

# PD8-6262/PD8-6363

ProtEX-MAX™ Dual-Input Rate/Totalizers



FLOW RATE/TOTAL

## COMMON PROTEX-MAX™ DUAL-INPUT METER FEATURES

- Modern, Sleek and Practical Enclosure
- Display Mountable at 0°, 90°, 180°, & 270° Degrees
- Explosion-Proof, IP68, NEMA 4X Enclosure
- SafeTouch® Through-Glass Button Programming
- Rate, Total, and Grand Total for Each Input Channel
- Addition, Difference, Average, Multiplication, Division, Min, Max, Weighted Average, Ratio, Concentration, & More
- Input Power Options Include 85-265 VAC or 12-24 VDC
- Large Dual-Line 6-Digit Display, 0.60" & 0.46"
- SunBright Display Standard
- 4 Relays + Isolated 4-20 mA Output Option
- External 4-Relay, Dual Analog Output, and Digital I/O Expansion Modules
- RS-232, & RS-485 Serial Communications Expansion Modules
- On-Board Digital Input
- Modbus® RTU Communication Protocol Standard
- Isolated 24 VDC @ 25 mA Transmitter Power Supply
- Onboard USB and MeterView® Pro Programming Software

### PD8-6262 ANALOG DUAL-INPUT RATE/TOTALIZER

- Analog Dual-Inputs with Math Functions
- 0-20 mA, 4-20 mA, 0-5 V, 1-5 V, and  $\pm 10$  V Inputs

### PD8-6363 PULSE DUAL-INPUT RATE/TOTALIZER

- Pulse, Open Collector, NPN, PNP, TTL, Switch Contact, Sine Wave (Coil), Square Wave Inputs
- Gate Function for Display of Slow Pulse Rates

**PRECISION  
DIGITAL**

# PD8-6262/PD8-6363 ProtEX-MAX™ Dual-Input Rate/Totalizers



Through-Glass  
Button Programming



IECEX



Sunlight Readable  
Display



PD8-6363 Shown ▲

## PERFECT FOR FLOW APPLICATIONS

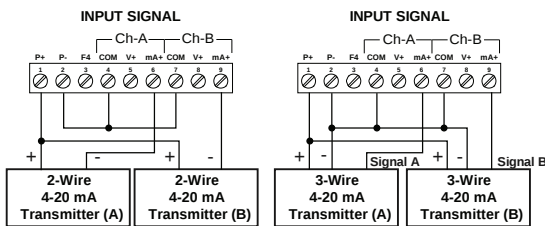
The PD8-6262 and PD8-6363 ProtEX-MAX™ are multipurpose, easy to use digital dual analog/pulse input flow rate/totalizers designed for displaying flow rate and total from flowmeters with analog or pulse outputs. The displays, relays, and the analog/pulse output may be assigned to the rate, total, or grand total of input channels A or B; or math result channel C. Three of the front panel buttons can be custom-programmed for a specific operation.

## KEY FEATURES

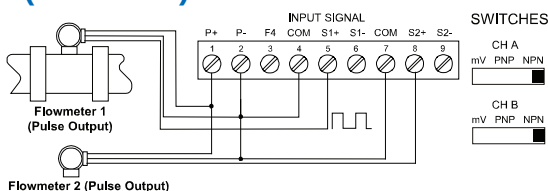
### Dual-Input Process Meter

The PD8-6262 has two process input channels (A & B) capable of accepting current (0-20, 4-20 mA) and voltage ( $\pm 10$ , 0-5, 1-5, 0-10 VDC). The PD8-6363 accepts two pulse (e.g.  $\pm 40$  mV to  $\pm 8$  V), square wave (0-5 V, 0-12 V, or 0-24 V), open collector, NPN, PNP, TTL or switch contact signals. 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.

