ProSense® Digital Panel Meters DPM Series

Type DPM1-A-LP

Type DPM1-A-T

Type DPM1-A-2R

Type DPM2

Type DPM2L

Type DPM3

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	$114.00
DPM1-A-H			±20mA, ±100mV ±10V, ±20V ±200V		85-265 VAC, 50/60 Hz 100-300 VDC	$131.00
DPM1-A-L					21-53 VAC, 50/60 Hz 10.5-70 VDC	$131.00
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	$131.00
DPM1-T-L					21-53 VAC, 50/60 Hz 10.5-70 VDC	$131.00
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	$145.00
DPM1-A-2R-L					21-53VAC 50/60 Hz 10.5-70VDC	$145.00
DPM1-A-A2R-H				2 Relays Form A SPST Normally Open 4-20mA	85-265 VAC, 50/60 Hz 100-300 VDC	$160.00
DPM1-A-A2R-L					21-53 VAC, 50/60 Hz 13.5-70 VDC	$160.00
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	$153.00
DPM2L-AT-HL						$164.00
DPM2-AT-2R-HL				2 Relays Form C SPDT		$167.00
DPM2L-AT-2R-HL						$180.00
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	$190.00
DPM3-AT-2R-H				2 Relays Form C SPDT		$215.00
DPM3-AT-4R-H				4 Relays Form A Normally Open with shared common		$231.00
DPM3-AT-A-H				4-20mA		$215.00
DPM3-AT-A2R-H				2 Relays Form C SPDT 4-20mA		$239.00
DPM3-AT-L				None	22-53 VAC, 50/60 Hz 10.5-70 VDC	$190.00
DPM3-AT-2R-L				2 Relays Form C SPDT		$215.00
DPM3-AT-4R-L				4 Relays Form A Normally Open with shared common		$231.00
DPM3-AT-A-L				4-20mA		$215.00
DPM3-AT-A2R-L				2 Relays Form C SPDT 4-20mA		$239.00

** 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
DPM1-E-H	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	$131.00
DPM1-E-L					21-53 VAC, 50/60Hz 10.5-70 VDC	$131.00
DPM2-E-HL	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	$153.00
DPM2-E-2R-HL				2 Relays Form C SPDT		$167.00
DPM3-E-H		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	$222.00
DPM3-E-A2R-H				2 Relays Form C SPDT 4-20mA		$263.00
DPM3-E-L				None	22-53 VAC 10.5-70 VDC	$222.00
DPM3-E-A2R-L				2 Relays Form C SPDT 4-20mA		$263.00

DPM Series Digital Panel Meters Pulse, Frequency Input Selection Guide

Model	Size	Display	Inputs	Outputs	Power	Price
DPM1-P-H	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	$131.00
DPM1-P-L					1-53 VAC 10.5-70 VDC	$131.00
DPM1-P-A2R-H		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	$160.00
DPM1-P-A2R-L					21-53 VAC 13.5-70 VDC	$160.00
DPM2-P-HL	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	$153.00
DPM2-P-2R-HL				2 Relays Form C SPDT 4-20mA		$167.00
DPM3-P-H		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	$190.00
DPM3-P-A2R-H				2 Relays Form C SPDT 4-20mA		$239.00
DPM3-P-L				None	22-53 VAC 10.5-70 VDC	$190.00
DPM3-P-A2R-L				2 Relays Form C SPDT 4-20mA		$239.00

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

This model in the ProSense DPM1 series offers a simple, low cost digital display of an analog 4-20mA signal. 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. The meter is powered from the mA loop and requires no external power supply. The 1/32 DIN housing takes up minimal panel space and the meter face has an IP65 rating. Configuration parameters can be locked out to prevent unauthorized or accidental changes to the meter's operation. ProSense digital panel meters are backed by a 3 year warranty.

Features:

- 48 x 24mm 1/32 DIN
- Simple menu driven pushbutton configuration
- 10mm 4-digit (-1999 to 9999) red LED display
- Selectable decimal point
- Process input (4-20mA DC)
- Loop powered
- Display scaling or process teaching modes
- Configuration for direct or reverse acting linear processes
- Total configuration lock out
- 3 year warranty

CE 3 YEAR WARRANTY

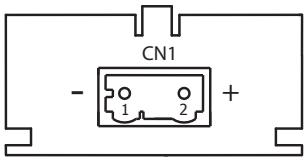
DPM1 Series Panel Meters			
Model	***Description***	***Weight (lbs)***	***Price***
DPM1-A-LP	ProSense digital panel meter, 1/32 DIN, 10mm 4-digit red LED, input current signal range(s) of 4 - 20 mA, loop powered.	0.2	$114.00

Technical Specifications		
Input	Current Range	4-20mA
	Current Resolution	±0.01mA
	Impedance	10Ω
Accuracy (@ 23ºC ±5ºC)	Maximum error	±(0.1% of reading ÷3 digits)
	Temperature coefficient	100 ppm/ºC
	Warm-Up time	5 minutes
Power Supply	Loop powered	
Voltage Drop on Input Loop	4-20 mA	<5V
Conversion	Technique	Single slope
	Resolution	16 bits
	Conversion rate	62 times per second
Display	Range	-1999 to 9999, selectable decimal point position
	Type	4-digit 10mm (0.4"), red*
	Display refresh rate	2 times per second
	Display/input overrange indication	OuE
Environmental Conditions	Operating temperature	-10ºC to +60ºC (14ºF to 140ºF)
	Storage temperature	-25ºC to +85ºC (-13ºF to 185ºF)
	Relative humidity (non-condensing)	<95% @ 40ºC (104ºF)
	Maximum altitude	2000m
	Frontal protection degree	IP65
Environmental Air	No corrosive gases permitted	
Agency Approvals	CE	

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

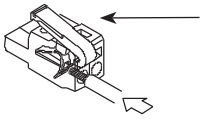
ProSense® Digital Panel Meters - DPM1 Series 1/32 DIN

Wiring



CN1	
1	(-) 4-20mA loop
2	(+) 4-20mA loop

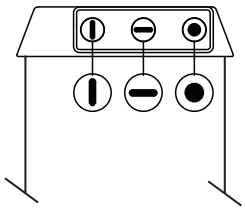
Connection Terminal



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.

Terminal	
Connector	**CN1**
Wire cross section	0.08 to 2.5mm² (28 to 12 AWG)
Strip length	8 to 9mm
Manufacturer	Wago 231-302/026-000
Cage clamp connection	Insertion tool or screwdriver with 0.5 mm x 3.0 mm blade

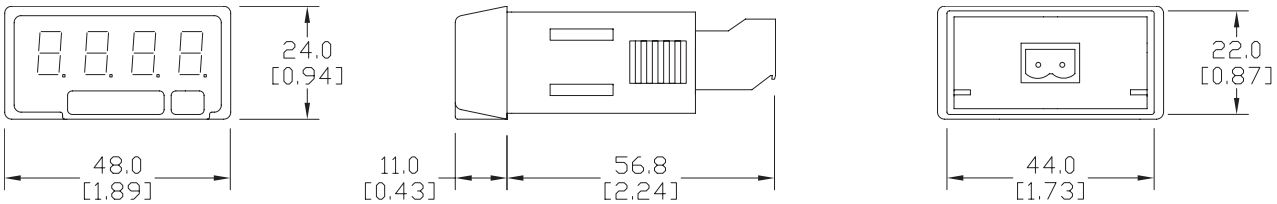
Programming Keys (Bottom View)



- **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.

Dimensions

mm [inches]



Installation	
Dimensions	48 x 24 x 56.8mm (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-A-LP Series Quick Start Guide

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 and DC voltage 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. 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 locked out to prevent unauthorized or accidental changes to the meter's operation. ProSense digital panel meters are backed by a 3 year warranty.

Features:

- 48 x 24mm 1/32 DIN
- Simple menu driven pushbutton configuration
- 10mm 4-digit (-1999 to 9999) red LED display
- Selectable decimal point
- Process input (±10V, ±20mA, ±100mV)
- DC Voltage input (±200V, ±20V)
- AC or DC powered
- Display scaling or process teaching modes
- Configuration for direct or reverse acting linear processes
- Total configuration lock out
- 3 year warranty

CE

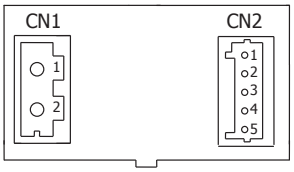
3 YEAR WARRANTY

DPM1 Series Panel Meters			
Model	***Description***	***Weight (lbs)***	***Price***
DPM1-A-H	ProSense digital panel meter, 1/32 DIN, 10mm 4-digit red LED, input current signal range(s) of +/- 20 mA, input voltage signal range(s) of +/- 200 VDC, +/- 20 VDC, +/- 10 VDC, +/- 100 mVDC, 85 to 265 VAC / 100 to 300 VDC operating voltage.	0.2	$131.00
DPM1-A-L	ProSense digital panel meter, 1/32 DIN, 10mm 4-digit red LED, input current signal range(s) of +/- 20 mA, input voltage signal range(s) of +/- 200 VDC, +/- 20 VDC, +/- 10 VDC, +/- 100 mVDC, 21 to 53 VAC / 10.5 to 70 VDC operating voltage.	0.2	$131.00

Technical Specifications					
Input	***Voltage***				***Current***
Range	±200V (fixed)	±20V (fixed)	±10V	±100mV	±20mA
Resolution	0.1V	0.01V	1mV	0.1mV	0.01mA
Input Impedance	Volts	1MΩ			
	mV	100MΩ			
	mA	20Ω			
Accuracy (@ 23ºC ±5ºC)	Maximum error	±(0.1% of reading ÷3 digits)			
	Temperature coefficient	100 ppm/ºC			
	Warm-Up time	5 minutes			
Power Supply and Fuses	DPM1-A-H	85-265VAC 50/60Hz or 100-300VDC (Recommended fusing, 0.1A/250V, 5mm x 20mm glass miniature or DIN 41661 equivalent)			
	DPM1-A-L	21-53VAC 50/60Hz or 10.5-70VDC (Recommended fusing, 0.5A/250V, 5mm x 20mm glass miniature or DIN 41661 equivalent)			
Power Consumption	1.8W				
Conversion	Technique	Sigma-Delta			
	Resolution	±15 bits			
	Conversion rate	20 times per second			
Display	Range	-1999 to 9999, selectable decimal point position			
	Type	4-digit 10mm (0.4"), red			
	Display refresh rate	4 times per second			
	Display/input overrange indication	OuE			
Environmental Conditions	Operating temperature	-10ºC to +60ºC (14ºF to 140ºF)			
	Storage temperature	-25ºC to +85ºC (-13ºF to 185ºF)			
	Relative humidity (non-condensing)	<95% @ 40ºC (104ºF)			
	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

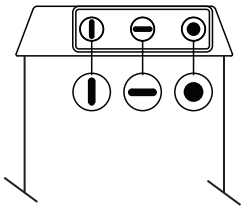


CN1			
AC Supply		DC Supply	
1	Neutral	1	-VDC
2	Line	2	+VDC

CN2	
1	- IN (common)
2	+100mV DC
3	+20mA
4	+10/20VDC
5	+200VDC

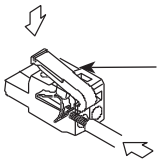
Terminals		
Connector	**CN1**	**CN2**
Wire cross section	0.08 to 2.5mm² (28 to 12 AWG)	0.08 to 0.5mm² (28 to 20 AWG)
Strip length	8 to 9mm	5 to 6mm
Manufacturer	Wago 231-202/026-000	Wago 733-105
Cage clamp connection	Insertion tool or screwdriver with 0.5 mm x 3.0 mm blade	Insertion tool or screwdriver with 0.3 mm x 1.8 mm blade

Programming Keys (Bottom View)



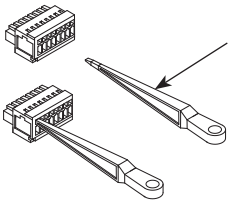
- **ENTER:** Enters configuration and validates data and parameters.
- **SHIFT:** Selects mode or shifts blinking digit in configuration.
- **UP:** Increases value of blinking digit in configuration.

CN1 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.

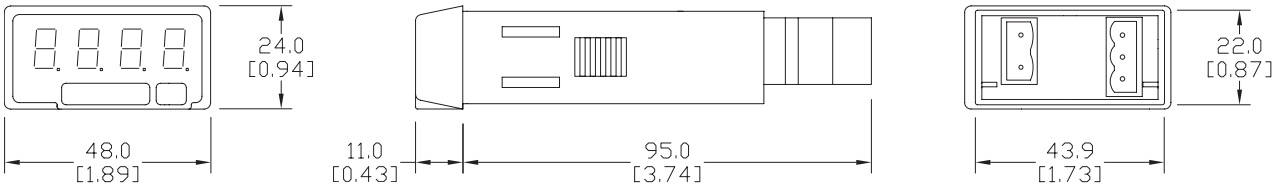
CN2 Terminals



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.

Dimensions

mm [inches]



Installation	
Dimensions	48 x 24 x 95mm (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-A-H and DPM1-A-L Series Quick Start Guide

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

These models in the ProSense DPM1 series offers a simple, low cost digital display of temperature in either Fahrenheit or Celsius from RTD or Thermocouple temperature sensors. The 4-digit red LED display is pre-configured for fixed temperature ranges based on the type of temperature sensor input. Thermocouples are displayed with 1 degree of resolution while RTDs can be displayed with either 0.1 or 1 degree of resolution. 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 locked out to prevent unauthorized or accidental changes to the meter's operation. ProSense digital panel meters are backed by a 3 year warranty.

