

BXP-A100 Series

Box computers with Elkhart Lake Intel Atom® X Series processor base model and high-interface models



Features and Benefits

- Box-type computer with fanless design
- Intel Atom® X Series processor
- Rich interface options for up to 10 serial and 10 LAN ports
- Compact size to fit most field applications
- DNV, CID2, ATEX, and IECEx certified
- -30 to 60°C operating temperature range

Certifications



Introduction

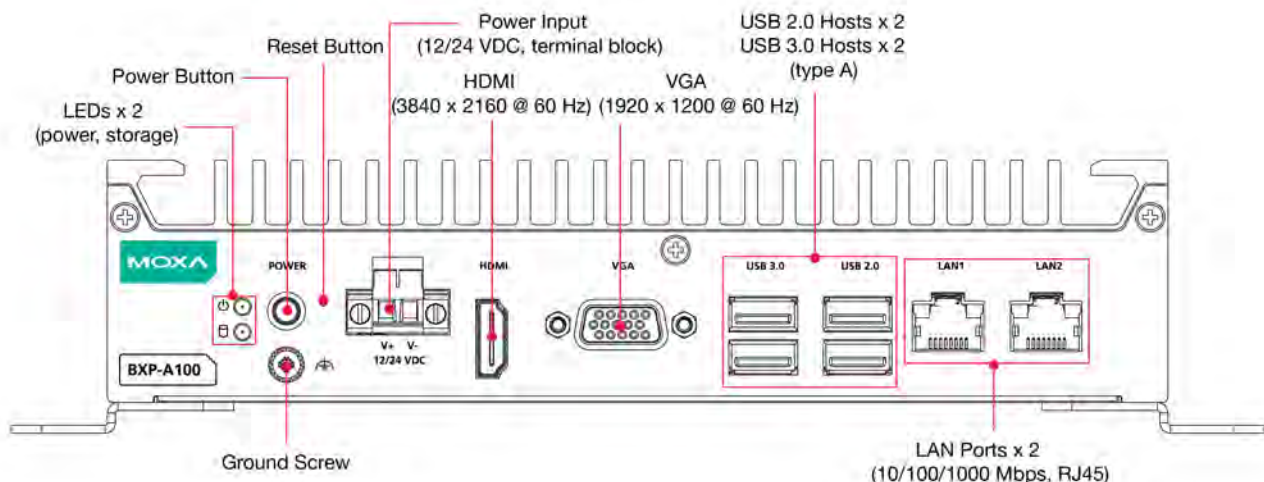
The BXP-A100 wall-mount computers are powered by an Intel Atom® X processor. The computers come with a rich set of interface options including up to 10 software-selectable RS-232/422/485 serial ports, up to 10 gigabit Ethernet ports, 4 digital inputs, and 4 digital outputs. The communication interfaces are located on the front and rear sides of the product, enabling easy access and expansion for industrial applications. A dual-storage design that includes CFast and SD slots enables easy storage expansion. The unique battery fastener cover design for the battery slot secures the battery in place and ensures stability in all operating environments.

The BXP-A100 compact wall-mountable computers come in a fanless design and can withstand a temperature range of -30 to 60°C, making them a good fit for harsh operating environments. The built-in TPM 2.0 module secures the platform from unauthorized access. The BXP-A100 Series is an intelligent computing solution that perfectly fulfills both OT and IT requirements of industrial environments.

