MiniUAC-1206

2D Forward-looking Multibeam Imaging Sonar

Overview

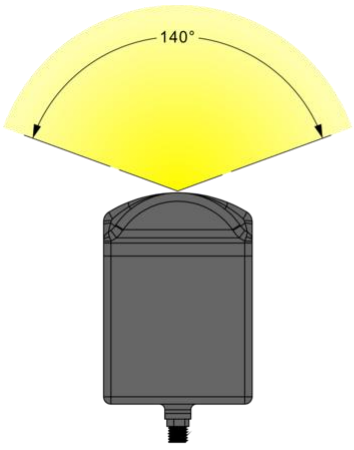
The **MiniUAC-1206 series micro forward-looking sonar** is a **2D forward-looking multibeam imaging sonar** capable of providing forward acoustic vision in both clear and turbid water environments. It enables **target detection and identification, obstacle avoidance, and hazard detection**. Key characteristics include **compact size, light weight, and low power consumption**.

Compared with similar products available both domestically and internationally, this product delivers **high performance at a highly competitive price**, while offering **more frequency options, smaller dimensions, and lower power consumption**. In addition, most configurations are **available from stock for long-term supply**. For non-stock configurations, the typical delivery time is **within one month**.

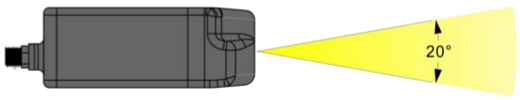
The **MiniUAC-1206E**, currently on sale, is the latest version in the MiniUAC-1206 series. It supports multiple frequency bands, including **700 kHz, 750 kHz, 1.1 MHz, 1.2 MHz, and 1.8 MHz**. Other frequencies can be customized upon request. The sonar adopts a **dual-frequency design**, and the two operating frequencies can be **switched via software**.

The standard models support maximum operating depths of **300 m** and **1.5 km**. For deeper operating depths, please contact us.

Detection Opening Angle Schematic



Horizontal Field of View (FOV) Illustration (140° FOV only)



Vertical Angle of View (AOV) Illustration (20° AOV only)

Website: https: //china-sonar.com/
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Technical Specifications

Specification	E0900	E700C Obstacle Avoidance	E0712★	E1218
Operating Frequency	900 kHz	700kHz	750 kHz/1.2 MHz	1.2 MHz/1.8 MHz
Horizontal Center Beamwidth (1)	1.2°	1.5°	1.4° / 0.92°	0.92° / 0.65°
Min Horizontal FOV (2)	140°	140°	140°	140° / 70°
Min Vertical FOV (2)	20°	9°	20°	20°/12°
Max Detection Range(3)	80 m	110m	100 m / 60 m	55m/20m
Range Resolution	2.5 mm			
Refresh Rate	Up to 40 Hz (Dependent on range setting and operating mode)			
Number of Beams	256 (512 or 768 available upon request)			
Transmit Signal	CW or CHIRP, automatic or manual selection			
Max Operating Depth	300 m / 500 m / 1.5 km(to be specified when ordering)			
Max Operating Speed	6 kn (Operation above this speed is possible but may reduce detection range)			
Working Blind Zone	≤ 0.3 m			
Obstacle Avoidance Mode (-OAS option)	Outputs bearing and range of the 10 strongest detected targets			
Power Consumption	18 – 50 VDC; Average ~9 W, Peak < 20 W			
Communication Interfaces	1 × 100 Mbps Ethernet; 1 × Synchronization interface (optional)			
Dimensions (WHD)	300 m version: 80(±1)× 43 (±1) × 116 (±3) mm; 1.5 km version: 86 (±1) × 49 (±1) × 122 (±5)mm; Excluding connector and cable			
Weight (air / water)	300 m version: ~ 630 g / 280 g; 1.5 km version: ~1.1 kg / 710 g			
Housing Material	Aluminum alloy (300 m version), Titanium alloy (1.5 km version); Anodized finish (300 m version), Natural metal finish (1.5 km version)			

Notes:

(1) Horizontal −3 dB beamwidth measured at a point target located at the center of the sonar's horizontal and vertical field of view. A tolerance of +10% / −30% is allowed.

(2) Field of view (FOV). Large targets within this angular range can be detected; however, resolution, image clarity, and detection range near the edges may be lower than those at the center.

