# Echotouch™, EchoSpan® & EchoSwitch® Ultrasonic Liquid Level Sensors

PUSHBUTTON CONFIGURED

## Overview

The Echotouch, EchoSpan and EchoSwitch are innovative ultrasonic liquid level sensor families that replace float, conductance and pressure sensors that fail due to contact with dirty, sticky and scaling media in small, medium and large capacity tanks. Applied in chemical, water and wastewater applications, these general purpose non-contact sensors are available with single and multi-function capabilities including continuous level measurement, switching and control.

For input to a PLC or other controller, measurement outputs include current, voltage and frequency. Models with three relays can be configured for level alarms and/or stand-alone level control such as automatic fill or empty functions using the embedded level controller. Units are easily configured using built -in pushbuttons.

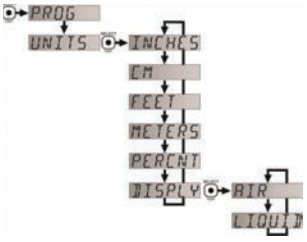
| Echotouch, EchoSpan & EchoSwitch Ultrasonic Liquid Level Sensors General Specifications | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Model*** | ***LU80-5101*** | ***LU81-5101*** | ***LU83-5101*** | ***LU84-5101*** | ***LU77-5004*** | ***LU74-5004*** | ***LU78-5004*** |
| ***Price*** | | | | | | | |
| ***Type*** | EchoSpan | | | | EchoSwitch | | |
| ***Class*** | General Purpose (non-hazardous) | | | | | | |
| ***Range*** | 4in to 9.8 ft (10cm to 3m) | 8in to 18ft (20cm to 5.5 m) | 8in to 26.2 ft (20cm to 8m) | 12in to 32.8 ft (30cm to 10m) | 4in to 9.8 ft (10cm to 3m) | 8in to 18 ft (20cm to 5.5 m) | 8in to 26.2 ft (20cm to 8m) |
| ***Output Types*** | 4-20 mA, two-wire | | | | (1) SPDT relay, (2) SPST relays 4-20 mA, two-wire | | |
| ***Install*** | Vertical, top of tank | | | | | | |
| ***Mounting*** | 1in MNPT | 2in MNPT | | | 1in MNPT | 2in MNPT | |
| ***Relays*** | No relay | | | | (1) SPDT relay, (2) SPST relays | | |
| ***Configuration*** | Pushbutton / LCD | | | | | | |
| ***Ambient Temperature*** | -40° to 160°F (-40° to 71°C) | | | | | | |
| ***Process Temperature*** | -4° to 140°F (-20° to 60°C) | | | | | | |
| ***Pressure*** | 30 PSI (2 bar) MAX | | | | | | |

## Pushbutton Configuration

With no software or PC required, the Echotouch, EchoSpan, and EchoSwitch ultrasonic level sensors are easily configured using integral pushbuttons and LCD digital display. Configuration parameters are organized in a simple menu structure so that parameter values are easily accessed and set or changed as needed. Parameters are stored in non-volatile memory so the setting values are not lost when the sensor is powered down, allowing configuration before installation in the field.


*Click on the thumbnail or go to https:/// VID-LE-0002 for a short video* ***introduction to Flowline EchoTouch, EchoSpan, EchoSwitch and PodView*** *product lines.*

## Example - EchoSpan Display and Menu

# EchoSpan® LU Series Ultrasonic Level Transmitters

## Overview

The EchoSpan LU series ultrasonic level transmitters provide continuous level measurement up to 32.8 ft (10m) with a 4-20 mA signal output, and is configured via its integral pushbutton display module. This non-contact liquid level sensor is ideally suited for corrosive, ultrapure, sticky or dirty liquids, and is broadly selected for bulk storage, day tank, lift station and process tank level applications.

*Part No. LU80-5101*

*Part No. LU81-/83/84-5101*

## Features

- 4 measurement ranges from 9.8 ft (3m) to 32.8 ft (10m)
- Configuration is simple via integral pushbutton display module
- LCD display indicates level in inches, centimeters and percentages
- Narrow 2 inch or 3 inch beam width for applications with limited measurement space
- Fail-safe intelligence and diagnostic feedback for simple troubleshooting
- PVDF transducer and NEMA 4X / IP65 polycarbonate enclosure for corrosive liquids
- Automatic temperature compensation for accurate measurement
- Made in the USA

