

# SIEMENS



The worldwide standard for home and building control



## Flexible operation of entire room automation via KNX

Straightforward operation of all room-related disciplines in office buildings – with the room operator unit UP 227

### Ease of operation

The UP 227 as a single room operator unit controls all room functions. Be it temperature control with an integrated temperature sensor or the control of fans, lighting, blinds or screens, etc. All can be operated in a uniform way. A key lock feature is available to prevent inadvertent operation. An LED on the housing front facilitates orientation at night and indicates malfunctions should they occur.

### Ease of use

The bundling of all functions in a single unit reduces the effort required for installation and configuration. Presettings and a library with symbols simplify commissioning. The room operator unit can be easily combined with the DELTA frame programs from Siemens. Being a KNX-

compatible device, it can be seamlessly integrated into any type of building automation and control system.

### High level of flexibility

The room operator unit controls and monitors HVAC plant as well as lighting and shading. A weekly scheduler function is capable of performing up to 40 individual scheduling tasks. Three pairs of keys can be freely programmed. Also, the positioning signal for HVAC control can be easily adapted, e.g. to valve characteristics.

### Reliable efficiency

Energy-saving operation includes night mode, changeover to protection mode when a window is opened and scene control, for example.

### Highlights

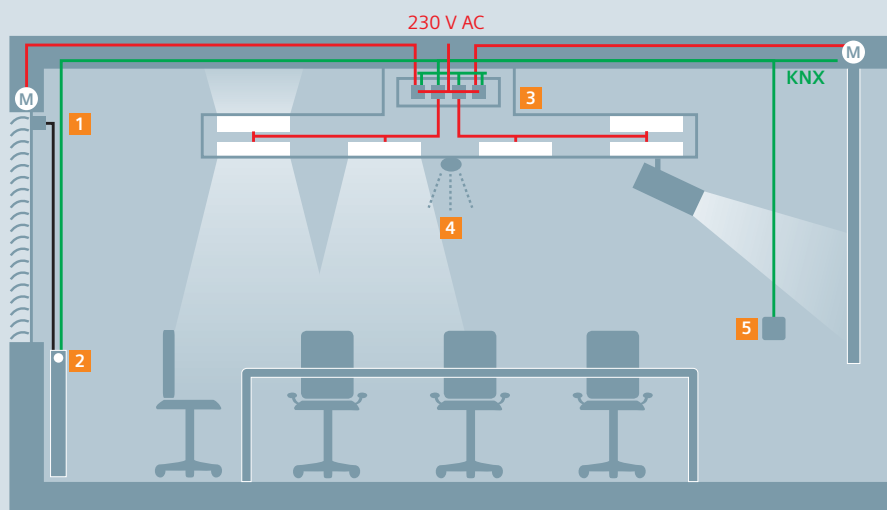
- Standardized, easy-to-use room operator unit for all disciplines
- Fast, straightforward installation, commissioning and integration into KNX systems
- Individual, flexible settings for operation and control
- Lower energy costs thanks to energy saving functions

Answers for infrastructure.

# Application examples

The room operator unit UP 227 is capable of controlling jointly via KNX the room-related HVAC, lighting and shading systems, cutting thermal and electrical energy usage per room.

## Applications: Presence-dependent room temperature and scene control



- 1 Window contact S 290
- 2 Valve actuator, electromotive AP 562/02
- 3 Room automation box AP 641 with 2 universal dimmers RS 525/23 and 2 shutter/blind actuators
- 4 Presence detector UP 258D11
- 5 Room operator unit UP 227

### Energy-efficient and presence-dependent room automation

The presence detector ensures independent control of three different disciplines: room temperature control, lighting and blinds. Room operating mode, illuminance and blinds are switched to automatic operation, depending on presence. Using the room operator unit UP 227, the functions can be manually overridden at any time during hours of presence.

### Optimum room temperature control

Heating or cooling costs drop considerably if office spaces are heated or cooled only during the times of occupancy. For example, if, during the heating season, the room temperature is lowered by 1 °C, heating cost savings amount to 6%.

### More straightforward operation thanks to scene control

Using scene control, several disciplines are activated simultaneously, be it manually by pressing keys on the room operator unit or automatically via the scheduler program. For the period of time an office space is used, the room temperature is set, blinds and presentation screen are lowered and the lights are dimmed, for example – all at the same time.

