proSense Digital Panel Meter DPM1 Series

Instructions

AUTOMATIONDIRECT.com

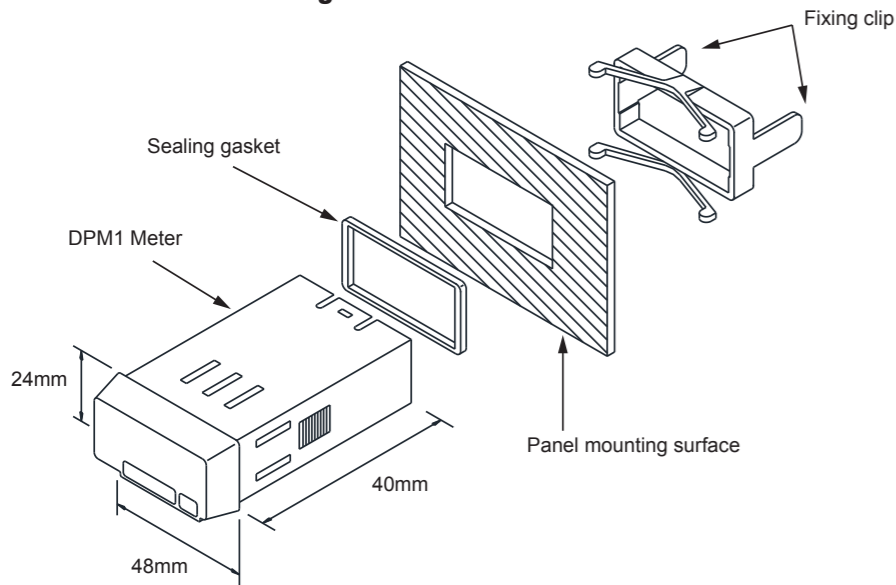3505 HUTCHINSON ROAD
CUMMING, GA 30040-5860

Models:
DPM1-A-LP

CE

Features

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

Dimensions and Mounting

Fixing clip

Sealing gasket

DPM1 Meter

24mm

40mm

48mm

Panel mounting surface

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 40mm (1/32 DIN)
Panel Cutout	45 x 22mm (Max. panel thickness 7mm)
Case Material	Polycarbonate UL 94 V-0

⚠ 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.
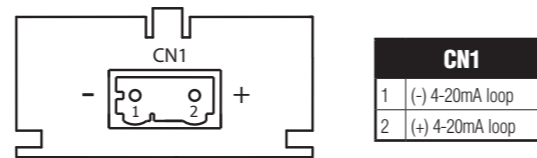
This publication is based on information that was available at the time it was printed. At Automationdirect.com® we constantly strive to improve our products and services, so we reserve the right to make changes to the products and/or publications at any time without notice and without obligation. This publication may also discuss features that may not be available in certain revisions of the product.

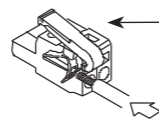⚠ **WARNING! Electric shock danger**

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.

Wiring Terminals

CN1

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

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

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.

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

To guarantee electromagnetic compatibility, the following guidelines should followed:

- Use shielded cable for signal wiring.
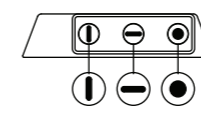- Cable cross-section must be ≥0.25mm²

