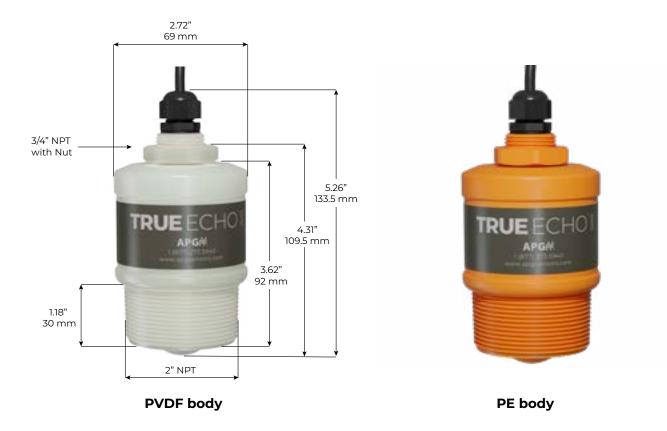


General Purpose CR-L Radar Liquid Level Sensor

Datasheet



The TRUE ECHO® CR-L brings the accurate level readings of radar sensors to industrial liquid measurements. It can accurately measure in many adverse environments. The radar's narrow beam can detect small targets and achieve precise positioning with high resolution. It has a maximum measuring range of 49.2 feet (15 m) and a minimum blind zone of 7.87 inches (0.2 m). All TRUE ECHO CR-L sensors can be easily set up and field adjusted via the TRUE ECHO app.

Features

- Simple to install
- 4-20mA and RS-485 Outputs
- Compatible with your mobile device for on-site maintenance
- Chemical resistant
- Accurate level measurements in adverse environmental conditions



GENERAL PURPOSE SPECIFICATIONS

Performance

| Range | 7.87" to 49.21 ft (0.2 to 15 m) | |
|-------------------------|---|--|
| Measuring Frequency | W Band, 76 to 81GHz, 5GHz FMCW bandwidth | |
| Update Rate | 4-20mA: Automatic adjustment 1 to 3Hz RS-485: 1 Hz | |
| Power on to 1st reading | 6 seconds | |
| Accuracy | ± 3mm | |
| Beam Angle | 8° (4° half angle) | |

Environmental

| Process Temperature | -40° to 158°F (-40° to 70°C) |
|--|------------------------------|
| Process Pressure | -14.5 to 43.51 psi |
| Dielectric Constant of Measured Medium | ≥2 |
| Protection Rating | IP67 |

Electrical

| Cable | Polyurethar | Polyurethane jacket with shielded 18awg wires | |
|----------------------------|-------------|---|--|
| Spike Protection | <3kW | | |
| Reverse Voltage Protection | ≤30V | | |
| | RS-485: | 12-28 VDC (9-12 mA RMS @ 24 VDC) | |
| Operating Voltage | 4-20mA: | 12-28 VDC | |

Connectivity

| Output signal | 4-20mA: | 2 wire + shield |
|--------------------------|-------------|------------------|
| | RS-485: | 4 wire + shield |
| Fault Output (4-20 only) | 3.6mA, 22mA | ., or Last Value |

Physical

| Housing | PVDF or PE |
|-----------------|------------------|
| Process fitting | 2" NPT |
| Diameter | 2.72" (69mm) |
| Height | 5.39" (137 mm) |
| Weight | 18.87 oz (535 g) |

Certifications

- FCC
- ISED
- CE



MODEL NUMBER CONFIGURATOR

Part Number: CR - <u>L</u> - <u>GP</u> - <u>49</u> - <u>D</u> - <u>E</u> - <u>E5</u> - <u>- B0</u>

A. Product

□ **L** Continuous Wave Radar for Liquid

B. Purpose

□ **GP** General Purpose

C. Range

□ **49** 49 ft (15 m)

D. Output

□ **L1** 4-20 mA

□ **L31** RS-485 Modbus RTU

E. Material

□ **P** PE (Orange)

□ **K** PVDF (Translucent)

F. Electrical Connection

□ **E5** Cable with pigtail

G. Cable Length

□ **16** 16 feet (5m)

□ **40** 40 feet (12m)

□ **60** 60 feet (18m)

□ **X** Specify length (increments of 20 feet)

H. Customer Label

□ **BO** APG

COMMON MODEL CONFIGURATIONS

| Model Number | Model Description |
|---------------------------|---|
| CR-L-GP-49-L1-P-E5-16-B0 | Liquid, general purpose, 49 ft range, 4-20 mA , PE , pigtail, 16 ft cable |
| CR-L-GP-49-L1-K-E5-16-B0 | Liquid, general purpose, 49 ft range, 4-20 mA , PVDF , pigtail, 16 ft cable |
| CR-L-GP-49-L31-P-E5-16-B0 | Liquid, general purpose, 49 ft range, RS-485 , PE , pigtail, 16 ft cable |
| CR-L-GP-49-L31-K-E5-16-B0 | Liquid, general purpose, 49 ft range, RS-485 , PVDF , pigtail, 16 ft cable |
| CR-L-GP-49-L1-P-E5-40-B0 | Liquid, general purpose, 49 ft range, 4-20 mA , PE , pigtail, 40 ft cable |
| CR-L-GP-49-L1-K-E5-40-B0 | Liquid, general purpose, 49 ft range, 4-20 mA , PVDF , pigtail, 40 ft cable |
| CR-L-GP-49-L31-P-E5-40-B0 | Liquid, general purpose, 49 ft range, RS-485, PE, pigtail, 40 ft cable |
| CR-L-GP-49-L31-K-E5-40-B0 | Liquid, general purpose, 49 ft range, RS-485, PVDF, pigtail, 40 ft cable |



ACCESSORIES

| Description | Part Number |
|--|-------------|
| Adjustable Angle Mounting Bracket, Wall to Radar Mount; 8.5" | 201150 |
| Adjustable Angle Mounting Bracket, Wall to Radar Mount; 3" | 201151 |
| 316L SS Threaded Weight, 2in NPT. Used when suspending radar by cable. | 201215 |



3" Mounting Bracket Accessory



8" Mounting Bracket Accessory



316L SS Threaded Weight



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