

PD603

Low-Cost OEM Process Meter



Sabre Series



PROCESS

- 1/8 DIN Digital Panel Meter with NEMA 4X, IP65 Front
- 0-20, 4-20 mA, 0-5, 1-5, 0-10, ± 10 V Inputs
- 4-Digit Display, 0.56" (14.2 mm)
- Shallow Depth Case Extends Only 3.6" (91 mm) Behind Panel
- Isolated 24 VDC @ 200 mA Transmitter Power Supply Option
- No Assembly Required
- Operating Temperature Range: 0 to 65°C (32 to 150°F)
- UL & C-UL Listed. E160849; 508 Industrial Control Equipment
- Input Power Options: 85-265 VAC or 12-36 VDC
- Max/Min Display
- Easy Front Panel Programming; No Jumpers, Switches or Solder Pads
- 1-Year Warranty

PRECISION DIGITAL CORPORATION

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OVERVIEW

The Sabre P model PD603 is an easy to use 1/8 DIN digital panel meter that has all the important features customers want in a process input meter. These features include field selectable 0-20 mA, 4-20 mA, 0-5, 1-5, or ± 10 V inputs, NEMA 4X front panel, UL and C-UL Listing for 508 Industrial Control Equipment, and optional 24 VDC power supply for the transmitter. The meter is easily programmed and scaled with its four front panel buttons and simple menu structure.

EASY SETUP & PROGRAMMING

The Sabre P process meter is easily programmed using the four front panel buttons. There are no jumpers or switches to configure and there is no need to ever open the case.

Front Panel Buttons



Front Panel Buttons

To simplify programming, one menu handles all the setup functions.

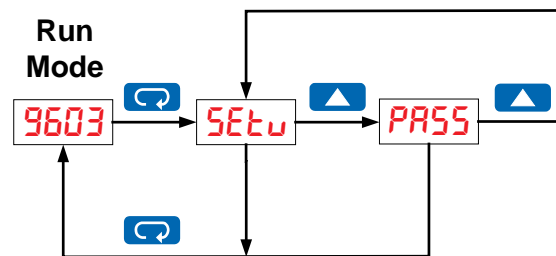
- Press the Menu button to enter or exit the Programming Mode at any time.
- Press the Right arrow button to move to the next digit during digit programming.
- Press the Up arrow button to scroll through the menus, decimal point, or to increment the value of a digit.
- Press the Enter/Ack button to access a menu or to accept a setting.

Menu Structure

The menu consists of the following functions: Setup and Password. Press the Menu button to enter the Programming Mode then press the Up arrow button to scroll through the menu.

The Setup menu is used to select the input signal, scale or calibrate the meter, and select the decimal point. The Password menu is used to program a password.

The display moves to the next menu after the Enter/ACK button is pressed.

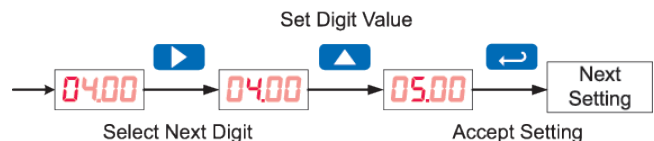


Setting Numeric Values

The numeric values are set using the Right and Up arrow buttons. Press the Right arrow button to select next digit and the Up arrow button to increment the digit value.

The digit being changed is displayed brighter than the rest.

Press the Enter/ACK button, at any time, to accept a setting or the Menu button to exit without saving the changes.



SIMPLE OPERATION

Look to the Sabre P process meter for the key features you want and don't worry about getting bogged down in a confusing array of things you don't need. The Sabre P provides all the utility needed to handle your application with accuracy and simplicity.

Maximum/Minimum Readings

To display the maximum and minimum readings since the last reset/power-up, use the Up arrow/Max button.

