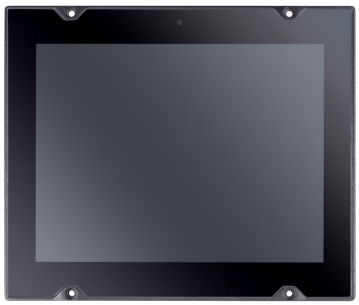
MPC-3101 Series

10.4-inch fanless industrial panel PCs with EN 50155 certifications



Features and Benefits

- 10-inch panel PCs
- Intel Atom® x6425E quad-core processor
- 500-nit or 1000-nit sunlight-readable LCD
- Glove-friendly, multi-touch screen
- -40 to 70°C wide-temperature design, no fan or heater
- 24 to 110 VDC wide range isolated power input
- Complies with all EN 50155 mandatory test items[1]

Certifications

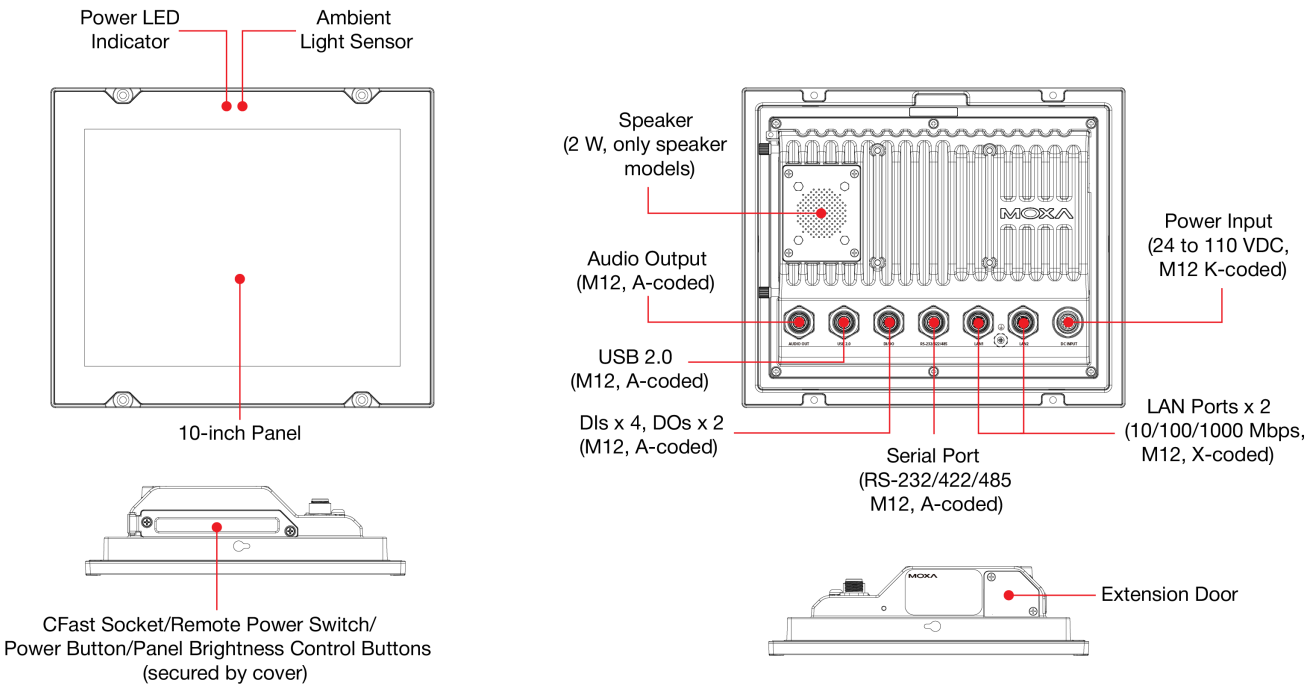
Introduction

The MPC-3101 10-inch panel PCs with Intel Atom® x6425E quad-core processor deliver a reliable, durable, and versatile platform 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 Gigabit Ethernet ports, the MPC-3101 Panel PCs support a wide variety of serial interfaces as well as high-speed IT communications, all with native network redundancy.

The MPC-3101 panel PCs are designed for the -40 to 70°C temperature range, and come with a fanless, streamlined enclosure for highly efficient heat dissipation. This makes the computers a reliable industrial platform for harsh, hot, outdoor environments like oil and gas fields, or drilling platforms. The MPC-3101 also features a 500-nit or 1000-nit LCD panel offering a sunlight-readable, projected-capacitive, glove-friendly, multi-touch screen, providing an excellent user experience.

