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71699562
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# Safety Instructions
# iTHERM MultiSens Slim TMS21

Multipoint thermometer

0/1 Ex ia IIC T6...T1 Ga/Gb X
Ex ia IIIC T85°C...T450°C Da/Db X


Endress+Hauser
People for Process Automation

# iTHERM MultiSens Slim TMS21

Multipoint thermometer

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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. iTHERM TMS21

**Supplementary documentation**

Explosion protection brochure: CP00021Z

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

**Certificates and declarations**

**EAC certificate**

The device meet the fundamental health and safety requirements for the design and construction of devices and protective systems intended for use in potentially explosive atmospheres.

- Certification body: ТОО/Ж ШС "Т-Стандарт"
- Certificate number: ЕАЭС KZ 7500525.01.01.0193

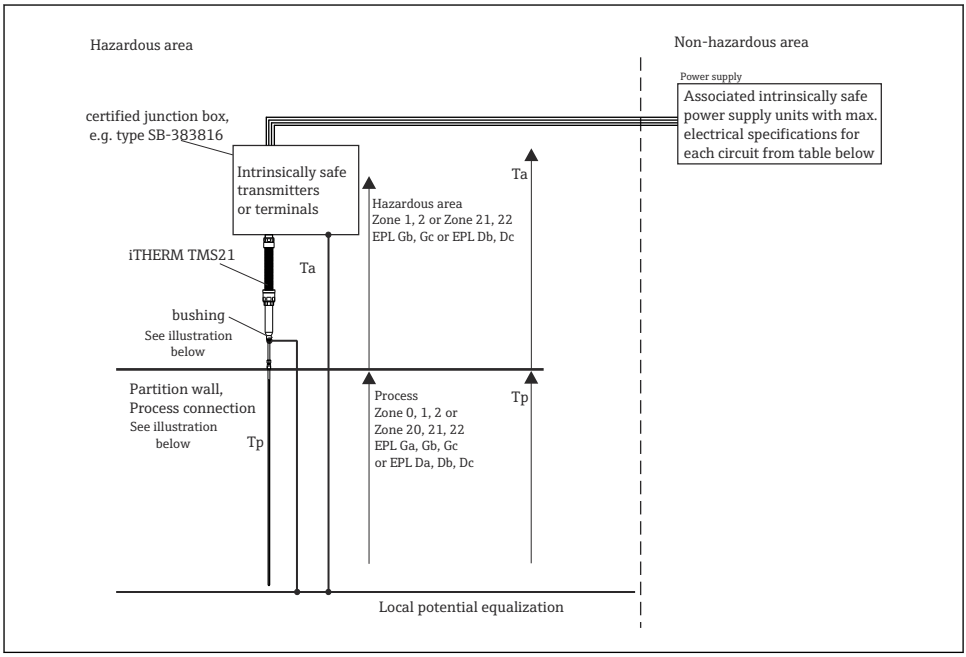
Affixing the certificate number certifies conformity with the following standards:

- GOST 31610.0 : 2019 (IEC 60079-0 : 2017)
- GOST 31610.11 : 2014 (IEC 60079-11 : 2011)
- GOST 31610.26 : 2016 (IEC 60079-26 : 2014)

**Manufacturer address**

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

## Safety instructions

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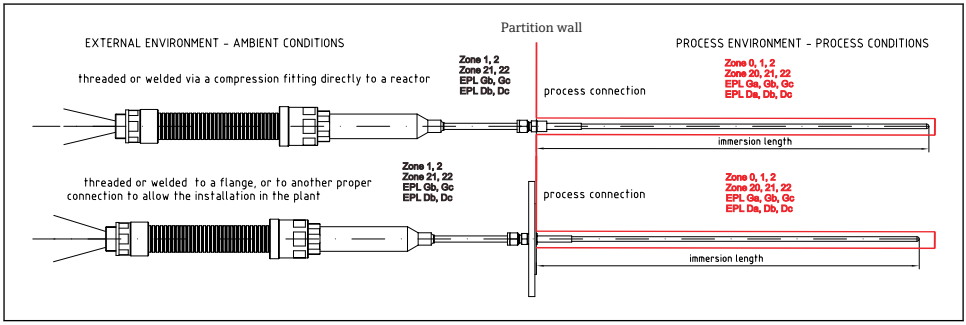


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**Safety Instructions: Installation of intrinsic safety**

- 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).
- Observe the safety instructions for the used transmitters.
- The iTHERM TMS21's sensors are not isolated to the metallic sheath in conformance with GOST 31610.11 (IEC/EN 60079-11) chapter 6.3.13, therefore the iTHERM 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 the iTHERM TMS21 in a manner that the process connection will fulfill requirements of clause 4.3 of GOST 31610.26 (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 device according to the manufacturer's instructions and any other valid standards and regulations (e.g. EN/IEC 60079-14).
- 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.

**⚠ 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 iTHERM TMS21 and final enclosure shall be connected to the same local potential equalization.
- When install the iTHERM 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 GOST 31610.0 (IEC/EN 60079-0).
- The mechanical construction of sensors' thermowell and reinforcement tube complies with a partition wall in accordance with GOST 31610.26 (IEC/EN 60079-26) clause 4.1.3.2. For those constructive variants where the material thickness is less than 1 mm, the user shall ensure that the material shall not be subject to environmental conditions which may adversely affect the partition wall.

## Temperature tables

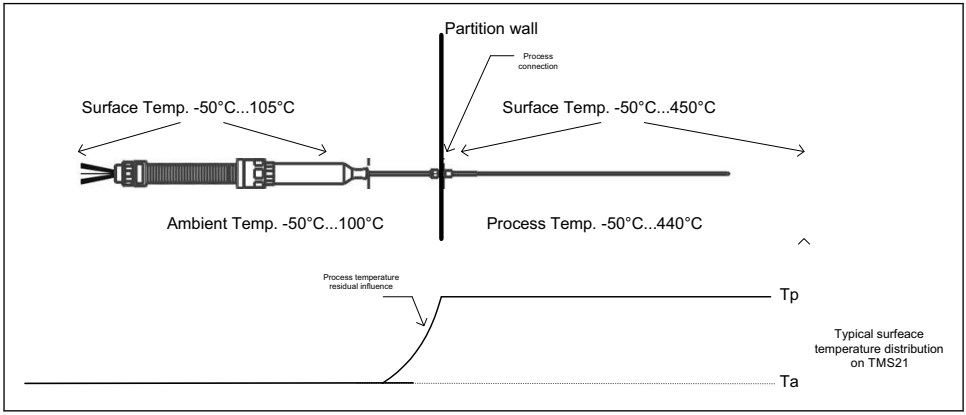
*The dependency of the ambient and process temperature upon the temperature class/ maximumsurface temperature for each sensing element:*

| Sensor Type | Temperature class/ Maximum surface temperature | Tp (process) - Maximum allowed process temperature (sensor) | Ta (ambient temperature) - Maximumallowed 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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## Electrical data

*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 maximumvalues:*

| $U_i$ | $I_i$ | $P_i$ | $C_i$ | $L_i$ |
|---|---|---|---|---|
| 9 V | 26 mA | 50 mW | 10 nF | 50 µH |

| Type of protection (EAC) | Type |
|---|---|
| 0/1 Ex ia IIC T6...T1 Ga/Gb X<br>Ex ia IIIC T85 °C...T450 °C Da/Db X | iTHERM TMS21 |


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