

prosense® Digital Panel Meters - DPM1-P Series 1/32 DIN

These models in the ProSense DPM1-P series offer a simple, low cost digital display for frequency, tachometer, rate, and pulse width modulated (PWM) applications. The DPM1-P has a 4-digit 8mm 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. Two SPST relay outputs are included that can be set to activate on an increasing or decreasing input signal with hysteresis or time delay operation. These models also include a 0/4-20mA analog output. The meter

is powered from an external AC or DC power supply. The 1/32 DIN housing takes up minimal panel space 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. Other features include memory and reset of minimum and maximum display values, average measurement time setting to filter noisy input signals, and display brightness adjustment. ProSense digital panel meters are backed by a 3 year warranty.



Features:

- 48 x 24mm 1/32 DIN
- 4 digit (0 to 9999) red LED display
- Selectable decimal point
- Frequency/Tachometer/Rate/PWM modes
 - AC voltage
 - Magnetic sensor
 - NAMUR sensor
 - NPN/PNP sensor
 - TTL/24V encoder
 - Switched contact
- AC or DC powered
- Selectable sensor excitation voltage
- (2) Form A SPST normally open relays
 - Activation on increasing or decreasing input signal
 - Hysteresis or time delay operation
- 0/4-20mA analog output
- Total or selective configuration lock out
- Minimum and maximum value memory
- Display brightness adjustment



DPM1-P Series Panel Meters

Model	Description	Weight (lbs)	Price
<u>DPM1-P-A2R-H</u>	ProSense digital panel meter, panel mount, 1/32 DIN, 8mm 4-digit red LED, pulse or frequency input, 0/4-20 mA or (2) 5A SPST relays output, 85-265 VAC/100-300 VDC operating voltage.	0.31	\$145.00
<u>DPM1-P-A2R-L</u>	ProSense digital panel meter, panel mount, 1/32 DIN, 8mm 4-digit red LED, pulse or frequency input, 0/4-20 mA or (2) 5A SPST relays output, 21-53 VAC/13.5-70 VDC operating voltage.	0.31	\$145.00

Technical Specifications

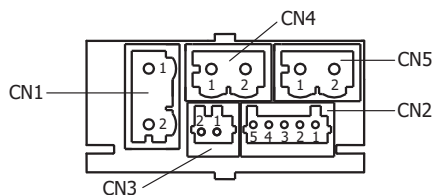
Signal Input	Maximum Frequency	12kHz (tachometer rpm or rate modes) 9999Hz (frequency mode) 100Hz (duty/PWM mode)
	Minimum Frequency (all modes)	0.01 Hz
AC Voltage Input	Range	10 to 600 VAC
Magnetic Sensor Input	Sensitivity	V _{in} min. ≥ 30mV for f ≤ 60Hz V _{in} min. > 300mV for f ≥ 6kHz
NAMUR* Sensor Input	R _C	1.5 kΩ
	I _{ON}	< 1mA DC
	I _{OFF}	> 3mA DC
NPN/PNP/PWM Sensors Input	R _C	3.9 kΩ (NPN) ; 1.5 kΩ (PNP)
	Logic level "0"	< 2.4 VDC
	Logic level "1"	> 2.6 VDC
TTL/24V Encoder Input	Logic level "0"	< 2.4 VDC
	Logic level "1"	> 2.6 VDC
Switched Contact Input	V _C	5V (internal)
	R _C	3.9 kΩ
	F _C	20Hz (Ton, Toff > 25ms)
Accuracy at 23°C ±5°C	Maximum error	± (0.01% of reading + 1digit)
	Temperature coefficient	50ppm / °C
	Warm-up time	5 minutes

* For more information about NAMUR sensors see www.namur.net.

