

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

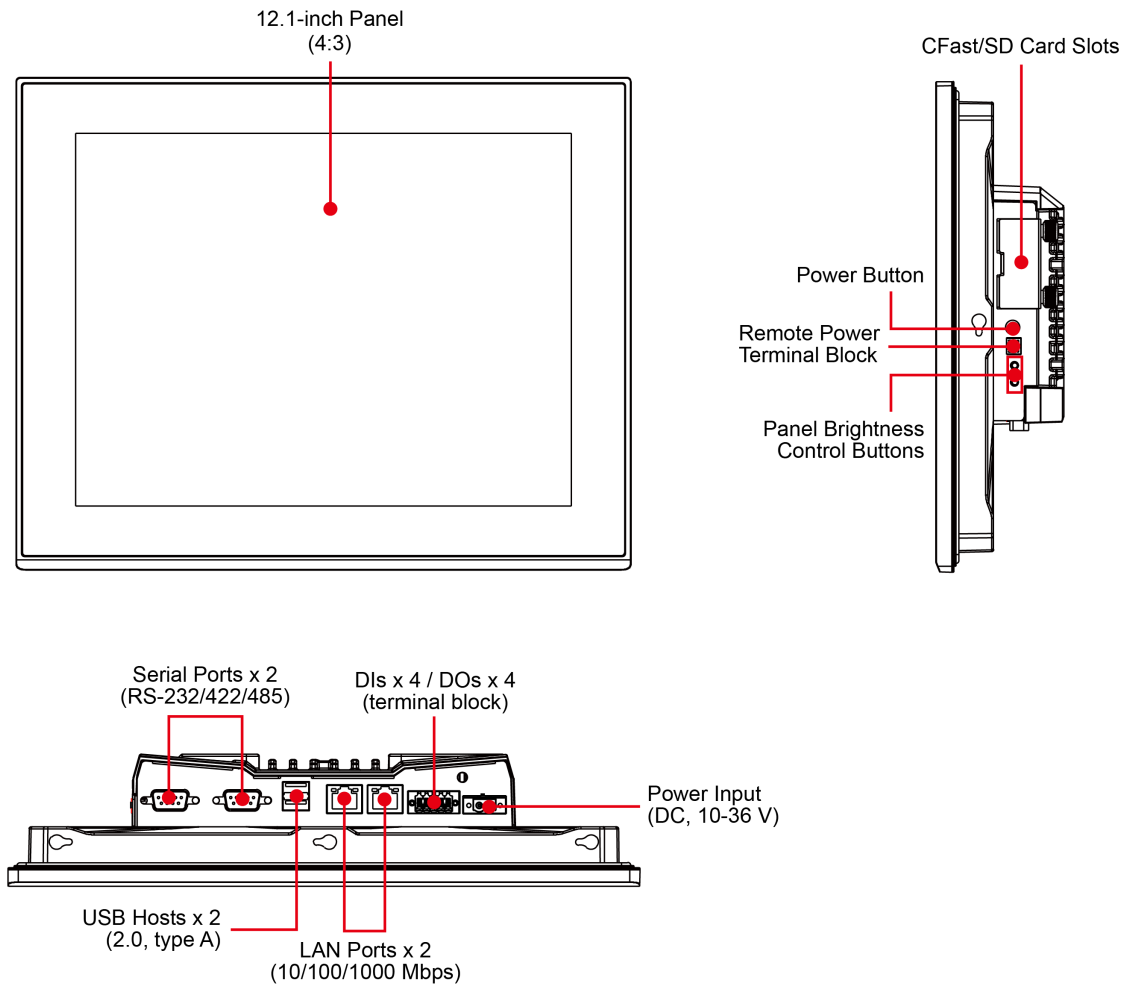


Introduction

The MPC-2120 12-inch panel computers with E3800 Series Intel Atom® processor deliver a reliable, durable, and versatile platform 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) 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 Windows Embedded Standard 7 (WS7P) 64-bit Windows 10 Pro 64-bit Windows 10 Embedded IOT Ent 2016 LTSB Entry 64-bit
Storage Slot	CFast slot x 1 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
LED Indicators	
System	Power x 1
LAN	2 per port (10/100/1000 Mbps)
Display	
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 ²
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°
Touch Function	
Touch Type	Capacitive Touch (PCAP)
Touch Support Points	4 points
Glove Support	Yes
Serial Interface	
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
Serial Signals	
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 IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 1 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Environmental Testing	IEC 60068-2-1, DNVGL-CG-0339 IEC 60068-2-2, DNVGL-CG-0339 IEC 60068-2-2, IEC 60945 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
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Warranty

