

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

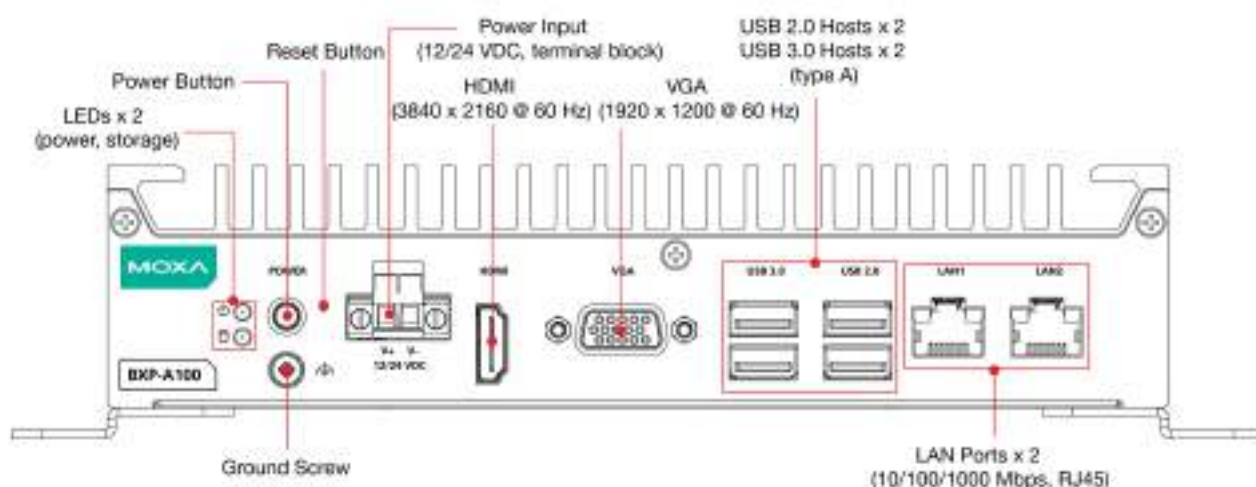
The BXP-A100 wall-mount computers are powered by an Intel Atom® X processor. The computers come with a rich set of interface options including up to 10 software-selectable RS-232/422/485 serial ports, up to 10 gigabit Ethernet ports, 4 digital inputs, and 4 digital outputs. The communication interfaces 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.

