



**DO NOT SCALE DRAWING**

**TOLERANCES (UNLESS NOTED)**  
 DECIMALS = ±inch/mm  
 .X = ±.1 / 2.54  
 .XX = ±.01 / 0.25  
 .XXX = ±.005 / 0.125  
 HOLES = ±.003 / 0.080  
 ANGLES = ±1/2°

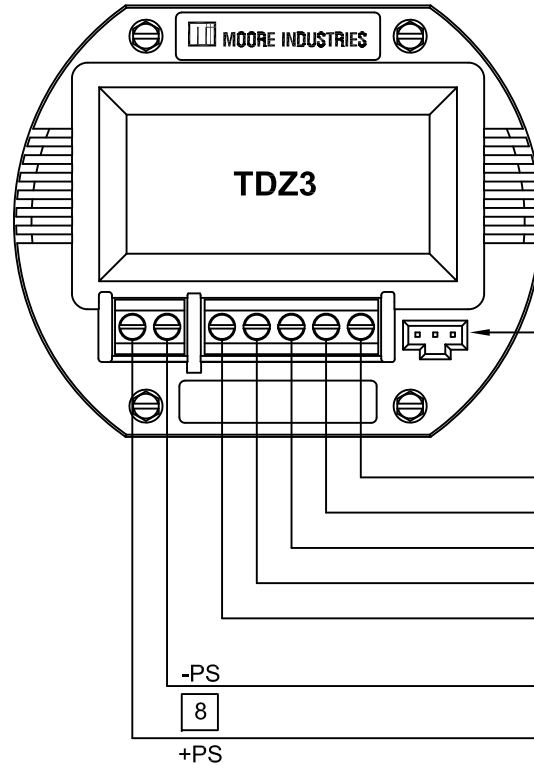
DRAWN	C. Whan	8/14
CHECKED	V. Garcia	8/14
ENGINEER	W. Tchan	8/14
SCALE	NONE	

CATEGORY	CONTROL DRAWING
TITLE	<b>Installation Diagram: TDZ3 [HP] Intrinsically Safe System</b>

DRAWING NUMBER	100-100-80	SHEET 1 of 2	REVISION	B			
REVISED BY	ECO 17668	DATE	09/15	BY	CW	APPROVAL	WT
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**Hazardous Area / Explosive Atmosphere**

**Non-Hazardous Area**



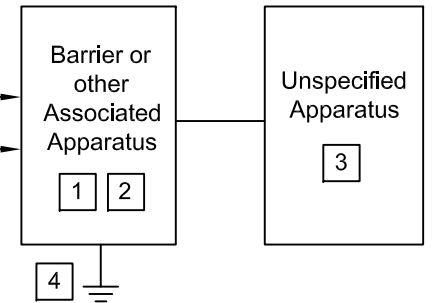
**CAUTION:** The 'COM' Port **must not** be used in Hazardous Areas. See sheet 2 for connection diagram.

5  
4  
3  
2  
1  
RTD or T/C Sensor (Simple Apparatus)

NOTE: If Ca of the Associated Apparatus is greater than 3µF, then the total cable capacitance shall be limited to 3µF.

Entity Parameters	
Associated Apparatus	$C_a \text{ or } C_o \geq C_i + C_{cable}$ $L_a \text{ or } L_o \geq L_i + L_{cable}$ $U_i \text{ or } V_{max} \geq V_{oc} \text{ or } V_t$ $I_i \text{ or } I_{max} \geq I_{sc} \text{ or } I_t$ $P_i \geq P_o$

Entity Parameters	
Sensor Terminals (1, 2, 3, 4, 5)	RTD, T/C, mV, Ω $U_o = 6.51 \text{ Vdc}$ $I_o = 61.7 \text{ mA}$ $P_o = 100 \text{ mW}$ $C_o = 21.9 \mu\text{F}$ $L_o = 9.35 \text{ mH}$ Group IIC
	$C_o = 499.9 \mu\text{F}$ $L_o = 37.38 \text{ mH}$ Group IIB
	$C_o = 999.9 \mu\text{F}$ $L_o = 74.77 \text{ mH}$ Group IIA
Power/Loop (+PS & -PS)	$U_i \text{ or } V_{max} = 30 \text{ Vdc}$ $I_i \text{ or } I_{max} = 110 \text{ mA}$ $P_i \text{ or } P_{max} = 825 \text{ mW}$ $C_i = 5.17 \text{ nF}$ $L_i = 0 \text{ mH}$



**-- NOTE --**  
SEE SHEET 2 FOR INSTALLATION NOTES

**-- WARNING --**  
Substitution of components may impair Intrinsic Safety. To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.

