



**Installation Notes TMT 184**



- FM Approved Apparatus must be installed in accordance with manufacturer instructions.
- Use supply wires suitable for 5°C above surroundings.
- Shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application.
- 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.

**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:  
 $U_o \leq U_i$      $I_o \leq I_i$      $P_o \leq P_i$      $C_a \geq C_i + C_{cable}$      $L_a \geq L_i + L_{cable}$

Transmitter FISCO parameters are as follows:

- $U_i$  or  $V_{max} \leq 17.5$  V DC     $C_i = 0$
- $I_i$  or  $I_{max} \leq 500$  mA     $L_i = 0$
- $P_i \leq 5.5$  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.  $V_{max} \leq 30$  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  $V_{max} \leq 30$  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  
 $U_{nom} \leq 30$  DC     $I_{nom} \leq 11$  mA

**Temperature range**

- T4 -40°C ... +85°C
- T5 -40°C ... +65°C
- T6 -40°C ... +50°C

**INTRINSICALLY SAFE**

IS Class I / Div. 1 / Groups ABCD  
 Class I / Zone 0 / AEx ia IIC

**NONINCENDIVE, FIELD WIRING**

NI Class I / Div. 2 / Groups ABCD

Sensor circuits (Terminals 3...6)

- $U_o$  or  $V_{oc}$  or  $V_t = 5.0$  V     $I_o$  or  $I_{sc} = 12$  mA     $P_o = 15$  mW
- Group A, B resp. IIC     $C_o$  or  $C_a = 100$  μF     $L_o$  or  $L_a = 500$  mH
- Group C, D resp. IIB, IIA     $C_o$  or  $C_a = 100$  μF     $L_o$  or  $L_a = 1$  H

Approved	Pfanzelt	Date (yyyy-mm-dd)	2003-03-01	Drawing No.	14 07 00 111	Dwg.rev.		Revision no.		Revision date (yyyy-mm-dd)		Name		Material	51006176 ZD 028R/09/en/10.04	<b>Endress+Hauser</b>
Volume (mm³)	Designed	Date (yyyy-mm-dd)	2003-03-01	Unit	iTEMP TMT184	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	