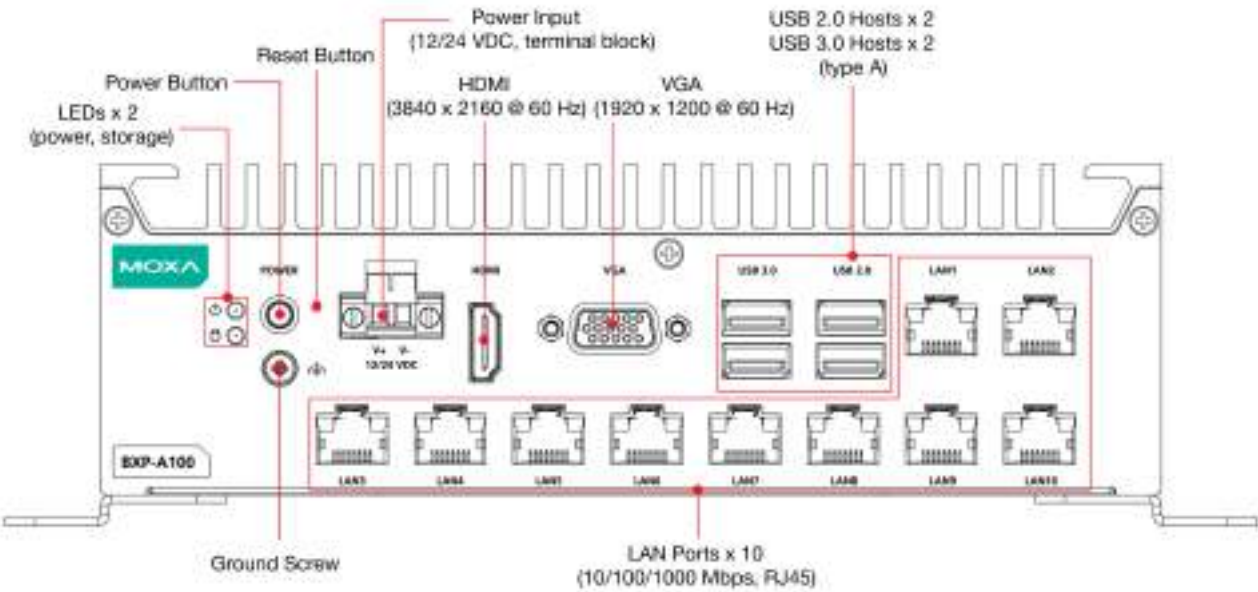
Appearance

Front View

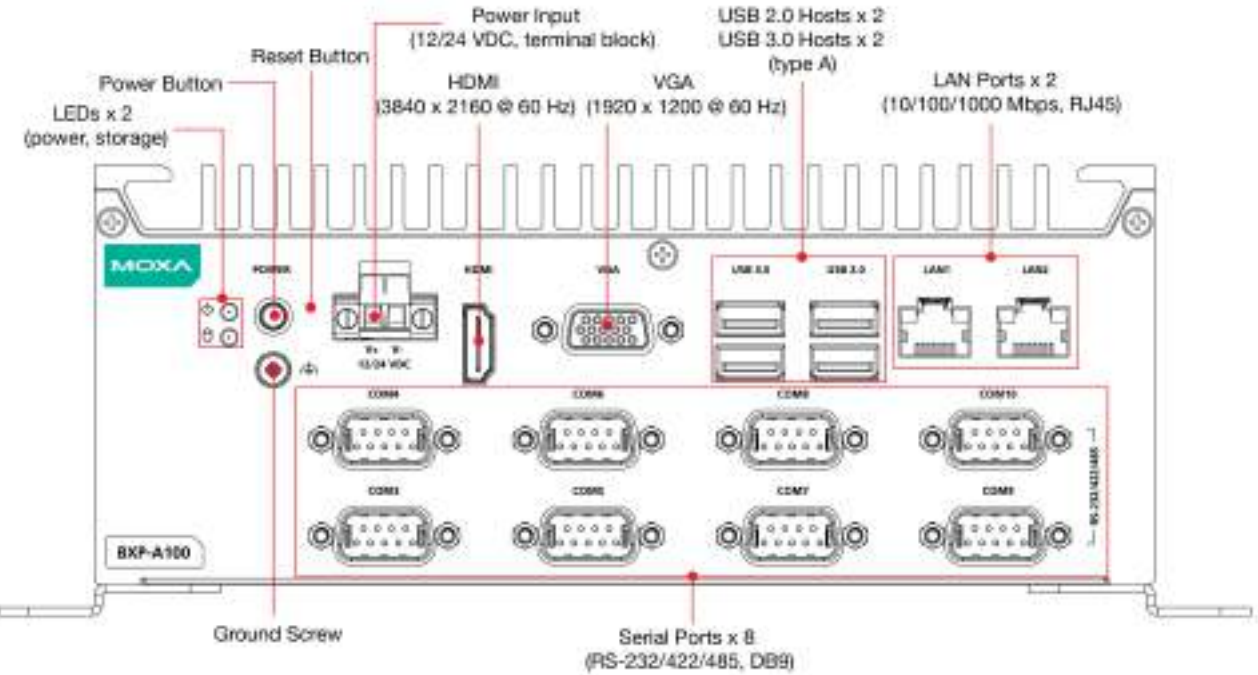
BXP-A100-E2-T/BXP-A100-E4-T Models



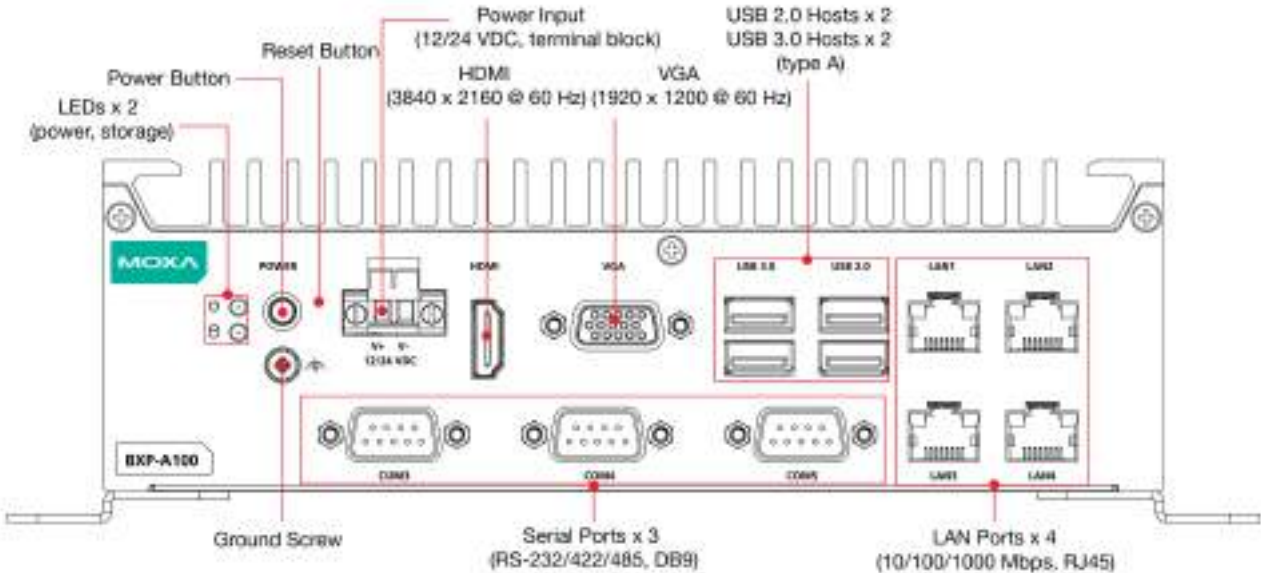
BXP-A100-E2-8L-T/BXP-A100-E4-8L-T Models



