

# PD6908 Hazardous Area Loop-Powered Meter

## Quick Start Guide



This quick start guide briefly describes some of the common setup procedures for this meter. The meter is programmed using four easy-to-access front panel buttons.

For additional information about this meter not covered in this quick start guide, please consult the instruction manual available at [www.predig.com](http://www.predig.com).

### Front Panel Buttons Operation

Button Symbol	Description
	Press to enter or exit Programming Mode, view settings, or exit max/min readings.
	Press to display max/min readings.
	Press to reset max/min readings.
	Press to acknowledge all manually resettable relays or open collectors. Press to lock/unlock the display value after pressing the F1 key.

- CAUTION**
  - Read complete instructions prior to installation and operation of the meter.
  - Avoid touching more than one button at a time, otherwise the buttons become unresponsive and enter into a self-calibrating routine. This is indicated by the flashing hand symbol.

- WARNINGS**
  - This product is not recommended for life support applications or applications where malfunctioning could result in personal injury or property loss. Anyone using this product for such applications does so at his/her own risk. Precision Digital Corporation shall not be held liable for damages resulting from such improper use.
  - Failure to follow installation guidelines could result in death or serious injury. Make sure only qualified personnel perform the installation.
  - For Explosion-Proof / Dust-Ignition Proof / Flame-Proof applications, never remove the meter cover in explosive environments when the circuit is live.
  - Cover must be fully engaged to meet for Explosion-Proof / Dust-Ignition Proof / Flame-Proof requirements.
  - Hazardous voltages exist within enclosure. Installation and service should be performed only by trained service personnel.
  - Service requiring replacement of internal components must be performed at the factory.
  - Control room equipment must not use or generate more than 250 VRMS or VDC.
  - Hazardous location installation instructions for associated apparatus (barrier) must be followed when installing this equipment.
  - For safe installation of an ATEX approved transmitter in series with PD6908 loop-powered feet & inches meters, the hazardous location installation instructions for the transmitter, PD6907 loop-powered feet & inches meter, and associated apparatus (barrier) must be compatible.
  - PD6908 loop-powered meters do not add capacitance or inductance to the loop under normal or fault conditions.
  - Substitution of components may impair hazardous location safety.
  - Equipment contains non-metallic materials and therefore special care and consideration should be made to the performance of these materials with respect to chemicals which may be present in a hazardous environment.

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

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### Program Meter with MeterView XL Software

The fastest and easiest way to program the meter is using the free MeterView XL programming software. This software greatly simplifies the programming process and allows the user to save configuration files for later use.

The meter connects to the PC via a provided micro-USB cable and is powered by the USB connection, so no additional power is needed during programming.

To download the latest MeterView XL programming software and manual, please visit [predig.com/meterviewxl](http://predig.com/meterviewxl).

- WARNING**
  - The meter should only be connected to a computer while it is located in a safe area.

- CAUTION**
  - Care should be exercised to avoid ground loops when connecting the USB to an active loop (e.g. power supply, transmitter, loop-powered meter, etc.). It is recommended to connect the (mA+) terminal of the meter to the (-) terminal of a two-wire transmitter and the (mA-) to the (+) of the next device in the loop or to the (-) terminal of the power supply.

### Connections

To access the connectors, remove the enclosure cover and unclip the display module by pulling it from the enclosure. Signal, backlight, open collector, and digital input connections are made to removable connectors on the display module. Relays and 4-20 mA output connections (if installed) are made to removable connectors on the options board mounted in the base of the enclosure. The display module may be disconnected from the options module to facilitate wiring to the options module. Grounding connections are made to the two ground screws provided on the base of the enclosure, one internal and one external.

- WARNING**
  - Observe all safety regulations. Electrical wiring should be performed in accordance with all agency requirements and applicable national, state, and local codes to prevent damage to the meter and ensure personnel safety.
  - Static electricity can damage sensitive components.
  - Observe safe handling precautions for static-sensitive components.
  - Use proper grounding procedures/codes.
  - If the meter is installed in a high voltage environment and a fault or installation error occurs, high voltage may be present on any lead or terminal.

### Connectors Labeling

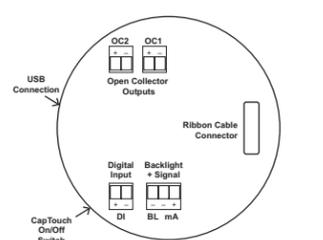


Figure 4. Connector Labeling for PD6908-HA-##-LNN

### Installation

To access the connectors, remove the enclosure cover and unclip the display module by pulling it from the enclosure. The display module may be disconnected from the options module to facilitate wiring to the options module.

Refer to Control Drawing (DW2636 - Contained within the LIM6908-2) for details related to intrinsically safe field wiring.

- WARNING**
  - Explosion-Proof / Dust-Ignition Proof / Flame-Proof
    - Disconnect from supply before opening enclosure. Keep cover tight while circuits are live. Conduit seals must be installed within 18" (450mm) of the enclosure.

### Unpacking

Remove the meter from box. Inspect the packaging and contents for damage. Report damages, if any, to the carrier. If any part is missing or the meter malfunctions, please contact your supplier or the factory for assistance.

