

Specifications

Sonar Specifications

Operating Frequency	150 ~ 450kHz 500k,600k,700kHz
Number of Beam	512
Cross Track Beamwidth	0.6°@700kHz(Optional) 1°@400kHz/2°@200kHz
Along Track Beamwidth	0.6°@700kHz(Optional) 1°@400kHz/2°@200kHz
Swath Coverage	143°
Depth Range	0.2 ~ 400m+*
Depth Resolution	0.75cm
Max Ping Rate	60Hz
Sounding Mode	Equiangular / Equidistant
Signal Type	CW/Chirp
Pulse Width	30us ~ 8ms
Depth Rating	50m

Key Features

Near-Field Focus	Supported
Bottom Tracking	Supported
Water Column Imaging	Supported
Real-time Roll Stabilization	Supported
Muddy Water Bathymetry	Supported

INS/GNSS Specifications

Model	POS-15	POS-25
Heading Accuracy	0.015°,4 mBaseline	0.06°,4 mBaseline
	0.03°,2 mBaseline	0.008°,2 mBaseline
Pitch/Roll Accuracy	0.02°(RTK)	0.03°(RTK)
	0.015°(PPK)	0.025°(PPK)
Heave Accuracy	5cm,5%Real time,2cm,2%(TrueHeave)	
Horizontal Position	±8mm+1ppm(RTK,PPK),10cm(Satellite station differential,PPP),0 . 5~2m(DGPS)	
Auxiliary Position Data	1. Qianxun RTK,CORS Support 2. PPK PP-RTX Supported	

*Above Specifications are related to Survey Environment

Mechanical Specifications

Sonar Dimension	410 × 240× 120mm
Sonar Weight	10.5KG
Topside Dimension	200 × 145 × 76.5mm
Topside Weight	1.9kg
Operating Tempature	-2 ~ 40 ℃
Storage Temperature	-20 ℃ ~ 55 ℃
Power Supply	DC 10 ~ 32V/AC 110 ~ 240V
Consumption	60W~90W
Cable Length	8m(Optional 15m/30m)

Software Options

Acquisition	HydroSurvey2024
Third Party Post Processing	Hypack, Qimera, EIVA, BeamworX
	Hypack, Qinsy
Third Party Acquisition	EIVA, BeamworX
	Caris

Hardware Options

SVS	Built-in SVS1500M
SVP	Optional SVP1500
INS	OptionalPOS15, POS25
GNSS	Built-in POS INSTRimble GNSS



◀ Learn More

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Features 700kHz Ultra High Operating Frequency

MS400PW

Wideband Multi-frequency Multibeam Echo Sounder



Beijing Hydro-Tech Marine Technology Co.,Ltd.

MS400PW

Wideband Multi-frequency Multibeam Echo Sounder

The MS400PW is a high-performance multibeam echo sounding system offering major improvements in survey efficiency, accuracy, and resolution. It supports continuous frequency tuning from 150 to 450 kHz with dedicated 500 kHz, 600 kHz, and 700 kHz ultra-high-frequency modes for fine-detail shallow-water imaging. Designed as an integrated hardware-software solution, MS400PW is optimized for high-resolution channel surveys, coastal and inland water mapping, engineering inspection, and environmental monitoring. With real-time 3D imaging and true WYSIWYG visualization, it delivers precise, reliable results for shallow-water and near-shore applications.



Features



Selectable Frequency

150-450kHz frequency agility. 500, 600, and 700kHz three high frequency modes for fine-scale features survey such as sand waves, reefs, aquaculture cage foundation, etc.



Automated Parameters

Automatic control of

- Power and gain
- Dynamic range expansion
- Spread loss
- Absorption loss
- Pulse width
- Gate and range.



Dual Sonar head Survey Option

Supports a V-shaped layout configuration with two sonar head, improved angular resolution of the edge beam angles and increased effective coverage in shallow water applications.



Multi-applications

- Seabed Mapping
- Channel Dredging Monitoring
- Quay walls, breakwaters Inspection
- Engineering Site Investigation
- Off-shore windfarm Survey
- Ecological and geomorphic feature research