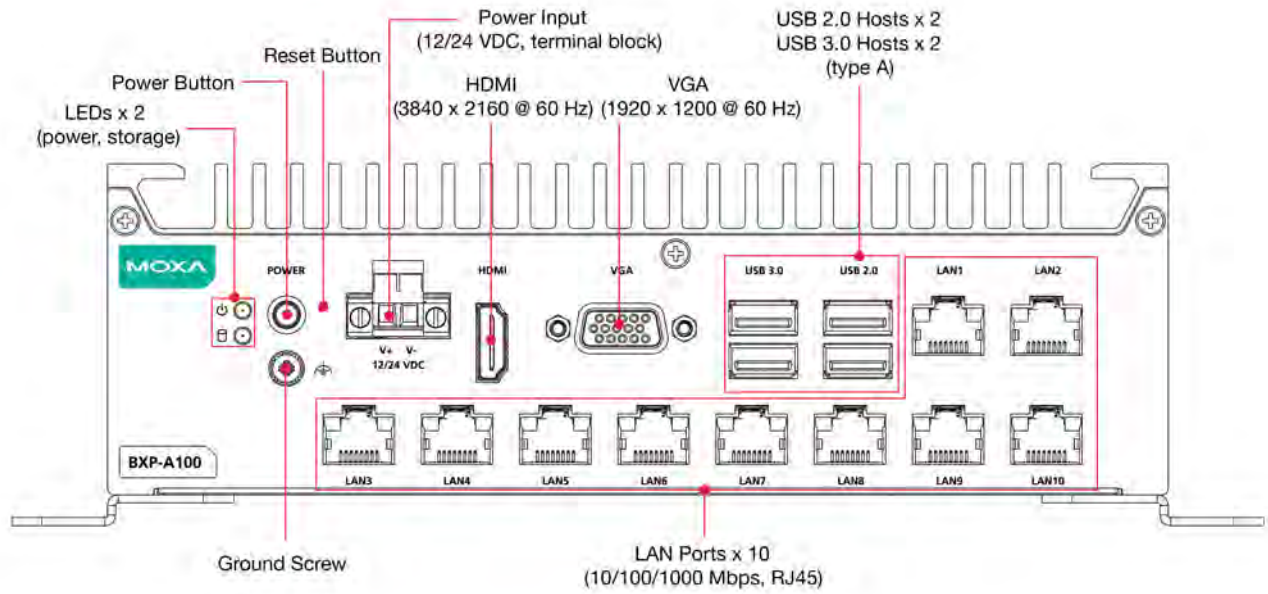
Appearance

Front View

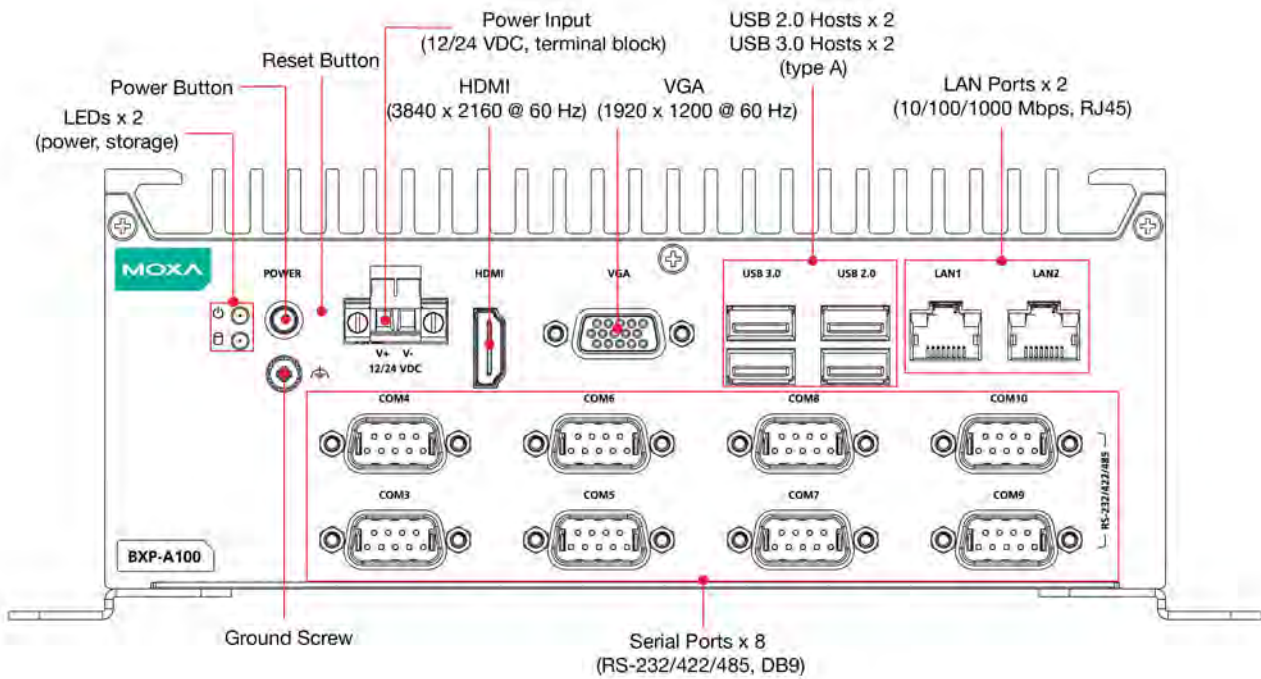
BXP-A100-E2-T/BXP-A100-E4-T Models



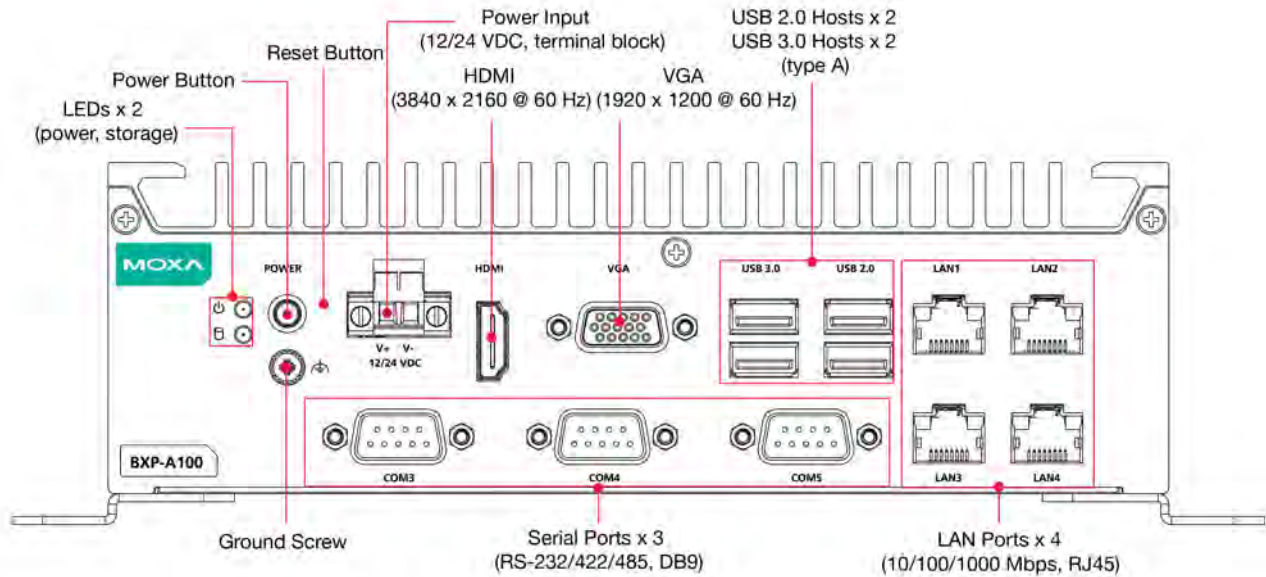
BXP-A100-E2-8L-T/BXP-A100-E4-8L-T Models



