

True Echo™ Pulse Radar Level Transmitter For Liquids Series: PRL



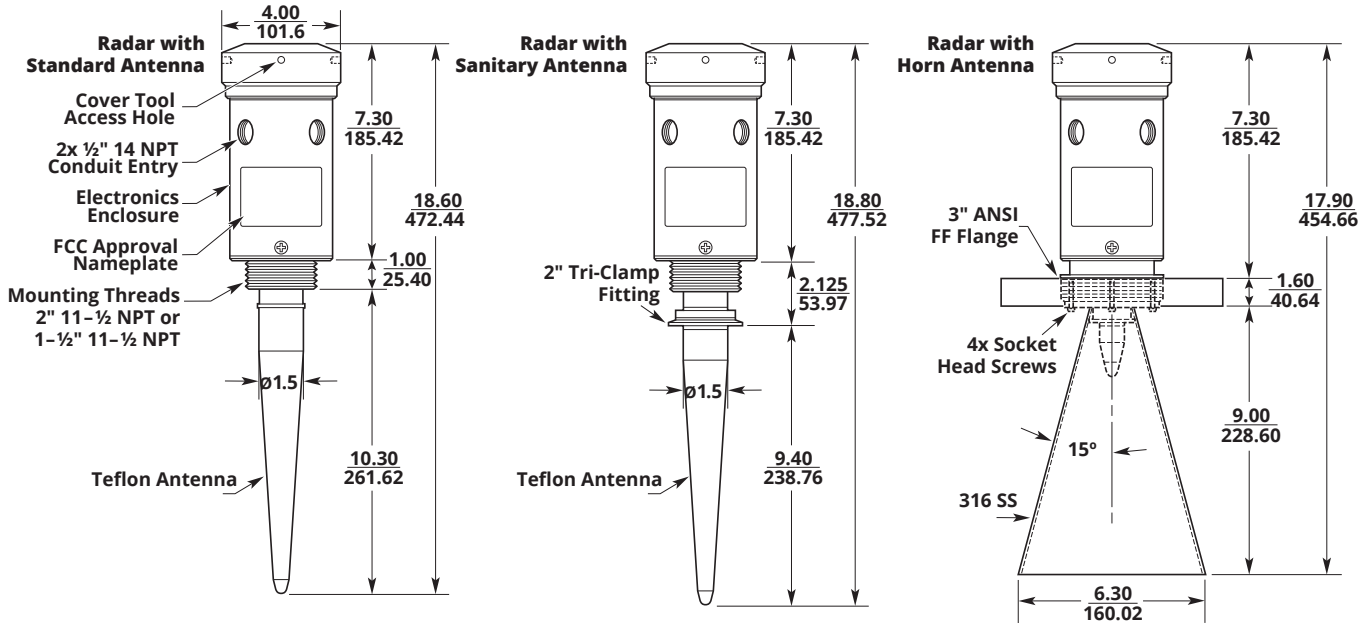
The True Echo™ PRL Pulse Radar Level Transmitter brings the unassailably accurate level readings of radar sensors to all types of liquid level measurement. The True Echo™ PRL comes with a variety of housing and antenna materials, but all are IP68 for worry-free level measurement. The True Echo™ also automatically adjusts signal power for optimal accuracy and clarity. With echo masking and damping factors programmable via software, getting dependable level readings from difficult materials is simple.

FEATURES

- Ranges to 50 or 100 feet
- $\pm 0.25\%$ of max. range accuracy
- 6.1 μA output resolution
- Field configurable, 3-wire, 4-20 mA/20-4 mA Output
- Optional RS-232, RS-485, or Hart communications
- PC calibration, diagnostic and data logging software
- PLC compatible (Modbus RTU)
- Nema 6/ IP68 enclosure rating
- Simple installation and setup
- Automatic adjustments for most tank conditions
- Very low material dielectric constant requirement
- Firmware addition for Oil-Water Interface measurement
- Low Dielectric Material mode for $\epsilon < 4$.