Applications



Shallow-water seabed mapping



Near-shore channel dredging monitoring

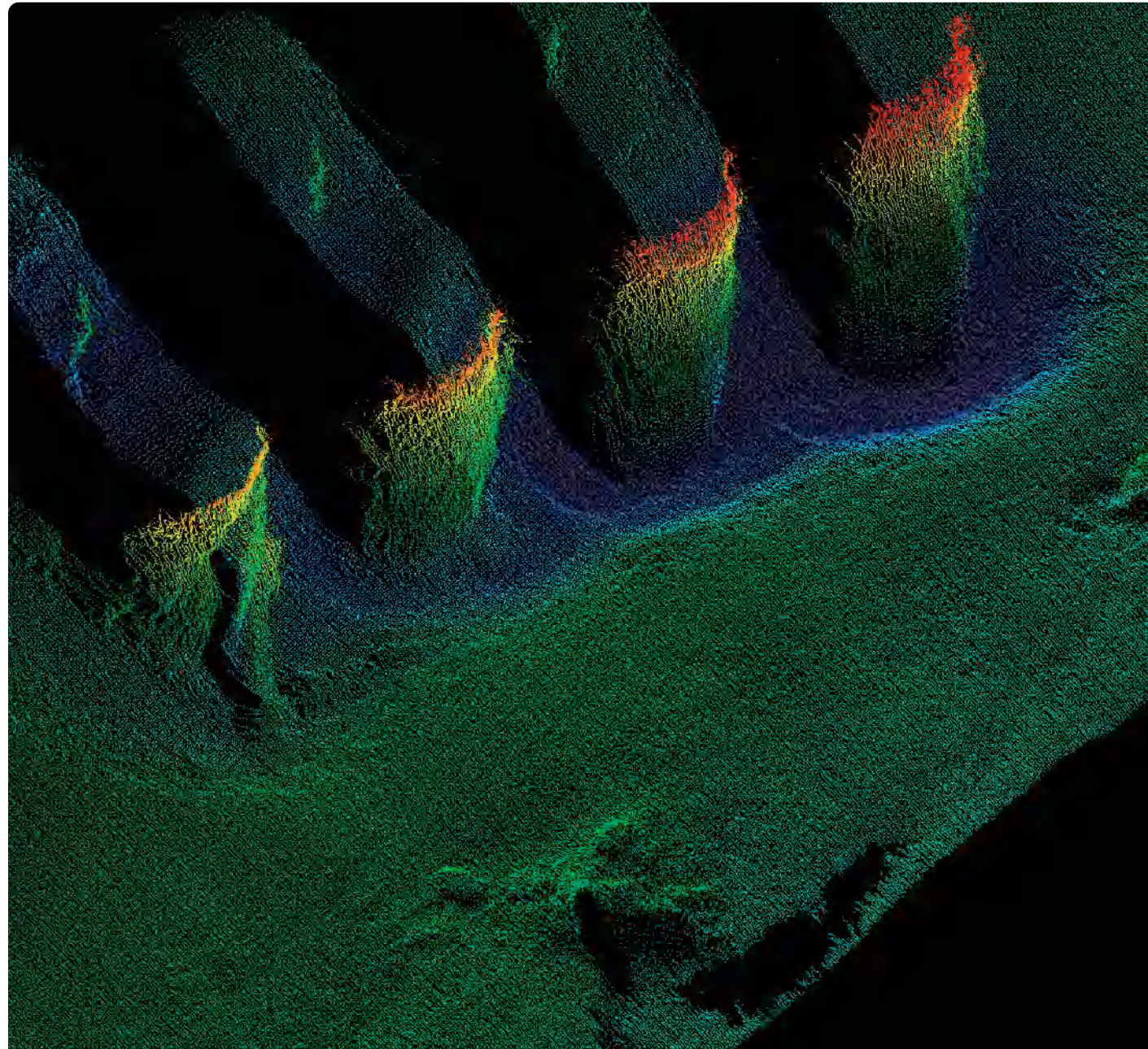


Quay wall and breakwater inspection



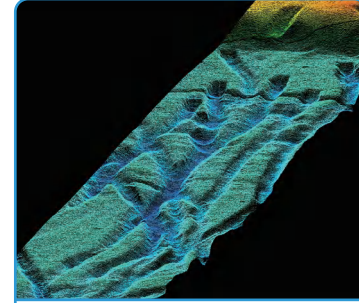
Coastal and offshore construction site surveys

Case Studies

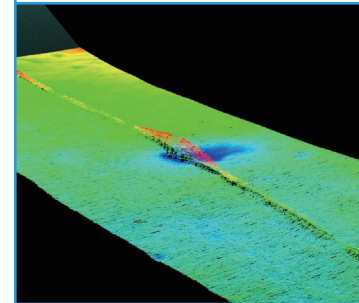


Dock Wall Scouring Condition Check

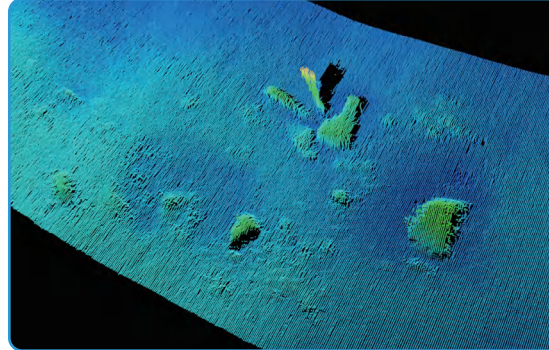
Case Studies



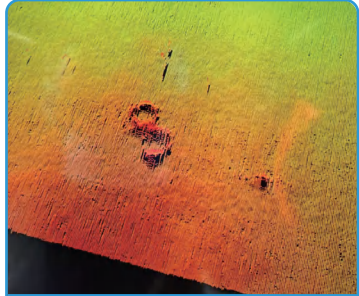
Dredge Survey



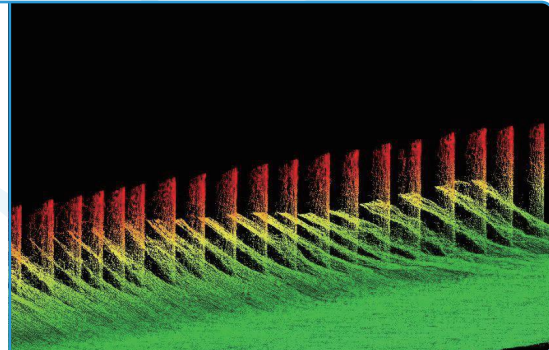
Cable Route Tracking Monitoring



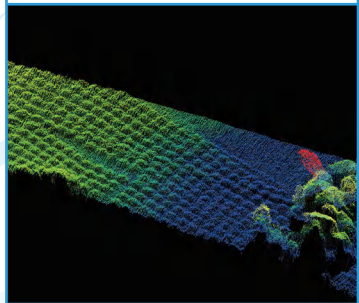
Large-Area Seabed Objects Survey



Fallen Object Detection



Underwater Vertical Structure Survey



Underwater Paving Condition Survey