

# MPC-2120 Series

## 12-inch industrial fanless panel computers



### Features and Benefits

- 12-inch panel computer
- Intel® Atom Processor: E3845 1.91 GHz or E3826 1.46 GHz
- -40 to 70°C wide-temperature design, no fan or heater
- 1000-nit sunlight-readable LCD
- Class 1 Division 2, ATEX Zone 2, and IECEx certified
- Wide-range 10 to 36 VDC power input
- DNV GL certified for marine applications

### Certifications

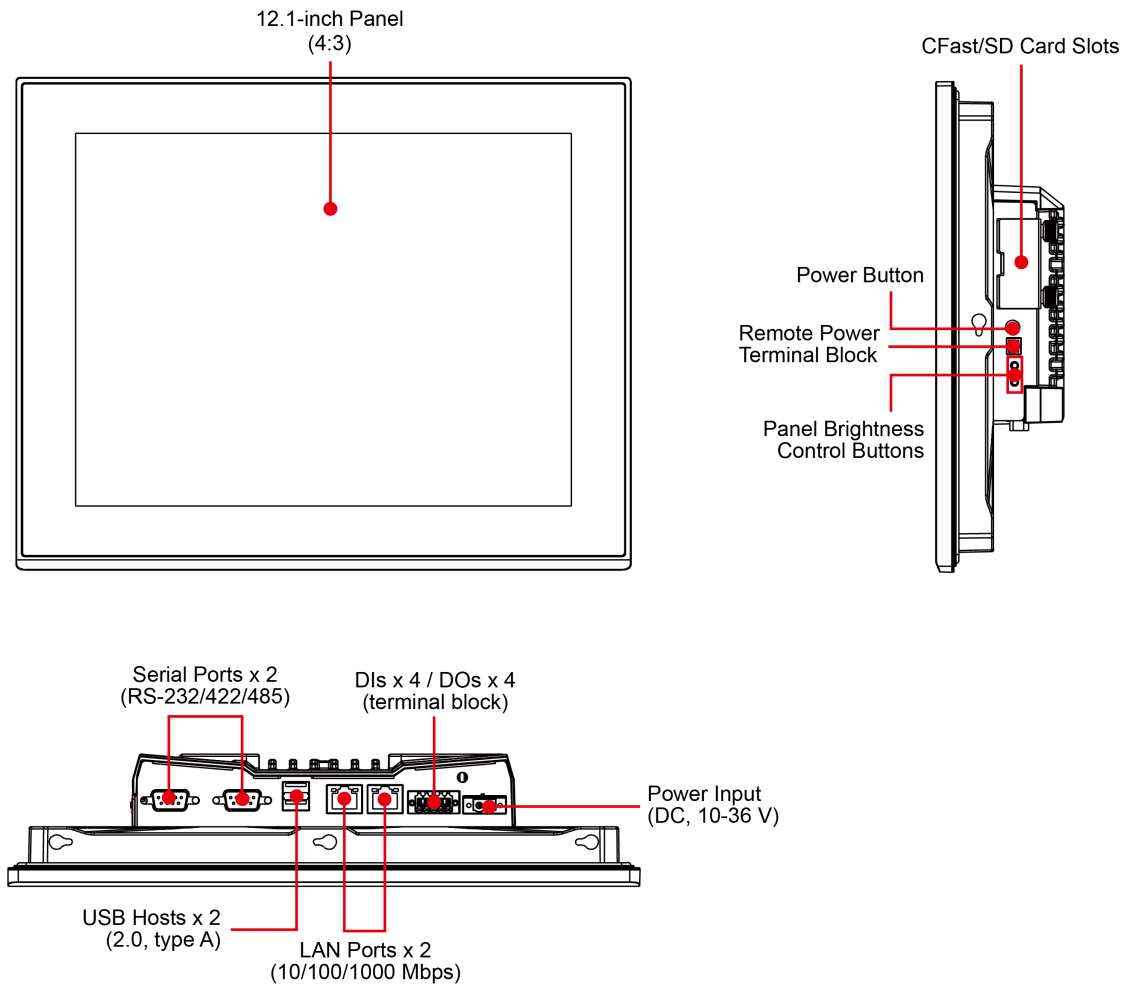


### Introduction

The MPC-2120 12-inch panel computers with E3800 Series Intel® Atom™ processor deliver a reliable and durable platform of wide versatility for use in industrial environments. With two software selectable RS-232/422/485 serial ports and two Gigabit Ethernet ports, the MPC-2120 panel computers support a wide variety of serial interfaces as well as high-speed IT communications, all with native network redundancy.

The MPC-2120 Series panel computers are designed with a wide, -40 to 70°C temperature range, and come with a fanless, streamlined enclosure designed for highly efficient heat dissipation, making this one of the most reliable industrial platforms available for harsh, hot, outdoor environments like oil and gas fields and drilling platforms. The MPC-2120 also features a 1000-nit LCD panel offering a sunlight-readable, projected-capacitive, multi-touch screen, providing an excellent user experience for outdoor applications.

