

# Safety Instructions

## **iTEMP TMT162**

HART®

ATEX, IECEx: Ex ia IIC T6 Ga

Safety instructions for electrical apparatus in  
explosion-hazardous areas



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# iTEMP TMT162

HART®

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## About this document



This document has been translated into several languages. Legally determined is solely the English source text.

The document translated into EU languages is available:

- In the download area of the Endress+Hauser website:  
[www.endress.com](http://www.endress.com) -> Downloads -> Manuals and Datasheets -> Type: Ex Safety Instruction (XA) -> Text Search: ...
- In the Device Viewer: [www.endress.com](http://www.endress.com) -> Product tools -> Access device specific information -> Check device features



If not yet available, the document can be ordered.

## Associated documentation

This document is an integral part of the following Operating Instructions:

HART®:

- Operating instructions: BA01801T
- Brief operating instructions: KA00250R
- Technical information: TI01344T

## 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](http://www.endress.com) -> Downloads -> Brochures and Catalogs -> Text Search: CP00021Z
- On the CD for devices with CD-based documentation

**Manufacturer's  
certificates****IECEX certificate**

Certificate number: IECEX EPS 17.0077X

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 ATEX 1 131 X

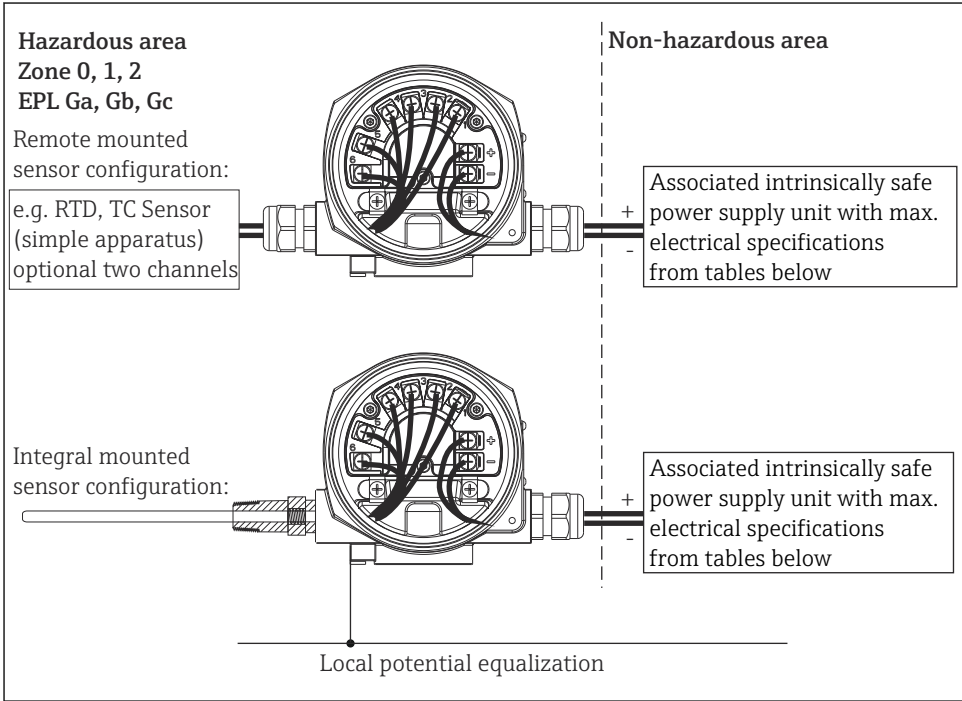
**EU Declaration of Conformity**

Declaration number: EC\_00605

**Manufacturer  
address**

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

## Safety instructions:



A0050218

## 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).
- The type of protection changes as follows when the devices are connected to certified intrinsically safe circuits of Category ib: Ex ib IIC. When connecting an intrinsically safe ib circuit, do not operate the sensor at Zone 0.
- When connecting two independent sensors make sure that the potential equalisation cables are at the same potential.

Safety instructions:  
Zone 0

- Only operate devices in potentially explosive vapour/air mixtures under atmospheric conditions:
  - $-50\text{ °C} \leq T_a \leq +60\text{ °C}$
  - $0.8\text{ bar} \leq p \leq 1.1\text{ bar}$
- If no potentially explosive mixtures are present, or if additional protective measures have been taken, according to EN 1127-1, the transmitters may be operated under other atmospheric conditions in accordance with the manufacturer's specifications.
- Associated apparatus with galvanic isolation between the intrinsically safe and non-intrinsically safe circuits are preferred.

Safety instructions:  
Special conditions

The temperature transmitter must be installed 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.

Temperature tables

Type	Temperature class	Ambient temperature	
		Zone 1 EPL Gb	Zone 0 EPL Ga
iTEMP TMT162 (HART®)	T6	$-50\text{ °C} \leq T_a \leq +55\text{ °C}$	$-50\text{ °C} \leq T_a \leq +40\text{ °C}$
	T5	$-50\text{ °C} \leq T_a \leq +70\text{ °C}$	$-50\text{ °C} \leq T_a \leq +50\text{ °C}$
	T4	$-50\text{ °C} \leq T_a \leq +85\text{ °C}$	$-50\text{ °C} \leq T_a \leq +60\text{ °C}$

Electrical connection data

Type	Electrical data		
iTEMP TMT162 (HART®)	Supply (terminals + and -):	Ui ≤ 30 VDC Ii ≤ 300 mA Pi ≤ 1 000 mW Ci ≤ 5 nF Li = 0	
	Sensor circuit (terminals 1 to 6):	Uo ≤ 7.6 VDC Io ≤ 13 mA Po ≤ 24.7 mW	
	Maximum connection values:		
	Ex ia IIC	Lo = 40 mH	Co = 10.4 µF
Ex ia IIB	Lo = 150 mH	Co = 160 µF	
Ex ia IIA	Lo = 300 mH	Co = 1 000 µF	

Category	Type of protection (ATEX/IECEX)	Type
II 1G	Ex ia IIC T6...T4 Ga	iTEMP TMT162



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