



**DO NOT SCALE DRAWING**

**TOLERANCES (UNLESS NOTED)**  
 DECIMALS = ±inch/mm  
 .X = ±.1 /2.54  
 .XX = ±.03 /0.76  
 .XXX = ±.010/0.25  
 HOLES: ±.003-.002/+.08-.05  
 ANGLES: = ± 30°

DRAWN	Gus H. Elias	09/00
CHECKED	W. Ho	02/01
ENGINEER	Gus H. Elias	09/00
SCALE	NONE	

CATEGORY  
**CONTROL DRAWING**

TITLE  
**Field Installation Diagram:  
 TDZ [HP]  
 Intrinsically Safe System  
 For Hazardous 'Classified' Locations**

DRAWING NUMBER  
**100-100-56**

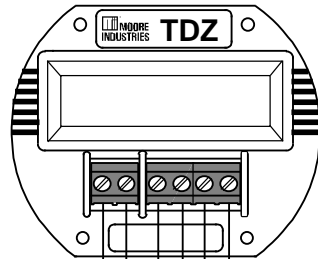
REVISION  
**D**

REVISED BY <b>ECO 14913</b>	DATE 05/07	BY G.E.	APPROVAL <b>CB</b>
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**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.).

**PC-Programmable Smart HART  
 Temperature Transmitter with Display.**



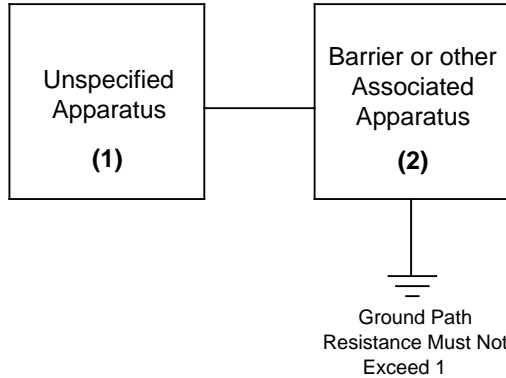
**Entity Parameters (Power/Loop, +PS & -PS):**

$V_{max}$ or $U_i$ = 30 VDC	$C_i + C_{cable}$
$I_{max}$ or $I_i$ = 110 mA	$L_i + L_{cable}$
$P_{max}$ or $P_i$ = 0.825 W	$V_{oc}$ or $V_t$
$C_i$ = 18.5 nF	$I_{sc}$ or $I_t$
$L_i$ = 0 μH	

Input device must be 'Agency' approved per application area (ANZEx, ATEX, CSA, IECEx, FM, UL, etc...).

**RTD, , T/C, mV:**  
 $C_a$  or  $C_o$  = 2.96 μF  
 $L_a$  or  $L_o$  = 2.9 mH  
 $V_{oc}$  or  $V_t$  = 6.51 VDC  
 $I_{sc}$  or  $I_t$  = 110 mA  
 $P_o$  = 0.825 W

**Non-Hazardous Safe Area**



Ground Path  
Resistance Must Not Exceed 1

**Hazardous 'Classified' Locations - FM (US NEC 500):**  
 Intrinsically Safe: Class I,II,III; Div. 1; Groups A-G.  
 Non-Incendive: Class I, Div. 2, Groups A-D.  
 Class II, Div. 2, Groups F & G and Class III, Div. 2.

T. Code: **T4A@40°C & T4@60°C**  
 Maximum Operating Ambient Temperature.  
 Ambient Range: **-40°C T<sub>amb.</sub> +60°C**

**Hazardous 'Classified' Locations/Areas:**  
**CSA International**  
 Intrinsically Safe: Class I, Div. 1; Groups A-D.  
 Class I, Div. 2, Groups A-D.  
**CENELEC/ATEX**  
 Intrinsically Safe: **Ex II 2G Ex ib IIC T4@60°C**

**Notes:**

- (1) Apparatus which is unspecified except that it **must not** be supplied from, or contain under normal or abnormal conditions a source of potential with respect to earth in excess of 250 VRMS or 250 VDC which is considered to be the Safe Area's maximum voltage.
- (2) The Barrier or other Associated Apparatus **must** be approved by the "specific" (CSA/EECS/FM/LCIE/SAA/SIRA/TUV, etc..) certifying agency for I.S. connections in: "Class I-III, Division 1, Groups A-G" locations. The output voltage (**V<sub>oc</sub>, V<sub>t</sub> or V<sub>o</sub>**) **must not** exceed **30 VDC** & the output current (**I<sub>sc</sub>, I<sub>t</sub> or I<sub>o</sub>**) **must not** exceed **110 mA**. Also, it **must** be installed per the manufacturer's guidelines. *A Shunt Zener Barrier is NOT required for Non-Incendive (or Class I, Division 2 or Type N) installations.*
- (3) The combined Capacitance and Inductance of the inter-connecting cables and the PC Prog. Transmitters **must not** exceed the values indicated on the Associated Apparatus.
- 4- For FM applications, installation **must** be in accordance to '**ANSI-P12.6**' (Installation of I.S. Systems for Hazardous 'Classified' Locations) and the National Electric Code '**ANSI/NFPA 70**'. Also, a dust-tight conduit seal **must** be used when installed in Class II and Class III environments. For CSA applications, adhere to the 'Canadian Electric Code C22.1' most current publication on I.S. installation guidelines. For CENELEC/ATEX applications, adhere to 'EN 60079-14:1997' or any equivalent, most current and pertaining publication on I.S. installation guidelines.
- 5- **Warning:** Substitution of components may impair the Intrinsic Safety of the unit. **DO NOT** open the unit when either energized or if an explosive gas/dust atmosphere is present. Disconnect power before servicing. Also read, understand and adhere to the manufacturer's installation and operating procedures.