

New, High-performing USV for Ocean Surveying



A new unmanned surface vehicle (USV) designed for the Chinese market offers an open and low-cost platform to measure water current and direction. Nortek China has integrated Doppler instrumentation on the vehicle to help better meet user requirements for ocean surveying.

The new USV has an industrial personal computer (IPC) as the main operation platform and uses Remote Desktop, a remote control technique, to communicate with all the instruments installed. This means that the vehicle offers an open and low-cost platform for customers who need to carry out several different tasks at the same time. For example, users can perform hydrology and water quality measurements while simultaneously obtaining water samples. Furthermore, the USV can carry other appropriate instruments,

for example for geomorphology.

Flexible system setup and design

The basic exterior dimensions of the vehicle are about 200cm in length, 70cm in width, and 40cm in depth. The USV has two propellers that can produce 80 pounds of thrust force. For navigation control, it can be remotely controlled manually, or be programmed to sail automatically by itself. The design of the vehicle can be adjusted according to different requirements from end users.

“The demand for USVs is growing in China now, and China is a great market in itself. With Nortek having launched the Signature VM system here already, we should grasp this opportunity to open the vessel-mounted current measurement market in China,” says Leon Zhang, general manager of Nortek China.

High-performing USV at a low cost

According to Zhang the new USV is characterized by good sailing performance and excellent stability. “A powerful propeller provides propulsion when needed. IPC control and Remote Desktop help simplify the operation of the vehicle. The vehicle also stands out due to its low cost and easy integration of multiple sensors and instruments”.

“This USV platform was built to help users to handle multiple tasks, and to be able to do this at a low cost. Looking ahead to the future, we will develop an automatic and ‘intelligent’, or sophisticated, system to improve the performance of the USV,” says Jack Hu, technical manager at Nortek China.

His colleague Nick Ying, a field engineer at Nortek China, explains how his team has been able to achieve high quality. “Only the best parts and accessories were selected for the vehicle. There is also the possibility of producing tailored design solutions for different customers’ needs,” he explains.

About Nortek

Nortek excels in the development and manufacture of acoustic Doppler instrumentation. Doppler Velocity Logs (DVLs) are used for subsea navigation. Acoustic Doppler Current Profilers (ADCPs) are used to understand physical processes in the ocean, rivers, lakes and laboratories.

The company prides itself on being innovative in product development and production processes. Nortek provides solutions to engineers and scientists by offering real-time data collection and support from its responsive technical team.

Nortek’s headquarters are just outside Oslo, Norway, where R&D, product assembly and other main functions are situated. In addition, it has subsidiaries in the US, the UK, China, Japan, Australia, Brazil, France and the Netherlands.

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