

Enable AIoT Computing at the Extreme Edge



IoT Solutions
Alliance




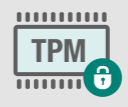

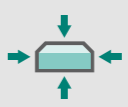
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Rugged AIoT Edge Computers Designed for Tough Environments

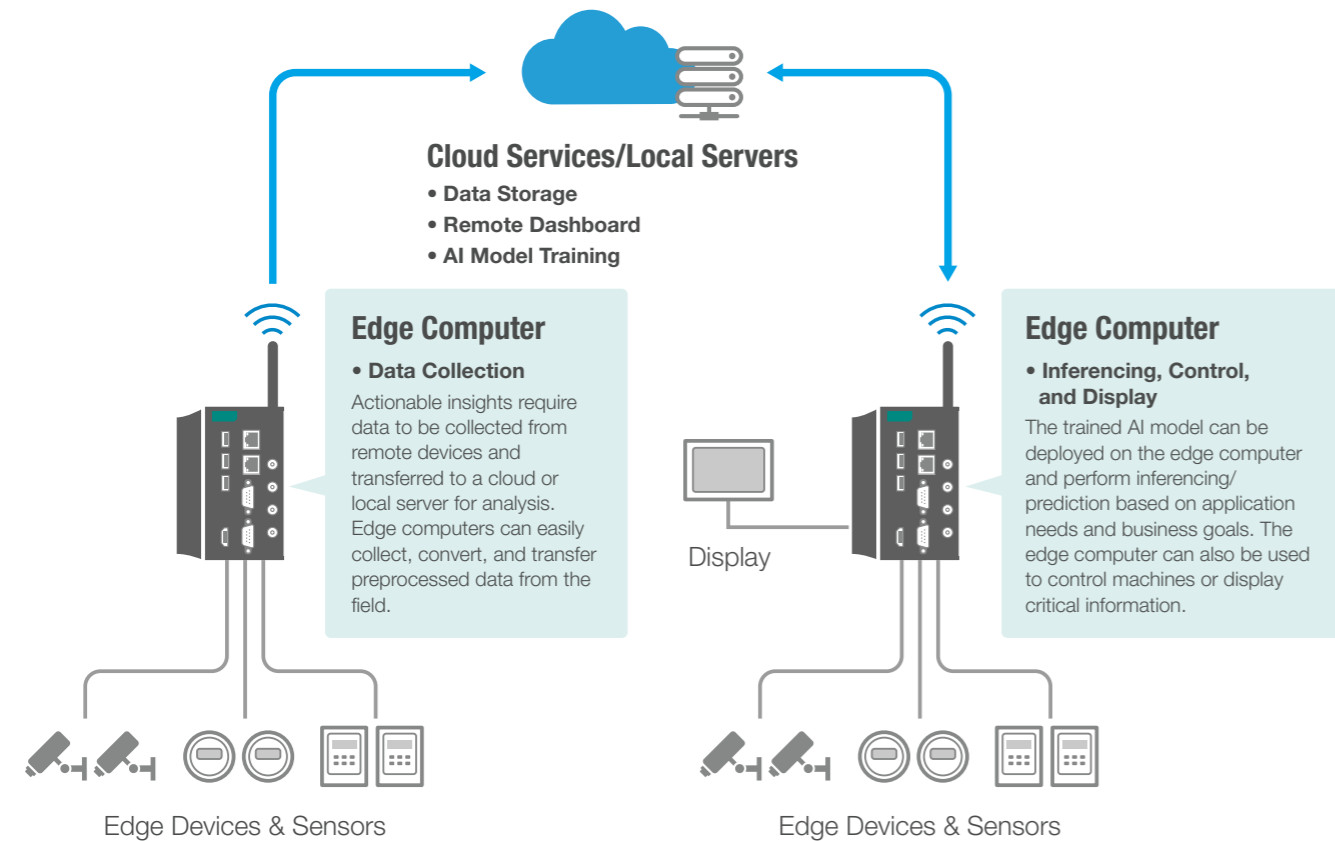
IIoT applications are generating more data than ever before. In many industrial applications, especially highly distributed systems located in remote areas, constantly sending large amounts of raw data to a central server is not possible. To reduce latency, lower data communication and storage costs, and increase network availability, businesses are moving AI and machine learning capabilities to the edge to enable real-time actions in the field.

