PRECISION DIGITAL CORPORATION *Since 1974*

ProVu® Catalog

digital indicators & controllers

ProVu® Series

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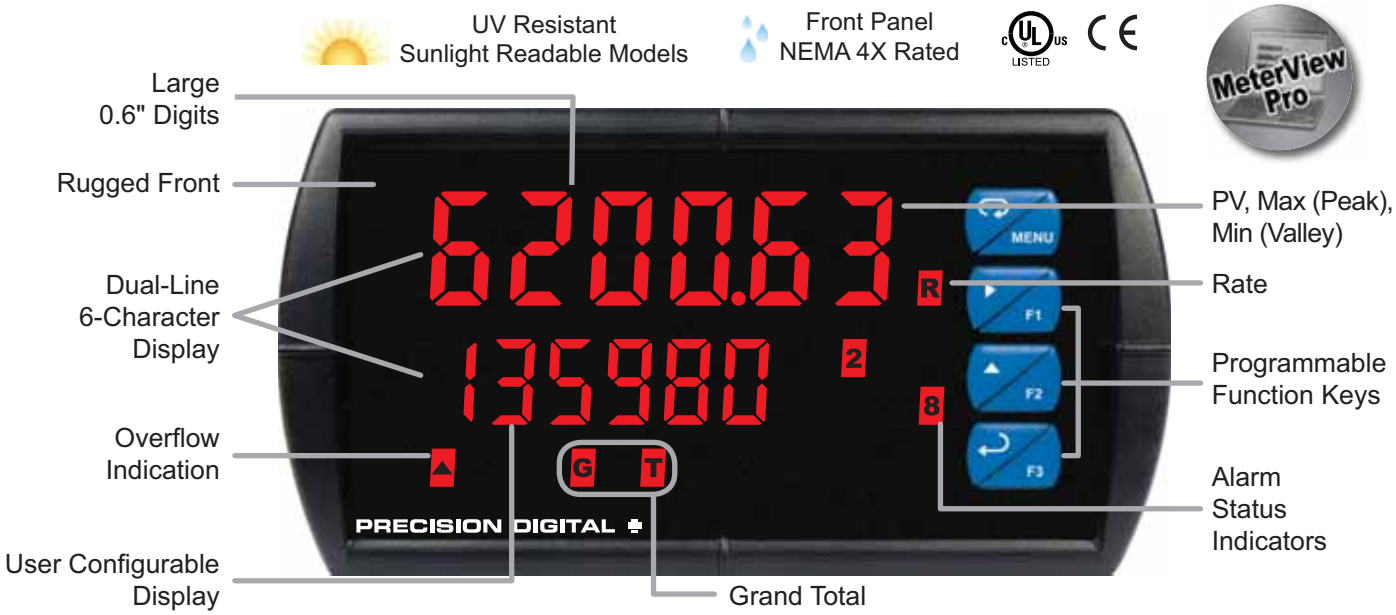
PRECISION DIGITAL

DISPLAY FEATURES



Indicators vary by model. PD6200 shown.

THE ProVu® SERIES OVERVIEW

The ProVu is Precision Digital's most versatile series of 1/8 DIN panel meters ever. The dual-line 6-digit display (999,999), advanced signal input conditioning, programmable function keys, Modbus RTU serial communications, on-board digital input, and optional expansion modules are only a few of the features found on the ProVu. They are ideal to assist with applications from simple level, flow and total, or temperature indication, to dual-channel (with or without math), and batch control. No matter what your application or industry, the ProVu makes applications simpler to monitor and control as either a primary display and control, or a local backup.

PD6000
Process
Meter

PD6060
Dual-Input
Process Meter

PD6080
Super Snooper
Modbus Input Scanner

PD6081
Feet & Inches Super Snooper
Modbus Input Scanner

PD6100
Strain Gauge
Meter

PD6200
Analog Input Flow
Rate/Totalizer

PD6210
Analog Input
Batch Controller

PD6262
Analog Dual-Input
Rate/Totalizer

PD6300
Pulse Input Flow
Rate/Totalizer

PD6310
Pulse Input
Batch Controller

PD6363
Pulse Dual-Input
Rate/Totalizer

PD7000
Temperature
Meter

COMMON KEY FEATURES

Configurable

The upper display can be programmed to indicate the process variable (PV), maximum (peak), minimum (valley), alternating maximum/minimum, one of eight alarm set points, or Modbus input. The lower display can also be configured to display engineering units, set points, user defined legends, or simply turned off.

Optional SunBright Display Models

ProVu's SunBright display models have an extraordinarily bright LED display. They are perfect for applications where the meter is in direct sunlight or in applications where visibility may be impaired by smoke, fog, dust, or distance. Option is available on all ProVu models.

Function Keys

There are three function keys available to the user. These keys can be programmed to trigger certain events (i.e. acknowledge alarms, reset max and/or min, disable/enable output relays, or hold current relay states), provide direct menu access points, and more.

Learn more about using the ProVu's Function Keys by watching a video at predig.com/videos

Rugged

A unique front panel design makes the ProVu nearly impenetrable in typical applications. Here, the ProVu easily survives a direct hit on the display from a heavy 2" solid stainless steel ball dropped from eight feet.

Easy to Use

The user friendly dual-line display makes the ProVu easy to set up & program. The menu parameter and selection options display simultaneously. Never get lost in the programming menus. Three levels of password protection help maintain the reliability of the programming.

Input Setup

Display Setup

Advanced Linearization Capability

Most ProVu models include a 32-point linearizer. 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. A second independent 8-point linearizer is available for a second scaled display (PV2) when "Level" function is enabled (select models). 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 ProVu includes a digital input as a standard feature. 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) on most models. For example, with a rounding value of 10, and a input of 12346, the display would indicate 12350.

Max/Min Display

Max/Min (or Peak/Valley) is standard on the ProVu. Either display can be configured to show either maximum or minimum excursion since last reset. The displays can also be configured to toggle between Max and Min values. Both values can be easily reset from the front panel.

METERVIEW® PRO SOFTWARE

Configure, monitor, and datalog any ProVu meter from a PC using MeterView Pro Software and a serial adapter (PDA8008 recommended). MeterView Pro is available for download at www.predig.com. See page 24 for more information.

DIGITAL COMMUNICATIONS

Modbus® RTU Serial Communications

With the purchase of a serial communication adapter, ProVu meters can communicate with any Modbus Master device using the ever-popular Modbus communications protocol that is included in every ProVu. 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

Meter Copy

The Copy feature is used to copy (or clone) all the settings from one ProVu to other ProVu meters in about 20 seconds! The Copy function is a standard feature on all meters. It does not require a communications adapter, only an optional cable assembly, P/N PDA1200.

OUTPUTS

Relay Outputs

The ProVu has up to four 3 A Form C relays (SPDT) with multiple power loss fail-safe options. 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 ProVu 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)
- Relay action for loss (break) of 4-20 mA input signal
- Manual control mode
- Interlock relay mode
- Stage batch control
- User selectable fail-safe operation
- Time delay (on and off), independent for each relay

Analog Output

The isolated analog retransmission signal can be configured to represent the process variable (PV), maximum (peak) value, minimum (valley) value, the value for any of the eight relay set points, 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.

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.

Sampling Function (PV Triggered Timed Relay)

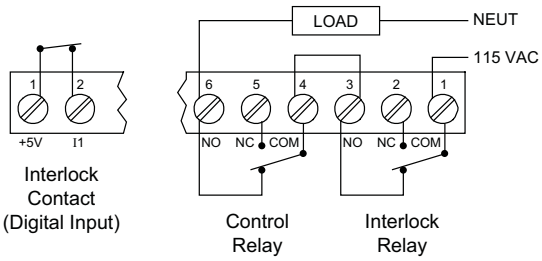
The sampling function allows the operator to set a set point for a “sampling” relay. When the process variable (PV) reaches that set point, it will close that relay’s contacts for a preset period of time (0.1 to 5999.9 seconds). An example of its use may be for beer/ale fermentation. When the batch reaches a certain pH, the relay contacts would close and by some means (light, horn, etc.) alert someone to take a sample, or provide the trigger to automatically take a sample of the batch. 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 PV reaches a certain set point.

Isolated Transmitter Power Supplies

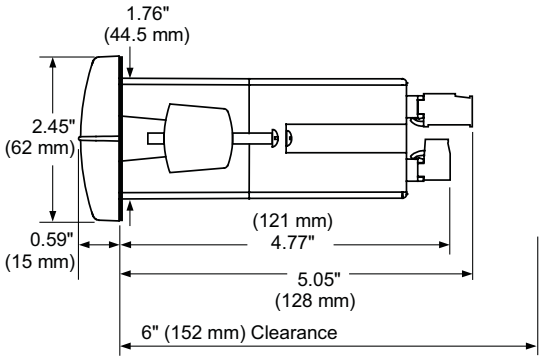
A powerful 24 V @ 200 mA power supply is a standard feature on the ProVu meter. It can be configured for 5, 10, or 24 V (default) by means of a simple internal jumper (see manual). An additional power supply (24 V @ 40 mA) is standard with the 4-20 mA output option.

Interlock Relay(s)

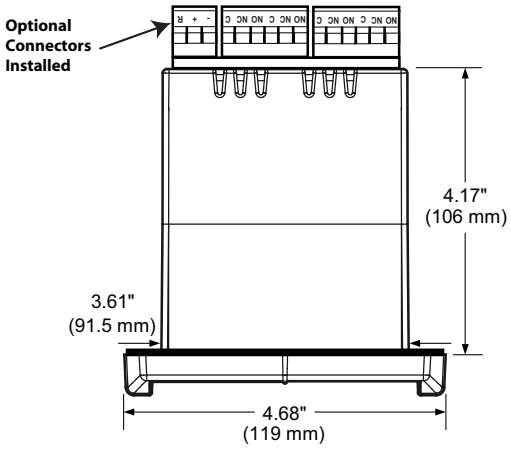
This function allows a process to use one or more very low voltage input signals or simple switch contacts to control the state of one or more internal “interlock” relays. A violation (i.e. loss of input, open switch, or open circuit) forces one or more N/O interlock relay contacts to open. One input 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. Requires PDA1044 Digital I/O module or use of on-board digital input F4.



DIMENSIONS



Side View



Top View

PD6000

ProVu® Process Meter

PROCESS

Quick Overview

Input: 0-20 mA, 4-20 mA; ±10 VDC (0-5, 1-5, 0-10 V); Modbus PV (slave)
Display: Dual-line 6-digit, 0.60" (15 mm) & 0.46" (12 mm)
Case: 1/8 DIN, NEMA 4X/IP65
Power: 85-265 VAC or 12/24 VDC option
Operating Temperature: -40 to 65°C

Features

- Dual-scale for level applications - single input
- Signal input conditioning for flow & round horizontal tanks
- 32-point, square root, or exponential linearization
- Multi-pump alternation control
- On-board digital input
- Programmable function keys
- Isolated 24 VDC @ 200 mA transmitter power supply
- Modbus® RTU communication protocol

Free Software Available

MeterView Pro: Configure, monitor, and datalog from a PC. *Requires serial communication adapter.*

Options

- 4-20 mA output with isolated 24 VDC @ 40 mA power supply
- 2 or 4 form C internal relays
- External 4-relay and digital I/O expansion modules
- RS-232, RS-485 serial communications
- SunBright display models

Dual-Scale Display Feature

The PD6000 has a unique, and very flexible dual-scale capability; a second scaled display can represent the measured input in a different form (i.e. gallons & height). This is of particular value in level applications. Both displays are independently scaled and are based on the 4-20 mA input signal. Beyond level, this function has been used for pressure & force, current & power, feet & meters, GPM & CFM, and more.

