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Datasheet

ROVNav 6 LBL Transceiver and USBL Responder

Description

ROVNav 6 is a 6G® Wideband® 2 ranging and telemetry Long BaseLine (LBL) 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 USBL responder or transponder compatible with Sonardyne Wideband® 1 and 2 USBL systems as well as HPR400 mode. The internal Lithium-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 MF transducer makes installation on an ROV easy.

ROVNav 6 is designed to be rugged though relatively lightweight. It also 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, 200, 400 & 900bps user data rates can be selected depending on the environment.

In addition, via a separate connector on the ROVNav 6, there is a power and communications interface to Sonardyne's external 'Remote Sensor Pack' (See Type 8311 datasheet). 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
- Sonardyne Wideband®2 navigation and telemetry
- 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 up to 900bps user data rate
- Internal sensors: Strain gauge pressure sensor, Sound Velocity, temperature and inclinometer
- Interface to external ROV manipulator deployed Remote Sensor Pack (RSP)
- 3,000 or 5,000 metre depth rated; 7,000 metre on request

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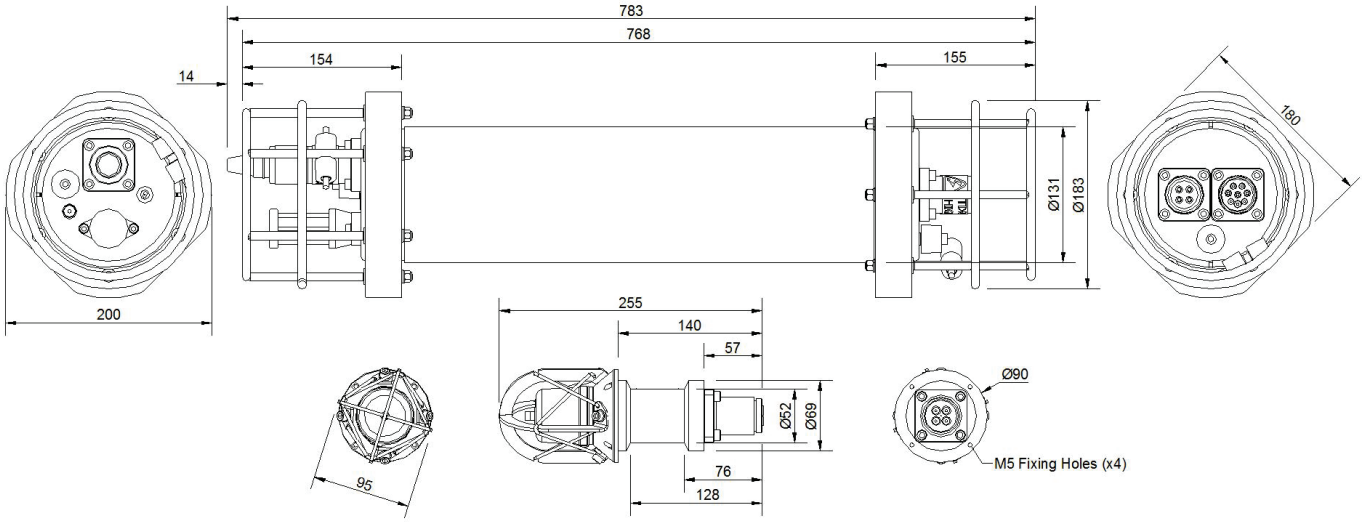
Specifications

ROVNav 6 LBL Transceiver and USBL Responder



Feature	Type 8310-3161	
Depth Rating	3,000 or 5,000 metres (7,000 metres on request)	
Operating Frequency	MF (18-36 kHz)	
Transducer Beamshape	Omni-Directional	
Transmit Source Level (dB re 1µPa @ 1m)	187-196dB (4 Levels)	
Tone Equivalent Energy (*TEE)	193-202dB	
Receiver Sensitivity (dB re 1µPa)	90-120dB	
Range Precision	Better than 15 mm	
Operating Voltage	24 or 48 Volts DC (±10%)	
Serial Communications (Software programmable)	Primary Port: RS232 (Full-Duplex) Secondary Port: RS232 or RS485 (Half-Duplex) or SYNC IN	
Battery Life (Listening, Disabled)	3 days (Li-Ion)	
External Power	Sleep	<1 W
	Active (Listening)	<3 W
	Peak (TX)	<80 W
Mechanical Construction	Aluminium Alloy, Hard Anodised, S/Steel Guards and Connectors	
Dimensions (LxDia)	783 mm x 200 mm	
Weight in Air (Water)	13 kg (5.5 kg)	
Remote Sensor Pack Interface (RSP)	AGP (8 way Male)	
Serial Communications Connector	AGP (8 way Female)	
Remote Transducer Connector	AGP (4 way Male)	

Sensors	
Temperature (±0.1°C)	Standard
Strain Gauge Pressure Sensor (±0.1%)	Standard
High Precision Strain Gauge (±0.01%)	Optional
Inclinometer (Tilt sensor) Range ±90°, Accuracy: ±1° (Vertical Orientation)	Standard
Sound Velocity 50 mm (±0.03 m/s)	Standard

*TEE – WBv2+ signals are 4x the duration (WBv1 & WBv2 are twice) 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.