

MPC-2240 Series



24 inch fanless panel computers with Intel Celeron 1047UE 1.4 GHz processor, NMEA 0183, RS-232/422/485 serial ports, Gigabit LAN ports, USB 2.0 ports, SSD trays, dual AC/DC power inputs



- > 24 inch panel computer
- > Color calibrated for ECDIS compliance
- > Fanless design
- > SavvyTouch display controls
- > 3rd Generation Intel® Core™ or Celeron® processor (Default: Celeron® 1047UE, 1.40 GHz with Intel® HD Graphics)
- > Built-in NMEA 0183 and software selectable RS-232/422/485 interfaces (DI/DO and LPT available on request)
- > Dual AC/DC power supply units
- > Optically bonded and touch panel models available on request



Introduction

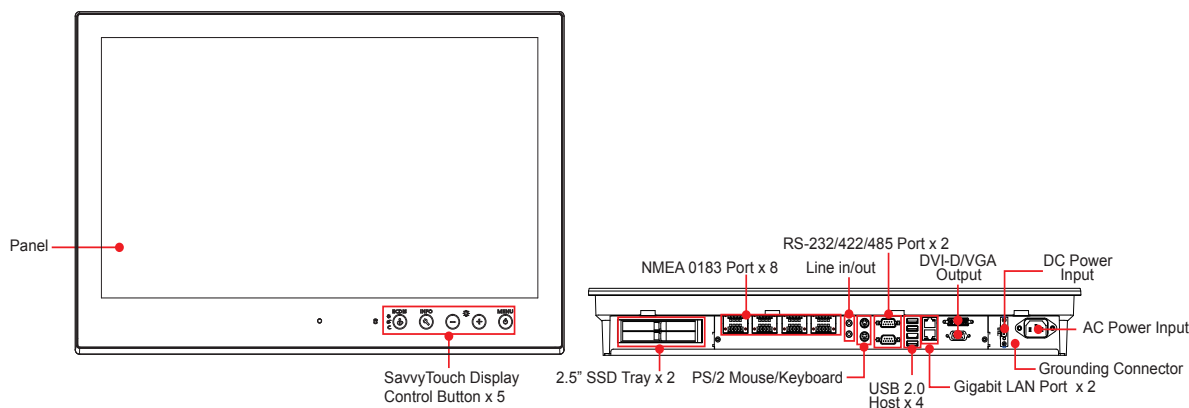
The MPC-2240 series of panel computers features advanced Intel processors—3rd generation Ivy Bridge Core or Celeron—matched to 4 GB of system memory, delivering a reliable, high-performance platform of wide versatility for use in industrial marine environments. With its RS-232/422/485 serial, NMEA 0183, and Gigabit Ethernet LAN ports, the MPC-2240 panel computer supports a wide variety of serial- and marine-specific interfaces alongside high speed IT communications, all with native network redundancy.

The MPC-2240 series comes with a range of standard display enhancements useful in industrial environments (including 0 to 100% full range dimming, 178°/178° wide viewing angles, optional optical

bonding, and/or multi-touch screen), as well as Moxa's innovative SavvyTouch display controls.

The MPC-2240 series of panel computers are compliant with several industrial marine standards, such as IEC 60945 4th, IEC 61174, IEC 61162, DNV2.4, and IACS E10, verifying their resilient durability in marine operations. An optional IP65-rated unibody shell provides strong additional protection against the harsh conditions found in marine environments. The MPC-2240 delivers a rugged, type approved, high performance and user friendly panel computer perfect for ECDIS navigation systems and other marine IBS applications.

