

# PD6600 Series ATEX and IECEx Certified, UL/C-UL Listed Loop-powered Meter Intrinsic Safety Control Drawing

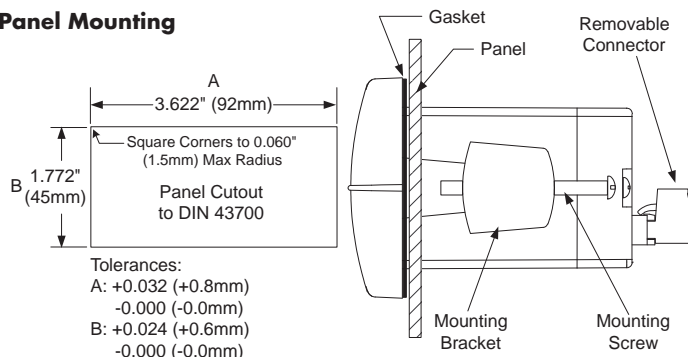
SECTION	AGENCY	DESCRIPTION
1.0		Safety Information
2.0	ATEX and IECEx	Special Conditions for Safe Use
3.0	UL/C-UL	Special Conditions for Safe Use
4.0	ATEX and IECEx, UL/C-UL	Hazardous Area Approvals

**NOTE: THIS IS AN AGENCY CONTROLLED DOCUMENT  
NO CHANGES CAN BE MADE WITHOUT PRIOR APPROVAL.**

## 1.0 SAFETY INFORMATION

- Read complete instructions prior to installation and operation of the meter.
- Installation and service should be performed only by trained service personnel.
- Substitution of components may impair hazardous location safety.
- Service requiring replacement of internal components must be performed at the factory.
- 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.
- PD6600 series indicator does not add capacitance or inductance to loop under normal or fault conditions.
- Hazardous location installation instructions for associated apparatus (barrier) must also be followed when installing this equipment.

## Panel Mounting



## 2.0 ATEX AND IECEx SPECIAL CONDITIONS FOR SAFE USE

The following conditions relate to safe installation and/or use of the equipment.

- For European Community:** The PD6600 must be installed in accordance with the Essential Health & Safety Requirements of Directive 2014/34/EU, the product certificates CML 17ATEX2015X and IECEx CML 17.0008X, and the product manual.
- Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. This is particularly important if the equipment is installed in a zone 0 location. In addition, the equipment shall only be cleaned with a damp cloth.
- The equipment shall be installed in an enclosure which provides a minimum degree of protection of IP20 for the equipment connections.
- The equipment loop/power port shall be connected to an intrinsically safe barrier with  $U_o \geq 11V$ .
- Entity parameters must meet the following requirements:  
 $U_i = 30 V$ ,  $I_i = 175 mA$ ,  $C_i = 0 \mu F$ ,  $L_i = 0 \mu H$ ,  $P_i = 1.0 W$
- For ATEX Certification, barrier and transmitter must be ATEX Certified with Entity Parameters and must be connected per manufacturer's instructions.

## 3.0 UL/C-UL SPECIAL CONDITIONS FOR SAFE USE

- Associated apparatus may be in a Division 2 or Zone location if so approved.
- For North American Community:** Installation and service of this device and/or associated apparatus (barrier) should be performed only by trained service personnel, and must be installed in accordance with the manufacturer's control drawing, Article 504 of the National Electric Code (ANSI/NFPA 70) for installation in the United States, or Section 18 of the Canadian Electrical Code for installations in Canada.
- Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. This is particularly important if the equipment is installed in a zone 0 location. In addition, the equipment shall only be cleaned with a damp cloth.
- The equipment shall be installed in a tool secured enclosure which provides a minimum degree of protection of IP20 for the equipment connections.
- Entity parameters must meet the following requirements:  
 $U_i = 30 V$ ,  $I_i = 175 mA$ ,  $C_i = 0 \mu F$ ,  $L_i = 0 \mu H$ ,  $P_i = 1.0 W$

I.S. Equipment Entity Parameters	Required Relationship Between Entity Parameters	I.S. Barrier Entity Parameters
V max (or $U_i$ )	$\geq$	Voc or Vt (or $U_o$ )
I max (or $I_i$ )	$\geq$	Isc or It (or $I_o$ )
P max, $P_i$	$\geq$	Po
$C_i + C_{cable}$	$\leq$	Ca (or Co)
$L_i + L_{cable}$	$\leq$	La (or Lo)

- For Division 2 and Zone 2 Applications:** Division 2 and Zone 2 installations do NOT require the use of an intrinsically-safe barrier or intrinsically-safe entity parameters. Class I, Division 2, Groups A, B, C, and D T4 and Class I, Zone 2, Group IIC T4,  $-40C \leq T_a \leq +70C$ .

