



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	10/01
CHECKED	W. Ho	05/03
ENGINEER	Gus H. Elias	10/01
SCALE	NONE	

CATEGORY
CONTROL DRAWING

TITLE
**I.S. Installation Diagram
 FDY: Frequency-to-DC X-mitter
 Hazardous 'Classified' Locations**

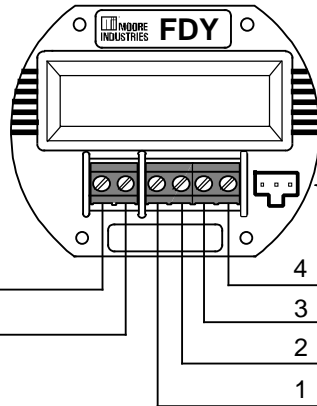
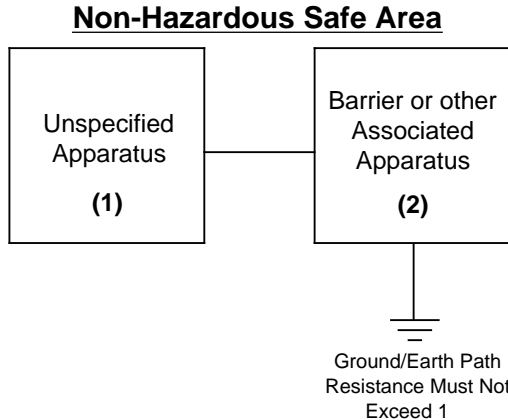
DRAWING NUMBER
100-100-64

REVISED BY	DATE	BY	APPROVAL
ECO 13588	05/03	G.E.	CB

NOTICE RE PROPRIETARY INFORMATION: This drawing and the information contained herein are the proprietary property of Moore Industries-International, Inc. (MII) and should not be reproduced or disclosed to any third party without the written consent of an authorized officer of MII.

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.).

**FDY [HP]: PC-Programmable Frequency-to-DC Transmitter with Display
 (Certified Input Ranges: PRG, 0.02-30AC, 10MV, but not the 10-250AC)**



Caution: The 'COM' Port Must Not Be Used In Hazardous 'Classified' Locations.

**VAC (0.5Hz-25KHz):
 North America / Europe**
 $C_o = 65 / 22 \mu F$
 $L_o = 850 / 146 mH$
 $U_o = 5.355 / 6.51 VDC$
 $I_o = 5.15 / 16 mA$
 $P_o = 6.9 / 26 mW$

**Entity Parameters
 (Power/Loop, +PS & -PS):**
 $V_{max} = 30 VDC$
 $I_{max} = 110 mA$
 $P_{max} = 0.825 W$
 $C_i = 18 nF$
 $L_i = 0 \mu H$

$\left\{ \begin{array}{l} C_a \quad C_i + C_{cable} \\ L_a \quad L_i + L_{cable} \\ V_{max} \quad V_{oc} \text{ or } V_t \\ I_{max} \quad I_{sc} \text{ or } I_t \end{array} \right\}$

Input device must be 'Agency' approved per application area (CSA, EECS, FM, ISSeP, LCIE, SIRA, SAA, TUV, etc...).

Hazardous 'Classified' Locations: Intrinsically Safe
FM (US-NEC 500): Class I,II,III; Division 1; Groups A-G.
Non-Incendive: Class I, Division 2, Groups A-D.
Class II, Division 2, Groups F & G; Class III, Division 2.
FM (US-NEC 505): Class I, Zone 0, AEx ia IIC T4@60°C.
CSA (1010.1): Class I, Div. 1 & 2, Groups A-D, T4@60°C.
CENELEC/ATEX 94/9/EC: Ex II 1G EEx ia IIC T4@60°C.
Operating Ambient Temperature: -40°C T_{amb.} +60°C.

Equivalency Table:
 $U_i = V_{max}$
 $U_o = V_t \text{ or } V_{oc}$
 $I_i = I_{max}$
 $I_o = I_t \text{ or } I_{sc}$
 $P_i = P_{max}$
 $P_o = P_t$
 $C_o = C_a$
 $L_o = L_a$

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. FDY [HP] enclosure material: Aluminum Alloy Type 6063-T6 with a 0.7% Magnesium (Mg) content [ASM Metals Reference Book; 2nd Edition].
- (2) The Barrier type 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_{oc}**, **V_t** or **V_o**) **must not** exceed **30 VDC** & the output current (**I_{sc}**, **I_t** or **I_o**) **must not** exceed **110 mA**. Also, it **must** be installed per the manufacturer's guidelines. *A Shunt Zener (or other type) Barrier is NOT required for Non-Incendive (Class I, Division 2), Type N or similar applications.*
- (3) The combined Capacitance and Inductance of the inter-connecting cables and the PC-Programmable Transmitters **must not** exceed the values indicated on the Associated Apparatus.
- 4- For US 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 applications in Canada, 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 & Non-Incendivity of the unit. DO NOT open the unit when either energized or if an explosive gas/dust atmosphere is present. Disconnect power before servicing. Keep surfaces clean. Also read, understand and adhere to the manufacturer's installation and operating procedures.