Moxa's rugged edge computers feature high-performance Intel® Core™ i processors, wireless connectivity, and a wide operating temperature range. They come with expansion interfaces that can incorporate hardware accelerators, such as VPUs, and support Intel's OpenVINO toolkit for AIoT application development. These computers have passed rigorous tests to ensure long-lasting, reliable operation for industrial AIoT applications.

- 
High-Performance
 Intel® Core™ i processor and supports up to 32 GB RAM
- 
Integrated Wireless
 Multiple wireless expansion slots and SIM slots for redundant Wi-Fi/LTE connectivity
- 
Rugged Design
 Industrial-grade fanless design with -40 to 70°C wide operating temperature range
- 
Enhanced Security
 Supports TPM 2.0 module to provide hardware-based security
- 
Industry Certified
 Certified to work in hazardous locations and ideal for mission-critical applications
- 
Ultra-compact with Rich I/O
 Gigabit Ethernet, serial, and USB ports for OT/IT connectivity, and small form factor for space-limited cabinets

Typical AIoT Edge Computing Applications

Different AIoT applications and algorithms have different requirements for computing power. In real-world deployments, edge computers are often used to collect data, perform AI inferencing, control devices, and display important information.



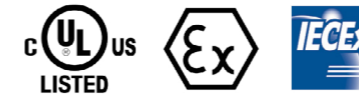
Target Industries

Moxa's industrial-grade, fanless x86 computers have passed rigorous tests and strictly adhere to industrial standards to ensure they can provide long-lasting, reliable operation even in harsh environments, making them perfect for AI and edge computing applications in mining, oil and gas, outdoor patrol robots, smart cities and utilities, and rail industries.



High-performance MC-1220 Series

Looking for a compact, high-performance edge computer for data processing in harsh environments? The MC-1220 Series is ideal for edge computing applications in extreme conditions such as mining, oil and gas, utilities, smart cities, and outdoor patrol robots.



Model	MC-1220-KL1-T-S	MC-1220-KL5-T-S	MC-1220-KL7-T-S	MC-1220-KL5-T
CPU	Intel® Celeron® 3965U (2C/2T, 2.2 GHz)	Intel® Core™ i5-7300U (2C/4T, 2.6 GHz)	Intel® Core™ i7-7600U (2C/4T, 2.8 GHz)	Intel® Core™ i5-7300U (2C/4T, 2.6 GHz)
Memory	DDR4 8GB (max. 32 GB)	DDR4 8GB (max. 32 GB)	DDR4 8GB (max. 32 GB)	DDR4 8GB (max. 32 GB)
Storage Slot	1 x SATA 3.0, 1 x mSATA	1 x SATA 3.0, 1 x mSATA	1 x SATA 3.0, 1 x mSATA	1 x SATA 3.0, 1 x mSATA
Supported OS	• Linux Debian 9 • Windows 10 IoT 2019	• Linux Debian 9 • Windows 10 IoT 2019	• Linux Debian 9 • Windows 10 IoT 2019	• Linux Debian 9 • Windows 10 IoT 2019
TPM	TPM 2.0	TPM 2.0	TPM 2.0	-
Ethernet Ports	2 x GbE (RJ45)	2 x GbE (RJ45)	2 x GbE (RJ45)	2 x GbE (RJ45)
Serial Ports	2 x RS-232/422/485 (terminal block)	2 x RS-232/422/485 (terminal block)	2 x RS-232/422/485 (terminal block)	2 x RS-232/422/485 (terminal block)
USB Ports	3 x USB 3.0	3 x USB 3.0	3 x USB 3.0	3 x USB 3.0
DI/DO	-	-	-	-
Wireless Expansion Slots	2 x full-size mPCIe	2 x full-size mPCIe	2 x full-size mPCIe	2 x full-size mPCIe
SIM Slots	4	4	4	4
Display	1 x HDMI	1 x HDMI	1 x HDMI	1 x HDMI
Power Input	9 to 36 VDC	9 to 36 VDC	9 to 36 VDC	9 to 36 VDC
Dimensions	134 x 60.4 x 120 mm (5.28 x 2.38 x 4.72 in)	134 x 60.4 x 120 mm (5.28 x 2.38 x 4.72 in)	134 x 60.4 x 120 mm (5.28 x 2.38 x 4.72 in)	134 x 60.4 x 120 mm (5.28 x 2.38 x 4.72 in)
Installation	DIN-rail mounting, wall mounting (optional)	DIN-rail mounting, wall mounting (optional)	DIN-rail mounting, wall mounting (optional)	DIN-rail mounting, wall mounting (optional)
Operating Temperature	-40 to 70°C (-40 to 158°F) (-40 to 60°C; CPU at full speed)	-40 to 70°C (-40 to 158°F) (-40 to 60°C; CPU at full speed)	-40 to 70°C (-40 to 158°F) (-40 to 60°C; CPU at full speed)	-40 to 70°C (-40 to 158°F) (-40 to 60°C; CPU at full speed)
Industrial Standards & Certifications	Class I Division 2, ATEX/IECEx Zone 2*	Class I Division 2, ATEX/IECEx Zone 2*	Class I Division 2, ATEX/IECEx Zone 2*	Class I Division 2, ATEX/IECEx Zone 2*

