MiniUAC-850A

Forward-looking Sonar

Overview

MiniUAC-850A Forward-Looking Sonar adopts multi-beam imaging technology to achieve high-resolution imaging of suspended targets or obstacles in front of the sonar.

The product features a compact size, built-in processor, and high level of integration. It is capable of real-time target processing and provides alarm outputs. Both hardware and software are fully independently developed and controllable.

It is an ideal solution for small underwater platforms, and is widely used in underwater robots, unmanned systems, and diver operations.

Technical Specifications

Item	Specification
Frequency	Center frequency: 850kHz; Customizable, dual-frequency supported
Beam Opening Angle	Vertical: 18°, Horizontal: 90°
Maximum Detection Range	≥80m; For -15dB target in favorable hydrological conditions
Range Resolution	2.5cm
Horizontal Center Beam Width	0.7°; Design value
Communication Interface	100M/1000M Adaptive Ethernet
Power Supply/Power Consumption	18-30VDC, typical power consumption 18W
External Synchronization Interface	RS485
Maximum Operating Depth	100m,Customizable
Dimensions	≤135*115*62mm
Weight	≤1.3kg (in air); Neutral buoyancy version for underwater use available
Temperature	Operating: -10℃-50℃, Storage: -20℃-70℃
Software Development	Display and control software or SDK provided, secondary development supported;Fully domesticated version available

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Features

- Multi-beam high-resolution imaging technology
- Compact size with high integration
- Fully domesticated with complete independent controllability

Key Application Scenarios

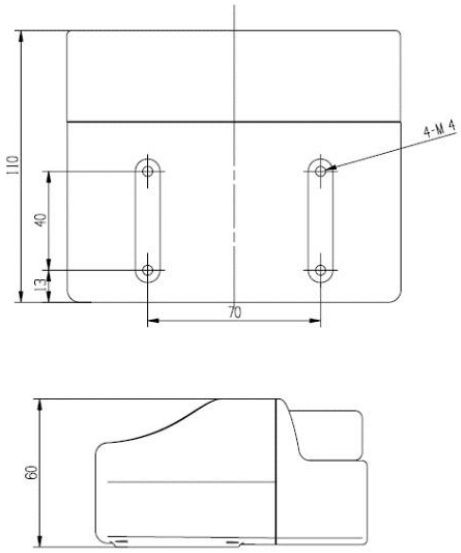
Unmanned Underwater Vehicle (UUV/ROV/AUV) Integration

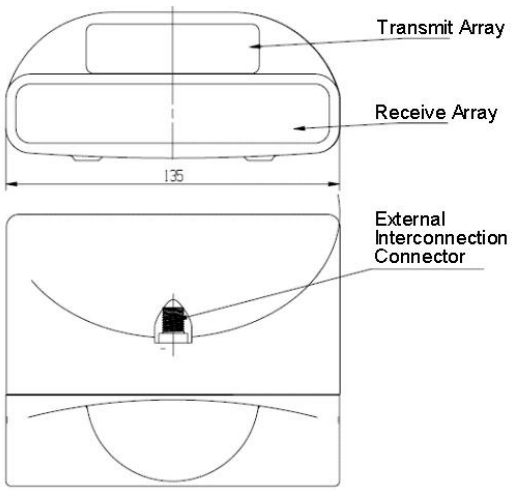
The MiniUAC-850A provides critical support for navigation collision avoidance, target detection, and underwater operations for unmanned platforms such as remotely operated vehicles (ROVs) and autonomous underwater vehicles (AUVs). It directly outputs high-definition image data of obstacles and targets ahead of the platform, ensuring safe navigation and reliable operational support for complex underwater missions.

Diver Operation Support

The MiniUAC-850A Forward-Looking Sonar (Diver Edition) is designed with a compact footprint and neutral buoyancy in water, enabling seamless integration into diver gear. It delivers high-resolution imaging of underwater targets, providing divers with real-time situational awareness and effective operational support for underwater inspection, search, and rescue missions.

