

Safety Instructions


iTEMP TMT71, TMT72

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

IECEX: Ex ia IIC T6...T4 Ga



Document: XA01736T

Safety instructions for electrical apparatus for explosion-hazardous areas according to Directive 2014/34/EU (ATEX) and IEC 60079-0 →  2

iTEMP TMT71, TMT72

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About this document



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

Associated documentation

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

Associated documentation for TMT71

- Operating Instructions: BA01927T
- Technical Information: TI01393T

Associated documentation for TMT72

- Operating Instructions: BA01854T
- Technical Information: TI01392T

All documentation is available in:

- *W@M Device Viewer*: Enter the serial number from the nameplate in the (www.endress.com/deviceviewer): all data relating to the device and an overview of the Technical Documentation supplied with the device are displayed.
- *Endress+Hauser Operations App*: Enter the serial number on the nameplate 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.
- In the Download Area of the Endress+Hauser web site: www.endress.com → Download.

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

Certificates

Declaration of Conformity

Declaration number: EC_00695

IECEX Certificate

Certificate number: **EPS 18.0026X**

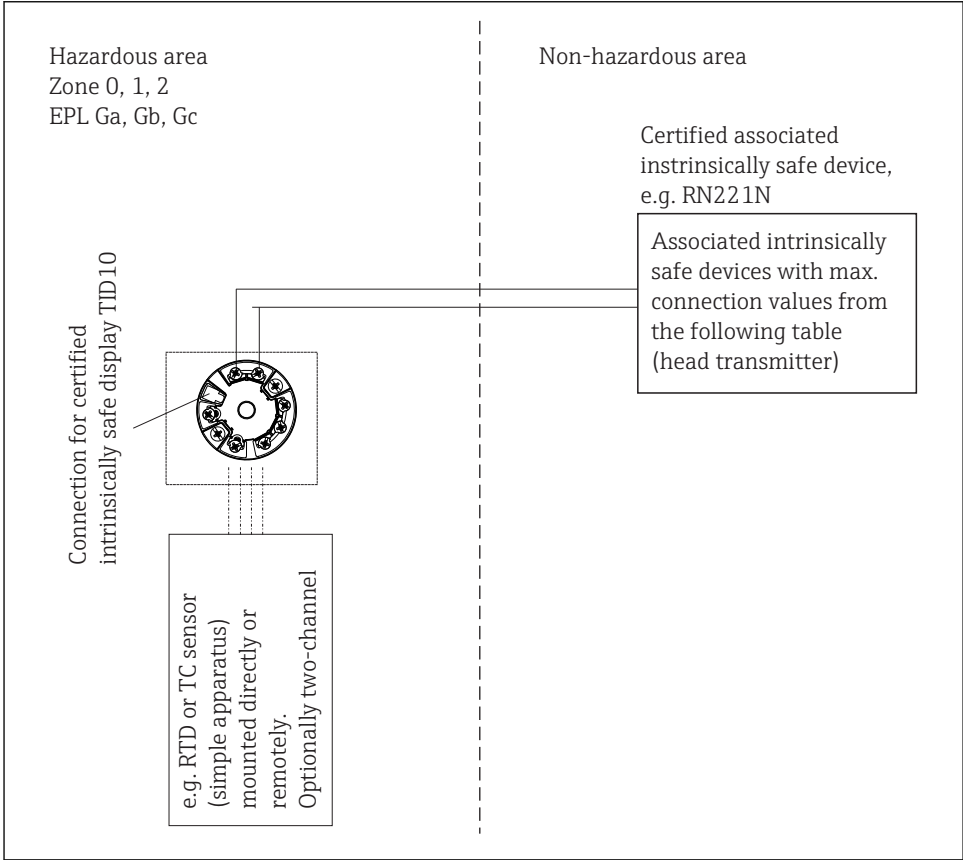
Affixing the certificate number certifies conformity with the following standards (depending on the device version).