Features:

- 48 x 24mm 1/32 DIN
- Simple menu driven pushbutton configuration
- 10mm 4-digit red LED display
- Temperature, °F or °C
- RTD input : Pt100, Resolution: 1°, 0.1°
- TC input : J, K, T, N, Resolution: 1°
- AC or DC powered
- Total configuration lock out
- 3 year warranty

CE

3 YEAR WARRANTY

DPM1 Series Panel Meters

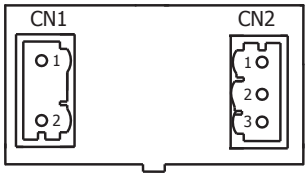
Model	Description	Weight (lbs)	Price
DPM1-T-H	ProSense digital panel meter, 1/32 DIN, 4-digit red LED, input thermocouple type(s): J, K, T, N, input RTD type(s): Pt100, 85 to 265 VAC / 100 to 300 VDC operating voltage.	0.2	$131.00
DPM1-T-L	ProSense digital panel meter, 1/32 DIN, 4-digit red LED, input thermocouple type(s): J, K, T, N, input RTD type(s): Pt100, 21 to 53 VAC / 10.5 to 70 VDC operating voltage.	0.2	$131.00

Technical Specifications

Input / Resolution / Fixed Display Range	**Type**	**Resolution 1°**	**Resolution 0.1°**
	RTD: Pt100 (3-wire)	-200 to 800°C	-199.9 to 800.0°C
		-328 to 1472°F	-199.9 to 999.9°F
	TC "J"	-200 to 1100°C	N/A
		-328 to 2012°F	
	TC "K"	-200 to 1250°C	
		-328 to 2282°F	
	TC "T"	-200 to 400°C	
		-328 to 752°F	
	TC "N"	-200 to 1250°C	
		-328 to 2282°F	
TC Cold Junction Compensation Range	-10°C to 60°C (14°F to 140°F)		
Pt100 Measuring Current	1mA		
Pt100 Linearization (α=0.00385)	IEC 60751		
Pt100 Max. Lead Resistance	40Ω / wire (balanced)		
Accuracy	Pt100 1°	±(0.2%rdg + 1°C) / ±(0.2%rdg + 2°F); t<-50°C/-58°F ±(1%rdg+1°C) / ±(1%rdg+2°F)	
	Pt100 0.1°	±(0.2%rdg + 0.4°C) / ±(0.2%rdg + 0.7°F); t<-50.0°C/-58.0°F ±(1%rdg+0.4°C) / ±(1%rdg+0.7°F)	
	TC J, K, T, N	±(0.4%rdg + 2°C) / ±(0.4%rdg + 4°F); t<-50°C/-58°F ±(1%rdg+2°C) / ±(1%rdg+4°F)	
Accuracy Conditions	Temperature coefficient	100 ppm/°C	
	Warm up time	10 minutes	
	Temperature	23°C±5°C	
Power Supply and Fuses	DPM1-T-H	85-265VAC 50/60Hz or 100-300VDC (Recommended fusing, 0.1A/250V, 5mm x 20mm glass miniature or DIN 41661 equivalent)	
	DPM1-T-L	21-53VAC 50/60Hz or 10.5-70VDC (Recommended fusing, 0.5A/250V, 5mm x 20mm glass miniature or DIN 41661 equivalent)	
Power Consumption	1.8W		
Conversion	Technique	Sigma-Delta	
	Resolution	±15 bits	
	Conversion rate	25 times per second	
Display	Range	-1999 to 9999	
	Type	4-digit 10mm (0.4"), red	
	Display refresh rate	4 times per second	
	Display/input overrange indication	OuE	
Environmental Conditions	Operating temperature	-10ºC to +60ºC (14ºF to 140ºF)	
	Storage temperature	-25ºC to +85ºC (-13ºF to 185ºF)	
	Relative humidity (non condensing)	<95% @ 40ºC (104ºF)	
	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

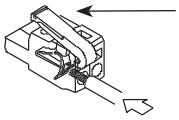


CN1			
AC Supply		DC Supply	
1	Neutral	1	-VDC
2	Line	2	+VDC

CN2	
1	-TC / Common Pt100
2	+TC / Common Pt100
3	Pt100

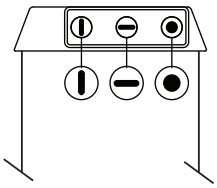
Terminals		
Connector	**CN1**	**CN2**
Wire cross section	0.08 to 2.5mm² (28 to 12 AWG)	0.08 to 2.5mm² (28 to 12 AWG)
Strip length	8 to 9mm	8 to 9mm
Manufacturer	Wago 231-202/026-000	Wago 231-303/026-000
Cage clamp connection	Insertion tool or screwdriver with 0.5 mm x 3.0 mm blade	Insertion tool or screwdriver with 0.5 mm x 3.0 mm blade

CN1 and 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.

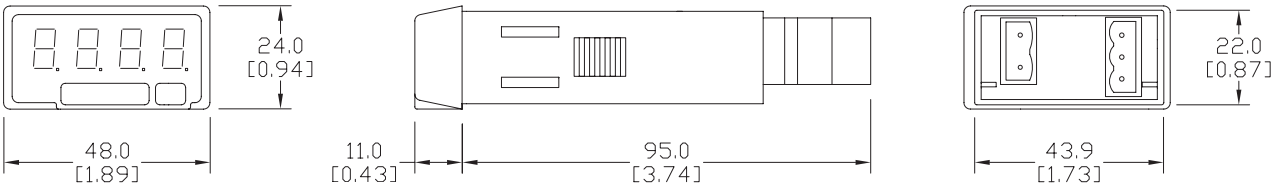
Programming Keys (Bottom View)



- **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.

Dimensions

mm [inches]



Installation	
Dimensions	48 x 24 x 95mm (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-T-H and DPM1-T-L Series Quick Start Guide

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 (±10V, ±60V, ±100mV, ±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

CE 3 YEAR WARRANTY

DPM1 Series Panel Meters

Model	*Description*	*Weight (lbs)*	*Price*
DPM1-A-2R-H	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	$145.00
DPM1-A-2R-L	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	$145.00
DPM1-A-A2R-H	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	$160.00
DPM1-A-A2R-L	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	$160.00

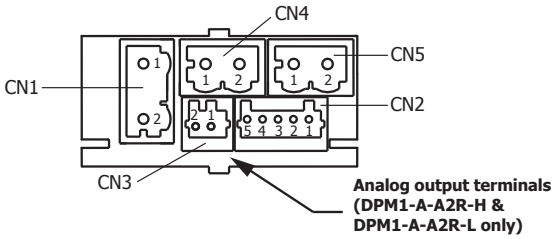
ProSense® Digital Panel Meters - DPM1 Series 1/32 DIN

Technical Specifications

	Range	***Resolution***	***Input Impedance***	***Accuracy***
Input	±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	-10ºC to +60ºC (14ºF to 140ºF)		
	Storage temperature	-25ºC to +85ºC (-13ºF to 185ºF)		
	Relative humidity (non condensing)	<95% @ 40ºC (104ºF)		
	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

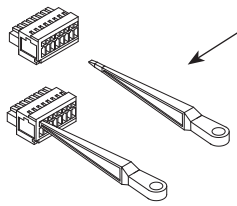
** Analog output terminals (DPM1-A-A2R-H & DPM1-A-A2R-L only)*

CN4 Relay 1	
1	N.O. Contact
2	

CN5 Relay 2	
1	N.O. Contact
2	

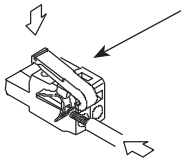
Terminals					
Connector	**CN1**	**CN2**	**CN3**	**CN4**	**CN5**
Wire cross section	0.08 to 2.5mm² (28 to 12 AWG)	0.08 to 0.5mm² (28 to 20 AWG)	0.08 to 0.5mm² (28 to 20 AWG)	0.08 to 2.5mm² (28 to 12 AWG)	0.08 to 2.5mm² (28 to 12 AWG)
Strip length	8 to 9mm	5 to 6mm	5 to 6mm	8 to 9mm	8 to 9mm
Manufacturer	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



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.

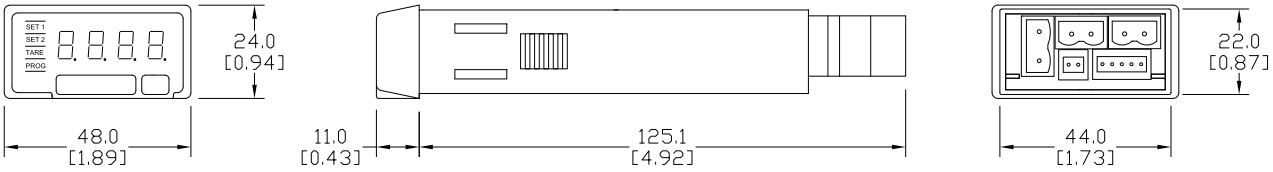
CN1, CN4 and CN5 Terminals



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.

Dimensions

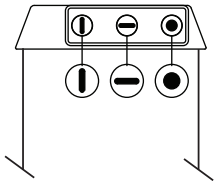
mm [inches]



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 - DPM2 Series 1/8 DIN

DPM2
14mm Display

DPM2L
20mm Display

The ProSense DPM2 series offers a simple, low cost digital display of analog process signals, temperature in either Fahrenheit or Celsius from RTD or thermocouple temperature sensors, or potentiometer inputs. 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. The DPM2L offers a larger 20mm character height scaled from -1999 to 9999. Two point direct or reverse acting linear scaling values can be entered manually or by introducing actual sensed process values in Teach mode. Temperature inputs are pre-configured for fixed temperature ranges based on the type of temperature sensor and can be displayed with 1 or 0.1 degree of resolution. 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 and provides 24VDC for external sensor excitation. 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 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) or 20mm (-1999 to 9999) red LED display
- Selectable decimal point
- Process input (±10V, ±200V and ±20mA)
- Temperature input (RTD: Pt100, Pt1000, TC: J, K, T, N, Resolution: 1°F, 0.1°F, 1°C, 0.1°C)
- Potentiometer input (100Ω to 100kΩ)
- Resistance input (999.9Ω, 9999Ω and 50kΩ)
- AC or DC powered
- Sensor excitation voltage 24V
- 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 process teaching modes
- Configuration for direct or reverse acting linear processes
- Minimum and maximum value memory
- Total or selective configuration lock out
- 3 year warranty

CE 3 YEAR WARRANTY

DPM2 Series Panel Meters

Model	Description	Weight (lbs)	Price
DPM2-AT-HL	ProSense digital panel meter, 1/8 DIN, 14mm 4-digit red LED, analog, RTD, thermocouple or potentiometer input, 20 to 265 VAC/11 to 265 VDC operating voltage.	0.6	$153.00
DPM2L-AT-HL	ProSense digital panel meter, 1/8 DIN, 20mm 4-digit red LED, analog, RTD, thermocouple, potentiometer input, 20 to 265 VAC/11 to 265 VDC operating voltage.	0.6	$164.00
DPM2-AT-2R-HL	ProSense digital panel meter, 1/8 DIN, 14mm 4-digit red LED, analog, RTD, thermocouple or potentiometer input, (2) 8A SPDT relays output, 20 to 265 VAC/11 to 265 VDC operating voltage.	0.65	$167.00
DPM2L-AT-2R-HL	ProSense digital panel meter, 1/8 DIN, 20mm 4-digit red LED, analog, RTD, thermocouple, potentiometer input, (2) 8A SPDT relays output, 20 to 265 VAC/11 to 265 VDC operating voltage.	0.69	$180.00

Technical Specifications

	Range	Input Impedance	Resolution	Accuracy
Process Input	±20mA	<20Ω	2µA	±(0.1% rdg+15µA)
	±10V	2MΩ	1mV	±(0.1% rdg+6mV)
	±200V	2MΩ	20mV	±(0.1% rdg+0.1V)
Sensor Excitation	24V±3V @ 30mA			
Potentiometer	Range	Maximum Measurement Current	Resolution	Accuracy
	100-100kΩ	<0.4mA	0.01% F.S.	±(0.1% rdg+0.05% F.S.)
Resistance	999.9Ω	2.3mA	0.1Ω	±(0.1% rdg+0.7Ω)
	9999Ω	230µA	1Ω	±(0.1% rdg+6Ω)
	50kΩ	23µA	10Ω	±(0.1% rdg+35Ω)

