

Datasheet

ROVNav 6+ LBL Transceiver and USBL Responder



ROVNav 6+ is a 6G[®] ranging and telemetry transceiver specifically designed for installation on work class ROVs for Long BaseLine (LBL) and Sparse LBL aided SPRINT INS operations.

Its compatibility with Sonardyne Wideband[®]2 and 3 telemetry commands, and support of high power Wideband 2 ranging protocols proven for their accuracy and robustness, means the ROVNav 6+ offers improved range and acoustic performance in challenging conditions such as on noisy vehicles or in multipath environments.

The support for Sonardyne Wideband 3 enables ROVNav 6+ to operate with Sonardyne's latest Compatt technology, Compatt 6+. In turn, it means ROVNav 6+ fully supports the latest Fusion 2 LBL and SPRINT INS software.

ROVNav 6+ is also a fully compatible USBL responder or transponder compatible with Sonardyne Wideband 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 rugged omni-directional remote Medium Frequency (MF) band transducer makes installation on a ROV easy.

ROVNav 6+ is designed to be rugged though relatively lightweight and utilises robust underwater connectors.

ROVNav 6+ supports a range of internal sensors including: strain gauge pressure, PRT temperature and MEMS based inclinometer.

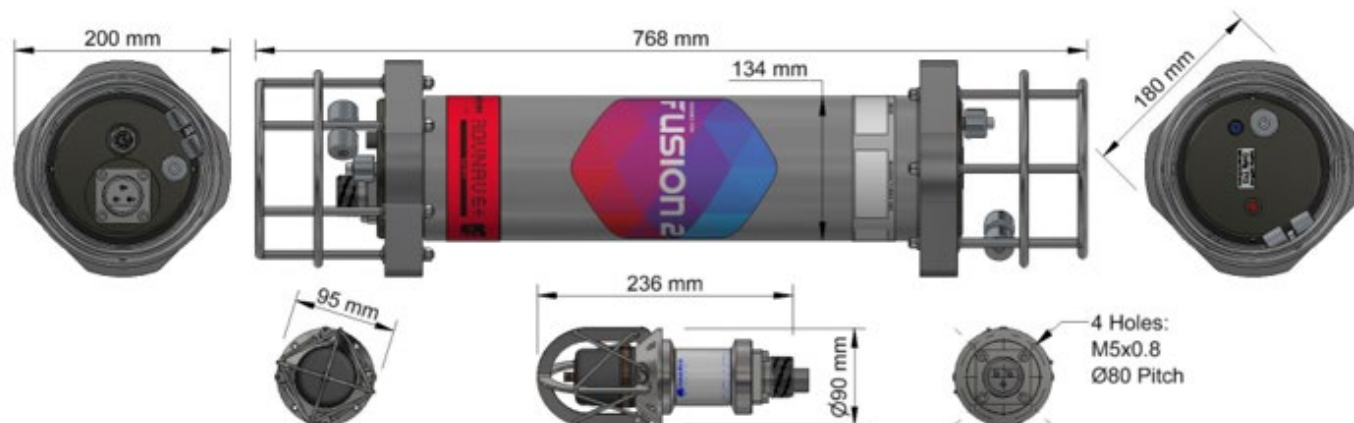
ROVNav 6+ is also fully compatible with Sonardyne's modem and logging equipment such as AMT and Fetch products, allowing it to be used to retrieve data or configure logging regimes. It supports all of Sonardyne's Wideband 2 and 3 spread spectrum acoustic communication; 100 to 9,000 bps user data rates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

Key Features

- High power, long range LBL transceiver
- MF frequency band utilising Sonardyne Wideband 2 and 3 telemetry protocols
- Sonardyne Wideband 2 and HPR400 navigation compatible
- Robust performance in shallow water and reverberant environments around structures etc.
- Real time diagnostics available on ranges to enable quality control
- USBL compatible responder with emergency transponder mode
- Li-ion battery
- Rugged mechanics and connectors
- Integrated modem capability for data download from Sonardyne AMT/Fetch products at data rates from 100 to 9,000 bits per second
- Standard sensors – Temperature, pressure and MEMS inclinometer
- 3,000, 5,000 or 7,000 m depth rated

Specifications

ROVNav 6+ LBL Transceiver and USBL Responder



8340-3161 dimensions shown above

Feature	8340-3161	8340-5261	8340-7261	
Depth Rating	3,000 m	5,000 m	7,000 m	
Operating Frequency	MF (19–34 kHz)			
Transducer Beam Shape	Omni-directional			
Transmit Source Level (dB re 1 µPa @ 1 m)	187–196 dB (4 levels)			
Tone Equivalent Energy (TEE) ¹	193–202 dB			
Receiver Sensitivity (dB re 1 µPa)	90–120 dB			
Range Precision	Better than 15 mm			
Serial Communications ²	RS232 or RS485 (half-duplex)			
Battery Life Li-ion (Listening)	3 days			
Operating Voltage	24 or 48 V dc (±10%)			
External Power	Active (Listening)	<3 W typical (maximum 10 W when charging)		
	Peak (During Transmission)	<80 W		
Serial Communications Connector	Subconn (8-way female)			
Remote Transducer Connector	Burton (3-way male)			
Housing Mechanical Construction	Hard anodised aluminium 6082	Hard anodised aluminium 7075	Hard anodised aluminium 7075	
Remote Transducer Mechanical Construction	Stainless steel 316			
Dimensions (Maximum) (Length x Diameter)	768 x 200 mm	768 x 200 mm	768 x 200 mm	
Housing Diameter	134 mm	134 mm	140 mm	
Weight in Air/Water ³	Housing Assembly	14.3/5.3 kg	14.7/5.7 kg	15.5/6.0 kg
	Transducer	3.2/2.7 kg	3.2/2.7 kg	3.3/2.8 kg
	Cable (5 m)	2.7/1.4 kg	2.7/1.4 kg	2.7/1.4 kg
Sensors				
Temperature (±0.1°C)	Standard			
Strain Gauge Pressure Sensor (±0.1%)	Standard			
High Precision Strain Gauge (±0.01%)	Optional			
Inclinometer (Tilt Sensor)	Standard			
Range ±90°, Accuracy: ±1° (Vertical Orientation)				

¹ WBv2+ signals are 4x the duration of Sonardyne tone signals (WBv2 are 2x). The TEE figure shows the operational performance when comparing wideband and tone systems.

² Fusion 2 requires full duplex serial comms (RS232).

³ Estimated Weights.