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

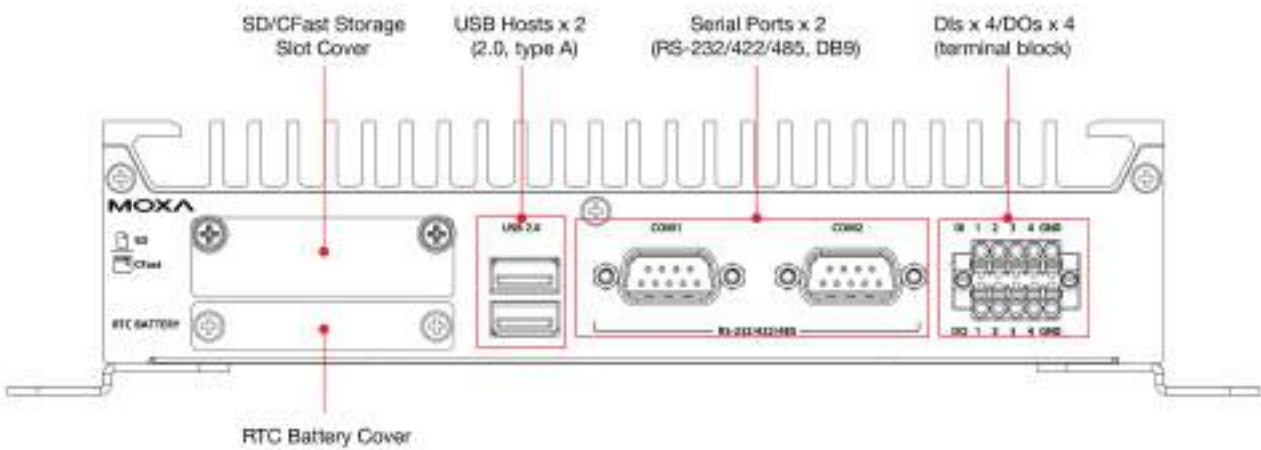


BXP-A100-E2-2L3C-T/BXP-A100-E4-2L3C-T Models

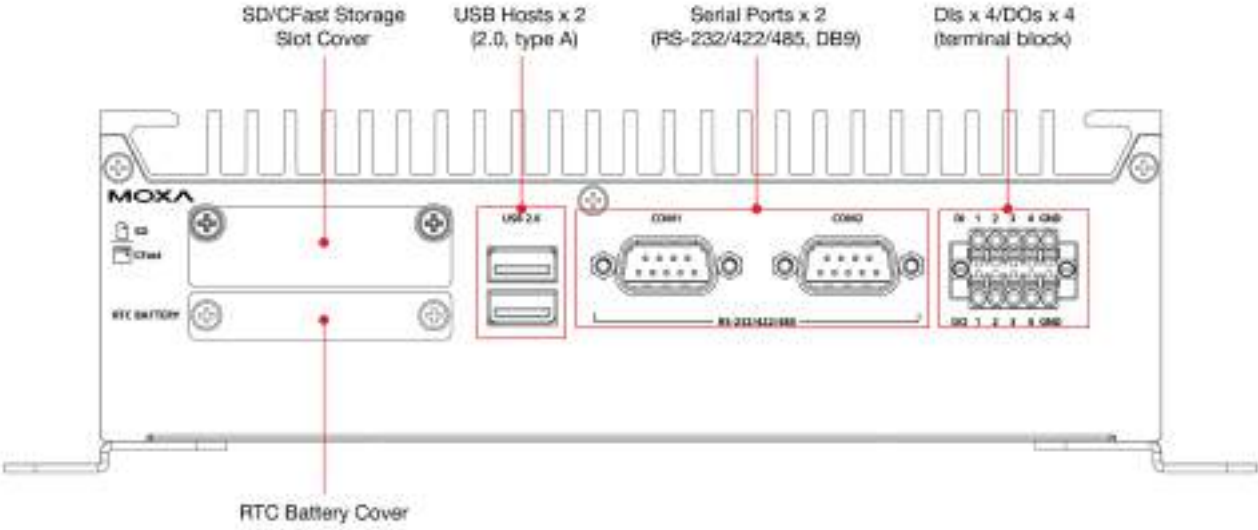


Rear View

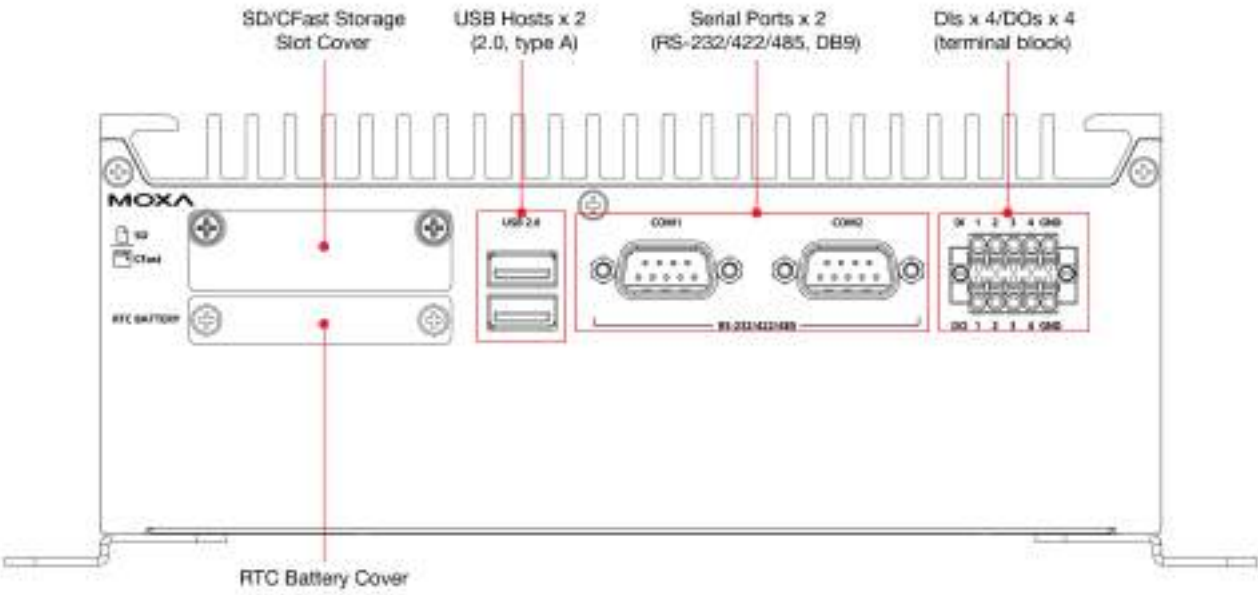
