



Sonardyne's 8300 series of 6G[®] (Sixth Generation) subsea transponders provide integrated navigation, telemetry and modem capabilities. All models within the family use Sonardyne Wideband[®] 2 advanced signal processing for navigation and acoustic communication. This offers improved acoustic performance in challenging conditions, longer range, robust multipath rejection around structures and real-time range diagnostics for Quality Control. Wideband 2 also reduces mutual interference; this combined with over 500 unique addresses means that the 8300 series of 6G transponders offer the lowest risk for any subsea operation.

Modem

The Modem transponder supports user transfer rates from 100 bps to 9,000 bps and is equipped with an internal 512 kB data buffer. Modem is highly customisable and can support a number of different applications including auto forwarding of ADCP data, polled requests for data from the surface and fully fledged command and control of subsea data loggers.

DPT 6/ DPTi 6

The Dynamic Positioning Transponder 6 transponder is typically deployed as a seabed reference transponder for USBL and LUSBL operations including Dynamic Positioning, rig tracking and drill string monitoring. 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. Fitting high accuracy inclinometers creates a DPTi which enables applications such as riser angle monitoring to be undertaken.

Compatt 6

Compatt 6 is the industry standard Long BaseLine (LBL) transponder used for high precision survey and construction operations in all water depths. These include spoolpiece metrology, pipeline touchdown monitoring and structure installation. Compatt 6 is the navigation workhorse of the family providing compatibility with all 6G LBL and LUSBL acoustic positioning systems.

SLT and AMT

The Sensor Logging Transponder allows autonomous, long endurance, storage of sensor data. Data is recorded internally

and can be recovered with the integrated, high speed acoustic modem. The Autonomous Monitoring Transponder offers additional capability by allowing the baseline ranges between AMTs to be autonomously collected. Applications include seabed settlement monitoring and long term sound velocity observation.






Options and Sensors





8300 transponders can be configured with a variety of different end cap sensor options and a highly robust acoustic release to aid recovery. Navigation features include support for Responder mode, depth aiding and compatibility with Wideband 1 and HPR400 signals.

Different housings with depth ratings from 3,000 and 7,000 metres are available to suit all applications.

6G TRANSPONDERS (8300 SERIES)





MODEM, DPT, COMPATT 6, SLT, AMT

Transponder Model					
	Modem	DPT	Compatt 6	SLT	AMT
					
Overview	A highly customisable modem supporting data rates of up to 9,000 bps	A seabed deployed USBL transponder for DP reference and subsea target tracking	Industry standard LBL transponder capable of supporting all survey construction tasks	Long endurance transponder used for acquiring and logging sensor data	As SLT but with added support for measuring ranges to other AMTs
Depth Rating	3000 m 5000 m 7000 m	3000 m 5000 m 7000 m	3000 m 5000 m 7000 m	3000 m 5000 m 7000 m	3000 m 5000 m 7000 m
USBL Positioning	✗	●	●	●	●
LBL Ranging	✗	✗	●	✗	●
Autonomous Monitoring	✗	✗	✗	●	●
Modem	●	✗	●	●	●





Housing Options				
	Mini	Midi	Standard	Maxi
				
Length (Without end caps)	368 mm	480 mm	730 mm	1300 mm
Material	- Anodised Aluminium - Stainless Steel	- Anodised Aluminium - Stainless Steel	- Anodised Aluminium - Stainless Steel - Ali-Bronze	- Anodised Aluminium - Stainless Steel - Super Duplex - Ali-Bronze
Protective Coating	- Polyurethane Sleeve	- Polyurethane Sleeve	- Polyurethane Sleeve - Rislun® Powder Coating	- Polyurethane Sleeve - Rislun® Powder Coating

Key: ● Standard ○ Optional ✗ Not available




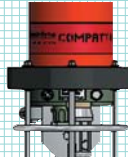

Transducer Options

	MF Omni	MF Directional	LMF Omni	LMF Directional
				
Frequency Band	19-34 kHz	19-34 kHz	14-20 kHz	14-20 kHz
Beam Width (3db)	+/- 120 degrees	+/- 45 degrees	+/- 120 degrees	+/- 40 degrees
Transmit Source Level (Max)	196 dB	202 dB	190 dB	202 dB
Receive Sensitivity (Max)	90 dB	80 dB	80 dB	75 dB

