PD686 FM APPROVED & CSA CERTIFIED LOOP-POWERED METER
Intrinsic Safety Barrier Connections

SECTION	AGENCY	DESCRIPTION
1.0		General Notes
2.0	FM/CSA	Conduit Installation Instructions
3.0	FM	Single or Dual Channel Positive Polarity Intrinsic Safety Barrier
4.0	CSA	Single or Dual Channel Instrinsic Safety Barrier Entity Installation

NOTE: FM AND CSA CONTROLLED DOCUMENT.
NO CHANGES WITHOUT PRIOR FM AND CSA APPROVAL.

1.0 GENERAL NOTES

1.1 For Class II, Class III (Division 1 and 2) and NEMA/CSA type 4X installations, use conduit hub which is listed/certified for the environment in which the indicator is installed.

1.2 For Class II and III (Division 1 and 2) installations, field wiring must enter the enclosure through a listed/certified dust-tight conduit seal.

1.3 Control room equipment must not use or generate more than 250 VRMS or VDC.

1.4 US installations must be in accordance with ANSI/ISA RP12.06.01 “Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations” and the National Electrical Code (ANSI/NFPA 70). Canadian installations must be in accordance with the Canadian Electrical Code, Part 1.

1.5 Hazardous location installation instructions for associated apparatus (barrier) must also be followed when installing this equipment.

1.6 For safe installation of a FM Approved/CSA Certified transmitter in series with PD686 loop indicator, the hazardous location installation instructions for the transmitter, PD686 loop indicator, and associated apparatus (barrier) must be compatible.

1.7 PD686 indicator does not add capacitance or inductance to loop under normal or fault conditions.

1.8 Substitution of components may impair hazardous location safety.

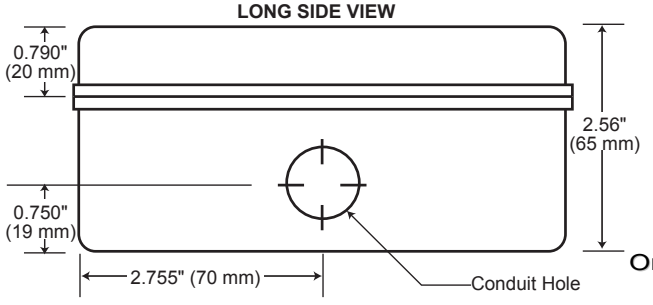
2.0 PD686 CONDUIT INSTALLATION INSTRUCTIONS

2.1 Remove the Display from the enclosure and connect ½" conduit fittings to the hole provided. For enclosures without a pre-drilled hole, the installer must make a hole in accordance with the instructions for the particular conduit fitting being installed.

2.2 Use only UL/CSA conduit hubs that are specified to maintain NEMA 4X and Class II / Class III ratings.

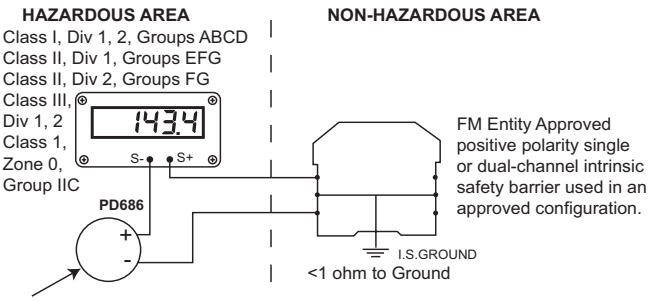
2.3 Conduit hubs must be connected to the conduit prior to being connected to the enclosure.

2.4 Enclosure must be mounted using the mounting holes located in the base external to the equipment cavity.



TYPICAL HOLE LOCATION

3.0 PD686 FM INSTALLATION WIRING DIAGRAM
Using single or dual channel intrinsic safety barrier



FM ENTITY APPROVED TRANSMITTER INSTALLED PER TRANSMITTER MANUFACTURER'S HAZARDOUS LOCATION INSTALLATION DRAWING

PD686 ENTITY PARAMETERS:
U_i : 30 V; I_i : 175 mA; C_i : 0; L_i : 0; P_i : 1.3 W

Application Notes:

3.1 $U_i > U_o$ of single channel barrier or V_t of dual channel barrier

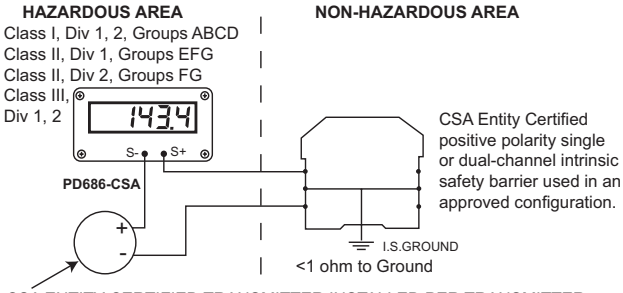
3.2 $I_i > I_o$ of single channel barrier or I_t of dual channel barrier

3.3 L_i plus interconnecting wiring < L_o of single or dual channel barrier

3.4 C_i plus interconnecting wiring < C_o of single or dual channel barrier

3.5 It is not necessary to use intrinsic safety barriers when installing the PD686 in Class I,II,III, Division 2, Groups ABCDFG, maximum input voltage = 30 VDC.

4.0 PD686-CSA INSTALLATION WIRING DIAGRAM
Using single or dual channel intrinsic safety barrier-entity installation



CSA ENTITY CERTIFIED TRANSMITTER INSTALLED PER TRANSMITTER MANUFACTURER'S HAZARDOUS LOCATION INSTALLATION DRAWING

PD686-CSA ENTITY PARAMETERS:
V_{max} : 30 V; I_{max} : 175 mA; C_i : 0; L_i : 0; P_i : 1.3 W

Application Notes:

4.1 Barrier parameters must meet the following requirements:

V_{oc} or $U_o \leq V_{max}$ or U_i

I_{sc} or $I_o \leq I_{max}$ or I_i

C_a or $C_o \geq C_i + C_{cable}$

L_a or $L_o \geq L_i + L_{cable}$

$P_o < P_i$

4.2 For CSA Certification, barrier and transmitter must be CSA Certified with Entity Parameters and must be connected per manufacturer’s instructions.

4.3 It is not necessary to use intrinsic safety barriers when installing the PD686-CSA in Class I,II,III, Division 2, Groups ABCDFG, maximum input voltage = 30 VDC.

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