

## KNX pushbutton with thermostat ERA series

Codes: EK-ERA-TP, EK-ERA-TP-H



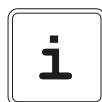
Datasheet STEKERATP\_EN

KNX bus device with 1/2/4 independent button function, with integrated room temperature controller. Use in home and building automation systems with KNX standard.



### Description

The ekinex® ERA series pushbuttons with 1, 2 or 4 buttons are KNX S-Mode devices for on/off control of loads, the dimming of lighting devices, the control of motorized drives or other programmable command and control functions. The integrated temperature sensor also allows them to be used as temperature regulators for a room or zone. The EK-ERA-TP-H models come also with an integrated humidity sensor. The devices are equipped with a KNX bus communication module and are designed for mounting on a flush-mounted wall box. Each button can be freely programmed to perform a bus function and has an RGB LED, which can be used e.g. as status indication or night orientation light. The pushbuttons are completed with 1, 2, or 4 buttons depending on the model and a square frame to be ordered separately. The devices are powered at SELV 30 Vdc via the KNX bus and do not require an auxiliary power supply.



**Note.** The rockers and the frame to complete the device must be ordered separately. For more information on available materials, colours and finishes, see the ekinex® product catalogue or visit [www.ekinex.com](http://www.ekinex.com) website.

### Versions

| Code        | Number of buttons / sensors                   |
|-------------|-----------------------------------------------|
| EK-ERA-TP   | 1, 2 or 4 / temperature                       |
| EK-ERA-TP-H | 1, 2 or 4 / temperature and relative humidity |

### Main functional characteristics

- On/off switching of single loads or groups of loads
- Dimming of lighting devices
- Control of motor drives (for roller shutters, blinds, curtains, etc.)
- Measuring of room temperature and relative humidity detection (for EK-ERA-TP-H) through integrated sensors
- Room temperature regulation
- Logic functions
- Sending of values (temperature, etc.) on the bus
- Switching to forced functioning (lock)
- Recalling and saving of scenes
- Shift register function
- Different functions programmable for short/long press of a button
- Status feedback or orientation nightlight through programmable RGB LEDs

### Other characteristics

- Housing in plastic material
- Wall installation in flush mounting box
- Protection degree IP20 (installed device)
- Classification climatic 3K5 and mechanical 3M2 (according to EN 50491-2)
- Pollution degree 2 (according to IEC 60664-1)
- Weight 50 g
- Dimensions 89 x 89 x 32.5 mm (pushbutton body only)

### Technical data

- Power supply 30 Vdc from KNX bus line
- Current consumption: 23 mA (typical)
- Power from bus < 700 mW

### Environmental conditions

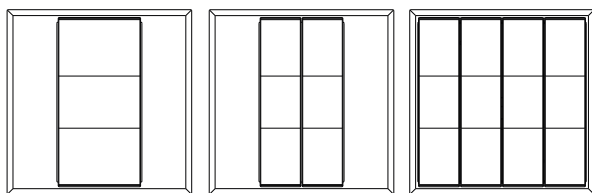
- Operating temperature: - 5 ... + 45°C
- Storage temperature: - 25 ... + 55°C
- Transport temperature: - 25 ... + 70°C
- Relative humidity: 95% not condensing

### Delivery

The fixing screws (3 pairs), the metal support for wall mounting, the thermoformed protective cover and the terminal for connection to the KNX bus are included in the delivery of the device. The button has to be completed with a set of buttons and a cover frame, both specific to the ERA series (to be ordered separately).

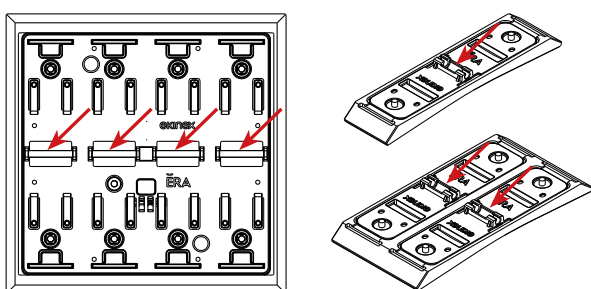
## Set of rockers

For installation and operation, the ekinex® button must be completed with a set of metal finish rockers, which makes it usable as a 1, 2 or 4 button button. The application program allows to configure the device with ETS. The function performed by the button depends on the configuration done via ETS.



## Rockers mounting

To mount the button, place it on the button body, aligning the central hook with the rocker.



Next, press the button by exerting slight pressure until a 'click' is heard. The rocker is now secured to the pushbutton body.

