

- * LOOP POWERED
- * ENGINEERING UNIT READOUT
- * LOW VOLTAGE DROP
- * INTRINSICALLY SAFE
- * LINEAR OR SQUARE ROOT RESPONSE
- * WIDE TEMPERATURE OPERATION



INTRINSICALLY SAFE



General Description

The 18-LPI is a two-wire digital indicator that provides local process indication on a 3-1/2 or 4-1/2 digit, liquid crystal display. Deriving its power directly from the input signal, the 18-LPI can be mounted at any convenient viewing location along the 4 to 20 mA loop.

The 18-LPI provides a digital readout that is directly proportional to the current input. The indicator is calibrated at the factory to display 0 to 100.0% for a 4 to 20 mA input signal. However, it can easily be recalibrated in the field to read directly in any desired engineering units. A selection of stick-on labels of commonly used engineering units such as GPM, PSI, °F, etc. is provided with each indicator.

Recalibration of the 18-LPI is accomplished through the use of switches and trim-pots. The span and zero can be configured to display any desired range. Final adjustments are quickly made using the



non-interactive, 15 turn, span and zero potentiometers. Decimal point positions (or no decimal point) are also switch selectable. The 18-LPI provides negative polarity indication, which appears when displaying quantities such as - 300 to 1000 °F. The negative sign can, be disabled by means of a switch.

The Model 18-LPI-IV, not only offers a one volt drop but also eliminates the need for an external calibrator. This unit features a built-in calibrator and need not be removed from the loop for configuration. You simply switch to the calibrate mode, adjust the span and zero pots and switches and then switch back to operate, all without disturbing the loop wiring.

The 18-LPI is housed in a polycarbonate, NEMA 4X enclosure. Most models are also rated intrinsically safe and non-incendive. See specifications for agency approvals.

Specifications

1. Input

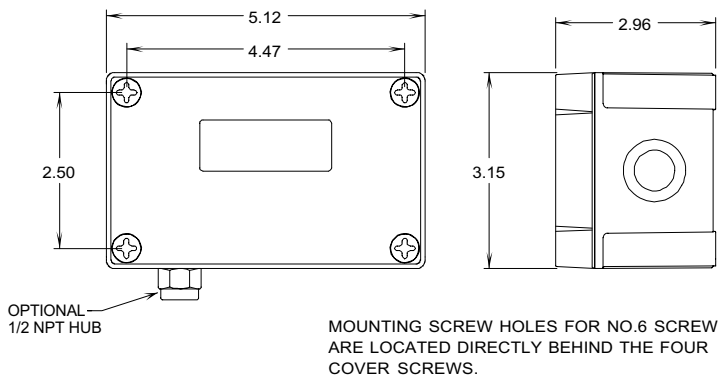
- Range: 4 to 20 mA
- Voltage drop 18-LPI: 3V @ 20mA, 25°C
- Voltage drop 18-LPI-1V: 1V @ 20mA, 25°C
- Voltage drop 18-LPI-4: 3.3V @ 20mA, 25°C
- Forward current over range: 60 mA max.
(18-LPI-1V: 100 mA max.)
- Reverse current: 100 mA max.

2. Display

- Type: 3-1/2 digit LCD, 0.5 inch high digits
(18-LPI-4: 4-1/2 digit, 0.4 inch high digits)
- Range: -1999 to 1999 counts
(18-LPI-4: -19999 to 19999)
- Decimal point: switch selectable
- Polarity sign: negative polarity indication or none, switch selectable
- Overrange indication: display blanks except for most significant "1"

3. Calibration

- Span range: 0 to 3998 counts, 3 ranges switch selectable
(18-LPI-4: 0 to 39998 counts, 16 ranges switch selectable)
- Offset range: -1999 to +1999 counts, 3 ranges switch selectable
(18-LPI-4: -19999 to +19999 counts, 16 ranges switch selectable)
- Fine adjustment: 15 turn trim pots, zero pot non-interactive with span pot



4. Performance

- Accuracy: $\pm 0.1\%$ of span counts, ± 1 count
(18-LPI-4: reading, ± 3 counts)
- Temperature effect: $\pm 0.01\%$ per °C, typ.
- Operating temperature: -20 to 70 °C
(18-LPI-4: -30 to 60 °C)
- Wide temperature option: -40 to 85 °C
(Not available on 18-LPI-4)
- Ripple rejection: less than 1 count with 1 mA peak-to-peak, 60 Hz ripple at input
- Sample rate: 2 per second

5. Enclosure

- Material: Polycarbonate
- Knockouts : Long Sides (two) 21/15.5 mm
Short Sides (one) 29/23.mm
- Weight: 12 oz.
- NEMA 4X, UL 94-V2 (cover), UL 94-V1 (body)

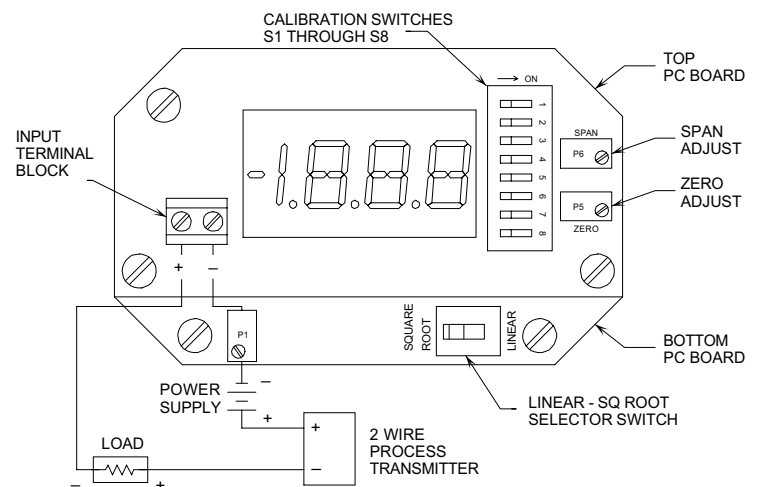
6. Factory Mutual Approvals

(All models except 18-LPI-4)

- Intrinsically safe:
Class I, Div 1, Groups A, B, C, D;
- Non-incendive:
Class I, Div 2, Groups A, B, C, D

Ordering Information:

18-LPI	Standard indicator
18-LPI-1V	One volt drop
18-LPI-4	4-1/2 digit display
18-LPI-SR	Square root or linear response (switch selectable)
Option WT	Wide temp. (-40 to 85°C) (Not available on 18-LPI-4)
Option M42	1/2" water tight conduit hub
Option M31D	DIN rail mount option



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