Gallons & mA

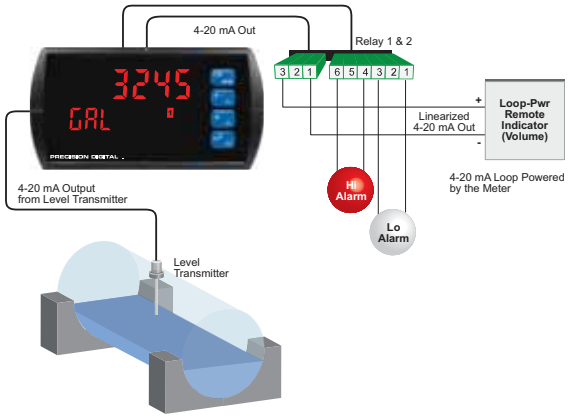
Gallons & Height

Gallons & Percent

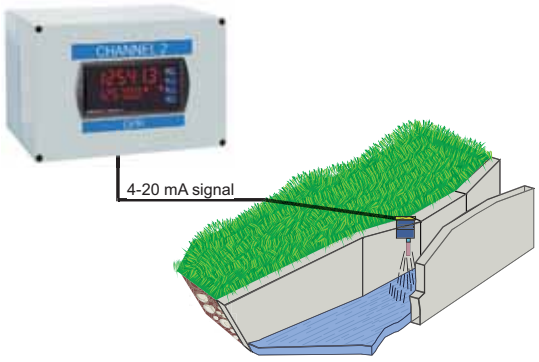
Gallons & Head PSI

Signal input conditioning

Non-linear input signals (i.e. weirs & flumes, differential pressure, etc.) can be linearized with the ProVu's simple to use built-in signal input conditioners, such as: square-root extractor, exponential linearizer, horizontal round tank linearizer, or the ProVu's powerful general purpose 32-point linearizer.



Round Horizontal Tank Signal Input Conditioner



Weir Flow Calculated Using Exponential Signal Input Conditioner

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 intensity levels
Display Assignment: The upper and lower displays may be assigned to PV1, PV2, PCT (percent), rate & units, gross, net & gross, max/min, alternate max & min, set points, units (lower display only), or Modbus input.
Programming Methods: Four front panel buttons, digital inputs, PC and MeterView Pro software, Modbus registers, or cloning using Copy function.
Password: Three programmable passwords restrict modification of programmed settings.
Power Options: 85-265 VAC 50/60 Hz, 90-265 VDC, 20 W max, or jumper selectable 12/24 VDC ±10%, 15 W max.
Isolated Transmitter Power Supply: Terminals P+ & P-: 24 VDC ± 10%. 12/24 VDC powered models selectable for 24, 10, or 5 VDC supply (internal jumper J4).
85-265 VAC models rated @ 200 mA max, 12/24 VDC powered models rated @ 100 mA max, @ 50 mA max for 5 or 10 VDC supply.
Environmental:
Operating temperature range: -40 to 65°C
Storage temperature range: -40 to 85°C
Relative humidity: 0 to 90% non-condensing
Dimensions: 4.68" x 2.45" x 5.64" (119 mm x 62 mm x 143 mm) (W x H x D)
Weight: 9.5 oz (269 g)
UL File Number: UL & c-UL Listed. E160849; 508 Industrial Control Equipment.
Warranty: 3 years parts & labor

Process Input

Inputs: Field selectable: 0-20, 4-20 mA, ±10 VDC (0-5, 1-5, 0-10 V), Modbus PV (Slave)
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 PV or PV1. 2 to 8 points for PV2 (Dual-Scale Level feature)
Decimal Point: Up to five decimal places or none

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 watts) @ 125/250 VAC for inductive loads such as contactors, solenoids, etc.
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).

Serial Communications

Protocol: Modbus® RTU
Note: Refer to the PROVU® Register Tables located at www.predig.com for details.

Isolated 4-20 mA Transmitter Output

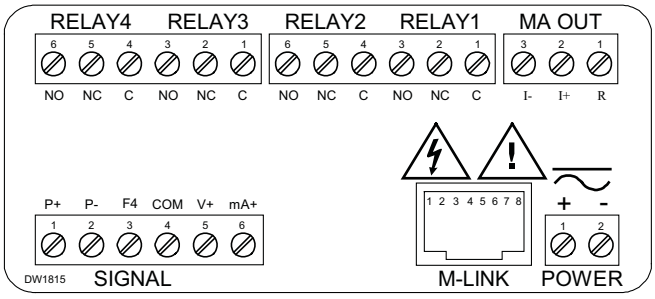
Output Source: Process variable (PV), max, min, set points 1-8, manual control setting, or Modbus input
Scaling Range: 1.000 to 23.000 mA for any display range
Calibration: Factory calibrated: 4.000 to 20.000 = 4-20 mA output
Analog Output Programming: 23.000 mA maximum for all parameters: Overrange, 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%. May be used to power the 4-20 mA output or other devices. All models rated @ 40 mA max.

ORDERING INFORMATION

PROVU® PD6000 • Standard Models		
85-265 VAC Model	**12/24 VDC Model**	**Options Installed**
PD6000-6R0*	PD6000-7R0	None
PD6000-6R2*	PD6000-7R2	2 Relays
PD6000-6R3*	PD6000-7R3	4-20 mA Output
PD6000-6R4*	PD6000-7R4	4 Relays
PD6000-6R5*	PD6000-7R5	2 Relays & 4-20 mA Output
PD6000-6R7*	PD6000-7R7	4 Relays & 4-20 mA Output
Note: 24 V Transmitter power supply standard on all models. * Quick Shipment Program product, typically ships within 2 working days.		

PROVU® PD6000 • SunBright Display Models		
85-265 VAC Model	**12/24 VDC Model**	**Options Installed**
PD6000-6H0	PD6000-7H0	None
PD6000-6H2	PD6000-7H2	2 Relays
PD6000-6H3	PD6000-7H3	4-20 mA Output
PD6000-6H4	PD6000-7H4	4 Relays
PD6000-6H5	PD6000-7H5	2 Relays & 4-20 mA Output
PD6000-6H7	PD6000-7H7	4 Relays & 4-20 mA Output
Note: 24 V Transmitter power supply standard on all models.		

CONNECTIONS



PD6060

ProVu® Dual-Input Process Meter

DUAL-INPUT
PROCESS

Quick Overview

Input: Dual 0-20 mA, 4-20 mA; ±10 VDC (0-5, 1-5, 0-10 V); Modbus PV (slave)
Display: Dual-line 6-digit, 0.60" (15 mm) & 0.46" (12 mm)
Case: 1/8 DIN, NEMA 4X/IP65
Power: 85-265 VAC or 12/24 VDC option
Operating Temperature: -40 to 65°C

Features

- Addition, difference, absolute difference, average, multiplication, division, min of A or B, max of A or B, draw, weighted average, and ratio math functions
- Signal input conditioning for flow & round horizontal tanks
- On-board digital input
- Programmable function keys
- Isolated 24 VDC @ 200 mA transmitter power supply
- Modbus® RTU communication protocol

Options

- 4-20 mA output with isolated 24 VDC @ 40 mA power supply
- 2 or 4 form C internal relays
- External 4-relay, digital I/O, & dual 4-20 mA out modules
- RS-232, RS-485 serial communications
- SunBright display models

Free Software Available

MeterView Pro: Configure, monitor, and datalog from a PC. *Requires serial communication adapter.*

Dual-Input Process Meter

The PD6060 has two process input channels (A & B) capable of accepting current and voltage. 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 standard and may be used to power the inputs.

Powerful Math Functions

The PD6060 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.

Addition	Multiplication	Draw
Difference	Divide	Weighted Avg.
Absolute diff.	Max of A or B	Ratio
Average	Min of A or B	Concentration

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.

Signal Input conditioning

Non-linear input signals (i.e. weirs & flumes, differential pressure, etc.) can be linearized with the PD6060's built-in signal input conditioning, such as: square-root extractor, exponential linearizer, horizontal round tank linearizer, or the ProVu powerful general purpose 32-point linearizer.

Customizable Displays

The two 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.

Input Channels A & B

Math Function & Inputs A & B

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.

Lower Display Alternating Input Channels A & B

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 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 front panel buttons, digital inputs, PC and MeterView Pro software, Modbus registers, or cloning using Copy function.
Password: Three programmable passwords restrict modification of programmed settings.
Power Options: 85-265 VAC 50/60 Hz, 90-265 VDC, 20 W max, or jumper selectable 12/24 VDC ±10%, 15 W max.
Isolated Transmitter Power Supply: Terminals P+ & P-: 24 VDC ± 10%. 12/24 VDC powered models selectable for 24, 10, or 5 VDC supply (internal jumper J4).
85-265 VAC models rated @ 200 mA max, 12/24 VDC powered models rated @ 100 mA max, @ 50 mA max for 5 or 10 VDC supply.
Environmental:
Operating temperature range: -40 to 65°C
Storage temperature range: -40 to 85°C
Relative humidity: 0 to 90% non-condensing
Dimensions: 4.68" x 2.45" x 5.64" (119 mm x 62 mm x 143 mm) (W x H x D)
Weight: 9.5 oz (269 g)
UL File Number: UL & c-UL Listed. E160849; 508 Industrial Control Equipment.
Warranty: 3 years parts & labor

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.
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

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 watts) @ 125/250 VAC for inductive loads such as contactors, solenoids, etc.
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).

Serial Communications

Protocol: Modbus® RTU
Note: Refer to the PROVU® Register Tables located at www.predig.com for details.

Isolated 4-20 mA Transmitter Output

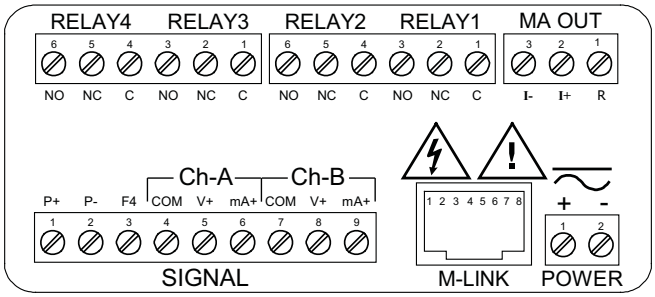
Output Source: Process variable (PV), max, min, set points 1-8, manual control setting, or Modbus input
Scaling Range: 1.000 to 23.000 mA for any display range
Calibration: Factory calibrated: 4.000 to 20.000 = 4-20 mA output
Analog Output Programming: 23.000 mA maximum for all parameters: Overrange, 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%. May be used to power the 4-20 mA output or other devices. All models rated @ 40 mA max.

ORDERING INFORMATION

PROVU® PD6060 • Standard Models		
85-265 VAC Model	**12/24 VDC Model**	**Options Installed**
PD6060-6R0	PD6060-7R0	None
PD6060-6R2	PD6060-7R2	2 Relays
PD6060-6R3	PD6060-7R3	4-20 mA Output
PD6060-6R4	PD6060-7R4	4 Relays
PD6060-6R5	PD6060-7R5	2 Relays & 4-20 mA Output
PD6060-6R7	PD6060-7R7	4 Relays & 4-20 mA Output
Note: 24 V Transmitter power supply standard on all models.		

