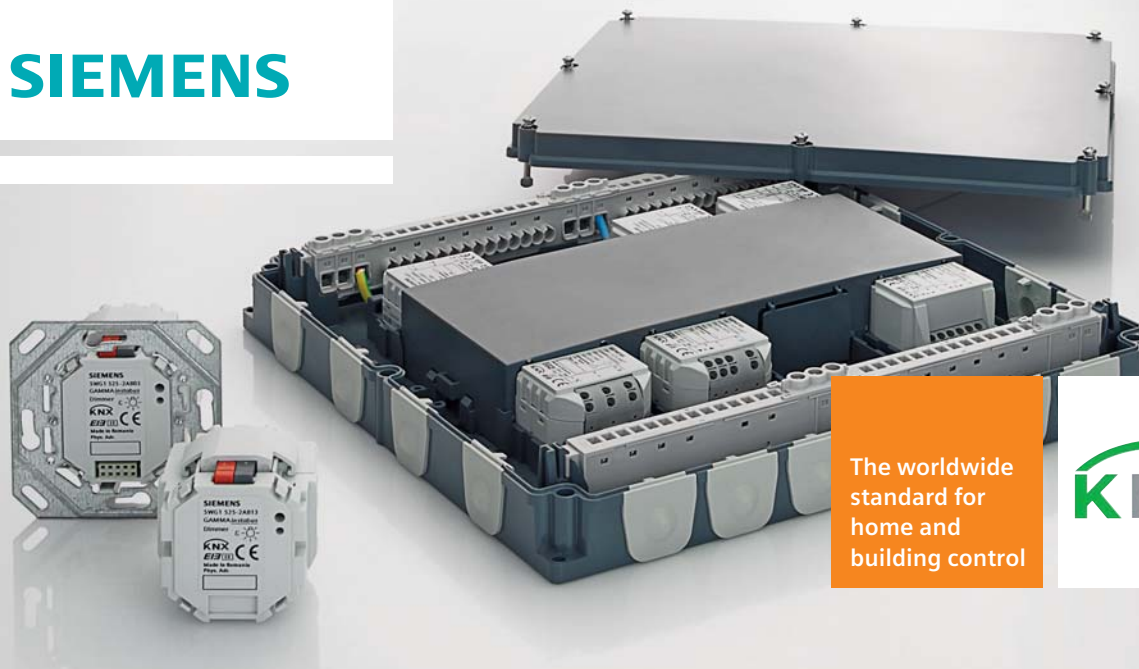


SIEMENS



The worldwide
standard for
home and
building control



Future-proof and flexible system for room automation based on KNX

Demand-related lighting/shading control and application-oriented installation
of control modules with GAMMA room automation box

Flexibility with regard to functionality

The new room automation system includes sensors and actuators for lighting/shading control and for heating, ventilation and cooling systems. Other products are modules for use with the GAMMA room automation box AP 641 and the automation module box AP 118 plus flush-mounting devices with or without mounting frame. So the product range offers devices with identical functionality for different types of installation and locations with identical configuration options. What's more, the majority of the devices can be combined with HVAC room applications.

Matching solutions for every field of use

The amount of available space and installation, wiring and maintenance costs have an impact on the selection of the type and place of installation. So the flush-mounting devices are ideally suited for use with buttons installed close to the function they have to perform, such as blind buttons by the windows. By con-

trast, the GAMMA room automation box and the automation module box are preferably used in wide-span offices to be installed in suspended/false ceilings. In addition, they are used in spaces with no access: They can simply be fitted in corridors where they are always accessible for maintenance.

Straightforward integration and installation

The sensors and actuators of the new room automation system are fully compatible KNX devices which – thanks to standardized communication – can be freely combined with other KNX products or can be seamlessly integrated into suitable systems. Power is supplied via the bus, so there is no need to provide extra power supply. Straightforward installation also extends to wiring. With the new dual push-in terminals for single and stranded wires, ferrules are no longer required. These types of wires can therefore be installed fast and without extra effort, allowing straightforward bridging via the dual push-in terminals.

