

# EchoPro<sup>®</sup> LR46

Pulse Radar Solids Level Transmitter



## 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 **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.



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## Features

- Parabolic antenna delivers high power RF signal strength
- Configuration via push button display or WebCal software
- Gimbal flange for easy positioning with the angle of repose
- 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
- 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



LR46-5321-84-00  
Shown

## 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



Push Button  
Display Module

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## Specifications

<b>Range:</b>	12" to 229.7' (30cm to 70m)
<b>Frequency:</b>	26 GHz.
<b>Accuracy:</b>	± 15mm
<b>Dead band:</b>	12" (30cm)
<b>Beam angle:</b>	- 8_: 5° - 0_: 4°
<b>Configuration:</b>	Push button; WebCal <sup>®</sup> PC Windows <sup>®</sup> USB <sup>®</sup> 2.0; HART 7 (pending)
<b>Memory:</b>	Non-volatile
<b>Display type:</b>	LCD, dot matrix
<b>Display units:</b>	Feet and meters
<b>Display bar:</b>	Percent of span
<b>Display graph:</b>	Echo signal curve
<b>Supply voltage:</b>	21.6 to 26.4 VDC
<b>Max. consumption:</b>	22.5 mA
<b>Signal output:</b>	4-20 mA, two-wire, HART 7
<b>Signal invert:</b>	4-20 mA, 20-4 mA
<b>Signal fail-safe:</b>	3.9 mA, 20.5 mA, 22 mA
<b>Process temp.:</b>	F: -40° to 752° C: -40° to 400°
<b>Temp. comp.:</b>	Automatic
<b>Storage temp.:</b>	F: -40° to 176° C: -40° to 80°
<b>Pressure:</b>	Atmospheric
<b>Enclosure rating:</b>	IP67
<b>Encl. material:</b>	316L stainless steel w/silicone gasket
<b>Encl. window mat.:</b>	Polycarbonate
<b>Conduit entrance:</b>	(1) 1/2" NPT connector
<b>Antenna material:</b>	316L & PTFE
<b>Process mount:</b>	-_4: 4" gimbal flange (ANSI) -_5: 5" gimbal flange (ANSI)
<b>Classification:</b>	Intrinsically safe
<b>Approvals (pending):</b>	ATEX <sup>®</sup> 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
<b>Certification:</b>	FCC
<b>Compliance:</b>	CE, RoHS

## Dimensions

### FLANGE

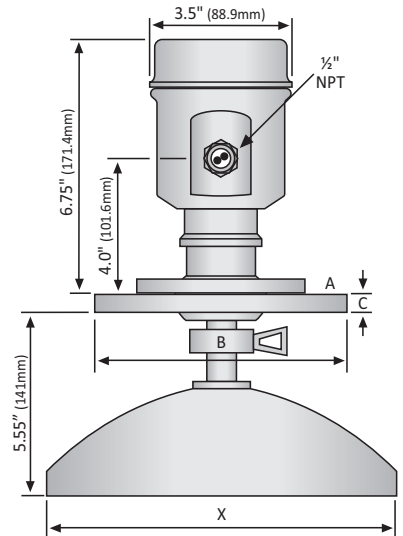
P/N	-84	-85	-04	-05
A	4" ANSI	5" ANSI	4" ANSI	5" ANSI
B	8.7" (220mm)	9.8" (250mm)	8.7" (220mm)	9.8" (250mm)
C	0.45" (11mm)	0.45" (11mm)	0.45" (11mm)	0.45" (11mm)
X	7.8" (198mm)	7.8" (198mm)	9.7" (246mm)	9.7" (246mm)



LI99-3001  
Fob USB  
Adapter



Echo Signal Return Curve



## Level Indicator



LI25-2001

### DATALOOP<sup>™</sup>

Intrinsically Safe Level Indicator

FM and CSA approved intrinsically safe, the loop powered level indicator displays engineering units connected in series with one 4-20 mA level transmitter. Select the LI25-2001 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---0

<b>ANTENNA SIZE (1)</b>	
8	8" (196mm) parabola
0	10" (246mm) parabola
<b>MOUNT SIZE</b>	
4	4" gimbal flange
5	5" gimbal flange
<b>FOB USB ADAPTER (2)</b>	
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) 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.