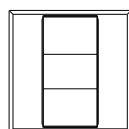
| Rocker kit code (*)                                | No. of items | Dimensions<br>LxH [mm] | Material                         |
|----------------------------------------------------|--------------|------------------------|----------------------------------|
| EK-T2V-... / P                                     | 1            | 39,7 x 81,5            | Metal, in<br>various<br>finishes |
| EK-TEV-... / P                                     | 1            | 19,7 x 81,5            |                                  |
| EK-TEV-2-... / P                                   | 2            | 19,7 x 81,5            |                                  |
| EK-TEV-4-... / P                                   | 4            | 19,7 x 81,5            |                                  |
| (*) Da completare con l'estensione per la finitura |              |                        |                                  |

## Customising the function of the buttons

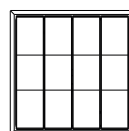
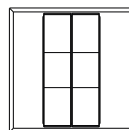
The pushbuttons can be customized with text or symbols and, thanks to the RGB LEDs on the back, they have indirect backlighting. For more information on the standard library see the ekinex product catalogue® or access [www.ekinex.com](http://www.ekinex.com). Customisation by means of texts specified by the customer is also possible on request.

## Finishing frame

The button is completed with a square metal frame with a window of different sizes for the 1 and 2 button, or 4-button versions.



**Tank frame for 1 or 2 buttons version**  
Code EK-FOD-...(\*)

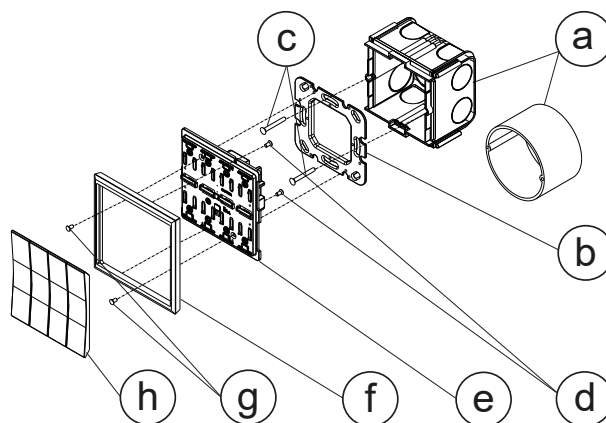


**Slim frame for 4 buttons version**  
Code EK-FOE-...(\*)

(\*) To be completed with extension for colour and finish.

## Mounting

The device has degree of protection IP20, and is therefore suitable for use in dry interior rooms. The installation of the device can be done with round or square flush mounting box.



ERA pushbutton assembly

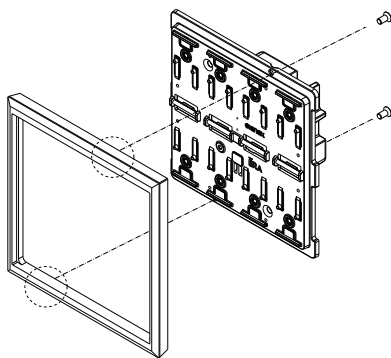
- a) Round or square flush-mounted box
- b) Metal adapter
- c) Screws for fixing the adapter to the wall box
- d) Screws for fixing the frame to the button
- e) ERA series pushbutton
- f) ERA series frame (to be ordered separately)
- g) Screws for fixing the button to the metal adapter
- h) Rockers for ERA series (to be ordered separately)

The installation of the device requires the following steps:

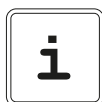
- Place the metal support (b) on the wall flush-mounted box (a) and fasten it with the screws (c) supplied to the appropriate holes in the box;
- Place the button body (e) against the frame (f) and fasten it from the back of the button with the screws (d);



**Note.** The screws for the mounting support must be tightened with a max. torque of 1.0 Nm.



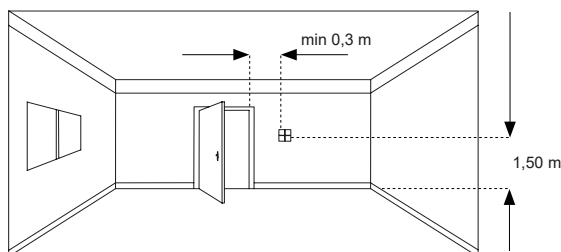
- insert the bus terminal, which was previously connected to the bus cable (see: "Connection to the KNX bus network"), into the appropriate slot on the back of the button; taking advantage of the accessibility of the programming button, it is convenient to also carry out programming via ETS at this time, in order to avoid disassembling the buttons later;
- Place the pushbutton + frame assembly (e+f) on the box + metal support assembly (a+b) and fasten it with the screws (g);
- Mount the rockers (h) as described above.