**WARNING – EXPLOSION HAZARD – Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous**  
**AVERTISSEMENT - RISQUE D'EXPLOSION. NE PAS BRANCHER NI DÉBRANCHER SOUS TENSION**

Ratings: V = 30 V dc, I = 30 mA  
 Relay Ratings: 250V ac/dc 1A

## 4.0 HAZARDOUS AREA APPROVALS




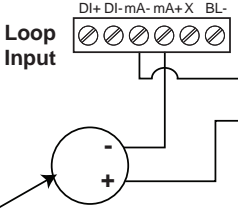
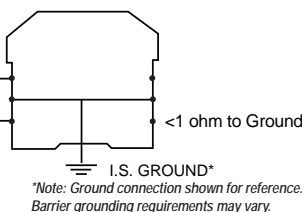
Class I, Division 1, Groups A, B, C and D T4  
 Class I, Division 2, Groups A, B, C and D T4  
 Ex ia IIC T4 (Canada); Class I Zone 0, Zone 1, AEx ia IIC T4 (U.S.)  
 Class I Zone 2, Group IIC T4 (U.S.)  
 PROCESS CONTROL EQUIPMENT FOR USE IN HAZARDOUS LOCATIONS




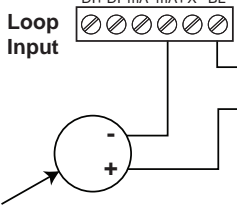
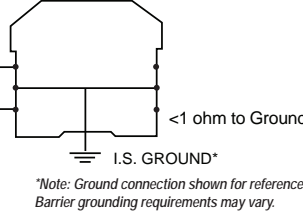
II 1G  
 Ex ia IIC T4 Ga  
 $T_a = -40^{\circ}C$  to  $+70^{\circ}C$

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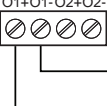
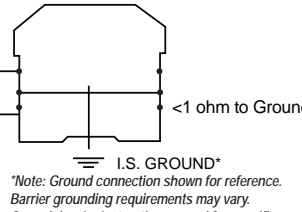
## Without Backlight

HAZARDOUS AREA	NON-HAZARDOUS AREA
<p><b>II 1G</b> Ex ia IIC T4 Ga Ta = -40°C to +70°C</p> <p> Class I, Division 1, Groups A, B, C and D T4 Class I, Division 2, Groups A, B, C and D T4 Ex ia IIC T4 (Canada); Class I Zone 0, Zone 1, AEx ia IIC T4 (U.S.) Class I Zone 2, Group IIC T4 (U.S.) PROCESS CONTROL EQUIPMENT FOR USE IN HAZARDOUS LOCATIONS</p>	<p><b>European Community:</b> Refer to <b>ATEX &amp; IECEx Special Conditions for Safe Use</b> section for installation requirements pertaining to this device.</p> <p><b>North American Community:</b> Refer to <b>UL/C-UL Special Conditions for Safe Use</b> section for installation requirements pertaining to this device.</p>
<p><b>Loop Input</b></p> 	 <p>&lt;1 ohm to Ground I.S. GROUND*</p> <p><i>*Note: Ground connection shown for reference. Barrier grounding requirements may vary. Consult barrier instruction manual for specifics.</i></p>
<p>Suitable transmitter installed per manufacturer's hazardous location installation drawing(s). <b>Loop/Power Connection Entity Parameters:</b> U<sub>i</sub> : 30 V; I<sub>i</sub> : 175 mA; P<sub>i</sub> : 1 W; C<sub>i</sub> : 0; L<sub>i</sub> : 0</p>	


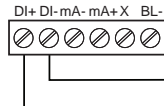
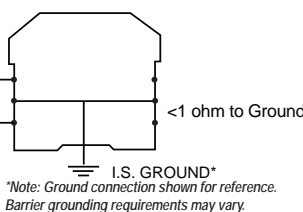
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<p><b>Loop Input</b></p> 	 <p>&lt;1 ohm to Ground I.S. GROUND*</p> <p><i>*Note: Ground connection shown for reference. Barrier grounding requirements may vary. Consult barrier instruction manual for specifics.</i></p>
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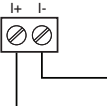
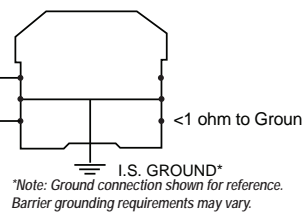
## Open Collector Output

HAZARDOUS AREA	NON-HAZARDOUS AREA
<p><b>II 1G</b> Ex ia IIC T4 Ga Ta = -40°C to +70°C</p> <p> Class I, Division 1, Groups A, B, C and D T4 Class I, Division 2, Groups A, B, C and D T4 Ex ia IIC T4 (Canada); Class I Zone 0, Zone 1, AEx ia IIC T4 (U.S.) Class I Zone 2, Group IIC T4 (U.S.) PROCESS CONTROL EQUIPMENT FOR USE IN HAZARDOUS LOCATIONS</p>	<p><b>European Community:</b> Refer to <b>ATEX &amp; IECEx Special Conditions for Safe Use</b> section for installation requirements pertaining to this device.</p> <p><b>North American Community:</b> Refer to <b>UL/C-UL Special Conditions for Safe Use</b> section for installation requirements pertaining to this device.</p>
<p><b>O1+O1-O2+O2-</b></p> 	 <p>&lt;1 ohm to Ground I.S. GROUND*</p> <p><i>*Note: Ground connection shown for reference. Barrier grounding requirements may vary. Consult barrier instruction manual for specifics.</i></p>
<p><b>Open Collector Output Connection Entity Parameters:</b> U<sub>i</sub> : 30 V; I<sub>i</sub> : 175 mA; P<sub>i</sub> : 1 W; C<sub>i</sub> : 0; L<sub>i</sub> : 0</p>	