### Mounting

The meter has a slotted mounting flange that may be used for pipe mounting or wall mounting. Alternatively, the unit may be supported by the conduit using the conduit holes provided. Refer to Figure 1 and Figure 2.

- WARNING**
  - Do not attempt to loosen or remove flange bolts while the meter is in service.

### Cover Jam Screw

The cover jam screw should be properly installed once the meter has been wired and tested in a safe environment. The cover jam screw is intended to prevent the removal of the meter cover in a hazardous environment without the use of tools. Using a M2 hex wrench, turn the screw clockwise until the screw contacts the enclosure base. Turn the screw an additional 1/4 to 1/2 turn to secure the cover.

- CAUTION**
  - Excess torque may damage the threads, screw head, and wrench.

### Dimensions

All units: inches (mm)

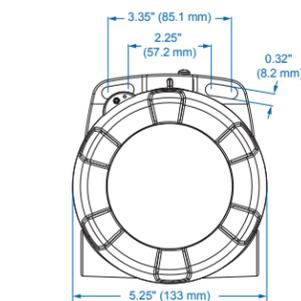


Figure 1. Enclosure Dimensions - Front View

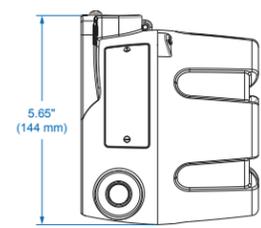


Figure 2. Enclosure Dimensions - Side View

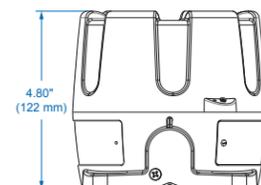


Figure 3. Enclosure Dimensions - Top View



### Wiring Diagrams

- IMPORTANT**
  - Refer to Control Drawing (DW2636 - Contained within the LIM6908-2) for details related to intrinsically safe field wiring.

### Current Loop (4-20) mA Connections

Signal connections are made to a three-terminal connector (see *Connectors Labeling*). The meter and the backlight are powered by the 4-20 mA current loop.

There are no switches or jumpers to set up for the input. Setup and programming are performed through the CapTouch buttons or PC-based software.

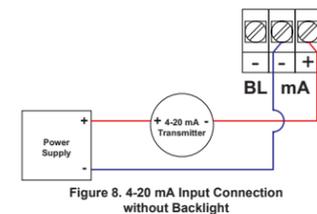


Figure 8. 4-20 mA Input Connection without Backlight

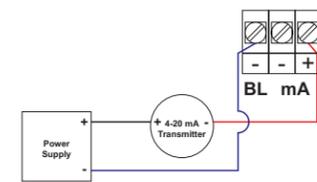


Figure 9. 4-20 mA Input Connection with Backlight

### Digital Input Connections

A digital input is standard on the meter. This digital input is connected with a normally open contact across DI+ and DI-, or with an active low signal applied to DI+ and DI-.

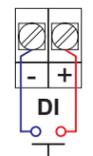
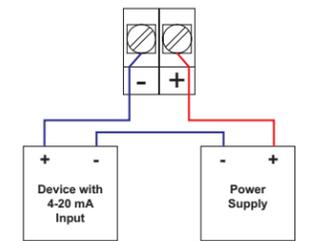


Figure 10. Digital Input Connections

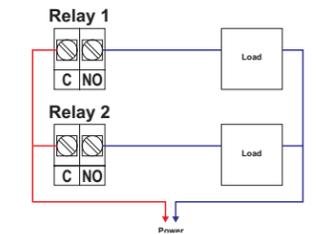
### 4-20 mA Output Connections

Connections for the 4-20 mA transmitter output are made to the connector terminals labeled 4-20 mA Output on Figures 6 and 7. The 4-20 mA output must be powered from an external power supply.



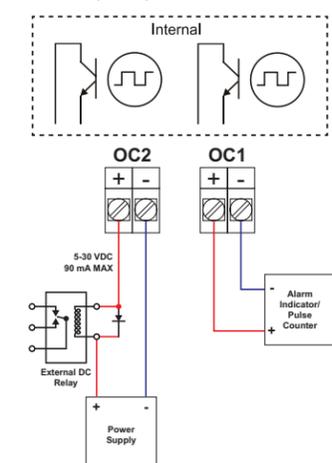
### Solid-State Relay Connections

Relay connections are made to two-terminal connectors. Each relay's C terminal is common only to the normally open (NO) contact of the corresponding relay.



### Open Collector Output Connections

Open collector output 1 and 2 connections are made to terminals labeled OC1 and OC2. Connect the alarm or pulse input device as shown below.



### Setup and Programming

The meter is factory calibrated prior to shipment to display 0.00 to 100.00, which corresponds to the 4-20 mA input. The calibration equipment is traceable to NIST standards.

### Overview

There are no jumpers to set; setup and programming is done through the CapTouch buttons or the free MeterView XL PC based software.

The meter may be powered via the micro-USB connection located on the display module for the purpose of programming only. The backlight will not work while the meter is powered via the USB connection.

