

# TRUE ECHO®

## General Purpose CR-L Radar Liquid Level Sensor

### Datasheet



**PVDF body**



**PE body**

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 Bluetooth app.

### Features

- Simple to install
- 4-20mA and RS-485 Outputs
- Bluetooth compatible 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: 1.25Hz
Power on to 1st reading*	7 seconds (minimum)
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

Operating Voltage	4-20mA: 12-28 VDC RS-485: 12-28 VDC (5-17mA RMS @ 24 VDC)
Reverse Voltage Protection	≤30V
Spike Protection	<3kW
Cable	Polyurethane jacket with shielded 18awg wires

## Connectivity

Output signal	4-20mA: 2 wire + shield RS-485: 4 wire + shield
Bluetooth Version	5
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

\*Time to first reading is determined by the Damping setting, as explained in the User Manual.

# MODEL NUMBER CONFIGURATOR

Part Number: CR –  $\frac{L}{A}$  –  $\frac{GP}{B}$  –  $\frac{49}{C}$  –  $\frac{\quad}{D}$  –  $\frac{\quad}{E}$  –  $\frac{E5}{F}$  –  $\frac{\quad}{G}$  –  $\frac{B0}{H}$

## 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

- ☐ **B0** APG

# COMMON MODEL CONFIGURATIONS

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



3" Mounting Bracket Accessory



8" Mounting Bracket Accessory



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