ProSense® Digital Panel Meters - DPM2 Series 1/8 DIN

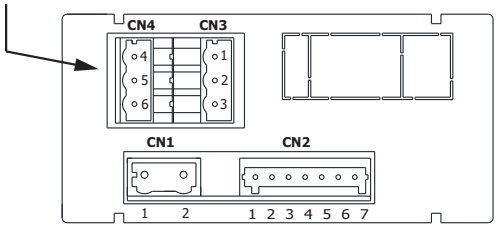
Technical Specifications Continued

Temperature	***RTD***	***Pt100 (3 wire)***	***Pt1000 (2 wire)***		
	Fixed Display Range / Resolution	-200.0°C to 800.0°C / 0.1°C -200°C to 800°C / 1°C -328.0°F to 999.9°F / 0.1°F -328°F to 1472°F / 1°F			
	Measurement current	1mA	100µA		
	Maximum resistance per wire	40Ω (balanced)	-		
	Linearization	IEC 60751			
	Coefficient	0.00385			
	Accuracy	±(0.15% rdg+0.5°C), t<-50°C ±(1% rdg+0.5°C) ±(0.15% rdg+0.9°F), t<-58°F ±(1% rdg+0.9°F)			
	Thermocouple	***J***	***K***	***T***	***N***
	Fixed Display Range / Resolution	-150.0°C to 999.9°C / 0.1°C -150°C to 1100°C / 1°C -238.0°F to 999.9°F / 0.1°F -238°F to 2012°F / 1°F	-150.0°C to 999.9°C / 0.1°C -150°C to 1200°C / 1°C -238.0°F to 999.9°F / 0.1°F -238°F to 2192°F / 1°F	-150.0°C to 400.0°C / 0.1°C -150°C to 400°C / 1°C -238.0°F to 752.0°F / 0.1°F -238°F to 752°F / 1°F	-150.0°C to 999.9°C / 0.1°C -150°C to 1300°C / 1°C -238.0°F to 999.9°F / 0.1°F -238°F to 2372°F / 1°F
	Cold junction compensation range	-10°C to 60°C (14°F to 140°F)			
	Accuracy	±(0.1% rdg+0.6°C) ±(0.1% rdg+1.1°F)		±(0.2% rdg+0.8°C) ±(0.2% rdg+1.5°F)	±(0.1% rdg+0.6°C) ±(0.1% rdg+1.1°F)
Conversion	Technique	Sigma-Delta			
	Resolution	±16 bits			
	Conversion rate	20 times per second			
Display	Range	-9999 to +9999 (-1999 to +9999 for large display models), selectable decimal point position			
	Type	4 digit, 14mm (0.55") or 20mm (0.79"), red			
	LEDs	Relay 1, Relay 2			
	Display refresh rate	20 times per second			
	Display / Input overrange indication	"-OUE", "OUE"			
Accuracy Conditions	Temperature coefficient	100 ppm/°C			
	Warm-up time	5 minutes			
	Temperature	23°C±5°C			
Relays (DPM2-AT-2R-HL only)	2 Relays 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, 5mm x 20mm glass miniature or DIN 41661 equivalent)				
Power Consumption	3W				
Filter	Cutoff frequency (-3dB)	7.3Hz to 0.2Hz			
	Slope	-20dB/Dec.			
Environmental Conditions	Operating temperature	-10ºC to +60ºC (14ºF to 140ºF)			
	Storage temperature	-25ºC to +85ºC (-13ºF to 185ºF)			
	Relative humidity (non-condensing)	<95% @ 40ºC (104ºF)			
	Maximum altitude	2000m			
	Frontal protection degree	IP65			
Environmental Air	No corrosive gases permitted				
Agency Approval	CE				

ProSense® Digital Panel Meters - DPM2 Series 1/8 DIN

Wiring

Output relay terminals
(DPM2-AT-2R-HL & DPM2L-AT-2R-HL only)



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

Polarity insensitive for DC power

CN2	
1	Common / RTD B / -TC / Pot. Term. 1
2	RTD A / +TC / 10kΩ res. / Pot. center
3	50kΩ res. / Pot. Term. 2
4	RTD B Pt100
5	+20mA
6	Excitation +24V
7	+10/200VDC

Note: For additional wiring information download complete manual from www.AutomationDirect.com

Terminals			
Connector	**CN1**	**CN2**	**CN3 & CN4**
Wire cross section	0.08 to 2.5mm² (28 to 12 AWG)	0.08 to 1.5mm² (28 to 14 AWG)	0.08 to 2.5mm² (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

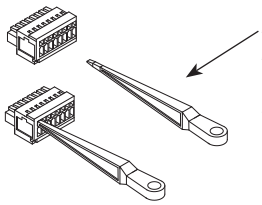
(DPM2-AT-2R-HL & DPM2L-AT-2R-HL only)

CN4 (Relay 2)	
4	NO2
5	CM2
6	NC2

CN3 (Relay 1)	
1	NO1
2	CM1
3	NC1

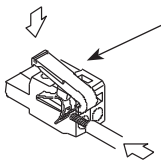
NO: Normally open contact.
CM: Common
NC: Normally closed contact.

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.

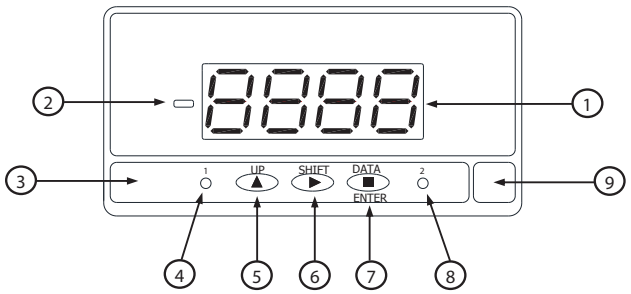
CN1, CN3, CN4 Terminals



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.

ProSense® Digital Panel Meters - DPM2 Series 1/8 DIN

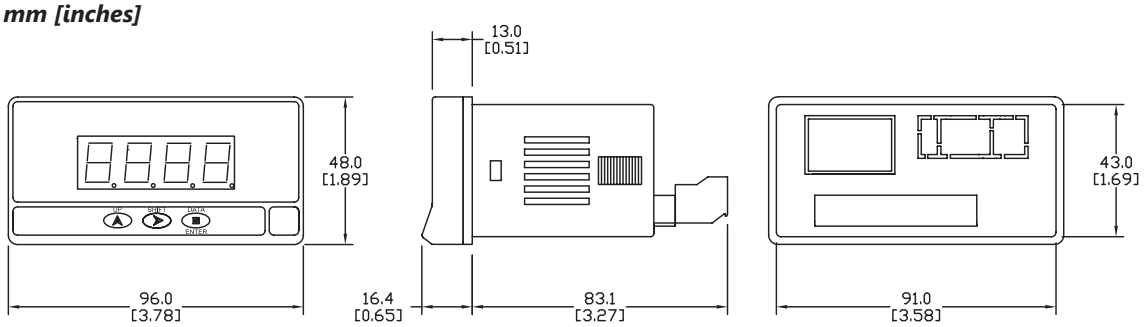
Programming Panel



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.

Insert

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

Manual

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

ProSense® Digital Panel Meters - DPM3 Series 1/8 DIN

The ProSense DPM3 series offers a simple, feature packed digital display of analog process signals, temperature in either Fahrenheit or Celsius from RTD or thermocouple temperature sensors, load cell, or potentiometer inputs. The 5-digit tri-color red, green or amber LED display is easily scaled into any engineering units from -19999 to 39999 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. Non-linear processes can be scaled by entering up to 11 scaling points. Models are available with two SPDT or four SPST relay outputs that can be set to activate on an increasing or decreasing input signal with hysteresis or time delay operation. Additionally the display color can be set to change on relay operation. Models are also available with a 4-20mA analog output. The meter is powered from an external AC or DC power supply and provides both 24VDC and 10VDC for external sensor excitation. 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. Other features include memory and reset of minimum and maximum display values, three tare functions, display hold function, filtering to minimize display bounce, and display brightness adjustment. ProSense digital panel meters are backed by a 3 year warranty.

Features:

- 96 x 48mm 1/8 DIN
- Simple menu driven pushbutton configuration
- 14mm 5-digit (-19999 to 39999) tri-color (red, green, amber) LED display
- Selectable decimal point
- Process input (±10V, ±20mA)
- Temperature input (RTD: Pt100, TC: J, K, T, N, Resolution: 1°F, 0.1°F, 1°C, 0.1°C)
- Potentiometer input
- Load cell input (±15mV, ±30mV, ±150mV)
- AC or DC powered
- Sensor excitation voltage 24V and 10V
- Display scaling or process teaching modes
- 4-20mA analog output on select models
- (2) Form C SPDT or (4) Form A SPST relays on select models
- Activation on increasing or decreasing input signal
- Hysteresis or time delay operation
- Display color change on relay operation
- Configuration for direct or reverse acting linear processes and up to 11 point non-linear processes
- Total or selective configuration lock out
- Programmable functions include:
  - Minimum and maximum value memory
  - Minimum and maximum value reset
  - Tare
  - Hold
- Adjustable filtering to minimize display bounce
- Display brightness adjustment
- 3 year warranty

ProSense® Digital Panel Meters - DPM3 Series 1/8 DIN

DPM3 Series Panel Meters			
Model	***Description***	***Weight (lbs)***	***Price***
DPM3-AT-H	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, input current signal range(s) of +/- 20 mA, input voltage signal range(s) of +/- 10 VDC, +/- 150 mVDC, +/- 30 mVDC, +/- 15 mVDC, input thermocouple type(s): J, K, T, N, input RTD type(s): Pt100, 85 to 265 VAC / 100 to 300 VDC operating voltage.	0.6	$190.00
DPM3-AT-2R-H	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, input current signal range(s) of +/- 20 mA, input voltage signal range(s) of +/- 10 VDC, +/- 150 mVDC, +/- 30 mVDC, +/- 15 mVDC, input thermocouple type(s): J, K, T, N, input RTD type(s): Pt100, (2) Form C (SPDT) relay(s), 8A @ 250 VAC, 8A @ 24 VDC, 85 to 265 VAC / 100 to 300 VDC operating voltage.	0.7	$215.00
DPM3-AT-4R-H	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, input current signal range(s) of +/- 20 mA, input voltage signal range(s) of +/- 10 VDC, +/- 150 mVDC, +/- 30 mVDC, +/- 15 mVDC, input thermocouple type(s): J, K, T, N, input RTD type(s): Pt100, (4) Form A (SPST) relay(s), 5A @ 250 VAC, 5A @ 30 VDC, 85 to 265 VAC / 100 to 300 VDC operating voltage.	0.7	$231.00
DPM3-AT-A-H	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, input current signal range(s) of +/- 20 mA, input voltage signal range(s) of +/- 10 VDC, +/- 150 mVDC, +/- 30 mVDC, +/- 15 mVDC, input thermocouple type(s): J, K, T, N, input RTD type(s): Pt100, output current signal range(s) of 4 - 20 mA, 85 to 265 VAC / 100 to 300 VDC operating voltage.	0.7	$215.00
DPM3-AT-A2R-H	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, input current signal range(s) of +/- 20 mA, input voltage signal range(s) of +/- 10 VDC, +/- 150 mVDC, +/- 30 mVDC, +/- 15 mVDC, input thermocouple type(s): J, K, T, N, input RTD type(s): Pt100, output current signal range(s) of 4 - 20 mA, (2) Form C (SPDT) relay(s), 8A @ 250 VAC, 8A @ 24 VDC, 85 to 265 VAC / 100 to 300 VDC operating voltage.	0.7	$239.00
DPM3-AT-L	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, input current signal range(s) of +/- 20 mA, input voltage signal range(s) of +/- 10 VDC, +/- 150 mVDC, +/- 30 mVDC, +/- 15 mVDC, input thermocouple type(s): J, K, T, N, input RTD type(s): Pt100, 22 to 53 VAC / 10.5 to 70 VDC operating voltage.	0.6	$190.00
DPM3-AT-2R-L	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, input current signal range(s) of +/- 20 mA, input voltage signal range(s) of +/- 10 VDC, +/- 150 mVDC, +/- 30 mVDC, +/- 15 mVDC, input thermocouple type(s): J, K, T, N, input RTD type(s): Pt100, (2) Form C (SPDT) relay(s), 8A @ 250 VAC, 8A @ 24 VDC, 22 to 53 VAC / 10.5 to 70 VDC operating voltage.	0.7	$215.00
DPM3-AT-4R-L	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, input current signal range(s) of +/- 20 mA, input voltage signal range(s) of +/- 10 VDC, +/- 150 mVDC, +/- 30 mVDC, +/- 15 mVDC, input thermocouple type(s): J, K, T, N, input RTD type(s): Pt100, (4) Form A (SPST) relay(s), 5A @ 250 VAC, 5A @ 30 VDC, 22 to 53 VAC / 10.5 to 70 VDC operating voltage.	0.7	$231.00
DPM3-AT-A-L	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, input current signal range(s) of +/- 20 mA, input voltage signal range(s) of +/- 10 VDC, +/- 150 mVDC, +/- 30 mVDC, +/- 15 mVDC, input thermocouple type(s): J, K, T, N, input RTD type(s): Pt100, output current signal range(s) of 4 - 20 mA, 22 to 53 VAC / 10.5 to 70 VDC operating voltage.	0.7	$215.00
DPM3-AT-A2R-L	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, input current signal range(s) of +/- 20 mA, input voltage signal range(s) of +/- 10 VDC, +/- 150 mVDC, +/- 30 mVDC, +/- 15 mVDC, input thermocouple type(s): J, K, T, N, input RTD type(s): Pt100, output current signal range(s) of 4 - 20 mA, (2) Form C (SPDT) relay(s), 8A @ 250 VAC, 8A @ 24 VDC, 22 to 53 VAC / 10.5 to 70 VDC operating voltage.	0.7	$239.00

