

PD6938 Pulse Input Meter

ATEX and IECEx Certified Intrinsic Safety Control Drawing

SECTION	AGENCY	DESCRIPTION
1.0		Safety Information
2.0	ATEX and IECEx	Special Conditions for Safe Use
3.0	ATEX and IECEx	Hazardous Area Approvals

NOTES:

1. THIS IS AN AGENCY CONTROLLED DOCUMENT. NO CHANGES CAN BE MADE WITHOUT PRIOR APPROVAL!

1.0 SAFETY INFORMATION

- 1.1 Read complete instructions prior to installation and operation of the meter.
- 1.2 Installation and service should be performed only by trained service personnel.
- 1.3 Substitution of components may impair hazardous location safety.
- 1.4 Service requiring replacement of internal components must be performed at the factory.
- 1.5 Equipment contains non-metallic materials and therefore special care and consideration should be made to the performance of these materials with respect to chemicals which may be present in a hazardous environment.
- 1.6 PD6900 series indicator does not add capacitance or inductance to loop under normal or fault conditions.
- 1.7 Hazardous location installation instructions for associated apparatus (barrier) must also be followed when installing this equipment.
- 1.8 Control room equipment must not use or generate more than 250 VRMS or VDC.
- 1.9 For safe installation of an ATEX, IECEx, and/or UL approved transmitter in series with PD6938 meter, the hazardous location installation instructions for the transmitter, PD6938 meter, and associated apparatus must be compatible.

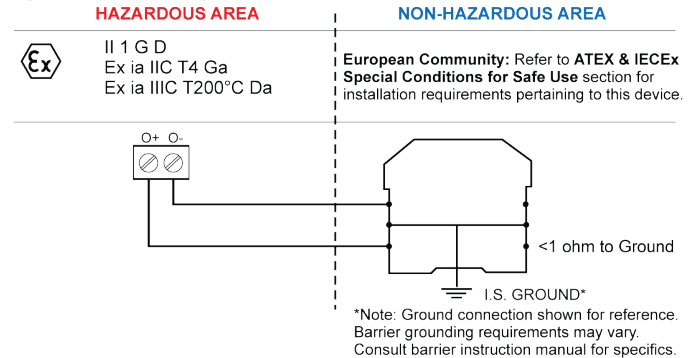
2.0 ATEX AND IECEx SPECIAL CONDITIONS FOR SAFE USE

- 2.1 The Pulse and Mag inputs shall not both be connected to external equipment simultaneously.
- 2.2 The PD6938-XX-PL enclosure is non-metallic. Under certain extreme circumstances, the plastic enclosure may store an ignition-capable level of electrostatic charge. Therefore, the user/installer shall implement precautions to prevent the build-up of electrostatic charge, e.g. locate the equipment where a charge-generating mechanism (such as wind-blown dust) is unlikely to be present and clean with a damp cloth.
- 2.3 The PD6938-XX-AL enclosure is manufactured from aluminium. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered during installation, particularly if the equipment is installed in a Zone 0 location.
- 2.4 For PD6938-XX-AL or PD6938-XX-SS version - The equipment may not have 500V isolation between the circuit and earth. This shall be taken into account when installing the equipment.
- 2.5 All cable entries into the equipment shall be via cable glands or conduit which provide a minimum degree of protection of IP54.
- 2.6 The battery pack shall not be replaced when an explosive atmosphere is present. Only battery pack type PDABAT36AA3 shall be used.
- 2.7 **For European Community:** The PD6938 Series must be installed in accordance with the Essential Health & Safety Requirements of Directive 2014/34/EU, the product certificates CML 18ATEX2089X and IECEx CML 18.0050X and the product manual. There is no need to remove the meter from its case to complete the installation, wiring, and setup of the meter for most applications.

