

True Echo™ Dual Frequency Pulse Radar Level Transmitter For Solids Series: PRS



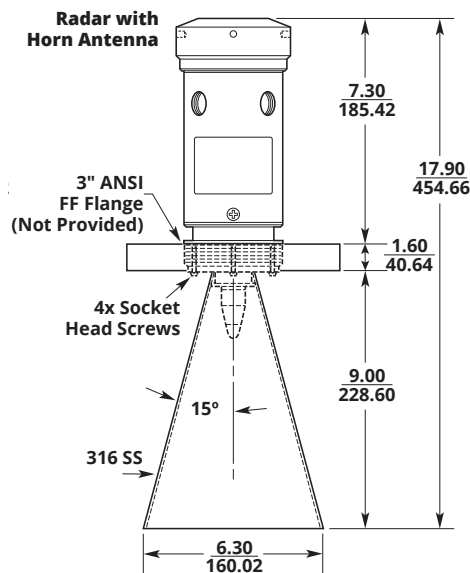
The True Echo™ PRS Dual Frequency Pulse Radar Level Transmitter For Solids brings the unassailably accurate level readings of radar sensors to difficult to measure solids. Whether powders or pellets, grains or granules, the True Echo™ PRS's dual frequencies to allow it to quickly and accurately read the complex reflections from piled solids. 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: 17, 50, or 100 feet
- $\pm 0.25\%$ of measured range accuracy
- 6.1 μA output resolution
- Field configurable 4-20 mA/20-4 mA Output
- 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
- Optional Fast Firmware for quickly changing levels



True Echo™ Series PRS Specifications



Performance

- Operating Range:
 - PRS-017: 1 - 17 ft. (0.3 - 5 m)
 - PRS-050: 1 - 50 ft. (0.3 - 15 m)
 - PRS-100: 1 - 100 ft. (0.3 - 30 m)
- Frequency: 6.3 GHz and 26 GHz
- Accuracy: $\pm 0.25\%$ of maximum range
- 4-20 mA Resolution: 6.1 μ A (approx. 2622 digital counts across range)
- Target Dielectric Constant: $\epsilon_r > 2$

Environmental

- Enclosure Operating Temperature: -40° to 140°F (-40 to 60°C)
- Process/Probe Temperatures:
 - Standard: -40° to 176°F (-40 to 80°C)
 - High Temp: -40° to 350°F (-40 to 177°C)
 - Extreme Temp: -40° to 572°F (-40 to 300°C)
- Maximum Process Pressures:
 - Standard Temp: 5 bar (72.5 psi)
 - High/Extreme Temps: 2 bar (29.0 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; 20-35 VDC (HART); 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 (shared common or isolated); HART

Programming

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

Physical

- Antenna
 - Horn: 316L Stainless Steel, Ø 6.3" (160 mm)
 - Beam spread: 3° from center

Certifications

- FCC
 - Part 15 for low power communications class II install

Common Model Configurations

6.3 & 26 GHz, 3" NPT mount, 316L SS 6" Ø Horn, 4-20 mA output

Model Number	Model Description
PRS-050-V024-C4-AL-S6-T3-S	50' range, 12-30 VDC supply, Aluminum Body , RS-485 communication
PRS-050-V024-C4-SS-S6-T3-S	50' range, 12-30 VDC supply, 316L Stainless Steel Body , RS-485 communication
PRS-050-V115-C4-AL-S6-T3-S	50' range, 115 VAC supply, Aluminum Body , RS-485 communication
PRS-050-V115-C4-SS-S6-T3-S	50' range, 115 VAC supply, 316L Stainless Steel Body , RS-485 communication
PRS-100-V024-C4-AL-S6-T3-S	100' range, 12-30 VDC supply, Aluminum Body , RS-485 communication
PRS-100-V024-C4-SS-S6-T3-S	100' range, 12-30 VDC supply, 316L Stainless Steel Body , RS-485 communication
PRS-100-V115-C4-AL-S6-T3-S	100' range, 115 VAC supply, Aluminum Body , RS-485 communication
PRS-100-V115-C4-SS-S6-T3-S	100' range, 115 VAC supply, 316L Stainless Steel Body , RS-485 communication

PRS Accessories

Please order separately, by part number.

Description	Part Number
USB to RS-232 converter	122971-0104
USB to RS-485 converter	200501

Model Configuration Options



Model Number: PRS - - - - - - -
 A B C D E F G

A. Range

- ☐ **017** 17 ft (5m)
- ☐ **050** 50 ft (15m)
- ☐ **100** 100 ft (30m)

B. Supply Voltage, Signal

- ☐ **V115** 115 VAC (60 Hz) - 4-wire, Isolated 4-20 mA
- ☐ **V230** 230 VAC (50 Hz) - 4-wire, Isolated 4-20 mA
- ☐ **V024**▲ 12-30 VDC - 3 wire, 4-20 mA w/ shared com
- ☐ **V20L** 20-35 VDC - 2 wire HART†

C. PC Communications (Calibration & Diagnostics)

- ☐ **C2** RS-232
- ☐ **C4**▲ RS-485
- ☐ **CH** HART†

▲ This option is standard

Note: † CH HART PC Communications requires V20L 20-35 VDC Supply Voltage

D. Housing Material

- ☐ **AL**▲ Aluminum
- ☐ **SS** 316L Stainless Steel

E. Antenna Material

- ☐ **S6**▲ 316L Stainless Steel 6" Ø Horn
- ☐ **HS** High Temp. Radar, 316L SS 6 in. Ø Horn

F. Mounting

- ☐ **T3**▲ 3 in. NPT
- ☐ **BF** 13 in. Ø 316L SS Bottom Flange
- ☐ **A3** 8 in. Ø Swivel Aimer

G. Firmware

- ☐ **S**▲ Standard
- ☐ **F** Fast Firmware