

# RKP-A110 Series

*Rackmount 1U computers with Elkhart Lake Intel Atom® X Series processor base model and high-interface models*



## Features and Benefits

- 1U rackmount computer with fanless design
- Intel Atom® X Series processor
- Rich interface options for up to 12 LAN ports and up to 10 serial ports
- Standard form factor that fits most field applications
- Unified front-panel connectivity design for easy access of interfaces
- -30 to 60°C operating temperature range

## Certifications



## Introduction

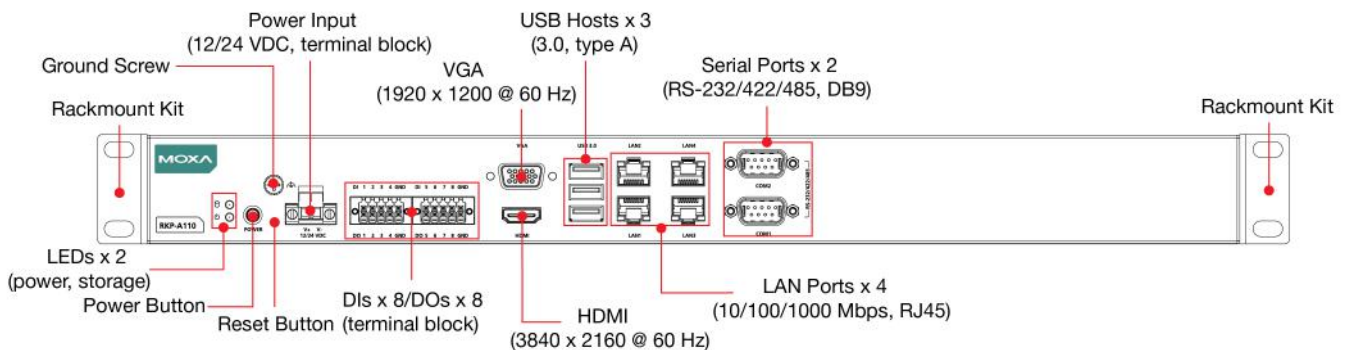
The RKP-A110 rackmount computers are powered by an Intel Atom® X Series processor. The computers come with a rich set of interface options including up to 12 gigabit Ethernet ports, 10 software-selectable RS-232/422/485 serial ports, and 8 digital inputs and 8 digital outputs. The communication interfaces are all located on the front panel, enabling easy access and convenient expansion for industrial applications. Two hand-rotated 2.5" SSD storage drives and an external replaceable RTC battery design deliver a reliable, durable, and versatile yet user-friendly computing platform.

Designed as 1U fanless rackmount computers with an operating temperature range of -30 to 60°C and a build-in TPM 2.0 module, the RKP-A110 computers are ideal as secure and reliable computing platforms for industrial applications in extreme operating environments.

