PD8-6060
ProtEX-MAX™ Dual-Input Process Meter

ProtEX™ MAX

90° Rotatable Display

PRECISION DIGITAL

86060.0 c
84.27
A

Super-Bright LEDs
Our Brightest Display Ever

MeterView Pro
USB Install

SafeTouch®

IECEx

FM APPROVED · CSA · Ex · CE

DUAL-INPUT
P R O C E S S

- **Dual-Input Process Meter with Math Functions**
- **Addition, Difference, Average, Multiplication, Division, Min, Max, Weighted Average, Ratio, Concentration, & More**
- **0-20 mA, 4-20 mA, 0-5 V, 1-5 V, and ±10 V Inputs**
- **Large Dual-Line 6-Digit Display, 0.60" & 0.46"**
- **SunBright Display Standard**
- **SafeTouch® Through-Glass Button Programming**
- **Input Power Options Include 85-265 VAC or 12-24 VDC**
- **Isolated 24 VDC @ 25 mA Transmitter Power Supply**
- **Programmable Display & Function Keys**
- **32-Point, Square Root, or Exponential Linearization**
- **Multi-Pump Alternation Control**
- **2 or 4 Relays + Isolated 4-20 mA Output Options**
- **External 4-Relay & Digital I/O Expansion Modules**
- **RS-232, & RS-485 Serial Communication Options**
- **Modbus® RTU Communication Protocol Standard**
- **On-Board Digital Input**
- **Onboard USB and MeterView® Pro Programming Software**

PRECISION DIGITAL

PRECISION DIGITAL CORPORATION

SafeTouch® Through-Glass Button Programming · **90° Rotatable Display** · FM APPROVED · CSA · Ex · CE · IECEx · Sunlight Readable Display · MeterView Pro USB Install

Callouts (left):
- Mounting Flanges (Up to 2½″ Pipe)
- Locking Screw
- SafeTouch® Menu Button
- User Configurable Display Showing Math Function Result
- User Configurable Display Showing Custom Tag
- Two ¾″ NPT Conduit Plugs
- SafeTouch® Right Arrow

Display reads: PRECISION DIGITAL · 10.728 · rAt io

Callouts (right):
- SafeTouch® Enter or Alarm Acknowledge Button
- Large 0.6″ Digits On Upper Display
- Explosion-Proof Die-Cast Aluminum NEMA 4X Enclosure
- Programmable Function Keys
- Alarm Status Indicators
- SafeTouch® Display or Up Arrow

ADVANCED, VERSATILE, & CUSTOMIZABLE

The PD8-6060 meter combines two independently programmed analog inputs with powerful math functions to make an advanced meter capable of handling complex math requirements common in the process industry. Various math functions may be applied to the inputs including addition, difference, average, multiplication, division, ratio, and more. A customizable dual-line display allows a wide variety of input variables, math calculations, or units and tags to be displayed based on your application needs.

KEY FEATURES

The PD8-6060 meter is the mathematician of the ProtEX-MAX family. Its two process input channels and math functions make it unique while still maintaining all the great features of the ProtEX-MAX family.

Dual-Input Process Meter

The PD8-6060 has two process input channels (A & B) capable of accepting current (0-20, 4-20 mA) and voltage (±10, 0-5, 1-5, 0-10 VDC). Each input is programmed separately, with independent input type selection and scaling. These inputs may be displayed individually as part of the customizable dual-line display, or used with a wide range of math functions. Each input has a custom unit or tag that may be displayed. A 24 V transmitter power supply is
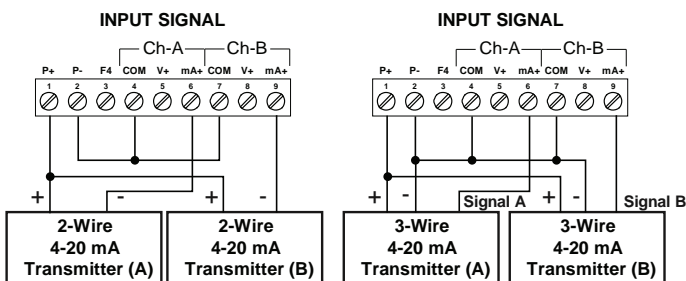
Powerful Math Functions

The PD8-6060 uses two process input channels (A & B) in a variety of powerful math functions designed for a wide range of process applications. Programmable adder (P) and factor (F) constants allow each formula to be customized as needed for a specific application. The math function (C) may be displayed with units, tags, channel A or B, and in other useful combinations.

Name	Function	Setting
Addition	$(A+B+P)*F$	Sum
Difference	$(A-B+P)*F$	d iF
Absolute diff.	$((Abs(A-B))+P)*F$	d iFAbS
Average	$(((A+B)/2)+P)*F$	AUG
Multiplication	$((A*B)+P)*F$	mult i
Divide	$((A/B)+P)*F$	d iU idE
Max of A or B	$((AB-Hi)+P)*F$	Hi-Ab
Min of A or B	$((AB-Lo)+P)*F$	Lo-Ab
Draw	$((A/B)-1)*F$	drAw
Weighted Avg.	$((B-A)*F)+A$	w AUG
Ratio	$(A/B)*F$	rAt io
Concentration	$(A/(A+B))*F$	ConcEn

Note: The F constant can be any value from 0.00001 to 999999. If the value is less than 1, it will have the same effect as a divider. For example, the average could also be derived by using $(A+B)*F$, where $F = 0.500$.

