



## Operating instructions

**Room controller display module**  
Art. no. xx 429 D1 ST



**ALBRECHT JUNG GMBH & CO. KG**  
Volmestraße 1  
58579 Schalksmühle  
GERMANY

Telefon: +49 2355 806-0  
Telefax: +49 2355 806-204  
kundencenter@jung.de  
www.jung.de

Product image non-binding

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## 1 Safety instructions

To avoid potential damage, read and follow the following instructions:



Electrical devices may be mounted and connected only by electrically skilled persons.

Use only the plastic screws for fastening to the supporting frame! Otherwise safe operation cannot be ensured. Electrostatic discharges can cause defects in the device.

Instructions are part of the product, so keep them in a safe place.

## 2 Device components

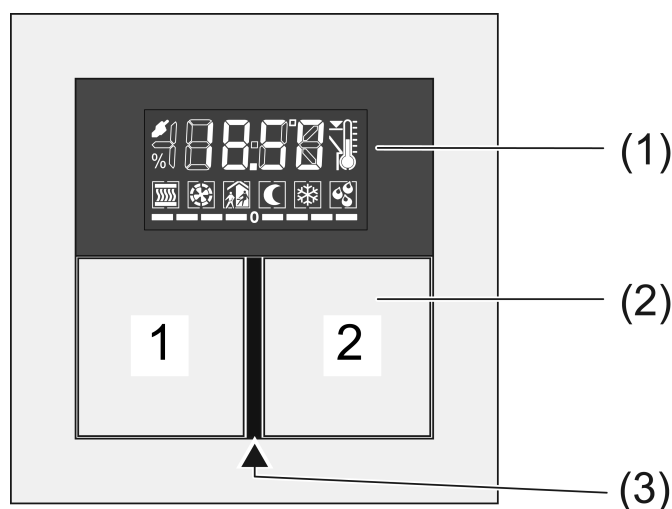


Figure 1

- (1) LCD with push-button operation
- (2) Buttons 1 and 2
- (3) Operating and status LED

## 3 System information

This device is a product of the KNX system and complies with the KNX directives. Detailed technical knowledge obtained in KNX training courses is a prerequisite for proper understanding.

The function of this device depends upon the software. Detailed information on software versions and the respective scope of functions as well as the software itself can be obtained from the manufacturer's product database.

The device can be updated. Firmware can be easily updated with the Jung ETS Service App (additional software).

The device is KNX Data Secure capable. KNX Data Secure offers protection against manipulation in building automation and can be configured in the ETS project. Detailed technical knowledge is a prerequisite. A device certificate, which is attached to the device, is required for safe commissioning. During mounting, the device certificate must be removed from the device and stored securely.

Planning, installation and commissioning of the device are carried out with the aid of the ETS, version 5.7.7 and higher or 6.1.0.

## 4 Intended use

- Operation of loads, e.g. light on/off, dimming, blinds up/down, brightness values, temperatures, calling up and saving light scenes, etc.
- Measurement and feedback control of the room temperature
- Mounting in appliance box according to DIN 49073

## 5 Product characteristics

All buttons can be assigned with push-button sensor functions or functions for controller operation.

- Four red status LEDs
- A blue operation LED as an orientation light and to indicate the programming status
- Integrated bus coupling unit
- Completion with set of buttons (see accessory)
- Connection of push-button sensor extension module for expansion up to four additional buttons
- Integrated room temperature sensor
- Room temperature control with setpoint value specification
- Indication of room or setpoint temperature
- Indication of outdoor temperature – with external sensor, e.g. weather station
- Indication of time, in conjunction with KNX time encoder
- The push-button sensor functions switching, dimming, controlling blinds, value transmitter, calling up moods, etc.
- Button function or rockers function, vertical or horizontal

## 6 Operation

### Operating a function or load




















Depending on the programming, a button can have up to three functions assigned to it – upper/left, lower/right, entire surface. Operation depends on the specific function.

- Switch: Short press on button.




- Dim: Long press on button. The dimming process ends when the button is released.
- Move Venetian blind: Long press on button.
- Stop or adjust Venetian blind: Short press on button.
- Call up light scene: Short press on button.
- Save light scene: Long press on button.
- Set value, e.g. brightness or temperature setpoint: Short press on button.

### Operating modes and indication icons

The device compares the current room temperature with the setpoint temperature and controls heating or cooling devices according to the current demand. The setpoint temperature depends on the current operating mode and can be changed by the user, depending on the programming. The operating modes and the current controller status are shown in the display.

