

pro^{sense} Digital Panel Meters - DPM2-E Series 1/8 DIN



DPM2-E

The ProSense DPM2-E series offers a simple, low cost digital display of AC or DC voltage or amperage electrical parameters. The 4-digit 14mm character height red LED display is easily scaled into any engineering units from -9999 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 values in Teach mode. 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. 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-E meters include memory and reset of minimum and maximum display values. ProSense digital panel meters are backed by a 3 year warranty.

Features:

- 96 x 48mm 1/8 DIN
- Simple menu driven pushbutton configuration
- 14mm 4-digit (-9999 to 9999)
- Selectable decimal point
- AC/DC voltage input 600V, 200V, 20V
- AC/DC current input 1A, 5A, shunt 60mV, shunt 100 mV
- AC or DC powered
- Optional (2) Form C SPDT relays
 - N.O. or N.C. operation
 - Activation on increasing or decreasing input signal
 - Hysteresis or time delay operation
- Display scaling or teaching modes
- Configuration for direct or reverse acting linear readings
- Minimum and maximum value memory
- Total or selective configuration lock out
- 3 year warranty



DPM2-E Series Panel Meters			
Model	Description	Weight (lbs)	Price
DPM2-E-HL	ProSense digital panel meter, 1/8 DIN, 14mm 4-digit red LED, AC/DC current or voltage input, 20 to 265 VAC/11 to 265 VDC operating voltage.	0.57	\$135.00
DPM2-E-2R-HL	ProSense digital panel meter, 1/8 DIN, 14mm 4-digit red LED, AC/DC current or voltage input, (2) 8A SPDT relays output, 20 to 265 VAC/11 to 265 VDC operating voltage.	0.66	\$148.00

Technical Specifications				
Input	DC Voltage	AC Voltage	DC Current	AC Current
Range....Input Impedance	±20V....100kΩ ±200V....1MΩ ±600V....3MΩ	0 to 20V....100kΩ 0 to 200V....1MΩ 0 to 600V....3MΩ	±1A....70mΩ ±5A....14mΩ Shunt ±60mV....2.5 kΩ Shunt ±100mV....2.5 kΩ	0 to 1A....70mΩ 0 to 5A....14mΩ Shunt 0 to 60mV....2.5 kΩ Shunt 0 to 100mV....2.5 kΩ
Input Frequency Range	–	45 Hz to 1 kHz sine wave	–	45 Hz to 1 kHz sine wave
Maximum Permanent Overload	±20V....100V ±200V....600V ±600V....1000V	0 to 20V....100V 0 to 200V....600V 0 to 600V....1000V	±1A....1.2 A ±5A....7A ±60mV....20V ±100mV....20V	0 to 1A....1.2 A 0 to 5A....7A 0 to 60mV....20V 0 to 100mV....20V
EMI max. Influence	±20V....±10mV ±200V....±100mV ±600V....±300mV	0 to 20V....±20mV 0 to 200V....±200mV 0 to 600V....±600mV	±1A....±500μA ±5A....±2.5mA Shunt 60mV....±30μV Shunt 100mV....±50μV	0 to 1A....±1mA 0 to 5A....±5mA Shunt 60mV....±60μV Shunt 100mV....±100μV

