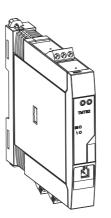
Brief Operating Instructions **iTEMP TMT82**

2-channel temperature transmitter









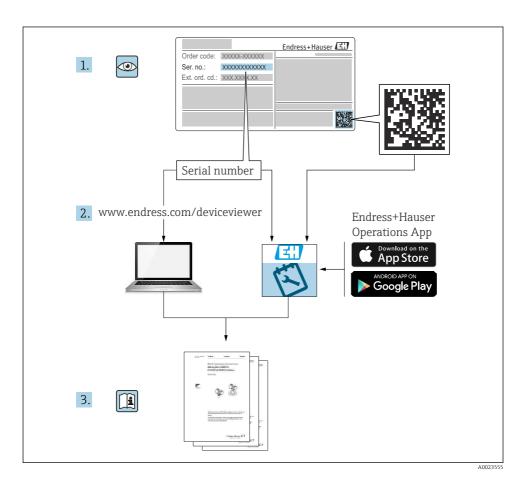
These instructions are Brief Operating Instructions; they do **not** replace the Operating Instructions included in the scope of supply.

Detailed information can be found in the Operating Instructions and the additional documentation.

Available for all device versions via:

- Internet: www.endress.com/deviceviewer
- Smart phone/tablet: Endress+Hauser Operations App





iTEMP TMT82 Table of contents

Table of contents

1 1.1 1.2 1.3	Important document information Safety Instructions (XA) Functional safety Symbols	. 3
2	Basic safety instructions	. 5
2.1 2.2 2.3	Requirements for the personnel	5
3	Incoming acceptance and product identification	. 6
3.1	Incoming acceptance	
3.2	Product identification	
3.3	Name and address of manufacturer	8
3.4	Scope of delivery	8
3.5	Certificates and approvals	. 9
4	Mounting	. 9
4.1	Mounting requirements	
4.2	Mounting	
4.3	Post-mounting check	15
5	Electrical connection	16
5.1	Connection conditions	
5.2	Ouick wiring guide	
5.3	Connecting the sensor cables	. 20
5.4	Connecting the transmitter	
5.5	Special connection instructions	
5.6	Ensuring the degree of protection	
5.7	Post-connection check	. 24
6	Operating options	25
6.1	Measured value display and operating elements	
6.2	Configuration of transmitter and HART® protocol	. 27
7	Commissioning	27

1 Important document information

1.1 Safety Instructions (XA)

When using in hazardous areas, compliance with national regulations is mandatory. Separate Ex-specific documentation is provided for measuring systems that are used in hazardous areas. This documentation is an integral part of these Operating Instructions. The installation specifications, connection data and safety instructions it contains must be strictly observed! Make sure that you use the right Ex-specific documentation for the right device with approval for use in hazardous areas! The number of the specific Ex documentation (XA...) is provided on the nameplate. If the two numbers (on the Ex documentation and the nameplate) are identical, then you may use this Ex-specific documentation.

1.2 **Functional safety**



Please refer to Safety Manual SD01172T/09 for the use of approved devices in protective systems according to IEC 61508.

Symbols 1.3

1.3.1 Safety symbols

⚠ DANGER

This symbol alerts you to a dangerous situation. Failure to avoid this situation will result in serious or fatal injury.

WARNING

This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in serious or fatal injury.

A CAUTION

This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in minor or medium injury.

NOTICE

This symbol contains information on procedures and other facts which do not result in personal injury.

1.3.2 Tool symbols

Symbol	Meaning
O A0011220	Flat blade screwdriver
A0011219	Phillips head screwdriver
A0011221	Allen key
A0011222	Open-ended wrench

1.3.3 Registered trademark

HART®

Registered trademark of the FieldComm Group, Austin, Texas, USA

iTEMP TMT82 Basic safety instructions

2 Basic safety instructions

2.1 Requirements for the personnel

The personnel for installation, commissioning, diagnostics and maintenance must fulfill the following requirements:

- ► 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 beginning work, the specialist staff must have read and understood the instructions in the Operating Instructions and supplementary documentation as well as in the certificates (depending on the application)
- ▶ Following instructions and basic conditions

The operating personnel must fulfill the following requirements:

- Being instructed and authorized according to the requirements of the task by the facility's owner-operator
- ▶ Following the instructions in these Operating Instructions

2.2 Intended use

The device is a universal and user-configurable temperature transmitter with either one or two sensor inputs for 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. The device is also optionally available in a version suitable for DIN rail mounting as per IEC 60715 (TH35).

