

- \* LARGE 1 INCH DISPLAY
- \* ENGINEERING UNIT READOUT
- \* LOW 1.00 VDC DROP
- \* BUILT-IN CALIBRATOR
- \* OPTIONAL 24 VDC TRANSMITTER POWER SUPPLY



APPROVED



### GENERAL DESCRIPTION

The Model LD-LPI is a two-wire digital indicator that provides local process indication of a 4-20mA signal by a 3-1/2 digit liquid crystal display. The Indicator features 3-1/2, easy to read, 1 inch high active digits and a dummy zero. It is powered directly from the 4 to 20mA input loop, dropping less than 1 volt across the input terminals.

The LD-LPI provides a digital readout directly proportional to the current input. It may be calibrated to read 0 to 100% for a 4 to 20mA input or to read directly in engineering units. A selection of stick-on labels for commonly used engineering units such as GPM, PSI, °F, etc. is provided with each indicator.

Recalibration of the LD-LPI is easily accomplished through the use of switches and trim pots. The span may be adjusted from 0 to 3998 counts in three switch selectable ranges and the zero offset adjusted from -1999 to +1999 counts also in the three switch selectable ranges. Fine adjustment of span and zero is made on two **non-interactive** 15 turn trim pots.

Another feature of the LD-LPI is a non-active (dummy) zero, which can be turned on or off by means of a DIP switch setting. This allows the display of numbers such as 19,990. One to four decimal point positions or no decimal point is also DIP switch selectable. The LD-LPI provides negative polarity indication, which appears when displaying quantities such as -50 to 150 °F. The negative sign can also be disabled by means of the DIP switch.



An additional feature of the LD-LPI is the internal calibrator. The indicator can be field calibrated while installed in a working 4 to 20mA loop, simply by switching to the calibrate mode. The indicator may also be calibrated on the bench by using a conventional calibrator or by connecting a 1 to 1.5 volt D.C. power source (flashlight battery) across the input terminals and switching to the calibrate mode.

The LD-LPI is housed in a rugged, indoor/outdoor NEMA 4X, polycarbonate housing. This housing is corrosion resistant and dust-tight, and will withstand direct water spray under hose pressure. Options available include a 1/2 inch NPT water-tight conduit hub, a water-tight panel mounting bezel, a bracket for 2 inch pipe mounting, a 3-inch snap-track mounting bracket, and a DIN rail mounting bracket.

The unit carries Intrinsically Safe Approval from Factory Mutual for CL I, DIV 1, GPS A, B, C, & D, and from Canadian Standards Association for CL 1, DIV 1, GPS C & D. It is also classified as non-incentive for CL I, DIV 2, GPS A, B, C & D Hazardous Locations.

#### Loop Power Supply Option

At times the need to provide power for an operating loop is required. Option -LPS provides a 24Vdc @ 25mA source that may be used to power a field transmitter.

## SPECIFICATIONS MODEL LD-LPI

### INPUT

- Range: 4 to 20mA
- Voltage Drop: 0.98V @ 20mA, 25 °C
- Forward current overrange: 100mA max.
- Reverse current: 100mA max.

### PERFORMANCE

- Accuracy:  $\pm 0.1\%$  of span counts,  $\pm 1$  count
- Temperature effect (zero):  $\pm 0.1$  count/ $^{\circ}\text{C}$
- Temperature effect (span):  $\pm 0.01\%$  of span count/ $^{\circ}\text{C}$
- Operating temperature: -30 to +85 °C
- Ripple rejection: less than 1 count with 1 mA peak-to-peak, 60 Hz ripple at input
- Sample rate: 2 per second

### DISPLAY

- Type: 3-1/2 digit LCD, with dummy zero, 1" high
- Range: -1999 to 1999 counts (-19990 to 19990 display)
- Decimal point: four positions or absent, switch selectable
- Polarity sign: negative polarity indication or none, switch selectable
- Action: forward acting (count increases with current), normal calibration; reverse acting (count decreases with current)

### CALIBRATION

- Span range: 0 to 3998 counts, 3 ranges switch selectable, fine adjustment on 15 turn trim pot, noninteractive with zero pot.
- Offset range: -1999 to +1999 counts, 3 ranges switch selectable, fine adjustment on 15 turn trim pot, noninteractive with span pot.
- Resolution: better than 1 count

