

# pro<sup>sense</sup> Digital Panel Meters - DPM2-P Series 1/8 DIN



DPM2-P

The ProSense DPM2-P series offers a simple, low cost digital display for counter, tachometer, rate, and frequency applications. The DPM2-P has a 4-digit 14mm character height red LED display, accepts input from AC voltage, magnetic sensors, NPN/PNP sensors, NAMUR sensors, TTL/24V encoders, or switched contacts, and provides selectable sensor excitation voltages. One model includes two SPDT relay outputs that can be set to activate on an increasing or decreasing input signal with hysteresis or time delay operation in tachometer, rate, and frequency modes as well as pulsed or

latched operation in counter mode. The meter is powered from an external wide range AC or DC power supply. The 1/8 DIN housing is easy to install in a panel and the meter face has an IP65 rating. Configuration parameters can be totally or selectively locked out to prevent unauthorized or accidental changes to the meter's operation. Additionally, the DPM2-P meters include memory and reset of minimum and maximum display values in tachometer, rate, and frequency modes, and a totalizer display in counter mode. ProSense digital panel meters are backed by a 3 year warranty.

## Features:

- 96 x 48mm 1/8 DIN
- 4 digit (0 to 9999) red LED display
- Selectable decimal point
- Counter/Tachometer/Rate(Frequency) modes
  - AC voltage
  - Magnetic sensor
  - NAMUR sensor
  - NPN/PNP sensor
  - TTL/24V encoder
  - Switched contact
- AC or DC powered
- Selectable sensor excitation voltage
- Optional (2) Form C SPDT relays
  - N.O. or N.C. operation
  - Activation on increasing or decreasing input signal
  - Hysteresis or time delay operation (tach and rate modes)
  - Pulsed or latch operation (counter mode)
- Minimum and maximum value memory (tach and rate modes)
- Totalizer display (counter mode)
- Total or selective configuration lock out



DPM2-P Series Panel Meters			
Model	Description	Weight (lbs)	Price
DPM2-P-HL	ProSense digital panel meter, 1/8 DIN, 14mm 4-digit red LED, pulse and frequency input, 20 to 265 VAC/11 to 265 VDC operating voltage.	0.58	\$109.00
DPM2-P-2R-HL	ProSense digital panel meter, 1/8 DIN, 14mm 4-digit red LED, pulse and frequency input, (2) 8A SPDT relays output, 20 to 265 VAC/11 to 265 VDC operating voltage.	0.66	\$119.00

Technical Specifications		
<b>Signal Input</b>	Maximum Frequency	7.5 kHz (counter mode) 25kHz (tachometer rpm or rate modes)
	Minimum Frequency (tachometer rpm or rate modes)	0.01 Hz
<b>AC voltage Input</b>	Range	10 to 600 VAC
<b>Magnetic Sensor Input</b>	Sensitivity	V <sub>in</sub> min. ≥ 100mV for f ≥ 1kHz
<b>NAMUR* Sensor</b>	R <sub>C</sub>	1kΩ
	I <sub>ON</sub>	< 1mA DC
	I <sub>OFF</sub>	> 3mA DC
<b>NPN/PNP Sensors Input</b>	R <sub>C</sub>	1kΩ
	Logic level "0"	< 2.4 VDC
	Logic level "1"	> 2.6 VDC
<b>TTL/24V Encoder Input</b>	Logic level "0"	< 2.4 VDC
	Logic level "1"	> 2.6 VDC

\* For more information about NAMUR sensors see [www.namur.net](http://www.namur.net).



