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## Model PD660 NEMA 4X



## Model PD661 Explosion-Proof



### Features

- 4-20 mA Input
- 1.5 V Drop
- 3½ Digit LCD ½" (12.7 mm) High
- Operating Temperature Range: -40 to 80°C



Note: For complete installation information see instruction manuals below

The PD660 and PD661 3½ digit loop-powered meters are perfect for applications where a simple inexpensive display is required and no AC power is available. And even if the lighting is poor, the loop-powered backlighting option lets you see the display under any lighting condition. This option gets its power from the 4-20 mA input loop so there is no need for additional wiring and no batteries to ever change. The PD660 and PD661 are housed in rugged NEMA 4X and Explosion-proof enclosures so they can be mounted virtually anywhere. The PD661-N-EX and PD661-B-EX have been FM Approved and CSA Certified as explosion-proof as complete products - not just the enclosures.

### Setup

The only tools needed for calibration are a calibrated current source, a flat head screwdriver, and a phillips head screwdriver. Please note that the meter must be disassembled in order to perform the setup functions.

## Disassembly

The calibration controls are located behind the display faceplate. To access these controls, you must first remove the enclosure cover and faceplate by doing the following:

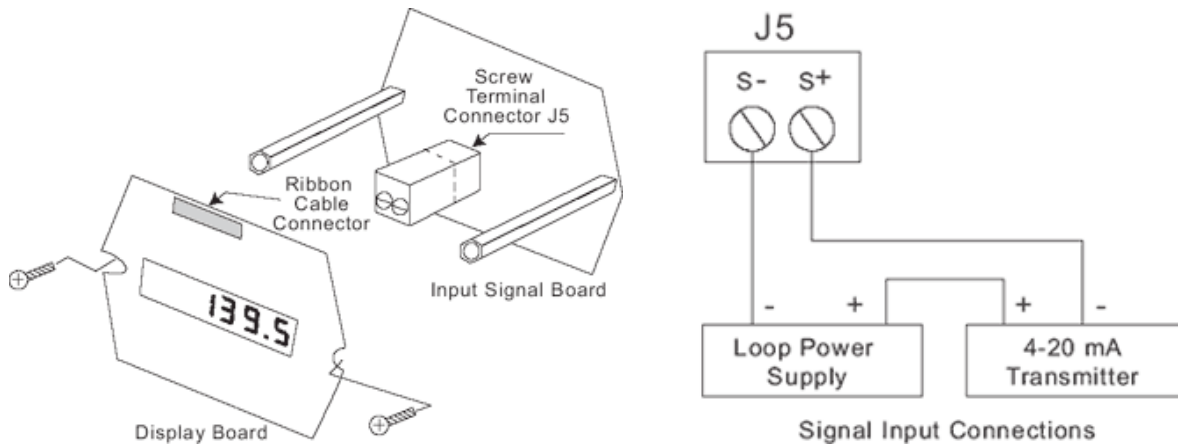
**PD660:** Loosen the four screws on the enclosure cover and remove. Unscrew the two fasteners that hold the faceplate, then remove.

**PD661:** Turn the enclosure cover counterclockwise to remove. Unscrew the two fasteners that hold the faceplate, then remove.

## Connections

Field connections are made to the screw terminals located on the Input Signal Board. To access these screw terminals it is necessary to remove the Display Board from the Input Signal Board. First, disconnect the ribbon cable connector from the Display Board. Next, loosen the two screws located to the left and right of the LCD that hold the Display Board in place. Finally, remove the Display Board carefully to avoid contact with any rough surfaces.

Connect a 4-20 mA input signal to terminal J5 located on the Input Signal Board as shown below.

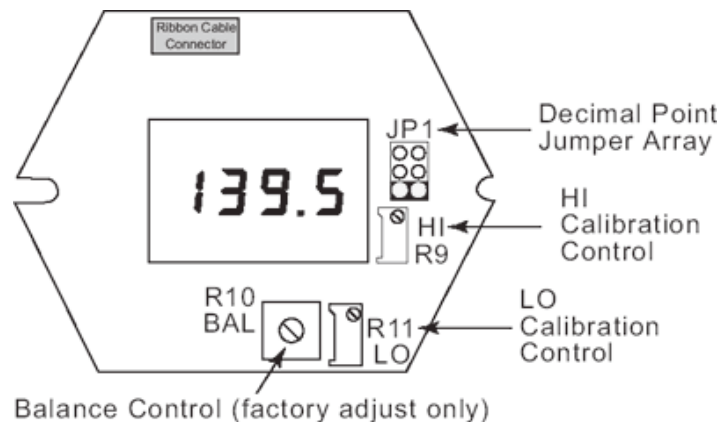


## Decimal Point Selection

Decimal point selection is accomplished using JP1 located behind the faceplate to the right of the display. Leave jumper on one pin only for a display of 1999 (default), place the jumper over both bottom pins for a display of 199.9, middle for 19.99, top for 1.999

## Calibration

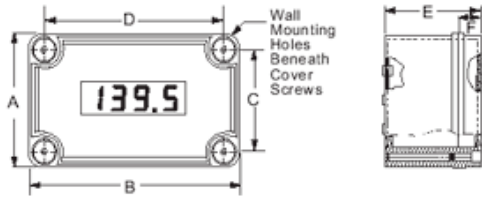
The LO control (R11) is located below the display and the HI control (R9) is located to the right of the display. Apply a 4 mA signal and adjust the LO control to display the desired reading. Next, apply a signal between 16 and 20 mA and adjust the HI control to display the desired reading. Complete the calibration by making any minor adjustments to the LO and HI controls.



