

# Datasheet

## Modem 6 standard (subsea)



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

The Type 8307 Modem 6 Standard is a subsurface deployed instrument suitable for transmitting data from a wide range of sensors including: current profilers, temperatures, depth and custom instrumentation.

The Type 8307 is based on the field proven mechanics of Compatt 6. The large capacity battery allows the modem to be deployed for long periods.

Battery power can be routed externally to power external devices.

Depth rating options are 3,000 and 5,000 m in hard anodised aluminium alloy with protective polyurethane sleeve.

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, question & answer 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.

For safety, a pressure relief valve is incorporated, and a battery disconnect fob allows quick battery disconnection.

### Key features

- 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
- Capable of achieving ranges in excess of 5 km
- Power output to external device controlled by acoustic command
- Optional RS485 connectivity
- Battery disconnect fob allows quick battery disconnection
- Upgradeable to full Compatt 6 functionality

# Specifications

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Feature	Type 8307-3111	Type 8307-3113	Type 8307-5213
Depth rating	3,000 m	3,000 m	5,000 m
Operating frequency	MF (20–34 kHz)	MF (20–34 kHz)	MF (20–34 kHz)
Transducer beam shape	Omni-directional	Directional	Directional
Transmit source level (dB re 1 $\mu$ Pa @ 1 m)	187–196 dB (4 levels)	190–202 dB (4 levels)	190–202 dB (4 levels)
Tone equivalent energy (TEE) <sup>1</sup>	193–202 dB	196–208 dB	80–120 dB (7 levels)
Receive sensitivity (dB re 1 $\mu$ Pa)	90–120 dB (7 levels)	80–120 dB (7 levels)	80–120 dB (7 levels)
Number of unique addresses Wideband 1 & 2	>500	>500	>500
Battery life (listening)	Alkaline	833 days	833 days
	Lithium	1,390 days	1,390 days
External power input	24 V	24 V	24 V
Power for external sensors	12 V	12 V	12 V
Safe working load (4:1)	250 kg	250 kg	250 kg
Operating temperature	-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
Dimensions (without release) (maximum) (length x dia)	955 x 200 mm	925 x 200 mm	925 x 200 mm
Weight in air/water <sup>2</sup> (alkaline battery)	23.8/11.8 kg	23.8/11.8 kg	23.8/11.8 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.