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Safety Instructions
iTEMP TMT71, TMT72

Temperature transmitter

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

Endress+Hauser
People for Process Automation

iTEMP TMT71, TMT72

Temperature transmitter

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Associated documentation

To commission the device, please observe the Operating Instructions pertaining to the device:
www.endress.com/<product code>, e.g. TMT7x

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: GYJ22.3604X

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

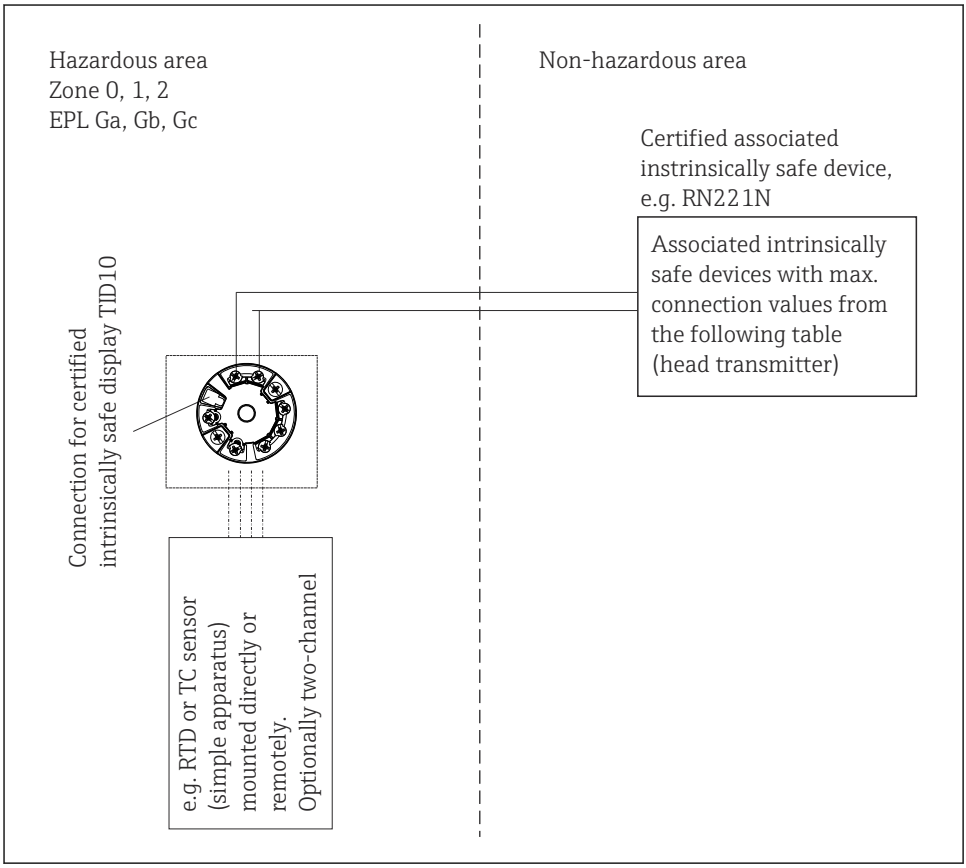
- GB/T 3836.1-2021
- GB/T 3836.4-2021

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

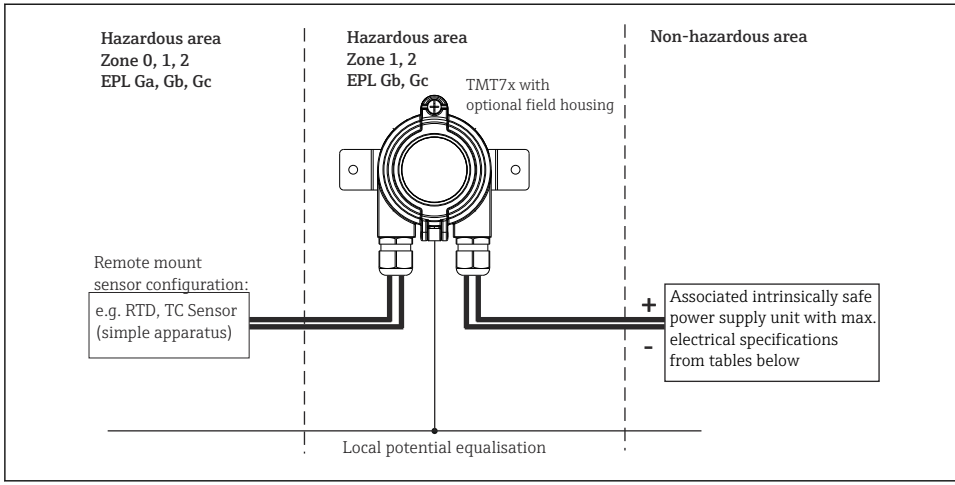
Manufacturer address

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

Safety instructions



1 Installation of the head transmitter



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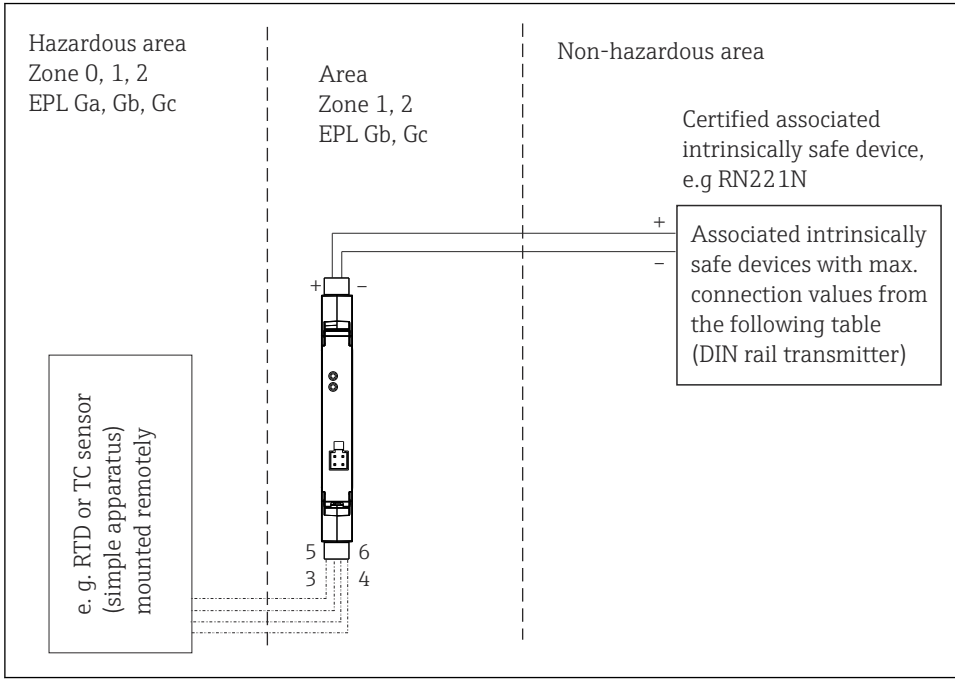

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Safety instructions: Installation

- 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).
- When installing the unit note that the housing ingress protection classification IP20 according to EN/IEC 60529 is upheld.
- When connecting the device 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.
- In hazardous areas it is not permitted to use the CDI interface for configuration.

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.
  - $-50\ ^{\circ}C \leq Ta \leq +60\ ^{\circ}C$
  - $0.8\ bar \leq p \leq 1.1\ bar$
