

# 5 DIGIT LOOP-POWERED PANEL METER WITH LOOP-POWERED BACKLIGHT

Model PD683



Coming Soon: Model PD688  
FM Approved & CSA Certified

- 2 V Drop (5.7 V with Backlight)
- 5 Digit LCD, 0.6" (15.2 mm) High
- Custom Engineering Units
- 20 Segment Bargraph Display
- Type 4X, NEMA 4X, IP65 Front
- Linear, Square Root, or Programmable Exponent
- Maximum/Minimum Display
- Non-Volatile Memory – No Battery Needed
- Loop-Powered Backlight

**INTRODUCTION**

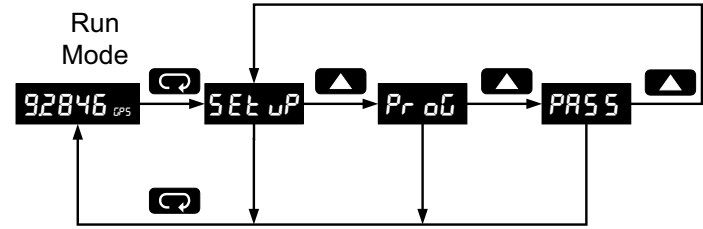
The PD683 is a general purpose loop-powered digital meter for safe area applications. The meter's four front panel buttons make the setup and programming an easy task. Five digits, bargraph, engineering units, and trend arrows provide a clear and attractive presentation of the process.

Square root and programmable exponent functions are standard features on the PD683. These features allow for conditioning of outputs from non-linear transmitters without adding external components to the system and the convenience of scaling without a signal source makes the PD683 the ideal choice for any process display application.

**SETUP & PROGRAMMING**

**Main Menu**

The Main menu consists of the most commonly used functions: *Setup*, *Program*, and *Password*.



- Press **Menu** button to enter Programming Mode then press **Up arrow** button to scroll main menu.
- Press **Menu** button, at any time, to exit and return to *Run Mode*. Changes made to settings prior to pressing **Enter/Ack** button are not saved.
- Changes to the settings are saved to memory only after pressing **Enter/Ack** button.
- The display moves to the next menu every time a setting is accepted by pressing **Enter/Ack** button.

