

Preliminary Datasheet

Modem 6 Dunker



Description

The Modem 6 range, based on existing 6G equipment, provides a reliable and cost-effective method of wirelessly transferring underwater sensor data in real-time.

The Modem 6 Dunker is a rugged and easy-to-mount instrument, suitable for transmission of data from a wide range of sensors including: current

profilers, temperatures, depth and custom instrumentation.

The Modem 6 Dunker is depth rated to 1,000 m and available in MF and LMF, with omni-directional or directional transducer designed for excellent horizontal and shallow water communication.

The Modem Dunker 6 is powered using a Surface Interface Unit (SIU) and lowered over the side of a vessel.

The Modem 6 is a flexible range of instruments, supporting specific communication settings for a variety of link types such as low latency data, fire and forget, command and response and large data uploads. A 512 kB modem buffer stores data when a modem link is not active.

All Modem 6 products utilise Sonardyne Wideband® signal processing and standard 6G control language. They can be programmed using the supplied software and a serial link.

This technology is field proven and provides unprecedented levels of robustness and flexibility in challenging acoustic environments. Advanced communication protocols and intelligent data packet stitching ensure latency is minimised and data is delivered error free.

Data transfer rates range from 9,000 bps down to 200 bps depending on the environment.

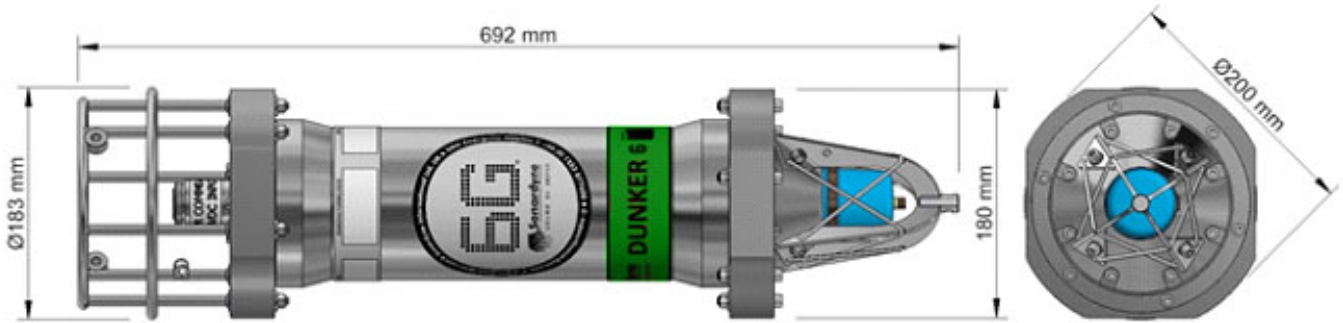
With the capability to achieve ranges in excess of 5 km, greater distances are also possible (20+ km) using Sonardyne's repeater functionality.

Key Features

- Sonardyne Wideband® telemetry provides up to 9,000 bps true user data rate
- MF/LMF, omni-directional/directional
- Compatible with all Modem 6 instruments
- Full two-way Sonardyne Wideband 2 interrogation and reply – mitigates interference and multi-path issues
- Incorporates field proven communication technology used within critical subsea applications
- More than 500 unique Sonardyne addresses
- Robust performance in noisy and reverberant environments
- Pressure relief vent valve
- Rugged, easy to mount housing

Preliminary Specifications

Modem 6 Dunker



8307-1351 omni-directional Modem 6 Dunker shown above



Cable drum, SIU and Dunker



Cable drum



Feature	Type 8307-1351	Type 8307-1353	Type 8307-1355	Type 8307-1356
Depth Rating	1,000 metres	1,000 metres	1,000 metres	1,000 metres
Operating Frequency	MF (21–32.5 kHz)	MF (21–32.5 kHz)	LMF (14–19 kHz)	LMF (14–19 kHz)
Transducer Beam Shape	Omni-directional	Directional	Omni-directional	Directional
Transmit Source Level (dB re 1 µPa @ 1 m)	187–196 dB (4 levels)	190–202 dB (4 levels)	187–196 dB (4 levels)	187–202 dB (4 levels)
Tone Equivalent Energy (TEE)*	193–202 dB	196–208 dB	193–202 dB	193–208 dB
Receiver Sensitivity (dB re 1 µPa)	90–120 dB (7 levels)	80–120 dB (7 levels)	90–120 dB (7 levels)	80–120 dB (7 levels)
Range Precision	Better than 15 mm			
Serial Communications	Primary and secondary port: RS485 (half-duplex) SIU input: RS232			
Dunker 6 Operating Voltage	24 or 48 V dc (±10%) – supplied by the SIU			
SIU Operating Voltage	90–260 V ac, 50/60 Hz, 200 VA max – power out 48 V dc, 2.0 A max			
External Power Consumption	Active (listening) <3 W typical (max 6W when charging) Peak (transmission) <80 W			
Battery Life - Li-ion (Listening)	3 days			
Mechanical Construction	Super-duplex stainless steel			
Dimensions; Length x Diameter	692 x 200 mm	660 x 200 mm	586 x 200 mm	641 x 230 mm
Weight in Air/Water**	24/16 kg	26/17 kg	20/14 kg	28/17 kg
Connector Type	AGP (8-way female)			

*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.