TEK-TROL

Technology Solutions

*T*EK-*L*CD 7805B

Explosion-Proof Large Display Loop-Powered Indicator

FM
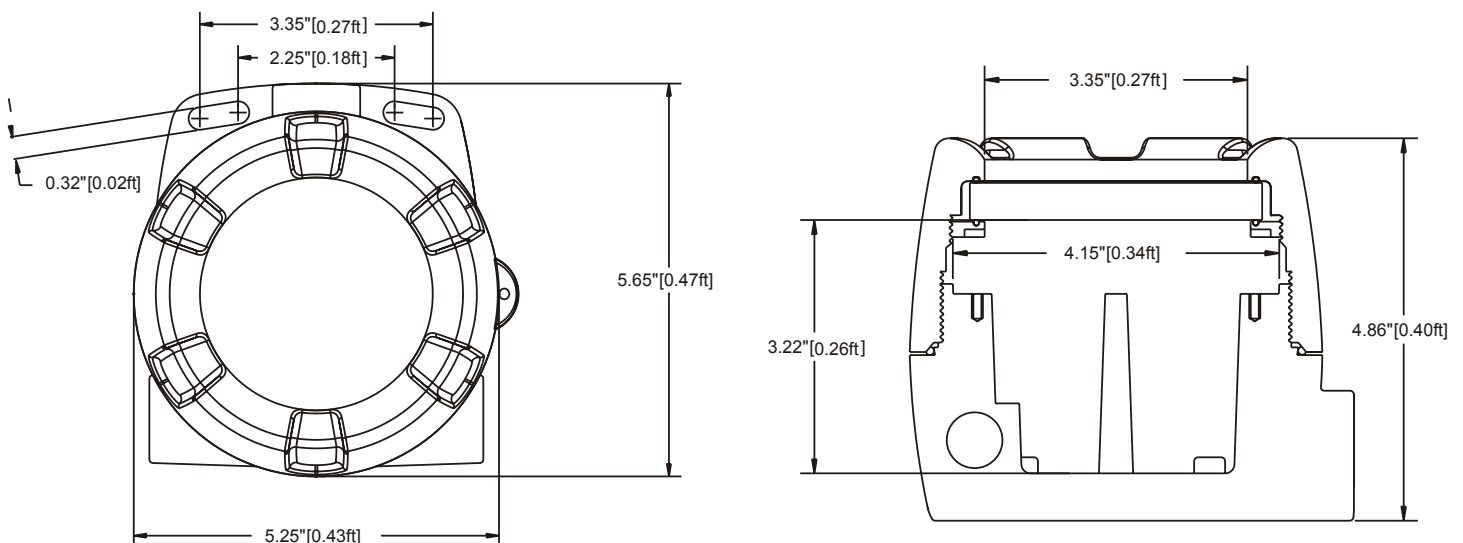Ex
CSA
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INDICATOR/ CONTROLLER

Introduction

The Tek-LCD 7805B Explosion-Proof Large Display Loop-Powered Indicator

The Tek-LCD 7805B is an explosion-proof, loop-powered process Indicator with 1" display digits in a field-mountable enclosure designed for demanding applications in hazardous areas or in the harshest environmental conditions. The meter derives all of its power from the 4-20 mA loop with a small 1 V drop so there is no need to run additional, costly power lines into a hazardous area. The Tek-LCD 7805B loop-powered indicator carries FM, CSA, ATEX, and IECEx approvals for use in hazardous areas. It is programmed using four easy-to-access, front-mounted control dials.

Features

- 4-20 mA Input
- Modern, Sleek and Practical Enclosure for Safe Areas
- 3½ Digits, 1" (0.08 ft) Display
- Display Mountable at 0°, 90°, 180°, and 270°.
- Easy Calibration and Installation
- Loop-Powered Backlight Option
- 1 V Drop (4 V with Backlig ht)
- Explosion-Proof, IP68, NEMA 4X Enclosure
- Flanges for Wall or Pipe Mounting
- HART Protocol Transparent
- Operates from -40 °C to 75 °C (-40°F to 167°F)

Dimensional Drawings

Specifications

General

Display	3½ digit LCD, 1" (0.08 ft); -1,999 to 1,999
Display Update Rate	2.5 Updates/Second
Display Orientation	Display may be mounted at 90° increments up to 270° from default orientation
Externally Powered Backlight	Voltage Range: 9-36 VDC
Over Range	Display reads 1 on the left most digit
Recalibration	Recommended at least every 12 months.
Programming Method	Four front mounted rotary control dials accessed when the cover is removed.
Normal Mode Rejection	60 dB rejection ratio
Operating Temperature Range	-40 °C to 75 °C (-40°F to 167°F)
Storage Temperature Range	-40 °C to 75 °C (-40°F to 167°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, 0.30% max copper content, corrosion resistant epoxy coating, color: blue. NEMA 4X, IP68. Two ¾" NPT threaded conduit openings. One ¾" NPT nickel plated brass 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 40 to 0.21 ft pipe mounting.
Overall Dimensions	5.65" x 5.25" x 4.86" (.47 ft x 0.43 ft x 0.40 ft) (W x H x D)
Weight	5.00 lbs (80 oz, 2.27 kg)

Input

Input Range	4-20 mA
Accuracy	±0.1% of full span ±1 count
Temperature Drift	150 PPM/°C from -40 to 75°C ambient
Decimal Point	User selectable decimal point
Calibration Range	4 mA input: -1000 to +1000; 20 mA between 20 and 2000 counts greater than 4 mA display. Two point linear display span.
Maximum Voltage Drop	1 VDC @ 20 mA without backlight; 4 VDC @ 20 mA with loop-powered backlight.
HART Transparency	Analog input will not interfere with existing HART communications on the wired 4-20 mA signal
Loop-Powered Backlight Option	Factory installed only. Powered directly from the 4-20 mA loop, no batteries required. Backlight can be enabled or disabled via alternative wiring of terminal block. The display brightness will increase as the input signal current increases.
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 °C 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 °C to 75 °C. (-40°F to 167°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 °C to 75 °C. 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 167°F) Certificate number: IECEx SIR 10.0056X.

Popular Models

Model Number	Description
7805B-0L0	Explosion-Proof Large Display Loop-Powered Meter

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

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