Appearance



Specifications

Computer

CPU: Intel Celeron® Processor 1047UE (2M Cache, 1.40GHz), TDP 17 watts (standard)

OS: Windows 7 Professional, Windows XP Embedded, Windows Embedded Standard 7, Windows XP SP3, Linux Debian 7 (models with OS pre-installed available on request)

System Chipset: Intel HM65

System Memory: 8 GB capacity, 4 GB pre-installed: 1 slot of 4 GB DDR3-1600 204 pin SO-DIMM SDRAM

Storage: 2 SATA III interfaces: 6 Gbps, 2.5" removable storage trays

USB: 4 bootable USB 2.0 hosts, type A connectors

BIOS: 64 Mbit Flash BIOS with SPI, ACPI

Graphics Controller: Intel HM65 Express chipset built-in

Video Output: 2 outputs: 1 DVI-D, 1 VGA (female)

Other Peripherals

Audio: line in/out, 3.5 mm mini jack

KB/MS: 2 PS/2 interfaces supporting standard PS/2 keyboard and mouse

Display

Panel Size: 24" viewable image size

Aspect Ratio: 16:9

Pixels: 1920 x 1080 (WSXGA+)

Pixel Pitch (RGB): 0.276 (H) x 0.276 (V) mm

Response Time: 25 ms (gray to gray)

Contrast Ratio: 5000:1

Light Intensity: 300 cd/m²

Viewing Angles: 178°/178°

Active Display Area: 531.36 (H) x 298.89 (V) mm

Max Colors: 16.7M (8 bit color)

Resolution:

- VGA: 640 x 480
- SVGA: 800 x 600
- XGA: 1024 x 768
- SXGA: 1280 x 1024
- WSXGA+: 1920 x 1080 (benchmarked setting)

Panel Type: MVA

Ethernet Interface

LAN: 2 auto-sensing 10/100/1000 Mbps ports (RJ45)

Magnetic Isolation Protection: 1.5 kV built-in

Serial Interface

Serial Standards: 2 RS-232/422/485 ports, software-selectable (DB9 male)

Serial Communication Parameters

Data Bits: 5, 6, 7, 8

Stop Bits: 1, 1.5, 2

Parity: None, Even, Odd, Space, Mark

Flow Control: RTS/CTS, XON/XOFF, ADDC® (automatic data direction control) for RS-485

Baudrate: 50 bps to 921.6 Kbps (supports non-standard baudrates; see user's manual for details)

Serial Signals

RS-232: TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND

RS-422: TxD+, TxD-, RxD+, RxD-, GND

RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND

RS-485-2w: Data+, Data-, GND

NMEA Interface

Serial Standards: 8 NMEA 0183 ports

Base Serial Standard: RS-422

Optical Isolation Protection: ±6 kV contact discharge, ±8 kV air discharge

Voltage Differential: -15 V to +15 V

Baudrate: 4800 bps

Data Bits: 8

Stop Bits: 1, 1.5, 2

Parity: None

Handshake: None

LEDs

System: Storage, Power

LAN: 100M/Link x 2, 1000M/Link x 2 (on connector)

Front Panel

LED: Storage

SavvyTouch Display Control Buttons: ECDIS, INFO, Brightness (+, -), Power

Physical Characteristics

Housing: Aluminum sheet metal

Weight: 12.4 kg

Dimensions: 595 x 393 x 75 mm (23.44 x 15.48 x 2.95 in)

Mounting: Flush mounting

Environmental Limits

Operating Temperature: -15 to 55°C (5 to 131°F)

Storage Temperature: -20 to 60°C (-4 to 140°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

IP Rating: IP22 (IP65 models available on request)

Anti-Vibration:

- 0.7 g @ DNV2.4 (Class A), sine wave, 2-100 Hz, 1 Oct./min., 1.5 hr per axis
- 1 G_{rms} @ DNV2.4, random wave, 3-100 Hz, 2.5 hr per axis
- 2.1 g @ DNV2.4 (Class C), sine wave, 2-50 Hz, 1 Oct./min., 1.5 hr per axis

Power Requirements

Input Voltage:

- 24 VDC (18 to 36 VDC), screw-type terminal block
- 100 to 240 VAC, AC power inlet

Power Consumption: 40 to 75 W

Standards and Certifications

Safety: UL/cUL, CCC

EMC: EN 55022 Class B, EN 55024-4-2, EN 55024-4-3, EN 55024-4-4, FCC Part 15 Subpart B Class A

