Datasheet

Compatt 6 Midi – USBL/LBL Transponder and Modem

Description
The Type 8300 Compatt 6 Midi is a shorter length transponder based on the field proven mechanics of Compatt 6. The design offers the user a lightweight unit with the same acoustic output power as a standard sized unit. Its size is perfectly suited to acoustic metrology campaigns where the shorter length and optional integrated inclinometer reduces the lever arm and therefore errors for offsetting transducer to end cap.

Compatt 6 offers significant time saving using faster and more robust Sonardyne Wideband® 2 acoustic ranging and telemetry protocols. This makes any system operating with Compatt 6 significantly easier to operate therefore de-risking operations, reducing vessel time and reducing training requirements for offshore personnel.

Sonardyne Wideband 2 advanced signal processing offers improved acoustic performance in challenging conditions, longer range, improved multipath rejection around structures and real-time range diagnostics for quality control. Sonardyne Wideband 2 also reduces the interference to and from adjacent Sonardyne and other acoustic positioning systems.

Compatt 6 is fully compatible with all 6G® equipment and Sonardyne latest 6G LBL and USBL systems.

The integrated communications and navigation technology allows the transponder to be used as a multi-purpose modem, autonomous data logger and navigation reference transponder. The midi version is particularly suited to smaller ROVs and towed bodies as well as metrology applications due to shorter lever arms between sensors and the acoustic transducer.

Several depth ratings are available: 3000 m, 5000 m and 7000 m, all hard anodised aluminium alloy with protective polyurethane sleeve.

Key Features
- MF frequency band utilising Sonardyne Wideband 2 ranging and telemetry protocols
- Faster and easier to set-up, calibrate and operate
- More robust performance in shallow water and reverberant environments around structures etc.
- 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 addresses
- Sonardyne Wideband 1 and HPR 400 navigation compatible
- Automatic power-down if not used for a programmable period
- Integrated modem mode with data rates ranging from 100 to 9000 bits per second in multiple frequency bands
- 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
- Battery disconnect fab allows quick battery disconnection.
- Field proven
# Specifications

## Compat 6 Midi – USBL/LBL Transponder and Modem

![Image of the transponder and modem](image)

3 km Depth Rated NF Omni version shown (8300-3141)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Type 8300-3141</th>
<th>Type 8300-3143</th>
<th>Type 8300-5243</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth Rating</td>
<td>3,000 Metres</td>
<td>3,000 Metres</td>
<td>5,000 Metres</td>
</tr>
<tr>
<td>Operating Frequency</td>
<td>MF (19–34 kHz)</td>
<td>MF (19–34 kHz)</td>
<td>MF (19–34 kHz)</td>
</tr>
<tr>
<td>Transducer Beam Shape</td>
<td>Omni-Directional</td>
<td>Directional</td>
<td>Directional</td>
</tr>
<tr>
<td>Tone Equivalent Energy [TEE]*</td>
<td>193-202 dB</td>
<td>196-208 dB</td>
<td>196-208 dB</td>
</tr>
<tr>
<td>Ranging Precision</td>
<td>Better Than 1.5 mm</td>
<td>Better Than 1.5 mm</td>
<td>Better Than 1.5 mm</td>
</tr>
<tr>
<td>Number of Unique Addresses Wideband 1 &amp; 2</td>
<td>&gt;500</td>
<td>&gt;500</td>
<td>&gt;500</td>
</tr>
<tr>
<td>Battery Life (Listening)</td>
<td>Lithium 400 Days</td>
<td>Lithium 400 Days</td>
<td>Lithium 400 Days</td>
</tr>
<tr>
<td>Safe Working Load [4:1]</td>
<td>250 kg</td>
<td>250 kg</td>
<td>250 kg</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-5 to 40°C</td>
<td>-5 to 40°C</td>
<td>-5 to 40°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-20 to 55°C</td>
<td>-20 to 55°C</td>
<td>-20 to 55°C</td>
</tr>
<tr>
<td>Dimensions; length x Diameter</td>
<td>768 mm x 134 mm</td>
<td>768 mm x 134 mm</td>
<td>768 mm x 134 mm</td>
</tr>
<tr>
<td>Weight in Air/Water**</td>
<td>14.0/5.7 kg</td>
<td>16.0/6.1 kg</td>
<td>19.0/10.0 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%]: Standard
- High Precision Strain Gauge [±0.01%]: Optional
- Pressure or Keller
- Parascientific Digit-Quartz Pressure Sensor 1350 m, 2000 m, 4730 m, 6800 m [±0.01%]: Optional
- Inclinometer (Tilt Sensor) Range ±90°, Accuracy ±1°: Standard
- High Accuracy Inclinometer Range ±90°, Accuracy ±0.05° over 0° to ±15°, ±0.2° over ±15° to ±45°: Optional
- Sound Velocity Sensor ±0.02 m/s accuracy under calibration conditions: Optional
- Release Mechanism: Standard
- Power for External Sensors: Standard
- Gyro Input: Standard

*TEE - W0v2+ signals are 4x the duration of Sonardyne tone signals (WBv1 & W0v2 are 2x). The TEE figure shows the operational performance when comparing wideband and tone systems.

**Estimated Weights.

Specifications subject to change without notice - 03/2018

---

[ISO 9001 Certification]