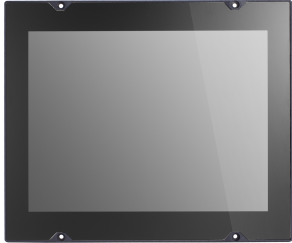


# MPC-2121 Series

## 12-inch industrial fanless panel computers



### Features and Benefits

- 12-inch panel computer
- Intel Atom® processor E3845 1.91 GHz
- 1000-nit sunlight-readable LCD
- -40 to 70°C wide-temperature design, no fan or heater
- EN 50155:2017 Compliant

### Certifications



EN 50155

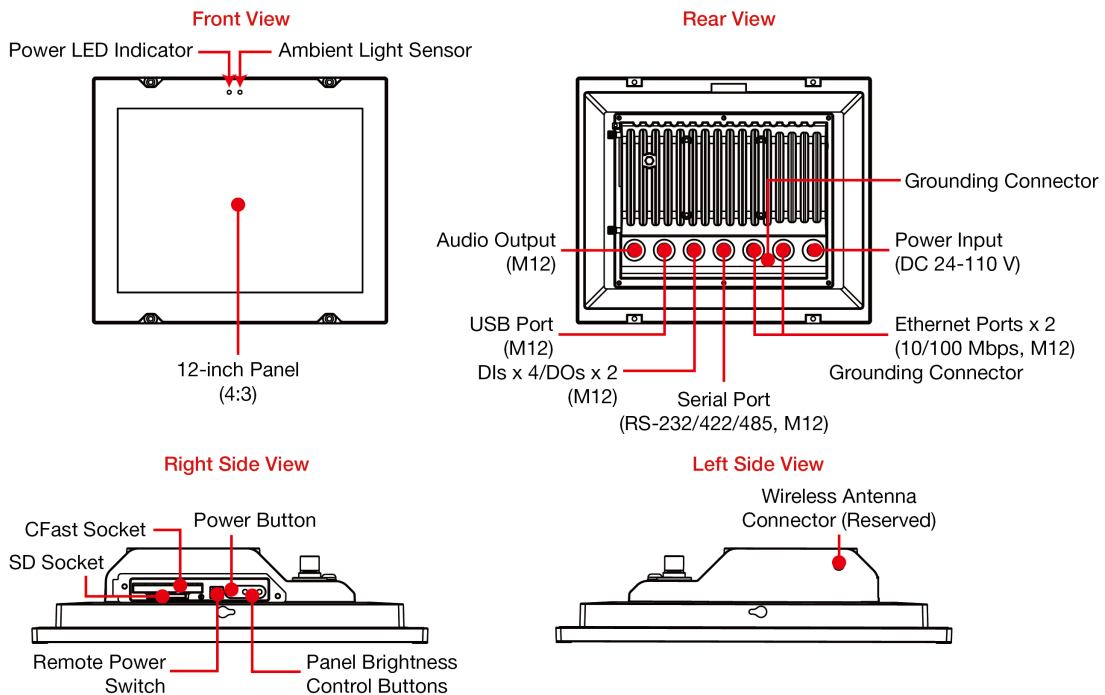


## Introduction

The MPC-2121 12-inch panel computers with E3800 Series Intel® Atom™ processor deliver a reliable and durable platform of wide versatility for use in industrial environments. All interfaces come with IP66-rated M12 connectors to provide anti-vibration and waterproof connections. With two software-selectable RS-232/422/485 serial ports and two Ethernet ports, the MPC-2121 panel computers support a wide variety of serial interfaces as well as high-speed IT communications, all with native network redundancy.

The MPC-2121 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 vibration prone, harsh, hot, outdoor environments. The MPC-2121 also features a 1000-nit LCD panel offering a sunlight readable, projected-capacitive, multi-touch screen, providing an excellent user experience.