prosense® Digital Panel Meters - DPM1-P Series 1/32 DIN

Technical Specifications Continued

Power Supply and Fuses	DPM1-P-A2R-H	85-265VAC 50/60Hz or 100-300VDC (Recommended fusing, 0.2A/250V, 5mm x 20mm glass miniature or DIN 41661 equivalent)
	DPM1-P-A2R-L	21-53VAC 50/60Hz or 13.5-70VDC (Recommended fusing, 1A/250V, 5mm x 20mm glass miniature or DIN 41661 equivalent)
Power Consumption	5W	
Sensor Excitation	5V@60mA ; 8V@60mA and 12V@60mA (Menu selectable)	
Display	Range	0 to 9999
	Type	4-digit 8mm (0.31"), red
	Decimal point	Configurable
	LEDs	4, for functions and outputs
	Display refresh rate	4 times per second
	Input overrange indication	"OuE" or "0" flashing
	Display overrange indication	"OuE"
	Relays, maximum and minimum value refresh	10 times per second
Relays	2 Relays (Form A) SPST normally open	5A @ 250VAC / 30VDC
Analog Output (0/4-20mA)	Resolution	5.5 μ A
	Accuracy	$\pm(0.3\%$ of reading $+40\mu$ A)
	EMI Max. influence	± 0.25 mA
	Temperature coefficient	3 μ A/ $^{\circ}$ C
	Maximum load	$\leq 500\Omega$
Environmental Conditions	Operating temperature	-10 $^{\circ}$ C to +60 $^{\circ}$ C (14 $^{\circ}$ F to 140 $^{\circ}$ F)
	Storage temperature	-25 $^{\circ}$ C to +85 $^{\circ}$ C (-13 $^{\circ}$ F to 185 $^{\circ}$ F)
	Relative humidity (non-condensing)	<95% @ 40 $^{\circ}$ C (104 $^{\circ}$ F)
	Maximum altitude	2000m
	Frontal protection degree	IP65
Environmental Air	No corrosive gases permitted	
Agency Certifications	CE	



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

CN2	
Signal Input	
1	10 - 600 VAC
2	Non used
3	+ Input pulses
4	Common
5	+ Excitation (5, 8, 12V) @ 60mA

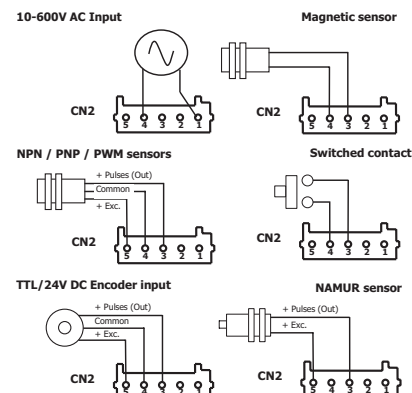
Terminals					
Connector	CN1	CN2	CN3	CN4	CN5
Wire cross section	0.08 to 2.5mm ² (28 to 12 AWG)	0.08 to 0.5mm ² (28 to 20 AWG)	0.08 to 0.5mm ² (28 to 20 AWG)	0.08 to 2.5mm ² (28 to 12 AWG)	0.08 to 2.5mm ² (28 to 12 AWG)
Strip length	8 to 9mm	5 to 6mm	5 to 6mm	8 to 9mm	8 to 9mm
Manufacturer	Wago 231-202/026-000	Wago 733-105	Wago 733-102	Wago 231-102/026-000	Wago 231-302/026-000
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 0.3 mm x 1.8 mm blade	Insertion tool or screwdriver with 0.5 mm x 3.0 mm blade	Insertion tool or screwdriver with 0.5 mm x 3.0 mm blade

