

MPC-3120 Series

12.1-inch multi-interface fanless panel computers



Features and Benefits

- 12.1-inch panel computers
- Intel Atom® x6211E dual-core or x6425E quad-core processor
- -30 to 60°C operating temperature, fanless design, no heater required
- 400-nit or 1000-nit sunlight-readable LCD
- Glove-friendly, multi-touch screen
- DNV, CID2, ATEX Zone 2, and IECEx compliant¹
- 12/24 VDC power input

Certifications

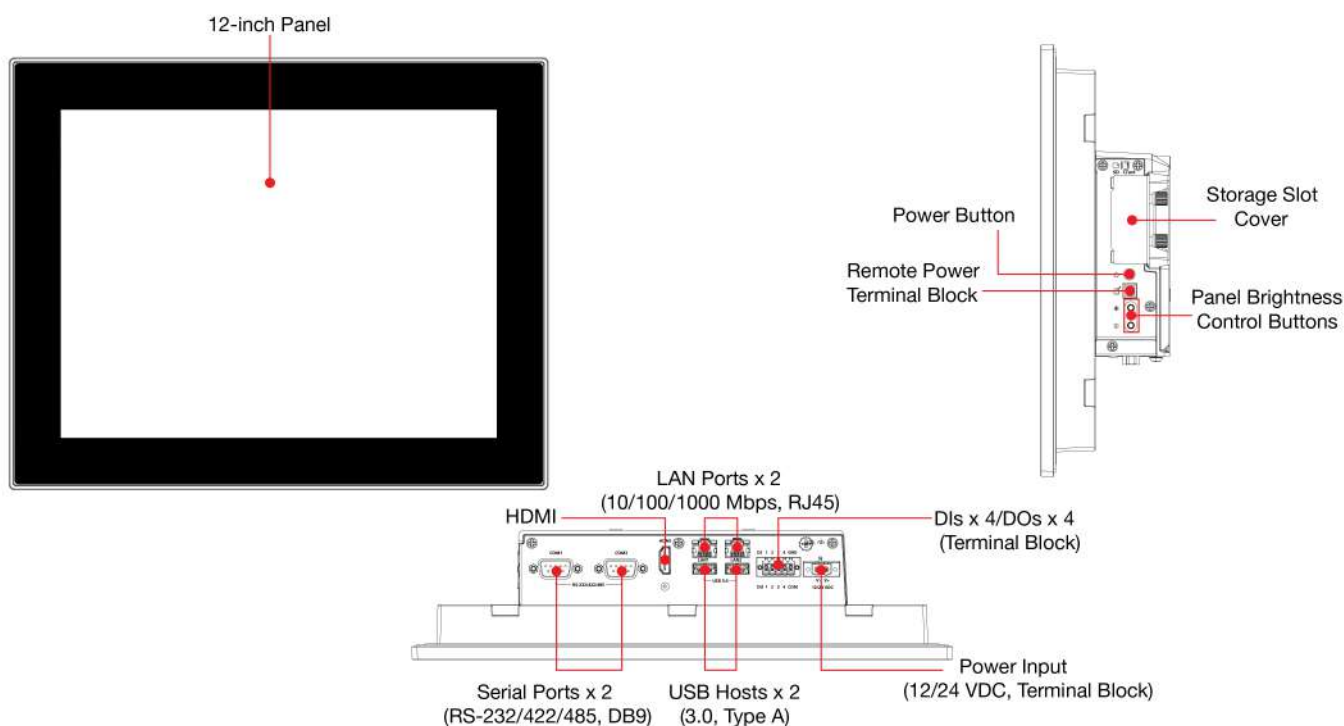


Introduction

The MPC-3120 12.1-inch panel computers with Intel Atom® x6211E dual-core or x6425E quad-core 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-3120 panel computers support a wide variety of serial interfaces as well as high-speed IT communications, all with native network redundancy.

