

# DPM-500

## Dual-Line 6-Digit Process Meter



### FEATURES

- 1/8 DIN Digital Panel Meter with NEMA 4X, IP65 Front
- 0-20 mA, 4-20 mA, 0-5 V, 1-5 V, and  $\pm 10$  V Field Selectable Inputs
- Dual-Line 6-Digit Display, 0.6" (15 mm) & 0.46" (12 mm)
- Isolated 24 VDC @ 200 mA Transmitter Power Supply
- 2 or 4 Relays with Interlocking Capability + Isolated 4-20 mA Output Options
- Free PC-Based MeterView Pro USB Programming Software
- No Assembly Required
- Optional SunBright Display Models for Outdoor Applications
- Operating Temperature Range: -40 to 65°C
- UL & C-UL Listed. E160849; 508 Industrial Control Equipment
- Input Power Options: 85-265 VAC or 12-24 VDC
- Display Input in Two Different Scales - Great for Level Applications
- Multi-Pump Alternation Control
- Round Horizontal Tank Formula; Just Enter Diameter & Length
- 32-Point, Square Root, or Exponential Linearization
- Programmable Display, Function Keys & Digital Input
- External 4-Relay & Digital I/O Expansion Modules
- RS-232 & RS-485 Serial Communication Options with Modbus RTU
- Plastic NEMA 4X Enclosures for up to 10 Meters
- Stainless Steel Sun Hood Accessory Available
- 3-Year Warranty





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**OVERVIEW**

**Front**

UV Resistant Sunlight Readable Models

Front Panel NEMA 4X Rated

MeterView Pro  
USB Install

Large 0.6" Digits

Rugged Front

Dual-Line 6-Character Display

User Configurable Display

PV, Max (Peak), Min (Valley)

Programmable Function Keys

Alarm Status Indicators

**Connections**

- Form C (SPDT) relays
- Two isolated supplies available even on 12/24 VDC input power models
- Removable terminal blocks
- 2 or 4 relays + isolated 4-20 mA output option
- Universal 85-265 VAC or 12/24 VDC input power
- Voltage or current inputs
- No jumpers needed for V/mA input selection
- M-Link for adding expansion modules
- Digital input (F4)

**The Only Process Meter You Will Ever Need**

Front, back and in between, the DPM-500 meter boasts specifications, features and functionality that make it the only 1/8 DIN process meter you will ever need. The number one feature that makes the DPM-500 such a useful device is its built-in 24 VDC power supply to drive the transmitter as illustrated by the above diagram. This feature not only saves the cost of an external power supply, but also greatly simplifies wiring. In addition, there is a second 40 mA power supply provided with the 4-20 mA output option, evident also in the above diagram.

The picture above illustrates several other reasons why the DPM-500 is the only process meter you will ever need. First off, is the NEMA 4X rated front panel which means you can install the

DPM-500 in panels exposed to moisture, dust and other adverse conditions. The picture also points out that the DPM-500 is available with an optional Sunbright display which means you can install and read the DPM-500 in direct sunlight. The next thing to notice is the 6-digit dual-line display that can display numbers up to 999,999 on the main display and show either a tag or the input in a different scale on the secondary display.

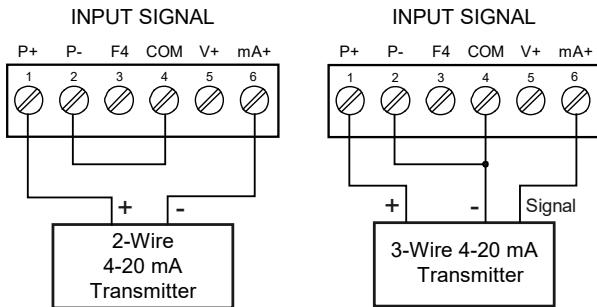
Other key features include four relays and 4-20 mA output option, advanced signal input conditioning like automatic round horizontal tank linearization, function keys, pump alternation capability, and Modbus RTU serial communications. Finally all these features and capabilities can easily be programmed with free MeterView Pro PC-based software.

## ISOLATED TRANSMITTER POWER SUPPLIES

### 24 V @ 200 mA Transmitter Power Supply

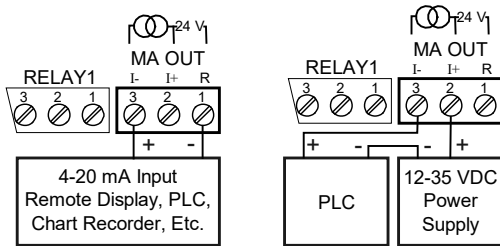
One of the most useful standard features of the AC powered DPM-500 is its built-in isolated, 24 V @ 200 mA power supply to power the transmitter. This feature saves money by eliminating an external power supply and also simplifies wiring by reducing the number of devices in the loop. It can be configured for 5, 10, or 24 V (default) by means of a simple internal jumper. This power supply is even available on meters that are powered from DC power (24 V @ 100 mA). To use an external power supply instead of the internal power supply, simply make connections to different terminals on the DPM-500.

The following diagrams illustrate how to wire the DPM-500 so it will power the transmitter:



### 24 V @ 40 mA 4-20 mA Output Power Supply

Not only can the DPM-500 power the 4-20 mA input signal, but an additional power supply of 24 V @ 40 mA is provided with the 4-20 mA output option to power the 4-20 mA output.

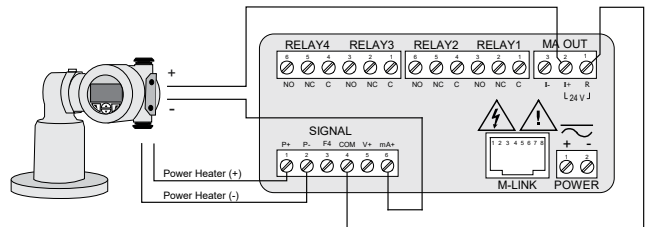


### Resettable Fuse Prevents Current Overload

Another very useful aspect of the DPM-500 is that the current input is protected against current overload by a 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.

### Other Uses for the Transmitter Power Supplies

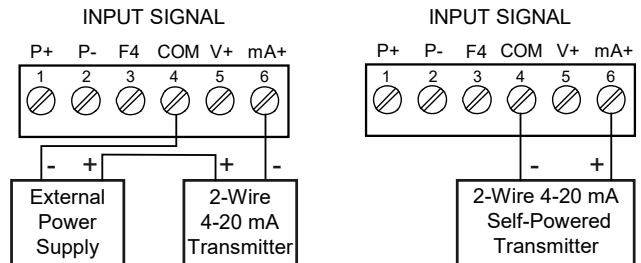
The most common use for these two power supplies is for the 200 mA transmitter power supply to power the field transmitter and 40 mA power supply to power the 4-20 mA output from the meter. However, since these two power supplies are isolated they can be used in other ways. For instance, some level transmitters require the use of a heated lens. The DPM-500's 200 mA power supply could be used to power the heated lens and DPM-500's 40 mA power supply could be used to power the 4-20 mA input.



DPM-500 Powers Both Heater and 4-20 Output

### External Power Supply for the Loop

For applications that require an external transmitter power supply, the same DPM-500 is used and merely wired in a different fashion as the following diagrams illustrate:



## ADVANCED DISPLAY FEATURES

### Dual-Line Makes All the Difference

The main display can be programmed to indicate PV, maximum (peak), minimum (valley), alternating maximum/minimum, one of eight alarm set points, or Modbus input. The secondary display can be configured to display engineering units, set points, user defined messages, or simply turned off.

The DPM-500's dual-line display makes all the difference both when programming the instrument and when using it in the field. When programming the instrument, the dual line display prompts for the needed information and also helps you keep track of where you are in the setup process. When using the instrument, the dual line display provides more information such as displaying the input in two different scales like height and volume for a level application. We call this the Dual-Scale feature.

### Programming Assistance

The DPM-500's dual-line display makes programming the instrument much easier because the secondary display prompts for the needed information and also helps you keep track of where you are in the setup process.



The DPM-500 is prompting for the value for Input 2 and displaying the default value of 20.00 mA. The "2" in 20.00 is brighter than the rest of the digits indicating that it is the number that will be changed by the Up and Right arrows.



The DPM-500 is now prompting for what the user wants Display 2 to be; that is the value that corresponds to 20 mA. In this case Display 2 is currently set to 95.00.

### Bright & Optional Super-Bright Display

The standard DPM-500's display is bright enough for most applications, including moderate sun exposure. However, for direct sunlight exposure the DPM-500 is available with super-bright LEDs that make it possible to read the DPM-500 even in direct sunlight. Both versions of the DPM-500 have eight levels of adjustable intensity.

### Rounding Feature for Even Steadier Display

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

### Dual-Scale Display Feature

The DPM-500 has a rather unique, and very flexible dual-scale capability. This is of particular value in level applications where a second scaled display can represent the measured input in a different form (i.e. gallons & height). 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

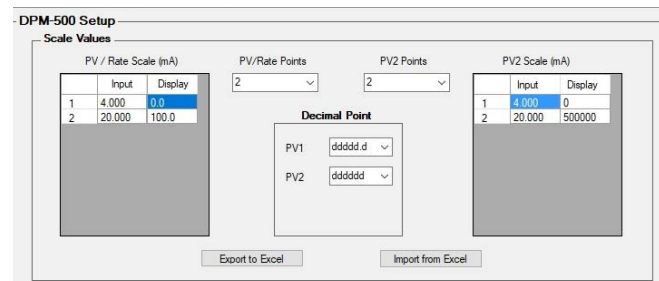


Gallons & Percent



Gallons & Head PSI

MeterView Pro can be used to program the DPM-500 to display the input in two different scales:



### Toggling Between Reading & Units with Tag

The DPM-500 can also be programmed so the main display toggles between the reading and units and the secondary display shows a tag. For instance, the main display toggles between 9500 and Gal and the secondary display shows Tank 1.



