

Safety Instructions

TMS21

RTD/TC thermometers

ATEX: II 1/2D Ex ia III C or
II 1/2G Ex ia IIC
IECEX: Ex ia IIC



TMS21

RTD/TC thermometers

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**Supplementary
Documentation**

Explosion-protection brochure: CP00021Z/11

The Explosion-protection brochure is available: In the download area of the Endress+Hauser website: www.endress.com → Download → Advanced → Documentation code: CP00021Z

Certificates**ATEX certificate**

Certificate number: CESI 20 ATEX 033 X

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

- EN IEC 60079-0 : 2018
- EN 60079-11 : 2012
- EN 60079-26 : 2015

IECEx certificate

Certificate number: IECEx CES 21.0002X

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

- IEC 60079-0 : 2017
- IEC 60079-11 : 2011
- IEC 60079-26 : 2014

**Manufacturer
address**

Endress+Hauser Wetzler GmbH + Co KG

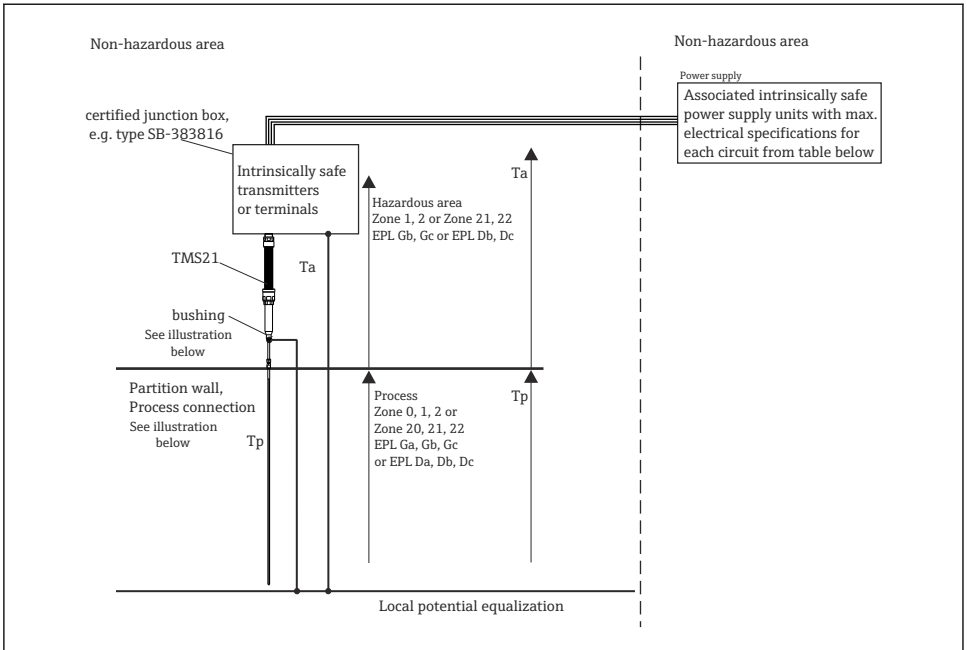
Obere Wank 1

D-87484 Nesselwang

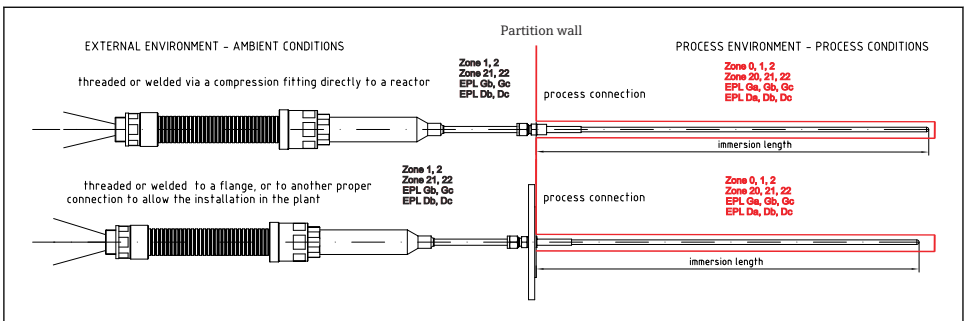
Germany

Phone: +49 (0)8361 308 0

**Safety
instructions**



A0047521



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**Safety
Instructions:
Installation of
intrinsic safety**

- Comply with the installation and safety instructions in the Operating Instructions.
- Install the sensor according to the manufacturer's instructions and any other valid standards and regulations (e.g. IEC 60079-14, IEC 60079-25).
- Observe the safety instructions for the used transmitters.
- The TMS21's sensors are not isolated to the metallic sheath in conformance with IEC/EN 60079-11 chapter 6.3.13, therefore the TMS21's sensors shall be supplied by an intrinsically safe circuit with a galvanic isolation.
- If the equipment is mounted across the boundary between an area requiring EPL Ga and a less hazardous area, install TMS21 in a manner that the process connection will fulfill requirements of clause 4.3 of IEC/EN 60079-26.

