

# Datasheet

## Wideband Mini Transponder (remote transducer version)



**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.

An on/off switch helps to ensure the internal battery is not discharged when not in use. When an umbilical trigger is not available, then the full Wideband transponder mode provides excellent Ultra-Short BaseLine (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.

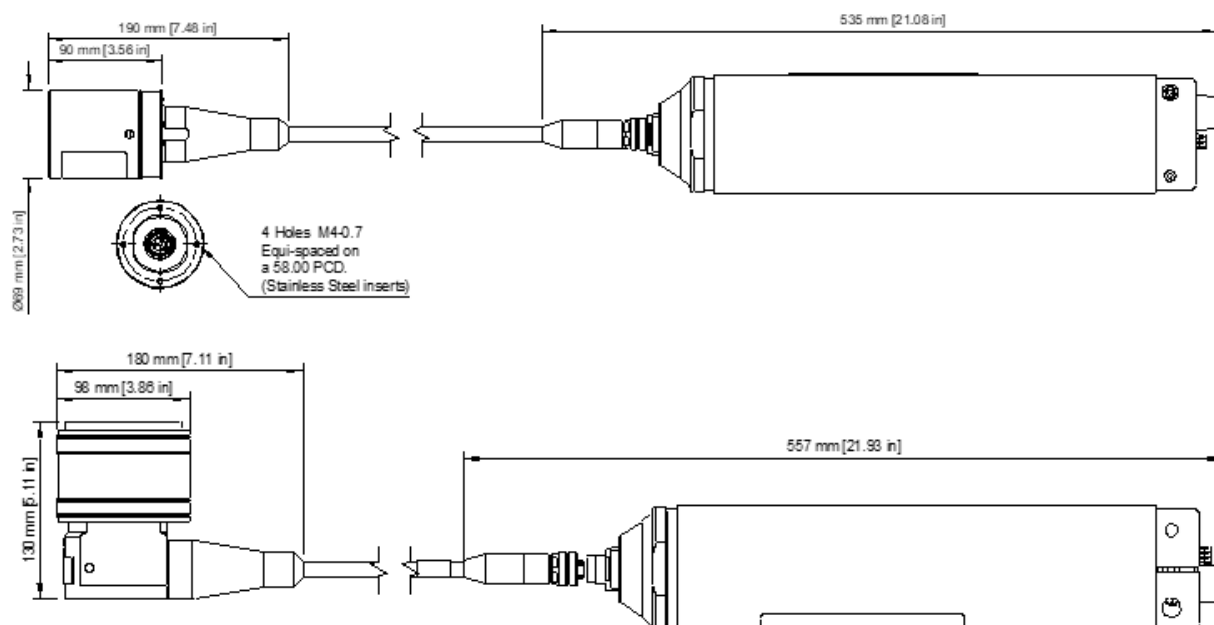
The main body of the transponder can then be installed within the ROV frame where it is well protected from damage.

### 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
- Pressure sensor fitted as standard
- Full RS232 control from the surface
- External on/off switch
- Choice of standard cable lengths: 0.6 or 3.0 m, custom lengths available on request
- Choice of right-angle or straight connector style
- Field proven

# Specifications

## Wideband Mini Transponder (remote transducer version)



Feature		Type 8190-3161	Type 8190-3162
Depth rating		3,000 m (5,000 and 7000 m options)	3,000 m (5,000 and 7,000 m options)
Operating frequency		MF (20–34 kHz)	MF (20–34 kHz)
Transducer beam shape		Omni-directional $\pm 120^\circ$	Semi-directional $\pm 40^\circ$
Transmit source level (re 1 $\mu\text{Pa}$ @ 1 m)	High power	187 dB	193 dB
	Low power	181 dB	187 dB
Tone equivalent energy (TEE) <sup>1</sup> WBv2+	High power	193 dB	199 dB
	Low power	187 dB	193 dB
Ranging precision		Better Than 15 mm	Better Than 15 mm
Depth sensor		$\pm 0.5\%$ Full Scale	$\pm 0.5\%$ Full Scale
Communications interface		RS232 (9,600 –115,200 baud)	RS232 (9,600 –115,200 baud)
External supply voltage		24 or 48 V dc ( $\pm 10\%$ )	24 or 48 V dc ( $\pm 10\%$ )
External power	Sleep	$\sim 650$ mW	$\sim 650$ mW
	Wideband listening	$\sim 1$ W	$\sim 1$ W
	Battery charging	6 W	6 W
	Peak (during transmission)	<50 W	<50 W
Battery life (li-ion 15 V)	Listening	30 days	30 days
	Continuous 5 seconds interrogation	Approx. 6 days at low power	
Mechanical construction		Anodised aluminium alloy and plastics	
Operating temperature		-5 to 40°C	-5 to 40°C
Storage temperature		-20 to 55°C	-20 to 55°C
Weights in air/water <sup>2</sup>		5.1/2.2 Kg	7.0/3.5 Kg
Options		Remote Cable Lengths 0.6 or 3 m	
Remote transducer		8065-121 Right-Angled 8065-120 Straight	8140-008 Right-Angled

<sup>1</sup> 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.

<sup>2</sup> Estimated weights.