

Datasheet

Midi Compatt 6 – USBL/LBL Transponder and Modem



Description

The Type 8300 Midi Compatt 6 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.

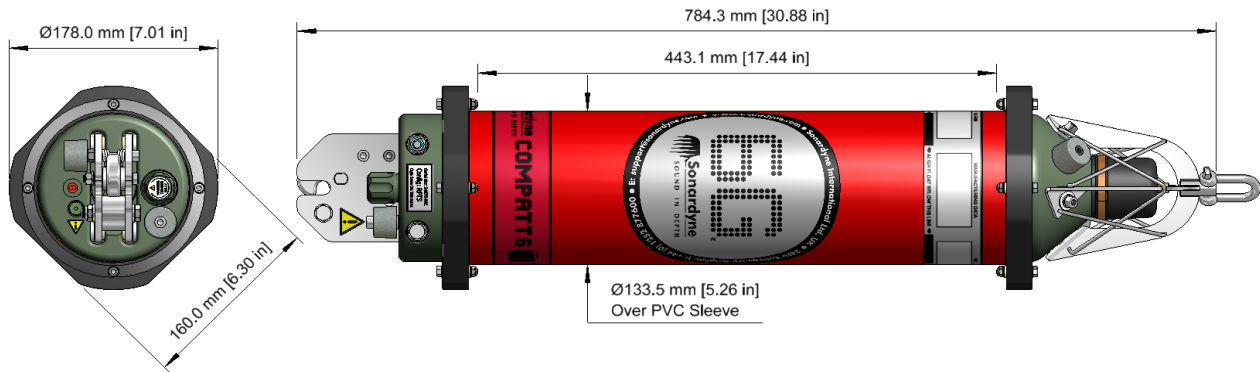
Several depth ratings are available: 3000 m, 5000 m and 7000 m, all hard anodised aluminium alloy with protective polyurethane sleeve.

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 fob allows quick battery disconnection.
- Field proven

Specifications

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

Feature	Type 8300-3141	Type 8300-3143	Type 8300-5243
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)	Lithium 400 Days	400 Days	400 Days
Safe Working Load (4:1)	250 kg	250 kg	250 kg
Operating Temperature	-5 to 40°C	-5 to 40°C	-5 to 40°C
Storage Temperature	-20 to 55°C	-20 to 55°C	-20 to 55°C
Dimensions; Length x Diameter	784 mm x 134 mm	768 mm x 134 mm	768 mm x 135 mm
Weight in Air/Water**	14.0/5.7 kg	16.0/6.1 kg	19.0/10.0 kg

End Cap Sensors and Options

Temperature ($\pm 0.1^\circ\text{C}$)	Standard	Standard	Standard
Tilt Switch ($\pm 30\text{-}45^\circ$)	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 1350 m, 2000 m, 4130 m, 6800 m ($\pm 0.01\%$)	Optional	Optional	Optional
Inclinometer (Tilt Sensor) Range $\pm 90^\circ$, Accuracy: $\pm 1^\circ$	Standard	Standard	Standard
High Accuracy Inclinometer Range: $\pm 90^\circ$, Accuracy: $\pm 0.05^\circ$ over $0 - \pm 15^\circ$; $\pm 0.2^\circ$ over $0 - \pm 45^\circ$	Optional	Optional	Optional
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.