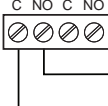
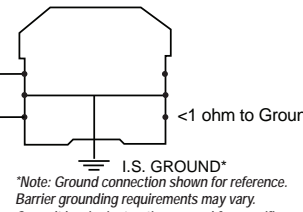
## Switch Port

HAZARDOUS AREA	NON-HAZARDOUS AREA
<p><b>II 1G</b> Ex ia IIC T4 Ga Ta = -40°C to +70°C</p> <p> Class I, Division 1, Groups A, B, C and D T4 Class I, Division 2, Groups A, B, C and D T4 Ex ia IIC T4 (Canada); Class I Zone 0, Zone 1, AEx ia IIC T4 (U.S.) Class I Zone 2, Group IIC T4 (U.S.) PROCESS CONTROL EQUIPMENT FOR USE IN HAZARDOUS LOCATIONS</p>	<p><b>European Community:</b> Refer to <b>ATEX &amp; IECEx Special Conditions for Safe Use</b> section for installation requirements pertaining to this device.</p> <p><b>North American Community:</b> Refer to <b>UL/C-UL Special Conditions for Safe Use</b> section for installation requirements pertaining to this device.</p>
<p><b>DI+ DI- mA- mA+X BL-</b></p> 	 <p>&lt;1 ohm to Ground I.S. GROUND*</p> <p><i>*Note: Ground connection shown for reference. Barrier grounding requirements may vary. Consult barrier instruction manual for specifics.</i></p>
<p><b>Switch Port Connection Entity Parameters:</b> U<sub>i</sub> : 30 V; I<sub>i</sub> : 175 mA; P<sub>i</sub> : 1 W; C<sub>i</sub> : 0; L<sub>i</sub> : 0;</p>	

## 4-20 mA Linear Output

HAZARDOUS AREA	NON-HAZARDOUS AREA
<p><b>II 1G</b> Ex ia IIC T4 Ga Ta = -40°C to +70°C</p> <p> Class I, Division 1, Groups A, B, C and D T4 Class I, Division 2, Groups A, B, C and D T4 Ex ia IIC T4 (Canada); Class I Zone 0, Zone 1, AEx ia IIC T4 (U.S.) Class I Zone 2, Group IIC T4 (U.S.) PROCESS CONTROL EQUIPMENT FOR USE IN HAZARDOUS LOCATIONS</p>	<p><b>European Community:</b> Refer to <b>ATEX &amp; IECEx Special Conditions for Safe Use</b> section for installation requirements pertaining to this device.</p> <p><b>North American Community:</b> Refer to <b>UL/C-UL Special Conditions for Safe Use</b> section for installation requirements pertaining to this device.</p>
<p><b>I+ I-</b></p> 	 <p>&lt;1 ohm to Ground I.S. GROUND*</p> <p><i>*Note: Ground connection shown for reference. Barrier grounding requirements may vary. Consult barrier instruction manual for specifics.</i></p>
<p><b>4-20 mA Linear Output Connection Entity Parameters:</b> U<sub>i</sub> : 30 V; I<sub>i</sub> : 175 mA; P<sub>i</sub> : 1 W; C<sub>i</sub> : 0; L<sub>i</sub> : 0;</p>	

## Relay Outputs

HAZARDOUS AREA	NON-HAZARDOUS AREA
<p><b>II 1G</b> Ex ia IIC T4 Ga Ta = -40°C to +70°C</p> <p> Class I, Division 1, Groups A, B, C and D T4 Class I, Division 2, Groups A, B, C and D T4 Ex ia IIC T4 (Canada); Class I Zone 0, Zone 1, AEx ia IIC T4 (U.S.) Class I Zone 2, Group IIC T4 (U.S.) PROCESS CONTROL EQUIPMENT FOR USE IN HAZARDOUS LOCATIONS</p>	<p><b>European Community:</b> Refer to <b>ATEX &amp; IECEx Special Conditions for Safe Use</b> section for installation requirements pertaining to this device.</p> <p><b>North American Community:</b> Refer to <b>UL/C-UL Special Conditions for Safe Use</b> section for installation requirements pertaining to this device.</p>
<p><b>C NO C NO</b></p> 	 <p>&lt;1 ohm to Ground I.S. GROUND*</p> <p><i>*Note: Ground connection shown for reference. Barrier grounding requirements may vary. Consult barrier instruction manual for specifics.</i></p>
<p><b>Relay Output Connection Entity Parameters:</b> U<sub>i</sub> : 30 V; I<sub>i</sub> : 1.0 A; P<sub>i</sub> : 1.1 W; C<sub>i</sub> : 0.012 μF; L<sub>i</sub> : 0; U<sub>o</sub> : 11.55 V; I<sub>o</sub> : 0.001 A; P<sub>o</sub> : 0.013 W;</p>	

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