensors | | | Measuring Variables | | | Display | Input | |
|---|---|---|---|---|---|---|---|---|
| | | | $CO_2$ | Relative humidity | Temperature | $CO_2$-indicator | passive Temperature NTC 10k | Two potential-free contacts |
| QXM3.P30 | | | | | ■ | | | |
| QXM3.P70 | | | ■ | ■ | ■ | ■ | | |

### Overview of module combinations – Room sensors for flush mounting

| Communicating sensors | | | Measuring Variables | | | Display | Input | |
|---|---|---|---|---|---|---|---|---|
| Basic module | + | Front module | $CO_2$ | Relative humidity | Temperature | $CO_2$-indicator | passive Temperature NTC 10k | Two potential-free contacts |
| AQR2570Nx | + | AQR2532NNW | | | ■ | | ■ | ■ |
| AQR2570Nx | + | AQR2533NNW | | ■ | | | ■ | ■ |
| AQR2570Nx | + | AQR2535NNW | | ■ | ■ | | ■ | ■ |
| AQR2576Nx | + | AQR2530NNW | ■ | | | | ■ | ■ |
| AQR2576Nx | + | AQR2532NNW | ■ | | ■ | | ■ | ■ |
| AQR2576Nx | + | AQR2533NNW | ■ | ■ | | | ■ | ■ |
| AQR2576Nx | + | AQR2535NNW | ■ | ■ | ■ | | ■ | ■ |
| AQR2576Nx | + | AQR2535NNWQ | ■ | ■ | ■ | ■ | ■ | ■ |

**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)

**11**

**Easy to handle**

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 prevent unauthorized removal of the front module.
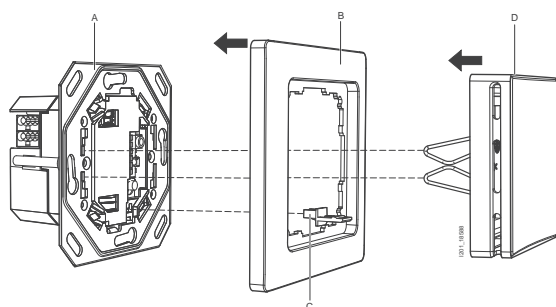


A: Basic module AQR257../AQR254...
B: DELTA frame AQR251..
C: Anti-theft device
D: Front module AQR253..

## Overview of module combinations – Room sensors for surface mounting

| Type | UP 258E21 UP 258D11 | UP 257/.. UP 258H/.. | AP 251/..1 | AP 254/02 | N 258/02 | AP 255/12 | UP 255/11 | GE 255/13 | AP 257/42 |
|---|---|---|---|---|---|---|---|---|---|
| **Enclosure data** | | | | | | | | | |
| Modular installation devices for mounting on TH35 EN 60715 mounting rail | | | | | ■ | | | | |
| For installation in lights | | | | | | | | ■ | |
| Surface mounting | ■[1] | | ■ | ■ | ■ | ■ | | | ■ |
| Flush mounting | ■ | ■ | | | | | ■ | | |
| Mounting in intermediate ceilings | | | | | | | | ■ | |
| Degree of protection | IP20 | IP20 | IP55 | IP54 | IP20 | | IP20 | | IP44 |
| Mast mountings | | | | | | | | | ■ |
| **Dimensions** | | | | | | | | | |
| • Width/Ø [mm] (1 MW = 18 mm) | 88 | [2] | 82 | 72 | 4 MW | | [4] | | 96 |
| • Height [mm] | 63[3] | [2] | 80 | 110 | | | [4] | | 77 |
| • Depth [mm] | | 23 | 182 | 54 | | | [4] | | 118 |
| **Power supply** | | | | | | | | | |
| Bus-powered electronics | ■ | ■ | ■ | ■ | | | ■ | | ■ |
| Electronics powered via an integrated power supply unit for supply voltage 230 V AC | | | | | ■ | | | | |
| Voltage supply through external power supply unit | | | | | | | | | ■[5] |
| **Bus connection** | | | | | | | | | |
| Integrated bus coupling units | ■ | | ■ | ■ | ■ | | ■ | | ■ |
| Plug onto UP 110 bus coupling unit | | ■ | | | | | | | |
| Bus connection via bus terminal | ■ | | ■ | ■ | ■ | | ■ | | ■ |
| Bus connection via contact system to data rail | | | | | ■ | | | | |
| Transmission of sensor values via bus | ■ | ■ | ■ | ■ | ■ | | ■ | | ■ |
| **Motion/presence** | | | | | | | | | |
| Motion | ■ | ■ | ■ | | | | | | |
| Presence | ■ | | | | | | | | |
| HVCA message output | ■ | | | | | | | | |
| Horizontal sensing angle | 360° | 180° | 290° | | | | | | |
| Vertical sensing angle | 100° | | | | | | | | |
| Range to the front [m] | | 10 | 8 | | | | | | |
| Range on each side, up to [m] | 2.5 [6] | 6 | 8 | | | | | | |
| Adjustable range | ■[7] | ■ | | | | | | | |
| **Brightness** | | | | | | | | | |
| Measuring range [Lux] | 20...1000 | 1...1000 | | 1...100000 | | | 0...2000 | | |
| For measuring outdoor brightness | | | | ■ | | | | | |
| For measuring indoor brightness | ■ | ■ | | | | | ■ | | |
| For measuring indoor brightness, taking into account indirect lighting | | | | | | | ■ | | |
| 2 m connecting lead of sensor element (cannot be extended) | | | | | | | | | |
| **Temperature** | | | | | | | | | |
| Measuring range [°C] | | | | -25...+55 | -40...+150 | | | | |
| PT1000 temperature sensor input | | | | | 4 | | | | |
| Max. cable length, unshielded, twisted [m] | | | | | 50 | | | | |
| **Wind speed** | | | | | | | | | |
| Measuring range [m/s] | | | | | | | | | 0...3 5 |
| Limit value monitoring (3 limit values) | | | | | | | | | ■ |
| Logic operations (8 AND, 8 OR) | | | | | | | | | ■ |
| Recording, querying and resetting the maximum wind speed | | | | | | | | | ■ |

[1] In conjunction with AP 258E surface-mounting enclosure.
[2] Dimensions are Design-dependent, see Physical sensors - with KNX connection.
[3] For flush mounting, mounting height approx. 31 mm, for surface mounting with AP 258E surface-mounting enclosure, approx. 73 mm. In conjunction with AP 258E surface-mounting enclosure.
[4] Dimensions, see chapter Physical sensors - with KNX connection .
[5] The 4AC2402 electronic power supply unit is recommended.
[6] At mounting height 2.8 m (presence detection). Motion detection up to 5 m. For the complete technical specifications, see www.siemens.com/gamma-td
[7] Rotating/swiveling sensor head.

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| Overview Room sensors for surface mounting | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Type | Temperature | | Humidity | Air quality | | Relay contact | Display |
| | | passive[1] | active[2] | | CO$_2$ | VOC | | |
| **Room sensor** | QAA2012 | Pt1000 | | | | | | |
| | QAA2061 | Pt1000 | ■ | | | | | |
| | QAA2061D | Pt1000 | ■ | | | | | |
| **Contact sensor** | QAD2012 | Pt1000 | | | | | | |
| **External sensor** | QAC2012 | Pt1000 | | | | | | |
| | QAC3161 | | ■ | | | | | |
| **Raumfühler** | QFA2000 | | | ■ | | | | |
| | QFA2060 | | ■ | ■ | | | | |
| | QFA2060D | | ■ | ■ | | | | ■ |
| **Hygrostats** | QFA1000 | | | ■[3] | | | ■ | |
| | QFA1001 | | | ■[3] | | | ■ | |
| **Condensation detector** | QXA26.. | | | ■ | | | ■ | |
| | QXA2602 | | | ■ | | | ■ | |
| **Room sensor** | QPA2000 | | | | ■ | ■ | | |
| | QPA2002 | | | | ■ | ■ | | |
| | QPA2060 | | ■ | | ■ | | | |
| | QPA2062 | | ■ | ■ | ■ | | | |
| | QPA2062D | | ■ | ■ | ■ | | | ■ |

[1] Can be connected to the N 258/02 temperature sensor (5WG1258-1AB02), see Physical sensors - with KNX connection.
[3] Measuring range adjustable.

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## Overview of module combinations – Room sensors for flush mounting

| Active sensors | | | Measuring Variables | | | | | Display |
|---|---|---|---|---|---|---|---|---|
| Basic module | + | Front module | $CO_2$ | VOC | Relative humidity | Active temp. | Passive temp. | $CO_2$-indicator |
| AQR2540Nx | + | AQR2532NNW | | | | ■ | | |
| AQR2540Nx | + | AQR2533NNW | | | ■ | | | |
| AQR2540Nx | + | AQR2535NNW | | | ■ | ■ | | |
| AQR2540Nx | + | AQR2534ANW | | | ■ | ■ | LG-Ni1000 | |
| AQR2540Nx | + | AQR2534FNW | | | ■ | ■ | NTC 10k | |
| AQR2546Nx | + | AQR2530NNW | ■ | | | | | |
| AQR2546Nx | + | AQR2532NNW | ■ | | | ■ | | |
| AQR2546Nx | + | AQR2533NNW | ■ | | ■ | | | |
| AQR2546Nx | + | AQR2535NNW | ■ | | ■ | ■[2] | | |
| AQR2546Nx | + | AQR2535NNWQ | ■ | | ■ | ■[2] | | ■ |
| AQR2546Nx | + | AQR2534ANW | ■ | | ■ | ■[2] | LG-Ni1000 | |
| AQR2546Nx | + | AQR2534FNW | ■ | | ■ | ■[2] | NTC 10k | |
| AQR2547Nx | + | AQR2530NNW | | ■ | | | | |
| AQR2547Nx | + | AQR2532NNW | | ■ | | ■ | | |
| AQR2547Nx | + | AQR2533NNW | | ■ | ■ | | | |
| AQR2547Nx | + | AQR2535NNW | | ■ | ■ | ■[2] | | |
| AQR2547Nx | + | AQR2534ANW | | ■ | ■ | ■[2] | LG-Ni1000 | |
| AQR2547Nx | + | AQR2534FNW | | ■ | ■ | ■[2] | NTC 10k | |
| AQR2548Nx | + | AQR2530NNW | ■ | ■[1] | | | | |
| AQR2548Nx | + | AQR2532NNW | ■ | ■[1] | | ■ | | |
| AQR2548Nx | + | AQR2533NNW | ■ | ■[1] | ■ | | | |
| AQR2548Nx | + | AQR2535NNW | ■ | ■[1] | ■ | ■[2] | | |
| AQR2548Nx | + | AQR2535NNWQ | ■ | ■[1] | ■ | ■[2] | | ■ |
| AQR2548Nx | + | AQR2534ANW | ■ | ■[1] | ■ | ■[2] | LG-Ni1000 | |
| AQR2548Nx | + | AQR2534FNW | ■ | ■[1] | ■ | ■[2] | NTC 10k | |
| AQR2500Nx | + | AQR2531ANW | | | | | LG-Ni1000 | |
| AQR2500Nx | + | AQR2531BNW | | | | | PT1000 | |
| AQR2500Nx | + | AQR2531FNW | | | | | NTC 10k | |

[1] Here, the in-door air quality is calculated from the $CO_2$ and VOC measuring variables. VOC is not available as direct measuring variable.

[2] The measuring variable is solely available as switch output.

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**Notes**

www.siemens.com/gamma                    2015

## Motion detector, i-system

**UP 258H**

- For detecting movement and measuring indoor brightness
- Horizontal sensing angle 180°
- Adjustable range: range to the front 10 m, range on each side, up to 6 m
- Measuring range 1...1000 Lux
- Transmission of sensor values via bus
- Flush mounting, Degree of protection IP20
- Plug onto UP 110 bus coupling unit
- Bus-powered electronics

Dimensions (W x H x D)          55 x 55 x 23 mm

### Range overview UP 258H

| Product Title | Stock No. | Product No. |
|---|---|---|
| Motion detector, assembly height 1.10 m, titanium white | 5WG1258-2HB11 | **UP 258H11** |
| Motion detector, assembly height 1.10 m, aluminium metallic | 5WG1258-2HB31 | **UP 258H31** |
| Motion detector, assembly height 2.20 m, titanium white | 5WG1258-2HB12 | **UP 258H12** |
| Motion detector, assembly height 2.20 m, aluminium metallic | 5WG1258-2HB32 | **UP 258H32** |

The bus transceiver module BCU1/2 must be ordered separately. See Chapter Display and Operation Units - Pushbutton accessories
The matching design frame must be ordered separately. See Chapter Display and Operation Units - Pushbutton accessories.

## Motion detector, DELTA style

**UP 257**

- For detecting movement and measuring indoor brightness
- Horizontal sensing angle 180°
- Adjustable range: range to the front 10 m, range on each side, up to 6 m
- Measuring range 1...1000 Lux
- Transmission of sensor values via bus
- Flush mounting, Degree of protection IP20
- Plug onto UP 110 or UP 114 bus coupling unit
- Bus-powered electronics

Dimensions (W x H x D)          68 x 68 x 23 mm

### Range overview UP 257

| Product Title | Stock No. | Product No. |
|---|---|---|
| Motion detector, assembly height 1.10 m, titanium white | 5WG1257-2AB13 | **UP 257/13** |
| Motion detector, assembly height 1.10 m, platinum metallic | 5WG1257-2AB41 | **UP 257/41** |
| Motion detector, assembly height 2.20 m, titanium white | 5WG1257-2AB14 | **UP 257/14** |
| Motion detector, assembly height 2.20 m, platinum metallic | 5WG1257-2AB42 | **UP 257/42** |

The bus transceiver module BCU1/2 must be ordered separately. See Chapter Display and Operation Units - Pushbutton accessories
The matching design frame must be ordered separately. See Chapter Display and Operation Units - Pushbutton accessories.

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**UP 258.B..1**

### Presence detectors

- Used as passive infrared detector for indoor ceiling installation
- Sensing range, horizontal 360 °, vertical approx. 100°, rotating/swiveling sensor head, optionally for shading off parts of the sensing range
- For monitoring an area for presence up to approx. 6 x 3.5 m, for a mounting height of 2.8 m (presence detection), motion detection up to 5 x 3.5 m
- Mixed light measurement, measuring range 20…1000 lux
- Presence detection for three function blocks (presence detector, motion detector and HVAC detector)
- Functions: Switching on/off, 8-bit value, 16-bit value, temperature value, brightness value, 8-bit scene control
- Blocking object per function module
- Adjustable delay time per function module, which can be optionally set to a fixed time, or two times that can be switched between via bus, or set to one value via bus
- Parallel operation of several presence detectors (master-slave, master-master) without logic modules
- Integrated IR receiver for S 255/11 IR remote control with six pushbutton pairs (see accessories)
- In the case of individual pushbuttons, selectable function per pushbutton: Switching Over, Switching On, Switching Off, call up 8-bit scene, 8-bit value, 16-bit value, temperature value, brightness value
- In the case of pushbutton pairs, selectable function Switching on/off, switching over/over, 2-pushbutton dimming with stop telegram, 2-pushbutton sun protection control, transmit variable 8-bit value, 8-bit scene control
- Blocking object for IR receiver decoder
- LED for display of detected motions in test mode
- Mounting on the ceiling in a flush-mounting device box with 60 mm diameter and at least 40 mm mounting depth, or in an AP 258E surface-mounting enclosure, which must be ordered separately (see accessories)

Dimension (Ø x H)                88 x 63 mm

### Range overview UP 258.B..1

| Product Title | Stock No. | Product No. |
|---|---|---|
| Presence detector with brightness sensor | 5WG1258-2EB21 | **UP 258E21** |
| Motion detector with brightness sensor | 5WG1258-2DB11 | **UP 258D11** |

### Accessories for UP 258.B..1

**S 255/11**

### IR remote control accessories for UP 258E21 or UP 258D11

- 6 pushbutton pairs for the remote control of lighting, shutter/blinds and scenes via UP 258E21 or UP 258D11 presence detector
- Parameterization is via ETS in the 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

Dimensions (W x H x D)        40 x 87 x 6 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1255-7AB11 | **S 255/11** |

## Surface-mounting enclosures for UP 258E21 or UP 258D11

AP 258E01

For fixing the presence detector as a surface mounting device

Dimensions (Ø x H)                    88 x 44 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1258-7EB01 | **AP 258E01** |

| AP 251 | **Motion detector** |

- To detect and report motion, optionally with or without a brightness threshold taken into consideration
- Sensing angle 290°, including masking to limit the capture zone, range at least 16 m (radius) with mounting height 2...4 m and at 22 °C
- Integrated infrared receiver to set brightness threshold and delay time, as well as operating mode (test mode, standard mode, pulse mode) via an infrared remote control
- Blocking and release of reporting mode through a communication object
- Bus-powered electronics
- Integrated bus coupling units, Bus connection via bus terminal
- Device for wall or ceiling mounting
- Degree of protection IP 55 zur Montage auch im Außenbereich

Dimensions (W x H x D)          180 x 86 x 74 mm

## Range overview AP 251

| Product Title | Stock No. | Product No. |
| --- | --- | --- |
| Motion detector IP55, titanium white | 5WG1251-3AB11 | **AP 251/11** |
| Motion detector IP55, anthracite | 5WG1251-3AB21 | **AP 251/21** |

## Accessories for AP 251

| 5TC7900 | **Special base, accessory for AP 251 surface-mounting motion detectors, IP55, titanium white (similar to RAL9010)** |

- For outside or inside-angle mounting
- Cable entry surface or flush-mounted
- Titanium white

Dimensions (W x H x D)          88 x 64 x 105 mm

| | Stock No. | Product No. |
| --- | --- | --- |
| | 5TC7900 | **5TC7900** |

| 5TC7901 | **Special base, accessory for AP 251 surface-mounting motion detectors, IP55, anthracite** |

- For outside or inside-angle mounting
- Cable entry surface or flush-mounted
- Anthracite

Dimensions (W x H x D)          88 x 64 x 105 mm

| | Stock No. | Product No. |
| --- | --- | --- |
| | 5TC7901 | **5TC7901** |

**IR remote control accessory for motion detectors AP 251 and 5TC721..**     **5TC7902**

- Infrared remote control
- Range: Approx. 5 m
- Functions
- Vacation function / Presence
- Continuous on (4h) / Normal mode
- Test mode
- Programming of the currently measured brightness value and the overrun time of 5s to 30 min
- Direct selection of an overrun time of 10 min
- Switchover to brightness-independent mode and pulse mode
- Resetting of detector to 7 lux and 2 min delay time
- Power supply through CR2025 lithium button cell, included in delivery

Dimensions (W x H x D)            40 x 87 x 6 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5TC7902 | **5TC7902** |

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**UP 255/11, AP 255/12, GE 255/13**

### Brightness controller

- For measuring the brightness on an illuminated work area through measurement of the reflected light
- Measuring range 0...2000 lux (with a reflectance of the illuminated area of approx. 30%)
- Including two rigid optical fiber rods:
- Parallel light-sensitive surface for mounting surface
- Inclined (30°) light-sensitive surface for mounting surface
- Integrated infrared receiver for calibration of the brightness measurement via the S 255 infrared remote calibration tool
- Transmission of the brightness measured value, either in the event of change and/or cyclically
- Discretionary set-point as a parameter or a communication object
- Optional two-step dimmer control for lights that can only be switched or constant light level control for lights that can be switched and dimmed
- Selectable starting value of the lighting at the start of constant light level control
- Optionally with dimming of up to 4 further lighting groups to the dimming value of the constant light level control or a dimming value that differs from the dimming value of the constant light level controller by an offset value, which can be set per group
- The constant light level control is automatically deactivated by manually dimming, or by dimming to a preset value
- Configurable behavior in the event of a bus voltage recovery

### Range overview UP 255/11, AP 255/12, GE 255/13

| Product Title | Dimension (Ø x H) | Dimensions (W x H x D) | Stock No. | Product No. |
|---|---|---|---|---|
| Brightness controller | 75 x 27 mm | | 5WG1255-4AB12 | **AP 255/12** |
| UP-Brightness-controller | 75 x 20 mm | | 5WG1255-4AB11 | **UP 255/11** |
| Brightness controller | | 50 x 35 x 20 mm | 5WG1255-4AB13 | **GE 255/13** |

### Accessories for UP 255/11, AP 255/12, GE 255/13

**S 255/01**

### IR remote calibration, accessories for UP 255/11, AP 255/12, GE 255/13

- Range: up to approx. 4.5 m
- Power supply: CR2025 lithium button cell (included in delivery)
- Degree of protection (acc. to EN 60529): IP40

Dimensions (W x H x D)                    40 x 86 x 6 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1255-7AB01 | **S 255/01** |

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## 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

Dimensions (W x H x D)                72 x 110 x 54 mm

Light level control modules N 342 see chapter Lighting - Light level controls

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1254-3EY02 | **AP 254/02** |

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**AP 257/42**

**Wind sensor**

- Windspeed Measuring range 0...35 m/s
- Recording, querying and resetting the maximum wind speed
- Automatic indication in the event of a defective sensor
- Mast mountings
- Limit value monitoring (3 limit values)
- Transmission of sensor values via bus
- Logic operations (8 AND, 8 OR)
- Electronics powered via an external power supply unit
- Integrated bus coupling units, bus connection via bus terminal
- Surface mounting, degree of protection IP44

Dimensions (W x H x D)          96 x 77 x 118 mm

The 4AC2402 electronic power supply unit is recommended.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1257-3AB42 | **AP 257/42** |

**Accessories for AP 257/..2**

| Product Title | Stock No. | Product No. |
|---|---|---|
| Electronic power supply units | 4AC2402 | **4AC2402** |

## Water sensor, DELTA profil, titanium white

**UP 272/11**

- For detecting water in rooms with risk of leakages
- With water sensor for mounting near the ground with a 2 m long connecting lead (extendable to max. 20 m) with jack plug and a flush-mounting device
- For plugging onto a UP 110 bus coupling unit
- Indication of water/no water
- Alarm indication with adjustable cyclic transmission time
- Indication of defective device / cable
- Alarm indication for resetting the alarm
- Bus-powered electronics

Dimensions (W x H x D)             65 x 65 x 42 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1272-2AB11 | **UP 272/11** |

---

| N 258/02 | **Temperature sensor 4 x Pt1000** |
|---|---|

- For four Pt1000 sensors
- For the measurement and transmission of 4 temperatures in the range -40...+150 °C
- For connection of four Pt1000 temperature sensors2), each via a 2-wire cable up to 50 m in length
- Configurable smoothing of a measured value through mean value generation
- Monitoring of a lower and upper limit value for each measured value, with configurable hysteresis for limit value signals
- Electronics powered via an integrated power supply unit for 230 V AC
- Green LED for displaying ready-to-run status
- 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

Dimension width (1 MW = 18 mm)          4 MW

The accompanying physical sensors must be ordered separately. See chapter Physical sensors - sensors without KNX connection.
The data rail must be ordered separately. See chapter System Products and Accessories - data rails.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1258-1AB02 | **N 258/02** |

---

| 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

Dimensions (W x H x D)          72 x 110 x 54 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1254-3EY02 | **AP 254/02** |

## Front modules for base modules                    AQR253..

| | |
|---|---|
| Color | Titanium white |
| Degree of protection | IP30 |
| Dimensions (W x H) | 55 x 55 mm |

### Range overview AQR253..

| Measuring range, tempera-ture | Signal output temperature | Measurement range humidity | Stock No. | Product No. |
|---|---|---|---|---|
| | | | S55720-S137 | **AQR2530NNW** |
| 0...50 °C | Active | | S55720-S136 | **AQR2532NNW** |

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

## Base module with KNX for temperature and humidity measurement    AQR2570..

- The room sensor for flush mounting consists of a base - and front module
- Temperature control as continuous control (PID algorithm) for pure heating operation, heating and cooling operation, and adjustable control value as continuous control value 0...100%, or as pulse-width modulated (PWM) switching signal On/Off
- Ventilation control across 3 settable switching points for relative humidity, and 3 switching signal objects On/Off, or one control value object 0...100% to control a ventilation actuator
- Setpoints for room temperature and relative humidity adjustable via KNX bus
- 1 analog input to connect temperature sensors with NTC 10k sensing element to measure room, floor, or ceiling temperature
- 2 multi-functional binary inputs to control window contacts or switches for blinds and/or lighting control
- Settable commissioning and control parameters
- Power supply via KNX-bus, bus load < 5 mA
- Integrated bus coupler with programming button and LED

| | |
|---|---|
| Voltage supply | KNX bus |
| Analog inputs | Passive temperature sensor NTC 10k |
| Analog inputs, number | 1 |
| Digital inputs | Potential-free contacts |
| Digital inputs, number | 2 |
| Connection, electrical | Bus connection: spring terminal<br> sensor inputs: 4 screw terminals |

### 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** |
| UK (British Standard) | 83 x 83 mm | S55720-S204 | AQR2570NH |
| IT (3 Modular) | 110 x 64 mm | S55720-S205 | **AQR2570NG** |
| US (UL) | 64 x 110 mm | S55720-S206 | AQR2570NJ |

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| QMX3.. | **Wall-mounted room sensors and operator units for KNX** |

The wall-mounted room unit QMX3.. consists of:
- Base plate
- Sensor or room operator unit

The following functions are (depending on type):
- Temperature sensor or multisensor (T, r.h., CO2)
- Backlit display or LED display
- Touchkeys
- Switching and control of lighting, blinds, scenes

- 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
- Output for 1, 2, or 3-stage fans (humidity and CO2)
- Output for 1, 2, or 3-point positioning signal (humidity and CO2)
- Setpoint for room temperature and relative humidity and CO2 concentration adjustable via KNX

| Measuring range, temperature | 0...50 °C |
| Sensing element, temperature | NTC |
| Degree of protection | IP30 |
| Mounting | Wall-mounting |
| Dimensions (W x H x D) | 88.4 x 133.4 x 18 mm |

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| QMX3.P30 | **Room sensor KNX for temperature** |

Functions:
- Temperature sensor

| | Stock No. | Product No. |
|---|---|---|
| | S55624-H103 | **QMX3.P30** |

## Room sensor KNX for temperature, humidity, CO2

QMX3.P70

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
- Output for 1, 2, or 3-stage fans (humidity and CO2)
- Output for 1, 2, or 3-point positioning signal (humidity and CO2)
- Setpoint for room temperature and relative humidity and CO2 concentration adjustable via KNX

| | Stock No. | Product No. |
|---|---|---|
| | S55624-H104 | **QMX3.P70** |

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## AQR253..