Power Specifications

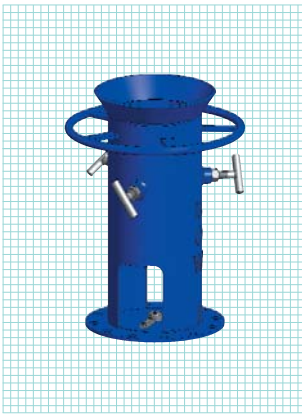
	Mini	Midi	Standard	Maxi
				
Alkaline	X	X	○	○
Lithium	●	●	●	●

Bottom End Caps

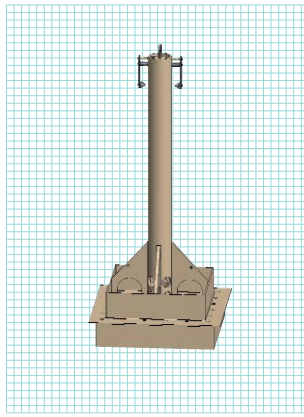
	Connector (No sensors)	Dual Axis Inclinometer	Release	Release + Sound Velocity	Sound Velocity
					
Tilt (MEMS)	X	X	●	●	●
Pressure Sensors					
– Strain Gauge	X	●	●	●	●
– High Accuracy Strain	X	○	○	○	○
– DigiQuartz	X	○	○	○	○
– Pre-Sens	X	○	○	○	○
High Accuracy Inclinometer	X	●	○	○	○
Temperature	X	●	●	●	●
External Power Out	●	●	●	●	●
External Power In	●	●	●	●	●
Responder Input	●	●	●	●	●

Transponder Frames

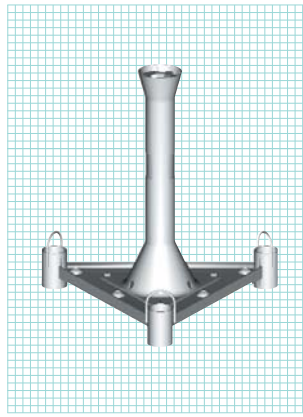
Structure Bucket



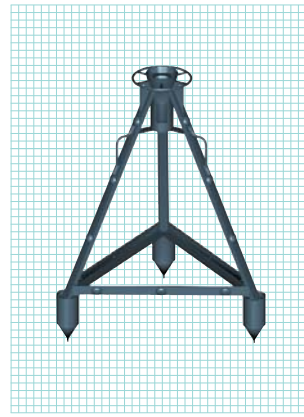
Seabed Tower



Seabed GRP



Seabed Galvanised Steel

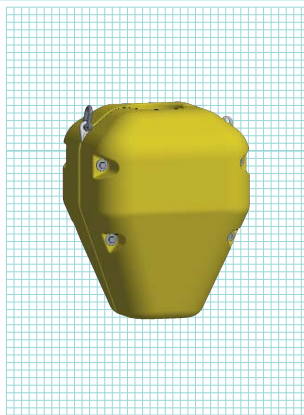


Transponder Float Collars

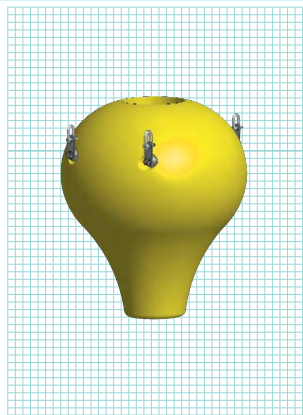
Standard (3/5/7,000m)



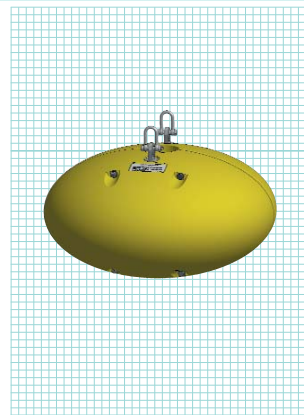
Teardrop (5/7,500m)



Lightbulb (3,000m)



Ellipse (1,000m)



