

# Datasheet

## Modem 6 Dunker (surface)



**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.

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, acknowledged 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 or any third-party terminal software.

This technology is field proven and provides unprecedented levels of robustness and flexibility in challenging acoustic environments.

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

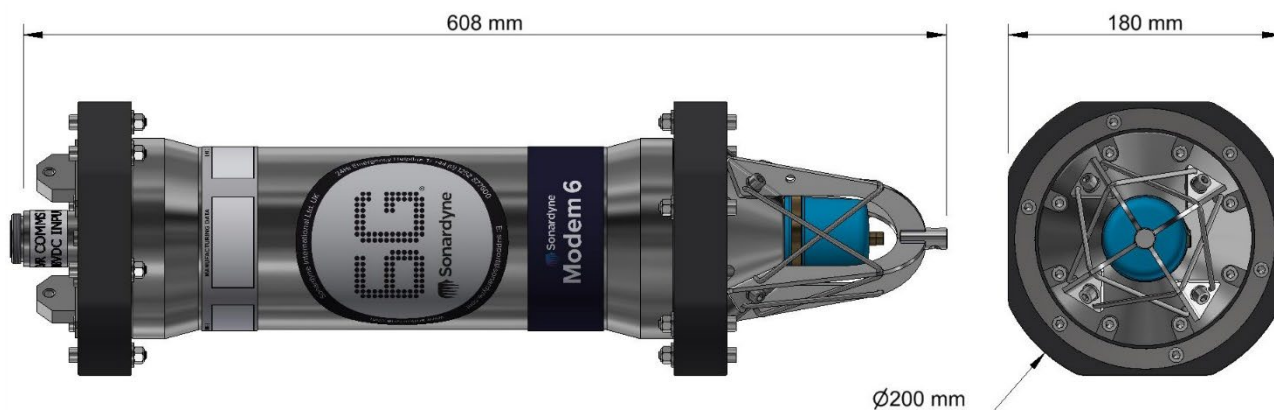
Advanced communication protocols and intelligent data packet stitching ensure latency is minimised and data is delivered error free.

### Key features

- MF/LMF, omni-directional/directional
- Sonardyne Wideband telemetry provides up to 9,000 bps actual acoustic data rate
- 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
- Rugged, easy to mount housing
- Capable of achieving ranges in excess of 5 km

# Specifications

## Modem 6 Dunker (surface)



8307-1351 omni-directional Modem 6 Dunker shown above



Cable drum, SIU and Dunker



100 m Cable drum



Feature	Type 8307-1351	Type 8307-1353	Type 8307-1355	Type 8307-1356
Depth rating	1,000 m	1,000 m	1,000 m	1,000 m
Operating frequency	MF (20–34 kHz)	MF (20–34 kHz)	LMF (14–19 kHz)	LMF (14–19 kHz)
Transducer beam shape	Omni-directional	Directional	Omni-directional	Directional
Transmit source level (dB re 1 $\mu$ Pa @ 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) <sup>1</sup>	193–202 dB	196–208 dB	193–202 dB	193–208 dB
Receiver sensitivity (dB re 1 $\mu$ Pa)	90–120 dB (7 levels)	80–120 dB (7 levels)	90–120 dB (7 levels)	80–120 dB (7 levels)
Serial communications	Primary and secondary port: RS485 (half-duplex) SIU input: RS232			
Connector type	AGP (8-way female)			
Mechanical construction	Super duplex stainless steel			
Dunker 6 operating voltage	24 or 48 V dc ( $\pm$ 10%) – Supplied by the SIU			
SIU operating voltage	90–260 V ac, 50/60 Hz, 200 VA maximum – Power out 48 V dc, 2.0 A maximum			
External power consumption	Active (listening)	<3 W typical (maximum 6W when charging)		
	Peak (transmission)	<80 W	<80 W	<80 W
Battery life (li-ion) (listening)	3 days	3 days	3 days	3 days
Dimensions (length x diameter)	608 x 200 mm	660 x 200 mm	577 x 200 mm	632 x 230 mm
Weight in air/water <sup>2</sup>	24/16 kg	26/17 kg	20/14 kg	28/17 kg

<sup>1</sup> 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.

<sup>2</sup> Estimated weights.