## Appearance



## Specifications

### Computer

|                             |  |
|-----------------------------|--|
| CPU                         | MPC-2120-E2-T: Intel Atom® Processor E3826 (1M Cache, 1.46 GHz)<br>MPC-2120-E4-T: Intel Atom® Processor E3845 (2M Cache, 1.91 GHz)                             |
| Graphics Controller         | Intel® HD Graphics   |
| System Memory Pre-installed | 4 GB DDR3L   |
| System Memory Slot          | SODIMM DDR3/DDR3L slot x 1   |
| Pre-installed OS            | MPC-2120-E2-T-W7E/MPC-2120-E4-T-W7E: Windows Embedded Standard 7 (WS7P) 64-bit   |
| 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 Entry 64-bit |
| Storage Slot                | CFast slot x 1<br>SD slots x 1, SD 3.0 (SDHC/SDXC) socket  |
| Storage Pre-installed       | MPC-2120-E2-T-W7E/MPC-2120-E4-T-W7E: 32 GB CFast Card  |

### 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 2, type-A connectors                     |

|                              |  |
|------------------------------|--|
| Digital Input                | DIs x 4  |
| Digital Output               | DOs x 4  |
| <b>LED Indicators</b>        |  |
| System                       | Power x 1  |
| LAN                          | 2 per port (10/100/1000 Mbps)  |
| <b>Display</b>               |  |
| Active Display Area          | 245.76 (H) x 184.32 (V) mm   |
| Aspect Ratio                 | 4:3  |
| Contrast Ratio               | 700:1  |
| Light Intensity (Brightness) | 1000 cd/m <sup>2</sup>   |
| Max. No. of Colors           | 16.2M (8-bit/color)  |
| Panel Size                   | 12-inch viewable image   |
| Panel Type                   | TN   |
| Pixel Pitch (RGB)            | 0.240 (H) x 0.240 (V) mm   |
| Pixels                       | 1024 x 768   |
| Response Time                | 5 ms (gray to gray)  |
| Viewing Angles               | 160°/140°  |
| <b>Touch Function</b>        |  |
| Touch Type                   | Capacitive Touch (PCAP)  |
| Touch Support Points         | 4 points   |
| Glove Support                | Yes  |
| <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  |
| <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  |

## Power Parameters

|                   |              |
|-------------------|--------------|
| Input Voltage     | 10 to 36 VDC |
| Power Consumption | 40 W (max.)  |

## Physical Characteristics

|            |                                       |
|------------|---------------------------------------|
| Housing    | Metal                                 |
| IP Rating  | IP66                                  |
| Dimensions | 306 x 245 x 64 mm (12 x 9.6 x 2.5 in) |
| Weight     | 2,640 g (5.82 lb)                     |

## Environmental Limits

|  |                            |
|--|----------------------------|
| Operating Temperature                  | -40 to 70°C (-40 to 158°F) |
| Storage Temperature (package included) | -40 to 70°C (-40 to 158°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<br>IEC 61000-4-8 PFMF |
| 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  |
| Hazardous Locations          | ATEX, Class I Division 2, IECEx  |
| Maritime                     | DNV-GL   |
| Mechanical Protection Rating | IEC 60529, IP code   |
| Safety                       | EN 60950-1, IEC 60950-1, UL 60950-1  |
| Shock                        | IEC 60068-2-27   |
| Vibration                    | IEC 60068-2-6, IEC 60068-2-6, IEC 60945, IEC 60068-2-64, DNVGL-CG-0339   |

## Declaration

|               |                   |
|---------------|-------------------|
| Green Product | RoHS, CRoHS, WEEE |
|---------------|-------------------|

