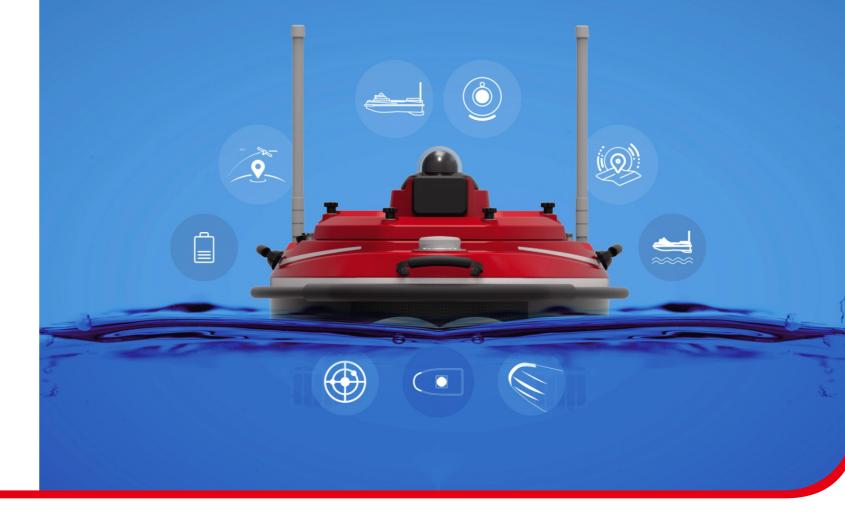
#### **Positioning and sounding**

Positioning	Antenna	High-precision positioning and orientation GNSS dual antennas built into the hull, supporting CORS and radio mode	
	Radio Protocol	SOUTH, TRIMTALK4505, TRIMMARKI, TRANSEOT, HI-TARGET, CHC, SATEL	
	Satellite System	Supports BDS-3 global signals, BDS-2, GPS, GLONASS, Galileo, IRNSS, QZ55, SBAS. Supports L-Band and BD accuracy (single Beidou version is optional)	
	Number Of Channels	1598	
	Cold Start	<30s	
	Loss-of-lock Recapture	<1s	
	Rtk Initialization Time	<5s	
	Speed Measurement Accuracy	0.02m/s	
	Standard Single-point Accuracy	H ≤ 1.5m, V ≤ 2.5m	
	Ppp Beidou Accuracy (optional)	Better than 10CM	
	Rtk Accuracy	H: ± (8+10 <sup>-6</sup> ×D) mm, where D is the baseline length (unit: km)	
		V: $\pm$ (15+10 <sup>-6</sup> ×D) mm, where D is the baseline length (unit: km)	
	Orientation Accuracy	0.15°@1m baseline	
	Inertial Navigation Accuracy	<ol> <li>Supports integrated navigation and 1PPS.</li> <li>Attitude accuracy is 0.25°.</li> <li>6°/h (accuracy decays by 1m in 20s).</li> <li>Maximum IMU update rate is 200Hz</li> </ol>	
Depth Sounding	Standard Depth Sounder	Operating frequency 200kHz: Beam angle 5°	
		Depth sounding range: 0.15 ~ 100m	
		Depth sounding accuracy: $\pm 1$ cm $\pm 0.1$ %D (D is the water depth value)	
	Optional Depth Sounder	Operating frequency: High frequency $\ge$ 200kHz; Low frequency $\le$ 20kHz	
		Beam angle: High frequency ≤5°, Low frequency ≤20°	
		Depth sounding range: High frequency: 0.15 ~ 300m, Low frequency: 0.5 ~ 600m	
	Sound Velocity Adjustment	Range: <b>0 ~ 2000m/s</b>	
	Depth Sounding	Data types: South format, original waveform, etc.	

Note: all information above is subject to change without any prior notice.