Highlights

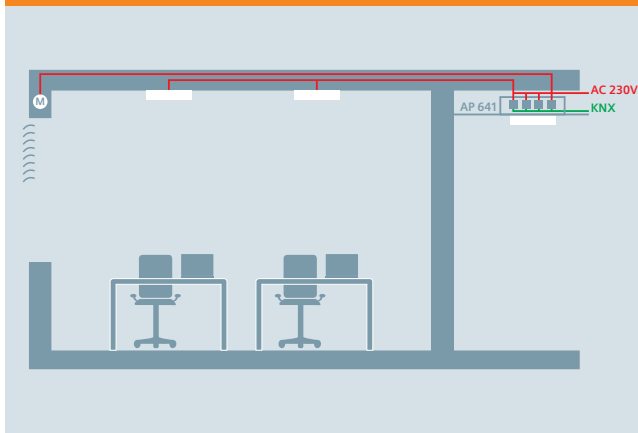
- Flexible functionality thanks to a wide choice of modules and flush-mounting devices for lighting and shading control
- Matching products for all types of installations – with regard to individual functions and multifunctional applications
- Seamless integration into the most diverse types of systems, thanks to standardized KNX communication
- Lower wiring costs since power is supplied via the integrated bus

Answers for infrastructure.

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



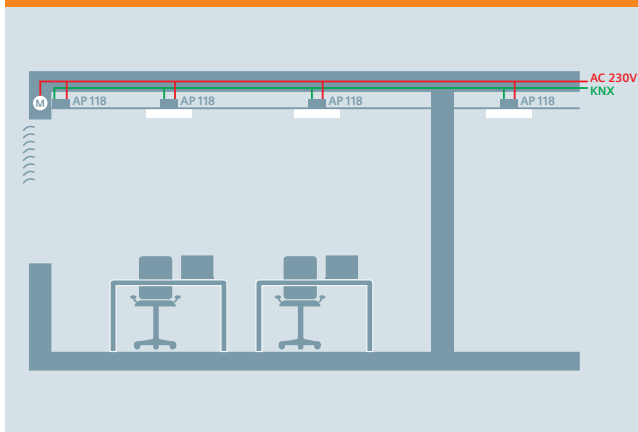
Place of installation:

- 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



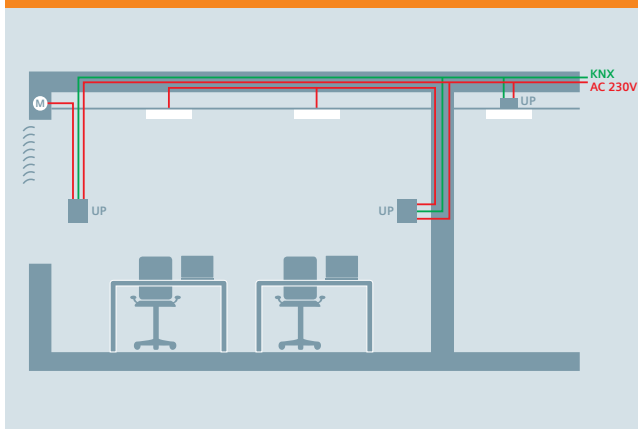
Place of installation:

- 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)