**Note.** The screws supplied in the package are suitable for standard installations. For more specific applications, where the screws have to be replaced, only flat-head screws must be used.

### Mounting position

If the integrated sensor is used for temperature regulation, the device has to be installed preferably on an internal wall at the height of 1,5 m and at least 0,3 m far from doors. The device can not be installed close to heat sources such as radiators or household appliances or in position subjected to direct sunlight. If necessary, for the regulation can be used a weighted average value between the value measured by the integrated sensor and a value received via bus by another KNX device.



### Use as a room temperature controller

The pushbutton can be also used as a room temperature controller for single-stage heating/cooling systems with radiators, radiant panels and electrical heaters. As the device has no user interface, it must receive the operational parameters by the bus (e.g. operating mode, seasonal conduction mode or a change of the setpoint value).

#### Main functional characteristics (room temperature controller)

- Temperature measuring through integrated sensor with possibility of sending the value on the bus
- 2-point (on/off) or proportional (PWM or continuous) room temperature regulation
- Seasonal conduction modes: heating and cooling with possibility of changeover via bus or automatic depending on the configuration
- Operating modes: comfort, standby, economy and building protection with different setpoint for heating and cooling
- Automatic switching of the operating modes triggered by window opening/closing
- Weighted average of two temperature values
- Temperature control alarm
- Anti-locking function for valves (hydraulic systems)

### Switching, display and connection elements

The device is equipped with 1, 2 or 4 buttons for independent operation, 1 programmable RGB LED per button and a connector for the bus line.



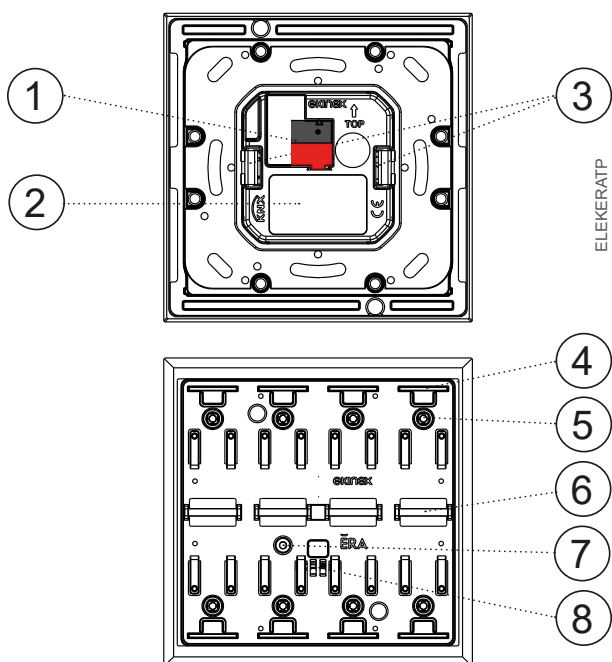
**Warning!** The electrical connection of the device can be carried out only by qualified personnel. The incorrect installation may result in electric shock or fire. Before making the electrical connections, make sure the power supply has been turned off.

#### Switching elements

- Mechanisms (5) for independent control of utility groups, to be completed with rockers
- Switch button for programming the device (7)

#### Signalling elements

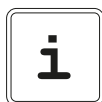
- RGB LEDs with lightguides (4) that can be configured; e.g. for status signalling of controlled consumers or for night orientation light



- 1) KNX bus line connection terminal
- 2) Label
- 3) Springs for attachment to metal support
- 4) RGB LED with lightguide
- 5) Control buttons
- 6) Rocker lock balancer
- 7) KNX programming button
- 8) Temperature sensor position (and humidity sensor if applicable)

### Connection of the KNX bus line

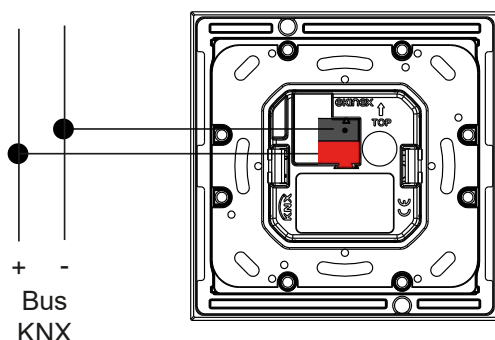
The connection of the KNX bus line is made with the terminal block (1) included in delivery and inserted into the slot of the housing.