BXP-A100-E2-T/BXP-A100-E4-T Models



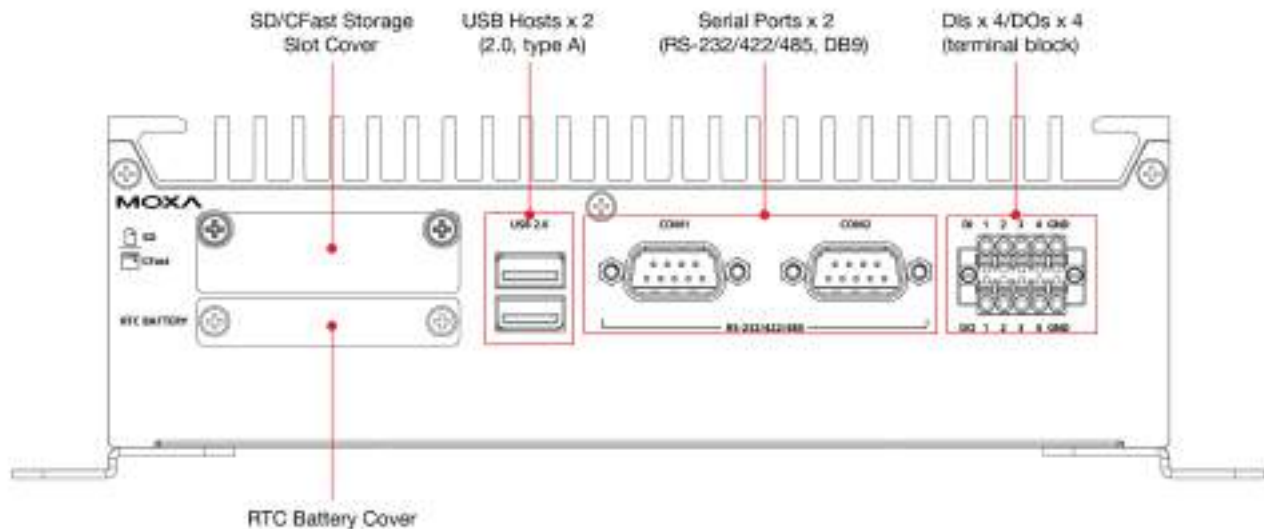
BXP-A100-E2-8L-T/BXP-A100-E4-8L-T Models



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) |
|-------------------------------|-------------------|