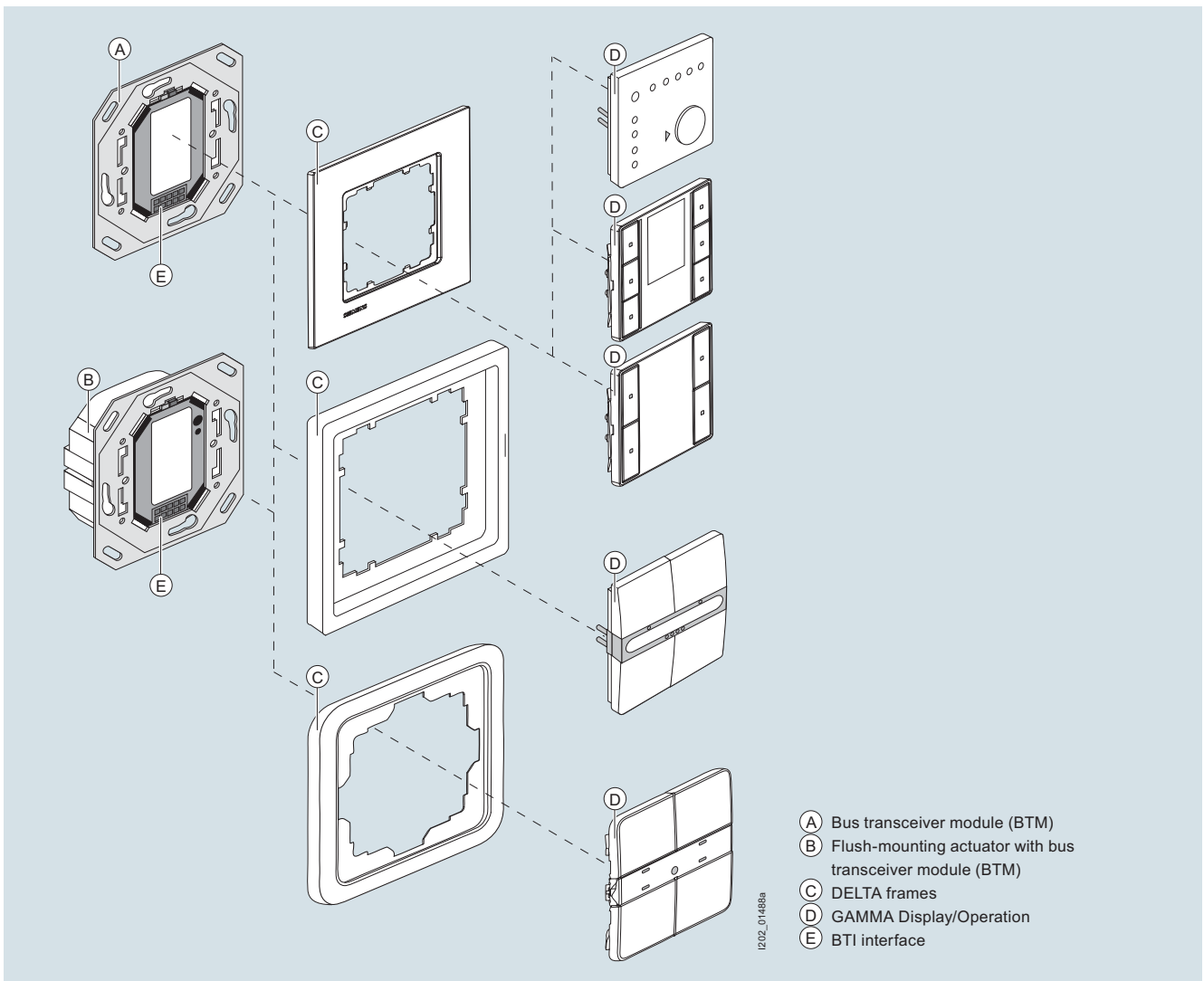
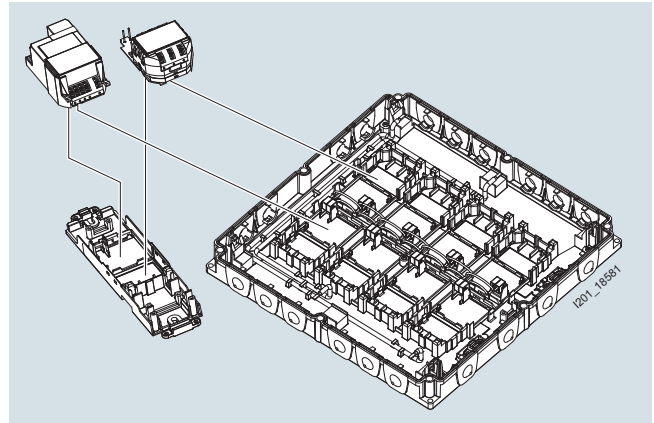
Overview

Modular room automation

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.

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.










Modular room automation

Room control box

Technical specifications


Type	RL 260/23	RS 510/23	RL 512/23	RS 520/23	RL 521/23	RS 525/23
Enclosure data						
Design	RL	RS	RL	RS	RL	RS
Degree of protection	IP20	IP20	IP20	IP20	IP20	IP20
Modular installation device for mounting in AP 118 automation module box or AP 641 room control box	✓	✓	✓	✓	✓	✓
Dimensions						
• Height	mm	36.2	35.5	36.2	35.5	36.2
• Width/∅ (1 MW = 18 mm)	mm	47.8	50.2	47.8	50.2	47.8
• Depth	mm	86.5	48.8	86.5	48.8	86.5
Screwless terminals for the connection and looping through of untreated solid, finely stranded and stranded conductors	mm ²	0.5 ... 2,5	0.5 ... 2,5	0.5 ... 2,5	0.5 ... 2,5	0.5 ... 2,5
Power supply						
Electronics powered over bus voltage	✓	✓	✓	✓	✓	✓
Bus connection						
Integrated bus coupling units	✓	✓	✓	✓	✓	✓
Bus connection via bus terminal	✓	✓	✓	✓	✓	✓

