# Datasheet

## Dynamic Positioning Transponder 6 (DPT 6)

### Description

DPT 6 is designed to be used as a seabed reference transponder by USBL and LUSBL acoustic positioning systems, installed on many Dynamically Positioned (DP) vessels.

The DPT 6 supports Sonardyne Wideband®2 acoustic ranging and telemetry providing high accuracy positioning, robust performance in noisy and multipath conditions and easy setup and use. With hundreds of channels, less interference to and from other acoustic systems and multi-user capability, Sonardyne Wideband®2 enables easier SIMOPS vessel capability. These features of the DPT 6 help de-risk subsea operations and save vessel time and cost.

The Type 8301 DPT 6 is the standard length version and is based on the field proven mechanics of the previous version but with improvements to the end cap closure mechanisms. The design offers the perfect balance between size, acoustic output and battery life. Several depth ratings are available: 3,000 m, 5,000 m and 7,000 m, all hard anodised aluminium alloy with protective polyurethane sleeve. Midi (shorter) and Maxi (long endurance) options are also available. The DPT is fitted as standard with a highly reliable release mechanism to enable the unit to be deployed in a flotation collar and recovered to the surface without ROV intervention.

DPT 6 is fully compatible with all of Sonardyne’s latest 6G® equipment including Sonardyne’s Marksman LUSBL and Ranger 2 USBL systems.

### Typical Applications

- DP vessel positioning
- Rig positioning
- Drill string monitoring

### Key Features

- MF frequency band utilising Sonardyne Wideband®2 ranging and telemetry protocols
- Dramatically faster and easier to set-up and operate
- Robust acoustic performance in noise and multipath conditions
- Real time diagnostics available on ranges to enable quality control
- Reduced mutual interference to further improve simultaneous ops
- Advanced multi-user/multi-vessel capability
- More than 500 unique Sonardyne Wideband®1 and 2 channels
- Sonardyne Wideband® 1 and HPR400 USBL mode compatible
- Automatic power-down if not used for a programmable period
- Highly reliable release mechanism
- Omni or directional transducer
- Standard sensors: temperature, pressure and MEMS inclinometer
- Optional sensors: Paroscientific DigiQuartz pressure sensor, inclinometer and sound velocity
- Real time diagnostics available on ranges to enable quality control
- Field proven
# Specifications

**Dynamic Positioning Transponder 6 (DPT 6)**

![Diagram of DPT 6](image)

3km Depth Rated MF Omni version shown (8301-3111)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Type 8301-3111</th>
<th>Type 8301-3113</th>
<th>Type 8301-5213</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Depth Rating</strong></td>
<td>3,000 Metres</td>
<td>3,000 Metres</td>
<td>5,000 Metres</td>
</tr>
<tr>
<td><strong>Transducer Beam Shape</strong></td>
<td>Omni-Directional</td>
<td>Directional</td>
<td>Directional</td>
</tr>
<tr>
<td><strong>Tone Equivalent Energy [TEE]</strong></td>
<td>193-202 dB</td>
<td>196-208 dB</td>
<td>196-208 dB</td>
</tr>
<tr>
<td><strong>Ranging Precision</strong></td>
<td>Better Than 1.5 mm</td>
<td>Better Than 15 mm</td>
<td>Better Than 15 mm</td>
</tr>
<tr>
<td><strong>Number of Unique Addresses Wideband 1 &amp; 2</strong></td>
<td>&gt;500</td>
<td>&gt;500</td>
<td>&gt;500</td>
</tr>
<tr>
<td><strong>Battery Life (Listening)</strong></td>
<td>Alkaline 833 Days</td>
<td>Alkaline 833 Days</td>
<td>Alkaline 833 Days</td>
</tr>
<tr>
<td><strong>Safe Working Load [4:1] (Release Mechanism)</strong></td>
<td>250 kg</td>
<td>250 kg</td>
<td>250 kg</td>
</tr>
<tr>
<td><strong>Dimensions; Length x Diameter</strong></td>
<td>1035 mm x 134 mm</td>
<td>1010 mm x 134 mm</td>
<td>1010 mm x 143 mm</td>
</tr>
<tr>
<td><strong>Weight in Air [Water]</strong></td>
<td>23 kg (12 kg)</td>
<td>27 kg (14 kg)</td>
<td>29 kg (15 kg)</td>
</tr>
</tbody>
</table>

## End Cap Sensors and Options

- **Temperature** [±0.1°C] (Standard)
- **Tilt Switch** [±30°-45°] (Standard)
- **Strain Gauge Pressure Sensor** [±0.1%] (Optional)
- **High Precision Strain Gauge** [±0.01%] (Optional)
- **Present or Keller** (Optional)
- **Parascientific DigiQuartz Pressure Sensor** 1350 m, 2000 m, 4130 m, 6800 m [±0.01%] (Optional)
- **Inclinometer (Tilt Sensor)** Range ±90°, Accuracy: ±1° (Standard)
- **High Accuracy Inclinometer** Range ±90°, Accuracy: ±0.05° over 0 - ±15°, ±0.2° over 0 - ±45° (Optional)
- **Sound Velocity 100 m** [±0.017 m/s] (Optional)
- **Sound Velocity 50 m** [±0.03 m/s] (Optional)

*TEE = WBv2+ signals are 4x the duration of Sonardyne tone signals (WBv1) & WBv2 are 2x). The TEE figure shows the operational performance when comparing wideband and tone systems.

**Estimated Weights.**

Specifications subject to change without notice - 01/2014