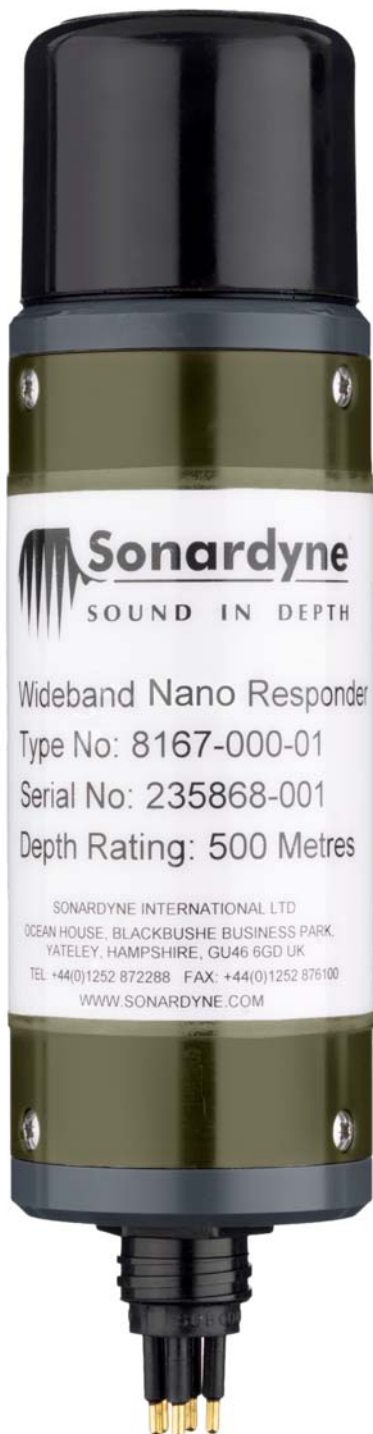


Datasheet

Wideband Nano Responder



Unit shown actual size

Description

The Nano Responder is specially designed for accurate positioning of small ROVs and tracking of small AUVs.

For ROVs, the responder is triggered by a signal generated by the USBL system and sent down the ROVs umbilical. For AUVs either the AUVs navigation system can generate the trigger, or a future option will be to put the Nano Responder into a pinger mode. When triggered, a Wideband signal is transmitted acoustically enabling Sonardyne's USBL systems to calculate the position of the vehicle.

The Nano Responder is fitted with a pressure sensor to measure the depth of the instrument and this is encoded into the Wideband acoustic signal sent back to the USBL system. The depth information is used by the USBL system to enhance the positioning solution.

The standard instrument is 500 m depth rated and has an acoustic source level and beam-shape that is designed to operate over a 750m slant range under normal conditions.

A 5-pin connector is used to supply power from the ROV (nominally 24V DC) and to connect the responder trigger line.

The Nano Responder operates in the upper Medium Frequency band and so is compatible with the following Sonardyne Wideband USBL systems: Scout Pro, Ranger, Fusion and Marksman.

An additional feature is the ability to change the operating parameters using an optional serial interface to a PC running set-up software. The parameters which are under operator control include: acoustic transmission signal, turn-around time and depth reply on or off.

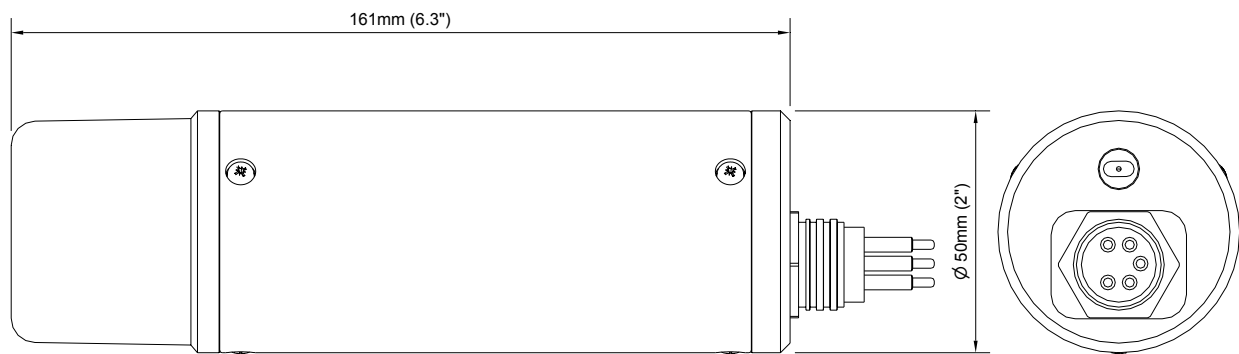
Test functions via the serial port include: read status, read depth sensor and initiate acoustic signal transmission.

Key Features

- Miniature size for fitting on small ROVs
- Depth rated to 500 Metres
- Powerful acoustic transmission level
- 24V external power input
- Medium Frequency operation
- Compatible with Sonardyne USBL systems
- Set-up and test via serial port and PC software

Specifications

Wideband Nano Responder



Feature		Type 8167
Depth Rating		500 Metres
Frequency Band		Upper MF (31.5 – 33.5 kHz)
Transducer Beam Shape		Omni-Directional $\pm 130^\circ$
Source Level (re 1 μ Pa @ 1m)		180 dB
Trigger		Rising Edge, 5-24V, 3-10ms
Depth Sensor		$\pm 0.5\%$ Full Scale
Communication Interface		RS232 (9,600 baud)
External Supply Voltage		22-28 Volts DC
Power	Quiescent	<0.5W
	Peak (During Transmission)	<40W
Dimensions (Dia x Length)		50mm x 165mm
Weight	in Air	522g
	in Water	187g