### Other Uses for Secondary Display

The secondary display can also be used indicate units, a tag, or even a setpoint as the following pictures illustrate:



Volume in Tank



Gallons & Setpoint



Level in Feet

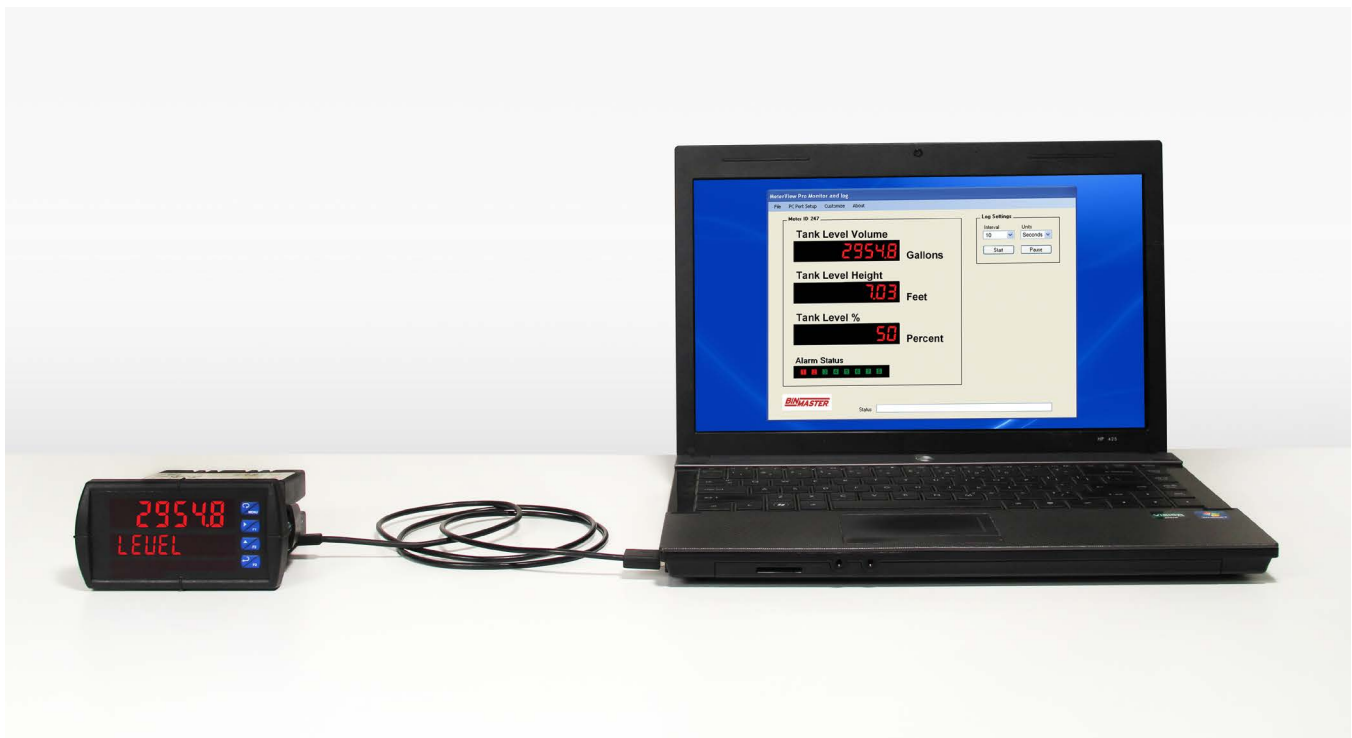


Pressure Indication

## QUICK & EASY SCALE & PROGRAMMING METHODS

The DPM-500 can be programmed either via the front panel push buttons or free, PC-based MeterView Pro software. MeterView Pro is resident on the DPM-500 and is accessed by a provided USB cable, so it is by far the easiest way to program the DPM-500. The DPM-500 can be calibrated either by applying a known signal or scaled by entering a desired value with the front panel buttons or MeterView Pro software. Most customers will use the scaling method because it is simpler and does not require a calibrated signal source. Selecting the input to be current or voltage is done with the front panel buttons or MeterView Pro software. Once programming is completed it can be locked with a password.

### Free PC-Based MeterView Pro USB Programming Software & Cable

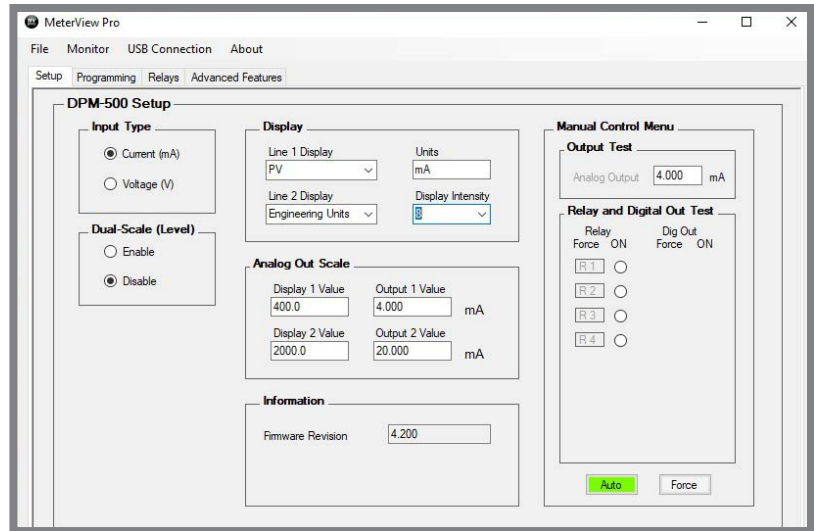


The DPM-500 comes preloaded with free MeterView Pro programming software that connects and installs directly to your PC with a standard USB cable, also provided free with each instrument. This eliminates the need to insert CDs, install drivers, or download software from the internet. When you connect your DPM-500 to your PC, MeterView Pro is downloaded to your PC, the software automatically selects the model you are programming,

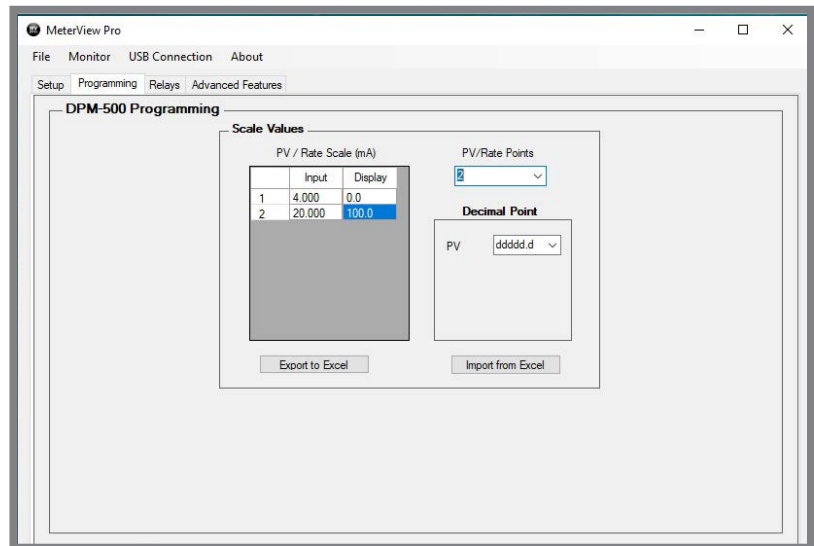
and you're ready to start programming immediately. Further simplifying the programming process, the DPM-500 can be powered from the USB port, so no need to apply external power while programming your meter. In addition to programming, the software will also allow you to monitor, and datalog a DPM-500 using your PC. You can also generate and save programming files for later use.

**Setup Screen**

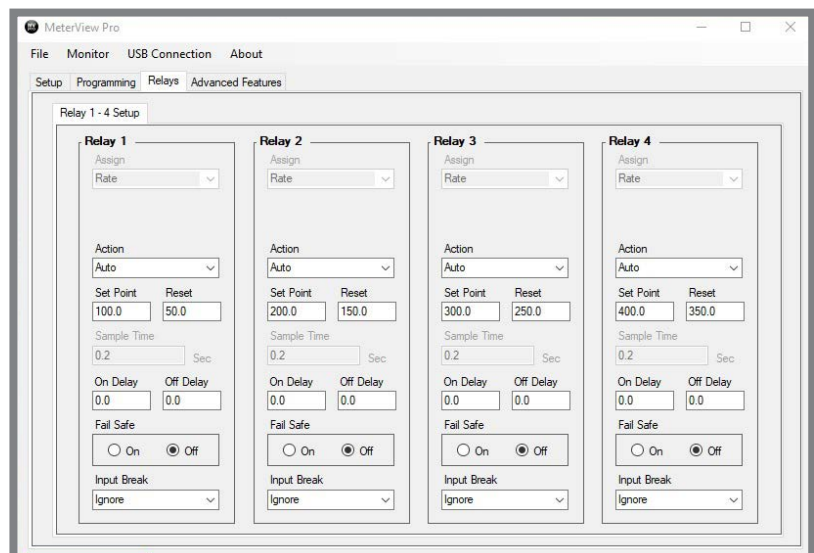
- Select Voltage or Current Input
- Activate Dual-Scale (Level) Function
- Set Line 1 Display Parameters
- Set Line 2 Display Parameters
- Set Analog Output Values
- Enable Manual Control
- Test Relays & Digital Outputs

**Programming Screen**

- Set Scale Values
- Set the Number of Points (up to 32)
- Select Decimal Point
- Import from Excel
- Export to Excel

**Relays Screen**

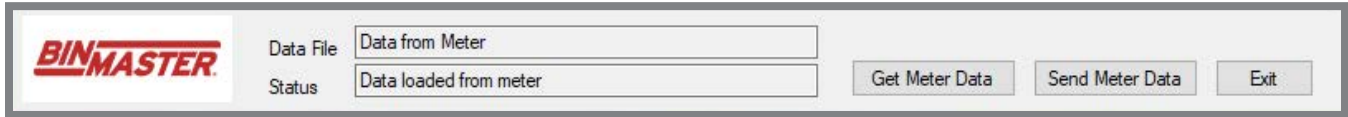
- Greatly Simplifies Programming a Variety of Relay Features
- Set Relay Action
- Set Sampling Time
- Set Set & Reset Points
- Set On/Off Time Delays
- Set Fail Safe Operation
- Set Input Break Relay Action



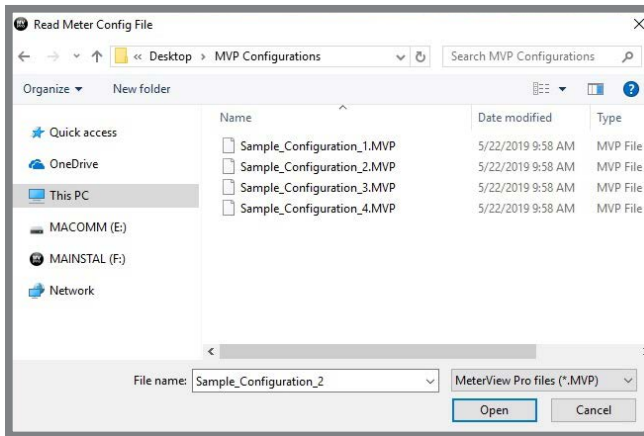
## Save/Open Configuration

At the bottom of most MeterView screens are two tabs:

1. **Get Meter Data:** This reads the programming of the meter that is currently connected to the PC.
2. **Send Meter Data:** Clicking this button, sends current MeterView programming to the meter.



