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Safety Instructions
iTEMP TMT82

Ex ec IIC T4...T6 Gc

Endress+Hauser
People for Process Automation

iTEMP TMT82

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About this document

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

Associated documentation

To commission the device, please observe the Operating Instructions pertaining to the device:
www.endress.com/<product code>, e.g. TMT82

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: GYJ24.1169X

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

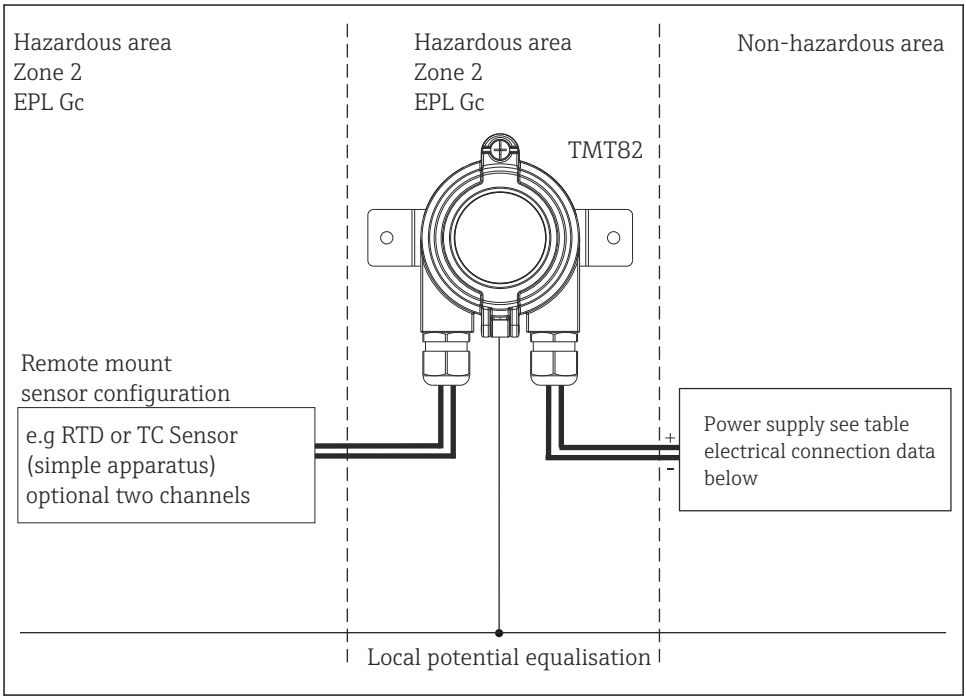
- GB/T 3836.1-2021
- GB/T 3836.3-2021

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

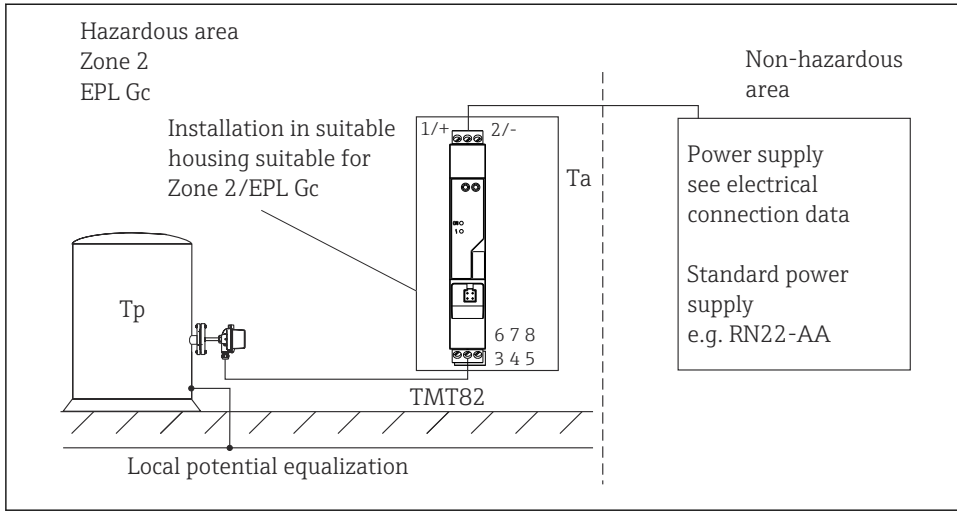
Manufacturer address

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

Safety instructions:



1 Installation of the head transmitter



2 *Installation of the DIN rail transmitter*

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).
- For operating the transmitter housing at an ambient temperature under −20 °C, appropriate cables, cable entries and sealing facilities permitted for this application must be used.
- 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.

Applicable for head transmitter assembled in field housing only

- 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 Ex certified cable glands with a temperature range of −20 to +95 °C.
- The device must be connected to the local potential equalization.
- 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.

⚠ WARNING

Explosive atmosphere

- In an explosive atmosphere, do not open the device when voltage is supplied (ensure that the IP6x housing protection is maintained during operation).