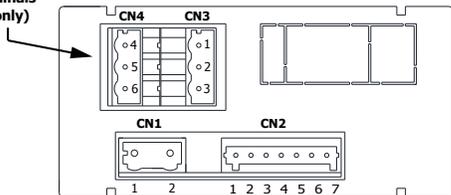
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Technical Specifications Continued				
Input	DC Voltage	AC Voltage	DC Current	AC Current
Resolution	±20V....1mV ±200V....10mV ±600V....25mV	0 to 20V....1mV 0 to 200V....10mV 0 to 600V....25mV	±1A....50µA ±5A....200µA Shunt ±60mV....5µV Shunt ±100mV....10µV	0 to 1A....50µA 0 to 5A....200µA Shunt 0 to 60mV....5µV Shunt 0 to 100mV....10µV
Accuracy	±20V....±(0.05%rdg + 25mV) ±200V....±(0.05%rdg + 250mV) ±600V....±(0.05%rdg + 0.7V)	0 to 20V....±(0.35%rdg + 30mV) 0 to 200V....±(0.25%rdg + 0.3V) 0 to 600V....±(0.1%rdg + 0.9V)	±1A....±(0.05%rdg + 1mA) ±5A....±(0.05%rdg + 6mA) Shunt ±60mV....±(0.05%rdg + 70µV) Shunt ±100mV....±(0.05%rdg + 120µV)	0 to 1A....±(0.1%rdg + 5mA) 0 to 5A....±(0.1%rdg + 20mA) Shunt 0 to 60mV....±(0.1%rdg + 300µV) Shunt 0 to 100mV....±(0.1%rdg + 300µV)
Accuracy Conditions	5 minutes warmup time 23°C +/-5°C ambient temperature 100 ppm/°C temperature coefficient (200 ppm/°C for AC Amp input)			
Conversion	Technique	Sigma-Delta		
	Resolution	±16 bits		
	Conversion rate	20 times per second		
Display	Range	-9999 to +9999, 4 Red LED digits 14mm, selectable decimal point position		
	LEDs	Relay 1, Relay 2 status		
	Display refresh rate	50ms		
	Display / Input overrange indication	"- OUE", "OUE"		
Relays (DPM2-E-2RL-HL only)	(2) Relays, Form C SPDT	Nominal contact rating.....8A at 250VAC / 24VDC Maximum switching current (resistive load).....8A Maximum switching power.....2000VA / 192W Maximum switching voltage.....400VAC / 125VDC Contact resistance.....≤100mΩ at 6VDC @ 1A Contact type.....SPDT Operate time.....≤10ms		
Power Supply and Fuses	20-265VAC 50/60 Hz or 11-265VDC (Recommended fusing 3A/250V, DIN 41661)			
Power Consumption	3W			
Filter	Cutoff frequency (-3dB)	7.3Hz to 0.2Hz		
	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 Approval	CE			

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

Wiring

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



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

Polarity insensitive for DC power

Terminals			
Connector	CN1	CN2	CN3 & CN4
Wire cross section	0.08 to 2.5mm ² (28 to 12 AWG)	0.08 to 1.5mm ² (28 to 14 AWG)	0.08 to 2.5mm ² (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

CN2	
1	- IN (Common)
2	+ IN 1A AC/DC
3	+ IN 5A AC/DC
4	+ IN SHUNT 60mV/100mV AC/DC
5	+ IN 20V AC/DC
6	+ IN 200V AC/DC
7	+ IN 600V AC/DC

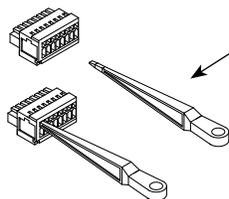
(DPM2-E-2R-HL only)

CN4 (Relay 2)	
4	NO2
5	CM2
6	NC2

CN3 (Relay 1)	
1	NO1
2	CM1
3	NC1

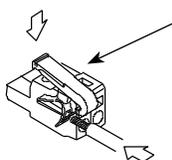
NO: Normally open contact.
CM: Common
NC: Normally closed contact.

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



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.

