Unmanned Water-Rescue Vessel

Model: HXY-Ⅱ | Brand: CETIG 华巽云



Overview

Unmanned Water-Rescue Vessel · HXY-Ⅱ

CETIG Technology Investment Holding (Qingdao) Group Co., Ltd.
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www.cetig.cn

Specifications apply to the delivered product version and may change without notice.

Technical Specifications

The Unmanned Water-Rescue Vessel is part of CETIG's product range, developed for demanding water-rescue and maritime safety operations. Key technical data are listed below.

Hull system

Hull design	Trimaran hull with rubbing strakes; resists Beaufort 3 wind and sea state 2; IP67 watertight
Hull length 110–130 cm; hull weight ≤ 15 kg; maximum load ≥ 40 kg	
Maximum vessel speed	≥7m/s
Motor thruster	Ducted thrusters without rudder steering; max ≥ 7,200 rpm; plug-in mounting, easy to replace, adaptable to more water conditions
Data storage	Local (multi-channel) and remote storage ensure data is never lost
Mobile communication	Built-in eSIM + Nano dual communication module, with additional interfaces
Built-in single-beam echosounder works alongside an ADCP for simultaneous bathymetry and cross-section flow measurement,	
IP rating (main controller)	≥IP67;
Protection functions	Automatic reverse in shallows, live video, low-battery and signal-loss auto return, and 360° omnidirectional video
Built-in mmWave radar, detection range ≥ 40 m	
Current measurement (adaptive to flow)	During flow measurement the vessel automatically adjusts bow attitude, heading and speed to keep a straight survey line

Positioning & attitude system

Main controller integrates positioning/heading board and INS module	
Satellite systems	Supports four satellite systems (BDS, GPS, GLONASS, Galileo)
Single-point positioning accuracy	Horizontal ≤ 1.5 m; vertical ≤ 2.5 m
RTK horizontal ≤ 8 mm + 1 ppm; vertical ≤ 15 mm + 1 ppm	
Heading function, accuracy ≤ 0.2° (1 m baseline)	

Shore-based system

Base-station communication	Supports radio, network and CORS
Remote controller range	Radio ≥ 2 km; 4G unlimited (network dependent); bridge ≥ 2 km
Data transmission	Supports bridge and 4G; video: 4G + bridge

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Total mileage statistics, remaining-range alerts, hydrological mode, one-key ADCP configuration and online firmware updates.	
Function modules	Autonomous navigation, vessel parameter control, multi-angle video display and coordinate transformation
Satellite base-map import for survey planning; power-on self-test	

Bathymetry system

Beam angle	5°-8°;
Depth measurement range	≥0.15-300m;
Maximum sampling rate	≥30Hz;
Operating frequency	Supports 200 kHz and 25 kHz dual frequency with real-time sound-velocity correction for better environmental adaptability.
Supports Bluetooth and Wi-Fi	
Depth measurement accuracy	Not less than ±1 cm + 0.1% h (h = water depth)
Main unit weight	≤ 1 kg; lightweight, hull-mounted; depth measurement and shallow-water obstacle avoidance

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