

KNX eTR M1, KNX eTR M2, KNX eTR M4

Push Button with Temperature Sensor

Technical specifications and installation instructions

KNX eTR M1:
Item numbers
71110 (white),
71112 (black)

KNX eTR M2
Item numbers
71120 (white),
71122 (black)

KNX eTR M4
Item numbers
71130 (white),
71132 (black)



1. Description

The **KNX eTR M push button** has touch-sensitive buttons, with which functions in the KNX building bus system can be called, such as switch lights and devices, dim, activate drives, send values, scenarios. A white LED is integrated into each touch button, the behaviour of which can be adjusted.

A temperature sensor is integrated into **KNX eTR M**. An external temperature reading can be received via the bus and processed with its own data to create a total temperature (mixed value).

Communication objects can be connected by AND and OR logic gates.

KNX eTR M1 functions:

- **1 Touch bus button**, can be configured as switch, selector switch, dimmer, blind (position and slats up/stop OR down/stop), shutters (up/down/stop), awning (in/out/stop), window (closed/open/stop), as 8 or 16-bit encoder or for scenario recall/storage

KNX eTR M2 functions:

- **2 Touch bus button**, can be configured as switch, selector switch, dimmer, for operating drives, as 8 or 16-bit encoder or for scenario recall/storage
- **Area function** when touching both push buttons. Can be configured as switch, selector switch, as 8 or 16 bit encoder or for scenario recall

KNX eTR M4 functions:

- **4 Touch bus button**, can be configured as switch, selector switch, dimmer, for operating drives, as 8 or 16-bit encoder or for scenario recall/storage
- **Area function** when touching two or more push buttons. Can be configured as switch, selector switch, as 8 or 16 bit encoder or for scenario recall

Function of all models:

- One **LED** per touch area. On for object value = 1 / Off for object value = 0, On after pressing button for settable time or always off. Settable, as to whether LED flashes at block object value = 1
- **Temperature** measurements. **Mixed value** from own measured value and external values (proportion can be set by percentage)
- **2 AND and 2 OR logic gates** each with 4 inputs. 8 logic inputs (in the form of communications objects) can be used as inputs for the logic gates. The output from each gate can be configured optionally as 1-bit or 2 x 8-bit

Configuration is made using the KNX software ETS 5. The **product file** can be downloaded from the ETS online catalogue and the Elsner Elektronik website on www.elsner-elektronik.de in the "Service" menu.

1.0.1. Area function

If the area function in ETS has been activated, another function is available alongside the regular key functions. This is triggered by touching multiple keys, e.g. if you touch the sensor with the palm of your hand.

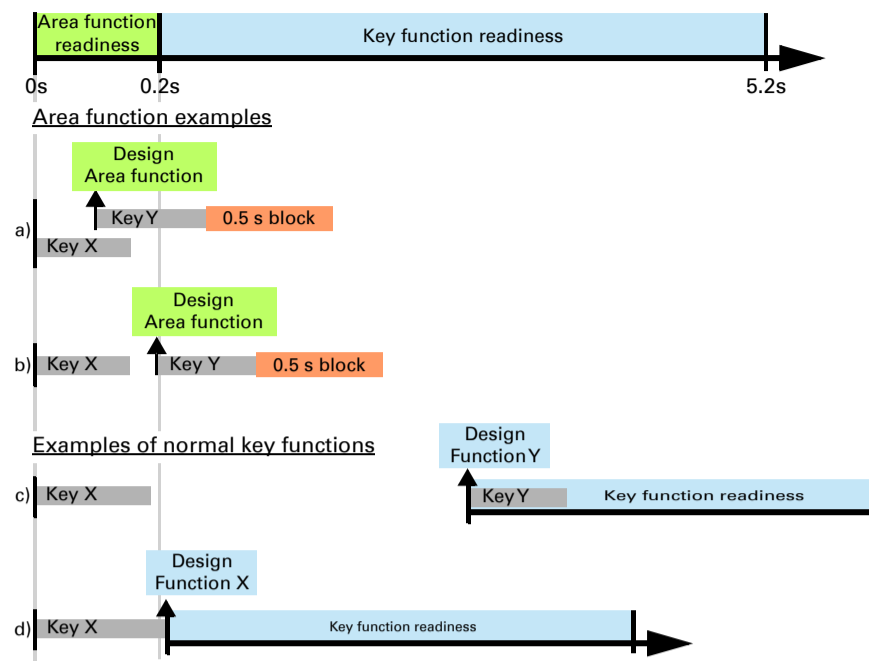
Using the area function

If a key is pressed and another (different) key is touched within 0.2 seconds, the action set in the ETS is performed for the area operation (See Fig. 1 a) and b)). The keys are then blocked for 0.5 seconds.

