proSense® Digital Panel Meter DPM1 Series

Instructions

Models:

DPM1-T-H
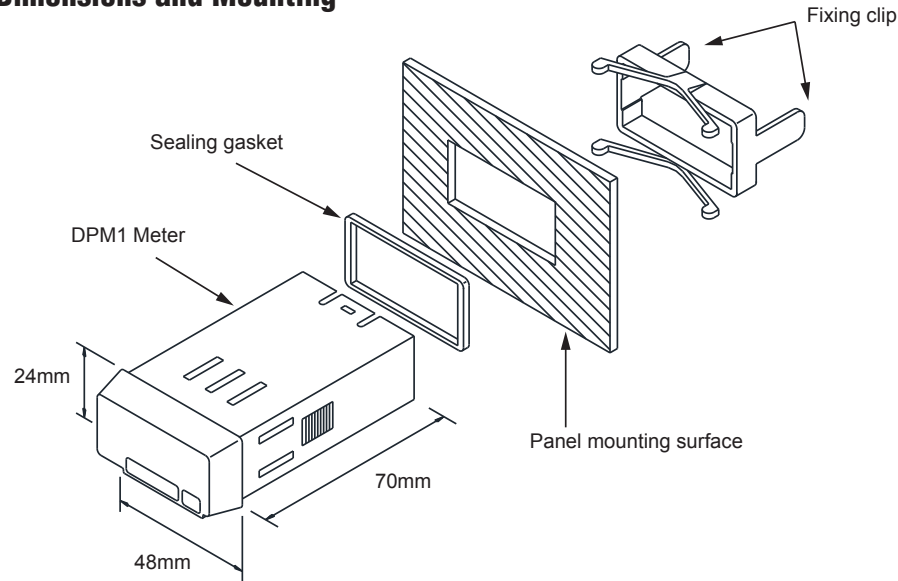**DPM1-T-L**

CE

Features

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

WARNING: To minimize the risk of potential safety problems, you should follow all applicable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and it is your responsibility to determine which codes should be followed, and to verify that the equipment, installation, and operation are in compliance with the latest revision of these codes.

Equipment damage or serious injury to personnel can result from the failure to follow all applicable codes and standards. We do not guarantee the products described in this publication are suitable for your particular application, nor do we assume any responsibility for your product design, installation, or operation.

If you have any questions concerning the installation or operation of this equipment, or if you need additional information, please call us at 1-800-633-0405 or 770-844-4200.
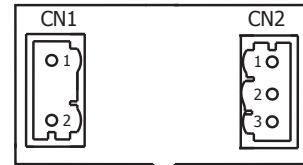
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WARNING! Electric shock danger

1. Keep away from high-voltage and high-frequency environment during the installation to prevent interference. Avoid using the device in environments which contain: (a) dust or corrosive gas; (b) high humidity or high radiation; (c) shock or vibration

2. Make sure the input power is switched off when installing or uninstalling the DPM1 to prevent harm to personnel or equipment.

3. Before switching on the input power, check the signal connection, e.g. the input voltage and polarity. Voltage that is too high may cause damage to the DPM1.

4. Front cover should be cleaned only with a soft cloth soaked in neutral soap product. DO NOT USE SOLVENTS.


Dimensions and Mounting

To install the instrument, prepare a 45mm x 22mm panel cut-out and slide the unit inwards making sure to place the sealing gasket between the front side panel and the front bezel.

While holding the unit in place, put the fixing clip around case and slide it until it reaches the panel at the rear side.

Press slightly to fasten the clip to the latching slots on the case and get the unit fully assembled and close fitted to achieve a good seal.

To remove the instrument from the panel, pull the rear fixing clip latching tabs outwards until they are disengaged, then slide the fixing clip back over the case.

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

Additional Help and Support

- For additional technical support and questions, call our Technical Support team @ 1-800-633-0405 or 770-844-4200

Instructions: DPM1-T-H, DPM1-T-L

Wiring Terminals

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
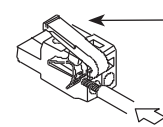
Insertion Tool (included with meter)

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.

This instrument conforms with the following community directives: EMC 2004/108/CE and LVD 2006/95/CE. Refer to the instructions in this insert to preserve safety protections

Warning: If this instrument is not installed and used in accordance with these instructions, the protection provided by it against hazards may be impaired. To meet the requirements of EN 610101-1 standard, where the unit is permanently connected to main supply, it is obligatory to install a circuit breaking device that is easily reachable by the operator and clearly marked as the disconnecting device.