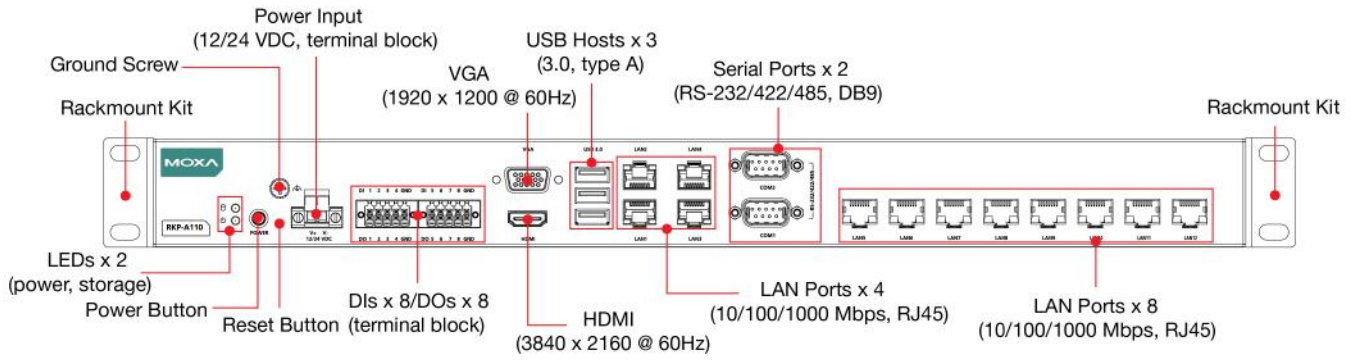
## Appearance

### Front View

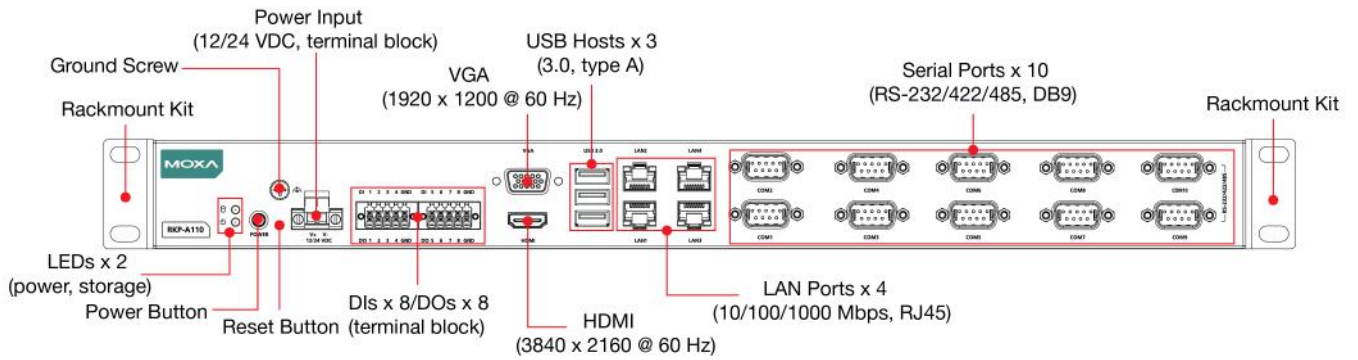
#### RKP-A110-E2-T/E4-T/E2-T-Win10/E4-T-Win10 Models