- : Operating mode Comfort
- : Operating mode Standby
- : Operating mode Night
- : Operating mode Frost/heat protection  
The  icon flashes if the room temperature drops below 7 °C / 45 °F.
- : Dewpoint operation indication; controller blocked
- : Comfort extension, night
- : Comfort extension, frost protection
- ...: Fan controller with fan level indication.  = Fan off.
- : Manual fan control
- ...: Heating mode with heating stage indication
- ...: Cooling mode with cooling step indication
- : Indoor temperature
- : Outdoor temperature
- : Setpoint temperature
- ...--0 or 0--...: Setpoint temperature reduced or increased manually

When switched on, the display shows, next to the icon for the current operating mode, either:

- the current time: the seconds mark flashes.
- the current room temperature: icon 
- the current outdoor temperature: icon 
- the current setpoint temperature: icon 

The display switches the information over automatically or at the press of a button, depending on the programming.

## Menu level

In the menu level, the following settings are available in sequence. Some items are not visible, depending on the programming of the device.

- Presence mode
- Setpoint shift
- Basic temperature for Comfort mode
- Lowering for standby mode, heating
- Raising for standby mode, cooling
- Lowering for night mode, heating
- Raising for night mode, cooling
- Changing the operating mode
- Fan controller
- Time indication
- Current room temperature indication
- Current temperature setpoint indication
- Current outdoor temperature indication
- Display contrast
- Display illumination
- OK – Exit and save settings
- ESC – Exit without saving settings

## Operating the menu level

The menu level is programmed and not locked.

- Open: Simultaneously press the buttons **1** and **2** at the top left (see figure 1).
- Press button **1** at top or bottom.  
The current setting is switched or the displayed value is increased or decreased.
- Press button **2** at top or bottom.  
The display switches to the previous or next menu entry.

## 7 Information for electrically skilled persons

### 7.1 Mounting and electrical connection



#### **DANGER!**

Electric shock when live parts are touched.

Electric shocks can be fatal.

Cover up live parts in the installation environment.

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## Snapping on the adapter frame

The adapter frame is required depending on the switch design range.

- With the adapter frame (7) in the correct orientation, snap it from the front onto the module (8) (see figure 2). Note marking **TOP** =.

## Mounting and connecting the device

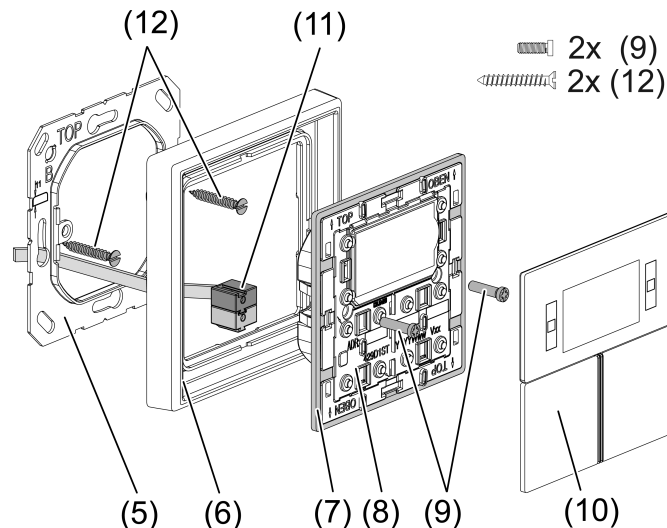


Figure 2: Mounting the controller module

- (5) Supporting frame
- (6) Design frame
- (7) Adapter frame
- (8) Controller module
- (9) Fastening screws
- (10) Design operating areas
- (11) KNX device connection terminal
- (12) Box screws

Supporting frame side **A** for A design ranges, CD design ranges and FD design. Supporting frame side **B** for LS design ranges.

Recommended installation height: 1.50 m.

When the push-button sensor extension module is used (see figure 3): preferably mounted vertically. Use large supporting frame (13). When mounting on only one appliance box, countersink the lower screws into the wall, e.g. with a  $\varnothing 6 \times 10$  mm hole. Use supporting frame as template.



## DANGER!

When mounting with 230 V devices under a common cover, e.g. socket outlets, there is a danger of electrical shocks in the event of a fault!

Electric shocks can be fatal.

Do not install any 230 V devices in combination with a push-button sensor extension module under a common cover!