Max/Min Display

Max/Min (or Peak/Valley) is standard on the ProtEX-MAX PD8-6060. Either display can be configured to show either input's maximum or minimum value since last reset. The displays can also be configured to toggle between Max and Min values. Both values can be simply reset from the front panel.

Wiring Diagrams

INPUT SIGNAL — Ch-A — Ch-B
P+ P- F4 COM V+ mA+ COM V+ mA+
1 2 3 4 5 6 7 8 9

- 2-Wire 4-20 mA Transmitter (A)
- 2-Wire 4-20 mA Transmitter (B)

INPUT SIGNAL — Ch-A — Ch-B
P+ P- F4 COM V+ mA+ COM V+ mA+
1 2 3 4 5 6 7 8 9
Signal A — Signal B

- 3-Wire 4-20 mA Transmitter (A)
- 3-Wire 4-20 mA Transmitter (B)

PD8-6060 ProtEX-MAX™ Dual-Input Process Meter

Easy to Program

The user friendly dual-line display makes the ProtEX-MAX easy to set up & program. No jumpers to set for input selection. All setup & programming can be done using the SafeTouch buttons on the front of the meter face. Three levels of password protection help maintain the reliability of the programming.
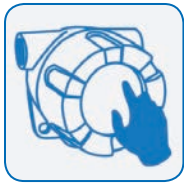

Input Setup


Display Setup

SafeTouch® Button Programming

The ProtEX-MAX 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. The SafeTouch buttons are configured by default to duplicate the function of the front panel mechanical pushbuttons associated with the integrated meter.

Standard SunBright LED Display

The ProtEX-MAX's SunBright display features extraordinarily bright LEDs. They are perfect for indoor and outdoor applications where visibility may be impaired by smoke, fog, dust, or distance or even in direct sunlight.

Free USB Programming Software & Cable

The ProtEX-MAX™ comes preloaded with free **MeterView® Pro** programming software that connects and installs directly to your PC with a standard USB cable, also provided free with each instrument. This eliminates the need to insert CDs, install drivers, or download software from the internet. The software will allow you to configure, monitor, and datalog a ProtEX-MAX™ PD8-6060 using your PC. Just simply connect the meter to your PC with the USB cable and within minutes you will be programming it.

Free USB Cable Included for Easy Software Installation
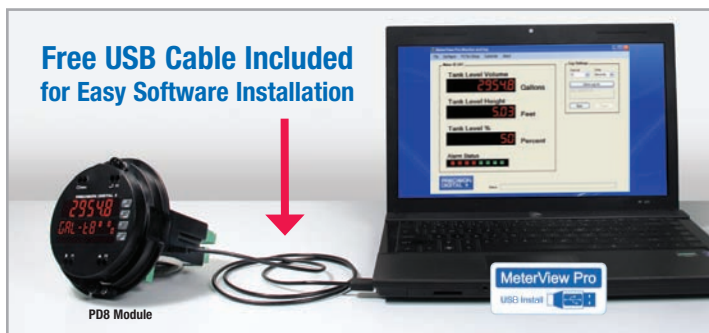
Function Keys

There are three front panel function keys, and a standard external digital input, which can be used as an external function "key" (F4). The external input is located on the rear signal connector (ground to trigger). The keys and external input trigger certain programmed events (i.e. acknowledge alarms, reset max and/or min, disable/enable output relays, and much more), provide direct menu access points, and more.

Customizable Displays

The ProtEX-MAX has two red LED displays, an Upper display 0.60" (15 mm) high, and a Lower display 0.46" (12 mm) high. Each display is a full 6 digits (-99999 to 999999).

The displays can be set up to read input channels (A or B), math function channel C, toggle between A & B, B & C, A & C, A & B & C, toggle between channels A, B, or C & units, the max/min of any of the channels, including the math channel (C), set points, gross (without tare) or net (with tare) & gross values of channel A or B, or the Modbus input. This allows the display to be setup to display whatever variables are most valuable to the application. Here are just a few examples.

Math Function & Tag
The Upper display shows the math function result (C). The Lower display shows a custom label, in this case the math function used.

Math Function & Inputs A & B
The Upper display shows the math function result (C). The Lower display alternates between channels A and B, with an indicator for each when being displayed.

Input Channels A & B
Both input channels are displayed, input A on the Upper display and input B on the Lower display. Indicators show A or B to label the display.

Alternation Display

Certain display options alternate the display information. A single display can show input variable information as well as that channel's unit or tag. Input and math function channels, gross and net values, and select inputs and the math result may also alternate on a single display. Below are just a few of the options for setting up a single display to alternate information.

Lower Display Alternating Input Channels A & B

Both Displays Alternating Input Value and Unit

Three Tier Password Protection

The ProtEX-MAX offers 3 levels of password protection:
- Level 1 protection allows the operator use of only the 3 pre-configured function keys on the front panel without a password.
- Level 2 protection allows the operator use of only the function keys and the ability to change set points without a password.
- Level 3 protection restricts the operator from using the function keys and all meter configuration menus without a password.