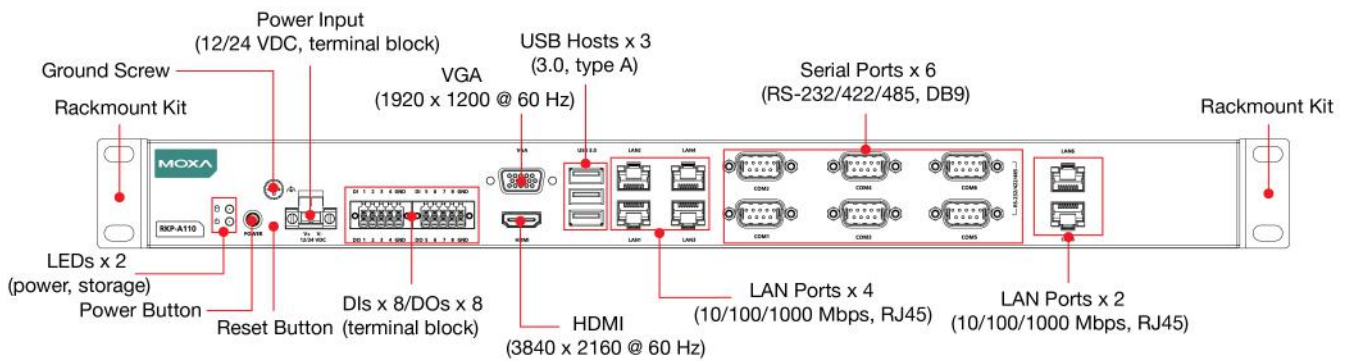
## RKP-A110-E2-8L-T/A110-E4-8L-T Models



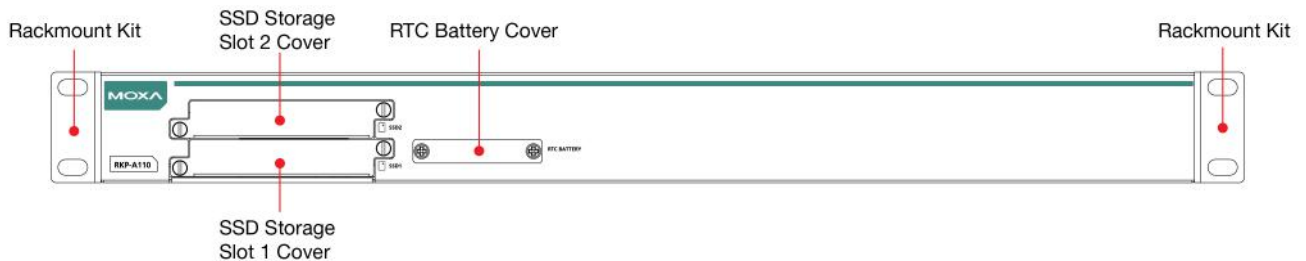
## RKP-A110-E2-8C-T/A110-E4-8C-T Models



## RKP-A110-E2-2L4C-T/E4-2L4C-T Models



## RearView



## Specifications

### Computer

CPU	RKP-A110-E2 Models: Intel Atom® x6211E processor (Dual core, 1.5M cache, 1.30 GHz) RKP-A110-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	2.5-inch SSD slots x 2 (SATAIII interface)
Storage Pre-installed	RKP-A110-E2-T-Win10/E4-T-Win10: 64 GB SSD
Supported OS	Windows Images and Drivers Supported: - Windows 10 IoT Enterprise LTSC 2021 64-bit - Windows 11 Professional 64-bit  Linux Drivers Supported: - 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	RKP-A110-E2-8L-T/E4-8L-T Models: Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 12 RKP-A110-E2-2L4C-T/E4-2L4C-T Models: Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 6 RKP-A110-E2-T/E4-T/E2-8C-T/E4-8C-T/E2-T-Win10/E4-T-Win10 Models: Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 4
Serial Ports	RKP-A110-E2-8C-T/E4-8C-T Models: RS-232/422/485 ports x 10, software selectable (DB9 male) RKP-A110-E2-2L4C-T/4-2L4C-T Models: RS-232/422/485 ports x 6, software selectable (DB9 male) RKP-A110-E2-T/E4-T/E2-8L-T/E4-8L-T/E2-T-Win10/E4-T-Win10 Models: RS-232/422/485 ports x 2, software selectable (DB9 male)
USB 3.0	USB 3.0 hosts x 3, type-A connectors
Digital Input	DIs x 8
Digital Output	DOs x 8
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
<b>Serial Signals</b>	
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
<b>Digital Inputs</b>	
Connector	Spring-type Euroblock terminal
Sensor Type	Dry contact
Dry Contact	Logic 0: Short to GND Logic 1: Open
<b>Digital Outputs</b>	
Connector	Spring-type Euroblock terminal
I/O Type	Sink
Current Rating	200 mA per channel
Voltage	0 to 24 VDC
<b>LED Indicators</b>	
System	Power x 1 Storage x 1
LAN	2 per port (10/100/1000 Mbps)
<b>Power Parameters</b>	
Input Voltage	12/24 VDC
Power Connector	Screw-fastened Euroblock terminal
Power Consumption	50 W
<b>Physical Characteristics</b>	
Housing	Metal
IP Rating	IP20
Dimensions	440 x 230 x 43.6 mm (17.32 x 9.06 x 1.72 in)
Weight	RKP-A110-E2-8C-T/E4-8C-T/E2-2L4C-T/E4-2L4C-T Models: 3,520 g (7.76 lb) RKP-A110-E2-8L-T/E4-8L-T Models: 3,510 g (7.74 lb) RKP-A110-E2-T/E4-T/E2-T-Win10/E4-T-Win10 Models: 3,330 g (7.34 lb)
Installation	Rack mounting (standard 1U)

## 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: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 0.5 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 0.5 kV, Signal: 1 kV IEC 61000-4-6 CS: 3 V IEC 61000-4-8 PFMF: 1 A/m at 50 to 60 Hz
Safety	UL 62368-1 (CB) BSMI
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-64
Package Drop Test	ISTA 1A
Package Vibration Test	ISTA 1A

## 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	465,664 hrs
Standards	Telcordia (Bellcore), GB

## Warranty

Warranty Period	3 years
Details	See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>