### Analog (PD8-6262)



### Pulse (PD8-6363)



## 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.

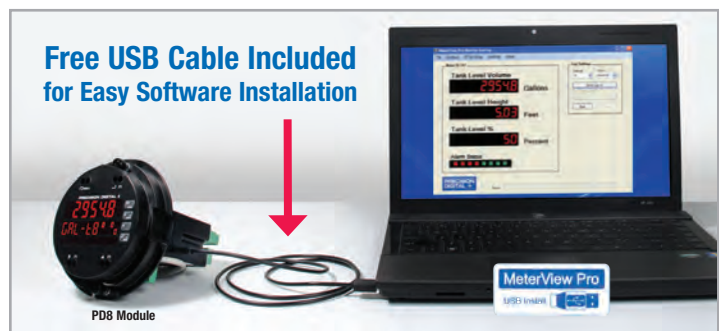
## Standard SunBright LED Display

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™ PD8-6262/6363 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



## Powerful Math Functions

The PD8-6262/PD8-6363 uses two rate input channels (A & B) with total and grand total for each in a variety of powerful math functions designed for a wide range of flow 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, rate, total or grand total, and in other useful combinations. See *math function chart under Specifications*.

## 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), rate, total, or grand total, 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, 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 & Totals A & B

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



### Input Channels A & B Total

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

## Totalizer Overflow Displays Total to 9 Digits

These flow rate/totalizers can display up to nine digits of total flow with the total overflow feature. In the diagrams below, the flow totalizer is displaying 532,831,470 by toggling between a display of "oF 532" and "831470". Notice the "oF" stands for overflow.



## Simplified & Dynamic Menu System

The ProtEX-MAX minimizes the menu selections by auto-detecting the installed options to determine what menu navigation is required. For example, extra menu items for the relay expansion module, I/O expansion, etc. are not present unless those options have been installed.

## Alternating 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 Totals



Both Displays Alternating Total and Unit

## Environmentally Protected

The ProtEX-MAX has standard UV protection, a NEMA 4X front panel, extremely durable face plate, performs in a wide ambient operating temperatures, and is CE Certified (high noise and RF immunity).

## 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 PV Input

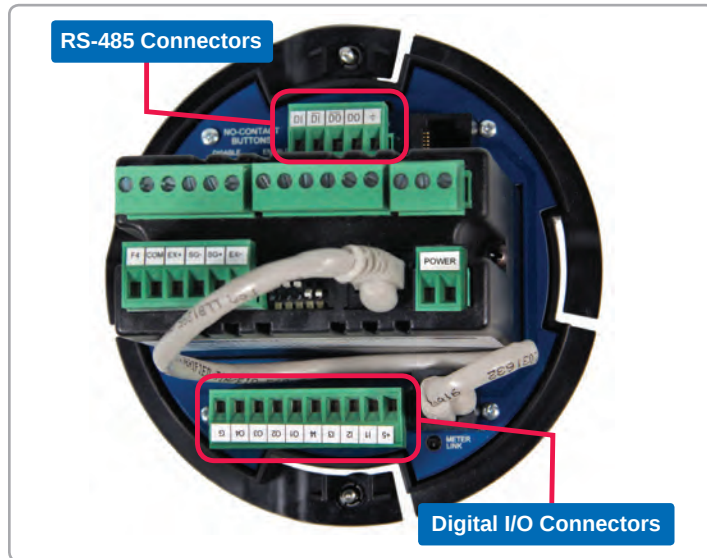


Remote Message

## METERVIEW® PRO SOFTWARE

Configure, monitor, and datalog a ProtEX-MAX PD8-6262 and PD8-6363 from a PC using MeterView Pro Software available via USB or for download at [www.predig.com](http://www.predig.com).

## 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

### Analog Outputs

Each isolated analog retransmission signal can be configured to represent the channel A or B rate/process variable (PV), total, grand total, maximum (peak) value or minimum (valley) value; Channel C; math value; or the value for any of the eight relay set points, manual setting control, or Modbus input. While the output is nominally 4-20 mA, the signal will accurately accommodate under and over ranges from 1 to 23 mA.