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

The manufacturer is not liable for damage caused by improper or non-designated use.

2.3 Operational safety

- ▶ Operate the device in proper technical condition and fail-safe condition only.
- ► The operator is responsible for 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 general safety requirements as per EN 61010-1, the EMC requirements as per the IEC/EN 61326 series and the NAMUR recommendations 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, chapter 9.4 and requirements of table 18.

3 Incoming acceptance and product identification

3.1 Incoming acceptance

- 1. Unpack the temperature transmitter carefully. Is the packaging or content damaged?
 - Damaged components may not be installed as the manufacturer can otherwise not guarantee compliance with the original safety requirements or the material resistance, and can therefore not be held responsible for any resulting damage.
- Is the delivery complete or is anything missing? Check the scope of delivery against your order.
- 3. Does the nameplate match the ordering information on the delivery note?
- 4. Are the technical documentation and all other necessary documents provided? If applicable: are the Safety Instructions (e.g. XA) for hazardous areas provided?
- If one of these conditions is not satisfied, contact your Endress+Hauser Sales Center.

3.2 Product identification

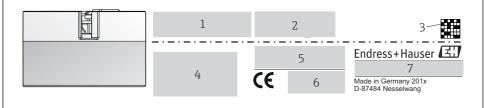
The following options are available for identification of the device:

- Nameplate specifications
- Extended order code with breakdown of the device features on the delivery note
- Enter the serial number from the nameplate in the *W@M Device Viewer* (www.endress.com/deviceviewer): All data relating to the device and an overview of the Technical Documentation supplied with the device are displayed.
- Enter the serial number on the nameplate into the *Endress+Hauser Operations App* or scan the 2-D matrix code (QR code) on the nameplate with the *Endress+Hauser Operations App*: all the information about the device and the technical documentation pertaining to the device is displayed.

3.2.1 Nameplate

The right device?

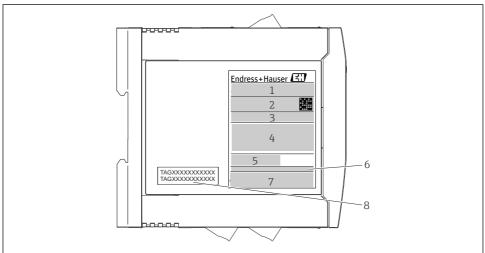
Compare and check the data on the nameplate of the device against the requirements of the measuring point:



A001456

■ 1 Nameplate of the head transmitter (example, Ex version)

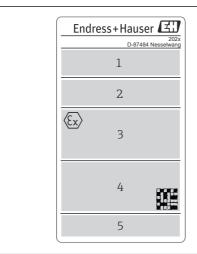
- 1 Power supply, current consumption and extended order code
- 2 Serial number, device revision, firmware version and hardware version
- 3 Data Matrix 2D code
- 4 2 lines for the TAG name
- 5 Approval in hazardous area with number of the relevant Ex documentation (XA...)
- 6 Approvals with symbols
- 7 Order code and manufacturer ID



A0017924

■ 2 Nameplate of DIN rail transmitter (example, Ex version)

- 1 Product name and manufacturer ID
- 2 Order code, extended order code and serial number, DataMatrix 2D code, FCC-ID (if applicable)
- *3 Power supply and current consumption, output*
- 4 Approval in hazardous area with number of the relevant Ex documentation (XA...)
- 5 Fieldbus communication logo
- 6 Firmware version and device revision
- 7 Approval logos
- 7 2 lines for the TAG name



A0042425

■ 3 Nameplate of the field mount housing version (example, Ex version)

- 1 Order code, extended order code, serial number and manufacturer ID
- 2 Power supply and current consumption, IP-code and ambient temperature, firmware, hardware and device revision
- 3 Approval in hazardous area with number of the relevant Ex documentation (XA....) and ambient temperature range
- 4 Approval logos and data matrix 2D code
- 5 2 lines for the TAG name

