



Brief Operating Instructions iTEMP TMT80

Universal temperature head transmitter for resistance thermometers and thermocouples
PC-programmable



These Brief Operating Instructions are not a substitute for the Operating Instructions pertaining to the device. Detailed information can be found in the Operating Instructions and the additional documentation.

Available for all device versions via:

- Internet: www.endress.com/deviceviewer
- Smartphone/tablet: Endress+Hauser Operations app

Basic safety instructions

Manufacturer: Endress+Hauser Wetzlar GmbH + Co. KG, Obere Wank 1,
D-87484 Nesselwang or www.endress.com

Requirements for the personnel

The personnel must fulfill the following requirements for its tasks:

- ▶ Trained, qualified specialists must have a relevant qualification for this specific function and task.
- ▶ Are authorized by the plant owner/operator.
- ▶ Are familiar with federal/national regulations.
- ▶ Before starting work, read and understand the instructions in the manual and supplementary documentation as well as the certificates (depending on the application).
- ▶ Follow instructions and comply with basic conditions.

Intended use

The device is a universal and user-configurable temperature transmitter with one sensor input for a resistance thermometer (RTD) and thermocouples (TC). The head transmitter version of the device is intended for mounting in a terminal head form B as per DIN EN EN50446. It is also possible to mount the device on a DIN rail using the optional DIN rail clip.

If the device is used in a manner not specified by the manufacturer, the protection provided by the device may be impaired.

The manufacturer is not liable for damage caused by improper or unintended use.

Workplace safety

When working on and with the device:

- ▶ Wear the required personal protective equipment as per national regulations.

Operational safety

- ▶ Operate the device only if it is in proper technical condition, free from errors and faults.
- ▶ The operator is responsible for the interference-free operation of the device.

Electromagnetic compatibility

The measuring system complies with the EMC requirements stipulated in the IEC/EN 61326 series and NAMUR Recommendation NE21.

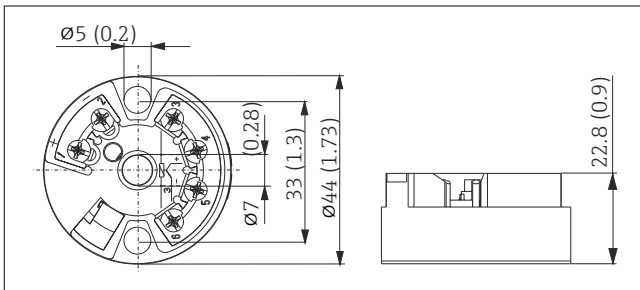
NOTICE

- ▶ The device must only be powered by a power unit that operates using an energy-limited electric circuit according to UL/EN/IEC 61010-1, Section 9.4 and the requirements in Table 18.

Product safety

This product is designed in accordance with good engineering practice to meet state-of-the-art safety requirements and has been tested and left the factory in a condition in which it is safe to operate.

Mounting

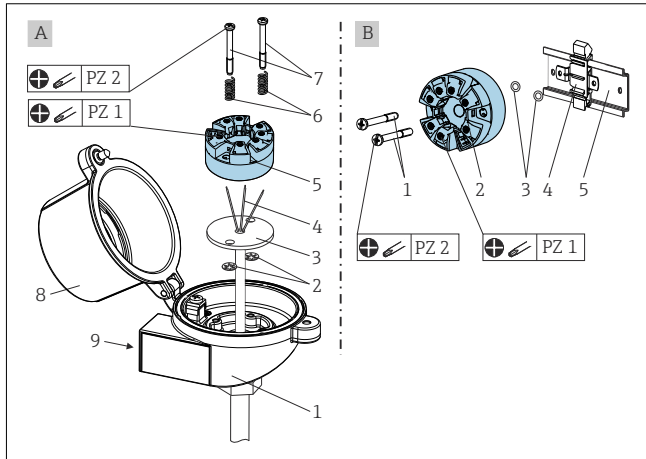


1 Dimensions of the head transmitter in mm (in)

A Phillips head screwdriver is required to mount the head transmitter:

Maximum torque for securing screws = 1 Nm ($\frac{3}{4}$ lbf ft), screwdriver: Pozidriv PZ2

Mounting the device



A Terminal head in accordance with DIN EN 50446 form B, direct installation onto insert with cable entry (middle hole 7 mm (0,28 in))
 B With DIN rail clip on DIN rail as per IEC 60715 (TH35)

i When installing the device in a terminal head, make sure there is enough space in the terminal head!

