XA01736T/09/EN/06.23-00
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2023-07-17



# Safety Instructions
# **iTEMP TMT71, TMT72**

ATEX/IECEx: Ex ia IIC T6 Ga


Endress+Hauser
People for Process Automation

# iTEMP TMT71, TMT72

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**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. iTHERM TMT7x

**Supplementary documentation**

Explosion protection brochure: CP00021Z

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

**Manufacturer's certificates**

**IECEx certificate**

Certificate number: EPS 18.0026X

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

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

**ATEX certificate**

Certificate number: EPS 18 ATEX 1049 X

**EU Declaration of Conformity**

Declaration number: EC_00695

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

**UKCA certificate**

Certificate number: CML 21UKEX21009X

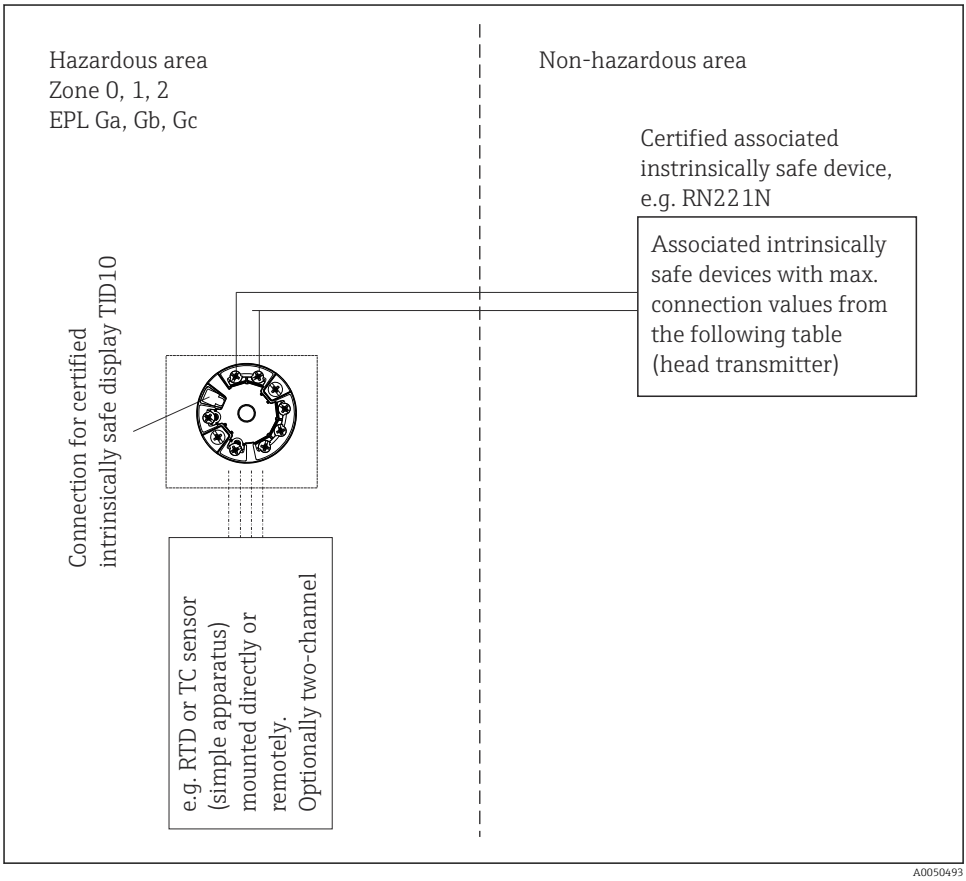
**UKCA Declaration of Conformity**

Declaration number: UK_00432

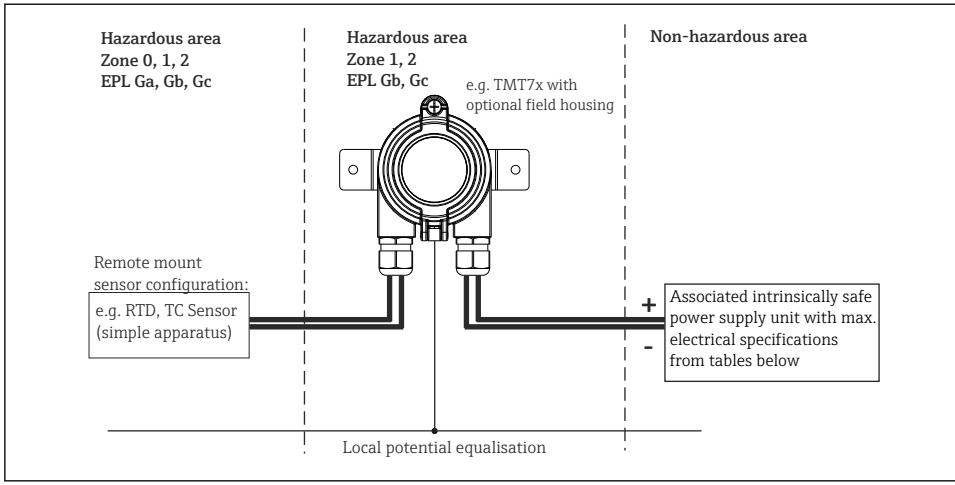