### Relay Outputs

The ProtEX-MAX is available with 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, rate, total or grand total, 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 ProtEX-MAX 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

### 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.

### Sampling Function (PV Triggered Timed Relay)

The sampling function allows the operator to set a set point for a "sampling" relay. When the process (rate or total) 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 wastewater sampling. When the wastewater total reaches a preset total interval (i.e. every 10,000 gallons), the relay contacts would close for a preset time, and by some means (light, horn, etc.) alert someone to take a sample, or provide the trigger to automatically take a sample of the wastewater. The utility of this function can, of course, be expanded beyond sampling and be used whenever a timed relay output closure is required when the rate or a total interval reaches a certain set point.

## 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.



## TOTALIZER CAPABILITIES

ProtEX-MAX flow rate/totalizers can be programmed for a wide variety of totalizer applications. Each input channel has a total, grand total, or non-resettable grand total with a time base of seconds, minutes, hours or days. The user can program a totalizer conversion factor for each channel, a non-resettable grand total, password protection, and several total reset methods.

### Non-Resettable Grand Total

The user can set up the grand totals to be non-resettable by entering a specific password. Once this is done, the grand total can never be reset for either input channel.

### Totalizer Conversion Factors

The user can enter a totalizer conversion factor for each channel that allows the meter to display total in different units than the rate. For instance, a meter could display flow rate in gallons per minute and total in hundredths of acre-feet.

### Totalizer Password Protection

The totals and grand totals can be password protected so they can be reset only by authorized personnel.

### Remote Total Reset

An I/O expansion module or F4 digital input can be used to remotely reset the totals or grand totals. The reset switch is wired into the module or F4 input and the module is connected to the M-Link RJ45 connector at the back of the flow rate/totalizer.

### Total Alarms

The ProtEX-MAX's four internal and four external relays can be set up to alarm when the total of channel A or B, or channel C math based on the totals, reaches a user-defined set point. A variety of reset modes are available and the user can also program time delays and fail-safe operation.

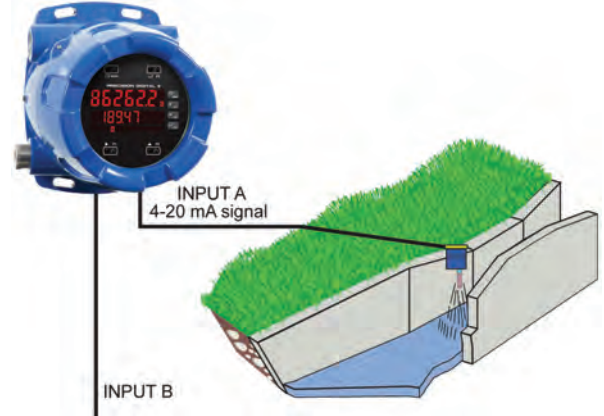
## APPLICATIONS

### Differential Pressure Flow (PD8-6262)

The PD8-6262 can display flow rate and total by extracting the square root from the 4-20 mA signal from differential pressure transmitters. The user selectable low-flow cutoff feature gives a reading of zero when the flow rates drop below a user selectable value.

- Display Flow Rates and Totals
- User Selectable Low-Flow Cutoff
- Only 2 Calibration Points Required

### Open Channel Flow (PD8-6262)

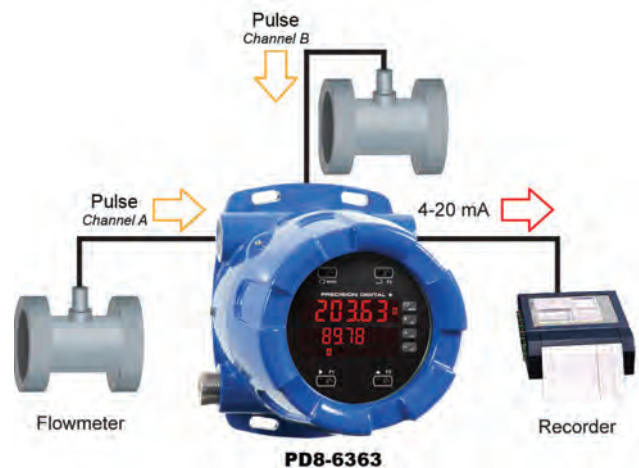


#### Weir Flow Calculated Using Exponential Signal Input Conditioning

The PD8-6262, in combination with ultrasonic level transmitters, makes for an economical way to measure and display open channel flow rates and totals in most weirs and flumes, and take periodic samples. All the user needs to do is enter the exponents for the weirs or flumes into the PD8-6262 and the PD8-6262 automatically raises the input signals to those powers. Sampling can be based on the total flow or the flow rate. Each channel's signal input conditioning is programmed independently.

