

1/8 DIN Economical Two-Wire, Loop-Powered Process Indicator with Liquid Crystal Display



TX82B Series



- ✓ FM Intrinsic Safety Certification
- ✓ Powered by 1 to 5 mA, 4 to 20 mA or 10 to 50 mA Signal
- ✓ 2.5 Maximum Voltage Drop
- ✓ Display to ± 1999 , $\pm 19,990$ or $\pm 199,900$
- ✓ 12.7 mm (0.5") LCD
- ✓ 100 to 2000 Count Span Adjust
- ✓ 2000-Count Zero Suppression or Elevation
- ✓ Short 1/8 DIN Case
- ✓ Simple 2-Wire Hook-Up
- ✓ Safe Plug-in Screw-Clamp Connector



TX82B shown smaller than actual size.

Options

- ✓ -40 to 85°C (-40 to 185°F) Operating Temperature
- ✓ NEMA 4 Splash-Proof Lens Cover

TX82B is a 1/8 DIN-sized 2-wire current-loop indicator that is powered directly by 1 to 5 mA, 4 to 20 mA or 10 to 50 mA process signals, with no need for external power connections. This reduces field wiring costs and provides immunity from most electrical noise encountered in process-control environments. The 2-wire electrical hookup is easy via a plug-in screw-clamp connector, which is standard. The TX82B provides extensive zero and span adjustment capability for direct readout in percent or in engineering units for process variables such as pressure, flow, temperature, or level. A 12.7 mm (0.50") high LCD display provides 3 1/2 active digits for readout to ± 1999 , 2 jumper-selectable dummy right-hand zeros for display

to $\pm 19,990$ or $\pm 199,900$, and 5 jumper-selectable decimal points. With the dummy zeros, the TX82B can thus be used to display the weight of heavy trucks in pounds or the volume of large tanks in gallons. Both span and zero are fine-tuned with precision 15-turn potentiometers accessible behind the lens. Coarse zero and span steps as well as the dummy right-hand zero are selected by opening the case and changing push-on jumpers. FM intrinsic safety certification is standard. Intrinsic safety certification allows the TX83A to be used in worst-case hazardous environments with no need for an explosion-proof housing, provided that an intrinsic safety barrier is used to limit the voltage and current

that may be introduced in the hazardous environment.

FM certification (USA) is for class I, II, III, division 1, groups A, B, C, D, E, F, G. The FM certification number is 2Y4A4.AX (3610).

The TX82B is housed in a splash-resistant case and requires a depth of less than 100 mm (3.9") behind the panel. A splash-proof lens cover which meets NEMA 4 requirements is optional. Electrical connections are via a 3-pole male header connector on the circuit board and a mating plug-in socket connector with screw clamps, which accommodate wire sizes of 0.5 to 2.5 mm (26 to 16 AWG). These supplied connectors provide easy and reliable electrical connections and meet UL and IEC-348 safety requirements.

Specifications

Signal Input

Signal: 1 to 5 mA, 4 to 20 mA or 10 to 50 mA (jumper-selectable)

Linear Range: 0.3 to 50 mA

Protection: Up to 200 mA forward, 1000 mA reverse current; forward voltage drop, max 2.5V

Input Resistance: 50 Ω @ 1 to 5 mA, 12.5 Ω @ 4 to 20 mA, 5 Ω @ 10 to 50 mA

Zero Adjust: -2000 to +2000 counts in 4 jumper-selectable ranges plus fine adjustment 00

Span Adjust: 100 to 2000 counts with fine adjustment

NMR: 46 dB, 50/60 Hz

CMR (Meter to Case): 120 dB, DC to 60 Hz

CMV (Meter to Case): 300 Vac

Accuracy at 25°C

Maximum Error: ±0.1% of rdg ±1 count

Zero Tempco: ±0.1 count/°C typical, ±0.3 count/°C max

Span Tempco: ±0.005% of span/°C typical, ±0.015% of span/°C max

Analog-to-Digital Conversion

Technique: Dual-slope, average-value

Polarity: Automatic

Integration Period: 100 ms

Read Rate: 2.5/s

Mechanical

Case: ½ DIN

Panel Cutout: 45 H x 92 mm W (1.77 x 3.62")

Bezel Dimensions: 48 H x 96 W x 8 mm T (1.89 x 3.79 x 0.31")

Depth Behind Bezel: 100 mm (3.94")

Case Material: 94V-0 UL-rated polycarbonate

Weight: 128 g (4.5 oz)

Circuit Board Connector:

Three-pole male header

Cable Connector (Standard):

Mating plug-in socket with screw-clamps for wire sizes 0.5 to 2.5 mm² (26-16 AWG)

Connector Safety Ratings:

UL and IEC-348

Environmental

Operating Temperature (Standard): 0 to 55°C (32 to 122°F)

Operating Temperature, Optional: -40 to 85°C (-40 to 185°F)

Relative Humidity: 95% at 40°C (non-condensing)

Display

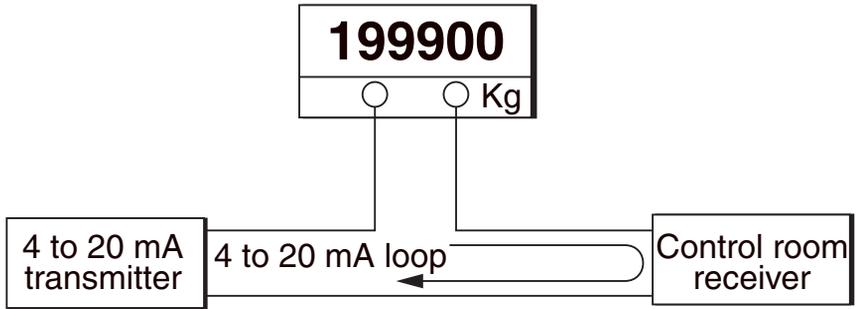
Type: 7-segment LCD

Height: 12.7 mm (0.50")

Symbols: -1.8.8.8.0.0 (3½ active digits plus 2 jumper-selectable dummy right-hand zeros)

Decimal Points: 5 positions, jumper-selectable

Overrange Indication: 3 least-significant active digits blank



A TX82B process-loop indicator may be added to an existing 1 to 5 mA, 4 to 20 mA or 10 to 50 mA installation to provide a local readout scaled in percent or engineering units. No power wiring is required, since the meter is powered directly by the current loop.

To Order

Model No.	Description
TX82B	Current loop indicator
TX82B-ET	Current loop indicator with extended ambient range of -40 to 85°C (-40 to 185°F)

Ordering Suffix	Description
-FS	Custom configuration and calibration

Accessories

Model No.	Description
SPC18	NEMA 4 splash proof lens cover
SPC4	NEMA 4 heavy-duty splash proof lens cover with screw clamp

Comes complete with operator's manual.

Ordering Example: TX82B, current loop indicator.



TX1500 Series, isolated 2-wire, 4 to 20 mA transmitters. Please Visit Omega for more info.