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Safety Instructions
TMT142R, TMT142C

RTD and TC Thermometer with display

1Ex d IIC T6…T1 Gb X
Ex tb IIIC 85 °C….450 °C Db X
Ga/Gb Ex d IIC T6…T1 X
Ex ta/tb IIIC 85 °C…450 °C Da/Db X

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TMT142R, TMT142C

RTD and TC Thermometer with display

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Associated documentation

Associated Technical Information:
- TI128R/09/EN, RTD thermometer TMT142R
- TI129R/09/EN, Thermocouple thermometer TMT142C

Supplementary Documentation

The Explosion-protection brochure is available:
In the download area of the Endress+Hauser website:
www.endress.com -> Downloads -> "Brochures and catalogs" ->
Text Search: CP00021Z

Manufacturer address

Endress+Hauser Wetzer GmbH + Co. KG

Obere Wank 1,
D-87484 Nesselwang or www.endress.com

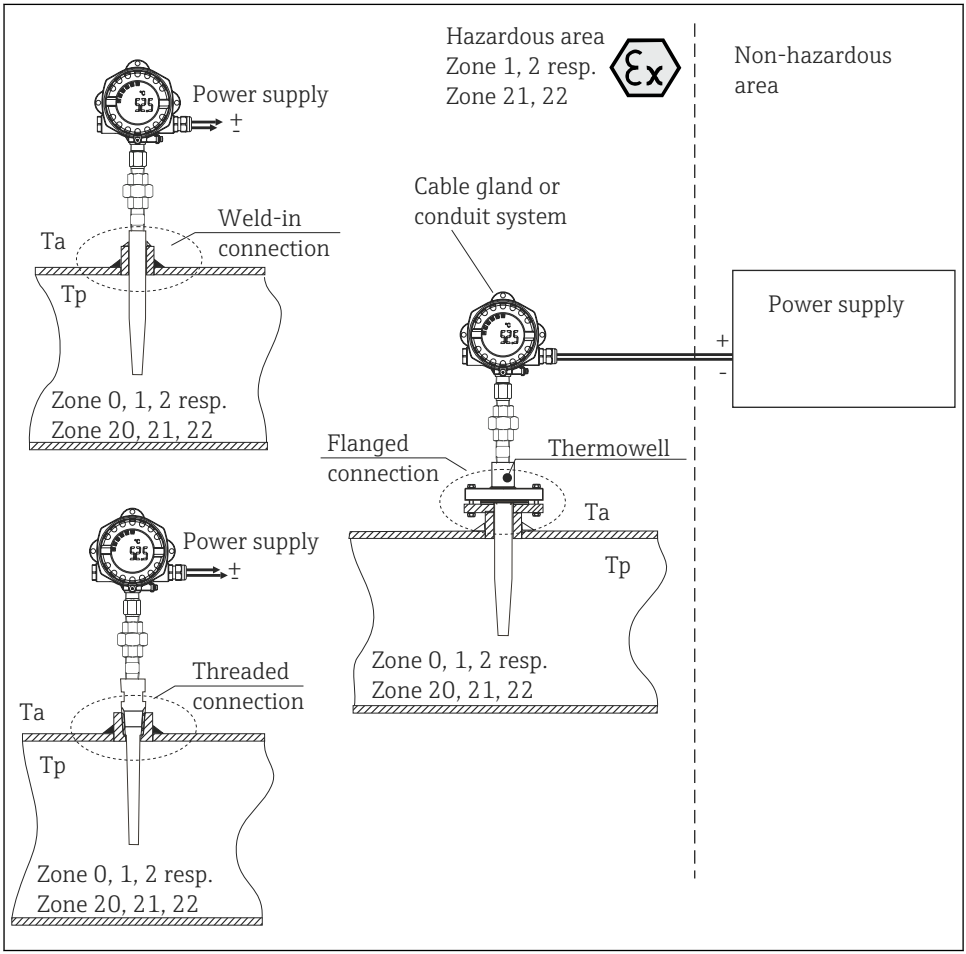
EAC certificate of conformity

The RTD/TC inserts and cable thermometers meet the fundamental health and safety requirements for the design and construction of devices and protective systems intended for use in potentially explosive atmospheres in accordance with TR CU 012/2011.