*Certification process is underway

High-performance V2406C Series

The V2406C Series rail computers are built around an Intel® Core™ i7/i5/i3 or Celeron® high-performance processor and come with sufficient memory storage expansion and wireless connectivity support, all in a compact casing.



Model	V2406C-KL1-T	V2406C-KL3-T	V2406C-KL5-T	V2406C-KL7-T	V2406C-KL1-CT-T	V2406C-KL7-CT-T
CPU	Intel® Celeron® 3965U (2C/2T, 2.2 GHz)	Intel® Core™ i3-7100U (2C/2T, 2.4 GHz)	Intel® Core™ i5-7300U (2C/4T, 2.6 GHz)	Intel® Core™ i7-7600U (2C/4T, 2.8 GHz)	Intel® Celeron® 3965U (2C/2T, 2.2 GHz)	Intel® Core™ i7-7600U (2C/4T, 2.8 GHz)
Memory	DDR4, 8 GB (max. 32 GB)	DDR4, 8 GB (max. 32 GB)	DDR4, 8 GB (max. 32 GB)	DDR4, 8 GB (max. 32 GB)	DDR4, 8 GB (max. 32 GB)	DDR4, 8 GB (max. 32 GB)
Storage Slot	2 x 2.5-inch HDD/SSD 1 x mSATA	2 x 2.5-inch HDD/SSD 1 x mSATA	2 x 2.5-inch HDD/SSD 1 x mSATA	2 x 2.5-inch HDD/SSD 1 x mSATA	2 x 2.5-inch HDD/SSD 1 x mSATA	2 x 2.5-inch HDD/SSD 1 x mSATA
Supported OS	• Linux Debian 9 • Windows 10 IoT 2019	• Linux Debian 9 • Windows 10 IoT 2019	• Linux Debian 9 • Windows 10 IoT 2019	• Linux Debian 9 • Windows 10 IoT 2019	• Linux Debian 9 • Windows 10 IoT 2019	• Linux Debian 9 • Windows 10 IoT 2019
TPM	-	-	-	-	-	-
Ethernet Ports	2 x GbE (M12 X-coded)	2 x GbE (M12 X-coded)	2 x GbE (M12 X-coded)	2 x GbE (M12 X-coded)	2 x GbE (M12 X-coded)	2 x GbE (M12 X-coded)
Serial Ports	4 x RS-232/422/485 (DB9 male)	4 x RS-232/422/485 (DB9 male)	4 x RS-232/422/485 (DB9 male)	4 x RS-232/422/485 (DB9 male)	4 x RS-232/422/485 (DB9 male)	4 x RS-232/422/485 (DB9 male)
USB Ports	4 x USB 3.0	4 x USB 3.0	4 x USB 3.0	4 x USB 3.0	4 x USB 3.0	4 x USB 3.0