**Note.** The configuration and commissioning of KNX devices require specialized skills. To acquire these skills, you should attend the workshops at KNX certified training centers.

### Characteristics of the KNX terminal block

- spring clamping of conductors
- 4 seats for conductors for each polarity
- terminal suitable for KNX bus cable with single-wire conductors and diameter between 0.6 and 0.8 mm
- recommended wire stripping approx. 5 mm
- color codification: red = + (positive) bus conductor, black = - (negative) bus conductor



**Warning!** In order to supply the KNX bus lines use only KNX bus power supplies (e.g. ekinex EK-AH1-TP or EK-AM1-TP). The use of other power supplies can compromise the communication and damage the devices connected to the bus.

### Configuration and commissioning

Configuration and commissioning of the device require the use of the ETS® (Engineering Tool Software) program V5 or later releases. These activities must be carried out according to the design of the building automation system done by a qualified planner.

#### Configuration

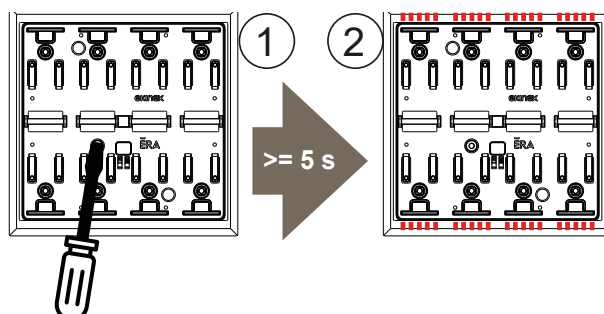
For the configuration of the device parameters the corresponding application program or the whole ekinex® product database must be loaded in the ETS program. For detailed information on configuration options, refer to the application manual of the device available on the website [www.ekinex.com](http://www.ekinex.com).

#### Commissioning

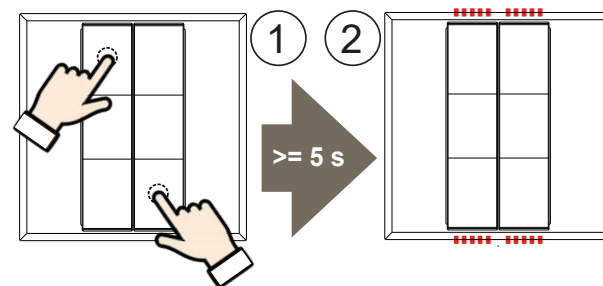
For commissioning the device the following activities are required:

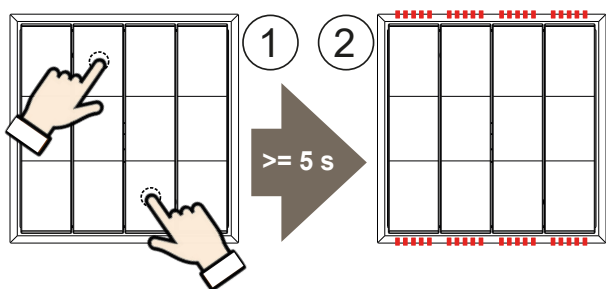
- make the electrical connections as described above;
- turn on the bus power supply;
- switch the device's operation to programming mode; the operation to be performed differs depending on the configuration of the device's buttons:

*Configuration with any number of keys: with a pointed tool, press the microswitch (1) for at least 5 s and release it as soon as the signal LEDs start flashing red (2);*



*Configuration with 2 or 4 buttons: press the top left and bottom right buttons in the middle (1) simultaneously for at least 5 seconds and release them as soon as the LEDs start flashing red (2);*





- When all LEDs flash red (2), the device is in programming mode.
- download into the device the physical address and the configuration with the ETS® program.
- At the end of the download the operation of the device automatically returns to normal mode; in this mode all LEDs work as programmed. Now the bus device is programmed and ready for use.