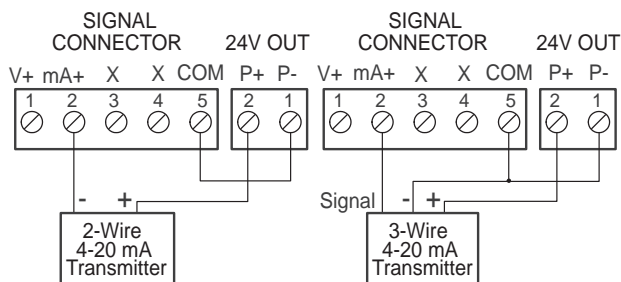
PROCESS INPUTS

The Sabre P meter is factory calibrated to accept 0-20, 4-20 mA, 0-5, 1-5, 0-10, and ± 10 VDC. The meter can be scaled with or without applying an input signal for any display range required.

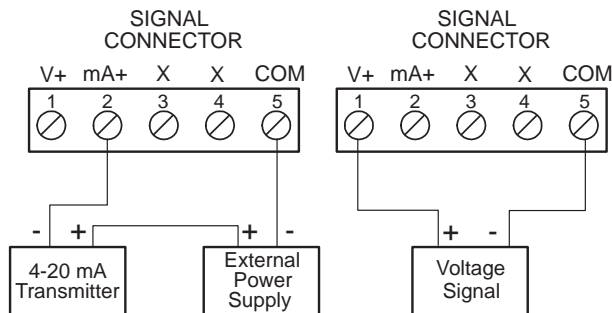
Current & Voltage Inputs

Setting up the meter to accept current or voltage input could not be easier. All setup is performed with the front panel buttons and there are no switches or jumpers to deal with.

The removable screw terminal connectors are clearly labeled to prevent wiring errors.



Transmitters Powered by Internal Supply (optional)



Transmitter Powered by External Supply

Current Overload Protection

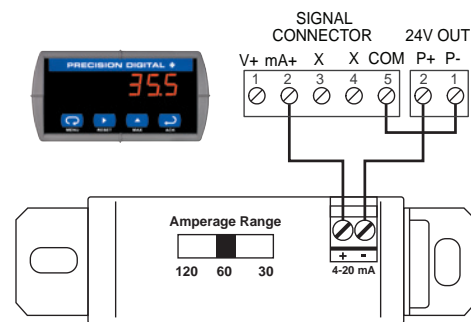
To protect the meter from unexpected current overload the current input circuit contains an auto-resettable fuse. The fuse limits the current to a safe level when it detects a fault condition, and automatically resets itself when the fault condition is removed.

ACCESSORIES

Display AC Current on a PD603 Meter with the PDA6420 AC Current Transducer



- Nonintrusive Conversion of 30/60/120 Amps to 4-20 mA
- Split Core Convenience
- Compact Design
- $\pm 2\%$ Full Scale Accuracy from 10% to 100% of Selected Range
- Field Mounting Tabs Provided



PDA6420 powered by PD603-6R0-1. The PD603 displays the current measured by the PDA6420.

24 VDC Transmitter Power Supply



Certain PD603 models do not provide the 24 VDC to power the transmitter. The PDA1024-01 24 VDC power supply can provide the power for the transmitter. If you want the meter to power the transmitter, then use the PD603-6R0-1.

Specifications

Input Voltage	85-264 VAC; 120-370 VDC
Output Voltage	24 VDC $\pm 10\%$ @ 1.5 A rated current
Input Frequency	47-63 Hz
AC Current	0.88 A/115 VAC; 0.48 A/230 VAC
Connections	Two terminals provided for +V and -V to simplify wiring of multiple devices
Operating Temperature	-20 to 60°C (-4 to 140°F)
Safety Standards	UL60950-1, TUV EN60950-1 Approved, Design refer to EN50178
Dimensions	3.07" x 3.66" x 2.20" (78 mm x 93 mm x 56 mm) (W x H x D)

PHYSICAL FEATURES

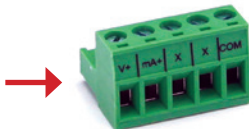
The PD603 is designed for ease-of-use in industrial applications. It is housed in a shallow depth case and includes a NEMA 4X front panel, removable screw terminal connectors, snap in place mounting brackets, forgiving panel cutout requirement, and UL Listing for electrical safety.