The configuration file can be sent or retrieved from the directory of your choice. This makes it very easy to program multiple meters with the same programming. It is also a great backup utility as well.



## Specifications

### System Requirements:

Microsoft® Windows® 10 & 11

### Communications:

Onboard USB (firmware version 4.0 or higher),  
RS-232 Adapter or RS-485 Adapter

### 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

**Configuration:** One meter at a time

### Protocol:

Modbus RTU (requires firmware version 4.0 or higher)

*\*Note: Windows® 32/64-bit operating systems*

## Password Protection

The Password menu is used for programming three levels of security to prevent unauthorized changes to the programmed parameter settings:

**Pass 1:** Allows use of function keys and digital inputs

**Pass 2:** Allows use of function keys, digital inputs and editing set/reset points

**Pass 3:** Restricts all programming, function keys, and digital inputs



## 4-20 mA OUTPUT & RELAYS

### 4-20 mA Analog Output

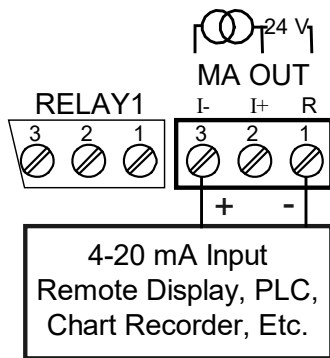
The isolated analog retransmission signal can be configured to represent the process variable (PV), maximum (peak) value, minimum (valley) value, the value for any of the eight relay set points, or Modbus input. While the output is nominally 4-20 mA, the signal will accurately accommodate under- and over-ranges from 1 to 23 mA.

The 4-20 mA output can be reversed scaled such that 4 mA represents the high value and 20 mA represents the low value. For instance, a 4-20 mA output signal could be generated as the meter went from 100.0 to 0.0.

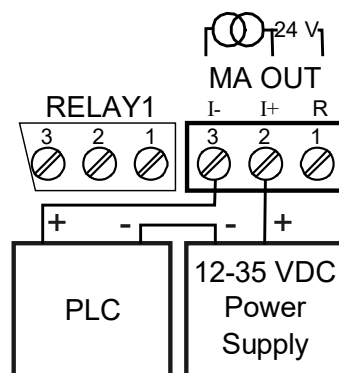
For applications where the input was linearized by the DPM-500, the 4-20 mA output will represent that linearized value.

### Connections

The DPM-500 can provide 40 mA at 24 VDC to power the 4-20 mA output signal or an external power supply can be used:



4-20 mA Output Powered by DPM-500



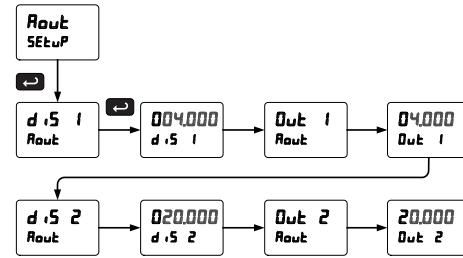
4-20 mA Output Powered by External Power Supply

The internal 24 VDC power supply powering the analog output may be used to power other devices, if the analog output is not used. The I+ terminal is the +24 V and the R terminal is the return.

The 4-20 mA output can either be programmed using the front panel push buttons or free MeterView Pro software.

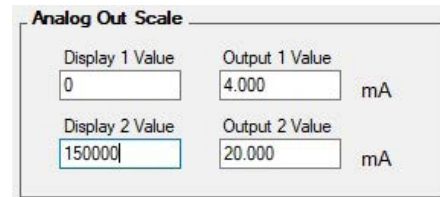
### Front Panel Push Button Programming

The 4-20 mA analog output can be scaled to provide a 4-20 mA signal for any display range selected. No equipment is needed to scale the analog output; simply program the display values to the corresponding mA output signal. The Analog Output menu is used to program the 4-20 mA output based on display values.

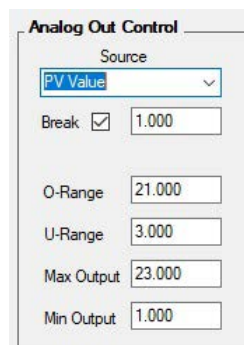
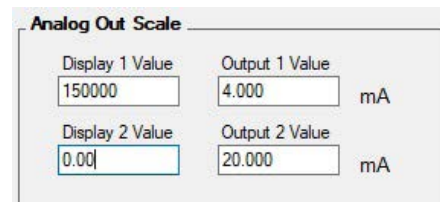


### MeterView Pro Software Programming

When a meter is programmed as shown below, the output will be 4.00 mA when the display reads 0 and the output will be 20.00 mA when the display reads 150000.



The meter can be set up for reverse scaling as shown below: the output will be 4.00 mA when the display reads 150000 and the output will be 20.00 mA when the display reads 0.



**Source:** Source for generating the 4-20 mA output (e.g. PV)

**Overrange:** Analog output value with display in overrange condition

**Underrange:** Analog output value with display in underrange condition

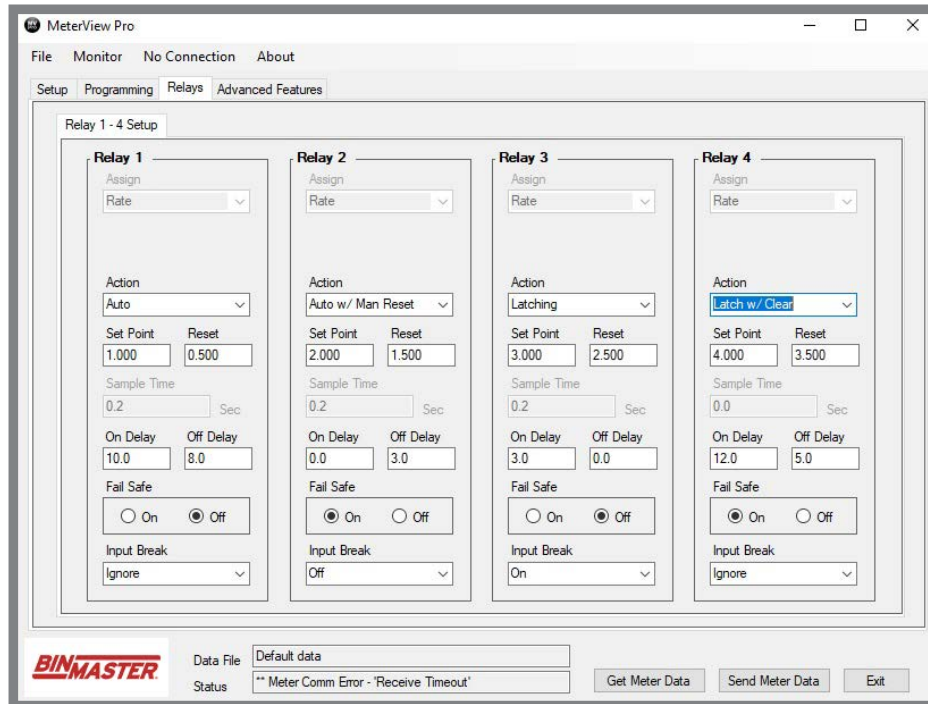
**Break:** Analog output value when loop break is detected

**Max:** Maximum analog output value allowed regardless of input

**Min:** Minimum analog output value allowed regardless of input

## Relays for Alarm & Control Applications

Adding relays to the DPM-500 meter turns it into a sophisticated alarm device as well as a powerful, yet simple, alternative to a more complicated PLC system for control applications. One such application would be pump control using the DPM-500's relays in pump alternation mode. The DPM-500 can be equipped with up to four 3 A Form C (SPDT) internal relays and an additional four more 3 A Form A (SPST) external relays. Relays are highly user-configurable as the following screen shot from MeterView Pro indicates:



\*Values are intended to show programming choices. They are not intended to represent an actual application.

### Setting Set and Reset Points (HI / LO Alarms)

All relays are independent of each other and may be programmed as high or low alarms with user desired set and reset points. Setting a set point above a reset point results in a high alarm and setting a set point below a reset point results in a low alarm. Alarms have 0 – 100% deadband and set and reset points may be set anywhere in the range of the meter.

### Resetting the Relays (Action in MV Pro)

All relays are independent of each other and may be programmed to reset (*Action* in MV Pro) in the following ways:

- **Automatic:** Alarm will reset automatically once the alarm condition has cleared.
- **Automatic/Manual:** Alarm will reset automatically once the alarm condition has cleared but can also be reset using the F3 front panel button\* at any time.
- **Latching:** Alarm must be reset manually and can be done so at any time. Press the F3 front panel button\* at any time to clear the alarm.
- **Latching with Reset after Cleared:** Alarm must be reset manually and can only be done so after the alarm condition has cleared. Press the F3 front panel button\* after the alarm condition has cleared to reset the alarm.

\* Or by connecting an external switch to F4 terminal or with an optional digital input.

### Time Delay (On and Off)

In many applications it is desirable to wait before turning off or on a relay – such as waiting for a process to settle before taking action. Each relay on the DPM-500 can be programmed with independent on and off time delays of 0 to 999.9 seconds to achieve this.

### Relays Auto Initialization

When power is applied to the meter, the front panel LEDs and alarm relays will reflect the state of the input to the meter.