Type	Description
 AP 118	AP 118 automation module boxes <ul style="list-style-type: none"> • 1 slot for a sensor/actor 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 (L x W x H): 180 x 50 x 41.1 mm
 AP 641	AP 641 room control boxes <ul style="list-style-type: none"> • 8 slots for a sensor/actor 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 (L x W x H): 300 x 300 x 50 mm
 RL 260/23	RL 260/23 binary inputs <p>4 inputs for 12 V ... 230 V AC/DC</p> <ul style="list-style-type: none"> • Max. length of unshielded leads per input: 100 m • The following functions can be selected per input: <ul style="list-style-type: none"> - Switching state/send binary value - Switch edge/short/long switch - 1-button dimming, shading control or group control - 1-bit scene control - 8-bit scene control - 8-bit value edge - 8-bit value short/long - 16-bit floating-point value edge, short/long - 8/16/32-bit pulse counting without/with limit value monitoring • The following functions can be selected per input pair: <ul style="list-style-type: none"> - 2-pushbutton dimming with stop telegram - 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









Type	Description
 RS 510/23	<p>RS 510/23 binary output devices 2 x 230 V AC, 10 A, (resistive load)</p> <ul style="list-style-type: none"> Operating mode can be adjusted for each output (normal mode, timer mode) Relay operating mode can be adjusted for each output (NO contact/NC contact) Status object can be added for each output Adjustable ON/OFF delay for each output Logic operation (AND/OR) of two communication objects for each output Adjustable switching state in the event of bus voltage failure and recovery for each output Object for night mode can be added for each output for the time-delayed ON switching of the output (and thus the lighting) at night Adjustable ON period during night or timer mode Selectable retripping of ON period (ON-time extension) during timer mode <ul style="list-style-type: none"> Selectable warning of impending OFF by turning the device briefly on and off three times (flashing) during night or timer mode Selectable function: manual override of an output, including additional communication object Selectable function: forced control output for positive ON/OFF switching of an output, including additional communication object Selectable function: operating hours counting with limit value monitoring of operating hours Selectable function: switching cycle counting with limit value monitoring of switching operations Integrated 8-bit scene control and integration of each channel in up to 8 scenes
 RL 512/23	<p>RL 512/23 switch actuators 1 x 230 V AC, 16 AX</p> <ul style="list-style-type: none"> One relay contact as switching element Fluorescent lamp load acc. to EN 60669-1: 16 AX (200 µF) at 230 V AC Switching current during AC1 operation (p.f. = 0.8) acc. to EN 60947-4-1: 20 A at 230 V AC Switching current during AC3 operation (p.f. = 0.45) acc. to EN 60947-4-1: 16 A at 230 V AC Operating mode can be adjusted for each output (normal mode, timer mode) Relay operating mode can be adjusted for each output (NO contact/NC contact) Status object can be added for each output Adjustable ON/OFF delay for each output Logic operation (AND/OR) of two communication objects for each output Adjustable switching state in the event of bus voltage failure and recovery for each output Object for night mode can be added for each output for the time-delayed ON switching of the output (and thus the lighting) at night <ul style="list-style-type: none"> Adjustable ON period during night or timer mode Selectable retripping of ON period (ON-time extension) during timer mode Selectable warning of impending OFF by turning the device briefly on and off three times (flashing) during night or timer mode Selectable function: manual override of an output, including additional communication object Selectable function: forced control output for positive ON/OFF switching of an output, including additional communication object Selectable function: operating hours counting with limit value monitoring of operating hours Selectable function: switching cycle counting with limit value monitoring of switching operations Integrated 8-bit scene control and integration of each channel in up to 8 scenes
 RL 521/23	<p>RL 521/23 shutter/blind actuators, RS 520/23 shutter/blind actuators</p> <ul style="list-style-type: none"> For the control shading, door/window drives with AC motor for 230 V AC and electromechanical or electronic limit switches Electrically interlocked relays for reversing direction of rotation Integrated electronics for detecting the response of electromechanical limit switches and for autocalibration of travel times from one end position to the other Communication objects per actuator channel for moving the shading into its end position, for stopping movement or for step-wise adjustment of blind slats Communication objects for direct movement to a position for shading and blind slats via position specifications as percentage value (level of precision depends on drive mechanics) Automatic opening of the blind slats up to a preset position after the shutter/blind has lowered without interruption from the top to the bottom position Integrated 1-bit scene control to store and retrieve (restore) 2 intermediate positions of shutter/blinds and slats Integrated 8-bit scene control and integration of each output in up to 8 scenes Optional object "Sun" for the activation/deactivation of the sun-light tracking control of the blind slats for shading with maximum daylight <ul style="list-style-type: none"> Differentiation between automatic and manual mode and automatic switchover from manual to manual mode of the relevant actuator channel by pressing a bus pushbutton for the manual control of the respective shading Priority of manual mode over automatic position commands Optional central command for switching all channels over to automatic mode and for moving the shading into the top or bottom end position Alarm object "Wind", "Rain" and "Frost" per channel for moving the shading into the configured safety position and with the blocking of movement into a different position for as long as the alarm is pending Movement-blocking object per device or per channel for locking the shading in its current position (e. g. for cleaning the outer slats) Status object per actuator channel for scanning or automatically sending the shading and blind slat position as a percentage value Optional status object for signaling that the bottom or top position has been reached <p>RS 520/23 shutter/blind actuators</p> <ul style="list-style-type: none"> 1 x 230 V AC, 6 A (resistive load) <p>RL 521/23 shutter/blind actuators</p> <ul style="list-style-type: none"> 2 x 230 V AC, 6 A (resistive load)
 RS 520/23	