Advanced Linearization Capability

The ProtEX-MAX includes a 32-point linearizer for each input. In non-linear level applications (i.e. some pumping or lift stations), it can easily compensate for submerged equipment or plumbing that displace usable volume. In addition to the 32-point linearization, the ProtEX-MAX can perform a square root or programmable exponent function on one or both inputs, or automatically calculate level in round horizontal tanks by inputting the length and height of the tank. Each input's linearization is performed independently prior to the input value being used in any math function. Precision Digital's free MeterView Pro PC-based software greatly simplifies the construction of the linearization tables. The software can save this data to the meter and/or PC.

On-Board Digital Input

The PD8-6060 includes a digital input as standard. This digital input can operate with the tare, reset tare, or interlock relays feature, force relays on from a signal from a PLC or relay on other equipment, and much more. This is ideal for installations where the meter is inaccessible behind a cover, or where an additional function key is needed for customized operation.
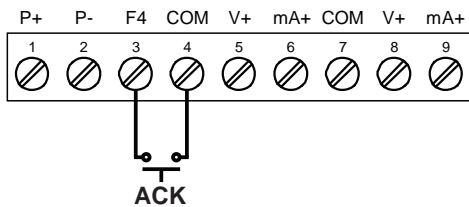
Rounding

The rounding feature is used to give the user a steadier display with fluctuating signals. It causes the display to round to the nearest value according to the rounding value selected (1, 2, 5, 10, 20, 50, or 100). For example, with a rounding value of 10, and a input of 12346, the display would indicate 12350.
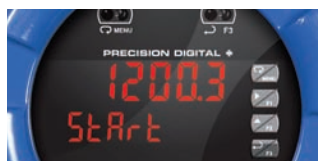
DIGITAL COMMUNICATIONS

Modbus® RTU Serial Communications

With the purchase of a serial communication adapter, ProtEX-MAX meters can communicate with any Modbus Master device using the ever-popular Modbus communications protocol that is included in every ProtEX-MAX. This greatly increases the flexibility of the meter. Modbus provides much more capability than read PV and write set points.
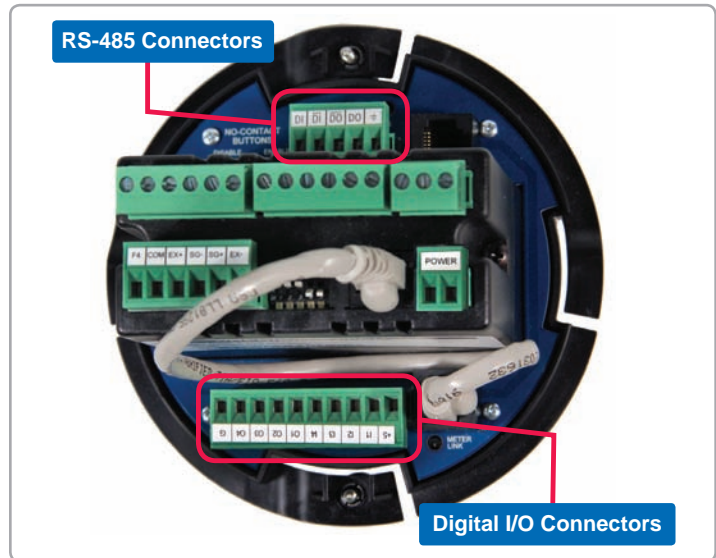

Modbus PV Input   **Remote Message**

INTEGRATED DIGITAL I/O AND SERIAL COMMUNICATIONS

Digital I/O Connections

Four digital inputs and four digital outputs come standard with the ProtEX-MAX. External digital inputs can function similarly to the front panel function keys or digital input F4. They can be configured to trigger certain events (i.e. acknowledge/reset alarms, reset max and/or min values, disable/enable all output relays, and hold current relay states), or provide a direct menu access point. The inputs can be used to configure the meter remotely using panel mount push buttons on a control station, giving the user remote control of the four front panel push buttons.

Digital outputs can be used to remotely monitor the ProtEX-MAX's alarm relay output states, or the states of a variety of actions and functions executed by the meter.

Note: The onboard digital inputs (1-4) are configured at the factory to function identically to the front panel pushbuttons (Menu, F1, F2, & F3) in order to work with the SafeTouch buttons. Changing the programming of the digital inputs will affect the function of the SafeTouch buttons.
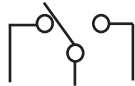

Serial Communications Connections

ProtEX-MAX meters come with an RS-485 connection for serial communications with other digital devices. The industry standard Modbus® RTU protocol is included with every meter.

OUTPUTS

Relay Outputs

The ProtEX-MAX has up to four 3 A Form C relays (SPDT) with multiple power loss fail-safe options. Each relay may be assigned to input channel A or B, or math result (C). Relays can be configured for proper protective action upon input loop break. Relay ON and OFF delay times are user adjustable. Up to eight front panel indicators show alarm and/or relay state. All relays can be configured for 0-100% deadband.

