

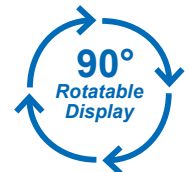
# PD6801

ProtEX-F&I Level Meter



FEET & INCHES

- Display Level in Feet & Inches
- 4-20 mA Input Loop-Powered
- Programmable  $\frac{1}{8}$  or  $\frac{1}{16}$  Inch Display
- 20-Segment Tank Level Indicator
- Lower Display for Tag, Volume, or Percent
- SafeTouch® Through-Glass Button Programming
- Open Collector Alarm Output
- Loop-Powered or External DC-Powered Backlight Standard
- Explosion-Proof, IP68, NEMA 4X Enclosure
- Operates from -40 to 75°C



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# PD6801 ProtEX-F&I Loop-Powered Level Meter

## PD6801 Level Meter

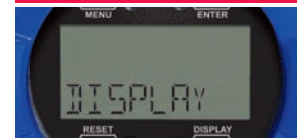
Displays clear alphanumeric tag names



### Lower Displays



### Simple to Setup



## OVER VIEW

The new ProtEX-F&I PD6801 explosion-proof level meter brings modern design, easy readability, and enhanced functionality to hazardous areas around the world in a way never seen before. The PD6801 features a clearly labeled feet and inches display. The feet and inches display is easily read and understood, providing quick and easy to comprehend information to operators. The meter can display in eighths or sixteenths of an inch. It includes a volume scale display feature and can be seen under varied lighting conditions, from wide angles, and from a distance. Spend a few minutes reviewing the features described in the graphic above and see how the PD6801 is the ideal level meter for your operation!

## KEY FEATURES

### Easy to understand Feet & Inches Display

The upper display is 0.6" high and shows clearly labeled feet and inches up to 399 feet, 11 and 15/16 inches. The high contrast, backlight LCD display is easy to read from far away and under various lighting conditions. Feet and inches are clearly labeled. Fractions of an inch may be displayed as eighths, sixteenths, or turned off, displaying only full feet and inches.

### 20-Segment Tank Level Indicator

A 20-segment tank level indicator gives a clear indicator of height at a glance. When a high level alarm is triggered, the tank level indicator will flash the segment indicating the alarm level. High and low level alarm indicators located with the tank level indicator will flash to alert an operator to the alarm condition. The tank level indicator may be scaled independently of the analog input scale, so the tank indicator may display as full at less than 20 mA. This is ideal for level transmitters that output less than 20 mA at the maximum height of the tank or pit depth.

### Lower Display for Tag, Volume, or Percent

The lower display is 0.4" high and shows either a custom tag, volume, or percent full with seven alphanumeric characters. A custom tag is programmable for any seven alphanumeric digits. The 14-segment display makes the tag easy to read, and it can include lower and upper-case letters. This is ideal for identification or material labels. Volume may be displayed from 0 to 9999999, with or without an alternating tag. Percent full may also be displayed, with or without an alternating tag. The percent is clearly labeled with PCT.

### Through-Glass SafeTouch Buttons

The PD6801 is equipped with four sensors that operate as through-glass buttons so that it can be programmed and operated without removing the cover (and exposing the electronics) in a hazardous area. These buttons can be disabled for security by selecting the LOCK setting on the switch located on the connector board in the base of the enclosure. To actuate a button, press one finger to the glass directly over the marked button area. When the cover is removed, four mechanical buttons located next to the sensors are used.

### Modern, Sleek and Practical Enclosure

The first thing customers notice about a product is its enclosure and the ProtEX-F&I really shines here. The copper-free (0.3%), smooth, die-cast aluminum NEMA 4X (IP68) enclosure is finished with a corrosion resistant epoxy coating that literally does make the ProtEX-F&I shine. The built-in mounting flanges make for convenient wall or pipe mounting and there is even a slot on the back of the enclosure for centering on the pipe. There are two ¾" NPT conduit holes for wiring.

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## Wide Viewing Angle

The window and display module have been optimized to provide a wide viewing arc of approximately 80°, nearly twice that of the competition! The PD6801 is designed to be looked at.



## Environmentally Tough

ProtEX™ Series meters not only look great with their modern, smooth die-cast aluminum enclosures, but they can be installed virtually anywhere. The NEMA 4X / IP68 enclosure provides serious protection from the elements, as well as high impact, corrosion and electrical interference. The extensive, worldwide agency approvals means they can be installed in virtually any environment.

## Perfect & Secure Fit Every Time

The internal cast rails ensure the ProtEX assemblies together perfectly, quickly and securely; components line up for optimal viewing every time. There are no standoffs to worry about breaking or getting out of alignment. Two spring-loaded, self-retaining, thumbscrews make the assembly a snap, while pressing the LCD as close to the glass as possible to improve wide angle viewing.

## INPUT SIGNAL CONDITIONING

### Volume Scale

An independent second display scale of the 4-20 mA input allows volume to be shown on the lower display. The volume scaling is fully independent of the level scale.