prosense® Digital Panel Meters - DPM3 Series 1/8 DIN

Technical Specifications

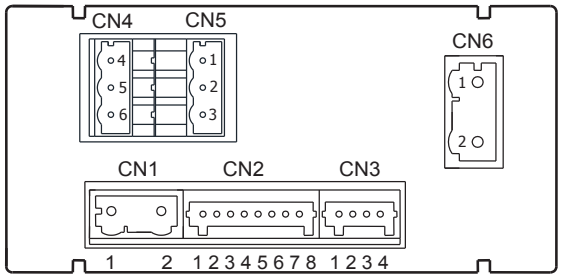
Process	***Range***	***Input Impedance***	***Accuracy***	***Resolution***	
	±10VDC	1MΩ	±(0.1% rdg + 1 digit)	1mV	
	±20mA DC	15Ω	±(0.1% rdg + 1 digit)	1µA	
Sensor Excitation	24V@60mA, 10V @ 60mA				
Potentiometer	***Range***	***Input Impedance***	***Accuracy***	***Resolution***	
	200Ω minimum	1MΩ	±(0.1% rdg + 1 digit)	0.005%	
Sensor Excitation	10V @ 60mA				
Load Cell	***Range***	***Input Impedance***	***Accuracy***	***Resolution***	
	±15mV, ±30mV, ±150mV	100MΩ	±(0.1% rdg + 1 digit)	1µV	
Sensor Excitation	10V @ 60mA				
Temperature	***RTD***	***Pt100 (3-Wire)***			
	Fixed display range / resolution	-200.0°C to 800.0°C / 0.1°C -200°C to 800°C / 1°C -328.0°F to 1472.0°F/ 0.1°F -328°F to 1472°F / 1°F			
	Accuracy / resolution	±(0.2% rdg+0.6°C) / 0.1°C ±(0.2% rdg+1°C) 1°C ±(0.2% rdg+1°F) / 0.1°F ±(0.2% rdg+2°F)			
	Pt100 sensor excitation	<1mA DC			
	Max lead resistance	40Ω / cable (balanced)			
	Thermocouple	***J***	***K***	***T***	***N***
	Fixed display range / resolution	-150.0°C to 1100.0°C / 0.1°C -150°C to 1100°C / 1°C -238.0°F to 2012.0°F / 0.1°F -238°F to 2012°F / 1°F	-150.0°C to 1200.0°C / 0.1°C -150°C to 1200°C / 1°C -238.0°F to 2192.0°F / 0.1°F -238°F to 2192°F / 1°F	-200.0°C to 400.0°C / 0.1°C -200°C to 400°C / 1°C -328.0°F to 752.0°F / 0.1°F -328°F to 752°F / 1°F	-150.0°C to 1300.0°C / 0.1°C -150°C to 1300°C / 1°C -238.0°F to 2372.0°F / 0.1°F -238°F to 2372°F / 1°F
	Accuracy / resolution	±(0.4% rdg+0.6°C) / 0.1°C ±(0.4% rdg+1°C) 1°C ±(0.4% rdg+1°F) / 0.1°F ±(0.4% rdg+2°F) / 1°F	±(0.4% rdg+0.6°C) / 0.1°C ±(0.4% rdg+1°C) 1°C ±(0.4% rdg+1°F) / 0.1°F ±(0.4% rdg+2°F) / 1°F	±(0.4% rdg+0.6°C) / 0.1°C ±(0.4% rdg+1°C) 1°C ±(0.4% rdg+1°F) / 0.1°F ±(0.4% rdg+2°F) / 1°F	±(0.4% rdg+0.6°C) / 0.1°C ±(0.4% rdg+1°C) 1°C ±(0.4% rdg+1°F) / 0.1°F ±(0.4% rdg+2°F) / 1°F
	Cold junction compensation range	-10°C to 60°C (14°F to 140°F)			
	Offset programmable	-19.9° / +99.9°			
Conversion	Technique	Sigma-Delta			
	Resolution	±15 bits			
	Conversion rate	20 times per second			
Accuracy Conditions	Temperature coefficient	100 ppm/°C			
	Warm-up time	10 minutes			
	Temperature	23°C±5°C			

ProSense® Digital Panel Meters - DPM3 Series 1/8 DIN

Technical Specifications Continued			
Display	Range	-19999 / +39999, 5 LED digits 14mm (Programmable color Red, Green, Amber)	
	LEDs	8, functions and outputs status	
	Display refresh rate	Process / Load cell	20 times per second
		Pt100	20 times per second
		TC	10 times per second
	Display / Input overrange indication	"-oUEr", "oUEr"	
Relays	***-2R: (2) Form C SPDT***		***-4R: (4) Form A SPST Normally Open with shared common***
	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 at 1A Operate time.....≤10ms		Nominal contact rating.....5A at 250VAC / 30 VDC Maximum switching current (resistive load).....5A Maximum switching power.....1250VA / 150W Maximum switching voltage.....250VAC / 30VDC Contact resistance.....≤100mΩ at 6VDC at 1A Operate time.....≤10ms
Analog Output -A & -A2R Only	Type	4-20 mA Sourcing	
	Maximum load	≤500Ω	
	Resolution	13 bits	
	Accuracy	0.1%FS ±1 bit	
	Response time	10ms	
	Thermal drift	0.5µA / °C	
Power Supply and Fuses	-H High Voltage: -L Low Voltage:	85-265 VAC 50/60 Hz (100-300 VDC), (recommended fusing 0.5A/250V, 5mm x 20mm glass miniature or DIN 41661 equivalent) 22-53 VAC 50/60 Hz (10.5 - 70 VDC), (recommended fusing 2A/250V, 5mm x 20mm glass miniature or DIN 41661 equivalent)	
Power Consumption	5W without options, 8W max.		
Filter	Cutoff frequency	4Hz to 0.05Hz	
	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 - DPM3 Series 1/8 DIN

Wiring



Note: For additional wiring information download complete manual from www.AutomationDirect.com

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

Polarity insensitive for DC power

CN3	
1	Common
2	Tare
3	Tare reset
4	Hold

CN2				
	Input Signal / Excitation			
	Process	Temperature		Load Cell
1	-EXC24V	---		-EXC10
2	+EXC24V	---		---
3	---	---		+EXC10
4	---	Pt100 A		---
5	+mA	---		---
6	+V	---		---
7	---	Pt100 B	+TC	+mV
8	-V / -mA (COM)	Pt100 B	-TC	-mV (COM)

Terminals					
Connector	CN1	CN2	CN3	CN4 & CN5	CN6
Wire cross section	0.08 to 2.5mm² (28 to 12 AWG)	0.08 to 0.5mm² (28 to 20 AWG)	0.08 to 0.5mm² (28 to 20 AWG)	0.08 to 2.5mm² (28 to 12 AWG)	0.08 to 2.5mm² (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 733-108	Wago 733-104	Wago 231-303/026-000	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

2 SPDT Relays (-2R)

CN4 (Relay 2)	
4	NO2
5	CM2
6	NC2

CN5 (Relay 1)	
1	NO1
2	CM1
3	NC1

4 SPST Relays (-4R)

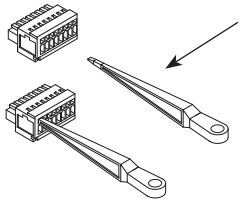
CN4	
4	NO4
5	Unused
6	CM (All)

CN5	
1	NO1
2	NO2
3	NO3

NO: Normally open, CM: Common, NC: Normally closed

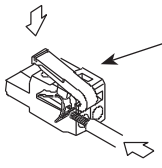
CN6	
Analog Output	
1	(-) 4-20mA
2	(+) 4-20mA

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.

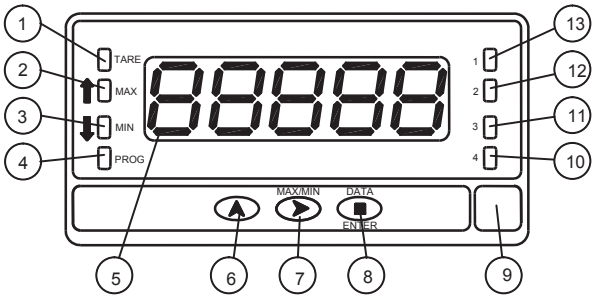
CN1, CN4, CN5 and CN6 Terminals



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.

ProSense® Digital Panel Meters - DPM3 Series 1/8 DIN

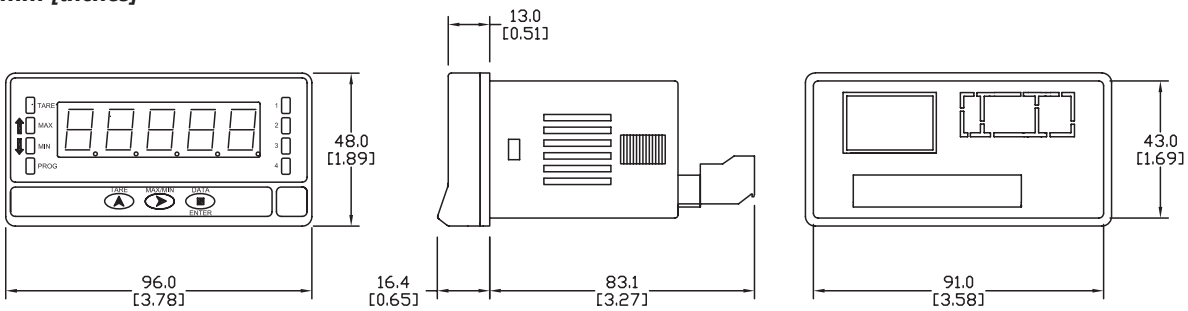
Programming Panel



Programming Panel			
#	Description	Run Mode	Programming Mode
1	TARE	Indicates tare in the memory	---
2	MAX	Indicates peak displayed	---
3	MIN	Indicates valley displayed	---
4	PROG	---	Indicates programming mode
5	DISPLAY	Displays the input variable	Displays programming parameters
6	UP/TARE KEY	Takes on the display value as tare	Increments the value of the flashing digit
7	SHIFT/MAX/MIN KEY	Recalls Max/Min values	Moves to the right
8	ENTER KEY	Enters in PROG mode. Displays data	Accepts data. Advances program
9	Free space for units label	---	
10	LED Output 4	Activation output 4	Programming output 4
11	LED Output 3	Activation output 3	Programming output 3
12	LED Output 2	Activaton output 2	Programming output 2
13	LED Output 1	Activation output 1	Programming output 1

Dimensions

mm [inches]



Installation	
Dimensions	96 x 48 x 83.1 mm (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.

Insert

Scan or click the above QR code to be taken to the DPM3 Series Quick Start Guide

Manual

Scan or click the above QR code to be taken to the DPM3 Series Manual

ProSense® Digital Panel Meters - DPM1-E Series 1/32 DIN

These models in the ProSense DPM1-E series offers a simple, low cost digital display of AC or DC voltage or amperage electrical parameters. 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. 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 locked out to prevent unauthorized or accidental changes to the meter's operation. ProSense digital panel meters are backed by a 3 year warranty.

Features:

- 48 x 24mm 1/32 DIN
- Simple menu driven pushbutton configuration
- 10mm 4-digit (-1999 to 9999 DC/0 to 9999 AC) red LED display
- Selectable decimal point
- AC/DC Voltage Input (100/600V)
- AC/DC Amperage input 1A/5A
- AC or DC powered
- Display scaling or teaching modes
- Configuration for direct or reverse acting
- Total configuration lock out
- 3 year warranty

CE

3 YEAR WARRANTY

DPM1-E Series Panel Meters

Model	Description	Weight (lbs)	Price
DPM1-E-H	ProSense digital panel meter, 1/32 DIN, 10mm 4-digit red LED, AC/DC current or voltage input, 85 to 265 VAC/100 to 300 VDC operating voltage.	0.25	$131.00
DPM1-E-L	ProSense digital panel meter, 1/32 DIN, 10mm 4-digit red LED, AC/DC current or voltage input, 21 to 53 VAC/10.5 to 70 VDC operating voltage.	0.24	$131.00

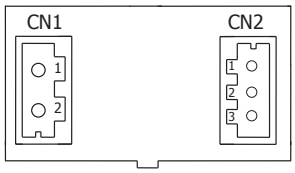
Technical Specifications

Input	Voltage		Current	
AC Range	0 to 600V	0 to 100V	0 to 1A	0 to 5A
AC Frequency Range	45Hz to 1kHz sine wave			
DC Range	-199.9 to 600V	± 100V	± 1A	-1.999 to 5A
Resolution	0.1V	0.1V	1mA	1mA

Input Impedance	Volts	3MΩ
	Amps	14mΩ
Accuracy (@ 23ºC ±5ºC)	DC, 600V AC, 5A AC	±(0.2% of reading +3 digits)
	100V AC, 1A AC	±(0.4% of reading +4 digits)
	Temperature coefficient	100 ppm/ºC
	Warm-Up time	5 minutes
Power Supply and Fuses	DPM1-E-H	85-265VAC 50/60Hz or 100-300VDC (Recommended fusing, 0.1A/250V, DIN 41661)
	DPM1-E-L	21-53VAC 50/60Hz or 10.5-70VDC (Recommended fusing, 0.5A/250V, DIN 41661)
Power Consumption	1.8W	
Conversion	Technique	Sigma-Delta
	Resolution	±15 bits
	Conversion rate	20 times per second
Display	Range	-1999 to 9999 DC, 0 to 9999 AC, selectable decimal point position
	Type	4 digit 10mm (0.4"), red
	Display refresh rate	4 times per second
	Display/input overrange indication	OuE
Environmental Conditions	Operating temperature	-10ºC to +60ºC (14ºF to 140ºF)
	Storage temperature	-25ºC to +85ºC (-13ºF to 185ºF)
	Relative humidity (non-condensing)	<95% @ 40ºC (104ºF)
	Maximum altitude	2000m
	Frontal protection degree	IP65
Environmental Air	No corrosive gases permitted	
Agency Approvals	CE	

ProSense® Digital Panel Meters - DPM1-E Series 1/32 DIN

Wiring

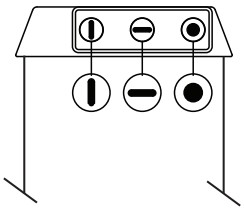


CN1			
AC Supply		*DC Supply*	
1	Neutral	1	-VDC
2	Line	2	+VDC

CN2	
1	IN (common)
2	100V / 600V (AC/DC)
3	1A / 5A (AC/DC)

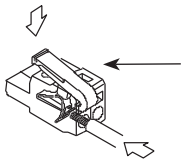
Terminals		
Connector	*CN1*	*CN2*
Wire cross section	0.08 to 2.5mm² (28 to 12 AWG)	0.08 to 2.5mm² (28 to 12 AWG)
Strip length	8 to 9mm	8 to 9mm
Manufacturer	Wago 231-202/026-000	Wago 231-303/026-000
Cage clamp connection	Insertion tool or screwdriver with 0.5 mm x 3.0 mm blade	Insertion tool or screwdriver with 0.5 mm x 3.0 mm blade

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.

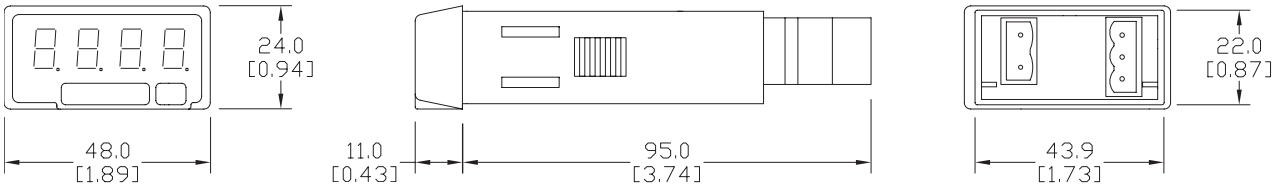
CN1 and CN2 Terminals



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.