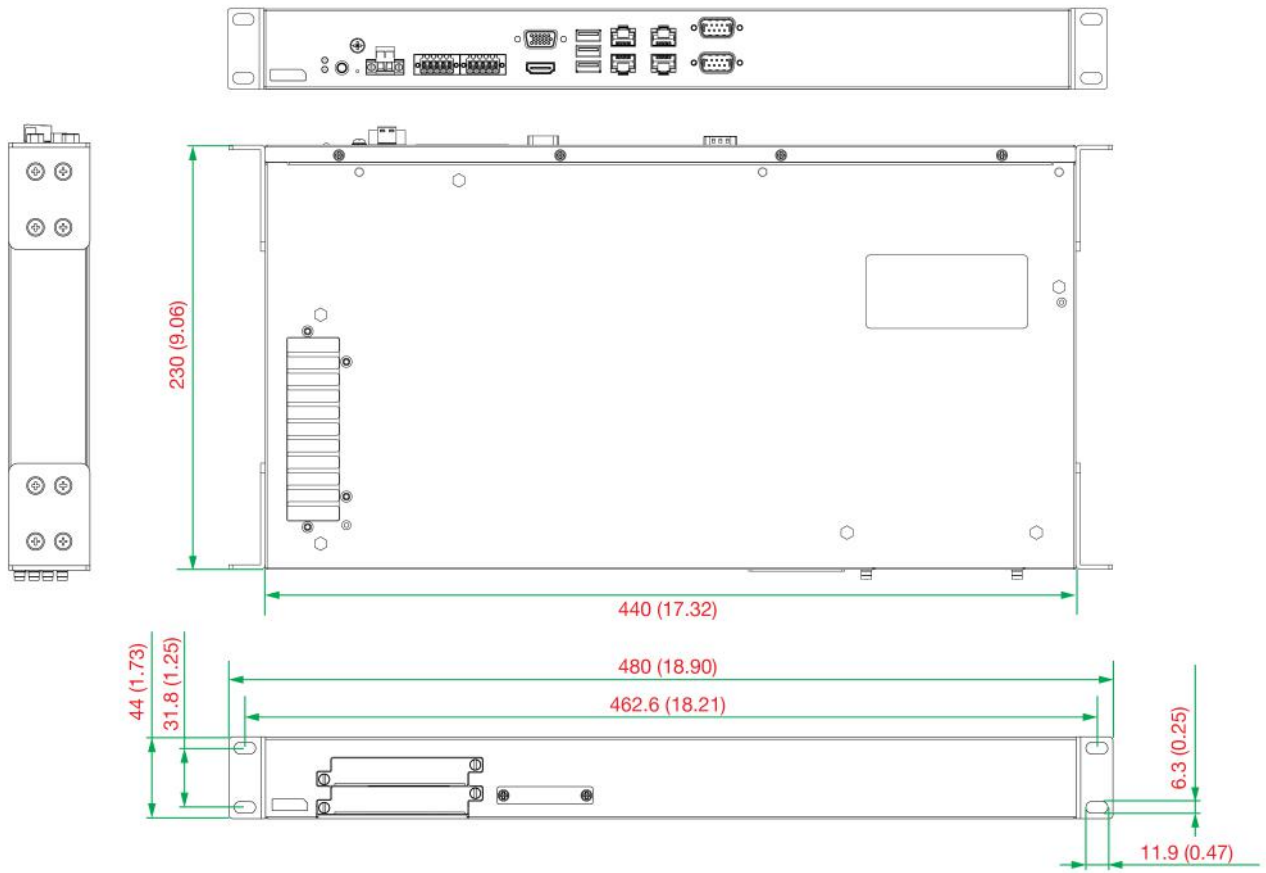
## Package Contents

Device	1 x RKP-A110 Series computer with rack-mounting ears installed
Installation Kit	1 x terminal block, 2-pin, for DC power 2 x terminal block, 10-pin, for DIs/DOs
Documentation	1 x quick installation guide 1 x warranty card

