MOORE INDUSTRIES

DO NOT SCALE DRAWING

TOLERANCES (UNLESS NOTED)		DRAWN	Gus H. Elias	10/00
DECIMALS = ±inch/mm		CHECKED	C.B.	08/04
.X	= ±.1 /2.54	ENGINEER	Gus H. Elias	10/00
.XX	= ±.03 /0.76	SCALE	NONE	
.XXX	= ±.010/0.25			
HOLES:=+.003-.002/+.08-.05				
ANGLES:	= ± 30'			

CATEGORY: CONTROL DRAWING

TITLE: **Field Installation Diagram: SIY-R [HPP]**
PC Prog. Signal Isolator/Converter.
Intrinsically Safe System
For Hazardous 'Classified' Locations.

DRAWING NUMBER: **100-100-60**

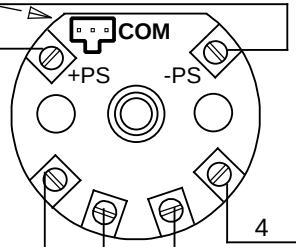
REVISION: **C**

REVISED BY	DATE	BY	APPROVAL
ECO 14104	G.E.	08/04	***CB***

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.).

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

SIY-R [HPP]
PC-Programmable Signal Isolator/Converter
(Fully Encapsulated)



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

V_{max} or U_i = 30 VDC
I_{max} or I_i = 110 mA
P_{max} or P_i = 0.825 W
C_i = 10.34 nF
L_i = 0 µH
C_a or C_o ≥ $C_i + C_{cable}$
L_a or L_o ≥ $L_i + L_{cable}$
V_{max} or U_i ≥ V_{oc} or V_t
I_{max} or I_i ≥ I_{sc} or I_t
P_i ≥ P_o

Un-Classified (Non-Hazardous/Safe) Area

Unspecified Apparatus (1)

Linear Output Associated Apparatus (2)

-PS
+PS
(3)

4
3
2
1

mA, mV, V:
C_a or C_o = 10 µF
L_a or L_o = 2.7 mH
V_{oc} or V_t = 6.51 VDC
I_{sc} or I_t = 110 mA
P_o = 0.560 W

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

Ground/Earth Path Resistance
Must Not Exceed 1 Ω
(Barrier must be Agency approved)

Hazardous (Classified) Locations - FM (US NEC 500) & CSA:
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.
US NEC 505: Class I, Zone 0, AEx ia IIC

LCIE/ATEX I.S.: Ⓔx II 2G EEx ib IIC T6

T. Code: **T6** @ **60°C** Maximum Operating Ambient.
Temperature Range: **-40°C ≤ $T_{amb.}$ ≤ +60°C**

Notes:

(1) Associated 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 Linear Output 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" or "Zone 0" locations. The output voltage **(Voc, Vt or Vo) must not** exceed **30 VDC,** the output current **(Isc, It or Io) must not** exceed **110 mA** and, the output power **(Po)** must not exceed 0.825W **(Pi)**. 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/ISA-RP12.06.01**" (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 unit's Intrinsic Safety & suitability for Class I, Division 2 areas. DO NOT open or service 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.

6- The maximum power parameters of the COM port (to be used only in safe/non-hazardous areas) are: V_{max} = 3.0 VDC, I_{max} = 300 µA, P_{max} = 240 µW.