DI/DO	6 x DIs, 2 x DOs	6 x DIs, 2 x DOs	6 x DIs, 2 x DOs	6 x DIs, 2 x DOs	6 x DIs, 2 x DOs	6 x DIs, 2 x DOs
Wireless Expansion Slots	2 x full-size mPCIe	2 x full-size mPCIe	2 x full-size mPCIe	2 x full-size mPCIe	2 x full-size mPCIe	2 x full-size mPCIe
SIM Slots	4	4	4	4	4	4
Display	1 x VGA, 1 x HDMI	1 x VGA, 1 x HDMI	1 x VGA, 1 x HDMI	1 x VGA, 1 x HDMI	1 x VGA, 1 x HDMI	1 x VGA, 1 x HDMI
Power Input	24 to 110 VDC (isolated, M12 A-coded)	24 to 110 VDC (isolated, M12 A-coded)	24 to 110 VDC (isolated, M12 A-coded)	24 to 110 VDC (isolated, M12 A-coded)	24 to 110 VDC (isolated, M12 A-coded)	24 to 110 VDC (isolated, M12 A-coded)
Dimensions	250 x 75 x 150 mm (9.84 x 2.95 x 5.91 in)	250 x 75 x 150 mm (9.84 x 2.95 x 5.91 in)	250 x 75 x 150 mm (9.84 x 2.95 x 5.91 in)	250 x 75 x 150 mm (9.84 x 2.95 x 5.91 in)	250 x 75 x 150 mm (9.84 x 2.95 x 5.91 in)	250 x 75 x 150 mm (9.84 x 2.95 x 5.91 in)
Installation	Wall mounting	Wall mounting	Wall mounting	Wall mounting	Wall mounting	Wall mounting
Operating Temperature	-40 to 70°C (-40 to 158°F)	-40 to 70°C (-40 to 158°F)	-40 to 70°C (-40 to 158°F)	-40 to 70°C (-40 to 158°F)	-40 to 70°C (-40 to 158°F)	-40 to 70°C (-40 to 158°F)
Conformal Coating	-	-	-	-	Yes	Yes
Industrial Standards & Certifications	EN 50155:2017, EN 50121-4	EN 50155:2017, EN 50121-4	EN 50155:2017, EN 50121-4	EN 50155:2017, EN 50121-4	EN 50155:2017, EN 50121-4	EN 50155:2017, EN 50121-4

Power-efficient MC-1100/V2201

Moxa offers Intel Atom®-based computers for data processing applications with limited power budget in extreme conditions, such as solar or wind energy, water and wastewater, transportation, marine, or oil and gas fields.