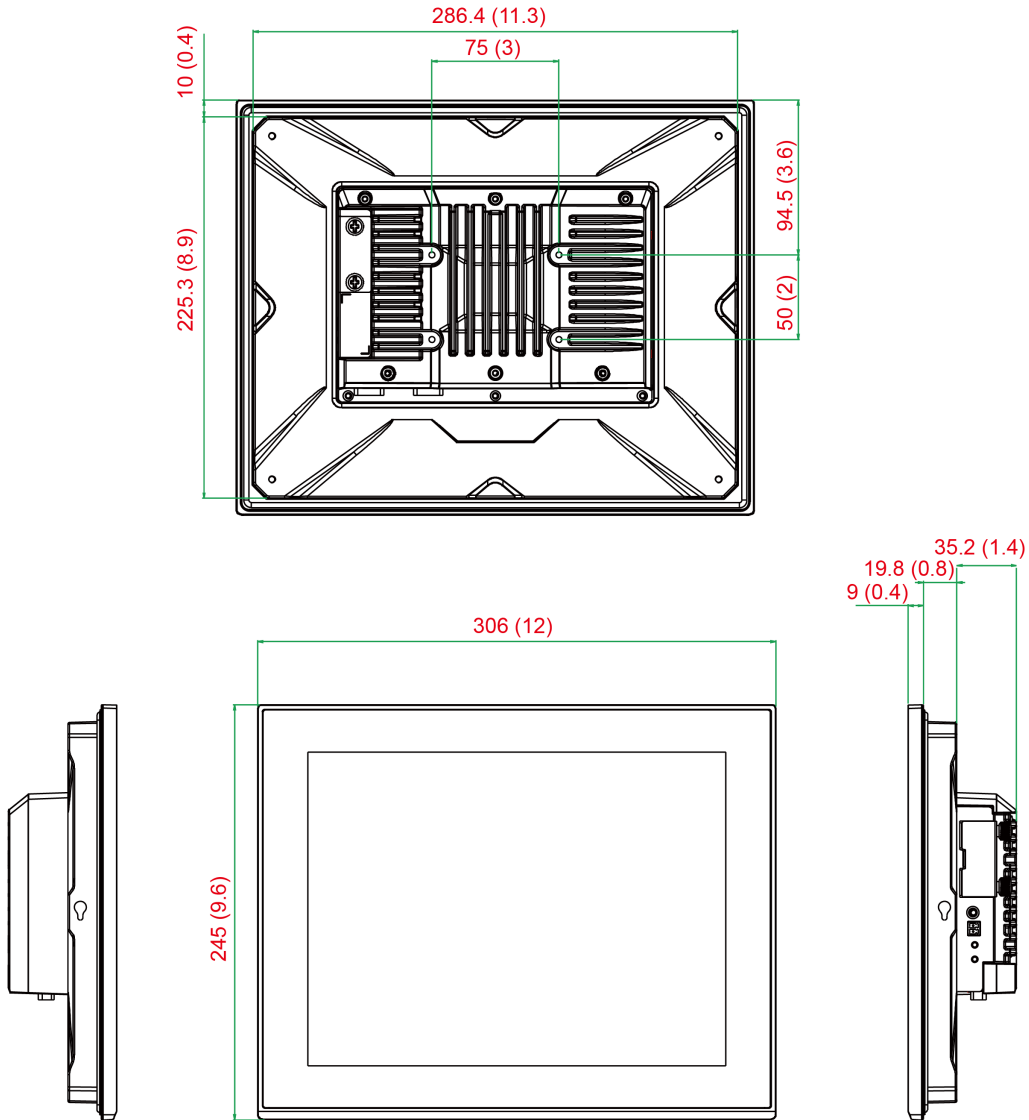
Warranty Period	LCD: 1 year System: 3 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x MPC-2120 Series computer
Installation Kit	8 x screw, for panel-mounting 1 x terminal block, 2-pin (for DC power input) 1 x terminal block, 10-pin (for DIO) 1 x terminal block, 2-pin for remote power switch
Documentation	1 x quick installation guide 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) 1,000 nits	Intel Atom® E3826	4 GB	-	Capacitive	2	2	4/4	12/24 VDC	IP66 (front), IP20 (rear)	-40 to 70° C
MPC-2120-E2-LB-T	12" (4:3) 500 nits	Intel Atom® E3826	4 GB	-	Capacitive	2	2	4/4	12/24 VDC	IP66 (front), 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) 1,000 nits	Intel Atom® E3845	4 GB	-	Capacitive	2	2	4/4	12/24 VDC	IP66 (front), IP20 (rear)	-40 to 70° C
MPC-2120-E4-LB-T	12" (4:3) 500 nits	Intel Atom® E3845	4 GB	-	Capacitive	2	2	4/4	12/24 VDC	IP66 (front), IP20 (rear)	-40 to 70° C
MPC-2120-E2-T-W7E	12" (4:3) 1,000 nits	Intel Atom® E3826	4 GB	W7E 32 GB CFast	Capacitive	2	2	4/4	12/24 VDC	IP66 (front), IP20 (rear)	-40 to 70° C
MPC-2120-E2-LB-T-W7E	12" (4:3) 500 nits	Intel Atom® E3826	4 GB	W7E 32 GB CFast	Capacitive	2	2	4/4	12/24 VDC	IP66 (front), IP20 (rear)	-40 to 70° C
MPC-2120-E4-T-W7E	12" (4:3) 1,000 nits	Intel Atom® E3845	4 GB	W7E 32 GB CFast	Capacitive	2	2	4/4	12/24 VDC	IP66 (front), IP20 (rear)	-40 to 70° C
MPC-2120-E4-LB-T-W7E	12" (4:3) 500 nits	Intel Atom® E3845	4 GB	W7E 32 GB CFast	Capacitive	2	2	4/4	12/24 VDC	IP66 (front), IP20 (rear)	-40 to 70° C

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