## Appearance



## Specifications

### Computer

|                             |                                                                                                                                                                                                    |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU                         | Intel Atom® Processor E3845 (2M Cache, 1.91 GHz)                                                                                                                                                   |
| Graphics Controller         | Intel® HD Graphics                                                                                                                                                                                 |
| System Memory Pre-installed | 4 (8GB Max.) GB DDR3L                                                                                                                                                                              |
| System Memory Slot          | SODIMM DDR3/DDR3L slot x 1                                                                                                                                                                         |
| Pre-installed OS            | MPC-2121-E4-LB-CT-T-W7E/MPC-2101-E4-CT-T-W7E: Windows Embedded Standard 7 (WS7P) 64-bit pre-installed<br>MPC-2121-E4-LB-CT-T-LX/MPC-2121-E4-CT-T-LX: Linux 9 pre-installed                         |
| Supported OS                | Windows Embedded Standard 7 (WS7P) 64-bit<br>Windows 7 Pro for Embedded Systems<br>Windows 10 Embedded IOT Ent 2016 LTSB Entry 64-bit<br>Windows 10 Pro 64-bit<br>Moxa Industrial Linux (Debian 9) |
| Expansion Slots             | Mini PCIe                                                                                                                                                                                          |
| Storage Slot                | CFast slot x 1<br>SD slots x 1, SD 3.0 (SDHC/SDXC) socket                                                                                                                                          |
| Storage Pre-installed       | MPC-2121-E4-LB-CT-T-W7E/MPC-2121-E4-CT-T-W7E: 32 GB CFast Card<br>MPC-2121-E4-LB-CT-T-LX/MPC-2121-E4-CT-T-LX: 16 GB CFast Card                                                                     |

### Computer Interface

|                |                                                     |
|----------------|-----------------------------------------------------|
| Ethernet Ports | Auto-sensing 10/100 Mbps ports (M12 D-coded 4P) x 2 |
| Serial Ports   | RS-232/422/485 ports x 1 (M12 A-code 12P)           |
| USB 2.0        | USB 2.0 hosts x 1 (M12 A-coded 5P)                  |
| Digital Input  | DIs x 4 (M12 A-code)                                |
| Digital Output | DOs x 2 (M12 A-code)                                |

### LED Indicators

|        |           |
|--------|-----------|
| System | Power x 1 |
|--------|-----------|

