海卓同创
Hydro-tech Marine

Hydro Tech ES Series Micro Embedded Side Scan Sonar
Product Catalog

Beijing Hydro-Tech Marine Technology CO, LTD

Hydro Tech ES Series Micro Embedded Side Scan Sonar

Hydro Tech ES series SSS is a multi-frequency optional micro embedded side scan sonar product specially designed for underwater unmanned platforms AUV, ROV and underwater gliders and unmanned surface vessel.

The Transducers of Hydro Tech ES series operating frequency is between 100kHz~2000kHz, we provide standard edition and custom-made edition, Single-frequency, dual-frequency and multi-frequency combinations can be achieved to meet different application scenarios. This product uses our adaptive waveform adjustment technology, combined with broadband signal processing and image equalization technology, can clearly image all kinds of underwater small targets and complex structures, and is suitable for various underwater safety and underwater detection integrated applications.

Hydro Tech ES Series Micro Embedded Side Scan Sonar can meet various underwater and surface intelligent platform integration applications, and provide embedded side scan sonar products with a variety of optional requirements.

A picture of the transducer and topside

A picture of the main board

Product Features：

Embedded sonar component to meet integrated applications

Hydro Tech ES Series embedded side scan sonar have the advantage of small size, light weight, Low power consumption, simple structure, easy to use, open source, it can meet the system integration and second development applications of various small AUV, ROV, USV and other unmanned platforms.

Advanced sonar technology to provide high-definition images

The new transducer structure design is combined with the latest adaptive waveform adjustment technology, while fully inheriting our broadband signal processing and software and hardware combined image equalization technology, can provide you a larger range and clearer sonar image under the same size and frequency.

Interface accessories compatible with various applications

Embedded sonar components provide rich interfaces such as Ethernet and RS232, which can realize multi-module combination to form a dual-frequency, multi-frequency side-scan sonar system and multi-sensor data acquisition; at the same time, it provides 8 programmable TTL synchronous control outputs, effectively solving complexities Acoustic compatibility and synchronization control problems in the system to meet various complex system applications.

Applications

Applications with different requirements from small UUVs to large UUVs; Applications from various small USVs to large USVs; High-performance underwater imaging system integration in various engineering inspection applications; Various application that require

high-definition imaging of underwater small targets, underwater complex structures and HD imaging.