### Signal Loss or Loop Break Relay Operation

When the meter detects a break in the 4–20 mA loop, the relay will go to one of the following selected actions:

1. Turn On (Go to alarm condition)
2. Turn Off (Go to non-alarm condition)
3. Ignore (Processed as a low signal condition)

### User Selectable Fail-Safe Operation

All relays are independent of each other and may be programmed for user selectable fail-safe operation. With the fail-safe feature activated, the relays will transfer to the alarm state on power loss to the meter.

## Front Panel LEDs

The meter is supplied with four alarm points that include front panel LEDs to indicate alarm conditions. This standard feature is particularly useful for alarm applications that require visual-only indication.

## 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.



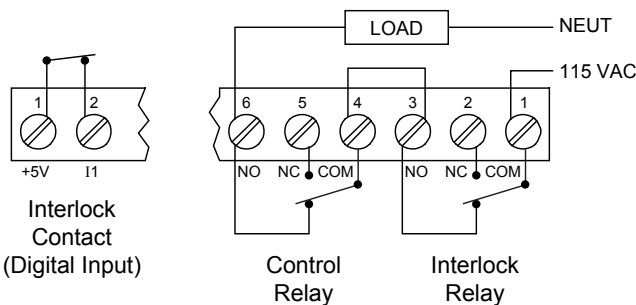
When the relays and 4-20 mA output are controlled manually, an LED labeled "M" is turned on and the associated Alarm LEDs (1-8) flash every 10 seconds indicating that the meter is in manual control mode.

## Sampling Function (PV Triggered Timed Relay)

The sampling function allows the operator to set a relay as a "sampling" relay. When the PV reaches that set point, it will close that relay's contacts for a preset period of time (0.1 to 5999.9 seconds). An example of its use may be for beer/ale fermentation. When the batch reaches a certain pH, the relay contacts would close and 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.

## 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.

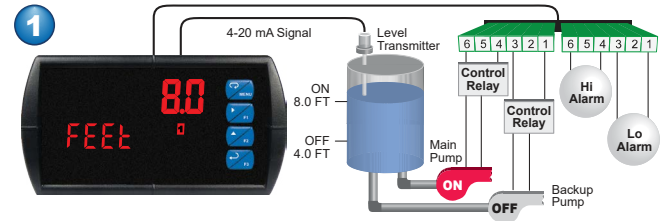


## Switching Inductive Loads

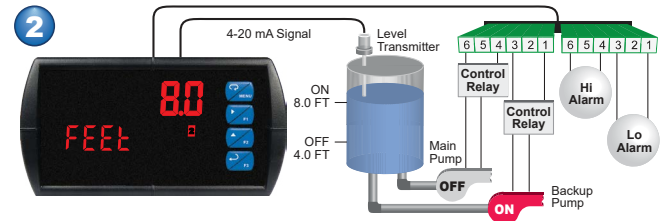
The use of suppressors (snubbers) is strongly recommended when switching inductive loads to prevent disrupting the microprocessor's operation. The suppressors also prolong the life of the relay contacts. Binmaster offers the PDX6901.

## Multi-Pump Alternation

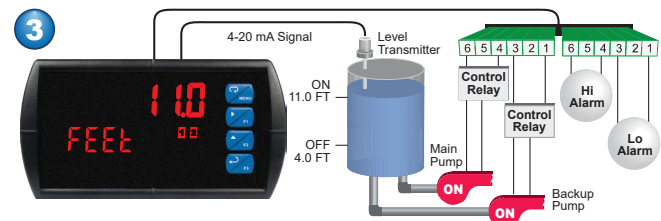
The DPM-500 can be used as a pump controller when combined with a continuous level transmitter. The most common pump control application is shown below: controlling and alternating two pumps and providing high and low-level alarms.



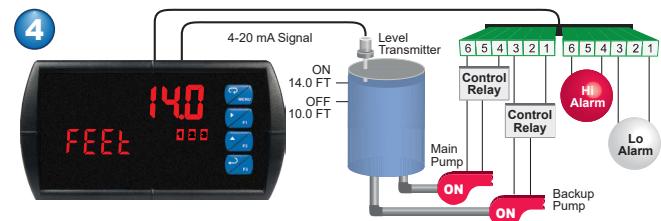
Relay #1 turns the main pump on at 8.0 feet and turns it off at 4.0 feet.



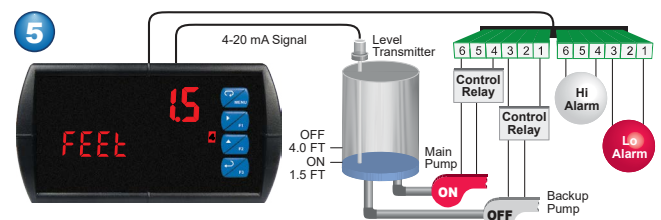
With the Pump Alternation feature activated, the next time the level reaches 8.0 feet, relay #2 transfers and starts the backup pump.



If the backup pump is not able to keep up, and the level reaches 11.0 feet, relay #1 transfers and starts the main pump as well.



Relay #3 trips the High-Level Alarm at 14.0 feet and resets at 10.0 feet.



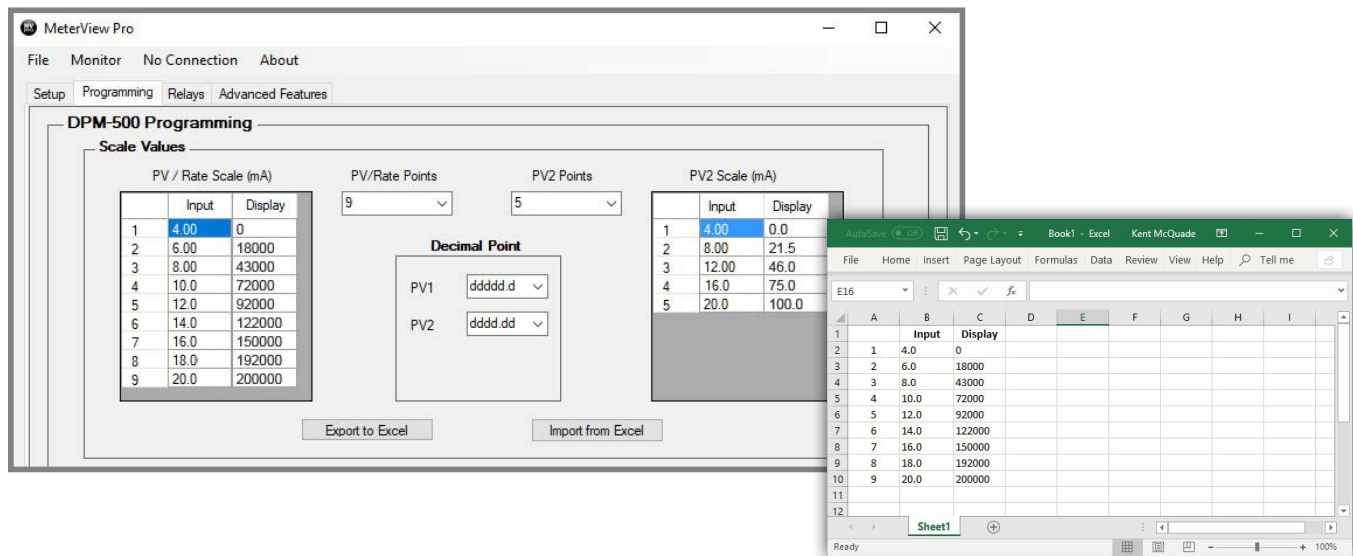
Relay #4 trips the Low-Level Alarm at 1.5 feet and resets at 4.0 feet.

## SIGNAL INPUT CONDITIONING

There are many applications in the industrial world that can't be satisfied with simple, two-point linear scaling so the DPM-500 has advanced linearization capabilities to handle applications like round horizontal tank volume measurement, open channel flow, DP flow, and others. All of these capabilities are easily programmed using MeterView Pro programming software.

### 32-Point Linearization

The most common way to linearize a non-linear signal is to break it up into smaller ranges that are more linear than the overall range. The DPM-500 is available with up to 32 points of linearization and if dual scale feature is used, the second PV can have up to eight points of linearization. The linearization data can be imported from an Excel spreadsheet or can be exported from MeterView Pro to an Excel spreadsheet. The following screen shot from MeterView Pro shows PV1 with 9 points of linearization and PV 2 with 5 points of linearization:



Scale values can also be imported from an Excel spreadsheet.

### Specialized Linearization Functions

In addition to the generic 32- and 8-point linearization functions, the DPM-500 is also available with specialized functions for round horizontal tanks, open channel flow, and DP flow.

#### Round Horizontal Tank

**Function**

Signal Input Conditioning

RHT

Diameter: 48.000 Inch

Length: 120.000

The user enters the diameter and length of a flat-ended round horizontal tank resulting in a display of volume.

#### Programmable Exponent

**Function**

Signal Input Conditioning

Prog Exponent

Exponent: 1.683

The input is raised to an exponent programmable by the user resulting in a display of open channel flow rate.

#### Square Root Extraction

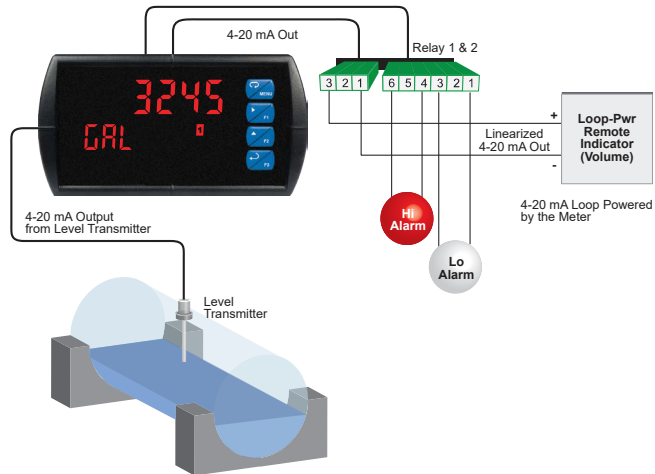
**Function**

Signal Input Conditioning

Square Root

The square root of the input is taken resulting in a display of flow rate.

