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 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 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.

Features

- Rugged 316L stainless steel antenna and process mount
- Configuration via push button display or HART communicator
- 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
- 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

Antenna Selection

The sensor is offered in a 4" (98mm) antenna 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. 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.
EchoPro® LR41
Pulse Radar Solids Level Transmitter

Specifications

Range: 12” to 229.7’ (30cm to 70m)
Frequency: 26 GHz.
Accuracy: ± 15mm
Dead band: 12” (30cm)
Beam angle: -5°..21-4°..8°
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: -40º to 176º
C: -40º to 80º
Temp. comp.: Automatic
Storage temp.: F: -40º to 72º
C: -40º to 40º
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..00: 316L
-5..21-A-..00: 316L & PTFE
Air purge fitting: 1/4” (6.3mm) I.D. tubing
Process mount: -0: 1 1/2” NPT
-.4: 4” 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 IIC (T76ºC to T146ºC) Da;
Ex ia IIC (T6..T3) Ga & Ex ia IIIC (T76ºC to
T146ºC) Ga
Certification: FCC
Compliance: CE, RoHS

Dimensions

THREAD
P/N -40 & -A0
X 4” (98mm)
Y 11.34” (288mm)

FLANGE
P/N -44 & -A4
A 4” ANSI
B 8.7” (220mm)
C 0.45” (11mm)
X 4” (98mm)
Y 11.34” (288mm)

Ordering

LR41-5 21- -00

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) An air purge connection can be used to prevent clogging of the
antenna in applications with significant dust. The 4 antenna size
(4”/98mm horn) includes the air purge. The A antenna size (4”/98mm
horn with dust shield) does not include the air purge.
3) The 0 mount size is compatible with the 0 mount type. The 4 mount
size are compatible with the 3 mount type.
4) For bracket mount installations, order the 0 mount type, 0 mount size
and purchase a LR97-S006 mounting bracket.