3.3 Name and address of manufacturer

Name of manufacturer:	Endress+Hauser Wetzer GmbH + Co. KG
Address of manufacturer:	Obere Wank 1, D-87484 Nesselwang or www.endress.com
Address of manufacturing plant:	See nameplate

3.4 Scope of delivery

The scope of delivery of the device comprises:

- Temperature transmitter
- Mounting material (head transmitter), optional
- Hard copy of multi-language Brief Operating Instructions
- Functional Safety Manual (SIL mode)
- Additional documentation for devices which are suitable for use in the hazardous area (ATEX, FM, CSA), such as Safety Instructions (XA)

iTEMP TMT82 Mounting

3.5 Certificates and approvals

The device left the factory in a safe operating condition. The device complies with the requirements of the standards EN 61010-1 "Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use" and with the EMC requirements as per the IEC/EN 61326 series.

3.5.1 CE/EAC mark, Declaration of Conformity

The device meets the legal requirements of the EU/EEU guidelines. The manufacturer confirms that the device is compliant with the relevant guidelines by applying the CE/EAC mark

3.5.2 HART® protocol certification

The temperature transmitter is registered by the HART® FieldComm Group. The device meets the requirements of the HART® Communication Protocol Specifications, Revision 7 (HCF 7.6).

3.5.3 Functional safety

The two device versions (head transmitter/DIN rail device) are optionally available for use in safety systems as per IEC 61508.

- SIL 2: Hardware version
- SIL 3: Software version

4 Mounting

4.1 Mounting requirements

4.1.1 Mounting location

- Head transmitter:
 - In the terminal head, flat face, as per DIN EN 50446, direct mounting on insert with cable entry (middle hole 7 mm)
 - In the field housing, separated from the process
 - In the field mount housing with separate terminal compartment, if stable sensors are used, the device can be fitted directly on the assembly, otherwise it has to be mounted separated from the process
 - With clip on DIN rail as per IEC 60715, TH35
- DIN rail transmitter:

In DIN rail housing on DIN rail as per IEC 60715, TH35

Mounting iTEMP TMT82

4.1.2 Important ambient conditions

- Ambient temperature:
 - \bullet -40 to +85 °C (-40 to +185 °F), for hazardous areas see Ex documentation
 - -50 to +85 °C (-58 to +185 °F), for hazardous areas see Ex documentation; Product Configurator order code for "Test, certificate, declaration", option "JM" ¹⁾
 - -52 to +85 °C (-62 to +185 °F), for hazardous areas see Ex documentation, Product Configurator order code for "Test, certificate, declaration", option "[N" 1)
 - Head transmitter, field mount housing with separate terminal compartment incl. display: -30 to +85 °C (-22 to +185 °F). At temperatures < -20 °C (-4 °F) the display may react slowly, Product Configurator, order code for "Field housing", option "R" and "S"</p>
 - SIL Mode: -40 to +70 °C (-40 to +158 °F)
- Head transmitter in accordance with climate class C1, DIN rail transmitter in accordance with B2 as per EN 60654-1
- Condensation as per IEC 60068-2-33 permitted for head transmitter, not permitted for DIN rail transmitter
- Max. rel. humidity: 95% as per IEC 60068-2-30
- Degree of protection:
 - Head transmitter with screw terminals: IP 00, with spring terminals: IP 30. In installed state, depends on the terminal head or field housing used.
 - When installing in field housing TA30x: IP 66/68 (NEMA Type 4x encl.)
 - When installing in field mount housing with separate terminal compartment: IP 67, NEMA Type 4x
 - DIN rail device: IP 20

NOTICE

► When using in hazardous areas, the limit values of the certificates and approvals must be observed.

4.2 Mounting

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

NOTICE

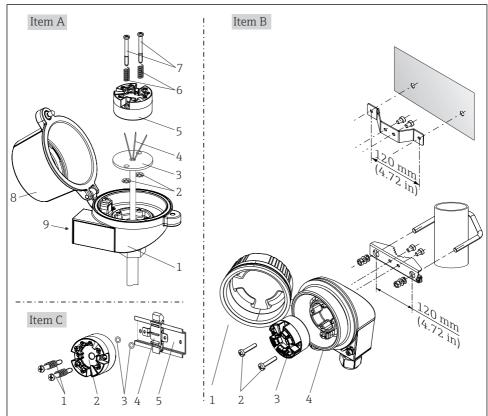
Do not overtighten the mounting screws as this could damage the head transmitter.

