

MPC-2240 Series



24-inch ECDIS color calibrated, fanless panel computers



- > 24-inch panel computer
- > Color calibrated for ECDIS compliance
- > 3rd Generation Intel® processor (Intel® Core i7 3517UE 1.7 GHz or Celeron® 1047UE, 1.40 GHz)
- > SavvyTouch display controls
- > Fanless system design
- > Built-in NMEA 0183 and 3-in-1 software selectable RS-232/422/485 interfaces
- > Multi-power supplies (AC & DC)



Introduction

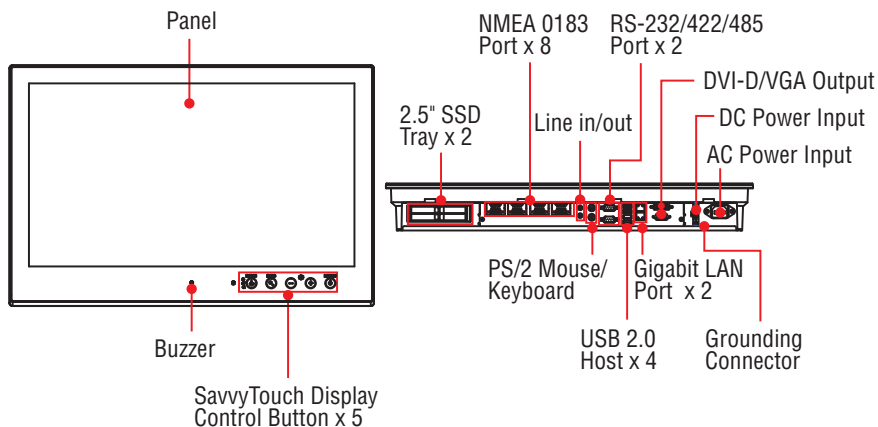
MPC-2240 series panel computers feature advanced Intel processors—3rd generation Ivy Bridge Core or Celeron—matched to 4 GB of system memory, delivering a reliable, high-performance platform of wide versatility for use in industrial marine environments. With its RS-232/422/485 serial, NMEA 0183, and 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 panel computers are compliant with several industrial marine standards, including 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 Core Processor i7-3517UE (1.7 GHz)
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
USB: 4 bootable USB 2.0 hosts, type A connectors
Storage: 2 SATA III interfaces: 6 Gbps, 2.5" removable storage trays
BIOS: 64 Mbit Flash BIOS with SPI, ACPI
Graphics Controller: Intel HM65 Express chipset built-in
Video Output: DVI-D x 1, VGA x 1 (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
Panel Type: MVA
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. No. of 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)

Ethernet Interface

LAN: Auto-sensing 10/100/1000 Mbps ports (RJ45) x 2
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 115.2 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

LEDs: Storage
SavvyTouch Display Control Buttons: ECDIS, INFO, Brightness (+, -), MENU

Physical Characteristics

Housing: Aluminum sheet metal
Weight: 12.4 kg (27.56 lb)
Dimensions: 595 x 393 x 75 mm (23.44 x 15.48 x 2.95 in)
Mounting: VESA, panel, and desktop

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:

- Front: IP54
- Rear: IP22

Anti-Vibration: 0.7 g @ DNV2.4 (Class A), sine wave, 2-100 Hz, 1 Oct./min., 1.5 hr per axis

Power Requirements

Input Voltage:

- 24 VDC, 6 A or (18 to 34 VDC, 8 A max.), screw-type terminal block
- 100 to 240 VAC, 50 to 60 Hz, 2 A, AC power inlet

Standards and Certifications

Safety: UL 60950-1, EN 60950-1, IEC 60950-1

EMC: EN 55032/24

EMI: CISPR 32, FCC Part 15B Class A

EMS:

IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV
 IEC 61000-4-3 RS: 80 MHz to 1 GHz, 3 V/m
 IEC 61000-4-4 EFT: Power 1 kV; Signal 0.5 kV
 IEC 61000-4-5 Surge: Power 2 kV; Signal: 1 kV
 IEC 61000-4-6 CS: Signal: 1 kV IEC 61000-4-8

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:

