

# True Echo™ Explosion Proof Pulse Radar Level Transmitter Series: PRX



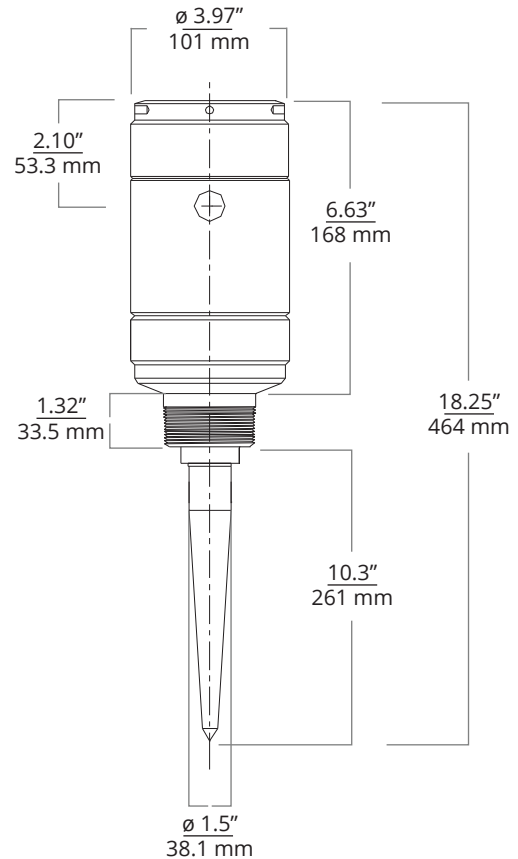
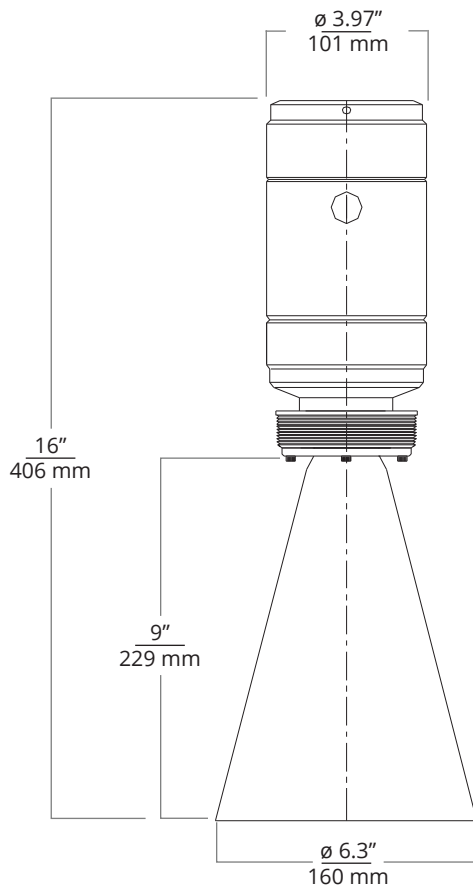
The True Echo™ PRX Explosion Proof Pulse Radar Level Transmitter brings the unassailable level readings of radar sensors to Class I, II, and III hazardous locations. The True Echo™ PRX automatically adjusts signal power for optimal accuracy and clarity, with echo masking and damping factors programmable via software. With a low dielectric requirement for target materials, and radar's reliable accuracy in environments with foam, vapors, and dust, the easy to install True Echo™ PRX makes getting dependable level readings in hazardous areas simple.

