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# Datasheet

# Wideband Sub-Mini Transponder/Responder (WSM 6)


## Description

The Wideband Sub-Mini 6 (WSM 6) is Sonardyne's latest generation of versatile USBL transponders or responders that support WBv2 signals. The WSM 6 is designed for positioning ROVs, towfish and other mobile targets in water depths up to 4,000 metres.

The compact and rugged design is based on the field proven WSM mechanics and is available in MF Directional and MF Omni-Directional versions. The latest Sonardyne Wideband®2 signal technology has been incorporated, which offers superior ranging accuracy and fast USBL position updates.

In addition to supporting new Sonardyne Wideband 2 signals, WSM 6 also supports WBv1, traditional Sonardyne tone, HPR 300 and HPR 400 channels. The configuration is programmed via dedicated setup software and a serial link. This allows the WSM 6 to be configured for use with all of the popular MF frequency acoustic navigation systems.

To aid quick setup and ease of use there are WBv1 and WBv2 quickset channels which configures both the interrogate and reply channels.

The Type 8271 WSM 6 is equipped with an Omni-directional transducer and is depth rated to 1,000 metres making it suitable for a wide range of general USBL tracking applications.

The Type 8270 WSM 6 is a 4,000 metre rated unit and features a high power directional transducer with an acoustic output comparable to Sonardyne's most powerful full size seabed transponders.

Both types of WSM 6 have a depth sensor fitted as standard to aid USBL positioning accuracy and an external on/off switch for ease of use and storage when not in use.

A number of acoustically controlled digital I/O lines are also provided for custom use, typical applications include mission abort and emergency ballast jettison control.

## Key Features

- Wideband V2 and V1 signals
- Choice of 1,000 m or 4,000 m depth rating
- Choice of Omni-Directional or Directional beam-shape with class leading acoustic power output
- Channel selection via serial data port by PC
- Transponder or Responder operating modes
- Depth sensor for improved USBL positioning performance
- Long-life NiMH battery
- Compact and rugged design
- Windows based software for test and setup
- External on/off switch for ease of use and storage

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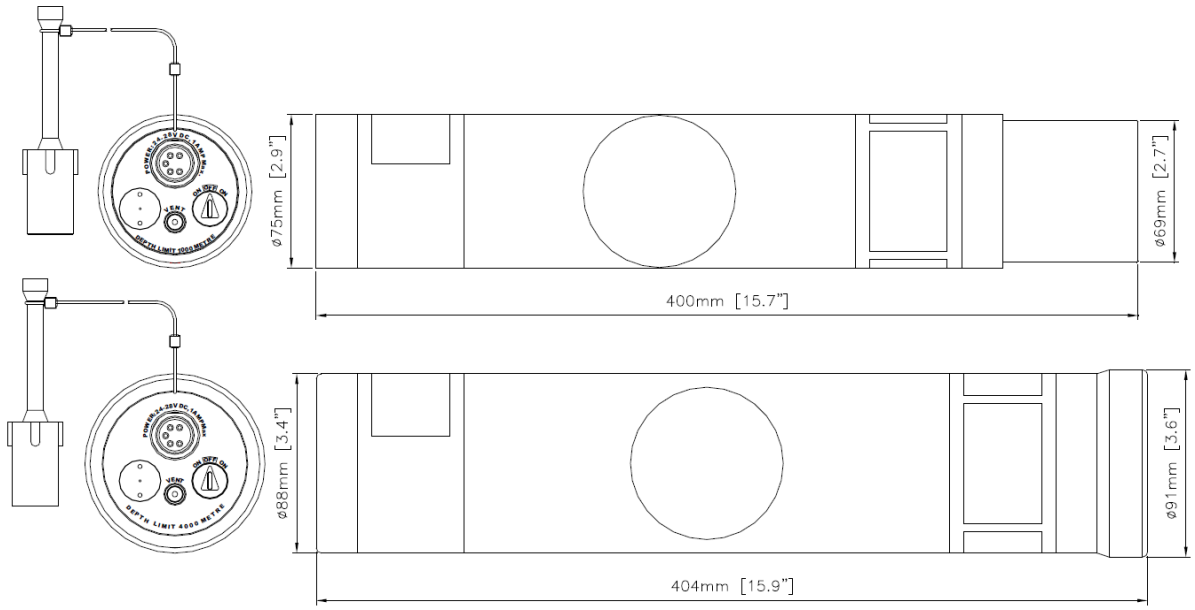
# Specifications

# Wideband Sub-Mini Transponder/Responder (WSM 6)




| Feature | | Type 8271 | Type 8270 |
|---|---|---|---|
| Depth Rating | | 1,000 Metres | 4,000 Metres |
| Operational Frequency | | MF (19-34 kHz) | MF (19-34 kHz) |
| Transceiver Beamshape | | Omni-Directional | Directional |
| Transmit Source Level (26-32 kHz) | (External Power) | 190 dB | 202 dB |
| (dB re 1 µPa @ 1 m) | (Battery – High Power) | 188 dB | 199 dB |
| | (Battery – Low Power) | 185 dB | 196 dB |
| Tone Equivalent Energy (TEE*) | (External Power) | 193 dB | 205 dB |
| Receive Sensitivity (dB re 1 µPa) | High Gain | <100 dB | <100 dB |
| | Low Gain | <100 dB | <100 dB |
| Power Supply | | Long-life Ni MH battery or ext. 24 V via ROV's umbilical | Long-life Ni MH battery or ext. 24 V via ROV's umbilical |
| Operating Channels | | All Sonardyne Wideband/Tone HPR 300 & 400 Channels | All Sonardyne Wideband/Tone HPR 300 & 400 Channels |
| Number of Replies (Responder) | | Unlimited with External Power | Unlimited with External Power |
| Depth Sensor | | Standard | Standard |
| Maximum Update Period | | 750 ms | 750 ms |
| Quiescent Life | | 60 Days | 60 Days |
| Mating Connector | | Subconn MCIL5F | Subconn MCIL5F |
| Mechanical Construction | | Aluminium Alloy, Anodised | Aluminium Alloy, Anodised |
| Dimensions (LxDia) | | 400 mm (15.7") x 75 mm (2.95") | 404 mm (15.9") x 91 mm (3.6") |
| Weight in Air (Water)** | | 2.7 kg (1.4 kg) | 5.0 kg (2.6 kg) |
| Battery Charger | | 7972-000-04 | 7972-000-04 |

*TEE – WBv2 & WBv1 signals are 2x the duration 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.

**Estimated Weights.