

Safety Instructions

iTEMP TMT142B, TMT162

HART®, PROFIBUS® PA, FOUNDATION Fieldbus™

Ex db IIC T6...T4 Gb

Ex tb IIIC T110 °C Db



iTEMP TMT142B, TMT162

HART®, PROFIBUS® PA, FOUNDATION Fieldbus™

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About this document

The document number of these Safety Instructions (XA) must match the information on the nameplate.

Associated documentation

All documentation is available on the Internet:

www.endress.com/Deviceviewer

(enter the serial number from the nameplate).

To commission the device, please observe the Operating Instructions pertaining to the device:

www.endress.com/<product code>, e.g. iTEMP TMT162

Supplementary documentation

Explosion protection brochure: CP00021Z

The explosion protection brochure is available on the Internet:

www.endress.com/Downloads

Certificates and declarations**NEPSI certificate**

Certificate number:

GYJ26.1149X

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

- GB/T 3836.1-2021
- GB/T 3836.2-2021
- GB/T 3836.31-2021



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

Manufacturer address

Endress+Hauser Wetzer GmbH + Co. KG

Obere Wank 1

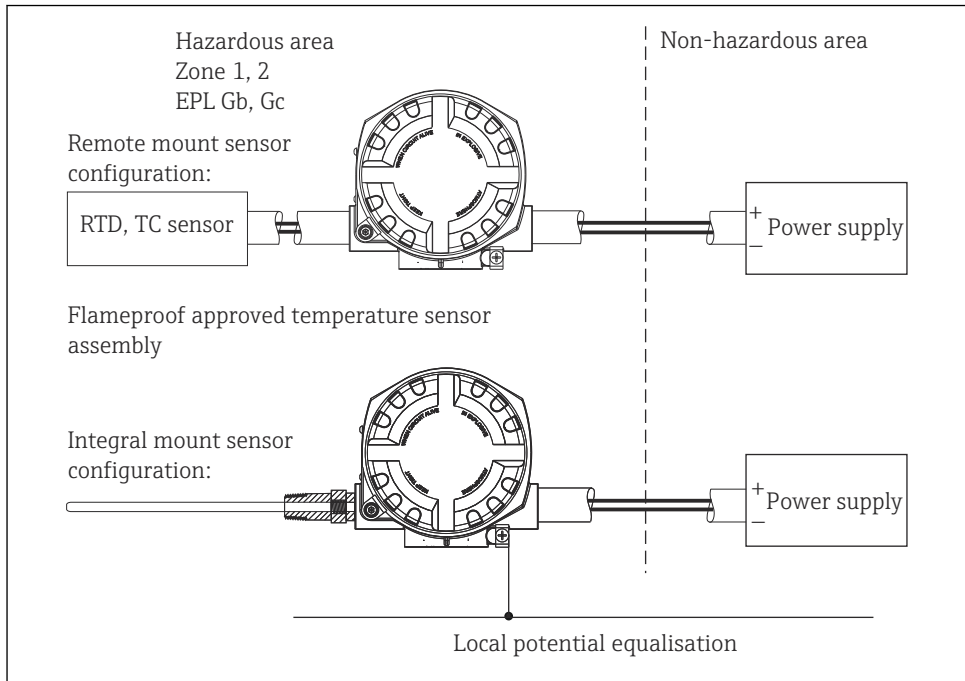
87484 Nesselwang, Germany

Endress+Hauser Wetzer (Suzhou) Co. Ltd.

Suzhou Industrial Park (SIP)

215126 Suzhou

Safety instructions: Ex db



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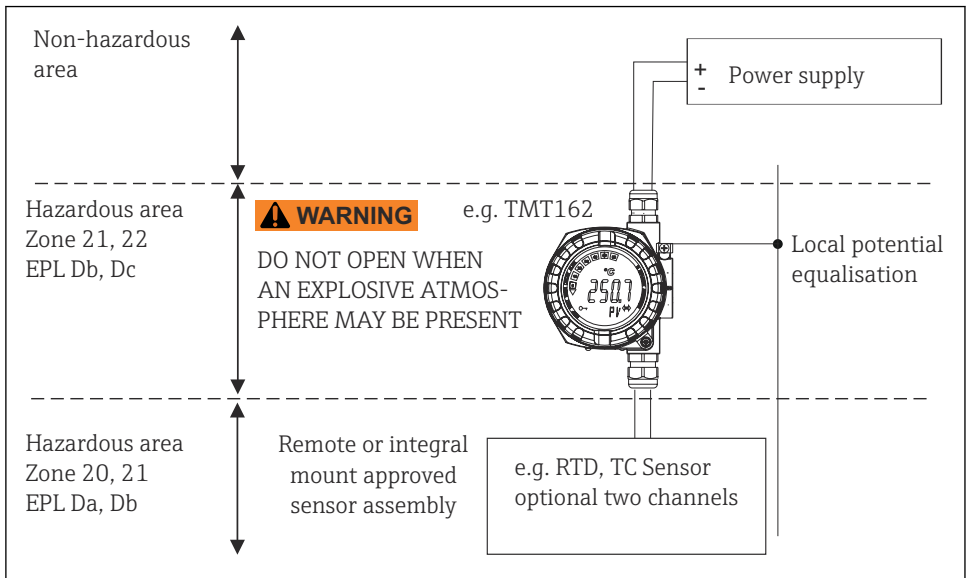
Safety instructions: Installation

- 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).
- The housing of the device must be connected to the potential matching line.
- Only the approved wire entries as specified in paragraph 10.3 of EN/IEC 60079-14, paragraph 16 of EN/IEC 60079-0, paragraph 13 of EN/IEC 60079-1 must be used.
- For connection through a conduit entry approved for this purpose the associated sealing facility shall be mounted directly to the housing.
- Seal unused entry glands with approved sealing plugs that correspond to the type of protection. The plastic transport sealing plug does not meet this requirement and must therefore be replaced during installation.
- When operating the transmitter enclosure at an ambient temperature under $-20\text{ }^{\circ}\text{C}$, use appropriate cables and cable entries permitted for this application.