- Computer systems: 3 years
- LCD panels: 1 year

Details: See www.moxa.com/warranty

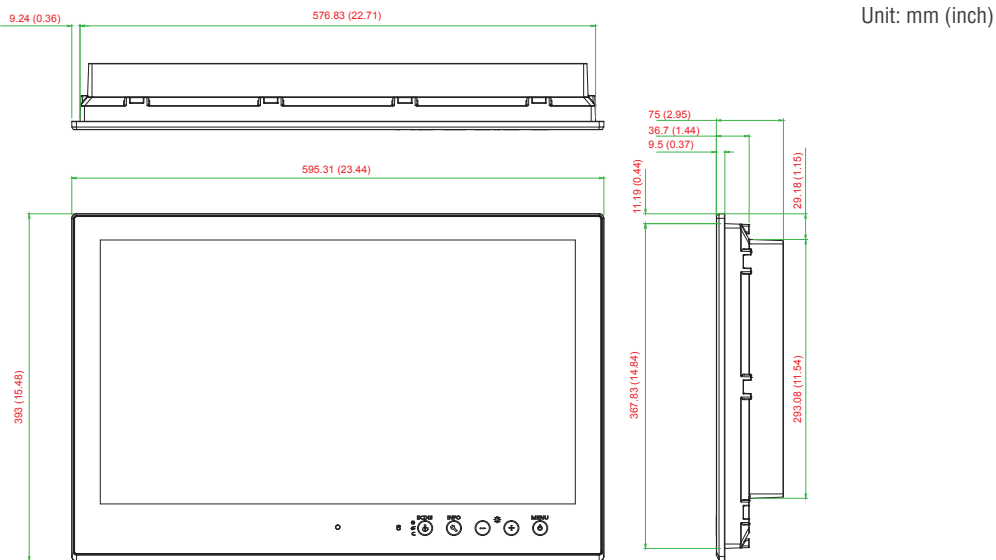
We recommend taking the following precautions to minimize heat build-up within the display:

- 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

Model Name	Panel Size	Touch	CPU	RAM	Storage (pre-installed)	OS (pre-installed)	Storage Slots	LAN	Serial	USB 2.0	NMEA 0183	Video out	Audio	PS/2	Power Input	Operating Temp.
MPC-2240Z	24" (16:9)	Multi-touch	Celeron 1047UE	4 GB	N/A	N/A	2 SSD (external)	2	2	4	8	1 VGA + 1 DVI-D	✓	✓	24 VDC (18-34 V) 100-240 VAC	-15 to 55°C
MPC-2240X	24" (16:9)	Non-touch	Celeron 1047UE	4 GB	N/A	N/A	2 SSD (external)	2	2	4	8	1 VGA + 1 DVI-D	✓	✓	24 VDC (18-34 V) 100-240 VAC	-15 to 55°C
MPC-2247Z	24" (16:9)	Multi-touch	i7-3517UE	4 GB	N/A	N/A	2 SSD (external)	2	2	4	8	1 VGA + 1 DVI-D	✓	✓	24 VDC (18-34 V) 100-240 VAC	-15 to 55°C
MPC-2247X	24" (16:9)	Non-touch	i7-3517UE	4 GB	N/A	N/A	2 SSD (external)	2	2	4	8	1 VGA + 1 DVI-D	✓	✓	24 VDC (18-34 V) 100-240 VAC	-15 to 55°C

Note: Use the Moxa CTOS process to select RAM, storage, and OS options. Please contact your Moxa sales representative for details.

Optional Accessories (can be purchased separately, for AC power input)

- PWC-C13US-3B-183:** Power cord with 3-pin connector, USA plug
- PWC-C13EU-3B-183:** Power cord with 3-pin connector, Euro plug
- PWC-C13UK-3B-183:** Power cord with 3-pin connector, British plug
- PWC-C13AU-3B-183:** Power cord with 3-pin connector, Australian plug
- PWC-C13CN-3B-183:** Power cord with 3-pin connector, Chinese plug

Optional Mounting/Bracket Kits (can be purchased separately)

- MPC-MD-2-24-PMTK:** Panel mounting kit
- MPC-MD-2-24-VESAMTK:** VESA mounting kit
- MPC-MD-2-24-26-DMTK w/o hinge:** Desktop mounting kit without hinge
- MPC-MD-2-24-26-DMTK w/ hinge:** Desktop mounting kit with angle adjustment hinge

Package Checklist

- MPC-2240 panel computer
- 2 keys for locking removable storage trays
- 1 2-pin terminal block for DC power input
- 4 5-pin terminal blocks for NMEA 0183 v2 interfaces
- Documentation and driver DVD
- Quick installation guide (printed)
- Warranty card