

# Datasheet

## Mini-ROVNav 6+



**Mini-ROVNav 6+ is a new 6G<sup>®</sup> Wideband<sup>®</sup>2 and Wideband 3 enabled ranging and telemetry Long BaseLine (LBL) transceiver specifically designed for installation on work class Remotely Operated Vehicles (ROVs).**

Mini-ROVNav 6+ is fully compatible with all 6G equipment and Sonardyne's latest 6G LBL, INS and Ultra-Short BaseLine (USBL) systems, including Fusion 2.

Its support of Sonardyne Wideband 3 signal processing techniques offers improved range and acoustic performance in challenging conditions such as on noisy vehicles or in multipath environments.

Mini-ROVNav 6+ is also a fully compatible USBL responder or transponder compatible with Sonardyne Wideband 1 and 2 USBL systems and HPR400. The internal Li ion rechargeable battery pack also enables emergency transponder mode, so if the umbilical and therefore power is cut to the ROV it can still be located by USBL.

The omni-directional Medium Frequency (MF) band transducer has a hemispherical beam pattern which is ideal for acoustics to an array and to a vessel alike.

Mini-ROVNav 6+ is designed to be significantly lighter and smaller than a standard ROVNav 6 whilst providing full 6G LBL capabilities.

Mini-ROVNav 6+ is fully compatible with Sonardyne's modem and logging equipment such as AMT and Fetch products, allowing it to be used to retrieve data or configure logging regimes. It supports all of Sonardyne's Wideband 2 and 3 spread spectrum acoustic communication; 100 to 9,000 bps user data rates can be selected depending on the environment.

### Typical Applications

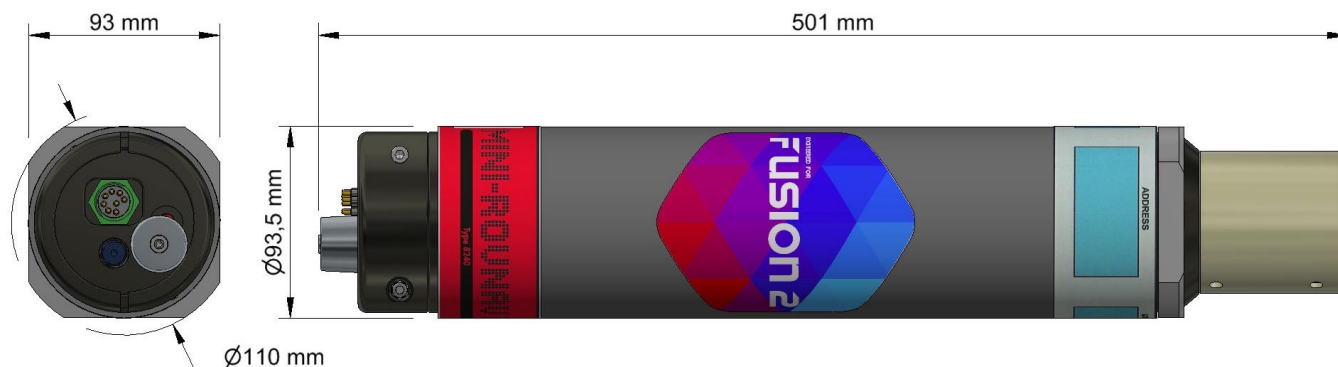
- ROV 6G LBL positioning and calibration
- ROV USBL positioning using 2-way Wideband or responder

### Key Features

- Fully capable 6G LBL transceiver
- MF frequency band utilising Sonardyne Wideband 2 and 3 ranging and telemetry protocols
- More robust performance in shallow water and reverberant environments around structures etc
- Mini size – lightweight and small
- On/off switch to save battery during periods of down time
- Real time diagnostics available on ranges to enable quality control
- USBL compatible responder with emergency transponder mode (Li ion battery)
- Integrated modem capability for data download from Sonardyne AMT/Fetch products at data rates from 100 to 9,000 bits per second
- Pressure and temperature sensors
- Field proven design

# Specifications

## Mini-ROVNav 6+



Feature		Type 8240
Depth Rating		3,000 m
Operating Frequency		MF (19–34 kHz)
Transducer Beam Shape		Omni-directional
Transmit Source Level (dB re 1 $\mu$ Pa @ 1 m)		181–187 dB (2 levels)
Tone Equivalent Energy (TEE) <sup>1</sup>		187–193 dB
Receiver Sensitivity (dB re 1 $\mu$ Pa)		90–120 dB
Range Precision		Better than 15 mm
Operating Voltage		24 or 48 V dc ( $\pm$ 10%)
Serial Communications		Primary port: RS232 (9,600 – 115,200 baud)
Responder Input		4 V to 24 V, >0.5 ms duration
Release Output		12 V (250 mA rated)
Battery Life (Listening) Li-ion		>7 days
External Power	Active (Listening)	<2 W
	Battery Charging	<6 W
	Peak (During Transmission)	<50 W
Mechanical Construction		Hard anodised aluminium alloy and stainless steel connectors
Serial Communications Bulkhead Connector		MCBH8M
Dimensions (Length x Diameter)		501 x 93 mm
Weight in Air/Water <sup>2</sup>		5.1/ 2.2 kg
Operating Temperature Range		-5C to 40°C
Storage Temperature Range		-20 to 55°C
Sensors		Type 8240
Temperature ( $\pm$ 0.25°C)		Standard
Strain Gauge Pressure Sensor ( $\pm$ 0.25% FS)		Standard

<sup>1</sup> WBv2 & WBv1 signals are 2x the duration of Sonardyne tone signals, therefore the TEE figure is to give the user an idea of the operational performance when comparing Wideband and Tone systems.

<sup>2</sup> Estimated Weights.