## Round Horizontal Tank Volume Linearizer



In this application, a level sensor is measuring the height in the round horizontal tank and the DPM-500 is converting that signal to volume using the RHT function. All the user has to do is input the diameter and length of the tank and the meter converts the signal to volume.

## DIGITAL COMMUNICATIONS

### Modbus RTU Serial Communications

With the purchase of a serial communication adapter, DPM-500 meters can communicate with any Modbus Master device using the ever-popular Modbus communications protocol that is included in every DPM-500. In addition to the typical Modbus capabilities of reading PVs and writing set points, below are some examples of other things that can be done with the meter's Modbus communications:

- Send a 6-character message to secondary display upon event
- Convert a digital value to a 4-20 mA signal
- Remote user control (i.e. change set points, acknowledge alarms)
- Input a Modbus digital PV (in place of analog input)
- Remote override of any or all relays and analog outputs



Modbus PV Input



Remote Message

### PDA1232 & PDA1485 Communication Modules

Serial communications on the DPM-500 meter can be added anytime with external PDA1232 (RS-232) or PDA1485 (RS-485) communication adapters. Free Modbus protocol is included for use with the DPM-500 serial communications modules.

### Serial Adapters & Converters\*



**PDA1232**  
PROVu RS-232  
Serial Adapter



**PDA1485**  
PROVu RS-485  
Serial Adapter



**PDA7485-I**  
RS-232 to RS-422/485  
Isolated Converter



**PDA8232-N**  
USB to RS-232  
Non-Isolated Converter



**PDA8485-I**  
USB to  
RS-422/485  
Isolated Converter

\*All adapters and connectors supplied with appropriate cables.

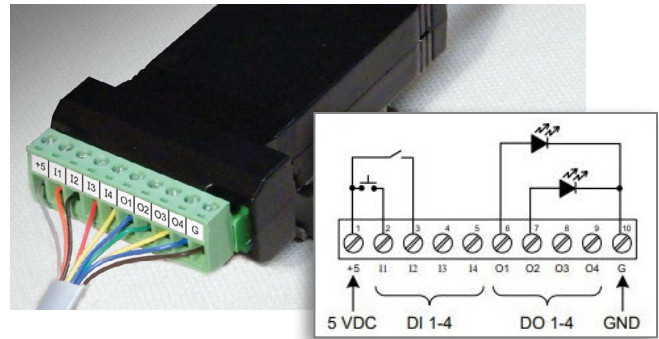
## FIELD EXPANSION MODULES

Add functionality to the DPM-500 in the field with easy-to-install external expansion modules. Add RS-232 or RS-485 communications, I/O modules (up to 2), and 4-relay expansion module. The menu items for these modules do not appear until the module is connected, simplifying the basic menu. Relay and digital I/O modules are shown below with optional PDA1002 DIN rail mounting kit.

### PDA1044 I/O Expansion Module

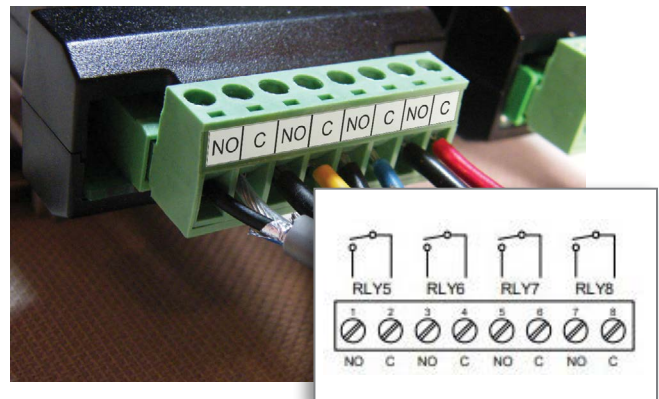
Four digital inputs and four digital outputs are available per expansion module. The DPM-500 meter will accept two of these modules. External digital inputs can function similarly to the front panel function keys or on-board digital input F4. They can be configured to trigger certain events (i.e. acknowledge/reset alarms, reset max and/or min values), provide direct menu access point, or mimic front panel keys. The I/O module can be used to configure the DPM-500 remotely, in essence giving the user control of the four front panel push buttons. This feature is particularly useful if the meter is mounted inside an explosion-proof enclosure.

Digital outputs can be used to remotely monitor DPM-500's alarm relay output states, or the states of a variety of actions and functions executed by the meter.



### PDA1004 Relay Expansion Module

An external module containing four 3 A Form A (SPST) relays can be added to the DPM-500 at anytime. Removable screw terminal blocks accept 12 to 22 AWG wire.



## PHYSICAL FEATURES

The DPM-500 is designed for ease-of-use in industrial applications. Considerations include a NEMA 4X front panel, wide operating temperature range, removable screw terminal connectors, snap in place mounting brackets, forgiving panel cutout requirement, and UL Listing for electrical safety. All of these features are backed by a 3-year warranty.

### Type 4X / NEMA 4X Front Panel



Not only does the DPM-500'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.

### Wide Operating Temperature Range

The DPM-500 can operate from -40 to 65°C (-40 to 149°F) meaning it can be installed in a wide variety of indoor and outdoor industrial applications. And over this range, the DPM-500 will drift no more than 0.005% of calibrated span/°C max from 0 to 65°C ambient and 0.01% of calibrated span/°C max from -40 to 0°C ambient.

### Removable Screw Terminal Connectors

Industrial applications require screw terminal connections for easy field wiring and the DPM-500 goes one step further in convenience by also making them removable.



Easy Plug-in Removable Terminal Connectors



### Secured-in-Place Rugged Mounting Brackets

If you're installing the DPM-500 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 DPM-500'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.



### Forgiving Panel Cutout Requirement

The DPM-500's bezel has been oversized to allow for imperfectly executed panel cutouts where NEMA 4X seal is not required.

Over-Sized Bezel to Completely Cover Panel Cutouts

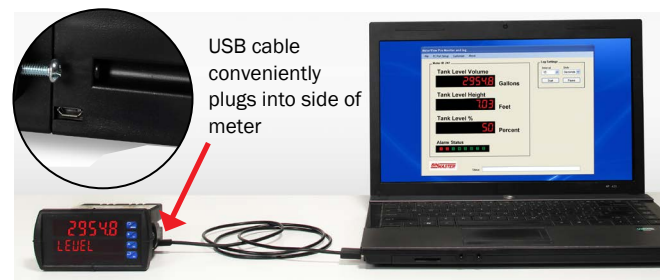


### UL Listing for Electrical Safety

**UL & C-UL Listed:** USA & Canada  
UL 508 Industrial Control Equipment  
**UL File Number:** E160849

**Front Panel:** UL Type 4X, NEMA 4X, IP65; panel gasket provided  
**Low Voltage Directive:** EN 61010-1 Safety requirements for measurement, control, and laboratory use

### USB Port for Easy Connection to MeterView Pro Free Software



USB cable conveniently plugs into side of meter

## OPERATIONAL FEATURES

### Function Keys, F4 Terminal, Digital Inputs

There are three ways the user can interact with the DPM-500 to perform a variety of useful functions:

#### 1. Three Front Panel Function Keys

The default settings for the function keys are:



Reset Max/Min  
Reading



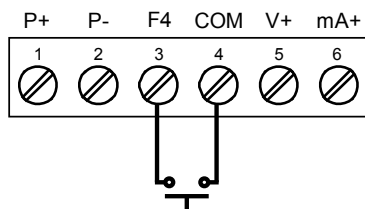
Display Max/Min  
Reading



Acknowledge  
Relays

#### 2. F4 On-Board Digital Input

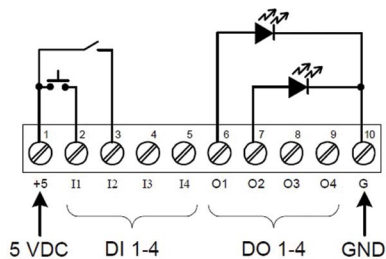
The DPM-500 includes a digital input as standard. This digital input can operate with the tare, reset tare, or interlock relays feature, force relays on from a signal from a PLC or relay on other equipment, and much more. This is ideal for installations where the meter is inaccessible behind a cover, or where an additional function key is needed for customized operation.



The F4 terminal is particularly useful for wiring up a remote switch to reset the relays as shown here:



#### 3. Optional 4 Digital Input/Output Module PDA1044



With these three methods, the DPM-500 can be programmed to trigger certain events (i.e. acknowledge relays, reset max and/or min, disable/enable output relays, or hold current relay states), provide direct menu access points and more.



### Function Key, Digital Inputs, & Digital Outputs Descriptions

The following table describes the actions that DPM-500 function keys and digital inputs can be programmed to perform. The table also describes how the digital outputs can be used to remotely monitor the DPM-500's alarm relay states, or the states of a variety of actions and functions executed by the meter.

