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Datasheet

Lightweight Release Transponder (LRT)



Description

Part of Sonardyne's Coastal Acoustics product range, the Type 7986 Lightweight Release Transponder (LRT) has been developed from transponders used to accurately position hundreds of seismic receiver nodes. It has both receive and transmit functions, unlike similar low-cost release transponders, enabling accurate slant ranges to be measured, release actuation to be confirmed and its position to be determined.

The LRT is depth rated to 500 metres making it the ideal choice for use in continental shelf waters. Field replaceable alkaline or lithium battery packs give a listening life of 18 months and 52 months respectively. A 'screw-off' release mechanism ensures a positive release action that overcomes any biological growth and all external parts are made of high strength plastics that provide excellent corrosion resistance.

The Type 7967 surface control unit comprises a low-cost deck unit and remote transducer on 10 metres of cable. The deck unit is initially used to program the acoustic identity of the LRT, test the transponder and load the release 'bit' prior to deployment. Once deployed, the deck unit can measure ranges to the transponder and prior to sending a secure release command, relocate the transponder. The deck unit can be controlled via RS232 enabling raw range data to be logged to a PC.

Key features

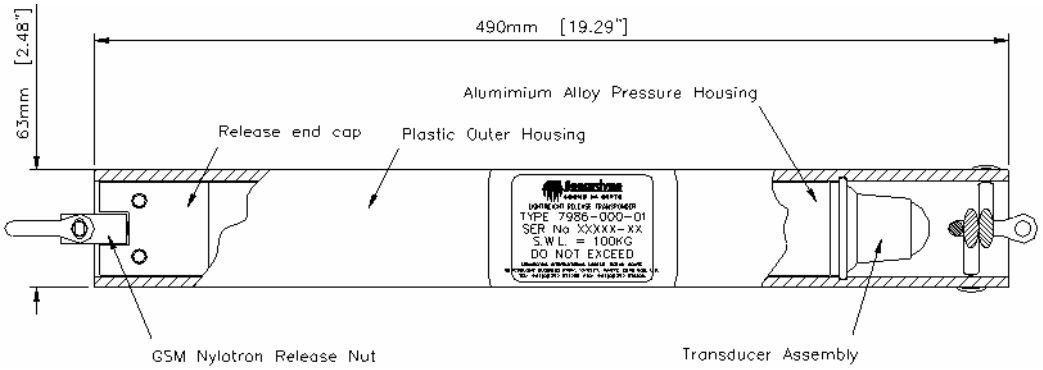
- Safe Working Load of 125Kg
- Depth rated to 500 Metres
- Over 4 years deployment with long-life Lithium battery pack
- Thousands of secure identities; field programmable with deck unit
- Reliable, 'screw-off' release
- Rugged, compact design
- Compatible with Scout USBL, ROV-Homer, Homer-Pro and Prospector positioning/relocation systems
- Optional rope canister with 75 Metres of 1200Kg breaking-strain rope

The transponder is compatible with Sonardyne's ROV-Homer and Homer-Pro target relocation systems. Deployed at a point of interest and weeks or years later, the LRT can be interrogated to provide range and direction guidance to a ROV pilot or diver wishing to home back on to it.

Furthermore, the transponder's exact seabed co-ordinates can be quickly and easily determined using Sonardyne's Prospector system, calibrated from a dGPS positioned vessel. A rope canister is also available with 75 metres of rope for pop-up buoy applications.

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Specifications
Lightweight Release Transponder (LRT)



Feature	Type 7986
Depth Rating	500 Metres
Operating Frequency	HF (35–50kHz)
Transmit Source Level	185dB re 1µPa @1m
Receive Sensitivity	<110 dB re 1µPa
Number of Unique Addresses	3609, (Field Programmable)
Switch On	Continuously Operating (NO On/Off switch)
Battery Life	Alkaline: 18 months Lithium: 34 months Long- Life Lithium: 52 months
Safe Working Load (at 4:1 ratio)	125Kg
Release Load	125Kg
Breaking Load	500Kg
Proof Load	250Kg (Note: A Proof Test Certificate can be provide upon request)
Mechanical Construction	Plastic, Stainless Steel and Anodised Aluminium Alloy
Dimensions (LxDia)	490mm (19.3") X 63mm (2.48")
Weight in Air	1.77kg
Weight in Water	0.42kg
Options	75 Metre or 100 Metre Rope Canister (Longer lengths available upon request)
Deck Unit	Type 7967-000-02 (Includes transducer and 10 metres of cable)

DEFINITIONS

Safe Working Load - The maximum recommended working load. This is set as a quarter (1/4) of the Breaking Load and allows for factors such as corrosion, fatigue, shock loads, harmonic loads, manufacturing defects and material defects.

Release Load - The maximum in-line load that the whole assembly can release whilst guaranteeing safe and reliable operation. Note that as the load is released in water, this is determined by the maximum upthrust from the buoyancy.

Breaking Load - The load that induces structural failure in one or more parts of the instrument causing the load to part from the release mechanism.

Proof Load - The load to which the actual unit has been tested in the factory. This load should be periodically applied to demonstrate that the unit is still in a safe condition. This is usually twice (x 2) the SWL. A Proof Load Certificate can be provided upon request.

Ordering Information

Type 7986-000-01	Lightweight Release Transponder (LRT)
Type 7967-000-02	LRT Surface Control Unit
Type 7986-009	Rope Canister

QUALITY MANAGEMENT CERTIFIED DNV