PROVU® PD6060 • SunBright Display Models		
85-265 VAC Model	**12/24 VDC Model**	**Options Installed**
PD6060-6H0	PD6060-7H0	None
PD6060-6H2	PD6060-7H2	2 Relays
PD6060-6H3	PD6060-7H3	4-20 mA Output
PD6060-6H4	PD6060-7H4	4 Relays
PD6060-6H5	PD6060-7H5	2 Relays & 4-20 mA Output
PD6060-6H7	PD6060-7H7	4 Relays & 4-20 mA Output
Note: 24 V Transmitter power supply standard on all models.		

CONNECTIONS



PD6100

ProVu® Strain Gauge Meter

STRAIN GAUGE

Quick Overview

Input: 0-15, 0-30, 0-150, 0-300 mV, ±15, ±25, ±150, ±250 mV, or Modbus PV (Slave)
Display: Dual-line 6-digit, 0.60" (15 mm) & 0.46" (12 mm)
Case: 1/8 DIN, NEMA 4X/IP65
Power: 85-265 VAC or 12/24 VDC option
Operating Temperature: -40 to 65°C

Features

- Selectable 5, 10, or 24 VDC excitation power supply
- Capture or programmable tare feature
- Ratiometric operation
- Dual-scale feature - single input
- Rounding function 1, 2, 5, 10, 20, 50, or 100
- Auto-zero feature eliminates zero drift
- Isolated 24 VDC @ 200 mA transmitter power supply
- On-board digital input
- Modbus® RTU communication protocol

Free Software Available

MeterView Pro: Configure, monitor, and datalog from a PC. *Requires serial communication adapter.*

ProVu® Series

Options

- 4-20 mA output with isolated 24 VDC @ 40 mA power supply
- 2 or 4 form C internal relays
- External 4-relay and digital I/O expansion modules
- RS-232, RS-485 serial communications
- SunBright display models

Feature Rich and Flexible

The PD6100 is a full-featured multipurpose, easy-to-use digital strain gauge & load cell meter ideal for weight and force measurement applications. It accepts mV input signals up to 300 mV (unipolar) and ± 250 mV (bipolar). The PD6100's powerful dual-scale capability allows the measurement to be displayed in two different units of measure; for example, gallons (volume) on the upper display and pounds (weight) on the lower display. Or, simply the primary variable with units of measure on the lower display.

Capture Tare

The tare function zeroes out the display. In the case of scale weight, tare is used to eliminate container weight and provide net weight readings. If the tare value is a known constant, such as a container weight, this may be programmed in manually. The captured tare may be reset manually with any function key or digital input.

Before tare **After capture tare** **After reset tare**

Auto-Zero

The auto-zero feature corrects for drift that can occur over time that causes the input signal to slowly change. The meter will continue to read zero despite slow and small changes to the input signal around zero. The auto-zero sensitivity is set by the user as a percent of full scale.

Shunt Calibration Check

The PD6100 is equipped with a means of simulating strain in a strain gauge bridge circuit, via an included shunt resistor in the meter. This technique can be used as a means of verifying the meter setup and output behavior by simulating a physical input. With no load connected, the enabling of the shunt resistor will simulate a 70% full scale load in the case of a 350Ω Strain Bridge.

Ratiometric Compensation

This feature compensates for changes in the strain gauge input signal that are due to variations in the internal or external excitation voltage. The compensation is effective for up to ±5% variation in the excitation power supply.

Load Cell Applications

A typical application for load cells is in a tank weighing application. A three-legged tank has a load cell under each leg. The three load cells are wired locally in parallel within a junction box. The combined signals are then connected to the PD6100. During field calibration, the weight of the empty tank (zero point) and the full tank weight (full scale) are programmed into the meter. Over time, the auto zero or tare features on the PD6100 can account for things like sludge build up on the bottom of the tank when empty. See page 22 for illustration.

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 Assignment: The displays may be assigned to PV1, PV2, PCT, max & min, set points, PV & units, units (lower display only), net & gross weight, Modbus input, and display millivolts.
Units: lb, kg, ounce, gram, ton, metric ton (tonne), custom units.
Programming Methods: Four front panel buttons, digital inputs, PC and MeterView Pro software, Modbus registers, or cloning using Copy function.
Password: Three programmable passwords restrict modification of programmed settings.
Power Options: 85-265 VAC 50/60 Hz, 90-265 VDC, 20 W max, or jumper selectable 12/24 VDC ±10%, 15 W max.
Isolated Transmitter Power Supply: Terminals P+ & P-: 10 VDC or 5 VDC ± 10%.12/24 VDC powered models selectable for 24 (should not be used for strain gauge/load cell), 10, or 5 VDC supply (internal jumper J4). 85-265 VAC models rated @ 200 mA max, 12/24 VDC powered models rated @ 100 mA max, @ 50 mA max for 5 or 10 VDC supply.
Environmental:
Operating temperature range: -40 to 65°C
Storage temperature range: -40 to 85°C
Relative humidity: 0 to 90% non-condensing
Dimensions: 4.68" x 2.45" x 5.64" (119 mm x 62 mm x 143 mm) (W x H x D)
Weight: 9.5 oz (269 g)
UL File Number: UL & c-UL Listed. E160849; 508 Industrial Control Equipment.
Warranty: 3 years parts & labor

Strain Gauge Input

Inputs: Field selectable: 0-15, 0-30, 0-150, 0-300 mV, ±15, ±25, ±150, ±250 mV, or Modbus PV (Slave)
Accuracy: ±0.03% of calibrated span ±1 count
Temperature Drift: 0.002% of calibrated span/°C max from 0 to 65°C ambient, 0.005% of calibrated span/°C max from -30 to 0°C ambient
Function: Linear with multi-point linearization
Decimal Point: Up to five decimal places or none
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.

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 watts) @ 125/250 VAC for inductive loads such as contactors, solenoids, etc.
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).

Serial Communications

Protocol: Modbus® RTU
Note: Refer to the PROVU® Register Tables located at www.predig.com for details.

Isolated 4-20 mA Transmitter Output

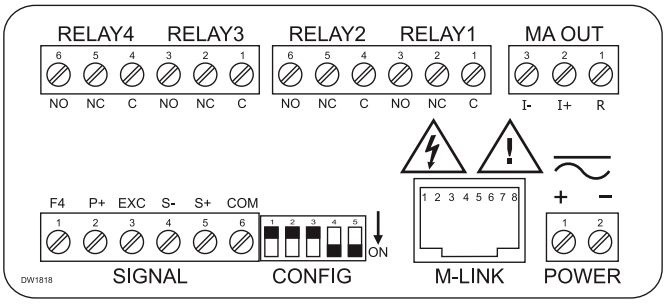
Output Source: Process variable (PV), max, min, set points 1-8, manual control setting, or Modbus input
Scaling Range: 1.000 to 23.000 mA for any display range
Calibration: Factory calibrated: 4.000 to 20.000 = 4-20 mA output
Analog Output Programming: 23.000 mA maximum for all parameters: Overrange, 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%. May be used to power the 4-20 mA output or other devices. All models rated @ 40 mA max.

ORDERING INFORMATION

PROVU® PD6100 • Standard Models		
85-265 VAC Model	**12/24 VDC Model**	**Options Installed**
PD6100-6R0	PD6100-7R0	None
PD6100-6R2	PD6100-7R2	2 Relays
PD6100-6R3	PD6100-7R3	4-20 mA Output
PD6100-6R4	PD6100-7R4	4 Relays
PD6100-6R5	PD6100-7R5	2 Relays & 4-20 mA Output
PD6100-6R7	PD6100-7R7	4 Relays & 4-20 mA Output

PROVU® PD6100 • SunBright Display Models		
85-265 VAC Model	**12/24 VDC Model**	**Options Installed**
PD6100-6H0	PD6100-7H0	None
PD6100-6H2	PD6100-7H2	2 Relays
PD6100-6H3	PD6100-7H3	4-20 mA Output
PD6100-6H4	PD6100-7H4	4 Relays
PD6100-6H5	PD6100-7H5	2 Relays & 4-20 mA Output
PD6100-6H7	PD6100-7H7	4 Relays & 4-20 mA Output

CONNECTIONS



PD6200

ProVu® Analog Input Flow Rate/Totalizer

FLOW RATE/TOTAL

Quick Overview

Input: 0-20 mA, 4-20 mA; ±10 VDC (0-5, 1-5, 0-10 V); Modbus PV (slave)
Display: Dual-line 6-digit, 0.60" (15 mm) & 0.46" (12 mm)
Case: 1/8 DIN, NEMA 4X/IP65
Power: 85-265 VAC or 12/24 VDC option
Operating Temperature: -40 to 65°C

Features

- Displays rate and total simultaneously
- Count up or down, total & grand total
- Open channel flow with programmable exponent
- Square root extraction
- 32-point linearization with free software
- Total, grand total, or non-resettable grand total
- Isolated 24 VDC @ 200 mA transmitter power supply
- On-board digital input
- Modbus® RTU communication protocol

Options

- 4-20 mA output with isolated 24 VDC @ 40 mA power supply
- 2 or 4 form C internal relays
- External 4-relay and digital I/O expansion modules
- RS-232, RS-485 serial communications
- SunBright display models

Free Software Available

MeterView Pro: Configure, monitor, and datalog from a PC. *Requires serial communication adapter.*

PD6300

ProVu® Pulse Input Flow Rate/Totalizer

FLOW RATE/TOTAL

Quick Overview

Input: Pulse, open collector, NPN, PNP, TTL, switch contact, sine wave (coil), square wave; Modbus PV (slave)
Display: Dual-line 6-digit, 0.60" (15 mm) & 0.46" (12 mm)
Case: 1/8 DIN, NEMA 4X/IP65
Power: 85-265 VAC or 12/24 VDC option
Operating Temperature: -40 to 65°C

Features

- Displays rate and total simultaneously
- Count up or down, total & grand total
- 5, 10, or 24 VDC flowmeter power supply
- Gate function for rate display of slow pulse rates
- K-Factor, internal scaling, or external calibration
- Can convert pulse input to an isolated 4-20 mA output
- Isolated 24 VDC @ 200 mA transmitter power supply
- On-board digital input

Free Software Available

MeterView Pro: Configure, monitor, and datalog from a PC. *Requires serial communication adapter.*

Options

- 4-20 mA output with isolated 24 VDC @ 40 mA power supply
- 2 or 4 form C internal relays
- External 4-relay and digital I/O expansion modules
- RS-232, RS-485 serial communications
- SunBright display models

Display Flow Rate, Total or Grand Total

The upper display can be programmed to display flow rate, total, or grand total, and the lower display can be programmed to display flow rate, total, grand total, engineering units, custom legends, or can be turned off. Both displays could also display relay set points, or max and min values. The following show typical ways these flow rate/totalizers can be programmed.

Flow Rate Indicator

Flow Totalizer

Rate & Total

Total & Grand Total

TOTALIZER CAPABILITIES

PROVU flow rate/totalizers can be programmed for a wide variety of totalizer applications. They can display 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, a non-resettable grand total, password protection, and several total reset methods.

Totalizer Conversion Factor

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

Totalizer Password Protection

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

Non-Resettable Grand Total

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

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 (T with arrow ▲ symbol) is lit up indicating the display is in overflow mode.

Remote Total Reset

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

Total Alarms

The PROVU’s four internal and four external relays can be set up to alarm when the total 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.

