MPC-2240 Series
Quick Installation Guide

Second Edition, March 2015

1. Overview

MPC-2240 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 marine computing platform of wide versatility. 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 a multi-touch screen), as well as Moxa's innovative SavvyTouch display controls.

2. Package Checklist

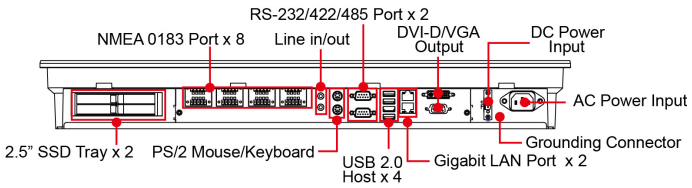
Before installing the MPC-2240 Series, verify that the package contains the following items:

- MPC-2240 panel computer
- 2 keys for the 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

NOTE: Please notify your sales representative if any of the above items are missing or damaged.

3. Hardware Installation

Bottom View



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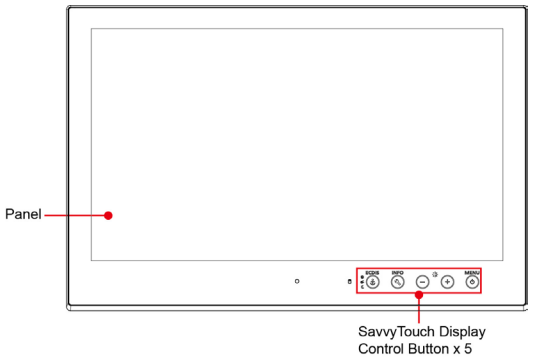
Front View



SavvyTouch Display Control Buttons

The following table describes the SavvyTouch display controls on the front surface of the MPC-2240 series. These intelligent controls will light up with a simple wave over the area of the screen where they are located.

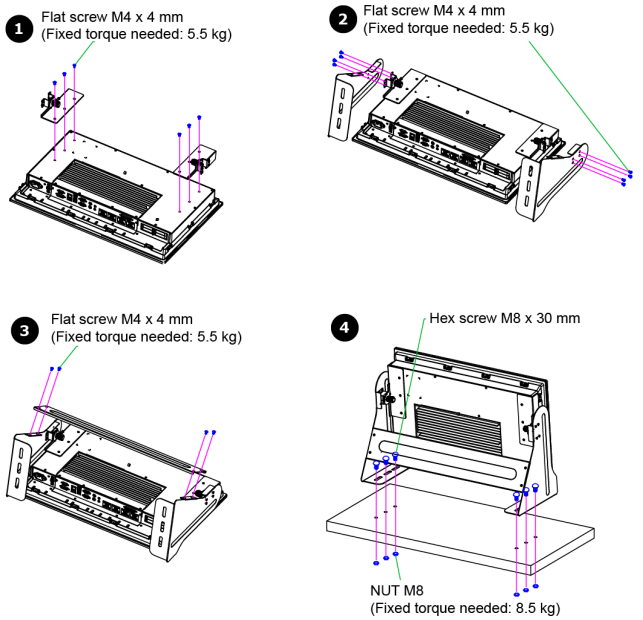
Name	Displayed Color	Control Function / Color Legend
MENU Power	Green	Power is on and functioning normally
	Red	Power standby and system shut down
	Off	Power is off.
Brightness	White	+: To increase brightness of panel
		–: To decrease brightness of panel
INFO Info	Off	System functioning normally
	Red	System hardware error
Storage	Red (on)	Storage drive is functioning properly
	Red (blinking)	Drive is accessing or writing data
	Off	Drive is offline.
Display mode (ECDIS models only)	White	Displays the brightness mode
	Off	Panel brightness out of ECDIS standard range

Installing the MPC-2240 Series

Desktop

The MPC-2240 comes with optional brackets that allow you to install the panel computer on a horizontal surface, such as a desktop. Three round screws are required for each bracket. See the figure at the top of the next page for detailed screw specifications and their torque value.

Place your MPC-2240 Series panel computer on a clean, flat, well-ventilated desktop. To protect the computer from overheating, leave some ventilation space between the MPC-2240 and other equipment. Do not place equipment or objects on the panel, as this might damage internal components.

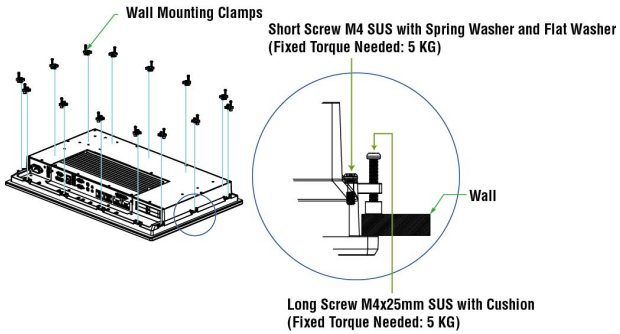


WARNING

The desktop brackets are intended for temporary use when conducting lab tests, and are not intended to be used in permanent deployments.

