

Datasheet

ROV-Homer target relocation system



Part of Sonardyne's Coastal Acoustic product range, ROV-Homer is a miniature range and direction guidance system for small or large ROVs. Based on proven acoustic principles, it is specifically designed for fast, efficient relocation of underwater targets such as lost diving bells, divers, seabed equipment or small objects.

It enables points of interest to be marked with an acoustic transponder so that an ROV pilot can be guided straight back to the target even in zero visibility. The system substantially reduces search time and therefore operating costs.

The system consists of an ROV mounted range and direction unit, PC control software and small, lightweight marker transponders. Once the pilot has selected the target he wishes to 'home' into, the ROV unit begins interrogating the designated transponder to determine its range and direction. The information is communicated back to the surface, via the ROV's umbilical, and is displayed on the operator's PC.

It indicates the range to the target and in which direction to turn in order to fly the ROV directly towards the selected transponder.

The ROV mounted unit is accurately aligned with the ROV's heading sensor and is connected to spare cores either on the ROV's umbilical or to the ROV's communications multiplexer. The electronics inside the unit incorporate power regulation, an RS232 interface and a microprocessor all of which are galvanically isolated from the ROV's electrical system. 12-36 V dc power supply is connected via the same connector. On smaller ROVs which do not have communications multiplexers and therefore cannot support RS232, a RS485 interface can be provided.

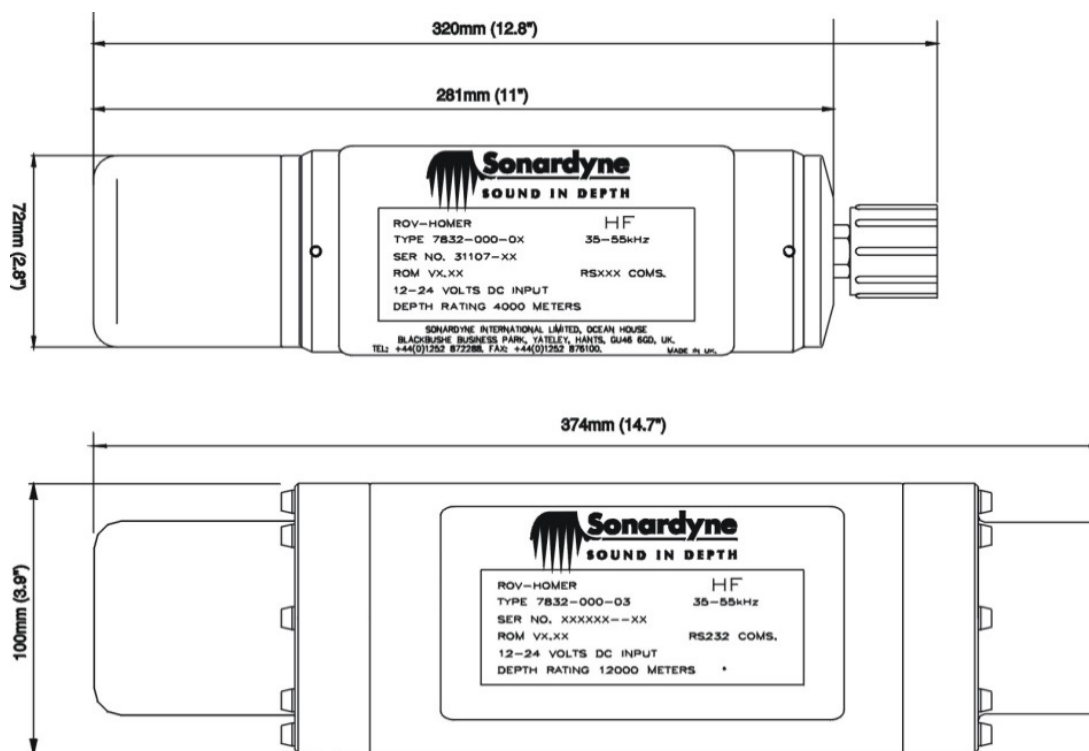
The transponders are compact so that they can be easily fitted to divers or equipment and have a long-life battery pack making them ideal for use as permanent markers. Each transponder is individually encoded enabling many transponders to be used on the same site to unambiguously mark many targets.

Key features

- Simple, low-cost acoustic guidance system for ROVs
- 4,000 m or 12,000 m versions available
- Reduces search time and ROV operating costs
- Critical point marking - tools, valve heads, field joints etc.
- Emergency relocation - divers, diving bells, ROVs etc.
- Accurately measures distances of up to 750 m
- Allows operation in zero visibility
- System operates with up to 256 small, low cost transponders
- Works with AODC Emergency Transponders

Specifications

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ROV range and direction unit		Type 7832-000-01	Type 7832-000-03	
Depth rating		4,000 m	12,000 m	
Operating frequency		HF (34-40 kHz)	HF (34-40 kHz)	
Transmit source level (dB re 1 µPa @ 1 m)		190 dB	190 dB	
Directional indication (10° wide receive)		Left, right or ahead	Left, right or ahead	
Range resolution		0.1 m	0.1 m	
Maximum operating range		750 m (dependent on conditions)	750 m (dependent on conditions)	
Power supply		12-36 V dc 400 mA	12-36 V dc 400 mA	
Quiescent life		Continuous when powered from ROV	Continuous when powered from ROV	
Position update interval		1.5 seconds	1.5 seconds	
Mechanical construction		Anodised aluminium alloy and plastic	Titanium grade 5	
Dimensions (length x diameter)		272 x 72 mm (10.7 x 2.85")	370 x 100 mm (14.57 x 3.94")	
Weight in air/water		2.1/1.3 kg	8.0/5.8 kg	
Transponder options		Type 7815-000-7	Type 7835-000-01	Type 7835-000-05
Depth rating		500 m	4,000 m	12,000 m
Operating frequency		HF (34-40 kHz)	HF (34-40 kHz)	HF (34-40 kHz)
Battery life (listening)	Alkaline	2 years	2 years	2 years
	Long-life lithium	4.5 years	4.5 years	4.5 years
Mechanical construction		Aluminium alloy and plastic	Aluminium alloy and stainless steel	Anodised titanium grade 5
Dimensions (length x diameter)		441 x 64 mm (17.3 x 2.5")	353 x 64 mm (13.8 x 2.5")	267 x 80 mm (10.5 x 3.1")
Weight in air/water		1.1/0.75 kg	1.9/1.2 kg	5.5/3.8 kg