► Maximum torque = 1 Nm (¾ pound-feet).

1) If the temperature is below -40 °C (-40 °F), increased failure rates are likely.

iTEMP TMT82 Mounting

4.2.1 Mounting the head transmitter



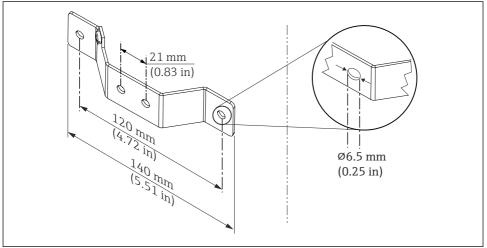
A0014269-EN

■ 4 Head transmitter mounting (three versions)

Procedure for mounting in a terminal head, pos. 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).
- 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 fix both mounting screws with the snap rings (2).
- 5. Then tighten the head transmitter (5) along with the insert (3) in the terminal head.

Mounting iTEMP TMT82



Δ0024604

■ 5 Dimensions of angle bracket for wall mount (complete wall mounting set available as accessory)

Procedure for mounting in a field housing, pos. B:

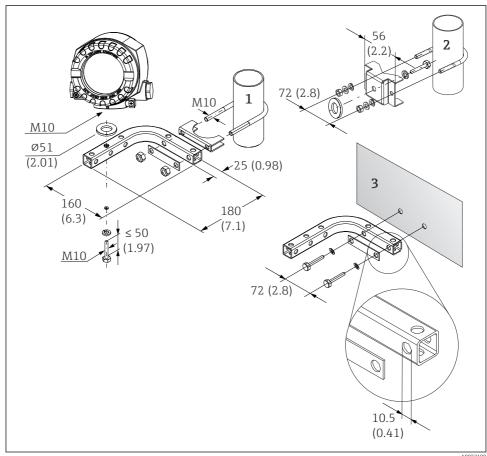
- 1. Open the cover (1) of the field housing (4).
- 2. Guide the mounting screws (2) through the lateral bores in the head transmitter (3).
- 3. Screw the head transmitter to the field housing.
- 4. After wiring, close the field housing cover (1) again. $\rightarrow \triangleq 16$

Procedure for mounting on a DIN rail, pos. C:

- 1. Press the DIN rail clip (4) onto the DIN rail (5) until it engages with a click.
- 2. Fit the mounting springs on the mounting screws (1) and guide the screws through the side boreholes of the head transmitter (2). Then fix both mounting screws with the snap rings (3).
- 3. Screw the head transmitter (2) onto the DIN rail clip (4).

iTEMP TMT82 Mounting

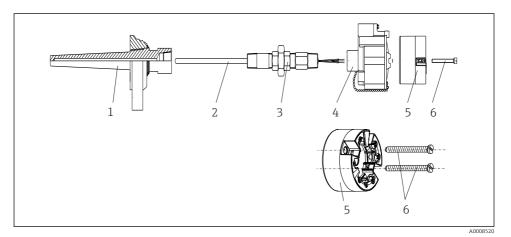
Remotely mounting the field mount housing



- A0027188
- € 6 Mounting the field mount housing using special mounting bracket, see chapter 'Accessories'. Dimensions in mm (in)
- Mounting with combined wall/pipe mounting bracket 1
- Mounting with pipe mounting bracket 2"/V4A 2
- Mounting with wall mounting bracket 3

Mounting iTEMP TMT82

Mounting typical of North America



■ 7 Head transmitter mounting

Thermometer design with thermocouples or RTD sensors and head transmitter:

- 1. Fit the thermowell (1) on the process pipe or the container wall. Secure the thermowell according to the instructions before the process pressure is applied.
- 2. Fit the necessary neck tube nipples and adapter (3) on the thermowell.
- 3. Make sure sealing rings are installed if such rings are needed for harsh environmental conditions or special regulations.
- 4. Guide the mounting screws (6) through the lateral bores of the head transmitter (5).
- 5. Position the head transmitter (5) in the terminal head (4) in such a way that the bus cable (terminals 1 and 2) point to the cable entry.
- 6. Using a screwdriver, screw down the head transmitter (5) in the terminal head (4).
- 7. Guide the connection wires of the insert (3) through the lower cable entry of the terminal head (4) and through the middle hole in the head transmitter (5). Wire the connection wires up to the transmitter. $\rightarrow \implies 17$
- 8. Screw the terminal head (4), with the integrated and wired head transmitter, onto the ready-mounted nipple and adapter (3).