BXP-A100-E2-8C-T/BXP-A100-E4-8C-T Models

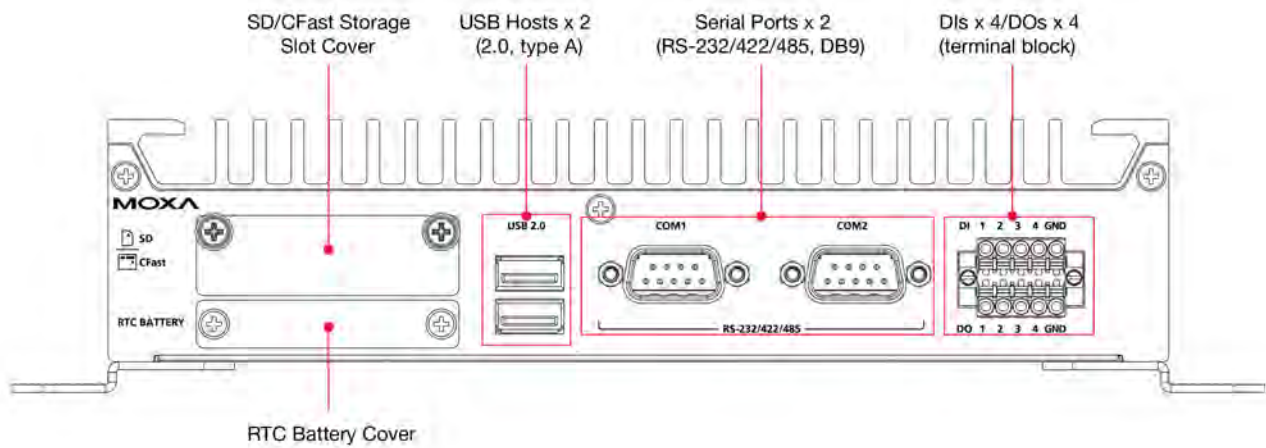


BXP-A100-E2-2L3C-T/BXP-A100-E4-2L3C-T Models

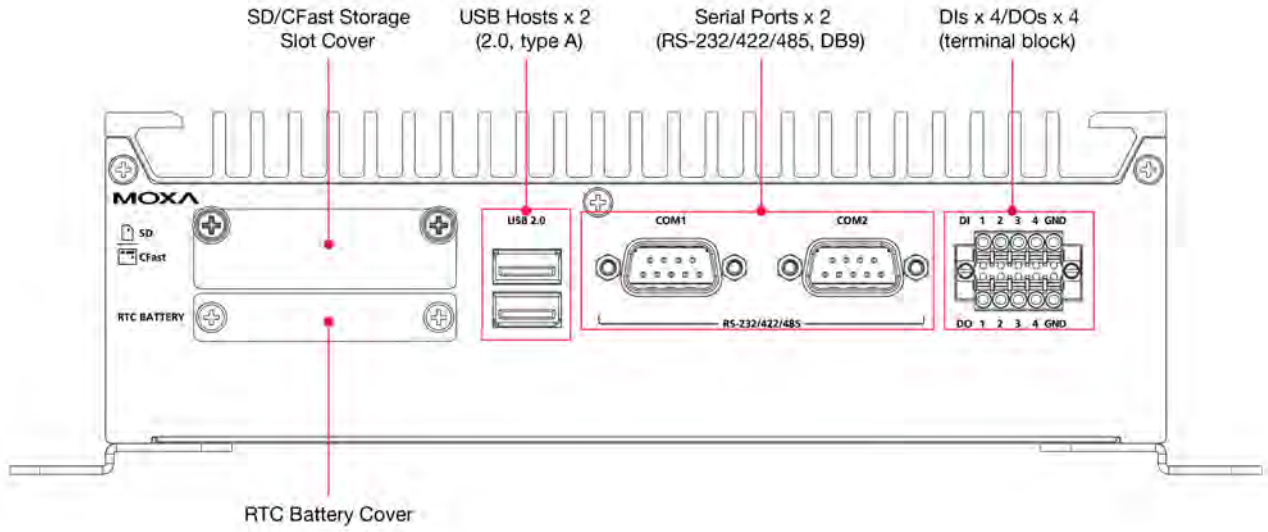


Rear View

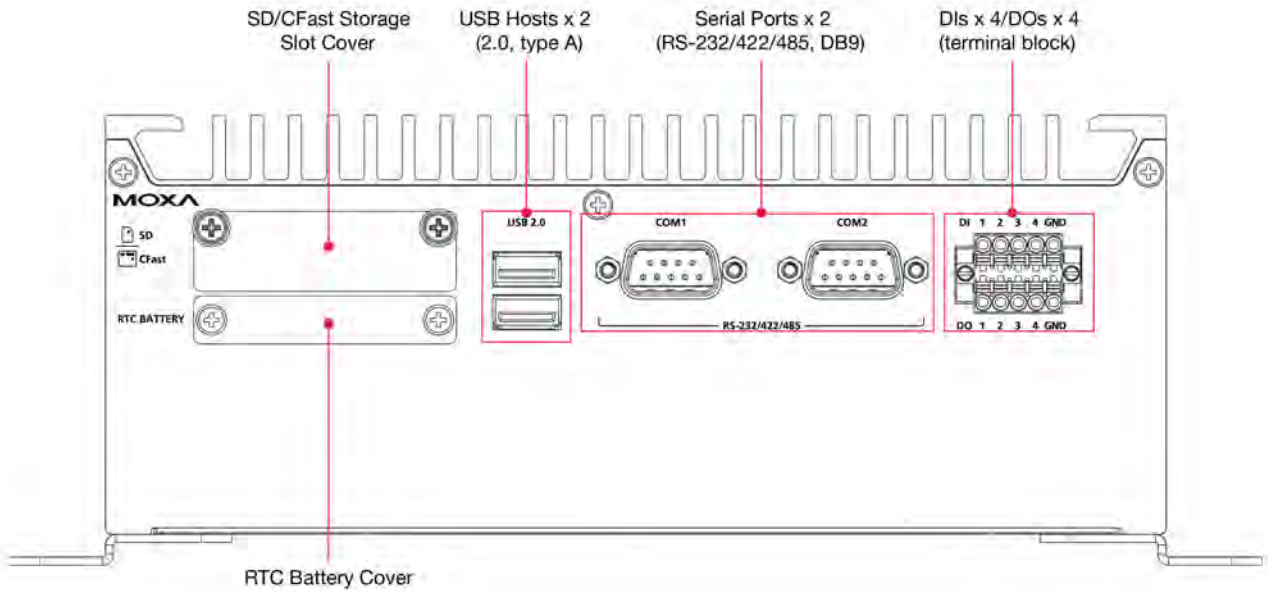
BXP-A100-E2-T/BXP-A100-E4-T Models



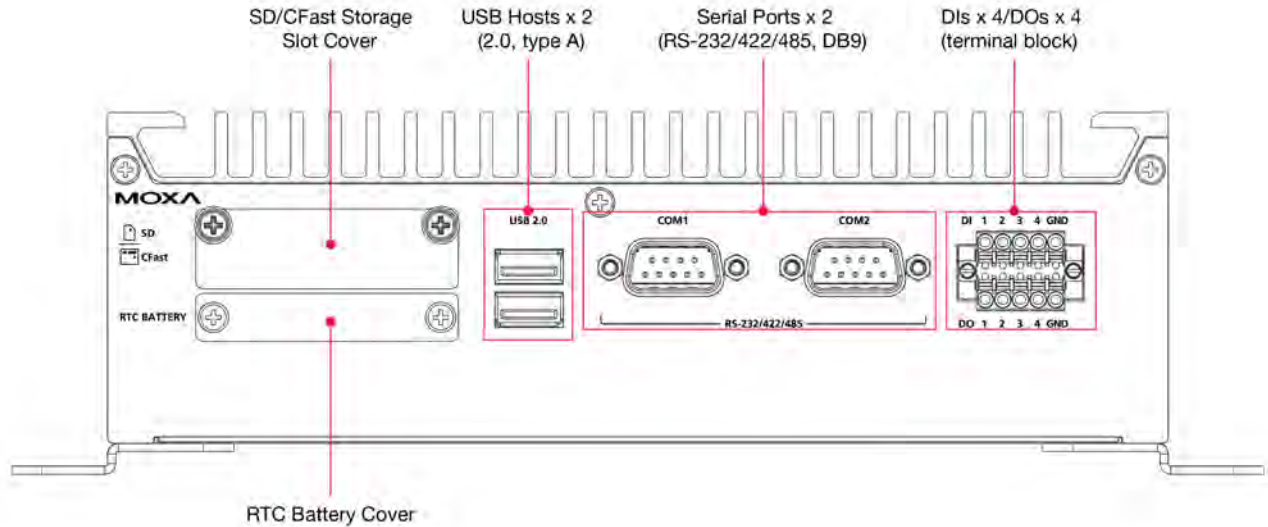
BXP-A100-E2-8L-T/BXP-A100-E4-8L-T Models



BXP-A100-E2-8C-T/BXP-A100-E4-8C-T Models



BXP-A100-E2-2L3C-T/BXP-A100-E4-2L3C-T Models



Specifications

Computer

CPU	BXP-A100-E2 models: Intel Atom® x6211E processor (Dual core, 1.5M cache, 1.30 GHz) BXP-A100-E4 models: Intel Atom® x6425E processor (Quad core, 1.5M cache, 2.00 GHz)
System Memory Slot	SODIMM DDR4 slots x 1, up to 32 GB max.
System Memory Pre-installed	8 GB DDR4
Storage Slot	CFast slot x 1 (SATAIII interface) SD slots x 1, SD 3.0 interface (SDHC/SDXC)
Storage Pre-installed	BXP-A100-E2-T-Win10/BXP-A100-E4-T-Win10: 64 GB CFast card
Supported OS	Windows Images and Drivers Supported: - Windows 11 IoT Enterprise LTSC 2024 64-bit - Windows 11 Professional 64-bit - Windows 10 IoT Enterprise LTSC 2021 64-bit Linux drivers supported: - Debian 12 (kernel 6.1) - Debian 11 (kernel 5.10) - Ubuntu 22.04 LTS (kernel 5.15) - RHEL 9 (kernel 5.14)
Graphics Controller	Intel® UHD Graphics

Computer Interface

Ethernet Ports	BXP-A100-E2-8L-T/E4-8L-T: Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 10 BXP-A100-E2-2L3C-T/E4-2L3C-T: Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 4 All other models: Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 2
Serial Ports	BXP-A100-E2-8C-T/E4-8C-T: RS-232/422/485 ports x 10, software selectable (DB9 male) x 10 BXP-A100-E2-2L3C-T/E4-2L3C-T: RS-232/422/485 ports x 5, software selectable (DB9 male) x 5 All other models: RS-232/422/485 ports x 2, software selectable (DB9 male) x 2