**Manufacturer address**

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

## Safety instructions




*1 Installation of the head transmitter*

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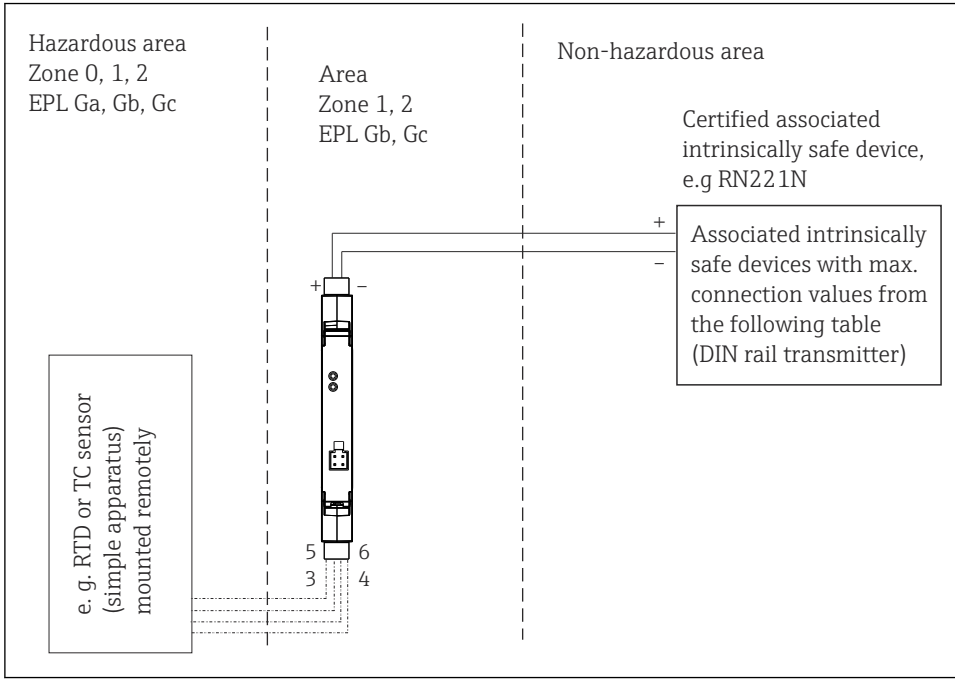


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**Safety instructions: Installation**

- 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 (terminal head) must be connected to the potential compensation cable.
- The certified display, type TID10, may only be installed in Zone 1/EPL Gb or Zone 2/EPL Gc.
- The permitted ambient temperatures for display type TID10 must 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: Field housing (optionally)**

- The housing of the field transmitter must be connected to the potential matching line.
- When connecting two independent sensors make sure that the potential equalization cables are at the same potential.
- The circuits of assembled head transmitter are isolated from its enclosure in conformance with EN/IEC 60079-11 chapter 6.3.13.