### Convert Pulses to 4-20 mA (PD8-6363)

The PD8-6363 accepts pulse outputs from flowmeters and with the appropriate option installed, can convert the pulses to a 4-20 mA signal. The 4-20 mA signal can be programmed to correspond to either the flow rate or the total flow.



- Use K-Factor or Multi-Point Scaling
- ProtEX-MAX Powers the Flowmeters
- Up to 3 Analog Outputs

## 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. 6 digits each (-99999 to 999999), red LEDs with lead zero blanking.

**Display Intensity:** Eight user selectable intensity levels

**Display Update Rate:** PD8-6262: 5/second (200 ms) PD8-6363: Rate: 10 per second; up to 1 per 100 seconds (and is a function of Low Gate setting); Total: 10 per second (fixed)

# PD8-6262/PD8-6363 ProtEX-MAX™ Dual-Input Rate/Totalizers

**Overrange:** Display flashes 999999

**Underrange:** Display flashes -99999

**Display Assignment:** The Upper and Lower displays may be assigned to show: One or more rate channels: Channel A (Ch-A), B (Ch-B), or C (Ch-C), Toggle between rate channels: Ch-A & Ch-B, Ch-A & Ch-C, Ch-B & Ch-C, and Ch-A, Ch-B, & Ch-C, Total or grand total: Ch-A or Ch-B, Rate and total or grand total: Ch-A, Ch-B, Relay set points, Max and/or min values: Ch-A, Ch-B, or Ch-C, Toggle between any rate channel & units, Toggle between any rate/math channel & units, Total and units: Ch-A or Ch-B, Toggle between totals: Ch-A & Ch-B; Ch-A, Ch-B, and sum of Ch-A and Ch-B, Modbus input. The lower 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.

**Max/Min Display:** Max/min 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 and two prevent resetting the totals.

**Noise Filter:** (PD8-6262) Programmable from 2 to 199 (0 will disable filter)

**Filter Bypass:** (PD8-6262) Programmable from 0.1 to 99.9% of calibrated span

**Non-Volatile Memory:** All programmed settings are stored in non-volatile memory for a minimum of ten years if power is lost.

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

**Power Options:** 85-265 VAC 50/60 Hz, 90-265 VDC, 20 W max, or optional model with 12-24 VDC  $\pm 10\%$ , 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  $\pm 10\%$ , internally selectable jumper for 24, 10, or 5 VDC supply.

All models transmitter supply rated @ 25mA max.

**Normal Rejection Mode:** (PD8-6262) 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:** 6 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  $\frac{3}{4}$ " NPT threaded conduit openings and two  $\frac{3}{4}$ " 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  $1\frac{1}{2}$ " to  $2\frac{1}{2}$ " or DN 40 to 65 mm pipe mounting.

**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)

**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 Input Functionality

**Analog Inputs:** (PD8-6262) Two inputs, each separately field selectable: 0-20, 4-20 mA,  $\pm 10$  V (0-5, 1-5, 0-10 V), Modbus PV (Slave)

**Pulse Inputs:** (PD8-6363) Two, Field selectable: Pulse or square wave 0-5 V, 0-12 V, or 0-24 V @ 30 kHz; TTL; open collector 4.7 k $\Omega$  pull-up to 5 V @ 30 kHz; NPN or PNP transistor, switch contact 4.7 k $\Omega$

pull-up to 5 V @ 40 Hz; Modbus PV (Slave)

