

Safety Instructions

iTEMP TMT84, iTEMP TMT85

PROFIBUS[®], FOUNDATION Fieldbus[™]

Ex ia IIC T4...T6 Ga



iTEMP TMT84, iTEMP TMT85

PROFIBUS®, FOUNDATION Fieldbus™

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Associated documentation

To commission the device, please observe the Operating Instructions pertaining to the device:
www.endress.com/<product code>, e.g. TMT84

Supplementary documentation

Explosion protection brochure: CP00021Z
The explosion protection brochure is available on the Internet:
www.endress.com/Downloads

Certificates and declarations**NEPSI certificate**

Certificate number: GYJ23.1145X

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

- GB/T 3836.1-2021
- GB/T 3836.4-2021

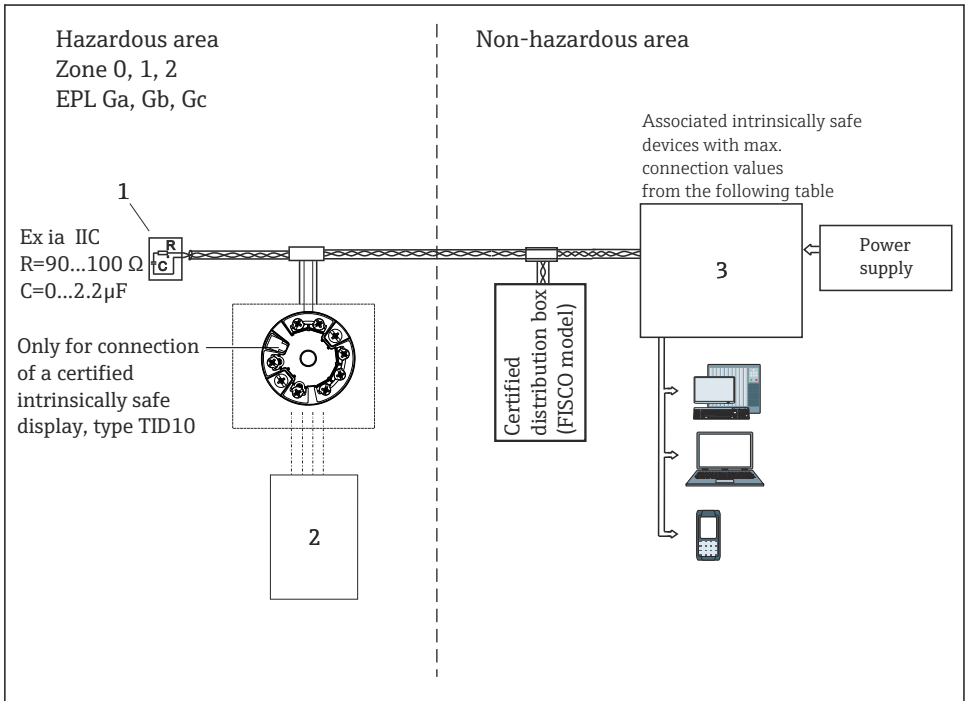


Please refer to NEPSI/CCC certificates for conditions of safe use.

Manufacturer address

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

Safety instructions



A0047313

- 1 Termination resistance (FISCO model)
- 2 E.g. RTD or TC sensor (simple apparatus) mounted directly or remotely. Optionally two-channel
- 3 Certified additional operating material (FISCO model) with max. connection values from the following table

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.
- The device (terminal head) must be connected to the potential compensation cable.

- The certified TID10 display may only be installed in zone 1/EPL Gb or zone 2/EPL Gc.
- The permissible ambient temperatures for the display, type TID10, are to be observed.
- When using a capacitive isolation of the ground system the maximum capacity must not exceed 10 nF and must also be done in the non-hazardous area (e.g. 1 nF capacitors, insulation voltage 1 500 V, ceramic).
- Disconnect the transmitter from the power supply, terminals (1+) and (2-), before accessing the device via the CDI (Endress+Hauser Common Data Interface) using the Commubox type FXA291.

Safety instructions: Zone 1 and Zone 2

- According to the specifications of the manufacturer, this apparatus can be operated in zone 1 (category 2)/EPL Gb or zone 2 (category 3) /EPL Gc.
- The sensor current circuit may be introduced into zone 0 (category 1)/EPL Ga.

Safety instructions: Zone 0

(These instructions are only valid if the unit is to be installed directly in the zone 0 (category 1)/EPL Ga.)

- Explosive moisture/air mixtures are only allowed to occur under atmospheric conditions.
 - $-20\text{ °C} \leq T_a \leq +60\text{ °C}$
 - $0.8\text{ bar} \leq p \leq 1.1\text{ bar}$

If there is no explosive mixture present or the additional measures according to EN 1127-1 are upheld the unit can also be operated outside the atmospheric conditions according to the manufacturers specification.

- The restricted ambient temperatures as per EN 1127-1 6.4.2 must be observed (see table).
- The power circuit to be supplied must meet the specifications for explosion protection Ex ia IIC (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: polyurethane (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

The suffix **X** placed after the certificate number indicates that this product is subject to special conditions for safe use, that is:

- To avoid an ignition hazard due to impact or friction when the product is installed in zone 0 with aluminum housing.
- Use the connection cable endurance to at least 90 °C when the ambient temperature is higher than 65 °C.
- Optionally, only the display type TID10 (GYJ23.1132X), shall be connected to the display interface of the temperature head transmitter. The EPL of the complete equipment is then reduced to the EPL Gb.
- The relationship between ambient temperature range and the temperature class is shown as follows:

Temperature tables

Type	Temperature class	Ambient temperature zone 1	Ambient temperature zone 0
iTEMP TMT84, iTEMP TMT85	T6	$-40\text{ °C} \leq T_a \leq +55\text{ °C}$	$-20\text{ °C} \leq T_a \leq +40\text{ °C}$
	T5	$-40\text{ °C} \leq T_a \leq +70\text{ °C}$	$-20\text{ °C} \leq T_a \leq +50\text{ °C}$
	T4	$-40\text{ °C} \leq T_a \leq +85\text{ °C}$	$-20\text{ °C} \leq T_a \leq +60\text{ °C}$

Electrical connection data

Type	Electrical data	
iTEMP TMT84 PROFIBUS® PA-protocol iTEMP TMT85 FOUNDATION Fieldbus™-protocol	Supply voltage (terminal + and -)	FISCO: or: $U_i \leq 17.5\text{ V}_{DC}$ $U_i \leq 24\text{ V}_{DC}$ $I_i \leq 380\text{ mA}$ $I_i \leq 250\text{ mA}$ $C_i \leq 5\text{ nF}$ $C_i \leq 5\text{ nF}$ $L_i = 2.75\text{ }\mu\text{H}$ $L_i = 2.75\text{ }\mu\text{H}$
	Applicable for connection to a Fieldbus system according to FISCO-model	
	Sensor circuit (terminal 3 to 7)	$U_o \leq 7.2\text{ V}_{DC}$ $I_o \leq 25.9\text{ mA}$ $P_o \leq 46.7\text{ mW}$ $C_i \leq 5\text{ nF}$ $L_i = \text{negligibly low}$
	Max. connection values	$L_o = 20\text{ mH}$ $C_o = 0.97\text{ }\mu\text{F}$ $L_o = 50\text{ mH}$ $C_o = 4.6\text{ }\mu\text{F}$ $L_o = 100\text{ mH}$ $C_o = 6\text{ }\mu\text{F}$

Type of protection (NEPSI)	Type
Ex ia IIC T4...T6 Ga	iTEMP TMT84, iTEMP TMT85



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www.addresses.endress.com