### Multi-Point Linearizer

Up to 32 linearization points can be selected for the level indicator under the Multipoint menu. The volume scale has an independent 32-point linearizer. Multi-point linearization can be used to linearize the display for non-linear signals, such as when measuring volume using level transmitters on odd-shaped tanks. The level scale and volume scale may use different numbers of linearization points.

### Live Input Calibration

In lieu of meter scaling, the meter can be calibrated with a precision signal source. This is done at any two points along the scale. Using this method, the operator can set a "best fit straight line" for non-linear input spans.

## ADDITIONAL FEATURES

### Open Collector Output Alarm & Indication

The PD6801 has an open collector output that may function as a high or low alarm. When in an alarm condition, the display will flash, and a HI or LO symbol is displayed. The alarm has an adjustable deadband (the difference between the set and reset points). The alarm is acknowledged by pressing the ENTER button.

### Password Protection

A 5-digit password prevents unauthorized changes to the programmed parameter settings. If the meter is password protected, the meter will display the message **LOCKED** when the Menu button is pressed.

## INSTALLATION

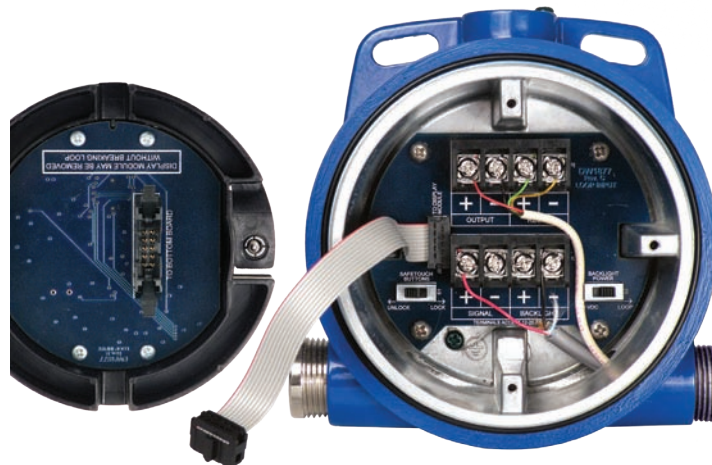
### Installation Flexibility

The PD6801's rotatable display/meter module, along with two available conduit connections, provides for numerous installation options. The display can be rotated in 90° increments. Rotate it 90° for horizontal mounting. Wiring can then be routed to either the top conduit connection, or from below to the opposite conduit connection (metal conduit plug supplied). Use both conduit connections for through-wiring in any plane.

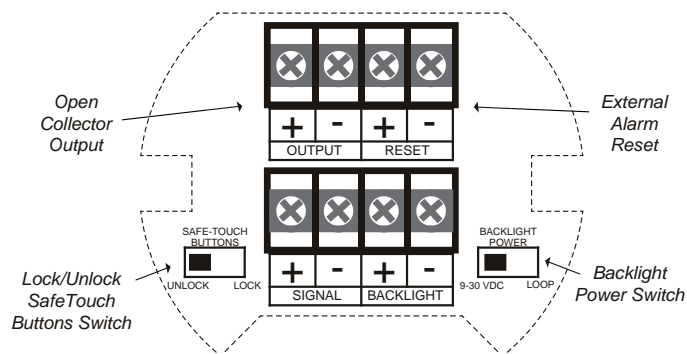


### Easy wiring & Service

Unscrew the two captured thumb screws and unplug a connecting cable and the display/meter module is simply and completely removed. A heavy duty terminal block is then easily accessed and wired. It is clearly marked to prevent wiring errors. The display/meter module can be removed *without breaking the loop*. As such, it can be serviced without the need to uninstall the entire product. All relevant hazardous area guidelines must be followed during service.



## CONNECTIONS



See LIM6801 manual for wiring instructions



# PD6801 ProtEX-F&I Loop-Powered Level Meter

## SPECIFICATIONS

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

### General

**Display:** Feet & Inches display: 0.60" (15.2 mm) high, 0 to 399 FT - 11 15/16 IN with 1/16 or 1/8 fraction display.  
Lower 7-digit display: 0.4" (10.2 mm) high, 14-segment alphanumeric characters, display tag, volume 0 to 9999999, and/or 0-100 percent.  
**Tank Level Indicator:** 20 segments, F (Full) and E (Empty)  
**Alarm Indication:** HI and LO; **Backlight:** White, loop or DC powered  
**Display Assignment:** Lower display may be assigned to custom unit or tag, volume, volume and tag, percent height, percent height and tag, or off.  
**Display update rate:** Ambient > -25°C: 2 Updates/Second  
Ambient < -25°C: 1 Update/5 Seconds  
**Externally Powered Backlight:**  
**Voltage Range:** 9-36 VDC

Supply Voltage	9 VDC	12 VDC	24 VDC	30 VDC
Maximum Power	0.2 W	0.25 W	0.5 W	0.75 W

**Overrange and underrange:** Level display flashes to 399 FT 11 15/16 IN Volume display flashes 9999999 if overrange, -999999 if underrange.

