

TEK 920 Wired PulseWave

Non-contact liquid level radar sensor










The 920 PulseWave tank level sensor is a non-contact radar level sensor designed for the monitoring of liquid levels in tanks. The radar system provides high precision and a low power solution ensuring efficient and safe operations. The PulseWave is installed directly on the top of the tank and provides wireless communication with Bluetooth 5.0 and an analog voltage signal for the wired version.

The performance of the radar sensor is not affected by temperature, pressure or dust. With a measuring frequency of 60GHz, PulseWave ensures the accuracy of up to 2cm (0.8") for distance measurement of up to 3m (9.8'). It's simple commissioning and trouble-free operation does not interfere with the structure of the tank.



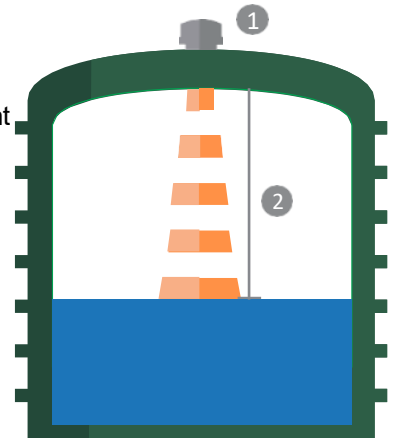
Smart Tank Monitoring - Non-contact radar level measurement

-  Bluetooth 5.0 connectivity
-  Monitoring of liquid levels in tanks
-  Bluetooth Low Energy (BLE)
-  Non-invasive installation on tanks
-  Robust design for outdoor operation
-  Certified to work in hazardous locations
-  Wired 2m/6.5' cable - 5V (IS source for Hazardous locations).
Analogue scaled output 0.5...4.5V

Operating Principle

The TEK 920 PulseWave is installed on the top of the tank (1) and sends a pulse coherent radar signal towards the medium from above and receives the wave reflected off a liquid surface.

Using the time of flight of the RF signal, the sensor measures the distance between the transmitting antenna and the target surface (2).



Technical Specification:

Data structures

- Current tank level and ambient temperature
- Battery status, device status
- Remote configuration and firmware upgrade

PulseWave versions

- PulseWave BLE Wireless (Battery powered)
- PulseWave Wired (external power from customer)
- Both options come with flat mounting or NPT mounting

Mechanical

- Dimensions : H x W : 44mm (1.7") x 95mm (3.7")
- Mounting Adapters:
 - Solid base for connection with screws or adhesive glue (Noninvasive measurement)
 - 1" NPT adapter (metal tanks with bung)

Low Power Communication*

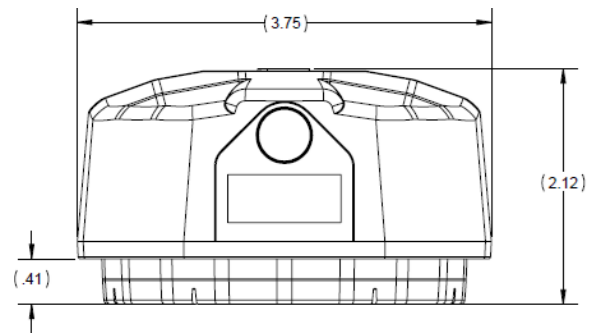
- Bluetooth 5.0
- 0.5V – 4.5V Wired output - ullage measurement.

HMI interface

- Local Digital Display readout of tank volume.

Environmental parameters

- Operating temperature: -40°C (-40°F) to +80°C (176°F). Recommended operating temperature: -25°C (-13°F) to +60°C (140°F).
- Robust casing: IP 6K9K
- Casing material: PA (polyamide) – dimensions as shown.
- UV resistant
- Certified for hazardous locations:
 - ATEX (zone 1) : Ex II 1G Ex ia IIA T3 Ga
 - North American: Class 1, Division 1, Group D T3
 - UKCA 'Ex' (UKEX)
 - RoHs
 - Reach
 - Prop 65
- FCC / CE / UKCE
- Additional mounting adapters – 1" NPT / non-invasive.
- Fluid types: water, fuel, ...



Sensor and Measurement

- Measuring range up to 3 m
- Accuracy:
 - +/- 2cm (1") or +/- 1% full scale {-25°C (-13°F) to 85°C (185°F)}
 - +/- 5cm (2") or +/- 2% full scale {-40°C (-40°F) to -25°C(-13°F)}
- Resolution: 2mm (0.08")
- Plastic material (tank body) penetration:
 - Up to 37mm (1.5") tank wall thickness
- 60 GHz pulsed coherent radar (PCR), short-range device (SRD)
- Tilt Monitoring via internal accelerometer
- Rochester BLE cell phone Installation App (Android, iOS).