1. This product is suitable for rolling stock railway applications, as defined by the EN 50155 standard. For a more detailed statement, click here: www.moxa.com/doc/specs/EN_50155_Compliance.pdf

Appearance



Specifications

Computer

CPU	Intel Atom® x6425E processor (Quad core, 1.5M cache, 2 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, up to 32 GB max.
Supported OS	Windows images and drivers supported: - Windows 10 IoT Enterprise LTSC 2021 (64-bit) - Windows 11 Professional (64-bit) - Windows 11 IoT Enterprise LTSC 2024 Linux image supported: - Debian 13 (kernel 6.10) Linux driver supported: - Ubuntu 24.04 LTS (kernel 6.10)
Storage Slot	CFast slot x 1 M.2 M-key 2242 sockets x 1
Expansion Slots	mPCIe slots x 1
Speaker	MPC-3101-E4-LB-SPK-CT-T/E4-SPK-CT-T: 1 (built-in, 2 W)

Computer Interface

Ethernet Ports	Auto-sensing 10/100/1000 Mbps ports (M12 push-pull X-coded) x 2
Serial Ports	RS-232/422/485 ports (M12 push-pull A-coded 12P) x 1
Digital Input	DIs x 4 (M12 push-pull A-coded connector)
Digital Output	DOs x 2 (M12 push-pull A-coded connector)

Audio Input/Output	1 x Speaker out/Line out (M12 push-pull A-coded 8-pin)
USB	USB 2.0 hosts x 1 (M12 push-pull A-coded 5-pin), type-A connectors
TPM	TPM v2.0

Display

Panel Size	10 in (viewable image)
Aspect Ratio	4:3
Active Display Area	210.4 (H) x 157.8 (V) mm
Contrast Ratio	1000:1 (typ.)
Light Intensity (Brightness)	MPC-3101-E4-LB-CT-T/E4-LB-SPK-CT-T: 500 nits MPC-3101-E4-CT-T/E4-SPK-CT-T: 1000 nits
Max. No. of Colors	16.7M (8-bit/color)
Panel Type	AAS
Pixel Pitch (RGB)	0.205 (H) x 0.205 (V) mm
Pixels	1024 x 768
Response Time	(Tr+Tf) 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

Bitrate	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

Digital Inputs

Isolation	Optical: 3 kV
Sensor Type	Dry contact Wet contact (NPN)
Voltage	Dry Contact: At 25 Hz: 0 to 30 VDC
Dry Contact	DI to COM: Logic 0: Close to GND Logic 1: Open
Wet Contact	Source to DI: Logic 0: 10 to 30 VDC Logic 1: 3 VDC max

Digital Outputs

Isolation	Optical: 3 kV
I/O Type	Sink
Current Rating	Max. 200 mA per channel
Voltage	Logic 0: 200 mA (max. per channel), sink Logic 1: 24 VDC (typ.), 30 VDC (max.), open collector

LED Indicators

System	Power x 1

Power Parameters

Input Voltage	24 to 110 VDC
Power Consumption	44 W

Physical Characteristics

Housing	Metal
IP Rating	IPMPC-3101-E4-LB-SPK-CT-T/E4-SPK-CT-T: - IP66 (front) - IP40 (rear) MPC-3101-E4-LB-CT-T/E4-CT-T: - IP66 (front and rear)
Dimensions	256.9 x 214.4 x 58.9 mm (10.11 x 8.44 x 2.32 in)
Weight	2,600 g (5.73 lb)

Environmental Limits

Operating Temperature	-40 to 70°C (-40 to 158°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Storage Temperature (package included)	-40 to 70°C (-40 to 158°F)

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 IEC 61000-4-6 CS: 10 V

	IEC 61000-4-8 PFMF
Mechanical Protection Rating	IEC 60529, IP code
Safety	IEC 62368-1 UL 62368-1
Shock	EN 50155 standard
Vibration	EN 50155 standard