### Front modules for base modules

| | |
|---|---|
| Color | Titanium white |
| Degree of protection | IP30 |
| Dimensions (W x H) | 55 x 55 mm |

### Range overview AQR253..

| Measuring range, temperature | Signal output temperature | Measurement range humidity | Stock No. | Product No. |
|---|---|---|---|---|
| | | 0...100 % | S55720-S140 | **AQR2533NNW** |
| 0...50 °C | Active | 0...100 % | S55720-S141 | **AQR2535NNW** |

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

## AQR2570..

### Base module with KNX for temperature and humidity measurement

- The room sensor for flush mounting consists of a base - and front module
- Temperature control as continuous control (PID algorithm) for pure heating operation, heating and cooling operation, and adjustable control value as continuous control value 0...100%, or as pulse-width modulated (PWM) switching signal On/Off
- Ventilation control across 3 settable switching points for relative humidity, and 3 switching signal objects On/Off, or one control value object 0...100% to control a ventilation actuator
- Setpoints for room temperature and relative humidity adjustable via KNX bus
- 1 analog input to connect temperature sensors with NTC 10k sensing element to measure room, floor, or ceiling temperature
- 2 multi-functional binary inputs to control window contacts or switches for blinds and/or lighting control
- Settable commissioning and control parameters
- Power supply via KNX-bus, bus load < 5 mA
- Integrated bus coupler with programming button and LED

| | |
|---|---|
| Voltage supply | KNX bus |
| Analog inputs | Passive temperature sensor NTC 10k |
| Analog inputs, number | 1 |
| Digital inputs | Potential-free contacts |
| Digital inputs, number | 2 |
| Connection, electrical | Bus connection: spring terminal sensor inputs: 4 screw terminals |

### 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** |
| UK (British Standard) | 83 x 83 mm | S55720-S204 | **AQR2570NH** |
| IT (3 Modular) | 110 x 64 mm | S55720-S205 | **AQR2570NG** |
| US (UL) | 64 x 110 mm | S55720-S206 | **AQR2570NJ** |

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## Room sensor KNX for temperature, humidity, CO2

QMX3.P70

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
- Output for 1, 2, or 3-stage fans (humidity and CO2)
- Output for 1, 2, or 3-point positioning signal (humidity and CO2)
- Setpoint for room temperature and relative humidity and CO2 concentration adjustable via KNX

Dimensions (W x H x D)            88.4 x 133.4 x 18 mm

| | Stock No. | Product No. |
|---|---|---|
| | S55624-H104 | **QMX3.P70** |

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## AQR253..

### Front modules for base modules

| | |
|---|---|
| Color | Titanium white |
| Degree of protection | IP30 |
| Dimensions (W x H) | 55 x 55 mm |

### Range overview AQR253..

| Measuring range, temperature | Signal output temperature | Measurement range humidity | Display | Stock No. | Product No. |
|---|---|---|---|---|---|
| | | | | S55720-S137 | **AQR2530NNW** |
| 0...50 °C | Active | | | S55720-S136 | **AQR2532NNW** |
| | | 0...100 % | | S55720-S140 | **AQR2533NNW** |
| 0...50 °C | Active | 0...100 % | | S55720-S141 | **AQR2535NNW** |
| 0...50 °C | Active | 0...100 % | CO2 indicator by LED | S55720-S219 | **AQR2535NNWQ** |

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

## AQR2576..

### Base modules with KNX for CO$_2$ measurement

- The room sensor for flush mounting consists of a base - and front module
- Integrated maintenance- and recalibration-free CO2 sensor
- Ventilation control across 3 settable switching points for relative humidity and CO2-concentration, and 3 switching signal objects On/Off, or one control value object 0...100% to control a ventilation actuator
- Setpoints for room temperature,relative humidity and CO2-concentration adjustable via KNX bus
- Temperature control as continuous control (PID algorithm) for pure heating operation, heating and cooling operation, and adjustable control value as continuous control value 0...100%, or as pulse-width modulated (PWM) switching signal On/Off
- 1 analog input to connect temperature sensors with NTC 10k sensing element to measure room, floor, or ceiling temperature
- 2 multi-functional binary inputs to control window contacts or switches for blinds and/or lighting control
- Settable commissioning and control parameters
- Power supply via KNX-bus, bus load < 15 mA
- Integrated bus coupler with programming button and LED

| | |
|---|---|
| Voltage supply | KNX bus |
| Analog inputs | Passive temperature sensor NTC 10k |
| Analog inputs, number | 1 |
| Digital inputs | Potential-free contacts |
| Digital inputs, number | 2 |
| Measuring range | CO$_2$: 0...5000 ppm |
| Connection, electrical | Bus connection: spring terminal<br>sensor inputs: 4 screw terminals |

### 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** |
| UK (British Standard) | 83 x 83 mm | S55720-S208 | **AQR2576NH** |
| IT (3 Modular) | 110 x 64 mm | S55720-S209 | **AQR2576NG** |
| US (UL) | 64 x 110 mm | S55720-S210 | **AQR2576NJ** |

## Room sensor KNX for temperature, humidity, CO2

QMX3.P70

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
- Output for 1, 2, or 3-stage fans (humidity and CO2)
- Output for 1, 2, or 3-point positioning signal (humidity and CO2)
- Setpoint for room temperature and relative humidity and CO2 concentration adjustable via KNX

Dimensions (W x H x D)          88.4 x 133.4 x 18 mm

| | Stock No. | Product No. |
|---|---|---|
| | S55624-H104 | **QMX3.P70** |

| AQR2531BNW | **Front module with passiv temperature measurement, Pt1000** |
|---|---|

Front module with passiv sensor.

| Dimensions (W x H) | 55 x 55 mm |
|---|---|

Connectable with temperature sensor N 258/02 (5WG1258-1AB02), see chapter Physical Sensors - with KNX connection.

The matching design frame must be ordered separately. See chapter Diesplay and Operation untis. The matching mounting plates must be ordered separately.

| | Stock No. | Product No. |
|---|---|---|
| | S55720-S134 | **AQR2531BNW** |

**Accessories mounting plates for front modules AQR2531..**

| AQR2500NF | **Mounting plate EU (CEE/VDE)** |
|---|---|

| Dimensions (W x H) | 70.8 x 70.8 mm |
|---|---|

| | Stock No. | Product No. |
|---|---|---|
| | S55720-S161 | **AQR2500NF** |

| AQR2500NG | **Mounting plate IT (3 modular)** |
|---|---|

| Dimensions (W x H) | 110 x 64 mm |
|---|---|

| | Stock No. | Product No. |
|---|---|---|
| | S55720-S163 | **AQR2500NG** |

| AQR2500NH | **Mounting plate UK (British Standard)** |
|---|---|

| Dimensions (W x H) | 83 x 83 mm |
|---|---|

| | Stock No. | Product No. |
|---|---|---|
| | S55720-S162 | **AQR2500NH** |
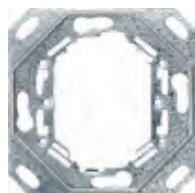
**11**
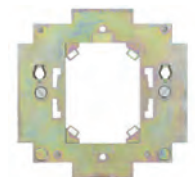
## Mounting plate US (UL)

**AQR2500NJ**

Dimensions (W x H)                64 x 110 mm

| | Stock No. | Product No. |
|---|---|---|
| | S55720-S164 | **AQR2500NJ** |

## Front module for base module, temperature (active)

**AQR2532NNW**

Front module for base module with temperature sensor (active)

Dimensions (W x H x D)            55 x 55 mm

The matching design frame must be ordered separately. See chapter Diesplay and Operation untis.

| | Stock No. | Product No. |
|---|---|---|
| | S55720-S136 | **AQR2532NNW** |

## Base modules for temperature and humidity measurement

**AQR2540..**

| | |
|---|---|
| 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 |
| Connection, electrical | Screw terminals |

### 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** |
| UK (British Standard) | 83 x 83 mm | S55720-S143 | **AQR2540NH** |
| IT (3 modular) | 110 x 64 mm | S55720-S144 | **AQR2540NG** |

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**QAA2012**  **Room temperature sensor Pt1000**

Dimensions (W x H x D)          90 x 100 x 32 mm

Connectable with temperature sensor N 258/02 (5WG1258-1AB02), see chapter Physical Sensors - with KNX connection.

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:QAA2012 | **QAA2012** |

**QAA20..1**  **Room temperature sensor, active**

| Measuring range | 0...50 °C |
|---|---|
| Measurement accuracy | at AC 24 V in the range of |
| | -25 °C...+25 °C  ± 0.75 K |
| | -50 °C...+50 °C  ±0.9 K |
| Time constant | 7 min |
| 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 | Display | Stock No. | Product No. |
|---|---|---|---|---|
| DC 0...10 V | AC 24 V DC 13.5...35 V | | BPZ:QAA2061 | **QAA2061** |
| DC 0...10 V | AC 24 V DC 13.5...35 V | LCD | BPZ:QAA2061D | **QAA2061D** |

**QAD2012**  **Strap-on temperature sensor Pt1000**

Dimensions (W x H x D)          60 x 67 x 43 mm

Connectable with temperature sensor N 258/02 (5WG1258-1AB02), see chapter Physical Sensors - with KNX connection.
Inclusive mounting accessories

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:QAD2012 | **QAD2012** |

**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.

Dimensions (W x H x D)          80 x 92 x 50 mm

Connectable with temperature sensor N 258/02 (5WG1258-1AB02), see chapter Physical Sensors - with KNX connection.

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:QAC2012 | **QAC2012** |

## Outside / room temperature sensor DC 0..10V

QAC3161

Active sensor for acquiring the outside temperature. For use in heating, ventilation and air conditioning plants.

Dimensions (W x H x D)                80 x 88 x 39 mm

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:QAC3161 | **QAC3161** |

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| AQR253.. | **Front modules for base modules** |
|---|---|

Front modules without sensor or with humidity and / or temperature sensors.

| Color | Titanium white |
|---|---|
| Degree of protection | IP30 |
| Dimensions (W x H) | 55 x 55 mm |

### Range overview AQR253..

| Measuring range, temperature | Signal output temperature | Measurement range humidity | Stock No. | Product No. |
|---|---|---|---|---|
| | | 0...100 % | S55720-S140 | **AQR2533NNW** |
| 0...50 °C | Active | 0...100 % | S55720-S141 | **AQR2535NNW** |

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

| AQR2540.. | **Base modules for temperature and humidity measurement** |
|---|---|

| 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 |
| Connection, electrical | Screw terminals |

### 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** |
| UK (British Standard) | 83 x 83 mm | S55720-S143 | **AQR2540NH** |
| IT (3 modular) | 110 x 64 mm | S55720-S144 | **AQR2540NG** |

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## Room sensor for rel. humidity / temperature

QFA20..

For relative humidity and temperature

| | |
|---|---|
| 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 |
| Degree of protection | IP30 |

### Range overview QFA20..

| Signal output humidity | Signal output temperature | Operating voltage | Measuring range, temperature | Display | Stock No. | Product No. |
|---|---|---|---|---|---|---|
| DC 0...10 V | | AC 24 V DC 13.5...35 V | | | BPZ:QFA2000 | **QFA2000** |
| DC 0...10 V | DC 0...10 V | AC 24 V DC 13.5...35 V | 0...50 °C -35...35 °C -40...70 °C | | BPZ:QFA2060 | **QFA2060** |
| DC 0...10 V | DC 0...10 V | AC 24 V DC 13.5...35 V | 0...50 °C -35...35 °C -40...70 °C | LCD | BPZ:QFA2060D | **QFA2060D** |

## Room hygrostat, setpoint setting range 30...90 % r.h., setpoint adjuster inside device

QFA1000

2-position controller with humidity sensor
Setpoint adjuster inside device

| | |
|---|---|
| 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** |

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| QFA1001 | **Room hygrostat, setpoint setting range 30...90 % r.h., external setpoint adjustment** |
|---|---|

2-position controller with humidity sensor
External setpoint adjustment

| 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:QFA1001 | **QFA1001** |

| QXA26.. | **Condensation monitor** |
|---|---|

For monitoring and preventing condensation in buildings with chilled ceilings or in ventilation, air conditioning and heating plant.

| Digital outputs | 1-pin |
|---|---|
| | Potential-free |
| | Changeover contact |
| Switching point | 92 ±4 % r.h. |
| Connection, electrical | Spring-type terminal |
| Degree of protection | IP54 |
| Dimensions (W x H x D) | 72 x 76 x 43 mm |

**Range overview QXA26..**

| Product Title | Stock No. | Product No. |
|---|---|---|
| Condensation monitor, AC/DC 24 V | S55770-T325 | **QXA2601** |
| Condensation monitor, AC/DC 24 V, with remote sensor head (cable length 1.5 m) | S55770-T326 | **QXA2602** |

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## Front modules for base modules

AQR253..

Front modules without sensor or with humidity and / or temperature sensors.

| | |
|---|---|
| Color | Titanium white |
| Degree of protection | IP30 |
| Dimensions (W x H) | 55 x 55 mm |

### Range overview AQR253..

| Measuring range, temperature | Signal output temperature | Measurement range humidity | Stock No. | Product No. |
|---|---|---|---|---|
| | | | S55720-S137 | **AQR2530NNW** |
| 0...50 °C | Active | | S55720-S136 | **AQR2532NNW** |
| | | 0...100 % | S55720-S140 | **AQR2533NNW** |
| 0...50 °C | Active | 0...100 % | S55720-S141 | **AQR2535NNW** |

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

## Base modules with integrated VOC measurement

AQR2547..

| | |
|---|---|
| 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 | VOC: 0...100 % |
| Connection, electrical | Screw terminals |

### 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** |
| UK (British Standard) | 83 x 83 mm | S55720-S149 | **AQR2547NH** |
| IT (3 modular) | 110 x 64 mm | S55720-S152 | **AQR2547NG** |

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| AQR2546.. | Base modules with integrated $CO_2$ measurement | |
|---|---|---|

|  | 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 | $CO_2$: 0...2000 ppm |
|  | Connection, electrical | Screw terminals |

**Range overview AQR2546..**

| Mechanical design | Dimensions (W x H) | Stock No. | Product No. |
|---|---|---|---|
| EU (CEE/VDE) | 70.8 x 70.8 mm | S55720-S147 | **AQR2546NF** |
| UK (British Standard) | 83 x 83 mm | S55720-S150 | **AQR2546NH** |
| IT (3 modular) | 110 x 64 mm | S55720-S153 | **AQR2546NG** |

| AQR2548.. | Base modules with integrated $CO_2$ and VOC measurement | |
|---|---|---|

|  | 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 | $CO_2$ + VOC: 0...100 % |
|  |  | $CO_2$: 0...2000 ppm |
|  | Connection, electrical | Screw terminals |

**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** |
| UK (British Standard) | 83 x 83 mm | S55720-S151 | **AQR2548NH** |
| IT (3 modular) | 110 x 64 mm | S55720-S154 | **AQR2548NG** |

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## Room air quality sensor $CO_2$ / temperature / rel. Humidity / VOC

QPA..

| | |
|---|---|
| Operating voltage | AC 24 V |
| | DC 15...35 V |
| Power consumption | 2 VA |
| Analog output, signal | DC 0...5 V |
| | DC 0...10 V |
| 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 |
| Time constant | $CO_2$: <5 min |
| | Humidity: <20 s |
| | Temperature: <8.5 min |

Note:Not suited for safety-related applications!

### Range overview QPA..

| Measuring range | Measuring range, temperature | Measurement range humidity | Display | Stock No. | Product No. |
|---|---|---|---|---|---|
| $CO_2$: 0...2000 ppm | | | | BPZ:QPA2000 | **QPA2000** |
| $CO_2$: 0...2000 ppm $CO_2$+VOC: 0...2000 ppm | | | | BPZ:QPA2002 | **QPA2002** |
| $CO_2$: 0...2000 ppm | 0...50 °C -35...35 °C | | | BPZ:QPA2060 | **QPA2060** |
| $CO_2$: 0...2000 ppm | 0...50 °C -35...35 °C | 0...95 % r.H. | | BPZ:QPA2062 | **QPA2062** |
| $CO_2$: 0...2000 ppm | 0...50 °C -35...35 °C | 0...95 % r.H. | LCD | BPZ:QPA2062D | **QPA2062D** |

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**QLS60**

**Solar sensor**

For measuring the solar radiation intensity.

| | |
|---|---|
| Operating voltage | AC 24 V |
| | DC 18...30 V |
| Power consumption | 2.5 VA |
| Analog output, signal | DC 0...10 V |
| | DC 4...20 mA |
| Measuring range | 0...1000 W/m² |
| Time constant | ≤2 s |
| Connection, electrical | Screw terminals |
| Degree of protection | IP65 |
| Dimensions (W x H x D) | 51 x 92 x 46 mm |

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:QLS60 | **QLS60** |

**11**

# Control and Automation Devices

**12**

## Logic and control functions

| Type | N 152/01 | N 305/01 | N 350E [1] | N 302/01 | N301/01 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Application program [2] | 983501 | 750005 | 908701 | 740202 | 720101 | 740301 | 740A01 | 740B01 | 740C01 | 740D01 |
| **Enclosure data** | | | | | | | | | | |
| Modular installation devices for mounting on TH35 EN 60715 mounting rail Width (1 MW = 18 mm) | 4 MW | 1 MW | 4 MW | 1 MW | 1 MW | | | | | |
| Ethernet connection via RJ45 socket | ■ | | ■ | | | | | | | |
| **Power supply** | | | | | | | | | | |
| Bus-powered electronics | | ■ | | ■ | | | ■ | | | |
| Electronics powered via an external power supply unit [V] | DC 12...30 | | AC/DC 12...30 | | | | | | | |
| **Bus connection** | | | | | | | | | | |
| Integrated bus coupling units | ■ | ■ | ■ | ■ | | | ■ | | | |
| Bus connection via bus terminal | ■ | ■ | ■ | | | | | | | |
| Bus connecion via contact system to data rail | | ■ | | ■ | | | ■ | | | |
| **Functions** | | | | | | | | | | |
| Configurable inverting of inputs | | | 80 | 4 | 8 | 4 | | | | |
| Configurable inverting of outputs | | | 30 | 4 [3] | 2 [3] | 4 [3] | | | | |
| Logic gate | 1.000 | | 30 | | 2 | | | | | |
| Partition control | | | | | | | ■ | ■ | ■ | |
| Forced control | | | | | | | | | | ■ |
| Scheduled entries | 300 [4] | | 100 | | | | | | | |
| Master clock (time source) | ■ [5] | | ■ | | | | | | | |
| Astro function | | | ■ | | | | | | | |
| Event entries | 5.000 [6] | 80 [7] | 200 | | | | | | | |
| Scenes | 5.000 [6] | 8 | | | | | | | | |
| Effect control | 5.000 [6] | | | | | | | | | |
| Alarms | 250 | | | | | | | | | |
| Email contacts | 20 | | | | | | | | | |

[1] The software required for parameter assignment via the Ethernet interface is available on CD-ROM and is included in delivery, or can be downloaded at www.siemens.de/gamma-de/gamma-td.

[2] For current application programs see www.siemens.de/gamma-td.

[3] Transmitter filter.

[4] Per week.

[5] Via time server.

[6] The sum of event entries, scenes and effects can be 5.000 maximum.

[7] 10 entries per trip unit (8).

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## Programmable logic controllers

| Type | Basic modules | | Expansion modules | | | | |
|---|---|---|---|---|---|---|---|
| | LOGO! 230RC 230RCE | LOGO! 12/24RC 12/24RCE | LOGO! DM8 230R | LOGO! DM8 12/24R | LOGO! AM2 | LOGO! AM2 RTD | LOGO! AM2 AQ |
| **Enclosure data** | | | | | | | |
| Can be used for LOGO! 230RC | | | ▪ | | ▪ | ▪ | ▪ |
| Can be used for LOGO! 12/24RC | | | | ▪ | ▪ | ▪ | ▪ |
| Modular installation devices for mounting on TH35 EN 60715 mounting rail | ▪ | ▪ | ▪ | ▪ | ▪ | ▪ | ▪ |
| **Dimensions** | | | | | | | |
| • Width [mm] (1 TE = 18 mm) | 4 MW | 4 MW | 2 MW | 2 MW | 2 MW | 2 MW | 2 MW |
| • Height [mm] | | | | | | 36 | 36 |
| • Depth [mm] | | | | | | 55 | 55 |
| **Power supply** | | | | | | | |
| Power supply 115…230 V AC/DC | ▪ | | ▪ | | | | |
| Power supply 12…24 V DC | | ▪ | | ▪ | ▪ | ▪ | ▪ |
| **Inputs** | | | | | | | |
| **Pushbutton inputs** | | | | | | | |
| For voltage input<br>• 230 V<br>• 12/24 V | 8 | 8 (4)[1] | 4 | 4 | | | |
| **Control inputs** | | | | | | | |
| Analog input (0…10 V or 4…20 mA) | 4 x 0…10 V | | | | 2 | | |
| **Sensor inputs** | | | | | | | |
| Temperature sensor input PT100 and/or PT1000 automatic detection | | | | | | 2 | |
| Measuring range [°C] | | | | | | -50…+200 | |
| **Outputs** | | | | | | | |
| **Control outputs** | | | | | | | |
| Analog output 0…10 V and/or 0/4…20 mA | | | | | | | 2 |
| **Load output** | | | | | | | |
| Floating relay contact | 4 | 4 | 4 | 4 | | | |
| Rated contact voltage, AC [V] | 230 | 230 | 230 | 230 | | | |
| Rated contact current [A] | 10 | 10 | 5 | 5 | | | |

[1] 8 digital inputs, of which 4 can be used as analog inputs 0…10 V.

