

Datasheet

Initiation Transponder 6 (IT 6)



Initiation Transponder 6 (IT 6) has been designed for use with non-electric (NONEL) 3 mm shock tube to enable underwater mine neutralisers to be efficiently, securely and wirelessly initiated from a safe distance.

Based on Sonardyne's field-proven Wideband 2 digital signal technology, which offers a reliable and long-range underwater wireless communications link, IT 6 is as reliable and as secure as traditional methods involving surface RF links and a lot safer than electrical detonation lines.

Applications for IT 6 can be found within offshore energy use and defence in support of both high and low order Explosive Ordnance Disposal (EOD), Unexploded Ordnance (UXO), Mine Counter Measures (MCM) and demolition operations.

Safety and simplicity are key with the IT 6 and it features several fixed and configurable safety features.

A digital hydrostatic switch means the IT 6 cannot be put into an armed state when shallower than the fixed hydrostatic switch depth. If recovered back to deck, IT 6 will also render itself impossible to arm when it goes below the minimum allowed depth.

Configurable off deck delays and seabed timeouts means fixed arming and firing windows can also be set.

The internal circuitry of IT 6 also means that no power is applied to the independent detonation circuitry until the operator chooses to fire/initiate the NONEL output from the IT 6.

IT 6's clear 300 m-rated housing allows an EOD technician to view the unit's three status LEDs to view the current state of the transponder and thus its safety. A magnetic "remove before use" pin gives the IT 6 a long shelf life and can be powered down completely when not in use.

IT 6 is commanded using Sonardyne's Deck Topside and cabled Nano dunker. This has additional safety features such as software lockouts and a simple, easy to follow workflow during which IT 6 status, range and arming/initiating commands can be sent.

Two physical buttons require the operator to hold one button to arm, then simultaneously press the other to initiate. IT 6 can also be tracked with a Sonardyne Ranger 2 USBL systems; however, it can only be configured and initiated using the Deck Topside.

Key features

- MF frequency band utilising Sonardyne Wideband 2 secure communications protocols
- 262,144 Unique Identifier combinations available to arm and initiate
- Rugged, compact, lightweight; can be deployed by diver or ROV
- 300 m depth rated
- Safety time-based lockouts
- Independent circuits for core acoustics and firing circuit
- Status LEDs visible through clear housing
- Hydrostatic switch on independent circuit
- Integrated inclinometer
- Magnetic on/off switch
- Storage mode eliminates power consumption when not in use
- Mounting point for attaching to seabed
- Long battery shelf life when stored

Specifications

Initiation Transponder 6 (IT 6)



Feature	Type 8373
Depth rating	300 m
Operating frequency	MF (23-31 kHz)
Transducer beam shape	Hemispherical
Transmit source level (dB re 1 µPa @1 m)	184 dB
Operating range ¹	>1000 m
Hydrostatic switch	0 m, 2 m and 8 m options available
Subsea status indicators	LEDs and acoustic communication
Shock tube outer diameter accepted	3 mm
Operational battery life (alkaline) ²	>45 days in not ready to arm state >22.5 days in ready to arm state
Storage battery life	>3 years
Repeat firings with firing pin	>10 ³
Mechanical construction	Acetal
Operating temperature	-20 to 55°C
Storage temperature	-20 to 55°C
Maximum dimensions (length x diameter)	357 x 55 mm
Weight in air/water	0.85 kg / 0.10 kg
Export status	Controlled under PL8001.a.3
Standards	UKCA
Options	Part number
Shallow Water Deck Kit, Release + Initiation	602-0203
Mid Water Deck Kit, Release + Initiation	602-0226
Deck Topside Spare, Release + Initiation	620-0717
0 m Hydrostatic Switch	8373-0711-00
2 m Hydrostatic Switch	8373-0711-02
8 m Hydrostatic Switch	8373-0711-08
Hydrostatic Deck Pressure Test Kit	650-0228
IT-6 Buoyancy Flotation Kit	870-0022

¹ In optimal acoustic conditions, range may vary based on noise and reverberation.

² Due to high voltage circuitry, IT 6 transponders must be sent back to Sonardyne for battery change. Estimated battery life pending long term data.

³ Firing pins have been proven to in excess of 30 initiations but are recommended to be replaced after 10.