- For ambient temperatures higher than +70 °C, use suitable heat-resisting cables or wires, cable entries and sealing facilities for Ta +5 K above surrounding.
- During operation, the cover must be screwed all the way in and the cover's safety catch must be fastened.
- The remote or integral mounted temperature sensor must comply with the requirements according to EN/IEC 60079-1.
- Flameproof joints are not intended to be repaired.

Safety

instructions: Ex tb



Safety

instructions:

Installation

WARNING

Explosive atmosphere

- ▶ In an explosive atmosphere, do not open the device when voltage is supplied (ensure that the IP66/67 housing protection is maintained during operation).
- 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).
- Seal the cable entries tight with certified cable glands (min. IP6X) IP6X according to EN/IEC 60529.

- The provided cable entries to option code glands are suitable ATEX/ IECEx certified cable glands with a temperature range of –20 to +95 °C.
- When operating the transmitter enclosure at an ambient temperature under –20 °C, use appropriate cables and cable entries permitted for this application.
- The housing of the device must be connected to the potential matching line.
- For ambient temperatures higher than +70 °C, use suitable heat-resisting cables or wires, cable entries and sealing facilities for Ta +5 K above surrounding.

Safety

Instructions:

Special conditions



Potentially explosive atmospheres

- ▶ Do not open the electrical connection of the supply circuit when energized if there is a potentially explosive atmosphere.
- Use for remote temperature sensors only approved sensors certified for category 2G marked not less than II2G Ex d IIC T6...T4 Gb for use in Zone 1.
- Use for integral temperature sensors only approved sensors certified for category 1G or 2G marked not less than II1/2G Ex d IIC T6...T4 Ga/Gb or II2G Ex d IIC T6...T4 Gb for use in Zone 0 resp. Zone 1.
- The temperature class specified for the certified temperature sensor shall be taken into account.
- The device must be installed and maintained 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.

Safety instructions:
Conditions for safe use

- The product casing is equipped with a grounding terminal. Users should ensure reliable grounding during installation and use.
- Do not open the cover while the equipment is powered on.
- The cable entry ports must be inspected and approved by the nationally designated explosion-proof testing institution. For Ex marking is Ex db IIC Gb, the thread specification should be M20×1.5, 1/2-14NPT, for Ex marking is Ex tb IICC Db, the thread specification should be M20×1.5, M24×1.5, 1/2-14NPT, G1/2. The cable entry devices or sealing components must be used in accordance with their user manuals. After the installation of the cable entry devices or sealing components, the overall protection level of the equipment enclosure must not be lower than IP66/IP67.
- For installation, use and maintenance of the device, users must also observe the requirements stated in the Operating Instructions and the standards:
 - GB 50257-2014: "Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering".
 - GB/T 3836.13-2021: "Explosive atmospheres, Part 13: Equipment repair, overhaul, reclamation and modification".
 - GB 3836.15-2024: "Explosive atmospheres, Part 15: Specification of electrical installations design, selection and erection".
 - GB 3836.16-2024: "Explosive atmospheres, Part 16: Specification of electrical installations inspection and maintenance".
 - GB 15577-2018: "Safety regulations for dust explosive prevention and protection". (Only if installed in dust hazardous area.)

Electrical connection data

Type	Electrical Data
iTEMP TMT142B (HART® - protocol)	U ≤ 36 V _{DC} P ≤ 1 W
iTEMP TMT162 (HART® - protocol)	U ≤ 40 V _{DC} P ≤ 1 W
iTEMP TMT162 (PROFIBUS® PA) iTEMP TMT162 (FOUNDATION Fieldbus™)	U ≤ 35 V _{DC} P ≤ 3 W

Safety instructions: Ex-certification Limitations

The suffix “X” placed after the certificate number indicates that the product has special usage conditions,that is:
The relationship between the products ambient temperature range and the temperature class, Ex protection type:

Temperature
tables

Ex type	Temperature class	Ambient temperature
Ex db	T6	$-40\text{ }^{\circ}\text{C} \leq T_a \leq +55\text{ }^{\circ}\text{C}$
	T5	$-40\text{ }^{\circ}\text{C} \leq T_a \leq +70\text{ }^{\circ}\text{C}$
	T4	$-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$

Ex type	Maximum surface	Ambient temperature
Ex tb	110 °C	$-40\text{ }^{\circ}\text{C} \leq T_a \leq +80\text{ }^{\circ}\text{C}$

- If the ambient temperature exceeds 65 °C, a connection cable with a heat resistance of at least 90 °C should be selected.
- When the optional non-conductive coating is applied the risk from electrostatic discharge shall be minimized.
 - Control the relative humidity of the environment to minimize the generation of static electricity.
 - Do not wipe or blow on the surface of the product housing to prevent the risk of static electricity ignition.
 - The flameproof joints are not intended to be repaired.

Safety
instructions:
Manufacture’s
responsibility

- Conditions for safe use and special conditions for safe use, as specified above, should be included in the documentation the user is provided with.
- Manufacturing should be done according to the documentation approved by NEPSI.



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www.addresses.endress.com
