

# MPC-122-K Series

**Panel computers with Intel Core 2 Duo 2.26 GHz CPU, dual VGA/DVI output, 2 Gigabit Ethernet ports, 2 serial ports, 7 USB 2.0 ports, CompactFlash**



- > 22" wide viewable image size with 16:10 aspect ratio and 1680 x 1050 pixel resolution
- > High performance with Intel Core 2 Duo 2.26 GHz processor
- > Full range dimming, optical bonding (optional), and wide angle view (178° x 178°)
- > Dual independent displays (VGA + DVI-D)
- > Water and dust proof IP66-rated enclosure (flush mounting)
- > 2 Gigabits Ethernet LAN ports
- > 2 RS-232/422/485 optically-isolated serial ports
- > 7 USB 2.0 ports for high speed peripherals
- > CompactFlash socket for storage expansion
- > 2 SATA connectors for storage expansion
- > Supports Windows 7 and Windows XP SP3
- > Rugged and fanless design
- > ECDIS-compliant models available



## Introduction

The MPC-122-K panel computer features a 2.26 GHz Intel Core 2 Duo processor with up to 4 GB of system memory to deliver a reliable, high performance computing platform for industrial marine systems. Two RS-232/422/485 optically-isolated serial ports and two gigabit Ethernet LAN ports provide reliable serial communications alongside high speed, redundant Ethernet LAN communications.

With its wide range of panel resolutions the MPC-122-K can be adjusted to satisfy the display requirements for many different marine applications, and also feature enhancements like wide viewing angles, full range dimming, and optional optical bonding. Designed as a modular unit, the MPC-122-K can be conveniently and quickly

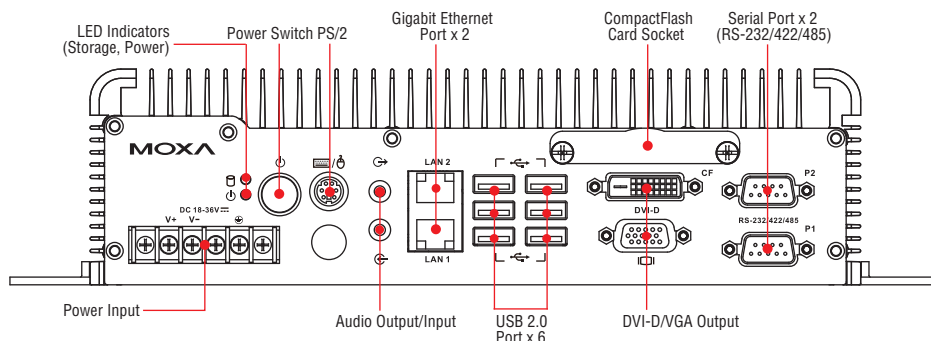
integrated into either new or existing systems, helping reduce overall time-to-market and the associated deployment and integration costs.

MPC-122-K panel computers have proven resilience and reliability in marine environments by meeting or surpassing the strict industrial requirements defined in the IEC 60945, DNV, and IACS-E10 maritime standards, and their IP66 rated enclosures provide significant additional protection against the harsh effects of ocean elements.

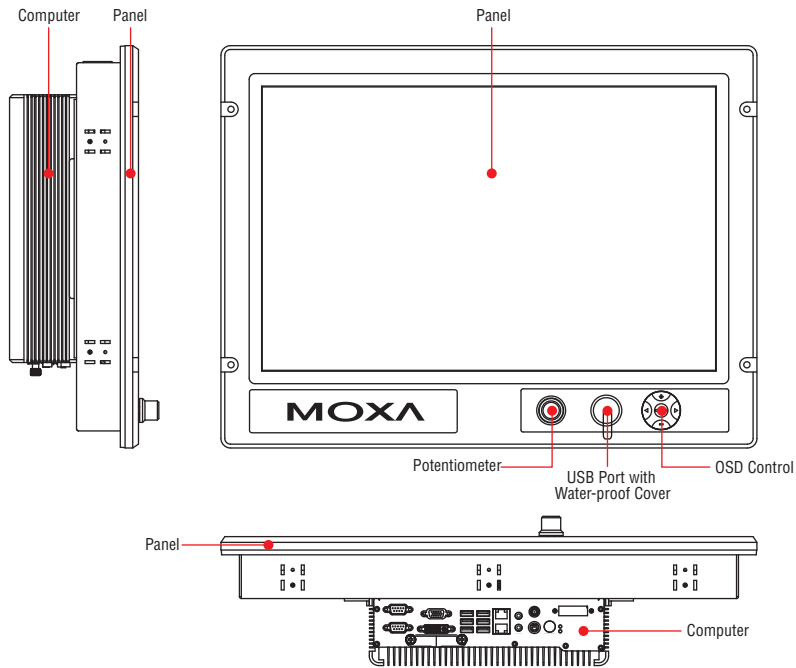
Color-calibrated ECDIS models are also available upon request, providing an ideal HMI alternative for ECDIS charting and navigation stations.