Using the normal key function

If a key is pressed and no other key is touched within 0.2 seconds, the normal key function is enabled/provided for 5 seconds (See Fig. 1 c) and d)). This is extended for 5 seconds with each push of the button.

Fig. 1



If the area function in the ETS is disabled, the keys can be used normally at any time.

1.0.2. Scope of delivery

- Push button with mounting
- 4 screw anchors 4 x 20 mm, 4 flat head screws 3 x 25 mm

1.1. Technical data

Casing	Genuine glass, plastic
Colours	<ul style="list-style-type: none"> • similar to RAL 9003 signal white • similar to RAL 9005 deep black
Installation	on-wall (directly or with a socket Ø 60 mm, resp. cavity wall socket for hole Ø 68 mm)
Degree of protection	IP 10
Dimensions	housing approx. 81,5 x 81,5 (W x H, mm), mounting depth approx. 12 mm
Total weight	approx. 70 g
Ambient temperature	Operating 0...+55°C, storage -30...+85°C
Ambient humidity	5...95% RH, avoid condensation
Operating voltage	KNX bus voltage
Bus current	max. 10 mA
Data output	KNX +/- Bus plug-in terminal
Group addresses	max. 183
Allocations	max. 183
Communication objects	KNX eTR M1: 44 KNX eTR M2: 55 KNX eTR M4: 73
Temperature measurement range	0...+55°C
Temperature resolution	0.1°C

The product is compliant with the provisions of EU Directives.

1.1.1. Accuracy of the measurement

Measurement variations from permanent sources of interference (see chapter *Installation position*) can be corrected in the ETS in order to ensure the specified accuracy of the sensor (offset).

When **measuring temperature**, the self-heating of the device is considered by the electronics. The heating is compensated by the software.

2. Installation and commissioning

2.1. Installation notes



Installation, testing, operational start-up and troubleshooting should only be performed by an electrician.



CAUTION! Live voltage!

There are unprotected live components inside the device.

- National legal regulations are to be followed.
- Ensure that all lines to be assembled are free of voltage and take precautions against accidental switching on.
- Do not use the device if it is damaged.
- Take the device or system out of service and secure it against unintentional use, if it can be assumed, that risk-free operation is no longer guaranteed.

The device is only to be used for the intended purpose described in this manual. Any improper modification or failure to follow the operating instructions voids any and all warranty and guarantee claims.

After unpacking the device, check it immediately for possible mechanical damage. If it has been damaged in transport, inform the supplier immediately.

The device may only be used as a fixed-site installation; that means only when assembled and after conclusion of all installation and operational start-up tasks and only in the surroundings designated for it.

Elsner Elektronik is not liable for any changes in norms and standards which may occur after publication of these operating instructions.

2.2. Installation location

The **KNX eTR M push button** is made for wall mounting. The device can be mounted directly on plaster or on a socket (Ø 60 mm).

May be installed and operated in dry interior rooms only. Avoid condensation.

When selecting an installation location, please ensure that the measurement results are affected as little as possible by external influences. Possible sources of interference include:

- Direct sunlight
- Drafts from windows and doors
- Draft from ducts which lead from other rooms or from the outside to the junction box in which the sensor is mounted
- Warming or cooling of the building structure on which the sensor is mounted, e.g. due to sunlight, heating or cold water pipes
- Connection lines and ducts which lead from warmer or colder areas to the sensor

Measurement variations from permanent sources of interference can be corrected in the ETS in order to ensure the specified accuracy of the sensor (offset).

