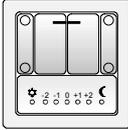
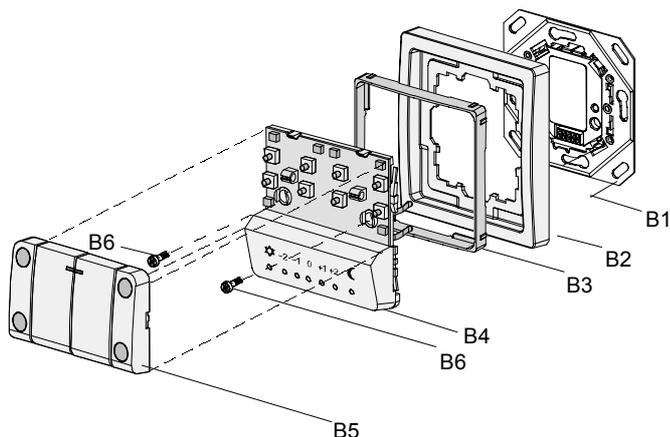


Temperature Controller UP 231/3	5WG1 231-2AB 5WG1 231-2EB
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Product	DELTA profil	DELTA style
Push button 4-fold temperature controller included 	pearl grey 5WG1 231-2AB03 titanium white 5WG1 231-2AB13 anthracite 5WG1 231-2AB23 silver 5WG1 231-2AB73	titanium white 5WG1 231-2EB13 basalt black 5WG1 231-2EB23
Frame	ordered separately from the DELTA ranges	
	cut-out frames	—
Tier frame	—	titanium white 5TG1 328 basalt black 5TG1 368
Bus coupling unit	UP 114	



- B1 Bus coupling unit
- B2 Frame
- B3 Tier frame
- B4 Basic push button module *)
- B5 Rockers *)
- B6 Fixing screws *)

*) Scope of supply

Diagram 1: Mounting the temperature controller UP 231/3

Product and Applications Description

The temperature controller UP 231/3 is composed of 2 functional units:

The push button 4-fold and the temperature controller.

- Push button

It has four key rockers with a top and a bottom press point (switching contact). In the idle condition the key rockers occupy the middle position. The middle key rockers (main rockers) are approximately double width designed compared with the outer rockers.

Behind the rocker windows of the outer key rockers and of the two middle key rockers there is a red LED in each case.

- Temperature controller

The functional unit composed of temperature controller and the incorporated temperature sensor is situated beneath the 4-fold key rockers. The set value / mode is displayed via 7 LEDs.

The temperature control via the UP 231/3 is realised by making use of a regulating adaptive algorithm which has been developed only on this purpose. Thus the proportional range and the integration period need not be adjusted to the building and facility conditions by the commissioner as it is the case when PI controllers are employed.

The temperature controller UP 231/3 transmits e.g. commands to actuators for definite switching on / off or to dim fluorescent lamps, to drive up and down venetian blinds and to control valve adjustment drives with an application program via the bus coupling unit.

The temperature controller is slid onto the bus coupling unit UP together with its frame. It requires a bus coupling unit and an appropriate application program to work properly, i.e. the push button (including the bus coupling unit) consists of the devices (hardware) and the application program (software).

The BCU and the relevant frame are not supplied with the device but must be ordered separately. When using DELTA style a tier frame must be employed.

With the ETS (*EIB Tool Software*) the application program is selected and its parameters and addresses are assigned appropriately.

Important information

Operating a temperature controller UP 231/3 requires a bus coupling unit (BCU) UP 114 (version 2.0, R8) or higher.

Application Programs

20 S2 Room temperature controller 900610

- ambient temperature control allowing to adjust the set-point base via parameter and/or via the bus
- parameters for set-points, convenience temperature adjustments, measured ambient temperature, and control type are available
- convenience/stand-by modes can be selected via the device's push button and/or via the bus
- off-peak reduction mode can be set via the bus
- frost/heat protection can be set via the bus
- dew-point alarm mode can be activated via the bus
- switching between heating and cooling modes provided
- set point and actual temperature can be read via the bus
- direct action or reverse action for heating/cooling are provided
- operating state (controller state) can be read via the bus
- PI-controller / two-step controller
- communication object for external sensor
- 2 main key rockers can be adjusted for switching, dimming, shutter and valve

Installation Instructions

- The device may be used for permanent interior installations in dry locations within box mounts (with bus coupling unit UP 114).
- Direct warming up, e.g. caused by the radiant heat of the sun beams, the output heat of radiators, etc. should be avoided.
- It should be avoided that there is a draught in the flush-mounted box, e.g. due to cable vents which have not been made tight.