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

**Programmable Constants:** Constant P (Adder): -99.999 to 999.999, default: 0.000, Constant F (Factor): 0.001 to 999.999, default: 1.000

**Low Voltage Mag Pickup:** (PD8-6363) Sensitivity: 40 mVp-p to 8Vp-p

**Minimum Input Frequency:** (PD8-6363) 0.001 Hz Minimum frequency is dependent on high gate setting.

**Maximum Input Frequency:** (PD8-6363) 30,000 Hz (10,000 for low voltage mag pickup)

**Accuracy:** (PD8-6262)  $\pm 0.03\%$  of calibrated span  $\pm 1$  count, square root & programmable exponent accuracy range: 10-100% of calibrated span (PD8-6363)  $\pm 0.03\%$  of calibrated span  $\pm 1$  count

**Math Functions:**

| Name               | Function                  | Setting  |
|--------------------|---------------------------|----------|
| Addition           | $(A+B+P)*F$               | Sum      |
| Difference         | $(A-B+P)*F$               | d F      |
| Absolute diff.     | $((\text{Abs}(A-B))+P)*F$ | d F Abs  |
| Average            | $((A+B)/2+P)*F$           | Avg      |
| Multiplication     | $((A*B)+P)*F$             | Multi    |
| Division           | $((A/B)+P)*F$             | d B dE   |
| Max of A or B      | $((\text{AB-Hi})+P)*F$    | H - Ab   |
| Min of A or B      | $((\text{AB-Lo})+P)*F$    | L o - Ab |
| Draw               | $((A/B)-1)*F$             | d r Avg  |
| Weighted avg.      | $((B-A)*F)+A$             | Wt Avg   |
| Ratio              | $(A/B)*F$                 | r Ab o   |
| Concentration      | $(A/(A+B))*F$             | Conc En  |
| Total Addition     | $(tA+tB+P)*F$             | Sum t    |
| G. Tot. Addition   | $(GtA+GtB+P)*F$           | Sum Gt   |
| Total Difference   | $(tA-tB+P)*F$             | d F t    |
| G. Tot. Difference | $(GtA-GtB+P)*F$           | d F Gt   |
| Total Ratio        | $(tA/tB)*F$               | t r Ab o |
| Total Percent      | $(tA/(tA+tB))*100$        | t P C t  |

Note: The F constant can be any value from 0.001 to 999.999. 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  $F = 0.500$ .

**Sequence of Operations for Input Programming:**

1. Select Input for A and B
2. Set up the rate, total, and grand total engineering units for channels A & B, and units for math channel C
3. Set up rate, total, and grand total decimal points for channels A & B, and decimal point for math channel C
4. Program channel A & B rate parameters
5. Program channel A & B total and reset parameters
6. Set up the big and little displays and display intensity
7. Select the transfer function for A & B (e.g. Linear)
8. Select Math function for Channel C
9. Program constants for Factor (F) and Adder (P)
10. Program cutoff values for A and B

**Temperature Drift:** 0.005% of calibrated span/ $^{\circ}\text{C}$  max from 0 to 65°C

ambient, 0.01% of calibrated span/ $^{\circ}\text{C}$  max from -40 to 0°C ambient

(PD8-6363) Rate display is not affected by changes in temperature.

**Signal Input Conditioning:** (PD8-6262) Linear, square root, programmable exponent.

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

**Programmable Exponent:** (PD8-6262) 1.0001 to 2.9999

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

**Decimal Point:** Up to five decimal places or none: dddddd, dddddd, dddddd, dddddd, or dddddd.

**Calibration Range (PD8-6262):**

| Input Range | Minimum Span      |
|-------------|-------------------|
| Range       | Input 1 & Input 2 |
| 4-20 mA     | 0.15 mA           |
| $\pm 10$ V  | 0.10 V            |

An Error message will appear if input 1 and input 2 signals are too close together.

**Calibration Range (PD8-6363):** Input 1 signal may be set anywhere in the range of the meter; input 2 signal may be set anywhere above or below input 1 setting. Minimum input span between any two inputs is 10 Hz.