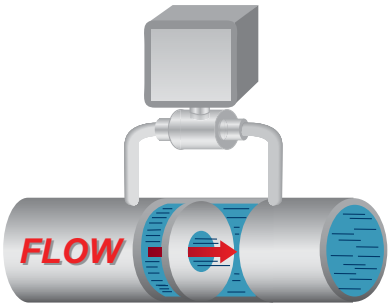
APPLICATIONS

Convert Pulse to 4-20 mA with PD6300

The PD6300 accepts the pulse output from a flowmeter and with the appropriate option installed can convert the pulse 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.

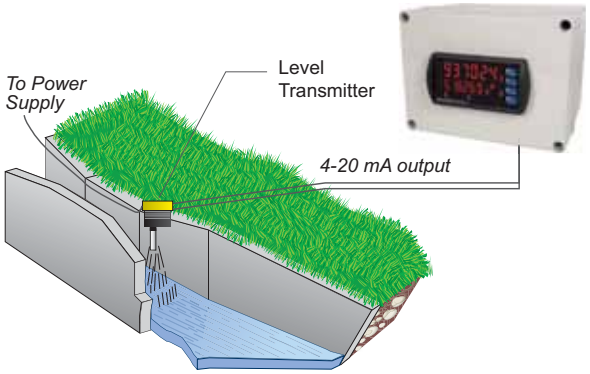
Differential Pressure Flow

The PD6200 can display flow rate and total by extracting the square root from the 4-20 mA signal from a differential pressure transmitter. The user selectable low-flow cutoff feature gives a reading of zero when the flow rate drops below a user selectable value.



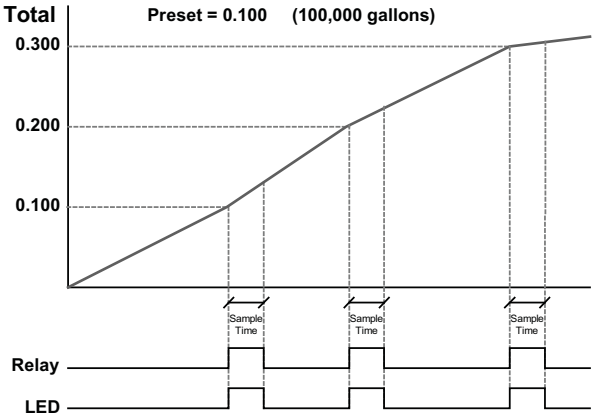
- Display Flow Rate
- User Selectable Low-Flow Cutoff
- Only 2 Calibration Points Required

Open Channel Flow



The PD6200, in combination with an ultrasonic level transmitter, makes for an economical way to measure and display open channel flow rate and total in most weirs and flumes and take periodic samples. All the user needs to do is enter the exponent for the weir or flume into the PD6200 and the PD6200 automatically raises the input signal to that power. Sampling can be based on the total flow or the flow rate. For instance, to display open channel flow rate and total from a 3 inch Parshall flume and take a one pint sample every 100,000 gallons, the user would program the PD6200 as follows:

Function	Desire	Programming
Open Channel Flow	3" Parshall flume	Set Programmable Exponent to 1.547
Flow Rate	Millions of Gallons per Day (MGD)	Set 4 mA = 0 & 20 mA = 3.508 Time base = Day
Total	Millions of Gallons	Set Totalizer Conversion Factor = 1 (password protect total reset)
Non-Resettable Grand Total	Program meter so grand total can never be reset	Set non-resettable grand total password
Display	Display Flow Rate and Total at the same time	Set upper display for Grand Total and lower display to toggle between rate and total.
Sampling	Take a 1 pint sample every 100,000 gallons	Set up relay for sampling and to trip every 0.1 million gallons. Set up sampling time such that 1 pint is sampled.



Total Relay Sampling Operation

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 Assignment: The upper and lower displays may be assigned to rate, total, grand total, alternate (rate/total, rate/grand total, rate/units, total/units, and grand total/units), max/min, units (lower display only), set points, or Modbus input. Additional displays are available if parameter total is off, and parameter d-SCAL is on: gross, alternating gross/net, PV1, PV2, and PCT (refer to PD6000 instruction manual).
Programming Methods: Four front panel buttons, digital inputs, PC and MeterView Pro software, Modbus registers, or cloning using Copy function.
Password: Three programmable passwords restrict modification of programmed settings and two prevent resetting the totals.
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 jumper selectable 12/24 VDC ±10%, 15 W max.
Isolated Transmitter Power Supply: Terminals P+ & P-: 24 VDC ± 10%. 12/24 VDC powered models selectable for 24, 10, or 5 VDC supply (internal jumper J4).
85-265 VAC models rated @ 200 mA max, 12/24 VDC powered models rated @ 100 mA max, @ 50 mA max for 5 or 10 VDC supply.
Environmental:
Operating temperature range: -40 to 65°C
Storage temperature range: -40 to 85°C
Relative humidity: 0 to 90% non-condensing
Dimensions: 4.68" x 2.45" x 5.64" (119 mm x 62 mm x 143 mm) (W x H x D)
Weight: 9.5 oz (269 g)
UL File Number: UL & c-UL Listed. E160849; 508 Industrial Control Equipment.
Warranty: 3 years parts & labor

Analog Input

Inputs: Field selectable: 0-20, 4-20 mA, ±10 VDC (0-5, 1-5, 0-10 V), Modbus PV (Slave)
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
Decimal Point: Up to five decimal places or none

Pulse Inputs

Inputs: Field selectable: Pulse or square wave 0-5 V, 0-12 V, or 0-24 V @ 30 kHz; TTL; open collector 4.7 kΩ pull-up to 5 V @ 30 kHz; NPN or PNP transistor, switch contact 4.7 kΩ pull-up to 5 V @ 40 Hz; coil (sine wave) 40 mVp-p min @ 10 kHz; Modbus PV (Slave)
Accuracy: ±0.03% of calibrated span ±1 count
Multi-Point Linearization: 2 to 32 points
Decimal Point: Up to five decimal places or none
Calibration: May be calibrated using K-factor, scale using internal calibration, or calibrate by applying an external calibration signal.
K-Factor: Field programmable K-factor converts input pulses to rate in engineering units. May be programmed from 0.00001 to 999,999 pulses/unit.

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 watts) @ 125/250 VAC for inductive loads such as contactors, solenoids, etc.
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).

Rate/Totalizer

Rate Display Indication: 0 to 999999. "R" LED illuminates
Total Display & Total Overflow: 0 to 999,999. "T" LED illuminates and "GT" for grand total. Up to 999,999,999 with total-overflow feature.
Total Decimal Point: Up to five decimal places or none
Total decimal point is independent of rate decimal point.
Totalizer: Calculates total 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. Selectable up/down count.
Totalizer Presets: Up to eight, user selectable under Setup menu. Any set point can be assigned to total and may be programmed anywhere in the range of the meter for total alarm indication.
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.
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 total can be programmed as a non-resettable total by entering the password "050873".

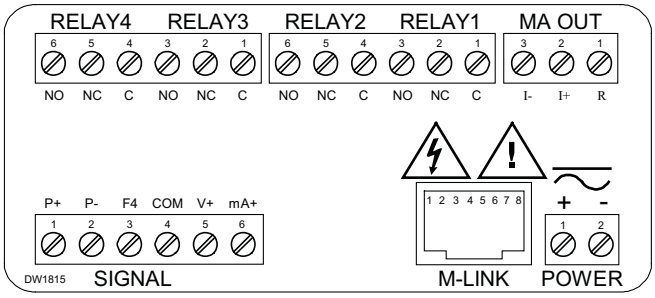
Serial Communications

Protocol: Modbus® RTU
Note: Refer to the PROVU® Register Tables located at www.predig.com for details.

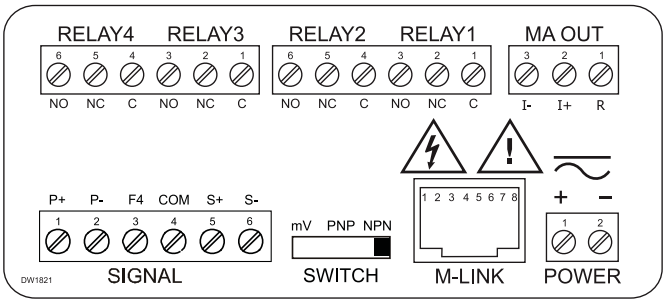
Isolated 4-20 mA Transmitter Output

Output Source: Process variable (PV), max, min, set points 1-8, manual control setting, or Modbus input
Scaling Range: 1.000 to 23.000 mA for any display range
Calibration: Factory calibrated: 4.000 to 20.000 = 4-20 mA output
Accuracy: ± 0.1% of span ± 0.004 mA
Isolated Transmitter Power Supply: Terminals I+ & R: 24 VDC ± 10%. May be used to power the 4-20 mA output or other devices. All models rated @ 40 mA max.

CONNECTIONS



PD6200 Connections



PD6300 Connections

ORDERING INFORMATION

PROVU® PD6200 • Standard Models		
85-265 VAC Model	**12/24 VDC Model**	**Options Installed**
PD6200-6R0	PD6200-7R0	None
PD6200-6R2	PD6200-7R2	2 Relays
PD6200-6R3	PD6200-7R3	4-20 mA Output
PD6200-6R4	PD6200-7R4	4 Relays
PD6200-6R5	PD6200-7R5	2 Relays & 4-20 mA Output
PD6200-6R7	PD6200-7R7	4 Relays & 4-20 mA Output
Note: 24 V flowmeter power supply standard on all models.		

PROVU® PD6200 • SunBright Display Models		
85-265 VAC Model	**12/24 VDC Model**	**Options Installed**
PD6200-6H0	PD6200-7H0	None
PD6200-6H2	PD6200-7H2	2 Relays
PD6200-6H3	PD6200-7H3	4-20 mA Output
PD6200-6H4	PD6200-7H4	4 Relays
PD6200-6H5	PD6200-7H5	2 Relays & 4-20 mA Output
PD6200-6H7	PD6200-7H7	4 Relays & 4-20 mA Output
Note: 24 V flowmeter power supply standard on all models.		

PROVU® PD6300 • Standard Models		
85-265 VAC Model	**12/24 VDC Model**	**Options Installed**
PD6300-6R0	PD6300-7R0	None
PD6300-6R2	PD6300-7R2	2 Relays
PD6300-6R3	PD6300-7R3	4-20 mA Output
PD6300-6R4	PD6300-7R4	4 Relays
PD6300-6R5	PD6300-7R5	2 Relays & 4-20 mA Output
PD6300-6R7	PD6300-7R7	4 Relays & 4-20 mA Output
Note: 24 V flowmeter power supply standard on all models.		

PROVU® PD6300 • SunBright Display Models		
85-265 VAC Model	**12/24 VDC Model**	**Options Installed**
PD6300-6H0	PD6300-7H0	None
PD6300-6H2	PD6300-7H2	2 Relays
PD6300-6H3	PD6300-7H3	4-20 mA Output
PD6300-6H4	PD6300-7H4	4 Relays
PD6300-6H5	PD6300-7H5	2 Relays & 4-20 mA Output
PD6300-6H7	PD6300-7H7	4 Relays & 4-20 mA Output
Note: 24 V flowmeter power supply standard on all models.		