USB 3.0	USB 3.0 hosts x 2, type-A connectors
USB 2.0	USB 2.0 hosts x 4, type-A connectors
Digital Input	DIs x 4
Digital Output	DOs x 4
TPM	TPM v2.0
Video Output	HDMI 2.0b x 1, (type-A connector) VGA x 1, 15-pin D-sub connector (female)
Buttons	Reset button Power button

Ethernet Interface

Magnetic Isolation Protection	1.5 kV (built-in)
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Serial Interface

Baudrate	50 bps to 115.2 kbps
Connector	DB9 male
Data Bits	5, 6, 7, 8
Parity	None, Even, Odd, Space, Mark
Stop Bits	1, 1.5, 2
Flow Control	RTS/CTS, XON/XOFF

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

Connector	Spring-type Euroblock terminal
Sensor Type	Dry contact
Dry Contact	Logic 0: Short to GND Logic 1: Open

Digital Outputs

Connector	Spring-type Euroblock terminal
I/O Type	Sink
Current Rating	200 mA per channel
Voltage	0 to 24 VDC

LED Indicators

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

Power Parameters

Input Voltage	12/24 VDC
Power Connector	Screw-fastened Euroblock terminal
Power Consumption	50 W

Physical Characteristics

Housing	Metal
IP Rating	IP20
Dimensions	BXP-A100-E2-T/E4-T/E2-T-Win10/E4-T-Win10: 210 x 166 x 48 mm (8.27 x 6.54 x 1.9 in) BXP-A100-E2-8L-T/E4-8L-T/E2-2L3C-T/E4-2L3C-T: 210 x 166 x 65.5 mm (8.27 x 6.54 x 2.58 in) BXP-A100-E2-8C-T/E4-8C-T: 210 x 166 x 83 mm (8.27 x 6.54 x 3.27 in)
Weight	BXP-A100-E2-T/E4-T/E2-T-Win10/E4-T-Win10: 2,015 g (4.44 lb) BXP-A100-E2-8L-T/E4-8L-T: 2,355 g (5.19 lb) BXP-A100-E2-2L3C-T/E4-2L3C-T: 2,208 g (4.86 lb) BXP-A100-E2-8C-T/E4-8C-T: 2,385 g (5.25 lb)
Installation	Wall mounting (with optional kit)

Environmental Limits

Operating Temperature	-30 to 60°C (-22 to 140°F)
Storage Temperature	-40 to 75°C (-40 to 167°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

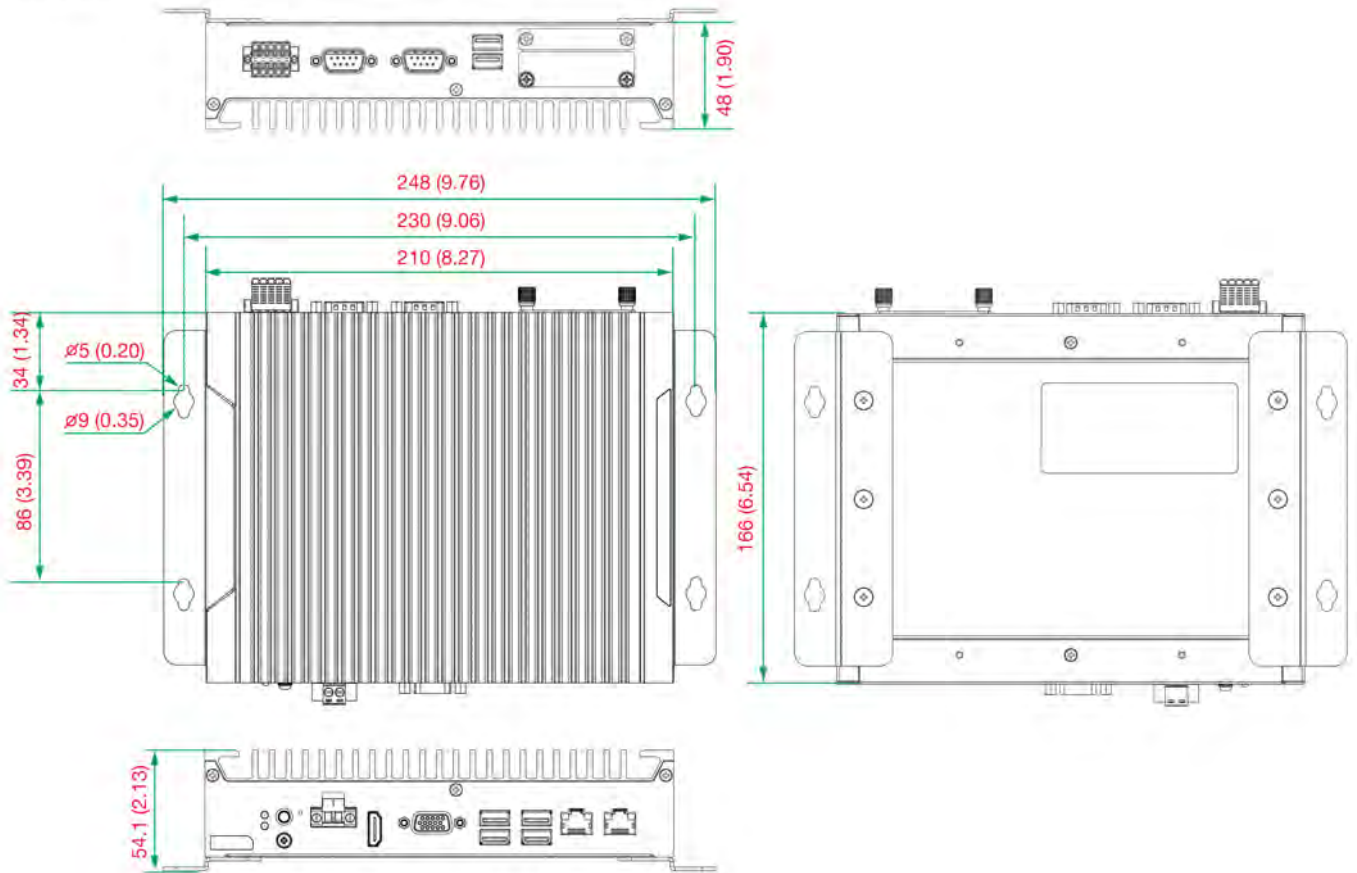
EMC	EN 55032/35
EMI	CISPR 32, FCC Part 15B Class A BSMI
EMS	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 6 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: line-to-ground 1 kV, line-to-line 0.5 kV, Signal: 1 kV IEC 61000-4-6 CS: 3 V, Spot Frequency: 10 V IEC 61000-4-8 PFMF: 1 A/m at 50 to 60 Hz
Hazardous Locations	ATEX IECEX Class I Division 2
Maritime	DNV-CG-0339 IEC 60945 IACS E10
Safety	UL 62368-1 EN 62368-1 IEC 62368-1 BSMI
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-64, DNV-CG-0339 Class A IEC 60068-2-6 IEC 60945