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

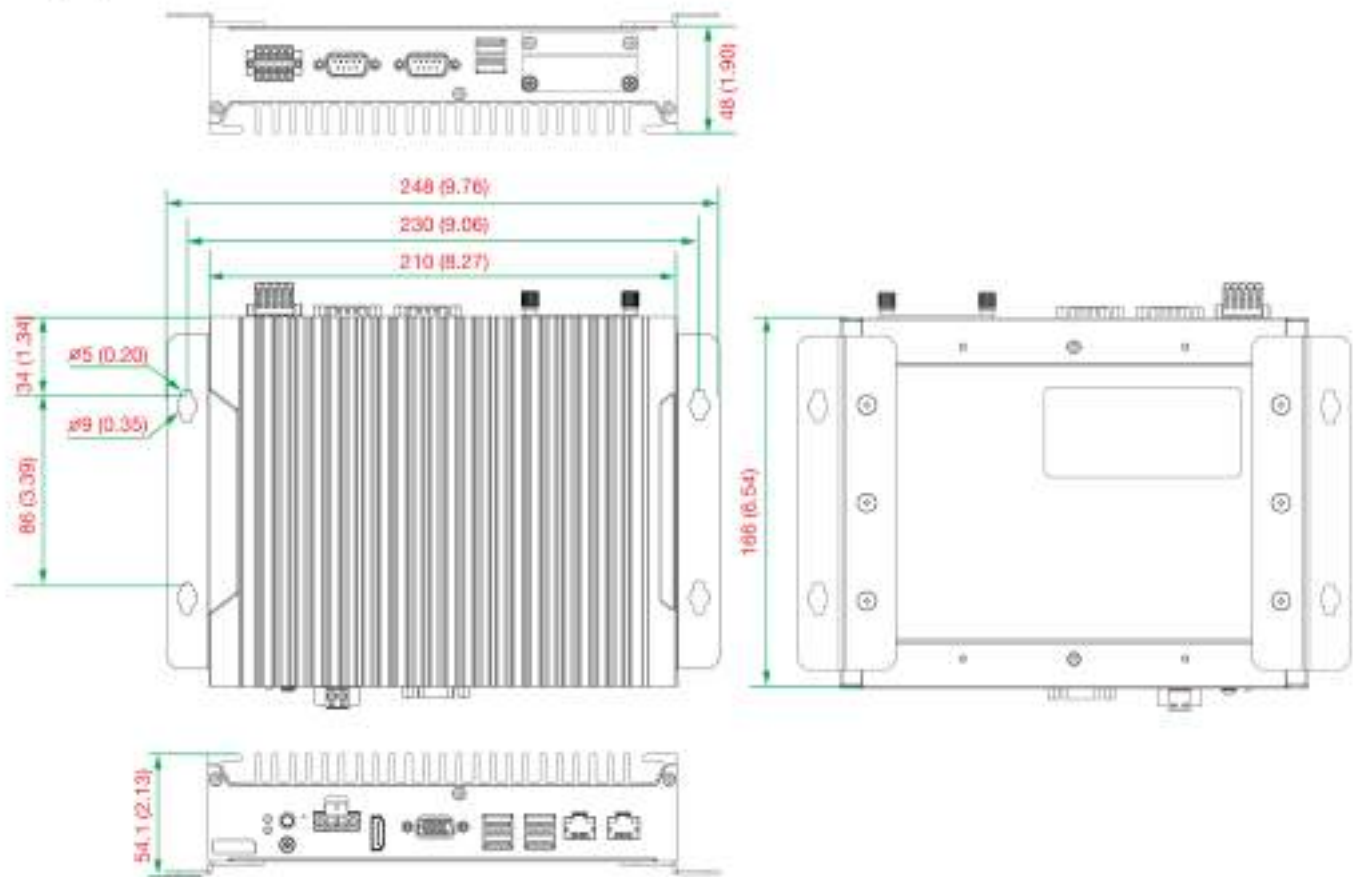
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|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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