Removable Screw Terminal Connectors

Industrial applications require screw terminal connections for easy field wiring and the PD603 goes one step further in convenience by making them removable also.



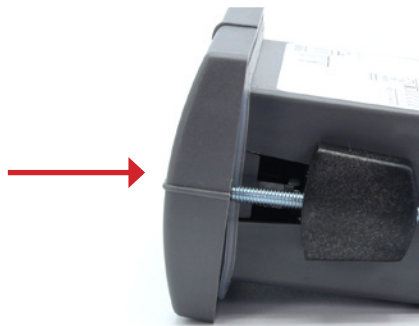
Easy Plug-in
Removable
Terminal
Connectors



Forgiving Panel Cutout Requirement

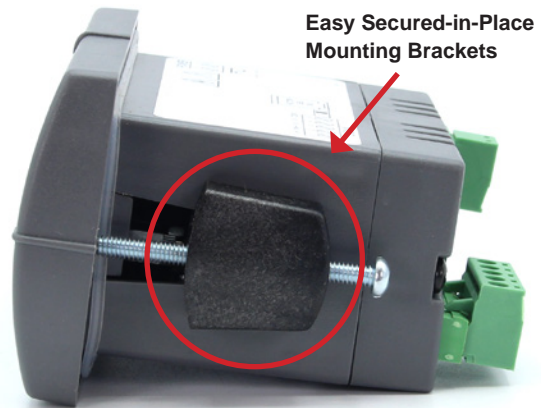
The PD603's bezel has been oversized to allow for not perfectly executed panel cutouts where NEMA 4X seal is not required.

Over-Sized Bezel to
Completely Cover
Panel Cutouts

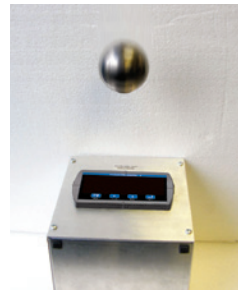


Secured-in-Place Rugged Mounting Brackets

If you're installing the PD603 outdoors in the hot or cold weather, the last thing you want to do is fumble around with mounting brackets that don't stay in place. The PD603's mounting brackets can be easily secured into place and then screwed down to the panel. These brackets are rugged so they can be tightened to the panel to provide a solid NEMA 4X seal.



Type 4X / NEMA 4X Front Panel



Not only does the PD603's front panel UL Type 4X approval indicate it is waterproof, but it also indicates it is rugged. Part of the UL Type 4X test is to drop a 2-inch solid stainless steel ball from 8 feet on top of the meter's faceplate.

NEMA 4 & 4X FIELD ENCLOSURES

Precision Digital offers a variety of rugged enclosures that provide a high degree of protection against harsh operating environments and a convenient way to mount the meters to a wall. Thermoplastic and stainless steel NEMA 4X, and painted steel NEMA 4 enclosures for up to 10 PD603 meters are available. Many enclosures also have sufficient space to house Precision Digital's model PDA1024-01 24 V power supply, and other devices.



Need help selecting
the right enclosure?
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Download free 3-D CAD files of these
instruments to simplify your drawings!

predig.com/documentation-cad

Plastic Enclosures (Externally Mounted)

PDA2300 Series (Covers with Hinge & Latch)

This is Precision Digital's most economical line of enclosures for the PD603. The meter mounts through a hinged cover with a SS latch allowing for easy access to meter wiring. Enclosures are available for 1 through 10 PD603s. The enclosure is large enough to mount the PDA1024-01 24 V transmitter supply in.



PDA2301



PDA2310

PDA2800 Series (Covers with Screws)

This is Precision Digital's smallest line of enclosures for the PD603. The meter mounts through the cover that screws to the base of the enclosure. Available for 1 and 2 PD603s.



