Sonardyne Global Headquarters
T. +44 (0) 1252 872288
F. +44 (0) 1252 876100
E. sales@sonardyne.com
www.sonardyne.com

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

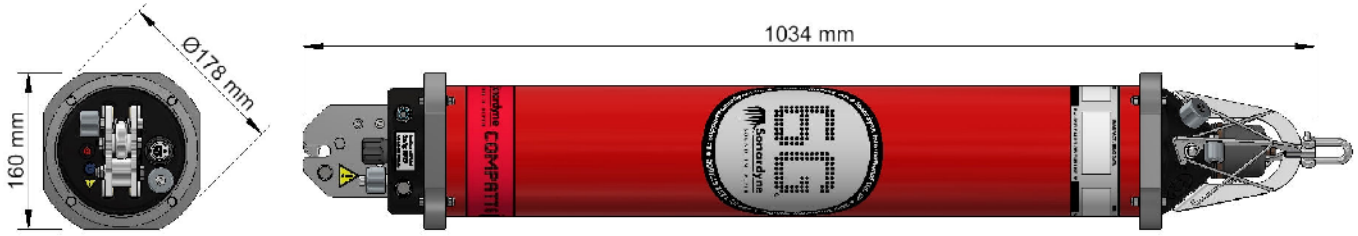
Key Features

- MF/LMF 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
- Battery disconnect fob allows quick battery disconnection.
- Field proven.

Sonardyne Global Headquarters
T. +44 (0) 1252 872288
F. +44 (0) 1252 876100
E. sales@sonardyne.com
www.sonardyne.com

Specifications

Compatt 6 – USBL/LBL Transponder and Modem



3,000 Depth Rated MF Omni Version Shown (8300-3111)

Feature		Type 8300-3111	Type 8300-3113	Type 8300-5213	Type-8300-7216
Depth Rating		3,000 metres	3,000 metres	5,000 metres	7,000 metres
Operating Frequency		MF (19–34 kHz)	MF (19–34 kHz)	MF (19–34 kHz)	LMF (14-19 kHz)
Transducer Beam Shape		Omni-directional	Directional	Directional	Directional
Transmit Source Level (dB re 1 µPa @ 1 m)		187-196 dB (4 levels)	190-202 dB (4 levels)	190-202 dB (4 levels)	187–202 dB (4 levels)
Tone Equivalent Energy (TEE)*		193-202 dB	196-208 dB	196-208 dB	193–208 dB
Receive Sensitivity (dB re 1 µPa)		90-120 dB (7 Levels)	80-120 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	Better than 15 mm
Number of Unique Addresses Wideband 1 & 2		>500	>500	>500	>500
Battery Life (Listening)	Alkaline	833 Days	833 Days	833 Days	833 Days
	Lithium	1390 Days	1390 Days	1390 Days	1390 Days
External Power Supply		24 V	24 V	24 V	24 V
Safe Working Load (4:1)		250 kg	250 kg	250 kg	250 kg
Operating Temperature		-5 to 40°C	-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	-20 to 55°C
(Length x Diameter) Maximum Dimensions	With Sensor Guard	1034 x 200 mm	1018 x 200 mm	1018 x 200 mm	1108 x 200 mm
	Without Sensor Guard	1034 x 178 mm			
Weight in Air/Water**		23.8/11.8 kg	27.0/14.0 kg	29.0/15.0 kg	33.3/18.8 kg
End Cap Sensors and Options					
Temperature (±0.1°C)		Standard	Standard	Standard	Standard
Tilt Switch (±30-45°)		Standard	Standard	Standard	Standard
Strain Gauge Pressure Sensor (±0.1%)		Standard	Standard	Standard	Standard
High Precision Strain Gauge (±0.01%) Presens or Keller		Optional	Optional	Optional	Optional
Paroscientific DigiQuartz Pressure Sensor 1350 m, 2000 m, 4130 m, 6800 m (±0.01%)		Optional	Optional	Optional	Optional
Inclinometer (Tilt sensor) Range ±90°, Accuracy: ±1°		Standard	Standard	Standard	Standard
High Accuracy Inclinometer Range: ±90°, Accuracy: ±0.05° over 0 - ±15°; ±0.2° over 0 - ±45°		Optional	Optional	Optional	Optional
Sound Velocity Sensor ±0.02 m/s accuracy under calibration conditions		Optional	Optional	Optional	Optional
Release Mechanism		Standard	Standard	Standard	Standard
Power for External Sensors		Standard	Standard	Standard	Standard
Gyro Input		Standard	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.