Terminal specification

Category	Torque	Cable version	Cable cross-section
Screw terminals	0.5 Nm	Solid or flexible	≤ 2.5 mm² (14 AWG)
Push-in terminals (cable version, stripping length = min. 10 mm (0.39 in)	-	Solid or flexible	0.2 to 1.5 mm² (24 to 16 AWG)
	-	Flexible with wire and ferrules with/ without plastic ferrule	0.25 to 1.5 mm² (24 to 16 AWG)

Safety instructions: Specific conditions of use

Applicable for option field housing A, B and C (head transmitter as component only):

- For use in the type of protection increased safety Ex ec, and for Zone 2 (EPL Gc) application, the head transmitter shall be installed completely inside an additional enclosure, providing a degree of protection of not less than IP 54 according to EN/IEC 60079-0 and EN/IEC 60079-7. The ambient temperature within the end use enclosure shall not exceed the limits of the permissible ambient temperature range. Clearances, creepage distances, and separations as defined in EN/IEC 60079-7 must be considered for the installation.
- The end user shall ensure appropriate earthing of the metallic field housing (optional) and all metallic accessories if used (wall or pipe mounting accessories for the field housing and the DIN rail clip for the head transmitter) upon installation.
- The TMT82 does not have any surface that achieves a temperature greater than 135 °C/100 °C/85 °C with a 5K safety factor when operated under full load conditions at an ambient of range of 85 °C/ 75 °C/58 °C respectively.
- For full certification as an electrical equipment for use in EPL Gc or Dc the tests according to EN/IEC 60079-0:2017 section 5.2 and 5.3 have to be carried out. Based on the test results a temperature class shall be assigned.

Applicable for DINrail transmitter as component only:

- For use in the type of protection increased safety Ex ec, and for Zone 2 (EPL Gc) application, the transmitter shall be installed completely inside an additional enclosure, providing a degree of protection of not less than IP 54 according to EN/IEC 60079-0 and EN/IEC 60079-7. The ambient temperature within the end use enclosure shall not exceed the limits of the permissible ambient temperature range. Clearances, creepage distances, and separations as defined in EN/IEC 60079-7 must be considered for the installation.
- The TMT82 does not have any surface that achieves a temperature greater than 135 °C/100 °C/85 °C with a 5K safety factor when operated under full load conditions at an ambient of range of 85 °C/ 56 °C/41 °C respectively.
- For full certification as an electrical equipment for use in EPL Gc or Dc the tests according to IEC 60079-0:2017 section 5.2 and 5.3 have to be carried out. Based on the test results a temperature class shall be assigned.

Safety instructions: Specific conditions of use

The suffix "X" placed after the certificate number indicates that this product is subject to special conditions for safe use, that is:

- IIn an explosive atmosphere, do not open the device when voltage is supplied.
- The releationship between ambient temperature and temperature class is shown as follows:

Temperature tables

Type	Type of protection	Ambient temperature	Temperature class
iTEMP TMT82 Field housing without display	Ex ec IIC T4...T6 Gc	−50 °C ≤ Ta ≤ +55 °C	T6
		−50 °C ≤ Ta ≤ +70 °C	T5
		−50 °C ≤ Ta ≤ +85 °C	T4
iTEMP TMT82 Field housing with display	Ex ec IIC T4...T6 Gc	−40 °C ≤ Ta ≤ +55 °C	T6
		−40 °C ≤ Ta ≤ +70 °C	T5
		−40 °C ≤ Ta ≤ +85 °C	T4
iTEMP TMT82 Dual compartment field housing	Ex ec IIC T4...T6 Gc	−40 °C ≤ Ta ≤ +55 °C	T6
		−40 °C ≤ Ta ≤ +70 °C	T5
		−40 °C ≤ Ta ≤ +85 °C	T4

Electrical connection data

Type	Type of protection	Power supply (terminals + and -)
TMT82	Ex ec IIC Gc	U_b = 11 to 42 V_{DC} Output: 4 to 20 mA Current consumption: ≤ 23 mA

Safety instructions: Conditions of use

- The user shall not change the configuration in order to maintain/ ensure the explosion protection performance of this product. Any change may impair safety.
- Suitable certified cable gland and blanking plug approved by ExTL according to GB/T 3836.1-2021 and GB/T 3836.3-2021 with Ex marking “Ex ec IIC” shall be used and correctly installed; after installing, degree of protection of enclosure should be at least IP54 according to GB/T 4208-2017. Excess cable glands should be sealed with plug.
- For installation use and maintenance of this product, the end user should observe the instruction manual and the following standards:
  GB/T 3836.13-2021 “Explosive atmospheres- Part 13: Equipment repair, overhaul, reclamation and modification”.
  GB/T 3836.15-2017 “Explosive atmospheres- Part 15: Electrical installations design, selection and erection”.
  GB/T 3836.16-2022 “Explosive atmospheres- Part 16: Electrical installations inspection and maintenance”.
  GB50257-2014 “Code for construction and acceptance of electric equipment on fire and device for explosion hazard electrical installation engineering”.

www.addresses.endress.com

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