

Datasheet

ROVNav 6 LBL Transceiver and USBL Responder



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

Its high power output and Sonardyne Wideband[®]2 signal processing offers improved range and acoustic performance in challenging conditions such as on noisy vehicles or in multipath environments.

ROVNav 6 is also a fully compatible Ultra-Short BaseLine (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 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, direct reading sound velocity, PRT temperature and MEMS based inclinometer.

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 spread spectrum acoustic communication; 100 to 9,000 bps user data rates can be selected depending on the environment.

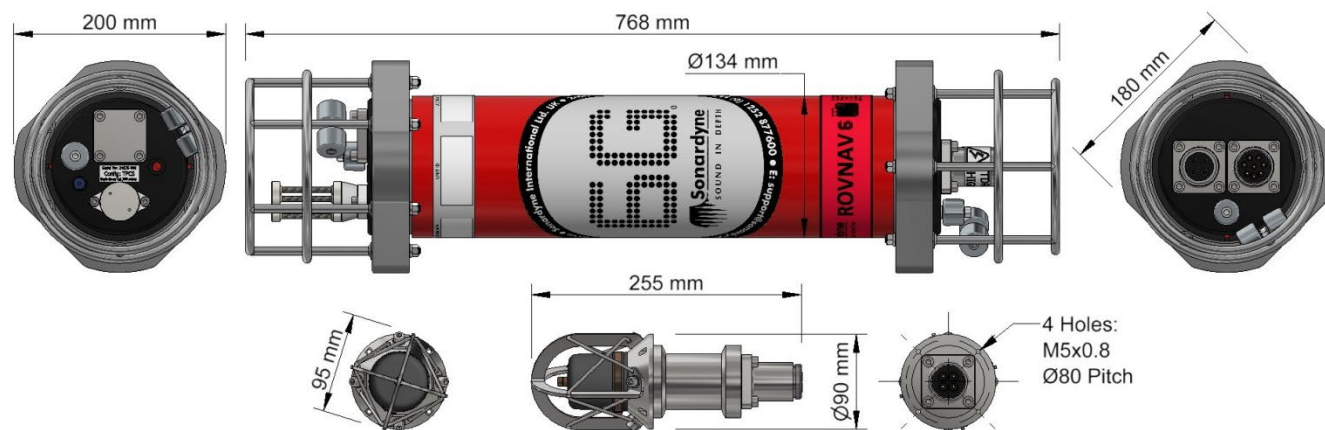
Sensor options include a Digiquartz pressure sensor, precision inclinometer and altimeter interface. This provides a fully featured ROV manipulator deployable tool/sensor pack for a range of different applications including metrology, bathy survey and structure deployment operations, without the requirement for any additional interfacing on the ROV.

Key Features

- High power, long range LBL transceiver
- MF band utilising Sonardyne Wideband 2 ranging and telemetry protocols
- More 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, sound velocity and MEMS inclinometer
- 3,000, 5,000 or 7,000 depth rated
- Field proven

Specifications

ROVNav 6 LBL Transceiver and USBL Responder



Feature		8310-3161	8310-5261	8310-7261
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 μ Pa @ 1 m)		187–196 dB (4 Levels)		
Tone Equivalent Energy (TEE) ¹		193–202 dB		
Receiver Sensitivity (dB re 1 μ Pa)		90–120 dB		
Range Precision		Better than 15 mm		
Serial Communications (Software Programmable)	Primary Port	RS232 or RS485 (half-duplex)		
	Secondary Port	RS232 or RS485 (half-duplex) or SYNC IN		
Battery Life Li-ion (Listening)		3 days		
Operating Voltage		24 or 48 V dc (\pm 10%)		
External Power	Active (Listening)	<3 W typical (maximum 10 W when charging)		
	Peak (During Transmission)	<80 W		
Serial Communications Connector		AGP (8-way female)	AGP (8-way female)	Subconn (8-way female)
Remote Transducer Connector		AGP (4-way male)	AGP (4-way male)	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 ²	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 (\pm 0.1°C)		Standard		
Strain Gauge Pressure Sensor (\pm 0.1%)		Standard		
High Precision Strain Gauge (\pm 0.01%)		Optional		
Inclinometer (Tilt Sensor)		Standard		
Range \pm 90°, Accuracy: \pm 1° (Vertical Orientation)				
Sound Velocity Sensor \pm 0.02 m/s Accuracy Under Calibration Conditions		Standard		

¹ 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.

² Estimated Weights.