PD6210

ProVu® Analog Input Batch Controller

BATCH CONTROL

Quick Overview

Input: 0-20 mA, 4-20 mA; ±10 VDC (0-5, 1-5, 0-10 V); Modbus PV (slave)
Display: Dual-line 6-digit, 0.60" (15 mm) & 0.46" (12 mm)
Case: 1/8 DIN, NEMA 4X/IP65
Power: 85-265 VAC or 12/24 VDC option
Operating Temperature: -40 to 65°C

Features

- Start, batch, pause, & stop with front panel buttons
- Display batch total + rate, grand total, batch count or preset
- Single or multi-stage batching with up to 8 relays
- Automatic overflow correction
- Manual control or automatic batching
- Count up or down, total & grand total
- On-board digital input
- Modbus® RTU communication protocol

Free Software Available

MeterView Pro: Configure, monitor, and datalog from a PC. *Requires serial communication adapter.*

Options

- 4-20 mA output with isolated 24 VDC @ 40 mA power supply
- 2 or 4 form C internal relays
- External 4-relay and digital I/O expansion modules
- RS-232, RS-485 serial communications
- SunBright display models

PD6310

ProVu® Pulse Input Batch Controller

BATCH CONTROL

Quick Overview

Input: Pulse, open collector, NPN, PNP, TTL, switch contact, sine wave (coil), square wave, Modbus PV (slave)
Display: Dual-line 6-digit, 0.60" (15 mm) & 0.46" (12 mm)
Case: 1/8 DIN, NEMA 4X/IP65
Power: 85-265 VAC or 12/24 VDC option
Operating Temperature: -40 to 65°C

Features

- Start, batch, pause, & stop with front panel buttons
- Display batch total + rate, grand total, batch count or preset
- Single or multi-stage batching with up to 8 relays
- Automatic overflow correction
- Manual control or automatic batching
- Count up or down, total & grand total
- On-board digital input
- Modbus® RTU communication protocol

Options

- 4-20 mA output with isolated 24 VDC @ 40 mA power supply
- 2 or 4 form C internal relays
- External 4-relay and digital I/O expansion modules
- RS-232, RS-485 serial communications
- SunBright display models

Free Software Available

MeterView Pro: Configure, monitor, and datalog from a PC. *Requires serial communication adapter.*

INTUITIVE BATCH CONTROL

The front panel has intuitive buttons and displays that make operating the batch controller clear and easy right out of the box. START, BATCH, and STOP buttons come setup by default for batch controller operation. The START button is used to begin a batching process. The BATCH button is used to quickly access the preset value. The STOP button can be pressed once to pause a batch, or twice to cancel a batch in progress. The upper and lower displays can be easily configured for your application need. The STOP button may be used to easily cycle the lower display information while the batch is stopped.

Easily Choose Your Display Information

Batch Total & Preset
The preset on the lower display provides even quicker access to the preset menu just by using the arrow keys to change the value.

Batch Total & Rate
The rate on the lower display may be alternated with units for variable flow batching systems. Rate alarms may also be used during the batch process.

Batch Total & Batch Count
The batch count on the lower display, tracks completed batches. The count may be set back to 0 with the reset menu.

Batch Total & Grand Total
A grand total with overflow digits for up to a 9 digit total may be displayed in the lower display, with password protection and non-resettable programmable features.

Clearly Labeled Displays

The upper display alternates the display to show the controller state when in pause or stop mode. When displaying rate, grand total, batch count, or preset, the lower display alternates between the display value and the function or unit of measure.

Batch Total & Preset

Alternating Display

Grand Total Displays Up to 9 Digits

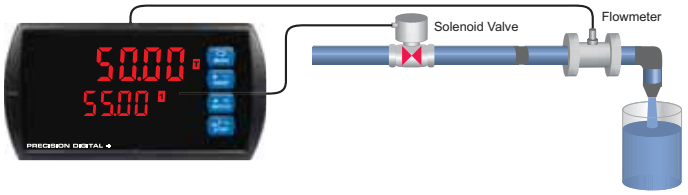
These batch controllers can display up to nine digits of total flow with the grand total feature. In the diagrams below, the batch controller is displaying 532,831,470 by toggling between a display of “oF 532” and “831470”. Notice the (GT with arrow ▲ symbol) is lit up indicating the display is in a grand total overflow mode.

BATCH CONTROLLER CAPABILITIES

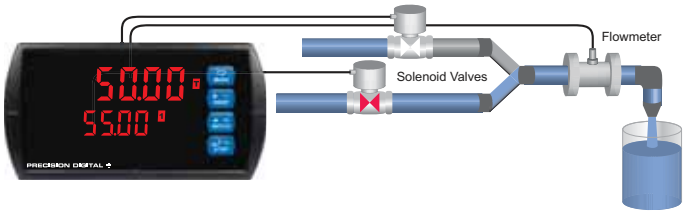
A ProVu batch controller can be programmed for a wide variety of applications. Setup is easy for single or multi-stage batching. Automatic overrun correction keeps the batch size accurate even over time and with system wear. It can record grand total or non-resettable grand total with a time base of seconds, minutes, hours, or days. The user can program a conversion factor and configure a non-resettable grand total and password protection.

Single and Multi-Stage Batching

The ProVu can be used as a single or multi-stage batch controller. Relays assigned to the total act as batch control relays, with additional relays beyond the first including a preclose value. The preclose deactivates the relay before the batch is finished, to allow slower fill rates and a more accurate batch finish. With expansion module relays, up to eight-stage batching is possible. Each additional stage batching relay has an individually programmable preclose amount.



Single Stage Batch Control



Multi-Stage Batch Control

Manual or Automatic Batch Control

Batches may be started manually with the START front panel button, or with a remote digital input trigger. Batches may also be programmed to start automatically after a 0 to 999.9 second delay after the end of the last completed batch. A manually stopped batch will not automatically restart. The START button or digital input must be used.

Automatic Overrun Correction

The ProVu batch controller will correct for batch overrun or shortages automatically. By tracking the amount the batch was off by, the controller will automatically adjust the batch by modifying the batch relay deactivation time.

Quick Preset Changes

The front panel BATCH key is configured by default to access the preset menu. The preset may be changed quickly and easily between batches without the need to enter setup menus.

Non-Resettable Grand Total

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

Total Conversion Factor

The user can enter a conversion factor that allows the controller to display total in different units than the rate. For instance, an operator could measure flow rate in gallons per minute and grand total in hundredths of acre-feet.

Grand Total & Rate Alarms

The ProVu's four internal and four external relays can be set up to alarm when the grand total reaches a user-defined set point or when the rate is above or below a certain value. Rate alarms are only activated when the batching process is running. A variety of reset modes are available and the user can also program time delays and fail-safe operation.

Four Types of Password Protection

The ProVu offers 4 types 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 function keys and all configuration menus without a password. Grand total reset protection prevents the total from being reset manually.

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 Assignment: The upper and lower displays may be assigned to rate, total, grand total, batch count, preset, set points, units (lower display only), alternating R & T, R & GT, preset & rate, max & min, or a Modbus display register. Any rate/total/grand total display may be programmed to alternate with a custom unit or tag.
Operating Methods: Three programmable front panel buttons (default START, BATCH, STOP), digital inputs, PC and MeterView Pro software, and Modbus registers.
Programming Methods: Four front panel buttons, digital inputs, PC and MeterView Pro software, Modbus registers, or cloning using Copy function.
Password: Three programmable passwords restrict modification of programmed settings and two prevent resetting the totals.
Power Options: 85-265 VAC 50/60 Hz, 90-265 VDC 20 W max, or jumper selectable 12/24 VDC ±10%, 15 W max.
Isolated Transmitter Power Supply: Terminals P+ & P-: 24 VDC ± 10%. 12/24 VDC powered models selectable for 24, 10, or 5 VDC supply (internal jumper J4).
85-265 VAC models rated @ 200 mA max, 12/24 VDC powered models rated @ 100 mA max, @ 50 mA max for 5 or 10 VDC supply.
Environmental:
Operating temperature range: -40 to 65°C
Storage temperature range: -40 to 85°C
Relative humidity: 0 to 90% non-condensing
Dimensions: 4.68" x 2.45" x 5.64" (119 mm x 62 mm x 143 mm) (W x H x D)
Weight: 9.5 oz (269 g)
UL File Number: UL & c-UL Listed. E160849; 508 Industrial Control Equipment.
Warranty: 3 years parts & labor

Analog Input

Inputs: Field selectable: 0-20, 4-20 mA, ±10 VDC (0-5, 1-5, 0-10 V), Modbus PV (Slave)
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
Decimal Point: Up to five decimal places or none

Pulse Input

Inputs: Field selectable: Pulse or square wave 0-5 V, 0-12 V, or 0-24 V @ 30 kHz; TTL; open collector 4.7 kΩ pull-up to 5 V @ 30 kHz; NPN or PNP transistor, switch contact 4.7 kΩ pull-up to 5 V @ 40 Hz; coil (sine wave) 40 mVp-p min @ 10 kHz; Modbus PV (Slave)
Accuracy: ±0.03% of calibrated span ±1 count
Multi-Point Linearization: 2 to 32 points
Decimal Point: Up to five decimal places or none
Calibration: May be calibrated using K-factor, scale using internal calibration, or calibrate by applying an external calibration signal.
K-Factor: Field programmable K-factor converts input pulses to rate in engineering units. May be programmed from 0.00001 to 999,999 pulses/unit.

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 watts) @ 125/250 VAC for inductive loads such as contactors, solenoids, etc.
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).

Batch Controller

Rate Display Indication: 0 to 999999, lead zero blanking. "R" LED illuminates while displaying rate.
Total Displays & Grand Total Overflow: 0 to 999,999. "T" LED is illuminated while displaying batch total and "GT" for grand total.
Batch Total Decimal Point: Up to five decimal places or none
Total decimal point is independent of rate decimal point.
Totalizer: Calculates total 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.
Grand Total Alarms: Up to seven, user selectable under Setup menu. Any set point can be assigned to grand total and may be programmed anywhere in the range of the controller for grand total alarm indication. Note that Relay 1 should always be assigned to batch control (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.
Grand Total Reset Password: A grand total password may be entered to prevent resetting the grand total from the front panel.

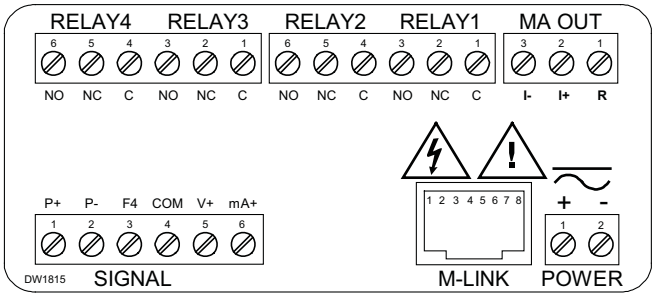
Serial Communications

Protocol: Modbus® RTU
Note: Refer to the PROVU® Register Tables located at www.predig.com for details.

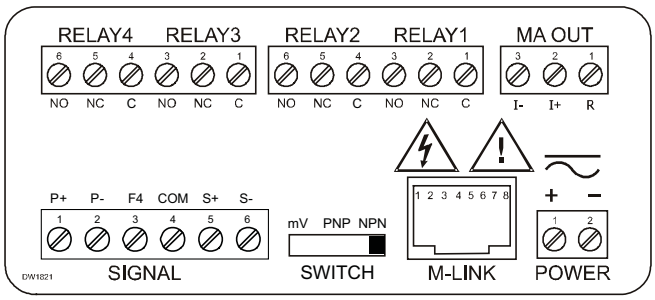
Isolated 4-20 mA Transmitter Output

Output Source: Process variable (PV), max, min, set points 1-8, manual control setting, or Modbus input
Scaling Range: 1.000 to 23.000 mA for any display range
Calibration: Factory calibrated: 4.000 to 20.000 = 4-20 mA output
Accuracy: ± 0.1% of span ± 0.004 mA
Isolated Transmitter Power Supply: Terminals I+ & R: 24 VDC ± 10%. May be used to power the 4-20 mA output or other devices. All models rated @ 40 mA max.