Structural Dimensions





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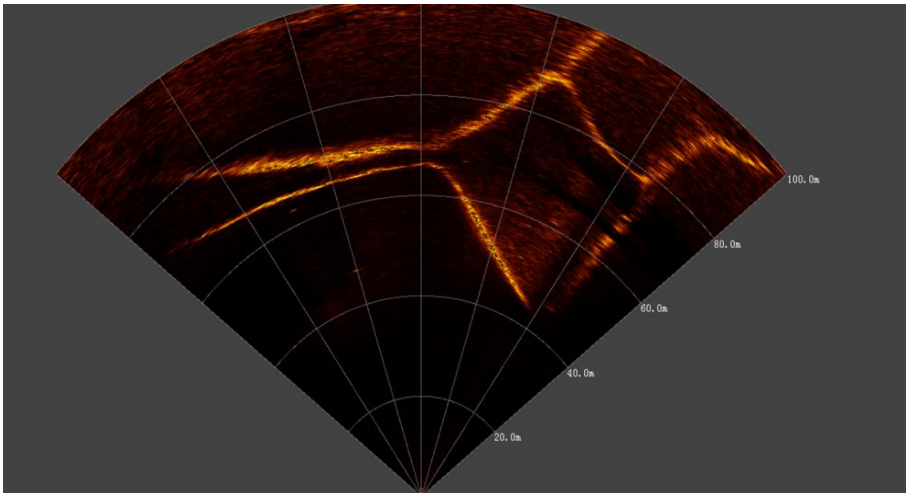
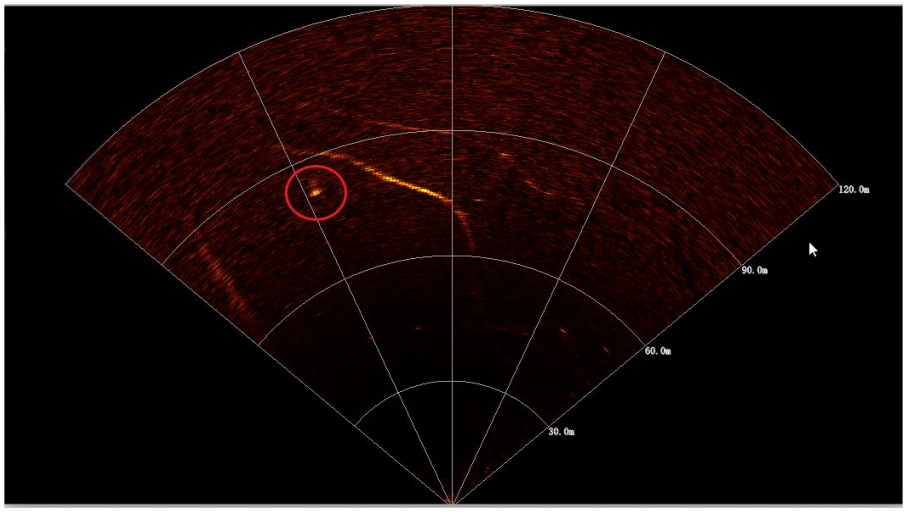
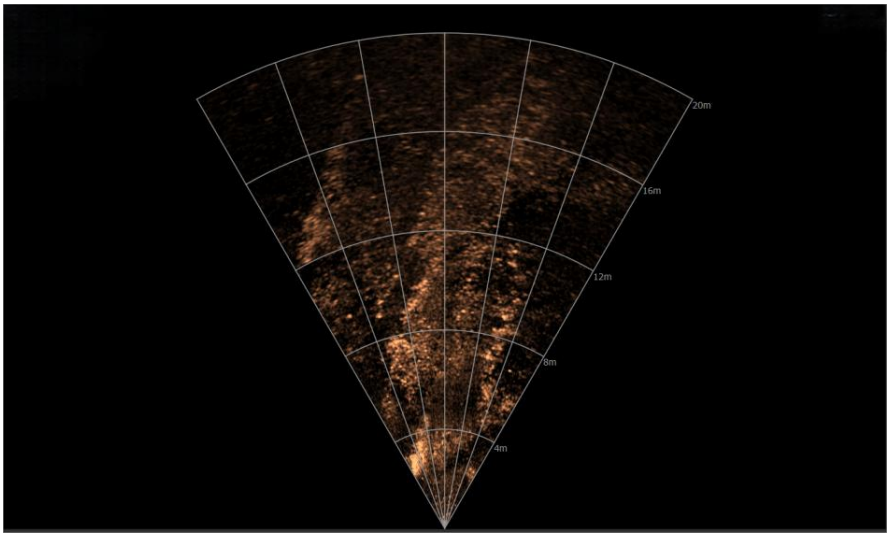
Sonar Imaging Examples



Reservoir Topography Imaging



Small sphere target imaging (-22.5dB target strength)



1.2MHz High-Frequency Imaging (Dual-frequency Model)

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