**Display Features**

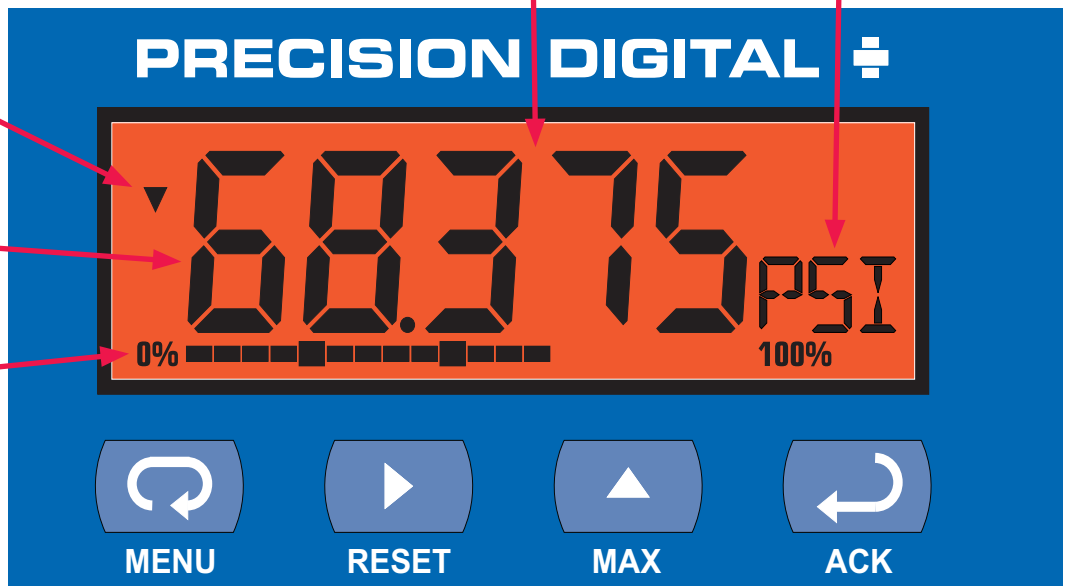
Standard Backlight

Engineering Units

Trend Arrow

5 Digits  
0.6" High

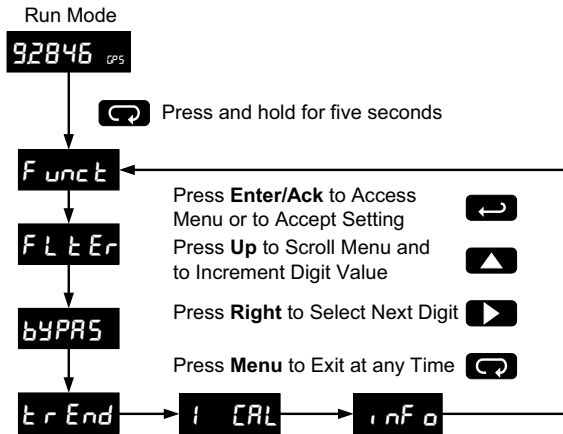
Bargraph



### Advanced Features Menu

To simplify the setup process, functions not needed for most applications are located in the Advanced features menu.

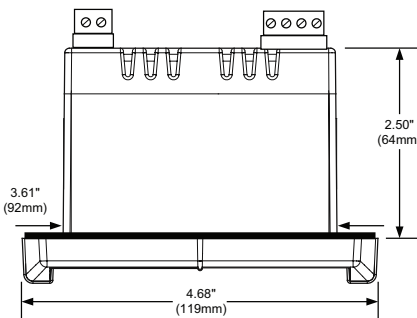
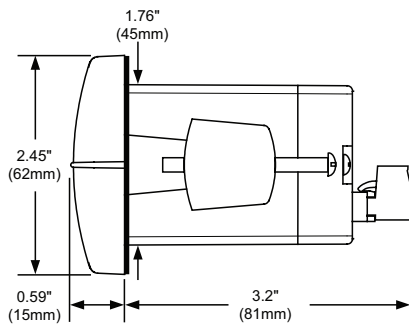
- Press and hold the **Menu** button for five seconds to access the advanced features of the meter.



### INSTALLATION

There is no need to remove the meter from its case to complete the installation, wiring, and setup of the meter.

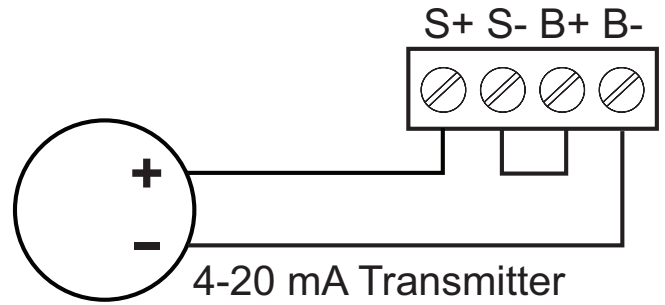
### Mounting Dimensions



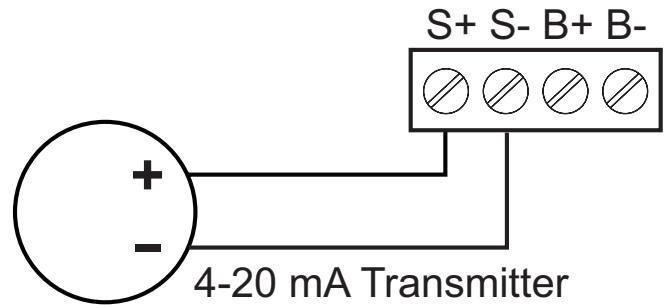
Notes:

- Panel cutout required: 1.772 x 3.622 (45 x 92)
- Panel thickness: 0.040 – 0.250 (1.0 – 6.4)
- Mounting brackets lock in place for easy mounting