Insert



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

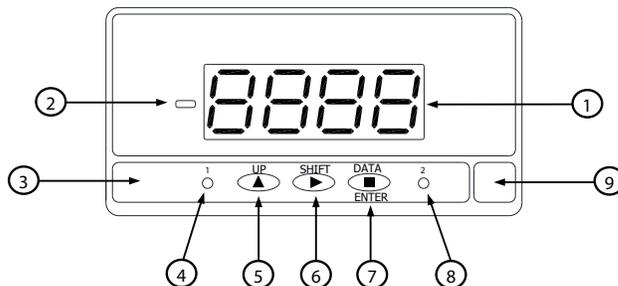
Manual



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

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

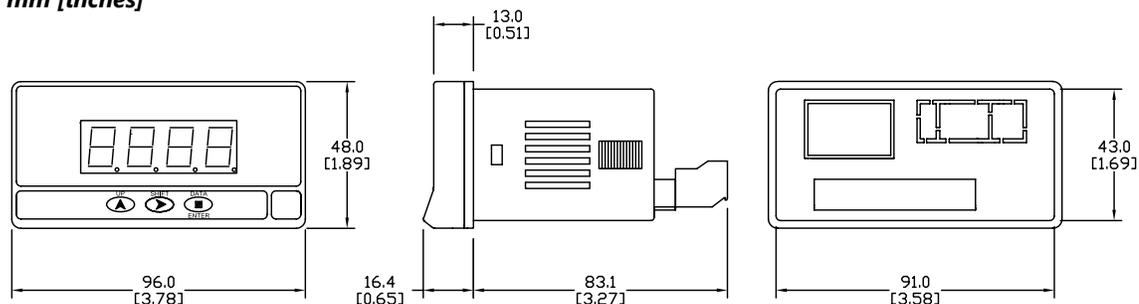
Programming Panel



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	Illuminates for negative readings.	Illuminates for negative values.
3	Keyboard	---	---
4	Setpoint 1 LED	Illuminates when setpoint 1 turns active.	Illuminates when setpoint 1 turns active.
5	UP key	No application	Shows setpoint value. Increases value of active digit.
6	SHIFT key	Displays maximum and minimum stored values. After 3s of pressing, sets maximum and/or minimum memorized value to current display value.	Shifts active digit to the next right digit.
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	
Dimensions	96 x 48 x 83.1mm (1/8 DIN)
Panel Cutout	92 x 45mm (Max. panel thickness 10mm)
Case Material	Polycarbonate UL 94 V-0

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

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	\$101.00
DPM1-A-H			$\pm 20\text{mA}$, $\pm 100\text{mV}$ $\pm 10\text{V}$, $\pm 20\text{V}$ $\pm 200\text{V}$		85-265 VAC, 50/60 Hz 100-300 VDC	\$116.00
DPM1-A-L			21-53 VAC, 50/60 Hz 10.5-70 VDC		\$116.00	
DPM1-T-H			85-265 VAC, 50/60 Hz 100-300 VDC		\$116.00	
DPM1-T-L			21-53 VAC, 50/60 Hz 10.5-70 VDC		\$116.00	
DPM1-A-2R-H			85-265 VAC, 50/60 Hz 100-300 VDC		\$128.00	
DPM1-A-2R-L			21-53VAC 50/60 Hz 10.5-70VDC		\$128.00	
DPM1-A-A2R-H			85-265 VAC, 50/60 Hz 100-300 VDC		\$141.00	
DPM1-A-A2R-L			21-53 VAC, 50/60 Hz 13.5-70 VDC		\$141.00	
DPM2-AT-HL			1/8 DIN		DPM2: 14mm, Red LED, -9999 to 9999 DPM2L: 20mm, Red LED, -1999 to 9999 Selectable decimal point	$\pm 20\text{mA}$, $\pm 10\text{V}$ $\pm 200\text{V}$, 100-100k Ohm potentiometer, 1k-50k Ohm resistance, RTD Pt100 (3-wire) RTD Pt1000 (4-wire) TC Type J, K, T or N
DPM2L-AT-HL				\$145.00		
DPM2-AT-2R-HL	2 Relays Form C SPDT	\$148.00				
DPM2L-AT-2R-HL		\$159.00				
DPM3-AT-H	1/8 DIN	14mm, Red, Green, Amber LED -19999 to 39999 Selectable decimal point	$\pm 20\text{mA}$, $\pm 10\text{V}$ RTD Pt100 (3-wire) TC Type J, K, T or N Load Cell $\pm 15\text{mV}$, $\pm 30\text{mV}$, $\pm 150\text{mV}$ Potentiometer	None	85-265 VAC, 50/60Hz 100-300 VDC	\$168.00
DPM3-AT-2R-H				2 Relays Form C SPDT		\$189.00
DPM3-AT-4R-H				4 Relays Form A Normally Open with shared common		\$204.00
DPM3-AT-A-H				4-20mA		\$189.00
DPM3-AT-A2R-H				2 Relays Form C SPDT 4-20mA		\$211.00
DPM3-AT-L				None		\$168.00
DPM3-AT-2R-L				2 Relays Form C SPDT		\$189.00
DPM3-AT-4R-L				4 Relays Form A Normally Open with shared common		\$204.00
DPM3-AT-A-L				4-20mA		\$189.00
DPM3-AT-A2R-L				2 Relays Form C SPDT 4-20mA		\$211.00

