



Technology Solutions

TEK-LCD 7800A

NEMA 4X Loop-Powered Process and Level Indicator



ACCESSORIES





Introduction

The Tek-LCD 7800A NEMA 4X Loop-Powered Process and Level Indicator

Tek-LCD 7800A NEMA 4X Loop-Powered Process and Level Indicator is one of Tek-Trol's most advanced and feature-packed plastic, field-mounted, loop-powered indicators. The fact that this meter is loop-powered means that there is no need to run additional, costly power lines. The Tek-LCD 7800A is built in a NEMA 4X and IP65 rated plastic enclosure which can stand up to even the harshest environmental conditions. 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 comes with a backlight standard. Two features that really make the Tek-LCD 7800A stand out are its wide viewing angle display and SafeTouch® through-window buttons. These buttons allow the meter to be programmed and operated through the cover window, thus eliminating the need to remove the cover in dirty or wet environments.

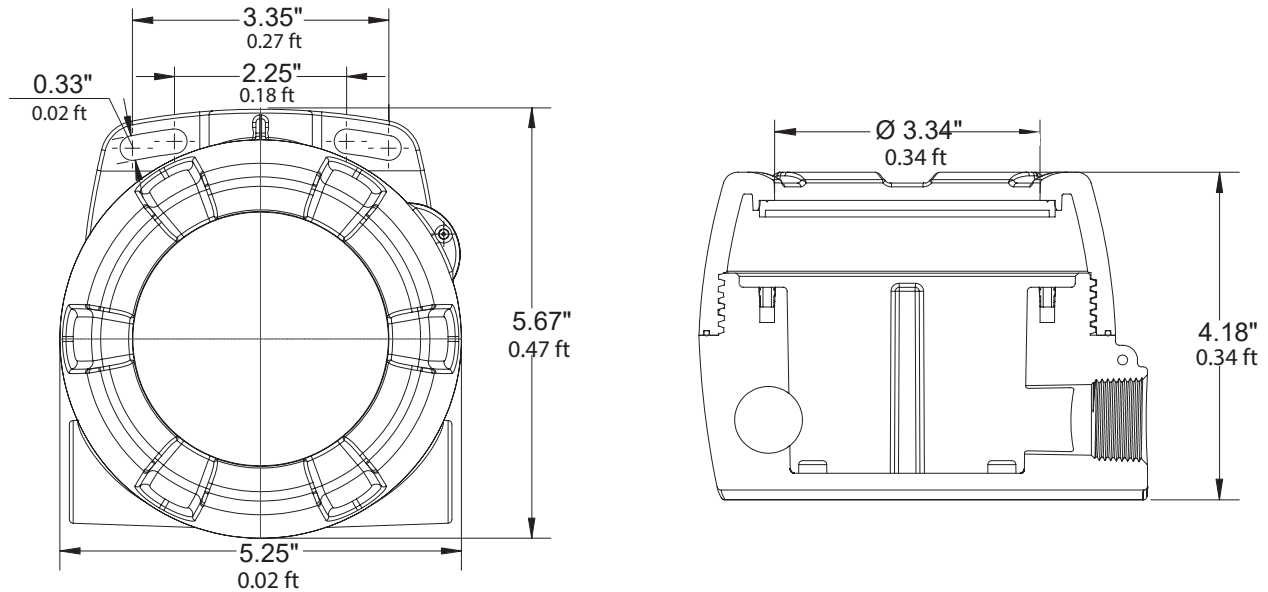
Features

- 4-20 mA Input Loop-Powered
- Modern, Sleek and Practical Enclosure for Safe Areas
- 5-Digit, 0.7" (0.04 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-Window 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)
- NEMA 4X, IP65 Plastic Enclosure
- Flanges for Wall or Pipe Mounting
- HART® Protocol Transparent
- Operates from -40 °C to 75 °C (-40°F to 158°F)

Application

- Live Input Calibration
- Multi-Point Linearizer
- Square Root Extraction
- Programmable Exponent