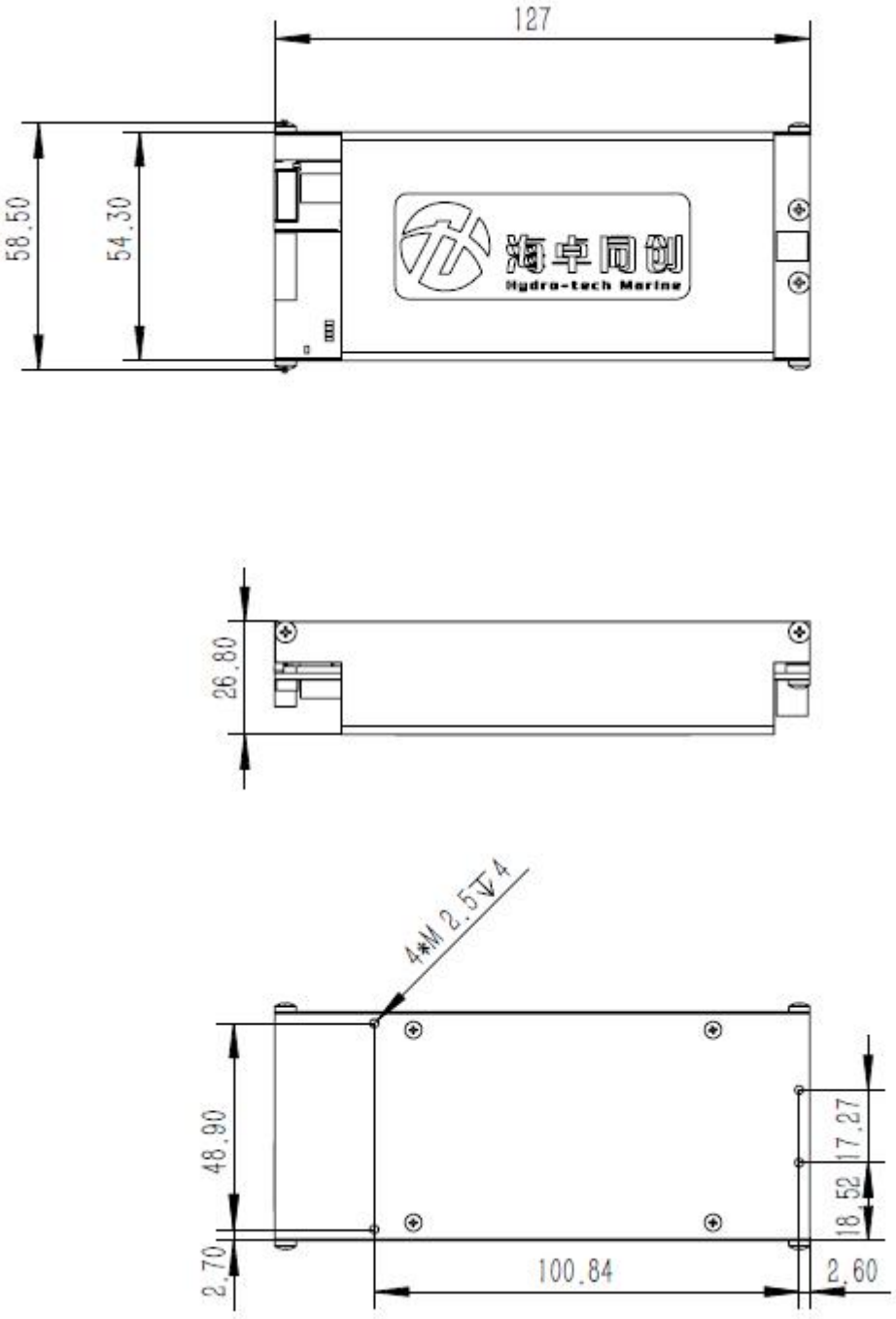
Parameters

Parameters	Details
Working frequency	100kHz~2000kHz Optional Standard transducer frequency: 300kHz/450kHz/600kHz/900kHz Custom-made transduce frequency： 100khz/150kHz/400kHz/1200khz/1800Hz
Maximum slope distance	230m @ 300kHz 150m @450kHz 120m @ 600kHz 75m @900kHz
Horizontal beam width	0.47° @ 300kHz 0.3° @450khz 0.26° @600kHz 0.2° @900kHz Beam width with standard size
Vertical beam width	50°
Resolution along the track	300kHz: 0.41m@50m; 0.82m@100m; 1.23m@150m; 450kHz: 0.26m@50m; 0.39m@75m; 0.52m@100m; 600kHz: 0.09m@20m;

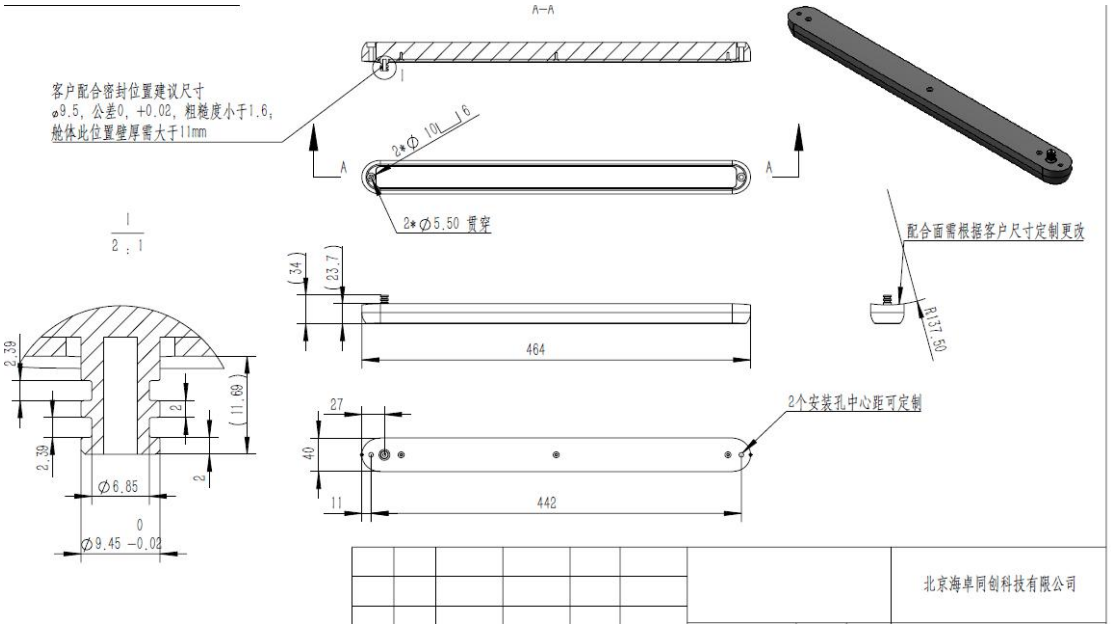
	0.23m@50m; 0.34m@75m; 900kHz: 0.07m@20m; 0.17m@50m; 0.26m@75m;
Vertical track resolution	2cm@300kHz 1.5cm@450kHz 1.25cm@ 600kHz 1cm@900kHz
Signal form	CW/Chirp（Adaptive waveform adjustment）
Optional accessories	Mini data logger, high-power energy storage capacitor
Pressure rate	1000m（Standard）/3000m（Custom-made）
Transducer size	Standard size： 46.4cm×4cm×2.4cm（L×W×H） Transducer size can be custom-made as required
Transducer type	Transceiver split, transceiver combined optional
Transducer weight	~560g（each） （Transducer 320g，Mounting plate 240g）
Topside size	12.7cm×5.8cm×2.7cm（L×W×H）
Topside weight	~300g
Power supply	DC10-36V
Power consumption	10W-15W
Interface	1 channel 100M Ethernet control and data interface 1 isolated RS2323 auxiliary sensor interface 1 TTL synchronous input interface 8-channel TTL synchronous output interface