## Dimensions

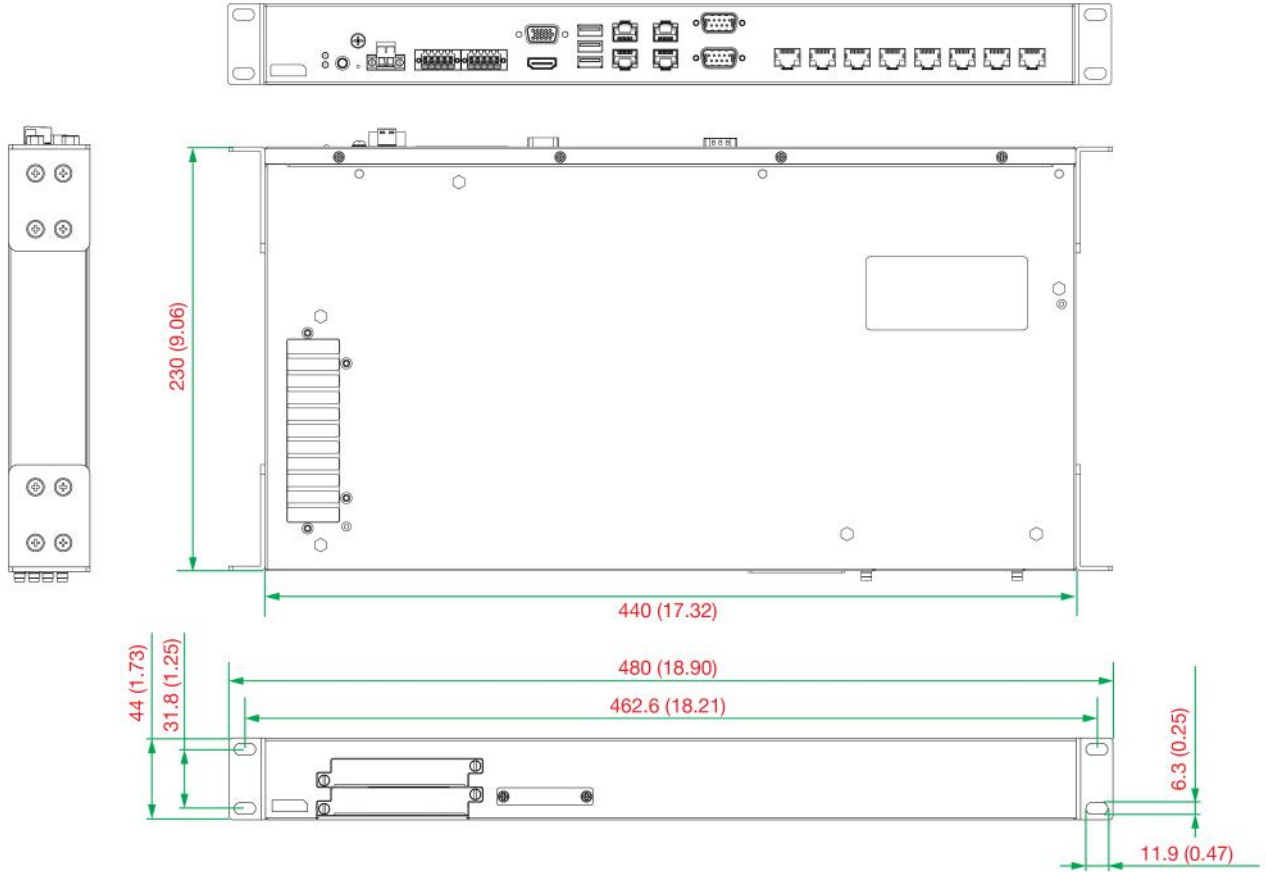
### RKP-A110-E2-T/E4-T/E2-T-Win10/E4-T-Win10 Models

Unit: mm (inch)



