

Hazardous (Classified) Location
 IS / Class I / Division 1 / Groups ABCD
 Class I, Zone 0, IIC
 NI / Class I / Division 2 / Groups ABCD

Nonhazardous Locations

Installation Notes TMT181, TMT187, TMT188



- FM approved apparatus must be installed in accordance with manufacturer's instructions.
- The equipment shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application.
- Use supply wires suitable for 5°C above surroundings.
- Stating that only simple apparatus should be terminated to the sensor connection.
 Simple apparatus is defined as a device that will neither generate nor store more than 1.2V, 0.1A, 0.25mW or 20µJ. Examples are Thermocouples or RTDs.

INTRINSICALLY SAFE

IS / Class I / Div. 1 / Groups ABCD

- Installation should be in accordance with ANSI/ISA RP 12.6.01 "Installation of Intrinsically safe systems for Hazardous (classified) locations" and the National Electrical Code (ANSI/NFPA 70).

- FM Approved Associated Apparatus must meet the following parameters:

Transmitter entity parameters (terminals +/-) are as follows:
 $U_o \leq U_i$ $I_o \leq I_i$ $P_o \leq P_i$ $C_a \geq C_i + C_{cable}$ $L_a \geq L_i + L_{cable}$
 U_i or $V_{max} \leq 30$ V DC $C_i = 0$
 I_i or $I_{max} \leq 100$ mA $L_i = 0$
 $P_i \leq 750$ mW

- The configuration of the transmitter TMT181 is only permitted in non-hazardous locations.
- The voltage of the "tools" used for configuration should not exceed $U_m = 30$ V. This can be achieved e.g. by a battery powered laptop. An approved adapter with barrier (e.g. TMT181A) has to be used for configuration using a PC with mains connection ($U_m < 253$ V).
- Warning: Substitution of components may impair intrinsic safety.

NONINCENDIVE

NI / Class I / Div. 2 / Groups ABCD

- Intrinsic safety barrier is not required. $V_{max} \leq 35$ V DC.
- Warning: Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.
- Transmitter provides nonincendive field wiring to the Thermocouple/RTD
- 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 $V_{oc} \leq V_{max}$, $C_a \geq C_i + C_{cable}$, $L_a \geq L_i + L_{cable}$.

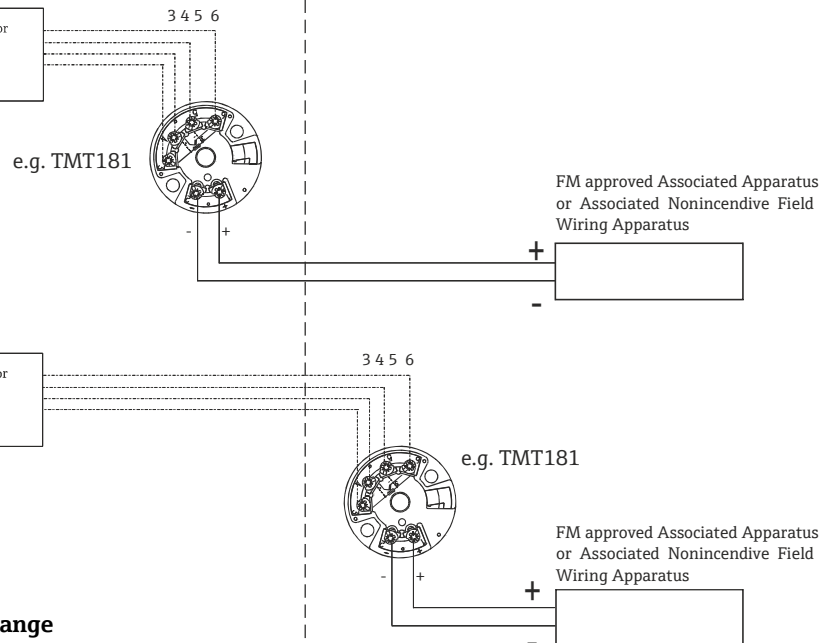
Transmitter Nonincendive Field Wiring parameters are as follows:

U_i or $V_{max} \leq 30$ V DC $C_i = 0$ $L_i = 0$
 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.

Functional ratings

These ratings do not supersede Hazardous Location values
 $U_{nom} \leq 35$ V 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

INTRINSICALLY SAFE

IS Class I / Div. 1 / Groups ABCD

NONINCENDIVE, FIELD WIRING

NI Class I / Div. 2 / Groups ABCD

Sensor circuits (Terminals 3...6)

U_o or V_{oc} or $V_t = 8.2$ V I_o or $I_{sc} = 4.5$ mA $P_o = 9.36$ mW

Group A, B resp. IIC C_o or $C_a = 974$ nF L_o or $L_a = 4.5$ mH

Group C resp. IIB C_o or $C_a = 1900$ nF L_o or $L_a = 8.5$ mH

Group D resp. IIA C_o or $C_a = 210$ µF L_o or $L_a = 1000$ mH

	Approved Kellermann	Date (yyyy-mm-dd) 2000-12-17	Drawing No. 14 05 00 111A	Dwg.rev. C	Revision no. W15105	Revision date (yyyy-mm-dd) 2015-06-09	Name MP	Material 71300506 ZD00006R/09/EN/13.15	Endress+Hauser
Volume (mm³)	Designed Kellermann	Date (yyyy-mm-dd) 1999-12-13	Unit iTEMP TMT181(7)(8)	Scale 1:1	Title CONTROL DRAWING FM		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 1	Endress + Hauser Wetzer GmbH+Co. KG Nesselwang / Germany