3.0 HAZARDOUS AREA APPROVALS

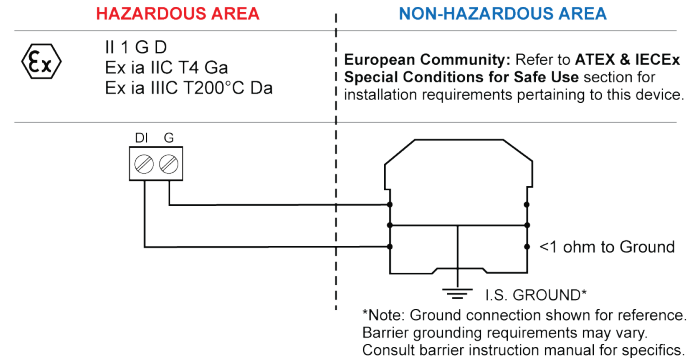
Ex II 1 G D
 Ex ia IIC T4 Ga
 Ex ia IIIC T200°C Da
 -40°C ≤ Ta ≤ +75°C (PD69xx-xx-PL models)
 -55°C ≤ Ta ≤ +75°C (PD69xx-xx-AL and -SS models)
 IP68

Open Collector Output



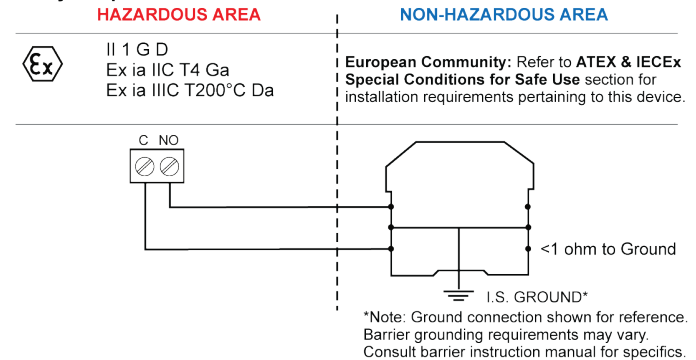
Open Collector Output Connection Entity Parameters:
 Ui = 30 V, li = 175 mA, Pi = 1 W, Ci = 0, Li = 0

Switch Port



Switch Port Connection Entity Parameters:
 Ui = 30 V, li = 175 mA, Pi = 1 W, Ci = 0, Li = 0

Relay Output



Relay Output Connection Entity Parameters:
 Ui = 30 V, li = 1.0 A, Pi = 1 W, Ci = 0.013 µF, Li = 0
 Uo = 11.55 V, Io = 0.001, A Po = 0.012 W

PD6938 Pulse Input Meter

ATEX and IECEx Certified Intrinsic Safety Control Drawing

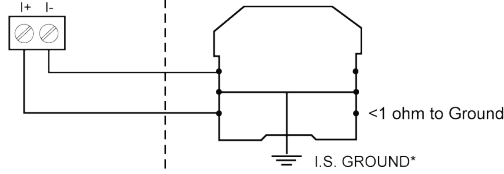
4-20 mA Output

HAZARDOUS AREA

NON-HAZARDOUS AREA

Ex II 1 G D
Ex ia IIC T4 Ga
Ex ia IIIC T200°C Da

European Community: Refer to ATEX & IECEx Special Conditions for Safe Use section for installation requirements pertaining to this device.



4-20 mA Output Connection Entity Parameters:
 $U_i = 30\text{ V}$, $I_i = 175\text{ mA}$, $P_i = 1\text{ W}$, $C_i = 0$, $L_i = 0$

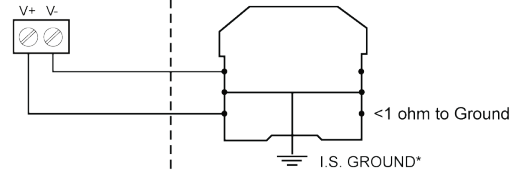
DC Supply

HAZARDOUS AREA

NON-HAZARDOUS AREA

Ex II 1 G D
Ex ia IIC T4 Ga
Ex ia IIIC T200°C Da

European Community: Refer to ATEX & IECEx Special Conditions for Safe Use section for installation requirements pertaining to this device.



