

Datasheet

Wideband Mini Transponder (WMT)



Semi-Directional



Omni-Directional

Description

Sonardyne's existing Wideband Sub-Mini transponder (WSM) is typically interrogated by a responder trigger sent down the ROVs' umbilical or a narrow band tone signal. In some situations, reverberation or multipath of the tone interrogation can cause interference problems. The WMT is Sonardyne's first mini-sized transponder. It is slightly larger than the WSM and provides full two-way Wideband interrogation and reply which completely mitigates interference from and to other users.

For use on ROVs, the WMT includes responder trigger, an integrated rechargeable Li-ion battery pack that is charged from the ROV's power supply and full RS232 communications enabling channel set up, power and gain etc. to be changed from the surface.

The WMT is available in three depth versions: 3,000 m, 5,000 m and 7,000 m. The 5000 m and 7,000 m versions have a higher acoustic output power level for improved long range operation.

An On/Off switch (3,000 m only) helps to ensure that the internal battery is not discharged when not in use. If an umbilical trigger is not available, then the full Wideband transponder mode provides excellent USBL performance from a small, lightweight package.

Remote omni or directional transducers are available for both the WMT and existing WSM range. These make installation on an ROV easier as the remote transducer can be installed where there is good line-of-sight and is easily replaced if damaged.

The main body of the transponder can be installed within the ROV frame where it is well protected from damage.

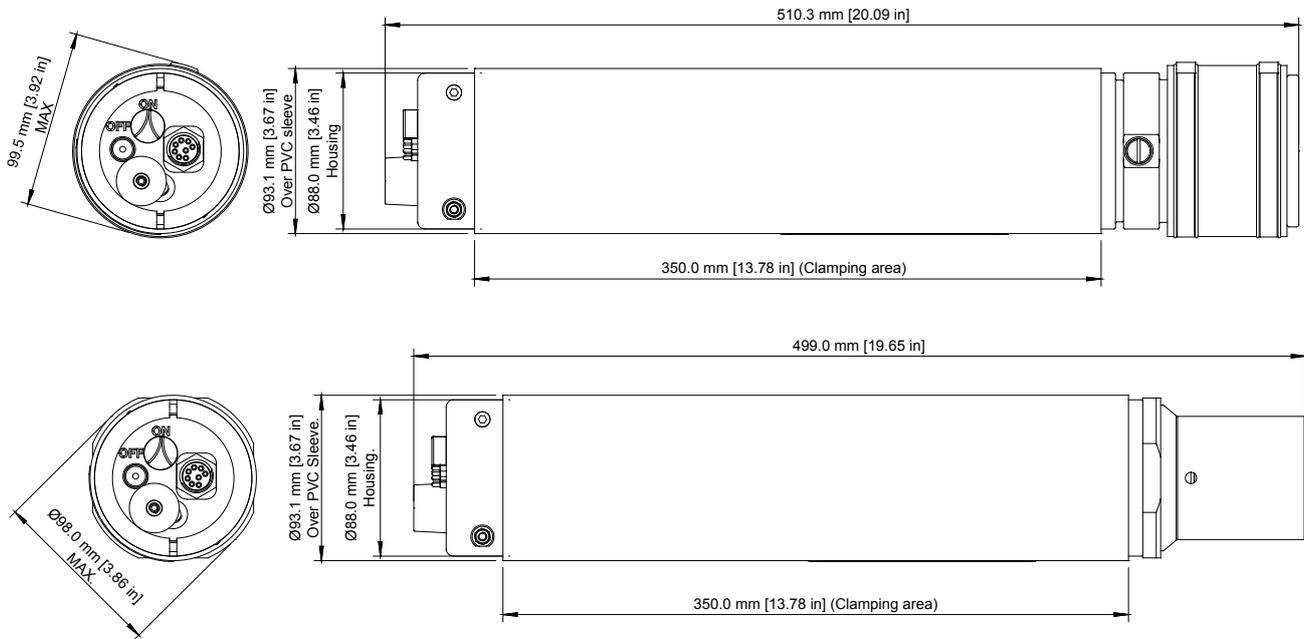
Note: The remote transducer option is not available for 5,000 m and 7,000 m versions.

Key Features

- Full two-way Sonardyne Wideband[®]2 interrogation and reply – mitigates any interference and multi-path issues
- Mini size – lightweight and small
- Responder mode
- Li-ion rechargeable battery pack
- Optional remote transducer (3,000 m only)
- Pressure sensor fitted as standard.
- Full RS232 control from the surface
- External On/Off switch (3,000 m only)
- Field proven

Specifications

Wideband Mini Transponder (WMT)



| System Features | | Type 8190-3111 | Type 8190-3112 | Type 8190-5212 /7212 |
|--|----------------------------|---|---------------------------------------|---------------------------------------|
| Depth Rating | | 3,000 metres | 3,000 metres | 5,000/7,000 metres |
| Frequency Band | | MF (19-36 kHz) | MF (19-36 kHz) | MF (19-36 kHz) |
| Transducer Beam Shape | | Omni-Directional | Semi-Directional | Semi-Directional |
| Source Level (re 1 µPa @ 1 m) | High Power | 187 dB | 193 dB | 199 dB |
| | Low Power | 181 dB | 187 dB | 193 dB |
| Tone Equivalent Energy (TEE)* WBv2+ | High Power | 193 dB | 199 dB | 205 dB |
| | Low Power | 187 dB | 193 dB | 199 dB |
| Range Precision | | Better than 15 mm | Better than 15 mm | Better than 15 mm |
| Depth Sensor | | ± 0.5% full scale | ± 0.5% full scale | ± 0.5% full scale |
| Communications Interface | | RS232 (9,600 – 115,200 baud) | | |
| External Supply Voltage | | 24 or 48 V DC (± 10%) | 24 or 48 V DC (± 10%) | 24 or 48 V DC (± 10%) |
| External Power | Sleep | <300 mW | <300 mW | <300 mW |
| | Wideband Listening | <500 mW | <500 mW | <500 mW |
| | Battery Charging | 6 W | 6 W | 6 W |
| | Peak (During Transmission) | <50 W | <50 W | <50 W |
| External Power Switch | | Yes | Yes | No |
| Battery Life (Li-ion 15 V) | Listening | 30 Days | 30 Days | 30 Days |
| | Continuous 5 Sec | Approx 6 Days at | Approx 6 Days at | Approx 6 Days at |
| | Interrogation | Low Power | Low Power | Low Power |
| Mechanical Construction | | Anodised Aluminium Alloy and Plastics | Anodised Aluminium Alloy and Plastics | Anodised Aluminium Alloy and Plastics |
| Dimensions; Diameter x Length | | 93 mm x 499 mm | 98 mm x 510 mm | 98 mm x 510 mm |
| Weights in Air (Water)** | | 5.1 / 2.2 kg | 7.0 / 3.5 kg | 7.0 / 3.5 kg |
| Options | | Remote, Cable Connected Transducer (See Separate Datasheet). | | None |

*TEE – 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.

**Estimated Weights.