The MPC-3120 panel computers are designed for the -30 to 60°C temperature range, and come with a fanless, streamlined enclosure designed for highly efficient heat dissipation. This makes the computers reliable industrial platforms for harsh, hot, outdoor environments like oil and gas fields, or drilling platforms. The MPC-3120 also features a 400-nit or 1000-nit LCD panel offering a sunlight-readable, projected-capacitive, glove-friendly, multi-touch screen for excellent user experience in outdoor applications.

Appearance



1. Certification processes are underway.

Specifications

Computer

CPU	E2 models: Intel Atom® Elkhart Lake dual-core x6211E 1.30 GHz E4 models: Intel Atom® Elkhart Lake quad-core x6425E 2.0 GHz
Graphics Controller	Intel® UHD Graphics
System Memory Pre-installed	8 GB DDR4 2400 MHz (32 GB max)
System Memory Slot	SODIMM DDR4 2400 slots x 1
Supported OS	Windows 10 IoT Enterprise LTSC 2021 Windows 11 Professional (64-bit) Debian 11 (kernel 5.10) Ubuntu 22.04 LTS (kernel 5.1x) RHEL 9 (kernel 5.14)
Storage Slot	CFast slot x 1 SD slots x 1, SD 3.0 interface (SDHC/SDXC)

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 connector)
USB 3.0	USB 3.0 hosts x 2, type-A connectors
Digital Input	DIs x 4 (with isolation protection)
Digital Output	DOs x 4 (with isolation protection)
TPM	TPM v2.0
Video Output	HDMI 1.2a x 1 (type-A connector)

LED Indicators

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

Display

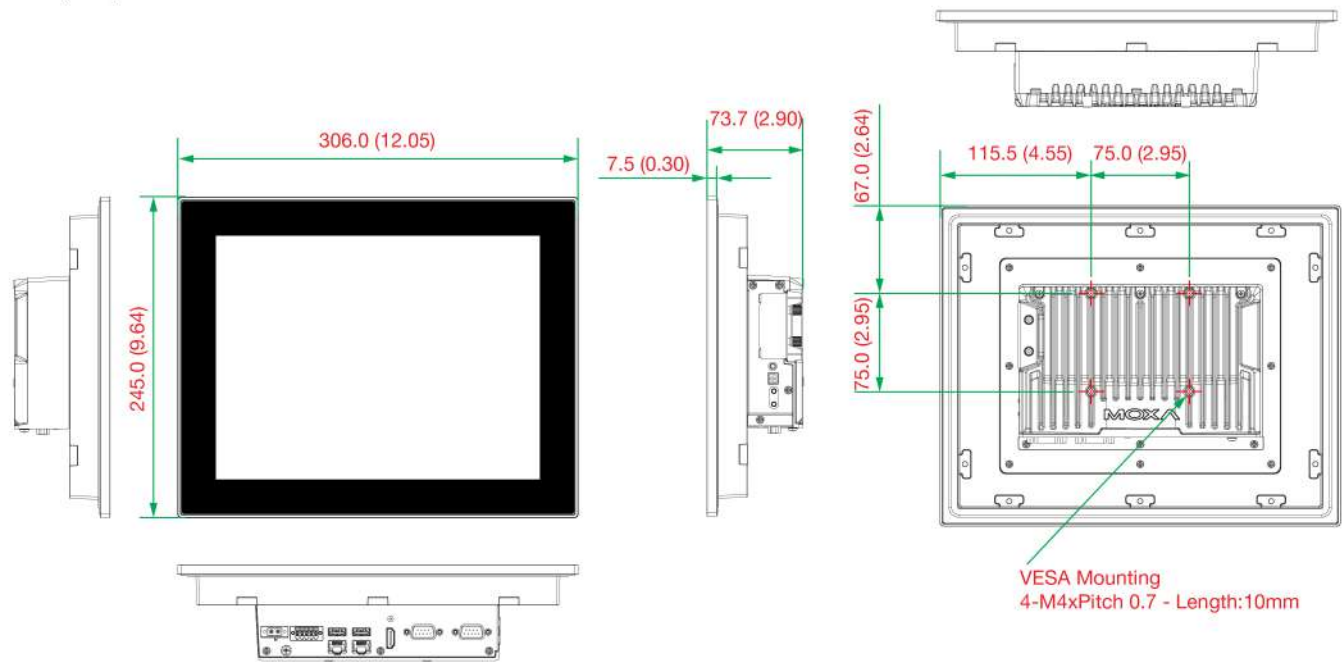
Panel Size	12.1 in (viewable image)
Aspect Ratio	4:3
Active Display Area	245.76 (H) x 184.32 (V) mm
Contrast Ratio	1000:1 (typ.)
Light Intensity (Brightness)	MPC-3120-E2/E4-T: 1000 nits MPC-3120-E2/E4-LB-T: 400 nits
Max. No. of Colors	262k, 16.7M (8-bit/color)
Panel Type	AAS
Pixel Pitch (RGB)	0.240 (H) x 0.240 (V) mm
Pixels	1024 x 768
Response Time	25 ms
Viewing Angles	178°/178°