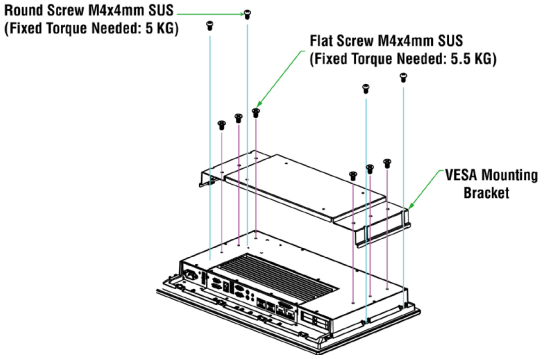
Wall Mounting

The MPC-2240 Series comes with 14 optional clamp mounts that allow for installation onto a wall (where space has been cut out to accommodate the rest of the hardware) or into computing stations where a flush mount is desired. ***11 mm is the maximum surface thickness to which the computer may be clamped.*** For a secure mounting, all 14 clamps must be used. The clamp arms are fastened into slots on all four sides of the MPC-2240. Use the short M4 SUS screws to fasten the clamp arms to the MPC-2240 mounting slots, as shown in the magnified inset in the diagram just below. Next, use the clamps to fasten the computer to its mounting point; please note the torque value that is shown in the following figure.



VESA Mounting

The MPC-2240 Series also comes with an optional VESA mounting kit. Six flat screws and four round screws are required to fasten the VESA mounting bracket. See the following figure for detailed screw specifications and torque values.



An additional four screws (not included in the kit) are required to mount the computer on a VESA rack. For this purpose, use M6 screws with a length between 10 and 12 mm.

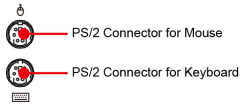
4. Connector Description

Extending the Display

The MPC-2240 comes with both standard VGA (DB15) and DVI-D (DB29) interfaces on the bottom panel which may be used simultaneously to extend the display across two monitors.

Connecting to a Keyboard and Mouse

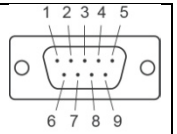
The MPC-2240 Series comes with two PS/2 connectors located on the bottom surface for connecting a keyboard and a mouse.



Serial Ports

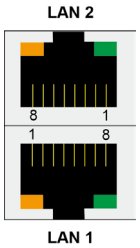
The MPC-2240 has two software-selectable RS-232/422/485 DB9 serial ports. Refer to the MPC-2240 User's Manual for the details on serial port configuration. The pin assignments for the ports are shown in the following table:

Pin	RS-232	RS-422	RS-485 (4-wire)	RS-485 (2-wire)
1	DCD	TxDA(-)	TxDA(-)	–
2	RxD	TxDB(+)	TxDB(+)	–
3	TxD	RxDB(+)	RxDB(+)	DataB(+)
4	DTR	RxDA(-)	RxDA(-)	DataA(-)
5	GND	GND	GND	GND
6	DSR	–	–	–
7	RTS	–	–	–
8	CTS	–	–	–



Ethernet Ports

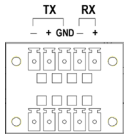
The pin assignments for the two Fast Ethernet 100/1000 Mbps RJ45 ports are shown in the following table:



Pin	100 Mbps	1000 Mbps
1	ETx+	TRD(0)+
2	ETx-	TRD(0)-
3	ERx+	TRD(1)+
4	–	TRD(2)+
5	–	TRD(2)-
6	ERx-	TRD(1)-
7	–	TRD(3)+
8	–	TRD(3)-

The following table is a key for the LAN LED indicators:

LAN (on connectors)	Green	100 Mbps Ethernet mode
	Yellow	1000 Mbps (Gigabit) Ethernet mode
	Off	No activity / 10 Mbps Ethernet mode

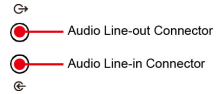


NMEA Ports

The MPC-2240 Series comes with eight NMEA ports on the bottom surface. The pin assignments are shown in the figure at right.

Audio Interface

The MPC-2240 Series comes with audio line-in and line-out jacks, allowing users to connect a speaker system, an earphone, or a microphone.



USB Ports

Four USB 2.0 ports are available on the bottom panel. Users may use these to connect mass storage drives and other peripherals.

Storage Trays

Mass storage on the MPC-2240 is served via two removable trays, where two 2.5" SATA mass storage drives may be installed.

Real Time Clock

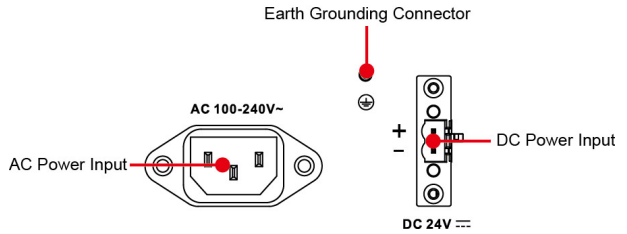
The MPC-2240's real time clock (RTC) is powered by a lithium battery. We strongly recommend that you do not replace the lithium battery without help from a qualified Moxa support engineer. If you need to change the battery, contact the Moxa RMA service team at http://www.moxa.com/rma/about_rma.aspx.

ATTENTION

There is a risk of explosion if the clock's lithium battery is replaced with an compatible battery.

5. Powering the MPC-2240 On or Off

To power on the MPC-2240 you may connect the **Terminal Block to Power Jack Converter** to the MPC-2240 Series DC terminal block (located on the bottom surface) and then connect a power adapter; or, alternately, you may power the device using the AC power cord. Touch the **MENU** button (in the lower right corner of the display panel) for 1 second to turn on the computer. It takes about 10 to 30 seconds for the system to boot up.



To power off the MPC-2240 Series, touch the **MENU** button for 4 seconds; depending on your OS's power management settings you may enter "standby", "hibernation", or "system shutdown" mode. If you encounter technical problems, touch the **MENU** button again this time for 10 seconds to force a hard shutdown of the system.

Grounding the MPC-2240 Series

Proper grounding and wire routing help to limit the effects of noise from electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface prior to connecting the power source.

For a more detailed explanation of setup and configuration, please refer to the MPC-2240 User's Manual, which may be downloaded from the Moxa company website.

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