

# MPC-2240 Series

24-inch ECDIS color calibrated, fanless panel computers



## Features and Benefits

- 24-inch panel computer
- Color calibrated for ECDIS compliance (available by CTOS)
- Intel® Core™ processor: 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
- Multiple power supplies (AC & DC)

## Certifications



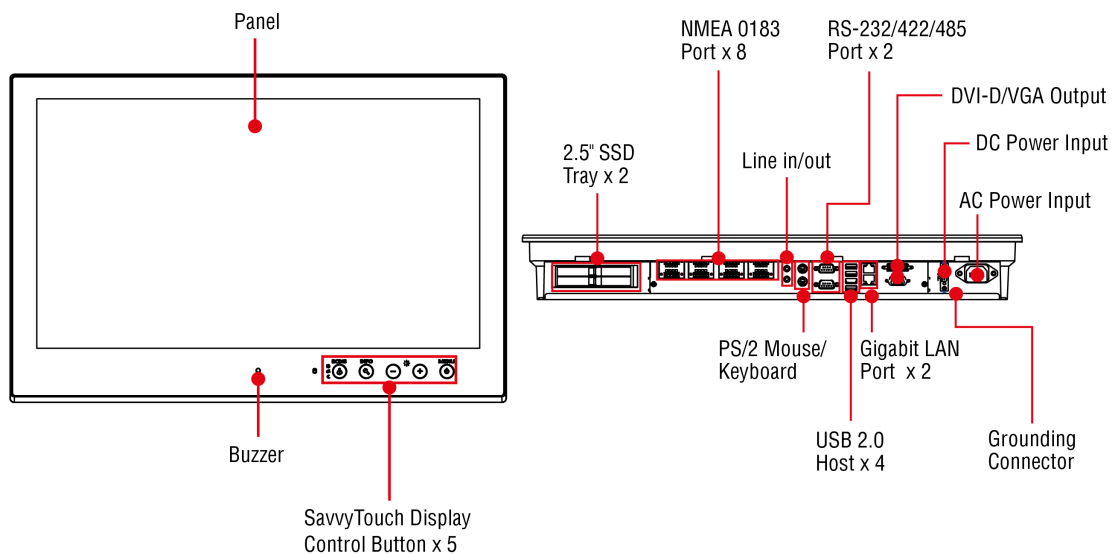
## Introduction

MPC-2240 Series panel computers feature Intel® processors Ivy Bridge Core or Celeron and built-in 4 GB 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 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 marine industry standards, including IEC 60945 4th, IEC 61174, IEC 61162, DNV 2.4, and IACS E10, verifying their resilient and 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 Series delivers rugged, type-approved, high-performance, and user-friendly panel computers that are perfect for ECDIS navigation systems and other marine IBS applications.

## Appearance



## Specifications

### Computer

|                             |   |
|-----------------------------|---|
| CPU                         | MPC-2240X/2240Z: Intel® Celeron® Processor 1047UE (2M Cache, 1.40 GHz)<br>MPC-2247X/2247Z: Intel® Core™ i7-3517UE Processor (4M Cache, up to 2.80 GHz)  |
| System Chipset              | Mobile Intel® HM65 Express Chipset  |
| Graphics Controller         | Intel® HD Graphics 520  |
| System Memory Pre-installed | 4 GB DDR3/DDR3L   |
| System Memory Slot          | SODIMM DDR3/DDR3L slot x 1  |
| Pre-installed OS            | OS is not pre-installed   |
| Supported OS                | Windows 7 Pro for Embedded Systems<br>Windows Embedded Standard 7 (WS7P) 64-bit<br>Windows 10 Pro 64-bit<br>Windows 10 Embedded IoT Ent 2016 LTSB High End EPKEA<br>Windows 10 Embedded IoT Ent 2016 LTSB Value EPKEA |
| Storage Slot                | 2.5-inch HDD/SSD slots x 2  |

### Computer Interface

|                    |   |
|--------------------|---|
| Ethernet Ports     | Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 2                                |
| Serial Ports       | RS-232/422/485 ports x 2, software selectable (DB9 male)                                |
| USB 2.0            | USB 2.0 hosts x 4, type-A connectors  |
| Audio Input/Output | Line in x 1, Line out x 1, 3.5 mm phone jack  |
| PS/2               | Keyboard PS/2 x 1, Mouse PS/2 x 1   |
| Video Output       | DVI-D x 1, 29-pin DVI-D connectors (female)<br>VGA x 1, 15-pin D-sub connector (female) |
| NMEA Port          | NMEA 0183 ports x 8 (terminal block)  |

### LED Indicators

|        |                               |
|--------|-------------------------------|
| System | Power x 1                     |
| LAN    | 2 per port (10/100/1000 Mbps) |

