KNX B8-TH

Interface

Technical specifications and installation instructions

Item number 70249

Elsner Elektronik GmbH Control and Automation Engineering
Sohlengrund 16
75395 Ostelsheim
Germany
Phone +49 (0) 70 33 / 30 945-0 info@elsner-elektronik.de
Fax +49 (0) 70 33 / 30 945-20 www.elsner-elektronik.de

Technical support: +49 (0) 70 33 / 30 945-250

1. Description

The **Interface KNX B8-TH:** has eight binary inputs and two additional sensor inputs for temperature or temperature and air humidity. They are used to integrate signals and values from conventional buttons and sensors into the KNX building bus.

The application software of the **Interface KNX B8-TH:**contains both switch outputs for temperature and humidity as well as PI controllers for heating/cooling and ventilation. The binary inputs can be configured as switches, up/down buttons, dimmers or encoders in various configurations.

Due to its compact design, the interface fits into a switch box. The binary contacts are connected using the cables supplied with the delivery.

Functions:

- **8 binary inputs** (button interfaces for potential-free contacts)
- **1 input for temperature sensor** T-UP basic or **temperature/air humidity sensor** TH-UP basic. Sensors for wall mounting in 55 mm standard frames of switch programmes
- **1 input for temperature sensor** T-NTC-ST
- Bus warning with regard to whether the values for temperature and air humidity are within the comfort field (DIN 1946).
- Dewpoint calculation
- Switch outputs for temperature and air humidity depending on threshold values, adjustable via parameters or communication objects.
- **PI-controller for heating** (one or two-stage) and **cooling** (one or two-stage) according to temperature. Regulation according to separate setpoints or basic setpoint temperature
- **PI controller for humidity** according to humidity: Dehumidifying/ humidifying (single level) or dehumidifying (single or double level)
- **2 control variable comparators** to output minimum, maximum or average values. 5 inputs each for values received via communication objects
- **4 AND and 4 OR logic gates**, each with 4 inputs. All switching events as well as 16 logic inputs (in the form of communications objects) can be used as inputs for the logic gates. The output of each gate can be configured optionally as 1-bit or 2 x 8-bit

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

1.0.1. Scope of delivery

- Interface
- 2 eight-wire connection lines for binary inputs (length approx. 30 cm)

1.1. Technical specifications

Housing	Plastic
Colour	White
Assembly	Installation
Protection category	IP 20
Dimensions	approx. 38 x 49 x 18 (W × H × D, mm)
Weight	approx. 20 g (interface) approx. 30 g (interface incl. connection lines)
Ambient temperature	Operation -20…+70 °C, storage -55…+150 °C
Ambient humidity	max. 95 % RH, avoid condensation
Operating voltage	KNX bus voltage
Power	10 mA on the bus
Inputs	8× binary (connection lines approx. 0.3 m, extendable to a maximum of 10 m). 1× sensor T-UP basic, no. 30520 (max. output length 10 m) or TH-UP basic, no. 30525 (max. output length 0.3 m). 1× temperature sensor T-NTC-ST, no. 30513 (max. output length 10 m).
Data output	KNX +/- bus plug-in terminals
BCU type	Integrated microcontroller
PEI type	0
Group addresses	max. 254
Assignments	max. 254
Communication objects	254

The product conforms with the provisions of EU directives.

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 its intended purpose. 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 device may only be installed and operated in dry, indoor spaces. Avoid condensation.