# Digital Panel Meters - DPM2-P

## Series 1/8 DIN

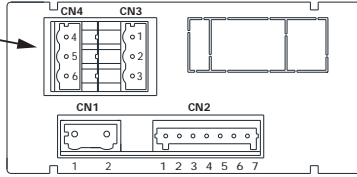
Technical Specifications Continued		
<b>Switched Contact Input</b>	$V_C$	5V (internal)
	$R_C$	3.9 k $\Omega$
	Cutoff frequency (Fc)	20Hz
<b>Accuracy at 23°C ±5°C (tachometer rpm or rate modes)</b>	Accuracy	± (0.01% of reading +1digit)
	Temperature coefficient	50ppm / °C
	Warm-up time	5 minutes
<b>Power Supply and Fuses</b>	20-265VAC 50/60 Hz or 11-265VDC (Recommended fusing 3A/250V, 5mm x 20mm glass miniature or DIN 41661 equivalent)	
<b>Power Consumption</b>	3W	
<b>Sensor Excitation</b>	8V @ 60mA ; 24V ± 3V @ 30mA	
<b>Display</b>	Range	0 to 9999
	Type	4 digit, 14mm (0.55")
	Totalizer (counter mode)	0 to 999999
	Decimal point	Configurable
	LEDs	Relay 1, Relay 2
	Display refresh rate (tachometer rpm or rate modes)	0.1 s to 9.9 s (configurable)
	Display/frequency overrange indication	"OuE"
	Relays, maximum and minimum value refresh	10 times per second
	OFFSET (counter mode)	Keypad
	RESET (counter and totalizer)	Keypad
	Remote RESET (counter)	Switched contact
	MAX./MIN. and MAX./MIN. RESET functions (tachometer rpm or rate modes)	Keypad
	<b>Relay (2R option)</b>	Maximum switching current (resistive load)
Maximum switching power		2000VA / 192W
Maximum switching voltage		400VAC / 125VDC
Contact rating		8A @ 250VAC / 24VDC
Contact resistance		≤ 100m $\Omega$ at 6 VDC @ 1A
Contact type		SPDT
Operate time		≤ 10ms
<b>Environmental Conditions</b>	Operating temperature	-10°C to +60°C (14°F to 140°F)
	Storage temperature	-25°C to +85°C (-13°F to 185°F)
	Relative humidity (non-condensing)	<95% @ 40°C (104°F)
	Maximum altitude	2000m
	Frontal protection degree	IP65
<b>Environmental Air</b>	No corrosive gases permitted	
<b>Agency Certifications</b>	CE	

# proense® Digital Panel Meters - DPM2-P Series 1/8 DIN

## Wiring

Note: For additional wiring information download complete manual from [www.AutomationDirect.com](http://www.AutomationDirect.com)

Output relay terminals (DPM2-P-2R-HL only)



Terminals			
Connector	CN1	CN2	CN3 & CN4
Wire cross section	0.08 to 2.5mm <sup>2</sup> (28 to 12 AWG)	0.08 to 1.5mm <sup>2</sup> (28 to 14 AWG)	0.08 to 2.5mm <sup>2</sup> (28 to 12 AWG)
Strip length	8 to 9mm	6 to 7mm	8 to 9mm
Manufacturer	Wago 231-202/026-000	Wago 734-107	Wago 231-303/026-000
Cage clamp connection	Insertion tool or screwdriver with 0.5 mm x 3.0 mm blade	Insertion tool or screwdriver with 0.3 mm x 1.8 mm blade	Insertion tool or screwdriver with 0.5 mm x 3.0 mm blade

CN1	
AC Supply	DC Supply
1 Line	1 VDC
2 Neutral	2 VDC

**Polarity insensitive for DC power**

(DPM2-P-2R-HL only)

CN3 Relay 1	
1	NO1
2	CM1
3	NC1

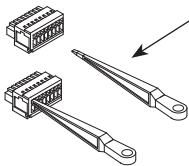
CN4 Relay 2	
4	NO2
5	CM2
6	NC2

**NO: Normally open contact.  
CM: Common  
NC: Normally closed contact.**

CN2	
Signal Input	
1	- IN (Common)
2	+ IN
3	+ EXC 8 VDC
4	+ EXC 24 VDC
5	RESET
6	Not used
7	IN HIGH (10-600 VAC)

### CN2 Terminals

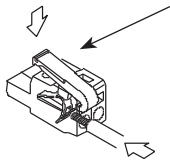
**Insertion Tool (included with meter)**



Insert wires into the proper terminal while using the insertion tool to open the clip inside the connector. Release the insertion tool to fix wire to the terminal.