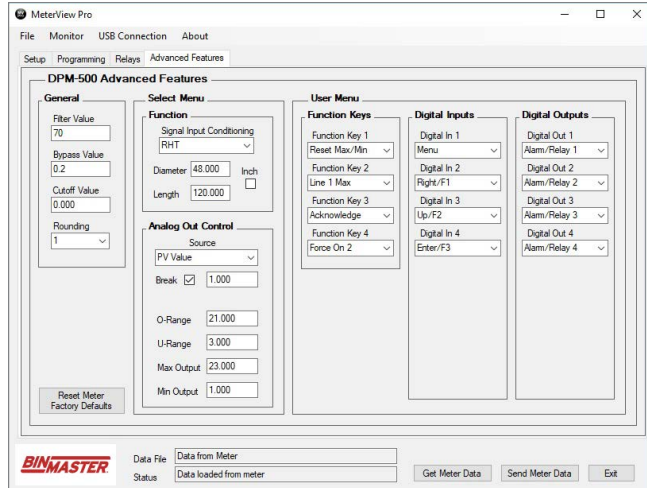
Display	Description	Item
rSt H1	Reset the stored maximum display value	FK, DI, DO
rSt Lo	Reset the stored minimum display value	FK, DI, DO
rSt HL	Reset the stored maximum & minimum display values	FK, DI, DO
tArE	Capture tare and zero the display	FK, DI, DO
rSt tr	Reset captured tare and resume normal operation	FK, DI, DO
rELAY	Directly access the relay menu	FK, DI
SEt 1*	Directly access the set point menu for relay 1 (*through 8)	FK, DI
rLY d	Disable all relays until a button assigned to enable relays (Rly E) is pressed	FK, DI
rLY E	Enable all relays to function as they have been programmed	FK, DI
0 Hold	Hold current relay states and analog output as they are until a button assigned to enable relays (Rly E) is pressed	FK, DI
d Hold	Hold the current display value, relay states, and analog output momentarily while the function key or digital input is active. The process value will continue to be calculated in the background.	FK, DI
Ln1 H1	Display maximum display value on line 1	FK, DI
Ln1 Lo	Display minimum display value on line 1	FK, DI

Display	Description	Item
Ln1 HL	Display maximum & minimum display values on line 1	FK, DI
Ln2 H1	Display maximum display value on line 2	FK, DI
Ln2 Lo	Display minimum display value on line 2	FK, DI
Ln2 HL	Display maximum & minimum display values on line 2	FK, DI
F On 1*	Force relay 1 (*through 4) into the on state. This is used in conjunction with a digital input expansion module to achieve interlock functionality.	FK, DI
Control	Directly access the control menu	FK, DI
dISAbL	Disable the selected function key or digital I/O	FK, DI
AcK	Acknowledge all active relays that are in a manual operation mode such as auto-manual or latching	FK, DI, DO
rESEt	Directly access the reset menu	FK, DI
mEnu	Mimic the menu button functionality (digital inputs only)	DI
rIGHt	Mimic the right arrow/F1 button functionality (digital inputs only)	DI
uP	Mimic the up arrow/F2 button functionality (digital inputs only)	DI
EntEr	Mimic the enter/F3 button functionality (digital inputs only)	DI
ALAr 1*	Provide indication when alarm 1 (*through 8) has been triggered (digital outputs only)	DO

FK: Function Keys      DI: Digital Inputs      DO: Digital Outputs

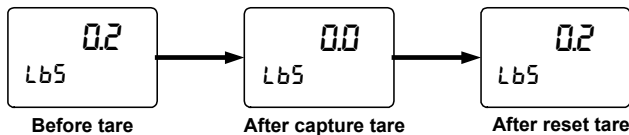
## Remote Operation of Front Panel Buttons

The user can operate the front panel buttons from a remote location by using digital inputs programmed in the following manner:



## Tare

The tare function zero's out the display. In the case of scale weight, tare is used to eliminate container weight and provide net weight readings. There are two tare functions; Capture Tare and Reset Tare. When the capture tare function is used, the display reading is offset by the displayed amount to make the displayed value zero. This modified display value is the net value. The originally displayed value without the tare offset is the gross value. Both may be chosen as a display option. Reset tare removes the display offset.



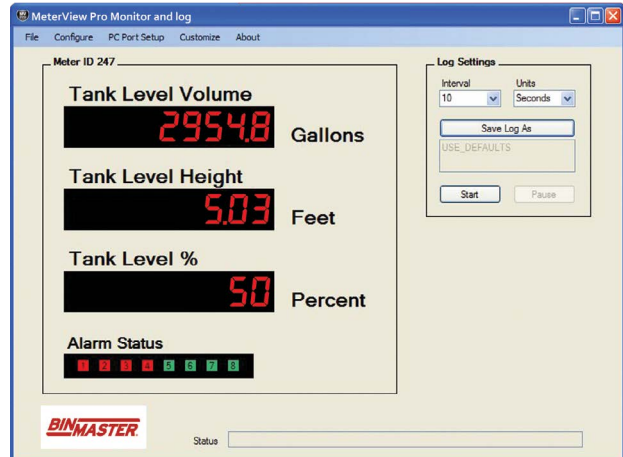
Reset tare removes the display offset of the net value, and the gross and net values become the same until a new capture tare is entered.

## Max / Min Display

Max/Min (or Peak/Valley) is standard on the DPM-500. 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 simply reset from the front panel.

## MeterView Pro Monitoring & Datalogging Software

Not only does free MeterView Pro software greatly simplify setup and programming of the DPM-500, it can also be used to monitor and datalog your process.



- Custom Tags: i.e. Tank Level Volume
- Custom Units: i.e. Gallons, Feet, Percent
- Alarm Status Indicators

## Datalog Report

Collected data logger information can be sent to a CSV file for importing into a spreadsheet program. Below is an example of one such file. Of course, once within the spreadsheet, much can be done to customize the data.

w/ProFurnace 3.csv Created 8/10/2010 3:22:37 PM

COM5Logging Rate:1 update every 5Seconds

Date & Time	Tag1	Display	Units	Tag2	Display	Units	Tag3	Display	Units	R1	R2	R3	R4
8/10/2010 3:22	Furn 3	207	Degrees F	MAX	247	Degrees F	MIN	206	Degrees F	Off	On	Off	Off
8/10/2010 3:22	Furn 3	207	Degrees F	MAX	247	Degrees F	MIN	206	Degrees F	Off	On	Off	Off
8/10/2010 3:22	Furn 3	207	Degrees F	MAX	247	Degrees F	MIN	206	Degrees F	Off	On	Off	Off
8/10/2010 3:22	Furn 3	207	Degrees F	MAX	247	Degrees F	MIN	206	Degrees F	Off	On	Off	Off
8/10/2010 3:23	Furn 3	207	Degrees F	MAX	247	Degrees F	MIN	206	Degrees F	Off	On	Off	Off
8/10/2010 3:23	Furn 3	207	Degrees F	MAX	247	Degrees F	MIN	206	Degrees F	Off	On	Off	Off
8/10/2010 3:23	Furn 3	207	Degrees F	MAX	247	Degrees F	MIN	206	Degrees F	Off	On	Off	Off
8/10/2010 3:23	Furn 3	207	Degrees F	MAX	247	Degrees F	MIN	206	Degrees F	Off	On	Off	Off
8/10/2010 3:23	Furn 3	207	Degrees F	MAX	247	Degrees F	MIN	206	Degrees F	Off	On	Off	Off
8/10/2010 3:23	Furn 3	207	Degrees F	MAX	247	Degrees F	MIN	206	Degrees F	Off	On	Off	Off
8/10/2010 3:23	Furn 3	207	Degrees F	MAX	247	Degrees F	MIN	206	Degrees F	Off	On	Off	Off
8/10/2010 3:23	Furn 3	207	Degrees F	MAX	247	Degrees F	MIN	206	Degrees F	Off	On	Off	Off
8/10/2010 3:23	Furn 3	207	Degrees F	MAX	247	Degrees F	MIN	206	Degrees F	Off	On	Off	Off
8/10/2010 3:24	Furn 3	207	Degrees F	MAX	247	Degrees F	MIN	206	Degrees F	Off	On	Off	Off
8/10/2010 3:24	Furn 3	207	Degrees F	MAX	247	Degrees F	MIN	206	Degrees F	Off	On	Off	Off

## Relay Control

Relays can be controlled from MeterView Pro for testing purposes. This is commonly done to determine whether the relays are functioning properly. In the *Setup* window, under *Relay and Digital Out Test* you have the option of selecting the relays you want in an ON state or OFF state and also whether you want to leave the relays in manual control or to return them to automatic operation.

## NEMA 4X FIELD ENCLOSURES

BinMaster offers rugged Thermoplastic NEMA 4X enclosures that provide a high degree of protection against harsh operating environments. Enclosures are available that can house up to 10 DPM-500 meters.

<b>Material</b>	Plastic
<b>Cutout Size</b>	1/8 DIN
<b>Meter Mounting</b>	Through front panel
<b>Cover Method</b>	Hinge / Hasp
<b>Approvals</b>	UL/C-UL
<b>Warranty</b>	1 year



220-0445



220-0446



220-0447

<b>Outside Dimensions</b>	11.8" x 7.9" x 7.0" (300 x 201 x 178 mm)
<b>Enclosure Cutouts</b>	220-0445: one (1); 220-0446: two (2); 220-0447: three (3)



220-0448



220-0449



220-0444



220-0450



220-0451

<b>Outside Dimensions</b>	15.8" x 11.8" x 7.0" (400 x 300 x 179 mm)
<b>Enclosure Cutouts</b>	220-0448: four (4); 220-0449: five (5); 220-0444: six (6); 220-0450: seven (7); 220-0451: eight (8)



220-0452



220-0453

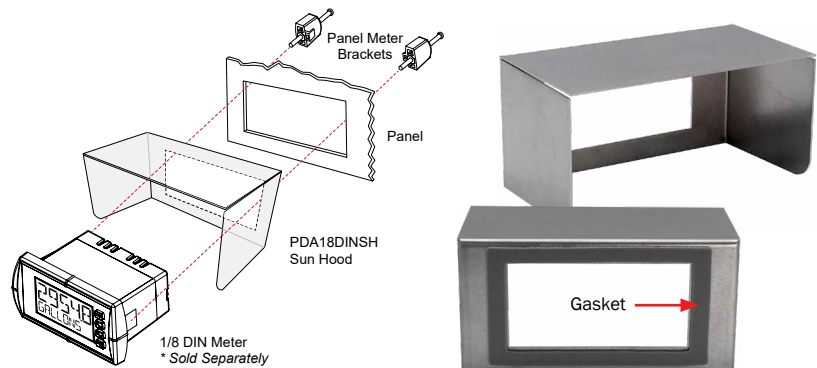
<b>Outside Dimensions</b>	19.7" x 15.8" x 7.9" (500 x 400 x 201 mm)
<b>Enclosure Cutouts</b>	220-0452: nine (9); 220-0453: ten (10)

# No More Sun Glare On Your Panel Meter Display!

## NEW PDA18DINSH Sun Hood

The PDA18DINSH Sun Hood improves the readability of 1/8 DIN digital panel meters when they are mounted in direct sunlight by shading the instrument from the sun.

The Sun Hood is made from 18 gauge 316 stainless steel and mounts between the 1/8 DIN digital panel meter and the panel. In addition, a gasket is provided that installs between the Sun Hood and the panel to provide a NEMA 4X seal to the panel. The whole assembly is held in place by the panel meter's mounting brackets.



