

Temperature Controller UP 231
5WG1 231-2AB..
Product and Applications Description


The temperature controller UP 231 is available in the following colours, matching the designs of the DELTA series switches DELTA profil:

DELTA profil, pearl grey	5WG1 231-2AB02
DELTA profil, titanium white	5WG1 231-2AB12
DELTA profil, anthracite	5WG1 231-2AB22
DELTA profil, silver	5WG1 231-2AB72

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.

In the middle key rockers (main rockers) which are double width designed compared with the outer rockers a LED is integrated at the top press point.

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

Below the key rockers a temperature detector (within the casing, behind the cover) and seven further LEDs are arranged for indicating setpoint adjustment and the operating modes freeze protection and night reduction.

The temperature controller UP 231 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 works only in connection with the bus coupling unit (BCU) and the matching application program, i.e. the push button consists of the devices (hardware) and the application program (software). The BCU and the matching frame are not contained in the volume of delivery and must be ordered separately.

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 requires a bus coupling unit (BCU) UP 114 (version 2.0, R8) or higher.

Application Programs
20 S2 Room temperature controller 900601

- 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 value

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Installation Instructions

- The device may be used for permanent interior installations in dry locations within box mounts (with bus coupling unit UP 114).

**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

Technical Specifications

Power supply

via bus coupling unit UP 114

Control elements

- 4 key rockers, idle in the middle position
- number of switching cycles: >20000 per push button

Display elements

13 LEDs:

- 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 bar (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: stucked upon the BCU and fastened with two screws

Electrical safety

- fouling class (according to IEC 664-1): 2
- protection (according to EN 60529): IP 20
- protection class (according to IEC 1140): III
- overvoltage class (according to IEC 664-1): III
- bus: safety extra low voltage SELV DC 24 V
- the device complies with
EN 50090-2-2 and EN 60669-2-1: 1992

Reliability

rate of failure: 238 fit at 40 °C

Electromagnetic compatibilitycomplies with
EN 50081-1, EN 50082-2 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

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Location and Function of the Display and Operator Elements

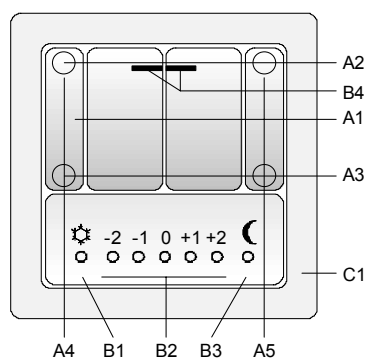


Figure 1: Location of the display and operator elements

- 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 + , bottom -)
- A5 key rocker to set the operating modes comfort (top) and standby (bottom) with individual LEDs for indicating the set operating mode
- B1 LEDs for displaying the operating mode freeze protection
- B2 LED to indicate setpoint adjustment
- B3 LED to indicate the operating mode night reduction
- B4 LED for indicating mode or as orientation light
- C1 Frame (accessory, to be ordered separately)

Mounting and Wiring

General description

The temperature controller UP 231 is stucked upon the BCU together with the matching frame (DELTA profil). This establishes the electric connection between the temperature controller and the BCU via the physical external interface (PEI).

Mounting: (Figure 2)

- The BCU is connected and fastened within the flush-mounting box (see installation guide bus coupling unit UP 114).

- The key rockers (D1) are joint via a common axis (D2) and can be removed jointly from the push button basic module (D3) facilitated by the lateral recesses of the outer key rockers (D4).
- Set a screw-driver in the lateral recess of the outer key rocker (D4) and lever the key rockers carefully from the push button basic module.
- Stick the push button basic module together with the matching frame (DELTA profil) onto the BCU.
- Attach the push button basic module together with the pre-mounted screws to the BCU and slip the key rockers back on again. Take care that the recesses at the bottom of the two outer key rockers must be below (D5).

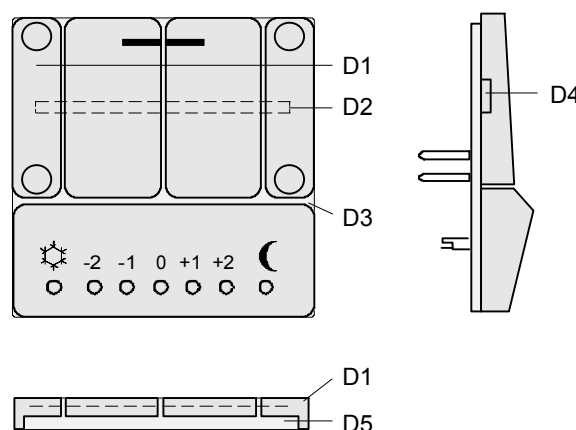
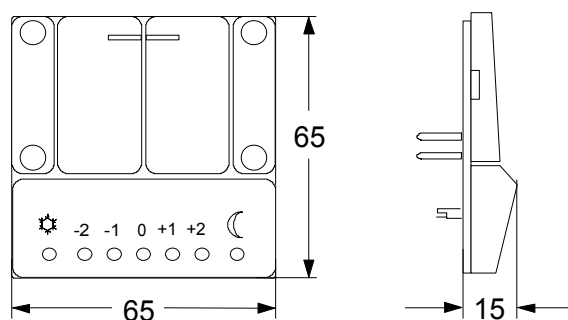


Figure 2: Mounting

Dimension Diagram

Dimensions in mm



(schematic representation)

Notes