

Datasheet

Wave Glider Transceiver (WGT)



Description

The Type 8297 WGT is an acoustic transceiver designed to integrate within a Liquid Robotics 'Wave Glider' wave powered autonomous surface vehicle. It enables wireless data harvesting operations to be conducted with a wide range of Sonardyne 6th generation 6G® instruments including Compatt6, Autonomous Monitoring Transponder, FETCH and Pressure Inverted Echo Sounder (PIES).

The WGT functionality enables Wave Glider to acoustically collect data from large arrays of seabed instruments in a highly cost effective manner without the need to deploy a traditional surface ship to perform this operation. Instead, Wave Glider is controlled remotely from a shore station via Iridium satellite communications.

The WGT is available with directional transducer options for operating in both Medium Frequency (19-34kHz) and Lower Medium Frequency (12-20kHz) bands to suit different seabed instruments and is

fully Sonardyne Wideband® 2 compatible.

The WGT is tightly integrated into the Wave Glider vehicle communications and power systems thereby providing many of the standard acoustic commands and features associated with Sonardyne 6G products.

Data are passed by Wave Glider to the Iridium satellite system for onwards transmission to the user in near real time.

Typical Applications

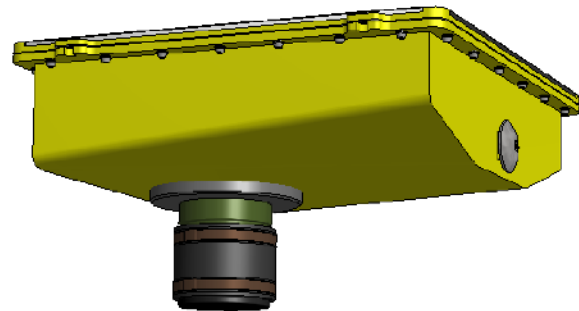
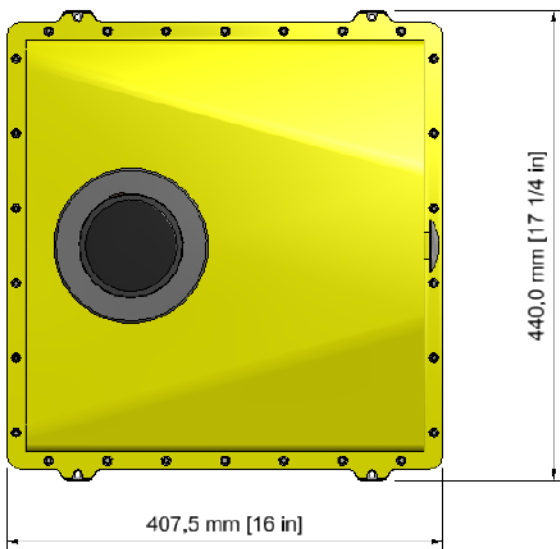
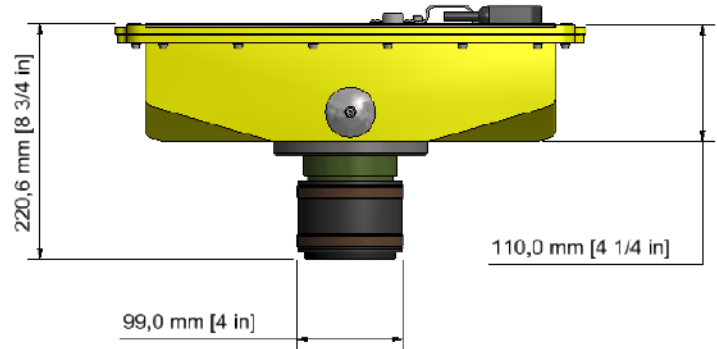
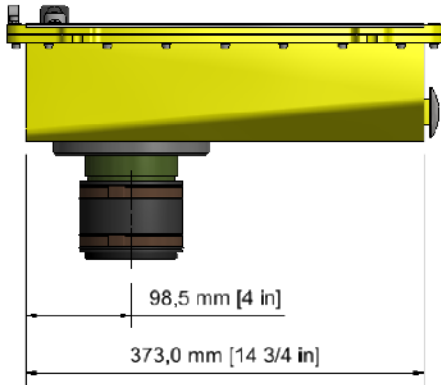
- Remote/wireless data harvesting from large arrays of Autonomous Monitoring Transponder, FETCH and PIES instruments
- Deep ocean Tsunami sensor mobile gateway buoy;
- Precise GPS/acoustic positioning of seafloor reference sites for tectonic studies;
- Collection of pressure and temperature gauge data from Sonardyne acoustic data loggers;

Key Features

- Provides acoustic link to Sonardyne subsea instruments;
- Enables direct remote data collection, monitoring and control from shore based Wave Glider operations centre;
- Fully compatible with Sonardyne Wideband 2 and 6G;
- Tightly integrated with Wave Glider Management System
- Integrated acoustic modem with data rates from 100 to 9000 bits per second;
- Sonardyne Wideband® 2 compatible navigation functions including range measurement;
- Internal rechargeable battery;
- MF and LMF directional transducer options;
- Installed in Wave Glider standard aft payload space;

Specifications

Wave Glider Transceiver (WGT)



Feature	Type 8297-000-01	Type 8297-000-02
Depth Rating	8 Metres	8 Metres
Operating Frequency	MF (19–34 kHz)	LMF (12–20 kHz)
Transducer Beam Shape	Directional	Directional
Transmit Source Level (dB re 1µPa @ 1m)	187-196dB (4 Levels)	187-196 dB (4 Levels)
Tone Equivalent Energy (TEE*)	193-202 dB	193-202 dB
Receive Sensitivity (dB re 1µPa)	90-120 dB (7 levels)	90-120 dB (7 levels)
Acoustic Modem Data Rates	100-9000 bps (6 levels)	100-9000 bps (6 levels)
Dimensions Length x Width x Height	407 mm x 440 mm x 223 mm	407 mm x 440 mm x 223 mm
Weight	11.5 kg	11.5 kg
Internal Backup Battery	Rechargeable Lithium Ion (2.2 Ah)	Rechargeable Lithium Ion (2.2 Ah)
Satellite Communications	Iridium RUDICS (2,400 bps)	Iridium RUDICS (2,400 bps)

*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.