### Display

|                              |                           |
|------------------------------|---------------------------|
| Active Display Area          | 531.36 (H) x 98.89 (V) mm |
| Aspect Ratio                 | 16:9                      |
| Contrast Ratio               | 5000:1                    |
| Light Intensity (Brightness) | 300 cd/m <sup>2</sup>     |
| Max. No. of Colors           | 16.7M (8-bit/color)       |
| Panel Size                   | 24-inch viewable image    |
| Panel Type                   | MVA                       |
| Pixel Pitch (RGB)            | 0.276 (H) x 0.276 (V) mm  |
| Pixels                       | 1920 x 1080               |

|  |   |
|--|---|
| Response Time                          | 25 ms (gray to gray)  |
| Viewing Angles                         | 178°/178°   |
| <b>Touch Function</b>                  |   |
| Touch Type                             | MPC-2240Z/2247Z: Capacitive Touch (PCAP)<br>MPC-2240X/2247X: None   |
| Touch Support Points                   | MPC-2240Z/2247Z: 4 points   |
| <b>Serial Interface</b>                |   |
| Baudrate                               | 50 bps to 115.2 kbps  |
| Data Bits                              | 5, 6, 7, 8  |
| Flow Control                           | RTS/CTS, XON/XOFF, ADDC® (automatic data direction control) for RS-485, RTS Toggle (RS-232 only)  |
| Parity                                 | None, Even, Odd, Space, Mark  |
| Stop Bits                              | 1, 1.5, 2   |
| NMEA Interface                         | Serial Standards:<br>NMEA 0183: RS-422<br>NMEA 2000: CAN bus (available on request)<br>Baudrate: 4800 bps<br>Data Bits: 8<br>Handshake: None<br>Optical Isolation Protection: 3 kV<br>Parity: None<br>Serial Standards: NMEA 0183v2 (NMEA 2000 available on request)<br>Stop Bits: 1, 1.5, 2<br>Voltage Differential: -6 V to +6 V (maximal differential level) |
| <b>Serial Signals</b>                  |   |
| RS-232                                 | TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND  |
| RS-422                                 | Tx+, Tx-, Rx+, Rx-, GND   |
| RS-485-2w                              | Data+, Data-, GND   |
| RS-485-4w                              | Tx+, Tx-, Rx+, Rx-, GND   |
| <b>Power Parameters</b>                |   |
| Input Voltage                          | 100 to 240 VAC, 18 to 34 VDC  |
| <b>Physical Characteristics</b>        |   |
| Housing                                | Metal   |
| IP Rating                              | IP54, front<br>IP20, rear   |
| Dimensions                             | 595 x 393 x 75 mm (23.44 x 15.48 x 2.95 in)   |
| Weight                                 | 12,400 g (27.34 lb)   |
| <b>Environmental Limits</b>            |   |
| Operating Temperature                  | -15 to 55°C (5 to 131°F)  |
| Storage Temperature (package included) | -20 to 60°C (-4 to 140°F)   |
| Ambient Relative Humidity              | 5 to 95% (non-condensing)   |

## Standards and Certifications

|                       |  |
|-----------------------|--|
| EMC                   | EN 55032/24  |
| EMI                   | CISPR 32, FCC Part 15B Class A   |
| EMS                   | IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV<br>IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m<br>IEC 61000-4-4 EFT: Power: 1 kV; Signal: 0.5 kV<br>IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV<br>IEC 61000-4-6 CS: 10 V |
| Environmental Testing | IEC 60068-2-1, DNVGL-CG-0339<br>IEC 60068-2-2, DNVGL-CG-0339<br>IEC 60068-2-2, IEC 60945<br>IEC 60068-2-30, IEC 60945  |
| Maritime              | ABS, CCS, DNV-GL   |
| Safety                | EN 60950-1, IEC 60950-1, UL 60950-1  |
| Vibration             | IEC 60068-2-6, IEC 60945, IEC 60068-2-64, DNVGL-CG-0339  |

