

Hazardous (Classified) Location
Class I / Division 1, 2 / Groups ABCD
Class I / Zone 1 / IIC T6/T5/T4
Class II / Division 1, 2 / Groups EFG
Class III

Remote mount sensor configuration



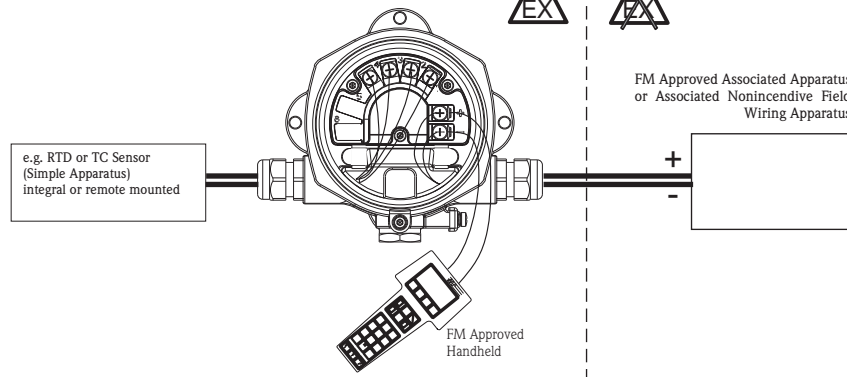
FM explosionproof approved
temperature sensor assembly

Direct mount sensor configuration:



FM explosionproof approved
temperature sensor assembly

Hazardous (Classified) Location
Class I / Division 2 / Groups ABCD



FM Approved Associated Apparatus
or Associated Nonincendive Field
Wiring Apparatus

NONINCENDIVE, FIELD WIRING NI Class I / Div. 2 / Groups ABCD

Sensor circuits (Terminals 1...4)

Uo or Voc or Vt = 7.6 V Io or Isc = 29.3 mA Po = 55.6 mW
Group A, B resp. IIC Co or Ca = 10.4 µF Lo or La = 40 mH
Group C, D resp. IIB, IIA Co or Ca = 160 µF Lo or La = 400 mH

Installation Notes TMT 142



- FM Approved Apparatus must be installed in accordance with manufacturer instructions.
- Use supply wires suitable for 5°C above surroundings.
- Only simple apparatus should be terminated to the sensor connection.
Simple apparatus are components as defined by the NEC (1.2 V, 0.1 A, 0.25 mW or 20 µJ).
- Warning: Substitution of components may impair intrinsic safety or suitability for Class I, Division 2.

EXPLOSION PROOF

XP Class I / Div. 1 / Groups ABCD

DUST IGNITION PROOF

DIP Class II,III / Div. 1 / Groups EFG

- Install per National Electrical Code (NFPA 70)
- For Group A, seal all conduits within 18 inches of enclosure; otherwise, conduit seal not required for compliance with NEC 501.5(A)(1)(1).
- All conduits must be assembled with a minimum of five full threads engagement.
- Temperature sensor assembly must be FM approved for appropriate area classification.
- Class II use a dust tight seal
- Keep tight when circuits alive
- $U \leq 40 \text{ V DC}$ $P \leq 3 \text{ W}$

NONINCENDIVE

NI Class I / Div. 2 / Groups ABCD

- Depending on location install per National Electrical Code (NEC) using wiring methods described in article 500 through article 510.
Intrinsic safety barrier not required. $V_{max} \leq 40 \text{ V DC}$.
- Warning: Do not disconnect equipment unless power has been switched off or the area is known to be nonhazardous.

Nonincendive field wiring installation

The Nonincendive Field Wiring Circuit Concept allows interconnection of Nonincendive Field Wiring Apparatus with Associated Nonincendive Field Wiring Apparatus or Associated Intrinsically Safe Apparatus or Associated Apparatus not specifically examined in combination as a system using any of the wiring methods permitted for unclassified locations, when $V_{oc} \leq V_{max}$, $C_a \geq C_i + C_{cable}$, $L_a \geq L_i + L_{cable}$.

Transmitter Nonincendive Field Wiring parameters are as follows:

U_i or $V_{max} \leq 40 \text{ V DC}$ $C_i = 5.3 \text{ nF}$ $L_i = 0$ I_i or $I_{max} =$ see following note below

For these current controlled circuits, the parameter I_{max} is not required and need not to be aligned with parameter I_{sc} and I_t of the Associated Nonincendive Field Wiring Apparatus or Associated Apparatus.

- $V_{oc} + V_{oc}$ of Handheld device $< V_{max}$, $I_{sc} + I_{sc}$ of Handheld device $< I_{max}$,
 $P_o + P_o$ of Handheld device $< P_i$, $C_a > C_i + C_{cable} + C_i$ of Handheld device,
 $L_a > L_i + L_{cable} + L_i$ of Handheld device, when Programming Handheld device is used.

Functional ratings

These ratings do not supersede Hazardous Location values

$U_{nom} \leq 40 \text{ DC}$ $I_{nom} \leq 4$ to 20 mA

Temperature range

T4 -40°C ... +85°C T5 -40°C ... +70°C T6 -40°C ... +55°C

	Approved Pfanzelt	Date (yyyy-mm-dd) 2005-02-16	Drawing No. 14 25 00 113	Dwg.rev. -	Revision no. -	Revision date (yyyy-mm-dd) -	Name -	Material 51010092 ZD 039R/09/en/02.05	Endress+Hauser
Volume (mm³)	Designed Meroth	Date (yyyy-mm-dd) 2005-02-16	Unit iTEMP TMT142	Scale 1:1	Title CONTROL DRAWING FM XP, DIP, NI			Series	
Refer to protection notice ISO 16016	Edge of working parts ISO 13715	Geometrical tolerancing ISO 2768-mH-E	Part No. -	Format A4				Objekt version 1 of 1	Endress + Hauser Wetzer GmbH+Co. KG Nesselwang / Germany