
Datasheet

Acoustic Switch Transponder (AST)



Description

The Type 7904 Acoustic Switch Transponder (AST) has been designed to provide AUVs and ROVs with an emergency system which can operate independent of all other systems. Reception of a sequence of acoustic commands causes a contact closure within the AST which can be used, for example, to release a weight, causing the vehicle to rise to the surface.

The AST operates in the Low Frequency (LF) band for maximum range and independence from the majority of acoustic navigation systems. The acoustic parameters of the AST are set to allow ranges up to 10,000 metres in suitable environmental conditions.

An acoustic command is sent from a Sonardyne surface system to arm the actuation system. A second, different command must be received within a defined time limit in order for the contact closure to operate. The contact remains closed for 4 seconds and then opens again. This command method has been successfully used for subsea valve operations over many years and provides a high degree of security against accidental actuation.

A further command allows the range of the AST to be determined without actuating the device. This can be useful in guiding the surface vessel over the vehicle both before and after actuation, assisting recovery operations.

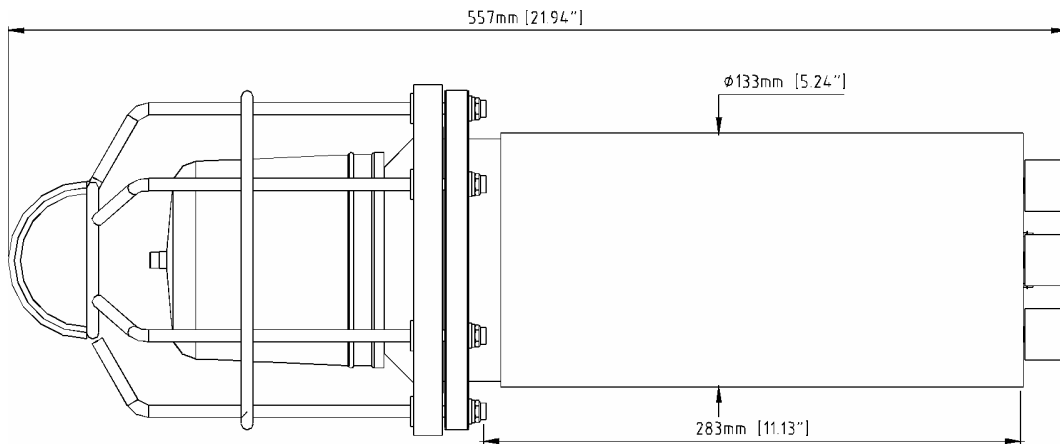
The AST is compatible with LF versions of Sonardyne transceivers such as the PAN, RovNav and LCU (Lightweight Command Unit).

Key features

- High reliability
- Secure command system
- Ranges up to 10,000 Metres
- Contact closure for 4 seconds
- Long listening life

Specifications

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Feature	Type 7904
Depth Rating	3,000 Metres
Operating Frequency	LF (7.5kHz-15kHz)
Transceiver Frequency	13.26kHz
Transceiver Pulse Length	10ms
Transceiver Source Level (re 1µPa @1m)	190dB Alkaline/184dB Lithium
Transceiver Beam Pattern	Hemispherical
Receiver Frequencies	7.5 - 12.5kHz
Receiver Sensivity (re 1µPa)	<95dB
Quiescent Life	9 months Alkaline/ 24 months Lithium
Shelf Life (Battery Disconnected) stored at 25°C	24 months Alkaline/ 84 months Lithium
Mechanical Construction	Hard Anodised Aluminium Alloy
Operating Temperature	-10 to +45°C
Storage Temperature	-30 to +70°C
Weight in Air	12kg
Weight in Water	6kg