To guarantee electromagnetic compatibility, the following guidelines should followed:

- Power supply wires should be separately routed from signal wires and never ran in the same conduit.
- Use shielded cable for signal wiring.
- Cable cross-section must be ≥0.25mm²

Before connecting signal wires, signal type and input range should be verified to be within the proper limits. Do not connect more than one input signal to the meter simultaneously.
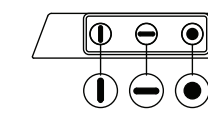

Video Link

Scan or click the QR code for a series of Configuration and Programming videos for the ProSense DMP Series Panel Meters
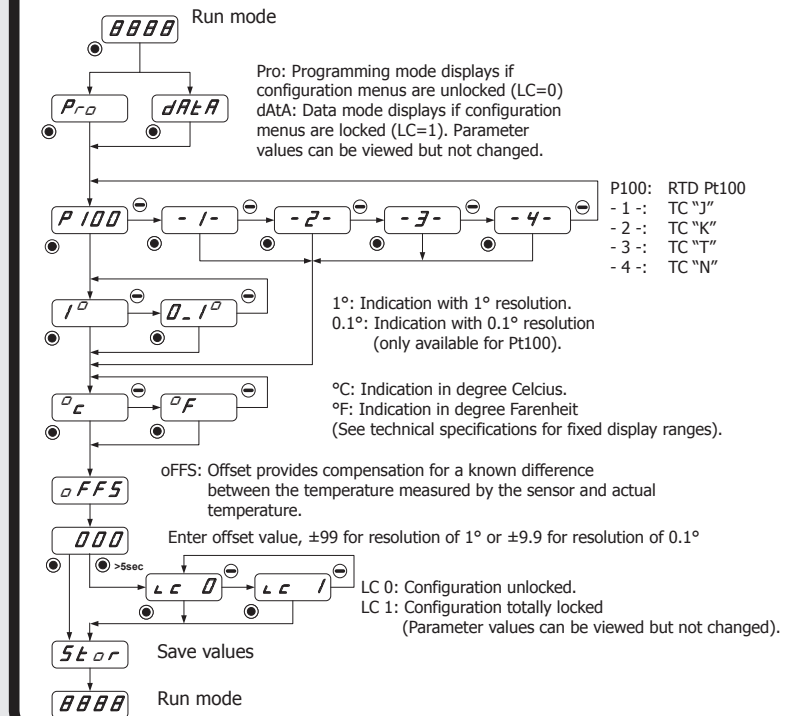

Configuration

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.

Pro: Programming mode displays if configuration menus are unlocked (LC=0)
dAtA: Data mode displays if configuration menus are locked (LC=1). Parameter values can be viewed but not changed.

P100: RTD Pt100
- 1 -: TC "J"
- 2 -: TC "K"
- 3 -: TC "T"
- 4 -: TC "N"

1°: Indication with 1° resolution.
0.1°: Indication with 0.1° resolution (only available for Pt100).

°C: Indication in degree Celcius.
°F: Indication in degree Farenheit (See technical specifications for fixed display ranges).

oFFS: Offset provides compensation for a known difference between the temperature measured by the sensor and actual temperature.
Enter offset value, ±99 for resolution of 1° or ±9.9 for resolution of 0.1°

LC 0: Configuration unlocked.
LC 1: Configuration totally locked (Parameter values can be viewed but not changed).

Save values

Run mode

Technical Specifications

	Type	Resolution 1°	Resolution 0.1°
Input / Resolution / Fixed Display Range	RTD: Pt100 (3-wire)	-200 to 800°C / -328 to 1472°F	-199.9 to 800.0°C / -199.9 to 999.9°F
	TC "J"	-200 to 1100°C / -328 to 2012°F	N/A
	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<50C/-58F ±(1%rdg+1C) / ±(1%rdg+2F)
	Pt100 0.1°	±(0.2%rdg +0.4°C) / ±(0.2%rdg + 0.7°F)	t<-50C/-58.0F ±(1%rdg+0.4C) / ±(1%rdg+0.7F)
	TC J, K, T, N	±(0.4%rdg + 2°C) / ±(0.4%rdg + 4°F)	t<-50C/-58F ±(1%rdg+2C) / ±(1%rdg+4F)
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, DIN 41661)	
	DPM1-T-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	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	OᴜE	
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	