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Safety Instructions
iTEMP TMT82, TMT84, TMT85

HART®, PROFIBUS®, FOUNDATION Fieldbus™

Ex ia [ia Ga] IIC T4...T6 Gb

Endress+Hauser
People for Process Automation

iTEMP TMT82, TMT84, TMT85

HART®, PROFIBUS®, FOUNDATION Fieldbus™

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About this document

This document has been translated into several languages. Legally determined is solely the English source text.

The document translated into EU languages is available:
- In the download area of the Endress+Hauser website: www.endress.com -> Downloads -> Manuals and Datasheets -> Type: Ex Safety Instruction (XA) -> Text Search: ...
- In the Device Viewer: www.endress.com -> Product tools -> Access device specific information -> Check device features

If not yet available, the document can be ordered.

Associated documentation

This document is an integral part of the following Operating Instructions:

iTEMP TMT82
- Operating Instructions: BA01028T
- Brief operating instructions: KA01095T
- Technical information: TI01010T

iTEMP TMT84
- Operating Instructions: BA00257R
- Brief operating instructions: KA00258R
- Technical information: TI00138R

iTEMP TMT85
- Operating Instructions: BA00251R
- Brief operating instructions: KA00252R
- Technical information: TI00134R

Supplementary documentation

Explosion-protection brochure: CP00021Z

The Explosion-protection brochure is available:
- In the download area of the Endress+Hauser website: www.endress.com -> Downloads -> Brochures and Catalogs -> Text Search: CP00021Z
- On the CD for devices with CD-based documentation

Manufacturer´s certificates

NEPSI certificate

Certificate number: GYJ19.1081X

Affixing the certificate number certifies conformity with the following standards (depending on the device version)

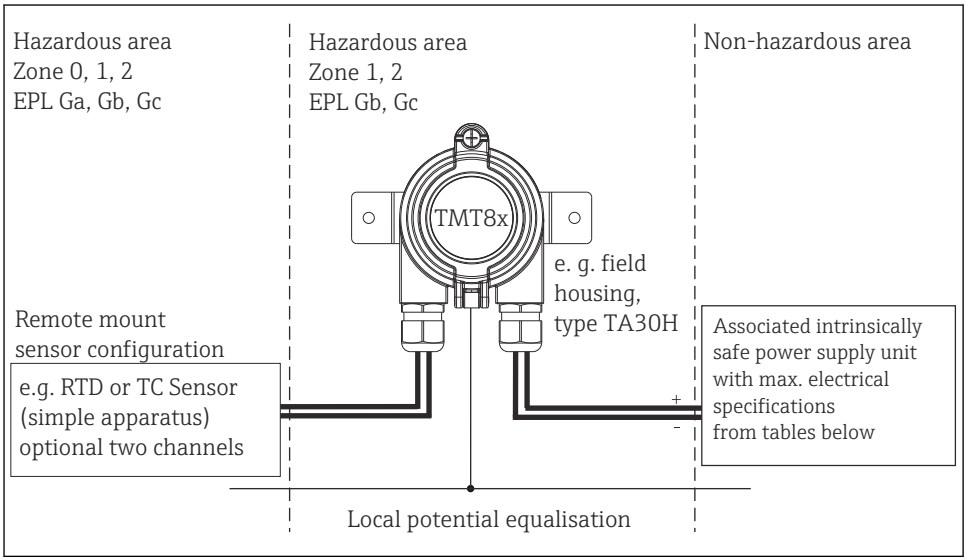
- GB/T 3836.1-2021
- GB/T 3836.4-2021

Please refer to NEPSI/CCC certificates for conditions of safe use.

Manufacturer address

Endress+Hauser Wetzer GmbH + Co. KG
Obere Wank 1
87484 Nesselwang, Germany

Safety instructions



Safety instructions: Installation

- Comply with the installation and safety instructions in the Operating Instructions.
- Install the device according to the manufacturer's instructions and any other valid standards and regulations (e.g. EN/IEC 60079-14).
- The housing of the field transmitter must be connected to the potential matching line.
- The type of protection changes as follows when the device is connected to certified intrinsically safe circuits of Category ib: Ex ib IIC.
  When connecting an intrinsically safe ib circuit, do not operate the sensor at Zone 0 (EPL Ga).
- When connecting two independent sensors make sure that the potential equalisation cables are at the same potential.
- The circuits of assembled head transmitter are isolated from its enclosure in conformance with EN/IEC 60079-11 chapter 6.3.13.

Safety instructions: Special conditions

The temperature transmitter must be installed so, that even in the event of rare incidents, an ignition source due to impact or friction between the enclosure and iron/steel is excluded.

Temperature tables

Transmitter version with field housing, type TA30H, TA30A, TA30D		Temperature class / code	Ambient temperature range
Ex ia IIC	iTEMP TMT82 without display TID10	T6	−52 to +58 °C
		T5	−52 to +75 °C
		T4	−52 to +85 °C
	iTEMP TMT84 and iTEMP TMT85 without display TID10	T6	−40 to +55 °C
		T5	−40 to +70 °C
		T4	−40 to +85 °C
	iTEMP TMT82, TMT84, TMT85 with display TID10	T6	−40 to +55 °C
		T5	−40 to +70 °C
		T4	−40 to +85 °C

Transmitter version with field mount housing (dual compartment)		Temperature class / code	Ambient temperature range
Ex ia IIC	iTEMP TMT82 without display TID10	T6	−40 to +58 °C
		T5	−40 to +75 °C
		T4	−40 to +85 °C
	iTEMP TMT82 with display TID10	T6	−40 to +55 °C
		T5	−40 to +70 °C
		T4	−40 to +85 °C

Electrical connection data

Type	Electrical data	
iTEMP TMT82 HART®-protocol	Supply voltage (terminal + and -)	$U_i \leq 30\ V_{DC}$ $I_i \leq 130$ mA $P_i \leq 800$ mW C_i = negligibly small L_i = negligibly small
	Sensor circuit (terminal 3 to 7)	$U_o \leq 7.6\ V_{DC}$ $I_o \leq 13$ mA $P_o \leq 24.7$ mW C_i = negligibly small L_i = negligibly small

Type	Electrical data		
	Maximum connection values Ex ia IIC Ex ia IIB Ex ia IIA	 L_o = 10 mH L_o = 50 mH L_o = 50 mH	 C_o = 1 µF C_o = 4.5 µF C_o = 6.7 µF
iTEMP TMT84 PROFIBUS® PA-protocol iTEMP TMT85 FOUNDATION Fieldbus™-protocol	Supply voltage (terminal + and -)	FISCO: $U_i \leq 17.5\ V_{DC}$ $I_i \leq 380$ mA $C_i \leq 5$ nF $L_i = 2.75$ µH	or: $U_i \leq 24\ V_{DC}$ $I_i \leq 250$ mA $C_i \leq 5$ nF $L_i = 2.75$ µH
	Applicable for connection to a Fieldbus system according to FISCO-model		
	Sensor circuit (terminal 3 to 7)	$U_o \leq 7.2\ V_{DC}$ $I_o \leq 25.9$ mA $P_o \leq 46.7$ mW $C_i \leq 5$ nF L_i = negligibly low	
	Max. connection values Ex ia IIC Ex ia IIB Ex ia IIA	 L_o = 20 mH L_o = 50 mH L_o = 100 mH	 C_o = 0.97 µF C_o = 4.6 µF C_o = 6 µF

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