CONNECTIONS



PD6210 Connections



PD6310 Connections

ORDERING INFORMATION

PROVU® PD6210 • Standard Models		
85-265 VAC Model	**12/24 VDC Model**	**Options Installed**
PD6210-6R2	PD6210-7R2	2 Relays
PD6210-6R4	PD6210-7R4	4 Relays
PD6210-6R5	PD6210-7R5	2 Relays & 4-20 mA Output
PD6210-6R7	PD6210-7R7	4 Relays & 4-20 mA Output
Note: 24 V flowmeter power supply standard on all models.		

PROVU® PD6210 • SunBright Display Models		
85-265 VAC Model	**12/24 VDC Model**	**Options Installed**
PD6210-6H2	PD6210-7H2	2 Relays
PD6210-6H4	PD6210-7H4	4 Relays
PD6210-6H5	PD6210-7H5	2 Relays & 4-20 mA Output
PD6210-6H7	PD6210-7H7	4 Relays & 4-20 mA Output
Note: 24 V flowmeter power supply standard on all models.		

PROVU® PD6310 • Standard Models		
85-265 VAC Model	**12/24 VDC Model**	**Options Installed**
PD6310-6R2	PD6310-7R2	2 Relays
PD6310-6R4	PD6310-7R4	4 Relays
PD6310-6R5	PD6310-7R5	2 Relays & 4-20 mA Output
PD6310-6R7	PD6310-7R7	4 Relays & 4-20 mA Output
Note: 24 V flowmeter power supply standard on all models.		

PROVU® PD6310 • SunBright Display Models		
85-265 VAC Model	**12/24 VDC Model**	**Options Installed**
PD6310-6H2	PD6310-7H2	2 Relays
PD6310-6H4	PD6310-7H4	4 Relays
PD6310-6H5	PD6310-7H5	2 Relays & 4-20 mA Output
PD6310-6H7	PD6310-7H7	4 Relays & 4-20 mA Output
Note: 24 V flowmeter power supply standard on all models.		

PD7000

ProVu® Temperature Meter

TEMPERATURE

ProVu® Series

c UL us LISTED

CE

Free Software Available

MeterView Pro: Configure, monitor, and datalog from a PC. *Requires serial communication adapter.*

Quick Overview

Input: Thermocouple J, K, T, E, R, S, B, N, C; RTD 100 Ω Pt, 10 Ω Cu, 120 Ω Ni, 1,000 Ω Pt; Modbus PV (slave)
Display: Dual-line 6-digit: 0.60" (15 mm) & 0.46" (12 mm)
Case: 1/8 DIN, NEMA 4X/IP65
Power: 85-265 VAC or 12/24 VDC option
Operating Temperature: -20 to 65°C

Features

- 1° or 0.1° resolution
- Averages up to 10 RTD sensors
- Automatic cold junction compensation
- Interlock relays (force on)
- On-board digital input
- Programmable function keys
- Modbus® RTU communication protocol

Options

- 4-20 mA output with isolated 24 VDC @ 40 mA power supply
- 2 or 4 form C internal relays
- External 4-relay and digital I/O expansion modules
- USB, RS-232, & RS-485 serial communications
- SunBright display models

Versatile

The PD7000 accepts many more thermocouple types and RTDs than earlier models. It can be configured to have either a 1° or 0.1° display resolution on any type of sensor input. The lower display makes configuration simpler. The display itself is quite configurable. There are many relay functions for up to 8 relays; including an Interlock Relay function. The 4-20 mA output can represent up to 12 different parameters/variables. This makes the PD7000 one of the most versatile meters on the market.

Multiple Sensor Averaging

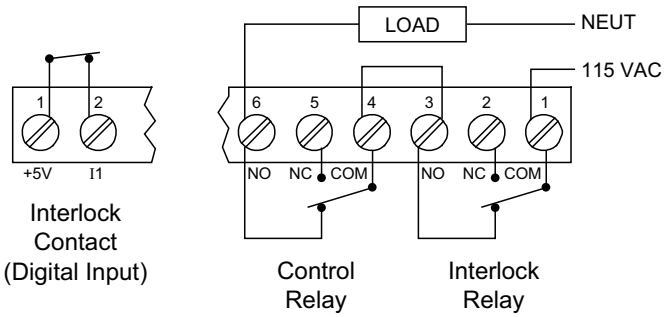
The PD7000 can find the average temperature of up to 10 RTD probes connected in parallel. This new calculated value would then be treated as the PV (temperature) displayed on the meter. The average temperature is also available via Modbus communications and as the retransmitted value for the optional 4-20 mA output.

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, or 10). For example, with a rounding value of 10, and a input of 12346, the display would indicate 12350.

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.



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.
Resolution: 1° (up to four digits) or 0.1° (up to five digits)
Programming Methods: Four front panel buttons, digital inputs, PC and MeterView Pro software, Modbus registers, or cloning using Copy function.
Power Options: 85-265 VAC 50/60 Hz, 90-265 VDC 20 W max, or jumper selectable 12/24 VDC ±10%, 15 W max.
Environmental:
Operating temperature range: -40 to 65°C
Storage temperature range: -40 to 85°C
Relative humidity: 0 to 90% non-condensing
Dimensions: 4.68" x 2.45" x 5.64" (119 mm x 62 mm x 143 mm) (W x H x D)
Weight: 9.5 oz (269 g)
UL File Number: UL & c-UL Listed. E160849; 508 Industrial Control Equipment.
Warranty: 3 years parts & labor

Temperature Input

Inputs: Thermocouple J, K, T, E, R, S, B, N, C; RTD 100 Ω platinum (0.00385 & 0.00392 curves), 10 Ω copper, 120 Ω nickel, 1000 Ω platinum
Input Impedance: Greater than 100 kΩ
Offset Adjust: User programmable offset adjust ±50.0 degrees
Temperature Drift: ±2°C maximum from 0 to 65°C ambient temperature; ±4°C maximum from -20 to 0°C ambient temperature
Sensor Break: Display flashes "Open", relays can be programmed to go "On", "Off", or to "Ignore" (detected as an upscale condition).
Averaging: Up to 10 RTDs connected in parallel can be averaged.
Accuracy & Range: See table below.

Type	Range (°F)	Range (°C)	Accuracy
J	-200 to 2000	-129 to 1093	±1°C
K	-200 to 2400	-129 to 1316	±1°C
T	-200 to 752	-129 to 400	±1°C
E	-200 to 1800	-129 to 982	±1°C
R	-50 to 3000	-46 to 1649	±2°C
S	-50 to 3000	-46 to 1649	±2°C
B	752 to 3300	400 to 1816	±2°C
N	-100 to 2300	-73 to 1260	±2°C
C	32 to 4100	0 to 2260	±2°C
10 Ω	-328 to 500	-200 to 260	±0.1°C
100 Ω	-328 to 1562	-200 to 850	±0.4°C
120 Ω	-110 to 500	-79 to 260	±0.1°C
1000 Ω	-328 to 900	-200 to 482	±0.4°C

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 watts) @ 125/250 VAC for inductive loads such as contactors, solenoids, etc.
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).

Serial Communications

Protocol: Modbus® RTU
Note: Refer to the ProVu® Register Tables located at www.predig.com for details.

Isolated 4-20 mA Transmitter Output

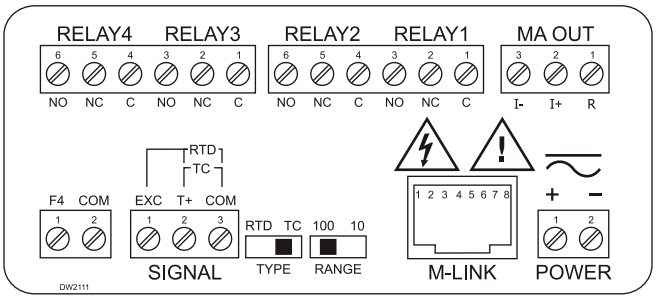
Output Source: Process variable (PV), max, min, set points 1-8, manual control setting, or Modbus input
Scaling Range: 1.000 to 23.000 mA for any display range
Calibration: Factory calibrated: 4.000 to 20.000 = 4-20 mA output
Accuracy: ± 0.1% of span ± 0.004 mA
Isolated Transmitter Power Supply: Terminals I+ & R: 24 VDC ± 10%. May be used to power the 4-20 mA output or other devices. All models rated @ 40 mA max.

ORDERING INFORMATION

ProVu® PD7000 • Standard Models		
85-265 VAC Model	**12/24 VDC Model**	**Options Installed**
PD7000-6R0	PD7000-7R0	None
PD7000-6R2	PD7000-7R2	2 Relays
PD7000-6R3	PD7000-7R3	4-20 mA Output
PD7000-6R4	PD7000-7R4	4 Relays
PD7000-6R5	PD7000-7R5	2 Relays & 4-20 mA Output
PD7000-6R7	PD7000-7R7	4 Relays & 4-20 mA Output

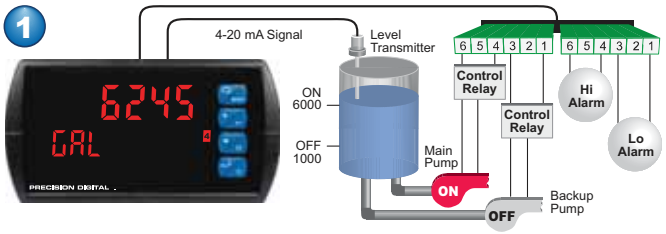
ProVu® PD7000 • SunBright Display Models		
85-265 VAC Model	**12/24 VDC Model**	**Options Installed**
PD7000-6H0	PD7000-7H0	None
PD7000-6H2	PD7000-7H2	2 Relays
PD7000-6H3	PD7000-7H3	4-20 mA Output
PD7000-6H4	PD7000-7H4	4 Relays
PD7000-6H5	PD7000-7H5	2 Relays & 4-20 mA Output
PD7000-6H7	PD7000-7H7	4 Relays & 4-20 mA Output

CONNECTIONS

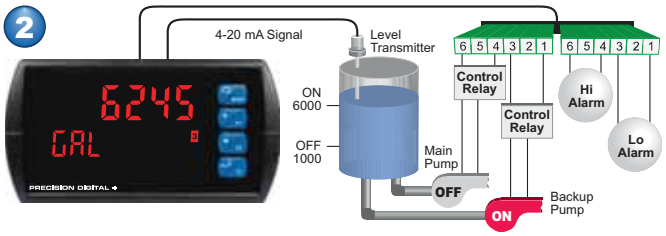


MULTI-PUMP ALTERNATION (PD6000)

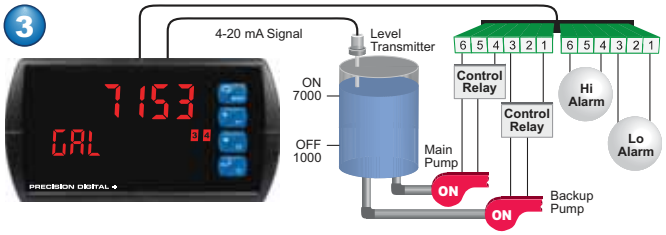
Up to 8 pumps can be alternated/sequenced.



