

Datasheet

Mini RovNav LBL Transceiver



Description

Mini RovNav is a compact, remote acoustic transceiver designed to accurately position deepwater, mobile targets such as ROVs and towfish. The Type 7842 is a Medium Frequency (18-36 kHz) version which gives ranges up to 3kms and a positioning accuracy of $\pm 0.15\text{m}$. The Type 7860 Extra High Frequency (50-110 kHz) Mini RovNav enables relative positioning of accuracies $\pm 0.05\text{m}$ to be achieved with acoustic ranges of up to 1km.

Working within a Long Baseline array, Mini RovNav measures ranges to seabed transponders. Together with depth information, this data is digitally transmitted to the surface and combined with survey software to determine the position of the mobile relative to the array. The digital link (RS232 or RS485 full or half duplex) ensures that reliable communications with the Mini RovNav can be maintained despite the use of increasingly long umbilical.

Mini RovNav is compatible with all compact commands thus allowing a relative calibration of a seabed array from the remote vehicle without the need for direct ranging or telemetry to the surface vessel. This enables high accuracy, short range EHF equipment to be used in deepwater.

When used with a Sonardyne USBL system, the Mini RovNav can be configured as a USBL Responder or as a LBL transceiver to provide a complete acoustic positioning solution.

Key features (Type 7842)

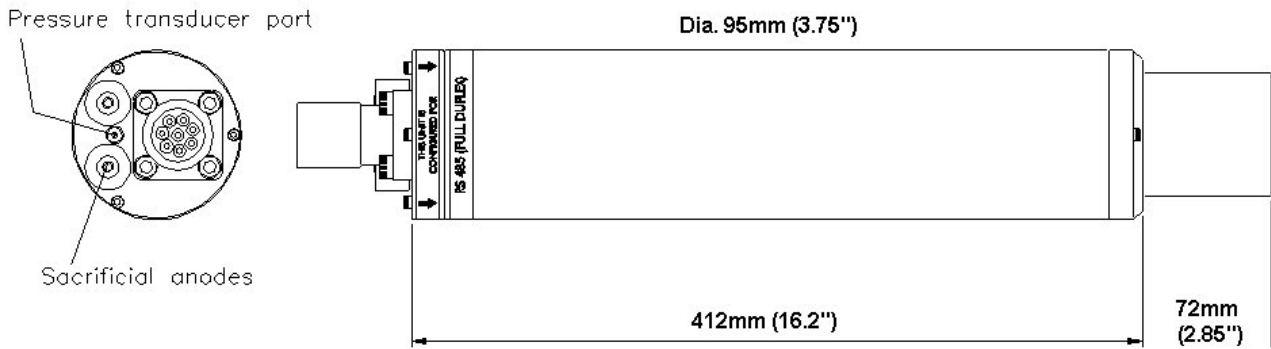
- Depth rated to 4,000 metres
- Provides ranges up to 3km and positioning accuracy of $\pm 0.15\text{m}$
- Sonardyne LBL and LUSBL compatible
- RS232/ RS485 full or half duplex interface for fast position updates
- Compact and rugged design

Key features (Type 7860)

- Type 7860 EHF Mini RovNav
- Depth rated to 2,000 metres
- Provides ranges up to 1km and positioning accuracy of $\pm 0.05\text{m}$
- Enables high accuracy LBL equipment to be used in deepwater
- Integral depth and temperature sensors
- Powered from ROV's umbilical

Specifications

Mini RovNav LBL Transponder



Feature	Type 7842	Type 7860
Depth Rating	4,000 Metres	2,000 Metres
Operating Frequency	MF (18-36kHz)	EHF (50-110 kHz)
Transducer Beamshape	Omni-Directional	Omni-Directional
Transmit Source level (dB re 1µPa @1m)	190±4dB (High Power Mode)	190±sdB (High Power Mode)
Receive Sensitivity (dB re 1µPa)	<96dB	<100dB
Pulse Length	4ms	1ms
Range Resolution	0.1ms	0.01ms
Depth Sensor Options	500m, 2000m, 4000m	500m , 2000m
Depth Measurement:	0.2% Full Range Output	0.2% Full Range Output
Resolution Accuracy @ 4°C	±8m@4000m	±4m@2000m
Temperature Measurement	Resolution	0.01°C
	Accuracy	0.1°C
Power Supply	External Via ROV Umbilical	External Via ROV Umbilical
Power Consumption	2 Watt between 18 – 72V	2 Watt between 18 – 72V
Dimensions (LxDia)	485mm (19.0") X 95mm (3.7")	518mm (20.3") X 95mm (3.7")
Connector Types	8 pin AGP Plug, Type AGP-2608-F	8 pin AGP Plug, Type AGP-2608-F
Mechanical Construction	Aluminium Alloy Hard Anodised	Aluminium Alloy Hard Anodised
Weight in Air	5.5kg	6kg
Options	Noise Shield with remote transducer	Noise Shield with remote transducer