## Appearance

Computer

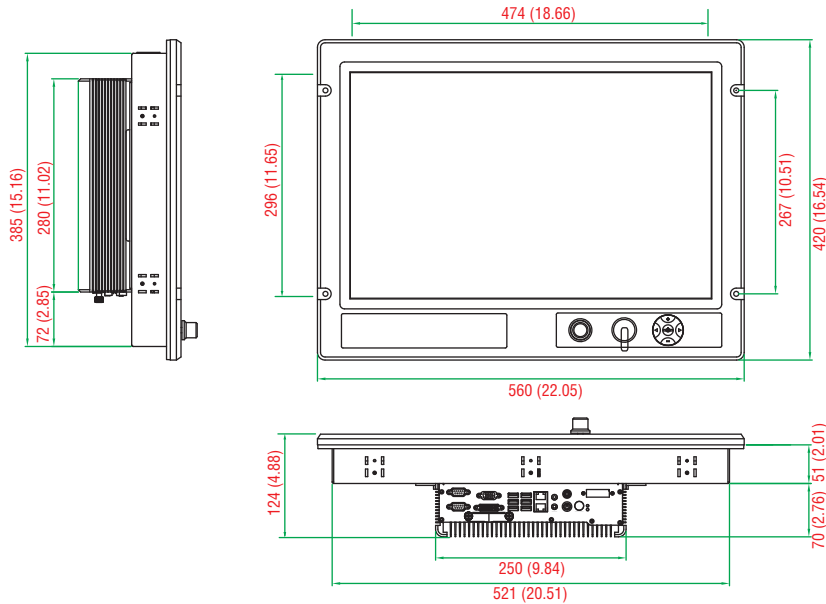


Panel



Dimensions

Unit: mm (inch)



Specifications

Computer

**CPU:** Intel Core 2 Duo SP9300 2.26 GHz, 6 MB for L2 cache  
**OS:** Windows 7, Windows XP SP3 (models with OS pre-installed available by request)  
**System Chipset:** Intel GS45 + ICH9M  
**FSB:** 1066 MHz  
**System Memory:** 2 GB DDR3 SDRAM onboard (supports DDR3 up to 4 GB)  
**Expansion Bus:** Mini-PCIe  
**USB:** 7 boot-capable type A USB 2.0 ports (6 on the computer shell, 1 on the display's front panel)  
**BIOS:** 8 Mbit Flash BIOS with SPI, ACPI

**Graphics Controller:** Onboard Intel GS45  
**Video Output:** 2 total: 1 DVI-D, 1 VGA (female)

Storage

**Storage Expansion:** CompactFlash socket  
**SATA Storage Support:** (models with SDD/HDD pre-installed available on request)  
 • 2.5-inch SSD socket x 1  
 • 2.5-inch HDD socket x 1

Other Peripherals

**Audio:** line in, line out; 3.5 mm mini-jack  
**KB/MS:** 1 PS/2 interface supporting standard PS/2 keyboard and mouse through Y-cable

## Display

**Panel Size:** 22" viewable image size

**Panel Type:** MVA

**Aspect Ratio:** 16:10

**Pixels:** 1680 x 1050 (WSXGA+)

**Pixel Pitch (RGB):** 0.282 (H) x 0.282 (V) mm

**Response Time:** 8 ms (gray to gray)

**Contrast Ratio:** 1000:1

**Light Intensity:** 300 cd/m<sup>2</sup>

**Viewing Angles:** 178°/178°

**Active Display Area:** 473.76 (H) x 296.1 (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+: 1680 x 1050 (optimal setting)

## 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 software-selectable RS-232/422/485 ports, male DB9

**Optical Isolation Protection:** 4 kV

## 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

## LEDs

**System:** Storage, Power

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

## Front Panel

**LEDs:** Storage, Power

**OSD:** 5 display control buttons

**USB:** 1 USB 2.0 port

**Potentiometer:** For brightness control

## Physical Characteristics

**Housing:** Aluminum sheet metal

**Weight:** 15 kg

**Dimensions:** 124 x 560 x 420 mm (4.88 x 22.05 x 16.54 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)

**Anti-Vibration:**

- IEC 60945
- DNV 2.4, Class A/Class C

## Power Requirements

**Input Voltage:** 24 VDC (18 to 36 VDC), screw-type terminal block

**Power Consumption:** 112 W

- 6.21 A @ 18 VDC
- 4.55 A @ 24 VDC
- 2.95 A @ 36 VDC

## 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, DNV, IACS-E10

**Green Product:** RoHS, cRoHS, WEEE

## Reliability

**MTBF (mean time between failures):** 39,675 hrs

**Automatic Reboot Trigger:** Built-in WDT (watchdog timer) supporting 1-255 levels for time interval system reset, software programmable

## Warranty

**Warranty Period:** 1 year

**Details:** See [www.moxa.com/warranty](http://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, 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.

## Ordering Information

### Available Models

**MPC-122X-K:** Intel Core 2 Duo 2.26 GHz panel computer with 22" screen, full-dimming, tape bonding

**MPC-122Y-K:** Intel Core 2 Duo 2.26 GHz panel computer with 22" screen, full-dimming, optical bonding

**MPC-122X-K-ECDIS:** Intel Core 2 Duo 2.26 GHz panel computer with 22" screen, full-dimming, tape bonding, ECDIS

**MPC-122Y-K-ECDIS:** Intel Core 2 Duo 2.26 GHz panel computer with 22" screen, full-dimming, optical bonding, ECDIS

### Package Checklist

- MPC-122-K panel computer
- PS/2 to KB/MS Y-cable
- 2 hard drive cables and 1 SATA disk power cable
- Rubber waterproofing gasket
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card