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**Notes**

## IP Control Center

N 152/01

Visualization controller for full-graphic visualizations on web-compatible end devices such as PCs, laptops, tablets and smart phones with a standard web browser.
- Web server to operate and monitor up to 250 transmitted operation states and values
- Web editor for graphic engineering of web visualization and application modules such as:
- Scheduler program with up to 300 editable commands per week
- Scene module with up to 5,000 scenes or events
- Full-graphic logic module providing up to 1,000 logic functions
- Alarm function for up to 250 different alarm messages
- E-mail function with up to 20 contacts
- Special web site relating to firmware upgrade
- KNXnet/IP interface to parameterize a KNX plant
- Ethernet interface 10/100 Mbits/s with RJ45 socket for connection to the IP network through the internet protocol
- 2 LEDs for indication of IP connection/communication and error messages
- Built-in bus coupler and bus terminal for connection to a KNX network
- Power supply for electronics via external DC 24 V power source. Connection of external power source via low-voltage terminal
- Device for top hat rail mounting on TH35 rails conforming to DIN EN 60715

Dimension width (1 MW = 18 mm)    4 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1152-1AB01 | N 152/01 |

## 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

Dimension width (1 MW = 18 mm)    1 MW

The optional data rail must be ordered separately. See chapter System Products and Accessories - data rails.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1305-1AB01 | N 305/01 |

**NEW PRODUCT**

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**N 350E01**

### IP controller

- LEDs for indicating that the device is ready-to-run, KNX communication, IP communication
- LC-Display
- Electronics powered via an external nominal 24 V AC/DC power supply unit
- Integrated bus coupling units
- Bus connection via bus terminal
- Ethernet connection via RJ45 socket
- Plug-in terminal block for the connection of an external power supply unit
- Supports KNXnet/IP
- 1 Interface functions (Tunneling)
- 1 Interface functions (object server)
- Integrated real-time clock weekly scheduling program for 100 scheduled entries/Astro function
- Yearly time switching functions
- 200 Event entries
- 30 Logic gates
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)        4 MW

The external 24 V AC/DC power supply unit must be ordered separately (e. g. 4AC2402).

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1350-1EB01 | **N 350E01** |

### Accessories for N 350E01

| Product Title | Stock No. | Product No. |
|---|---|---|
| Electronic power supply units | 4AC2402 | **4AC2402** |

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**N 302/01**

### Time module

- 4 Configurable inverting of inputs (virtual)
- 4 configurable inverting outputs
- Configurable transmission conditions
- Time functions: on-/off delay, timer mode
- Bus-powered electronics
- Integrated bus coupling units, Bus connection via contact system to data rail
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)        1 MW

The optional data rail must be ordered separately. See chapter System Products and Accessories - data rails.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1302-1AB01 | **N 302/01** |

## Logic module

N 301/01

- 8 configurable inverting of inputs (virtual)
- 4 configurable inverting of outputs
- 2 user-definable logic gates
- Positively driven on/off switching of loads (4 channels)
- Partition control: 4 partition inputs, 4 controllable rooms, switching commands (2 x 1 bit), brightness values (1 byte), switch/dimming commands (1 bit, 4 bit)
- Bus-powered electronics
- Integrated bus coupling units, Bus connection via contact system to data rail
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)          1 MW

The data rail must be ordered separately. See chapter System Products and Accessories - data rails.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1301-1AB01 | **N 301/01** |

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| 230RC | **LOGO! 230RC** |
|---|---|
| | • Power supply 115/230 V AC/DC |
| | • 8 digital inputs 115/230 V AC/DC |
| | • 4 floating relay contacts 10 A |
| | • Integrated time switch |
| | • 200 function blocks linkable |
| | • Expandable with extra modules |
| | • Programming cable: LOGO! PC cabel (RS232 or USB) |

Dimension width (1 MW = 18 mm)        4 MW

| | | Stock No. | Product No. |
|---|---|---|---|
| | | 6ED1052-1FB00-0BA6 | **230RC** |

| 230RCE | **LOGO! 230RCE** |
|---|---|
| | • Power supply 115/230 V AC/DC |
| | • 8 digital inputs 115/230 V AC/DC |
| | • 4 floating relay contacts 10 A |
| | • Integrated time switch |
| | • 200 function blocks linkable |
| | • Expandable with extra modules |
| | • Programming cable: Ethernet |

Dimension width (1 MW = 18 mm)

| | | Stock No. | Product No. |
|---|---|---|---|
| | | 6ED1052-1FB00-0BA7 | **230RCE** |

| 12/24RC | **LOGO! 12/24RC** |
|---|---|
| | • Power supply 12/24 V DC |
| | • 8 digital inputs, of which 4 can be used as analog inputs (0…10 V) |
| | • 4 floating relay contacts 10 A |
| | • Integrated time switch |
| | • 200 function blocks linkable |
| | • Expandable with extra modules |
| | • Programming cable: LOGO! PC cabel (RS232 or USB) |

Dimension width (1 MW = 18 mm)        4 MW

| | | Stock No. | Product No. |
|---|---|---|---|
| | | 6ED1052-1MD00-0BA6 | **12/24RC** |

| 12/24RCE | **LOGO! 12/24RCE** |
|---|---|
| | • Power supply 12/24 V DC |
| | • 8 digital inputs, of which 4 can be used as analog inputs (0…10 V) |
| | • 4 floating relay contacts 10 A |
| | • Integrated time switch |
| | • 200 function blocks linkable |
| | • Expandable with extra modules |
| | • Programming cable: Ethernet |

Dimension width (1 MW = 18 mm)

| | | Stock No. | Product No. |
|---|---|---|---|
| | | 6ED1052-1MD00-0BA7 | **12/24RCE** |

## Expansion LOGO! DM8 230R

**DM8 230R**

- Power supply 115/230 V AC/DC
- 4 digital inputs 115/230 V AC/DC
- 4 floating relay contacts 5 A

Dimension width (1 MW = 18 mm)

| | Stock No. | Product No. |
|---|---|---|
| | 6ED1055-1FB00-0BA1 | **DM8 230R** |

## Expansion LOGO! DM8 12/24R

**DM8 12/24R**

- Power supply 12/24 V DC
- 4 digital inputs 12/24 V DC
- 4 floating relay contacts 5 A

Dimension width (1 MW = 18 mm)

| | Stock No. | Product No. |
|---|---|---|
| | 6ED1055-1MB00-0BA1 | **DM8 12/24R** |

## Expansion LOGO! AM2

**AM2**

- Power supply 12...24 V DC
- 2 analog inputs (0...10 V or 4...20 mA)

Dimension width (1 MW = 18 mm)

| | Stock No. | Product No. |
|---|---|---|
| | 6ED1055-1MA00-0BA0 | **AM2** |

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**AM2 RTD**

### LOGO! AM2 RTD

- Power supply 12/24 V DC
- 2 analog inputs Pt100 and/or Pt1000
- Temperature range -50...+200 °C

Dimension width (1 MW = 18 mm)       2 MW

| | Stock No. | Product No. |
|---|---|---|
| | 6ED1055-1MD00-0BA1 | **AM2 RTD** |

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**AM2 AQ**

### LOGO! AM2 AQ

- Power supply 24 V DC
- 2 analog inputs 0...10 V
- 0/4...20 mA

Dimension width (1 MW = 18 mm)       2 MW

| | Stock No. | Product No. |
|---|---|---|
| | 6ED1055-1MM00-0BA1 | **AM2 AQ** |

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**6EP13211SH03**

### LOGO! Power 12 V/1.9 A

- Controlled power supply 12 V/1.9 A DC
- For connection to a 1-phase AC system
- Rated input voltage 100...240 V AC wide-range input
- Range input voltage 85...264 V AC
- Nominal output voltage 12 V DC, setting range 10.5...16.1 V
- Nominal output current 1.9 A
- Efficiency during operation at rated value typ. 80 %
- Ambient temperature -20...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, UL/cUL, FM
- Marine approval GL, ABS

Dimension width (1 MW = 18 mm)

| | Stock No. | Product No. |
|---|---|---|
| | 6EP1321-1SH03 | **6EP13211SH03** |

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### LOGO! Power 12 V/4.5 A

**6EP13221SH03**

- Controlled power supply 12 V/4.5 A DC
- For connection to a 1-phase AC system
- Rated input voltage 100...240 V AC wide-range input
- Range input voltage 85...264 V AC
- Nominal output voltage 12 V DC, setting range 10.5...16.1 V
- Nominal output current 4.5 A
- Efficiency during operation at rated value typ. 85 %
- Ambient temperature -20...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, UL/cUL, FM
- Marine approval GL, ABS

Dimension width (1 MW = 18 mm)

| | Stock No. | Product No. |
|---|---|---|
| | 6EP1322-1SH03 | **6EP13221SH03** |

### LOGO! Power 24 V/1.3 A

**6EP13311SH03**

- Controlled power supply 24 V/1.3 A DC
- For connection to a 1-phase AC system
- Rated input voltage 100...240 V AC wide-range input
- Range input voltage 85...264 V AC
- Nominal output voltage 24 V DC, setting range 10.5...16.1 V
- Nominal output current 1.3 A
- Efficiency during operation at rated value typ. 82 %
- Ambient temperature -20...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, UL/cUL, FM
- Marine approval GL, ABS

Dimension width (1 MW = 18 mm)

| | Stock No. | Product No. |
|---|---|---|
| | 6EP1331-1SH03 | **6EP13311SH03** |

### LOGO! Power 24 V/2.5 A

**6EP13321SH43**

- Controlled power supply 24 V/2.5 A DC
- For connection to a 1-phase AC system
- Rated input voltage 100...240 V AC wide-range input
- Range input voltage 85...264 V AC
- Nominal output voltage 24 V DC
- Nominal output current 2.5 A
- Efficiency during operation at rated value typ. 87 %
- Ambient temperature -20...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, UL/cUL, FM
- Marine approval GL, ABS

Dimension width (1 MW = 18 mm)

| | Stock No. | Product No. |
|---|---|---|
| | 6EP1332-1SH43 | **6EP13321SH43** |

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**6EP13321SH52**

### LOGO! Power 24 V/4 A

- Controlled power supply 24 V/4 A DC
- For connection to a 1-phase AC system
- Rated input voltage 100...240 V AC wide-range input
- Range input voltage 85...264 V AC
- Nominal output voltage 24 V DC
- Nominal output current 4 A
- Efficiency during operation at rated value typ. 89 %
- Ambient temperature -20...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, UL/cUL, FM
- Marine approval GL, ABS

Dimension width (1 MW = 18 mm)

| | Stock No. | Product No. |
|---|---|---|
| | 6EP1332-1SH52 | **6EP13321SH52** |

**CM KNX**

### LOGO! communication module KNX/LOGO!

- For connection of LOGO! to KNX, as communication module for the LOGO! logic module (12/24 V or 115/240 V) and as bus device on KNX
- For linking transmitted KNX data points and LOGO! inputs and outputs via logic and control functions through LOGO!
- For the linking and transmitting via KNX of up to
- 8 LOGO! binary inputs and 4 LOGO! binary outputs
- 16 virtual KNX binary inputs
- 12 virtual KNX binary outputs
- 8 virtual KNX analog inputs
- 8 virtual KNX analog outputs
- Transmission of date and time of the LOGO! real-time clock via KNX
- Two LEDs for the display of the communication status of LOGO! and KNX
- Electronics powered via an external 24 V AC/DC power supply unit, 25 mA
- Integrated bus coupling units, bus connection via screw terminals
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)        2 MW

| | Stock No. | Product No. |
|---|---|---|
| | 6BK1700-0BA00-0AA2 | **CM KNX** |

### Accessories for Programmable logic controllers LOGO!

| Product Title | Stock No. | Product No. |
|---|---|---|
| LOGO! PC cable | 6ED1057-1AA00-0BA0 | **6ED10571AA000BA0** |
| LOGO! USB PC cable | 6ED1057-1AA01-0BA0 | **6ED10571AA010BA0** |
| LOGO! Ethernet cable | 6XV1850-2GH20 | **6XV18502GH20** |
| LOGO! German manual | 6ED1050-1AA00-0AE8 | **6ED10501AA000AE8** |
| LOGO! English manual | 6ED1050-1AA00-0BE8 | **6ED10501AA000BE8** |
| LOGO! Soft Comfort V7 | 6ED1058-0BA02-0YA1 | **6ED10580BA020YA1** |
| LOGO! Memory card | 6ED1056-1DA00-0BA0 | **6ED10561DA000BA0** |
| LOGO! Battery card | 6ED1056-6XA00-0BA0 | **6ED10566XA000BA0** |
| LOGO! Combo Memory & Battery card | 6ED1056-7DA00-0BA0 | **6ED10567DA000BA0** |

# System Products and Accessories

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**System Products and Accessories**
**Overview and selection guides**
**Bus coupling units and accessories**

**Modular bus coupling unit and flush-mounting actuator**

A key feature of the Gamma _instabus_® is its uniform bus coupling unit. 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, text displays, 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/profil 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.



A Busankoppler (BTM)
B UP-Aktorik mit Busankoppler (BTM)
C DELTA Rahmen
D GAMMA Anzeige-/Bediengeräte
E BTI-Schnittstelle

I202_01488a

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System Products and Accessories
## Overview and selection guides
## Operator interfaces with DELTA bus coupling unit

**Operator interfaces with DELTA bus coupling unit**



Ⓘ DELTA UP 116 with claw

Ⓐ Bus coupling unit
Ⓑ Screw fixing
Ⓒ DELTA frame
Ⓔ DELTA pushbutton/rocker, single, double
Ⓘ Claw fixing
Ⓚ Without peripheral external interface (PEI)
  and without BTI interface

I201_08159c

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**System Products and Accessories**
## Overview and selection guides
## Power supply units

**Application Example**

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

In emergency mode, communication is maintained via the safety supply from KNX and DALI.
The failure detection of the general supply is executed via a KNX binary input, which the KNX/DALI gateway switches to emergency mode. It is not possible to manually operate the emergency lights 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.



| ① Changeover Unit | ④ KNX/DALI Gateway |
|---|---|
| ② KNX Line Coupler | ⑤ Emergency luminaire |
| ③ KNX Power Supply | ⑥ KNX binary input |

| ① Changeover Unit | ④ KNX/DALI Gateway |
|---|---|
| ② KNX Line Coupler | ⑤ Emergency luminaire |
| ③ KNX Power Supply | ⑥ KNX binary input |

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### Emergency lighting with single battery KNX/DALI gateway
### Normal mode

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

### Emergency operation

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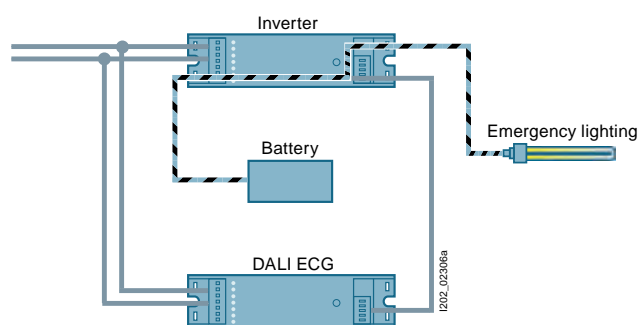
**For example**

## Classic topology

N 140 line/backbone couplers
for backbone and line connection

| Line 1.5 | 1.5.0 LK | Level 5 | 2.5.0 LK | Line 2.5 |
| Line 1.4 | 1.4.0 LK | Level 4 | 2.4.0 LK | Line 2.4 |
| Line 1.3 | 1.3.0 LK | Level 3 | 2.3.0 LK | Line 2.3 |
| Line 1.2 | 1.2.0 LK | Level 2 | 2.2.0 LK | Line 2.2 |
| Line 1.1 | 1.1.0 LK | Level 1 | 2.1.0 LK | Line 2.1 |

Main line 1.0    Main line 2.0

Area 1
(West wing)

☐ KNX

BK 1.0.0    Backbone line 0.    BK 2.0.0

Area 2
(East wing)

I201_14029
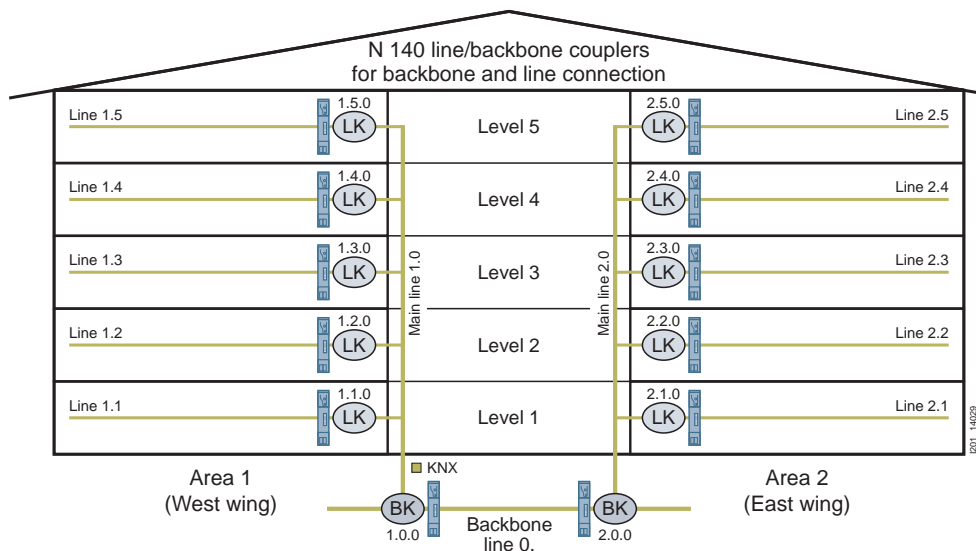
In the classic topology, all the line and backbone couplers are traditionally KNX couplers.

Tried and tested, this topology is widely deployed. The bus cable lengths are generally limited to a single building.

## Modern topology

N 146 IP router as backbone coupler

| Line 1.5 | 1.5.0 LK | Level 5 | 2.5.0 LK | Line 2.5 |
| Line 1.4 | 1.4.0 LK | Level 4 | 2.4.0 LK | Line 2.4 |
| Line 1.3 | 1.3.0 LK | Level 3 | 2.3.0 LK | Line 2.3 |
| Line 1.2 | 1.2.0 LK | Level 2 | 2.2.0 LK | Line 2.2 |
| Line 1.1 | 1.1.0 LK | Level 1 | 2.1.0 LK | Line 2.1 |

Main line 1.0    Main line 2.0

Area 1
(West wing)

☐ KNX

1.0.0    Data network (LAN)    2.0.0

Area 2
(East wing)

I201_14027
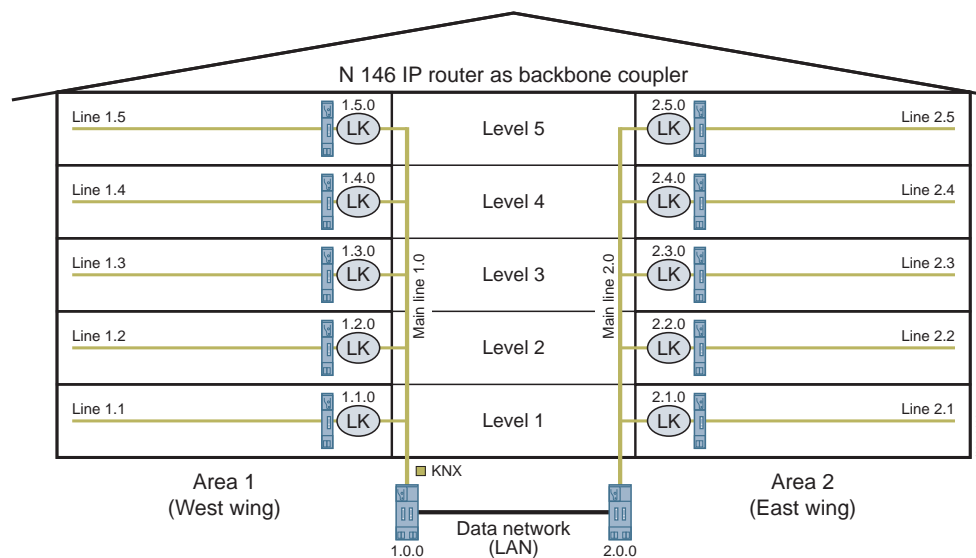
In this modern topology, the backbone couplers are replaced by N146/02 IP routers.

mple), due to the use of standard network components, the linking of 2 building sections is no longer restricted by the lengths of the bus cable.

Other media, such as optical fiber cables or W-LAN, can also be used to couple separate buildings and for the exchange of group address telegrams.

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## Innovative topology

N146 IP router as line coupler

| Line 1.5 | 1.5.0 | Level 5 | 2.5.0 | Line 2.5 |
| Line 1.4 | 1.4.0 | Level 4 | 2.4.0 | Line 2.4 |
| Line 1.3 | 1.3.0 | Level 3 | 2.3.0 | Line 2.3 |
| Line 1.2 | 1.2.0 | Level 2 | 2.2.0 | Line 2.2 |
| Line 1.1 | 1.1.0 | Level 1 | 2.1.0 | Line 2.1 |

☐ KNX

Area 1
(West wing)

Data network
(LAN)

Area 2
(East wing)

I201_14028a
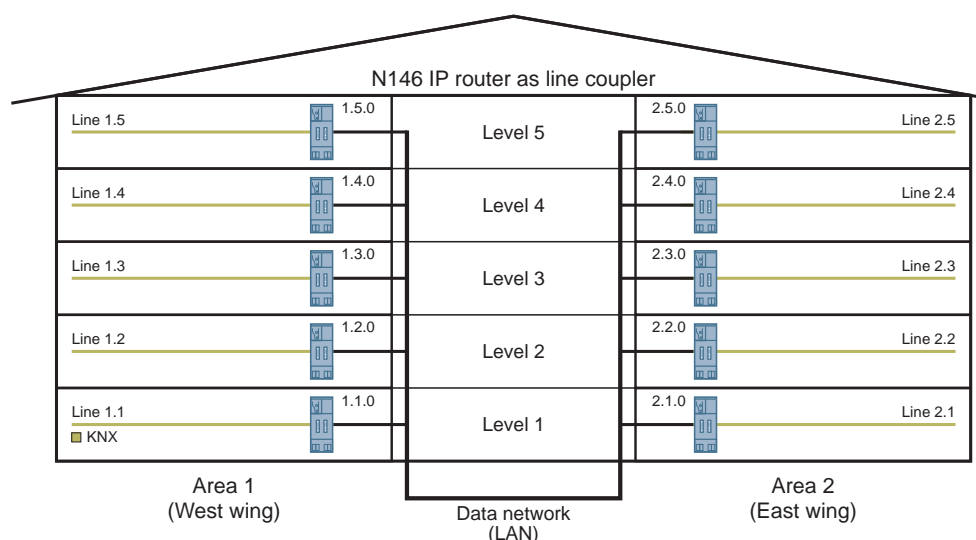
In this innovative topology all line couplers are replaced by N 146/02 IP routers.

Backbone couplers are no longer required. This configuration enables the linking of each individual building level via Ethernet (LAN) and by using existing LAN networks.

Furthermore, the correct configuration of the N 146/02 IP router makes the commissioning of both large projects and smaller individual projects quicker and easier to manage.

An exchange of group address telegrams is still possible even if projects are broken down into individual projects.