**Safety instructions: Zone 0**

(These instructions are only valid if the device is installed directly in Zone 0 (Category 1)/EPL Ga.)

- Explosive steam/air mixtures may only occur under atmospheric conditions.
  - $-50\,^{\circ}C \leq Ta \leq +60\,^{\circ}C$
  - $0.8\ bar \leq p \leq 1.1\ bar$
- If no explosive mixtures are present, or if additional measures have been taken in accordance with EN 1127-1, the devices may also be operated outside the atmospheric conditions in accordance with the manufacturer's specifications.
- The ambient temperature restrictions outlined in EN 1127-1 6.4.2 must be observed (see table).

- The power circuit to be supplied must comply with Ex ia IIC type of protection (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.

**Safety instructions: Specific conditions of use**

- ▪ In hazardous areas it is not permitted to use the CDI interface of TMT7x or L2022x for configuration.
- The head- and DIN rail-transmitter must be protected against electrostatic charge/discharge.

## Temperature tables

| Type (order option) | Temperature class | Ambient temperature EPL Gb/Zone 1 | Ambient temperature EPL Ga/Zone 0 |
|---|---|---|---|
| TMT7x-xxx1xxxx, L2022x-xxx1xxxx Head transmitter without display | T6 | −50 °C ≤ Ta ≤ +55 °C | −50 °C ≤ Ta ≤ +40 °C |
| | T5 | −50 °C ≤ Ta ≤ +70 °C | −50 °C ≤ Ta ≤ +60 °C |
| | T4 | −50 °C ≤ Ta ≤ +85 °C | −50 °C ≤ Ta ≤ +60 °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-xxx1xxxx, L2022x-xxx1xxxx Field housing without display | T6 | −50 °C ≤ Ta ≤ +55 °C | |
| | T5 | −50 °C ≤ Ta ≤ +70 °C | |
| | T4 | −50 °C ≤ Ta ≤ +85 °C | |
| TMT7x-xxx1xxxx, L2022x-xxx1xxxx Field housing with display (TID10) | T6 | −40 °C ≤ Ta ≤ +55 °C | |
| | T5 | −40 °C ≤ Ta ≤ +70 °C | |
| | T4 | −40 °C ≤ Ta ≤ +85 °C | |
| TMT7x-xxx2xxxxxxxxx, L2022x-xxx2xxxx TMT7x-xxx3xxxxxxxxx, 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 | | |
|---|---|---|---|
| TMT7x, L2022x<br>Order option:<br>TMT7x-xxx1xxxx<br>L2022x-xxx1xxxx<br>(head transmitter)<br>TMT7x-xxx2xxxx<br>L2022x-xxx2xxxx<br>TMT7x-xxx3xxxx<br>L2022x-xxx3xxxx<br>(DIN rail transmitter) | Power supply<br>(Klemmen + und -) | $U_i \leq 30\ V_{DC}$<br>$I_i \leq 100$ mA<br>$P_i = 800$ mW (head transmitter)<br>$P_i = 700$ mW (DIN rail transmitter)<br>$C_i$ = negligible<br>$L_i$ = negligible | |
| | Sensor circuit<br>(terminals 3 to 6) | $U_o \leq 4.3\ V_{DC}$<br>$I_o \leq 4.8$ mA<br>$P_o \leq 5.2$ mW | |
| | Max. connection data<br>Ex ia IIC<br>Ex ia IIB<br>Ex ia IIA | <br>$L_o = 50$ mH<br>$L_o = 100$ mH<br>$L_o = 100$ mH | <br>$C_o = 3$ µF<br>$C_o = 18$ µF<br>$C_o = 48$ µF |

| Category | Type of protection (ATEX/IECEx) | Type |
|---|---|---|
| II1G | Ex ia IIC T6...T4 Ga | without display |
| II2G | Ex ia IIC T6...T4 Gb | with display |
| II2(1)G | Ex ia [ia Ga] IIC T6... T4 Gb | with field housing |
| II2(1)G | Ex ib [ia Ga] IIC T6... T4 Gb | with DIN rail housing |


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