

prosense® Digital Panel Meters - DPM1

Series 1/32 DIN

These models in the ProSense DPM1 series offers a simple, low cost digital display of analog process signals. The 4-digit red LED display is easily scaled into any engineering units from -1999 to 9999 with a selectable decimal point location. Two point direct or reverse acting linear scaling values can be entered manually or by introducing actual sensed process values in Teach mode. Additionally non-linear processes can be scaled by entering up to 16 scaling points. 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. Models are also available with a 0/4-20mA analog output. The meter is

powered from an external AC or DC power supply and provides 20VDC for external sensor excitation. 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, a tare function, filtering to minimize display bounce, and display brightness adjustment. ProSense digital panel meters are backed by a 3 year warranty.



Features:

- 48 x 24mm 1/32 DIN
- Simple menu driven pushbutton configuration
- 8mm 4-digit (-1999 to 9999) red LED display
- Selectable decimal point
- Process input ($\pm 10V$, $\pm 60V$, $\pm 100mV$, $\pm 20mA$)
- AC or DC powered
- Sensor excitation voltage 20V
- (2) Form A SPST normally open relays
- Activation on increasing or decreasing input signal
- Hysteresis or time delay operation
- 0/4-20mA analog output on select units
- Total or selective configuration lock out
- Display scaling or process teaching modes
- Configuration for direct or reverse acting linear processes and up to 16 point non-linear processes
- Minimum and maximum value memory
- Tare function
- Filtering to minimize display bounce
- Display brightness adjustment
- 3 year warranty



DPM1 Series Panel Meters

Model	Description	Weight (lbs)	Price
<u>DPM1-A-2R-H</u>	ProSense digital panel meter, 1/32 DIN, 8mm 4-digit red LED, input current signal range(s) of ± 20 mA, input voltage signal range(s) of ± 60 VDC, ± 10 VDC, ± 100 mVDC, (2) Form A (SPST) relay(s), 5A @ 250 VAC, 5A @ 30 VDC, 85 to 265 VAC / 100 to 300 VDC operating voltage.	0.3	\$132.00
<u>DPM1-A-2R-L</u>	ProSense digital panel meter, 1/32 DIN, 8mm 4-digit red LED, input current signal range(s) of ± 20 mA, input voltage signal range(s) of ± 60 VDC, ± 10 VDC, ± 100 mVDC, (2) Form A (SPST) relay(s), 5A @ 250 VAC, 5A @ 30 VDC, 21 to 53 VAC / 10.5 to 70 VDC operating voltage.	0.3	\$132.00
<u>DPM1-A-A2R-H</u>	ProSense digital panel meter, 1/32 DIN, 8mm 4-digit red LED, input current signal range(s) of ± 20 mA, input voltage signal range(s) of ± 60 VDC, ± 10 VDC, ± 100 mVDC, output current signal range(s) of 0/4-20 mA, (2) Form A (SPST) relay(s), 5A @ 250 VAC, 5A @ 30 VDC, 85 to 265 VAC / 100 to 300 VDC operating voltage.	0.3	\$145.00
<u>DPM1-A-A2R-L</u>	ProSense digital panel meter, 1/32 DIN, 8mm 4-digit red LED, input current signal range(s) of ± 20 mA, input voltage signal range(s) of ± 60 VDC, ± 10 VDC, ± 100 mVDC, output current signal range(s) of 0/4-20 mA, (2) Form A (SPST) relay(s), 5A @ 250 VAC, 5A @ 30 VDC, 21 to 53 VAC / 13.5 to 70 VDC operating voltage.	0.3	\$145.00

