Darveen MP-240 Marine Panel PC: Smart HMI for Deep-Sea Missions

As ocean exploration and maritime research become increasingly data-driven, research vessels require stable, high-performance computing platforms capable of integrating navigation, machinery, and sensor systems while withstanding harsh marine environments. The latest deep-sea research ships face complex challenges in real-time monitoring, operational control, and efficient data visualization.

Challenge: Reliable Operation in Harsh Marine Conditions

Research vessels must handle real-time data from navigation, submersibles/ROVs, environmental sensors, and machinery monitoring systems. These platforms need to operate reliably under salt fog, vibration, wide temperature variations, and high humidity, while offering large, clear, and interactive displays for operators. A rugged marine panel PC or industrial marine computer is essential to ensure continuous operation in these conditions.

Solution: Darveen MP-240 Marine Panel PC as Onboard HMI and Control Hub

The 23.8-inch Darveen MP-240 marine panel PC serves as the central human-machine interface (marine-grade HMI) onboard. Key features include:
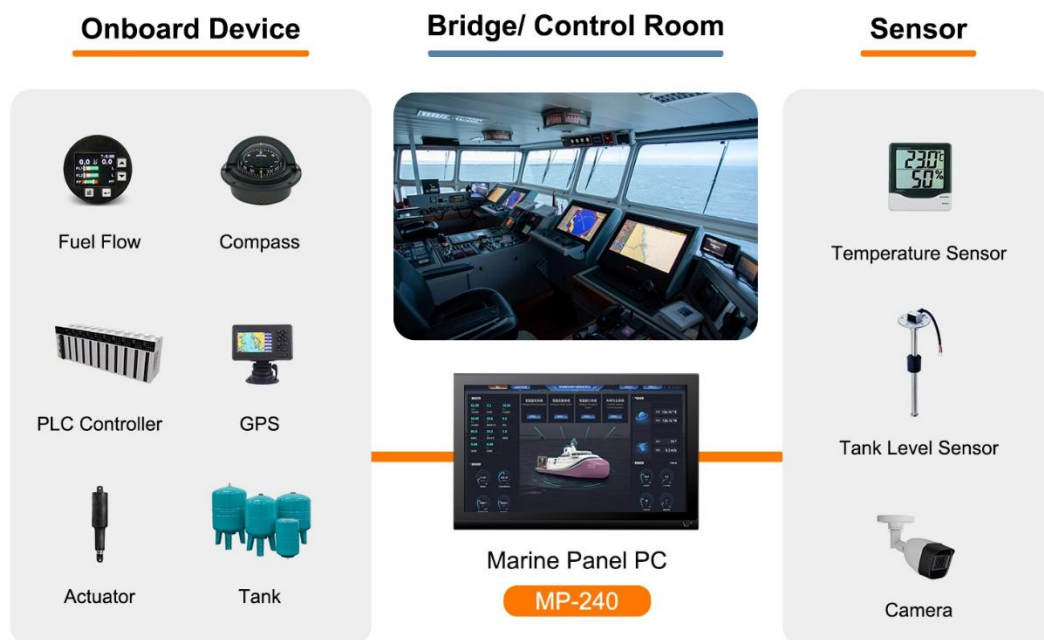
- 550 nits capacitive touch screen for clear visibility in bright conditions, with optional anti-glare and anti-fingerprint surface, and a brightness adjustment switch.

- Rugged, marine-grade housing with IP65 front panel, vibration resistance, and fanless design for long-term reliability at sea.

- Rich I/O and expansion options to integrate navigation systems, ROV/submersible controls, seabed stations, sensor arrays, and communication modules.

- Wide voltage support (9–36 V DC) suitable for shipboard power systems and extreme marine conditions.

- Intel® Core™ processor providing stable performance for real-time monitoring, data processing, and visualization.

Impact: Smarter, More Efficient Research Operations

MP-240 enables comprehensive monitoring of machinery spaces, tracking operational parameters and alarm trends for shipboard equipment. Serving as the vessel's digital and intelligent HMI platform, it integrates navigation, machinery, and sensor data, supports remote monitoring, and visualizes key information in real time. Crew and researchers gain faster insights, improve decision-making, and increase operational efficiency, ultimately enhancing the effectiveness of deep-sea scientific missions. As a rugged marine Panel PC, marine-grade HMI, and industrial marine computer, the MP-240 ensures reliable, high-visibility, and fully integrated shipboard control, enabling smarter and safer maritime operations.

Onboard Device

Fuel Flow · Compass

PLC Controller · GPS

Actuator · Tank

Bridge/ Control Room

Marine Panel PC
MP-240

Sensor

Temperature Sensor

Tank Level Sensor

Camera

About Darveen

Established in 2007, Darveen is dedicated to developing rugged industrial computing solutions tailored to the diverse needs of vertical industries. Our product portfolio includes vehicle mount computers, industrial panel PCs, industrial displays, embedded box computers, and rugged tablets. With nearly two decades of experience in product design and manufacturing, Darveen's solutions are widely adopted in smart ports, warehousing and logistics, and heavy-duty vehicle applications. Riding the Industry 4.0 wave, Darveen is expanding its reach into edge computing, smart manufacturing, industrial automation, healthcare, and marine sectors.