# Technical specification
## Bus coupling units and accessories / Power supply units

### Bus coupling units and accessories

| Type | UP 117/12 | UP 110/03 | UP 110/11 | UP 116/01 UP 116/21 | UP 116/11 UP 116/31 |
|---|---|---|---|---|---|
| **Enclosure data** | | | | | |
| For installation in flush-mounting switch and socket boxes with Ø = 60 mm | ■ | ■ | ■ | ■ | ■ |
| For mounting rockers from the DELTA product ranges | | | | ■ | ■ |
| 10-pole user interface (UI) for plugging onto a bus terminal | | ■ | ■ | | |
| 10-pole BTI socket connector (BTI: Bus-Transceiver-Interface) for plugging onto a bus terminal | ■ | | | | |
| **Dimensions** | | | | | |
| • Width [mm] | 71 | 71 | 71 | 71 | 71 |
| • Height [mm] | 71 | 71 | 71 | 71 | 71 |
| • Depth [mm] | 18 | 27 | 19/32 | 32 | 32 |
| **Mounting type** | | | | | |
| Claw fixing | | | ■ | ■ | ■ |
| Screw fixing | ■ | ■ | ■ | ■ | ■ |
| **Display/control elements** | | | | | |
| LED for status indication | | | | ■ | ■ |
| LED for orientation light | | | | ■ | ■ |
| **Bus connection** | | | | | |
| Integrated bus coupling units | ■ | ■ | ■ | ■ | ■ |
| Bus connection via bus terminal | ■ | ■ | ■ | ■ | ■ |

### Power supply units

| Type | N 125/02 | N 125/12 | N 125/22 |
|---|---|---|---|
| **Enclosure data** | | | |
| Modular installation devices for mounting on TH35 EN 60715 mounting rail | ■ | ■ | ■ |
| **Dimensions** | | | |
| • Width (1 MW = 18 mm) | 4 MW | 4 MW | 4 MW |
| **Bus connection** | | | |
| Integrated chokes | ■ | ■ | ■ |
| Bus connection via contact system to data rail | ■ | ■ | ■ |
| Bus connection via bus terminal | ■ | ■ | ■ |
| **Outputs** | | | |
| Rated operational voltage | | | |
| • V AC | 120...230 | 120...230 | 120...230 |
| • V DC | 220 | 220 | 220 |
| 50...60 Hz | ■ | ■ | ■ |
| Output voltage, DC [V] | 29 | 29 | 29 |
| Output current [mA] | 160 | 320 | 640 |
| Additional unchoked output for 29 V DC, for powering a second bus line via an external choke (e. g. N 120/02) | ■ | ■ | ■ |

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## Network gateways

| Type | N 148/22 | N 146/02 | N 350E | N 151 | N 143 |
|---|---|---|---|---|---|
| **Enclosure data** | | | | | |
| Design | N | N | N | N | N |
| Modular installation devices for mounting on TH35 EN 60715 mounting rail | ■ | ■ | ■ | ■ | ■ |
| Width (1 MW = 18 mm) | 2 MW | 2 MW | 4 MW | 4 MW | 4 MW |
| **Display/control elements** | | | | | |
| LEDs for indicating that the device is ready-to-run, KNX communication, IP communication | ■ | ■ | ■ | ■ | ■ |
| LCD | | | ■ | | |
| **Power supply** | | | | | |
| Electronics powered via an external nominal AC/DC power supply unit for 24 V DC | ■ | ■ | ■ | ■ | ■ |
| Power consumption at 24 V DC [mA] | 57 | 57 | 60 | 60 | 60 |
| Power supply for the electronics via "Power over Ethernet" according to IEEE 802.3af | ■ (0.8 W) | ■ (0.8 W) | | | |
| **Bus connection** | | | | | |
| Integrated bus coupling units | ■ | ■ | ■ | ■ | ■ |
| Bus connection via bus terminal | ■ | ■ | ■ | ■ | ■ |
| **Mains connection** | | | | | |
| Ethernet connection via RJ45 socket | ■ | ■ | ■ | ■ | ■ |
| Plug-in terminal block for the connection of an external power supply unit | ■ | ■ | ■ | | ■ |
| **Gateway** | | | | | |
| Supports KNXnet/IP | ■ | ■ | ■ | ■ | ■ |
| line coupler function (Routing) | | ■ | | | |
| Interface functions (Tunneling) | 4 | 4 | 1 | 1 | 1 |
| Interface functions (object server) | 1 | 1 | 1 | 1 | |
| Integrated real-time clock weekly scheduling program for 100 scheduled entries/ Astro function | | | ■ | | |
| Yearly time switching functions | | | ■ | | |
| Event entries | | | 200 | | |
| Logic gates | | | 30 | | |
| Web servers | | | | ■ | ■ |

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**Notes**

System products and accessories
## System products
## Bus coupling units and accessories

### Bus transceiver modules, Mounting depth 18 mm

**UP 117/12**

- 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
- Screw fixing
- Bus connection via bus terminal

| Dimensions (W x H x D) | 71 x 71 x 18 mm | |
|---|---|---|
| | Stock No. | Product No. |
| | 5WG1117-2AB12 | **UP 117/12** |

### Bus coupling unit, with BCU1, mounting depth 27 mm

**UP 110/03**

- 10-pole user interface (UI) for plugging onto a bus terminal
- BCU1
- Reverse voltage protection for switching off the bus coupling unit if the bus cable is incorrectly connected
- For installation in flush-mounting switch and socket boxes with Ø = 60 mm
- Screw fixing
- Mounting depth 27 mm
- Bus connection via bus terminal

| Dimensions (W x H x D) | 71 x 71 x 27 mm | |
|---|---|---|
| | Stock No. | Product No. |
| | 5WG1110-2AB03 | **UP 110/03** |

### Bus coupling unit, with BCU1, mounting depth 19/32 mm

**UP 110/11**

- 10-pole user interface (UI) for plugging onto a bus terminal
- BCU1
- Reverse voltage protection for switching off the bus coupling unit if the bus cable is incorrectly connected
- For installation in flush-mounting switch and socket boxes with Ø = 60 mm
- For screw or claw fixing, mounting depth 19 mm screw fixing and 32 mm claw fixing
- Mounting depth 27 mm
- Bus connection via bus terminal

| Dimensions (W x H x D) | 71 x 71 x 32 mm | |
|---|---|---|
| | Stock No. | Product No. |
| | 5WG1110-2AB11 | **UP 110/11** |

### Accessories

| Product Title | Stock No. | Product No. |
|---|---|---|
| Mounting bracket for UP 110/11 | 5WG1294-8AB01 | **S 294/01** |
| Paint shield | 5WG1196-2AB01 | **UP 196/01** |
| Sealing sets for rockers, IP44,  for single or double rockers | 5TG4324 | **5TG4324** |
| One set contains four insert seals | | |

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System products and accessories
## System products
## Bus coupling units and accessories

| UP 116.. | **DELTA Bus coupling unit** |

- For installation in flush-mounting switch and socket boxes with diameter = 60 mm, for Screw fixing and prepared for Claw fixing
- LED per pushbutton pair for status indication or configurable as orientation light
- Mounting of rockers from the DELTA product ranges
- Integrated bus coupling units, bus connection via bus terminal

Dimensions (W x H x D)         71 x 71 x 32 mm

---

**UP 116/01**

**DELTA bus coupling unit, single, intermediate position, with 2 LEDs**

- One Rocker button, intermediate position (pushbutton with 2 operating points)
- The following functions can be assigned per operating point as required:
- Switching on/off/over
- Dimming with stop telegram (4-bit) Short button press, on/off Long button press, brighter/darker
- Dimming with cyclic transmission (4-bit) Short button press, on/off Long button press, brighter/darker
- Shutter/blind control Short button press, slat open/closed or stop Long button press, up/down
- Store and call up scene, 1-bit in conjunction with scene module
- Short or long button press (store/call up scene), configurable
- Display of any status objects (1-bit)
- Display of pushbutton objects

The required single or multiple rocker (with or without window) must be ordered separately.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1116-2AB01 | **UP 116/01** |

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**UP 116/21**

**DELTA bus coupling unit, single, pushbutton position, with 2 LEDs**

- One Rocker button, pushbutton position (pushbutton with 1 operating point)
- Optional assigned functions Switching on/off/over
- Display of pushbutton objects

The required single or multiple rocker (with or without window) must be ordered separately.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1116-2AB21 | **UP 116/21** |

---

**UP 116/11**

**DELTA bus coupling unit, double, intermediate position, with 2 LEDs**

- Two Rocker button, intermediate position (pushbutton with 2 operating points)
- The following functions can be assigned per operating point as required:
- Switching on/off/over
- Dimming with stop telegram (4-bit) Short button press, on/off Long button press, brighter/darker
- Dimming with cyclic transmission (4-bit) Short button press, on/off Long button press, brighter/darker
- Shutter/blind control Short button press, slat open/closed or stop Long button press, up/down
- Store and call up scene, 1-bit in conjunction with scene module
- Short or long button press (store/call up scene), configurable

The required single or multiple rocker (with or without window) must be ordered separately.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1116-2AB11 | **UP 116/11** |

**System products and accessories**
# System products
## Bus coupling units and accessories

### DELTA bus coupling unit, double, pushbutton position, with 2 LEDs

**UP 116/31**

- Two Rocker button, pushbutton position (pushbutton with 1 operating point)
- The following functions can be assigned per operating point as required:
- Switching on/off/over
- Dimming with stop telegram (4-bit) Short button press, on/off Long button press, brighter/darker
- Dimming with cyclic transmission (4-bit) Short button press, on/off Long button press, brighter/darker
- Shutter/blind control Short button press, slat open/closed or stop Long button press, up/down
- Display of pushbutton objects

The required single or multiple rocker (with or without window) must be ordered separately.

|  | Stock No. | Product No. |
|---|---|---|
|  | 5WG1116-2AB31 | **UP 116/31** |

### Accessories for UP 116..

| Product Title | Stock No. | Product No. |
|---|---|---|
| Sealing sets for rockers, IP44,  for single or double rockers | 5TG4324 | **5TG4324** |

One set contains four insert seals

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**System products and accessories**
**System products**
**Power supply units**

### N 125/..2

### Power supply unit

- Integrated chokes
- Bus connection via bus terminal or contact system to data rail
- Rated operational voltage  120...230 V AC 50...60 Hz,  220 V DC
- Output voltage 29 V DC
- Additional unchoked output for 29 V DC, for powering a second bus line via an external choke (e. g. N 120/02)
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

| Operating voltage | AC 120...230 V |
| | DC 220 V |
| Dimension width (1 MW = 18 mm) | 4 MW |
| Bus connection | Integrated choke |
| | Via bus terminal |
| | Via data rail |

### Range overview N 125

| Product Title | Stock No. | Product No. |
| --- | --- | --- |
| Power supply unit DC 29 V, 160 mA with additional unchoked output, N 125/02 | 5WG1125-1AB02 | **N 125/02** |
| Power supply unit DC 29 V, 320 mA with additional unchoked output, N 125/12 | 5WG1125-1AB12 | **N 125/12** |
| Power supply unit DC 29 V, 640 mA with additional unchoked output, N 125/22 | 5WG1125-1AB22 | **N 125/22** |

The optional data rail must be ordered separately. See chapter System Products and Accessories - data rails.

### 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
- Contact system for data rail
- Low-voltage terminal for unchoked voltage and bus
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

| Dimension width (1 MW = 18 mm) | 2 MW |
| Bus connection | Integrated choke |
| | Via bus terminal |
| | Via data rail |

The optional data rail must be ordered separately. See chapter System Products and Accessories - data rails.

| | Stock No. | Product No. |
| --- | --- | --- |
| | 5WG1120-1AB02 | **N 120/02** |

### 4AC2402

### Electronic power supply units

- 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)

| | Stock No. | Product No. |
| --- | --- | --- |
| | 4AC2402 | **4AC2402** |

## Line/backbone coupler

N 140/..3

- 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

## Line/backbone coupler for data rail

N 140/03

Bus connection to the line and to the main line via bus terminal

| Dimension width (1 MW = 18 mm) | 1 MW |
| Bus connection | Via bus terminal |
| | Via data rail |

The data rail must be ordered separately. See chapter System Products and Accessories - data rails.

| | Stock No. | Product No. |
|---|---|---|
| - | 5WG1140-1AB03 | **N 140/03** |

## Line/backbone coupler

N 140/13

With bus connection to the line via contact system for data rail and to the main line via bus terminal

| Dimension width (1 MW = 18 mm) | 2 MW |
| Bus connection | Via bus terminal |

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1140-1AB13 | **N 140/13** |

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**N 146/02**

**IP router**

- LEDs for indicating that the device is ready-to-run, KNX communication, IP communication
- Electronics powered via an external nominal 24 V AC/DC power supply unit
- Power consumption at 24 V DC 57 mA
- Power supply for the electronics via "Power over Ethernet" according to IEEE 802.3af
- Integrated bus coupling units
- Bus connection via bus terminal
- Ethernet connection via RJ45 socket
- Plug-in terminal block for the connection of an external power supply unit
- Supports KNXnet/IP
- Line coupler function (Routing)
- 4 Interface functions (Tunneling)
- 1 Interface functions (object server)
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)     2 MW

The external 24 V AC/DC power supply unit must be ordered separately (e. g. 4AC2402).

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1146-1AB02 | **N 146/02** |

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## IP interface                                                              N 148/22

- LEDs for indicating that the device is ready-to-run, KNX communication, IP communication
- Electronics powered via an external nominal 24 V  AC/DC power supply unit
- Power consumption at 24 V DC, 57 mA
- Power supply for the electronics via "Power over Ethernet" according to IEEE 802.3af
- Integrated bus coupling units, Bus connection via bus terminal
- Ethernet connection via RJ45 socket
- Plug-in terminal block for the connection of an external power supply unit
- Supports KNXnet/IP
- 4 Interface functions (Tunneling)
- 1 Interface functions (object server)
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)          2 MW

The external 24 V AC/DC power supply unit must be ordered separately (e. g. 4AC2402).

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1148-1AB22 | **N 148/22** |

## IP router                                                                 N 146/02

- LEDs for indicating that the device is ready-to-run, KNX communication, IP communication
- Electronics powered via an external nominal 24 V AC/DC power supply unit
- Power consumption at 24 V DC 57 mA
- Power supply for the electronics via "Power over Ethernet" according to IEEE 802.3af
- Integrated bus coupling units
- Bus connection via bus terminal
- Ethernet connection via RJ45 socket
- Plug-in terminal block for the connection of an external power supply unit
- Supports KNXnet/IP
- Line coupler function (Routing)
- 4 Interface functions (Tunneling)
- 1 Interface functions (object server)
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)          2 MW

The external 24 V AC/DC power supply unit must be ordered separately (e. g. 4AC2402).

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1146-1AB02 | **N 146/02** |

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**N 350E01**

## IP controller

- LEDs for indicating that the device is ready-to-run, KNX communication, IP communication
- LC-Display
- Electronics powered via an external nominal 24 V AC/DC power supply unit
- Integrated bus coupling units
- Bus connection via bus terminal
- Ethernet connection via RJ45 socket
- Plug-in terminal block for the connection of an external power supply unit
- Supports KNXnet/IP
- 1 Interface functions (Tunneling)
- 1 Interface functions (object server)
- Integrated real-time clock weekly scheduling program for 100 scheduled entries/Astro function
- Yearly time switching functions
- 200 Event entries
- 30 Logic gates
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)          4 MW

The external 24 V AC/DC power supply unit must be ordered separately (e. g. 4AC2402).

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1350-1EB01 | **N 350E01** |

**N 151/01**

## IP viewer

Interface converter between a KNX and an IP network, with the following simultaneously executable functions:
- As a WebServer for monitoring and control of up to 40 states and values transmitted via the KNX network, which can be displayed on up to 5 image pages of a PC connected to the IP network using Internet Explorer 6.0, 7.0, 8.0 or Firefox 3.0 (for other browsers, see documentation at www.siemens.com/gamma-td)
- For the parameterization of a KNX system using ETS3.0f/ETS4
- For communication between the KNX network and a ComBridge Studio visualization software
- Special WEB page for the multilanguage adaptation of the presentation of an image page and a special WEB page for firmware upgrades
- Ethernet interface for connection to the IP network using the Internet Protocol
- RJ45 socket for connection to Ethernet 10 Mbits/s
- 2 LED displays for indication of ready-to-run state and for IP communication
- Integrated bus coupling units
- KNX bus connection via bus terminal
- Electronics powered via an external 24 V AC/DC power supply unit
- Connection of external power supply unit via an extra-lowvoltage terminal
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)          4 MW

The external 24 V AC/DC power supply unit must be ordered separately (e. g. 4AC2402).

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1151-1AB01 | **N 151/01** |

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## IP Control Center

**N 152/01**

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

- Web server to operate and monitor up to 250 transmitted operation states and values
- Web editor for graphic engineering of web visualization and application modules such as:
- Scheduler program with up to 300 editable commands per week
- Scene module with up to 5,000 scenes or events
- Full-graphic logic module providing up to 1,000 logic functions
- Alarm function for up to 250 different alarm messages
- E-mail function with up to 20 contacts
- Special web site relating to firmware upgrade
- KNXnet/IP interface to parameterize a KNX plant
- Ethernet interface 10/100 Mbits/s with RJ45 socket for connection to the IP network through the internet protocol
- 2 LEDs for indication of IP connection/communication and error messages
- Built-in bus coupler and bus terminal for connection to a KNX network
- Power supply for electronics via external DC 24 V power source. Connection of external power source via low-voltage terminal
- Device for top hat rail mounting on TH35 rails conforming to DIN EN 60715

Dimension width (1 MW = 18 mm)          4 MW

The external 24 V AC/DC power supply unit must be ordered separately (e. g. 4AC2402).

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1152-1AB01 | **N 152/01** |

## Accessories for IP backbone couplers

| Product Title | Stock No. | Product No. |
|---|---|---|
| Electronic power supply units | 4AC2402 | **4AC2402** |

## IP Gateway KNX-BACnet

**N 143/01**

- BACnet Application Specific Controller (B-ASC) as Gateway between KNX TP and BACnet IP
- 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
- Up to four KNXnet/IP Tunneling connections 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 DC 24 V
- 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

Dimension width (1 MW = 18 mm)          4 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1143-1AB01 | **N 143/01** |

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**NEW PRODUCT**

## System accessories
## Cover strip, Bus terminals, Overvoltage protection

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**S 192/01**

### Cover strip, for mounting rails, length 242 mm



- For covering free data rail segments (in accordance with the SELV regulations for safety extra-low voltage)
- For snapping onto standard mounting rails, separable, RAL 7035
- Length 13.5 MW (1 MW = 18 mm)

Dimension width (1 MW = 18 mm)  13.5 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1192-8AA01 | **S 192/01** |

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**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, ∅ 0.6 mm...0.8 mm

Dimension width (1 MW = 18 mm)

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1193-8AB01 | **S 193/01** |

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**S 190/01**

### Overvoltage protection, as fine protection for bus devices



- 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 ∅) for insertion in bus devices
- 2 solid wires (0.8 mm ∅) for connection to the bus terminal
- A solid wire (0.75 mm2) for surge protection
- Rated voltage 24 V  DC
- Rated current 6 A
- Rated discharge surge current 5 kA
- Protection level 350 V

Dimensions (W x H x D)  11.6 x 10.5 x 11.1 mm

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1190-8AD01 | **S 190/01** |

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## Data rail without connector for TH35-7.5 standard mounting rail, flat

190/..1

- For sticking (self-adhesive) in an EN 60715, TH35-7.5 flat standard mounting rail
- For interconnecting modular installation devices via their contact system

### Range overview 190/..1

| Product Title | Dimension width (1 MW = 18 mm) | Stock No. | Product No. |
|---|---|---|---|
| Data rail without connector, for TH35-7.5 mounting rail flat, length 214 mm, (for max. 12 MW) | 12 MW | 5WG1190-8AB01 | **190/01** |
| Data rail without connector, for TH35-7.5 mounting rail flat, length 243 mm, (for max. 13 MW) | 13 MW | 5WG1190-8AB11 | **190/11** |
| Data rail without connector, for TH35-7.5 mounting rail flat, length 277 mm, (for max. 15 MW) | 15 MW | 5WG1190-8AB21 | **190/21** |
| Data rail without connector, for TH35-7.5 mounting rail flat, length 324 mm, (for max. 18 MW) | 18 MW | 5WG1190-8AB31 | **190/31** |
| Data rail without connector, for TH35-7.5 mounting rail flat, length 428 mm, (for max. 24 MW) | 24 MW | 5WG1190-8AB41 | **190/41** |
| Data rail without connector, for TH35-7.5 mounting rail flat, length 464 mm, (for max. 26 MW) | 26 MW | 5WG1190-8AB51 | **190/51** |

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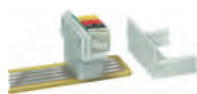
| 190/..2 | **Data rail with connector for TH35-7.5 standard mounting rail, flat** |
|---|---|

- For sticking (self-adhesive) in an EN 60715, TH35-7.5 flat standard mounting rail
- 2 bus terminals (red/dark gray) for bus voltage
- 2 low-voltage terminals (white/yellow) for unchoked voltage
- For interconnecting modular installation devices via their contact system
- For connecting data rails to each other and to a bus cable

**Range overview 190/..2**

| Product Title | Dimension width (1 MW = 18 mm) | Stock No. | Product No. |
|---|---|---|---|
| Data rail with connector, for TH35-7.5 mounting rail  flat, length 214 mm, (for max. 11 MW) | 11 MW | 5WG1190-8AB02 | **190/02** |
| Data rail with connector, for TH35-7.5 mounting rail  flat, length 243 mm, (for max. 12 MW) | 12 MW | 5WG1190-8AB12 | **190/12** |
| Data rail with connector, for TH35-7.5 mounting rail  flat, length 277 mm, (for max. 13 MW) | 13 MW | 5WG1190-8AB22 | **190/22** |
| Data rail with connector, for TH35-7.5 mounting rail flat, length 324 mm, (for max. 17 MW) | 17 MW | 5WG1190-8AB32 | **190/32** |
| Data rail with connector, for TH35-7.5 mounting rail flat, length 428 mm, (for max. 23 MW) | 23 MW | 5WG1190-8AB42 | **190/42** |
| Data rail with connector, for TH35-7.5 mounting rail flat, length 464 mm, (for max. 25 MW) | 25 MW | 5WG1190-8AB52 | **190/52** |

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## Data rail without connector for TH35-15 standard mounting rail, deep 190/..3

- For sticking (self-adhesive) in an EN 60715, TH35-15 deep standard mounting rail, mounting rail size 24 mm
- For interconnecting modular installation devices via their contact system
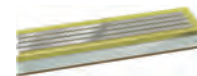


### Range overview 190/..3

| Product Title | Dimension width (1 MW = 18 mm) | Stock No. | Product No. |
|---|---|---|---|
| Data rail without connector, for TH35-15 mounting rail deep, length 214 mm, (for max. 12 MW) | 12 MW | 5WG1190-8AB03 | **190/03** |
| Data rail without connector, for TH35-15 mounting rail deep, length 243 mm, (for max. 13 MW) | 13 MW | 5WG1190-8AB13 | **190/13** |
| Data rail without connector, for TH35-15 mounting rail deep, length 277 mm, (for max. 15 MW) | 15 MW | 5WG1190-8AB23 | **190/23** |
| Data rail without connector, for TH35-15 mounting rail  deep, length 324 mm, (for max. 18 MW) | 18 MW | 5WG1190-8AB33 | **190/33** |
| Data rail without connector, for TH35-15 mounting rail  deep, length 428 mm, (for max. 24 MW) | 24 MW | 5WG1190-8AB43 | **190/43** |
| Data rail without connector, for TH35-15 mounting rail  deep, length 464 mm, (for max. 26 MW) | 26 MW | 5WG1190-8AB53 | **190/53** |

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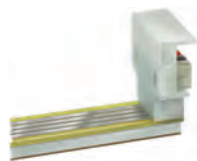
| 190/..4 | **Data rail with connector for TH35-15 standard mounting rail, deep** |
|---|---|

- For sticking (self-adhesive) in an EN 60715, TH35-15 deep standard mounting rail, mounting rail size 24 mm
- 2 bus terminals (red/dark gray) for bus voltage
- 2 low-voltage terminals (white/yellow) for unchoked voltage
- For interconnecting modular installation devices via their contact system
- For connecting data rails to each other and to a bus cable

