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Safety Instructions
iTEMP TMT84, TMT85, OTMT84, OTMT85

ATEX: II1G Ex ia IIC T6...T4 Ga
IECEx: Ex ia IIC T6...T4 Ga

Endress+Hauser
People for Process Automation

iTEMP TMT84, TMT85, OTMT84, OTMT85

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Associated documentation

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

Associated documentation for TMT84
- Operating instructions: BA00257R/09/EN
- Technical information: TI00138R/09/EN

Associated documentation for TMT85
- Operating instructions: BA00251R/09/EN
- Technical information: TI00134R/09/EN

Supplementary documentation

Explosion-protection brochure: CP00021Z/11

The Explosion-protection brochure is available: In the download area of the Endress+Hauser website: www.endress.com → Download → Advanced → Documentation code: CP00021Z

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

Manufacturer's certificates

IEC Declaration of Conformity

Certificate number: IECEx PTB 08.0001 X

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

IECEx
- IEC 60079-0 : 2017
- IEC 60079-11 : 2011

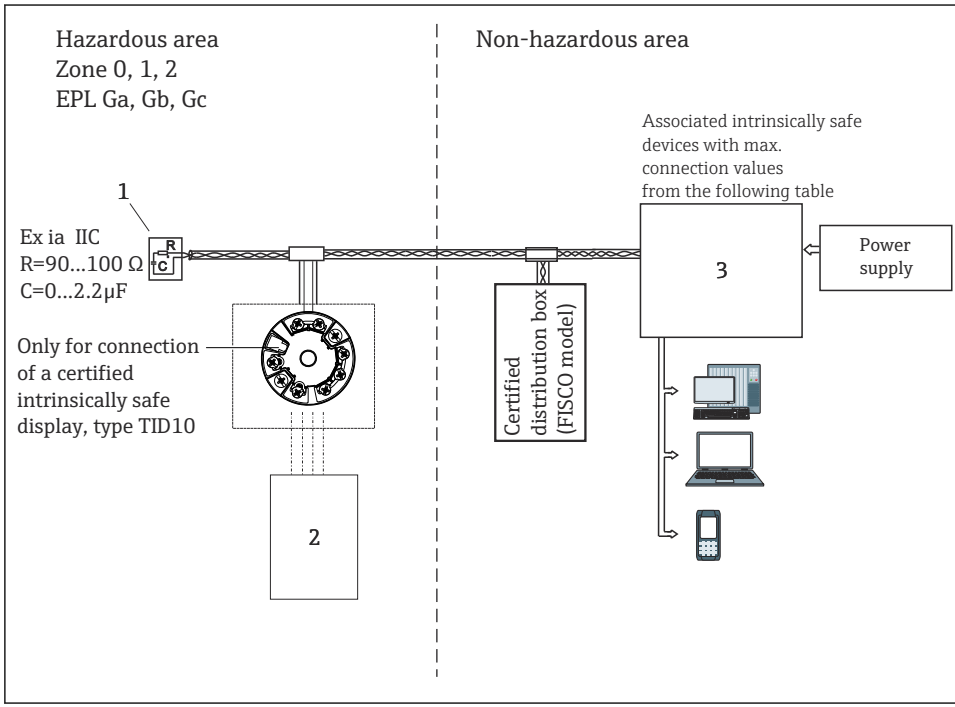
ATEX Declaration of Conformity

Certificate number: PTB 07ATEX2056 X

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

ATEX
- EN IEC 60079-0 : 2018
- EN 60079-11 : 2012

Safety instructions



1 *Termination resistance (FISCO model)*
2 *E.g. RTD or TC sensor (simple apparatus) mounted directly or remotely. Optionally two-channel*
3 *Certified additional operating material (FISCO model) with max. connection values from the following table*

Safety instructions: Installation

Safety instructions: Installation

- Install the device according to the manufacturer's instructions and any other valid standards and regulations (e.g. EN/IEC 60079-14).
- When installing the unit note that the housing ingress protection classification IP20 according to EN/IEC 60529 is upheld.
- When connecting the measurement unit with a certified circuit of category “ib” into an IIC or IIB hazardous area the ignition class changes to: Ex ib IIC or Ex ib IIB.
- The device (terminal head) must be connected to the potential compensation cable.
- The certified TID10 display may only be installed in zone 1/EPL Gb or zone 2/EPL Gc.

