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Safety Instructions
iTEMP TMT71, TMT72, TMT82, TMT84, TMT85, TMT86

ATEX: Ex ic IIC T6 Gc

Endress+Hauser
People for Process Automation

iTEMP TMT71, TMT72, TMT82, TMT84, TMT85, TMT86

Table of contents

Associated documentation

All documentation is available on the Internet:
www.endress.com/Deviceviewer
(enter the serial number from the nameplate).

If not yet available, a translation into EU languages can be ordered.

To commission the device, please observe the Operating Instructions pertaining to the device:
www.endress.com/<product code>, e.g. TMT86

Supplementary documentation

Explosion protection brochure: CP00021Z

The explosion protection brochure is available on the Internet:
www.endress.com/Downloads

Certificates and declarations

EU Declaration of Conformity

Declaration number: EC_00187

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

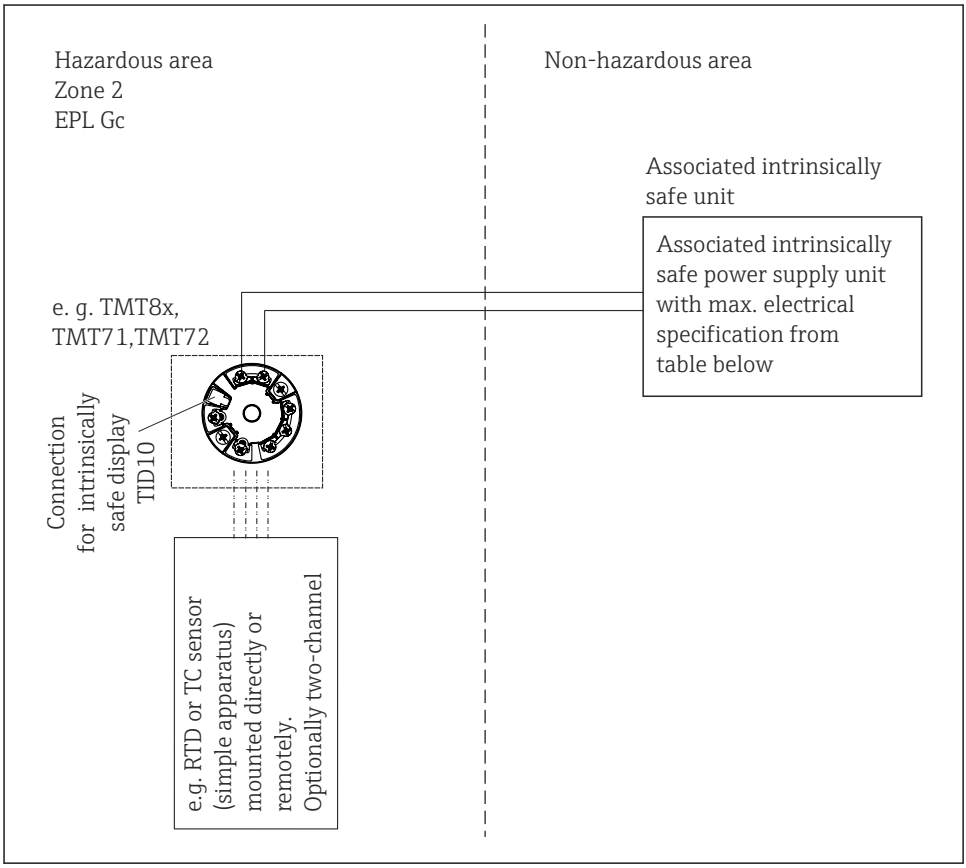
- EN IEC 60079-0 : 2018
- EN 60079-11 : 2012

The EU Declaration of Conformity is available on the Internet:
www.endress.com/Downloads