Software	HydroSonar software and SDK development kit

Physical size

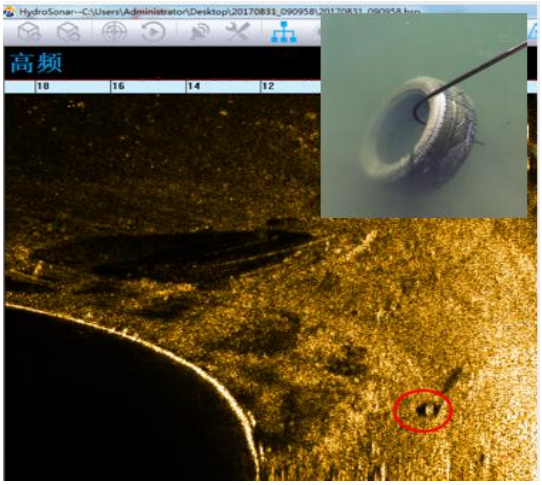


Topside（Unit: mm）

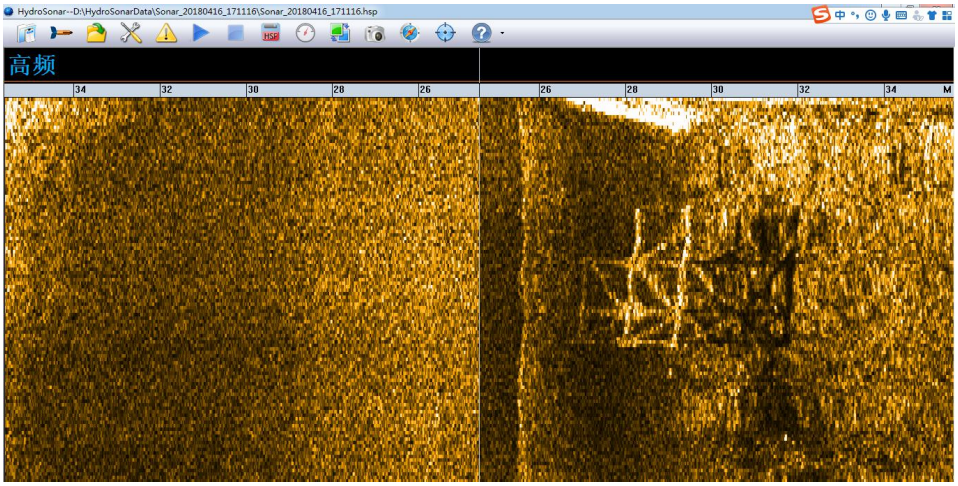


Standard transducer（Unit: mm）

Result



Underwater small target imaging



Underwater complex structure imaging