## Explore The New Realm **Of Intelligent Applications**





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## **AQUA M20 Pro**



(V. 2025MAR)

## M20 Pro USV

# Explore The New Realm Of Intelligent Applications

The new - generation intelligent unmanned vessel of South Surveying & Mapping - M20 Pro has achieved a comprehensive upgrade from the hull hardware to the operating software. The M20 Pro unmanned vessel uses a new - generation carbon fiber composite material, combined with an innovative diversion design, to achieve weight reduction and speed increase. The replaceable anti - collision strip and detachable flank design improve the durability and the hull's ability to resist wind and waves. The introduction of a new propeller provides it with strong power and higher efficiency. The cabin design is further optimized. By modifying the moon pool structure, it has a larger capacity and its functions are more suitable for diverse mission load requirements.



## **Brand - New Hull Design**

**Diversion And Anti - Interference, Weight Reduction** And Anti - Collision, Double The Protection





Beidou Positioning



Intelligent Obstacle Avoidance



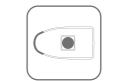
**Smart Navigation** 



360° Omnidirectional Video



Anti - sinking and Anti - collision,



Enlarged Moon Pool

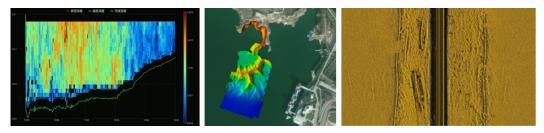


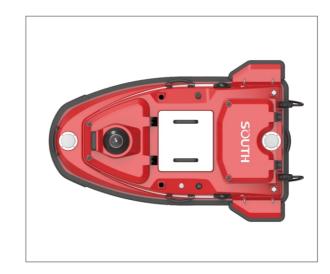
New Propeller

Long - lasting Battery

## **Industry Applications**

Hydrological surveying, topographic surveying, underwater target detection, etc.











### More Powerful - Propeller Power Upgrade **Higher Power, Greater Thrust;** Three - Layer Waterproof Design For A Longer Service Life.

The power of a single motor can reach 1100W. The maximum navigation speed is 7m/s, and it can resist a flow velocity of 3m/s.

## **Brand -** New Data Link

#### **Signal Enhancement And Stable Transmission**

It adopts a new - generation data link to comprehensively improve the communication bandwidth and signal strength, and can ensure stable transmission regardless of complex environments.

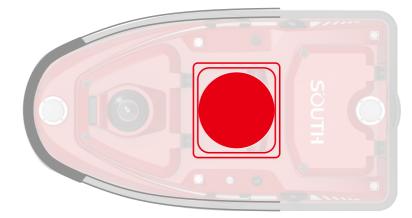


# Larger - Modification and capacity expansion of the moon pool

Larger Capacity, More Compatibility, And A More Suitable Shape.

It is standard - equipped with a high - precision depth sounder, compatible with all Southern hydrological measurement instruments and can also carry mainstream measurement instruments on the market. It fits complex - shaped instruments such as moving ADCP, small multi - beam echo sounders, and sub - bottom profilers.





monitor

detector/silt detector



## More Comfortable - Screen Display Upgrade

Larger Screen, Longer Battery Life, And Smoother Operation.

2000 - nit industrial - grade sunlight - visible screen.

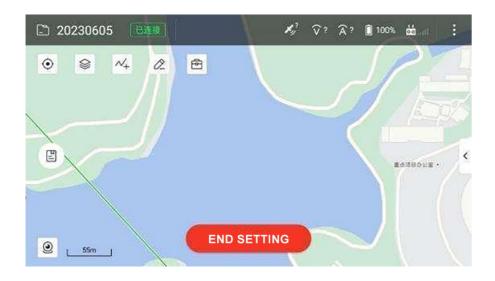
The large screen can adapt to complex light environments such as strong light and cloudy days, providing a comfortable visual experience and convenient operation.



### More Intelligent - Software Upgrade

#### **Richer Functions, More Efficient Operation, And Smarter Tasks.**

The integrated software for ship control and measurement has been further optimized. The navigation status is clear at a glance, the task progress is accurately calculated, and the operations are more intelligent and efficient. It is perfectly compatible with multi - beam echo sounders and underway ADCP (Acoustic Doppler Current Profiler) flow measurement operations.