Model	MC-1112-E4-T	MC-1121-E4-T	MC-1122-E4-T	MC-1122-E4-TPM-T	V2201-E1-W-T	V2201-E4-W-T
CPU	Intel Atom® E3845	Intel Atom® E3845	Intel Atom® E3845	Intel Atom® E3845	Intel Atom® E3815	Intel Atom® E3845
Memory	DDR3L (max. 8 GB)	DDR3L (max. 8 GB)	DDR3L (max. 8 GB)	DDR3L (max. 8 GB)	DDR3L (max. 8 GB)	DDR3L (max. 8 GB)
Storage Slot	1 x CFast	1 x CFast, 1 x SD	1 x CFast	1 x CFast	1 x mSATA, 1 x SD	1 x mSATA, 1 x SD
Supported OS	• Linux Debian 8 • WES7 • Windows 10 IoT 2016	• Linux Debian 8 • WES7 • Windows 10 IoT 2016	• Linux Debian 8 • WES7 • Windows 10 IoT 2016	• Linux Debian 8 • WES7 • Windows 10 IoT 2016	• Linux Debian 9 • WES7 • Windows 10 IoT 2016	• Linux Debian 9 • WES7 • Windows 10 IoT 2016
TPM	-	-	-	TPM 1.2	-	-
Ethernet Ports	2 x GbE (RJ45)	4 x GbE (RJ45)	4 x GbE (RJ45)	4 x GbE (RJ45)	2 x GbE (RJ45)	2 x GbE (RJ45)
Serial Ports	2 x RS-232/422/485 (DB9 male)	2 x RS-232/422/485 (DB9 male)	4 x RS-232/422/485 (DB9 male)	4 x RS-232/422/485 (DB9 male)	2 x RS-232/422/485 (DB9 male)	2 x RS-232/422/485 (DB9 male)
USB Ports	2 x USB 2.0 hosts (type-A)	2 x USB 2.0 hosts (type-A)	2 x USB 2.0 hosts (type-A)	2 x USB 2.0 hosts (type-A)	1 x USB 3.0 2 x USB 2.0	1 x USB 3.0 2 x USB 2.0
DI/DO	-	4 x DIs, 4 x DOs	4 x DIs, 4 x DOs	4 x DIs, 4 x DOs	4 x DIs, 4 x DOs	4 x DIs, 4 x DOs
Wireless Expansion Slots	-	1 x full-size mPCIe	1 x full-size mPCIe	1 x full-size mPCIe	2 x full-size mPCIe	2 x full-size mPCIe
SIM Slots	1	1	1	1	1	1
Display	1 x VGA	1 x VGA, 1 x DisplayPort	1 x VGA	1 x VGA	1 x HDMI	1 x HDMI
Power Input	12 to 36 VDC	12 to 36 VDC	12 to 36 VDC	12 to 36 VDC	9 to 36 VDC	9 to 36 VDC
Dimensions	132 x 122 x 68 mm (5.2 x 4.81 x 2.68 in)	132 x 122 x 87 mm (5.2 x 4.81 x 3.43 in)	132 x 122 x 87 mm (5.2 x 4.81 x 3.43 in)	132 x 122 x 87 mm (5.2 x 4.81 x 3.43 in)	150 x 48.8 x 120.2 mm (5.91 x 1.92 x 4.73 in)	150 x 48.8 x 120.2 mm (5.91 x 1.92 x 4.73 in)
Installation	DIN-rail mounting, wall mounting (optional)	DIN-rail mounting, wall mounting (optional)	DIN-rail mounting, wall mounting (optional)	DIN-rail mounting, wall mounting (optional)	DIN-rail mounting, wall mounting (optional)	DIN-rail mounting, wall mounting (optional)
Operating Temperature	-40 to 70°C (-40 to 158°F)	-40 to 70°C (-40 to 158°F)	-40 to 70°C (-40 to 158°F)	-40 to 70°C (-40 to 158°F)	-40 to 85°C (-40 to 185°F)	-40 to 70°C (-40 to 158°F)
Industrial Standards & Certifications	Class I Division 2, ATEX/IECEx Zone 2, DNV GL, IEC 60945	Class I Division 2, ATEX/IECEx Zone 2, DNV GL, IEC 60945	Class I Division 2, ATEX/IECEx Zone 2, DNV GL, IEC 60945	Class I Division 2, ATEX/IECEx Zone 2, DNV GL, IEC 60945	-	-



Your Trusted Partner in Automation

Moxa is a leading provider of edge connectivity, industrial computing, and network infrastructure solutions for enabling connectivity for the Industrial Internet of Things (IIoT). With over 30 years of industry experience, Moxa has connected more than 65 million devices worldwide and has a distribution and service network that reaches customers in more than 80 countries. Moxa delivers lasting business value by empowering industries with reliable networks and sincere service. Information about Moxa's solutions is available at www.moxa.com.

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