## Installation note: Ideal location for energy-efficient operation




To ensure optimum acquisition of the room temperature and thus energy-efficient operation and enhanced room comfort, the following rules should be followed when mounting room operator unit UP 227:


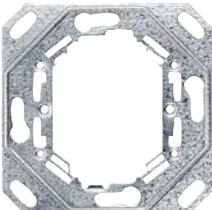
- about 1.5 m above the floor at a distance of at least 50 cm from the next door.
- not on outside walls, not in niches and not behind curtains.
- not in the vicinity of heat sources, such as lamps.
- not exposed to direct solar irradiance.

Important: When using conduits, it must be made certain that the end of the conduit by the sensor is sealed to ensure that drafts will have no impact on the acquisition of room temperature.

### Technical specifications

Type	Description
 <b>UP 227</b>	<b>Room operator unit UP 227</b> <ul style="list-style-type: none"> <li>Multifunctional display/operator panel for KNX with dot-matrix LCD display, 96 x 128 pixels</li> <li>For the display and control of at least 10 adjustable room operator functions: <ul style="list-style-type: none"> <li>switching on/off/over</li> <li>door bell function on/off</li> <li>dimming</li> <li>solar protection control</li> <li>send 1 byte/2 byte value</li> <li>display 1 bit/1 byte/2 byte value</li> <li>forced control</li> <li>display text messages</li> <li>recall and save scenes</li> <li>warning and alarm messaging</li> </ul> </li> <li>8 touch-sensitive buttons for horizontal operation, can be locked and released via the KNX bus</li> <li>Green/red LED as orientation light, as status indication or as a response to pressing a button for the signaling of alarm reports</li> <li>A signaler for acoustical alarm reports or as a status of the touch operation</li> <li>Integrated room temperature sensor</li> <li>Evaluation and weighting of an external inside temperature sensor</li> <li>Room temperature control configurable as two-step control and/or continuous control, for exclusive heating operation, exclusive cooling operation or heating and cooling operation</li> <li>Selectable operating modes via the KNX: <ul style="list-style-type: none"> <li>comfort</li> <li>pre-comfort</li> <li>energy-savings and protection</li> </ul> </li> <li>Local indication <ul style="list-style-type: none"> <li>of the active operating modes or of automatic or manual mode</li> <li>inside temperature or outside temperature</li> <li>heating or cooling mode</li> <li>dew point alarm</li> <li>open windows</li> </ul> </li> <li>Local switching between <ul style="list-style-type: none"> <li>manual and automatic mode</li> <li>comfort, pre-comfort, energy-saving and protection mode</li> </ul> </li> <li>Adjustable time-limited extension of the comfort mode</li> <li>Adjustable room temperature setpoint shifting for comfort mode</li> <li>Basic setpoint value of the room temperature for comfort mode can be set via KNX</li> <li>An outside temperature-based temperature setpoint value tracing in the cooling operation</li> <li>Adjustable dead zone between the heating setpoint value and the cooling setpoint value for comfort mode</li> <li>Transmission of controller output(s) either as on/off switching commands or as control commands in the range 0 ... 100 %</li> <li>Local display of the manually selected fan rotational speed or of the automatic adjustment of the fan rotational speed</li> <li>Adjustable fan rotational speed or automatic adjustment of the fan rotational speed on the controller</li> <li>Weekly schedule program for controller operating modes, automatic mode and at the least 8 room control functions</li> <li>At the least 40 schedule tasks</li> <li>Display and set of the date and time</li> <li>User control of LCD background lighting and background color</li> <li>Display system settings and room temperature controller in the languages: German, English, French, Italian or Spanish</li> <li>User setting of at least 3 operating languages</li> <li>Integrated bus coupling unit</li> <li>Bus connection via bus terminal</li> <li>Flush-mounting device for the mounting in an flush wall box Ø 60 mm</li> <li>Flush-mounting device in an installation box, Ø 60 mm, with spring-clip attachment in mounting bracket AQR2500NF to be ordered separately</li> <li>Dimensions (H x W x D): 55 x 55 x 37.2 mm</li> </ul>

### 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
 5WG1 227-2AB11	<b>UP 227</b> <b>Room operator unit UP 227<sup>1)2)</sup></b> incl. bus coupling unit Titanium white	A	<b>5WG1 227-2AB11</b>		1	1 ST	139	0,050
Accessories								
 S55720-S 161	<b>AQR2500NF Mounting plate</b> Dimensions (W x H) 70.8 x 70.8 mm	A	<b>S55720-S 161</b>		1	1 ST	139	0,025

<sup>1)</sup> The required mounting bracket must be ordered separately. Additional mounting brackets are available on request in various sizes.

<sup>2)</sup> The matching i-system design frame must be ordered separately.

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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.”**