**Safety
instructions:
Installation of
Dust ignition
protection**

- These instructions concern the required enclosure, accessories and supply cables in final application.
- Comply with the installation and safety instructions in the Operating Instructions.
- Install the temperature assembly according to the manufacturer's instructions and any other valid standards and regulations (e.g. IEC/EN 60079-14).
- For ambient temperatures higher than +70°C, use suitable heat-resisting cables or wires, cable entries and sealing facilities for Ta +5K above surrounding.

⚠ WARNING

Explosive atmosphere

- ▶ In an explosive atmosphere, when voltage is supplied, do not open the device or any enclosure connected to it in order to avoid impacting the IP grade (required for the installation)

**Safety
instructions:
Specific
conditions of use**

- The TMS21 and final enclosure shall be connected to the same local potential equalization.
- When install the TMS21 in conjunction with a junction box, the enclosure and its accessories (e.g. cable gland with barrier) shall be certified providing a degree of protection of at least IP54 according to IEC/EN 60079-0.
- The mechanical construction of sensors' thermowell and reinforcement tube complies with a partition wall in accordance with IEC/EN 60079-26 clause 4.1.3.2. For those constructive variants where the material thickness is less than 1mm, the user shall ensure that the material shall not be subject to environmental conditions which may adversely affect the partition wall.

Supply circuit: in type of protection intrinsic safety Ex ia IIC, for connection to a certified intrinsically safe circuit for each sensor circuit with following maximum values:

U_i	I_i	P_i	C_i	L_i
9 V	26 mA	50 mW	10 nF	50 μ H

Temperature tables

Category	Type of protection (ATEX)	Type
II1/2G II1/2D	Ex ia IIC T6... T1 Ga/Gb Ex ia IIIC T85°C... T450°C Da/Db	TMS21

Type of protection (IEC)	Type
Ex ia IIC T6... T1 Ga/Gb Ex ia IIIC T85°C... T450°C Da/Db	TMS21

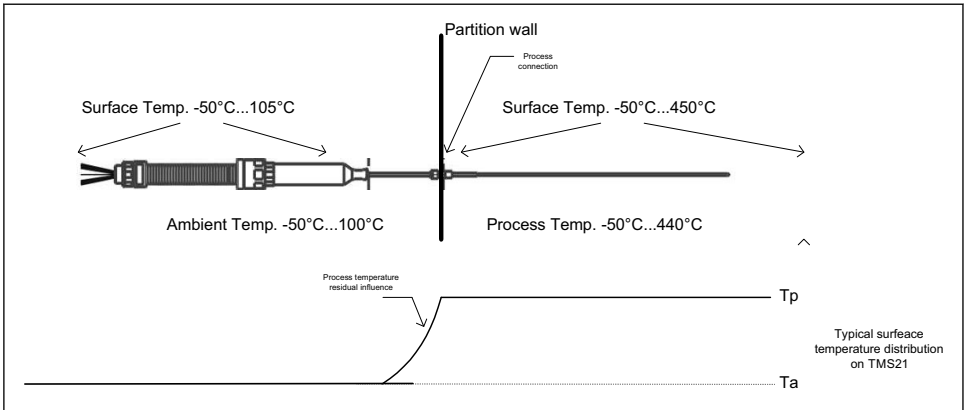
The dependency of the ambient and process temperature upon the temperature class/ maximum surface temperature for each sensing element:

Sensor Type	Temperature class/ Maximum surface temperature	Tp (process) - Maximum allowed process temperature (sensor)	Ta (ambient temperature) - Maximum allowed ambient temperature cable/bushing
K, J, N, E	T1/T450 °C	-50 to +440 °C	-50 to +100 °C
	T2/T300 °C	-50 to +290 °C	-50 to +100 °C
	T3/T200 °C	-50 to +195 °C	-50 to +100 °C
	T4/T135 °C	-50 to +130 °C	-50 to +100 °C
	T5/T100 °C	-50 to +95 °C	-50 to +95 °C
	T6/T85 °C	-50 to +80 °C	-50 to +80 °C

WARNING

Ambient temperature

- It shall be verified, taking into account the worst case process and ambient temperatures of the application, that the temperature at cable/bushing does not exceed the maximum allowed surface temperature.





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