TEK-LCD 7801B

Explosion-Proof Loop-Powered Feet and Inches Level Indicator
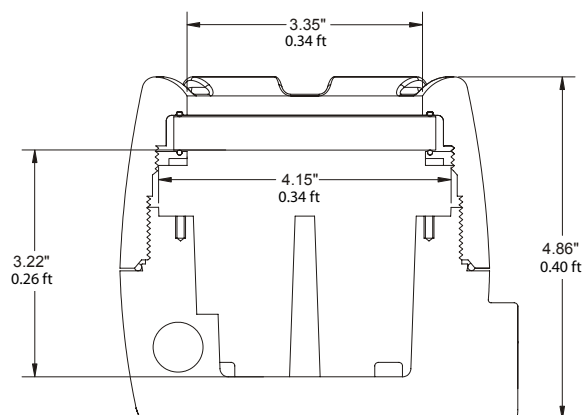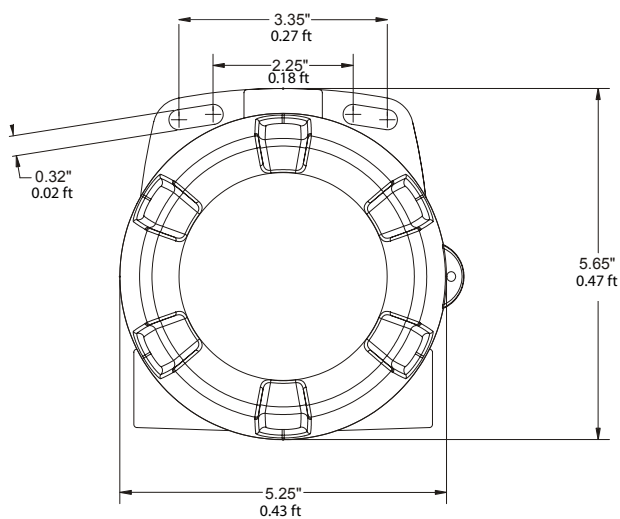
ACCESSORIES

Introduction

The Tek-LCD 7801B Explosion-Proof Loop-Powered Process and Level Indicator

The Tek-LCD 7801B is one of Tek-Trol's most advanced and feature-packed explosion-proof, loop-powered indicators designed specifically for level applications that require a feet & inches display. The Tek-LCD 7801B can indicate up to 699 feet, 11 and 15/16 (or 7/8) inches. The Tek-LCD 7801B explosion-proof level indicator 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. Two features that really make the Tek-LCD 7801B stand out are its wide viewing angle display and SafeTouch® through-glass buttons. These buttons allow the Tek-LCD 7801B tank-side indicator to be programmed and operated through the glass, thus eliminating the need to remove the cover in a hazardous area.

Features

- Display Level in Feet & Inches
- 4-20 mA Input Loop-Powered
- Programmable 1/8 or 1/16 Inch Display
- 20-Segment Tank Level Indicator
- Lower Display for Tag, Volume, or Percent
- SafeTouch® Through-Glass Button Programming
- Open Collector Alarm Output
- Loop-Powered or External DC-Powered Backlight Standard
- Explosion-Proof, IP68, NEMA 4X Enclosure
- Operates from -40 °C to 75 °C (-40°F to 158°F)

Dimensional Drawings

Specifications

General

Display	Feet & Inches display: 0.60" (0.05 ft) high, 0 to 699 FT - 11 15/16 IN with 1/16 or 1/8 fraction display. Lower 7-digit display: 0.4" (0.03 ft) high, 14-segment alphanumeric characters, display tag, volume 0 to 9999999, and/or 0-100 percent. Tank Level Indicator: 20 segments, F (Full) and E (Empty) Alarm Indication: HI and LO; Backlight: White, loop or DC powered
Display Assignment	Lower display may be assigned to custom unit or tag, volume, volume and tag, percent height, percent height and tag, or off.
Display Update Rate	Ambient > -25°C: 2 Updates/Second Ambient < -25°C: 1 Update/5 Seconds
Externally Powered Backlight	Voltage Range: 9-36 VDC
Over Range	Level display flashes to 699 ft 11 15/16 IN Volume display flashes 9999999 if over range
Under Range	-999999 if under range
Programming Method	Four SafeTouch® through-glass buttons when cover is installed. Four internal pushbuttons when cover is removed.
Noise Filter	Programmable low (LO), medium (MED), high (HI), or off (OFF)
Recalibration	Recalibration is recommended at least every 12 months.
Password	Programmable password restricts modification of settings.
Nonvolatile 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 IP68. Two ¾" NPT threaded conduit openings. One ¾" NPT metal conduit plug with 0.03 ft hex key fitting installed.
Mounting	May be mounted directly to conduit. Two slotted flanges for wall mounting or NPS 1½" to 2½" or DN 0.13 to 0.21 ft pipe mounting.
Overall Dimensions	5.65" x 5.25" x 4.86" (W x H x D) (0.47 ft x 0.43 ft x 0.40 ft)
Weight	5.00 lbs (80 oz, 2.27 kg)

Input

Input Range	3 to 24 mA
Accuracy	±0.03% of calibrated span ±1 count
Temperature Drift	50 PPM/°C from -40 to 75 °C (-40°F to 158°F) ambient
Multi-Point Linearization	2 to 32 points each for level and volume
Calibration Range	Input Range: 4-20 mA, Input 1 & 2 Minimum Span: 0.10 mA
Maximum Voltage Drop	Without Backlight or with Externally-Powered (DC Powered) Backlight: 3.0 VDC @ 20 mA With Loop-Powered Backlight: 6.0 VDC @ 20 mA
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.
HART Transparency	Analog input will not interfere with existing HART communications on the wired 4-20 mA signal
Alarm Output	Assign to level or volume for high or low alarm trip point
Deadband	0-100% FS, user selectable
Acknowledge	Front panel ENTER button and external RESET terminals resets output and screen indication.
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 °C to 75 °C. (-40°F to 158°F) 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 °C to 75 °C. 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 °C to 75 °C. (-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 °C to 75 °C (-40°F to 158°F) Certificate number: IECEx SIR 10.0056X.

Popular Models

Model Number	Description
7801B-0K1	Explosion-Proof Loop-Powered Feet & Inches Level Indicator

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

www.tek-trol.com

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