Package Drop Test	ISTA 1A
Package Vibration Test	ISTA 1A
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
Declaration	
Green Product	RoHS, CRoHS, WEEE
Reliability	
Time Source	Built-in RTC (real-time clock) with lithium-battery backup
Automatic Reboot Trigger	Built-in WDT
MTBF	
Time	1,717,415 hrs
Standards	Telcordia (Bellcore), GB
Warranty	
Warranty Period	3 years
Details	See www.moxa.com/warranty
Package Contents	
Device	1 x BXP-A100 Series computer
Installation Kit	1 x terminal block, 2-pin, for DC power 1 x terminal block, 10-pin, for DIs/DOs 1 x wall-mounting kit (2 mounting ears, 6 screws)
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

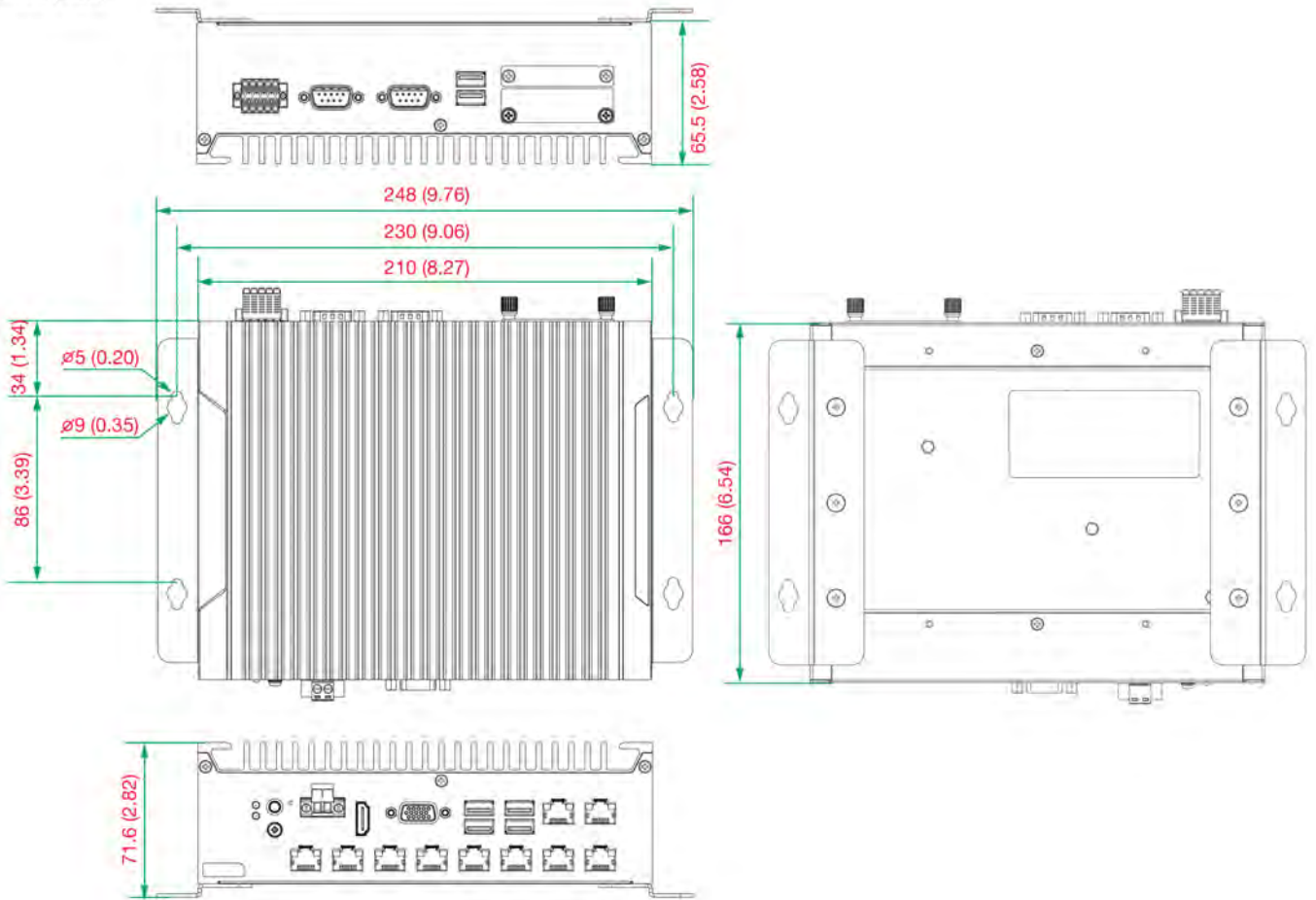
BXP-A100-E2-T/E4-T/E2-T-Win10/E4-T-Win10 Models