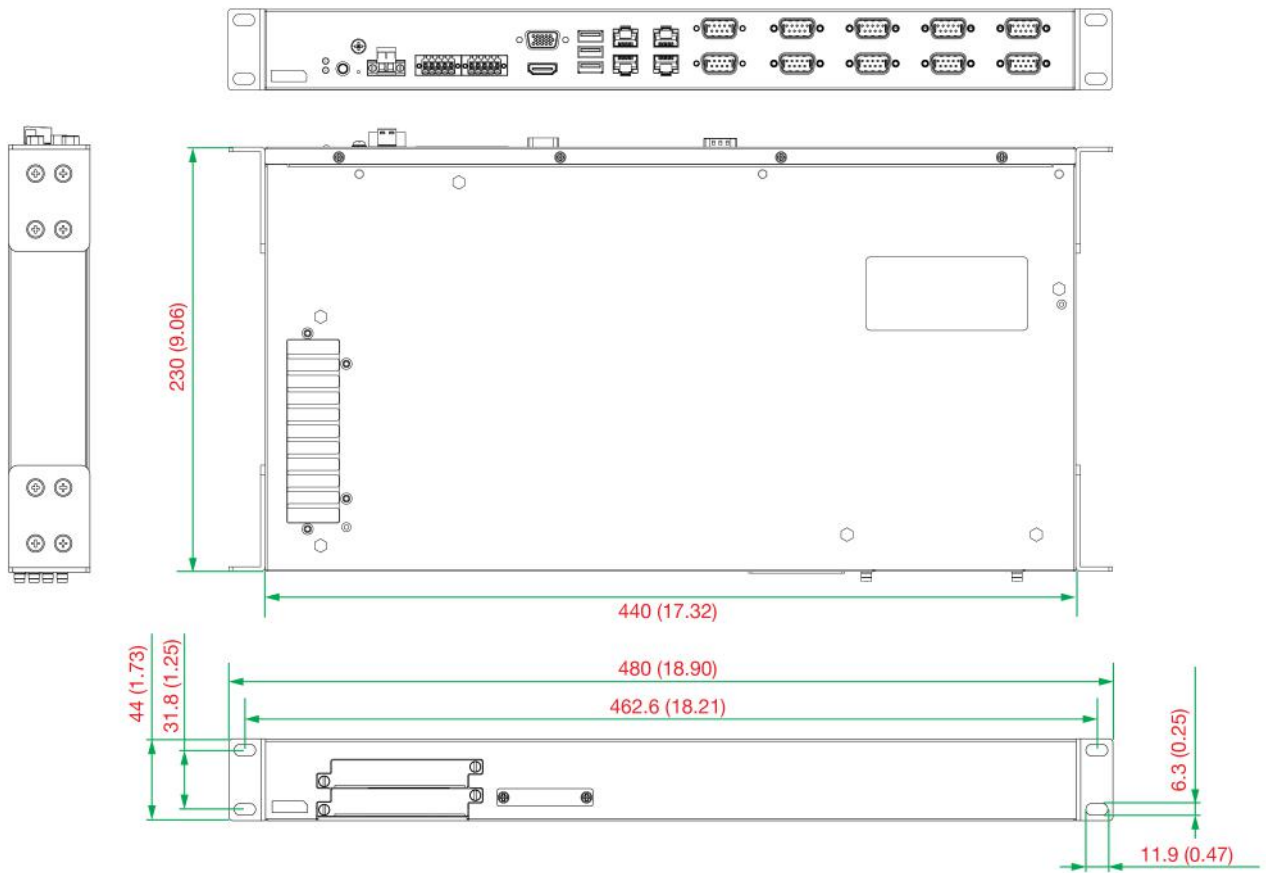
### RKP-A110-E2-8L-T/A110-E4-8L-T Models

Unit: mm (inch)



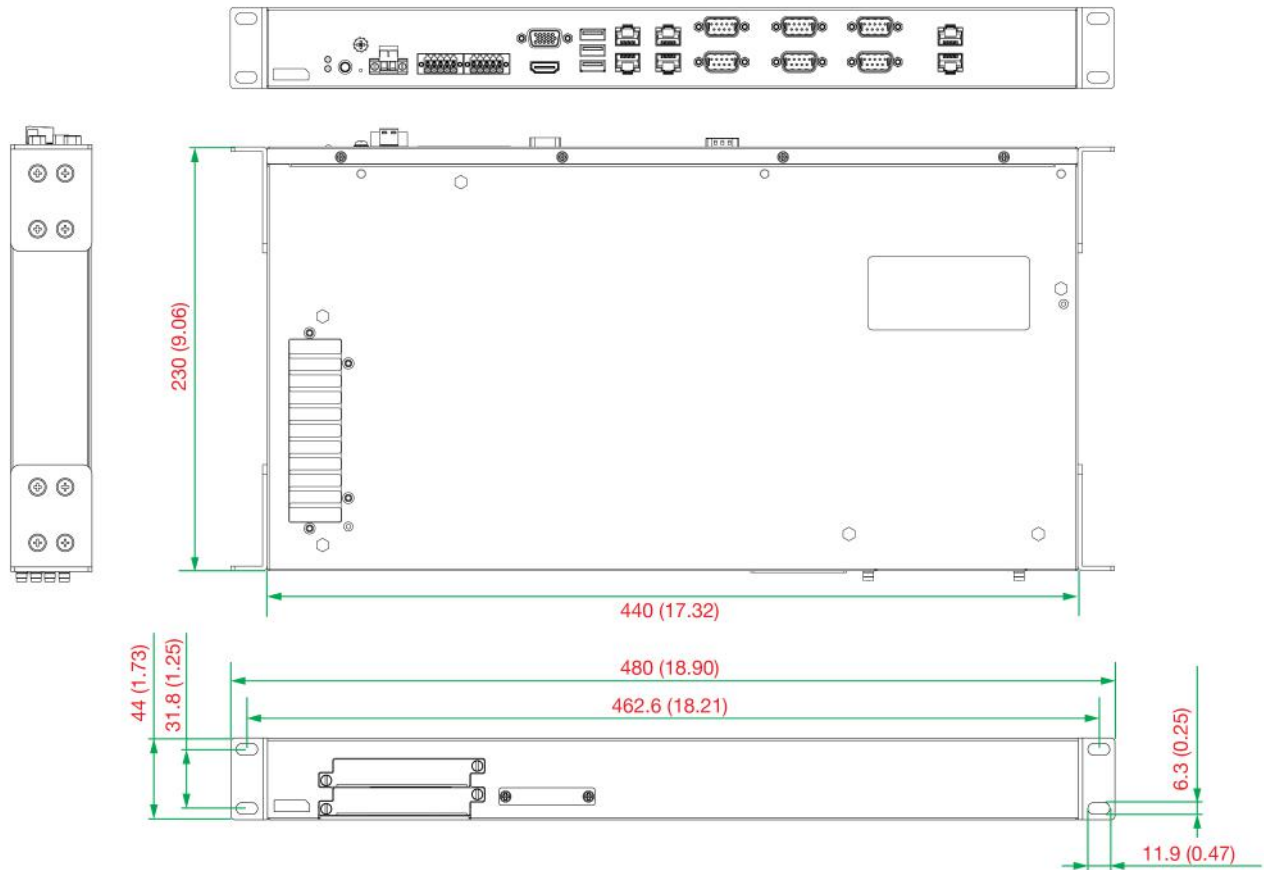
### RKP-A110-E2-8C-T/A110-E4-8C-T Models

