The VRS-20 is a pulsed k-band radar level sensor developed by Valeport to work seamlessly with the Valeport TideMaster, operate standalone with optional telemetry systems, or interface directly to a third party data logger or PC.

Versatile and simple to install, the VRS-20 addresses a number of the issues traditionally associated with level measurement.

### Sensor
Non-contact technology removes the installation, corrosion & fouling issues of submerged sensors, while simplifying datum control. Accuracy and performance are unaffected by changes in water density and atmospheric conditions.

### Specification
- **Minimum Range:** 0.8 m
- **Maximum Range:** 20 m
- **Beam Angle:** ±6°
- **Frequency:** 25 GHz
- **Accuracy:** ±0.1 mm

<table>
<thead>
<tr>
<th>Range (m)</th>
<th>Radius (m)</th>
</tr>
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<tbody>
<tr>
<td>2</td>
<td>0.21</td>
</tr>
<tr>
<td>5</td>
<td>0.53</td>
</tr>
<tr>
<td>10</td>
<td>1.05</td>
</tr>
<tr>
<td>20</td>
<td>2.10</td>
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</tbody>
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### Sampling
The VRS-20 offers averaged data output options for water level / tide measurements only. Wave measurement sampling is not available.

- **Raw Sampling Rate:** 8 Hz
- **Averaging period:** Selectable (10 to 360 seconds)

### Electrical
- **Range:** 9-28 V DC
- **Power:** 35mA @ 12V dc

### Communications
- RS232/485 and SDI12 fitted as standard with communications method defined by pin selection.
- Optional integrated GPRS telemetry module
- **RS232:** Up to 200m cable, direct to serial port
- **RS485:** Up to 1000m cable, addressable half duplex
- **SDI 12:** Up to 100m cable.

### Housing & Mounting
- Fully sealed, injection molded housing rated to IP67 (NEMA 6) with PTFE window.
- Integral stainless steel mounting bracket with tool free, 2 axis adjustment. Integrated spirit bubbles for easy levelling.

<table>
<thead>
<tr>
<th>Length (mm)</th>
<th>Width (mm)</th>
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<tbody>
<tr>
<td>255</td>
<td>130</td>
</tr>
</tbody>
</table>

### Ordering
0745001  VRS-20 Radar Level Sensor
- Mounting bracket
- 5m cable with junction box
- Software, Manual and transit carton

### Shipping
- Cardboard Carton: 37 x 28 x 20cm, ~4kg

### Type Approval
The VRS20 radar sensor is fully compliant with:
- ETSI EN 302 729-2 V1.1.2(2011-05)
- Electromagnetic compatibility and Radio spectrum Matters (ERM)
- Short Range Devices (SRD):
- Level Probing Radar (LPR) equipment operating in the frequency ranges: 6 GHz to 8.5 GHz, 24.05 GHz to 26.5 GHz, 57 GHz to 64 GHz and 75 GHz to 85 GHz.

Please contact Valeport to discuss your requirements in more detail.