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:

LPM1-A-ENC

LPM1-A-HAZ

LPM1-A-PNL

- 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	$154.00	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	$220.00	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	$327.00	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: 25ºC ±5ºC (77ºF ±9ºF) 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

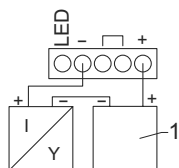| Technical Specifications		
Display	Range	-19999 to 99999, selectable decimal point position
	Type	Measured value: 5-digit, 7-segment, black LCD, 17mm (0.67in) digit height Bar graph: 11-segment with indicators for under range and over range Tag: 5-digit, 14-segment, engineering unit (%, °C, °F, K) or custom text
	Backlight	Activated based on wiring connections
Environmental Conditions	Operating temperature	-40ºC to +60ºC (40ºF to 140ºF) At temperatures below –25°C (–3°F) the readability of the display can no longer be guaranteed.
	Storage temperature	-40ºC to +85ºC (-40ºF to 185ºF)
	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.
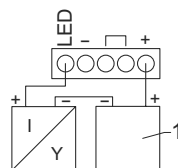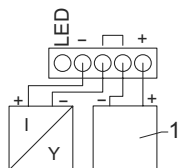
Wiring

Connection with transmitter power supply and transmitter

Connection with transmitter power supply and transmitter using the auxiliary terminal

Connection without backlighting

Connection with backlighting

1 Transmitter power supply
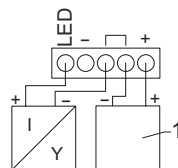
1 Transmitter power supply

1 Transmitter power supply
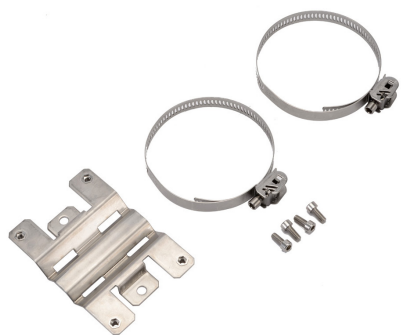
1 Transmitter power supply

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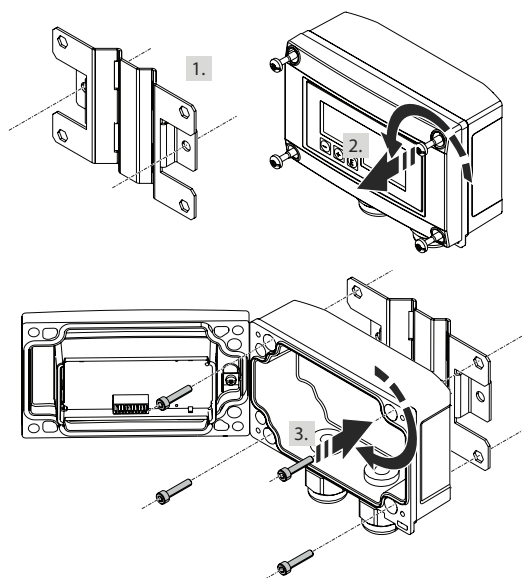
Operating Instructions

Scan or click the above QR code to be taken to the LPM1 Series Operating Instructions
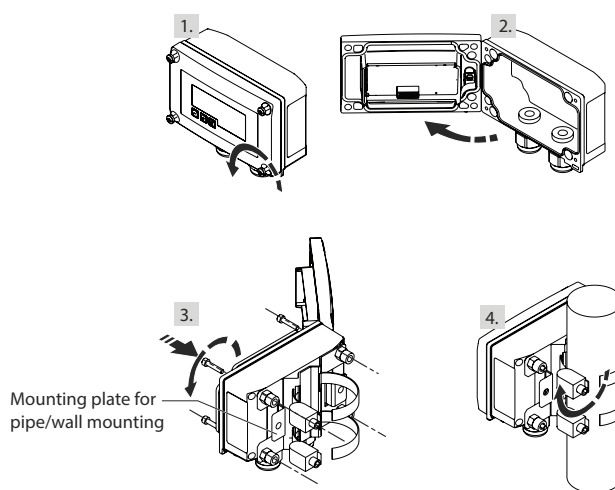
proSense® Loop Panel Meter Accessories

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	$34.00	PDF

Mounting

Mounting plate for pipe/wall 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.