Relay Operation/Configuration

There are powerful relay functions that can be configured in the 9 meter, including:

- Automatic reset only (non-latching)
- Automatic + manual reset at any time (non-latching)
- Latching (manual reset only)
- Latching with clear (manual reset only after alarm condition has cleared)
- Pump alternation control (automatic reset only)
- Sampling (activated for a user-specified time)
- User selectable fail-safe operation
- Relay action for loss (break) of 4-20 mA input signal
- Time delay (on and off), independent for each relay
- Manual control mode
- Interlock relay mode

Analog Output

The isolated analog retransmission signal can be configured to represent process input channel A or B, math result (C), max or min for channel A, B, or highest or lowest max or min of A and B, set points 1-8, Modbus input, or manual control mode. While the output is nominally 4-20 mA, the signal will accurately accommodate under- and over-ranges from 1 to 23 mA.

Manual Output Control

Take control of any output with this feature. All relays can be forced ON or OFF, and the 4-20 mA output signal can be set to any value within its range. When the relays and 4-20 mA output are controlled manually, an LED labeled "M" is turned on and the associated Alarm LEDs (1-8) flash every 10 seconds indicating that the meter is in manual control mode.

Isolated Transmitter Power Supplies

A powerful 24 V @ 200 mA power supply is a standard feature on the ProtEX-MAX meter. It can be configured for 5, 10, or 24 V (default) by means of a simple internal jumper (see manual). An additional power supply (24 V @ 40 mA) is standard with the 4-20 mA output option.

Sampling Function (PV Triggered Timed Relay)

The sampling function allows the operator to set a set point for a "sampling" relay. The relay can be assigned to input channels A or B, or the math result (C). When the PV reaches that set point, it will close that relay's contacts for a preset period of time (0.1 to 5999.9 seconds). An example of its use may be for beer/ale fermentation. When the batch reaches a certain pH, the relay contacts would close and alert someone or automatically take a sample of the batch. This function can be used whenever a timed relay output closure is required when the PV reaches a certain set point.

Interlock Relay(s)

This function allows a process to use one or more very low voltage input signals or simple switch contacts to control the state of one or more internal "interlock" relays. A violation (i.e. loss of input, open switch, or open circuit) forces one or more N/O interlock relay contacts to open. One input can be used in series with a number of interlock switches, or up to eight inputs can be required to force-on one (or more) internal interlock relays. Please see Application Note AN-1008 on our website for more information. Requires PDA1044 Digital I/O module or use of on-board digital input F4.
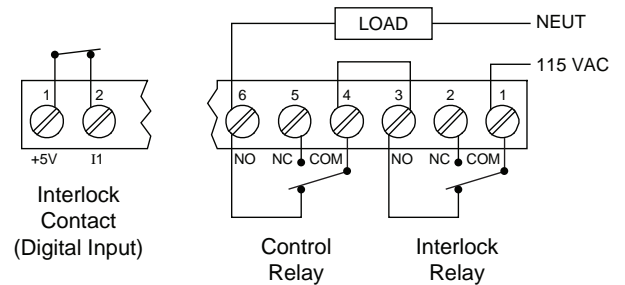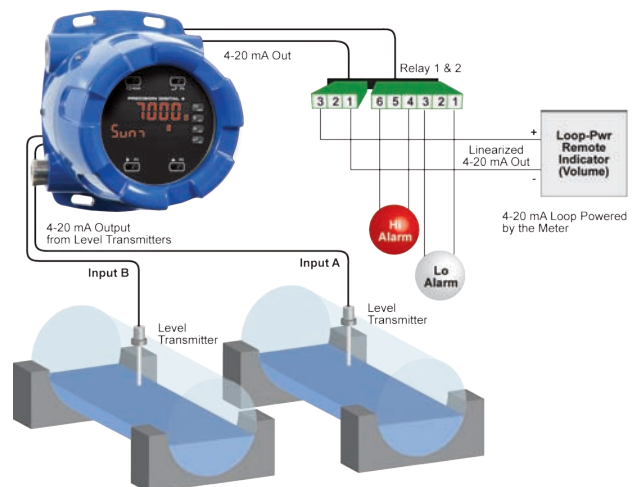

