



Technology Solutions

# TEK-LCD 7803A

*NEMA 4X Pulse Input Rate/Totalizer Indicator*



ACCESSORIES



## Introduction

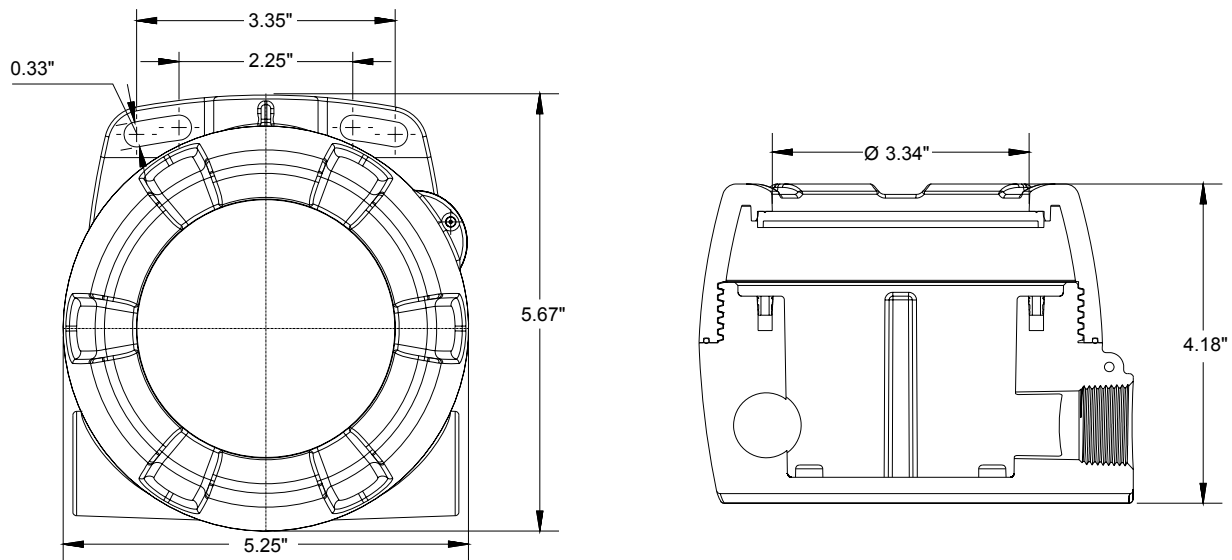
### The Tek-LCD 7803A NEMA 4X Pulse Input Rate/Totalizer Indicator

The Tek-LCD 7803A is a plastic, field-mounted flow rate/totalizer that can display flow rate and total from a pulse output flowmeter. Its display has a five digit upper line for rate, a seven alpha-numeric character lower line for total, and comes standard with a backlight. The Tek-LCD 7803A is built in a NEMA 4X and IP65 rated plastic enclosure which can stand up to even the harshest environmental conditions. It can be powered from an included battery or a 24 VDC external power supply. Some features that really make the Tek-LCD 7803A stand out are its automatic unit conversions from flowmeter k-factor units, ability to log up to 1024 data points, and SafeTouch® through-window buttons. These buttons allow the Tek-LCD 7803A to be programmed and operated through the cover window, thus eliminating the need to remove the cover in dirty or wet environments.

## Features

- Automatic Rate, Total, and Grand Total Unit Conversions
- On-Board Data Logging
- Modbus Communications RS-485 Option
- All Models Operate from -40 to 75°C (-40°F to 158°F)
- Two Isolated Open Collector Pulse Outputs, Up to 5 kHz
- Open Collector, NPN, PNP, TTL, Switch Contact, Sine Wave (Coil), Square Wave, Opto-Isolated Inputs
- Plastic NEMA 4X, IP65 Enclosure
- Isolated 4-20 mA Output for Rate, Total, or Grand Total
- Battery, DC, or Output Loop-Powered Models

