

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

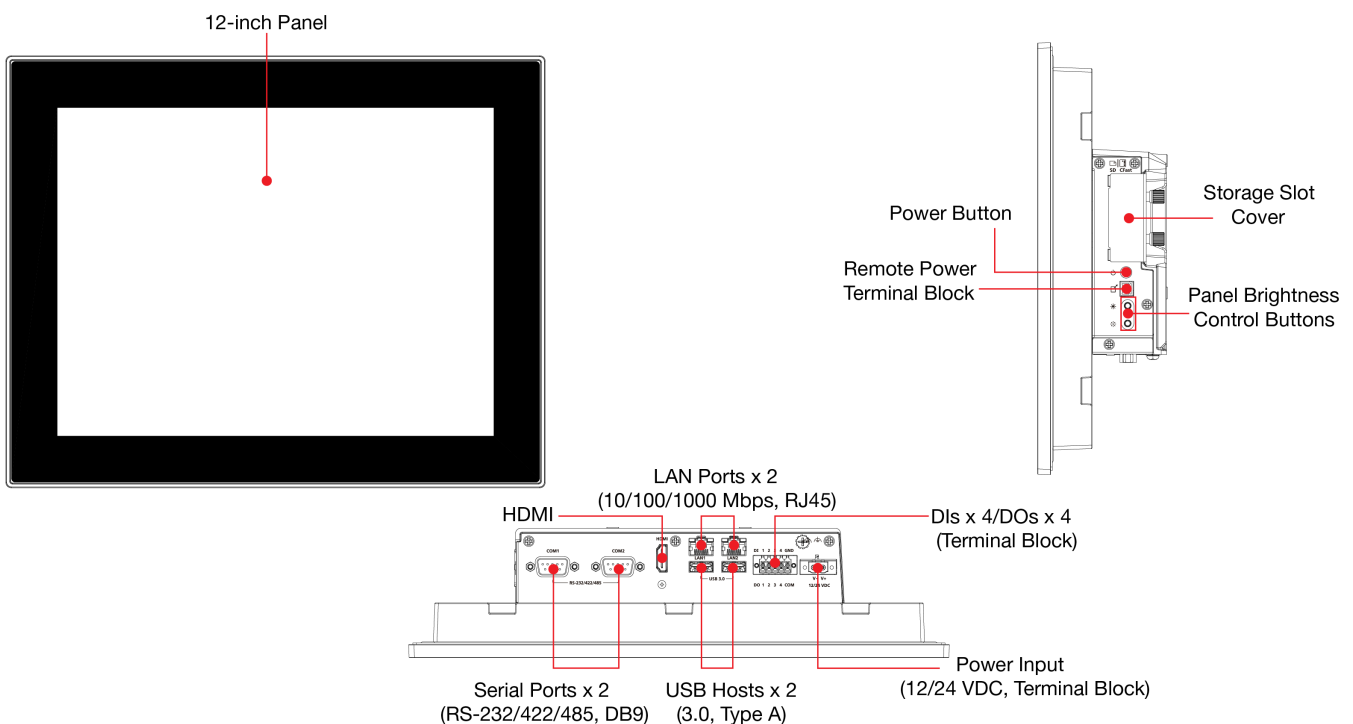


Introduction

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® HD 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)

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
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, 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	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
-----------------	--------------------------------

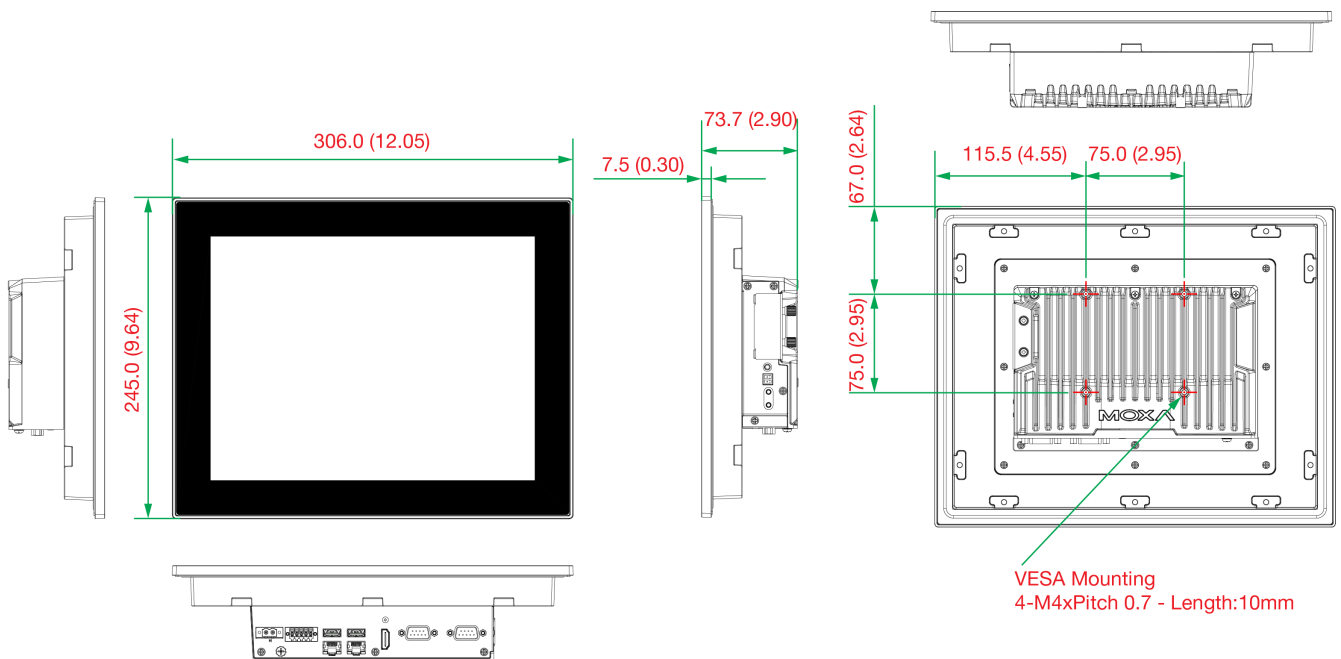
Details	See www.moxa.com/warranty
---------	----------------------------------------------------------------------

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

© Moxa Inc. All rights reserved. Updated Oct 04, 2024.

This document and any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of Moxa Inc. Product specifications subject to change without notice. Visit our website for the most up-to-date product information.