## Warranty

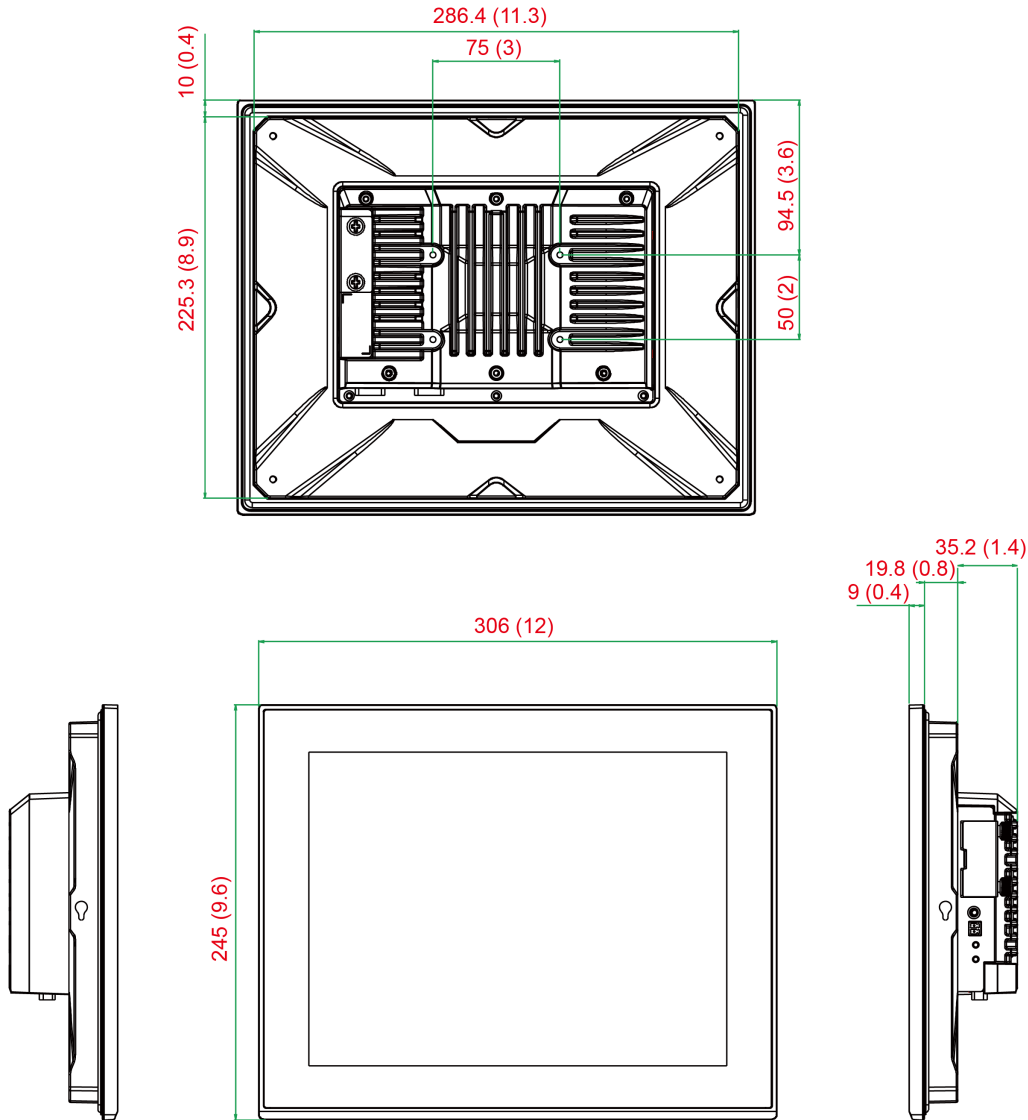
|                 |  |
|-----------------|--|
| Warranty Period | LCD: 1 year<br>System: 3 years                                       |
| Details         | See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> |

## Package Contents

|                  |  |
|------------------|--|
| Device           | 1 x MPC-2120 Series computer   |
| Installation Kit | 8 x screw, for panel-mounting<br>1 x terminal block, 2-pin (for DC power input)<br>1 x terminal block, 10-pin (for DIO)<br>1 x terminal block, 2-pin for remote power switch |
| Documentation    | 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 | DI/DO | Power Input | IP Rating                    | Operating Temp. |
|-------------------|-------------------------|----------------------|------|-----------------------|-------------|-----|--------|-------|-------------|------------------------------|-----------------|
| MPC-2120-E2-T     | 12" (4:3)<br>1,000 nits | Intel Atom®<br>E3826 | 4 GB | -                     | Capacitive  | 2   | 2      | 4/4   | 12/24 VDC   | IP66 (front),<br>IP20 (rear) | -40 to 70°C     |
| MPC-2120-E2-T-W7E | 12" (4:3)<br>1,000 nits | Intel Atom®<br>E3826 | 4 GB | W7E OS<br>32 GB CFast | Capacitive  | 2   | 2      | 4/4   | 12/24 VDC   | IP66 (front),<br>IP20 (rear) | -40 to 70°C     |

| Model Name        | Panel                   | CPU               | RAM  | OS Preinstalled       | Touchscreen | LAN | Serial | DI/DO | Power Input | IP Rating                    | Operating Temp. |
|-------------------|-------------------------|-------------------|------|-----------------------|-------------|-----|--------|-------|-------------|------------------------------|-----------------|
| MPC-2120-E4-T     | 12" (4:3)<br>1,000 nits | Intel Atom® E3845 | 4 GB | -                     | Capacitive  | 2   | 2      | 4/4   | 12/24 VDC   | IP66 (front),<br>IP20 (rear) | -40 to 70°C     |
| MPC-2120-E4-T-W7E | 12" (4:3)<br>1,000 nits | Intel Atom® E3845 | 4 GB | W7E OS<br>32 GB CFast | Capacitive  | 2   | 2      | 4/4   | 12/24 VDC   | IP66 (front),<br>IP20 (rear) | -40 to 70°C     |

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