- If no potentially explosive mixtures are present, or if additional protective measures have been taken according to EN 1127-1, the device may also be operated under non-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 meet the specifications for explosion protection Ex ia IIC (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: Special conditions

- In hazardous areas it is not permitted to use the CDI interface of the device for configuration.
- The device 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 °C ≤ Ta ≤ +55 °C	−50 °C ≤ Ta ≤ +40 °C
	T5	−50 °C ≤ Ta ≤ +70 °C	−50 °C ≤ Ta ≤ +60 °C
	T4	−50 °C ≤ Ta ≤ +85 °C	−50 °C ≤ Ta ≤ +60 °C
TMT7x-xxx1xxxx Head transmitter with display (TID10)	T6	−40 °C ≤ Ta ≤ +55 °C	
	T5	−40 °C ≤ Ta ≤ +70 °C	
	T4	−40 °C ≤ Ta ≤ +85 °C	
TMT7x-xxx1xxxx Field housing without display	T6	−50 °C ≤ Ta ≤ +55 °C	
	T5	−50 °C ≤ Ta ≤ +70 °C	
	T4	−50 °C ≤ Ta ≤ +85 °C	
TMT7x-xxx1xxxx Field housing with display (TID10)	T6	−40 °C ≤ Ta ≤ +55 °C	
	T5	−40 °C ≤ Ta ≤ +70 °C	
	T4	−40 °C ≤ Ta ≤ +85 °C	
TMT7x-xxx2xxxxxxxxx TMT7x-xxx3xxxxxxxxx DIN rail transmitter	T6	−50 °C ≤ Ta ≤ +43 °C	
	T5	−50 °C ≤ Ta ≤ +58 °C	
	T4	−50 °C ≤ Ta ≤ +85 °C	

Electrical connection data

Type	Electrical data		
TMT7x Order option: TMT7x-xxx1xxxx (head transmitter) TMT7x-xxx2xxxx TMT7x-xxx3xxxx (DIN rail transmitter)	Power supply (Klemmen + und -)	$U_i \leq 30\ V_{DC}$ $I_i \leq 100$ mA $P_i = 800$ mW (head transmitter) $P_i = 700$ mW (DIN rail transmitter) C_i = negligible L_i = negligible	
	Sensor circuit (terminals 3 to 6)	$U_o \leq 4.3\ V_{DC}$ $I_o \leq 4.8$ mA $P_o \leq 5.2$ mW	
	Max. connection data Ex ia IIC Ex ia IIB Ex ia IIA	 $L_o = 50$ mH $L_o = 100$ mH $L_o = 100$ mH	 $C_o = 3$ µF $C_o = 18$ µF $C_o = 48$ µF

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

www.addresses.endress.com

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