

# Datasheet

## Modem 6 Mini (subsea)



**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 Mini is compact, easy-to-mount and suitable for transmission of data from a wide range of sensors including: current profilers, temperatures, depth and custom instrumentation.

The Modem 6 Mini is available in Medium Frequency (MF) band with an omni-directional or directional transducer designed for excellent horizontal and shallow water communication.

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 bps 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.

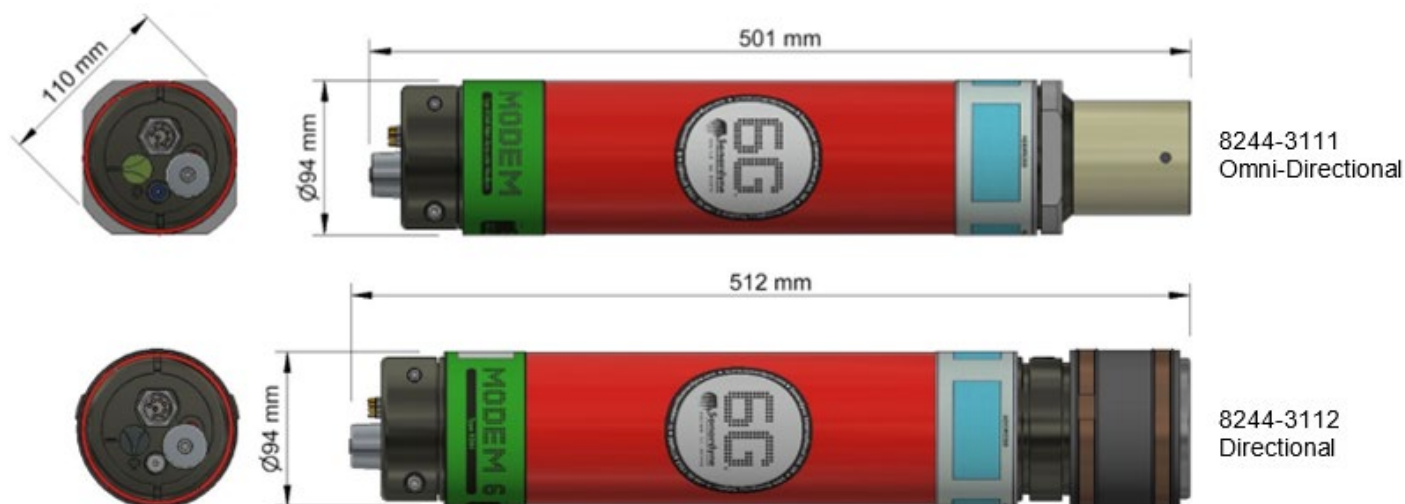
For safety, a pressure relief valve is incorporated, and an external on/off switch saves the rechargeable battery when not in use.

### Key features

- Omni-directional and directional option
- 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
- Internal back-up battery with external trickle charge
- Capable of achieving ranges in excess of 3 km

# Specifications

## Modem 6 Mini (subsea)



Feature		Type 8244-3111	Type 8244-3112
Depth rating		3,000 m	3,000 m
Operating frequency		MF (20–34 kHz)	MF (20–34 kHz)
Transducer beam shape		Omni-directional	Directional
Source level (re 1 $\mu$ Pa @ 1 m)	High power	187 dB	193 dB
	Low power	181 dB	187 dB
Tone equivalent energy (TEE) <sup>1</sup> WBv2+	High power	193 dB	199 dB
	Low power	187 dB	193 dB
Communications interface		RS232 (2,400–115,200 baud)	
Operating voltage		24 or 48 V dc ( $\pm$ 10%)	24 or 48 V dc ( $\pm$ 10%)
External power consumption	Sleep	~650 mW	~650 mW
	Wideband listening	~1 W	~1 W
	Battery charging	6 W	6 W
	Peak (transmission)	<50 W	<50 W
External power switch		Yes	Yes
Battery life (li-ion 15 V) (listening)		30 days	30 days
Operating temperature		-5 to 40°C	-5 to 40°C
Storage temperature		-20 to 55°C	-20 to 55°C
Mechanical construction		Anodised aluminium alloy and plastics	
Dimensions (length x diameter)		501 x 94 mm	512 x 97 mm
Weights in air/water <sup>2</sup>		5.1/2.2 kg	7.0/3.5 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.