Procedure for mounting in a terminal head, position A:

1. Open the terminal head cover (8) on the terminal head.
2. Guide the connection wires (4) of the insert (3) through the center hole in the head transmitter (5).

Electrical connection

CAUTION

▶ Switch off the power supply before installing or connecting the device. Failure to observe this may result in the destruction of parts of the electronics.

NOTICE

▶ **ESD** - Electrostatic discharge. Protect the terminals from electrostatic discharge. Failure to observe this may result in the destruction or malfunction of parts of the electronics.

Connecting requirements

A Phillips head screwdriver is required to wire the head transmitter with screw terminals.

Proceed as follows to wire a mounted head transmitter:

1. Open the cable gland and the housing cover on the terminal head or the field housing.
2. Feed the cables through the opening in the cable gland.
3. Connect the cables as shown in → 2.
4. Tighten the cable gland again and close the housing cover.

Connecting the device

Supply voltage	Values for non-hazardous areas, protected against polarity reversal:
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Commissioning

Establishing the supply voltage. This phase is finished after approx. 4 seconds and normal operation resumes. This transmitter can be programmed via a PC.

Maintenance and cleaning

No special maintenance work is required for the device.

3. Fit the mounting springs (6) on the mounting screws (7).
4. Guide the mounting screws (7) through the side boreholes of the head transmitter and the insert (3). Then secure both mounting screws with the retaining rings (2).
5. Then tighten the head transmitter (5) along with the insert (3) in the terminal head.
6. After wiring (see 'Electrical connection' section), seal the terminal head cover (8) once again.

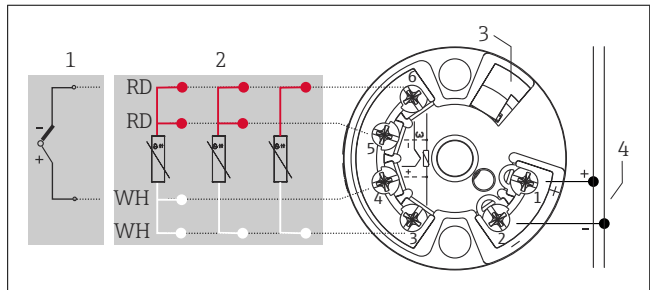
Procedure for mounting on a DIN rail, position B:

1. Press the DIN rail clip (4) onto the DIN rail (5) until it engages with a click.
2. Guide the mounting screws (1) through the side boreholes of the head transmitter (2) and secure with the retaining rings (3).
3. Screw the head transmitter (2) onto the DIN rail clip (4).

Important ambient conditions

Ambient temperature range	-40 to +85 °C (-40 to +185 °F)	Storage temperature	-40 to +100 °C (-40 to +212 °F)
Degree of protection	IP 20. When installed, the degree of protection depends on the terminal head.	Overvoltage category	II
Humidity	Max. rel. humidity: 95 %	Pollution degree	2
Altitude	≤ 4 000 m (4 374,5 ft)	Insulation class	Class III

	U = 8 to 35 V _{DC}
Current consumption	I ≤ 3.5 mA



2 Transmitter mounted in the terminal head

- 1 Sensor input, TC
- 2 Sensor input, RTD and Ω: 4-, 3- and 2-wire
- 3 CDI interface
- 4 Power supply

For detailed information on configuration, see the relevant Operating Instructions.

A clean, dry cloth can be used to clean the device.