2.3. Device structure

2.3.1. Casing

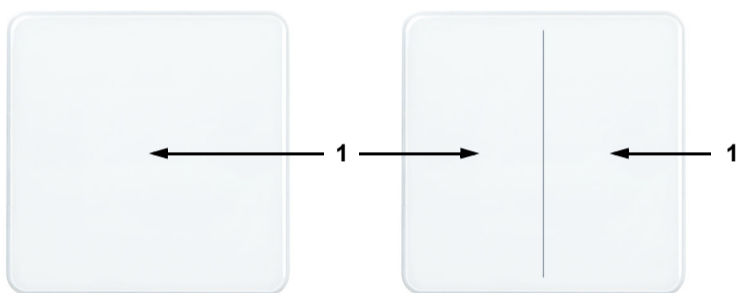


Fig. 2: Front view
1 Touch areas with LEDs

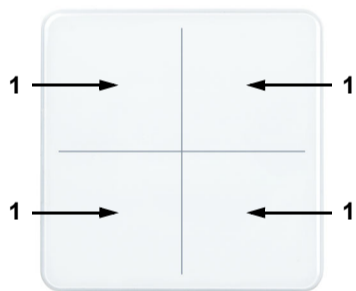


Fig. 3
Back view with mounting
2/3 Screw holes for different sockets. Fastening with 2 screws is sufficient. For wall mounting, use a fixing material suitable for the ground!
4 KNX bus terminal +/- for connection when mounted on a socket
5 Spring-loaded terminals KNX bus for mounting directly on the wall

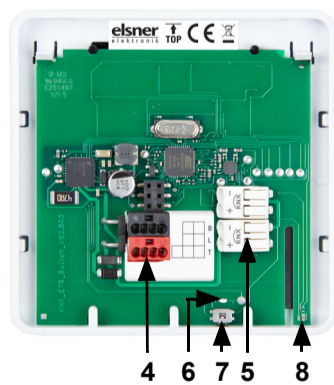


Fig. 4
Back view without mounting
4 KNX bus terminal +/- for connection when mounted on a socket
5 Spring-loaded terminals KNX bus for mounting directly on the wall
6 Programming LED
7 Programming button (recessed) for teaching device
8 Temperature sensor
PRG key is accessible from below/outside when the device is mounted (see chapter Addressing the device).

2.4. Mounting

Prepare the device

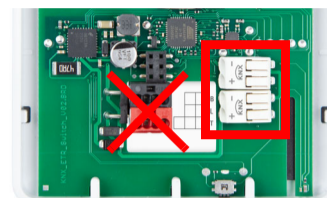
Remove the front panel from the mounting. Release the lock by moving the front panel a few millimetres upwards. The two parts can then be easily separated (Fig. 4).



Fig. 5 Locking of front panel and mounting

Screw the mounting onto the wall or socket. The connecting wires (bus line +/-) are led through the opening in the mounting.

Installation directly on the wall



Remove the red-black KNX bus terminal, it is not required.

Connect the bus +/- connecting wires to the spring-loaded terminals on the front panel.

The wires are pushed into the connection openings.

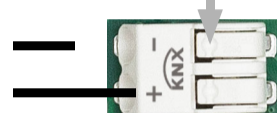
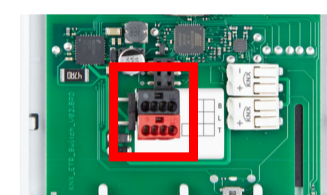


Fig. 6 Spring-loaded terminals

To pull it out, press the spring down, e.g. with a screwdriver.

Installation on a socket



If there is a cavity behind the device, e.g. when using a socket, you can use the red/black KNX bus terminal for connection.

To avoid falsifying the temperature value, use a wind-proof socket and also seal the inlet pipes against draughts.

Finish mounting

Snap the front panel into place on the mounting (see Fig. 4): Place it slightly above the centre position, hook it in and slide it downwards.

The mounting must be installed so that the large opening faces downwards (see Fig. 4). This is necessary for a correct temperature measurement and for KNX eTR M2 and KNX eTR M4 also for button allocation.

3. Notes on mounting and commissioning

Never expose the device to water (e.g. rain) or dust. This can damage the electronics. You must not exceed a relative humidity of 95%. Avoid condensation.

After the bus voltage has been applied, the device will enter an initialisation phase lasting a few seconds. During this phase no information can be received or sent via the bus.

3.1. Addressing of the device at the bus

The individual address is assigned via the ETS. A button and a control LED are located on the unit for this purpose (Fig. 4, No. 6+7).

The programming button is located at the bottom outer side of the front panel of the device and is recessed. Use a thin object to reach the button, e.g. a 1.5 mm² wire.



Fig. 7
View from bottom

Temperature sensor

The equipment is delivered with the bus address 15.15.255. Another address can be programmed using the ETS.

When programming mode is active, the programming LED lights up and all other LEDs also flash.

4. Maintenance and care

Fingerprints on the glass panel are best removed with a cloth moistened with water or a microfiber cloth. Do not use an abrasive cleaning agent or aggressive cleansing agents.

5. Disposal

After use, the device must be disposed of or recycled in accordance with the legal regulations. Do not dispose of it with the household waste!