NOTICE

The terminal head cover must be secured properly to meet the requirements for explosion protection.

 $\,\blacktriangleright\,$ After wiring, securely screw the terminal head cover back on.

iTEMP TMT82 Mounting

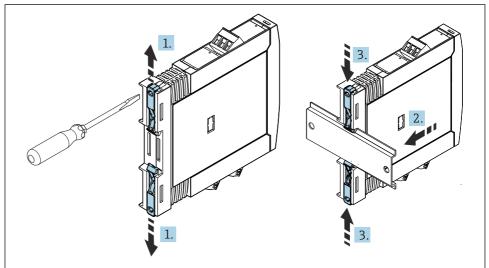
4.2.2 Mounting the DIN rail transmitter

NOTICE

Wrong orientation

Measurement deviates from the maximum accuracy rating when a thermocouple is connected and the internal reference junction is used.

► Mount the device vertically and ensure it is oriented correctly (sensor connection at bottom / power supply at top)!



A0017821

■ 8 Mounting the DIN rail transmitter

- 1. Slide the upper DIN rail clip upwards and the lower clip downwards until they click into place.
- 2. Fit the device on the DIN rail from the front.
- 3. Slide the two DIN rail clips back together until they click into place.

4.3 Post-mounting check

After mounting the device, always run the following final checks:

Device condition and specifications	Notes
Is the device undamaged (visual inspection)?	-
Do the ambient conditions match the device specification (e.g. ambient temperature, measuring range, etc.)?	→ 🖺 10

Electrical connection iTEMP TMT82

5 Electrical connection

A CAUTION

► Switch off the power supply before installing or connecting the device. Not conforming with this can lead to the destruction of electronic components.

▶ Do not occupy the display connection. An incorrect connection can destroy the electronics.

NOTICE

Do not overtighten the screw terminals, as this could damage the transmitter.

► Maximum torque = $1 \text{ Nm } (\frac{3}{4} \text{ lbf ft}).$

5.1 Connection conditions

A Phillips head screwdriver is required to wire the head transmitter with screw terminals. Use a flat blade screwdriver for the DIN rail housing version with screw terminals. The push-in terminal version can be wired without any tools.

Proceed as follows to wire a head transmitter mounted in the terminal head or field housing:

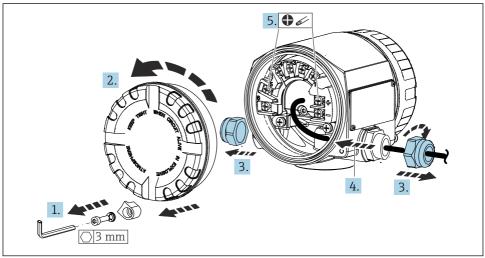
- 1. Open the cable gland and the housing cover on the terminal head or the field housing.
- 2. Feed the cables through the opening in the cable gland.
- 4. Tighten the cable gland again and close the housing cover.

In order to avoid connection errors always follow the instructions in the post-connection check section before commissioning!

Proceed as follows to wire the transmitter in a field mount housing:

- 1. Remove the cover clamp.
- 2. Unscrew the housing cover on the terminal compartment. The terminal compartment is opposite the electronics module together with the display cover.
- 3. Open the cable glands of the device.
- 4. Route the appropriate connecting cables through the openings of the cable glands.

iTEMP TMT82 Electrical connection

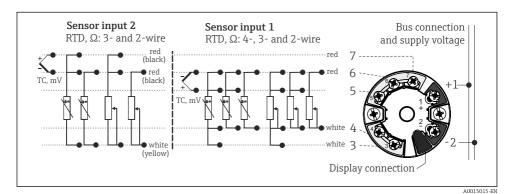


A0042426

On completion of the wiring, screw the screw terminals tightly. Tighten the cable glands again. Refer to the information provided in the "Ensuring the degree of protection" section. Screw the housing cover tightly again and fit the cover clamp back on. $\rightarrow \stackrel{\text{\tiny le}}{=} 23$

