TEKTROL
Technology Solutions

TEK-LCD 7800B
Explosion-Proof Loop-Powered Process and Level Indicator

ACCESSORIES

Flow | Level | Temperature | Pressure | Valves | Analyzers | Accessories | TekValSys
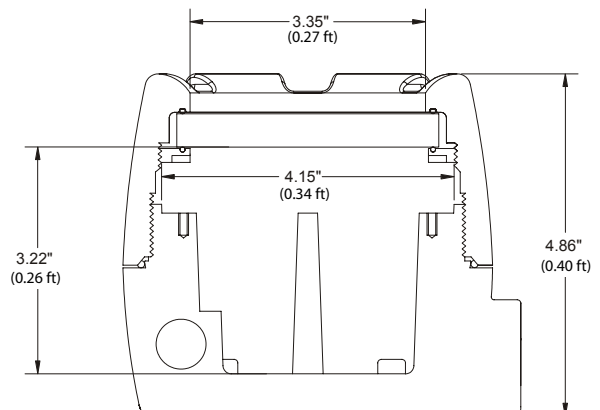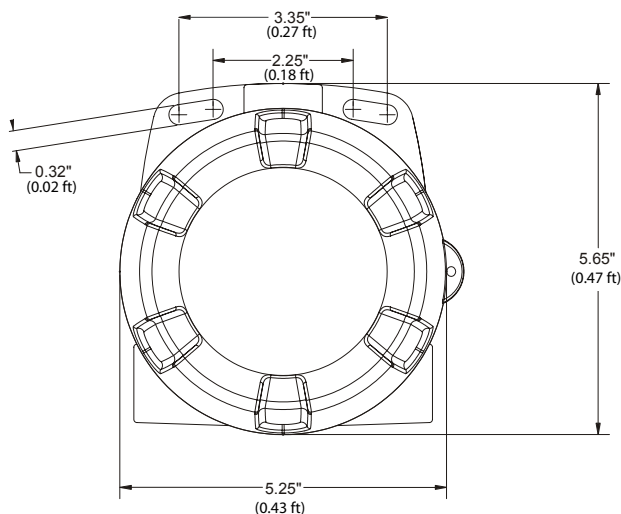
Introduction

The Tek-LCD 7800B Explosion-Proof Loop-Powered Process and Level Indicator

The Tek-LCD 7800B is one of Tek-Trol's most advanced and feature-packed explosion-proof, loop-powered indicators. The fact that this Indicator is loop-powered means that there is no need to run additional, costly power lines into a hazardous area. The Tek-LCD 7800B carries FM, CSA, ATEX, and IECEx approvals for use in hazardous areas. It features a dual-line display that can be easily scaled in the field for any 4-20 mA analog input. The display has a five digit upper display, a seven alpha-numeric character lower display, and is available with a twenty-segment bar graph for level applications. Two features that really make the PD6800 stand out are its wide viewing angle display and SafeTouch® through-glass buttons. These buttons allow the Tek-LCD 7800B to be programmed and operated through the glass, thus eliminating the need to remove the cover in a hazardous area.

Features

- 4-20 mA Input
- Modern, Sleek and Practical Enclosure for Safe Areas
- 5-Digit, 0.7" (0.05 ft) Upper Display (0.6" for -0L1 Models)
- Optional Level Indicator Bar Graph
- 7 Alphanumeric Character, 0.4" (0.03 ft) Lower Display
- SafeTouch® Through-Glass Button Programming
- Password Protection
- 32-Point , Square Root, or Exponential Linearization
- Loop or External DC-Powered Backlight Standard
- 3.0 V Drop (6.0 V with Backlight)
- Explosion-Proof, IP68, NEMA 4X Enclosure
- HART Protocol Transparent
- Operates from -40 °C to 75 °C (-40°F to 158°F)