## Warranty

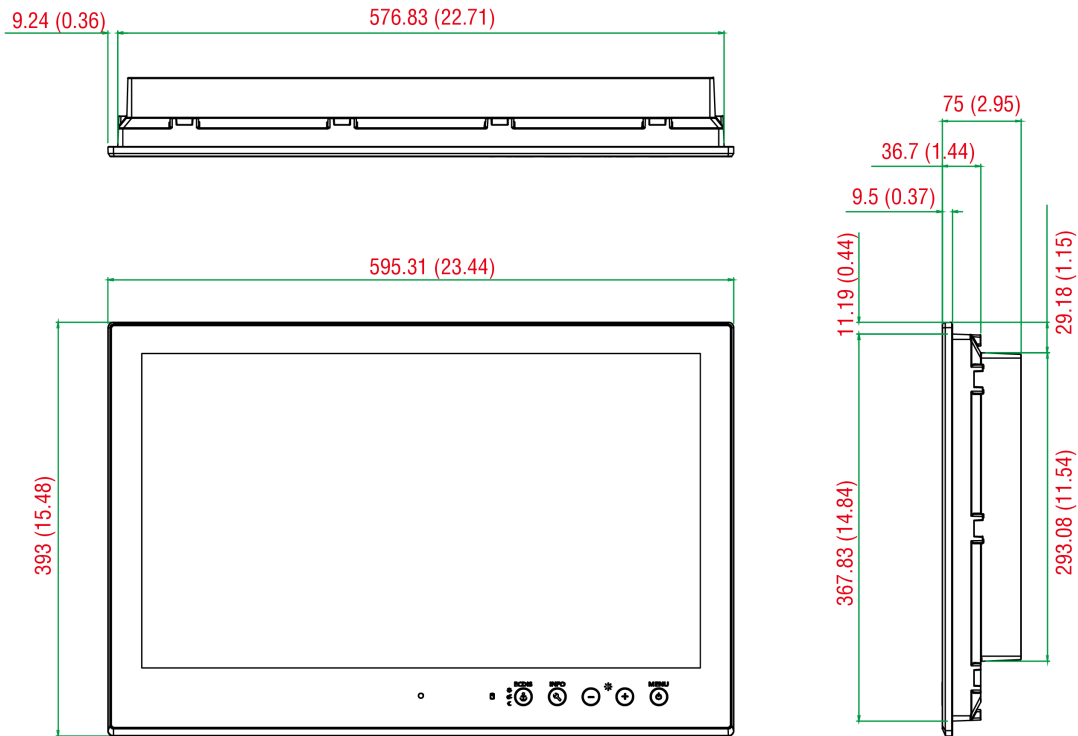
|                 |  |
|-----------------|--|
| Warranty Period | LCD: 1 year<br>System: 3 years                                       |
| Details         | See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> |

## Package Contents

|                  |   |
|------------------|---|
| Device           | 1 x MPC-2240 Series computer  |
| Installation Kit | 2 x storage key<br>1 x terminal block, 2-pin<br>4 x terminal block, 5-pin<br>1 x panel-mounting kit |
| Documentation    | 1 x document and software CD<br>1 x quick installation guide<br>1 x warranty card                   |

## Dimensions

Unit: mm (inch)



## Ordering Information

| Model Name | Panel               | CPU            | RAM  | OS Preinstalled | Touchscreen | LAN | Serial | NMEA 0183 | Video Outputs        | Power Input              | IP Rating                    | Operating Temp. |
|------------|---------------------|----------------|------|-----------------|-------------|-----|--------|-----------|----------------------|--------------------------|------------------------------|-----------------|
| MPC-2240Z  | 24" (16:9) 300 nits | Celeron 1047UE | 4 GB | -               | Capacitive  | 2   | 2      | 8         | 1 x VGA<br>1 x DVI-D | 12/24 VDC<br>100-240 VAC | IP54 (front),<br>IP20 (rear) | -15 to 55°C     |
| MPC-2247Z  | 24" (16:9) 300 nits | i7-3517UE      | 4 GB | -               | Capacitive  | 2   | 2      | 8         | 1 x VGA<br>1 x DVI-D | 12/24 VDC<br>100-240 VAC | IP54 (front),<br>IP20 (rear) | -15 to 55°C     |
| MPC-2240X  | 24" (16:9) 300 nits | Celeron 1047UE | 4 GB | -               | -           | 2   | 2      | 8         | 1 x VGA<br>1 x DVI-D | 12/24 VDC<br>100-240 VAC | IP54 (front),<br>IP20 (rear) | -15 to 55°C     |
| MPC-2247X  | 24" (16:9) 300 nits | i7-3517UE      | 4 GB | -               | -           | 2   | 2      | 8         | 1 x VGA<br>1 x DVI-D | 12/24 VDC<br>100-240 VAC | IP54 (front),<br>IP20 (rear) | -15 to 55°C     |

## Accessories (sold separately)

### Desktop Mounting Kits

|                               |  |
|-------------------------------|--|
| MPC-MD-2-24-26-DMTK w/ hinge  | Desktop-mounting kit for 24/26-inch panels             |
| MPC-MD-2-24-26-DMTK w/o hinge | Desktop-mounting kit for 24/26-inch panels, (no hinge) |

### Panel Mounting Kits

|                  |  |
|------------------|--|
| MPC-MD-2-24-PMTK | 24-inch panel-mounting kit, 14 mounting clamps |
| MPC-MD-2-24-RMTK | Rubber gasket for 24-inch panels               |

### VESA Mounting Kits

|                     |   |
|---------------------|---|
| MPC-MD-2-24-VESAMTK | VESA kit for 24-inch panels (can be used with 200 x 100 mm or 280 x 150 mm VESA mounts) |
|---------------------|---|

© Moxa Inc. All rights reserved. Updated Sep 03, 2019.

This document and any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of Moxa Inc. Product specifications subject to change without notice. Visit our website for the most up-to-date product information.