SIGNAL INPUT CONDITIONING

Non-linear input signals (i.e. weirs & flumes, differential pressure, etc.) can be linearized with the ProtEX-MAX's simple to use built-in signal input conditioning, such as: square-root extractor, exponential linearizer, horizontal round tank linearizer, or the ProtEX-MAX powerful general purpose 32-point linearizer.
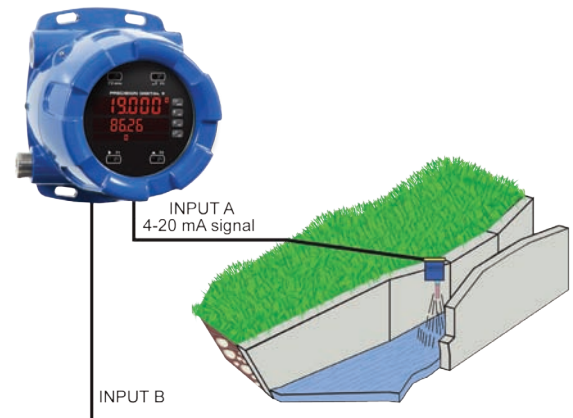
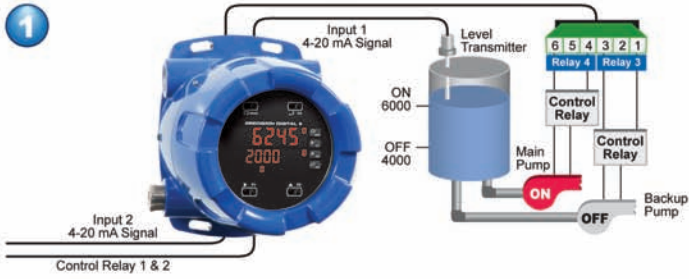**Weir Flow Calculated Using Exponential Signal Input Conditioner**
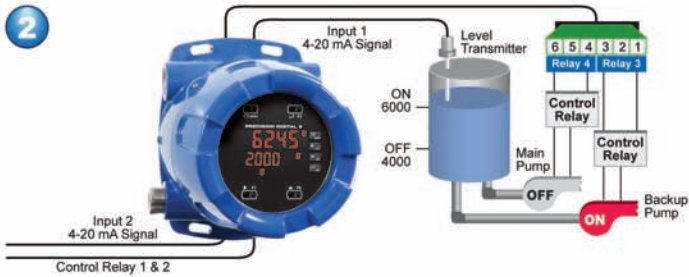

Round Horizontal Tank Signal Input Conditioner
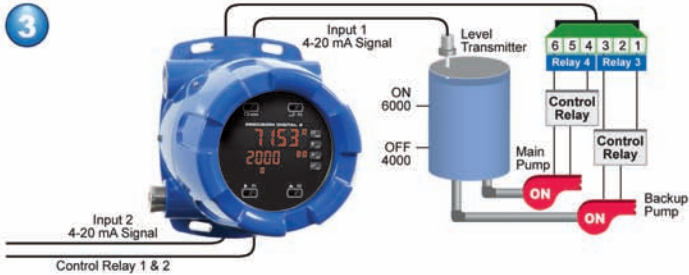
Multi-Pump Alternation

Up to 8 pumps can be alternated/sequenced.

Relay #4 turns the main pump on at 6000 gallons and turns it off at 1000 gallons.

With the Pump Alternation feature activated, the next time the level reaches 6000 gallons, relay #3 transfers and starts the backup pump.


If the backup pump is not able to keep up, and the level reaches 7000 gallons, relay #4 transfers and starts the main pump as well.

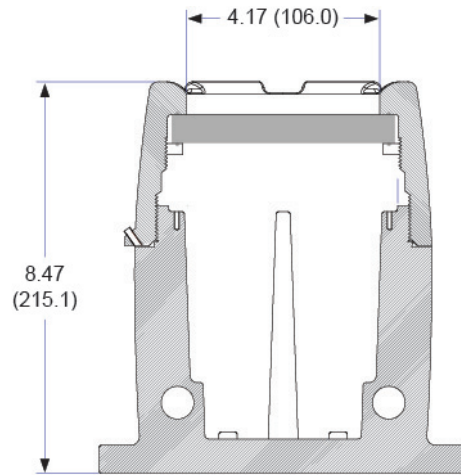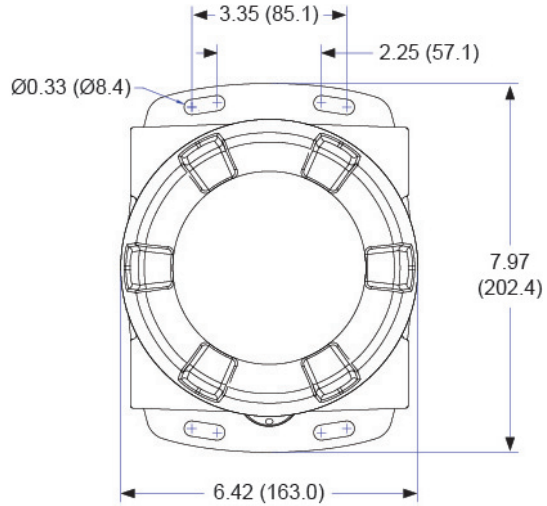At 4000 gallons, relay 3 turns off and the system returns to normal pump alternation control.

