EchoSonic® II LU23/27/28/29 Ultrasonic Level Transmitter

Application



LU27 LU23/28/29

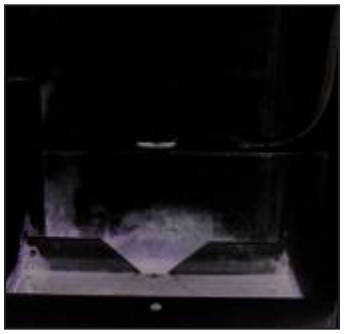
Offered in a type 6P enclosure with cable interface, the general purpose ultrasonic level transmitter provides continuous level measurement up to 32.8' (10m) with a 4-20 mA signal output, and is configured via our free Webcal software. This non-contact liquid level sensor is ideally suited for corrosive, ultrapure, sticky or dirty liquids, and is broadly selected for bulk storage, day tank, lift station and process tank level applications.

RoHS Compliant CE FM APPROVED

Features

- Offered in 4 measurement ranges from 9.8' (3m) to 32.8' (10m)
- DSP auto adaptive filters enable plug and play operation optimizing signal output filtering and obstacle recognition
- Submersible type 6P enclosure is ideal for sump and below grade installations
- Configuration is fast and easy via WebCal software and USB adapter
- Narrow 2" or 3" beam width for applications with limited measurement space
- Short 4" or 8" dead band maximizes the measurable filling capacity of the tank
- PVDF transducer and 6P polycarbonate enclosure for corrosive liquids
- Automatic temperature compensation for accurate measurement

Success



Ultrasonic level sensors are often used to measure open channel water flow thats discharged from rivers, streams, creeks, lakes or ponds. Here an EchoSonic II level sensor is installed on the upstream side of a weir. The non-contact sensor measures the gravity-fed, liquid surface height as it passes through the V-notch, and provides a continuous 4-20 mA signal output. The PLC converts level height into flow volume with rate, totalization and data-logging functions for wastewater treatment and environmental reporting.

Compatible Products

DataLoop™
Level Indicator



LI25

DataView™
Level Controller



LI55

Commander™
Multi-Tank Level Controller



LI90

DataPoint™
Level Controller



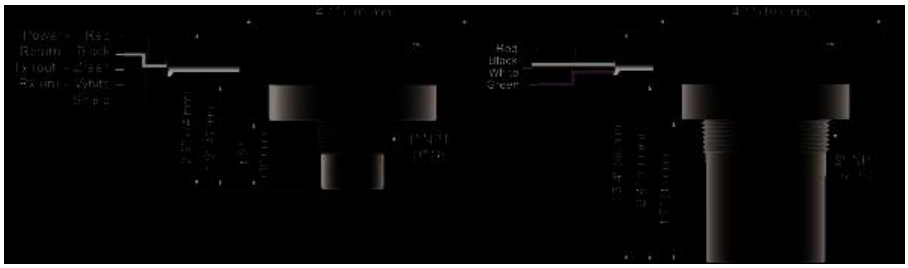
LC52

EchoSonic® II LU23/27/28/29 Ultrasonic Level Transmitter

Specifications

Range:	LU27: 4” to 9.8’ (10cm to 3m) LU23: 8” to 18.0’ (20cm to 5.5m) LU28: 8” to 26.2’ (20cm to 8m) LU29: 8” to 32.8’ (20cm to 10m)
Accuracy:	± 0.2% of range
Resolution:	LU27: 0.019” (0.5mm) LU23: 0.039” (1mm) LU28/29: 0.079” (2mm)
Dead band:	LU27: 4” (10cm) LU23/28/29: 8” (20cm)
Beam width:	LU27: 2” (5cm) LU23/28/29: 3” (7.6cm)
Configuration:	WebCal® PC Windows® USB 2.0
Memory:	Non-volatile
Supply voltage:	24 VDC (loop)
Consumption:	0.5W
Loop resistance:	500 ohms @ 24 VDC
Signal output:	4-20 mA, two-wire
Signal invert:	4-20 mA or 20-4 mA
Signal fail-safe:	4 mA, 20 mA, 21 mA, 22 mA or hold last
Process temp.:	F: -4º to 140º C: -20º to 60º
Temp. comp.:	Automatic
Ambient temp.:	F: -31º to 140º C: -35º to 60º
Pressure:	MWP = 30 PSI (2 bar)
Enclosure rating:	Type 6P, encapsulated, corrosion resistant & submersible
Encl. material:	Polycarbonate
Trans. material:	PVDF
Cable jacket mat:	Polyurethane
Cable type:	4-conductor, shielded
Cable length:	10’ (3m)
Process mount:	LU27: 1” NPT (1” G) LU23/28/29: 2” NPT (2” G)
Mount gasket:	Viton®
Classification:	General purpose
Compliance:	CE, RoHS
Approvals:	cFMus

Dimensions



Configuration

The level sensor is configurable via our free WebCal PC software and Fob USB adapter. The sensors are offered with and without Fobs. Fobs are universal and can be used to configure any WebCal compatible product. Download your free copy of WebCal in English or Chinese at www.flowline.com/webcal.php.



LI99-1001

Fittings

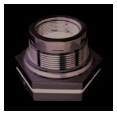
For optimum performance, install the level sensor using the below recommended or direct equivalent fittings.



