

MiniUAC-1210

Ultra-high-frequency Forward-looking Sonar

Overview

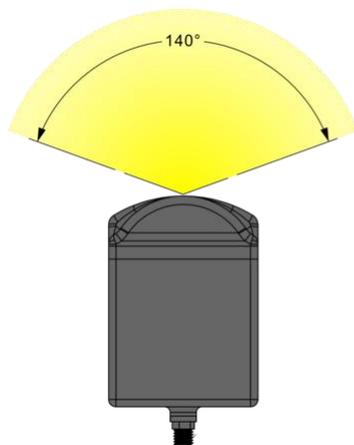


The **MiniUAC-1210 ultra-high-frequency forward-looking sonar** is currently the **highest-frequency sonar** in our product line. The **ultra-high operating frequency** delivers significantly enhanced resolution, achieving **detection performance close to optical imaging**. This product is dedicated to **short-range, high-accuracy imaging tasks**, including **close-range target detection and inspection**, and can partially replace **optical imaging in turbid water conditions**.

The currently marketed **MiniUAC-1210B** is the **latest version** in the **MiniUAC-1210 series**. Compared with the previous version, this upgrade improves the **signal-to-noise ratio**, increases the **refresh rate**, and extends the **detection range**. Other specifications and mechanical characteristics remain essentially unchanged.

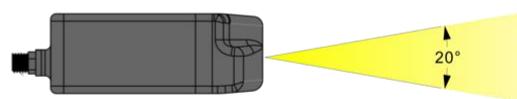
The **MiniUAC-1210B** operates at two frequencies: **1.8 MHz** and **3 MHz**. Other frequencies can also be **customized**.

Detection Opening Angle Schematic



Horizontal Field of View (FOV) Illustration (140°

FOV only)



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

only)

Technical Specifications

Specification	B1830
Operating Frequency	1.8 MHz/3 MHz
Horizontal Center Beamwidth	0.6°/0.35°
Horizontal field of view	80°/50°
Vertical field of view	≥20°/ ≥15°
Max Detection Range	≥30 m/≥9 m
Range Resolution	2.5 mm
Refresh Rate (range-dependent)	Up to 30 Hz (dependent on range and operating mode)
Number of Beams	512
Transmit Signal	CW or CHIRP, automatic or manual selection
Max Operating Depth	300 m, greater depths available by customization;
Max Operating Speed	6 kn (operation above this speed has no impact on functionality but may reduce detection range)
Working Blind Zone	≤ 0.1 m
Input voltage	18 ~ 50 VDC;
Power Consumption	Average power approx. 10 W, peak power less than 30 W;
Communication Interfaces	1 × 100 Mbps Ethernet port
Dimensions (WHD)	120(±1) × 34(±1) × 111(±3) mm
Weight (air / water)	~ 700 g / 250 g
Housing Material	Aluminum alloy (Surface treatment: anodized), titanium alloy optional;

Environmental and Usage Notes

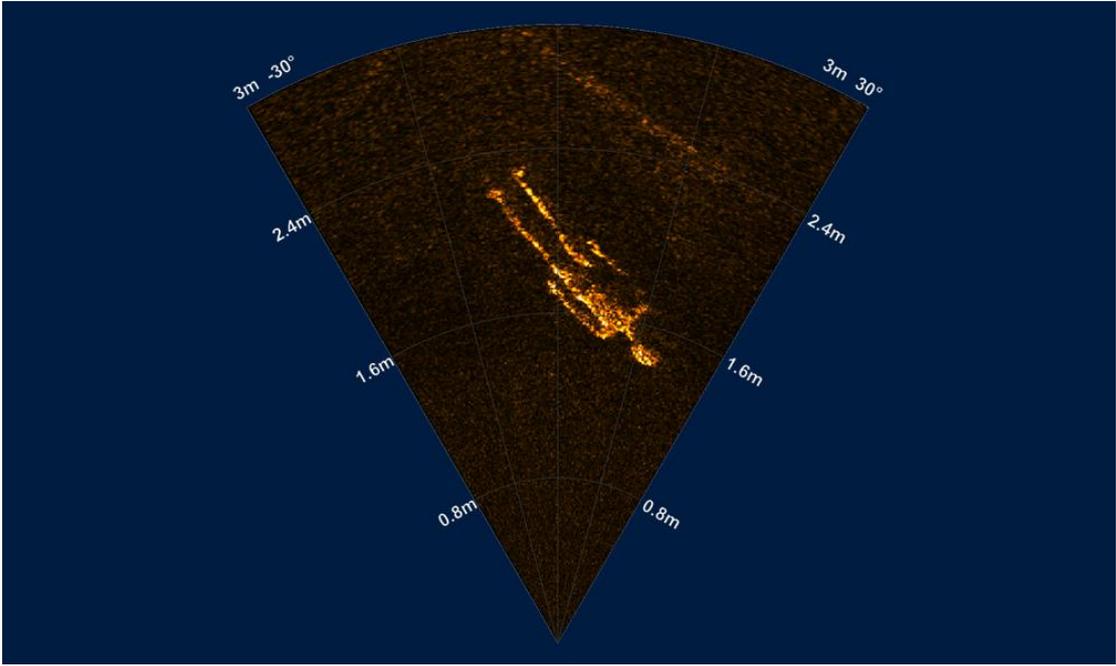
The aluminum alloy housing adopts a hard anodized surface treatment, which can withstand short-term immersion in seawater. If the coating is damaged, contact with seawater may cause corrosion. In such cases, factory recoating or housing replacement is recommended.

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



MiniUAC-1210B Acoustic Dummy Model (1.8 MHz, 3m Range)

Structural Dimensions