An error message will appear if the input span is too small.

**Calibration:** (PD8-6363) May be calibrated using K-factor, internal calibration, or by applying an external calibration signal.

**Input Impedance:** (PD8-6262) Voltage ranges: greater than 500 K $\Omega$ .

Current ranges: 50 - 100  $\Omega$  (depending on resettable fuse impedance).

**Input Overload:** (PD8-6262) Current input protected by resettable fuse, 30 VDC max. Fuse resets automatically after fault is removed.

**K-Factor:** (PD8-6363) Field programmable K-factor converts input pulses to rate in engineering units. May be programmed from 0.00001 to 999,999 pulses/unit.

**Filter:** (PD8-6363) Programmable contact de-bounce filter: 40 to 999 Hz maximum input frequency allowed with low speed filter.

**Time Base:** (PD8-6363) Second, minute, hour, or day

**Gate:** (PD8-6363) Low gate: 0.1-99.9 seconds, High gate: 2.0-999.9 seconds

**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, Logic Low: 0 to 1.25 VDC

## Dual Rate/Totalizer

**Rate Display Indication:** 0 to 999999, lead zero blanking.

**Total Display & Total Overflow:** 0 to 999,999; automatic lead zero blanking. Up to 999,999,999 with total-overflow feature. "oF" is displayed to the left of total overflow.

**Total Decimal Point:** Up to five decimal places or none: dddddd, dddddd, dddddd, dddddd, or dddddd. Total decimal point is independent of rate decimal point. Channel A and B decimal points programmed independently.

**Dual Totalizer:** Calculates total for channels A and B based on rate and field programmable multiplier to display total in engineering units. Time base must be selected according to the time units in which the rate is displayed. Channel A and B totalizer parameters programmed independently.

**Totalizer Rollover:** Totalizer rolls over when display exceeds 999,999,999. Relay status reflects the display value.

**Total Overflow Override:** Program total A or B total reset for automatic with 0.1 second delay and set point 1 for 999,999

**Totalizer Alarm Presets:** Up to eight, user selectable under setup menu. Any set point can be assigned to channel A or B total or grand total (or C) and may be programmed anywhere in the range of the meter for total alarm indication.

**Total & Grand Total Reset:** Via front panel button, external contact closure on digital inputs, automatically via user selectable preset value and time delay, or through serial communications. Channel A and B total and grand total reset parameters programmed independently.

**Total Reset Password:** Total and grand total passwords may be entered to prevent resetting the total or grand total from the front panel.

**Non-Resettable Total:** The grand totals can be programmed as non-resettable totals by entering the password "050873". Both channels are set to non-resettable when this password is entered.

*Caution: Once the Grand Total has been programmed as "non-resettable" the feature cannot be disabled.*

**Programmable Delay on Release:** 0.1 and 999.9 seconds; applied to the first relay assigned to total or grand total. If the meter is programmed to reset total to zero automatically when the preset is reached, then a delay will occur before the total is reset.

## Relays

**Rating:** 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.

**Relay Assignment:** Relays may be assigned to channel A or B rate, total, or grand total; channel C; or Modbus control.

**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 acknowledgement), sampling (based on time), pump alternation control (2 to 8 relays), off (disable unused relays), and manual on/off control mode.

**Relay Reset:** User selectable via front panel buttons, digital inputs, or PC

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.

## Isolated 4-20 mA Transmitter Output

**Output Source:** Input channels A or B, rate, total, or grand total; channel C; max or min for channel A or B; 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  |