- Mount supporting frame (5) or (13) in the correct position onto an appliance box. Note marking **TOP** = at top; marking **A** or **B** in front. Use box screws (12) (see accessories).
- Push frame (6) onto supporting frame.
- Mount the push-button sensor extension module (14) preferably below. Route connecting cable (16) between supporting frame and intermediate web.
- Push-button sensor extension module: Insert connecting cable (16) in the correct orientation into slot (15) in the controller module. Do not crimp the connecting cable (see figure 3).
- Connect controller module (8) to the KNX using KNX device connection terminal (11) and push onto the supporting frame.
- Fasten controller module (8) and push-button sensor extension module (12) to supporting frame using the plastic screws (9) (see accessories). Tighten the plastic screws only lightly.
- Before mounting the control surfaces (10), load the physical address into the device (see Commissioning).

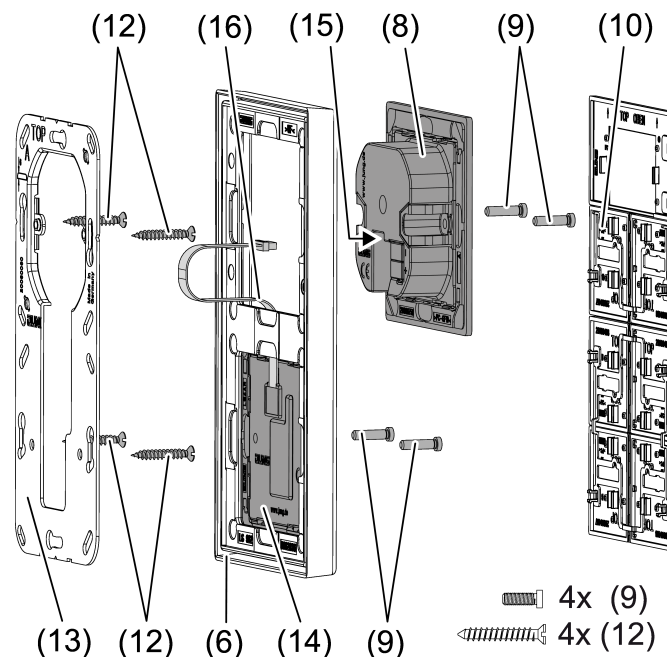


Figure 3: Mounting with push-button sensor extension module

- (13) Supporting frame for mounting with push-button sensor extension module
- (14) Extension module push-button sensor



- (15) Slot for push-button sensor extension module
- (16) Push-button sensor extension module connecting cable

## 7.2 Commissioning

### Preconditions in secure operation

- Secure commissioning has been activated in the ETS.
- Device certificate entered/scanned or added to the ETS project. A high resolution camera should be used to scan the QR code.
- Document all passwords and keep them safe.

### Programming the physical address and application software

- i** Project design and commissioning with ETS version 5.7.7 and higher or 6.1.0.

The device is connected and ready for operation.

The buttons are not mounted yet.

- i** If the device does not receive any application software, or the wrong application software, then the blue operation LED flashes slowly.

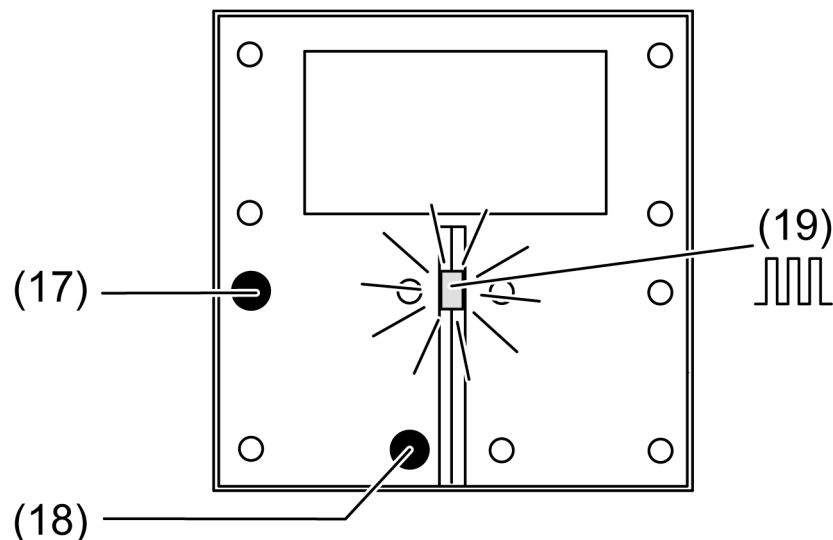


Figure 4: Activating programming mode

- Activate programming mode: Press and hold push-button (17) (see figure 4). Then press push-button (18). The operation LED (19) flashes quickly.
- Programming the physical address. The operation LED (19) returns to its previous state – off, on, or flashing slowly.
- Programming the application program. The operation LED flashes slowly (approx. 0.75 Hz) while the application program is programmed.