### CN1, CN3, CN4 Terminals

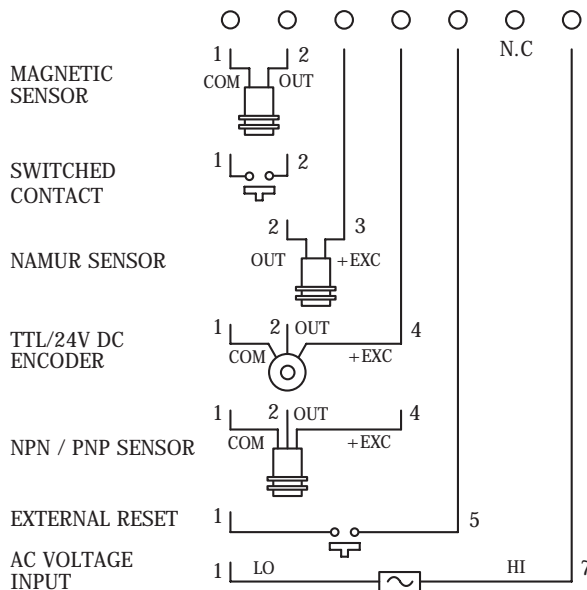
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Insert wires into the proper terminal while using the insertion tool to open the clip inside the connector. Release the insertion tool to fix wire to the terminal.

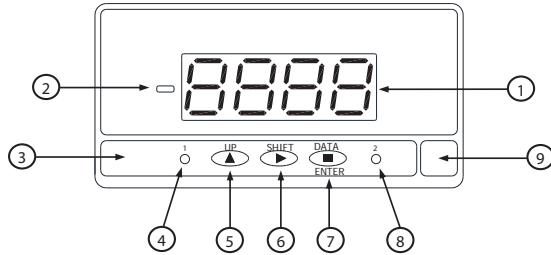
## Input Wiring Diagrams

### CN2 Terminals



# pro<sup>sense</sup> Digital Panel Meters - DPM2-P Series 1/8 DIN

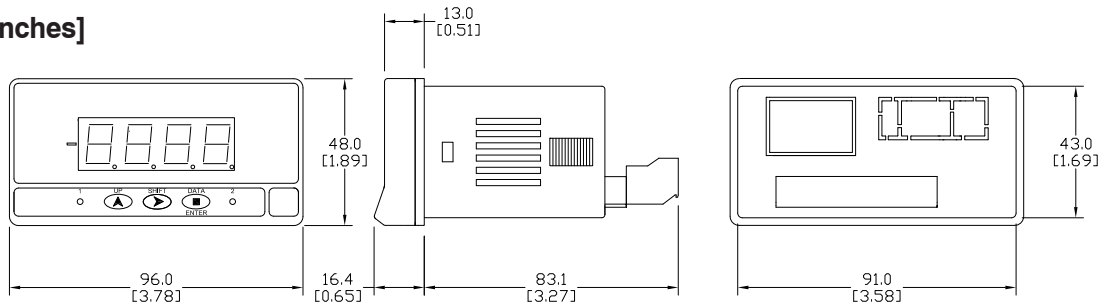
## Programming Panel



Programming Panel			
#	Description	Run Mode	Programming Mode
1	4 digit display Red	Shows value according to configuration.	Shows steps and data during configuration.
2	Minus sign	Not used	Not used
3	Keyboard	---	---
4	Setpoint 1 LED	Illuminates when setpoint 1 turns active.	Illuminates when setpoint 1 turns active.
5	UP key	Main counter Reset (when pressed >3s)	Shows setpoint value. Increases value of active digit.
6	SHIFT key	Displays maximum and minimum stored values (tachometer mode only). After 3s of pressing, sets maximum and/or minimum memorized value to current display value (tachometer mode only). Shows sequentially totalizer value in two parts, 'H' and 'L' of 3 digits each (counter mode only). Totalizer RESET (when pressing more than 3s)	Shifts active digit to the next right digit. Shows sequential menu options.
7	DATA/ENTER key	Changes to PRO mode.	Validates selected data and parameters. Moves one step forward in configuration menu. Changes to RUN mode.
8	Setpoint 2 LED	Illuminates when Setpoint 2 turns active.	Illuminates when Setpoint 2 turns active.
9	Free space for units label	---	---