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

Manufacturer address

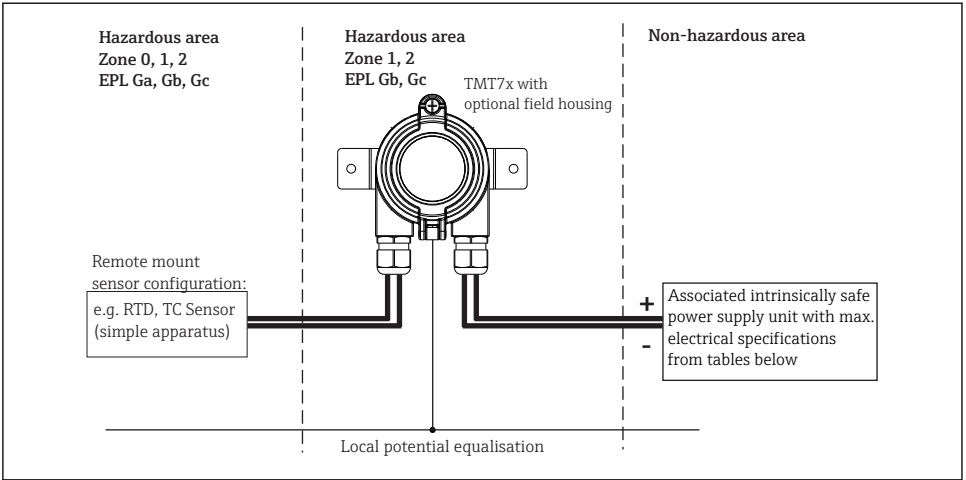
Endress+Hauser Wetzler GmbH + Co. KG
 Obere Wank 1,
 D-87484 Nesselwang or www.endress.com

Safety instructions

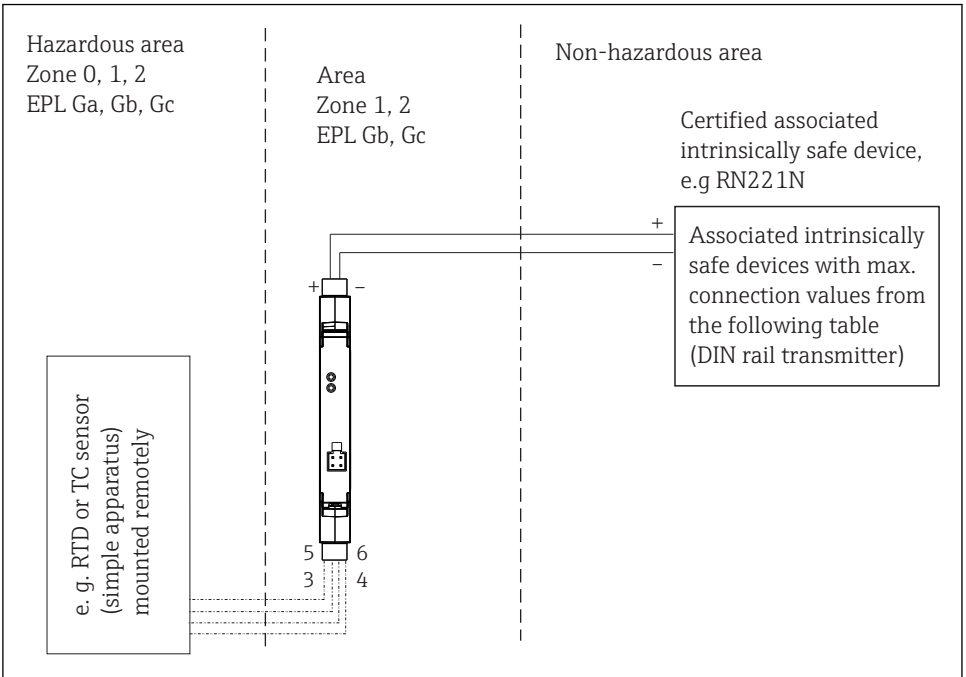


A0025131-EN

1 Installation of the head transmitter



A0037742-EN



A0042161-EN

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 guidelines (e.g. EN/IEC 60079-14).
- When installing the device, the IP20 protection rating of the housing must be maintained in accordance with EN/IEC 60529.
- When connecting the measuring device with a certified circuit of category "IB" into an IIB hazardous area, the ignition class changes to: Ex ib IIC or Ex ib IIB.
- The use of the CDI interface for configuration in hazardous areas is not permitted.

Safety instructions: head transmitter

- The device (terminal head) must be connected to the potential compensation cable.
- The certified display, type TID10, may only be installed in Zone 1/EPL Gb or Zone 2/EPL Gc.
- The permitted ambient temperatures for display type TID10 must be observed.

Safety Instructions: DIN rail transmitter

On installation please make sure that the spacing between the intrinsically safe and non-intrinsically safe circuits is at least 50 mm.

Safety instructions: field housing

- The housing of the field transmitter must be connected to the potential matching line.
- The circuits of the installed head transmitter are insulated from its housing in accordance with EN/IEC 60079-11 chapter 6.3.13.

Safety instructions: Zone 0

(These instructions are only valid if the device is installed directly in Zone 0 (Category 1)/EPL Ga.)

- Explosive steam/air mixtures may only occur under atmospheric conditions.
 - $-50\text{ °C} \leq T_a \leq +60\text{ °C}$
 - $0.8\text{ bar} \leq p \leq 1.1\text{ bar}$
- If no explosive mixtures are present, or if additional measures have been taken in accordance with EN 1127-1, the devices may also be operated outside the atmospheric conditions in accordance with the manufacturer's specifications.
- The ambient temperature restrictions outlined in EN 1127-1 6.4.2 must be observed (see table).
- The power circuit to be supplied must comply with Ex ia IIC type of protection (EN/IEC 60079-14 12.3).