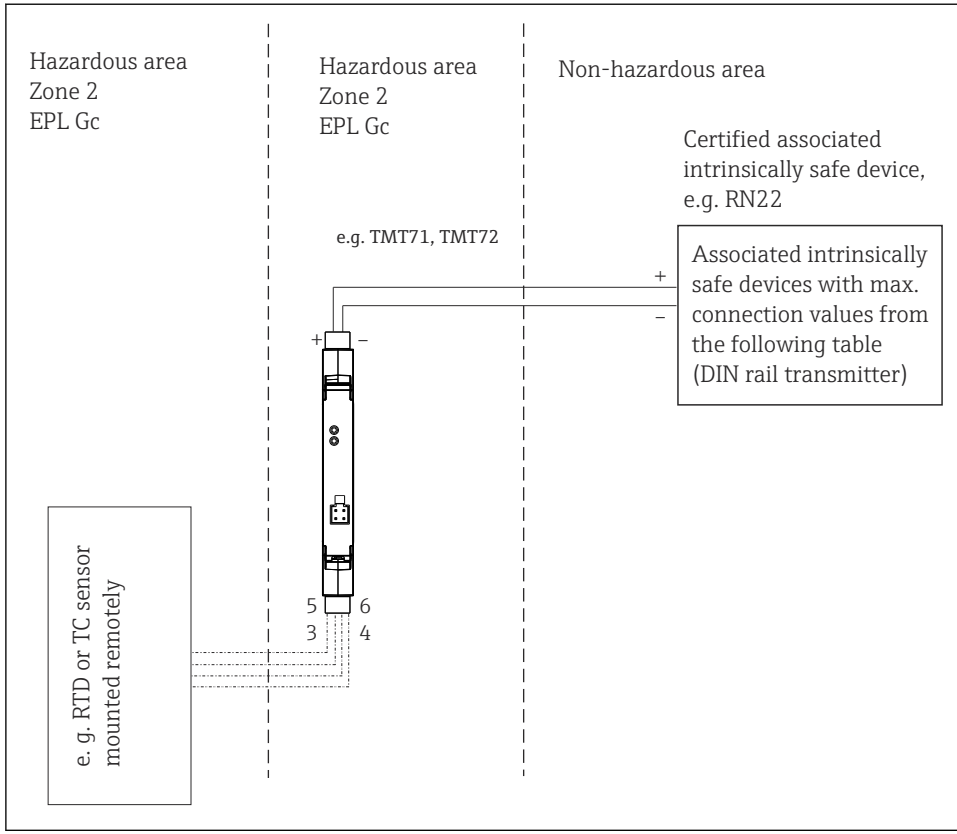
Certificate holder

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

Safety instructions



1 Installation of the head 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).
- An enclosure shall be provided meeting the requirements of IP20 in accordance with EN/IEC 60529 or greater according to the intended use and environmental conditions.
- The device is only suitable for connection to certified, intrinsically safe equipment with explosion protection of at least Ex ic.
- If the conditions Ui > Uo, (Ii > Io), Ca > Ci + Ccable and La > Li + Lcable are met, the energy-limited installation concept (Ex ic) allows energy-limited devices or associated energy-limited devices to be connected according to the entity concept.
- Observe the pertinent guidelines when interconnecting intrinsically safe circuits (e.g. EN/IEC 60079-14, Proof of Intrinsic Safety).

Safety instructions: Head transmitter

The device (terminal head) must be connected to the potential matching line.

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: 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 code)	Temperature class	Ambient temperature
TMT82-xxA1xxxxxxxxx TMT82-xxA2xxxxxxxxx without display	T6	−52 °C ≤ Ta ≤ +58 °C
	T5	−52 °C ≤ Ta ≤ +75 °C
	T4	−52 °C ≤ Ta ≤ +85 °C
TMT82-xxA1xxxxxxxxx TMT82-xxA2xxxxxxxxx with display (TID10)	T6	−40 °C ≤ Ta ≤ +55 °C
	T5	−40 °C ≤ Ta ≤ +70 °C
	T4	−40 °C ≤ Ta ≤ +85 °C
TMT84-xxA1xxxxxxxxx TMT84-xxA2xxxxxxxxx TMT85-xxA1xxxxxxxxx TMT85-xxA2xxxxxxxxx without display	T6	−40 °C ≤ Ta ≤ +55 °C
	T5	−40 °C ≤ Ta ≤ +70 °C
	T4	−40 °C ≤ Ta ≤ +85 °C
TMT84-xxA1xxxxxxxxx TMT84-xxA2xxxxxxxxx TMT85-xxA1xxxxxxxxx TMT85-xxA2xxxxxxxxx with display (TID10)	T6	−40 °C ≤ Ta ≤ +55 °C
	T5	−40 °C ≤ Ta ≤ +70 °C
	T4	−40 °C ≤ Ta ≤ +85 °C
TMT86-xxA1xxxxxxx without display	T6	−52 °C ≤ Ta ≤ +58 °C
	T5	−52 °C ≤ Ta ≤ +75 °C
	T4	−52 °C ≤ Ta ≤ +85 °C
TMT86-xxA1xxxxxxx with display (TID10)	T6	−40 °C ≤ Ta ≤ +55 °C
	T5	−40 °C ≤ Ta ≤ +70 °C
	T4	−40 °C ≤ Ta ≤ +85 °C