Touch Function	
Touch Type	Projective Capacitive touchscreen (PCAP)
Touch Support Points	4 points
Glove Support	Yes
Ethernet Interface	
Magnetic Isolation Protection	1.5 kV (built-in)
Serial Interface	
Baudrate	50 bps to 115.2 kbps
Data Bits	5, 6, 7, 8
Flow Control	RTS/CTS, XON/XOFF, Automatic Data Direction Control (ADDC) 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, Rx D, 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	12/24 VDC
Power Consumption	48 W (max, including full USB loading)
Physical Characteristics	
Housing	Metal
IP Rating	IP66, front IP20, rear
Dimensions	315 x 220 x 75.7 mm (12.40 x 8.66 x 2.98 in)
Weight	2,900 g (6.39 lb)
Environmental Limits	
Operating Temperature	-30 to 60°C (-22 to 140°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 55032/35
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 1 kV; Signal: 1 kV

Environmental Testing	IEC 60068-2-1, DNV-CG-0339 IEC 60068-2-1, IEC 60945 IEC 60068-2-2, DNV-CG-0339 IEC 60068-2-2, IEC 60945 IEC 60068-2-30, DNV-CG-0339
Hazardous Locations	ATEX Zone 2 Class I Division 2 IECEX Zone 2
Maritime	DNV-CG-0339, IEC 60945, IACS E10
Safety	IEC 62368-1 UL 62368-1
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6, DNV-CG-0339, IEC 60945 IEC 60068-2-64, DNV-CG-0339
Declaration	
Green Product	RoHS, CRoHS, WEEE
Warranty	
Warranty Period	System: 3 years LCD: 1 year
Details	See www.moxa.com/warranty
Package Contents	
Device	1 x MPC-3120 Series computer
Installation Kit	10 x screws, 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	Touchscreen	LAN	Serial	DI/DO	Power Input	IP Rating	Operating Temp.
MPC-3120-E2-T	12.1" (4:3) 1000 nits	Intel Atom® x6211E	8 GB	PCAP	2	2	4/4	12/24 VDC	IP66 (front), IP20 (rear)	-30 to 60°C
MPC-3120-E2-LB-T	12.1" (4:3) 400 nits	Intel Atom® x6211E	8 GB	PCAP	2	2	4/4	12/24 VDC	IP66 (front), IP20 (rear)	-30 to 60°C
MPC-3120-E4-T	12.1" (4:3) 1000 nits	Intel Atom® x6425E	8 GB	PCAP	2	2	4/4	12/24 VDC	IP66 (front), IP20 (rear)	-30 to 60°C
MPC-3120-E4-LB-T	12.1" (4:3) 400 nits	Intel Atom® x6425E	8 GB	PCAP	2	2	4/4	12/24 VDC	IP66 (front), IP20 (rear)	-30 to 60°C

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