- The measuring devices may be used only in media to which the process-wetted materials have a sufficient level of resistance.
- When operating the complete device in Zone 0/EPL Ga, the compatibility of the device materials with the media must be guaranteed. (Housing: polycarbonate (PC), potting: silicone).
- The installation of display TID10 in Zone 0/EPL Ga is not permitted.
- The temperature transmitter must be mounted in such a way that electrostatic charging cannot occur, for example by installing in a grounded metallic head or grounded housing.

**Safety instructions:
Specific conditions of use**

- In hazardous areas it is not permitted to use the CDI interface of TMT7x for configuration.
- The head- and DIN rail-transmitter must be protected against electrostatic charge/discharge.

Temperature tables

Type (order option)	Temperature class	Ambient temperature EPL Gb/Zone 1	Ambient temperature EPL Ga/Zone 0
TMT7x-xxx1xxxx Head transmitter without display	T6	$-50\text{ °C} \leq T_a \leq +55\text{ °C}$	$-50\text{ °C} \leq T_a \leq +40\text{ °C}$
	T5	$-50\text{ °C} \leq T_a \leq +70\text{ °C}$	$-50\text{ °C} \leq T_a \leq +60\text{ °C}$
	T4	$-50\text{ °C} \leq T_a \leq +85\text{ °C}$	$-50\text{ °C} \leq T_a \leq +60\text{ °C}$
TMT7x-xxx1xxxx Head transmitter with display (TID10)	T6	$-40\text{ °C} \leq T_a \leq +55\text{ °C}$	
	T5	$-40\text{ °C} \leq T_a \leq +70\text{ °C}$	
	T4	$-40\text{ °C} \leq T_a \leq +85\text{ °C}$	
TMT7x-xxx1xxxx Field housing without display	T6	$-50\text{ °C} \leq T_a \leq +55\text{ °C}$	
	T5	$-50\text{ °C} \leq T_a \leq +70\text{ °C}$	
	T4	$-50\text{ °C} \leq T_a \leq +85\text{ °C}$	
TMT7x-xxx1xxxx Field housing with display (TID10)	T6	$-40\text{ °C} \leq T_a \leq +55\text{ °C}$	
	T5	$-40\text{ °C} \leq T_a \leq +70\text{ °C}$	
	T4	$-40\text{ °C} \leq T_a \leq +85\text{ °C}$	
TMT7x-xxx2xxxxxxxx TMT7x-xxx3xxxxxxxx DIN rail transmitter	T6	$-50\text{ °C} \leq T_a \leq +43\text{ °C}$	
	T5	$-50\text{ °C} \leq T_a \leq +58\text{ °C}$	
	T4	$-50\text{ °C} \leq T_a \leq +85\text{ °C}$	

Connection data

Type	Electrical data		
TMT7x Order option: TMT7x-xxx1xxxx (head transmitter) TMT7x-xxx2xxxx TMT7x-xxx3xxxx (DIN rail transmitter)	Power supply (Klemmen + und -)	$U_i \leq 30 V_{DC}$ $I_i \leq 100 \text{ mA}$ $P_i = 800 \text{ mW}$ (head transmitter) $P_i = 700 \text{ mW}$ (DIN rail transmitter) $C_i = \text{negligible}$ $L_i = \text{negligible}$	
	Sensor circuit (terminals 3 to 6)	$U_o \leq 4,3 V_{DC}$ $I_o \leq 4.8 \text{ mA}$ $P_o \leq 5.2 \text{ mW}$	
	Max. connection data		
	Ex ia IIC	$L_o = 50 \text{ mH}$	$C_o = 3 \mu\text{F}$
	Ex ia IIB	$L_o = 100 \text{ mH}$	$C_o = 18 \mu\text{F}$
	Ex ia IIA	$L_o = 100 \text{ mH}$	$C_o = 48 \mu\text{F}$

Category	Type of protection (ATEX)	Type
II1G	Ex ia IIC T6...T4 Ga	without display
II2G	Ex ia IIC T6...T4 Gb	with display
II2(1)G	Ex ia ia Ga IIC T6... T4 Gb	with field housing
II2(1)G	Ex ib ia Ga IIC T6... T4 Gb	with DIN rail housing

Type of protection (IEC)	Type
Ex ia IIC T6...T4 Ga	without display
Ex ia IIC T6...T4 Gb	with display
Ex ia ia Ga IIC T6... T4 Gb	with field housing
Ex ib ia Ga IIC T6... T4 Gb	with DIN rail housing



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www.addresses.endress.com