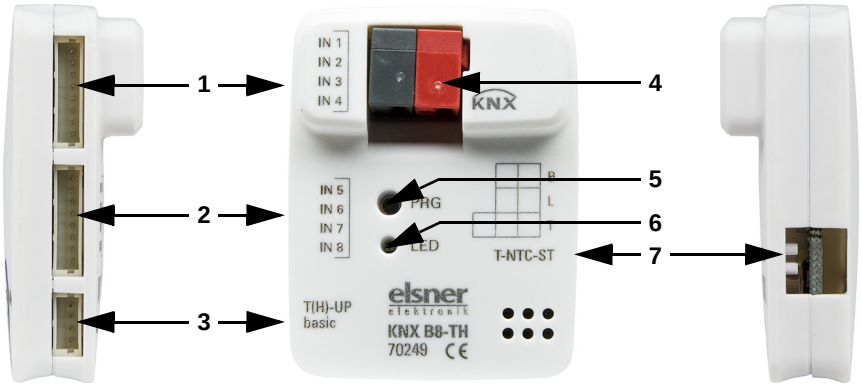
2.3. Connection

The **Interface KNX B8-TH:** is connected to the KNX data bus with a KNX connection terminal. The physical address is assigned by the KNX software. There is a button with a control LED for this on the device.

Binary contacts are connected to the inputs IN1 to IN8 with the connection lines included in the delivery.
The temperature and humidity sensor TH-UP basic or the temperature sensor T-UP basic (for 55 mm switch programmes) is connected to the input T(H)-UP basis.
The temperature sensor T-NTC-ST (plug/contact sensor) is plugged into the input T-NTC-ST.

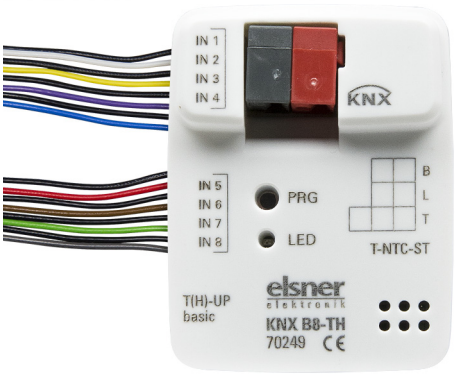
2.3.1. Device design

Ill. 1



1 Connection binary inputs 1-4
2 Connection binary inputs 5-8
3 Connection sensor T-UP basic or TH-UP basic
4 KNX plug terminal +/-
5 Programming key (recessed)
6 Programming LED (recessed)
7 Connection temperature sensor T-NTC-ST

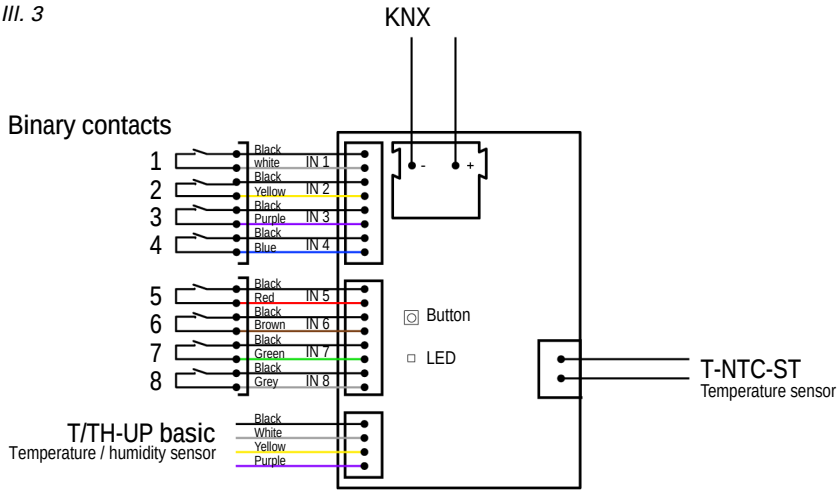
Ill. 2



The device is delivered with connection lines for the binary inputs.
IN1: black/white
IN2: black/yellow
IN3: black/purple
IN4: black/blue
IN5: black/red
IN6: black/brown
IN7: black/green
IN8: black/grey

2.3.2. Diagram

III. 3



2.4. Instructions for assembly and initial start-up

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

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

3. Addressing of the device at the bus

The device is supplied with the bus address 15.15.250. You can program another address into the ETS by overwriting the 15.15.250 address or by teaching via the programming key.