- Certification body: "Ex НИИ"
- Certificate number: ЕАЭС RU C-IT.EX01.B.00054/19

Affixing the certificate number certifies conformity with the following standards:
- GOST 31610.0
- GOST IEC 60079-1:2011
- GOST IEC 60079-31

Safety instructions



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Safety instructions: Installation

For type of protection flameproof:

- 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. GOST 31610.14).
- The housing of field transmitter must be connected to the potential matching line.
- Only the approved wire entries as specified in paragraph 10.3 of GOST 31610.14, paragraph 16 of GOST 31610.0, paragraph 13 of GOST IEC 60079-1 must be used.
- For connection through a conduit entry approved for this purpose the associated sealing facility shall be mounted directly to the housing.
- Seal unused entry glands with approved sealing plugs that correspond to the type of protection.
- For operating the transmitter housing at an ambient temperature under −20 °C, appropriate cables and cable entries permitted for this application must be used.
- For ambient temperatures higher than +70 °C, use suitable heat-resisting cables or wires.
- During operation, the cover must be screwed all the way in and the cover's safety catch must be fastened.
- The cylindrical process connection joint has a minimal length of 28 mm in which the maximum gap of 0.15 mm must be kept.

Dust ignition protection:

- 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. GOST 31610.14).
- Seal the cable entries tight with certified cable glands (min. IP6X) IP6X according to IEC 60529.
- The housing of the thermometer must be connected to the potential matching line.
- For ambient temperatures higher than +70 °C, use suitable heat-resisting cables or wires.
- During operation, the cover must be screwed all the way in and the cover's safety catch must be fastened.

⚠ WARNING

Explosive atmosphere

- ▶ In an explosive atmosphere, do not open the device when voltage is supplied (ensure that the IP 66/67 housing protection is maintained during operation).

Safety instructions: Special conditions

- The thermometer 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.
- Use only thermowells out of materials complying with GOST 31610.0 chapter 8.3 (e.g. AISI316/W.1.4401, AISI316L/W.1.4404, AISI 316Ti/1.4571)

⚠ WARNING

Explosive atmosphere

▶ Do not open the electrical connection of the power supply circuit under voltage in an explosive atmosphere.

Temperature table

Permitted ambient and process temperatures

The dependency of the ambient and process temperatures upon the temperature class.

Type	Temperature class / code	Ambient temperature (housing)
TMT142R TMT142C	T6/T85 °C	-40 ≤ Ta ≤ +55 °C
	T5/T100 °C	-40 ≤ Ta ≤ +70 °C
	T4/T110 °C	-40 ≤ Ta ≤ +80 °C

Type	Insert diameter	Temperature class	Process temperature range [1]
TMT142R TMT142C	3 mm, 6 mm dual	T6/T85 °C	-50 ≤ Tp ≤ +55 °C
		T5/T100 °C	-50 ≤ Tp ≤ +70 °C
		T4/T135 °C	-50 ≤ Tp ≤ +105 °C
		T3/T200 °C	-50 ≤ Tp ≤ +170 °C
		T2/T300 °C	-50 ≤ Tp ≤ +265 °C
		T1/T450 °C	-50 ≤ Tp ≤ +415 °C
	6 mm	T6/T85 °C	-50 ≤ Tp ≤ +68 °C
		T5/T100 °C	-50 ≤ Tp ≤ +83 °C
		T4/T135 °C	-50 ≤ Tp ≤ +118 °C
		T3/T200 °C	-50 ≤ Tp ≤ +183 °C
		T2/T300 °C	-50 ≤ Tp ≤ +278 °C
		T1/T450 °C	-50 ≤ Tp ≤ +428 °C

1) Maximum process pressure see relevant Technical Information

Connection data

Type	Electrical data
TMT142R, TMT142C HART®-protocol	$U \leq 40\ V_{DC}$ $P \leq 3\ W$

Category	Type of protection (ATEX)	Type
II 1/2G	Ex d IIC T6…T1 Ga/Gb	TMT142R, TMT142C
II 1/2D	Ex tb IIIC T85 °C…T450 °C Da/Db	

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