Thank You

Thanks for purchasing a True Echo™ series PRX Explosion Proof Pulse Radar Level Transmitter from us! We appreciate your business and your trust. Please take a moment to familiarize yourself with the product and this manual before installation. If you have any questions, at any time, don't hesitate to call us at 888-525-7300.

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1. Description

True Echo™ PRX Explosion Proof Pulse Radar Level Transmitters bring the unassailably accurate 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.

2. How To Read Your Label

Each label comes with a full model number, a part number, and a serial number. The model number for the PRX will look something like this:

SAMPLE: PRX-100-V024-C4-SS-TE-T2-S

The model number correlates with all the configurable options and tells you exactly what you have. Compare the model number to the options on the datasheet to identify your exact configuration. You can also call us with the model, part, or the serial number and we can help you.

The label also includes the pinout, as does this installation guide.

3. Warranty

This product is covered by APG’s warranty to be free from defects in material and workmanship under normal use and service of the product for 24 months. For a full explanation of our Warranty, please visit https://www.apgsensors.com/about-us/terms-conditions. Contact Technical Support to receive a Return Material Authorization before shipping your product back.

This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

4. FCC Information & FM Approvals

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FM Approvals

Rated 12 - 30 VDC supply, 4-20 mA output, RS-232, RS-485, or HART communication
Explosion Proof
Class I, Division 1, Groups A, B, C, and D; Temperature Class T6 Ta = 60° C.
Dust-Ignition Proof
Class II/III, Division 1, Groups E, F, and G; Temperature Class T6 Ta = 60° C.
Hazardous (Classified) Locations, indoor/outdoor (Type 6, IP68)

5. Mounting Instructions

- Mount your True Echo™ series radar so that it has a clear, perpendicular path to the surface being monitored. Your sensor should be mounted away from tank or vessel inlets. Do not mount radar in center of domed tank. (See Figure 4.1)
- The radar path should be free from obstructions and as open as possible for the 4° off axis beam pattern.
- If you are using a stand pipe, please see our guide to stand pipes on our website: http://www.apgsensors.com/about-us/blog/how-to-install-a-stand-pipe.

- NOTE: Do not mount the sensor where the beam will intersect objects such as fill streams, pipes, ladder rungs, wall seams, or corrugated tank walls.

Figure 4.1

NOTE: Scan the QR code to the right to see the full user manual on your tablet or smartphone. Or visit www.apgsensors.com/support to find it on our website.
Recommended Wiring:

- Power & Signal - 3 Conductor Shielded, 24 AWG, 300V.
- Communication - 1 Shielded Twisted Pair, 24 AWG, 300V.

**Low Dielectric Material Mode**

Your True Echo™ Pulse Radar Level Transmitter has a setting to more accurately measure target materials with low dielectrics (ε < 4). The Low Dielectric Materials mode can be turned on or off via the Calibration Switch on the radar.

- Blinks Green Status LED (see Terminals in Section 6) indicates Low Dielectric Materials mode is OFF.
- Solid Green Status LED indicates Low Dielectric Materials mode is ON.
- To toggle the Low Dielectric Materials mode, press and hold the Calibration Switch button until the Status LED cycles from Yellow to Red and then off (see Terminals in Section 6).
- Replace lid of radar when finished.

**Power and Control Wiring for 12-30 VDC Supply**

**Field Calibration**

All True Echo™ Pulse Radar Level Transmitters can be calibrated in the field to set minimum or maximum material levels for 4 mA or 20 mA output.

For Full/Maximum Level Calibration:

- Turn Low Dielectric Materials mode OFF (see Section 7 above).
- With target material at maximum desired level, press and hold Calibration Switch button.
- For 20 mA output, release button when Status LED turns Yellow.
- For 4 mA output, release button when Status LED turns RED.
- Status LED will flash after release to confirm setting.

For Empty/Minimum Level Calibration:

- Turn Low Dielectric Materials mode OFF (see Section 7 above).
- With target material at minimum desired level, press and hold Calibration Switch button.
- For 20 mA output, release button when Status LED turns Yellow.
- For 4 mA output, release button when Status LED turns RED.
- Status LED will flash after release to confirm setting.

**General Care**

Your True Echo™ Radar Level Transmitter is very low maintenance and will need little care as long as it was installed correctly. However, in general, you should:

- Avoid applications for which the sensor was not designed. Follow all temperature range restrictions, and avoid contact with incompatible corrosive chemicals and fumes, or other damaging environments.
- Inspect the threads whenever you remove the sensor from duty or change its location.

**Removal Instructions**

- Ensure that power (VDC, control power, and communication power) to the radar is off.
- Unscrew top lid and detach wires from terminals.
- Disconnect conduit from radar.
- Remove the radar and store it in a dry place, at a temperature between -40° F and 140° F.
- Disconnect from power supply, remove, and replace any fuses, if necessary.
- Disconnect conduit from radar.
- Disconnect conduit from power supply.

**Repair Information**

If your True Echo™ Pulse Radar Level Transmitter needs repair, contact us via email, phone, or online chat on our website. We will issue you an RMA number with instructions.

- Phone: 888-525-7300
- Email: sales@apgsensors.com
- Online chat at www.apgsensors.com