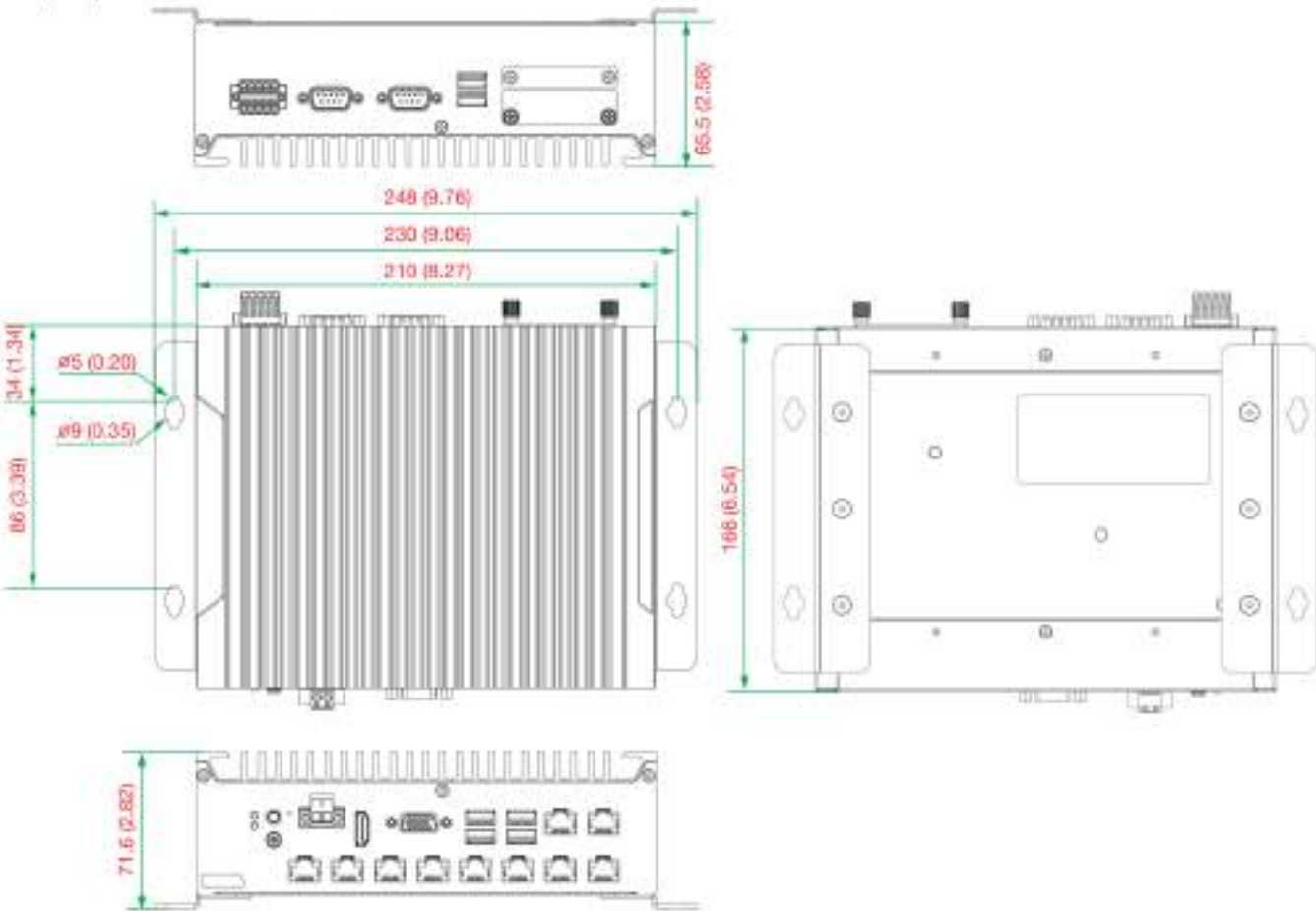
BXP-A100-E2-T/E4-T/E2-T-Win10/E4-T-Win10 Models