Type (order code)	Temperature class	Ambient temperature
TMT7x-xxx1xxxx L2022x-xxx1xxxx Head transmitter without display	T6	−50 °C ≤ Ta ≤ +55 °C
	T5	−50 °C ≤ Ta ≤ +70 °C
	T4	−50 °C ≤ Ta ≤ +85 °C
TMT7x-xxx1xxxx L2022x-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-xxx2xxxx L2022x-xxx2xxxx TMT7x-xxx3xxxx L2022x-xxx3xxxx 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		
TMT82 HART® order code: TMT82-xxA1xxxxxxxxx TMT82-xxA2xxxxxxxxx	Supply		
	(terminal + and -)		Ui ≤ 42 V_{DC} Ii = not applicable (current-controlled circuit) Pi = not applicable Ci = negligible small Li = negligible small
	Sensor circuit		
	(terminal 3 to 7)		Uo ≤ 7.6 V_{DC} Io ≤ 13 mA Po ≤ 24.7 mW
	Max. connection values		
		Ex ic IIC	Lo = 10 mH Co = 1 µF
		Ex ic IIB	Lo = 50 mH Co = 4.5 µF
		Ex ic IIA	Lo = 50 mH Co = 6.7 µF
TMT71, TMT72 L20221, L20222 Order option: TMT7x-xxx1xxxx L2022x-xxx1xxxx (head transmitter), TMT7x-xxx2xxxx, L2022x-xxx2xxxx TMT7x-xxx3xxxx L2022x-xxx3xxxx (DIN rail transmitter)	Power supply		
	(terminals + and -)		Ui ≤ 30 V_{DC} Ii ≤ 100 mA Pi = 800 mW (head) Pi = 700 mW (DIN rail) Ci = negligibly small Li = negligibly small

Type	Electrical data
	Sensor circuit (terminal 3 to 6) Uo ≤ 4.3 V_{DC} Io ≤ 4.8 mA Po ≤ 5.2 mW Max. connection values Ex ic IIC Lo = 50 mH Co = 3 µF Ex ic IIB Lo = 100 mH Co = 18 µF Ex ic IIA Lo = 100 mH Co = 48 µF

Type	Electrical data
TMT84, TMT85	Supply (terminal + and -) FISCO: Ui ≤ 17.5 V_{DC}, Ii = not applicable (current-controlled circuit), Ci ≤ 5 nF, Li = 2.75 µF; or: Ui ≤ 32 V_{DC}, Ii ≤ 11 mA Applicable for connection to a Fieldbus system according to FISCO-model Sensor circuit (terminal 3 to 7) Uo ≤ 7.2 V_{DC} Io ≤ 25.9 mA Po ≤ 46.7 mW Ci ≤ 5 nF Li = negligible low Max. connection values Ex ic IIC Lo = 20 mH Co = 0.97 µF Ex ic IIB Lo = 50 mH Co = 4.6 µF Ex ic IIA Lo = 100 mH Co = 6 µF

Type	Electrical data
TMT86	Supply (terminal + and -) FISCO: Ui ≤ 17.5 V_{DC} Ii ≤ 380 mA Ci = negligible small Li = negligible small Applicable for connection to a Fieldbus system according to FISCO-model Sensor circuit

Type	Electrical data		
	(terminal 3 to 7)	Uo ≤ 3.71 V_{DC} Io ≤ 5.24 mA Po ≤ 4.86 mW	
	Max. combined connection values		
	Ex ic IIC	Lo = 50 mH	Co = 4 µF
	Ex ic IIB	Lo = 100 mH	Co = 24 µF
	Ex ic IIA	Lo = 100 mH	Co = 64 µF

Category	Type of protection	Type (order code)
II 3G	Ex ic IIC T6...T4 Gc	TMT8x-xxA1xxxxxxxxx TMT8x-xxA2xxxxxxxxx
		TMT7x-xxx1xxxx
		L2022x-xxx1xxxx
		TMT7x-xxx2xxxx
		L2022x-xxx2xxxx
		TMT7x-xxx3xxxx
		L2022x-xxx3xxxx

www.addresses.endress.com

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