Modular room automation

Room control box

Type	Description
 RS 525/23	RS 525/23 universal dimmers 1 x 230 V AC, 250 VA <ul style="list-style-type: none"> • One output for the switching and dimming of resistive, inductive or capacitive loads • Automatic adjustment to leading-edge or trailing-edge phase control, depending on the connected load type • Electronic protection of output against overload, short circuit and overtemperature • Signaling of overloads, short circuits and overtemperature over the bus • Selection of operating mode (normal mode, one or two-stage timer mode, flashing) • Adjustable ON/OFF-delay • Individually adjustable dimming time from 0 % to 100 % for ON/OFF switching and brighter/darker dimming • Two dimming value objects, each with adjustable dimming time of 0 ... 100 % • ON and/or OFF switching of an output via dimming • Adjustable dimming value when switching ON • Start up or dimming of a new dimming value • Status object for switching and/or status object for dimming value can be added • Object for disabling/enabling of output can be added • Optional transmission of status objects on demand and/or automatically after modification • Adjustable blocking time for transmission of the status objects after a restart and bus power recovery • Adjustable dimming value after bus voltage failure and recovery and after system recovery • Object for night mode can be added for the time-delayed ON switching of the output (and thus the lighting) at night • Adjustable ON period during night and timer mode • Optional warning of impending OFF by dimming to 50 % of the previous dimming value during night or timer mode • Integrated 8-bit scene control and integration of output in up to 8 scenes • Adjustable dimming time during scene control • Selectable function: operating hours counting with limit value monitoring of operating hours • Selectable function: switching cycle counting with limit value monitoring of switching operations

Selection and ordering data

	Type	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/P. unit	PG	Weight per PU approx. kg
	AP 118	AP 118 automation module boxes 1 slot for a sensor/actuator module, type RS or RL	A	5WG1 118-4AB01		1	1 unit	139	0.100
5WG1 118-4AB01									
	AP 641	AP 641 room control boxes 8 slots for a sensor/actuator module, type RS or RL	A	5WG1 641-3AB01		1	1 unit	139	1.200
5WG1 641-3AB01									
Binary input									
	RL 260/23	RL 260/23 binary inputs¹⁾ 4 inputs for 12 ... 230 V incl. bus connection module	A	5WG1 260-4AB23		1	1 unit	139	0.060
5WG1 260-4AB23									
Binary output devices									
	RS 510/23	RS 510/23 binary output devices¹⁾ 2 x 230 V AC, 10 A incl. bus connection module	A	5WG1 510-2AB23		1	1 unit	139	0.045
5WG1 510-2AB23									
Switch actuators									
	RL 512/23	RL 512/23 switch actuators¹⁾ 1 x 230 V AC, 16 AX incl. bus connection module	A	5WG1 512-4AB23		1	1 unit	139	0.070
5WG1 512-4AB23									
Shutter/blind actuators									
	RS 520/23	RS 520/23 shutter/blind actuators¹⁾ 1 x 230 V AC, 6 A (resistive load) incl. bus connection module	A	5WG1 520-2AB23		1	1 unit	139	0.055
5WG1 520-2AB23									
	RL 521/23	RL 521/23 shutter/blind actuators¹⁾ 2 x 230 V AC, 6 A (resistive load) incl. bus connection module	A	5WG1 521-4AB23		1	1 unit	139	0.070
5WG1 521-4AB23									
Universal dimmers									
	RS 525/23	RS 525/23 universal dimmers¹⁾ 1 x 230 V AC, 250 VA incl. bus connection module	A	5WG1 525-2AB23		1	1 unit	139	0.045
5WG1 525-2AB23									