PDA2801



PDA2811



PDA2812

Plastic Enclosures (Internally Mounted)

PDA3400 Series (Covers with screws)

This is Precision Digital's only line of enclosures for the PD603 where the meter is fully housed inside the enclosure. Enclosures are available for 1, 2 and 3 PD603s.



PDA3407



PDA3412

Stainless Steel Enclosures (Externally Mounted)

PDA2600 Series (Covers with Hinge & Latch)

This is Precision Digital's stainless steel line of enclosures for the PD603. The meter mounts through a hinged cover with a SS latch allowing for easy access to meter wiring. Enclosures are available for 1 through 6 PD603s.



PDA2604-1



PDA2606

Steel Enclosures (Externally Mounted)

PDA2700 Series (Covers with Hinge & Latch)

This is Precision Digital's painted steel line of enclosures for the PD603. The meter mounts through a hinged cover with a latch allowing for easy access to meter wiring. Enclosures are available for 1 through 6 PD603s.



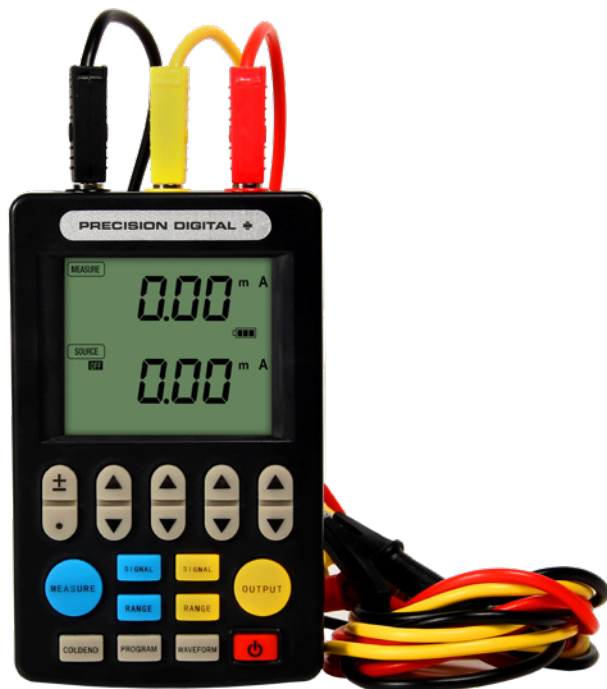
PDA2704-1



PDA2706

CALIBRATOR & SIGNAL GENERATOR

PD9501 Multi-Function Calibrator



Overview

This PD9501 Multi-Function Calibrator has a variety of signal measurement and output functions, including voltage, current, thermocouple, and RTD.

Main Function

Voltage Signal: 0-30 V, 0-25 mV, 0-100 mV output and measurement.

Current Signal: Active and passive 0-25 mA, 4-20 mA output and measurement.

Thermocouple: K, E, J, T, R, B, S, N output and measurement. *Note: Output Range Starts from 0°C*

RTD: PT100 output and measurement.

Ohms: Output and measurement

Features

- Measure and Source T/Cs, RTDs, Ohms, Current, Voltage
- Compact & Lightweight
- Battery or USB Powered
- Descriptive LCD Display
- 24 V Power to Drive the Transmitter
- Auto Stepping & Auto Ramping
- Selective Auto Off Mode
- LCD includes an LED backlight

