EchoPro® LR46

Pulse Radar Solids Level Transmitter

FLOWLINE™
LEVEL BEST

Application

The intrinsicallty 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 HART communicator. The non-contact solids level sensor is intended for dry solid media including aggregates, grains, pellets, powders and building materials. Select this sensor for the most difficult process conditions with significant to extreme dust, and installation with an adjustable gimbal flange. For ease of installation, the parabolic antenna can be unclamped, inserted through the base of a riser, and reattached to the sensor. Typical applications include silos.

RoHS Compliant   CE   Ex   CSA us   FC

LR46-5321-84-00
Shown

Features

■ Parabolic antenna delivers high power RF signal strength

■ Configuration via push button display or HART communicator

■ Gimbal flange for easy positioning with the angle of repose

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

■ Optional display mode indicates the echo signal return curve

■ Rugged 316L stainless steel antenna and process mount

■ Fail-safe diagnostics with selectable signal fail-safe outputs

■ Recognition, storage and rejection of false echo signal returns

■ IP67 stainless enclosure with polycarbonate display window

Antenna Selection

The reflective parabolic antenna focuses the RF energy to narrow the beam and increase the signal strength. The sensor is offered in two antenna sizes including 8" (196mm) and 10" (246mm). The larger the antenna, the narrower the beam and the stronger the RF signal return. To select the appropriate antenna size, consider two variables; The measured span distance and the amount of dust within the span.

Parabolic
Antenna

ECHOPRO™
20.49 ft
SENSOR
LOCK   OPEN
ESC   ↑   →   OK

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:	- 8_: 5°
	- 0_: 4°
Configuration:	Push button, HART 7
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:	316L & PTFE
Process mount:	-_4: 4" gimbal flange (ANSI)
	-_5: 5" gimbal flange (ANSI)
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

FLANGE

P/N	-84	-85	-04	-05
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	7.8" (198mm)	7.8" (198mm)	9.7" (246mm)	9.7" (246mm)

Echo Signal Return Curve

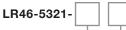## Level Indicator

LI24-1001

DATALOOP™

Intrinsically Safe Level Indicator

UL approved intrinsically safe, the loop powered level indicator displays engineering units connected in series with one 4-20 mA level transmitter. Select the LI24-1001 level indicator for hazardous applications with an intrinsically safe sensor. For field mount installation, add a single or two indicator NEMA box.

Ordering

LR46-5321-☐☐-00

ANTENNA SIZE (1)

8	8" (196mm) parabola
0	10" (246mm) parabola

MOUNT SIZE

4	4" gimbal flange
5	5" gimbal flange

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.