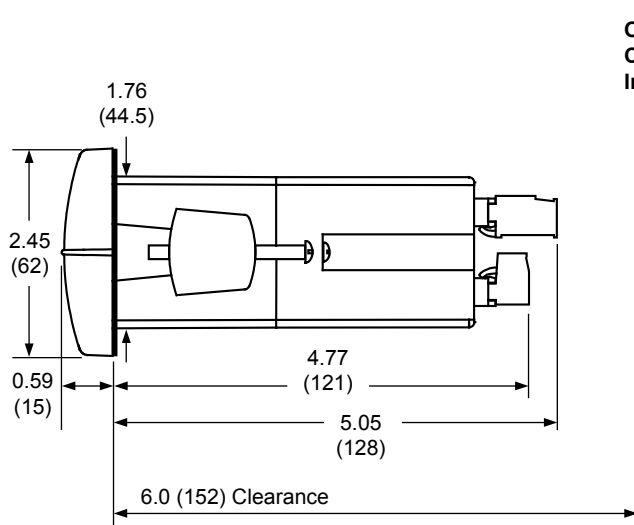
- Provides Shade for 1/8 DIN Digital Panel Meters
- Made from 18 Gauge 316 Stainless Steel
- Easy Mounting Requires no Drilled Holes in the Panel
- Includes Gasket to Maintain NEMA 4X Seal

### SPECIFICATIONS

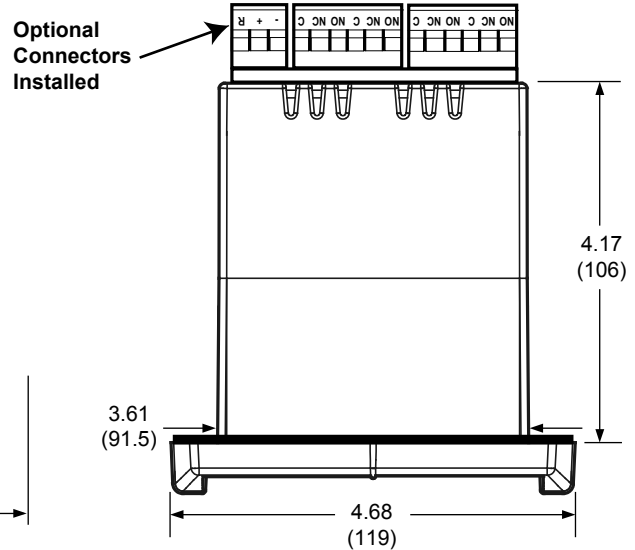
<b>Model</b>	PDA18DINSH
<b>Material</b>	18 gauge 316 stainless steel
<b>Overall Dimensions</b>	2.99" x 5.68" x 2.99" (H x W x D) (75 mm x 144 mm x 75 mm)
<b>Weight</b>	0.9 lb (0.4 kg)
<b>Gasket Material</b>	Silicone Foam

## DIMENSIONS

Units: Inches (mm)



Side View

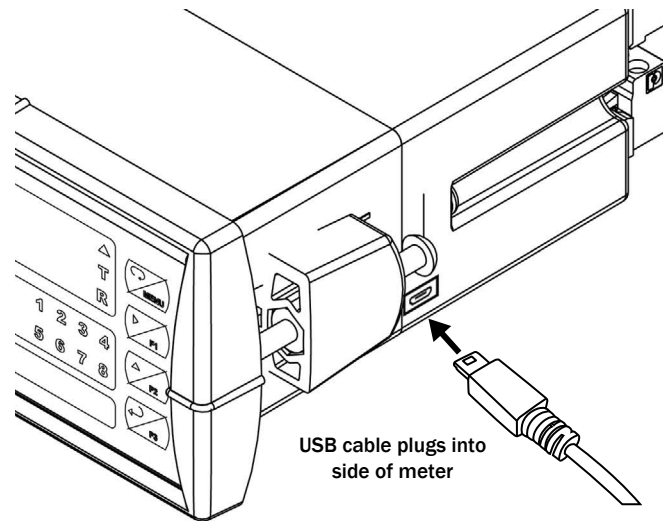
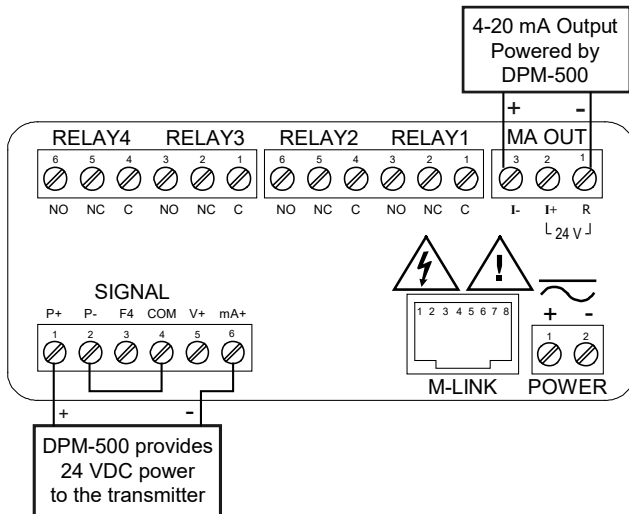


Top View

Notes:

1. Panel cutout required: 1.772" x 3.622" (45 mm x 92 mm)
2. Panel thickness: 0.040 - 0.250" (1.0 mm - 6.4 mm)
3. Mounting brackets lock in place for easy mounting
4. Clearance: Allow 6" (152 mm) behind the panel

## CONNECTIONS



**SPECIFICATIONS**

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

**General**

<b>Display</b>	Line 1: 0.60" (15 mm) high, red LEDs Line 2: 0.46" (12 mm) high, red LEDs 6 digits each (-99999 to 999999), with lead zero blanking
<b>Display Intensity</b>	Eight user selectable intensity levels. Default value is six.
<b>Display Update Rate</b>	5/second (200 ms)
<b>Overrange</b>	Display flashes 999999
<b>Underrange</b>	Display flashes -99999
<b>Display Assignment</b>	Display Line 1: PV1, PV2, PCT, PV & units, gross weight, net & gross weight, max/min, max & min, set points, or Modbus input. Display Line 2: Same as Display Line 1; plus units, tag or turned off.
<b>Programming Methods</b>	Four front panel buttons, digital inputs, PC and MeterView Pro software, or Modbus registers.
<b>Noise Filter</b>	Programmable from 2 to 199 (0 will disable filter)
<b>Filter Bypass</b>	Programmable from 0.1 to 99.9% of calibrated span
<b>Recalibration</b>	All ranges are calibrated at the factory. Recalibration is recommended at least every 12 months.
<b>Max/Min Display</b>	Max/min readings reached by the process are stored until reset by the user or until power to the meter is turned off.
<b>Rounding</b>	Select 1, 2, 5, 10, 20, 50, or 100 (e.g. rounding = 10, value = 123.45, display = 123.50).
<b>Tare</b>	Tare function zeros out the meter to remove the for weight of a container. Tare function can be assigned to a function key, F4 terminal, or a digital input.
<b>Password</b>	Three programmable passwords restrict modification of programmed settings.
<b>Non-Volatile Memory</b>	All programmed settings are stored in non-volatile memory for a minimum of ten years if power is lost.
<b>Power Options</b>	85-265 VAC 50/60 Hz; 90-265 VDC, 20 W max; 12-24 VDC, 12-24 VAC, 15 W max. Powered over USB for configuration only.
<b>Fuse</b>	Required external fuse: UL Recognized, 5 A max, slow blow; up to 6 meters may share one 5 A fuse
<b>Normal Mode Rejection</b>	Greater than 60 dB at 50/60 Hz
<b>Isolation</b>	4 kV input/output-to-power line 500 V input-to-output or output-to-P+ supply
<b>Overvoltage Category</b>	Installation Overvoltage Category II: Local level with smaller transient overvoltages than Installation Overvoltage Category III.

<b>Environmental</b>	Operating temperature range: -40 to 65 °C (-40 to 149 °F) Storage temperature range: -40 to 85 °C (-40 to 185 °F) Relative humidity: 0 to 90% non-condensing
<b>Connections</b>	Removable screw terminal blocks accept 12 to 22 AWG wire, RJ45 for external relays, digital I/O, and serial communication adapters.
<b>Enclosure</b>	1/8 DIN, high impact plastic, UL 94V-0, color: black
<b>Front Panel</b>	NEMA 4X, IP65
<b>Mounting</b>	1/8 DIN panel cutout required: 3.622" x 1.772" (92 mm x 45 mm) Two panel mounting bracket assemblies are provided.
<b>Tightening Torque</b>	Screw terminal connectors: 5 lb-in (0.56 Nm)
<b>Overall Dimensions</b>	4.68" x 2.45" x 5.64" (119 mm x 62 mm x 143 mm) (W x H x D)
<b>Weight</b>	9.5 oz (269 g)
<b>Warranty</b>	3 years parts & labor. See Warranty Information and Terms & Conditions on <a href="http://www.binmaster.com">www.binmaster.com</a> for complete details.

**Process Input**

<b>Inputs</b>	Field selectable: 0-20 mA, 4-20 mA ±10 V (0-5 V, 1-5 V, 0-10 V) Modbus PV (Slave)
<b>Isolated Transmitter Power Supply</b>	Terminals P+ & P-: 24 VDC ±10%. All 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. 5 & 10 VDC supply rated @ 50 mA max.
<b>Accuracy</b>	±0.03% of calibrated span ±1 count, square root & programmable exponent accuracy range: 10-100% of calibrated span
<b>Temperature Drift</b>	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
<b>Input Signal Conditioning</b>	Linear, square root, programmable exponent, or round horizontal tank volume calculation
<b>Multi-Point Linearization</b>	2 to 32 points for PV or PV1 2 to 8 points for PV2 (Dual-scale Level feature)
<b>Programmable Exponent</b>	User selectable from 1.0001 to 2.9999 for open channel flow
<b>Round Horizontal Tank</b>	Diameter & Length: 999.999 inch or cm calculates volume in gallons or liters respectively.
<b>Low-Flow Cutoff</b>	0.1 to 999,999 (0 disables cutoff function). Point below at which display always shows zero.
<b>Decimal Point</b>	Up to five decimal places or none: dddddd, dddddd, dddd, ddd, dd, or dddddd

<b>Calibration Range</b>	Input Range	Minimum Span Input 1 & 2
	4-20 mA	0.15 mA
	±10 V	0.10 V
An error message will appear if the input 1 and input 2 signals are too close together.		
<b>Input Impedance</b>	Voltage ranges: greater than 500 kΩ Current ranges: 50 - 100 Ω (depending on internal resettable fuse impedance)	
<b>Input Overload</b>	Current input protected by an internal resettable fuse, 30 VDC max. Fuse resets automatically after fault is removed.	
<b>HART Transparency</b>	The meter does not interfere with existing HART communications; it displays the 4-20 mA primary variable and it allows the HART communications to pass through without interruption. The meter is not affected if a HART communicator is connected to the loop. The meter does not display secondary HART variables.	