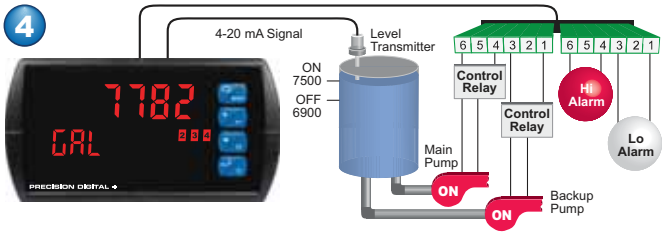
Relay #4 turns the main pump on at 6000 gallons and turns it off at 1000 gallons.



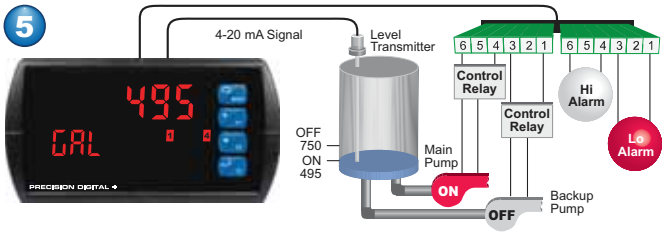
With the Pump Alternation feature activated, the next time the level reaches 6000 gallons, relay #3 transfers and starts the backup pump.



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.

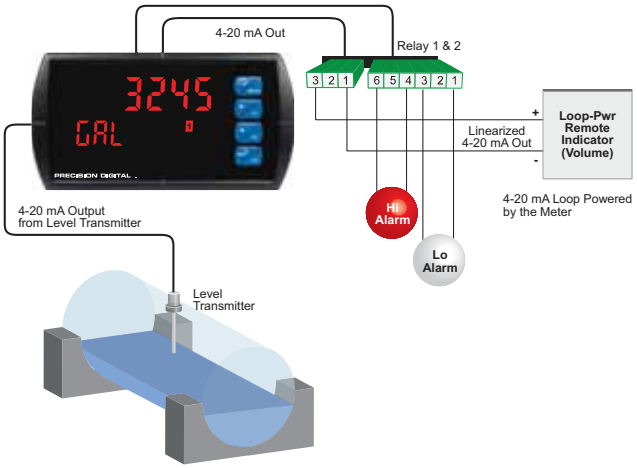


Relay #2 trips the High Level Alarm at 7500 gallons and resets at 6900 gallons.



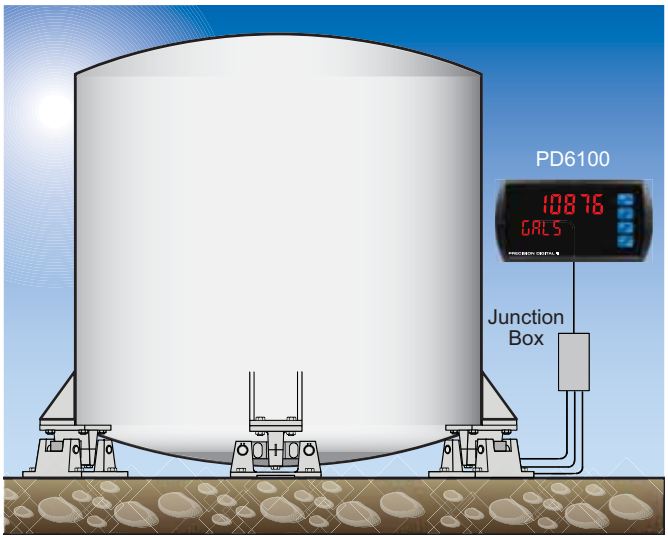
Relay #1 trips the Low Level Alarm at 495 gallons and resets at 750 gallons.

ROUND HORIZONTAL TANK SIGNAL INPUT CONDITIONER (PD6000)



LOAD CELL (PD6100)

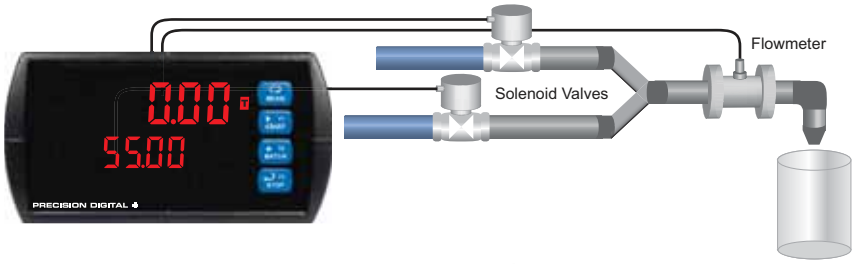
A typical application for load cells is in a tank weighing application. In the following example, this three-legged tank has a load cell under each leg. The three load cells are wired locally in parallel within a junction box. The combined signals are then connected to the PD6100. During field calibration, the weight of the empty tank (zero point) and the full tank weight (full scale) are programmed into the meter. Over time, the auto zero or tare features on the PD6100 can account for things like sludge build up on the bottom of the tank when empty.



MANUAL MULTI-STAGE BATCH CONTROL OPERATION (PD6210 / PD6310)

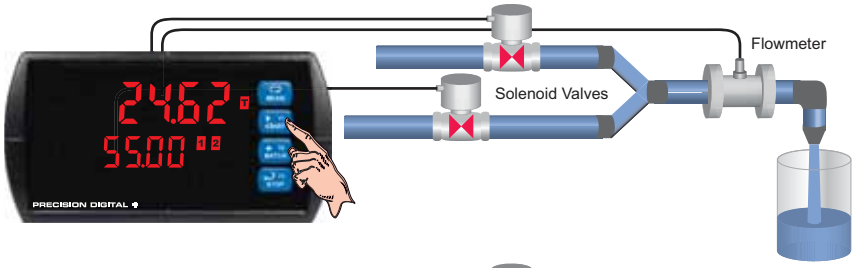
System Setup

Both valves are closed with an empty barrel in place. The batched total is displayed in the upper display, the preset is selected for the lower display.



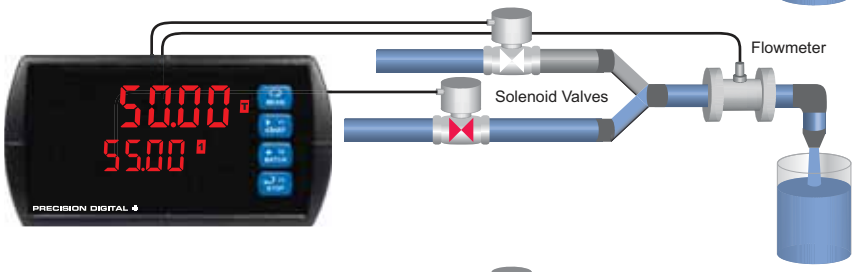
Batch Start

The START button is pressed. Both valves open. The barrel begins to fill.



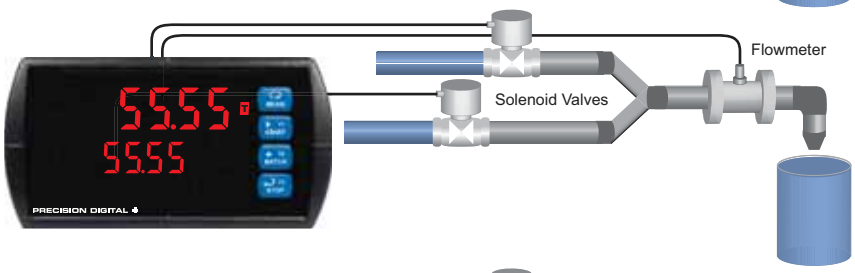
Preclose Valve

When the batch total reaches a value of 50.00 (Preset [55.00] – Preclose [5.00]) the full-flow valve closes. The fill rate of the tank slows as a result.



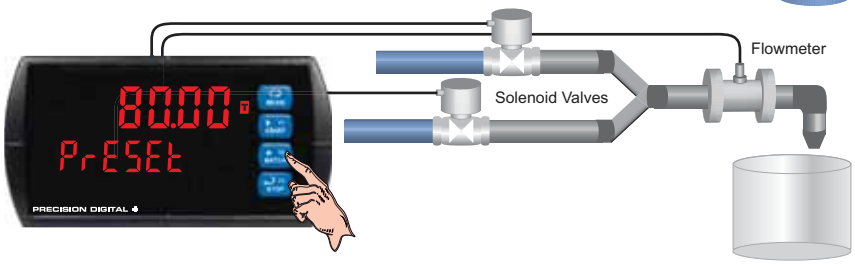
Completed Batch

When the batch total equals the preset amount, the restricted-flow valve closes. The barrel is now full. If some overrun occurs, the next batch will adjust for this offset amount to maintain accuracy.



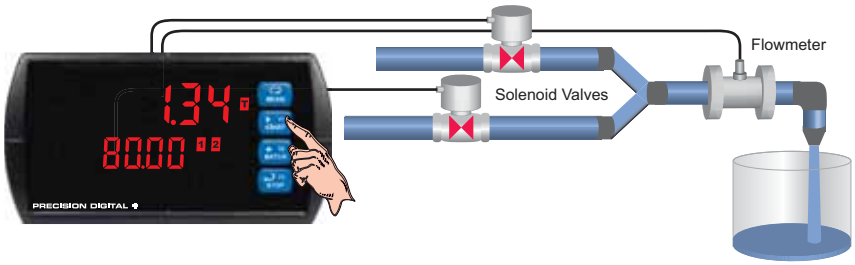
Change Preset

After placing a new, empty barrel, a new preset fill amount may be selected with the Batch key, while the process is stopped.



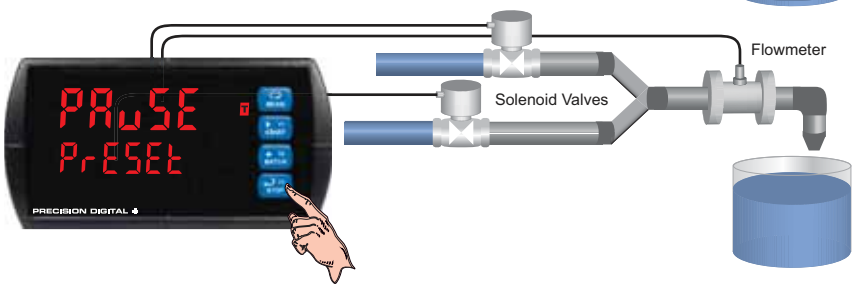
Begin New Batch

Press the START key and a new batch will begin. With both valves open, the process continues.



Pause/Stop

At any time, the STOP button may be pressed, once to Pause the process, or twice to cancel the batch, which stops the process.