(3) Detection range measured in seawater under favorable environmental conditions against high-reflectivity targets such as embankments and bridge piers. Under similar conditions in freshwater, the maximum detection range is typically 1–2 times greater than in seawater.

★ Preferred frequency, typically available from stock.

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Environmental and Usage Notes

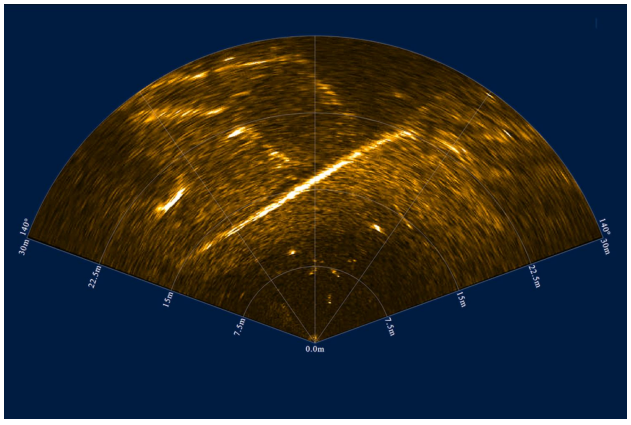
The aluminum alloy housing adopts a hard anodized surface treatment, which can withstand short-term immersion in seawater. If the coating is damaged, contact with seawater may cause corrosion. In such cases, factory recoating or housing replacement is recommended.

Titanium alloy housings are not subject to corrosion. However, seawater may slowly penetrate the sonar sealing compound and cause irreversible damage. Therefore:

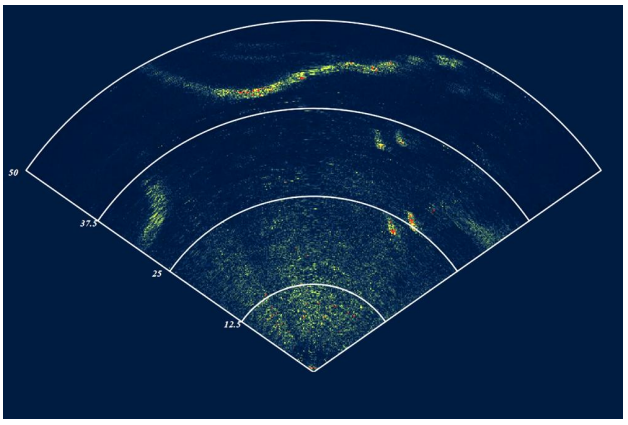
- Continuous immersion in freshwater shall not exceed 168 hours
- Continuous immersion in seawater shall not exceed 48 hours

For applications requiring long-term underwater operation, please specify this requirement when ordering. Special materials and manufacturing processes will be applied.

Imaging Examples

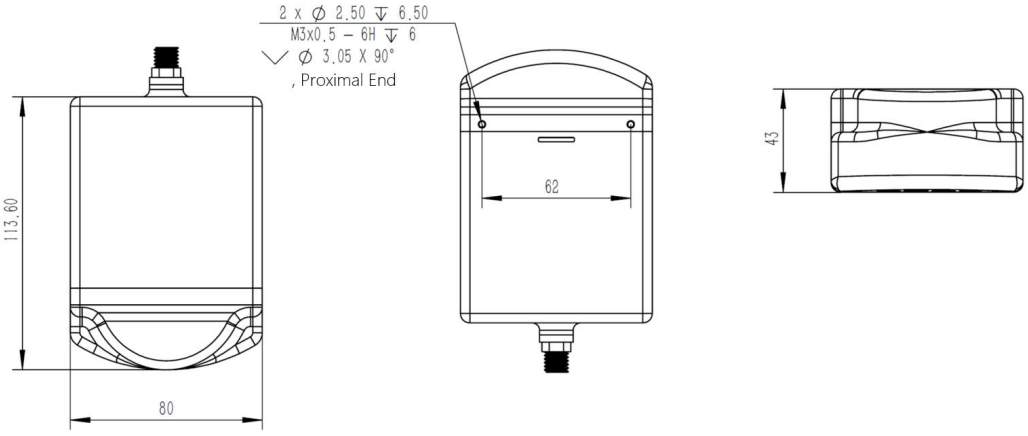


Underwater Topography and Objects
(1.2 MHz, 30 m Range)



Ponds, Bridge Piers and River Banks
(750 kHz, 50 m Range)

Structural Dimensions



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