CN3	
Analog Output	
1	-0/4-20mA
2	+0/4-20mA

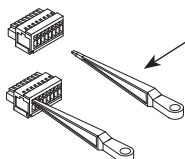
CN4	
Relay 1	
1	N.O. Contact
2	

CN5	
Relay 2	
1	N.O. Contact
2	

Input Wiring Diagrams

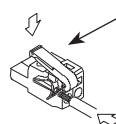


CN2 and CN3 Terminals



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, CN4 and CN5 Terminals

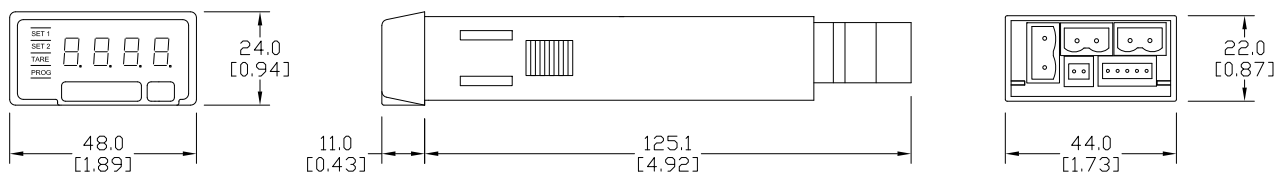


Insertion Tool (included with meter)
Insert wires into the proper terminal while using the insertion tool to open the clip inside the connector. Release the insertion tool to fix wire to the terminal.

pro^{ense}® Digital Panel Meters - DPM1-P Series 1/32 DIN

Dimensions

mm [inches]



Installation	
Dimensions	48 x 24 x 100mm (1/32 DIN)
Panel Cutout	45 x 22mm (Max. panel thickness 7mm)
Case Material	Polycarbonate UL 94 V-0

See our website www.AutomationDirect.com for complete Engineering drawings.

Insert



Scan or click the above QR code to
be taken to the DPM1-A2R Series
Quick Start Guide

Manual



Scan or click the above QR code to
be taken to the DPM1-A2R Series
Manual

prosense® 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.



Type DPM1-A-LP



Type DPM1-A-T



Type DPM1-A-2R



Type DPM2



Type DPM2L



Type DPM3

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	\$104.00
DPM1-A-H			±20mA, ±100mV ±10V, ±20V ±200V		85-265 VAC, 50/60 Hz 100-300 VDC	\$119.00
DPM1-A-L					21-53 VAC, 50/60 Hz 10.5-70 VDC	\$119.00
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	\$119.00
DPM1-T-L					21-53 VAC, 50/60 Hz 10.5-70 VDC	\$119.00
DPM1-A-2R-H		8mm, Red LED, -1999 to 9999 Selectable decimal point	±20mA, ±100mV ±10V, ±60V	2 Relays Form A SPST Normally Open	85-265 VAC, 50/60 Hz 100-300 VDC	\$132.00
DPM1-A-2R-L					21-53VAC 50/60 Hz 10.5-70VDC	\$132.00
DPM1-A-A2R-H				2 Relays Form A SPST Normally Open 4-20mA	85-265 VAC, 50/60 Hz 100-300 VDC	\$145.00
DPM1-A-A2R-L					21-53 VAC, 50/60 Hz 13.5-70 VDC	\$145.00
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
DPM2L-AT-HL	2 Relays Form C SPDT				\$149.00	
DPM2-AT-2R-HL					\$152.00	
DPM2L-AT-2R-HL					\$164.00	
DPM3-AT-H	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	\$173.00
DPM3-AT-2R-H				2 Relays Form C SPDT		\$195.00
DPM3-AT-4R-H				4 Relays Form A Normally Open with shared common		\$210.00
DPM3-AT-A-H				4-20mA		\$195.00
DPM3-AT-A2R-H				2 Relays Form C SPDT 4-20mA		\$217.00
DPM3-AT-L				None	22-53 VAC, 50/60 Hz 10.5-70 VDC	\$173.00
DPM3-AT-2R-L				2 Relays Form C SPDT		\$195.00
DPM3-AT-4R-L				4 Relays Form A Normally Open with shared common		\$210.00
DPM3-AT-A-L				4-20mA		\$195.00
DPM3-AT-A2R-L				2 Relays Form C SPDT 4-20mA		\$217.00

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

prosense® Digital Panel Meters DPM Series

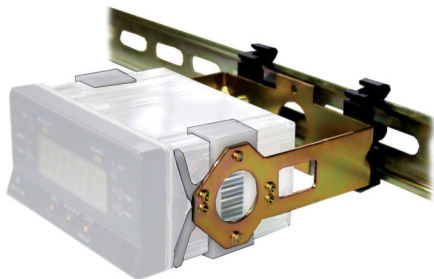
DPM Series Digital Panel Meters Electrical Input Selection Guide

