

EchoPro® LR31

Pulse Radar Liquid Level Transmitter



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 HART communicator. 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



Features

- Rugged IP68 sensor enclosure with 304 SS mounting bracket
- Configuration via push button display or HART communicator
- 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
- Self diagnostics with selectable fail-safe signal outputs
- Recognition, storage and rejection of false echo signal returns

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.



LR31-0021-10-00
Shown



Push Button
Display Module

Pulse Radar Liquid Level Transmitter



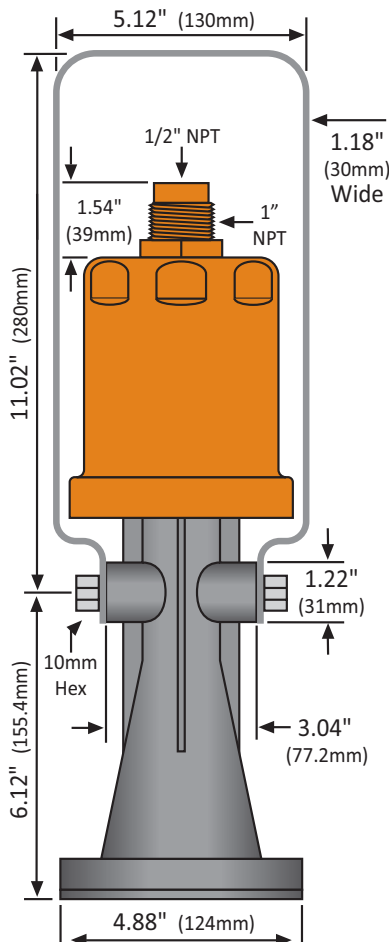
Range:	12" to 98.4' (30cm to 30m)
Frequency:	26 GHz.
Accuracy:	± 3mm
Dead band:	12" (30cm)
Beam angle:	12°
Supply voltage:	21.6 to 26.4 VDC
Max consumption:	22.5 mA
Signal output:	4-20 mA, two-wire, HART 7
Signal input:	4-20 mA, 20-4 mA
Signal fail-safe:	3.9 mA, 20.5 mA, 22 mA
Process temp.:	F: -40° to 212°

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

Memory:	Non-volatile
Storage temp.:	F: -40° to 176° C: -40° to 80°
Classification:	Intrinsically safe
Approvals:	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, Div 1, Groups E, F & G; (T6...T3); Class I Zone 0 AEx ia IIC (T6...T3) Ga & Zone 20 AEx ia IIIC (T76°C to T146°C) Da; Ex ia IIC (T6...T3) Ga & Ex ia IIIC (T76°C to T146°C) Ga
Certification:	FCC
Compliance:	CE, RoHS

Dimensions



Technical drawing of the ECHOPRO™ sensor unit. The unit is circular with a blue and purple gradient. The display shows "12.34" and "SENSOR". Below the display are four status icons. Dimensions are provided in inches and millimeters:

- Top width: 3.69" (93.8mm)
- Left height: 3.18" (80.8mm)
- Right height: 3.70" (94mm)
- Bottom left height: 0.75" (19mm)
- Bottom right height: 0.16" (4mm)

A 1/2" NPT Adapter is shown connected to the bottom left port.

Technical drawing of a mechanical part with the following dimensions:

- Top width: 3.70" (94mm)
- Top thickness: 0.2" (5mm)
- Overall height: 2.91" (73.9mm)
- Internal feature: M20x1.5
- Bottom thickness: 0.75" (19mm)
- Bottom width: 1.57" (40mm)



Ordering

LR31-0021-10-00 (1) (2)

NOTES

- 1) Includes the sensor, bracket, cable and display.
- 2) 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.