### Device Reset

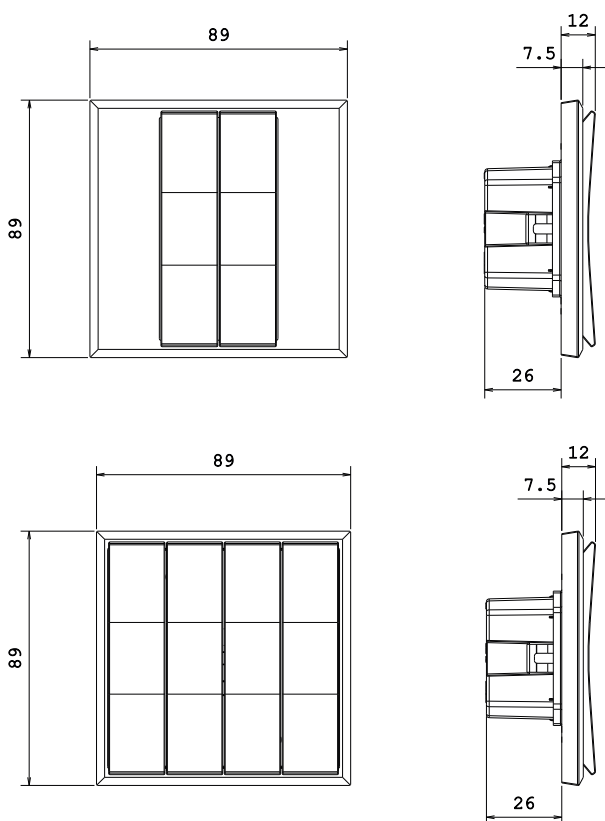
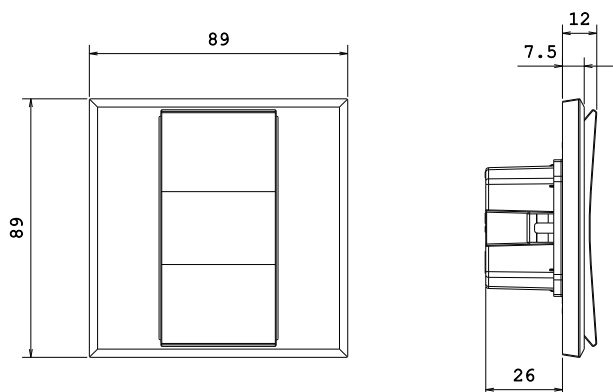
To reset the device, press and hold the programming button or the same key combination used to enter programming mode for at least 10 seconds; as soon as the LEDs begin flashing rapidly, the reset has been carried out. At this point, the addressing and configuration of the device via ETS must be carried out again.



**Warning!** The reset restores the device back to the state of delivery from the factory. The address and the value of the parameters set during configuration will be lost.

| Product code             | Application program (## = release) | Communication objects (nr. max) | Group addresses (nr. max) |
|--------------------------|------------------------------------|---------------------------------|---------------------------|
| EK-ERA-TP<br>EK-ERA-TP-H | APEKERATP##.knxprod                | 282                             | 254                       |

### Dimensions [mm]



### Marks

- KNX
- CE, UKCA: the device complies with the Low Voltage Directive (2014/35/EU) and the Electromagnetic Compatibility Directive (2014/30/EU). Tests carried out according to EN 63044-5-1:2019, EN 63044-5-2:2019.

### Maintenance

The device is maintenance-free. To clean use a dry cloth. It must be avoided the use of solvents or other aggressive substances.

### Disposal



At the end of its useful life the product described in this datasheet is classified as waste from electronic equipment in accordance with the European Directive 2012/19/EU (WEEE recast), and cannot be disposed together with the municipal undifferentiated solid waste.



**Warning!** Incorrect disposal of this product may cause serious damage to the environment and human health. Please be informed about the correct disposal procedures for waste collecting and processing provided by local authorities.

## Documentation

This datasheet refers to the release A1.0 of the ekinex® device EK-ERA-TP-..., and is available for download at [www.ekinex.com](http://www.ekinex.com) as a PDF (Portable Data Format) file.

| File name        | Device release | Updating  |
|------------------|----------------|-----------|
| STEKERATP_EN.pdf | A1.0           | 10 / 2025 |

## Warnings

- Installation, electrical connection, configuration and commissioning of the device can only be carried out by qualified personnel in compliance with the applicable technical standards and laws of the respective countries
- Opening the housing of the device causes the immediate end of the warranty period
- In case of tampering, the compliance with the essential requirements of the applicable directives, for which the device has been certified, is no longer guaranteed
- ekinex® KNX defective devices must be returned to the manufacturer at the following address: EKINEX S.p.A. Via Novara 37, I-28010 Vaprio d'Agogna (NO) Italy

## Other information

- This datasheet is aimed at installers, system integrators and planners
- For further information on the product, please contact the ekinex® technical support at the e-mail address: [support@ekinex.com](mailto:support@ekinex.com) or visit the website [www.ekinex.com](http://www.ekinex.com)
- Each ekinex® device has a unique serial number on the label. The serial number can be used by installers or system integrators for documentation purposes and has to be added in each communication addressed to the EKINEX technical support in case of malfunctioning of the device
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