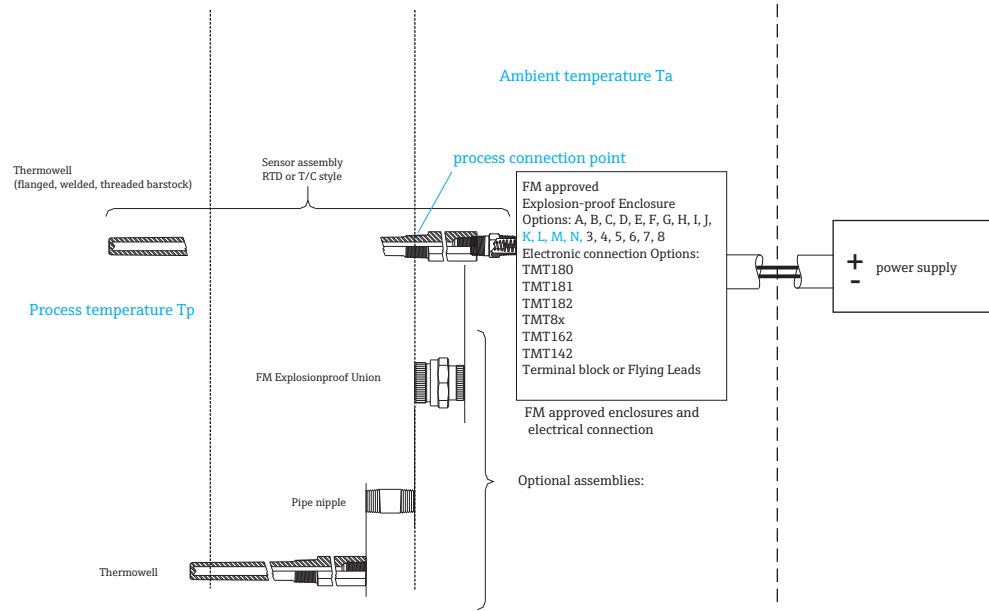


Hazardous (Classified) Location
 Class I / Division 1, 2 / Groups ABCD
 Class II / Division 1, 2 / Groups EFG
 Class III

Non-hazardous Locations



Installation Notes for T13, T14, T53, T54

- FM Approved Apparatus must be installed in accordance with manufacturer's instructions.
- Install per National Electrical Code (NFPA 70).
- Use supply wires suitable for 5°C above surroundings.
- Inserts TU111 (RTDs) and TU121 (TC) with Additional Option Code "2" (XP Spare Part) need to be used to ensure approved classifications.
- Keep tight when circuits alive.
- Warning: Substitution of components may impair 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

- For TMT162 & TMT142 Field transmitters only for Group A, seal all conduits within 18 inches of enclosure; otherwise, conduit seal not required for compliance with NEC 501.15(A)(1).
- For all other enclosures seal all conduits within 18 inches of enclosure.
- All conduits must be assembled with a minimum of five full threads engagement.
- For Class II Extension and/or thermowell must be used to maintain enclosure 4X rating.
- Spring loaded temperature sensors must use a thermowell assembly.
- Class II use a dust tight seal.

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.
- Warning: Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.
- 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 $V_{oc} \leq V_{max}$, $C_a \geq C_i + C_{cable}$, $L_a \geq L_i + L_{cable}$.
- Refer to the enclosed control drawing for Transmitter's Nonincendive Field Wiring parameters.
- **Optional terminal block's Nonincendive Field Wiring parameters are as follows:**
 U_i or $V_{max} \leq 10$ V DC

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.

- Refer to the marked maximum ratings for assembled temperature transmitter's supply.

It shall be verified, taking into account the worst case process and ambient temperatures, that the temperature of the enclosure at the process connection point does not exceed the ambient temperature range of the assembly.

