EchoPro® LR41

Pulse Radar Solids Level Transmitter

FLOWLINE™
LEVEL BEST

Application

The intrinsically safe 26 GHz. pulse radar transmitter provides continuous level measurement up to 229.7' (70m) with a 4-20 mA analog and HART digital signal output, and is configured via its integral push button display module or WebCal software. The non-contact solids level sensor is intended for dry solid media including aggregates, grains, pellets, powders and building materials. Select this sensor for challenging process conditions with moderate to significant dust, and installation with an adjustable gimbal flange or mounting bracket. Typical applications include silos, stockpiles, transfer stations and crushers.

RoHS Compliant   CE   Ex   CSP us   FC

Features

- Rugged 316L stainless steel antenna and process mount
- Configuration via push button display or WebCal software
- Gimbal flange for easy positioning with the angle of repose
- Antenna air-purge for use with significant dust conditions
- LCD displays level in feet or meters with percent of span bar
- HART communication in point to point and multi-drop modes
- Optional display mode indicates the echo signal return curve
- Fail-safe diagnostics with selectable signal fail-safe outputs
- PTFE antenna cover for use with moderate dust conditions
- Recognition, storage and rejection of false echo signal returns
- IP67 stainless enclosure with polycarbonate display window

LR41-5321-44-00
Shown

LR97-S006
Bracket

Antenna Selection

The sensor is offered in two antenna sizes including 4" (98mm) and 5" (123mm) with or without a dust shield. The larger the antenna, the narrower the beam and the stronger the RF signal return. To select the appropriate antenna size and configuration, consider two variables; The measured span distance and the amount of dust within the span. In general, select the 4" (98mm) horn for shorter spans and the 5" (123mm) horn for longer spans. As for dust, when minimal, select the horn only. When moderate, select the horn with dust shield, and when significant, select the horn only and apply a periodic compressed air purge.

PTFE
Dust
Shield

Push Button
Display Module

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Specifications

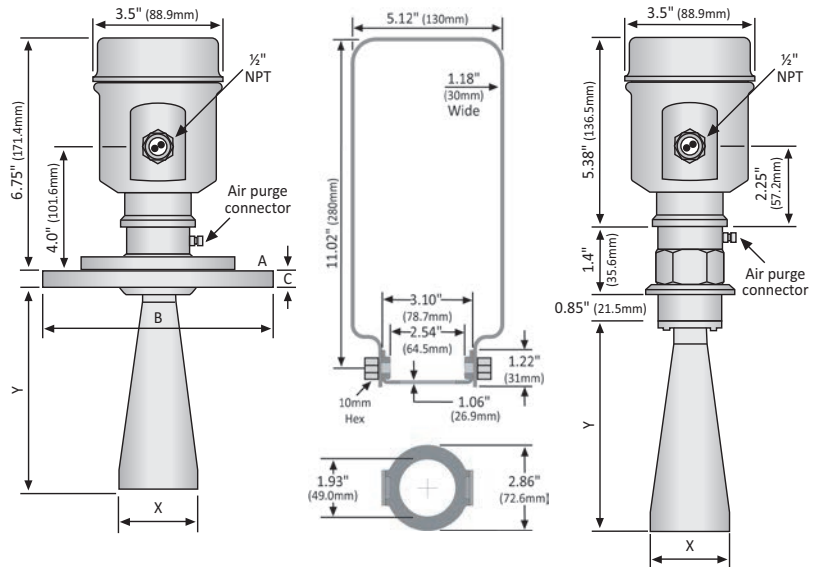|	
Range:	12" to 229.7' (30cm to 70m)
Frequency:	26 GHz.
Accuracy:	± 15mm
Dead band:	12" (30cm)
Beam angle:	-5_21-4: 8°
	-5_21-5: 6°
Configuration:	Push button; WebCal® PC Windows® USB® 2.0; HART 7 (pending)
Memory:	Non-volatile
Display type:	LCD, dot matrix
Display units:	Feet and meters
Display bar:	Percent of span
Display graph:	Echo signal curve
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 752°
	C: -40° to 400°
Temp. comp.:	Automatic
Storage temp.:	F: -40° to 176°
	C: -40° to 80°
Pressure:	Atmospheric
Enclosure rating:	IP67
Encl. material:	316L stainless steel w/silicone gasket
Encl. window mat.:	Polycarbonate
Conduit entrance:	(1) 1/2" NPT connector
Antenna material:	-5_21-4/5: 316L
	-5_21-A/B: 316L & PTFE
Air purge fitting:	1/4" (6.3mm) I.D. tubing
Process mount:	-_0: 1 1/2" NPT
	-_4: 4" gimbal flange (ANSI)
	-_5: 5" gimbal flange (ANSI)
Classification:	Intrinsically safe
Approvals (pending):	ATEX ⓔ II 1C Ex ia III C T76° C...T146° C Da
	IEC Ex ia III C T76° C...T146° C Da
	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

THREAD

P/N	-40 & -A0	-50 & -B0
X	4" (98mm)	5" (127mm)
Y	11.34" (288mm)	24.41" (620mm)

LI99-3001 Fob USB Adapter

FLANGE

P/N	-44 & -A4	-45 & -A5	-54 & -B4	-55 & -B5
A	4" ANSI	5" ANSI	4" ANSI	5" ANSI
B	8.7" (220mm)	9.8" (250mm)	8.7" (220mm)	9.8" (250mm)
C	0.45" (11mm)	0.45" (11mm)	0.45" (11mm)	0.45" (11mm)
X	4" (98mm)	4" (98mm)	5" (127mm)	5" (127mm)
Y	11.34" (288mm)	11.34" (288mm)	24.41" (620mm)	24.41" (620mm)

Ordering

LR41-5 [ ] 21- [ ] [ ] -0 [ ]

MOUNT TYPE (1)
- 0 — NPT thread
- 3 — ANSI flange

ANTENNA SIZE (2)
- 4 — 4" (98mm) horn
- 5 — 5" (127mm) horn
- A — 4" (98mm) horn with dust shield
- B — 5" (127mm) horn with dust shield

MOUNT SIZE (3)
- 0 — 1 1/2" NPT
- 4 — 4" gimbal flange
- 5 — 5" gimbal flange

FOB USB ADAPTER (4)
- 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) The 0 mount size is compatible with the 0 mount type. The 4 and 5 mount sizes are compatible with the 3 mount type.

3) For bracket mount installations, order the 0 mount type, 0 mount size and purchase a LR97-S006 mounting bracket.

4) Sensors are offered with or without a LI99-3001 Fob USB adapter. If you want to configure the sensor using our free WebCal software, you need one Fob, which can be used with any EchoPro sensor.