Dimensions

mm [inches]



Installation	
Dimensions	48 x 24 x 95mm (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-E Series Quick Start Guide

ProSense® 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

CE 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	$153.00
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	$167.00

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

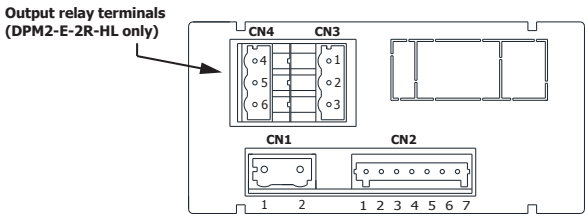
ProSense® Digital Panel Meters - DPM2-E Series 1/8 DIN

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	-10ºC to +60ºC (14ºF to 140ºF)		
	Storage temperature	-25ºC to +85ºC (-13ºF to 185ºF)		
	Relative humidity (non-condensing)	<95% @ 40ºC (104ºF)		
	Maximum altitude	2000m		
	Frontal protection degree	IP65		
Environmental Air	No corrosive gases permitted			
Agency Approval	CE			

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

Wiring



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 2.5mm² (28 to 12 AWG)	0.08 to 1.5mm² (28 to 14 AWG)	0.08 to 2.5mm² (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

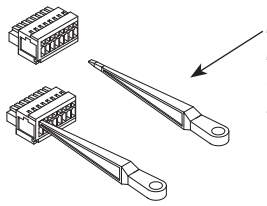
(DPM2-E-2R-HL only)

CN4 (Relay 2)	
4	NO2
5	CM2
6	NC2

CN3 (Relay 1)	
1	NO1
2	CM1
3	NC1

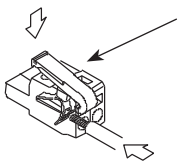
NO: Normally open contact.
CM: Common
NC: Normally closed contact.

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

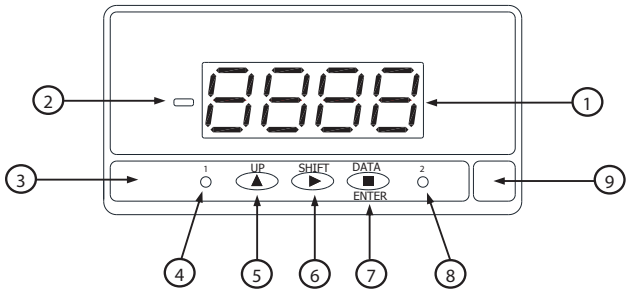
Scan or click the above QR code to be taken to the DPM2-E Series Quick Start Guide

Manual

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

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

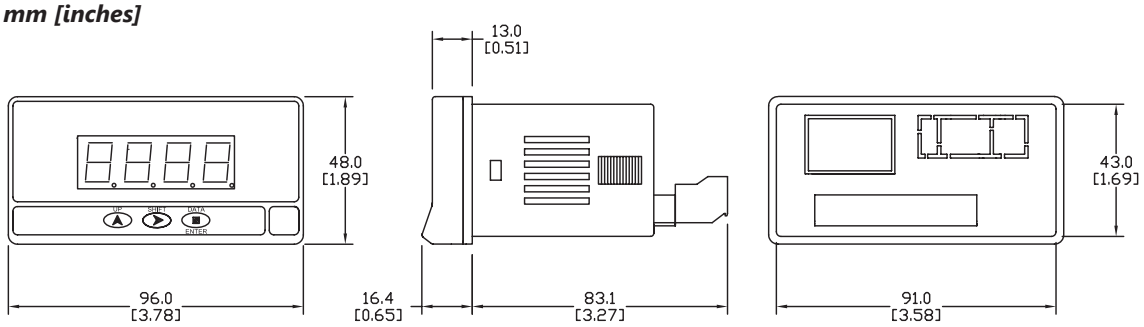
Programming Panel



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 - DPM3-E Series 1/8 DIN

The ProSense DPM3-E series offers a simple, feature packed digital display of True RMS AC or DC voltage or amperage electrical parameters. The 5-digit tri-color red, green or amber LED display is easily scaled into any engineering units from -19999 to 19999 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. Models are available with two SPDT relay outputs that can be set to activate on an increasing or decreasing input signal with hysteresis or time delay operation. Additionally the display color can be set to change on relay operation. Models are also available with a 4-20mA analog output. The meter is powered from an external 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. Other features include memory and reset of minimum (valley) and maximum (peak) display values, display hold function, filtering to minimize display bounce, and display brightness adjustment. ProSense digital panel meters are backed by a 3 year warranty.

Features:

- 96 x 48mm 1/8 DIN
- Simple menu driven pushbutton configuration
- 14mm 5-digit (-19999 to 19999) tri-color (red, green, amber) LED display
- Selectable decimal point
- True RMS for AC voltage and current inputs
- AC/DC voltage input 600V, 200V, 20V, 2V
- AC/DC current input 200mA, 1A, 5A, shunt 50mV, shunt 60mV, shunt 100 mV
- AC or DC powered
- Display scaling or teaching modes
- 4-20mA analog output on select models
- (2) Form C SPDT relays on select models
  - Activation on increasing or decreasing input signal
  - Hysteresis or time delay operation
  - Display color change on relay operation
- Configuration for direct or reverse acting linear readings
- Total or selective configuration lock out
- Programmable functions include:
  - Minimum (valley) and maximum (peak) value memory
  - Minimum (valley) and maximum (peak) value reset
  - Hold
- Adjustable filtering to minimize display bounce
- Display brightness adjustment
- 3 year warranty

DPM3-E Series Panel Meters

Model	Description	Weight (lbs)	Price
DPM3-E-H	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, True RMS AC/DC current or voltage input, 85 to 265 VAC/100 to 300 VDC operating voltage.	0.61	$222.00
DPM3-E-A2R-H	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, True RMS AC/DC current or voltage input, 4-20 mA, (2) 8A SPDT relays output, 85 to 265 VAC/100 to 300 VDC operating voltage.	0.72	$263.00
DPM3-E-L	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, True RMS AC/DC current or voltage input, 22 to 53 VAC/10.5 to 70 VDC operating voltage.	0.6	$222.00
DPM3-E-A2R-L	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, True RMS AC/DC current or voltage input, 4-20 mA, (2) 8A SPDT relays output, 22 to 53 VAC/10.5 to 70 VDC operating voltage.	0.71	$263.00

ProSense® Digital Panel Meters - DPM3-E Series 1/8 DIN

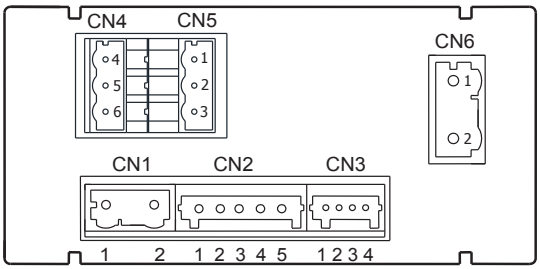
Technical Specifications

Input	DC Voltage	AC Voltage	DC Current	AC Current
Range....Input Impedance	2V....100kΩ 20V....1MΩ 200V....1MΩ 600V....1MΩ	2V....75kΩ 20V....850kΩ 200V....850kΩ 600V....850kΩ	200mA....0.75 Ω 1A....0.014 Ω 5A....0.014 Ω 50mV.... 1.8 MΩ 60mV....1.8 MΩ 100mV....1.8 MΩ	200mA.... 0.75 Ω 1A....0.014 Ω 5A....0.014 Ω 50mV.... 1.5 MΩ 60mV....1.5 MΩ 100mV....1.5 MΩ
Input Frequency Range	–	40Hz to 10kHz True RMS Measurement	–	40Hz to 10kHz True RMS Measurement
Resolution	2V....0.1 mV ±20V....1mV ±200V....10mV ±600V....0.1 V	2V....0.1 mV 20V....1mV 200V....10mV 600V....0.1 mV	200mA....0.01 mA 1A....1mA 5A....1mA 50mV....0.01 mV 60mV....0.01 mV 100mV....0.01 mV	200mA....0.01 mA 1A....1mA 5A....1mA 50mV....0.01 mV 60mV....0.01 mV 100mV....0.01 mV
Accuracy	2V.... 0.05% rdg ± 0.3 mV ±20V....0.05% rdg ± 3mV ±200V....0.05% rdg ± 30mV ±600V....0.05% rdg ± 0.3 V	2V.... 0.3% rdg ± 0.3 mV 20V....0.3% rdg ± 3mV 200V....0.3% rdg ± 30mV 600V....0.3% rdg ± 0.3 V	200mA.... 0.1 % rdg ± 0.05 mA 1A....0.1 % rdg ± 5mA 5A....0.1 % rdg ± 5mA 50mV.... 0.1 % rdg ± 0.1 mV 60mV....0.1 % rdg ± 0.1 mV 100mV....0.1 % rdg ± 0.1 mV	200mA.... 0.3 % rdg ± 0.05 mA 1A....0.3 % rdg ± 5mA 5A....0.3 % rdg ± 5mA 50mV.... 0.3 % rdg ± 0.1 mV 60mV....0.3 % rdg ± 0.1 mV 100mV....0.3 % rdg ± 0.1 mV
Accuracy Conditions	AC or DC Input: 15 minutes warmup 25°C ± 5°C ambient temperature 100 ppm/°C temperature coefficient 10-75% RH non-condensing		AC Input: 3% to 100% of input range 45 Hz to 400 Hz sine wave 40 Hz to 10 kHz Accuracy +/-(1% + 20 digits) Crest Factor: 3, Accuracy +/-(0.2% + 10 digits); 5, Accuracy +/-(1% + 20 digits)	

Conversion	Technique	Sigma-Delta
	Resolution	±15 bits
	Conversion rate	20 times per second
Display	Range	-19999 / +19999, 5 LED digits 14mm (Programmable color Red, Green, Amber)
	LEDs	8, functions and outputs status
	Display refresh rate	20 times per second
	Display / Input overrange indication	"-oUEr" , "oUEr"
Relays -A2R 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 at 1A Operate time.....≤10ms
Analog Output -A2R Only	Type	4-20 mA Sourcing
	Maximum load	≤500Ω
	Resolution	13 bits
	Accuracy	0.1%FS ±1 bit
	Response time	10ms
	Thermal drift	0.5µA / ºC
Power Supply and Fuses	-H High Voltage: -L Low Voltage:	85-265 VAC 50/60 Hz (100-300 VDC), (recommended fusing 0.5A/250V, DIN 41661) 22-53 VAC 50/60 Hz (10.5 - 70 VDC), (recommended fusing 2A/250V, DIN 41661)
Power Consumption	5W without options, 8W max.	
Filter	Cutoff frequency	4Hz to 0.05Hz
	Slope	20dB/Dec.
Environmental Conditions	Operating temperature	-10ºC to +60ºC (14ºF to 140ºF)
	Storage temperature	-25ºC to +85ºC (-13ºF to 185ºF)
	Relative humidity (non-condensing)	<95% @ 40ºC (104ºF)
	Maximum altitude	2000m
	Frontal protection degree	IP65
Environmental Air	No corrosive gases permitted	
Agency Approvals	CE	

ProSense® Digital Panel Meters - DPM3-E Series 1/8 DIN

Wiring



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

Polarity insensitive for DC power

CN2	
Electrical Inputs	
1	Common
2	Shunt / 2V
3	200mA
4	1A / 5A
5	20 / 200 / 600V

Terminals					
Connector	CN1	CN2	CN3	CN4 & CN5	CN6
Wire cross section	0.08 to 2.5mm² (28 to 12 AWG)	0.08 to 1.5mm² (28 to 14 AWG)	0.08 to 0.5mm² (28 to 20 AWG)	0.08 to 2.5mm² (28 to 12 AWG)	0.08 to 2.5mm² (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 734-105	Wago 733-104	Wago 231-303/026-000	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	
1	Common
2	Peak
3	Valley
4	Hold

2 SPDT Relays (-A2R)

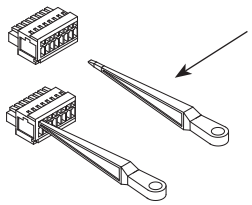
CN4 (Relay 2)	
4	NO2
5	CM2
6	NC2

CN5 (Relay 1)	
1	NO1
2	CM1
3	NC1

NO: Normally Open, CM: Common, NC: Normally Closed

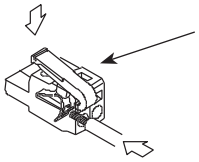
CN6	
Analog Output	
1	(-) 4-20mA
2	(+) 4-20mA

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, CN5 and CN6 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

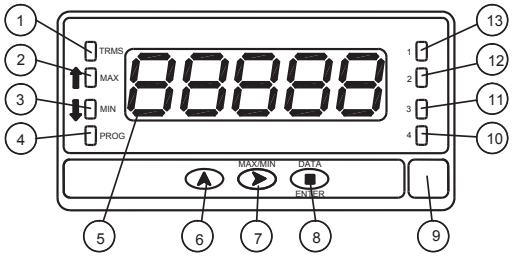
Scan or click the above QR code to be taken to the DPM3-E Series Quick Start Guide