## Relays

<b>Rating</b>	2 or 4 SPDT (Form C) internal and/or 4 SPST (Form A) external; rated 3 A @ 30 VDC and 125/250 VAC resistive load; 1/14 HP (≈ 50 W) @ 125/250 VAC for inductive loads
<b>Noise Suppression</b>	Noise suppression is recommended for each relay contact switching inductive loads.
<b>Deadband</b>	0-100% of span, user programmable
<b>High or Low Alarm</b>	User may program any alarm for high or low trip point. Unused alarm LEDs and relays may be disabled (turn off).
<b>Relay Operation</b>	Automatic (non-latching), latching (requires manual acknowledge) with/without clear, sampling (based on time), pump alternation control (2 to 8 relays), Off (disable unused relays and enable interlock feature, manual on/off control mode).
<b>Relay Reset (Acknowledge)</b>	User selectable via front panel buttons or digital inputs. <ol style="list-style-type: none"> <li>Automatic reset only (non-latching), when input passes the reset point.</li> <li>Automatic + manual reset at any time (non-latching).</li> <li>Manual reset only, at any time (latching).</li> <li>Manual reset only after alarm condition has cleared (latching).</li> </ol> <p><i>Note: Front panel button or digital input may be assigned to acknowledge relays programmed for manual reset.</i></p>
<b>Time Delay</b>	0 to 999.9 seconds, on & off relay time delays. Programmable and independent for each relay
<b>Fail-Safe Operation</b>	Programmable and independent for each relay. <i>Note: Relay coil is energized in non-alarm condition. In case of power failure, relay will go to alarm state.</i>
<b>Auto Initialization</b>	When power is applied to the meter, relays will reflect the state of the input to the meter
<b>Additional Relays</b>	An external module, model PDA1004, is available to add 4 SPST 3 A relays to the meter.

## Isolated 4-20 mA Transmitter Output

<b>Output Source</b>	Process variable (PV), max, min, set points 1-8, Modbus input, or manual control mode		
<b>Scaling Range</b>	1.000 to 23.000 mA for any display range		
<b>Calibration</b>	Factory calibrated: 4.000 to 20.000 = 4-20 mA output		
<b>Analog Out Programming</b>	23.000 mA maximum for all parameters: Overrange, underrange, max, min, and break		
<b>Accuracy</b>	± 0.1% of span ± 0.004 mA		
<b>Temperature Drift</b>	0.4 μA/°C max from 0 to 65°C ambient, 0.8 μA/°C max from -40 to 0°C ambient <i>Note: Analog output drift is separate from input drift.</i>		
<b>Isolated Transmitter Power Supply</b>	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.		
<b>External Loop Power Supply</b>	35 VDC maximum		
<b>Output Loop Resistance</b>	Power supply	Minimum	Maximum
	24 VDC	10 Ω	700 Ω
	35 VDC (external)	100 Ω	1200 Ω
<b>Additional 4-20 mA Outputs</b>	The PD659-1MA-2MA can split the optional 4-20 mA output into two isolated 4-20 mA outputs		
<b>0-10 VDC Output</b>	The PD659-1MA-1V can convert the optional 4-20 mA output to a 0-10 VDC output		

## USB Connection

<b>Function</b>	Programming only
<b>Compatibility</b>	USB 2.0 Standard, Compliant
<b>Connector Type</b>	Micro-B receptacle
<b>Cable</b>	USB A Male to Micro-B Cable
<b>Driver</b>	Microsoft® Windows® 10 & 11
<b>Power</b>	USB port provides power to the meter. <b>DO NOT</b> apply AC or DC power to the meter while the USB port is in use.

## On-Board Digital Input (F4)

<b>Function</b>	Remote operation of front-panel buttons, acknowledge/reset relays, reset max/min values.
<b>Contacts</b>	3.3 VDC on contact. Connect normally open contacts across F4 to COM.
<b>Logic Levels</b>	Logic High: 3 to 5 VDC Logic Low: 0 to 1.25 VDC
<b>Additional I/O</b>	Up to 2 external modules, model PDA1044 with 4 digital inputs and 4 digital outputs each can be added.

## Modbus RTU Serial Communications

<b>Slave Id</b>	1 – 247 (Meter address)
<b>Baud Rate</b>	300 – 19,200 bps
<b>Transmit Time Delay</b>	Programmable between 0 and 199 ms
<b>Data</b>	8 bit (1 start bit, 1 or 2 stop bits)
<b>Parity</b>	Even, Odd, or None with 1 or 2 stop bits
<b>Byte-To-Byte Timeout</b>	0.01 – 2.54 second
<b>Turn Around Delay</b>	Less than 2 ms (fixed)

Note: Refer to the DPM-500 Modbus Register Tables located at [www.binmaster.com](http://www.binmaster.com) for details.

## MeterView Pro Software

<b>Availability</b>	Download directly from meter
<b>System Requirements</b>	Microsoft® Windows® 10 & 11
<b>Communications</b>	USB 2.0 (for programming only) (Standard USB A to Micro USB B) RS-232 adapter, RS-485 adapter and RS-485 to USB converter (programming, monitoring, and data logging)
<b>Configuration</b>	Configure meters one at a time
<b>Power</b>	USB port provides power to the meter. <b>DO NOT</b> apply AC or DC power to the meter while the USB port is in use.

## Digital I/O Expansion Module

<b>Channels</b>	4 digital inputs & 4 digital outputs per module
<b>System</b>	Up to 2 modules for a total of 8 inputs & 8 outputs
<b>Digital Input Logic</b>	High: 3 to 5 VDC Low: 0 to 1.25 VDC
<b>Digital Output Logic</b>	High: 3.1 to 3.3 VDC Low: 0 to 0.4 VDC
<b>Source Current</b>	10 mA maximum
<b>Sink Current</b>	1.5 mA minimum
<b>+5 V Terminal</b>	To be used as pull-up for digital inputs only.

## 4-Relay Expansion Module

<b>Relays</b>	Four Form A (SPST) rated 3 A @ 30 VDC and 125/250 VAC resistive load; 1/14 HP (≈ 50 watts) @ 125/250 VAC for inductive loads.
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## Compliance Information

### Safety

<b>UL &amp; C-UL Listed</b>	USA & Canada UL 508 Industrial Control Equipment
<b>UL File Number</b>	E160849
<b>Front Panel</b>	UL Type 4X, NEMA 4X, IP65; panel gasket provided
<b>Low Voltage Directive</b>	EN 61010-1 Safety requirements for measurement, control, and laboratory use

### Electromagnetic Compatibility

<b>Emissions</b>	EN 55022 Class A ITE emissions requirements
Radiated Emissions	Class A
AC Mains Conducted Emissions	Class A
<b>Immunity</b>	EN 61326-1 Measurement, control, and laboratory equipment EN 61000-6-2 EMC heavy industrial generic immunity standard
RFI - Amplitude Modulated	80 -1000 MHz 10 V/m 80% AM (1 kHz) 1.4 - 2.0 GHz 3 V/m 80% AM (1 kHz) 2.0 - 2.7 GHz 1 V/m 80% AM (1 kHz)
Electrical Fast Transients	±2kV AC mains, ±1kV other
Electrostatic Discharge	±4kV contact, ±8kV air
RFI - Conducted	10V, 0.15-80 MHz, 1kHz 80% AM
AC Surge	±2kV Common, ±1kV Differential
Surge	1KV (CM)
Power-Frequency Magnetic Field	30 A/m 70%V for 0.5 period
Voltage Dips	40%V for 5 & 50 periods 70%V for 25 periods
Voltage Interruptions	<5%V for 250 periods

Note: Testing was conducted on meters installed through the covers of grounded metal enclosures with cable shields grounded at the point of entry representing installations designed to optimize EMC performance.

### EU Declaration of Conformity

For shipments to the EU and UK, a Declaration of Conformity is available online at [www.predig.com/docs](http://www.predig.com/docs).



**ORDERING INFORMATION**

DPM-500 • Standard Models		
85-265 VAC Reorder #	12-24 VDC Reorder #	Description
348-0065	348-0071	None
348-0066	348-0072	2 Relays
348-0067	348-0073	4-20 mA Output
348-0068	348-0074	4 Relays
348-0069	348-0075	2 Relays & 4-20 mA Output
348-0070	348-0076	4 Relays & 4-20 mA Output

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

DPM-500 • SunBright Display Models		
85-265 VAC Reorder #	12-24 VDC Reorder #	Description
348-0077	348-0083	None
348-0078	348-0084	2 Relays
348-0079	348-0085	4-20 mA Output
348-0080	348-0086	4 Relays
348-0081	348-0087	2 Relays & 4-20 mA Output
348-0082	348-0088	4 Relays & 4-20 mA Output

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

Accessories	
Model	Description
PDA1002	DIN Rail Mounting Kit for Two Expansion Modules
PDA1004	4-Relay Expansion Module
PDA1044	4 Digital Inputs & 4 Digital Outputs Module
PDA1232	RS-232 Serial Adapter
PDA1485	RS-485 Serial Adapter
PDA18DINSH	Stainless Steel Sun Hood
PDA7485-I	RS-232 to RS-422/485 Isolated Converter
PDA7485-N	RS-232 to RS-422/485 Non-Isolated Converter
PDA8232-N	USB to RS-232 Non-Isolated Converter
PDA8485-I	USB to RS-422/485 Isolated Converter
PDA8485-N	USB to RS-422/485 Non-Isolated Converter
PDX6901	Suppressor (snubber): 0.01 $\mu$ F/470 $\Omega$ , 250 VAC

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**⚠ WARNING**

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

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