## FEATURES

- Ranges to 17, 50, or 100 feet
- ±0.25% of measured range accuracy
- 6.1  $\mu$ A 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
- FM Approval: Class I, Div 1; Class II/III, Div 1 ratings
- 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 PRX Specifications



## Performance

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

## Environmental

- Enclosure Operating Temperature:  $-40^\circ$  to  $140^\circ\text{F}$  ( $-40$  to  $60^\circ\text{C}$ )
- Process/Probe Temperatures:
  - Standard  $-40^\circ$  to  $176^\circ\text{F}$  ( $-40$  to  $80^\circ\text{C}$ )
  - High Temp  $-40^\circ$  to  $350^\circ\text{F}$  ( $-40$  to  $177^\circ\text{C}$ )
  - Extreme Temp  $-40^\circ$  to  $572^\circ\text{F}$  ( $-40$  to  $300^\circ\text{C}$ )
- Maximum Process Pressures:
  - Standard Temp/Pressure 5 bar (72.5 psi)
  - Standard Temp/High Press 70 bar (1015.3 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)
- Power Consumption: 0.07 A max, 1.68 W @ 24 VDC

## Connectivity

- Output: 4-20 mA (shared common); HART 7

## Programming

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

## Physical

- Antenna
  - Rod: Teflon, 10.3" (261.6 mm)
  - Beam Spread:  $6^\circ$  from center
  - Horn: 316L Stainless Steel,  $\varnothing 6.3''$  (160 mm)
  - Beam spread:  $3^\circ$  from center

## Certifications

- FCC Part 15 for low power communications class II install
- FM Class I, Div 1, Groups B, C, D  
Class II/III, Div 1, Groups E, F, G

# Common Model Configurations

6.3 GHz\*, 12-30 VDC supply, 4-20 mA output, Explosion Proof

Model Number	Model Description
PRX-050-V024-C4-AL-TE-T2-S	50' range, Aluminum Body, Teflon Antenna, 2" NPT Mount, RS-485 communication
PRX-050-V024-C4-SS-TE-T2-S	50' range, 316L SS Body, Teflon Antenna, 2" NPT Mount, RS-485 communication
PRX-050-V024-C4-AL-S6-T3-S	50' range, Aluminum Body, 316L SS 6" Horn, 3" NPT Mount, RS-485 communication
PRX-050-V024-C4-SS-S6-T3-S	50' range, 316L SS Body, 316L SS 6" Horn, 3" NPT Mount, RS-485 communication
PRX-100-V024-C4-AL-TE-T2-S	100' range, Aluminum Body, Teflon Antenna, 2" NPT Mount, RS-485 communication
PRX-100-V024-C4-SS-TE-T2-S	100' range, 316L SS Body, Teflon Antenna, 2" NPT Mount, RS-485 communication
PRX-100-V024-C4-AL-S6-T3-S	100' range, Aluminum Body, 316L SS 6" Horn, 3" NPT Mount, RS-485 communication
PRX-100-V024-C4-SS-S6-T3-S	100' range, 316L SS Body, 316L SS 6" Horn, 3" NPT Mount, RS-485 communication

\*Note: For dual-frequency, explosion proof radar, please contact APG.

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## PRX 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: PRX -      -      -      -      -      -      -       
                          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

- V024**<sup>▲</sup>       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**<sup>▲</sup>         RS-485
- CH**           HART†

## D. Housing Material

- AL**<sup>▲</sup>         Aluminum
- SS**           316L Stainless Steel

Note: <sup>▲</sup> Indicates this option is standard

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

## E. Antenna Material

- TE**<sup>▲</sup>           Teflon Rod Ant.
- S6**           316L Stainless Steel 6" Ø Horn†
- HS**           High Temperature Radar, 316L SS 6" Ø Horn†
- HT**           High Temperature Radar, Teflon Rod Ant.
- PT**           High Pressure Teflon Ant. (≤ 70 bar) ††

## F. Mounting

- T15**           1.5 in. NPT
- T2**<sup>▲</sup>           2 in. NPT
- T3**            3 in. NPT
- BF**           13 in. Ø 316L SS Bottom Flange (S6, HS only)

## G. Firmware

- S**<sup>▲</sup>            Standard
- F**            Fast Firmware

Note: † S6 and HS 316L SS horns require T3 3 in. NPT or BF 13 in. Bottom Flange mount

Note: †† PT High Pressure Teflon Rod requires T2 2 in. NPT mount