**Programming Method:** Four SafeTouch® through-glass buttons when cover is installed. Four internal pushbuttons when cover is removed.

**Noise Filter:** Programmable low (L), medium (M), high (H), or off (OFF)

**Recalibration:** Recalibration is recommended at least every 12 months.

**Password:** Programmable password restricts modification of settings.

**Nonvolatile 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

**Environmental:** Operating temperature range: -40 to 75°C

Storage temperature range: -40 to 75°C

Relative humidity: 0 to 90% non-condensing

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

**Enclosure:** Explosion-proof die cast aluminum with glass window, corrosion resistant epoxy coating, color: blue. NEMA 4X, 7, & 9, IP68.

Two 3/4" NPT threaded conduit openings. One 3/4" NPT metal conduit plug with 12 mm hex key fitting installed.

**Mounting:** May be mounted directly to conduit. Two slotted flanges for wall mounting or NPS 1 1/2" to 2 1/2" or DN 40 to 65 mm pipe mounting. See Mounting Dimensions.

**Overall Dimensions:** 5.65" x 5.25" x 4.86" (W x H x D)  
(144 mm x 133 mm x 124 mm)

**Weight:** 5.00 lbs (80 oz, 2.27 kg)

**Warranty:** 3 years parts and labor

### Input

**Accuracy:** ±0.03% of calibrated span ±1 count

**Input range:** 3 to 24 mA

**Multi-Point Linearization:** 2 to 32 points each for level and volume

**Temperature Drift:** 50 PPM/°C from -40 to 75 °C ambient

**Calibration range:**

Input Range: 4-20 mA, Input 1 & 2 Minimum Span: 0.10 mA

**Maximum Voltage Drop:** Without Backlight or with Externally-Powered

(DC Powered) Backlight: 3.0 VDC @ 20 mA

With Loop-Powered Backlight: 6.0 VDC @ 20 mA

**Equivalent resistance:** 150 Ω @ 20 mA without loop-powered backlight.

300 Ω @ 20 mA with loop-powered backlight.

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

### Open Collector Output

**Rating:** Isolated open collector, 30 VDC @ 150 mA max.

**Alarm Output:** Assign to level or volume for high or low alarm trip point.

**Deadband:** 0-100% FS, user selectable

**Acknowledge:** Front panel ENTER button and external RESET terminals resets output and screen indication.

### Disclaimer

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233 South Street • Hopkinton MA 01748 USA

## Product Ratings & Approvals

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

Class II, Division 1, Groups E, F, G

Class III, Division 1; T6

Class I, Zone 1, AEx d IIC T6 Gb

Zone 21, AEx tb IIIC T85°C

Ta = -40 to 75°C

Enclosure: Type 4X & IP66

Certificate number: 3040391

**ATEX:** II 2 G D

Ex d IIC T6 Gb

Ex tb IIIC T85°C Db IP68

Ta = -40 to 75°C

Certificate number: Sira 10ATEX1116X

**CSA:** Class I, Division 1, Groups B, C, D

Class II, Division 1, Groups E, F, G

Class III, Division 1; T6

Class I, Zone 1, Ex d IIC T6

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

Certificate number: 11 2325749

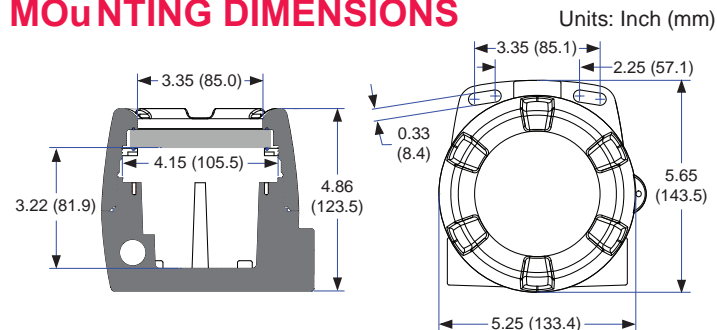
**IECEx:** Ex d IIC T6 Gb

Ex tb IIIC T85°C Db IP68

Ta = -40 to 75°C

Certificate number: IECEx SIR 10.0056X

## Mounting Dimensions



## Ordering Information

ProtEX-F&I PD6801 • Level Meter	
Model	Description
PD6801-0K1-0	ProtEX-F&I Meter with Backlight & Open Collector Output

Accessories	
Model	Description
PDA0001	3/4" M-NPT to F-M20 Reducer
PDA0002	3/4" M-NPT to 1/2" F-NPT Reducer
PDA6846	Pipe mounting kit; includes zinc-plated u-bolt for 2" pipe, (2) washers, and (2) nuts.
PDA6846-SS	Pipe mounting kit; includes stainless steel u-bolt for 2" pipe, (2) washers, and (2) nuts.

**your Local Distributor is:**

**Order from:**

**C A Briggs Company**

622 Mary Street; Suite 101

Warminster, PA 18974

Phone: 267-673-8117 - Fax: 267-673-8118

[Sales@cabriggs.com](mailto:Sales@cabriggs.com) - [www.cabriggs.com](http://www.cabriggs.com)

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