Unit: mm (inch)



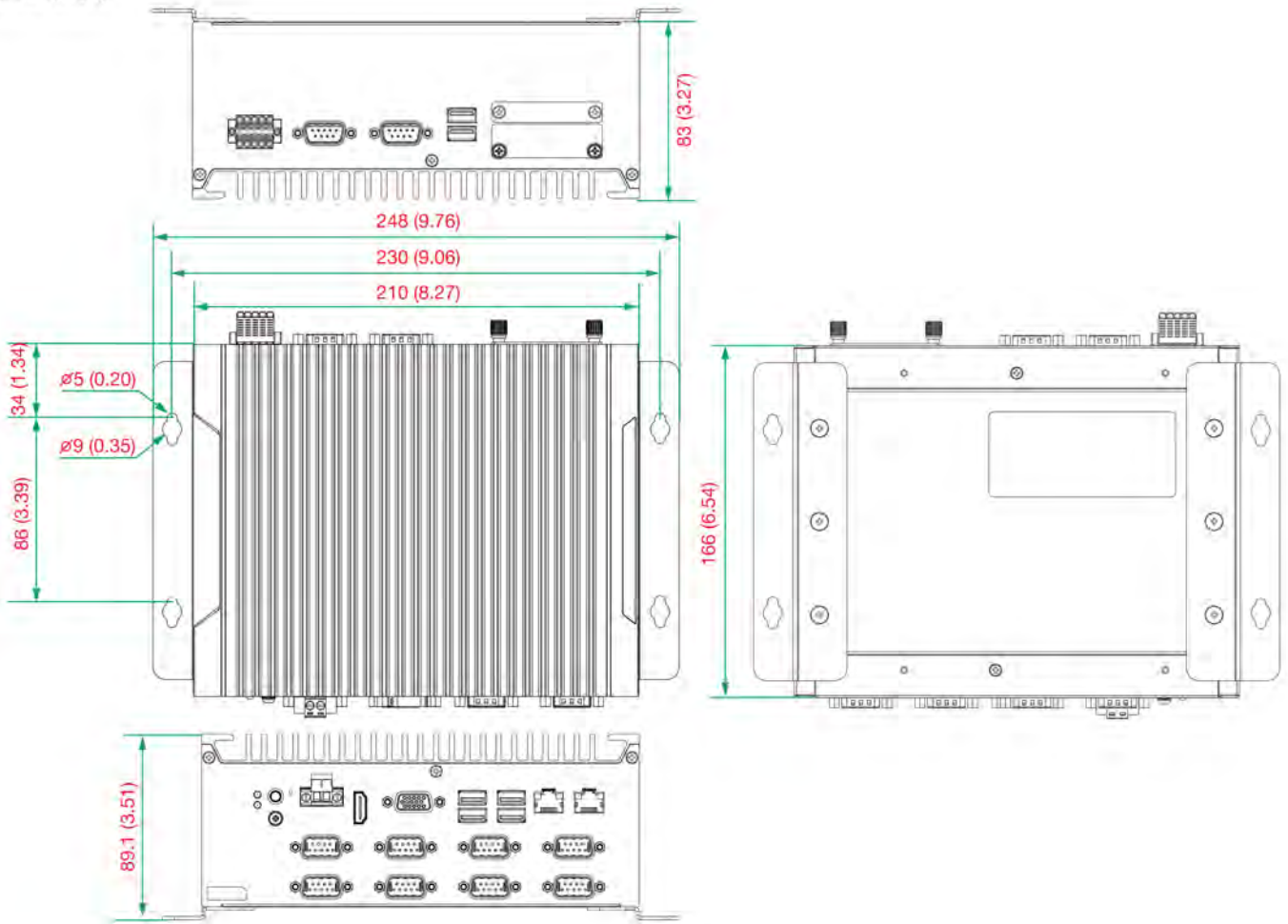
BXP-A100-E2-8L-T /E4-8L-T Models

Unit: mm (inch)