### ENCLOSURE

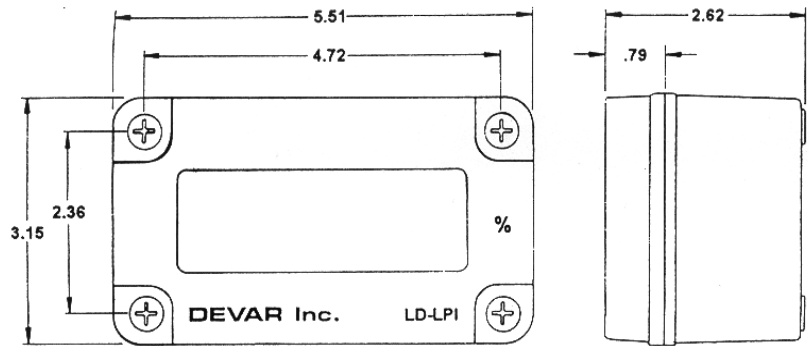
- Material: polycarbonate
- Ratings: NEMA 4X, flammability UL 94-5V
- Weight: 1 lb

### OPTION - LPS

- Power: 105 to 125 V, 50/60 Hz, 5 VA
- Output voltage: +24 VDC  $\pm 1$  V
- Output current: 25 mA, Internally Limited
- Line Regulation: 0.004% per Volt Typ., 0.06% per Volt Max.
- Load Regulation: 0.004% Typ., 0.04% Max
- Ripple: 20 mV P-P, Max
- Temperature range: -40 to 85 °C
- Temperature effect: 0.008% per °C, Typ.

### ORDERING INFORMATION

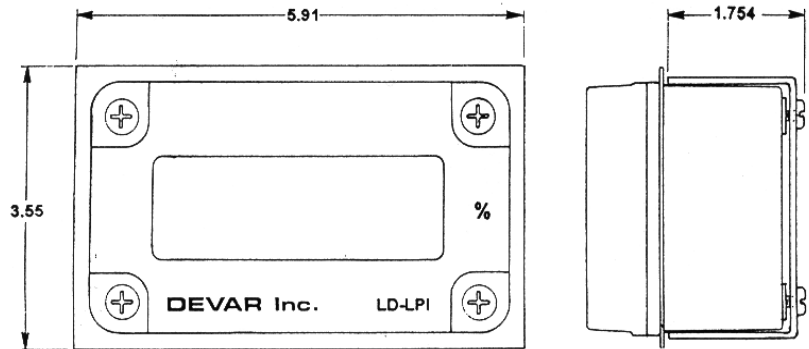
- Specify Model No. LD-LPI (Option)  
Add desired Option(s) below
- LPS Loop Power Supply
  - M36 Pipe Mounting Kit
  - M31D Din Rail Bracket
  - M31S Snap Track Bracket
  - M42 Conduit Hub
  - M46 Panel Mt. (NEMA 4)



GENERAL DIMENSIONS

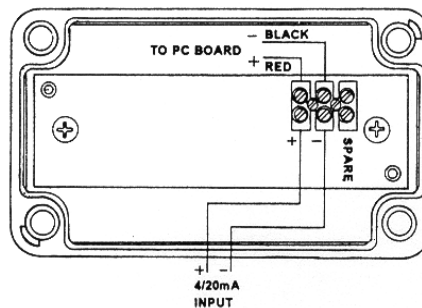
#### Notes:

- Four mounting holes for #6 screws are located directly below the cover screws.
- Access to the enclosure can be made by drilling, punching or sawing holes into the long sides of the enclosure. Locate center of access holes 7/8 of an inch from the back side of the enclosure.

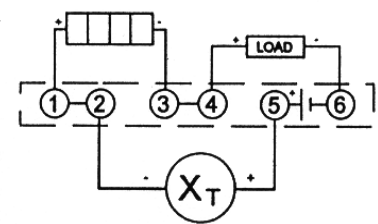


Panel Mount Dimensions

Panel Cutout: 5.45 x 3.07<sup>+0.15</sup>



Field Wiring



WIRING / OPTION LD-LPI-LPS

# DEVAR Inc.

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