EchoSpan® LU80/81/83/84 Ultrasonic Level Transmitter

FLOWLINE®

Application

The general purpose ultrasonic level transmitter provides continuous level measurement up to 32.8' (10m) with a 4-20 mA signal output, and is configured via its integral push button 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.

RoHS Compliant   CE   IP65

Features

- ☑ Offered in 4 measurement ranges from 9.8' (3m) to 32.8' (10m)

- ☑ Configuration is simple via integral push button display module

- ☑ LCD display indicates level in inches, centimeters and percentages

- ☑ Narrow 2" or 3" beam width for applications with limited measurement space

- ☑ Fail-safe intelligence and diagnostic feedback for simple troubleshooting

- ☑ PVDF transducer and NEMA 4X polycarbonate enclosure for corrosive liquids

- ☑ Automatic temperature compensation for accurate measurement

Success

North American thermoelectric power plants use 225M gallons of water per day in their steam turbines and cooling towers. Most US plants are located in the Coastal and upper Mid West states with easy access to abundant ocean or lake resources. These facilities have lots of sumps that collect and pump transfer water into treatment for reuse or release to the environment. But sumps capture much more than water including grease, oil, chemical and trash, that coats everything in the pit. Here, an EchoSpan ultrasonic level transmitter is installed over the sump man-way. The patented digital signal processing technology features an industry leading 3" beam width that enables installation in close proximity to the ladder and side wall.

Compatible Products

DataLoop™
Level Indicator

LI25

DataView™
Level Controller

LI55

Commander™
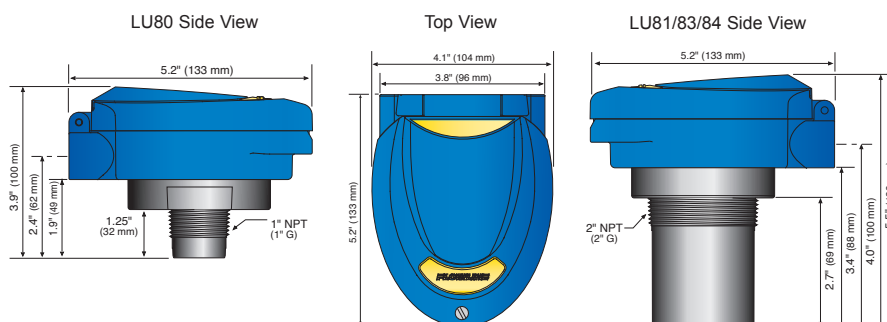Multi-Tank Level Controller

LI90

DataPoint™
Level Controller

LC52

Specifications

Range:	LU80: 4" to 9.8' (10cm to 3m)
	LU81: 8" to 18.0' (20cm to 5.5m)
	LU83: 8" to 26.2' (20cm to 8m)
	LU84: 12" to 32.8' (30cm to 10m)
Accuracy:	± 0.2% of range
Resolution:	LU80: 0.019" (0.5mm)
	LU81/83: 0.039" (1mm)
	LU84: 0.078" (2mm)
Dead band:	LU80: 4" (10cm)
	LU81/83: 8" (20cm)
	LU84: 12" (30cm)
Beam width:	LU80: 2" (5cm)
	LU81/83/84: 3" (7.6cm)
Configuration:	Push button
Memory:	Non-volatile
Display type:	LCD, 6-digit
Display units:	Inch, cm and percent
Supply voltage:	12-28 VDC
Loop resist.:	500 Ohms @ 24 VDC
Signal output:	4-20 mA, two-wire
Signal invert:	4-20 mA, 20-4 mA
Signal fail-safe:	4mA, 20mA, 21mA, 22mA or hold last
Process temp.:	F: -7° to 140°
	C: -20° to 60°
Temp. comp.:	Automatic
Ambient temp.:	F: -40° to 160°
	C: -40° to 71°
Pressure:	MWP = 30 psi (2 bar)
Enclosure rating:	NEMA 4X (IP65)
Encl. material:	Polycarbonate
Encl. hardware:	Brass & stainless
Enclosure vent:	Water tight membrane
Conduit entrance:	Dual, 1/2" NPT
Trans. material:	PVDF
Process mount:	LU80: 1" NPT (1" G)
	LU81/83/84: 2" NPT (2" G)
Mount gasket:	Viton®
Classification:	General purpose
Compliance:	CE, RoHS

Dimensions

LU80 Side View — 5.2" (133 mm), 3.9" (100 mm), 2.4" (62 mm), 1.9" (49 mm), 1.25" (32 mm), 1" NPT (1" G)

Top View — 4.1" (104 mm), 3.8" (96 mm), 5.2" (133 mm)

LU81/83/84 Side View — 5.2" (133 mm), 2" NPT (2" G), 2.7" (69 mm), 3.4" (88 mm), 4.0" (100 mm), 5.5" (138 mm)

Fittings

For optimum performance, install the level sensor using the below recommended or direct equivalent fittings.

P/N	Description
LM52-1400	2" NPT x 1" NPT (Sch. 40)
LM52-2400	3" NPT x 2" NPT (Sch. 40)
LM52-2800	3" NPT x 2" NPT (Sch. 80)
LM52-3800	4" NPT x 2" NPT (Sch. 80)
LM52-1410	2" Socket x 1" NPT (Sch. 40)
LM52-2410	3" Socket x 2" NPT (Sch. 40)
LM52-3410	4" Socket x 2" NPT (Sch. 40)
LM52-2810	3" Socket x 2" NPT (Sch. 80)
LM52-3810	4" Socket x 2" NPT (Sch. 80)
LM52-2890	2" NPT Bulkhead Fitting, PVC
LM50-1001-1	1" NPT Bracket, Polypropylene
LM50-1001	2" NPT Bracket, Polypropylene

Ordering

LU8☐**-51**☐**1**

Sensor range
- **0** 3m (9.8')
- **1** 5.5m (18.0')
- **3** 8m (26.2')
- **4** 10m (32.8')

Process mount (1)
- **0** NPT (US)
- **6** G (Metric)

Notes

1) Install the level sensor using Flowline installation fittings or equivalents.