## Dimensions

mm [inches]



Installation	
<b>Dimensions</b>	96 x 48 x 60mm (1/8 DIN)
<b>Panel Cutout</b>	92 x 45mm (Max. panel thickness 10mm)
<b>Case Material</b>	Polycarbonate UL 94 V-0

See our website [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete Engineering drawings.

Insert



Scan or click the above QR code to be taken to the DPM2-P Series Quick Start Guide

Manual



Scan or click the above QR code to be taken to the DPM2-P Series Manual

# pro<sup>sense</sup> Digital Panel Meters DPM Series

## Description

The ProSense DPM family of digital panel meters includes both 1/32 DIN and 1/8 DIN meter sizes with simple menu-driven pushbutton configuration. A wide variety of input signals can be accepted for process, temperature, load cell, voltage, current, pulse, frequency, and other applications. Available output options include alarm relays, analog signal retransmission, and sensor excitation voltage. Backed by a 3-year warranty, ProSense digital panel meters offer outstanding features and performance at an incredible price point.



Click on the thumbnail or go to <https://www.automationdirect.com/VID-PS-0007> for a short video on Digital Panel Meters



DPM Series Digital Panel Meters Process Input Selection Guide												
Model	Size	Display	Inputs	Outputs	Power	Price						
DPM1-A-LP	1/32 DIN	10mm, Red LED*, -1999 to 9999 Selectable decimal point	4-20mA	None	Loop Powered	\$72.00						
DPM1-A-H			±20mA, ±100mV		85-265 VAC, 50/60 Hz 100-300 VDC	\$93.00						
DPM1-A-L			±10V, ±20V		21-53 VAC, 50/60 Hz 10.5-70 VDC	\$93.00						
DPM1-T-H		10mm, Red LED, -1999 to 9999	RTD Pt100 (3-wire) TC Type J, K, T or N		85-265 VAC, 50/60 Hz 100-300 VDC	21-53 VAC, 50/60 Hz 10.5-70 VDC	\$93.00					
DPM1-T-L								8mm, Red LED, -1999 to 9999 Selectable decimal point	±20mA, ±100mV	2 Relays Form A SPST Normally Open	85-265 VAC, 50/60 Hz 100-300 VDC	\$103.00
DPM1-A-2R-H												
DPM1-A-2R-L		8mm, Red LED, -1999 to 9999 Selectable decimal point	±20mA, ±100mV		2 Relays Form A SPST Normally Open 4-20mA	85-265 VAC, 50/60 Hz 100-300 VDC	\$113.00					
DPM1-A-A2R-H								8mm, Red LED, -1999 to 9999 Selectable decimal point	±20mA, ±100mV	2 Relays Form A SPST Normally Open 4-20mA	85-265 VAC, 50/60 Hz 100-300 VDC	\$113.00
DPM1-A-A2R-L		8mm, Red LED, -1999 to 9999 Selectable decimal point	±20mA, ±100mV		2 Relays Form A SPST Normally Open 4-20mA	85-265 VAC, 50/60 Hz 100-300 VDC	\$113.00					
DPM2-AT-HL	1/8 DIN			DPM2: 14mm, Red LED, -9999 to 9999 DPM2L: 20mm, Red LED, -1999 to 9999 Selectable decimal point				±20mA, ±10V ±200V, 100-100k Ohm potentiometer, 1k-50k Ohm resistance, RTD Pt100 (3-wire) RTD Pt1000 (4-wire) TC Type J, K, T or N	None	20-265 VAC, 50/60 Hz 11-265 VDC	\$109.00	
DPM2L-AT-HL		\$117.00										
DPM2-AT-2R-HL		2 Relays Form C SPDT	\$119.00									
DPM2L-AT-2R-HL		\$127.00										
DPM3-AT-H	1/8 DIN	14mm, Red, Green, Amber LED -19999 to 39999 Selectable decimal point	±20mA, ±10V RTD Pt100 (3-wire) TC Type J, K, T or N Load Cell ±15mV, ±30mV, ±150mV Potentiometer	None	85-265 VAC, 50/60Hz 100-300 VDC	\$135.00						
DPM3-AT-2R-H				2 Relays Form C SPDT		\$152.00						
DPM3-AT-4R-H				4 Relays Form A Normally Open with shared common		\$164.00						
DPM3-AT-A-H				4-20mA		\$152.00						
DPM3-AT-A2R-H				2 Relays Form C SPDT 4-20mA		\$169.00						
DPM3-AT-L				None		\$135.00						
DPM3-AT-2R-L				2 Relays Form C SPDT		\$152.00						
DPM3-AT-4R-L				4 Relays Form A Normally Open with shared common		\$164.00						
DPM3-AT-A-L				4-20mA		\$152.00						
DPM3-AT-A2R-L				2 Relays Form C SPDT 4-20mA		\$169.00						