Manual

Scan or click the above QR code to be taken to the DPM3-E Series Manual

ProSense® Digital Panel Meters - DPM3-E Series 1/8 DIN

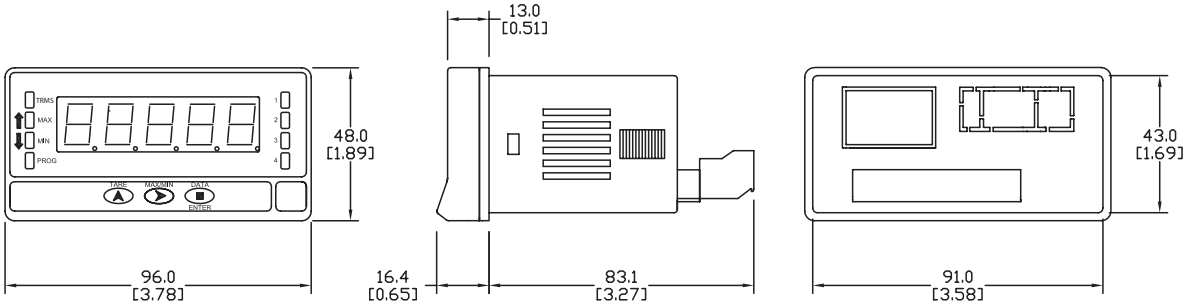
Programming Panel



Programming Panel			
#	Description	Run Mode	Programming Mode
1	True RMS	Indicates reading AC using true RMS	---
2	MAX	Indicates peak displayed	---
3	MIN	Indicates valley displayed	---
4	PROG	---	Indicates programming mode
5	DISPLAY	Displays the input variable	Displays programming parameters
6	UP	Direct access to setpoints	Increments the value of the flashing digit
7	SHIFT/MAX/MIN KEY	Recalls Max/Min values	Moves to the right
8	ENTER KEY	Enters in PROG mode. Displays data	Accepts data. Advances program
9	Free space for units label	---	
10	LED Output 4	---	---
11	LED Output 3	---	---
12	LED Output 2	Activaton Output 2	Programming output 2
13	LED Output 1	Activation Output 1	Programming output 1

Dimensions

mm [inches]



Installation	
Dimensions	96 x 48 x 83.1 mm (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 - DPM1-P Series 1/32 DIN

These models in the ProSense DPM1-P series offer a simple, low cost digital display for frequency, tachometer, and rate applications. The DPM1-P has a 4-digit 10mm 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. 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 locked out to prevent unauthorized or accidental changes to the meter's operation. 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
- Frequency/Tachometer/Rate modes
  - AC voltage
  - Magnetic sensor
  - NAMUR sensor
  - NPN/PNP sensor
  - TTL/24V encoder
  - Switched contact
- Selectable decimal point
- AC or DC powered
- Selectable sensor excitation voltage
- Direct or reverse scaling in Rate Mode
- Total configuration lock out

CE 3 YEAR WARRANTY

DPM1-P Series Panel Meters			
Model	***Description***	***Weight (lbs)***	***Price***
DPM1-P-H	ProSense digital panel meter, 1/32 DIN, 10mm 4-digit red LED, pulse and frequency input, 85 to 265 VAC/100 to 300 VDC operating voltage.	0.24	$131.00
DPM1-P-L	ProSense digital panel meter, 1/32 DIN, 10mm 4-digit red LED, pulse and frequency input, 21 to 53 VAC/10.5 to 70 VDC operating voltage.	0.24	$131.00

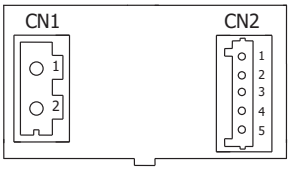
Technical Specifications		
Signal Input	Maximum Frequency	7kHz (tachometer rpm or rate modes) 9999Hz (frequency meter mode)
	Minimum Frequency	0.01Hz
AC Voltage Input	Range	10 to 600 VAC
Magnetic Sensor Input	Sensitivity	Vin min. ≥ 30mV for f ≤ 120Hz Vin min. ≥ 100mV for f ≥ 1kHz
NAMUR* Sensor Input	R_C	1.5 kΩ
	I_{ON}	< 1mA DC
	I_{OFF}	> 3mA DC
NPN/PNP Sensors Input	R_C	3.9kΩ (NPN) ; 1.5kΩ (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	3.9kΩ
	Cutoff frequency (Fc)	20Hz
Accuracy at 23ºC ±5ºC	Maximum error	± (0.01% of reading +1digit)
	Temperature coefficient	50ppm / ºC
	Warm-up time	5 minutes
Power Supply and Fuses	DPM1-P-H	85-265VAC 50/60Hz or 100-300VDC (Recommended fusing, 0.1A/250V, 5mm x 20mm glass miniature or DIN 41661 equivalent)
	DPM1-P-L	21-53VAC 50/60Hz or 10.5-70VDC (Recommended fusing, 0.5A/250V, 5mm x 20mm glass miniature or DIN 41661 equivalent)

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

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

Technical Specifications Continued		
Power Consumption	2.2W	
Sensor Excitation	5V@60mA, 8V@60mA and 12V@60mA (Menu selectable)	
Display	Range	0 to 9999
	Type	4-digit 10mm (0.4"), red
	Display refresh rate	10 times per second
	Display / input overrange indication	"OuE"
Environmental Conditions	Operating temperature	-10ºC to +60ºC (14ºF to 140ºF)
	Storage temperature	-25ºC to +85ºC (-13ºF to 185ºF)
	Relative humidity (non-condensing)	<95% @ 40ºC (104ºF)
	Maximum altitude	2000m
	Frontal protection degree	IP65
Environmental Air	No corrosive gases permitted	
Agency Certifications	CE	

Wiring

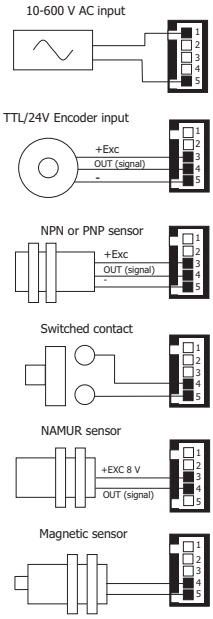


Terminals		
Connector	**CN1**	**CN2**
Wire cross section	0.08 to 2.5mm² (28 to 12 AWG)	0.08 to 0.5mm² (28 to 20 AWG)
Strip length	8 to 9mm	5 to 6mm
Manufacturer	Wago 231-202/026-000	Wago 733-105
Cage clamp connection	Insertion tool or screwdriver with 0.5 mm x 3.0 mm blade	Insertion tool or screwdriver with 0.3 mm x 1.8 mm blade

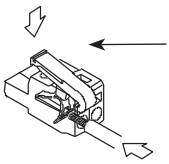
CN1			
AC Supply		**DC Supply**	
1	Phase	1	-VDC
2	Neutral	2	+VDC

CN2	
Signal Input	
1	+ IN (10-600V) AC
2	Not used
3	+ Excitation
4	+ IN (pulses)
5	- IN (common)

Input Wiring Diagrams

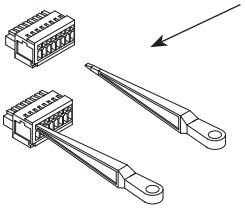


CN1 Terminals



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.

CN2 Terminals

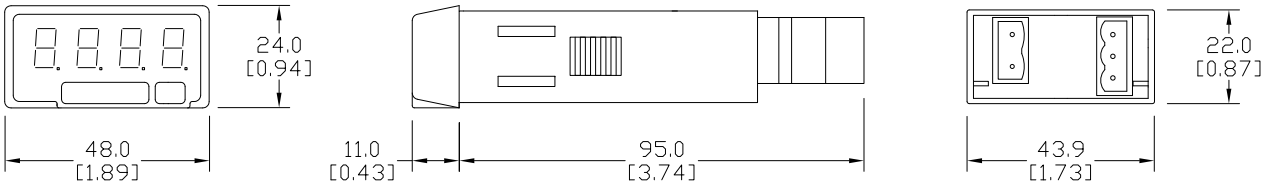


Insertion Tool (included with meter) Insert wires into the proper terminal while using the insertion tool to open the clip inside the connector. Release the insertion tool to fix wire to the terminal.

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

Dimensions

mm [inches]



Installation	
Dimensions	48 x 24 x 70mm (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-P Series Quick Start Guide

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
DPM1-P-A2R-H	ProSense digital panel meter, 1/32 DIN, 8mm 4-digit red LED, pulse and frequency input, 0/4-20 mA and (2) 5A SPST relays output, 85 to 265 VAC/100 to 300 VDC operating voltage.	0.31	$160.00
DPM1-P-A2R-L	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 to 53 VAC/13.5 to 70 VDC operating voltage.	0.31	$160.00

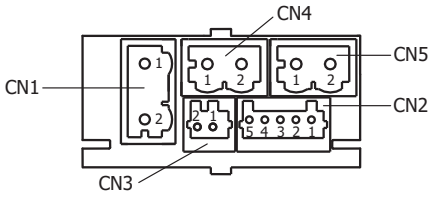
Technical Specifications

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	Vin min. ≥ 30mV for f ≤ 60Hz Vin 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 µA
	Accuracy	±(0.3% of reading +40µA)
	EMI Max. influence	±0.25 mA
	Temperature coefficient	3µA/ºC
	Maximum load	≤500Ω
Environmental Conditions	Operating temperature	-10ºC to +60ºC (14ºF to 140ºF)
	Storage temperature	-25ºC to +85ºC (-13ºF to 185ºF)
	Relative humidity (non-condensing)	<95% @ 40ºC (104ºF)
	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

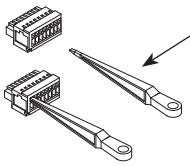
Terminals					
Connector	**CN1**	**CN2**	**CN3**	**CN4**	**CN5**
Wire cross section	0.08 to 2.5mm² (28 to 12 AWG)	0.08 to 0.5mm² (28 to 20 AWG)	0.08 to 0.5mm² (28 to 20 AWG)	0.08 to 2.5mm² (28 to 12 AWG)	0.08 to 2.5mm² (28 to 12 AWG)
Strip length	8 to 9mm	5 to 6mm	5 to 6mm	8 to 9mm	8 to 9mm
Manufacturer	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	

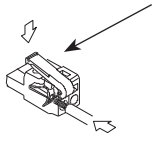
CN5 Relay 2	
1	N.O. Contact
2	

CN2 and CN3 Terminals



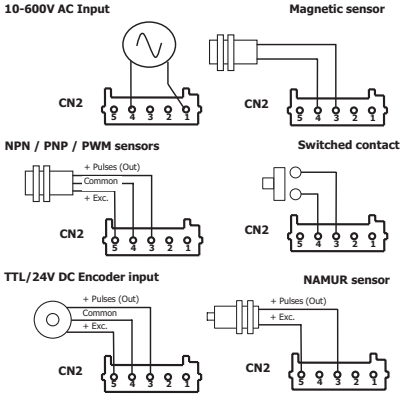
Insertion Tool (included with meter)
Insert wires into the proper terminal while using the insertion tool to open the clip inside the connector. Release the insertion tool to fix wire to the terminal.

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.

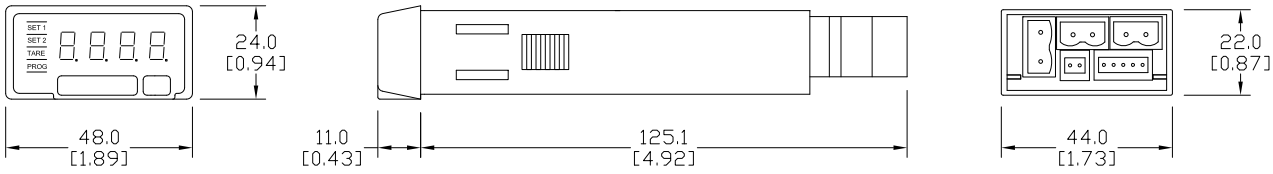
Input Wiring Diagrams



ProSense® 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

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Manual

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

ProSense® 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

CE 3 YEAR WARRANTY

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	$153.00
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	$167.00

Technical Specifications		
Signal Input	Maximum Frequency	7.5 kHz (counter mode) 25kHz (tachometer rpm or rate modes)
	Minimum Frequency (tachometer rpm or rate modes)	0.01 Hz
AC voltage Input	Range	10 to 600 VAC
Magnetic Sensor Input	Sensitivity	Vin min. ≥ 100mV for f ≥ 1kHz
NAMUR* Sensor	R_C	1kΩ
	I_{ON}	< 1mA DC
	I_{OFF}	> 3mA DC
NPN/PNP Sensors Input	R_C	1kΩ
	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

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

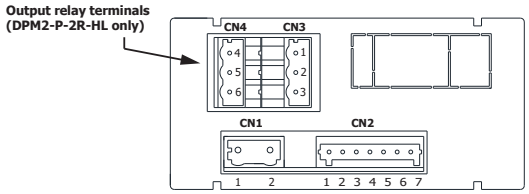
ProSense® Digital Panel Meters - DPM2-P Series 1/8 DIN

Technical Specifications Continued		
Switched Contact Input	V_C	5V (internal)
	R_C	3.9 kΩ
	Cutoff frequency (Fc)	20Hz
Accuracy at 23ºC ±5ºC (tachometer rpm or rate modes)	Accuracy	± (0.01% of reading +1digit)
	Temperature coefficient	50ppm / ºC
	Warm-up time	5 minutes
Power Supply and Fuses	20-265VAC 50/60 Hz or 11-265VDC (Recommended fusing 3A/250V, 5mm x 20mm glass miniature or DIN 41661 equivalent)	
Power Consumption	3W	
Sensor Excitation	8V @ 60mA ; 24V ± 3V @ 30mA	
Display	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
Relay (2R option)	Maximum switching current (resistive load)	8A
	Maximum switching power	2000VA / 192W
	Maximum switching voltage	400VAC / 125VDC
	Contact rating	8A @ 250VAC / 24VDC
	Contact resistance	≤ 100mΩ at 6 VDC @ 1A
	Contact type	SPDT
	Operate time	≤ 10ms
Environmental Conditions	Operating temperature	-10ºC to +60ºC (14ºF to 140ºF)
	Storage temperature	-25ºC to +85ºC (-13ºF to 185ºF)
	Relative humidity (non-condensing)	<95% @ 40ºC (104ºF)
	Maximum altitude	2000m
	Frontal protection degree	IP65
Environmental Air	No corrosive gases permitted	
Agency Certifications	CE	

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

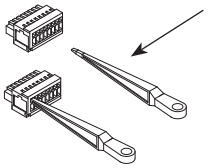
Wiring

Note: For additional wiring information download complete manual from www.AutomationDirect.com



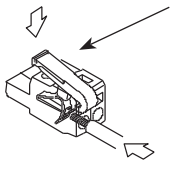
Terminals			
Connector	**CN1**	**CN2**	**CN3 & CN4**
Wire cross section	0.08 to 2.5mm² (28 to 12 AWG)	0.08 to 1.5mm² (28 to 14 AWG)	0.08 to 2.5mm² (28 to 12 AWG)
Strip length	8 to 9mm	6 to 7mm	8 to 9mm
Manufacturer	Wago 231-202/026-000	Wago 734-107	Wago 231-303/026-000
Cage clamp connection	Insertion 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 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.

