

EchoPulse® LR15

Pulse Radar Liquid Level Transmitter



Application

The general purpose 26 GHz. pulse radar transmitter provides continuous level measurement up to 98.4' (30m) with a 4-20 mA signal output, and is configured via its integral push button display module. The non-contact liquid level sensor is intended for petroleum, water, wastewater and diluted chemical storage or process applications in above or below grade tanks of any material. Select this sensor for challenging process conditions with low or non-corrosive media, light surface foam or agitation, higher temperature or pressure, condensation or vapor, and installation in a tank adapter, flange fitting or metal stand-pipe. Typical applications include bulk storage, tanker truck, process tank, waste sump and neutralization tanks.



Features

- Rugged 316L stainless steel antenna and process mount
- Simple configuration via integral push button display module
- 26 GHz. pulse radar is unaffected by vapor or condensation
- 12" (30cm) dead band enables utilization of the entire tank
- LCD displays level in feet or meters with percent of span bar
- Optional display mode indicates the echo signal return curve
- Auto-temperature compensation for accurate measurement
- Fail-safe diagnostics with selectable signal fail-safe outputs
- Recognition, storage and rejection of false echo signal returns
- Rugged IP67 aluminum enclosure with polycarbonate window

Success

There are 612k restaurants in the US that generate waste vegetable oil. Viscous with floating particulate and animal fat, waste oil is difficult to measure. Rendering companies collect, process and sell waste oil to secondary markets. Here, a LR15 is flange mounted on a 23' storage tank at an oil rendering plant. Its 26 GHz. pulse radar measurement is unaffected by the process condition.



LR15-0010-20 Shown



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Specifications

| | |
|--------------------|------------------------------------|
| Range: | 12" to 98.4" (30cm to 30m) |
| Frequency: | 26 GHz. |
| Accuracy: | ± 3mm |
| Dead band: | 12" (30cm) |
| Beam angle: | - 20: 18° - 30: 12° - 40: 8° |

| | |
|--------------------------|------------------------------------|
| Configuration: | Push button |
| 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: | 16-26 VDC |
| Max. consumption: | 22.5 mA |
| Signal output: | 4-20 mA, two-wire |
| Signal invert: | 4-20 mA, 20-4 mA |
| Signal fail-safe: | 3.9 mA, 20.5 mA, 22 mA |
| Process temp.: | F: -76° to 302° C: -60° to 150° |

| | |
|-----------------------|-----------------------------------|
| Temp. comp.: | Automatic |
| Storage temp.: | F: -40° to 176° C: -40° to 80° |

| | |
|------------------|------------------------------------|
| Pressure: | -14.5 to 150 psi (-1 to 10 bar) |
|------------------|------------------------------------|

| | |
|---------------------------|--|
| Enclosure rating: | IP67 |
| Encl. material: | Aluminum w/silicone gasket |
| Encl. window mat.: | Polycarbonate |
| Conduit entrance: | (1) 1/2" NPT connector (1) M20 x 1.5 plug |

| | |
|--------------------------|-----------------|
| Antenna material: | 316L |
| Process mount: | 1 1/2" NPT |
| Classification: | General purpose |
| Certification: | cTUVus FCC |
| Compliance: | CE, CRN, RoHS |

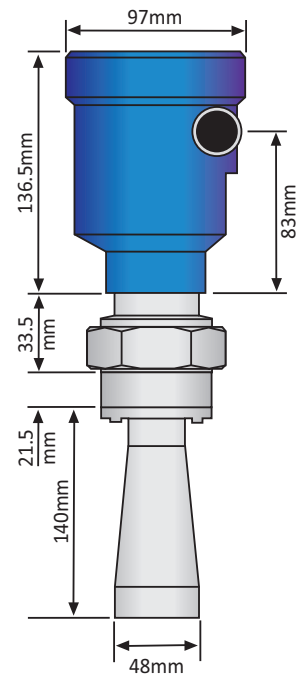
Dimensions

ANTENNA

| P/N | X | Y |
|------|-----------|----------------|
| - 20 | 2" (48mm) | 5.51" (140mm) |
| - 30 | 3" (78mm) | 8.94" (227mm) |
| - 40 | 4" (98mm) | 11.34" (288mm) |



Echo Signal Return Curve Shown



Fittings

REDUCER BUSHINGS

| |
|---------------------------------|
| LM53-2400 |
| 2" x 1.5" NPT, PVC, schedule 40 |
| LM53-2800 |
| 2" x 1.5" NPT, PVC, schedule 80 |
| LM53-3800 |
| 3" x 1.5" NPT, PVC, schedule 80 |
| LM53-2S10 |
| 2" x 1.5" NPT, 316 stainless |



LM53-2S10



LM53-2800

ANSI FLANGES | SS

| |
|------------------------------|
| LM53-3S50 |
| 3" x 1.5" NPT, 316 stainless |
| LM53-4S50 |
| 4" x 1.5" NPT, 316 stainless |
| LM53-6S50 |
| 6" x 1.5" NPT, 316 stainless |



LM53-4S50

ANSI FLANGES | CPVC

| |
|----------------------------------|
| LM53-3850 |
| 3" x 1.5" NPT, CPVC, schedule 80 |
| LM53-4850 |
| 4" x 1.5" NPT, CPVC, schedule 80 |
| LM53-6850 |
| 6" x 1.5" NPT, CPVC, schedule 80 |



LM53-3850

Ordering

LR15-0010- 0

ANTENNA SIZE (1) (2)

| | |
|----------|----------------|
| 2 | 2" (48mm) horn |
| 3 | 3" (78mm) horn |
| 4 | 4" (98mm) horn |



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) To install the radar sensor with a flange or reducer bushing, order the fitting separately, and follow the antenna preparation instructions in the manual.

DS301720 REV B1