Marine: IEC 60945 4th, IEC 61174, IEC 61162, DNV2.4, IACS E10

Green Product: RoHS, cRoHS, WEEE

Reliability

Automatic Reboot Trigger: Built-in watchdog timer (WDT), configurable for resets following 1-255 second hang intervals; software programmable

Warranty

Warranty Period: 1 year

Details: See www.moxa.com/warranty

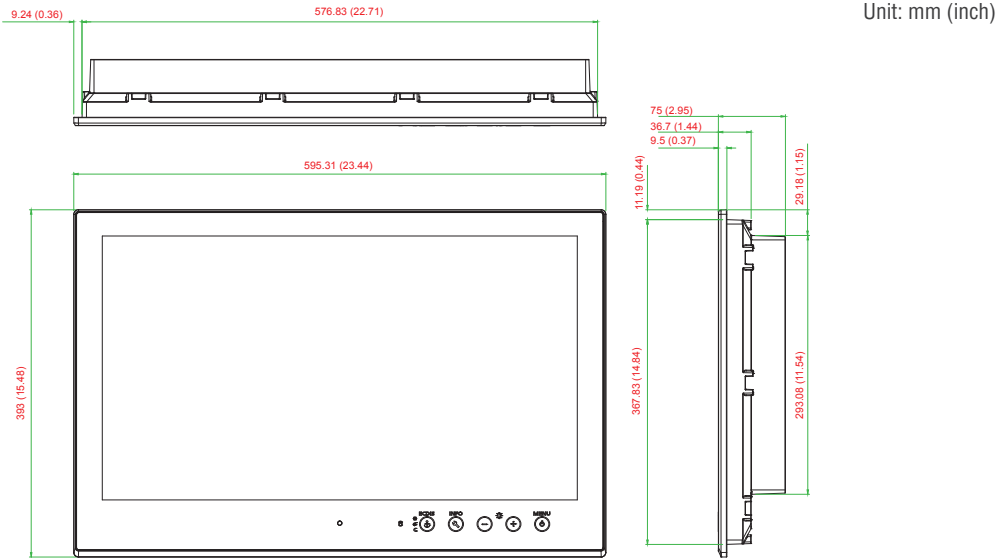
We recommend taking the following precautions to minimize heat build-up within the display:

- Position the display within $\pm 40^\circ$ of the vertical.
- Install an external fan to increase airflow upwards through the display if (a) the display is not positioned within $\pm 40^\circ$ of the vertical, (b) the ambient temperature exceeds 25°C , or (c) the display is used in a location with minimal ventilation.

Important Safety Precaution:

Even though the display is rated to operate within the IEC 60945 standard of -15 to 55°C for bridge applications, it is best to ensure that the ambient temperature does not exceed 25°C . Doing so will increase the life of your display and minimize service costs.

Dimensions



Ordering Information

Available Models

MPC-2240X: 24 inch fanless panel computer with Intel Celeron 1047UE 1.4 GHz processor, NMEA 0183, RS-232/422/485 serial ports, Gigabit LAN ports, USB 2.0 ports, SSD trays, dual AC/DC power inputs, tape bonding

MPC-2240Z: 24 inch fanless panel computer with Intel Celeron 1047UE 1.4 GHz processor, NMEA 0183, RS-232/422/485 serial ports, Gigabit LAN ports, USB 2.0 ports, SSD trays, dual AC/DC power inputs, tape bonding, projected capacitive touch screen

MPC-2247X: 24 inch fanless panel computer with Intel Core i7 2610UE 1.5 GHz processor, NMEA 0183, RS-232/422/485 serial ports, Gigabit LAN ports, USB 2.0 ports, SSD trays, dual AC/DC power inputs, tape bonding

Customized Options:

- Optical bonding
- 2.5" HDD/SSD drives
- CPU
- RAM
- Operating system

Package Checklist

- MPC-2240 panel computer
- 2 keys for the locking removable storage trays
- 1 terminal block for DC power input
- Documentation and driver DVD
- Quick installation guide (printed)
- Warranty card