### Display

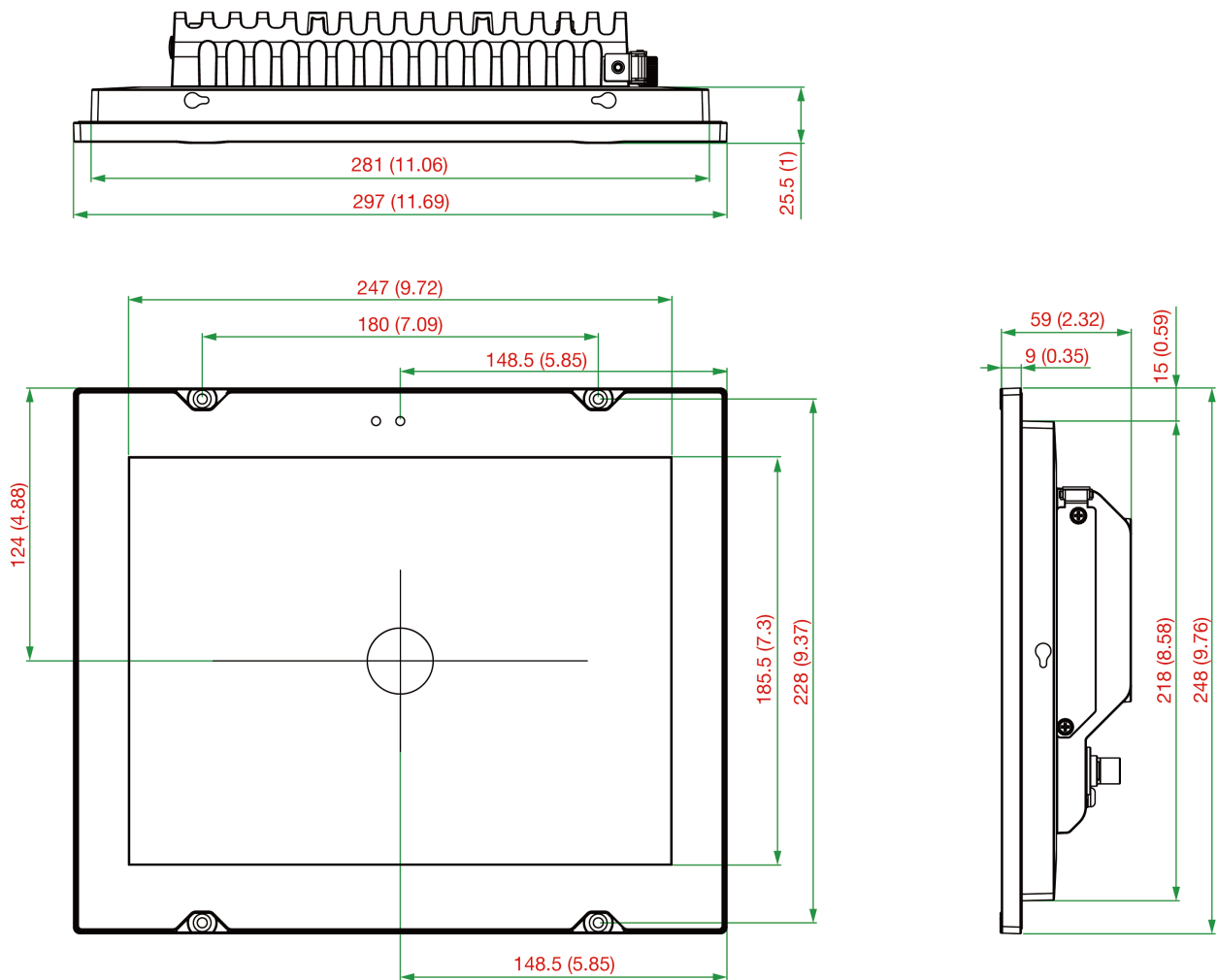
|                              |                            |
|------------------------------|----------------------------|
| Active Display Area          | 245.76 (H) x 184.32 (V) mm |
| Aspect Ratio                 | 4:3                        |
| Contrast Ratio               | 1000:1                     |
| Light Intensity (Brightness) | 500/1000 cd/m <sup>2</sup> |
| Max. No. of Colors           | 16.2M (8-bit/color)        |
| Panel Size                   | 12-inch viewable image     |
| Pixel Pitch (RGB)            | 0.240 (H) x 0.240 (V) mm   |
| Pixels                       | 1024 x 768                 |
| Response Time                | 5 ms (gray to gray)        |
| Viewing Angles               | 176°/176°                  |

|                                        |                                                                                                                                                                                                                                            |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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                                                                                                                                                                                                                          |
| 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                                                                                                                                                                                                                    |
| <b>Power Parameters</b>                |                                                                                                                                                                                                                                            |
| Input Voltage                          | 24 to 110 VDC                                                                                                                                                                                                                              |
| <b>Physical Characteristics</b>        |                                                                                                                                                                                                                                            |
| Housing                                | Metal                                                                                                                                                                                                                                      |
| IP Rating                              | IP66                                                                                                                                                                                                                                       |
| Dimensions                             | 297 x 248 x 59 mm (11.69 x 9.76 x 2.32 in)                                                                                                                                                                                                 |
| Weight                                 | 2850 g (6.28 lb)                                                                                                                                                                                                                           |
| <b>Environmental Limits</b>            |                                                                                                                                                                                                                                            |
| 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)                                                                                                                                                                                                                  |
| <b>Standards and Certifications</b>    |                                                                                                                                                                                                                                            |
| EMI                                    | CISPR 32, FCC Part 15B Class A                                                                                                                                                                                                             |
| EMS                                    | IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV<br>IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m<br>IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 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 |
| Mechanical Protection Rating           | IEC 60529, IP code                                                                                                                                                                                                                         |
| Shock                                  | EN 50155 standard                                                                                                                                                                                                                          |
| Vibration                              | EN 50155 standard                                                                                                                                                                                                                          |