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

Polarity insensitive for DC power

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)

(DPM2-P-2R-HL only)

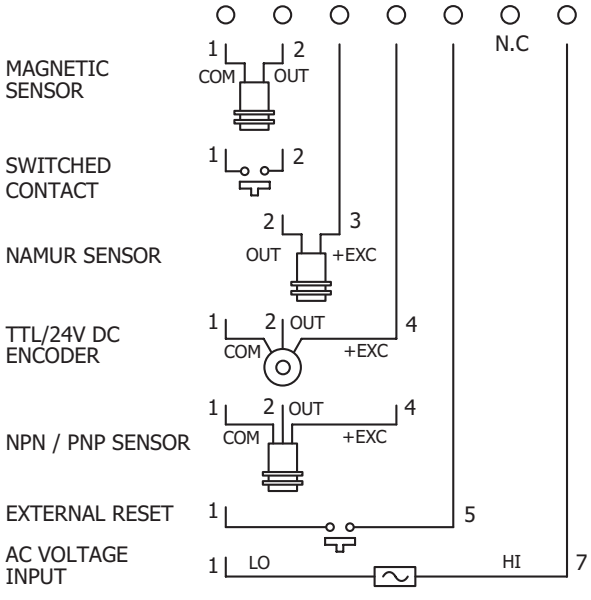
CN3	
Relay 1	
1	NO1
2	CM1
3	NC1

CN4	
Relay 2	
4	NO2
5	CM2
6	NC2

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

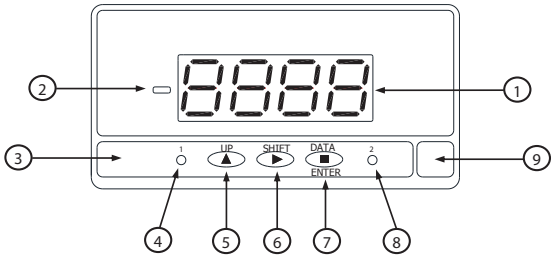
Input Wiring Diagrams

CN2 Terminals



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

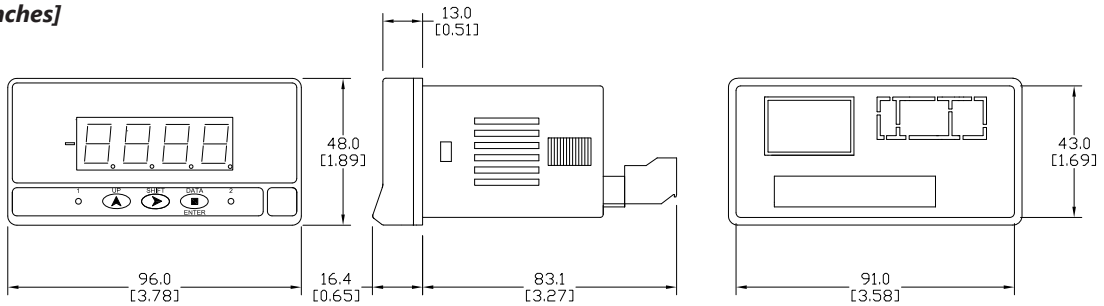
Programming Panel



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	
Dimensions	96 x 48 x 60mm (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.

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

ProSense® Digital Panel Meters - DPM3-P Series 1/8 DIN

The ProSense DPM3-P series offers a simple, feature packed digital display for counter, chronometer, frequency, tachometer, rate, and pulse width modulated (PWM) applications. The DPM3-P has a 5-digit, 14mm character height, tri-color red, green or amber LED, accepts input from AC voltage, magnetic sensors, NPN/PNP sensors, NAMUR sensors, TTL/24V encoders, or switched contacts, and provides selectable sensor excitation voltages. Models are available with 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 and chronometer modes. Additionally the display color can be set to change on relay operation. Models are also available with a 4-20mA analog output. The meter is powered from an external 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. Other features include memory and reset of minimum (valley) and maximum (peak) display values, start/stop in chronometer mode or stop in counter mode, and display brightness adjustment. ProSense digital panel meters are backed by a 3 year warranty.

Features:

- 96 x 48mm 1/8 DIN
- 5 digit (-99999 to 99999) tri-color (red, green, amber) LED display
- Selectable decimal point
- Counter/Chronometer/Frequency/Tachometer (RPM/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
- Optional 4-20mA analog output
- Optional (2) Form C SPDT
  - Activation on increasing or decreasing input signal
  - Hysteresis or time delay operation (frequency and tach modes)
  - Pulsed or latch operation (counter and chronometer modes)
  - Display color change on relay operation
- Total or selective configuration lock out
- Programmable functions include:
  - Minimum (valley) and maximum (peak) value memory
  - Minimum (valley) and maximum (peak) value reset
  - Start/Stop in chronometer mode or Stop in counter mode
- Display brightness adjustment
- 3 year warranty

DPM3-P Series Panel Meters			
Model	***Description***	***Weight (lbs)***	***Price***
DPM3-P-H	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, pulse and frequency input, 85 to 265 VAC/100 to 300 VDC operating voltage.	0.6	$190.00
DPM3-P-A2R-H	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, pulse and frequency input, 4-20 mA, (2) 8A SPDT relays output, 85 to 265 VAC/100 to 300 VDC operating voltage.	0.71	$239.00
DPM3-P-L	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, pulse and frequency input, 22 to 53 VAC/10.5 to 70 VDC operating voltage.	0.59	$190.00
DPM3-P-A2R-L	ProSense digital panel meter, 1/8 DIN, 14mm 5-digit tri-color (red, green, amber) LED, pulse and frequency input, 4-20 mA, (2) 8A SPDT relays output, 22 to 53 VAC/10.5 to 70 VDC operating voltage.	0.69	$239.00

ProSense® Digital Panel Meters - DPM3-P Series 1/8 DIN

Technical Specifications		
Tachometer/Frequency Mode	Maximum Frequency	20kHz (without totalizer) 8kHz (with totalizer) 1kHz (duty)
	Minimum Frequency	0.01 Hz
Counter Mode	Without totalizer	11kHz
	With totalizer	9kHz
AC voltage Input	Range	10 to 300 VAC
Magnetic Sensor Input	Sensitivity	Vin (AC) > 60mVpp for f < 1kHz > 120 mVpp for f > 1kHz
NAMUR* Sensor Input	R_C	3.3 kΩ
	I_{ON}	< 1mA DC
	I_{OFF}	> 3mA DC
NPN/PNP Sensors Input	R_C	3.3 kΩ
	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 (auto selection of input type prog.)	20Hz with duty cycle 50% 10Hz with duty cycle 30%
Accuracy at 23ºC ±5ºC	Frequency / Tachometer	0.005%
	Chronometer	0.01%
	Temperature coefficient	50ppm / ºC
	Warm-up time	5 minutes
Power Supply and Fuses	-H High Voltage:	85-265 VAC 50/60 Hz or 100-300 VDC, (recommended fusing 0.5A/250V, 5mm x 20mm glass miniature or DIN 41661 equivalent)
	-L Low Voltage:	22-53 VAC 50/60 Hz or 10.5 - 70 VDC, (recommended fusing 2A/250V, 5mm x 20mm glass miniature or DIN 41661 equivalent)
Power Consumption	5W, 8W for -A2R	
Sensor Excitations	8.2 VDC @ 30mA ; 20VDC (not stabilized) @ 100mA	
Display	Type	5 LED digits 14mm (0.55") (Programmable color Red, Green, Amber)
	LEDs	8, functions and outputs status
	Decimal Point	Programmable
	Positive overflow indication	OvEr
	Negative overflow indication	-OvEr
	Counter display limits	Process -99999 to 99999
	Totalizer	-9999999 to 99999999
	Chronometer ranges	4, from 999.99s to 99999h
	Frequency ranges	0.01 Hz to 20kHz/10kHz(totalizer)
	Tachometer range	0 to 99999(rpm), programmable (rate)
	Scale factor	Counter/Tach, programmable from 0.0001 to 99999
	Display update rate	Counter/Chronometer, 100ms Frequency/Tachometer, programmable 0.1 to 9.9 s
Relays -A2R Only	Maximum switching current (resistive load)	8A
	Maximum switching power	2000VA / 192W
	Maximum switching voltage	400VAC / 125VDC
	Contact rating	8A @ 250VAC / 24VDC
	Contact resistance	≤ 100mΩ at 6 VDC @ 1A
	Contact type	SPDT
	Operate time	≤ 10ms

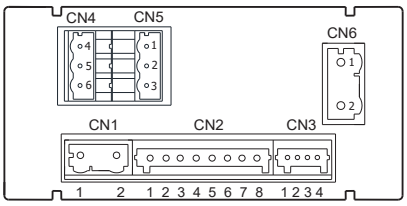
** For more information about NAMUR sensors see www.namur.net.*

ProSense® Digital Panel Meters - DPM3-P Series 1/8 DIN

Technical Specifications Continued		
Analog Output -A2R Only	Type	4-20 mA Sourcing
	Maximum load	≤ 500Ω
	Resolution	13 bits
	Accuracy	0.1%FS ±1 bit
	Response time	50ms
	Thermal drift	0.5µA / °C
Environmental Conditions	Operating temperature	-10°C to +60°C (14°F to 140°F)
	Storage temperature	-25°C to +80°C (-13°F to 176°F)
	Relative humidity (non-condensing)	< 95% @ 40°C (104°F)
	Maximum altitude	2000m
	Frontal protection degree	IP65
Environmental Air	No corrosive gases permitted	
Agency Certifications	CE	

Wiring

Note: For additional wiring information download complete manual from www.AutomationDirect.com



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

Polarity insensitive for DC power

CN3	
Logic Functions	
1	Common
2	Input 1
3	Input 2
4	Input 3

CN2	
Electrical Inputs	
1	Not used
2	(+) 20V Excitation
3	(+) 8.2 V Excitation for NAMUR sensors
4	(-) Common excitation / signal
5	Signal B input
6	Signal A input
7	Not used
8	High voltage input (300VAC max.)

2 SPDT Relays (-A2R)

CN4	
Relay 2	
4	NO2
5	CM2
6	NC2

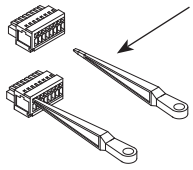
CN5	
Relay 1	
1	NO1
2	CM1
3	NC1

NO: Normally Open, CM: Common, NC: Normally Closed

CN6	
Analog Output	
1	(-) 4-20mA
2	(+) 4-20mA

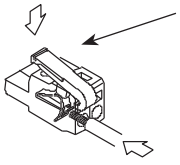
Terminals					
Connector	**CN1**	**CN2**	**CN3**	**CN4 & CN5**	**CN6**
Wire cross section	0.08 to 2.5mm² (28 to 12 AWG)	0.08 to 0.5mm² (28 to 20 AWG)	0.08 to 0.5mm² (28 to 20 AWG)	0.08 to 2.5mm² (28 to 12 AWG)	0.08 to 2.5mm² (28 to 12 AWG)
Strip length	8 to 9mm	5 to 6mm	5 to 6mm	8 to 9mm	8 to 9mm
Manufacturer	Wago 231-202/026-000	Wago 733-108	Wago 733-104	Wago 231-303/026-000	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



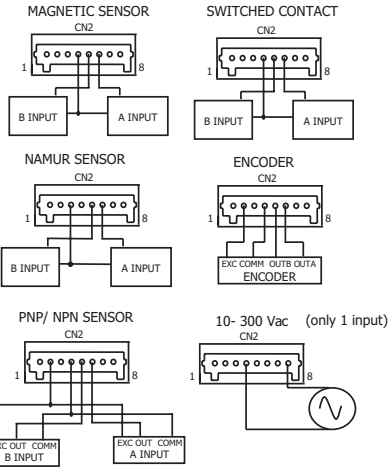
Insertion Tool (included with meter) Insert wires into the proper terminal while using the insertion tool to open the clip inside the connector. Release the insertion tool to fix wire to the terminal.

CN1, CN4, CN5 and CN6 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.

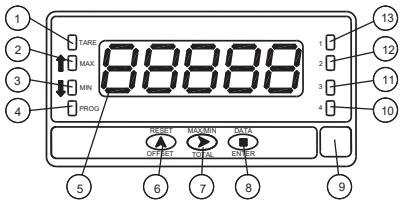
Input Wiring Diagrams



WARNING!:
Never connect a dangerous voltage to PIN 4 of CN2 (input common).