METERVIEW® PRO SOFTWARE

Configure, monitor, and datalog a ProtEX-MAX PD8-6060 from a PC using MeterView Pro Software available via USB or for download at www.predig.com).
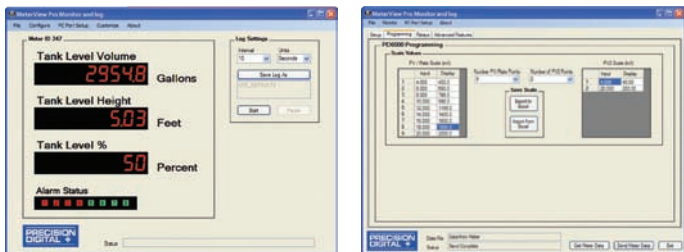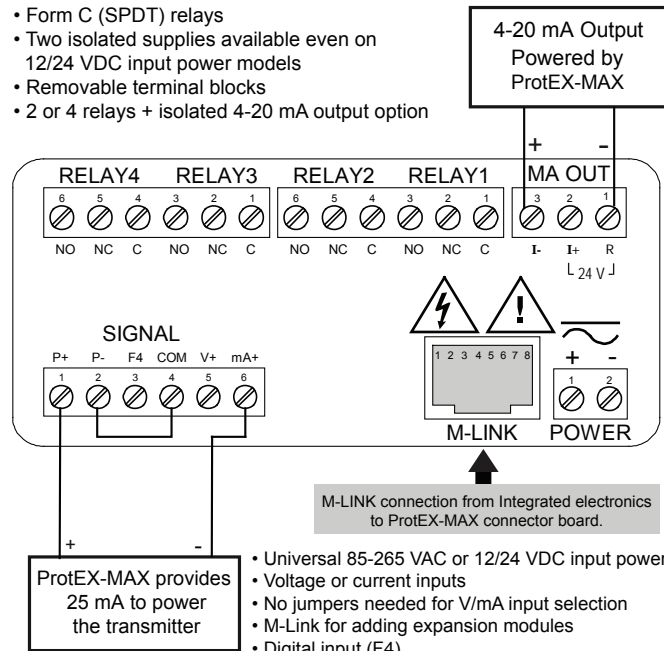

DIMENSIONS

Units: Inches (mm)

- 3.35 (85.1)
- 2.25 (57.1)
- Ø0.33 (Ø8.4)
- 7.97 (202.4)
- 6.42 (163.0)
- 4.17 (106.0)
- 8.47 (215.1)

CONNECTIONS

- Form C (SPDT) relays
- Two isolated supplies available even on 12/24 VDC input power models
- Removable terminal blocks
- 2 or 4 relays + isolated 4-20 mA output option

4-20 mA Output Powered by ProtEX-MAX

RELAY4   RELAY3   RELAY2   RELAY1   MA OUT

6 5 4 3 2 1   6 5 4 3 2 1   6 5 4 3 2 1   6 5 4 3 2 1   3 2 1

NO NC C   NO NC C   NO NC C   NO NC C   I- I+ R

24 V

SIGNAL

P+ P- F4 COM V+ mA+

1 2 3 4 5 6

1 2 3 4 5 6 7 8

+ -

M-LINK   POWER

M-LINK connection from Integrated electronics to ProtEX-MAX connector board.

ProtEX-MAX provides 25 mA to power the transmitter

- Universal 85-265 VAC or 12/24 VDC input power
- Voltage or current inputs
- No jumpers needed for V/mA input selection
- M-Link for adding expansion modules
- Digital input (F4)

SPECIFICATIONS

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

General

Display: Upper display: 0.60" (15 mm) high. Lower display: 0.46" (12 mm) high. Both are 6 digits (-99999 to 999999), red LEDs

Display Intensity: Eight user selectable intensity levels

Display Update Rate: 5/second (200 ms)

Overrange: Display flashes 999999

Underrange: Display flashes -99999

Display Assignment: The Upper and Lower displays may be assigned to process values for Channels A (Ch-A), B (Ch-B), or C (Ch-C), toggle between (Ch-A & Ch-B, Ch-A & Ch-C, Ch-B & Ch-C, and Ch-A, Ch-B, & Ch-C), toggle between Channel & units, show channel gross value (no tare) or toggle net (tare) and gross values, show relay set points, max & min values, or Modbus input. The second display may also be set to show engineering units or be off, with no display.

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

F4 Digital Input Contacts: 3.3 VDC on contact. Connect normally open contacts across F4 to COM.

F4 Digital Input Logic Levels: Logic High: 3 to 5 VDC

Noise Filter: Programmable from 2 to 199 (0 will disable filter)

Filter Bypass: Programmable from 0.1 to 99.9% of calibrated span

Recalibration: All ranges are calibrated at the factory. Recalibration is recommended at least every 12 months.

Max/Min Display: Max (Peak) / min (Valley) readings reached by the process are stored until reset by the user or until power to the meter is cycled.

Password: Three programmable passwords restrict 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.

Power Options: 85-265 VAC 50/60 Hz, 90-265 VDC, 20 W max, or optional model with 12-24 VDC ±10%, 15 W max.

Fuse: Required external fuse: UL Recognized, 5 A max, slow blow; up to 6 meters may share one 5 A fuse.

Isolated Transmitter Power Supply: Terminals P+ & P-: 24 VDC ± 10%. internally selectable jumper for 24, 10, or 5 VDC supply. All models transmitter supply rated @ 25mA max.

Normal Mode Rejection: Greater than 60 dB at 50/60 Hz

Isolation: 4 kV input/output-to-power line. 500 V input-to-output or output-to-P+ supply.

Overvoltage Category: Installation Overvoltage Category II: Local level with smaller transient overvoltages than Installation Overvoltage Category III.