Routine survey applications

Low drag, no tumble

Permanent anchor

Permanent anchor, high upthrust

30 kg upthrust

31 kg upthrust

35 kg upthrust

56 kg upthrust

54 kg weight in air

60 kg weight in air

60 kg weight in air

66 kg weight in air

Software and Testing

6G Terminal



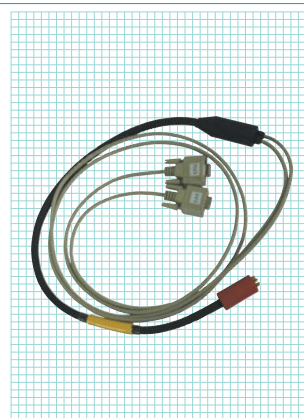
6G Configurator



iWand

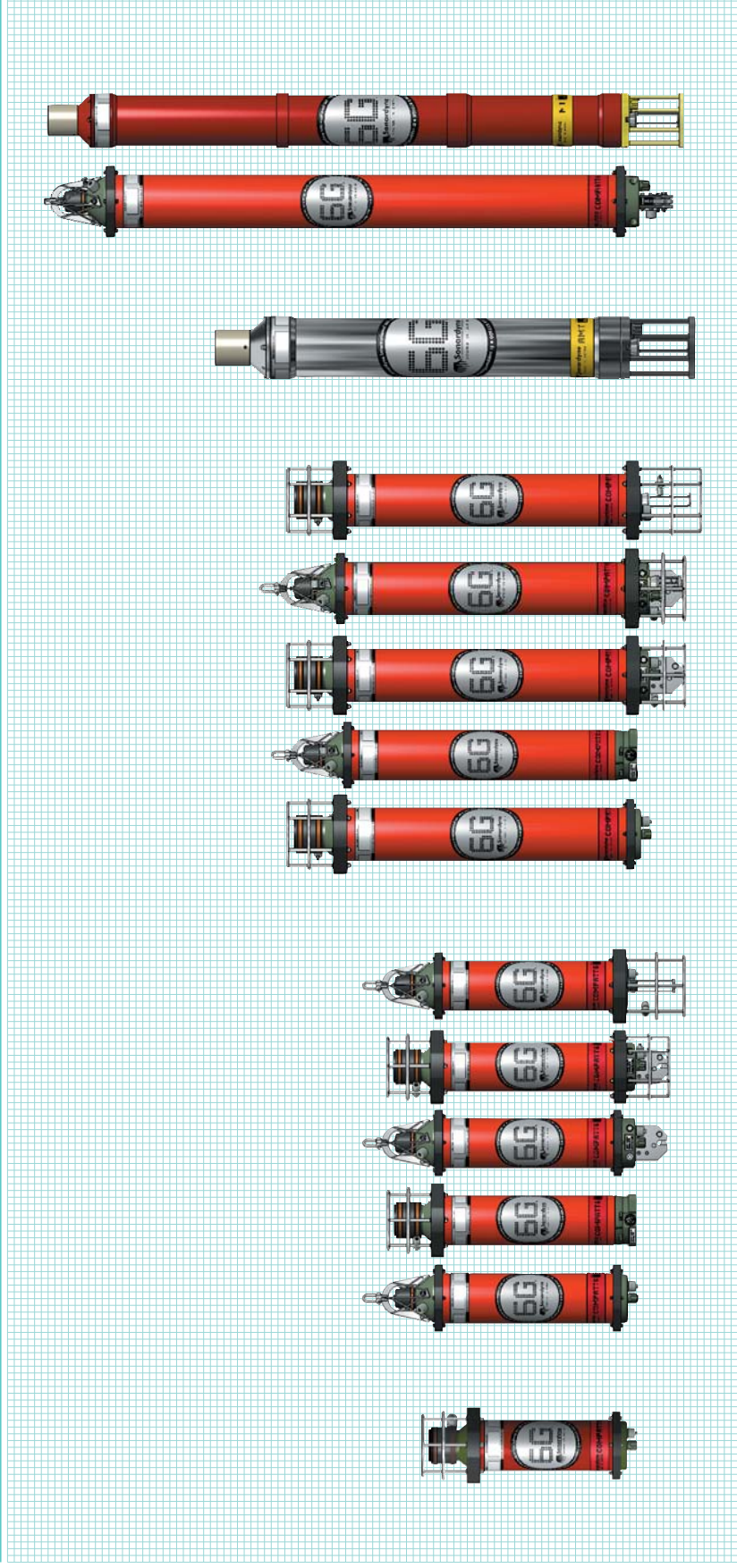


Comms Cable



6G Transponders (8300 Series)

Example Housing, Sizes, Materials and Transducers



Mini Housing

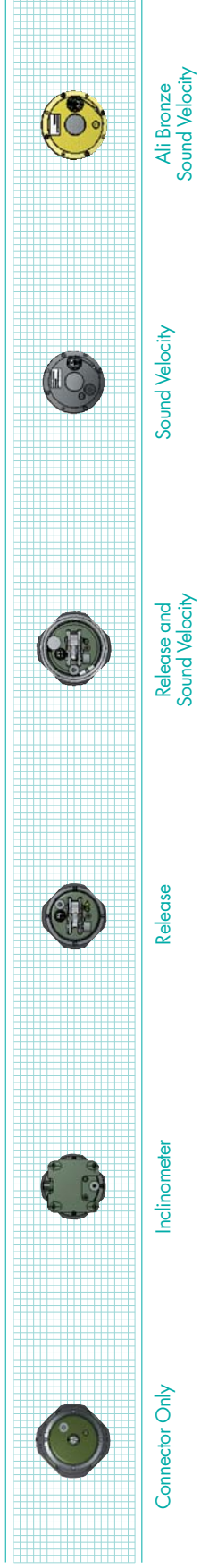
Midi Housings

Standard Housings

Long Immersion

Maxi Housing (Standard and Long Immersion)

Example End Cap and Sensor Options



Connector Only

Inclinometer

Release

Release and Sound Velocity

Sound Velocity

Ali Bronze Sound Velocity

