

# PD663

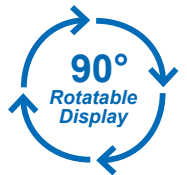
Explosion-Proof NEMA 4X IP68 Loop-Powered Meter



Explosion-Proof / Flame-Proof

PROCESS METER

- Explosion-Proof / Flame-Proof Loop-Powered Process Meter
- 4-20 mA Input
- 0.6" (15.2 mm) 3½+ Digits LCD Display; -1999 to 2999
- 1.7 Volt Drop (4.7 Volt Drop with Backlight)
- HART® Protocol Transparent
- Loop-Powered Backlight Option
- Operates from -40 to 75°C (-40 to 167°F)
- Four Internal Buttons for Easy Field Scaling
- Display Mountable at 0°, 90°, 180°, & 270° Degrees
- Flanges for Wall or Pipe Mounting
- Explosion-Proof, IP68, NEMA 4X Die-Cast Aluminum Enclosure
- FM Approved as Explosion-Proof / Dust-Ignition Proof / Flame-Proof
- CSA Certified as Explosion-Proof / Dust-Ignition Proof / Flame-Proof
- ATEX and IECEx Certified as Flame-Proof and Protection by Enclosure
- Conformal Coated PCBs for Dust and Humidity Protection
- Two ½" NPT Threaded Conduit Openings (One Plug Installed)
- Pipe Mounting Kits
- Stainless Steel Tag Available



# PD663 Explosion-Proof NEMA 4X IP68 Loop-Powered Meter



## OVERVIEW

The PD663 is a loop-powered field meter that is FM Approved and CSA Certified as Explosion-Proof, Dust-Ignition Proof, and Flame-Proof, and ATEX & IECEx Certified as Flame-Proof and Protection by Enclosure. The PD663 is easy to install and program and it can be seen in a variety of lighting conditions and even in bright sunlight. The fact that this meter is loop-powered means that there is no need to run additional, costly power lines into a hazardous area. The meter gets all of the power it needs from the 4-20 mA loop and its 1.7 V drop results in a minimal burden on the loop. The meter features a wide -40 to 75°C operating temperature range and comes with two 1/2" NPT threaded conduit openings and flanges for wall or pipe mounting. Calibration is a quick process involving the four internal push buttons. The PD663's display will read up to 2999; we call this 3 1/2+ digits!

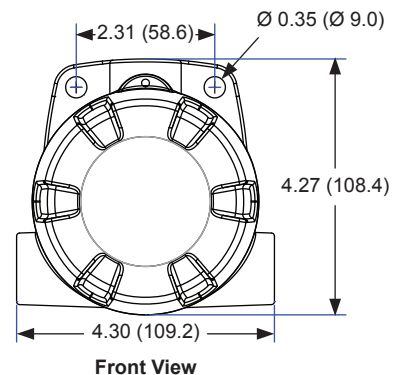
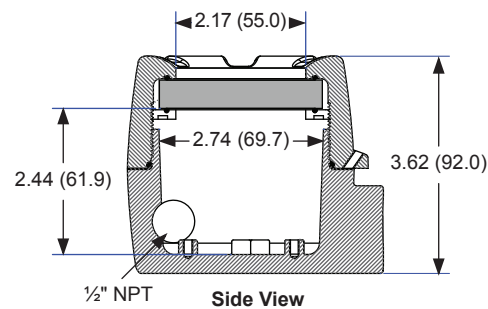
## Programming

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.



## DIMENSIONS

Units: Inch (mm)



Download free 3-D CAD files of these instruments to simplify your drawings!

[predig.com/documentation-cad](http://predig.com/documentation-cad)

# PD663 Explosion-Proof NEMA 4X IP68 Loop-Powered Meter

## SPECIFICATIONS

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

### General

**Display:** 0.6" (15.2 mm) LCD, 3½+ digits; -1999 to 2999

**Display Update Rate:** 2 Updates/Second

**Display Orientation:** Display may be mounted at 90° increments up to 270° from default orientation.

**Over-Range:** Display Flashes 2999

**Under-Range:** Display Flashes -1999

**Programming Method:** 4 Internal Pushbuttons (behind glass).

**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.

**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. Printed circuit boards are conformally coated.

**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

**Function:** Linear (2 to 32 points) or square root

**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; 4.7 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. Powered directly from the 4-20 mA loop, no batteries required. Backlight can be enabled or disabled via alternative wiring of terminal block. The display brightness will increase as the input signal current increases.

### Product Ratings & Approvals

**FM:** Explosion-proof for Class I, Division 1, Groups B, C and D and

Dust-ignition proof for Class II/ III, Division 1, Groups E, F and G; T6

Flame-proof for use in Class I, Zone 1, AEx d Group IIC; T6

Protection by Enclosure, Zone 21, AEx tb IIIC; T85°C

Ta = -40 to 75°C. Enclosure: Type 4X, IP66. Certificate number: 3040391

**ATEX & IECEx:** II 2 G D. Flame-proof for use in Zone 1, Ex d IIC T6 Gb

Protection by Enclosure for use in Dust Atmospheres (Zone 21),

Ex tb IIIC T85°C Db IP68. Ta = -40 to +75°C

ATEX Certificate Number: Sira 10ATEX1116X

IECEx Certificate Number: IECEx SIR 10.0056X

**CSA:** Explosion-proof for use in Class I, Division 1, Groups B, C and D.

Dust-ignition proof for use in Class II/III, Division 1, Groups E, F and G; T6

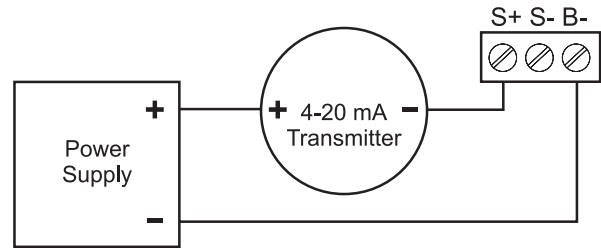
Flame-proof for use in Zone 1, Ex d IIC T6

Ta = -40 to 75°C. Enclosure: Type 4X & IP66/IP68.

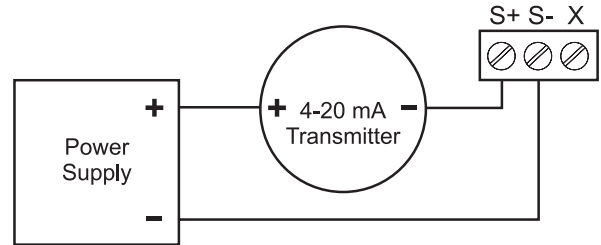
Certificate number: 2325749

**WARNING** - Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## CONNECTIONS



PD663 Input Connections with Backlight



PD663 Input Connections without Backlight

## ORDERING INFORMATION

ProtEX-Lite PD663 • Explosion-Proof Process Meter	
Model	Options Installed
PD663-0L0-00	None
PD663-0K0-00	Loop-Powered Backlight

Accessories	
Model	Description
PDA0003	½" M-NPT to ¾" F-NPT Adapter
PDA1024-01	24 VDC Power Supply for DIN Rail
PDA6631	1.5" U-Bolt Pipe Mounting Kit
PDA6631-SS	1.5" U-Bolt Pipe Mounting Kit, Stainless Steel
PDA6863	2" Pipe Mounting Kit, 2 Holes & 2 Slots
PDA6863-SS	2" Pipe Mounting Kit, 2 Holes & 2 Slots, Stainless Steel
PDA-SSTAG	Stainless Steel Tag

### Your Local Distributor is:

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