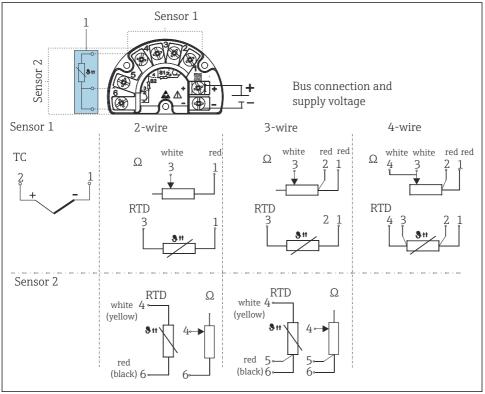
In order to avoid connection errors always follow the instructions in the post-connection check section before commissioning!

5.2 Quick wiring guide



■ 9 *Terminal assignment of head transmitter*

Electrical connection iTEMP TMT82

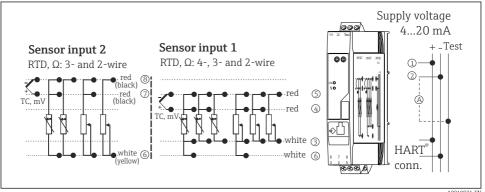


A0042369-EN

■ 10 Terminal assignment of the field mount housing with separate terminal compartment

1 Fixed connection of the external reference junction, terminals 4, 5 and 6 (Pt100, IEC 60751, class B, 3-wire). It is not possible to connect a second thermocouple (TC) on sensor 2.

iTEMP TMT82 Electrical connection



A0019071-EN

■ 11 Terminal assignment of the DIN rail device

To check the output current, an ammeter (DC measurement) can be connected between the "Test" and "-" terminals

In the case of the head transmitter in the field mount housing with separate terminal compartment or the DIN rail version, a shielded cable must be used if the sensor cable length exceeds 30 m (98.4 ft). The use of shielded sensor cables is generally recommended.

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).

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.

Electrical connection iTEMP TMT82

5.3 Connecting the sensor cables

NOTICE

When connecting 2 sensors ensure that there is no galvanic connection between the sensors (e.g. caused by sensor elements that are not isolated from the thermowell). The resulting equalizing currents distort the measurements considerably.

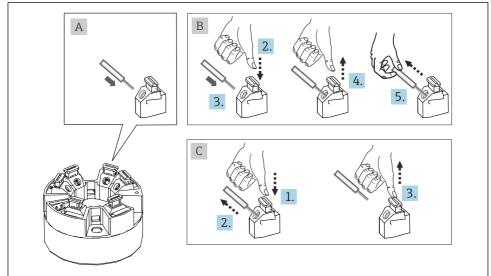
► The sensors must remain galvanically isolated from one another by connecting each sensor separately to a transmitter. The transmitter provides sufficient galvanic isolation (> 2 kV AC) between the input and output.

The following connection combinations are possible when both sensor inputs are assigned:

	Sensor input 1				
		RTD or resistance transmitter, 2- wire	RTD or resistance transmitter, 3- wire	RTD or resistance transmitter, 4- wire	Thermocouple (TC), voltage transmitter
	RTD or resistance transmitter, 2-wire	Ø	Ø	-	Ø
Sensor input 2	RTD or resistance transmitter, 3-wire	Ø	Ø	-	Ø
Demoir input 2	RTD or resistance transmitter, 4-wire	-	-	-	-
	Thermocouple (TC), voltage transmitter	Ø	Ø	Ø	Ø
	For field mount housing with sensor input 1 thermocouple: It is not possible to connect a second thermocouple (TC), RTD, resistance transmitter or voltage transmitter on sensor input 2 as this input is needed for the external reference junction.				

iTEMP TMT82 Electrical connection

5.3.1 Connecting to push-in terminals



■ 12 Push-in terminal connection, using the example of a head transmitter

Δ0039468

Fig. A, solid wire:

- 1. Strip wire end. Min. stripping length 10 mm (0.39 in).
- 2. Insert the wire end into the terminal.
- 3. Pull the wire gently to ensure it is connected correctly. Repeat starting from step 1 if necessary.

