

Safety Instructions

iTEMP TMT82

Ex ia IIC T6...T4 Ga

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



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

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 TMT82

Supplementary documentation

Explosion protection brochure: CP00021Z

The explosion protection brochure is available on the Internet:

www.endress.com/Downloads

Certificates and declarations**Korean certificate**

Certificate number:

25-KA4BO-0582X

25-KA4BO-0583X

25-KA4BO-0584X

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

Protect Device Safety Certification Notice No. 2021-22



Please refer to Korean certificates for conditions of safe use.

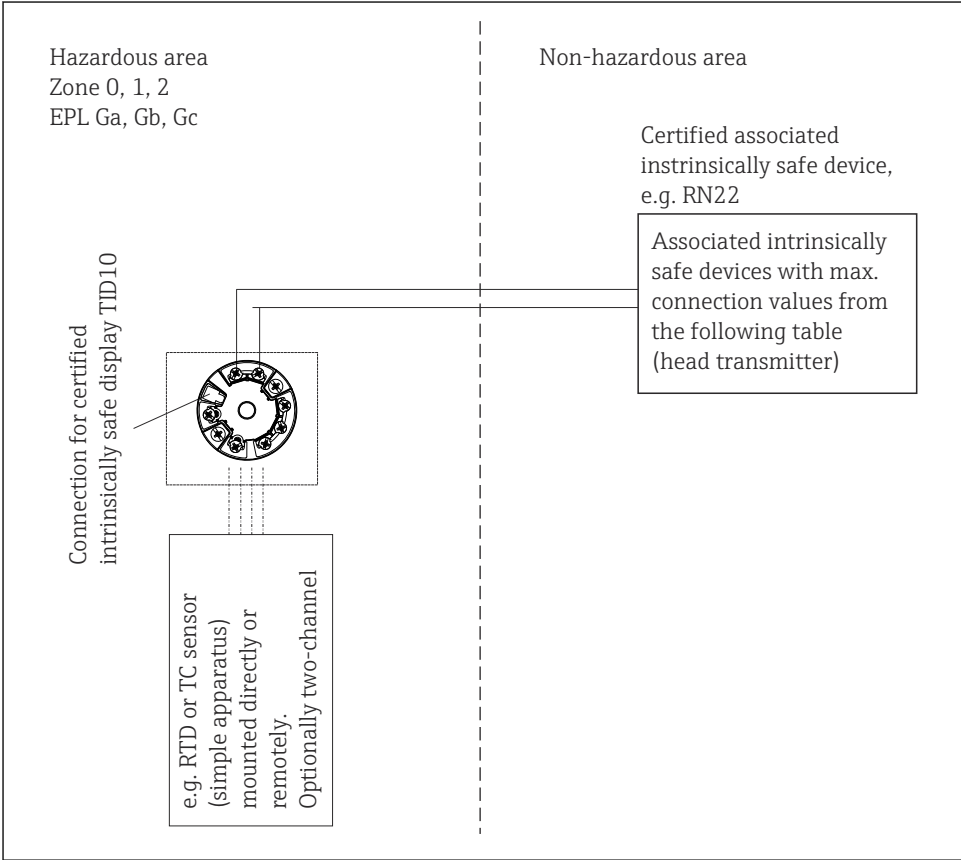
Manufacturer address

Endress+Hauser Wetzer GmbH + Co. KG

Obere Wank 1

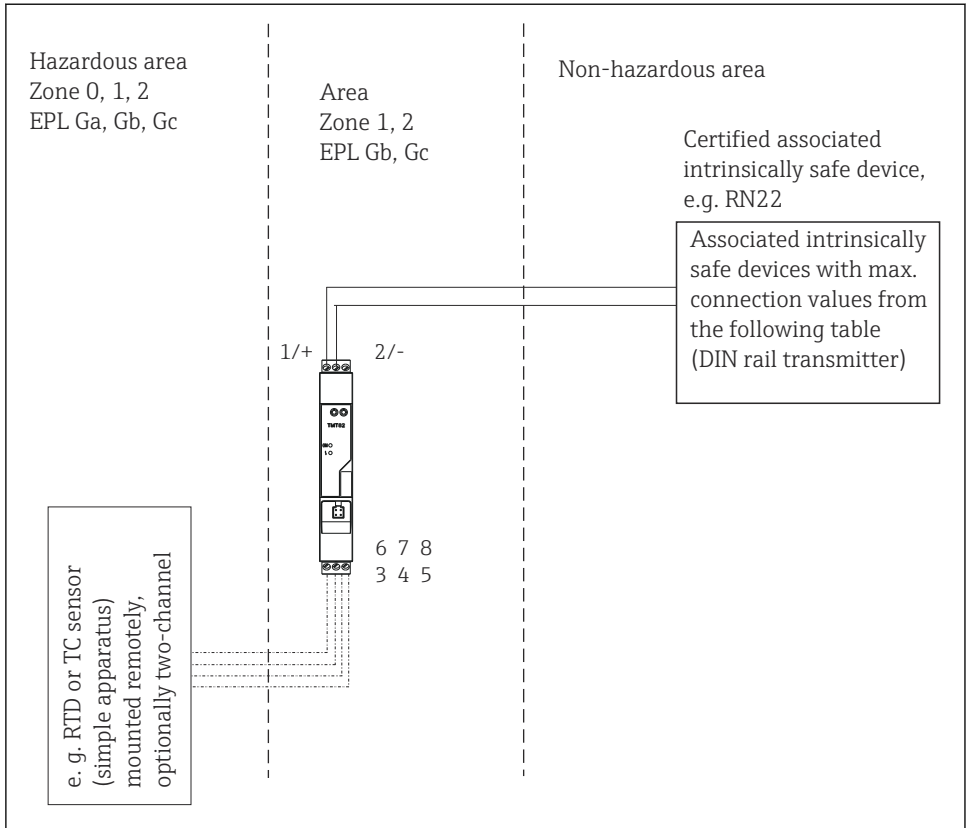
87484 Nesselwang, Germany

Safety instructions:



