

Datasheet

Compatt 6 – USBL / LBL Transponder and Modem



Description

The Compatt 6 transponder is fully compatible with all 6G[®] equipment and Sonardyne’s latest 6G LBL and USBL systems.

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.

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 Type 8300 Compatt 6 is the standard length version and is based on the field proven mechanics of Compatt 5 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: 3000 m, 5000 m and 7000 m, all hard anodised aluminium alloy with protective polyurethane sleeve.

Typical Applications

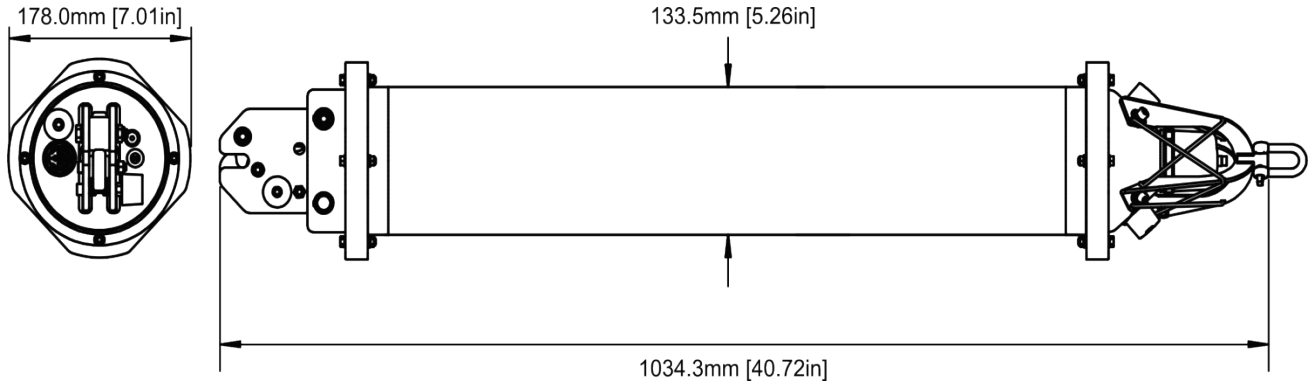
- Long baseline positioning
- Spool piece metrology
- Pipeline lay-down
- Subsea structure placement

Key Features

- MF frequency band utilising Sonardyne Wideband 2 ranging and telemetry protocols
- Dramatically 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
- Field proven

Specifications

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3 km Depth Rated MF Omni Version Shown (8300-3111)

Feature	Type 8300-3111	Type 8300-3113	Type 8300-5213
Depth Rating	3,000 Metres	3,000 Metres	5,000 Metres
Operating Frequency	MF (19–34 kHz)	MF (19–34 kHz)	MF (19–34 kHz)
Transducer Beam Shape	Omni-Directional	Directional	Directional
Transmit Source Level (dB re 1 μ Pa @ 1 m)	187-196 dB (4 Levels)	190-202 dB (4 Levels)	190-202 dB (4 Levels)
Tone Equivalent Energy (TEE)*	193-202 dB	196-208 dB	196-208 dB
Receive Sensitivity (dB re 1 μ Pa)	90-120 dB (7 Levels)	80-120 dB (7 Levels)	80-120 dB (7 Levels)
Ranging Precision	Better Than 15 mm	Better Than 15 mm	Better Than 15 mm
Number of Unique Addresses Wideband 1 & 2	>500	>500	>500
Battery Life (Listening)	Alkaline 833 Days Lithium 1390 Days	833 Days 1390 Days	833 Days 1390 Days
External Power Supply	24 V	24 V	24 V
Safe Working Load (4:1)	250 kg	250 kg	250 kg
Dimensions; Length x Housing Diameter	1034 mm x 134 mm	1018 mm x 134 mm	1018 mm x 135 mm
Weight in Air/Water**	24 kg/12 kg	27 kg/14 kg	29 kg/15 kg

End Cap Sensors and Options

Temperature ($\pm 0.1^\circ\text{C}$)	Standard	Standard	Standard
Tilt Switch ($\pm 30-45^\circ$)	Standard	Standard	Standard
Strain Gauge Pressure Sensor ($\pm 0.1\%$)	Standard	Standard	Standard
High Precision Strain Gauge ($\pm 0.01\%$)	Optional	Optional	Optional
Presens or Keller			
Paroscientific DigiQuartz Pressure Sensor	Optional	Optional	Optional
1350 m, 2000 m, 4130 m, 6800 m ($\pm 0.01\%$)			
Inclinometer (Tilt sensor)	Standard	Standard	Standard
Range $\pm 90^\circ$, Accuracy: $\pm 1^\circ$			
High Accuracy Inclinometer	Optional	Optional	Optional
Range: $\pm 90^\circ$, Accuracy: $\pm 0.05^\circ$ over $0 - \pm 15^\circ$; $\pm 0.2^\circ$ over $0 - \pm 45^\circ$			
Sound Velocity 100 mm (± 0.017 m/s)	Optional	Optional	Optional
Sound Velocity 50 mm (± 0.03 m/s)			
Release Mechanism	Standard	Standard	Standard
Power for External Sensors	Standard	Standard	Standard
Gyro Input	Standard	Standard	Standard

*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.