Dimensional Drawings



Specifications

General

Display	Upper: Five digits (-9999 to 99999) 0.70" (0.58 ft) high, 7-segment, automatic lead zero blanking; -OL1: 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-window 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 meter is turned off.
Password	Programmable password restricts modification of programmed settings.
Advanced Functions	Linear, 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	EMA 4X, IP65 plastic field enclosure. Color: gray. Material: Polycarbonate with UV Stabilizer. Three ¾" NPT threaded conduit openings. Two ¾" NPT plastic conduit plugs, with 1.29" wrenching flats and a screwdriver slot, are included.
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	5.67" x 5.25" x 4.18" (0.47 ft x 0.43 ft x 4.18 ft) (W x H x D)
Weight	1.65 lbs (26.4 oz, 0.75 kg)

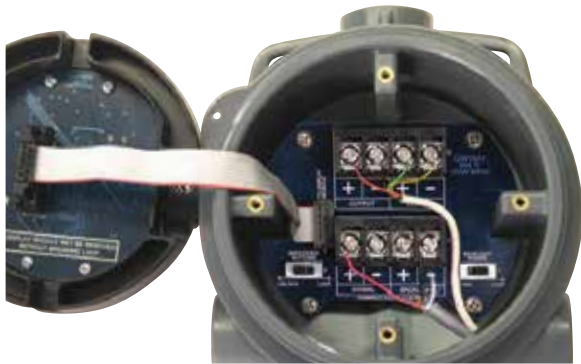
Input

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 from -40 to 75°C (-40°F to 158°F) ambient
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 and Input 2: 0.10 mA
Maximum Voltage Drop	3.0 VDC @ 20 mA without loop-powered backlight. 6.0 VDC @ 20 mA with loop-powered backlight
Low-Flow Cutoff	0-999999 (0 disables cutoff function)
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.

Installation

Installation Flexibility

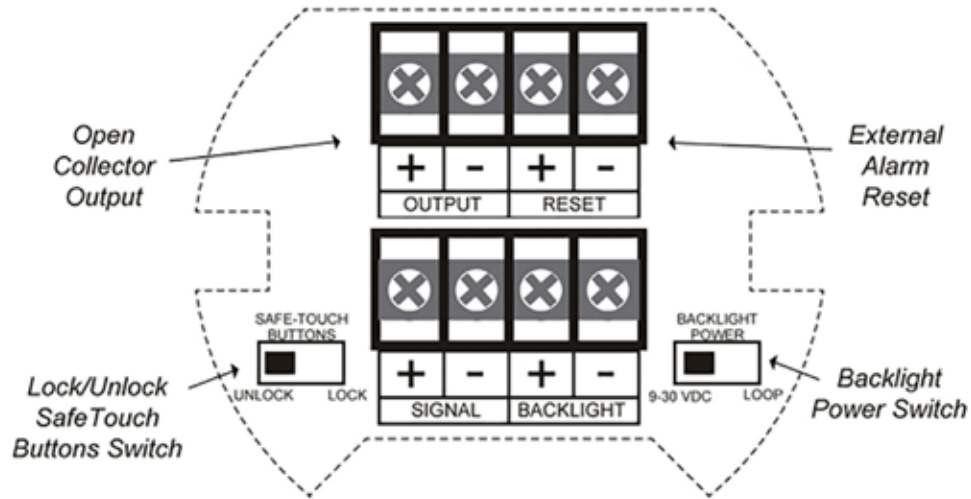
- Tek-LCD 7800A rotatable display/meter module along with three available conduit connections provide for numerous installation options. The display can be rotated in 90° increments. Rotate it 90° for horizontal mounting. Wiring can then be routed to either the top conduit connection, or from below to the opposite conduit connection (plastic conduit plug supplied). Use the three conduit connections for through-wiring in any direction. Two 3/4" NPT plastic conduit plugs, with 1.29" wrenching flats and a screwdriver slot, are included.



Easy Wiring and Service

- Unscrew the two captured thumb screws and unplug a connecting cable and the display/meter module is simply and completely removed. A heavy duty terminal block is then easily accessed and wired. It is clearly marked to prevent wiring errors. The display/meter module can be removed without breaking the loop. As such, it can be serviced without the need to uninstall the entire product.

Connections



Popular Models

Model Number	Description
7800A-0K0	NEMA 4X Loop-Powered Process and Level Indicator
7800A-0L1	NEMA 4X 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
7800A-PLUG75P	¾" NPT Plastic Conduit Plug

Customer Service and Support



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