FM Explosion-proof approved temperature sensor assemblies and accessory hardware for the following locations:


Type	Hazardous location
T13/T53 and T14/T54 with enclosures C, D, E, F	Class I / Div. 1 / Groups BCD Class II, III / Div. 1 / Groups EFG
T13/T53 and T14/T54 with enclosures A, B, G, H, I, J, K, L, M, N, 3, 4, 5, 6, 7, 8	Class I / Div. 1 / Groups ABCD Class II, III / Div. 1 / Groups EFG

	Approved Pfanzelt	Date (yyyy-mm-dd) 2006-11-27	16 01 00 114	Dwg.rev. B	Revision no. W18N20	Revision date (yyyy-mm-dd) 2019-04-12	Name MP	Material 71540290 XA02288T/09/EN/01.20	Endress+Hauser
Volume (mm³)	Designed Pfanzelt	Date (yyyy-mm-dd) 2006-05-18	Unit T13, T14, T53, T54	Scale 1:1	Title CONTROL DRAWING FM XP, NI, DIP		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 Sheet 1 of 2	Endress + Hauser GmbH+Co. KG Nesselwang / Germany	

Thermal data

The relation between electrical connection, temperature class, maximum surface temperature, ambient temperature range and process temperature range is shown in the following table.

Electrical connection	Temperature class	Maximum surface temperature	Ambient temperature range	Process temperature range sensor type	
				dual	single
Terminal block	T6	T85 °C	-50 °C to +80 °C	-50 °C to +55 °C	-50 °C to +68 °C
	T5	T100 °C	-50 °C to +95 °C	-50 °C to +70 °C	-50 °C to +83 °C
	T4	T135 °C	-50 °C to +100 °C	-50 °C to +105 °C	-50 °C to +118 °C
	T3	T200 °C	-50 °C to +100 °C	-50 °C to +170 °C	-50 °C to +183 °C
	T2	T300 °C	-50 °C to +100 °C	-50 °C to +265 °C	-50 °C to +278 °C
	T1	T450 °C	-50 °C to +100 °C	-50 °C to +415 °C	-50 °C to +428 °C
Flying leads or Transmitter TMT82 TMT84 TMT85 TMT180, TMT181, TMT182	T6	T85 °C	-40 °C to +70 °C	-50 °C to +55 °C	-50 °C to +68 °C
	T5	T100 °C	-40 °C to +80 °C	-50 °C to +70 °C	-50 °C to +83 °C
	T4	T135 °C	-40 °C to +85 °C	-50 °C to +105 °C	-50 °C to +118 °C
	T3	T200 °C	-40 °C to +85 °C	-50 °C to +170 °C	-50 °C to +183 °C
	T2	T300 °C	-40 °C to +85 °C	-50 °C to +265 °C	-50 °C to +278 °C
	T1	T450 °C	-40 °C to +85 °C	-50 °C to +415 °C	-50 °C to +428 °C
Transmitter TMT162 TMT142	T6	T85 °C	-40 °C to +55 °C	-50 °C to +55 °C	-50 °C to +68 °C
	T5	T100 °C	-40 °C to +70 °C	-50 °C to +70 °C	-50 °C to +83 °C
	T4	T135 °C	-40 °C to +85 °C	-50 °C to +105 °C	-50 °C to +118 °C
	T3	T200 °C	-40 °C to +85 °C	-50 °C to +170 °C	-50 °C to +183 °C
	T2	T300 °C	-40 °C to +85 °C	-50 °C to +265 °C	-50 °C to +278 °C
	T1	T450 °C	-40 °C to +85 °C	-50 °C to +415 °C	-50 °C to +428 °C

	Approved Pfanzelt	Date (yyyy-mm-dd) 2006-11-27	16 01 00 114	Dwg.rev. B	Revision no. W18N20	Revision date (yyyy-mm-dd) 2019-04-12	Name MP	Material 71473469 XA02288T/09/EN/01.20	Endress+Hauser 
Volume (mm ³)	Designed Pfanzelt	Date (yyyy-mm-dd) 2006-05-18	Unit T13, T14, T53, T54	Scale 1:1	Title CONTROL DRAWING FM XP, NI, DIP		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	Sheet 2 of 2	Endress + Hauser Wetzer GmbH+Co. KG Nesselwang / Germany