Area Classification		T Rating
Intrinsically Safe	Class I, Div. 1, Groups A-D Class I, Zone 0, Group IIC Group II, Category 1, Gas Group IIC, EPL = Ga	T4 @ 85°C
Nonincendive	Class I, Div. 2, Groups A-D Class I, Zone 2, Group IIC	
Non-Sparking	Group II, Category 3, Gas Group IIC, EPL = Gc	
Operating Temperature Range: -40°C ≤ Tamb. ≤ +85°C		
Must use +90°C suitable cabling		

**Certified Product**  
This is a controlled 'Related' or 'Schedule' drawing. No modifications are permitted without the notification and final approval of the Certification Engineer (related dwgs.) or the Certifying Agency (schedule dwgs.)



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DRAWN	C. Whan	8/14
CHECKED	See Sht. 1	
ENGINEER	See Sht. 1	
SCALE	NONE	

CATEGORY CONTROL DRAWING

TITLE  
**Installation Diagram:  
 TDZ3 [HP]  
 Intrinsically Safe System**

DRAWING NUMBER 100-100-80 SHEET 2 of 2 REVISION **B**

REVISED BY SEE SHEET 1 DATE BY APPROVAL

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**Installation Notes:**

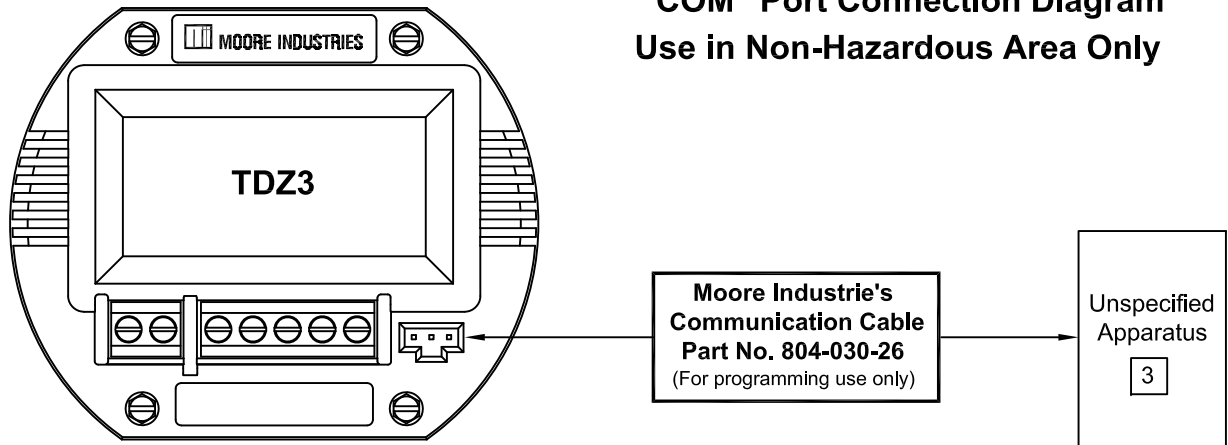
1. The Associated Apparatus must be FM Approved for installations in the U.S.; Canadian Approved for installations in Canada; ATEX Certified for installations in Europe and IECEx Certified for IECEx installations.
2. Associated apparatus manufacturer's installation drawing must be followed when installing this equipment.
3. The control room equipment (unspecified apparatus) connected to the Associated Apparatus must not generate more than 250 Vrms or Vdc, or the marked Um on the associated apparatus, whichever is less.
4. Installations in the U.S. shall be in accordance with ANSI/ISA RP12.06.01 "Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations" and the latest edition of the National Electrical Code (ANSI/NFPA 70). Resistance between Intrinsically Safe Ground and earth ground must be less than 1.0 Ohm.
5. Installation in Canada shall be in accordance with the latest edition of the C22.1 Canadian Electrical Code, Part I.
6. Installation in Europe shall be in accordance with the latest editions of the wiring practices for the country of origin and EN 60079-14.
7. Installation for IECEx certification shall be in accordance with the latest editions of the wiring practices for the country of origin.
8. The Entity Concept allows interconnection of associated apparatus and intrinsically safe apparatus when the following is true:  $U_o \leq U_i$  ,  $I_o \leq I_i$  ,  $P_o \leq P_i$  ,  $C_o \leq C_i + C_{cable}$  ;  $L_o \leq L_i + L_{cable}$ .
9. No revision is allowed to this drawing without prior FM Approval.

**-- WARNING --**  
 Substitution of components may impair Intrinsic Safety.  
 To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.

Where English is not a language of the Country in which the equipment is being used, please apply to Moore Industries International, Inc. (MII) for a suitable translation.

Installation may only be carried out by suitably trained personnel and in accordance with national wiring regulations or codes of practice.

**"COM" Port Connection Diagram  
 Use in Non-Hazardous Area Only**



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