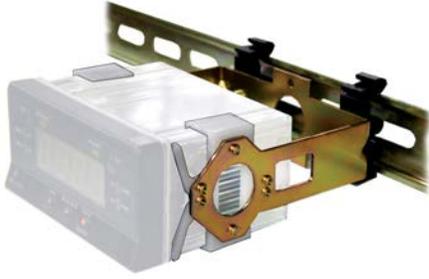
* Illumination based on available loop current and will not be as bright as the powered Digital Panel Meters

pro^{ense} Digital Panel Meters DPM Series

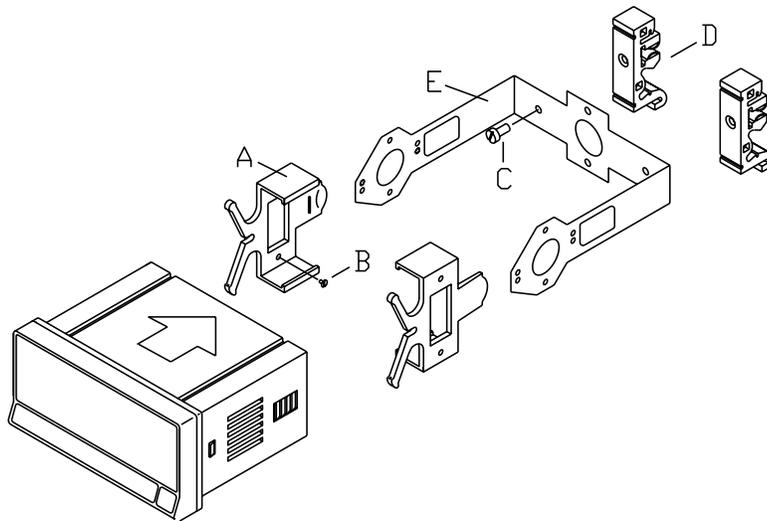
DPM Series Digital Panel Meters Electrical Input Selection Guide						
Model	Size	Display	Inputs	Outputs	Power	Price
<u>DPM1-E-H</u>	1/32 DIN	10mm, Red LED, -1999 to 9999 Selectable decimal point	100 / 600 VAC or VDC 1A / 5A AC or DC	None	85-265 VAC, 50/60 Hz 100-300 VDC	\$116.00
<u>DPM1-E-L</u>					21-53 VAC, 50/60Hz 10.5-70 VDC	\$116.00
<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	\$135.00
<u>DPM2-E-2R-HL</u>				2 Relays Form C SPDT		\$148.00
<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	\$196.00
<u>DPM3-E-A2R-H</u>				2 Relays Form C SPDT 4-20mA		\$232.00
<u>DPM3-E-L</u>				None	22-53 VAC 10.5-70 VDC	\$196.00
<u>DPM3-E-A2R-L</u>				2 Relays Form C SPDT 4-20mA		\$232.00

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	\$116.00
<u>DPM1-P-L</u>					1-53 VAC 10.5-70 VDC	\$116.00
<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	\$141.00
<u>DPM1-P-A2R-L</u>					21-53 VAC 13.5-70 VDC	\$141.00
<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	\$135.00
<u>DPM2-P-2R-HL</u>				2 Relays Form C SPDT 4-20mA		\$148.00
<u>DPM3-P-H</u>	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	\$168.00
<u>DPM3-P-A2R-H</u>				2 Relays Form C SPDT 4-20mA		\$211.00
<u>DPM3-P-L</u>				None	22-53 VAC 10.5-70 VDC	\$168.00
<u>DPM3-P-A2R-L</u>				2 Relays Form C SPDT 4-20mA		\$211.00

pro^{ense} Digital Panel Meter Accessories



Panel Meter Accessories			
Model	Description	Weight (lbs)	Price
DPM-BKT1	ProSense panel mount bracket, for use with DPM2 and DPM3 series 1/8 DIN digital panel meters. Hardware included.	0.3	\$22.00



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 for complete Engineering drawings.