Unit: mm (inch)



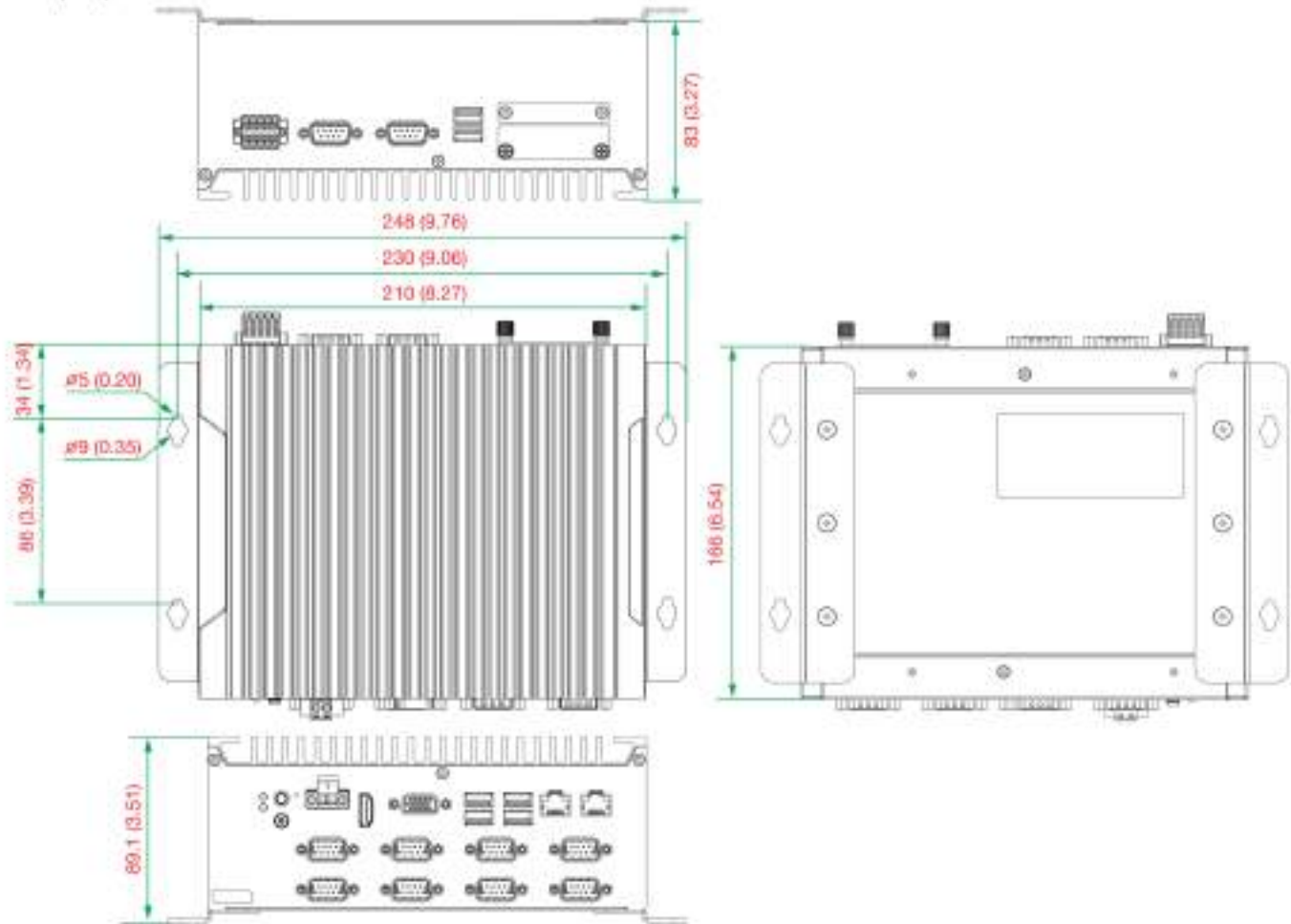
BXP-A100-E2-8L-T /E4-8L-T Models

Unit: mm (inch)