Fig. B, fine-strand wire without ferrule:

- 1. Strip wire end. Min. stripping length 10 mm (0.39 in).
- 2. Press down on the lever opener.
- 3. Insert the wire end into the terminal.
- 4. Release lever opener.
- 5. Pull the wire gently to ensure it is connected correctly. Repeat starting from step 1 if necessary.

Fig. C, releasing the connection:

- 1. Press down on the lever opener.
- 2. Remove the wire from the terminal.
- 3. Release lever opener.

Electrical connection iTEMP TMT82

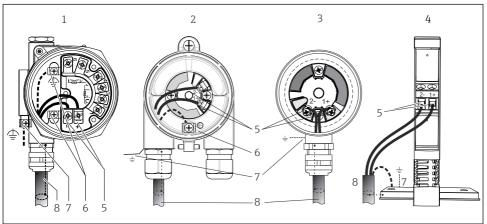
5.4 Connecting the transmitter



Cable specification

- A normal device cable suffices if only the analog signal is used.
- A shielded cable is recommended for HART® communication. Observe grounding concept of the plant.
- In the case of the head transmitter version in the field mount housing with separate terminal compartment or the DIN rail version, a shielded cable must be used if the sensor cable length exceeds 30 m (98.4 ft). The use of shielded sensor cables is generally recommended.

Please also observe the general procedure on $\rightarrow \blacksquare 16$.



A004236

■ 13 Connecting the signal cables and power supply

- 1 Head transmitter installed in field mount housing with separate terminal compartment
- 2 Head transmitter installed in field housing
- 3 Head transmitter installed in terminal head
- 4 DIN rail transmitter mounted on DIN rail
- 5 Terminals for HART® protocol and power supply
- 6 Internal ground connection
- 7 External around connection
- 8 Shielded signal cable (recommended for HART® protocol)



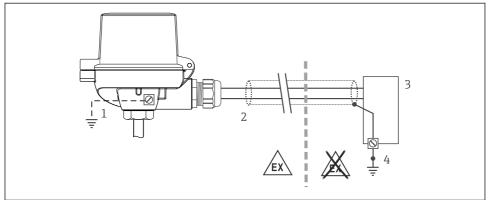
- The terminals for signal cable connection (1+ and 2-) are protected against reverse polarity.
- Conductor cross-section:
 - Max. 2.5 mm² for screw terminals
 - Max. 1.5 mm² for push-in terminals. Min. stripping length of cable 10 mm (0.39 in).

5.5 Special connection instructions

iTEMP TMT82 Electrical connection

Shielding and grounding

The specifications of the HART® FieldComm Group must be observed when installing a HART® transmitter.



A0014463

■ 14 Shielding and grounding the signal cable at one end with HART® communication

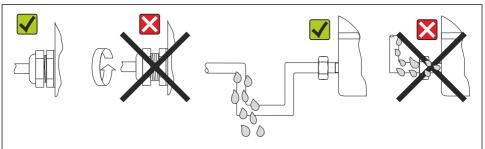
- 1 Optional grounding of the field device, isolated from cable shielding
- 2 Grounding of the cable shield at one end
- 3 Supply unit
- 4 Grounding point for HART® communication cable shield

5.6 Ensuring the degree of protection

The measuring system meets all the requirements of IP67 protection. Compliance with the following points is mandatory following installation in the field or servicing in order to ensure that IP67 protection is maintained:

- The housing seals must be clean and undamaged when inserted into their grooves. The seals must be dried, cleaned or replaced if necessary.
- The cables used for connection must be of the specified outside diameter (e.g. M20x1.5, cable diameter 8 to 12 mm).
- Firmly tighten the cable gland. \rightarrow 15, \rightleftharpoons 24
- The cables must loop down before they enter the cable glands ("water trap"). This means
 that any moisture that may form cannot enter the gland. Install the device in such a way
 that the cable glands are not facing upwards. → 15, 24
- Replace unused cable glands with dummy plugs.
- Do not remove the grommet from the cable gland.