### Fitting the operating areas

The buttons (10) are available as a complete set of buttons. Individual buttons can be replaced using buttons with icons.

The physical address is loaded into the device.

- Place the buttons (10) on the device in the correct orientation and snap in with a short push.  
Note marking **TOP =**.

## 7.2.1 Safe-state mode

The safe-state mode stops the execution of the loaded application program.

If the device does not work properly - for instance as a result of errors in the project design or during commissioning - the execution of the loaded application program can be halted by activating the safe-state mode. The device remains passive in safe-state mode, since the application program is not being executed (state of execution: terminated).

Only the system software of the device is still functional. ETS diagnosis functions and programming of the device are possible.

### Activating safe-state mode

- Switch off the bus voltage.
- Press and hold down the top left and bottom right button .
- Switch on the bus voltage.

Safe-state mode is activated. The operation LED flashes slowly (approx. 1 Hz).

 Do not release the buttons until the operation LED flashes.

### Deactivating safe-state mode

- Switch off the voltage or carry out ETS programming.

## 7.2.2 Master reset

The master reset restores the basic device settings (physical address 15.15.255, firmware remains in place). The device must then be recommissioned with the ETS.

In secure operation: A master reset deactivates device security. The device can then be recommissioned with the device certificate.

If the device - for instance as a result of errors in the project design or during commissioning - does not work properly, the loaded application program can be deleted from the device by performing a master reset. The master reset resets the device to delivery state. Afterwards, the device can be put into operation again by programming the physical address and application program.

Performing a master reset

Prerequisite: The safe-state mode is activated.

- Press and hold down the push-button (20) . Then press the push-button (21) for longer than 5 seconds until the operation LED flashes quickly (approx. 4 Hz).
- Release the buttons.

The device performs a master reset.

The device restarts. The operation LED flashes slowly.

Resetting the device to its default settings

Devices can be reset to factory settings with the ETS Service App. This function uses the firmware contained in the device that was active at the time of delivery (delivered state). Restoring the factory settings causes the devices to lose their physical address and configuration.

8 Flashing frequencies of the LEDs

State of operation	Operation LED	Status LED
Application discharged	Approx. 0.75 Hz	With On button pressed
Safe-state mode	Approx. 1 Hz	---
Flashing status	Approx. 2 Hz	Approx. 2 Hz
Alarm signal	Approx. 2 Hz	Approx. 2 Hz
Master reset	Approx. 4 Hz	---
Programming mode	Approx. 8 Hz	---
Full-surface operation	---	Approx. 8 Hz

9 Technical data

KNX medium	TP256
Safety	KNX Data Secure (X-mode)
Commissioning mode	S mode
Rated voltage KNX	DC 21 ... 32 V SELV
Current consumption KNX	
Without extension module	9 ... 12 mA
With extension module	12 ... 15 mA
Connection mode KNX	Device connection terminal
Connecting cable KNX	EIB-Y (St)Y 2x2x0.8
Protection class	III

Measuring range	-5 ... +45 °C
Ambient temperature	-5 ... +45 °C
Storage/transport temperature	-25 ... +70 °C

## 10 Accessories

Cover kit for Room controller module	Art. no.: ..4093 TSA..
Push-button extension module, 1-gang	Art. no.: 4091 TSEM
Push-button extension module, 2-gang	Art. no.: 4092 TSEM
Push-button extension module, 3-gang	Art. no.: 4093 TSEM
Push-button extension module, 4-gang	Art. no.: 4094 TSEM
Cover kit 1-gang	Art. no.: ..401 TSA..
Cover kit 2-gang	Art. no.: ..402 TSA..
Cover kit 3-gang	Art. no.: ..403 TSA..
Cover kit 4-gang	Art. no.: ..404 TSA..
Screw assortment sensors	Art. no. S-BOXTSMRTZN
Screws sensor module	Art. no. S-NFBTSMRT
Screws supporting frame	Art. no. S-NFBTSMZN

## 11 Warranty

The warranty is provided by the specialist trade in accordance with statutory requirements.

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Volmestraße 1  
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