- IMPORTANT**
  - CapTouch buttons will not work if two or more buttons are detected as being pressed simultaneously. Be careful to avoid triggering multiple buttons or reaching across one button location to press another.

### Buttons and Display



### CapTouch Buttons

The meter is equipped with four capacitive sensors that operate as through-glass buttons so that it can be programmed and operated without removing the cover.

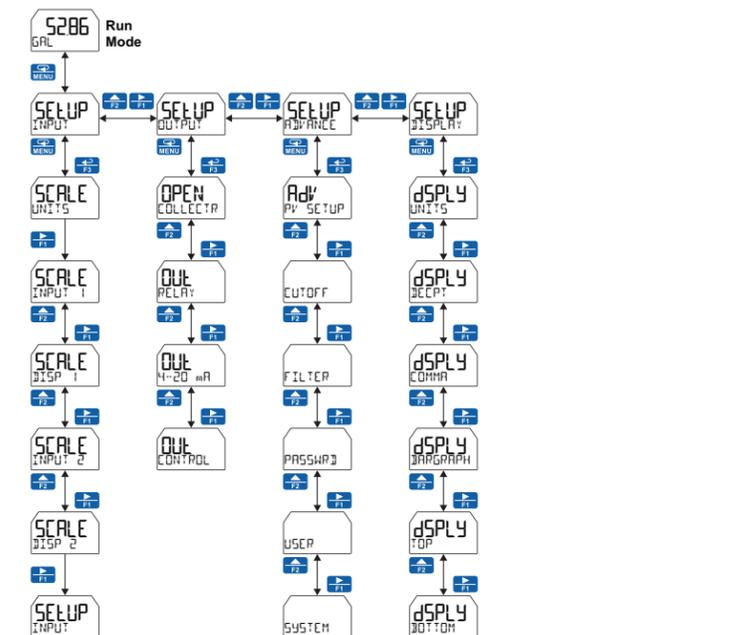
These buttons can be turned off for security by selecting the *Off* setting on the switch located on the side of the display module, close to the Menu button.

To actuate a button, press one finger to the window directly over the marked button area. When the cover is removed, the CapTouch buttons can be used after the meter completes a self-calibrating routine (hand symbol flashes). The sensors are disabled when more than one button is pressed, and they will automatically re-enable after a few seconds (hand symbol off).

### Main Menu

The *Main* menu consists of all the meter's programmable functions: *Input*, *Output*, *Advanced*, and *Display*.

- Press **Menu** button to enter *Programming Mode* then press the **Right-Arrow** button to move forward through the menu and the **Up-Arrow** button to move back.
- Press **Menu** at any time to go back one level or press & hold to exit and return to *Run Mode*. Changes made to settings prior to pressing **Enter** are not saved.
- Changes to the settings are saved to memory only after pressing **Enter/F3** to confirm the setting or pressing **Enter/F3** at the *SAVE?* screen when available.

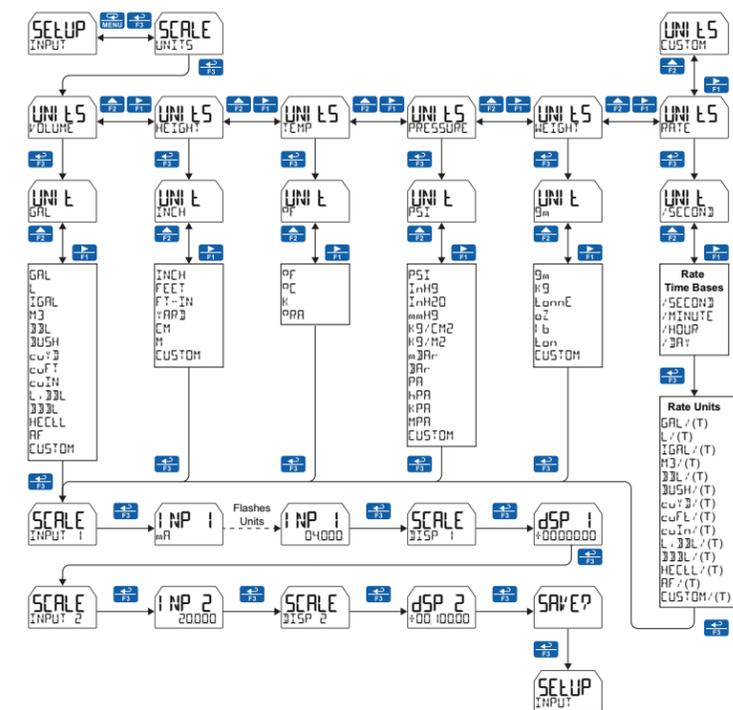


### Scaling the 4-20 mA Input

It is **very important** to read the following information before proceeding to program the meter:

- The meter is factory calibrated prior to shipment to display 0.00 to 100.00 gal, which corresponds to the 4-20 mA input. The calibration equipment is traceable to NIST standards.
- A calibrated signal source is not needed to scale the meter.

Enter the *Input* menu to scale the meter to display the 4-20 mA input. The input can accept any signal from 4 to 20 mA.



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