

1320 Series Micro Beacon with RM91S/SR



Key features

- Sigma 2 technology for improved positioning with aae USBL Systems
- Channel configuration via Beacon Editor app
- Legacy support for older USBL systems
- Automatic Pressure Release Valve (PRV)
- Remote transducer allows for fitting on small compact units

Applications

- General purpose tracking and positioning applications
- Diver tracking
- Static and dynamic operations e.g. ROV, sidescan sonar

Micro Series Beacon Overview

The 1320 Micro Beacon with a remote transducer head expands the versatility of the Micro Beacons.

The transducer is placed away from the electronics housing and attached by an interconnect lead. This arrangement is ideal where space is limited or the transducer needs mounting away from noise sources such as ROV thrusters.

In addition to its internal batteries, the beacon has an external connector that allows it to operate and trickle charge from a ROV 24 V supply. Channel selection and alternative bench charging is via a USB adaptor cable, included with the unit.

Technical Specification

MODEL TYPES & PHYSICAL SPECIFICATION

Housing material; Hard anodised aluminum

Model	Beam Pattern	SPL*	Survival Depth	Diameter	Length	Weight in Air / Water
I320A	n/a	n/a	1000 m	51 mm	292 mm	1280 g / 400 g
I320D	n/a	n/a	600 m	51 mm	292 mm	1280 g / 400 g
RM91S	±90°	183 dB	1000 m	54 mm	150 mm	600 g / 340 g
RM91SR	±90°	183 dB	1000 m	54 mm	136 mm	570 g / 320 g

Electrical connector	Micro Wet-con MCBH5M
Transducer connector	Micro Wet-con MCIL2F
Interconnect lead	1.5 m (200 g)
Interconnection method	RM91S: MCIL2M connector, straight exit RM91SR: Male EO connector, 90° exit
Mounting method	4 x M4 nylon screws, to be isolated from other metals

Electrical Specification

BATTERY

Battery Type	Rechargeable. NiMH as standard
Charging Time	Computer USB port, 8 hours maximum (standard) Mains USB dedicated charge port adaptor, 4 hours maximum (fast)
Listening Life	45 days minimum (@ 2 °C)
Operational Life	Dependent on pulse rate and operational mode I320A 56 hours at 1.0 pps (aae Sigma 2) I320D 48 hours at 1.0 pps (aae Sigma 2 with depth telemetry) Operational life will differ when used with non aae Sigma 2 channels

Configuration

Set-up	aae Beacon Editor Software
Transmit Frequency Range	21.5 – 30.5 kHz
Receive frequency range	16 – 26.5 kHz
Turnaround time	Dependent on channel selection
Transmit pulse width	Dependent on channel selection
Depth Sensor Precision	± 1.0 m (I320D version only)

External Inputs

Responder key	+ 5 to 20 Volts
External Power/Charge	24 Volts @ 50 mA
Ground	Common Ground
On/Off	Via connector shorting link

USBL Compatibility

aae I300 Series beacons use Tone, Chirp, MFSK, DSSS and FHSS as transmission/reception protocols, allowing cross-compatibility with many USBL systems, including:

- aae Pyxis, Nexus 2, Nexus 2 Lite systems: Sigma 2 spread spectrum
- aae Vesta: Sigma 3 digital protocol
- aae Easytrak: All models: Tone systems
- Exail / iXblue: GAPS USBL
- Kongsberg: HPR/HIPAP

Options

- OEM version, for subsea vehicle interfacing