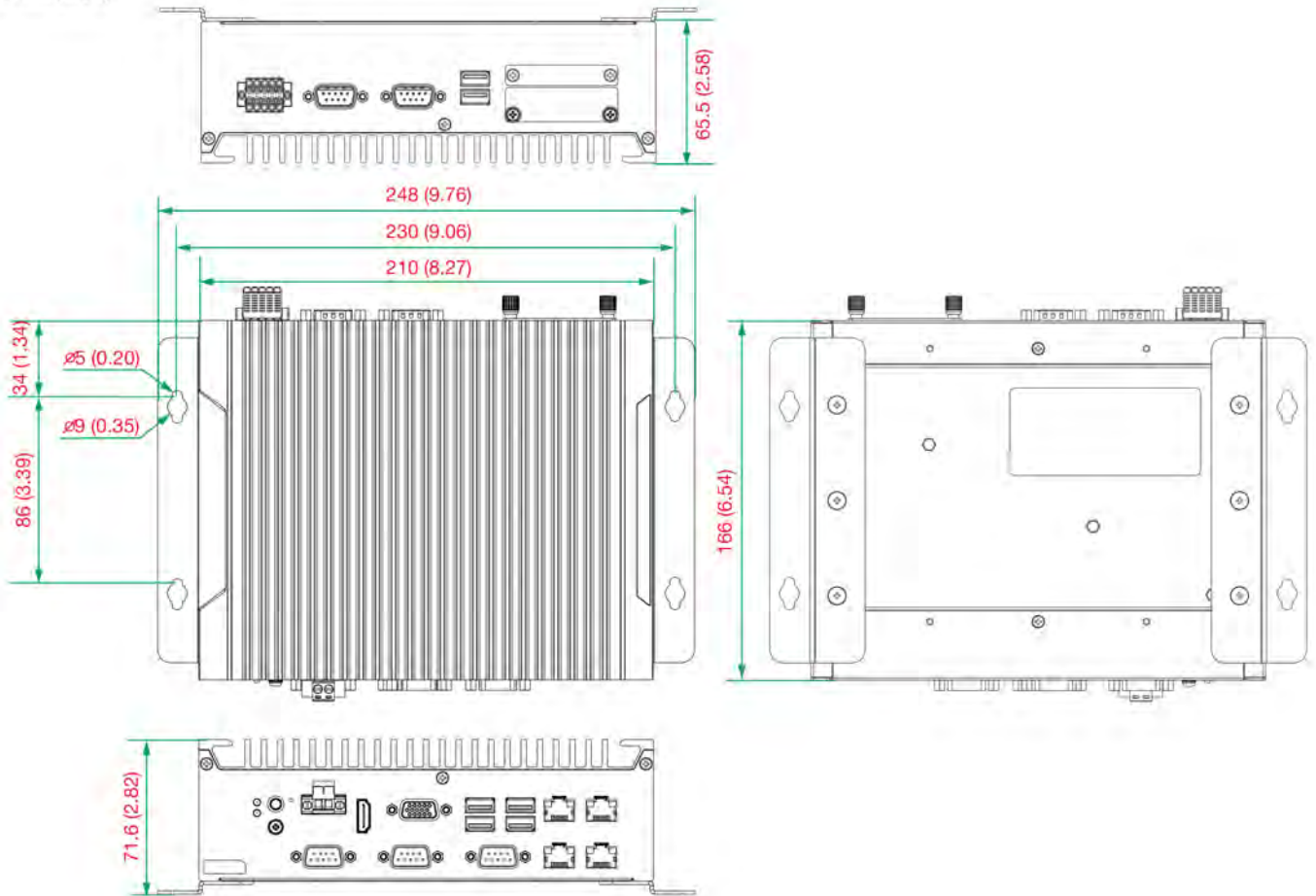
BXP-A100-E2-8C-T/ E4-8C-T Models

Unit: mm (inch)



BXP-A100-E2-2L3C-T/ E4-2L3C-T Models

Unit: mm (inch)



Ordering Information

Model Name	CPU	Memory	Storage Slots	OS Preinstalled	LAN/Serial	USB 3.0	DIs/ DOs	Video Outputs	Power Input
BXP-A100-E2-T	Intel Atom® x6211E	8 GB	1 x CFast 1 x SD	-	2/2	4/2	4 x DIs 4 x DOs	1 x VGA 1 x HDMI	12/24 VDC
BXP-A100-E2-T-Win10	Intel Atom® x6211E	8 GB	1 x CFast 1 x SD	Win 10 LTSC (64 GB CFast)	2/2	4/2	4 x DIs 4 x DOs	1 x VGA 1 x HDMI	12/24 VDC
BXP-A100-E2-8L-T	Intel Atom® x6211E	8 GB	1 x CFast 1 x SD	-	10/2	4/2	4 x DIs 4 x DOs	1 x VGA 1 x HDMI	12/24 VDC
BXP-A100-E2-8C-T	Intel Atom® x6211E	8 GB	1 x CFast 1 x SD	-	2/10	4/2	4 x DIs 4 x DOs	1 x VGA 1 x HDMI	12/24 VDC
BXP-A100-E2-2L3C-T	Intel Atom® x6211E	8 GB	1 x CFast 1 x SD	-	4/5	4/2	4 x DIs 4 x DOs	1 x VGA 1 x HDMI	12/24 VDC
BXP-A100-E4-T	Intel Atom® x6425E	8 GB	1 x CFast 1 x SD	-	2/2	4/2	4 x DIs 4 x DOs	1 x VGA 1 x HDMI	12/24 VDC
BXP-A100-E4-T-Win10	Intel Atom® x6425E	8 GB	1 x CFast 1 x SD	Win 10 LTSC (64 GB CFast)	2/2	4/2	4 x DIs 4 x DOs	1 x VGA 1 x HDMI	12/24 VDC
BXP-A100-E4-8L-T	Intel Atom® x6425E	8 GB	1 x CFast 1 x SD	-	10/2	4/2	4 x DIs 4 x DOs	1 x VGA 1 x HDMI	12/24 VDC

Model Name	CPU	Memory	Storage Slots	OS Preinstalled	LAN/Serial	USB 3.0	DIs/ DOs	Video Outputs	Power Input
BXP-A100-E4-8C-T	Intel Atom® x6425E	8 GB	1 x CFast 1 x SD	-	2/10	4/2	4 x DIs 4 x DOs	1 x VGA 1 x HDMI	12/24 VDC
BXP-A100-E4-2L3C-T	Intel Atom® x6425E	8 GB	1 x CFast 1 x SD	-	4/5	4/2	4 x DIs 4 x DOs	1 x VGA 1 x HDMI	12/24 VDC

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