Model	Size	Display	Inputs	Outputs	Power	Price
<u>DPM1-E-H</u>	1/32 DIN	10mm, Red LED, -1999 to 9999 Selectable decimal point	100 / 600 VAC or VDC 1A / 5AAC or DC	None	85-265 VAC, 50/60 Hz 100-300 VDC	\$119.00
<u>DPM1-E-L</u>					21-53 VAC, 50/60Hz 10.5-70 VDC	\$119.00
<u>DPM2-E-HL</u>	1/8 DIN	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	\$139.00
<u>DPM2-E-2R-HL</u>				2 Relays Form C SPDT		\$152.00
<u>DPM3-E-H</u>		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	\$202.00
<u>DPM3-E-A2R-H</u>				2 Relays Form C SPDT 4-20mA		\$239.00
<u>DPM3-E-L</u>				None	22-53 VAC 10.5-70 VDC	\$202.00
<u>DPM3-E-A2R-L</u>				2 Relays Form C SPDT 4-20mA		\$239.00

DPM Series Digital Panel Meters Pulse, Frequency Input Selection Guide

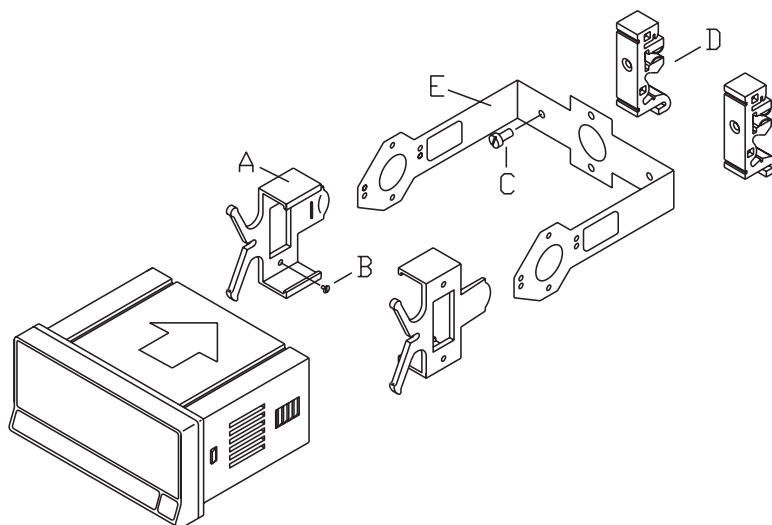
Model	Size	Display	Inputs	Outputs	Power	Price
<u>DPM1-P-H</u>	1/32 DIN	10mm, Red LED, 0 to 9999 Selectable decimal point	7kHz (tachometer rpm or rate modes) 9999Hz (frequency meter mode)	None	85-265 VAC 100-300 VDC	\$119.00
<u>DPM1-P-L</u>					1-53 VAC 10.5-70 VDC	\$119.00
<u>DPM1-P-A2R-H</u>		8mm, Red 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	\$145.00
<u>DPM1-P-A2R-L</u>					21-53 VAC 13.5-70 VDC	\$145.00
<u>DPM2-P-HL</u>	1/8 DIN	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	\$139.00
<u>DPM2-P-2R-HL</u>				2 Relays Form C SPDT		\$152.00
<u>DPM3-P-H</u>		14mm Red, Green, Amber LED -99999 to 99999, -9999999 to 9999999 Totalizer Programmable decimal point	19kHz (without totalizer) 9.9 kHz (with totalizer)	None	85-265 VAC 100-300 VDC	\$173.00
<u>DPM3-P-A2R-H</u>				2 Relays Form C SPDT 4-20mA		\$217.00
<u>DPM3-P-L</u>				None	22-53 VAC 10.5-70 VDC	\$173.00
<u>DPM3-P-A2R-L</u>				2 Relays Form C SPDT 4-20mA		\$217.00

prosense® Digital Panel Meter Accessories



Panel Meter Accessories

Model	Description	Weight (lbs)	Drawing Link	Price
<u>DPM-BKT1</u>	ProSense panel mount bracket, for use with DPM2 and DPM3 series 1/8 DIN digital panel meters. Hardware included.	0.3	<u>PDF</u>	\$22.50



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 for complete Engineering drawings.