DC Supply Connection Entity Parameters:
 $U_i = 30\text{ V}$, $I_i = 175\text{ mA}$, $P_i = 1\text{ W}$, $C_i = 0$, $L_i = 0$

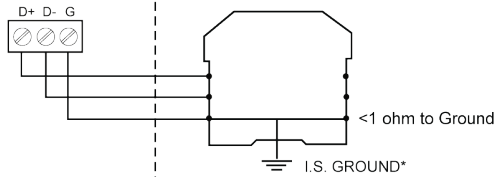
RS-485

HAZARDOUS AREA

NON-HAZARDOUS AREA

Ex II 1 G D
Ex ia IIC T4 Ga
Ex ia IIIC T200°C Da

European Community: Refer to ATEX & IECEx Special Conditions for Safe Use section for installation requirements pertaining to this device.



RS-485 Connection Entity Parameters:
 $U_i = 5.9\text{ V}$, $I_i = 225\text{ mA}$, $P_i = 300\text{ mW}$, $C_i = 0$, $L_i = 0$
 $U_o = 5.88\text{ V}$, $I_o = 54\text{ mA}$, $P_o = 80\text{ mW}$

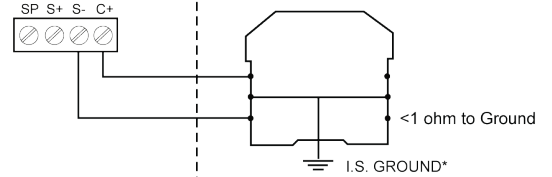
MAG-IN (mV in)

HAZARDOUS AREA

NON-HAZARDOUS AREA

Ex II 1 G D
Ex ia IIC T4 Ga
Ex ia IIIC T200°C Da

European Community: Refer to ATEX & IECEx Special Conditions for Safe Use section for installation requirements pertaining to this device.



MAG-IN Connection Entity Parameters:
 $U_i = 30\text{ V}$, $I_i = 175\text{ mA}$, $P_i = 1\text{ W}$, $C_i = 0$, $L_i = 0$

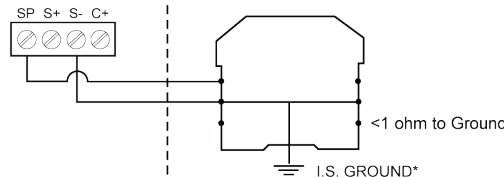
Sensor Power

HAZARDOUS AREA

NON-HAZARDOUS AREA

Ex II 1 G D
Ex ia IIC T4 Ga
Ex ia IIIC T200°C Da

European Community: Refer to ATEX & IECEx Special Conditions for Safe Use section for installation requirements pertaining to this device.



Sensor Power Connection Entity Parameters:
 $C_i = 2.2\text{ }\mu\text{F}$, $L_i = 0$, $U_o = 6.93\text{ V}$, $I_o = 132\text{ mA}$, $P_i = 190\text{ mW}$

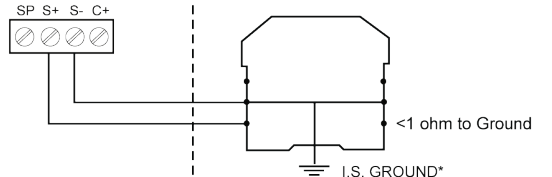
Pulse Input

HAZARDOUS AREA

NON-HAZARDOUS AREA

Ex II 1 G D
Ex ia IIC T4 Ga
Ex ia IIIC T200°C Da

European Community: Refer to ATEX & IECEx Special Conditions for Safe Use section for installation requirements pertaining to this device.



Pulse Input Connection Entity Parameters:
 $U_i = 30\text{ V}$, $I_i = 175\text{ mA}$, $P_i = 1\text{ W}$, $C_i = 0$, $L_i = 0$

DW2636_B LIM6938-2_A 10/22