**Range overview 190/..4**

| Product Title | Dimension width (1 MW = 18 mm) | Stock No. | Product No. |
|---|---|---|---|
| Data rail with connector, for TH35-15 mounting rail deep, length 214 mm | 11 MW | 5WG1190-8AB04 | **190/04** |
| Data rail with connector, for TH35-15 mounting rail deep, length 243 mm | 12 MW | 5WG1190-8AB14 | **190/14** |
| Data rail with connector, for TH35-15 mounting rail deep, length 277 mm | 13 MW | 5WG1190-8AB24 | **190/24** |
| Data rail with connector, for TH35-15 mounting rail deep, length 324 mm | 17 MW | 5WG1190-8AB34 | **190/34** |
| Data rail with connector, for TH35-15 mounting rail deep, length 428 mm | 23 MW | 5WG1190-8AB44 | **190/44** |
| Data rail with connector, for TH35-15 mounting rail deep, length 464 mm | 25 MW | 5WG1190-8AB54 | **190/54** |

| REG 191/11 | **Connector, 2 x 2-fold** |
|---|---|

- For connection of data rails within a distribution board or a data rail and a bus cable installed in a building
- As modular installation device with flat design for installation under distribution board covers
- With connection to the data rail over contact system
- With connection to the bus cable over two 193 bus terminals
- With additional connection for providing non-choke-protected extra-low voltage over 2 extra-low voltage terminals

Dimension width (1 MW = 18 mm)     1 MW

| | Stock No. | Product No. |
|---|---|---|
| | 5WG1191-5AB11 | **REG 191/11** |

# Meters

**Notes**
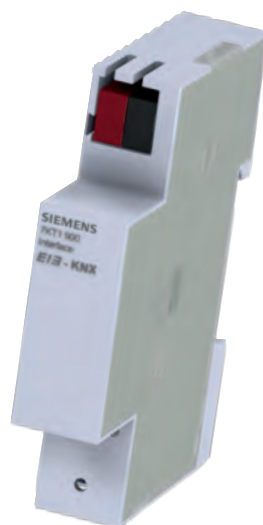
## 7KT PAC KNX expansion modules for connecting PAC1500 counters to KNX

**7KT1900**

The 7KT1 900 KNX communication module can be parameterized upwards of ETS 3.0 and provides the following values via communication objects:
- Active power (phase 1, 2, 3 and sum)
- Reactive power (phase 1, 2, 3 and sum)
- Can be retrofitted to already installed E-counters
- Data transmission between the counters and the expansion modules is implemented via the IrDA infrared interface
- Status indication by LED on the module
- Bus-powered electronics
- Integrated bus coupling units
- Bus connection via bus terminal

Dimension width (1 MW = 18 mm)        1 WM

| | Stock No. | Product No. |
|---|---|---|
| | 7KT1900 | **7KT1900** |

## 7KT PAC1500 single-phase counters

**7KT153..**

- Compliant with the new counter standard EN 50470 (Part 1 and 3)
- Easy-to-read LCD display
- Versions calibrated in accordance with the new Measuring Instruments Directive 2004/22/EC (MID) can be used for invoicing purposes
- Exact recording thanks to accuracy class 1 (for active energy).
- Rated control supply voltage Un = 230 V AC
- Voltage range 184 ... 276 V
- Rated frequency fn 50 Hz
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Dimension width (1 MW = 18 mm)        2 MW

### Range overview 7KT153..

| Product Title | Stock No. | Product No. |
|---|---|---|
| 7KT PAC1500 single-phase counters for direct connection, 80 A, double rate | 7KT1531 | **7KT1531** |
| 7KT PAC1500 single-phase counters for direct connection, 80 A, double rate, calibrated version | 7KT1533 | **7KT1533** |

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**7KT154..**

### 7KT PAC1500 three-phase counters



- Compliant with the new counter standard EN 50470 (Part 1 and 3)
- Easy-to-read LCD display
- Versions calibrated in accordance with the new Measuring Instruments Directive 2004/22/EC (MID) can be used for invoicing purposes
- Calibrated versions available
- Exact recording thanks to accuracy class 1 (for active energy).
- Rated control supply voltage Un = 230 V AC
- Voltage range 184 ... 276 V
- Rated frequency fn 50 Hz
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

### Range overview 7KT154..

| Product Title | Dimension width (1 MW = 18 mm) | Stock No. | Product No. |
|---|---|---|---|
| 7KT PAC1500 three-phase counters for direct connection, 80 A, double rate | 4 MW | 7KT1543 | **7KT1543** |
| 7KT PAC1500 three-phase counters for direct connection, 80 A, double rate, calibrated version | 4 MW | 7KT1545 | **7KT1545** |
| 7KT PAC1500 three-phase counters for transformer connection, 5 A, double rate | 4 MW | 7KT1540 | **7KT1540** |
| 7KT PAC1500 three-phase counters for transformer connection, 5 A, double rate, calibrated version | 4 MW | 7KT1542 | **7KT1542** |
| 7KT PAC1500 three-phase counters for direct connection, 125 A, double rate | 4 MW | 7KT1546 | **7KT1546** |
| 7KT PAC1500 three-phase counters for direct connection, 125 A, double rate, calibrated version | 4 MW | 7KT1548 | **7KT1548** |

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# Radio System KNX RF – Synco living

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# Overview and selection tools
## Product range overview Synco™ living

### 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 distributer.
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 consumption data of heat/cool energy, electricity, water and gas.

### Meteo sensor (7)

The meteo sonser 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.

### Water monitor (10)

Supervision of laundry machine, dish washer, aquarium or any other potential source of water damage.
The water monitor with detached sensor for detecting water leaks sends its status by radio to the central apartment unit in the event of a water leakage.

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Radio system KNX RF / Synco living
**Overview and selection guides**
**Product range overview Synco™ living**

## 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 TP1) 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

# Overview and selection guides
# Home automation system

### 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 $CO_2$ 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 underway 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.
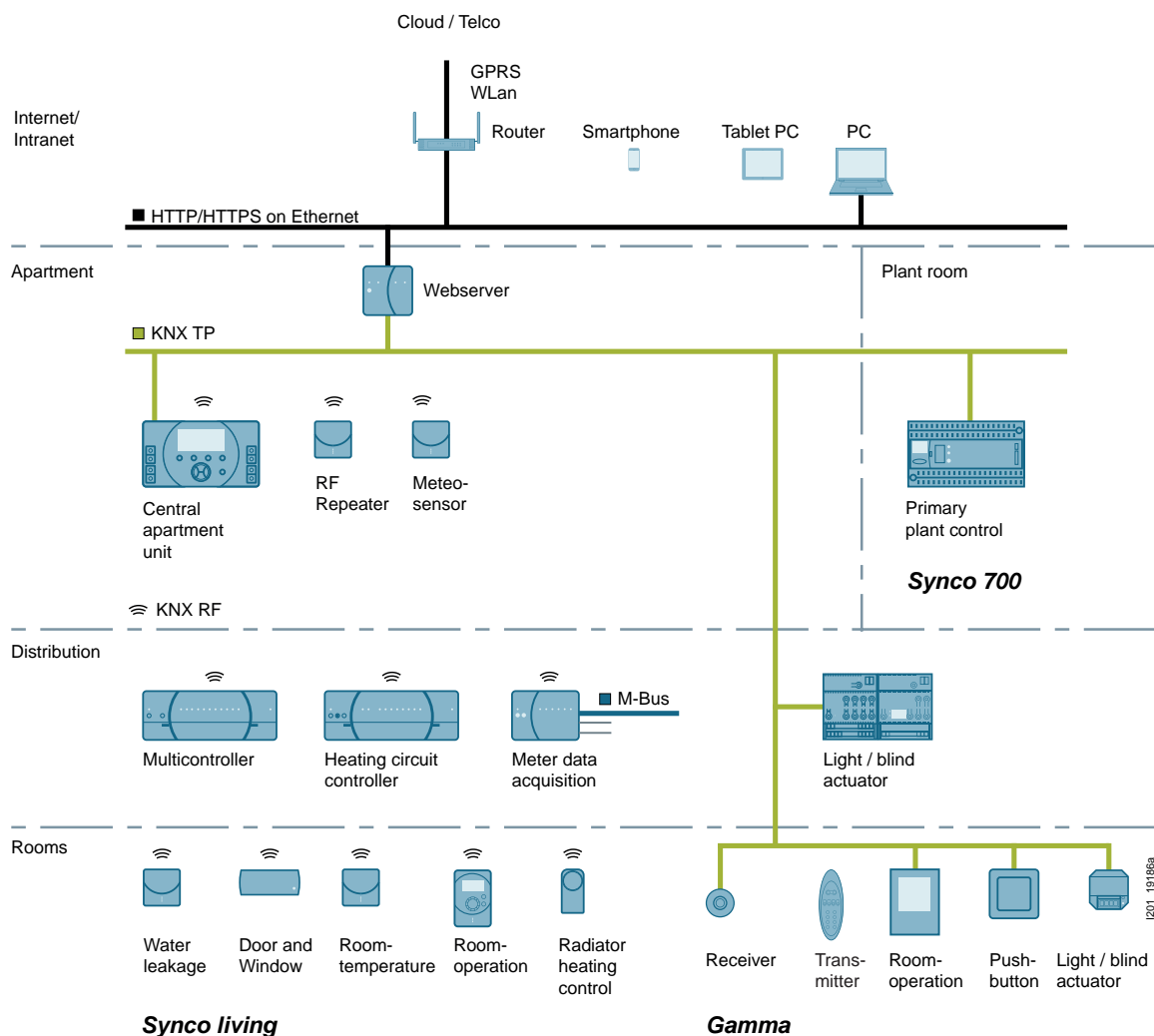


### Gamma - The tried-and-tested building control

Gamma building 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 configuartions can be made very straightforwardly.

## Overview

| Type | AP 260/11 | ERF910 | OZW772.. | QAA910 | QAC910 | | QAW910 | QAX903.. | QAX913.. | QFP910 | RRV912 | RRV918 | RRV934 | SSA955 | WRI982 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Enclosure data** | | | | | | | | | | | | | | | |
| **Dimension** | | | | | | | | | | | | | | | |
| •Width [mm] | 87 | 84 | 87.5 | 84 | 80 | 84 | 84 | 230 | 230 | 84 | 180 | 245 | 245 | 48 | 120 |
| •Height [mm] | 36 | 84 | 90 | 84 | 92 | 84 | 130 | 130 | 130 | 84 | 98 | 98 | 98 | 95 | 90 |
| •Depth [mm] | 27 | 23 | 40 | 23 | 50 | 23 | 23.6 | 29.7 | 29.7 | 23 | 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 manu-facturers | | | | | | | | | | | | | | ■ ■ | |
| **Display/control elements** | | | | | | | | | | | | | | | |
| Pushbuttons | 1 | 1 | 2 | 1 | | 1 | 1 | 5 | 5 | 1 | 2 | 2 | 2 | 1 | 2 |
| •Operating mode | | | | | | | | ■ | ■ | | | | | | |
| •Apartment timer | | | | | | | | ■ | ■ | | | | | | |
| •Absence | | | | | | | | ■ | ■ | | | | | | |
| •Domestic hot water/ventilation | | | | | | | | - / ■ | ■ / ■ | | | | | | |
| •Info pages | | | | | | | | | ■ | | | | | | |
| •Programming RF | ■ | ■ | | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| •Adressing 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 and „Energy indicator" | | | ■ | | | | | | | | | | | | |
| •Addressing mode bus | | | ■ | | | | | | | | | | | | |
| **Power supply** | | | | | | | | | | | | | | | |
| Electronics powered via an integrated power suppply unit for supply voltage | | | | | | | | ■ | ■ | | ■ | ■ | ■ | | ■ |
| Electronics powered via an external 230 V AC 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) | 1x | | | | | | | | | | | | | | |
| **Bus connection** | | | | | | | | | | | | | | | |
| Integrated bus coupling unit | | | ■ | | | | | ■ | ■ | | | | | | |
| Bus connection via screw terminal | | | ■ | | | | | ■ | ■ | | | | | | |
| KNX RF with integrated antenna | ■ | ■ | | ■ | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| **Inputs** | | | | | | | | | | | | | | | |
| Universal inputs | 1 | | | | | | | 1 | 1 | | 1 | 1 | 4 | | |
| •Digital 0/1 | ■ | | | | | | | ■ | ■ | | ■ | ■ | ■ | | |
| •LG-Ni1000 | | | | | | | | ■ | ■ | | ■ | ■ | ■ | | |
| •DC 0...10 V | | | | | | | | | | | | | ■ | | |

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## ... Continuation of the table

| Type | AP 260/11 | ERF910 | OZW772... | QAA910 | QAC910 | QAW910 | QAX903.. | QAX913.. | QFP910 | RRV912 | RRV918 | RRV934 | SSA955 | WRI982 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pulse inputs | | | | | | | | | | | | | | 2 |
| •Reed contact | | | | | | | | | | | | | | ■ |
| •Reed contact with NAMUR-circuitry | | | | | | | | | | | | | | ■ |
| M-Bus channels | | | | | | | | | | | | | | 3 |
| Selected M-Bus meters | | | | | | | | | | | | | | ■ |
| **Outputs** | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | ■ | ■ | | | |

## Central functions

| | Central apartment unit | | Starter Kit | |
|---|---|---|---|---|
| Type | QAX903.. | QAX913.. | KIT911 | KIT914 |
| **Basis function** | | | | |
| Clock with power reserve | ■ | ■ | ■ | ■ |
| Meteorological forecast | ■ | ■ | | |
| Warning messages and failure indication | ■ | ■ | ■ | ■ |
| Device supervision | ■ | ■ | ■ | ■ |
| **Activation** | | | | |
| •Present / absent | ■ | ■ | | |
| •Partial or entire monitoring | | ■ | | |
| **Monitoring functions** | | | | |
| 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 | | ■ | | |
| **Light, blind and scene control** | | | | |
| Switching, dimming | | ■ | | |
| Open, close, steps | | ■ | | |
| Triggering | | ■ | | |
| Time program including absent logic | | ■ | | |
| Twilight control | | ■ | | |
| Presence simulation | | ■ | | |
| **HVAC apartment functions** | | | | |
| Setpoint limitation (heating, cooling) | ■ | ■ | | |
| Antilime function | ■ | ■ | | |
| **Outside temperature controlled...** | | | | |
| •night setback | ■ | ■ | | |
| •minimum flow setpoint | ■ | ■ | | |
| **Summer operation mode with predefined valve position** | | | | |
| •Manuel | ■ | ■ | | |
| •Fixed date | ■ | ■ | | |
| •Outside temperature dependent | ■ | ■ | | |
| •Digital input | ■ | ■ | | |

| ... Continuation of the table | | | | | |
|---|---|---|---|---|---|
| | **Central apartment unit** | | **Multicontroller** | **Starter kit** | |
| Type | QAX903.. | QAX913.. | RRV934 | KIT911 | KIT914 |
| **Domestic hot water** | | | | | |
| • Charge, changeover, release<br>• Temperature control<br>• Time program | | ■<br>■<br>■ | | | |
| **Floor cooling** | | | | | |
| • Override of room controller<br>• Flow temperature control with cooling curve<br>• Dew point monitoring<br>• Cooling demand per room group | ■<br>■ | ■<br>■ | ■<br>■ | | |
| **Domestic ventilation** | | | | | |
| • Fan steps<br>• Night cooling<br>• Operation-hour counter / maintenance message | 3<br>■<br>■ | 3<br>■<br>■ | 3 | | |
| **Superordinated HVAC functions** | | | | | |
| **Demand signals** | | | | | |
| • Heat request, switching / continous<br>• Refrigeration request, switching / continous | ■ / ■<br>■ / ■ | ■ / ■<br>■ / ■ | | ■ / -<br> | ■ / -<br> |
| **Room groups / zone control** | 2 | 2 | | | |
| • Room group pump<br>• Flow temperature control<br>• Flow temperature limitation<br>• Return temperature limitation | ■ | ■ | ■<br>■<br>■<br>■ | | |

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Radio system KNX RF / Synco living
**Technical specification**
**Individual room control**

## Individual room control

|  | Central apartment unit | | Starter kit | |
|---|---|---|---|---|
|  |  |  |  |  |
| Type | QAX903.. | QAX913.. | KIT911 | KIT914 |
| **HVAC room functions** | | | | |
| Number of rooms / zones | 12 | 12 | 2 | 2 |
| 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 | ▪ | ▪ | | |
| **Parallel operation** | | | | |
| •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 |
| **Room control** | | | | | | |
| **Sensor** | | | | | | |
| •Room temperature | ▪ [1] | | | ▪ | ▪ | |
| •Window contact (intern + terminal block)" | | | | | | ▪ |
| **Control** | | | | | | |
| •Operation modes with individual setpoint | ▪ | ▪ | ▪ | | | |
| •PID control | ▪ | ▪ | ▪ | | | |
| •Thermal actuator | ▪ | ▪ | ▪ | | | |
| •Electromotoric actuator" | ▪ | ▪ | | | | |

[1] Limited temperature measurement accuracy due to mounting condition

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Radio system KNX RF / Synco living
**Technical specification**
**Consumption data acquisition**

## Consumption data acquisition

| | Consumption data interface | Central apartment unit | | Web server |
|---|---|---|---|---|
| |  |  |  |  |
| Type | WRI982 | QAX93.. | QAX913.. | OZW772.. |
| **Inputs** | 2 | | | |
| **Pulse inputs** | | | | |
| • Reed contact | ■ | | | |
| • Reed contact with NAMUR circuitry | ■ | | | |
| **M-bus channels** | 3 | | | |
| Selected M-Bus meters | ■ | | | |
| **Display** | | | | |
| **Type of meters** | | | | |
| • 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 | ■ |
| **Functions** | | | | |
| Current value | ■ | ■ | ■ | ■ |
| Monthly values, due date values | ■ | ■ | ■ | ■ |
| Billing data transmission | | ■ | ■ | ■ |
| **Reporting** | | | | |
| **Consumption data file** | | | | |
| • Remote read out via Web | | | | ■ |
| • Periodical transmission to email receivers | | | | 2 |
| • Encryption | | | | ■ |

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## Central apartment unit with energy consumption data collection

**QAX913..**

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 TP1)
- 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
- Wireless communication with the devices of Synco living and Hager tebis TX product ranges
- Remote access via Siemens web server OZW772.xx
- Intuitive and simple control with Android or IOS App
- Collection of meter data (heat / cool, electricity, water, gas) to support automated meter reading & billing

| | |
|---|---|
| Data sheet | N2740 |
| | |
| Operating voltage | AC 230 V |
| Power consumption | 7 VA |
| Communication | KNX RF-compatible, 868.3 MHz bidirectional (RF) and KNX TP1 (wired bus) |
| Indoor wireless range | 30 m |
| Display | Full graphic backlit display |
| Universal input, signal | Digital 0/1 LG-Ni1000 |
| Universal inputs, number | 1 |
| Measuring range, temperature | 0...120 °C |
| Relay output, switching voltage | AC 24...230 V NO - contact |
| Relay output, switching current | AC 0.02...2 (2) A |
| Relay outputs, number | 1 |
| Degree of protection | IP20D |
| Dimensions (W x H x D) | 230 x 130 x 29.7 mm |

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## Range overview QAX913..

| Product Title | Data sheet | Stock No. | Product No. |
|---|---|---|---|
| Central apartment unit with energy consumption data collection, without instructions; plain text output in 23 languages<br><br>Without instructions; 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 | N2740 | S55621-H126 | **QAX913-9** |
| Central apartment unit with energy consumption data collection in German<br><br>Instructions in de; plain text output in de, en, es, fr, it, nl, pt | N2740 | S55621-H111 | **QAX913-DE** |
| Central apartment unit with energy consumption data collection in French<br><br>Instructions in fr; plain text output in de, en, es, fr, it, nl, pt | N2740 | S55621-H114 | **QAX913-FR** |
| Central apartment unit with energy consumption data collection<br><br>Instructions in it; plain text output in de, en, es, fr, it, nl, pt | N2740 | S55621-H116 | **QAX913-IT** |
| Central apartment unit with energy consumption data collection in Czech<br><br>Instructions in cs; plain text output in bg, cs, en, hu, pl, ru, sk | N2740 | S55621-H124 | **QAX913-CS** |

Manuals in several languages are available for download as PDF files from www.siemens.com/syncoliving-td

## Web-Server for QAX9..

| Product Title | Stock No. | Product No. |
|---|---|---|
| Web server for 1 Synco device | BPZ:OZW772.01 | **OZW772.01** |
| Web server for 4 Synco devices | BPZ:OZW772.04 | **OZW772.04** |
| Web server for 16 Synco devices | BPZ:OZW772.16 | **OZW772.16** |
| Web server for 250 Synco devices | BPZ:OZW772.250 | **OZW772.250** |

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## Central apartment unit for HVAC and energy consumption data collection

QAX903..

