

Datasheet

Wideband Mini Transponder (WMT)



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

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System Features		Type 8190-3111	Type 8190-3112	Type 8190-5212 /7212
Depth Rating		3,000 m	3,000 m	5,000/7,000 m
Frequency Band		MF (19–34 kHz)	MF (19–34 kHz)	MF (19–34 kHz)
Transducer Beam Shape		Omni-Directional	Directional	Directional
Source Level (re 1 μ Pa @ 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		$\pm 0.5\%$ full scale	$\pm 0.5\%$ full scale	$\pm 0.5\%$ full scale
Communications Interface		RS232 (9,600–115,200 baud)		
External Supply Voltage		24 or 48 V dc ($\pm 10\%$)	24 or 48 V dc ($\pm 10\%$)	24 or 48 V dc ($\pm 10\%$)
External Power	Sleep	~650 mW	~650 mW	~650 mW
	Wideband Listening	~1 W	~1 W	~1 W
	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 Interrogation	Approx 6 Days at Low Power	Approx 6 Days at Low Power	Approx 6 Days at Low Power
Operating Temperature		-5 to 40°C	-5 to 40°C	-5 to 40°C
Storage Temperature		-20 to 55°C	-20 to 55°C	-20 to 55°C
Mechanical Construction		Anodised Aluminium Alloy and Plastics	Anodised Aluminium Alloy and Plastics	Anodised Aluminium Alloy and Plastics
Dimensions; Diameter x Length		94 x 501 mm	94 x 512 mm	98 x 512 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.