

# Datasheet

## AvTrak 6 (Remote Transducer Version)



**AvTrak 6 is an acoustic navigation and communications instrument designed to form part of an integrated Autonomous Underwater Vehicle (AUV) tracking and navigation system. It combines the functions of transponder, transceiver and telemetry link in one low power unit that has been designed to meet the requirements of a wide variety of AUV mission scenarios and vehicle types.**

The unit operates in Sonardyne's Wideband®2. It is also fully compatible with Sonardyne's family of survey quality Long BaseLine (LBL) and Ultra-Short Baseline (USBL) navigation systems.

AvTrak 6 has a comprehensive yet easy to use command language that allows the AUV to undertake simultaneous LBL ranging, USBL tracking via a surface vessel and robust telemetry for AUV to vessel and AUV to AUV communications.

This capability can be used to provide absolute position reference data to periodically update the AUV's inertial navigation system.

The instrument is available in a variety of configurations. The Type 8220-3161 is a remote omni-directional unit. This flexible configuration is intended both to assist the AUV manufacturer with mounting of the instrument within the AUV and to ensure the highest levels of acoustic performance.

AvTrak6 supports a Sonardyne Messaging Service (SMS) that allows custom payloads to be transferred to and from any 6G® transceiver. This allows for vehicle configuration or USBL position fixes to be acoustically sent to the vehicle or for status messages to be retrieved from the topside system. There is an option to include a HPR400 series tone for compatibility with a variety of other acoustic systems and transponders and another option to enable a RSPSK Modem upgrade for large volume data transfers.

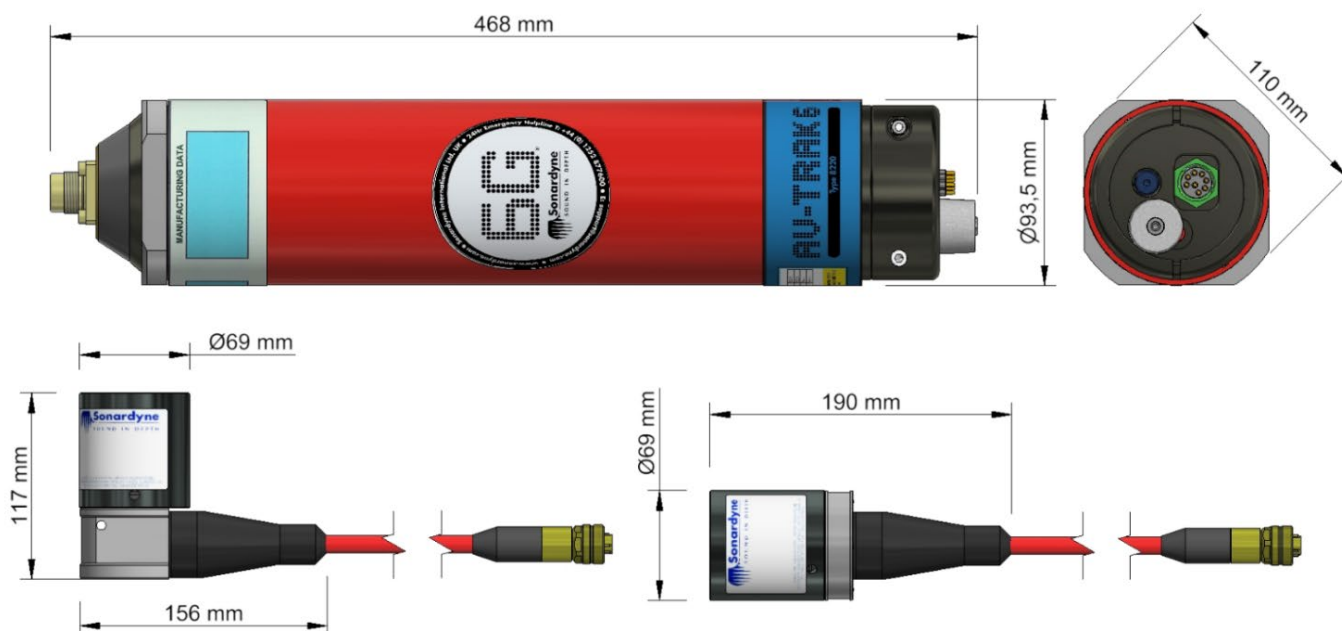
A number of acoustically controlled digital I/O lines are also provided for custom use, typical applications include mission abort and emergency ballast jettison control.

### Key Features

- Incorporates Sonardyne Wideband®2 acoustic navigation and telemetry technologies
- Compatible with Ranger USBL for surface vessel combined positioning and telemetry
- Supports AUV to AUV ranging and telemetry (transceiver mode)
- Emergency relocation mode
- Custom I/O for mission abort and ballast jettison
- Pressure and temperature sensors
- Extremely low power consumption
- Internal back-up battery with external trickle charge
- Configurable as a surface vessel unit for AUV ranging and telemetry

# Specifications

## AvTrak 6 (Remote Transducer Version)



Feature		Type 8220-3161
Depth Rating		3,000 m
Frequency Band		MF (19–34 kHz)
Transducer Beam Shape		Omni-directional ±120°
Source Level (re 1 µPa @ 1 m)	High Power	187 dB
	Low Power	181 dB
Tone Equivalent Energy (TEE) <sup>1</sup> WBv2+	High Power	193 dB
	Low Power	187 dB
Ranging Precision		Better than 15 mm
Depth Sensor		± 0.5% full scale
Communications Interface		RS232 (9,600 – 115,200 baud)
External Supply Voltage		24 or 48 V dc (±10%)
External Power	Sleep	~650 mW
	Wideband Listening	~1 W
	Battery Charging	6 W
	Peak (During Transmission)	<50 W
Battery Life (Li-ion 15 V)	Listening	30 days
	Continuous 5 Sec Interrogation	Approx. 6 days at low power
Operating Temperature		-5 to 40°C
Storage Temperature		-20 to 55°C
Mechanical Construction		Anodised aluminium alloy and plastics
Dimensions (Length x Diameter)		468 x 93.5 mm
Weights in Air/Water <sup>2</sup>		5.1/2.2 Kg
Options	Remote Transducer Cable Lengths Available	Straight or right-angled cable entry to remote transducer 0.6, 1, 2, 3 or 4 m

<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.