ProSense® Digital Panel Meters - DPM3-P Series 1/8 DIN

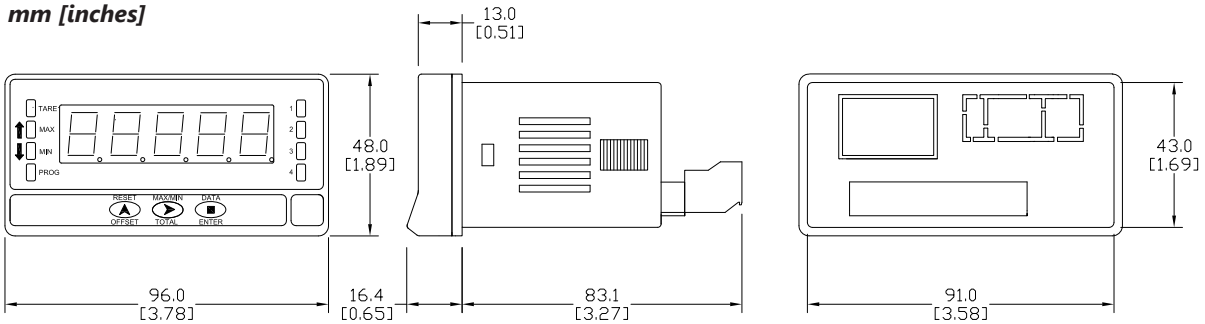
Programming Panel



Programming Panel			
#	Description	Run Mode	Programming Mode
1	TARE	Indicates that there is an offset value programmed	---
2	MAX	Solid indicates rotation sense or count polarity; Blinking indicates visualization of a Max value	Indicates rotation sense (polarity)
3	MIN	Solid indicates rotation sense or count polarity; Blinking indicates visualization of a Min value	Indicates rotation sense (polarity)
4	PROG	---	Indicates programming mode
5	DISPLAY	Displays the input variable	Displays programming parameters
6	RESET/OFFSET KEY	In Tachometer mode reset of MAX/ MIN/ TOTAL (if present on display) In Counter mode Reset / OFFSET (starts measuring)	- To increase blinking digit value - Direct access to Setpoints value
7	MAX-MIN/TOTAL KEY	1st push allows TOTALIZER visualization (if activated) 2nd push allows Max visualization (only Tachometer) 3rd push allows Min visualization (only Tachometer) Following push: back to current value.	To move blinking digit
8	ENTER KEY	To enter programming menu or to visualize parameters if programming is locked	- To step forward in programming menu - To validate programmed values - To exit programming menu
9	Free space for units label	---	
10	LED Output 4	---	---
11	LED Output 3	---	---
12	LED Output 2	Activation Output 2	Programming output 2
13	LED Output 1	Activation Output 1	Programming output 1

Dimensions

mm [inches]



Installation	
Dimensions	96 x 48 x 60mm (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.

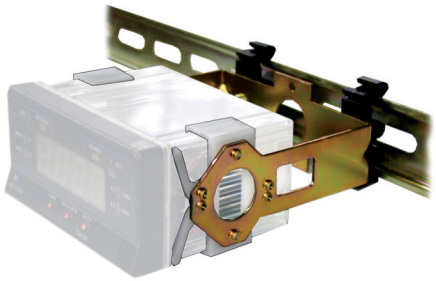
Insert

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

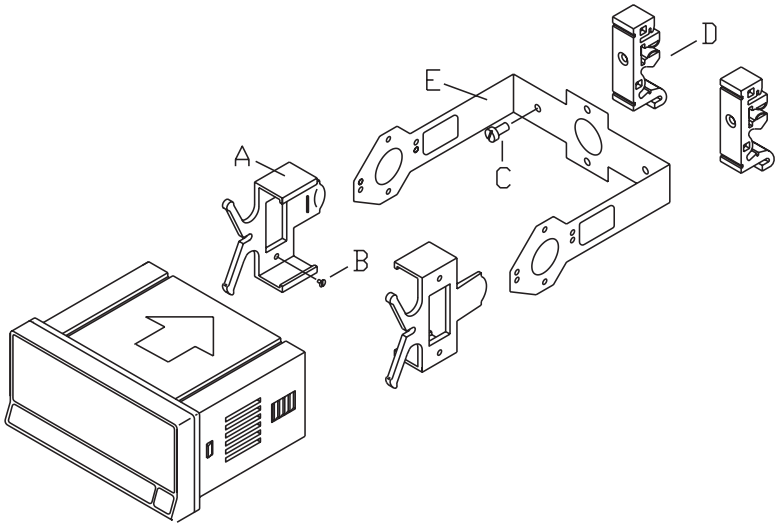
Manual

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

ProSense® 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	$25.00



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.

ProSense® Loop Panel Meters - LPM1 Series

The ProSense LPM1 series of loop panel meters offers a simple, low cost digital display of an analog 4-20mA signal. Models are available for mounting in a standard 1/8 DIN size panel cut-out with minimal installation depth as well as models provided in an aluminum enclosure for field mounting as a remote display for process instrumentation transmitters. The meter is powered from the mA loop and requires no external power supply. Using the three operating keys on the face of the LPM1, the 5-digit black LCD display is easily scaled into any engineering units from -19999 to 99999 with a selectable decimal point location. Configuration parameters can be locked to prevent unauthorized or accidental changes to the meter's operation. A bar graph display indicates the relative position of the input signal within the scaled range of the meter and the LPM1 can be operated with backlighting to improve readability in dark areas. All models are cULus Listed and one model additionally is cCSAus Certified for hazardous locations. All models are CE marked. An optional pipe and wall mounting hardware kit is available for the field mount models. ProSense LPM1 series loop panel meters are backed by a 1-year warranty.

Features:

- 1/8 DIN panel mount or enclosed field mount models
- 5-digit (-19999 to 99999) black LCD display
- Large 17mm digit height
- Selectable decimal point
- Bar graph display
- Engineering unit display of pre-defined units or user entered custom text
- Backlight operation available for improved readability in dark areas
- Process input (4-20mA DC)
- Loop powered - no external power supply is required
- Simple configuration using three operating keys
- Configuration for direct or reverse acting linear processes
- Selectable high and low range error limits
- Available display offset parameter
- Square root extraction function useful for flow applications
- Configuration parameters lock out
- Model available with hazardous locations ratings
- 1-year warranty

LPM1-A-HAZ

LPM1 Loop Panel Meters

Model	Description	Weight (lb)	Price	Drawing Link
LPM1-A-PNL	ProSense digital panel meter, panel mount, 1/8 DIN, 17mm 5-digit black LCD, bar graph LCD, backlight, analog input, loop powered.	0.65	$174.00	PDF
LPM1-A-ENC	ProSense digital panel meter, field mount, 17mm 5-digit black LCD, bar graph LCD, backlight, analog input, loop powered.	1.67	$249.00	PDF
LPM1-A-HAZ	ProSense digital panel meter, field mount, 17mm 5-digit black LCD, bar graph LCD, backlight, analog input, loop powered, hazardous location rated. Includes cable glands.	1.7	$370.00	PDF

Technical Specifications

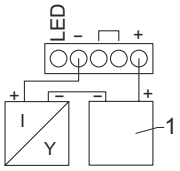
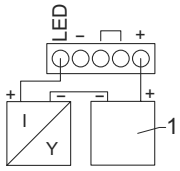
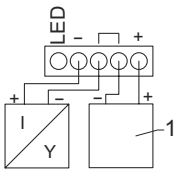
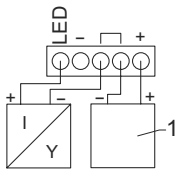
Input	Current Range	4-20 mA (scalable, reverse polarity protection)		
	Current limits	22mA over range, 200mA maximum		
	Loop voltage drop	≤ 1V or ≤ 3.9V with display backlight		
	Error limits per NAMUR NE 43 (high and low range limits can also be user defined)	Current value ≤ 3.6 mA 3.6 mA < x ≤ 3.8 mA 20.5 mA ≤ x < 21.0 mA > 21.0 mA	Error Under range Unpermitted measured value Unpermitted measured valve Over range	Diagnostic code F100 S901 S902 F100
Power Supply	Loop powered			
Accuracy **Reference: 25°C ±5°C (77°F ±9°F)** **20 to 60% Relative humidity**	Maximum error	± 0.1%		
	Temperature coefficient	< 0.02 %/K (0.01 %/°F) of measuring range		
	Warm-up time	10 minutes		
Resolution	> 13 bit			

ProSense® Loop Panel Meters - LPM1 Series

Technical Specifications		
Display	Range	-19999 to 99999, selectable decimal point position
	Type	Measured value: 5-digit, 7-segment, black LCD, 17mm (0.67in) digit height Bar graph: 11-segment with indicators for under range and over range Tag: 5-digit, 14-segment, engineering unit (%, °C, °F, K) or custom text
	Backlight	Activated based on wiring connections
Environmental Conditions	Operating temperature	-40°C to +60°C (40°F to 140°F) At temperatures below –25°C (–3°F) the readability of the display can no longer be guaranteed.
	Storage temperature	-40°C to +85°C (-40°F to 185°F)
	Maximum altitude	5000m (16400ft) above mean sea level in accordance with IEC61010-1
	Protection degree	LPM1-A-PNL: IP65 at front, IP20 at rear LPM1-A-ENC, LPM1-A-HAZ: IP66/67, NEMA 4x
	Environmental Air	No corrosive gases permitted
Electrical Connections	Terminals	Spring connection type
	Cable entry	LPM1-A-ENC: (2) M16 threaded cable entries with plugs LPM1-A-HAZ: (2) M16 x 1.5 cable glands for cable diameter 5 to 10 mm (0.2 to 0.39 in).
Materials	Meter	Polycarbonate PC and aluminum
	Field mount housing	Aluminum
Certifications	cULus Listed, E311366	UL 61010-1 UL 61010-2-201 UL 50 / UL 50E
	cCSAus, 601711 (LPM1-A-HAZ only)	Intrinsically Safe Entity - For Hazardous Locations Ex ia IIC T6 Ga AEx ia IIC T6 Ga Class I, Division 1, Groups A, B, C & D Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations Class I, Division 2, Groups A, B, C and D
	CE	

Note: Always refer to the CSA control drawing (LPM1-A-HAZ-DWG) when installing a LPM1-A-HAZ in a hazardous location.

Wiring

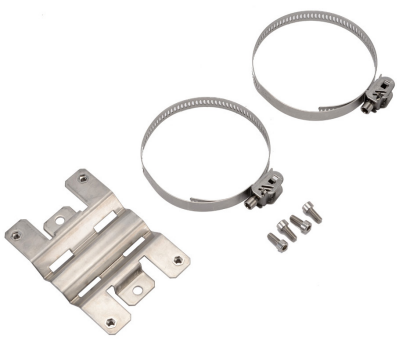
	Connection without backlighting	Connection with backlighting
Connection with transmitter power supply and transmitter		
	1 Transmitter power supply	1 Transmitter power supply
Connection with transmitter power supply and transmitter using the auxiliary terminal		
	1 Transmitter power supply	1 Transmitter power supply

Note: Refer to LPM1 Operating Instructions for additional wiring diagrams.

Operating Instructions

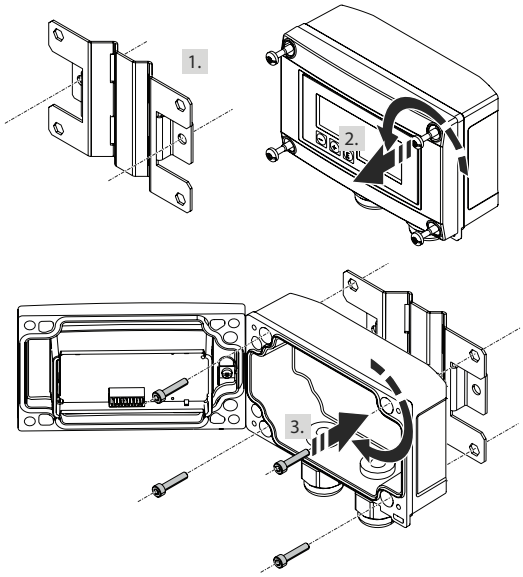
Scan or click the above QR code to be taken to the LPM1 Series Operating Instructions

ProSense® Loop Panel Meter Accessories



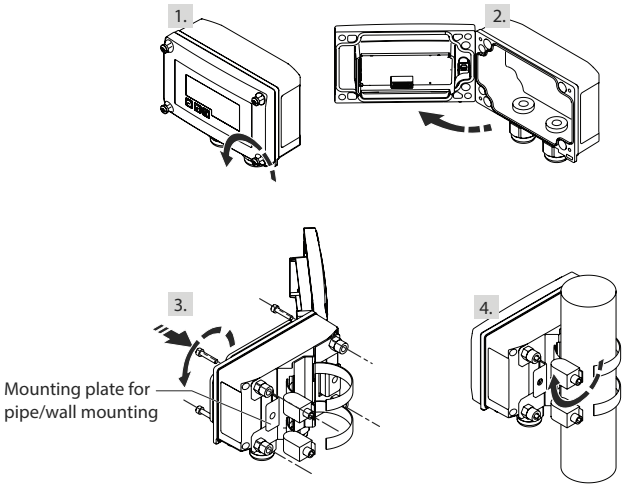
Loop Panel Meter Accessories				
Model	*Description*	*Weight (lb)*	*Price*	*Drawing Link*
LPM1-BKT1	ProSense wall/pipe mount bracket, for use with LPM1-A-ENC and LPM1-A-HAZ digital panel meters. Hardware included.	0.63	$38.50	PDF

Mounting



Wall mounting (with optional LPM1-BKT1 mounting kit)

1. Use the mounting plate as a stencil and make two 6mm (0.24 in) bore holes, 82mm (3.23 in) apart. Secure the plate on the wall with 2 screws (not supplied).
2. Open the housing.
3. Secure the display unit on the mounting plate with the 4 screws supplied.
4. Close the cover and tighten the screws.



Pipe mounting (with optional LPM1-BKT1 mounting kit)

The device can be mounted on a pipe with a diameter of up to 50.8 mm (2in) with the mounting kit.

1. Release the 4 housing screws.
2. Open the housing.
3. Secure the mounting plate to the rear of the device with 4 screws supplied.
4. Guide the two gripper clamps through the mounting plate, fit them around the pipe and tighten.