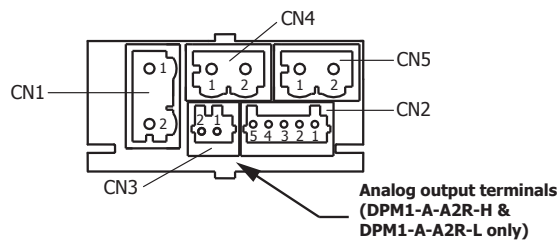
prosense® Digital Panel Meters - DPM1

Series 1/32 DIN

Technical Specifications				
Input	Range	Resolution	Input Impedance	Accuracy
	±10V	1mV	1MΩ	±(0.1% rdg+3mV)
	±60V	3mV	1MΩ	±(0.1% rdg+18mV)
	±100mV	10μV	100MΩ	±(0.1% rdg+30μV)
	±20mA	1μA	12.1Ω	±(0.1% rdg+6μA)
Sensor Excitation	20V±5VDC @ 30mA			
Accuracy Conditions	Temperature coefficient	100ppm/°C		
	Warm-up time	15 minutes		
	Temperature	23°C±5°C		
Conversion	Technique	Sigma-Delta		
	Resolution	±15 bits		
	Conversion rate	25 times per second		
Display	Range	-1999 to +9999, selectable decimal point position		
	Type	4-digit 8mm (0.31"), red		
	LEDs	Relay 1, Relay 2, Tare, Programming Mode		
	Display refresh rate	5 times per second		
	Display / Input overrange indication	"- OUE" , "OUE"		
	Relays refresh, maximum and minimum value	10s		
Relays	2 Relays (Form A) SPST normally open	5A@250VAC / 30VDC		
Analog Output (0/4-20mA Sourcing) (Models DPM1-A-A2R-H & DPM1-A-A2R-L only)	Resolution	5.5μA		
	Accuracy	±(0.3% rdg+40μA)		
	Temperature coefficient	3μA/°C		
	Maximum load	≤500Ω		
Power Supply and Fuses	DPM1-A-2R-H, DPM1-A-A2R-H	85-265VAC 50/60Hz or 100-300VDC (Recommended fusing 0.2A/250V, 5mm x 20mm glass miniature or DIN 41661 equivalent)		
	DPM1-A-2R-L, DPM1-A-A2R-L	21-53VAC 50/60Hz or 13.5-70VDC (Recommended fusing 1.0A/250V, 5mm x 20mm glass miniature or DIN 41661 equivalent)		
Filter	Cutoff frequency	0.4Hz to 0.004Hz		
	Slope	20dB/Dec.		
Environmental Conditions	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		
Environmental Air	No corrosive gases permitted			
Agency Approvals	CE			

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

Wiring



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

CN2	
1	+60V / +10VDC
2	+20mA DC
3	+100mV
4	-IN / - Excitation
5	+Excitation (20V±5VDC @ 30mA)

CN3*	
1	-0/4-20mA
2	+0/4-20mA

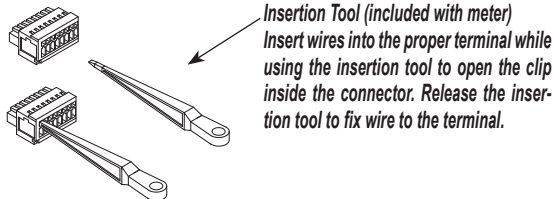
* Analog output terminals (DPM1-A-A2R-H & DPM1-A-A2R-L only)

CN4	
Relay 1	
1	N.O. Contact
2	N.O. Contact

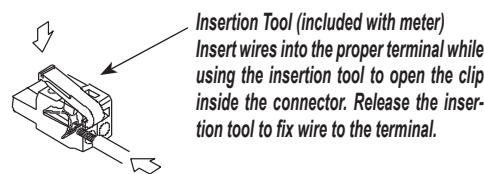
CN5	
Relay 2	
1	N.O. Contact
2	N.O. Contact

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

CN2 and CN3 Terminals

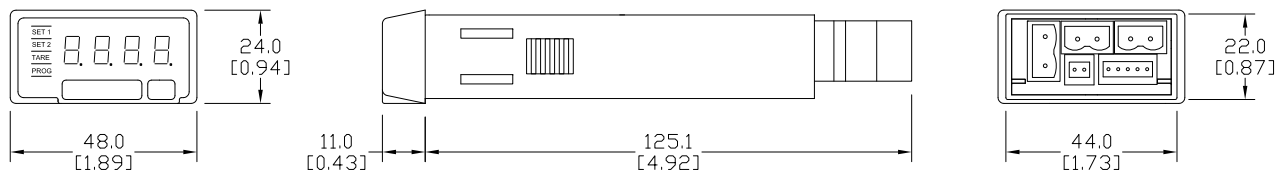


CN1, CN4 and CN5 Terminals



Dimensions

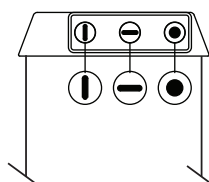
mm [inches]



Installation	
Dimensions	48 x 24 x 125.1mm (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.

Programming Keys (Bottom View)



- **ENTER:** Enters configuration and validates data and parameters.
- ◀ **SHIFT:** Selects mode or shifts blinking digit in configuration.
- ⓘ **UP:** Increases value of blinking digit in configuration.

Insert



Scan or click the above QR code to be taken to the DPM1-A-2R and DPM1-A-A2R Series Quick Start Guide

Manual



Scan or click the above QR code to be taken to the DPM1-A-2R and DPM1-A-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	\$149.00					
DPM2-AT-2R-HL	2 Relays Form C SPDT				\$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	\$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	22-53 VAC, 50/60 Hz 10.5-70 VDC	\$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