MeterView® Pro

Software For ProVu® Series

Quick Overview

System Requirements: Windows® 2000, XP, Vista, 7 (Windows® 32-bit and 64-bit operating systems)
Communications: One meter at a time: USB, RS-232, or RS-485
Meter Address: 1 - 247
Reports: Data logging: Save as CSV file format
Configuration: Save as PDC file format or print configuration
Baud Rate: 300 - 19,200 bps
Protocol: Modbus RTU (requires ProVu® firmware version 2.0 or higher)

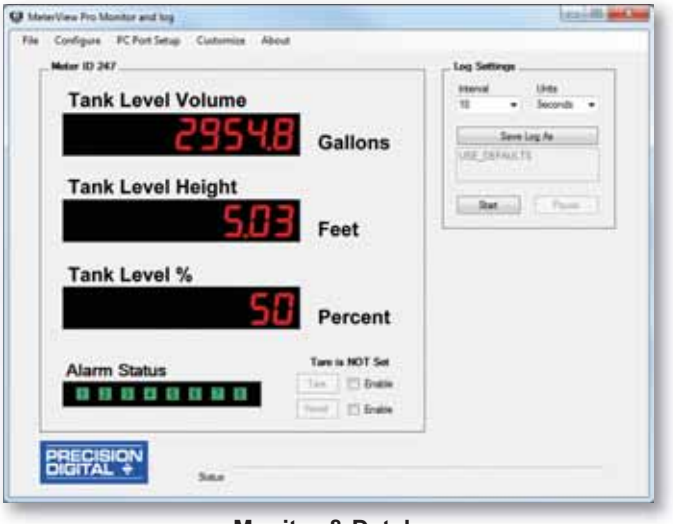
Features

Communicate from a PC to
- Configure the meter
- Monitor present trends
- Log to as large of a file as needed

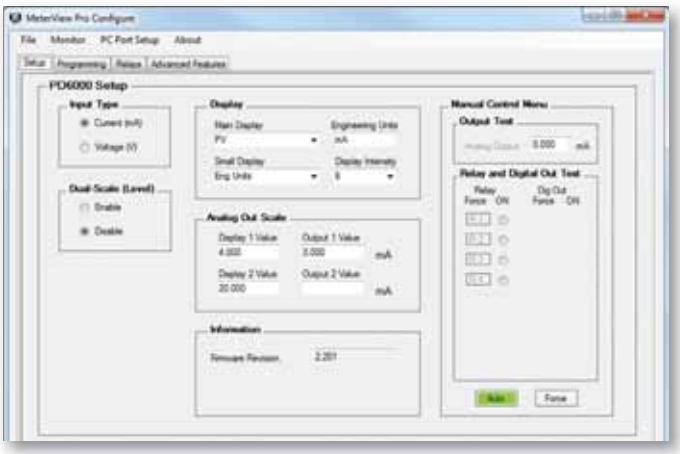
Required Adapter

PDA8008 ProVu® USB serial adapter (recommended)
or
PDA1232 ProVu® RS-232 serial adapter

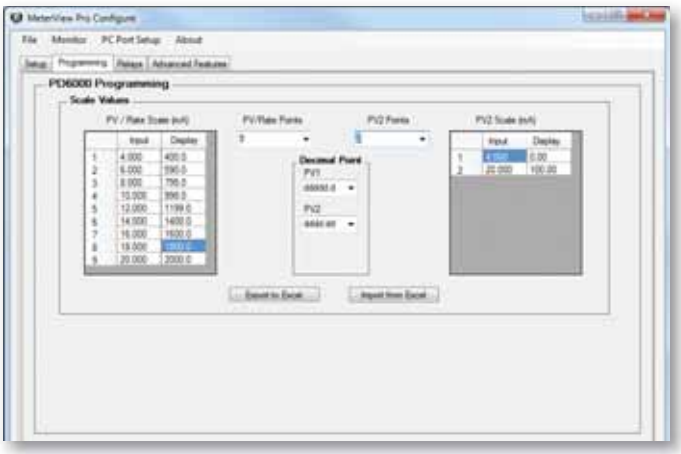
Configuring & Monitoring Software for ProVu® Series



Monitor & Datalog

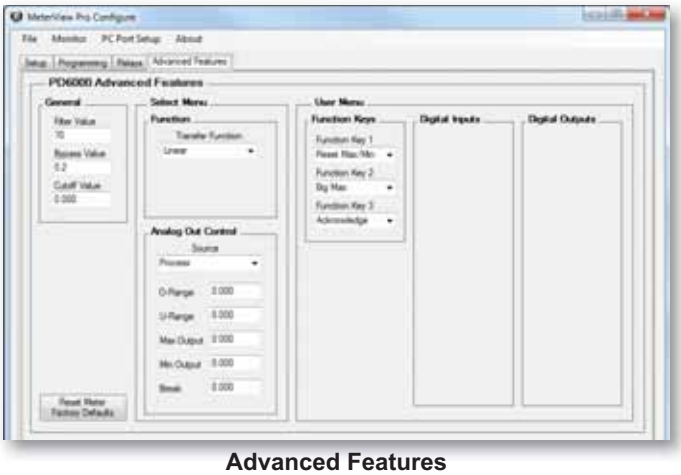


Setup



Linearization Utility

Relays



Advanced Features

Enclosures

PD8 Series
Same ProVu features in a die-cast aluminum explosion-proof enclosure.
Ratings: IP68/NEMA 4X, FM, CSA, ATEX, IECEx. See **www.predig.com/pd8**

PDA2300 Series
Material: Thermoset plastic
Cutouts: 1-10, 1/8 DIN
Ratings: NEMA 4X
Mounting: Through hinged door

PDA2500 Series
Material: Thermoplastic
Cutouts: 1-10, 1/8 DIN
Ratings: NEMA 4X
Mounting: Through hinged door

PDA2600 Series
Material: Stainless Steel
Cutouts: 1-6, 1/8 DIN
Ratings: NEMA 4X
Mounting: Through hinged door

PDA2700 Series
Material: Steel
Cutouts: 1-6, 1/8 DIN
Ratings: NEMA 4
Mounting: Through hinged door

PDA2800 Series
Material: Plastic
Cutouts: 1-2, 1/8 DIN
Ratings: NEMA 4X
Mounting: Through cover

ProVu® Accessories

Expansion Modules
PDA1004: 4-relay module
PDA1011:** Dual 4-20 mA output module
PDA1044: 4 digital I/O module

Additional Accessories
PDA1002: DIN-rail mounting kit
PDA1200: Meter copy cable

Serial Adapters
PDA1232: RS-232 serial adapter
PDA1485: RS-485 serial adapter
PDA8008: USB serial adapter

** PDA1011 for use with PD6060, PD6080, PD6081, PD6262, and PD6363 only.

Serial Converters

RS-232 to RS-422/485
PDA7485-I: converter, isolated
PDA7485-N: converter, non-isolated

USB to RS-232
PDA8232-N: converter, non-isolated

USB to RS-422/485
PDA8485-I: converter, isolated
PDA8485-N: converter, non-isolated

PD6080

ProVu® Super Snooper Modbus Scanner

MODBUS SCANNER

Quick Overview

Input: Modbus® RTU;
Dual 0-20 mA, 4-20 mA, ±10 VDC (0-5, 1-5, 0-10 V)
Display: Dual-line 6-digit, 0.60" (15 mm) & 0.46" (12 mm)
Case: 1/8 DIN, NEMA 4X/IP65
Power: 85-265 VAC or 12/24 VDC option
Operating Temperature: -40 to 65°C

Features

- Master, slave, or snooper mode
- Scan up to 16 PVs
- 4-20 mA analog output option (up to three)
- On-board digital input
- Programmable function keys
- Isolated 24 VDC @ 200 mA transmitter power supply
- Modbus® RTU communication protocol

Free Software Available

MeterView Pro: Configure, monitor, and datalog from a PC. *Requires serial communication adapter.*

ProVu® Series

c UL us LISTED CE

Options

- 4-20 mA output with isolated 24 VDC @ 40 mA power supply
- 2 or 4 form C internal relays
- External 4-relay, digital I/O, & dual 4-20 mA out modules
- RS-232, RS-485 serial communications
- SunBright display models

PD6081

ProVu® Feet & Inches Super Snooper Modbus Scanner

FEET & INCHES
MODBUS SCANNER

ProVu® Series

c UL us LISTED CE

Quick Overview

Input: Modbus® RTU;
Dual 0-20 mA, 4-20 mA, ±10 VDC (0-5, 1-5, 0-10 V)
Display: Dual-line 6-digit, 0.60" (15 mm) feet & inches upper display, & 0.46" (12 mm) lower display
Case: 1/8 DIN, NEMA 4X/IP65
Power: 85-265 VAC or 12/24 VDC option
Operating Temperature: -40 to 65°C

Features

- Master, slave, or snooper mode
- Scan multiple PVs
- 4-20 mA analog output option (up to three)
- On-board digital input
- Programmable function keys
- Isolated 24 VDC @ 200 mA transmitter power supply
- Modbus® RTU communication protocol

Free Software Available

MeterView Pro: Configure, monitor, and datalog from a PC. *Requires serial communication adapter.*

Options

- 4-20 mA output with isolated 24 VDC @ 40 mA power supply
- 2 or 4 form C internal relays
- External 4-relay, digital I/O, & dual 4-20 mA out modules
- RS-232, RS-485 serial communications
- SunBright display models

PD6262

ProVu® Analog Dual-Input Rate/Totalizer

DUAL-INPUT
RATE / TOTALIZER

Quick Overview

Input: Dual 0-20 mA, 4-20 mA; ±10 VDC (0-5, 1-5, 0-10 V); Modbus PV (slave)
Display: Dual-line 6-digit, 0.60" (15 mm) & 0.46" (12 mm)
Case: 1/8 DIN, NEMA 4X/IP65
Power: 85-265 VAC or 12/24 VDC option
Operating Temperature: -40 to 65°C

Features

- Display rate, total, or grand total for either channel, or math
- Math functions based on rate, total, or grand total
- Addition, difference, absolute difference, average, multiplication, division, min of A or B, max of A or B, draw, weighted average, ratio, and concentration math functions
- Count up or down, total & grand total
- 5, 10 or 24 VDC isolated flowmeter power supply
- On-board digital input
- Modbus® RTU communication protocol

Free Software Available

MeterView Pro: Configure, monitor, and datalog from a PC. *Requires serial communication adapter.*

ProVu® Series

Options

- 4-20 mA output with isolated 24 VDC @ 40 mA power supply
- 2 or 4 form C internal relays
- External 4-relay, digital I/O, & dual 4-20 mA out modules
- RS-232, RS-485 serial communications
- SunBright display models

PD6363

ProVu® Pulse Dual-Input Rate/Totalizer

DUAL-INPUT
RATE / TOTALIZER

ProVu® Series

Options

- 4-20 mA output with isolated 24 VDC @ 40 mA power supply
- 2 or 4 form C internal relays
- External 4-relay, digital I/O, & dual 4-20 mA out modules
- RS-232, RS-485 serial communications
- SunBright display models

Quick Overview

Input: Dual Pulse, open collector, NPN, PNP, TTL, switch contact, sine wave (coil), square wave; Modbus PV (slave)
Display: Dual-line 6-digit, 0.60" (15 mm) & 0.46" (12 mm)
Case: 1/8 DIN, NEMA 4X/IP65
Power: 85-265 VAC or 12/24 VDC option
Operating Temperature: -40 to 65°C

Features

- Quadrature inputs
- Display rate, total, or grand total for either channel, or math
- Math functions based on rate, total, or grand total
- Addition, difference, absolute difference, average, multiplication, division, min of A or B, max of A or B, draw, weighted average, ratio, and concentration math functions
- Count up or down, total & grand total
- Count up or down based on digital input
- Count up or down based on second input
- 5, 10 or 24 VDC isolated flowmeter power supply
- Convert pulse input or math result to a 4-20 mA output

Free Software Available

MeterView Pro: Configure, monitor, and datalog from a PC. *Requires serial communication adapter.*

PROTEX-MAX

Same ProVu® features in a sleek, die-cast aluminum explosion-proof enclosure

ProtEX™ MAX

FM APPROVED

See website for details

www.predig.com/PD8

LMDPROVU_A 02/13

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www.predig.com