PD9502 4-20 mA / 0-10 VDC Low-Cost Signal Generator



Overview

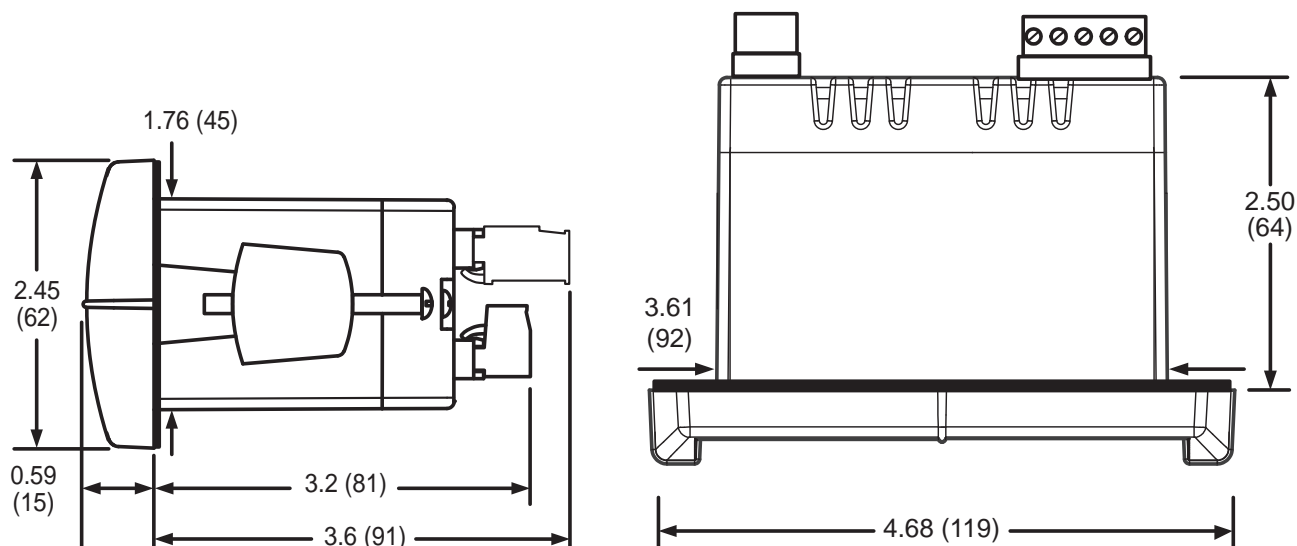
The PD9502 is a low-cost, compact, simple to use 4-20 mA or 0-10 VDC signal generator. It can easily be set for 0-20 mA, 4-20 mA, 0-10 V or 2-10 V ranges. Signal adjustment is made with a one-turn knob. A 15-27 VDC wall plug is provided with the instrument. Optional USB power bank is available.

Features

- 0-20 / 4-20 mA or 0-10 / 2-10 VDC Ranges
- Low-Cost
- Simple to Use
- Compact Size
- 4-Digit LED Display
- One-Turn Adjustment Knob
- $\pm 0.5\% \pm 1$ Count Accuracy
- Power 15-27 VDC or USB Power Bank

DIMENSIONS

Units: Inches (mm)



Notes:

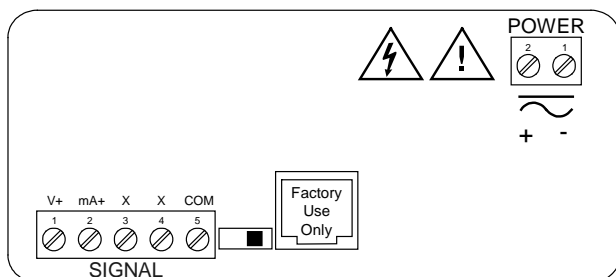
1. Panel cutout required: 1.772 x 3.622 (45 x 92)
2. Panel thickness: 0.040 – 0.250 (1.0 – 6.4)
3. Mounting brackets lock in place for easy mounting



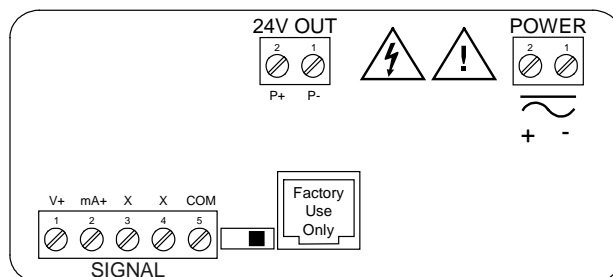
Download free 3-D CAD files of these instruments to simplify your drawings!