## Dimensional Drawings



# Specifications

## General

<b>Display</b>	Top: Five digits (0 to 99,999), 0.7" (17.8 mm) high, 7-segment, automatic lead zero blanking. Bottom: Seven characters, 0.4" (10.2 mm) high, 14-segment automatic lead zero blanking. Symbols: Total, grand total, battery power/low battery, high & low alarm, password lock, and SafeTouch button sleep mode/disable.
<b>Display Assignment</b>	Top Display: Rate or total; Bottom Display: Combinations of rate, total, grand total, units, and custom tag.
<b>Backlight</b>	White LED, 10 sec auto-off when battery powered. Backlight deactivated below temperature $\approx -20^{\circ}\text{C}$
<b>Display Update Rate</b>	Ambient $> -20^{\circ}\text{C}$ : 1 Update/Second. Ambient $< -20^{\circ}\text{C}$ : 1 Update/10 Seconds. Note: Update is dependent on gate settings
<b>Display Orientation</b>	Display may be mounted at $90^{\circ}$ increments up to $270^{\circ}$ from default orientation
<b>Over Range</b>	Display flashes 99,999
<b>Programming Method</b>	Four SafeTouch through-window buttons when cover is installed. Four internal push buttons when cover is removed.
<b>Recalibration</b>	Calibrated at the factory to read frequency in Hz. No recalibration required
<b>Max/Min Display</b>	Max/Min readings reached by the process are stored until reset by the user or until power to the meter is cycled.
<b>Alarm Indication</b>	Flashing display plus HI/LO indicators for rate alarms, SET for total alarms.
<b>Password Menu Options</b>	Three programmable password selections can be used for the following: restrict modification of settings, prevent resetting the total or grand total without the password, or permanently lock out the ability to change or reset the grand total or any grand total related settings(making a non-resettable grand total).
<b>Non-Volatile Memory</b>	All programmed settings and total are stored in nonvolatile memory for a minimum of ten years if power is lost.
<b>Power Options</b>	9-30 VDC, 2.2 W max; 4-20 mA Output Powered, 30 VDC max; battery power; 9-30 VDC power with battery backup; 4-20 mA Output Powered with Battery Backup.
<b>Battery</b>	3.6 V Primary Lithium (Li-SOCl <sub>2</sub> ), non-rechargeable Model PDABAT36C. Expected service life & recommended replacement interval is dependant on the operating conditions.
<b>Isolation</b>	All models: 500 V opto-isolated input-to-power/output with isolated input enabled. PD6730-APA: 500 V input/power-to-output PD6730-BMA: 500 V input/power-to-output PD6730-BTA: 500 V input-to-output. Note: Requires separate output supply
<b>Data Logging</b>	Up to 1024 records, recorded 4/day at specific times or at defined time intervals. Record contains date, time, rate, total, grand total, and log number.
<b>Operating Temperature Range</b>	$-40$ to $75^{\circ}\text{C}$ ( $-40^{\circ}\text{F}$ to $158^{\circ}\text{F}$ )
<b>Storage Temperature Range</b>	$-40$ to $75^{\circ}\text{C}$ ( $-40^{\circ}\text{F}$ to $158^{\circ}\text{F}$ )
<b>Relative Humidity</b>	0 to 90% non-condensing
<b>Connections:</b>	Screw terminals accept 12 to 22 AWG wire
<b>Enclosure</b>	NEMA 4X, IP65 plastic field enclosure. Color: grey. Material: Polycarbonate with UV Stabilizer. Three $\frac{3}{4}$ " NPT threaded conduit openings. Two $\frac{3}{4}$ " NPT plastic conduit plugs, with 1.29" wrenching flats and a screwdriver slot, are included.
<b>Mounting</b>	May be mounted directly to conduit. Two slotted flanges for wall mounting or NPS $1\frac{1}{2}$ " to $2\frac{1}{2}$ " or DN 0.13 to 0.21ft pipe mounting.
<b>Overall Dimensions</b>	5.67" x 5.25" x 4.18" (W x H x D) (144 mm x 133 mm x 106 mm)
<b>Weight:</b>	1.65 lbs (26.4 oz, 0.75 kg)
<b>Warranty</b>	3 years parts and labor