#### **Hull parameter**

•		
	Hull Size	1180mm*630mm*
	Hull Material	Nano carbon fiber
	Hull Shape	M-shaped diversion
	Hull Self-weight	10.8kg
	Hull Load Capacity	42kg
	Waterproof And Dustproof	IP67
	Moonshine Aperture	24cm
	Wind And Wave Resistance Level	Level 3 wind, Leve
Hull	Carriable Equipment	Built-in depth sou monitoring, samp
	Safety Protection Design	<ol> <li>Intelligent self-c</li> <li>Equipped with r</li> <li>Digital power di</li> <li>Shallow water r</li> <li>Sa0° high-defini</li> <li>Double indicato</li> <li>Motor embedde</li> <li>Millimeter-wave</li> <li>O.2 ~ 40m, Pitch simultaneously)</li> <li>Detachable side</li> </ol>
	Power Mode	Electric drive
	Battery Specification	33V/50Ah battery
	Steering Mode	Steering by differe
Power	Installation Mode	Modular plug-in d
	Motor Power	Single motor 1100
	Maximum Boat Speed	7m/s (Adapts to a
	Endurance Time	6h@2m/s
	Sim Card	Supports Nano ca
	Communication	4G , bridge, 2.4GH
	Communication Distance	Intelligent remote
Communication	Main Control Design	Integrated main co
	Data Storage	Multi-channel stor
	Main Control Waterproof	IP67
	Remote Control	10.1-inch high-de collect data, view
Software	Control And Acquisition Software	<ol> <li>Supports measu task progress sta</li> <li>Supports real-tir waveforms, and</li> <li>Can realize mult</li> <li>Can set automat and can set the</li> <li>Can automatical</li> <li>Can set different</li> </ol>
	Data Post-processing Software	<ol> <li>Supports data p correction, tide and coordinate</li> <li>Can re - sample</li> <li>Allows users to depths in differe</li> <li>Has undo and r</li> <li>Supports PPK p</li> </ol>

#### \*430mm (Length \* Width \* Height),

#### er, Kevlar high-strength composite material

#### ion design

#### vel 2 wave

under, can carry mainstream domestic and foreign ADCP/water quality pling equipment/shallow profiler/side scan sonar/multi-beam

#### -check.

replaceable anti-collision strips, double-hull anti-sinking design. display on the hull, supports temperature and humidity detection. reminder and automatic reverse driving away.

nition infrared night vision camera.

for lights show the hull operation status and positioning signal status. ed ducted installation design and equipped with waterproof grass cover. ve radar for autonomous obstacle avoidance (Obstacle avoidance distance th \* Azimuth 14°\*112°, supports detecting and tracking up to 128 targets y).

le wings to improve wind and wave resistance.

ry, portable design,, with power display

rential speed without steering gear, can reverse

design, easy to disassemble and replace, waterproof grass

#### W00

a maximum flow velocity of 3m/s)

#### ard

Hz radio station

e control 2.5 kilometers,

control integrated design

brage, can be stored in the remote control and boat end

lefinition display, supports different storage spaces, can control the hull, v videos, and switch working modes

urement task planning, autonomous navigation, hull operation control, tatistics, coordinate system input.

ime viewing of the hull navigation trajectory, depth measurement data, d videos from multiple angles.

lti-channel data storage: local storage, hull storage, server storage.

atic return when the battery is low, automatic return when disconnected, e return point.

ally hover and adapt to the flow velocity change according to the survey line. In measurement modes according to the carried equipment.

playback, waveform and water depth data overlay, water depth data e gauge data correction, data delay correction, attitude correction, e parameter conversion.

le the collected data according to time and distance.

o customize the output format of the result data and can display different rent colors.

redo functions.

post - processing calculation.