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

LU2 [3] - [0] [1]

Sensor range
- *7 — 3m (9.8')*
- *3 — 5.5m (18.0')*
- *8 — 8m (26.2')*
- *9 — 10m (32.8')*

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

Fob USB adapter (2)
- *0 — Without Fob*
- *1 — With Fob*

Notes

1) Install the level sensor using Flowline installation fittings or equivalents.
2) The level sensor is configured via our WebCal software and one LI99-1001 Fob USB adapter. The level sensor is offered with and without a Fob. Fobs are universal and can be Used to configure any WebCal compatible product. WebCal is a free download from our website at www.flowline.com/webcal.php.

DataView™ LI55

Level Controller

FLOWLINE™
LEVEL BEST

Application

The general purpose AC or DC powered level controller displays engineering units with one 4-20 mA level transmitter input and is offered in three configurations with optional 2 or 4 programmable relays, and an isolated 4-20 mA repeater. Each relay can be configured on a single set point (high level alarm or low level alarm) or latched on two set points for automatic fill or empty in simplex (one pump or valve) or duplex (two pumps) level control modes.



Features

- LED main display and secondary unit display with relay status
- Easy configuration via the push button display module
- DIN enclosure with NEMA 4X faceplate and shallow case
- Isolated power supply to sensor with optional 4-20 mA repeater
- Non-volatile memory with security password protection
- 32-point linearization function for volumetric measurement

Key Benefits

- Capable of displaying units in gallons, liters, inches, feet, meters or percent of liquid
- Add 2 or 4 relays to control tank pumps, valves or alarms
- Add repeater output to repeat the 4-20 mA signal to another PLC, SCADA or display
- Available in AC or DC powered configurations

Compatible Products



LG10/LG11

ECHOWAVE®

Guided Wave Level Transmitter



LU28

ECHOSONIC®

Ultrasonic Level Transmitter



DL14

ECHOPOD®

Ultrasonic Level Transmitter



LU83

ECHOSPAN®

Ultrasonic Level Transmitter



LR15

ECHOPULSE®

Pulse Radar Level Transmitter

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DataView™ LI55

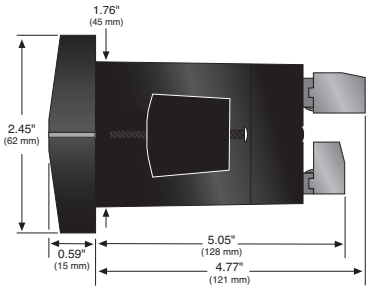
Level Controller

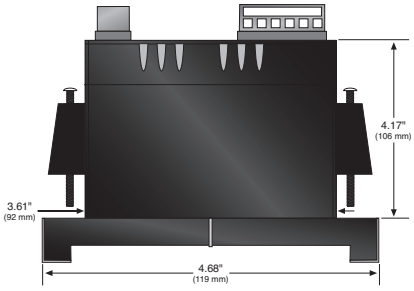
FLOWLINE™
LEVEL BEST

Specifications

Display type:	LED, 6-digit
Display units:	Engineering
Display output:	-99999 to 999999
Display height:	Main: 0.6” (15mm)
	Secondary: 0.46” (12mm)
Decimal point:	Floating
LED indication:	Relay status
Configuration:	Push button
Memory:	Non-volatile
Linearization:	2-32 point function
Sensor input:	(1) 4-20 mA or 0-10 VDC
Supply voltage:	-1_ _1: 85-265 VAC @ 50-60 Hz
	-8_ _1: 12-24 VDC ±10%
Consumption:	VAC: 20 watts max.
	VDC: 15 watts max.
Sensor supply:	24 VDC ± 5% @ 200 mA
Repeater output:	4-20 mA, 24 VDC ± 5%
	@ 40 mA supply
Contact type:	-12_1: (2) SPDT relays
	-14_1: (4) SPDT relays
Contact rating:	3A @ 30 VDC, 250 VAC
	resistive load
Ambient temp.:	F: -40° to 149°
	C: -40° to 65°
Enclosure type:	1/8 DIN, panel mount
Enclosure rating:	NEMA 4X (IP65) faceplate
Enclosure mat’l:	Polycarbonate
Classification:	General purpose
Compliance:	CE
Approvals:	UL, cULus listed,
	E160849, 508 industrial
	control equipment

Dimensions





Accessories







P/N	DESCRIPTION
LM92-1002	Single indicator windowed, 1/8 DIN, PC
LM92-2002	Two indicator windowed, 1/8 DIN, PC
LI56-1011	4-20 mA repeater card
LI56-1201	2 relay card
LI56-1211	2 relay with 4-20 mA repeater card
LI56-1401	4 relay card
LI56-1411	4 relay with 4-20 mA repeater card

Ordering

LI55 - [ ] [ ] [ ] 1

SUPPLY VOLTAGE
- **1** 85-265 VAC
- **8** 12-24 VDC

CONFIGURATION (1) (2)
- **0** Meter only
- **2** Meter with 2 relays
- **4** Meter with 4 relays

REPEATER CONFIGURATION
- **0** No repeater
- **1** 4-20 mA repeater

NOTES

1) For field mount installation in a NEMA 4X, polycarbonate windowed enclosure, order the single or two indicator box.
2) Expansion cards may be purchased separately to replace or expand the capability of the controller.

AC - LI55-1211

DC - LI55-8211