

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.



Beidou Positioning



Smart Navigation



Anti - sinking and Anti - collision,



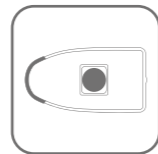
New Propeller



Intelligent Obstacle Avoidance



360° Omnidirectional Video



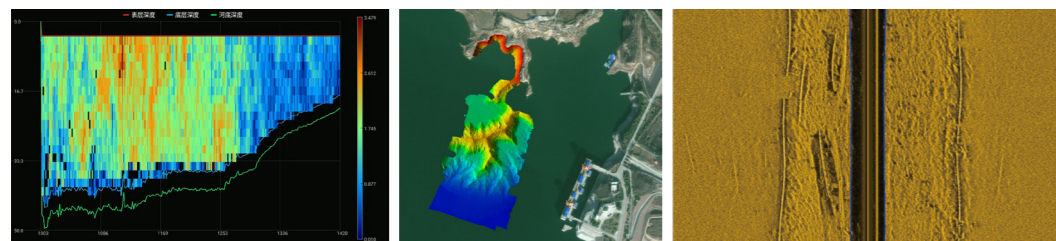
Enlarged Moon Pool



Long - lasting Battery

Industry Applications

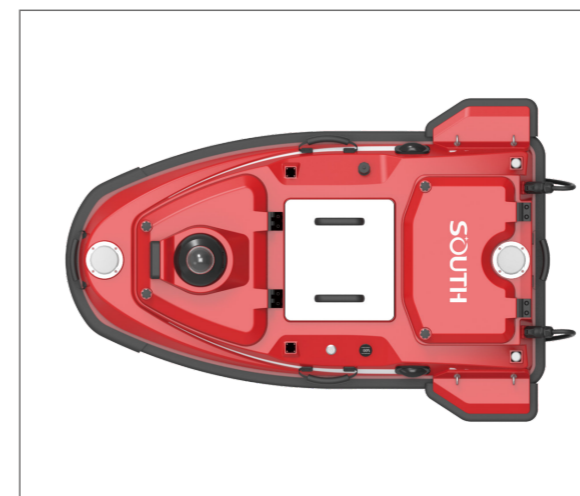
Hydrological surveying, topographic surveying, underwater target detection, etc.



Brand - new

Brand - New Hull Design

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

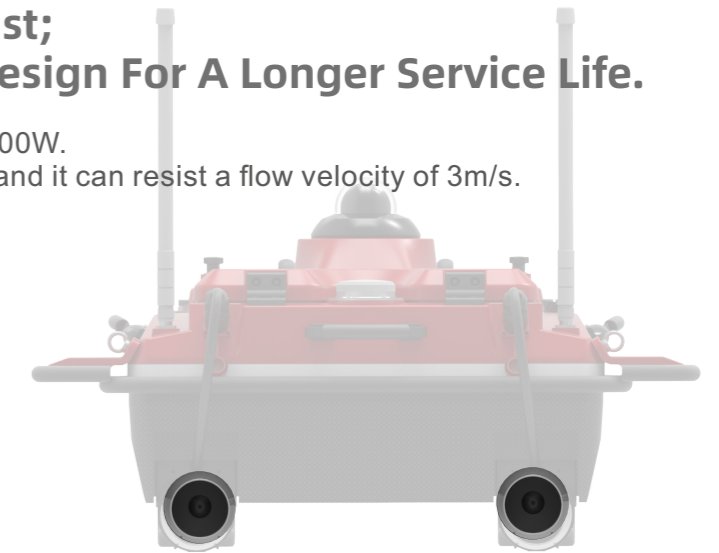


Upgrade

More Powerful - Propeller Power Upgrade

Higher Power, Greater Thrust;
Three - Layer Waterproof Design For A Longer Service Life.

