

UAC-FLS2040

High Precision Dual-Frequency Forward Looking Sonar

Shallow & Turbid Water Ready

200m Ultra-Range, Full Coverage Scan

200kHz / 400kHz Imaging Sonar for ROV, AUV & USV



Overview

MiniUAC-FLS2040 is a broadband high-definition real-time forward-looking target search sonar specially designed for surface and underwater platforms. It delivers centimeter-level high imaging resolution with a 180° panoramic field of view, offering maximum coverage for underwater exploration.

Equipped with state-of-the-art digital broadband image processing and broadband noise reduction technology, it maintains high-quality imaging under low-visibility conditions to perform underwater target detection, collision avoidance and obstacle survey. Featuring compact size, light weight and high integration, it is ideal for platforms with limited installation space. Typical applications include underwater target search, port security and marine construction.

Detailed Features

- **Operating center frequency**
Dual-Frequency Switching 200kHz / 400kHz.
- **Max Detection Range ≥200m**
Max detection distance ≥200m, subject to target strength & hydrological conditions
- **Panoramic Field of View**
Max horizontal angle 180°, maximum scanning coverage for underwater survey
- **Centimeter Level Resolution**
High definition imaging in low visibility, detect small weak underwater targets precisely
- **Advanced Image Processing**
Digital broadband imaging & broadband noise reduction technology

Applications

- Small Underwater Target Detection: reef, diver, fishing net detection
- Obstacle Avoidance: surface vessel, underwater vehicle, unmanned platform navigation
- Port Security: underwater perimeter monitoring
- Subsea Pipeline Inspection
- Underwater Structure Inspection: dam, pile & substructure survey
- Ocean Engineering & Subsea Survey

Technical Specifications

Item	Specification
Operating Frequency	200 kHz / 400 kHz
Signal Bandwidth	±40 kHz, continuously adjustable from 0~80 kHz
Pulse Mode	CW Continuous Wave / CHIRP Frequency Modulated Wave
Typical Detection Range	≥200 m (subject to target strength, seawater hydrology and seabed sediment)
Near-field Blind Zone	≤1 m
Field of View	Horizontal 180° (Panoramic); Vertical 20° /10° Adjustable
Number of Beams	256 Beams
Range Resolution	≤1 cm
Imaging Refresh Rate	≥4 Hz
Maximum Rated Depth	300 m
Pressure Housing Material	316 Stainless Steel / TC4 Titanium Alloy
Weight (in Air)	≤8 kg(Titanium Alloy Version); ≤12 kg(Stainless Steel Version)
Dimension	W240 × D206 × H147 mm
Recommended Operating Speed	6 knots, max 10 knots
Input Power	DC 18V ~ 36V
Power Consumption	Average ≤100W, Peak ≤150W
Communication Interface	100 Mbps Ethernet, RS422/485 Synchronous Interface
Watertight Connector	10-pin watertight connector, network sync signal & power transmission

Imaging Image