Unit: mm (inch)



## RKP-A110-E2-2L4C-T/E4-2L4C-T Models

Unit: mm (inch)



## Ordering Information

Model Name	CPU	RAM	Storage Slots	OS Preinstalled	LAN/Serial	USB 3.0	DIs/ DOs	Video Outputs	Power Input
RKP-A110-E2-T	Intel Atom® x6211E	8 GB	2 x 2.5" SSD	-	4/2	3	8 x DIs 8 x DOs	1 x VGA 1 x HDMI	12/24 VDC
RKP-A110-E2-T-Win10	Intel Atom® x6211E	8 GB	2 x 2.5" SSD	Win 10 LTSC (64 GB SSD)	4/2	3	8 x DIs 8 x DOs	1 x VGA 1 x HDMI	12/24 VDC
RKP-A110-E2-8L-T	Intel Atom® x6211E	8 GB	2 x 2.5" SSD	-	12/2	3	8 x DIs 8 x DOs	1 x VGA 1 x HDMI	12/24 VDC
RKP-A110-E2-8C-T	Intel Atom® x6211E	8 GB	2 x 2.5" SSD	-	4/10	3	8 x DIs 8 x DOs	1 x VGA 1 x HDMI	12/24 VDC
RKP-A110-E2-2L4C-T	Intel Atom® x6211E	8 GB	2 x 2.5" SSD	-	6/6	3	8 x DIs 8 x DOs	1 x VGA 1 x HDMI	12/24 VDC
RKP-A110-E4-T	Intel Atom® x6425E	8 GB	2 x 2.5" SSD	-	4/2	3	8 x DIs 8 x DOs	1 x VGA 1 x HDMI	12/24 VDC
RKP-A110-E4-T-Win10	Intel Atom® x6425E	8 GB	2 x 2.5" SSD	Win 10 LTSC (64 GB SSD)	4/2	3	8 x DIs 8 x DOs	1 x VGA 1 x HDMI	12/24 VDC
RKP-A110-E4-8L-T	Intel Atom® x6425E	8 GB	2 x 2.5" SSD	-	12/2	3	8 x DIs 8 x DOs	1 x VGA 1 x HDMI	12/24 VDC
RKP-A110-E4-8C-T	Intel Atom® x6425E	8 GB	2 x 2.5" SSD	-	4/10	3	8 x DIs 8 x DOs	1 x VGA 1 x HDMI	12/24 VDC
RKP-A110-E4-2L4C-T	Intel Atom® x6425E	8 GB	2 x 2.5" SSD	-	6/6	3	8 x DIs 8 x DOs	1 x VGA 1 x HDMI	12/24 VDC



© Moxa Inc. All rights reserved. Updated Dec 28, 2023.

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.