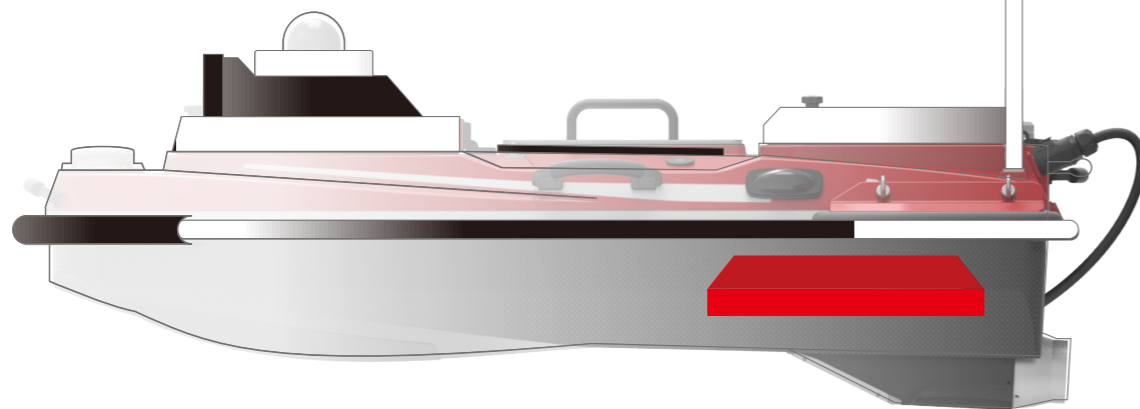
The power of a single motor can reach 1100W.
The maximum navigation speed is 7m/s, and it can resist a flow velocity of 3m/s.



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.



Moving ADCP



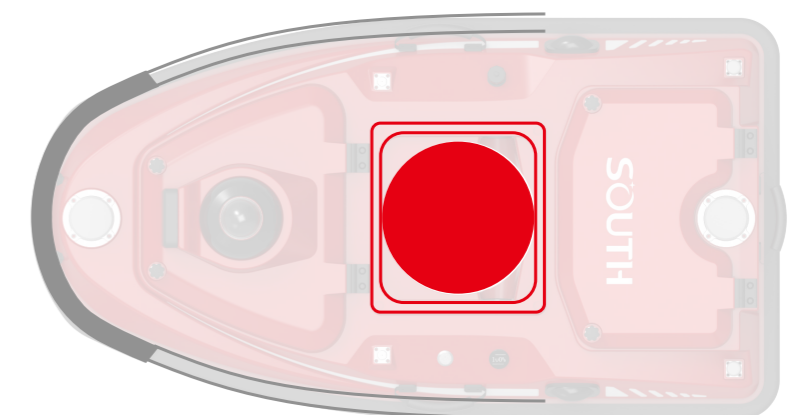
Miniaturized multi - beam echo sounder



Water quality monitor



SE - 2 pipeline detector/silt detector



More Comfortable - Screen Display Upgrade

Larger Screen, Longer Battery Life, And Smoother Operation.

2000 - nit industrial - grade sunlight - visible screen.

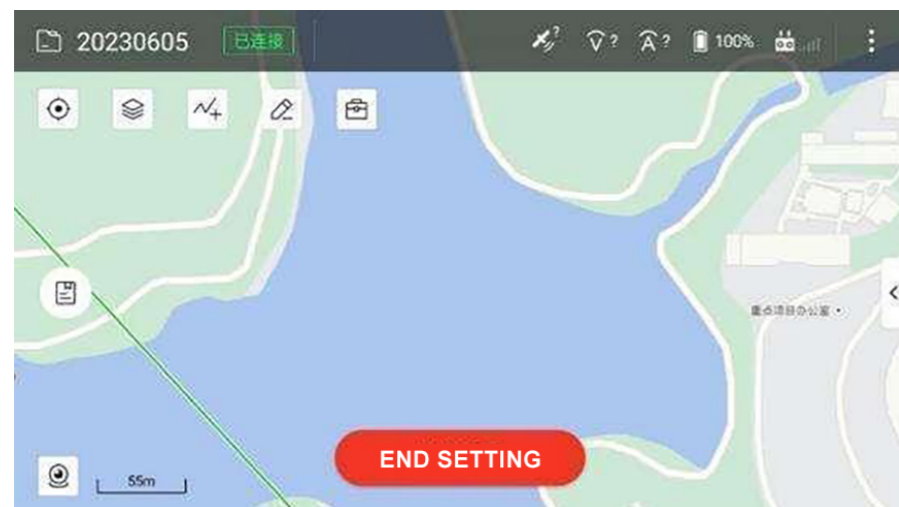
The large screen can adapt to complex light environments such as strong light and cloudy days, providing a comfortable visual experience and convenient operation.