\* Illumination based on available loop current and will not be as bright as the powered Digital Panel Meters

# pro<sup>ense</sup>® Digital Panel Meters DPM Series

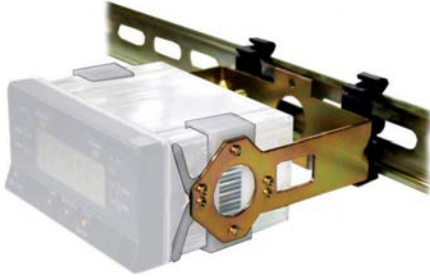
**DPM Series Digital Panel Meters Electrical Input Selection Guide**

Model	Size	Display	Inputs	Outputs	Power	Price
<b>DPM1-E-H</b>	1/32 DIN	10mm, Red LED, -1999 to 9999 Selectable decimal point	100 / 600 VAC or VDC 1A / 5A AC or DC	None	85-265 VAC, 50/60 Hz 100-300 VDC	\$93.00
<b>DPM1-E-L</b>					21-53 VAC, 50/60Hz 10.5-70 VDC	\$93.00
<b>DPM2-E-HL</b>		14mm, Red LED, -9999 to 9999	600 / 200 / 20 VAC or VDC 1A / 5A / shunt 60mV / shunt 100mV AC or DC	None	20-265 VAC, 50/60 Hz 11-265 VDC	\$109.00
<b>DPM2-E-2R-HL</b>				2 Relays Form C SPDT		\$119.00
<b>DPM3-E-H</b>	1/8 DIN	14mm, Red, Green, Amber LED -19999 to 19999 Selectable decimal point	600 / 200 / 20 / 2 VAC True RMS or VDC 1A / 5A / shunt 50mV / shunt 60mV / shunt 100mV AC True RMS or DC	None	85-265 VAC 100-300 VDC	\$150.00
<b>DPM3-E-A2R-H</b>				2 Relays Form C SPDT 4-20mA		\$178.00
<b>DPM3-E-L</b>				None	22-53 VAC 10.5-70 VDC	\$150.00
<b>DPM3-E-A2R-L</b>				2 Relays Form C SPDT 4-20mA		\$178.00