Additional Help and Support

- For additional technical support and questions, call our Technical Support team @ 1-800-633-0405 or 770-844-4200
- A QR link to configuration and programming videos is located on the back of this document.
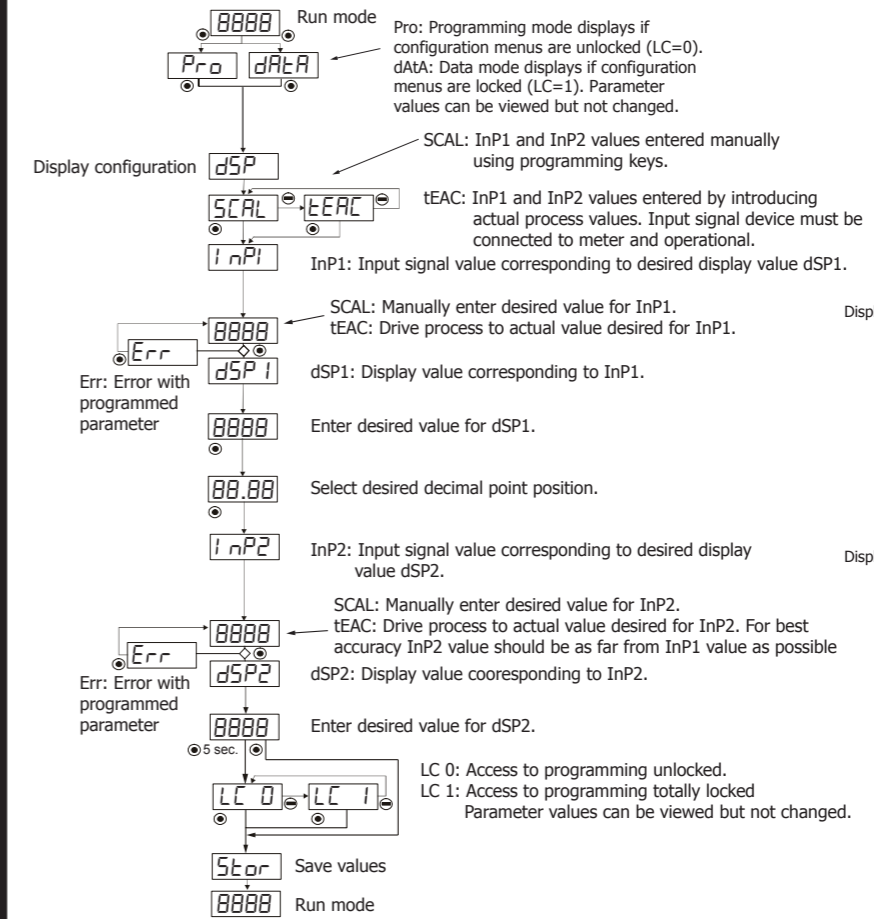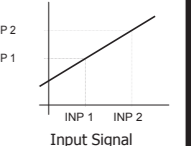

Configuration

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.

`8888` Run mode

`Pro` `dAtA`

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.

Display configuration `dSP`

`SCAL` `tEAC`

`InP1`

SCAL: InP1 and InP2 values entered manually using programming keys.

tEAC: InP1 and InP2 values entered by introducing actual process values. Input signal device must be connected to meter and operational.

InP1: Input signal value corresponding to desired display value dSP1.

`8888`
`Err` `dSP1`

Err: Error with programmed parameter

SCAL: Manually enter desired value for InP1. **tEAC:** Drive process to actual value desired for InP1.

dSP1: Display value corresponding to InP1.

`8888` Enter desired value for dSP1.

`88.88` Select desired decimal point position.

`InP2` **InP2:** Input signal value corresponding to desired display value dSP2.

`8888`
`Err` `dSP2`

Err: Error with programmed parameter

SCAL: Manually enter desired value for InP2. **tEAC:** Drive process to actual value desired for InP2. For best accuracy InP2 value should be as far from InP1 value as possible

dSP2: Display value cooresponding to InP2.

`8888` Enter desired value for dSP2.

`LC 0` `LC 1`

LC 0: Access to programming unlocked.
LC 1: Access to programming totally locked. Parameter values can be viewed but not changed.

`Stor` Save values

`8888` Run mode

Direct Acting Process

DSP 2 / DSP 1

Display Value

INP 1   INP 2
Input Signal

Reverse Acting Process

DSP 1 / DSP 2

Display Value

INP 1   INP 2
Input Signal

Technical Specifications

Input	Range	4-20mA
	Resolution	±0.01mA
	Impedance	10Ω
Accuracy (@ 23℃ ±5℃)	Maximum error	±(0.1% of reading +3 digits)
	Temperature coefficient	100 ppm/℃
	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	-10℃ to +60℃ (14℉ to 140℉)
	Storage temperature	-25℃ to +85℃ (-13℉ to 185℉)
	Relative humidity (non-condensing)	<95% @ 40℃ (104℉)
	Maximum altitude	2000m
	Frontal protection degree	IP65
Environmental Air		No corrosive gases permitted
Agency Approvals		CE

Model DPM1-A-LP Example Application:

4-20mA input, 0.0 to 100.0 display (direct acting process using Scale Mode)
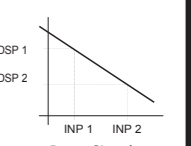
Programming Keys (Bottom View)

⊙ **ENTER:** Enters configuration and validates data and parameters.

⊖ **SHIFT:** Selects mode or shifts blinking digit in configuration.

