EchoPro® LR31

Pulse Radar Liquid Level Transmitter

FLOWLINE™
LEVEL BEST

Application

The intrinsically safe 26 GHz. pulse radar transmitter provides continuous level measurement up to 98.4' (30m) with a 4-20 mA analog and HART digital signal output, and is configured via its remote push button display module or WebCal software. The non-contact liquid level sensor is intended for industrial wastewater, municipal storm or sewer lift station, reservoir, river, canal or open channel applications located below or above grade. Select this sensor for challenging process conditions that may include light surface foam or agitation, small trash or plant material, wind, condensation or vapor. Each comes with a 32.8' (10m) cable, mounting bracket and display module. The sensor is designed for bracket mount installation suspended above the liquid level.

Features

■ Rugged IP68 sensor enclosure with 304 SS mounting bracket

■ Configuration via push button display or WebCal PC software

■ 26 GHz. pulse radar is unaffected by sump process conditions

■ Wall mounted display with windowed enclosure rated IP67

■ 12" (30cm) dead band enables utilization of the entire sump

■ LCD displays level in feet or meters with percent of span bar

■ Optional display mode indicates the echo signal return curve

■ HART communication in point to point and multi-drop modes

■ Self diagnostics with selectable fail-safe signal outputs

■ Recognition, storage and rejection of false echo signal returns

LR31-0021-10-00
Shown

Lift Stations

Industrial and municipal pump lift stations collect and transfer wastewater or stormwater into treatment. These receptacles are dynamic environments that contain dirt, grease, oil, agitation, sludge, foam, condensation, chemicals or vapor. The LR31 pulse radar sensor is unaffected by such challenging process conditions, and is designed for bracket mount installation, either downhole or above grade based on your needs.

Push Button
Display Module

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Specifications

SENSOR

Range:	12" to 98.4' (30cm to 30m)
Frequency:	26 GHz.
Accuracy:	± 3mm
Dead band:	12" (30cm)
Beam angle:	12°
Supply voltage:	21.6 to 26.4 VDC
Max consumption:	22.5 mA
Signal output:	4-20 mA, two-wire, HART 7
Signal invert:	4-20 mA, 20-4 mA
Signal fail-safe:	3.9 mA, 20.5 mA, 22 mA
Process temp.:	F: -40° to 212°
	C: -40° to 100°
Temp. comp.:	Automatic
Pressure:	Atmospheric
Enclosure rating:	IP68
Encl. material:	Nylon
Cable type:	6-conductor, shielded
Cable length:	32.8' (10m)
Cable jacket mat.:	PVC
Process mount:	304 SS bracket or 1" NPT

DISPLAY

Display type:	LCD, dot matrix
Display units:	Feet and meters
Display bar:	Percent of span
Display graph:	Echo signal curve
Configuration:	Push button; WebCal® PC Windows® USB® 2.0; HART 7 (pending)
Enclosure type:	Wall mount
Enclosure rating:	IP67
Encl. material:	Polycarbonate
Conduit entrance:	(2) 1/2" NPT connectors

COMMON

Memory:	Non-volatile
Storage temp.:	F: -40° to 176°
	C: -40° to 80°
Classification:	Intrinsically safe
Approvals (pending):	ATEX ⬡ IIG Ex ia II C T6...T3 Ga
	IEC Ex ia IIC T6...T3 Ga
	CSA Class I, Div 1, Groups A, B, C & D;
	Class II, Groups E, F & G; Class I Zone
	0 IIC & Zone 20 Group IIC
Certification:	FCC
Compliance:	CE, RoHS

Dimensions

5.12" (130mm)

1/2" NPT

1.18" (30mm) Wide

1.54" (39mm)

1" NPT

11.02" (280mm)

1.22" (31mm)

10mm Hex

6.12" (155.4mm)

3.04" (77.2mm)

4.88" (124mm)

Display Front View

3.69" (93.8mm)

ECHOPRO®

12.34

SENSOR

3.18" (80.8mm)

3.70" (94mm)

0.75" (19mm)

0.16" (4mm)

1/2" NPT Adapter

Display Side View

3.70" (94mm)

0.2" (5mm)

M20x1.5

2.91" (73.9mm)

0.75" (19mm)

1.57" (40mm)
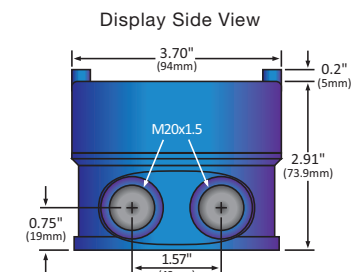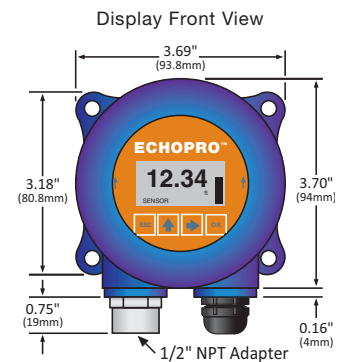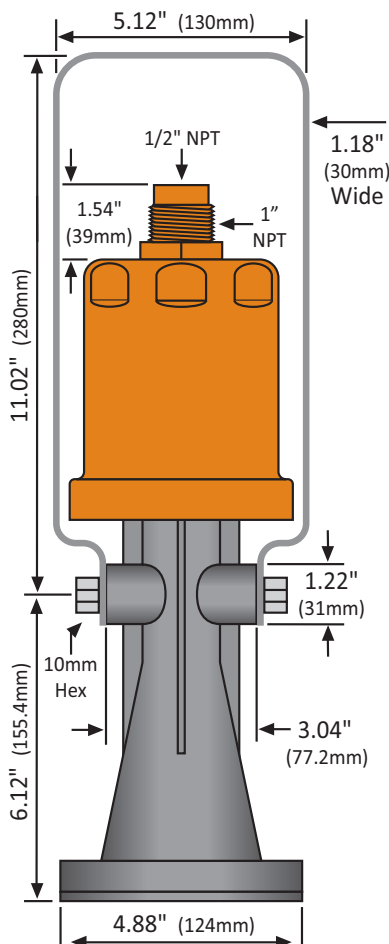
Fob USB Adapter

Sensors are offered with and without a LI99-3001 Fob USB adapter. To configure the sensor using our free WebCal software, you need one Fob, which can be used with any EchoPro sensor. Then remove the display module, replace it with the Fob and connect it to your PC in the safe zone.

RADAR FOB

Ordering   LR31-0021-10-0 ☐

FOB USB ADAPTER (1) (2)

0	Without Fob
1	With Fob

NOTES

1) If you want help in selecting a sensor for your application, please go to our website and submit a Level Questionnaire. An engineer will review your requirements and suggest a product solution via email.

2) Includes the sensor, bracket, cable and display with or without Fob.