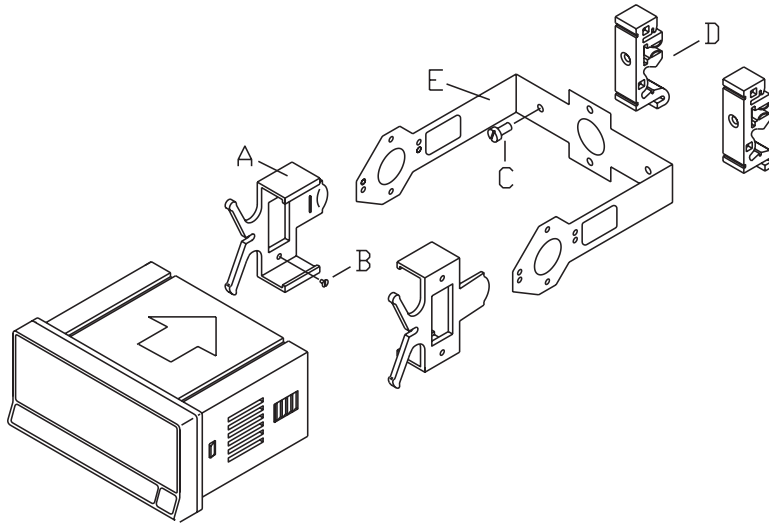
**DPM Series Digital Panel Meters Pulse, Frequency Input Selection Guide**

Model	Size	Display	Inputs	Outputs	Power	Price
<b>DPM1-P-H</b>	1/32 DIN	10mm, Red LED, 0 to 9999 Selectable decimal point	7kHz (tachometer rpm or rate modes) 9999Hz (frequency meter mode)	None	85-265 VAC 100-300 VDC	\$93.00
<b>DPM1-P-L</b>					1-53 VAC 10.5-70 VDC	\$93.00
<b>DPM1-P-A2R-H</b>		8mm, Red LED, 0 to 9999 Selectable decimal point	12kHz (tachometer rpm or rate modes) 9999Hz (frequency mode) 100Hz (duty/PWM mode)	2 Relays Form A SPST Normally Open 4-20mA	85-265 VAC 100-300 VDC	\$113.00
<b>DPM1-P-A2R-L</b>					21-53 VAC 10.5-70 VDC	\$113.00
<b>DPM2-P-HL</b>		14mm, Red LED, 0 to 9999, 0 to 999999 Totalizer Selectable decimal point	7.5 kHz (counter mode) 25kHz (tachometer rpm or rate modes)	None	20-265 VAC 11-265 VDC	\$109.00
<b>DPM2-P-2R-HL</b>				2 Relays Form C SPDT 4-20mA		\$119.00
<b>DPM3-P-H</b>	1/8 DIN	14mm Red, Green, Amber LED -99999 to 99999, -9999999 to 99999999 Totalizer Programmable decimal point	19kHz (without totalizer) 9.9 kHz (with totalizer)	None	85-265 VAC 100-300 VDC	\$135.00
<b>DPM3-P-A2R-H</b>				2 Relays Form C SPDT 4-20mA		\$169.00
<b>DPM3-P-L</b>				None	22-53 VAC 10.5-70 VDC	\$135.00
<b>DPM3-P-A2R-L</b>				2 Relays Form C SPDT 4-20mA		\$169.00

# pro<sup>ense</sup> Digital Panel Meter Accessories



Panel Meter Accessories			
Model	Description	Weight (lbs)	Price
<b>DPM-BKT1</b>	ProSense panel mount bracket, for use with DPM2 and DPM3 series 1/8 DIN digital panel meters. Hardware included.	0.3	\$20.00



The DPM-BKT1 kit includes:

- A. 2 mounting clips.
- B. 4 screws M3 x 6 DIN 963 to attach the clips to the inside of the arms of part E.
- C. 2 screws M4 x 8 DIN 84 to attach DIN rail clips to part E.
- D. 2 DIN rail clips (DIN rail EN50022 or EN50035).
- E. 1 metal bracket.

(Panel Meter not included)

Insert



Scan or click the above QR code  
to be taken to the DPM-BKT1  
Insert

See our website [www.AutomationDirect.com](http://www.AutomationDirect.com) for complete Engineering drawings.