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 TP1)
- Display of meteorological data
- Presentation of key data on info pages
- Remote access via Siemens web server OZW772.xx
- Intuitive and simple control with Android or IOS App
- Collection of meter data (heat / cool, electricity, water, gas) to support automated meter reading & billing

| | |
|---|---|
| Data sheet | N2741 |
| | |
| Operating voltage | AC 230 V |
| Power consumption | 7 VA |
| Communication | KNX RF-compatible, 868.3 MHz bidirectional (RF) and KNX TP1 (wired bus) |
| Indoor wireless range | 30 m |
| Display | Full graphic backlit display |
| Universal input, signal | Digital 0/1 |
| | LG-Ni1000 |
| Universal inputs, number | 1 |
| Measuring range, temperature | 0...120 °C |
| Relay output, switching voltage | AC 24...230 V |
| | NO - contact |
| Relay output, switching current | AC 0.02...2 (2) A |
| Relay outputs, number | 1 |
| Degree of protection | IP20D |
| Dimensions (W x H x D) | 230 x 130 x 29.7 mm |

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**Synco living**
**Central apartment unit QAX9..**

## Range overview QAX903..

| Product Title | Data sheet | Stock No. | Product No. |
|---|---|---|---|
| Central apartment unit for HVAC and energy consumption data collection, without instructions; plain text output in 23 languages<br><br>Without instructions; 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 | N2741 | S55621-H125 | **QAX903-9** |
| Central apartment unit for HVAC and energy consumption data collection in German<br><br>Instructions in de; plain text output in de, en, es, fr, it, nl, pt | N2741 | S55621-H110 | **QAX903-DE** |
| Central apartment unit for HVAC and energy consumption data collection in French<br><br>Instructions in fr; plain text output in de, en, es, fr, it, nl, pt | N2741 | S55621-H113 | **QAX903-FR** |
| Central apartment unit for HVAC and energy consumption data collection in Italian<br><br>Instructions in it; plain text output in de, en, es, fr, it, nl, pt | N2741 | S55621-H115 | **QAX903-IT** |
| Central apartment unit for HVAC and energy consumption data collection<br><br>Instructions in cs; plain text output in bg, cs, en, hu, pl, ru, sk | N2741 | S55621-H123 | **QAX903-CS** |

Manuals in several languages are available for download as PDF files from www.siemens.com/syncoliving-td

## Web-Server for QAX9..

| Product Title | Stock No. | Product No. |
|---|---|---|
| Web server for 1 Synco device | BPZ:OZW772.01 | **OZW772.01** |
| Web server for 4 Synco devices | BPZ:OZW772.04 | **OZW772.04** |
| Web server for 16 Synco devices | BPZ:OZW772.16 | **OZW772.16** |
| Web server for 250 Synco devices | BPZ:OZW772.250 | **OZW772.250** |

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## 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 life | 3 years |
| Battery capacity | 2.5 Ah |
| Communication | KNX RF-compatible, 868.3 MHz bidirectional (RF) |
| Indoor wireless range | 30 m |
| Measuring range, temperature | 0...50 °C |
| Display | Segment LCD |
| Display size | Resolution 0.1 °C |
| Degree of protection | IP40 |
| Dimensions (W x H x D) | 84 x 130 x 23.6 mm |

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:QAW910 | **QAW910** |

**15**

| QAA910 | **Room temperature sensor** |
|---|---|

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 (sanddstone, 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 life | 3 years |
| Battery capacity | 2.5 Ah |
| Communication | KNX RF-compatible, 868.3 MHz unidirectional (RF) |
| Indoor wireless range | 30 m |
| Measuring range, temperature | 0...50 °C |
| Degree of protection | IP40 |
| Dimensions (W x H x D) | 84 x 84 x 23 mm |

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:QAA910 | **QAA910** |

**15**

## Radiator control actuator

**SSA955**

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)

| | |
|---|---|
| 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 |
| Degree of protection | IP40 |
| Mounting position | Upright to 90° inclined |
| Dimensions (W x H x D) | 48 x 95 x 80.6 mm |

Suitable adaptors for valves of other manufacturers types AV5 . and AV6 ., see chapter " Valves and actu-
ators for room- and zone applications"

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:SSA955 | **SSA955** |

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| 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 |
| Power consumption | 7 VA |
| Communication | KNX RF-compatible, 868.3 MHz bidirectional (RF) |
| Indoor wireless range | 30 m |
| Control algorithm | 2-position: PID, 3-position: PID |
| Triac output, switching voltage | AC 230 V |
| Triac output, switching current | 30 mA |
| Triac outputs, number | 2 |
| Universal output, signal | DC 0...10 V |
| Universal output, current | max. DC 1 mA |
| Universal outputs, number | 1 |
| Universal input, signal | Digital 0/1 |
| | LG-Ni1000 |
| Universal inputs, number | 1 |
| Measuring range, temperature | 0...120 °C |
| Relay output, switching voltage | AC 24...230 V |
| | NO - contact |
| Relay output, switching current | AC 0.02...2 (2) A |
| Relay outputs, number | 2 |
| Degree of protection | IP30 |
| Mounting | On DIN rail |
| | With screws |
| Dimensions (W x H x D) | 180 x 98 x 50 mm |

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:RRV912 | **RRV912** |

**15**

## Heating circuit controller, 8 heating circuits

**RRV918**

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 |
| Power consumption | 7 VA |
| Communication | KNX RF-compatible, 868.3 MHz bidirectional (RF) |
| Indoor wireless range | 30 m |
| Control algorithm | 2-position PID |
| Triac output, switching voltage | AC 230 V |
| Triac output, switching current | 30 mA |
| Triac outputs, number | 8 |
| Universal input, signal | Digital 0/1 |
| | LG-Ni1000 |
| Universal inputs, number | 1 |
| Measuring range, temperature | 0…120 °C |
| Relay output, switching voltage | AC 24...230 V |
| | NO - contact |
| Relay output, switching current | AC 0.02...2 (2) A |
| Relay outputs, number | 1 |
| Degree of protection | IP30 |
| Mounting | On DIN rail |
| | With screws |
| Dimensions (W x H x D) | 245 x 98 x 50 mm |

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:RRV918 | **RRV918** |

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## Synco living
## Multi controller RRV93..

| RRV934 | **Multicontroller** |
|---|---|



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 $CO_2$- 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 |
| Power consumption | 7 VA |
| Communication | KNX RF-compatible, 868.3 MHz bidirectional (RF) |
| Indoor wireless range | 30 m |
| Control algorithm | Precontroller: PI |
| Universal output, signal | DC 0...10 V |
| Universal output, current | max. DC 1 mA |
| Universal outputs, number | 2 |
| Universal input, signal | Digital 0/1 |
| | LG-Ni1000 |
| | DC 0...10 V |
| Universal inputs, number | 4 |
| Measuring range, temperature | 0...120 °C |
| Relay output, switching voltage | AC 24...230 V |
| | NO - contact |
| Relay output, switching current | AC 0,02...2 (2) A |
| Relay outputs, number | 4 |
| Degree of protection | IP30 |
| Mounting | On DIN rail |
| | With screws |
| Dimensions (W x H x D) | 245 x 98 x 50 mm |

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:RRV934 | **RRV934** |

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www.siemens.com/gamma

## Consumption data interface                                WRI982

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 Synergyr 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 Synergyr OZW30
- KNX RF communication to QAX913 or QAX903

| | |
|---|---|
| Data sheet | N2735 |
| | |
| Operating voltage | AC 230 V |
| Power consumption | 7 VA |
| Communication | KNX RF-compatible, 868.3 MHz bidirectional (RF) |
| | BatiBus communication to Synergyr OZW30 |
| Indoor wireless range | 30 m |
| Degree of protection | IP30 |
| Mounting | On DIN rail |
| | or with screws |
| Dimensions (W x H x D) | 120 x 90 x 50 mm |

| | Stock No. | Product No. |
|---|---|---|
| | S55621-H112 | **WRI982** |

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# Synco living
## Water monitor QFP910 and Meteo sensor QAC910

**QFP910**

### Water monitor

Wireless sensor for detecting water leaks.
The QFP910 sends its status (dry / water leak) to the Central Apartment Unit QAX913 periodically or if there is a change in status.

- Battery-powered by commercially available 1.5 V batteries  (contained in the scope of delivery)
- External water leak sensor
- RF communication based on KNX standard (868 MHz, unidirectional)

| | |
|---|---|
| Data sheet | N2732 |
| | |
| Voltage supply | Mignon (2xAA) LR6 |
| Battery life | 3 years |
| Battery capacity | 2.5 Ah |
| 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 x23 mm |

| | Stock No. | Product No. |
|---|---|---|
| | S55371-C100 | **QFP910** |

**QAC910**

### Meteo sensor

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

| | |
|---|---|
| Data sheet | N2702 |
| | |
| Voltage supply | Mignon (2xAA) LR6 |
| Battery life | 3 years |
| Battery capacity | 2.5 Ah |
| Communication | KNX RF-compatible, 868.3 MHz unidirectional (RF) |
| Indoor wireless range | 30 m |
| Measuring range, temperature | -50...50 °C |
| Degree of protection | IP40 |
| Additional info | Dimensions (W x H x D): |
| | Outside sensor: 80 X 92 x 50 mm |
| | RF transmitter: 84 x 84 x 23 mm |

| | Stock No. | Product No. |
|---|---|---|
| | BPZ:QAC910 | **QAC910** |

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## RF repeater

**ERF910**

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** |

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| AP 260/11 | **Door/window contact with battery, titanium white** |
|---|---|

- 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 mm2 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

| | |
|---|---|
| Data sheet | TPI: Door/window contact wave AP 260 |
| Dimensions (W x H x D) | 87 x 36 x 27 mm |

Battery included in delivery.

| | Stock No. | Product No. |
|---|---|---|
| | 5WG3260-3AB11 | **AP 260/11** |

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## Starter kit

Wireless starter kit for radiator application, consisting of:
- One QAW912 room unit - 2 heating zones
- One or 4 SSA955 radiator control actuators

The starter kit can be complemented by additional SSA955 - up to a total of 6

| | |
|---|---|
| Data sheet | N2720 |
| | |
| Communication | KNX RF-compatible, bidirectional, 868.3 MHz |
| Indoor wireless range | 30 m |

## Range overview KIT91..

| Product Title | Packaging unit | Data sheet | Stock No. | Product No. |
|---|---|---|---|---|
| Starter kit with room unit and 1 radiator control actuator | 1 x QAW912 + 1 x SSA955 | N2720 | S55621-H103 | **KIT911** |
| Starter kit with room unit and 4 radiator control actuators | 1 x QAW912 + 4 x SSA955 | N2720 | S55621-H104 | **KIT914** |

**15**

| QAW912 | **Room unit with KNX RF for 2 heating zones** |
|---|---|

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 funtion 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 ≥2.5 Ah) |
| Communication | KNX RF-compatible, bidirectional, 868.3 MHz |
| Indoor wireless range | 30 m |
| Measuring range, temperature | 0...50 °C |
| Display | Segment LCD |
| Display size | Resolution 0.1 °C |
| Degree of protection | IP40 |
| Dimensions (W x H x D) | 84 x 130 x 23.6 mm |

| | Stock No. | Product No. |
|---|---|---|
| | S55621-H102 | **QAW912** |

**15**

# Radio System – EnOcean

**16**

# Overview and selection guides
## EnOcean

EnOcean is ratified since March 2012 to an international standard based on the International Electrotechnical Commission (IEC) with ISO/IEC 14543-3-10. Batteryless sensors are independent of energy sources and therefore are completely maintenance-free and enormously flexible. The use of battery-less sensors therefore opens up new possibilities.

As a result of the flexible installation of maintenance-free products from Siemens with EnOcean technology, universal and individual solutions can be offered from a single room to an entire building complex without extra cables. With an EnOcean gateway, the integration of sensors for lighting, sun protection and air-conditioning applications into building automation systems is possible.



Building Automation System

KNX          BACnet

Lighting          Sun Protection          enocean          Heating, Ventilation, Cooling
                                          Gateway
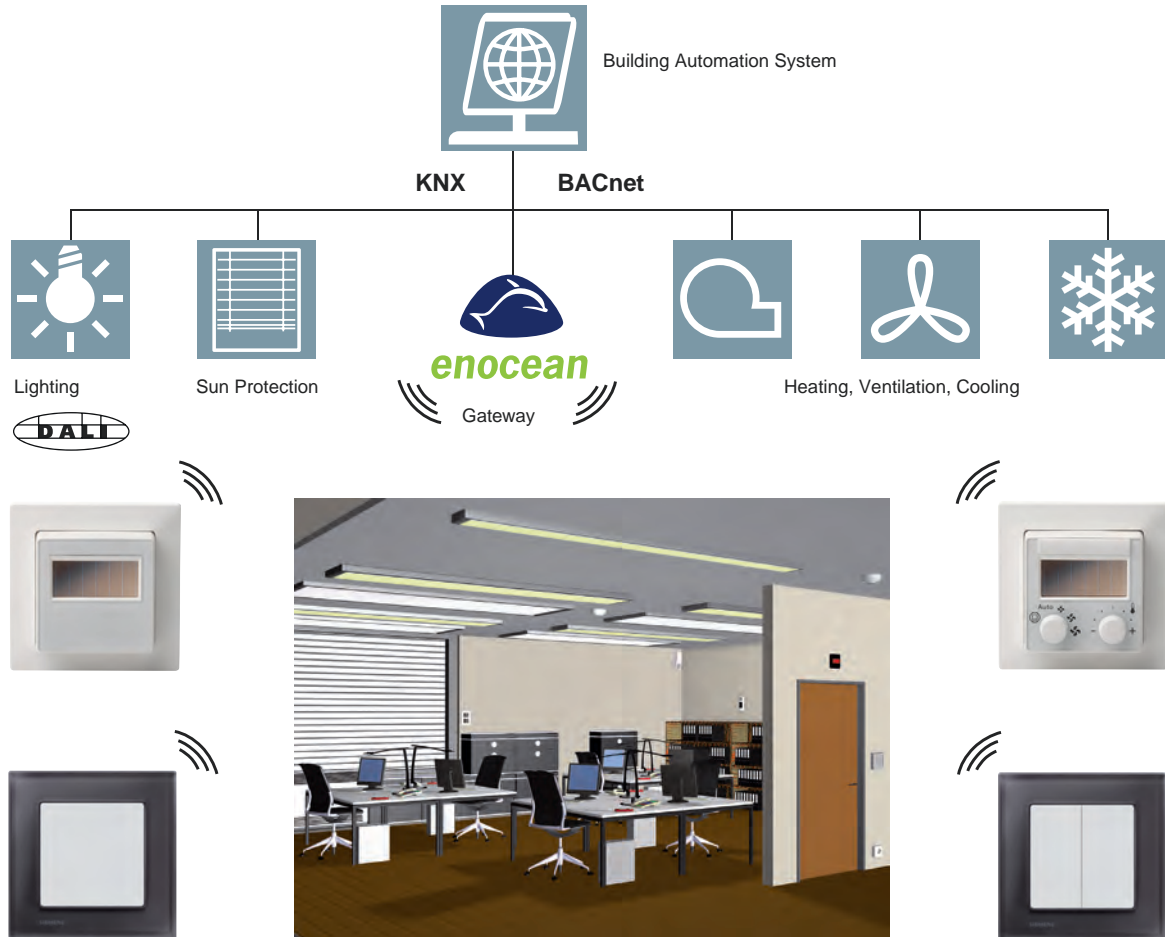
**What are the benefits of EnOcean technology?**

• Ecological, because no battery to dispose of and minimum radiant energy (less than with wired pushbuttons)
• Extensive energy savings
• Maintenance-free
• Short installation times
• Reduction in fire load
• Flexibility of the applications

## Display and operation units

As a result of their flexible installation, the maintenance-free operating devices with EnOcean technology can be fitted anywhere without extra cables.An EnOcean gateway enables the integration of the operating devices for light, sun protection and HVAC applications in building automation systems.

Completely flexible

EnOcean operating devices can be mounted on any surface without cables. Simply screw or stick – done. The EnOcean operating devices can be combined with all DELTA miro and DELTA line frames.

Completely maintenance-free

The EnOcean operating devices are battery-free: It is not necessary to change batteries. The operating devices are therefore maintenance-free and environmentally friendly.

Further information on EnOcean technology is available on the Internet at: www.siemens.com/enocean

16-2

## Wall transmitter, EnOcean,single, DELTA i-system

AP 221

- One or two centered rockers
- Vertical operation
- Energy generation at the button press by means of induction, without batteries, maintenance-free
- Up to 2 pushbutton functions per rocker
- Selectable function per pushbutton: Switching Over, Switching On, Switching Off, 8-bit value, 1 pushbutton dimming, 1 pushbutton sun protection control
- For the pushbutton pair selectable function Switching ON/OFF, 2-button dimming with stop telegram, 2-button sun protection control
- Radio telegram according to EnOcean standard at 868.3 MHz
- Transmitting power of max. 10 mW
- As surface-mounting unit for screwing or sticking

Dimensions (W x H x D)          55 x 55 x 7.3 mm
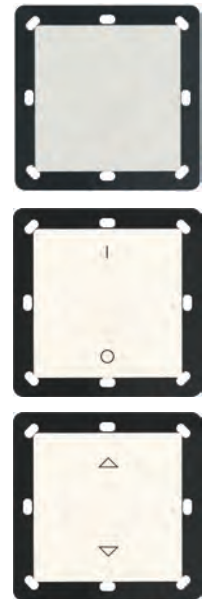
### Range overview AP 221

| Product Title | Stock No. | Product No. |
|---|---|---|
| Wall transmitter, EnOcean, titanium white | 5WG4221-3AB10 | **AP 221/10** |
| Wall transmitter EnOcean, aluminum metallic | 5WG4221-3AB30 | **AP 221/30** |
| Wall transmitter EnOcean, with I/O-symbols, titanium white | 5WG4221-3AB11 | **AP 221/11** |
| Wall transmitter EnOcean, with I/O-symbols, aluminum metallic | 5WG4221-3AB31 | **AP 221/31** |
| Wall transmitter EnOcean, with up/down-symbols, titanium white | 5WG4221-3AB12 | **AP 221/12** |
| Wall transmitter EnOcean, with up/down-symbols, aluminum metallic | 5WG4221-3AB32 | **AP 221/32** |

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

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| AP 222 | **AP222 Wall transmitter, EnOcean, double, DELTA i-system** |
|---|---|

- One or two centered rockers
- Vertical operation
- Energy generation at the button press by means of induction, without batteries, maintenance-free
- Up to 2 pushbutton functions per rocker
- Selectable function per pushbutton: Switching Over, Switching On, Switching Off, 8-bit value, 1 pushbutton dimming, 1 pushbutton sun protection control
- For the pushbutton pair selectable function Switching ON/OFF, 2-button dimming with stop telegram, 2-button sun protection control
- Radio telegram according to EnOcean standard at 868.3 MHz
- Transmitting power of max. 10 mW
- As surface-mounting unit for screwing or sticking

Dimensions (W x H x D)        55 x 55 x 7.3 mm

## Range overview AP 222

| Product Title | Stock No. | Product No. |
|---|---|---|
| Wall transmitter EnOcean, titanium white | 5WG4222-3AB10 | **AP 222/10** |
| Wall transmitter EnOcean, aluminum metallic | 5WG4222-3AB30 | **AP 222/30** |
| Wall transmitter EnOcean, with I/O-symbols, titanium white | 5WG4222-3AB11 | **AP 222/11** |
| Wall transmitter EnOcean, with I/O-symbols, aluminum metallic | 5WG4222-3AB31 | **AP 222/31** |
| Wall transmitter EnOcean, with up/down symbols, titanium white | 5WG4222-3AB12 | **AP 222/12** |
| Wall transmitter EnOcean, with up/down symbols, aluminum metallic | 5WG4222-3AB32 | **AP 222/32** |

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

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## Room unit with EnOcean interface

QAX95.4

- Acquisition of the room temperature
- Powered by solar cell
- A gateway is mandatory (EnOcean / KNX)
- Optional use of battery if light conditions are insufficient
- Including design frame DELTA line, titan white

For use with units from the following product ranges:
- RXB (together with gateway EnOcean/KNX, RXZ97.1/KNX)
- Devices with KNX Communication

| | |
|---|---|
| Voltage supply | Solar cell |
| Measuring range, temperature | 0...50 °C |
| Measurement accuracy | ±0.4 K |
| Time constant | ≤16 min |
| Degree of protection | IP30 |
| Dimensions (W x H x D) | 55 x 55 x 19 mm |
| Weight | 0.05 kg |

| Stock No. | Product No. |
|---|---|
| S55623-H104 | **QAX95.4** |

## Room unit with EnOcean interface, setpoint adjuster

QAX96.4

- Acquisition of the room temperature
- Room temperature setpoint adjustment
- Powered by solar cell
- A gateway is mandatory (EnOcean / KNX)
- Optional use of battery if light conditions are insufficient
- Including design frame DELTA line, titan white

For use with units from the following product ranges:
- RXB (together with gateway EnOcean/KNX, RXZ97.1/KNX)
- Devices with KNX Communication

| | |
|---|---|
| Voltage supply | Solar cell |
| Measuring range, temperature | 0...50 °C |
| Measurement accuracy | ±0.4 K |
| Time constant | ≤16 min |
| Setpoint readjustment range | ±10 K |
| Degree of protection | IP30 |
| Dimensions (W x H x D) | 55 x 55 x 28 mm |
| Weight | 0.05 kg |

| Stock No. | Product No. |
|---|---|
| S55623-H105 | **QAX96.4** |

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| QAX97.4 | **Room unit with EnOcean interface, setpoint adjuster, button and switch** |
|---|---|

- Acquisition of the room temperature
- Room temperature setpoint adjustment
- Freely-programmable button
- Step switch (2 stages)
- Powered by solar cell
- A gateway is mandatory (EnOcean / KNX)
- Optional use of battery if light conditions are insufficient
- Including design frame DELTA line, titan white

For use with units from the following product ranges:
- RXB (together with gateway EnOcean/KNX, RXZ97.1/KNX)
- Devices with KNX Communication

| | |
|---|---|
| Voltage supply | Solar cell |
| Measuring range, temperature | 0...50 °C |
| Measurement accuracy | ±0.4 K |
| Time constant | ≤16 min |
| Setpoint readjustment range | ±10 K |
| Degree of protection | IP30 |
| Dimensions (W x H x D) | 55 x 55 x 28 mm |
| Weight | 0.05 kg |

| | Stock No. | Product No. |
|---|---|---|
| | S55623-H106 | **QAX97.4** |

| QAX98.4 | **Room unit with EnOcean interface, setpoint adjuster, button and switch for fan stages** |
|---|---|

- Acquisition of the room temperature
- Room temperature setpoint adjustment
- Freely-programmable button
- Step switch (5 stages)
- Powered by solar cell
- A gateway is mandatory (EnOcean / KNX)
- Optional use of battery if light conditions are insufficient
- Including design frame DELTA line, titan white

For use with units from the following product ranges:
- RXB (together with gateway EnOcean/KNX, RXZ97.1/KNX)
- Devices with KNX Communication

| | |
|---|---|
| Voltage supply | Solar cell |
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| Degree of protection | IP30 |
| Dimensions (W x H x D) | 55 x 55 x 28 mm |
| Weight | 0.05 kg |

| | Stock No. | Product No. |
|---|---|---|
| | S55623-H107 | **QAX98.4** |

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## Radio frequency receiver with Gateway EnOcean/KNX

**RXZ97.1/KNX**

- Evaluation of up to 32 EnOcean channels
- With RXB, other EnOcean functions may also be integrated: switches, window contacts, motion detectors
- Other EnOcean functions (dimming, blinds, light sensors) can be realized in KNX systems
- Powered via KNX bus
- With internal antenna

| | |
|---|---|
| Operating voltage | DC 24 V |
| Voltage supply | KNX bus |
| Power consumption | 0.6 VA |
| Ambient temperature, operation | -5...45 °C |
| Ambient humidity, operation | 5...93 % r.H. |
| Degree of protection | IP20 |
| Dimensions (W x H x D) | 71 x 71 x 27 mm |
| Weight | 0.07 kg |

| | Stock No. | Product No. |
|---|---|---|
| | S55842-Z101 | **RXZ97.1/KNX** |

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# Appendix

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**Allgemeines**

Controlling, monitoring, signaling



Sensors (control stations)

Bus line

230/400 V

Actuators (receivers)
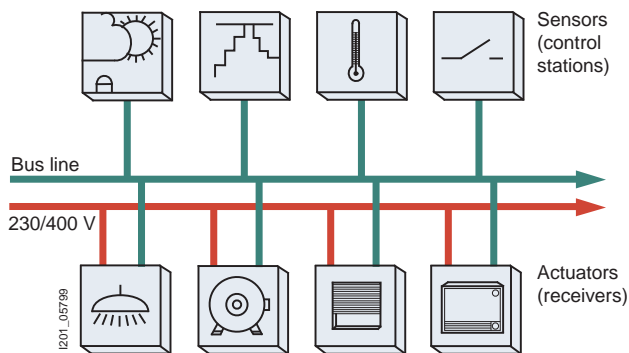
Ever increasing demands made on the flexibility and convenience of electrical installations, combined with the requirement to minimize energy requirements, have led to the development of building management systems. The bus technology used in these systems is based on manufacture-independent and internationally standardized technology: KNX. More than 100 manufacturers support this standard and have joined forces to form the KNX Association.

The member companies ensure the availability of bus-compatible products. This has made it possible for devices from various manufacturers to be used in a single KNX system.

Demand for more convenience and the fact that more and more is technically possible means that an increasing amount of time and effort is being devoted to electrical installations. While conventional electrical installation technology has reached the limits of its capabilities, Gamma *instabus*, the intelligent building management systems from Siemens based on KNX has made it possible to satisfy these comprehensive demands with solutions that are both easy to manage and affordable.

System advantages

In conventional electrical installations, each function needs its own cable and each control system a separate network. By contrast, Gamma *instabus* allows all operational functions and processes to be controlled, monitored and signaled via a single common cable. This means that the energy feeder can be routed directly to consumers without any detours.

Not only does this reduce the amount of cables required, it also has other huge advantages: electrical installations in buildings are far simpler to install, and it is also easy to add any subsequent extensions and make modifications. If the purpose or configuration of a building is changed, the Gamma *instabus* system is easy to adapt by simply reassigning the various bus devices (changing their parameters), without the need to lay any new cables. These parameters can be reassigned using a PC connected to Gamma *instabus* and the configuration and commissioning software ETS (Engineering Tool Software).

With the right interfaces, Gamma *instabus* can also be connected to the control centers of other building management and automation systems (e.g. SICLIMAT X) or to a public telephone network (e. g. ISDN) or using a LAN/Internet connection. It is therefore just as cost-effective to use the Gamma *instabus* in the family home as in hotels, schools, banks, office buildings or complex non-residential buildings.

Transmission technology

The KNX-based Gamma *instabus* is a distributed, event-controlled bus system with serial data transmission for the controlling, monitoring and signaling of operational functions.

