

# Two-Wire, Loop-Powered Process Indicator

MANUFACTURED BY  
**NEWPORT**<sup>®</sup>  
As seen at [www.newportUS.com](http://www.newportUS.com)



Shown larger than actual size.

£123

Model TX82B



**BASEEFA  
CENELEC**

Ex 86B2378

## Standard Features

- ✓ Powered by 1-5 mA, 4-20 mA or 10-50 mA Signal
- ✓ 2.5 V Max Voltage Drop
- ✓ Display to  $\pm 1990$  or  $\pm 199,900$
- ✓ 12.7 mm (0.5 in) Liquid Crystal Display
- ✓ 100 to 2,000 Count Span Adjust
- ✓ 2,000-Count Zero Suppression or Elevation
- ✓ Short 1/8 DIN Case
- ✓ Simple 2-Wire Hook Up
- ✓ Safe Plug-in Screw-Clamp Connector

## OPTIONS

- ✓ Intrinsic Safety Certification
- ✓ -40 to 85°C (-40 to 185°F) Operating Temperature
- ✓ IP65 Splash-Proof Lens Cover

## DESCRIPTION

Model TX82B is a 1/8 DIN-sized two-wire current-loop indicator that is powered directly by 1-5 mA, 4-20 mA or 10-50 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 two-wire electrical hookup is easy, via a plug-in screw-clamp connector, which is standard.

## READOUT OF PROCESS VARIABLES

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 high LCD display provides 3 1/2 active digits for readout to  $\pm 1,999$ , two jumper-selectable dummy right-hand zeros for display to  $\pm 19,990$  or  $\pm 199,900$ , and five jumper-selectable decimal points.

## EASY TO CONFIGURE AND CALIBRATE

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.

## INTRINSIC SAFETY CERTIFICATION

For use in hazardous environments, the TX82B is available with BASEEFA intrinsic safety certification to level EEx ia IIC T4 in accordance with European CENELEC standards EN 50 014 (1977) + A1 to 4 and EN 50 020 (1977) + A1. The BASEEFA certification number is EX 86B2378. EEx ia intrinsic safety certification allows the TX82B to be used in Zone 0 (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.

## BUILT FOR INDUSTRIAL ENVIRONMENTS

Model TX82B is housed in a DIN 4896-100 case, which is splash resistant and requires a depth of less than 100 mm behind the panel. A splash-proof lens cover which meets IP65 requirements is optional. Electrical connections are via a three-pole male header connector on the circuit board and a mating plug-in socket connector with screw clamps, which accommodate wire sizes of 0.5-2.5 mm<sup>2</sup> (26-16 AWG). These supplied connectors provide easy and reliable electrical connections and meet UL and IEC-348 safety requirements.



# Specifications

## SIGNAL INPUT

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

**Linear Range:** 0.3 to 50 mA

**Protection:** Up to 200 mA forward, 1000 mA reverse. Forward voltage drop, max 2.5 V

## Input Resistance:

50 Ω at 1-5 mA,  
12.5 Ω at 4-20 mA,  
5 Ω at 10-50 mA

**Zero Adjust:** -2,000 to +2,000 counts in 4 jumper-selectable ranges plus fine adjustment  
00 Span adjust 100 to 2,000 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 reading ±1 count

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

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

## ANALOGUE-TO-DIGITAL CONVERSION

**Technique:** Dual-slope, average-value

**Polarity:** Automatic

**Integration Period:** 100 ms

**Read Rate:** 2.5/s

## DISPLAY

**Type:** 7-segment LCD

**Height:** 12.7 mm (0.50 in)

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

**Decimal Points:** Five positions, jumper selectable

**Overrange Indication:** Three least-significant active digits blank

## 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)

## MECHANICAL

**Case:** DIN 4896-100

**Panel Cutout:** 45 x 92 mm (1.77 x 3.62 in)

**Bezel Dimensions:** 48 x 96 x 8 mm (1.89 x 3.79 x 0.31 in)

**Depth Behind Bezel:** 100 mm (3.94 in)

**Case Material:** 94V-0 UL-rated polycarbonate

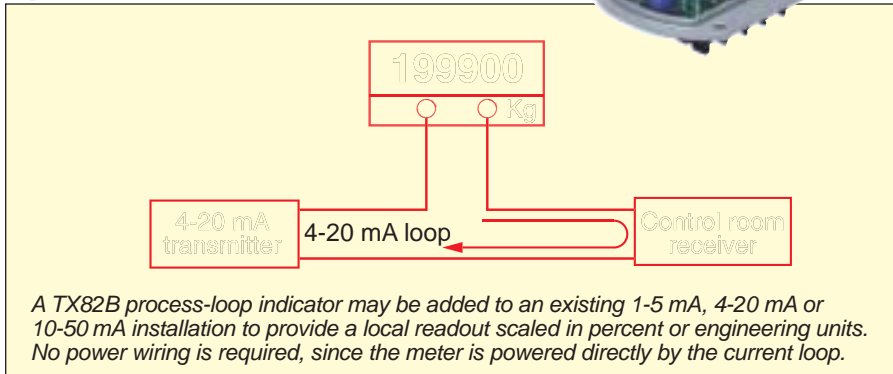
**Weight:** 128 g (4.5 oz)

**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 mm (26-16 AWG)

**Connector Safety Ratings:** UL and IEC-348



## MOST POPULAR MODELS HIGHLIGHTED

To Order (Specify Model Number)		
Model No.	Price	Description
TX82B	£123	Current loop indicator
TX82B-ET	152	Current loop indicator with extended ambient range, -40 to 85°C (-40 to 185°F)

## Options

Ordering Suffix	Add'l. Price	Description
-BL	£12.25	Blank lens without company logo
-FS	20.50	Custom configuration and calibration
-IS1	20.50	Intrinsic Safety Certification, with CENELEC EEx ia certification label

## Accessories

Model No.	Price	Description
SPC18	£24.50	IP65 splash proof lens cover
SPC4	24.50	IP65 heavy duty splash proof lens cover with screw clamp

Comes with complete operator's manual.  
**Ordering Examples:** 1.) TX82B current loop indicator, £123.  
 2.) TX82B-IS1 current loop indicator with Intrinsic Safety Certification, £123 + 20.50 = £143.50.