Nano Transponder

Nano is Sonardynes smallest ever USBL transponder, designed to let you know where your divers, man-portable AUVs, towed platforms, underwater drones and ROVs are throughout their mission.

Nano's built using the same signal technology platform you'll find in our award-winning 6G product line – Wideband 2. So you can expect reliable acoustic communications in all operating environments, accurate position fixes and a continuous stream of location updates. For vehicle programs and integrators, the Nano OEM when paired with an OEM transducer provides all the functionality of the housed transponders, in a form factor that can be mounted in any system.

Specifications

Product	Nano Transponder
Country of origin	UK
Manufacturer	Sonardyne
Material	Polymer

Features

- Miniature size for fitting on divers and small ROVs
- Variety of form factors
- Depth rated to 500 m
- Powerful acoustic transmission level
- Medium Frequency operation
- Compatible with Sonardyne Ranger 2 USBL systems
- Battery disconnect storage mode
- Wide dc voltage input range
- Gainless for ease of use
- >300 independent acoustic addresses
- Configuration using the Nano Docking Station wireless communications
- Integrated pressure sensor for depth aiding
- Common form factor with AvTrak 6 Nano so common transponders can be used across a fleet

The Wideband® Nano Transponder is specially designed for acoustic positioning of divers or small underwater vehicles. The small lightweight family of transponders allow for easy, unobtrusive attachment to a diver or vehicle.

Available in three variants: NFC, with connector (Cabled) and OEM; there is a Nano Transponder for every use case.

All variants are depth rated to 500 m and have an acoustic source level and beam shape that is designed to operate over a 995 m slant range under normal conditions. Three months battery life means they are suitable for long term deployments, marker beacons and for vehicle recovery.

A 500 m pressure sensor optimises acoustic performance at long horizontal ranges by constraining the depth measurement, making the nano perfect for Towed vehicle, AUV and Diver tracking.

The Nano Transponder family operates in the Medium Frequency (MF) band and is compatible with Sonardyne's Mini-Ranger 2 6G® Wideband USBL system.

The NFC Nano Transponder features a unique connector-less design that is recharged and programmed via the Nano Docking Station. The NFC technology allows full configuration of the Nano whilst maintaining its rugged "strap on and go" form factor.

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Specifications

Feature		Type 8262 NFC	Type 8262 Cabled
Operating range		995 m	995 m
Depth rating		500 m	500 m
Operating frequency		MF (20–34 kHz)	MF (20–34 kHz)
Transducer beam shape		Omni-directional ±130°	Omni-directional ±130°
Source level (re 1 µPa @ 1 m)		184/175 dB	184/175 dB
Range precision		Better than 15 mm	Better than 15 mm
Communication interface		USB in dock	RS232, 3V3 TTL
Depth sensor		50 bar abs +/-0.7% FS	50 bar abs +/-0.7% FS
Power supply		USB dock	12–28 V dc
Power consumption	**Wideband listening (battery)** **Wideband listening (ext. power)** **Battery charging** **Peak (during transmission)**	n/a n/a n/a n/a	5 mW 20 mW (including trickle charge) 60 mW to 2.5 W <30 W SMS, <20 W Modem
Battery life	**Quiescent listening** **1 sec ping rate**	>90 days >12 hours	>90 days >12 hours
Battery charge time		12 Hours	12 Hours
External connections		n/a	Subconn MCIL8M
Mechanical construction		Polymer	Polymer
Operating temperature		-10 to 45°C	-10 to 45°C
Storage temperature		-20 to 55°C	-20 to 55°C
Dimensions (length x diameter)		160 x 55 mm	192 x 55 mm
Weight in air/water		486/149 g	584/162 g