### PD683 Wiring Diagrams



with Backlight



without Backlight

### OPTIONAL FIELD ENCLOSURES



Enclosures available for one to ten meters

Go to: [www.predig.com](http://www.predig.com) for complete details

PDA2706 NEMA 4 Enclosure Shown with Six PD683 Meters

## SPECIFICATIONS

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

### General

#### Display:

**Five digits:** -99999 to 99999, 0.60" (15.2 mm) high, 7-segment, automatic lead zero blanking.

**Engineering Units:** 0.25" (6.4 mm) high, 14-segment.

**Bargraph:** 20-segment, 0% to 100% indication.

**Trend arrows:** Up and down trend indication.

**Backlight:** Bright orange (intensity varies with signal)

**Display Update Rate:** 2.5/second

**Overrange:** Display flashes 99999

**Underrange:** Display flashes -99999

**Programming Method:** Four front panel buttons

**Noise Filter:** Programmable from 1 to 199

**Recalibration:** 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.

#### Voltage Drop:

**Without Backlight:** 2.0 V max

**With Backlight:** 5.7 V max

#### Equivalent Resistance:

**Without Backlight:** 125 Ω @ 20 mA

**With Backlight:** 315 Ω @ 20 mA

**Normal Mode Rejection:** 64 dB at 50/60 Hz

#### Environmental:

**Operating temperature range:** -40 to 85°C

**Storage temperature range:** -40 to 85°C

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

**Connections:** Screw terminals accept 12 to 22 AWG wire

**Enclosure:** 1/8 DIN, high impact plastic, UL 94V-0, color: gray

**Mounting:** 1/8 DIN panel cutout required. Two panel mounting bracket assemblies provided

#### Tightening Torque:

**Screw terminal connectors:** 4.5 lb-in (0.5 Nm)

**Overall Dimensions:** 2.45" x 4.68" x 4.19" (62 x 119 x 106 mm)

**Weight:** 8.0 oz (227 g)

**Warranty:** 3 years parts and labor

**Extended Warranty:** 1 or 2 years, refer to Price List for details

### Input

**Accuracy:** ±0.03% of span ±1 count, square root and programmable exponent: 10-100% FS

**Function:** Linear, square root, or programmable exponent

**Low-flow Cutoff:** -99999 to 99999 (-99999 disables cutoff function)

**Temperature Drift:** 50 PPM/°C from -40 to 85°C ambient

**Decimal Point:** Up to four decimal places

d.dddd, dd.ddd, ddd.dd, dddd.d, or ddddd

#### Calibration Range:

**Input Range:** 4-20 mA

**Minimum Span Input 1 & Input 2:** 0.40 mA

**Note:** An Error message will appear if input 1 and input 2 signals are too close together

**Input Overload:** Over current protection to 2 A max.

## ORDERING INFORMATION

Model	Description
PD683-0K0	Loop-Powered Panel Meter for Safe Area

### Enclosures

Model	Meters	Description	Mounting
PDA25XX	1 - 10*	Plastic NEMA 4X	Inside Cover
PDA26XX	1 - 6 *	Stainless Steel NEMA 4X	Through Door
PDA27XX	1 - 6 *	Steel NEMA 4X	Through Door

\* Go to [www.predig.com](http://www.predig.com) to find individual model numbers

Note: **XX** represents the last two digits of the model number which vary depending upon the actual model chosen.

### Services

Model	Description
PDN-CAL	2-Point Calibration
PDN-CERTCAL	Certificate of Calibration
PDN-CERTCAL2	Certificate of Calibration with Data
PDN-LTCAL	Lifetime Annual Recertification (shipped back same day)
PDN-LTCAL2	Lifetime Annual Recertification (shipped back next day)
PDN-LTCAL5	Lifetime Annual Recertification (shipped back within 5 days)
PDN-CERTCON	Certificate of Conformance
PDN-CSETUP	Custom Setup
PDN-ONEDAYRTN	One-Day Turnaround Service
PDN-EXTWRNTY1-0	Extended Warranty 1 Year (List Price \$0 - \$299)
PDN-EXTWRNTY2-0	Extended Warranty 2 Year (List Price \$0 - \$299)

YOUR LOCAL DISTRIBUTOR IS:



LDS683\_A 04/06