|                         |                                                                                                                                                   |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| EMC                     | EN55032/35                                                                                                                                        |
| Safety                  | IEC 60950-1, IEC 62368-1, UL 62368-1                                                                                                              |
| <b>Declaration</b>      |                                                                                                                                                   |
| Green Product           | RoHS, CRoHS, WEEE                                                                                                                                 |
| <b>Warranty</b>         |                                                                                                                                                   |
| Warranty Period         | LCD: 1 year<br>System: 3 years                                                                                                                    |
| Details                 | See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>                                                                              |
| <b>Package Contents</b> |                                                                                                                                                   |
| Device                  | 1 x MPC-2121 Series computer                                                                                                                      |
| Installation Kit        | 6 x screw, for panel-mounting<br>1 x M12-Phone jack power cable<br>1 x M12-Type A USB cable<br>1 x terminal block, 2-pin (for remote power input) |
| Documentation           | 1 x quick installation guide<br>1 x warranty card                                                                                                 |

## Dimensions

Unit: mm (inch)



## Ordering Information

| Model Name              | Panel                   | CPU                | RAM  | OS Preinstalled | LAN        | Serial     | USB 2.0 Port | DI/DO        | Power Input      | IP Rating | Operating Temp. |
|-------------------------|-------------------------|--------------------|------|-----------------|------------|------------|--------------|--------------|------------------|-----------|-----------------|
| MPC-2121-E4-LB-CT-T-W7E | 12" (4:3)<br>500 nits   | E3845<br>Quad core | 4 GB | W7E<br>(64-bit) | 2<br>(M12) | 1<br>(M12) | 1<br>(M12)   | 4/2<br>(M12) | 24 to 110<br>VDC | IP66      | -40 to 70°C     |
| MPC-2121-E4-CT-T-W7E    | 12" (4:3)<br>1,000 nits | E3845<br>Quad core | 4 GB | W7E<br>(64-bit) | 2<br>(M12) | 1<br>(M12) | 1<br>(M12)   | 4/2<br>(M12) | 24 to 110<br>VDC | IP66      | -40 to 70°C     |
| MPC-2121-E4-LB-CT-T-LX  | 12" (4:3)<br>500 nits   | E3845<br>Quad core | 4 GB | Debian 9        | 2<br>(M12) | 1<br>(M12) | 1<br>(M12)   | 4/2<br>(M12) | 24 to 110<br>VDC | IP66      | -40 to 70°C     |
| MPC-2121-E4-CT-T-LX     | 12" (4:3)<br>1,000 nits | E3845<br>Quad core | 4 GB | Debian 9        | 2<br>(M12) | 1<br>(M12) | 1<br>(M12)   | 4/2<br>(M12) | 24 to 110<br>VDC | IP66      | -40 to 70°C     |
| MPC-2121-E4-LB-CT-T     | 12" (4:3)<br>500 nits   | E3845<br>Quad core | 4 GB | -               | 2<br>(M12) | 1<br>(M12) | 1<br>(M12)   | 4/2<br>(M12) | 24 to 110<br>VDC | IP66      | -40 to 70°C     |
| MPC-2121-E4-CT-T        | 12" (4:3)<br>1,000 nits | E3845<br>Quad core | 4 GB | -               | 2<br>(M12) | 1<br>(M12) | 1<br>(M12)   | 4/2<br>(M12) | 24 to 110<br>VDC | IP66      | -40 to 70°C     |

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