

Datasheet

AvTrak 6 Nano Transceiver



The AvTrak 6 Nano Transceiver is a specially designed variant of the established AvTrak 6 for small underwater vehicles. It combines the functions of transponder, transceiver and telemetry link for intelligent subsea operations. It is available in OEM and Cabled form factors allowing for easy integration into many different platforms.

The integrated li-ion rechargeable battery has up to 3 months emergency standby life, allowing sufficient time to relocate and recover a lost vehicle or asset.

The AvTrak 6 Nano operates in the Medium Frequency (MF) band and is compatible with Sonardyne's Ranger 2 family of 6G[®] Wideband[®] USBL system and beacons. It supports the standard 6G command language, thereby simplifying development across the 6G instrument range.

The AvTrak 6 Nano supports Sonardyne's Messaging Service (SMS) telemetry and MODEM functionality, allowing it to command and communicate with multiple subsea assets.

As part of a 6G USBL system, the AvTrak 6 Nano supports high update rate position information via robotics pack in Ranger 2 USBL, where the prior position is communicated to the vehicle on each navigation cycle. This considerably reduces the position aiding latency.

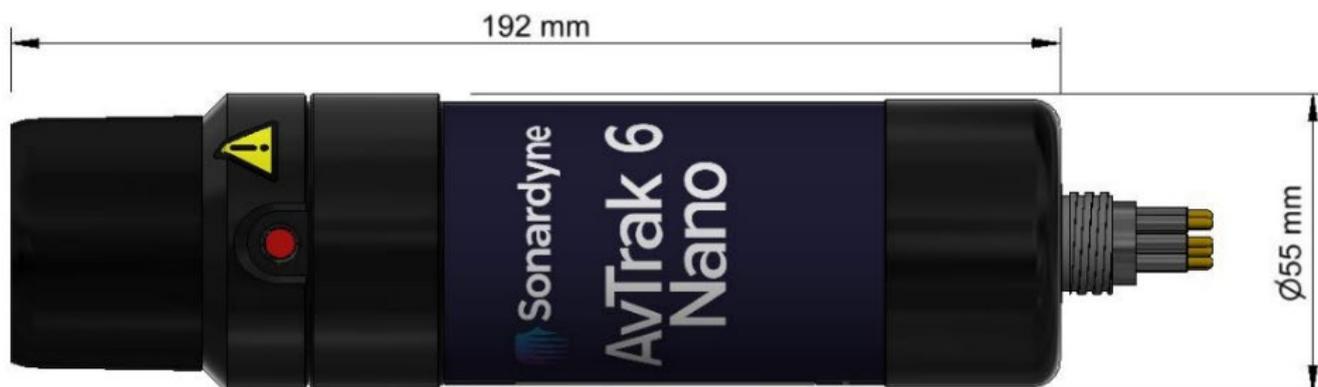
Common functionality with the established AvTrak 6 ensures that the AvTrak 6 family can be used across a range of vehicles and development programmes.

Key features

- Incorporates Sonardyne Wideband 2 acoustic navigation and telemetry technologies
- Full transceiver functionality for remote command and control.
- Standard 6G command language to allow easy migration from AvTrak 6 to AvTrak 6 Nano and vice versa
- Compatible with Sonardyne Ranger 2 USBL systems
- Supports AUV to AUV ranging and telemetry (transceiver mode)
- Emergency relocation mode
- Miniature size for fitting in small AUVs or ROVs
- Operating range approximately 3000 m
- Solid omni-directional transducer
- High update rate, low latency telemetry position aiding capability
- Full modem capability
- OEM version available

Specifications

AvTrak 6 Nano Transceiver



Feature		Type 8262 AvTrak 6 Nano
Operating range		>3,000 ¹ m
Depth rating		500 m
Operating frequency		MF 20–34 kHz
Transducer beam shape		Omni-directional ±130°
Source level (re 1 µPa @ 1 m)	Modem	175 dB
	Tracking and telemetry ²	184/175 dB
Range precision		Better than 15 mm
Communication interface		RS232, 3V3 TTL
Depth sensor		50 bar abs +/-0.7% FS
Power supply ³		12–28 V dc
Power consumption	Wideband listening (battery)	5 mW
	Wideband listening (ext. power) ⁴	20 mW (including trickle charge)
	Battery charging	60 mW to 2.5 W (depending on battery charge state)
	Peak (during transmission)	<30 W SMS, <20 W modem
Battery life	Quiescent listening	>90 days
	1 sec ping rate	>12 hours
Battery charge time		12 hours
External connections		Subconn MCIL8M
Mechanical construction		Polymer
Operating temperature ⁵		-10 to 45°C
Storage temperature ⁶		-20 to 55°C
Dimensions (length x diameter)		192 x 55 mm
Weight in air/water		584/162 g

¹ Range dependent on environment.

² Configurable.

³ Noise on the external dc supply may have an effect on the acoustic performance of the instrument.

⁴ Includes top-up charging of the li-ion battery, which could be disabled, or managed intelligently for better efficiency.

⁵ The battery will not charge above 45°C.

⁶ To maximise battery life, the instrument should not be stored above 30°C.