## Input

<b>Pulse Input:</b>	Field selectable; Sourcing or sinking pulse or square wave 0-5 V, 0-12 V, or 0-24 V; TTL; NPN or PNP transistor; Open collector 100 kΩ pull-up to 3 V; Switch contact 100 kΩ pull-up to 3 V; PNP transistor 100 kΩ pull-down to ground (COM); Active input 100 kΩ to battery level, 10kΩ to power. Maximum Frequency: 64 kHz. Minimum Pulse Width: 5 μs. Thresholds selectable as normal or hi.  <table border="1"> <thead> <tr> <th>Threshold Setting</th> <th>Low (V)</th> <th>High (V)</th> </tr> </thead> <tbody> <tr> <td>Normal</td> <td>1.2</td> <td>0.2</td> </tr> <tr> <td>Low</td> <td>2.0</td> <td>1.2</td> </tr> </tbody> </table>	Threshold Setting	Low (V)	High (V)	Normal	1.2	0.2	Low	2.0	1.2
Threshold Setting	Low (V)	High (V)								
Normal	1.2	0.2								
Low	2.0	1.2								
<b>Opto-Isolated Input</b>	Sourcing or sinking pulse or square wave 0-5 V, 0-12V, or 0-24 V; Logic High: 2-24 V, Logic Low: < 1 V.									
<b>Maximum Frequency</b>	20 kHz									
<b>Minimum Pulse Width</b>	20 μs									
<b>Input Current</b>	1 mA @ 5 V, 2.5 mA @ 12 V, 5 mA @ 24 V									
<b>Low Voltage Mag Pickup Input</b>	Sensitivity: 20 mVp-p to 24 Vp-p.									
<b>Maximum Frequency</b>	6 kHz									
<b>Minimum Input Frequency</b>	0.0001 Hz. Minimum frequency is dependent on high gate setting (rate display).									
<b>Input Impedance</b>	Pulse input: Greater than 75 kΩ @ 1 kHz									
<b>Open collector/switch input</b>	100 kΩ pull-up to 3 V.									
<b>Input K-Factor Units</b>	Gallons, liters, imperial gallons, cubic meters, barrels, bushels, cubic yards, cubic feet, cubic inches, liquid barrels, beer barrels, hectoliters, or custom.									
<b>K-Factor</b>	Field programmable K-Factor used to define custom input units. May be programmed from 0.000001 to 9,999,999 pulses/unit.									
<b>Accuracy</b>	±0.03% of calibrated span ±1 count									
<b>Temperature Drift</b>	Rate display is not affected by changes in temperature.									
<b>Low-Flow Cutoff</b>	0-99,999 (0 disables cutoff function)									
<b>Decimal Point</b>	Up to four decimal places or none: 4.4444, 33.333, 222.22, 1111.1, or 00000									
<b>Calibration Range</b>	Input 1 signal must be ≥: 1 Hz; input 2 signal may be set anywhere above input 1 setting. Minimum input span is 1 Hz. An Error message will appear if the input 1 and input 2 signals are too close together.									
<b>Input Contact Debounce Filter</b>	Programmable. Input signal frequency speed selections of Hi (no filter), Med (250 Hz max input, 31 ms pulse width), and Low. (100 Hz max input, 12 ms minimum pulse width).									
<b>Time Base</b>	Second, minute, hour, or day									
<b>Gate</b>	Low gate: 1-99 seconds; High gate: 2-9,999 seconds									

## Popular Models

Model Number	Description
7803A-AP0	NEMA 4X Pulse Input Rate/Totalizer

## 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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