



OTT RLS

Radar Level Sensor

Designed specifically for surface water level measurement, the OTT Radar Level Sensor (RLS) employs a pulse radar technology for non-contact measurements. A small compact housing with a flat antenna design encloses two antennas used to transmit and receive pulses. For each measurement pulses are transmitted down to the surface of the water and reflected back to the sensor mounted to the side of a bridge, pier or mounting arm. The time delay from transmission to receipt is proportional to the distance between the bottom of the sensor and the water surface.

More than 300 measurements are averaged over 20 seconds to provide accurate results unaffected by flood waters, floating debris, or wave action. Each measurement is compensated for temperature before being output as distance to water or stage.

Quantitative
Hydrology



Accurate, Compact, and Easy-to-Use Radar Sensor for Surface Water Level Monitoring



Applications

For surface water level measurement of:

- Streams and rivers
- Tidal zones

Ideal for monitoring:

- Surface waters prone to flooding
- Sediment or debris laden streams and rivers
- Migrating channels

Performance Features & Benefits

- Accurate— ± 0.01 ft accuracy for water level measurements, and will not drift over time
- High Performance— Measurements are unaffected by air temperature, wave action, humidity, flood events, floating debris, or contaminated water; reduces the likelihood of missing data and reduces data post processing
- Low Maintenance— Flat antenna design eliminates nesting areas for insects and periodic maintenance requirement
- Flexible Integration/Easy Setup— Connects to most data loggers via standard communication interfaces, SDI-12 or 4-20 mA; no need for additional PC software
- Simple Installation— Light weight compact design facilitates easy mounting on bridges, extension mounting bracket or inside a small protective housing
- Low Profile Design— Unobtrusive appearance is ideal for urban installation sites or sites prone to vandalism
- Low Power Consumption— Ideal for remote or solar powered sites; requires only 15 mA when active

Additional Features

- Large measuring range, up to 115 ft.
- Extended SDI-12 commands provide advanced sensor programming
- Swivel mounting bracket easily mounts to most any surface, including slanted surfaces
- Sensor diagnostics available with each measurement



Simple installation with no need
to enter the water

Specifications

Measuring Range

1.3-115 ft. (0.4-35 m)

Accuracy

1.3-6.6 ft.: ± 0.03 ft.

6.6-98.5 ft.: ± 0.01 ft.

98.5-115 ft.: ± 0.03 ft.

Resolution

0.01 ft. (0.001 m) SDI-12 Interface

Units

ft, m, cm

Beam angle of antenna

12°

Sensor Technology

Pulse Radar

Transmitting Frequency

25.2 GHz Pulse Radar

Output

SDI-12

SDI-12 via RS-485

4-20 mA

Power Requirements

5.4 to 28 Vdc

Power Consumption

Active: < 15 mA @ +12 V equal to < 180 mW

Sleep: < 50 μ A @ +12 V equal to < 0.6 mW

Environmental Conditions

Temperature-Compensated Range:

-4 to 140°F (-20 to 60°C)

Operating Temperature:

-40 to 140°F (-40 to 60°C)

Storage Temperature:

-40 to 185°F (-40 to 85°C)

Relative Humidity:

0-100% (non-condensing)

Dimensions

8.7 in. x 6.0 in. x 7.5 in.

(L x W x H)

Weight

4.6 lbs.

Ingress Protection Rating

IP 67

Radio approvals

FCC ID: OA6RLS252



OTT Hydromet

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