



LAUREL
ELECTRONICS, INC.

88-PRO Loop Powered Process Meter

With 0.50" high LCD digits and detachable screw terminals

Features

- Powered by 4-20 mA, 10-50 mA or 1-5 mA loop, with no need for other power
- Maximum 2.5 V voltage drop
- Easy zero & span adjustment from rear of meter
- 3-1/2 digit resolution (± 1999)
- Jumper-selectable dummy right-hand zeros for reading to ± 19990 or ± 199900
- Normal or inverted scaling
- High-legibility 12.7 mm (0.50") digits
- 1/8 DIN panel cutout, only 93 mm (3.66") required behind panel
- Environmental protection to IP54 (NEMA-12) when panel mounted
- High-quality plug-in screw terminals
- Low cost



Description

Loop powered. The 88-PRO Process Meter may be connected directly to a 4-20 mA, 10-50 mA or 1-5 mA current loop, with no need for additional power to the meter. This is because the meter is powered directly by the current loop, developing a maximum voltage drop of 2.5 V.

Readout in engineering units. By accepting 4-20 mA, 10-50 mA or 1-5 mA signals, the 88-PRO is compatible with a large number of industrial transducers and transmitters to display process variables such as temperature, pressure, flow, weight, pH, humidity etc. Zero and span are adjustable for direct readout in engineering units. There is an INVERT facility, so that an increasing input signal gives a reducing display, for example, 4-20 mA = 100.0 to 0.0. The 88-PRO also provides two jumper-selectable dummy right-hand zero to extend the maximum reading from the default of ± 1999 to ± 19990 or ± 199900 . This feature allows the display of large numbers, such as the weight of a truck in pounds. It also useful when the cost of a 4 1/2 or 5 1/2 digit meter may be too high

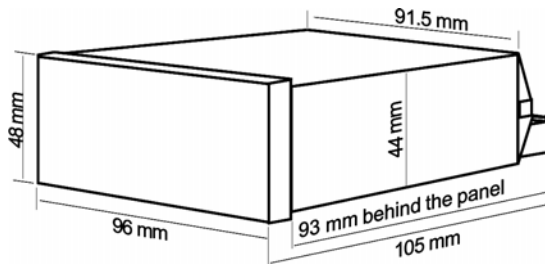
Easy to install and set up. The 88-PRO fits in a standard 1/8 DIN panel cutout and only requires 93 mm (3.66") behind the panel. This is less than for most process meters. There are only two signal connections: signal in and signal out. These are made via a detachable screw terminal connector. All range-selection jumpers as well as the meter's zero and span adjustments are from the rear of the meter, avoiding the need to open the case.

Attractive and easy to read. The fascia of the 88-PRO is attractively styled. The simple bezel will compliment your panel design. The lens protects all legends and markings, so repeated wipe-downs won't damage the lettering or display clarity. High contrast LCDs make these meters suitable for use in bright environments. The digits measure a full 12.7 mm (0.50").



An application example. The 88-PRO loop-powered process meter is in series with 12-30 Vdc power to a two-wire 4-20 mA pressure transmitter, which measures the pressure at the bottom of a straight-sided tank. The meter's broad scaling capabilities allow it to be adjusted to display the volume of the tank. When necessary, one or two dummy right hand zeros may be added to display values up to 199900.

Mechanical



Panel cutout: 45 mm high x 92 mm wide (1/8 DIN)



Specifications

Signal			
Range	4-20 mA	10-50 mA	1-5 mA
Effective resistance	125 Ω	50 Ω	500 Ω
Maximum voltage drop	2.5 V	2.5 V	2.5 V
Display			
Display range	±1999, ±19990, ±199900 (jumper-selectable)		
Display height	12.7 mm (0.50")		
Display type	High-contrast LCD		
Decimal point selection	Push-on jumpers		
Display update rate	3 / sec		
Open circuit response	Display blanks		
Decimal point selection	Push-on jumpers behind front panel		
Electrical			
Accuracy	± 0.1% of reading ± 1 count		
Resolution, max.	1 part in 2000		
Calibration method	Zero & span potentiometers		
CMRR	65 dB, 0-450 Hz		
Linear ranges	3-21 mA, 8-52 mA, 0.8-6 mA		
A-D conversion	Dual slope integration		
Integration period	100 ms		
Power	Derived from current loop with 2.5 V max drop		
Mechanical			
Bezel dimensions	48 x 96 mm (1.89" x 3.78"), H x W		
Panel cutout	45 x 92 mm (1.77" x 3.62"), H x W		
Depth behind panel	93 mm (3.66") including connector		
Width behind panel	98 mm (3.86") max.		
Case material	Polycarbonate, UL rating 94V-0		
Weight	100 g (3.5 oz)		
Electrical connections	Detachable screw terminal connector		
Environmental			
Operating temperature	-10°C to 50°C (14°F to 122°F)		
Humidity	-20° RH at 50°C (122°F), non-condensing		

Ordering Guide

Create a model a model number in this format: **88-PRO, BOX1**

DPM Type	88-PRO	88-PRO Loop Powered Process Meter.
Add-on Options	IPC	Clear front panel cover sealed to NEMA 4X / IP65
	BOX1	NEMA-4X wall-mount enclosure with 1/8 DIN cutout
	BOX2	BOX1 plus IPC