¹⁾ The AP 641 room control box and AP 118 automation module box must be ordered separately.

Modular room automation









Flush-mounting actuators

Technical specifications

Type	UP 510/03	UP 510/13	UP 520/03	UP 520/13	UP 525/03	UP 525/13
Enclosure data						
Design	UP	UP	UP	UP	UP	UP
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	✓	--	✓	--	✓	--
Dimensions						
• Height	mm	42	41.3	42	41.3	42
• Width/Ø (1 MW = 18 mm)	mm	71	50	71	50	71
• Tiefe	mm	71	50.9	71	50.9	71
Screw fixing	✓	--	✓	--	✓	--
Power supply						
Bus-powered electronics	✓	✓	✓	✓	✓	✓
Bus connection						
Integrated bus coupling units	✓	✓	✓	✓	✓	✓
Bus connection via bus terminal	✓	✓	✓	✓	✓	✓
Output functions						
Max. number of group addresses	120	120	120	120	120	120
Max. number of assignments	120	120	120	120	120	120
Configurable behavior in the event of a bus voltage failure and bus voltage recovery	✓	✓	✓	✓	✓	✓
Scene con						
Integrated 8-bit scene control	✓	✓	✓	✓	✓	✓
Scenes to be integrated per channel	8	8	8	8	8	8

Typ	Beschreibung
 UP 510/03	UP 510/03 binary output devices, UP 510/13 binary output devices
 UP 510/13	UP 510/13 binary output devices
 UP 520/03	UP 520/03 shutter/blind actuators, UP 520/13 shutter/blind actuators
 UP 520/13	UP 520/13 shutter/blind actuators
 UP 525/03	UP 525/03 universal dimmers, UP 525/13 universal dimmers
 UP 525/13	UP 525/13 universal dimmers

Selection and ordering data

Type	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS* / P. unit	PG	Weight per PU approx. kg
Binary output devices								
	UP 510/03	UP 510/03 binary output devices 2 x 230 V AC, 10 A (resistive load) • 10-pole BTI socket for plugging of bus terminal devices with BTI connector	A	5WG1 510-2AB03		1	1 ST 139	0,090
5WG1 510-2AB03								
	UP 510/13	UP 510/13 binary output devices 2 x 230 V AC, 10 A (resistive load)	A	5WG1 510-2AB13		1	1 ST 139	0,070
5WG1 510-2AB13								
Shutter/blind actuators								
	UP 520/03	UP 520/03 shutter/blind actuators 1 x 230 V AC, 6 A (resistive load) • 10-pole BTI socket for plugging of bus terminal devices with BTI connector	A	5WG1 520-2AB03		1	1 ST 139	0,090
5WG1 520-2AB03								
	UP 520/13	UP 520/13 shutter/blind actuators 1 x 230 V AC, 6 A (resistive load)	A	5WG1 520-2AB13		1	1 ST 139	0,070
5WG1 520-2AB13								
Universal dimmers								
	UP 525/03	UP 525/03 universal dimmers 1 x 230 V AC, 10 ... 250 VA • 10-pole BTI socket for plugging of bus terminal devices with BTI connector 	A	5WG1 525-2AB03		1	1 ST 139	0,080
5WG1 525-2AB03								
	UP 525/13	UP 525/13 universal dimmers 1 x 230 V AC, 10 ... 250 VA 	A	5WG1 525-2AB13		1	1 ST 139	0,055
5WG1 525-2AB13								

* You can order this quantity or a multiple thereof.

Modular room automation

Notes

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The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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Answers for infrastructure.

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.”