Electrical connection iTEMP TMT82



A0024523

■ 15 Connection tips to retain IP67 protection

5.7 Post-connection check

Device condition and specifications	Notes
Is the device or cable undamaged (visual check)?	
Electrical connection	Notes
Does the supply voltage match the information on the nameplate?	 Head transmitter: U = 11 to 42 V_{DC} DIN rail transmitter: U = 12 to 42 V_{DC} SIL mode: U = 11 to 32 V_{DC} for the head transmitter or U = 12 to 32 V_{DC} for the DIN rail transmitter Other values apply in the hazardous area, see the corresponding Ex Safety Instructions (XA).
Are the mounted cables relieved of tension?	
Are the power supply and signal cables connected correctly?	→ 🖺 17
Are all the screw terminals well tightened and have the connections of the push-in terminals been checked?	
Are all the cable entries installed, tightened and sealed?	
Are all housing covers installed and firmly tightened?	

iTEMP TMT82 Operating options

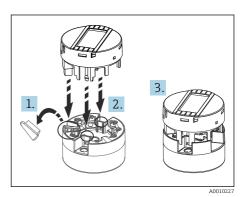
6 Operating options

6.1 Measured value display and operating elements

6.1.1 Option: Display TID10 with transmitter



The display may also be subsequently ordered at any time after purchasing the transmitter, see the 'Accessories' section in the Operating Instructions for the device.



■ 16 Attach the display to the transmitter

6.1.2 Display elements

DIN rail transmitter



The DIN rail transmitter version does not have an interface to the LC display and therefore does not have a local display either.

Two LEDs on the front indicate the device status.

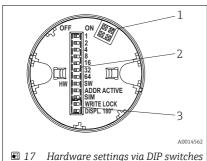
Туре	Function and characteristic
Status LED (red)	When the device is operating without errors, the device status is displayed. This function can no longer be guaranteed in the event of an error.
	 LED off: without diagnostic message LED is lit: diagnostics display, category F LED flashing: diagnostics display of categories C, S or M
Power LED (green) 'ON'	When the device is operating without errors, the operating status is displayed. This function can no longer be guaranteed in the event of an error.
	 LED off: Power failure or insufficient supply voltage LED is lit: Supply voltage is OK (either via CDI or via supply voltage, terminals 1+, 2-)

6.1.3 Local operation

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.

Operating options iTEMP TMT82



- 1: Connection to head transmitter
- 2: DIP switches (1 64, SW/HW, ADDR and SIM = simulation mode) no function for this head transmitter
- 3: DIP switch (WRITE LOCK = write protection; DISPL. 180° = switch, turn the display monitor 180°)

Procedure for setting the DIP switch:

- 1. Open the cover of the terminal head or field housing.
- 2. Remove the attached display from the head transmitter.
- 3. Configure the DIP switch on the rear of the display accordingly. In general: switch to ON = function enabled, switch to OFF = function disabled.
- **4.** Fit the display onto the head transmitter in the correct position. The head transmitter accepts the settings within one second.
- 5. Secure the cover back onto the terminal head or field housing.

Switching write protection on/off

Write protection is switched on and off via a DIP switch on the rear of the optional attachable display. When write protection is active, parameters cannot be modified. A lock symbol on the display indicates that write protection is on. Write protection prevents any write access to the parameters. Write protection remains active even when the display is removed. To disable the write protection, the device must be restarted with the display attached and the DIP switch deactivated (WRITE LOCK = OFF). Alternatively, the display can be removed and reattached during operation to disable write protection.

Turning the display

The display can be rotated 180° using the "DISPL. 180° " DIP switch. The setting is retained when the display is removed.

iTEMP TMT82 Commissioning

6.2 Configuration of transmitter and HART® protocol

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

Operating tools

FieldCare, Field Xpert (Endress+Hauser)	SIMATIC PDM (Siemens)
AMS Device Manager	Field Communicator 375, 475
(Emerson Process Management)	(Emerson Process Management)

NOTICE

The following applies if using the device in hazardous areas: Before accessing the device with the Commubox FXA291 via the CDI (= Endress+Hauser Common Data Interface), disconnect the transmitter from the power supply, terminals (1+) and (2-).

► Failure to comply with this instruction can result in damage to parts of the electronics.



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

7 Commissioning

Switching on the transmitter

Once the final checks have been successfully completed, it is time to switch on the supply voltage. The transmitter performs a number of internal test functions after power-up. During this process, a sequence containing device information appears on the display. The device is operational after approx. 30 seconds, and the plug-in display after approx. 33 seconds in normal operating mode! Normal measuring mode commences as soon as the switch-on procedure is completed. Measured values and status values appear on the display.



www.addresses.endress.com