



Marine Grade PC Specification

HelmLogix NautiHelm-Compatible Marine Grade Computer

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Compute Core

- Intel i7 U-series, 15W TDP class, 100°C Tjunction minimum
- 16GB RAM, soldered
- 128GB NVMe SSD, industrial temp rated
- Dual HDMI 2.0 output

Native NMEA 2000 Interface

- CAN bus with M12 5-pin waterproof connector, software-selectable termination
- Internal CAN controller must be natively supported by the Linux Kernel via SocketCAN. Preferred chipset: controller compliant with standard CAN protocols.
- Software will decode the NMEA packets

Integrated Networking

- M.2 AX210: 5GHz WiFi AP (boat network) + BLE 5.2 (House battery BMS communication)
- 2x waterproof SMA bulkhead for external MIMO antennas which are supplied by vendor with PC.
- External antennas must be Dual-Band (2.4GHz / 5.8GHz) to support simultaneous BLE and 5GHz WiFi operation.
- 1x Gigabit Ethernet with screw-down keyed IP67 waterproof bulkhead connector

USB Connections

- 4x USB 3.0 with screw-down keyed IP67 waterproof bulkhead connectors
 - 2x for touchscreens (cables supplied with Marine Monitor)
 - 2x general purpose
- HDMI and USB touchscreen bulkhead connectors must accept screw-down keyed IP67 waterproof cables supplied with Marine Monitor

Power

- 9-36VDC isolated input, reverse polarity protected
- Auto-power-on when DC applied (BIOS configurable)
- Wake from S3 on USB HID (wake on touchscreen touch)
 - USB ports must remain powered during S3 sleep (required for touch wake)



Audio

- 3.5mm line out + optical SPDIF (waterproof bulkhead connectors for marine stereo integration)

Environmental

- Operating temp: -30°C to +70°C
- Fanless passive cooling, finned aluminum enclosure
- IP65 enclosure
- Conformal coating all PCBs
- All external connections via screw-down keyed IP67 waterproof bulkhead connectors

Mounting

- Panel mount flanges with shock-absorbing grommets in mounting holes
- DIN rail option
- VESA 100x100 option

Certifications

- CE

Cables & Connectors

Cables supplied with MarinePC:

- **Power:** 6' pigtail, screw-down keyed IP67 waterproof on PC side, flying leads on other end. Marine grade tinned copper wire. Same cable as Marine Monitor.
- **General purpose USB (2x):** 6' cables, screw-down keyed IP67 waterproof on PC side, USB Type-A female receptacle on other end.
- **Ethernet:** 6' cable, screw-down keyed IP67 waterproof on PC side, standard RJ45 male on other end.

Cables supplied with Marine Monitor (not with PC):

- HDMI and USB touchscreen cables are supplied with the Marine Monitor, not the PC.

Connector requirements:

- All connectors: plastic/composite housing, no exposed bare metal
- Waterproof sealing caps included for all unused ports
- Must document vendor name and model number for all connectors
- Replacement cables must be available for separate purchase

Value Proposition

What this eliminates from a typical HelmLogix NautiHelm install:

- External router
- Raspberry Pi BLE bridge
- NMEA2000-to-USB gateway (\$250)
- Extra power supplies



- Extra failure points
- "Which cable failed" support calls

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