



Alpha ES50

Water Single Beam Echo Sounder

The Alpha ES50 enables real-time monitoring of water depth, battery level, and data acquisition status. It supports GPS positioning signal input with synchronized data collection time aligned to the GPS clock. Equipped with a built-in memory card for easy data transfer.

It offers a measuring range of 0.2–50 meters with minimal blind zones. Accuracy complies with marine survey standards: $\leq 2\%$ of the measured range (meets Section 4.8 of the Marine Survey Specifications Part 2: Hydrographic Observations for water depth accuracy of $\pm 2\%$).

Application Scenarios



Cableway/Unmanned Surface Vessel (USV) bathymetry



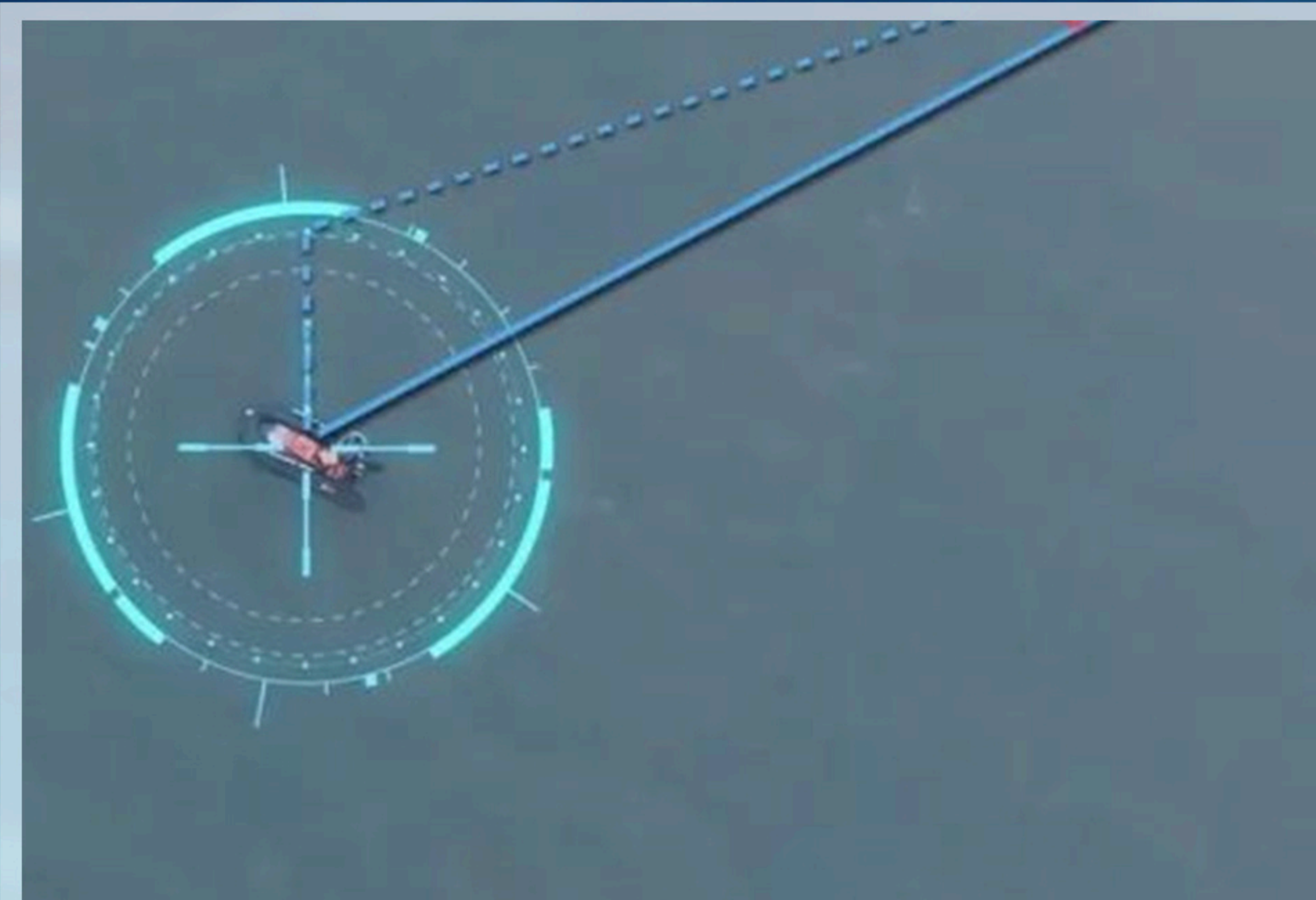
Underwater position/distance detection



Tank liquid level monitoring



Buoy/platform surveillance



ROV/AUV obstacle avoidance and collision detection



Submerged gate status monitoring

Technical Specifications



Alpha ES50 Single Beam Echo Sounder

- Waterproof design with durable aluminum alloy casing.
- Compact and portable for field operations or fixed installations.
- Built-in rechargeable battery.



Sounder

Alpha ES50 Shallow-water Single Beam Echo Sounder	
Operating Frequency	200 kHz
Beam Angle	5.7°
Resolution	1 cm
Depth Range	0.2–50 m
Depth Accuracy	±0.5% × D (D = measured depth)
Data Output Protocol	\$SDDBT standard protocol
Data Interface	RS232
Power Supply	DC 10.8–26.4 V
Battery Working Time	8h
Operating Temperature	-30°C to +60°C
Dimensions	99 × Φ80 mm
Weight	1 kg
Safety Features	Overload/short-circuit protection