## Mounting

## PD660

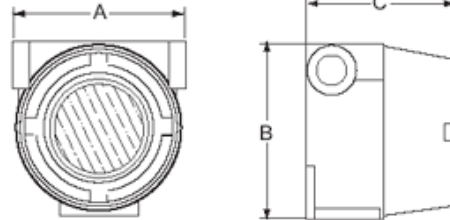
The PD660 can be wall mounted using the mounting holes beneath the cover screws. It can be panel mounted with the addition of the PDA6604 panel mount kit. It can also be pipe mounted by using the PDA6845 or the PDA6845-SS 2" pipe mounting kit.



A: 3.15 (80)      C: 2.36 (60)      E: 2.56 (65)  
B: 4.33 (110)      D: 3.54 (90)      F: 0.79 (20)

## PD661

The PD661 has no provisions for wall mounting. Installation of the unit is accomplished by using the two 1/2" NPT conduit holes provided with 1/2" NPT fittings.



A: 4.5 (114)      B: 4.75 (121)      C: 3.75 (95)

## Specifications

**Input:** 4-20 mA @ 24 VDC maximum

**Display:** 0.5" (12.7 mm) LCD, 3 1/2 digits; 1999

**Accuracy:** ±0.1% FS ±1 count

**Decimal Point:** User selectable decimal point

**Calibration:** 2 step; non-interacting zero and span

**Calibration Range:** 4 mA input: -500 to +500; 20 mA input: between 20 and 2000 above 4 mA display

**Maximum Voltage Drop:** 1.5 VDC @ 20 mA; 3.5 VDC @ 20 mA with backlight option

**Display Update Rate:** 2.5/second

**Loop-Powered Backlight Option:** Factory installed only. Powered directly from the 4-20 mA loop, no batteries required. The display brightness will increase as the input signal current increases.

**Connections:** Removable screw terminals accept 12 to 22 AWG

**Operating Temperature:** -40 to 80°C

**Storage Temperature:** -40 to 80°C

**Relative Humidity:** 0 to 90% non-condensing

**Approvals:** The PD661-N-EX and PD661-B-EX are FM Approved & CSA Certified as explosion-proof for Class I, Division 1, Groups B, C, & D; dust-ignition proof for Class II, Division 1, Groups E, F, & G; and Class III hazardous (classified) locations.

**PD660 Enclosure:** Impact-resistant ABS plastic body, color: gray, clear polycarbonate cover with blue faceplate; NEMA 4X, IP67; 1/2" conduit hole provided at base.

**PD660 Weight:** 9.3 oz (264 g)

**PD661 Enclosure:** Explosion-proof, cast aluminum with glass window, 0.3% max copper content, corrosion resistant polyester powder coating, color: safety blue. NEMA 4X, 7, & 9, IP66; FM Approved & CSA Certified: Class I, Division 1, Groups B, C, & D, Class II, Groups E, F, & G, Class III hazardous outdoor (Type 4X) locations.

Two 1/2" NPT holes provided; mounts directly to conduit.

**PD661 Weight:** 3.1 lb (1.4 kg)

**Warranty:** 2 years parts & labor

**Extended Warranty:** 1 or 2 years

### Disclaimer

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## Ordering Information

### Product Information

Model	Description	Price
PD660-N*	NEMA 4X Loop-Powered Meter	\$199
PD660-B	NEMA 4X Loop-Powered Meter with Loop-Powered Backlight	\$249
PD661-N*	Explosion-Proof Loop-Powered Meter	\$339
PD661-B	Exp-Proof Loop-Powered Meter with Loop-Powered Backlight	\$389
PD661-N-EX	FM Approved & CSA Certified Explosion-Proof Meter	\$399
PD661-B-EX	FM & CSA Exp-Proof Meter with Loop-Powered Backlight	\$449

\*Quick Shipment Program product, shipped within 2 working days

### Accessories

Model	Description	Price
PDA6604	Panel Mounting Kit for PD660	\$189
PDA6845	Pipe Mounting Kit for PD660	\$289
PDA6845-SS	2" Pipe Mounting Kit Stainless Steel for PD660	\$59
PDA-SSTAG	Stainless Steel Tag	\$25

### Services

Model	Description	Price
PDN-CAL	2-Point Calibration	\$50
PDN-CERTCAL	Certificate of Calibration	\$25
PDN-CERTCAL2	Certificate of Calibration with Data	\$50
PDN-EXTWRNTY1-0	Extended Warranty 1 Year Based on List Price: \$0-\$299	\$35
PDN-EXTWRNTY1-1	Extended Warranty 1 Year Based on List Price: \$300-\$599	\$50
PDN-EXTWRNTY2-0	Extended Warranty 2 Years Based on List Price: \$0-\$299	\$50
PDN-EXTWRNTY2-1	Extended Warranty 2 Years Based on List Price: \$300-\$599	\$75
PDN-LTCAL5	Lifetime Calibration with Annual Recert (shipped back within 5 days)	\$250

### Documentation

The documentation can be downloaded from these links:

- [Instruction Manual](#)
- [Mounting Kits for Precision Digital Meters](#)
- [Setup and Calibration Services Order Form](#)
- [Stainless Steel Tag Order Form](#)
- [Extended Warranty Info](#)

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