Declaration

Green Product	RoHS, CRoHS, WEEE

Warranty

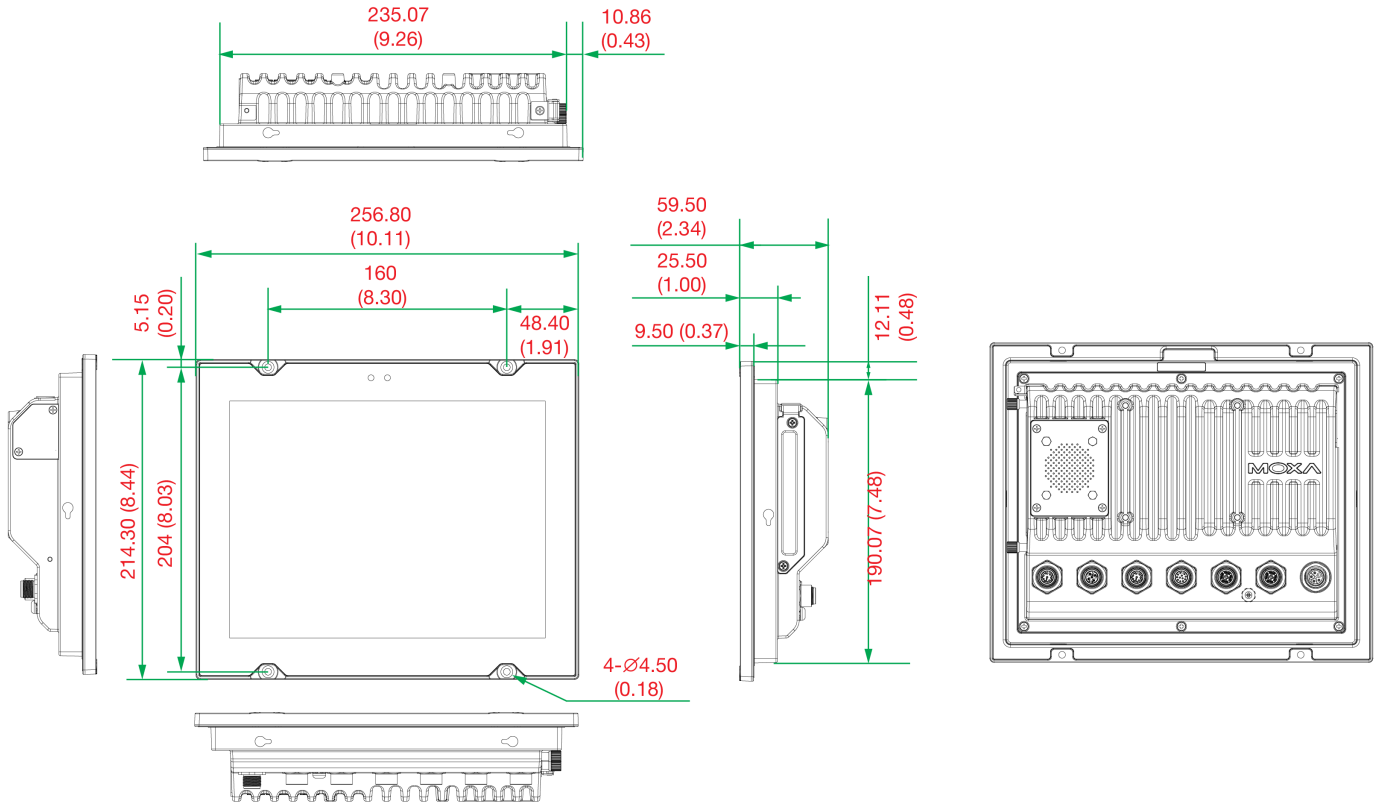
Warranty Period	System: 3 years LCD: 1 year
Details	See www.moxa.com/warranty

Package Contents

Device	1 x MPC-3101 Series panel PC
Installation Kit	1 x terminal block, 2-pin, for remote power switch 1 x panel-mounting kit
Cable	1 x M12 Type-A USB cable
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	Panel	Touchscreen	CPU	RAM	Embedded Speaker	LAN	Serial	DI/DO	Power Input	IP Rating	Operating Temp.
MPC-3101-E4-LB-CT-T	10.4” (4:3) 500 nits	PCAP	Intel Atom® x6425E	8 GB	–	2	1	4/2	24 to110 VDC	IP66 (front) IP66 (rear)	-40 to 70° C
MPC-3101-E4-LB-SPK-CT-T	10.4” (4:3) 500 nits	PCAP	Intel Atom® x6425E	8 GB	1 (2 W)	2	1	4/2	24 to110 VDC	IP66 (front) IP40 (rear)	-40 to 70° C
MPC-3101-E4-CT-T	10.4” (4:3) 1000 nits	PCAP	Intel Atom® x6425E	8 GB	–	2	1	4/2	24 to110 VDC	IP66 (front) IP66 (rear)	-40 to 70° C
MPC-3101-E4-SPK-CT-T	10.4” (4:3) 1000 nits	PCAP	Intel Atom® x6425E	8 GB	1 (2 W)	2	1	4/2	24 to110 VDC	IP66 (front) IP40 (rear)	-40 to 70° C

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