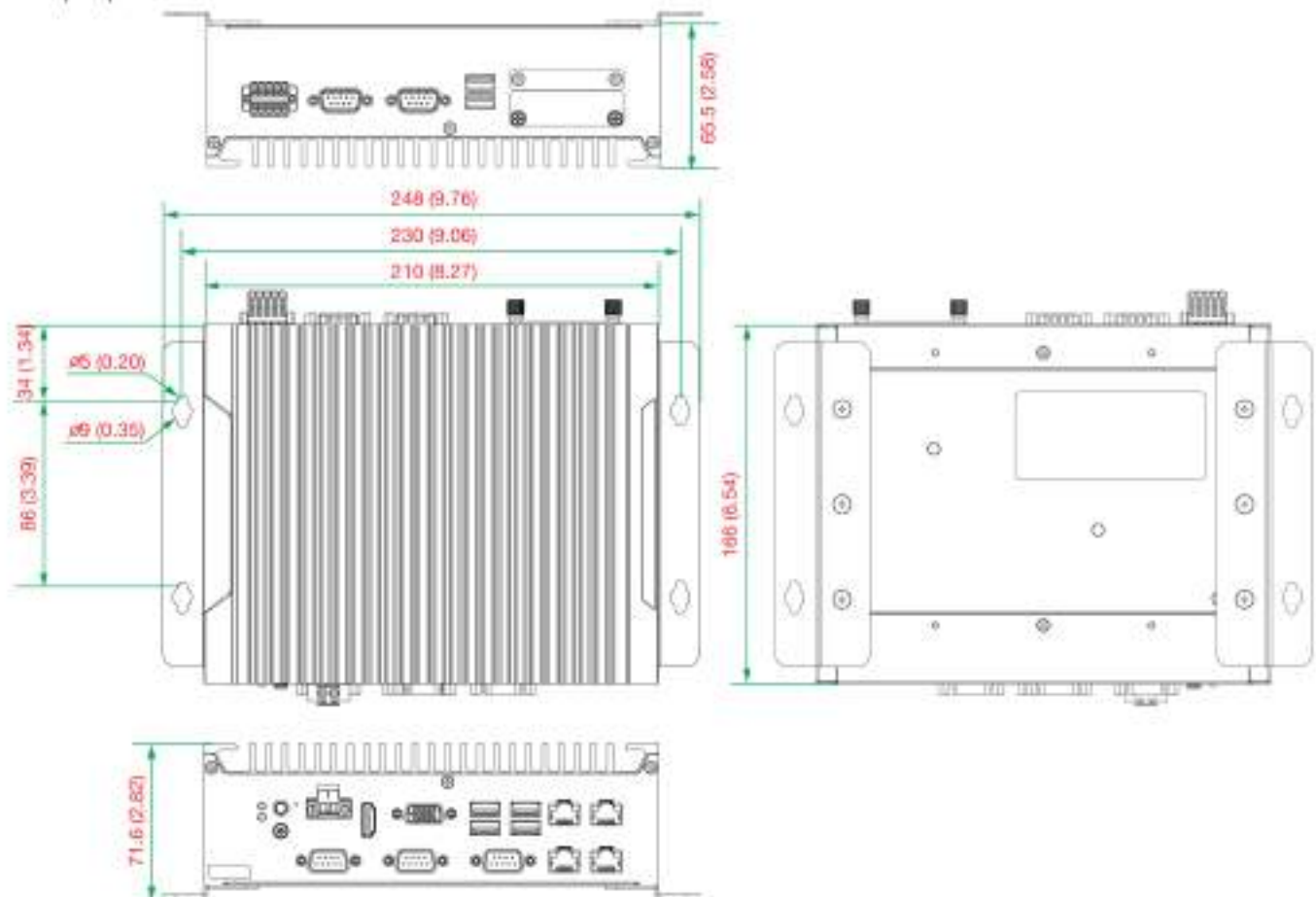
BXP-A100-E2-8C-T/ E4-8C-T Models

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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