All the connected bus devices can exchange data over a common transmission path, the bus. Data is transmitted in serial mode and in compliance with precisely defined rules (the bus protocol). The data to be transmitted is packed into a telegram and sent over the bus from a sensor (the command output) to one or more actuators (the command receiver).

Each receiver acknowledges receipt of the telegram when the transmission is successful. If no acknowledgement is issued, transmission is repeated up to three times. If the telegram is still not acknowledged, the send operation is aborted and the error noted in the memory of the transmitter.

Transmission of data using KNX is not electrically isolated as the power supply for the bus devices (24 V DC) is transmitted at the same time. The telegrams are modulated on this direct voltage, whereby a logic zero is transmitted as a pulse. The omission of a pulse is interpreted as a logic One.

The individual data of the telegrams are transmitted in asynchronous mode. However, transmission is synchronized by start and stop bits.

Access to the bus as the shared physical medium of communication for asynchronous transmission must be controlled unambiguously. In the case of KNX, the CSMA/CA procedure is used for this purpose. The CSMA/CA procedure guarantees collisionfree access to the bus without any reduction of bus data throughput.

All stations listen in but only those actuators actually addressed respond. If a station wants to transmit, it first has to listen in and wait until no other station is transmitting (Carrier Sense). When the bus is unoccupied, any station can begin a transmission operation (Multiple Access).

If two stations begin to transmit simultaneously, the higher-priority instantly asserts itself on the bus (Collision Avoidance), while the other station pulls back and restarts the transmission operation some time later.

If the two stations have an identical level of priority, the one with the smaller physical address asserts itself.

Addressing

Every letter needs an address in order for it to be correctly delivered by the postal service. The addressing of bus devices is similar, but the form used for postal purposes is unsuitable in this case.

During configuration with the ETS, each bus device is assigned its own physical address with which it can be uniquely identified, just as a postal address is a unique ID for the recipient of a letter. However, the physical address has to be expressed in the language of the bus, and is based on the topological structure of the KNX system.

Physical addressing is used by the ETS only for commissioning the individual bus devices or for servicing and diagnostics activities. In this case the addressing is performed along the same lines as for the postal delivery service.

Unlike the postal service, which delivers a letter to the recipient's address, the configured group address is written into each telegram sent by the transmitter. Every bus device listens to this telegram, reads the group address contained in it, and checks whether the telegram is addressed to it or not.

The group address to which a bus device should respond is assigned during configuration of the KNX system using ETS. Unlike the postal delivery service, several group addresses can be assigned to one bus device.

When a bus device is listening to a telegram on the bus, it will always receive the telegram if it responds to the group address entered in the telegram. If not, it will discard the telegram as not being intended for it.

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## Topology

Up to 64 bus-compatible devices (stations) can be connected to and operated on the smallest unit of the KNX system, i. e. on a single line. Using line couplers connected to the so-called main line it is possible to bundle up to 15 lines in an area.

Fifteen areas can be joined together by means of backbone couplers, which are connected to the so-called backbone lines, in order to form a larger unit.

Interfaces (gateways) to third-party systems (SICLIMAT X, LAN, etc.), or additional KNX systems are connected to the backbone line.

Although more than 14,000 devices can be interconnected in a single unit, the clear-cut logic of the system is preserved. Telegrams only ever overstep the interfaces to other lines and function areas if they are needed in those areas. This minimizes the telegram load on the main line. Line/backbone couplers carry out the necessary filter function.

The physical address is based on this topological structure: every device can be uniquely identified through the specification of its area, line and device number. For assignment of the devices to the operational functions the group addresses are divided into main groups and subgroups.

During configuration it is possible to divide the group addresses for different management functions into as many as 14 main groups, e. g. for

• Lighting control
• Shutter/blind control
• Room control for heating, ventilation, air conditioning.

Each main group can include as many as 2048 subgroups, to suit the user's requirements. This means that each device is able to communicate with all the other ones..

## Technology

Each line requires its own power supply unit for the devices, and is therefore self-sufficient.

The Siemens power supply unit supplies the individual devices on the line with SELV (safety extra-low voltage) of 24 V DC and, depending on the version, can be loaded with 160 mA, 320 mA or 640 mA. It features both voltage and current limiting and is therefore short-circuit resistant. Short system interruptions are jumpered with a buffer period of 200 ms.

The bus load depends on the type of devices connected. The devices are ready for operation at a minimum of 21 V DC and typically draw 150 mW from the bus. If there is a concentration of a large number of bus devices in a single location, the power supply unit must be located in the near vicinity.

A maximum of two power supply units are permissible on one line. A minimum distance of 200 m of cable length must be observed between the two power supply units.

The length of a cable plus all junctions must not exceed 1000 m. The distance between a power supply unit and a device must not exceed 350 m. In order to ensure that there are no telegram collisions, the distance between two devices should be limited to a maximum of 700 m. The bus cable can be laid parallel to the mains cable. It can be looped and branched. A cable terminating resistor is not required. The devices are connected to the bus by means of either pressure contact or bus terminals. Connection by means of pressure contact is achieved by simply snapping the devices (designed for installation in distribution boards) on to the TH35 EN 60715 standard mounting rail with integrated data rail. Transition from the data rail to the bus cable is effected by a connector. The bus cable is connected to surface-mounting, flushmounting, wall-mounting, ceiling-mounting and built-in devices by plugging on the bus terminal.



Line    1    2    3    4    .......................    12    13    14    15

LC    Line coupler

**17**
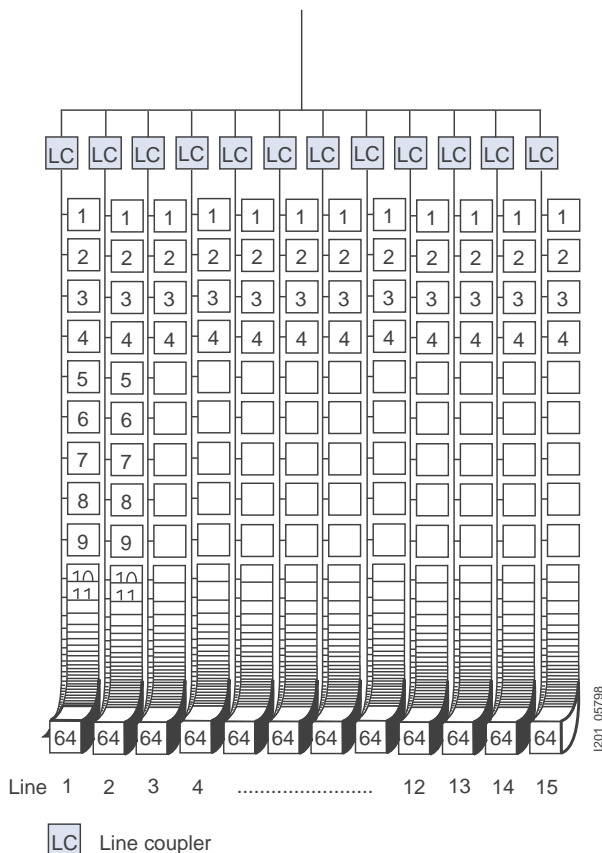
**Devices**

Each device generally comprises a universal Bus Coupling Unit (BCU)
and a task-specific Bus Terminal (BT, e. g. pushbutton or display), which
exchanges information with the BCU via the User Interface (UI). The
BCU receives telegrams from the bus, decodes them and actuates the
BT. Conversely, the BT sends information to the BCU, which encodes it
and sends it as a telegram onto the bus.
During configuration and commissioning with the ETS, the BCU recei-
ves the parameterization data for the function that is to be performed.
For this purpose, the BCU contains a Microprocessor (MP) with a
non-volatile ROM (Read Only Memory), a volatile RAM (Random Access
Memory) and a non-volatile EEPROM (Electrically Erasable Programma-
ble ROM).
The ROM contains the system-specific software that cannot be chan-
ged by the user. The parameterization data for the function of the BCU
to be performed are saved by the ETS in the EEPROM. The current data
are saved by the MP in the RAM.
The assignment of the UI pins differs on the various BTs. This ensures
that a BT connected through the UI is able to communicate error-free
with the BCU when the relevant application program has been loaded
by ETS in the EEPROM of the BCU.



| | |
|---|---|
| LC | Line coupler |
| BbC | Backbone coupler |
| 1.... | Bus devices |

## System data

| Bus cable | | |
|---|---|---|
| • Cable type | mm2 | YCYM 2 x 2 x 0.8 <br> One core pair (red, black) for signal transmission and power supply, one core pair (yellow, white) for additional applications (SELV or voice) |
| Cable length | | |
| • Cable lengths of one line in total (core diameter: 0.8 mm) | m | max. 1 000 (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 | | Line, star or tree structure |
| Power supply | | |
| • Power supply | V DC | 24 (SELV safety extra-low voltage) |
| • Power supply units per line | | One power supply unit (160, 320 or 640 mA) |
| Transmission | | |
| • Transmission technology | | Distributed, event-controlled, serial, symmetric |
| • Baud rate | bit/s | 9600 |

## Device features (unless otherwise specified)

| 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 50081-1 and prEN 50082-2 (severity 3), prEN 50090-2-2, KNX/EIB manual |
| Resistance to climate | | prEN 50090-2-2, KNX/EIB manual |
| 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 | -40 to +55 |
| • Humidity in storage | % | Max. 93 |
| Certification | | KNX/EIB certified |
| CE marking | | Compliant with EMC Directive (residential and non-residential buildings), Low Voltage Directive |

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## Gamma _instabus_ Devices comply with UL standard

Broad spectrum

UL standards are used in North America, but also in several other countries. 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 specif ed use.

Further links

www.ul.com for general UL information

www.ul.com/database for UL-listed devices

www.ul-europe.com for UL information concerning Europe

www.siemens.com/gamma for information on Gamma products

Overview of IEC – UL standards



■ IEC e.g.: EN, VDE, BS, NF
■ UL/CSA
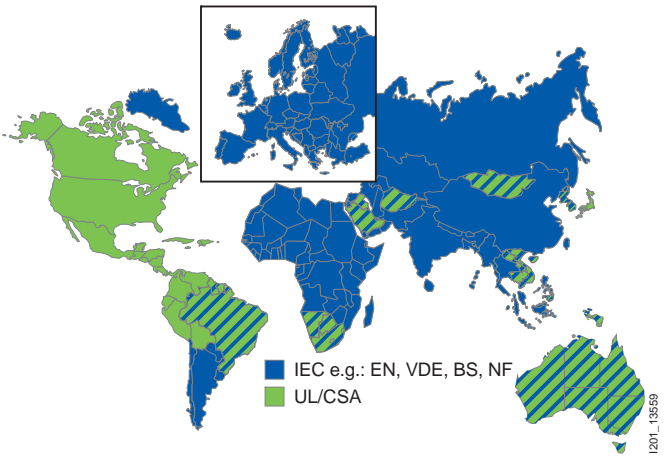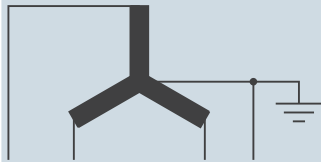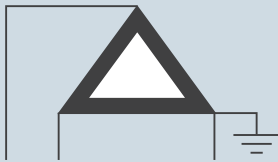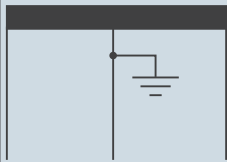
Worldwide application of EN/IEC or UL standards

Low-voltage systems in the USA

While a variety of different systems are used in the USA, three-phase systems with 240 V and 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 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<br>Caution:<br>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. | Three-phase delta, 3 wires, grounded corner | Single phase, 120 V/240 V, grounded midpoint |
| 480 V Y/277 V[1] | 240 V | 240 V, phase conductor |
| 600 V Y/347 V[1] | 480 V | 120 V to ground |
| 240 V Y/131 V[1] | 600 V | |
| 208 V Y/120 V[1] | | |

[1] 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).

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## Explanation of UL symbols

All symbols and descriptions of UL symbols can be found on the Internet: www.ul.com/mark/art.htm

General information about UL can be found at: www.ul.com

| Symbol | Application |
| --- | --- |
| | **UL symbol**<br>This is the most used UL symbol. If a product has this mark, it means that the device samples tested by UL have met the UL safety requirements. These requirements are largely based on the UL standards published by UL. This mark can be found on all types of devices, such as household appliances, computers, fuses, electrical switchgear, fire extinguishers, life belts and thousands of other devices. |
| | **c-UL symbol**<br>This mark applies to 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. |
| | **c-UL US symbol**<br>This symbol was introduced at the beginning of 1998. It means that the device bearing this mark complies with both UL and Canadian regulations. |
| | **UR, c-UR and c-UR US symbol**<br>Recognized component mark and Canadian recognized component mark<br>These symbols are seldom seen by consumers as they are affxed 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 installeduniversally 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 ﮙ 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, SITOR fuses, ...



GAMMA instabus
UL listed according to UL 916
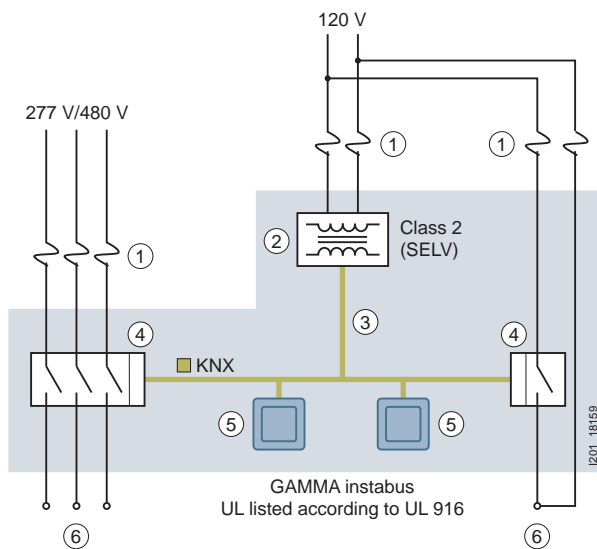
① Feeder protection
② Bus power supply
③ Bus line
④ Load switch
⑤ Wall switch
⑥ Load

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**5WG1 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 < 30 V DC and < 1.5 A power supply, and that are not connected to voltages greater than 30 V AC/DC, meet the conditions of Class 2 equipment. These devices can be used as energy management equipment according to UL 916 (energy management equipment accessories).

List of available products that require a UL mark.

| | Version | Article No. | Type |
|---|---|---|---|
| | N 125 power supply units ⓤ<br>Integrated choke, 160 mA | 5WG1 125-1AB01 | N 125 |
| | N 125/11 power supply units ⓤ<br>Integrated choke, 320 mA | 5WG1 125-1AB11 | N 125/11 |
| | N 125/21 power supply units ⓤ<br>Integrated choke, 640 mA,<br>additional unchoked output, 29 V DC | 5WG1 125-1AB21 | N 125/21 |
| | N 141/02 KNX/DALI gateways ⓤ | 5WG1 141-1AB02 | N 141/02 |
| | N 261 binary inputs ⓤ<br>4 inputs for 24 V AC/DC | 5WG1 261-1CB01 | N 261 |
| | N 512 load switches ⓤ<br>8 x 120 V/277 V AC, 20 A; 347 V AC, 15 A | 5WG1 512-1CB01 | N 512 |
| | N 526E02 switch/dimming actuators ⓤ<br>8 x 120 V/277 V AC, 20 A; 347 V AC, 15 A | 5WG1 526-1EB02 | N 526E02 |
| | N 523/CB04 shutter/blind actuators ⓤ<br>4 x 120 V AC, 6 A | 5WG1 523-1CB04 | N 523/CB04 |

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**Faster downloads save time**

In every Gamma *instabus* project, the devices are commissioned once they have been installed. Once the physical addresses have been assigned, application programs, parameters and addresses are loaded to the devices. Particularly in the case of larger projects with a large number of devices, this can be a time-consuming process. However, with the Siemens LAN connection, this can now all be carried out much faster.

This saves you time and money.
Simply connect your notebook to the Gamma *instabus* over the N 148/21 IP interface and start the download. By comparison: using LAN, the download now only takes about half the time required using RS232 or USB.

The solution



- KNX
- LAN (Ethernet cross cable)
- IP interface
- LAN-capable notebook
- KNX device
- KNX device
- KNX device
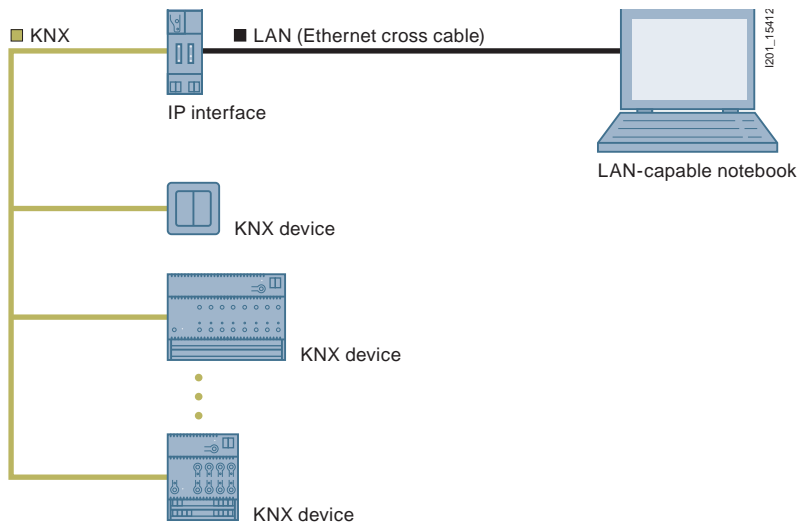
The benefits

- Planning, configuring, commissioning and diagnosis with ETS3 (KNX commissioning software)
- Simply connect your notebook and start the download
- Downloading twice as fast, thus saving you considerable time during commissioning

Proceed as follows

- Connect the IP interface to the KNX
- Connect the notebook to the IP interface via the Ethernet cross cable – and start downloading.

You require the following

- N 148/22 IP interface (5WG1 148-1AB22)
- 24 V power supply for N 148/22 IP interface
  (e. g. 4AC2 402, Power over Ethernet, unchoked bus voltage)
- Ethernet cross cable
- LAN-capable notebook
- ETS3 (current version see www.knx.org)

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.

**Commissioning – Now you can do it yourself**

In every Gamma _instabus_ project, the devices are commissioned once they have been installed. First you need to assign the physical addresses. To do this, select the device in the ETS3 (KNX commissioning software) on your notebook and press the programming pushbutton on the device. In the case of distributed devices, such as flush mounting bus coupling units, this means a lot of running around! This is one reason why these commissioning tasks are usually carried out in pairs.

But now you no longer have to go to all this trouble. Simply wirelessly connect your notebook to the KNX via W-LAN. Now you are free to roam during the commissioning process – simply take your notebook with you, wherever it's needed. It really couldn't be any quicker or easier. And there is no risk of errors, such as mixing up the devices due to ambiguous calling.

The solution
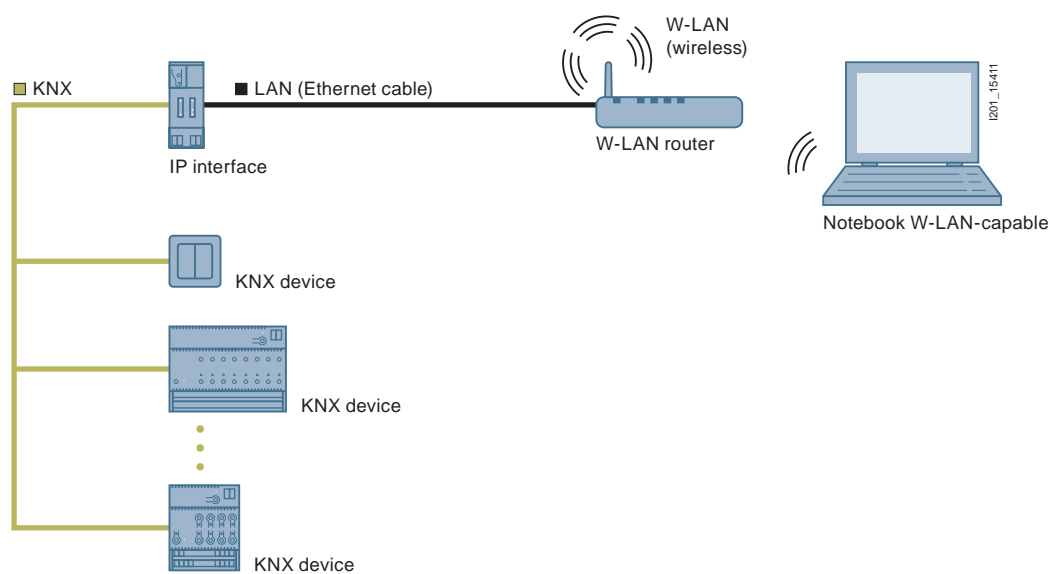


The benefits

• Wireless Gamma _instabus_ commissioning via W-LAN
• Freedom of movement within the building
• Single-person commissioning

Proceed as follows

Connect the IP interface to the KNX, connect the W-LAN router to the IP interface using the Ethernet cable – and you're off - free to roam the entire building with your notebook and the ETS.

You require the following

• N 148/22 IP interface (5WG1 148-1AB22)
• 24 V power supply for N 148/22 IP interface
  (e. g. 4AC2 402, Power over Ethernet, unchoked bus voltage)
• Ethernet
• W-LAN router
• W-LAN-capable notebook
• ETS3 (current version see www.knx.org)

Note:
W-LAN stands for Wireless Local Area Network and describes a „wireless" local radio network for data transmission.
W-LANs are quick and easy to install, cover large areas and operate cost-effectively.

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## Connect main and backbone lines via KNXnet/IP

With the new KNXnet/IP standard, KNX telegrams can be transmitted via Ethernet (LAN). This enables new 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.

The solution
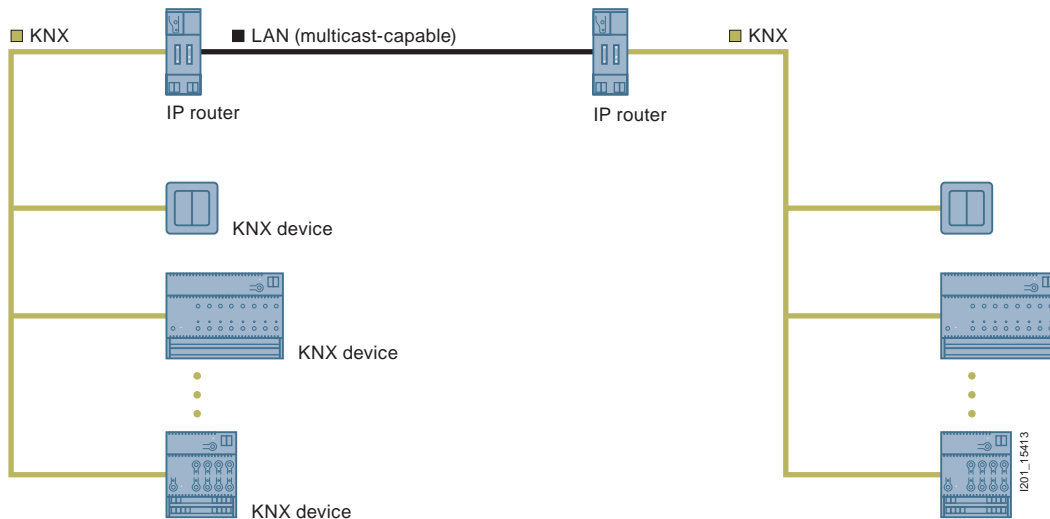


The benefits

• LAN as main and backbone line
• Supports data transmission over greater distances
• Utilization of existing data networks and components (LAN)

Proceed as follows

• Connect an N 146/02 IP router to each KNX line
  (instead of an N 140/03 line coupler)
• Connect the N 146/02 IP router over a multicast-capable LAN
• Commission each N 146/02 IP router like a „conventional" line/ backbone coupler using the ETS3.