| LU80 Series Technical Specifications | | | | |
|---|---|---|---|---|
| ***Model*** | ***LU80-5101*** | ***LU81-5101*** | ***LU83-5101*** | ***LU84-5101*** |
| ***Price*** | | | | |
| ***Range*** | 4in to 9.8 ft (10cm to 3m) | 8in to 18ft (20cm to 5.5 m) | 8in to 26.2 ft (20cm to 8m) | 12in to 32.8 ft (30cm to 10m) |
| ***Accuracy*** | ± 0.2% of range | | | |
| ***Resolution*** | 0.019 in (0.5 mm) | 0.039 in (1mm) | | 0.078 in (2mm) |
| ***Sensing Dead Band**** | 4in (10cm) | 8in (20cm) | | 12in (30cm) |
| ***Beam Width*** | 2in (5.1 cm) | 3in (7.6 cm) | | |
| ***Configuration*** | Pushbutton / LCD | | | |
| ***Memory*** | Non-volatile | | | |
| ***Display Type*** | LCD, 6-digit | | | |
| ***Display Units*** | Inch, cm and percent | | | |
| ***Supply Voltage*** | 12 - 28 VDC** | | | |
| ***Loop Resistance*** | 500Ω @ 24 VDC | | | |
| ***Signal Output*** | 4-20 mA, two-wire | | | |
| ***Signal Invert*** | 4-20 mA or 20-4 mA | | | |
| ***Signal Fail-Safe*** | 4mA, 20mA, 21mA, 22mA or hold last | | | |
| ***Terminal Block*** | 26-12 AWG (tighten torque, 0.5 Nm) | | | |
| ***Process Temperature*** | -4° to 140°F (-20° to 60°C) | | | |
| ***Temp. Compensation*** | Automatic | | | |
| ***Ambient Temperature*** | -40° to 160°F (-40° to 71°C) | | | |
| ***Pressure*** | 30 PSI (2 bar) MAX | | | |
| ***Enclosure Rating*** | NEMA Type 4X (IP65) | | | |
| ***Enclosure Material*** | Polycarbonate | | | |
| ***Enclosure Hardware*** | Brass & stainless steel | | | |
| ***Enclosure Vent*** | Water tight membrane | | | |
| ***Conduit Entrance*** | Dual, 1/2 in FNPT | | | |
| ***Transducer Material*** | Polyvinylidene Flouride | | | |
| ***Process Mount*** | 1in MNPT (See accessories for installation fittings) | 2in MNPT (See accessories for installation fittings) | | |
| ***Mount Gasket*** | Viton (included, replacement part number 200128) | Viton (included, replacement part number 200129) | | |
| ***Weight (lbs)*** | 1.5 | 1.9 | | |
| ***Classification*** | General purpose | | | |
| ***Compliance*** | CE, RoHS | | | |

** Dead band is the minimum distance the sensor must be mounted above the max liquid level.*

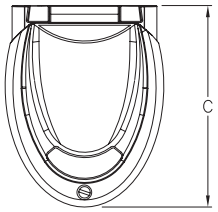
***** If supply exceeds 28 VDC damage to the transmitter may occur.***

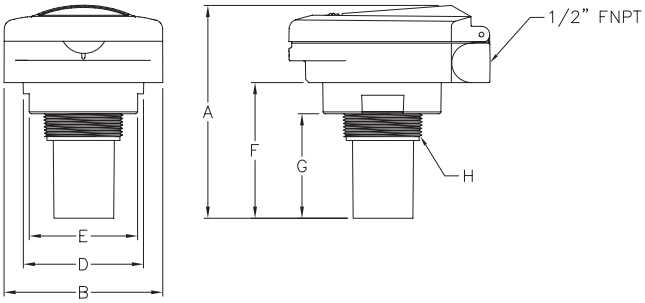
# EchoSpan® LU Series Ultrasonic Level Transmitters

## Dimensions

**inches [mm]**

**LU80 Series**




*See our website _____ for complete Engineering drawings.*

| *Dimensions* | *A* | *B* | *C* | *D* | *E* | *F* | *G* | *H* |
|---|---|---|---|---|---|---|---|---|
| *LU80* | 3.90 [99.1] | 4.10 [104.1] | 5.20 [132.1] | 3.10 [78.8] | 2.80 [71.1] | 1.90 [48.3] | 1.25 [31.8] | 1 in MNPT |
| *LU81, 83 & 84* | 5.50 [139.6] | 4.10 104.1] | 5.20 [132.1] | 3.10 [78.8] | 2.80 [71.1] | 3.40 [86.4] | 2.70 [68.6] | 2 in MNPT |

***When installing the 1 inch NPT level sensors care should be used to mechanically isolate the sensor housing from the tank. This can easily be done by using any of the Flowline mounting accessories which are designed to provide the isolation needed.***

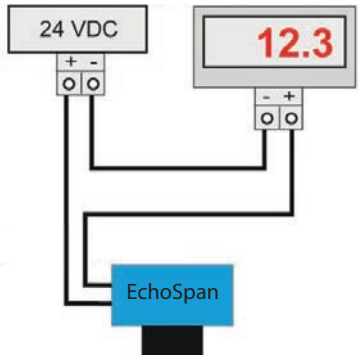
## Configuration

The transmitter is configured using the three buttons (UP, DOWN and SELECT) and the transmitter's LCD on the transmitters face.

More information about configuring the LU series sensors can be found at


## Wiring

### Typical Loop Powered Display




### Typical Generic PLC