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 | Hull Size | 1180mm*630mm*430mm (Length * Width * Height), |
| | Hull Material | Nano carbon fiber, Kevlar high-strength composite material |
| | Hull Shape | M-shaped diversion design |
| | Hull Self-weight | 10.8kg |
| | Hull Load Capacity | 42kg |
| | Waterproof And Dustproof | IP67 |
| | Moonshine Aperture | 24cm |
| | Wind And Wave Resistance Level | Level 3 wind, Level 2 wave |
| | Carriable Equipment | Built-in depth sounder, can carry mainstream domestic and foreign ADCP/water quality monitoring, sampling equipment/shallow profiler/side scan sonar/multi-beam |
| Power | Safety Protection Design | <ol style="list-style-type: none"> 1. Intelligent self-check. 2. Equipped with replaceable anti-collision strips, double-hull anti-sinking design. 3. Digital power display on the hull, supports temperature and humidity detection. 4. Shallow water reminder and automatic reverse driving away. 5. 360° high-definition infrared night vision camera. 6. Double indicator lights show the hull operation status and positioning signal status. 7. Motor embedded ducted installation design and equipped with waterproof grass cover. 8. Millimeter-wave radar for autonomous obstacle avoidance (Obstacle avoidance distance 0.2 ~ 40m , Pitch * Azimuth 14°*112°, supports detecting and tracking up to 128 targets simultaneously). 9. Detachable side wings to improve wind and wave resistance. |
| | Power Mode | Electric drive |
| | Battery Specification | 33V/50Ah battery, portable design,, with power display |
| | Steering Mode | Steering by differential speed without steering gear, can reverse |
| | Installation Mode | Modular plug-in design, easy to disassemble and replace, waterproof grass |
| | Motor Power | Single motor 1100W |
| | Maximum Boat Speed | 7m/s (Adapts to a maximum flow velocity of 3m/s) |
| | Endurance Time | 6h@2m/s |
| | Communication | Sim Card |
| Communication | | 4G , bridge, 2.4GHz radio station |
| Communication Distance | | Intelligent remote control 2.5 kilometers, |
| Main Control Design | | Integrated main control integrated design |
| Data Storage | | Multi-channel storage, can be stored in the remote control and boat end |
| Main Control Waterproof | | IP67 |
| Software | Remote Control | 10.1-inch high-definition display, supports different storage spaces, can control the hull, collect data, view videos, and switch working modes |
| | Control And Acquisition Software | <ol style="list-style-type: none"> 1. Supports measurement task planning, autonomous navigation, hull operation control, task progress statistics, coordinate system input. 2. Supports real-time viewing of the hull navigation trajectory, depth measurement data, waveforms, and videos from multiple angles. 3. Can realize multi-channel data storage: local storage, hull storage, server storage. 4. Can set automatic return when the battery is low, automatic return when disconnected, and can set the return point. 5. Can automatically hover and adapt to the flow velocity change according to the survey line. 6. Can set different measurement modes according to the carried equipment. |
| | Data Post-processing Software | <ol style="list-style-type: none"> 1. Supports data playback, waveform and water depth data overlay, water depth data correction, tide gauge data correction, data delay correction, attitude correction, and coordinate parameter conversion. 2. Can re - sample the collected data according to time and distance. 3. Allows users to customize the output format of the result data and can display different depths in different colors. 4. Has undo and redo functions. 5. Supports PPK post - processing calculation. |
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