WARNING

- The device must be mounted and commissioned by an authorised electrician.
- The device must not be mounted in box mounts together with 230 V devices.
- The device may be mounted to switch and socket combination box mounts provided VDE-certified devices are used exclusively.
- The prevailing safety rules must be heeded.
- A device suspected faulty should be returned to the local Siemens office.

Temperature Controller UP 231/3**5WG1 231-2AB**
5WG1 231-2EB**Technical data****Power supply**

via bus coupling unit UP 114

Display elements

- 4 key rockers, idle in the middle position
- operating cycles: > 20000

Display elements

13LEDs:

- 2 red LEDs behind the rocker windows of the right outer key rocker to indicate the operating modes comfort and standby
- 2 red LEDs behind the rocker windows of the left outer key rocker always off or as orientation light or to indicate the mode
- 2 red LEDs behind the rocker windows of the middle key rocker always off or as orientation light or to indicate the mode
- 5 red LEDs to indicate setpoint adjustment (-2 to +2; setpoint adjustment per key depression can be set in parameter list in the ETS2)
- 1 green LED to indicate the operating mode night reduction
- 1 red LED to indicate the operating mode freeze protection

Temperature detector

- measuring range: 0 °C to 50 °C
- resolution: 0,1 K
- accuracy between approx. 20 °C to approx. 30 °C: +/- 0,8 °C
- accuracy at the range limits: +/- 1,2 °C
- temperature setpoint adjustment via the left outer key rocker: -2 to +2 in five steps

Connections

- 10 pin connector (PEI):
for connection to the bus coupling unit UP 114

Physical specifications

- housing: plastic
- dimensions (L x W x D):
65 x 65 x 15 mm (without spring)
65 x 65 x 28 mm (spring included)
- weight: approx. 40 g
- fire load: approx. 1050 kJ ± 10%
- installation: stuck upon the BCU and fastened with two screws

Electrical safety

- fouling class (according to IEC 60664-1): 2
- protection (according to EN 60529): IP 20
- protection class (according to IEC 61140): III
- overvoltage class (according to IEC 60664-1): III
- bus: safety extra low voltage SELV DC 24 V
- the device complies with
EN 50090-2-2 and EN 60664-1

Reliability

rate of failure: 238 fit at 40 °C

Electromagnetic compatibility

complies with EN 50081-1, EN 61000-6-2 and EN 50090-2-2

Environmental specifications

- climatic conditions: EN 50090-2-2
- ambient temperature operating: - 5 ... + 45 °C
- ambient temperature non-op.: - 25 ... + 70 °C
- relative humidity (non-condensing): 5 % to 93 %

Certification

EIB certificate

CE norm

complies with the EMC regulations (residential and functional buildings), and low voltage regulations

Temperature Controller UP 231/3	5WG1 231-2AB 5WG1 231-2EB
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Location and function of the display and operator elements

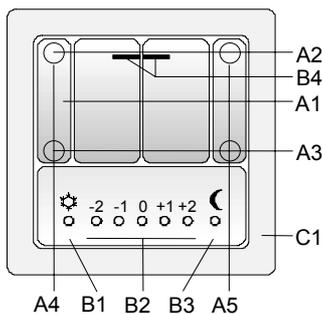


Diagram 2: Location of display and operating elements

- A1 Four key rockers with top and bottom press points (key contacts)
- A2 Top press points (key contacts)
- A3 Bottom press points (key contacts)
- A4 Key rocker for setpoint adjustment
Top key contact: +
Bottom key contact: -
- A5 Key rocker to set the operating modes
Top key contact: comfort mode

Bottom key contact: standby mode

- B1 LED for displaying the operating mode freeze protection
- B2 LEDs to indicate setpoint adjustment
- B3 LED to indicate the operating mode night reduction
- B4 LEDs for indicating mode or as orientation light
- C1 Frame

Mounting

General description

The temperature controller UP 231/3 is slid onto the bus coupling unit together with its frames. The flush-mounted bus coupling unit (B1) is connected and fixed in position in the flush-type box (see installation instructions for the flush-mounted bus coupling unit).

