



DO NOT SCALE DRAWING

TOLERANCES (UNLESS NOTED)
 DECIMALS = ±0.001 /mm
 .X = ±.1 /2.54
 .XX = ±.01 /0.25
 .XXX = ±.005 /0.125
 HOLES = ±.003 /0.080
 ANGLES = ±1/2°

| | | |
|----------|--------------|------|
| DRAWN | Gus H. Elias | 9/00 |
| CHECKED | W. Ho | 9/00 |
| ENGINEER | Gus H. Elias | 9/00 |
| SCALE | NONE | |

| | |
|----------|---|
| CATEGORY | CONTROL DRAWING |
| TITLE | Installation Diagram: SDY [HP] or TDY [HP] Intrinsically Safe System |

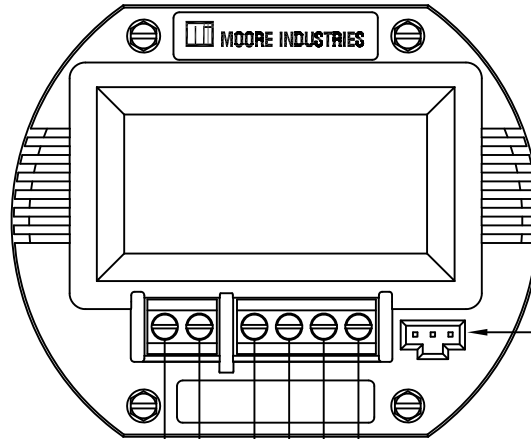
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|---|------------|--------------|----------|----|----|----------|----|
| DRAWING NUMBER | 100-100-54 | SHEET 1 of 2 | REVISION | D | | | |
| REVISED BY | ECO 16898 | DATE | 6/13 | BY | CW | APPROVAL | CB |
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Model TDY:
PC-Programmable Temperature Transmitter with Display

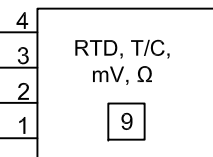
Model SDY:
PC-Programmable Signal Isolator/Converter with Display

Hazardous Area / Explosive Atmosphere

Non-Hazardous Area



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



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

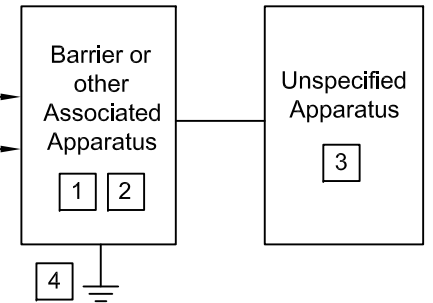
| Entity Parameters | |
|----------------------|---|
| Associated Apparatus | $Ca \text{ or } Co \geq Ci + C_{cable}$ $La \text{ or } Lo \geq Li + L_{cable}$ $Ui \text{ or } V_{max} \geq Voc \text{ or } Vt$ $Ii \text{ or } I_{max} \geq I_{sc} \text{ or } It$ $Pi \geq Po$ |

| 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 | | |

| Entity Parameters | | | | |
|----------------------------------|---|-----------|---|--|
| Sensor Terminals (1, 2, 3, 4) | RTD, T/C, mV, Ω | Ω (SDY) | mV (SDY) | |
| | $Uo = 6.51 \text{ Vdc}$ $Io = 61.1 \text{ mA}$ $Po = 100 \text{ mW}$ $Co = 21.9 \mu\text{F}$ $Lo = 9.52 \text{ mH}$ | Group IIC | $Ui = 1 \text{ Vdc}$ $Ii = 50 \text{ mA}$ $Pi = 50 \text{ mW}$ $Ci = 66 \text{ nF}$ $Li = 0 \text{ mH}$ | $Uo = 7.9 \text{ Vdc}$ $Io = 8 \mu\text{A}$ $Pi = 64 \mu\text{W}$ $Ci = 66 \text{ nF}$ $Li = 0 \text{ mH}$ |
| | $Co = 499.9 \mu\text{F}$ $Lo = 38.09 \text{ mH}$ | Group IIB | Must use +90°C suitable cabling | |
| | $Co = 999.9 \mu\text{F}$ $Lo = 76.19 \text{ mH}$ | Group IIA | | |
| Power/Loop (+PS & -PS) | $Ui \text{ or } V_{max} = 30 \text{ Vdc}$ $Ii \text{ or } I_{max} = 110 \text{ mA}$ $Pi \text{ or } P_{max} = 825 \text{ mW}$ $Ci = 10.34 \text{ nF}$ $Li = 0 \text{ mH}$ | | | |

-- 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.



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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 .XXX = ±.005 / 0.125
 HOLES = ±.003 / 0.080
 ANGLES = ±1/2°

| | | |
|----------|--------------|------|
| DRAWN | Gus H. Elias | 9/00 |
| CHECKED | See Sht. 1 | |
| ENGINEER | See Sht. 1 | |
| SCALE | NONE | |

CATEGORY CONTROL DRAWING

DRAWING NUMBER 100-100-54 SHEET 2 of 2 REVISION D

TITLE
**Installation Diagram:
 SDY [HP] or TDY [HP]
 Intrinsically Safe System**

REVISED BY
 SEE SHEET 1

| | | |
|------|----|----------|
| DATE | BY | APPROVAL |
| | | |

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Installation Notes:

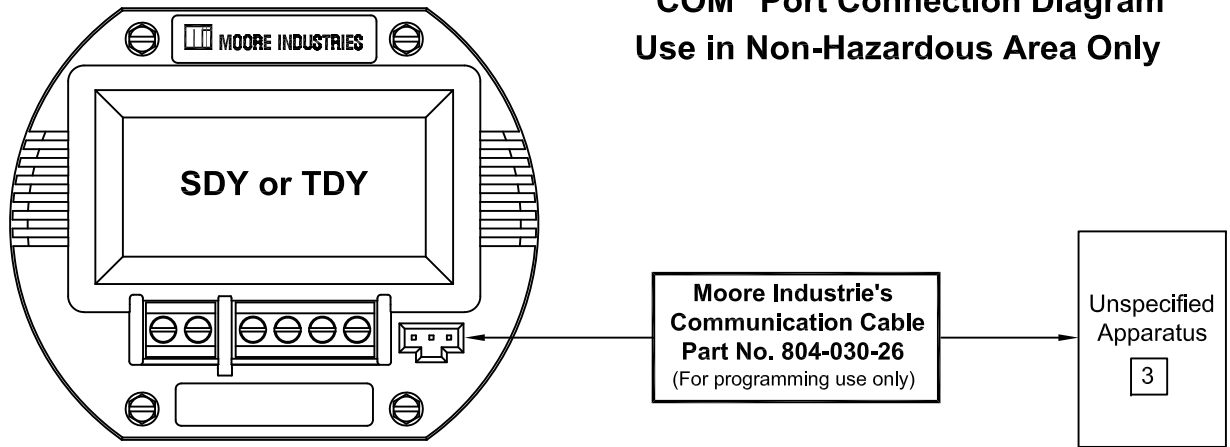
1. The Associated Apparatus must be FM Approved for installations in the U.S.; Canadian Approved for installations in Canada; ATEX Certified for installations in Europe and IECEx Certified for IECEx installations.
2. Associated apparatus manufacturer's installation drawing must be followed when installing 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. The mV and Ohm's equipment must be FM Approved and meet the entity requirements for installations in the U.S.; Canadian Approved and meet the entity requirements for installations in Canada; ATEX Certified and meet the entity requirements for installations in Europe and IECEx Certified and meet the entity requirements for IECEx installations.
10. 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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