- The permissible ambient temperatures for the display, type TID10, are to be observed.
- When using a capacitive isolation of the ground system the maximum capacity must not exceed 10 nF and must also be done in the non-hazardous area (e.g. 1 nF capacitors, insulation voltage 1500 V, ceramic).
- Disconnect the transmitter from the power supply, terminals (1+) and (2-), before accessing the device via the CDI (Endress+Hauser Common Data Interface) using the Commubox type FXA291.

Safety instructions: Zone 1 and Zone 2

- According to the specifications of the manufacturer, this apparatus can be operated in zone 1 (category 2)/EPL Gb or zone 2 (category 3) /EPL Gc.
- The sensor current circuit may be introduced into zone 0 (category 1)/EPL Ga.

Safety instructions: Zone 0

(These instructions are only valid if the unit is to be installed directly in the zone 0 (category 1)/EPL Ga.)

- Explosive moisture/air mixtures are only allowed to occur under atmospheric conditions.
  - −20 °C ≤ Ta ≤ +60 °C
  - 0.8 bar ≤ p ≤ 1.1 bar

  If there is no explosive mixture present or the additional measures according to EN 1127-1 are upheld the unit can also be operated outside the atmospheric conditions according to the manufacturers specification.
- The restricted ambient temperatures as per EN 1127-1 6.4.2 must be observed (see table).
- The power circuit to be supplied must meet the specifications for explosion protection Ex ia IIC (EN/IEC 60079-14 12.3).
- The devices can only be used in fluids if the process-wetted materials are sufficiently resistant to such fluids.
- If the entire device is operated in Zone 0/EPL Ga, the compatibility of the device materials with the fluids has to be ensured. (Housing: polycarbonate (PC), potting: polyurethane (silicone)).
- It is not permitted to mount the TID10 display in zone 0/EPL Ga.
- The temperature transmitter must be installed in such a way that electrostatic charge cannot occur, e.g. installation in grounded metallic head or grounded housing.

Safety instructions: Specific requirements

- Only the display type TID10, which has undergone an EU-Type Examination in accordance with PTB 08 ATEX 2007, may be optionally connected to the display interface of the iTEMP TMT8x and OTMT8x temperature head transmitter.
- Please ensure that no electrostatic charge can occur during installation of the iTEMP TMT84, TMT85 or OTMT84 and OTMT85 temperature head transmitter.

Temperature tables

Type	Temperature class	Ambient temperature zone 1	Ambient temperature zone 0
TMT84, OTMT84 TMT85, OTMT85	T6	−40 °C ≤ Ta ≤ +55 °C	−20 °C ≤ Ta ≤ +40 °C
	T5	−40 °C ≤ Ta ≤ +70 °C	−20 °C ≤ Ta ≤ +50 °C
	T4	−40 °C ≤ Ta ≤ +85 °C	−20 °C ≤ Ta ≤ +60 °C

Connection data

Type	Electrical data		
TMT84, OTMT84 TMT85, OTMT85	Power supply (terminals + and -)	Ui ≤ 17.5 V_{DC} or Ii ≤ 380 mA Ci = 5 nF Li = 2.75 µH Pi ≤ 1400 mW	24 V_{DC} 250 mA Ci = 5 nF Li = 2.75 µH
	Applicable for connection to a Fieldbus system according to FISCO/FNICO-model		
	Sensor circuit (terminals 3 to 6)	Uo ≤ 7.2 V_{DC} Io ≤ 25.9 mA Po ≤ 46.7 mW Ci = 5 nF Li = negligibly small	
	Max. connection values Ex ia IIC Ex ia IIB Ex ia IIA	 Lo = 20 mH Lo = 50 mH Lo = 100 mH	 Co = 0.97 µF Co = 4.6 µF Co = 6.0 µF

Category	Type of protection (ATEX)	Type
II1G	Ex ia IIC T6...T4 Ga	TMT84, OTMT84 TMT85, OTMT85

Type of protection (IEC)	Type
Ex ia IIC T6…T4 Ga	TMT84, OTMT84 TMT85, OTMT85

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