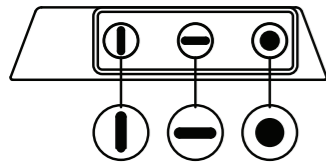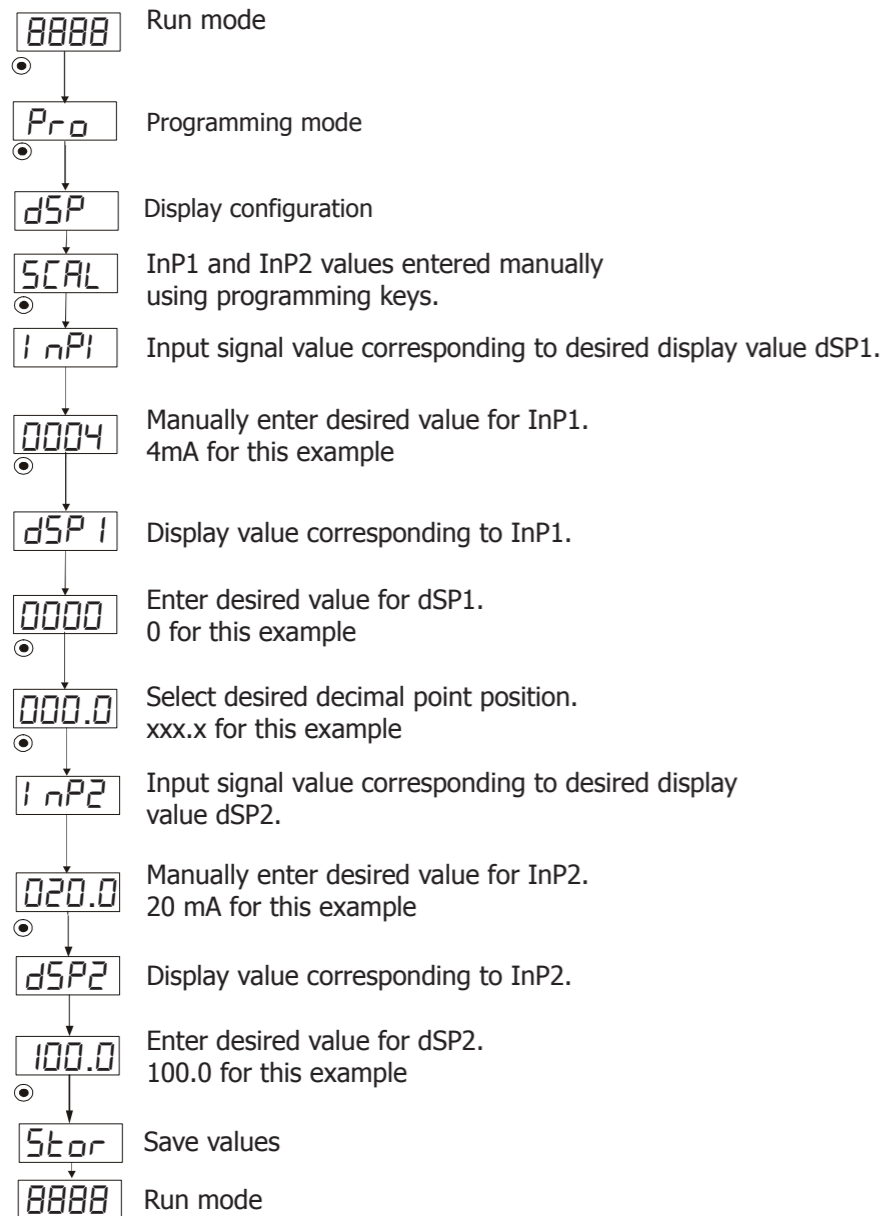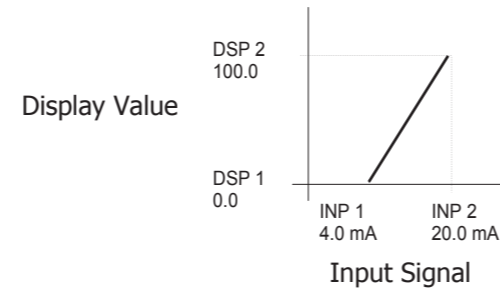① **UP:** Increases value of blinking digit in configuration.

Direct Acting Process

DSP 2
100.0

DSP 1
0.0

INP 1
4.0 mA

INP 2
20.0 mA

Display Value

Input Signal

Display	Description
`8888` Run mode	
`Pro`	Programming mode
`dSP`	Display configuration
`SCAL`	InP1 and InP2 values entered manually using programming keys.
`InP1`	Input signal value corresponding to desired display value dSP1.
`0004`	Manually enter desired value for InP1. 4mA for this example
`dSP1`	Display value corresponding to InP1.
`0000`	Enter desired value for dSP1. 0 for this example
`000.0`	Select desired decimal point position. xxx.x for this example
`InP2`	Input signal value corresponding to desired display value dSP2.
`020.0`	Manually enter desired value for InP2. 20 mA for this example
`dSP2`	Display value corresponding to InP2.
`100.0`	Enter desired value for dSP2. 100.0 for this example
`Stor`	Save values
`8888`	Run mode

Instructions: DPM1-A-LP

Notes

Video Link

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