Dimensional Drawings

Specifications

General

Display	Five digits (-9999 to 99999) 0.70" (0.05 ft) high, 7-segment, automatic lead zero blanking; **-0L1:** 0.6" high with level bar graph. Lower: Seven characters 0.4" (0.03 ft) high, 14 segment alphanumeric. Symbols: for high & low alarm, Password Lock. Backlight: White
Decimal Point	Upper process display has up to four decimal places or none: d.dddd d.ddd, d.dd, d.d, or ddddd
Display Update Rate	Ambient > -25°C: 2 Updates/Second. Ambient < -25°C: 1 Update/5 Seconds
Externally Powered Backlight	Voltage Range: 9-36 VDC
Display Orientation	Display may be mounted at 90° increments up to 270° from default orientation
Over Range	Display flashes 99999
Under Range	Display flashes -9999
Programming Method	Four SafeTouch® through-glass buttons when cover is installed. Four internal pushbuttons when cover is removed.
Noise Filter	Programmable - Lo, Med, Hi, or Off
Recalibration	Recalibration is recommended at least every 12 months.
Max./Min. Display	Max/Min readings reached by the process are stored until reset by the user or until power to the Indicator is turned off.
Password	Programmable password restricts modification of programmed settings.
Advanced Functions	Live input calibration, linearization, square root, or programmable exponent.
Alarm Indication	Flashing display plus HI/LO indicators
Non-Volatile Memory	All programmed settings are stored in non-volatile memory for a minimum of ten years if power is lost.
Normal Mode Rejection	64 dB at 50/60 Hz
Operating Temperature Range	-40 °C to 75 °C (-40°F to 158°F)
Storage Temperature Range	-40 °C to 75 °C (-40°F to 158°F)
Relative Humidity	0 to 90% non-condensing
Connections	Screw terminals accept 12 to 22 AWG wire
Enclosure	Explosion-proof die-cast aluminum with glass window, corrosion resistant epoxy coating, color: blue. NEMA 4X, 7, & 9, IP68. Copper-free (0.3%). Two ¾" NPT threaded conduit openings. One ¾" NPT metal conduit plug with 1ft hex key fitting installed
Mounting	May be mounted directly to conduit. Two slotted flanges for wall mounting or NPS 1½" to 2½" or DN 40 to 5.41 ft pipe mounting.
Overall Dimensions	5.65" x 5.25" x 4.86" (W x H x D)
Weight	5.00 lbs (80 oz, 2.27 kg)

Input

Input Range	4-20 mA
Accuracy	±0.03% of calibrated span ±1 count, square root & programmable exponent accuracy range: 10-100% of calibrated span.
Temperature Drift	50 PPM/°C
Decimal Point	User selectable decimal point
Calibration Range	An error message will appear if input 1 and input 2 signals are too close together. Input Range: 4-20 mA. Minimum Span Input 1 & Input 2: 0.10 mA.
Maximum Voltage Drop	3.0 VDC @ 20 mA without loop-powered
Equivalent Resistance	150 Ω @ 20 mA without loop-powered backlight. 300 Ω @ 20 mA with loop-powered backlight.
Input Overload	Over current protection to 2 A max.
Product Ratings and Approvals	**FM:** Explosion-proof for use in Class I, Division 1, Groups B, C, D. Class II, Division 1, Groups E, F, G. Class III, Division 1; T6. Class I, Zone 1, AEx d IIC T6 Gb. Zone 21, AEx tb IIIC T85°C. Ta = -40 to 75°C. Enclosure: Type 4X & IP66. Certificate number: 3040391
	ATEX: II 2 G D. Ex d IIC T6 Gb. Ex tb IIIC T85°C Db IP68. Ta = (-40°F to 158°F) . Certificate number: Sira 10ATEX1116X
	CSA: Class I, Division 1, Groups B, C, D. Class II, Division 1, Groups E, F, G. Class III, Division 1; T6. Class I, Zone 1, Ex d IIC T6. Ta = (-40°F to 158°F). Enclosure: Type 4X & IP66. Certificate number: 11 2325749
	IECEx: Ex d IIC T6 Gb. Ex tb IIIC T85°C Db IP68. Ta = -40 to 75°C (-40°F to 158°F) Certificate number: IECEx SIR 10.0056X.

Popular Models

Model Number	Description
7800B-0K0	Explosion-Proof Loop-Powered Process & Level Indicator
7800B-0L0	Explosion-Proof Loop-Powered Process & Level Indicator with Bar Graph

Accessories

Model Number	Description
7800A-6846	Steel Pipe Mounting Kit
7800A-6846SS	Stainless Steel Pipe Mounting Kit
7800B-002	¾" M-NPT to ½" F-NPT Approved Reducer

Customer Service and Support

TEKTROL

www.tek-trol.com

Tek-Trol is a fully owned subsidiary of TEKMATION LLC. We offer our customers a comprehensive range of products and solutions for process, power, and oil and gas industries. Tek-Trol provides process measurement and control products for Flow, Level, Temperature and Pressure Measurement, Control Valves and Analyzer systems. We are present in15 locations globally and are known for our knowledge, innovative solutions, reliable products, and global presence.

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