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 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

APG®

Doc # 9006835
Part # 201121
Rev D1, 10/2025

1.888.610.7664 www.calcert.com sales@calcert.com

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: RS-485:	Automatic adjustment 1 to 3Hz 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

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

Connectivity

Output signal	4-20mA: RS-485:	2 wire + shield 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 – L – GP – 49 – ___ – ___ – E5 – ___ – B0
A B C D E F G 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, **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

APG