True Echo™ Series PRL Specifications



Performance

- Operating Range:
PRL-050: 1 - 50 ft. (0.3 - 15 m)
PRL-100: 1 - 100 ft. (0.3 - 30 m)
- Frequency:
6.3 GHz
- Accuracy:
± 0.25% of maximum range
- Resolution:
PRL-050: 0.22 in. (5.7 mm)
PRL-100: 0.44 in. (11 mm)
- Target Dielectric Constant:
 $\epsilon_r > 2$

Environmental

- Enclosure Operating Temperature:
-40° to 140°F (-40 to 60°C)
- Process/Probe temperature
High Temp PFTE: -40° to 350°F (-40 to 177°C)
- Maximum Process Pressure:
5 bar (72.5 psi)
- Enclosure:
NEMA 6: Aluminum or 316L Stainless Steel, IP68 Sealing

Electrical

- Loop Resistance:
 $R_L = (V_s - 6) / 24 \text{ mA}$
- Input Voltage:
12-30 VDC; 115 VAC 60 Hz; 230 VAC 50 Hz
- Power Consumption:
0.07 A max, 1.68 W @ 24 VDC
1.7 VA for 115/230 VAC

Connectivity

- Output: 4-20 mA (Active)

Programming

- RS-485, RS-232, or Hart for calibration and diagnostics

Physical

- Antenna
Rod: Teflon, 10.3" (261.6 mm)

Certifications

- FCC
Part 15 for low power communications class II install

Common Model Configurations

6.3 GHz, Teflon Antenna, 2" NPT Mount, Isolated 4-20 mA output

Model Number	Model Description
PRL-050-V024-C4-AL-TE-T2	50' range, 12-30 VDC Supply, Aluminum Body , RS-485 communication
PRL-050-V024-C4-SS-TE-T2	50' range, 12-30 VDC Supply, 316L SS Body , RS-485 communication
PRL-050-V115-C4-AL-TE-T2	50' range, 115 VAC Supply, Aluminum Body , RS-485 communication
PRL-050-V115-C4-SS-TE-T2	50' range, 115 VAC Supply, 316L SS Body , RS-485 communication
PRL-100-V024-C4-AL-TE-T2	100' range, 12-30 VDC Supply, Aluminum Body , RS-485 communication
PRL-100-V024-C4-SS-TE-T2	100' range, 12-30 VDC Supply, 316L SS Body , RS-485 communication
PRL-100-V115-C4-AL-TE-T2	100' range, 115 VAC Supply, Aluminum Body , RS-485 communication
PRL-100-V115-C4-SS-TE-T2	100' range, 115 VAC Supply, 316L SS Body , RS-485 communication

PRL Accessories

Please order separately, by part number.

Description	Part Number
Pulse Radar PC Software	200092
Pulse Radar RS-232 cable	200093
USB to RS-232 converter	122971-0104
RS-485 to RS-232 converter	122907-0078
High pressure (70 bar / 1015 psi) Teflon antenna	200094
Long Teflon antenna (with built-in extension)	200095
High temperature Teflon antenna (1) 2 in. to 1.5 in. NPT Teflon decoupler†	200096
High temperature Teflon antenna (1) 3 in. to 2 in. NPT Teflon decoupler††	200097
6 in. Teflon antenna extension	200098
8 in. Teflon antenna extension	200099
Oil-Water Interface Detector Firmware	200100

† Requires Antenna Mounting option T15: 1.5" NPT

†† Requires Antenna Mounting option T2: 2" NPT

Model Configuration Options



Model Number: PRL - - - - - -
 A B C D E F

A. Range

- 050** 50 ft (15m)
- 100** 100 ft (30m)

B. Supply Voltage

- V115** 115 VAC (60 Hz)
- V230** 230 VAC (50 Hz)
- V024**[▲] 12-30 VDC

C. PC Communications (Calibration & Diagnostics)

- C2** RS-232
- C4**[▲] RS-485
- CH** Hart

D. Housing Material

- AL**[▲] Aluminum
- SS** 316L Stainless Steel

E. Antenna Material

- TE**[▲] Teflon Rod
- ST** 2 in. Sanitary Tri-Clamp mount, Teflon Ant.†
- S6** 316L Stainless Steel 6" Ø Horn††
- HS** High Temperature Radar, 316L SS 6" Ø Horn††
- HT** High Temperature Radar, Teflon Rod Ant.†††

F. Mounting

- T15** 1.5 in. NPT†††
- T2**[▲] 2 in. NPT
- T3** 3 in. NPT††
- S2** 2 in. Sanitary Tri-Clamp†

Note: † ST Teflon Rod Ant. with 2 in. Sanitary Tri-Clamp mount requires S2 2 in. Sanitary Tri-Clamp mount.

Note: †† S6 and HS 316L SS horns require T3 3 in. NPT mount.

Note: ††† HT Teflon Rod requires T15 1.5 in. NPT mount

[▲]This option is standard