You require the following

• N 146/02 IP router (5WG1 146-1AB02), 1 x per line
• 24 V power supply for N 146/02 IP Router
  (e. g. 4AC2 402, Power over Ethernet, unchoked bus voltage)
• Ethernet patch cable or LAN, depending on size
• ETS3 (current version see www.knx.org)

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.
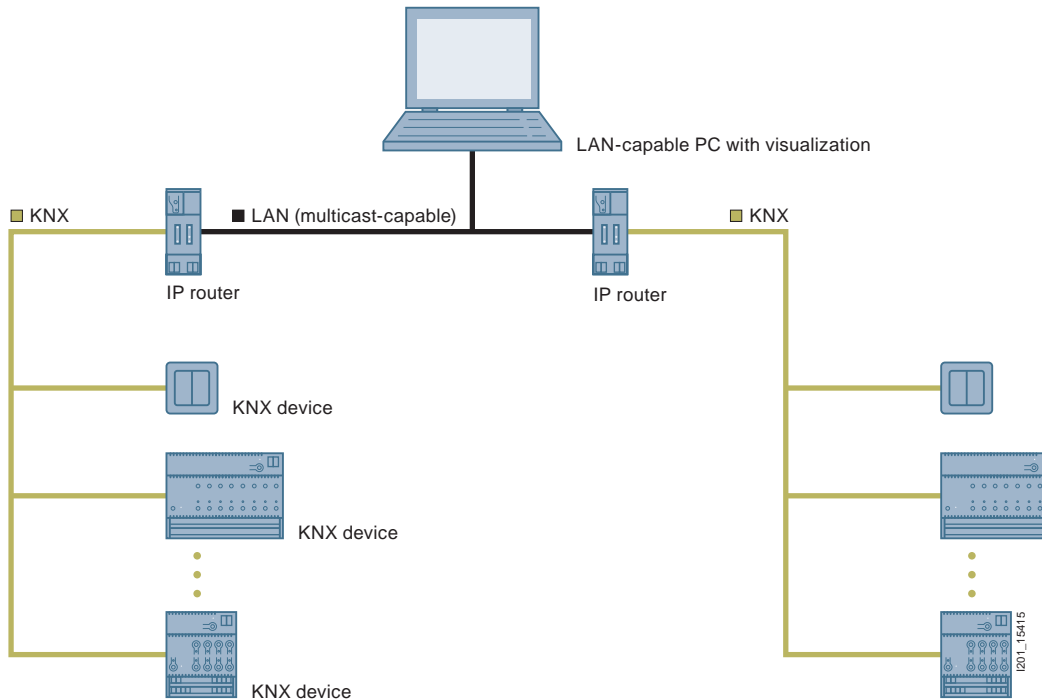Multicast-capable: multicast telegrams can simultaneously operate several IP devices in the LAN. In the case of network components (network switches, routers) this requires the appropriate configuration.

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**Simple modification using remote access**

In virtually any project, during completion of a building, or prior to the building being used, you will be faced with the need for modifications, e. g. lighting times are too long or too short. Until now this generally involved making an appointment with the customer, driving to the site, changing the parameterization, driving back to the office. Now you can carry out these modifications from the comfort of your office: With LAN/Internet, you can now carry out parameterization tasks simply,

practically – and remotely. These days, virtually all buildings have LAN and Internet connections - so you always have global access. Because buildings are not always manned, it is essential to ensure data security using VPN, DSL or dial-up routers.
This saves time and money and demonstrates to your customers the degree of flexibility they can enjoy using a Gamma *instabus* system.

The solution
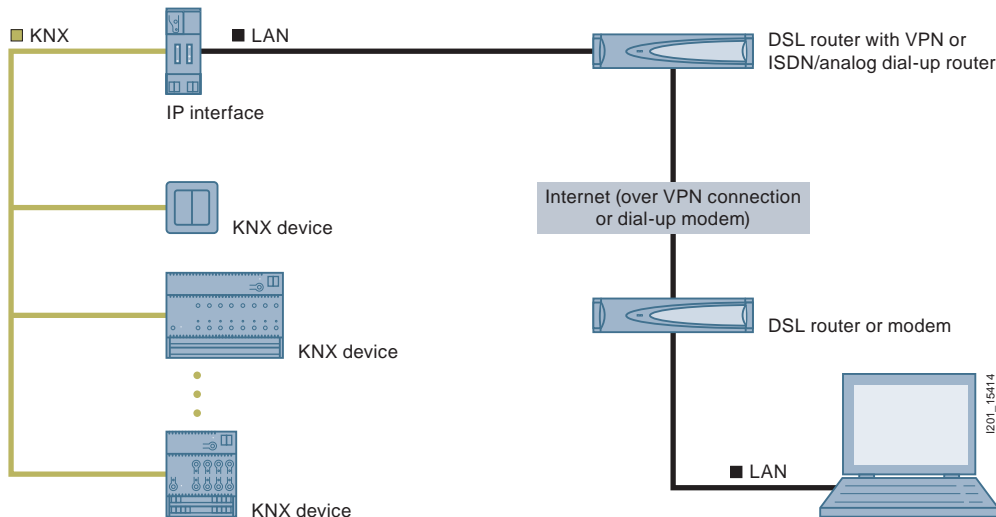


The benefits

• Parameters can be changed quickly and easily via remote access
• Remote access saves travel time and costs
• Date security is ensured

Proceed as follows

• Connect the N 148/22 IP interface to the KNX
• Connect the N 148/22 IP interface to the LAN
• Configure the VPN/DSL or dial-up router

You require the following

• N 148/22 IP interface (5WG1 148-1AB22)
• 24 V power supply for N 148/22 IP interface
  (e. g. 4AC2 402, Power over Ethernet, unchoked bus voltage)
• ETS3 (current version see www.knx.org)
• VPN/DSL or ISDN/analog dial-up router

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.

**17**

**Visualization – up to 200 times faster with KNXnet/IP**

When larger projects require the cyclic polling of large volumes of data points for the purposes of visualization, this can often lead to prolonged periods of waiting until the values are updated. Use the LAN as the main and backbone line and link your visualization PC to the LAN.

Visualization is then up to 200 times faster - and you can monitor larger volumes of data points. No further need for data concentrators. The data volume is irrelevant and the LAN can easily cope with that „little bit of KNX" on the side.

The solution



LAN-capable PC with visualization

KNX ■ LAN (multicast-capable) ■ KNX

IP router      IP router

KNX device

KNX device

KNX device

I201_15415

The benefits

• LAN as main and backbone line
• Visualization now up to 200 times faster
• High data volumes possible
• No data concentrators required

Proceed as follows

• Commission the KNX devices, including the N 146/02 IP router
• Install visualization software
• Search for the N 146/02 IP router as visualization software and
• connect
• Configure the visualization

You require the following

• N 146/02 IP router (5WG1 146-1AB02), 1 x per line
• 24 V power supply for N 146/02 IP Interface
  (e. g. 4AC2 402, Power over Ethernet, unchoked bus voltage)
• Ethernet network (LAN)
• LAN-capable PC
• IPAS ComBridge Studio visualization software
  (see chapter „Display and Operation Units")
• ETS3 (current version see www.knx.org)

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.

**17**

**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
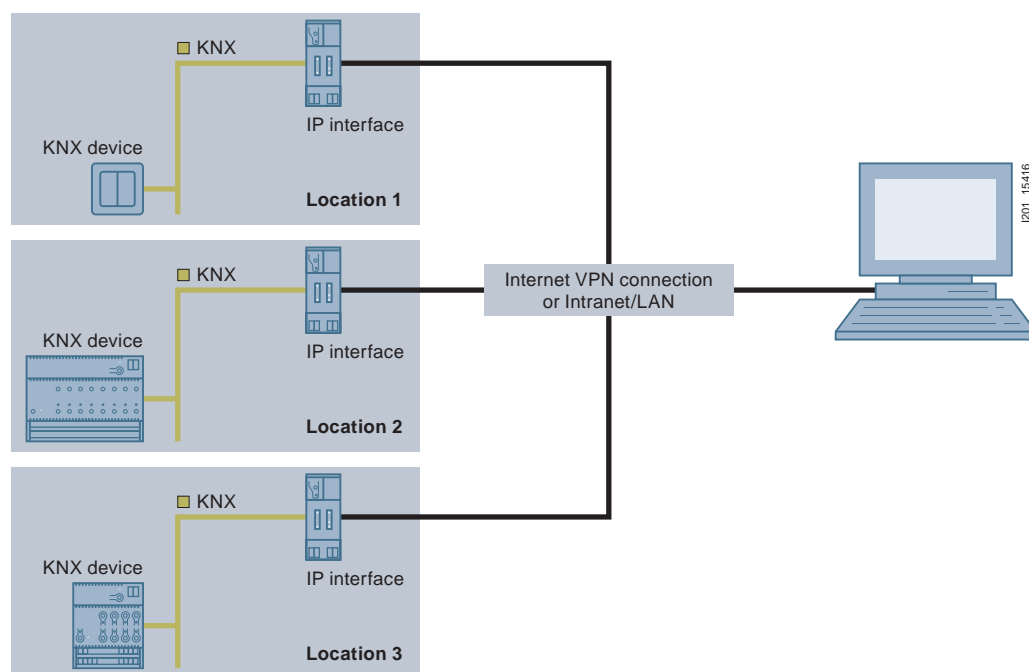


The benefits

- Plants and locations can be remotely visualized, controlled and monitored via existing networks
- Simple commissioning thanks to options for identical configuration of different locations

Proceed as follows

- Connect one N 148/22 IP interface per location to the KNX
- Connect the N 148/22 IP interface to the LAN
- Configure the N 148/22 IP interface via the Intranet/Internet
- Define the N 148/22 IP interface in your visualization program/ETS3

You require the following

- N 148/22 IP interface (5WG1 148-1AB22), 1 per location
- 24 V power supply for N 148/22 IP interface
  (e. g. 4AC2 402, Power over Ethernet, unchoked bus voltage)
- IPAS ComBridge Studio visualization software
  (see chapter „Display and Operation Units")
- ETS3 (current version see www.knx.org)

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.

**17**

**Demand-oriented maintenance through remote signaling**

Some distributed locations need to be regularly checked for specific states and maintained accordingly. For example, the states of oil tanks in distributed apartment houses, or the operating hours of consumers. These states can now be signaled centrally at any location of your choice.

This dispenses with the need for inspections and maintenance at regular intervals. For example, oil tanks in distributed apartment houses only need to be topped up when necessary. And the fact that this method of operation even allows consumers to wait for favorable oil prices is just one further advantage.

The solution
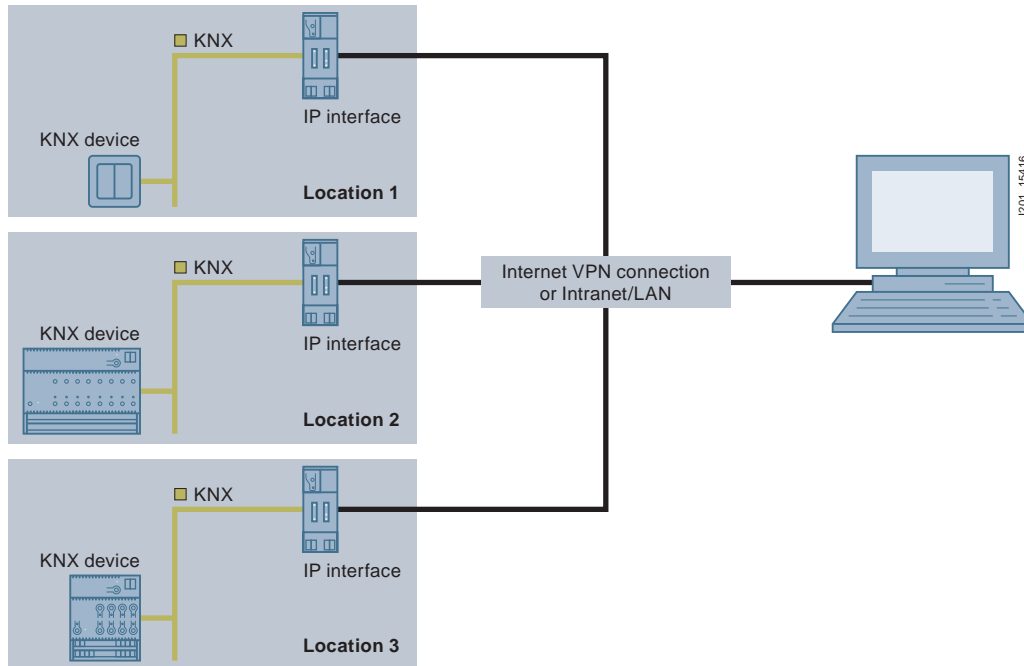


The benefits

• Central status signaling of distributed locations
• Lower maintenance costs
• Optimization of maintenance costs

Proceed as follows

• Connect one N 148/22 IP interface per location to the KNX
• Connect the N 148/22 IP interface to the LAN
• Configure the N 148/22 IP interface via the Intranet/Internet
• Define the N 148/22 IP interface in your visualization program/ETS3

You require the following

• N 148/22 IP interface (5WG1 148-1AB22), 1 per location
• 24 V power supply for N 148/22 IP interface
  (e. g. 4AC2 402, Power over Ethernet, unchoked bus voltage)
• IPAS ComBridge Studio visualization software
  (see chapter „Display and Operation Units")
• ETS3 (current version see www.knx.org)

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 alldata is also encoded.

**17**

**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
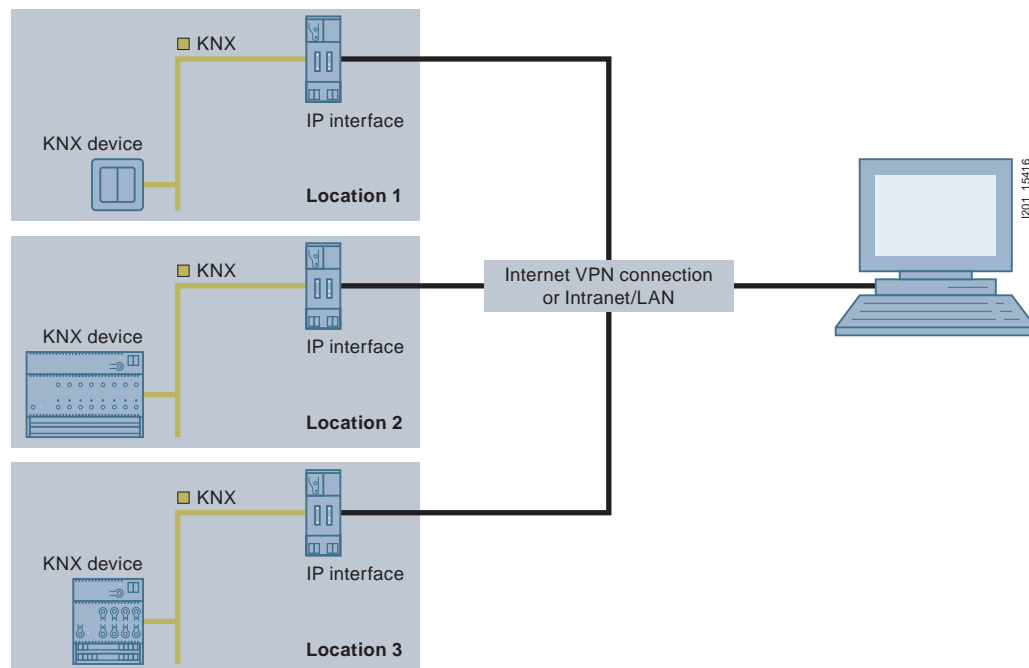


The benefits

• Central solution for distributed locations
• Fast forwarding of fault indications
• Fast responses mean less damage

Proceed as follows

• Connect one N 148/22 IP interface per location to the KNX
• Connect the N 148/22 IP interface to the LAN
• Configure the N 148/22 IP interface over the Intranet/Internet
• Define the N 148/22 IP interface in your visualization program/ETS3

You require the following

• N 148/22 IP interface (5WG1 148-1AB22), 1 per location
• 24 V power supply for N 148/22 IP interface
  (e. g. 4AC2 402, Power over Ethernet, unchoked bus voltage)
• IPAS ComBridge Studio visualization software
  (see Chapter „Display and Operation Units")
• ETS3 (current version see www.knx.org)

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.
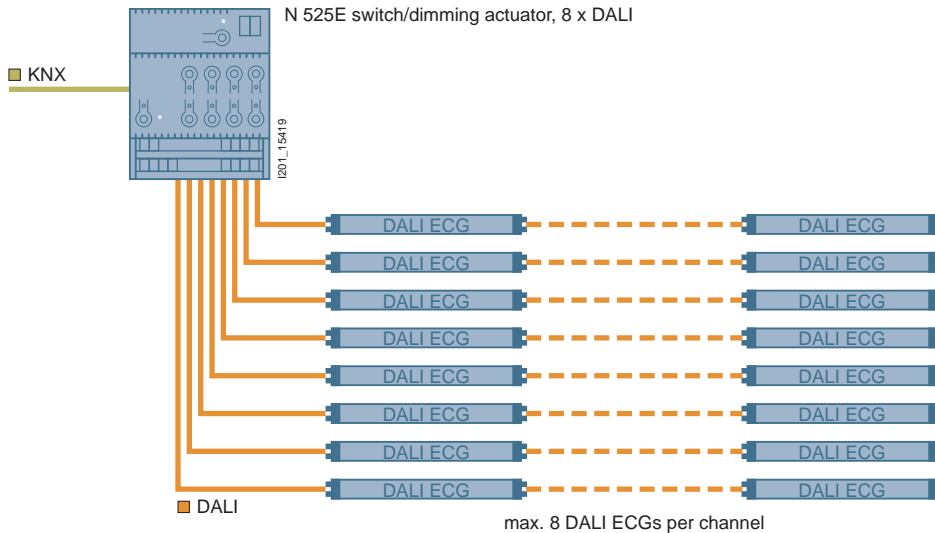
**17**

## Using DALI lighting without complicated DALI commissioning

The lighting control system uses ECGs with DALI interfaces, for example, in order to be able to signal lamp failures.
Using the N 525E switch/dimming actuators, it is now possible to use DALI devices in Gamma *instabus* without any prior knowledge of the DALI system and DALI commissioning.

The N 525E switch/dimming actuator switches and dims eight mutually independent groups of fluorescent lamps with dimmable ECG with DALI interface. Up to eight DALI ECGs can be connected to each of the eight channels.

The solution

N 525E switch/dimming actuator, 8 x DALI

■ KNX

DALI ECG - - - - DALI ECG
DALI ECG - - - - DALI ECG
DALI ECG - - - - DALI ECG
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DALI ECG - - - - DALI ECG
DALI ECG - - - - DALI ECG
DALI ECG - - - - DALI ECG

I201_1541 9

■ DALI

max. 8 DALI ECGs per channel

The benefits

• Real 0 to 100 % luminosity control
• High operating safety due to selective disconnection in the event of a fault
• Fault indications for light groups
• For individual room light 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.

Proceed as follows

• Connect the N 525E switch/dimming actuator to the KNX
• Connect each group of DALI ECGs that are to be jointly controlled to an output of the N 525E switch/dimming actuator
• Configure each channel as a conventional actuator in the ETS and program the device

You require the following

• N 525E switch/dimming actuators (5WG1 525-1EB01)
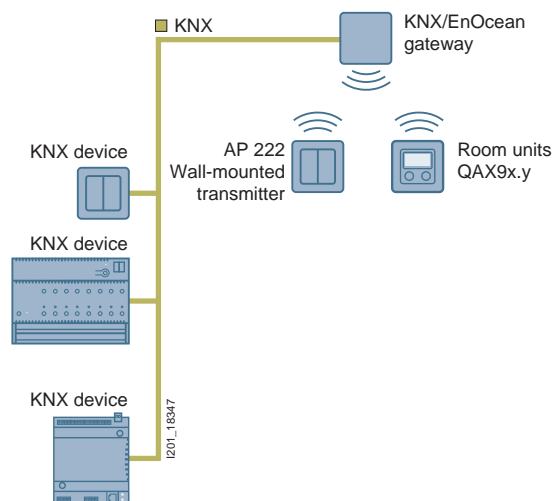• Dimmable ECGs with DALI interface
• ETS3 (current version see www.knx.org)

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**EnOcean – flexible, battery-free, maintenance-free**

Occasionally, wires are not wanted for some applications in buildings, or cables are expensive to install, or it is quite simply not possible. In such cases, the maintenance-free switches and room devices based on the open communication standard EnOcean are the ideal solution.

The solution



KNX

KNX/EnOcean gateway

KNX device

AP 222
Wall-mounted transmitter

Room units QAX9x.y

KNX device

KNX device

I201_18347

The benefits

- Battery-free, thus environmentally-friendly and maintenance-free
- Communication via open standard
- Can be mounted on any surface – simply stick or screw into place – done.
- Retrofitting without the need for new cables
- Connection to Gamma _instabus_ – KNX via KNX/EnOcean Gateway

Proceed as follows

- Connect the KNX/EnOcean Gateway RXZ97.1 to KNX
- Configure and program the RXZ97.1 KNX/EnOcean Gateway in ETS (KNX commissioning software)
- Program EnOcean devices

You require the following

- RXZ97.1 KNX/EnOcean gateway
- Additional EnOcean devices, depending on the application,
  - Lighting/sun protection applications:
    EnOcean AP 22x wall-mounted transmitter
  - HCVA applications: QAX9x.y room controllers
- ETS (current version see www.knx.org)

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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 mm.

Images

The illustrations are not binding.

Technical data

The technical data are for general information purposes.

Further technical information is available at
www.siemens.com/lowvoltage/support

• under Product List:
  - Technical specifications
• under Entry List:
  - Updates
  - Download
  - FAQ
  - Manuals
  - Characteristic curves
  - Certificates

Assembly, operation and maintenance

The instruction manuals and the operating instructions on the products must be observed during assembly, operation and maintenance.

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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 € 100 we charge a € 15 supplement to cover our order processing and invoicing costs.

Explanations on the selection and ordering data

### Lieferzeitklasse (LK)

| DT | Meaning |
|---|---|
| ▶ | Preferred type |
| A | two workdays |
| B | one week |
| C | three weeks |
| D | six weeks |
| X | on request |

Preferred types are device types that can be delivered immediately ex works, i. e. they are dispatched within 24 hours.
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).
Shipping times depend on the destination and the method of shipping. The standard shipping time for Germany is one day.
The specified delivery time classes are correct at the time of going to print and are subject to constant optimization. Up-to-date information can be found at www.siemens.com/industrymall.

### Price units (PU)

The price unit defines the number of units, sets or meters to which the specified price and weight apply.

### Price groups (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).

### Examples

| DT | Article-No. | Price per PU | PU (UNIT, SET, M) | PG |
|---|---|---|---|---|
| A | 5WG1125-1AB02 | | 1 | A21 |

DT:    A = two workdays
PU:    One unit (on which price is based)
PG:    A21

| DT | Article-No. | Price per PU | PU (UNIT, SET, M) | PG |
|---|---|---|---|---|
| A | 5TG4324 | | 1 | A20 |

DT:    A = two workdays
PU:    One set* (on which price is based)
PG:    A20

* The selection and ordering data specify the parts that make up a set

**17**

The quality management system of our IC BT CPS Business Unit complies with the international standard EN ISO 9001.

Certificates

Information on the certificates available (CE, UL, CSA, FM, shipping authorizations) for low-voltage power distribution and electrical installation products can be found on the Internet at:
www.siemens.com/lowvoltage/support
In the Entry List you can use the certificate type (general product approval, explosion protection, test certificates, ship building,...) as a filter criterion.

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Our world is undergoing changes that force us to think in new ways: demographic change, urbanization, global warming and resource shortages. Maximum efficiency has top priority – and not only where energy is concerned. In addition, we need to increase comfort for the well-being of users. Also, our need for safety and security is constantly growing. For our customers, success is defined by how well they manage these challenges. Siemens has the answers.

**"We are the trusted technology partner for energy-efficient, safe and secure buildings and infrastructure."**

**www.siemens.com/gamma**