71590883

Brief Operating Instructions
iTEMP TMT182B

Temperature transmitter

These Brief Operating Instructions are not a substitute for the Operating Instructions pertaining to the device.

Detailed information is provided in the Operating Instructions and other documentation.

Available for all device versions via:
- Internet: www.endress.com/deviceviewer
- Smartphone/tablet: Endress+Hauser Operations app

Basic safety instructions

Manufacturer: Endress+Hauser Wetzer 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), thermocouples (TC), resistance and voltage transmitters. The head transmitter version of the device is intended for mounting in a terminal head (flat face) as per DIN EN 50446. 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 non-intended use.

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.

Hazardous area

To eliminate a danger for persons or for the facility when the device is used in the hazardous area (e.g. explosion protection or safety equipment):
- Based on the technical data on the nameplate, check whether the ordered device is permitted for the intended use in the hazardous area. The nameplate can be found on the side of the transmitter housing.
- Observe the specifications in the separate supplementary documentation that is an integral part of these instructions.

Electromagnetic compatibility

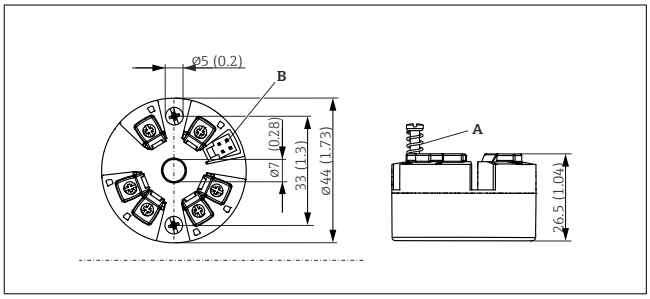
The measuring system complies with the EMC requirements as per the IEC/EN 61326 series and NAMUR recommendation NE 21.

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 head transmitter. Dimensions in mm (in)*

A Spring travel L ≥ 5 mm (not for US - M4 securing screws)
B CDI interface for connecting a configuration tool

Mounting requirements

Mounting location

- In the terminal head, flat face, as per DIN EN 50446, direct mounting on insert with cable entry (middle hole 7 mm)
- With clip on DIN rail as per IEC 60715, TH35

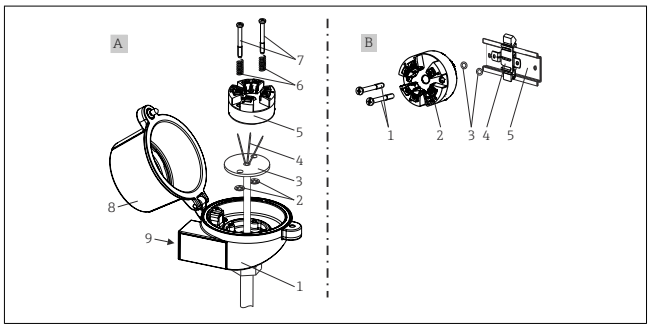
When installing the device in a terminal head, make sure there is enough space in the terminal head!

It is also possible to mount the head transmitter on a DIN rail as per IEC 60715 using the DIN rail clip accessory.

When using in hazardous areas, the limit values of the certificates and approvals must be observed (see Ex Safety Instructions).

Mounting the device

A Phillips head screwdriver is required to mount the head transmitter:
- Maximum torque for securing screws = 1 Nm (¾ foot-pound), screwdriver: Pozidriv Z2
- Maximum torque for screw terminals = 0.35 Nm (¼ foot-pound), screwdriver: Pozidriv Z1



2 *Head transmitter mounting*

Procedure for mounting in a terminal head, item A:

1. Open the terminal head cover (8). Guide the connection wires (4) of the insert (3) through the center hole in the head transmitter (5).
2. Fit the mounting springs (6) on the mounting screws (7).
3. Guide the mounting screws (7) through the side boreholes of the head transmitter and the insert (3) and secure them with the snap rings (2).
4. Tighten the head transmitter (5) along with the insert (3) in the terminal head.
5. After wiring, close the terminal head cover (8).

Procedure for mounting on a DIN rail, item 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 them with the snap 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), for hazardous areas see Ex documentation.	Storage temperature	−50 to +100 °C (−58 to +212 °F)
Degree of protection	IP 20	Overvoltage category	II
Pollution degree	2	Humidity	Max. rel. humidity: 95 %
Operating altitude	≤ 4 000 m (4 374.5 ft)	Insulation class	Class III

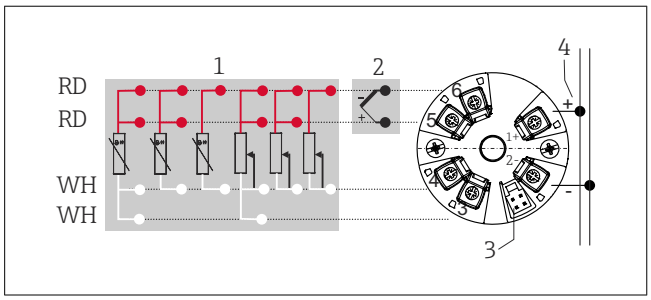
Electrical connection

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.
- Do not occupy the CDI connection. An incorrect connection can destroy 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.

Quick wiring guide

Supply voltage	Values for non-hazardous areas, protected against polarity reversal: U = 10 to 36 V_{DC}
Current consumption	▪ 3.6 to 23 mA ▪ Minimum current consumption 3.5 mA ▪ Current limit ≤ 23 mA



3 *Assignment of terminal connections for head transmitter*

1 Sensor input, RTD and Ω, 4-, 3- and 2-wire
2 Sensor input, TC and mV
3 CDI interface
4 Bus terminator and power supply

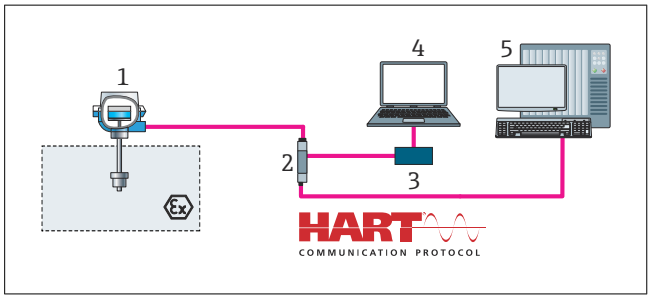
A minimum load of 250 Ω is required in the signal circuit in order to operate the HART® transmitter via the HART® protocol (terminals 1 and 2).

Operation options

The transmitter and measured value display are configured via the HART® protocol or CDI (= Endress+Hauser Common Data Interface). The following operating tools are available for this purpose:

FieldCare, DeviceCare (Endress+Hauser)	AMS Device Manager (Emerson Process Management) Simatic PDM (Siemens)

The configuration of device-specific parameters is described in detail in the Operating Instructions for the device.



4 *Operation options for the transmitter via HART® communication*

1 Temperature transmitter
2 Transmitter active barrier with bidirectional HART® signal transmission
3 HART® modem
4 PC, laptop or tablet FieldCare/DeviceCare operating tools
5 PLC