Environmental: T6 Class operating temperature range Ta = -40 to 60°C
T5 Class operating temperature range Ta = -40 to 65°C

Max Power Dissipation: Maximum power dissipation limited to 15.1 W.

Connections: Removable screw terminal blocks accept 12 to 22 AWG wire, RJ45 for external relays, digital I/O, and serial communication adapters.

Enclosure: Explosion-proof die cast aluminum with glass window, corrosion resistant epoxy coating, color: blue.
NEMA 4X, 7, & 9, IP68.
Default conduit connections: Four ¾" NPT threaded conduit openings and two ¾" NPT metal conduit plugs with 12 mm hex key fitting installed. Additional conduit opening configurations may be available; verify quantity and sizes on specific device labeling during installation.

Mounting: Four slotted flanges for wall mounting or NPS 1½" to 2½" or DN 40 to 65 mm pipe mounting. See Mounting Dimensions in the PD8-6060 instruction manual.

Overall Dimensions: 6.42" x 7.97" x 8.47" (W x H x D)
(163 mm x 202 mm x 215 mm)

Weight: 16.0 lbs (7.26 kg)

UL File Number: UL & C-UL Listed. E160849; 508 Industrial Control Equipment.

Warranty: 3 years parts & labor

USB Connection: Compatibility: USB 2.0 Standard, Compliant
Connector Type: Micro-B receptacle
Cable: USB A Male to Micro-B Cable
Driver: Windows 98/SE, ME, 2000, Server 2003/2008, XP 32/64-Bit, Vista 32/64-Bit, Windows 7 32/64-Bit, Windows 10 32/64-Bit
Power: USB Port

Dual Process Input

Inputs: Two inputs, each separately field selectable:
0-20, 4-20 mA, 10 V (0-5, 1-5, 0-10 V), Modbus PV (Slave)

Channels: Channel A, Channel B, Channel C (Math channel)

Programmable Constants: Constant P (Adder): -99999 to 999999, default: 0.000; Constant F (Factor): 0.00001 to 999999, default: 1.000

Math Functions: Addition, difference, absolute difference, average, multiplication, division, max of A or B, min of A or B, draw, weighted average, ratio, concentration. See instruction manual for details.

Sequence of Operations for Input Programing:

1. Select Input for A and B
2. Set up the engineering units for A, B, and C
3. Set up decimal point for A, B, and C
4. Scale A & B
5. Set up the displays for A, B, or C
6. Select the transfer function for A & B (e.g. Linear)
7. Select Math function for Channel C
8. Program constants for Factor (F) and Adder (P).
9. Program cutoff values for A and B

Accuracy: ±0.03% of calibrated span ±1 count, square root & programmable exponent accuracy range: 10-100% of calibrated span

Temperature Drift: 0.005% of calibrated span/°C max from 0 to 65°C ambient, 0.01% of calibrated span/°C max from -40 to 0°C ambient

Signal Input Conditioning: Linear, square root, programmable exponent, or round horizontal tank volume calculation.

Multi-Point Linearization: 2 to 32 points for channel A and B

Programmable Exponent: 1.0001 to 2.9999

Low-Flow Cutoff: 0-999999 (0 disables cutoff function)

Decimal Point: Up to five decimal places or none: *d.ddddd*, *dd.dddd*, *ddd.ddd*, *dddd.dd*, *ddddd.d*, or *dddddd*.

Calibration Range: 4-20 mA: minimum span input 1 & input 2: 0.15 mA. ±10 V: minimum span input 1 & 2: 0.10 V. An Error message will appear if input 1 and input 2 signals are too close together.

Input Impedance: Voltage ranges: greater than 500 kΩ. Current ranges: 50 - 100 Ω (depending on resettable fuse impedance).

Input Overload: Current input protected by resettable fuse, 30 VDC max. Fuse resets automatically after fault is removed.

Relays

Rating: 2 or 4 SPDT (Form C) internal and/or 4 SPST (Form A) external; rated 3 A @ 30 VDC and 125/250 VAC resistive load; 1/14 HP (≈ 50 W) @ 125/250 VAC for inductive loads.

Noise Suppression: Noise suppression is recommended for each relay contact switching inductive loads.

Deadband: 0-100% of span, user programmable

High or Low Alarm: User may program any alarm for high or low trip point. Unused alarm LEDs and relays may be disabled (turned off).

Relay Operation: automatic (non-latching), latching (requires manual acknowledge), sampling (based on time), pump alternation control (2 to 8 relays), Off (disable unused relays and enable interlock feature, manual on/off control mode).

Relay Reset: User selectable via front panel buttons or digital inputs.
1. Automatic reset only (non-latching), when input passes the reset point.
2. Automatic + manual reset at any time (non-latching).
3. Manual reset only, at any time (latching).
4. Manual reset only after alarm condition has cleared (latching).
Note: Front panel button or digital input may be assigned to acknowledge relays programmed for manual reset.

Time Delay: 0 to 999.9 seconds, on & off relay time delays. Programmable and independent for each relay.

Fail-Safe Operation: Programmable and independent for each relay.
Note: Relay coil is energized in non-alarm condition. In case of power failure, relay will go to alarm state.

Auto Initialization: When power is applied to the meter, relays will reflect the state of the input to the meter.

