

# 3½+ DIGIT EXPLOSION-PROOF LOOP-POWERED METER

## ProtEX-Lite • MODEL PD663



### INTRODUCTION

The ProtEX-Lite PD663 is a rugged, explosion-proof NEMA 4X loop-powered meter perfect for applications where a simple, inexpensive display is required in a hazardous area.

The PD663 derives all its power from the 4-20 mA loop. The PD663 is scaled using four push buttons and can be done without applying an actual calibration signal, and through the explosion-proof enclosure with optional magnetic reed switches and a magnet key. The PD663's display will read up to 2999; we call this 3½+ digits! The loop-powered backlighting option lets you see the display under any lighting condition and is powered completely from the 4-20 mA loop. This means there is no need for additional wiring and never any batteries to change.

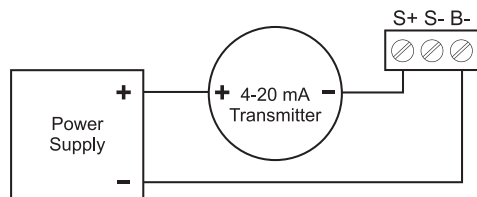
The PD663 is housed in a rugged, explosion-proof, cast aluminum, NEMA 4X enclosure and is provided with two threaded conduit holes and integrated pipe or wall mounting holes.

### QUICKSTART

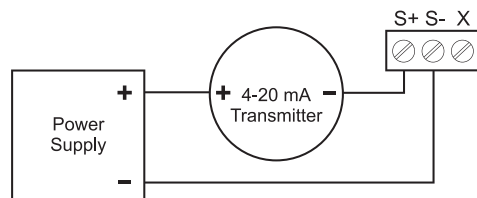
The PD663 is designed to be easily wired into your current loop and quickly programmed.

### Wiring

The two wire power/signal connection is made on the back of the PD663 on the three position removable terminal block. Follow instructions printed on the unit for two wire loop-powered connections with or without backlight.



PD663 Input Connections with Backlight



PD663 Input Connections without Backlight

### FEATURES

- 4-20 mA input
- 1.7 V drop (4.9 V with backlight)
- 3½+ digits LCD, 0.6" high
- Loop-powered backlight option
- Easy four-button programming
- Programmable noise filter
- Max/min display
- Password protection
- HART protocol transparent
- Operates from -40 to 75°C



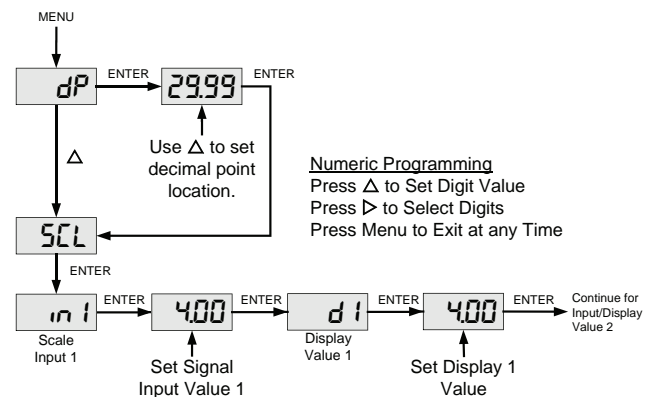
Approvals presently apply to explosion-proof enclosure only. Complete product approvals expected soon, contact factory for details.



Actual Size Digits

### Programming

The PD663 comes calibrated and scaled at the factory to display a 4.00 to 20.00 mA signal on startup. To change the scaling, follow along using the 4 button interface.



PD663 Menu Progression



Menu

Enter

Reset

Max

**SPECIFICATIONS**

Except where noted all specifications apply to operation at +25°C.

**General**

**Display:** 0.6" (15.24 mm) LCD, 3½+ digits; -1999 to 2999  
**Display Update Rate:** 2 Updates/Second  
**Over-Range:** Display Flashes 2999  
**Under-Range:** Display Flashes -1999  
**Programming Method:** 4 Front Panel Pushbuttons (behind glass). Magnet may also be used for programming; P/N PDA-MAG.  
**Noise Filter:** Programmable HI, LOW, or OFF  
**Recalibration:** Recalibration is recommended at least every 12 months.  
**Max/Min Display:** Max/Min readings reached by the process are stored until reset by the user or until power to the meter is turned off.  
**Password:** Programmable password restricts modification of programmed settings.  
**Non-Volatile Memory:** All programmed settings are stored in non-volatile memory for a minimum of ten years if power is lost.  
**Normal Mode Rejection:** 64 dB at 50/60 Hz  
**Operating Temperature:** -40 to 75°C  
**Storage Temperature:** -40 to 75°C  
**Relative Humidity:** 0 to 90% non-condensing  
**Connections:** Removable screw terminals accept 12 to 22 AWG  
**Tightening Torque:** Screw terminal connectors: 4.5 lb-in (0.5 Nm)  
**Enclosure:** Explosion-proof cast aluminum with glass window, 0.30% max copper content, corrosion resistant powder coating, color: blue. NEMA 4X, IP68. Two ½" NPT threaded conduit openings. One ½" NPT nickel plated brass conduit plug with 10 mm hex key fitting installed.  
**Mounting:** May be mounted directly to conduit. Two mounting holes for 1.5" pipe or wall mounting.  
**Weight:** 40 oz (1.13 kg)  
**Overall Dimensions:** 4.30" x 4.27" x 3.62" (109 mm x 108 mm x 92 mm) (W x H x D)  
**Warranty:** 3 years parts & labor