A0050493

 1 Installation of the head transmitter



A0050503

 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).
- When installing the unit note that the housing ingress protection classification IP20 according to EN/IEC 60529 is upheld.
- When connecting the measurement unit 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 (connection head) must be connected to the potential compensation cable.
- The certified TID10 display may only be installed in zone 1/EPL Gb or zone 2/EPL Gc.
- The permissible ambient temperatures for the display, type TID10, are to 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: Zone 1 and Zone 2**

- According to the specifications of the manufacturer, this apparatus can be operated in zone 1 (category 2)/EPL Gb or zone 2 (category 3) /EPL Gc.
- The sensor current circuit may be introduced into zone 0 (category 1)/EPL Ga.

Safety**instructions: Zone 0 (only for head transmitters)**

(These instructions are only valid if the unit is to be installed directly in the zone 0 (category 1)/EPL Ga.)

- Explosive moisture/air mixtures are only allowed to occur under atmospheric conditions.
 - $-52\text{ °C} \leq T_a \leq +60\text{ °C}$
 - $0.8\text{ bar} \leq p \leq 1.1\text{ bar}$

If there is no explosive mixture present or the additional measures according to EN 1127-1 are upheld the unit can also be operated outside the atmospheric conditions according to the manufacturers specification.

- The restricted ambient temperatures as per 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 devices can only be used in fluids if the process-wetted materials are sufficiently resistant to such fluids.
- If the entire device is operated in Zone 0/EPL Ga, the compatibility of the device materials with the fluids has to be ensured. (Housing: polycarbonate (PC), potting: silicone).
- It is not permitted to mount the TID10 display in zone 0/EPL Ga.
- The temperature transmitter must be installed in such a way that electrostatic charge cannot occur, e.g. installation in grounded metallic head or grounded housing.

Temperature
tables

Type (order option)	Temperature class	Ambient temperature zone 1	Ambient temperature zone 0
TMT82-xxA1xxxxxxxxxx TMT82-xxA2xxxxxxxxxx without display	T6	-52 °C = Ta = +58 °C	-52 °C = Ta = +46 °C
	T5	-52 °C = Ta = +75 °C	-52 °C = Ta = +60 °C
	T4	-52 °C = Ta = +85 °C	-52 °C = Ta = +60 °C
TMT82-xxA1xxxxxxxxxx TMT82-xxA2xxxxxxxxxx with display (TID)	T6	-40 °C = Ta = +55 °C	
	T5	-40 °C = Ta = +70 °C	
	T4	-40 °C = Ta = +85 °C	
TMT82-xxA3xxxxxxxxxx (DIN rail transmitter)	T6	-40 °C = Ta = +46 °C	
	T5	-40 °C = Ta = +61 °C	
	T4	-40 °C = Ta = +85 °C	

Electrical
connection data

Type	Electrical data		
TMT82 HART® Order option: TMT82-xxA1xxxxxxxxxx TMT82-xxA2xxxxxxxxxx (head transmitter)	Power supply (terminals + and -)	Ui ≤ 30 V _{DC} Ii ≤ 130 mA Pi = 800 mW Ci = negligibly small Li = negligibly small	
	Sensor circuit (terminals 3 to 7)	Uo ≤ 7.6 V _{DC} Io ≤ 13 mA Po ≤ 24.7 mW	
	Max. connection values		
	Ex ia IIC	Lo = 10 mH	Co = 1 µF
	Ex ia IIB	Lo = 50 mH	Co = 4.5 µF
	Ex ia IIA	Lo = 50 mH	Co = 6.7 µF
	Display connection (optional)	Uo ≤ 7.6 V _{DC} Ii ≤ 130 mA Ci = negligibly small Li = negligibly small	
	Max. connection values		
	Ex ia IIC	Lo = 3.1 mH	Co = 0.64 µF
	Ex ia IIB	Lo = 16 mH	Co = 3.8 µF
	Ex ia IIA	Lo = 27 mH	Co = 12 µF

Type	Electrical data		
TMT82 HART® Order option: TMT82-xxA3xxxxxxxxx (DIN rail transmitter)	Power supply (terminals + and -)	U _i = 30 V _{DC} I _i = 130 mA P _i = 770 mW C _i = negligibly small L _i = negligibly small	
	Sensor circuit (terminals 3 to 8)	U _o = 9 V _{DC} I _o = 13 mA P _o = 29.3 mW	
	Max. connection values		
	Ex ia IIC	L _o = 5 mH	Co = 0.93 µF
	Ex ia IIB	L _o = 20 mH	Co = 3.8 µF
	Ex ia IIA	L _o = 50 mH	Co = 4.8 µF



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