Mounting sequence

- Place the push button module (B4) with the relevant frame (B2/B3) on the flush-mounted bus coupler (C1) and press the one strongly upon the other (diagram 3).

Using fixing screws:

- If the fixing screws (B6) are used first of all the rockers (B5) have to be lifted out altogether. This can be achieved by inserting the screwdriver between the frames in the recess (B8) and applying leverage (diagram 4).
- Important: The push button module (B4) and the rockers (B5) together with the frame (B2) must be held down / pressed down.
- Screw down the fixing screws (B6).
- The rockers (B5) have to be orientated properly and clicked upon the mounting rack (B7).

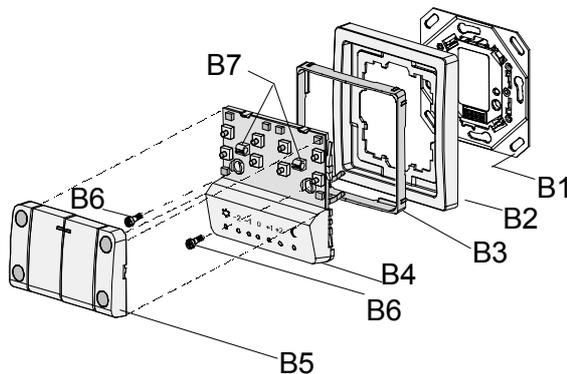


Diagram 3: Mounting sequence

Drawing representing the installation

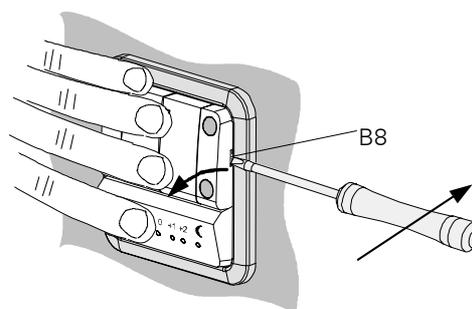


Diagram 4: Lifting out the key rockers

Temperature Controller UP 231/3

5WG1 231-2AB
5WG1 231-2EB

Dismantling

Without fixing screws

- Remove the temperature controller UP 231/3 (B4) completely together with the frame (B2/B3) from the flush-mounted bus coupler (B1):
 - with the mere hand
 - with a screwdriver beneath the frame / wall

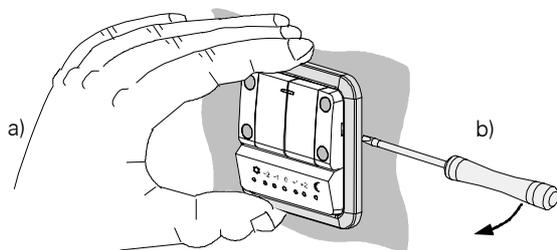


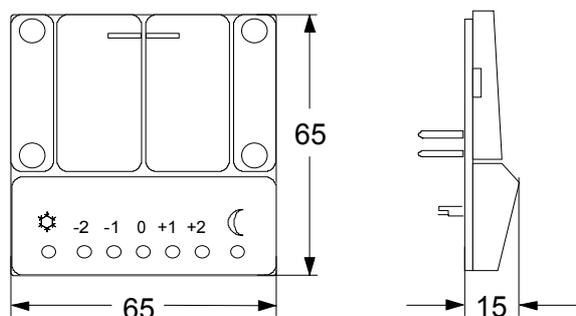
Diagram 5: Dismantling

With fixing screws

- Insert a screwdriver into the recess (B8) between the frame (B2/B3) and remove the rockers (B5) by applying leverage.
- Screw out the fixing screws (B6)
- The rockers (B5) have to be orientated properly and clicked upon the mounting rack (B7).
- Remove the whole push button module (B4) as described at „ Without fixing screws “.

Dimension Diagram

Dimensions in mm



(schematic representation)

Notes