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CONNECTIONS



PD603-6R0-0, PD603-7R0-0



PD603-6R0-1

PD603 Low-Cost OEM Process Meter

SPECIFICATIONS

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

General

Display: 0.56" (14.2 mm) red LED, 4 digits (-1999 to 9999)

Front Panel: NEMA 4X, IP65; panel gasket provided

Programming Methods: Four front panel buttons

Display Update Rate: 5/sec

Overrange: Display flashes 9999

Underrange: Display flashes -1999

Recalibration: All inputs are calibrated at the factory; recalibration is recommended at least every 12 months.

Max/Min Display: Stored until reset by user or meter is turned off.

Password: Restricts modification of programmed settings.

Non-Volatile Memory: Settings stored for a minimum of 10 years.

Power Options: 85-265 VAC, 50/60 Hz; 90-265 VDC, 20 W max or 12-36 VDC; 12-24 VAC, 6 W max.

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

Normal Mode Rejection: 64 dB at 50/60 Hz

Isolation: 4 kV input/output-to-power line;

500 V input-to-24 VDC supply

Operating Temperature: 0 to 65°C (32 to 150°F)

Storage Temperature: -40 to 85°C (-40 to 185°F)

Relative Humidity: 0 to 90% non-condensing

Connections: Removable screw terminal blocks accept 12 to 22 AWG. Note: RJ11 header for factory use only.

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

Weight: 8.5 oz (241 g)

UL File Number: E160849; 508 Industrial Control Equipment

Warranty: 1 year parts & labor

Process Input

Inputs: Field selectable: 0-20 mA, 4-20 mA, 0-5, 1-5 V, ± 10 V

Accuracy: $\pm 0.05\%$ FS ± 1 count

Function: Linear

Decimal Point: Up to 3 decimals: d.ddd, dd.dd, ddd.d, or dddd. Programmed via front panel buttons.

Calibration: Scale without signal or calibrate with signal source

Calibration Range: User programmable over entire range of meter

Input Impedance: Voltage range: greater than 1 M Ω ,

Current Range: 50-100 Ω , varies with resettable fuse impedance

Input Overload: Protected by auto-resettable fuse

Temperature Drift: ± 50 PPM/°C

Transmitter Supply: Isolated, P+, P-: 24 VDC $\pm 10\%$ @ 200 mA max

ORDERING INFORMATION

Sabre P • Model PD603		
85-265 VAC** Model	12-24 VDC** Model	Options Installed
PD603-6R0-0*	PD603-7R0-0	Process Meter
PD603-6R0-1*		Process Meter with 24 V Transmitter Supply
** All models may be powered from AC or DC. See Specifications for Details.		
* Quick Shipment Program product, typically shipped within 2 working days.		
Note: Factory orders for Sabre products require a five (5) piece minimum of any combination of Sabre (PD603 & PD743) products. For instance, an order of three (3) PD603-6R0-0 and two (2) PD743-7R0-0 qualifies. For information on individual unit sales, please contact your local distributor.		

Accessories	
Model	Description
PD9501	Multi-Function Calibrator
PD9502	Low-Cost Signal Generator
PDA1024-01	24 VDC Transmitter Power Supply for DIN Rail
PDA6420	Split Core AC Current Transducer 30/60/120 AAC: 4-20 mA

NEMA 4 & NEMA 4X Enclosures			
Model	# of Meters	Description	Mounting
PDA2300	1 - 10	Plastic NEMA 4X Enclosure	Through Door
PDA2500	1 - 6	Plastic NEMA 4X Enclosure	Through Door
PDA2600	1 - 6	Stainless Steel NEMA 4X Enclosure	Through Door
PDA2700	1 - 6	Steel NEMA 4 Enclosure	Through Door
PDA2801	1	Plastic NEMA 4X Enclosure	Through Cover
PDA3400	1 - 2	Plastic NEMA 4X Enclosure	Behind Clear Window

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