Serial Communications

Protocol: Modbus® RTU
Meter Address/Slave ID: 1 - 247
Baud Rate: 300 - 19,200 bps
Transmit Time Delay: Programmable between 0 and 199 ms
Data: 8 bit (1 start bit, 1 or 2 stop bits)
Parity: Even, odd, or none with 1 or 2 stop bits
Byte-to-Byte Timeout: 0.01 - 2.54 seconds
Turn Around Delay: Less than 2 ms (fixed)
Note: Refer to the PROVU® Modbus Register Tables located at www.predig.com for details.

Isolated 4-20 mA Transmitter Output

Output Source: Process channel A, B, or C, max or min for channel A, B, or highest or lowest max or min of A and B, set points 1-8, Modbus input, or manual control mode
Scaling Range: 1.000 to 23.000 mA for any display range
Calibration: Factory calibrated: 4.000 to 20.000 = 4-20 mA output
Analog Output Programming: 23.000 mA maximum for all parameters: Overrange, underrange, max, min, and break
Accuracy: ± 0.1% of span ± 0.004 mA
Temperature Drift: 0.4 µA/°C max from 0 to 65°C ambient, 0.8 µA/°C max from -40 to 0°C ambient
Note: Analog output drift is separate from input drift.

Isolated Transmitter Power Supply: Terminals I+ & R: 24 VDC ± 10%. Isolated from the input at >500 V. May be used to power the 4-20 mA output or other devices. All models @ 25 mA max.
External Loop Power Supply: 35 VDC maximum
Output Loop Resistance:

Power supply	Minimum	Maximum
24 VDC	10 Ω	700 Ω
35 VDC (external)	100 Ω	1200 Ω

Product Ratings and Approvals

FM: Type 4X; IP66
Class I, Division 1, Groups B, C, D
Class II, Division 1, Groups E, F, G
Class III, Division 1, T5/T6
Class I, Zone 1, AEx d, IIC Gb T5/T6
Zone 21, AEx tb IIIC T90°C; Ta -40°C to +65°C
T6 Ta = -40°C to +60°C; T5 Ta = -40°C to +65°C
Certificate Number: 3047283

CSA: Class I, Division 1, Groups B, C, D
Class II, Division 1, Groups E, F, G
Class III, Division 1
Class I Zone 1 Ex d IIC
Zone 21 Ex tb IIIC T90°C
-40°C < Tamb. < +60° C; Temperature Code T6
-40°C < Tamb. < +65° C; Temperature Code T5
Enclosure Type 4X & IP66
Certificate Number: 2531731

ATEX: II 2 G D
Ex d IIC T* Gb
Ex tb IIIC T90°C Db IP68
Ta = -40°C to +*°C
*T6 = -40°C to +60°C
*T5 = -40°C to +65°C
Certificate number: Sira 12ATEX1182

IECEx: Ex d IIC T* Gb
Ex tb IIIC T90°C Db IP68
Ta = -40°C to +*°C
*T6 = -40°C to +60°C
*T5 = -40°C to +65°C
Certificate Number: IECEx SIR 12.0073

ORDERING INFORMATION

ProtEX-MAX® PD8-6060 • Standard Models		
85-265 VAC Model	**12-24 VDC Model**	**Options Installed**
PD8-6060-6R0	PD8-6060-7R0	None
PD8-6060-6R2	PD8-6060-7R2	2 Relays
PD8-6060-6R3	PD8-6060-7R3	4-20 mA Output
PD8-6060-6R4	PD8-6060-7R4	4 Relays
PD8-6060-6R5	PD8-6060-7R5	2 Relays & 4-20 mA Output
PD8-6060-6R7	PD8-6060-7R7	4 Relays & 4-20 mA Output
Note: 24 V Transmitter power supply standard on all models.		

ProtEX-MAX® PD8-6060 • SunBright Display Models		
85-265 VAC Model	**12-24 VDC Model**	**Options Installed**
PD8-6060-6H0	PD8-6060-7H0	None
PD8-6060-6H2	PD8-6060-7H2	2 Relays
PD8-6060-6H3	PD8-6060-7H3	4-20 mA Output
PD8-6060-6H4	PD8-6060-7H4	4 Relays
PD8-6060-6H5	PD8-6060-7H5	2 Relays & 4-20 mA Output
PD8-6060-6H7	PD8-6060-7H7	4 Relays & 4-20 mA Output
Note: 24 V Transmitter power supply standard on all models.		

Accessories	
Model	**Description**
PDAPLUG75	3/4" NPT 316 Stainless Steel Stopping Plug with Approvals
PDA7485-I	RS-232 to RS-422/485 Isolated Converter
PDA7485-N	RS-232 to RS-422/485 Non-Isolated Converter
PDA8485-I	USB to RS-422/485 Isolated Converter
PDA8485-N	USB to RS-422/485 Non-Isolated Converter
PDA6846	Pipe Mounting Kit Zinc Plated (Requires 2)
PDA6846-SS	Pipe Mounting Kit Stainless Steel (Requires 2)

Your Local Distributor is:

Disclaimer

LDS8-6060_B   03/17

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