**Input**

**Input:** 4-20 mA  
**Accuracy:** ±1 count  
**Temperature Drift:** 50 PPM/°C from -40 to 75°C ambient  
**Decimal Point:** User selectable decimal point  
**Minimum Span:** Input 1 & Input 2: 0.40 mA  
**Maximum Voltage Drop:** 1.7 VDC @ 20 mA; 3.7 VDC @ 20 mA with backlight option.  
**Equivalent Resistance:** 85 Ω @ 20 mA without backlight; 245 Ω @ 20 mA with backlight  
**Loop-Powered Backlight Option:** Factory installed only with field wiring option. Powered directly from the 4-20 mA loop, no batteries required. The display brightness will increase as the input signal current increases.

**Enclosure Approvals**

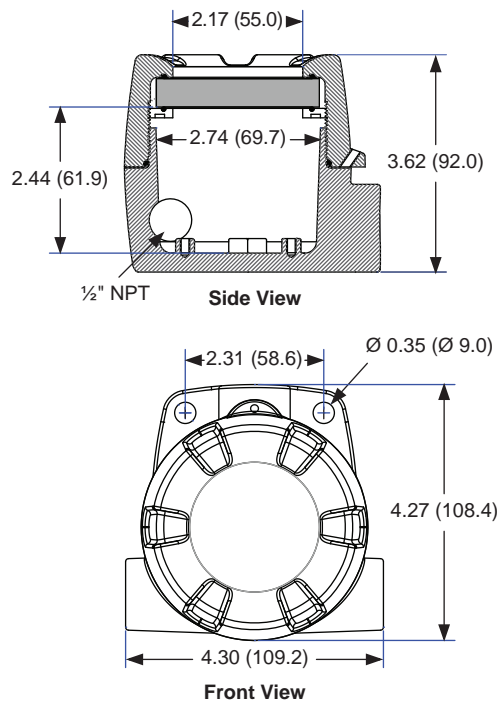
**FM & CSA:** FM Approved & CSA Certified. Explosion-proof for use in Class I, Division 1, Groups B, C, and D; Dust-Ignition-proof for Class II, Division 1, Groups E, F, and G. Class III; hazardous (classified) locations, indoor and outdoor (Type 4X and IP66)  
 USA: Indoor and outdoor (Type 4X and IP66); Ta = -40°F to +185°F  
 FM Certificate: 3028184  
 Canada: Indoor and outdoor (Type 4X); Ta = -40°C to +85°C  
 CSA Certificate: 1726044  
**ATEX & IECEx:** ATEX Certified: Group 2, Category 1 (Zone 1), Gases, Vapors, Mists, or Dusts: II 2 G D, Ex d IIC, Ex tD A21 IP68, Ta = -40°C to +85°C. ATEX Certificate: Sira 07ATEX1331U  
 IECEx Certified: Flameproof, Gas Group IIC, Ex d IIC, Ex A21 tD IP68, Ta = -40°C to +85°C. IECEx Certificate: IECEx SIR 07.0111U

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**DIMENSIONS**

Units: Inch (mm)



**ORDERING INFORMATION**

Model PD663 • Explosion-Proof Loop-Powered Meter	
Model	Description
PD663-0L0-00	Explosion-Proof Loop-Powered Meter
PD663-0K0-00	Explosion-Proof Loop-Powered Meter with Backlight
PD663-0LA-00	Explosion-Proof Loop-Powered Meter with Reed Switches
PD663-0KA-00	Explosion-Proof Loop-Powered Meter with Backlight and Reed Switches

Accessories	
Model	Description
PDA6845	2" Pipe Mounting Kit (2 mounting holes)
PDA-MAG	Magnet Assembly for Reed Switches



**Your Local Distributor is:**

LDS663\_A 02/10