



# LM1000

## LEVEL MONITOR AND CONTROL

### FEATURES

- Available in panel mount and NEMA 4X enclosed versions.
- Bright 4 digit LED Display indicates level in feet to two decimal places
- Built in level sensor calibrator
- Relay output that can be used for alarm or control output.
- Setpoint adjustable over entire 4-20 mA span
- Dead band adjustable 1% to 90%
- Built in 24 VDC 2 wire sensor transmitter power supply
- UL /cUL Recognized

### DESCRIPTION

The LM1000 is designed to monitor the level of liquids using a pressure sensor as the source of level data. A four digit LED display indicates level in feet to two decimal places (XX.XX). The LM1000 provides 24 VDC regulated power for a two wire transmitter.

An Alarm circuit with a SPDT relay output can be set as a high or low alarm. It can be configured as a Normal or Reverse Acting (fail safe) alarm. The Setpoint control is adjustable over the entire 4-20 mA input range and a Deadband control allows the Hysteresis to be set from less than 1% to 90% of the span.

Using the Alarm circuit, the LM1000 can also be used as a level control by setting the Alarm to trip at a high level to start the pump and setting the Deadband to stop the pump when the level falls to the desired lower limit.

The LED display can be switched to indicate level or to accurately indicate the loop 4-20 mA current. A built in calibrator allows the loop current to be adjusted over the 4-20 mA range with a ten turn potentiometer. The calibrator function is chosen with a spring loaded switch that returns the LM1000 to the Level indication mode when released. This spring loaded switch insures the unit is not

inadvertently left in the Calibration mode. The unique positioning of the switch in relationship to the adjustment potentiometer allows single handed simultaneous operation of both the switch and the potentiometer.

The calibration function can be used to calibrate the LED display in Level. It can also be used to calibrate the alarm Setpoint and Deadband. An LED indicator behind the display lens indicates when the alarm is energized.

The panel mount version is designed to replace bubbler level monitors and is an exact fit for several bubbler products.

### SPECIFICATIONS

#### INPUT

2 wire transmitter  
output proportional to level  
(LM1000 provides 24 VDC  
power to transmitter)

#### DISPLAY

4 Digit .56" LED

#### DISPLAY RESOLUTION

2 decimal places to 99.99  
Ft. or loop current in mADC

#### OUTPUT

4/20 mADC  
proportional to Level

#### ALARM / CONTROL OUTPUT

SPDT Relay  
rated 5 Amps, 240 VAC

#### DEADBAND

Adjustable 1% to 90% of scale

#### CONTROL TYPE

On - Off  
Reverse (pump out)  
or Direct (pump in)

#### POWER

120 VAC  $\pm 10\%$ ,  
50/60 Hz  
3.5 VA maximum

#### ACCURACY

0.05% of Span  $\pm 1$  digit

#### OPERATING TEMPERATURE

-13°F to 176°F  
(-25°C to 80°C)

#### ENCLOSURES

##### Panel Mount (PM)-

Anodized aluminum front panel  
Dimensions:  
6.13" x 7.75" x 1.88"

##### NEMA 4X (N4) -

Fiberglass reinforced polyester  
NEMA 4X enclosure, hinged door  
with viewing window, SS latch  
with padlock hasp.

Dimensions:  
9.59"H x 7.71"W x 4.03"D

**ORDERING INFORMATION**

**MODEL**

- N4 = NEMA 4 Enclosure
- PM = Panel Mount

**INPUT RANGE**

- 0/5 PSI = 0/11.54 Ft. WC
- 0/10 PSI = 0/23.07 Ft. WC
- 0/15 PSI = 0/34.60 Ft. WC

**Alarm Logic**

- Normal - De-Energize On Alarm
- Reverse - Energize On Alarm

**Enter Setpoint Input Level**

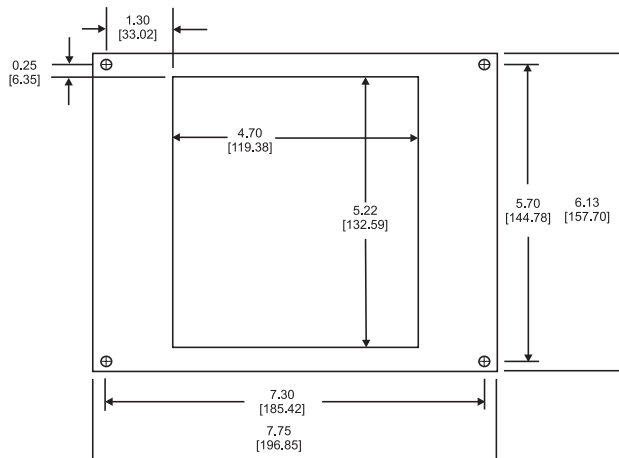
Setpoint

**ACCESSORIES**

**DIMENSIONS**

Inches [mm]

LM1000-PM



**CONNECTIONS**

**Terminal Marking**

- Output +
- Output -
- Sensor +
- Sensor -
- Shld
- N/C
- N/C
- Alarm Relay NC
- Alarm Relay NO
- Alarm Relay COM
- N/C
- Power Gnd
- Power L1
- Power L2

**Description**

- 4-20 mA + Output
- 4-20 mA - Output
- Two Wire Transmitter +
- Two Wire transmitter -
- Shield
- No Connection
- No Connection
- Normally Closed Contact
- Normally Open Contact
- Relay Common
- No Connection
- Connection to LM1000
- Metal Chassis
- AC Power Line 1
- AC Power Line 2



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