## 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](http://www.predig.com) for details.*

## 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

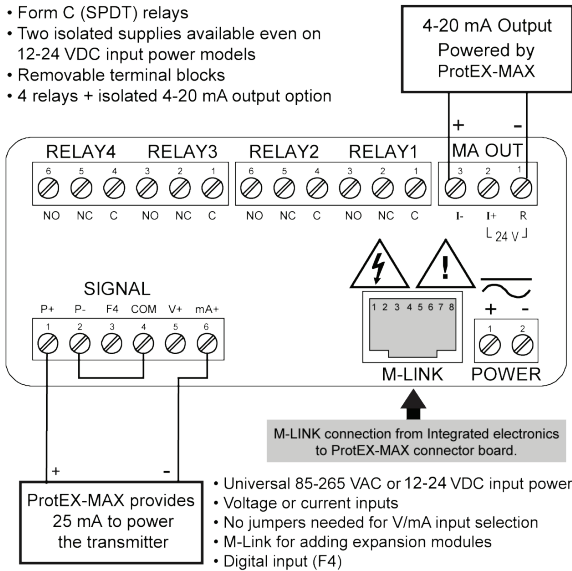
Certificate Number: IECEX SIR 12.0073

# PD8-6262/PD8-6363 ProtEX-MAX™ Dual-Input Rate/Totalizers

## CONNECTIONS

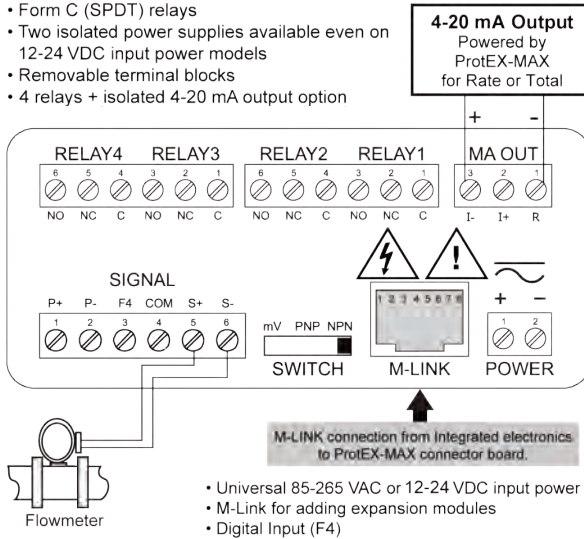
### PD8-6262

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



### PD8-6363

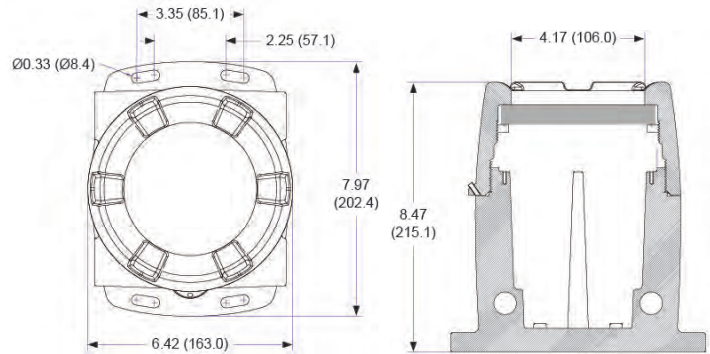
- Form C (SPDT) relays
- Two isolated power supplies available even on 12-24 VDC input power models
- Removable terminal blocks
- 4 relays + isolated 4-20 mA output option



Your Local Distributor is:

## DIMENSIONS

Units: Inches (mm)



## ORDERING INFORMATION

### ProtEX-MAX® PD8-6262 Analog Inputs

| 85-265 VAC Model | 12-24 VDC Model | Options Installed         |
|------------------|-----------------|---------------------------|
| PD8-6262-6H0     | PD8-6262-7H0    | None                      |
| PD8-6262-6H7     | PD8-6262-7H7    | 4 Relays & 4-20 mA Output |

Note: 24 V flowmeter power supply standard on all models.

### ProtEX-MAX® PD8-6363 Pulse Inputs

| 85-265 VAC Model | 12-24 VDC Model | Options Installed         |
|------------------|-----------------|---------------------------|
| PD8-6363-6H0     | PD8-6363-7H0    | None                      |
| PD8-6363-6H7     | PD8-6363-7H7    | 4 Relays & 4-20 mA Output |

Note: 24 V flowmeter power supply standard on all models.



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

### Accessories

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

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LDS8-6262\_B 12/18

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