

# MC-1100 Series

*Intel® Atom® E3800 DIN-rail computer with hazardous environment and DNV GL certifications*



## Features and Benefits

- Intel Atom Quad-core E3845 processor
- Dual storage (SD and CFAST slots)
- Dual independent displays (VGA + display port)
- Variety of interfaces: 2 serial ports, 4 Giga LANs, 4 DIs, 4 DOs, 2 USB 2.0 ports
- Mini-PCIe sockets for Wi-Fi, 3G, LTE, GPS
- 12 to 36 VDC, wide-range isolated power input
- -40 to 70°C system operating temperature range
- Moxa Smart Recovery utility to recover system from boot failure (W7E only)
- Marine-grade and ATEX, IECEx Zone 2 compliance

## Certifications



## Introduction

The MC-1100 Series DIN-rail mountable, fanless, x86 embedded computers use the Intel Atom® E3800 Series processor, feature the most reliable I/O design to maximize connectivity, and support wireless modules (Wi-Fi/3G/LTE), making them suitable for a diverse range of communication applications.

The MC-1100's wide operating temperature range (-40 to 70°C) and safety/EMI/EMS compliances make it ideal for intelligent computing and communication solutions in critical environments, including marine communication, oil and gas field site monitoring, and transportation.

The MC-1100 Series supports the Moxa Proactive Monitoring tool for device I/O status monitoring and alerts, system temperature monitoring and alerts, and system power management. Close monitoring of the system status makes it easier to recover from errors and provides the most reliable platform for your applications.

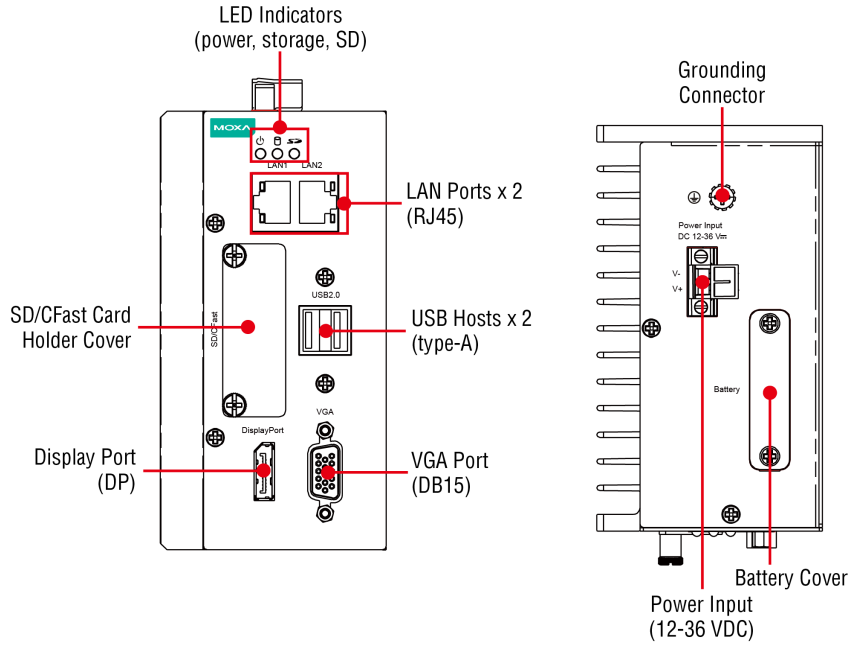
The MC-1100 Series is Microsoft Azure Certified for IoT. It can leverage the Microsoft reference configuration and has been tested to work with Microsoft Azure IoT services for Industrial IoT applications.

For more information on the Azure Certified for IoT program, visit: <https://catalog.azureiotsuite.com/>

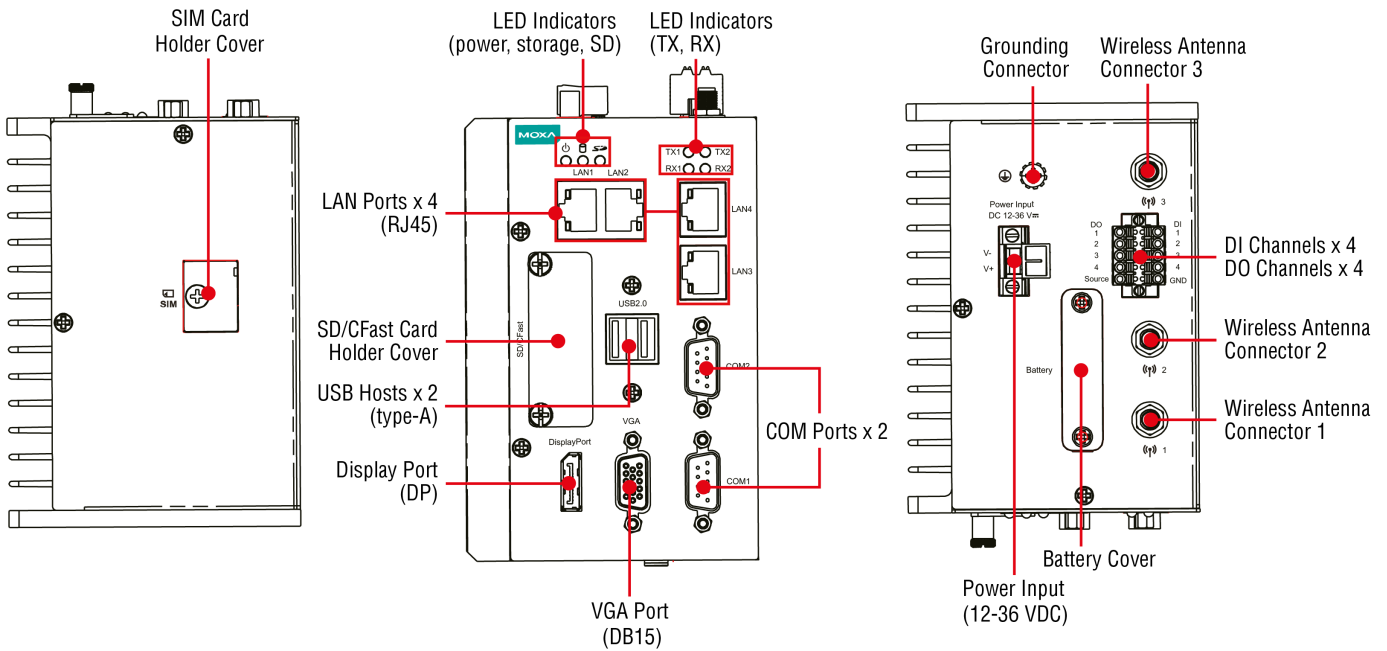
A complete list of Moxa's Azure Certified for IoT products is available at: <https://catalog.azureiotsuite.com/?q=moxa>

# Appearance

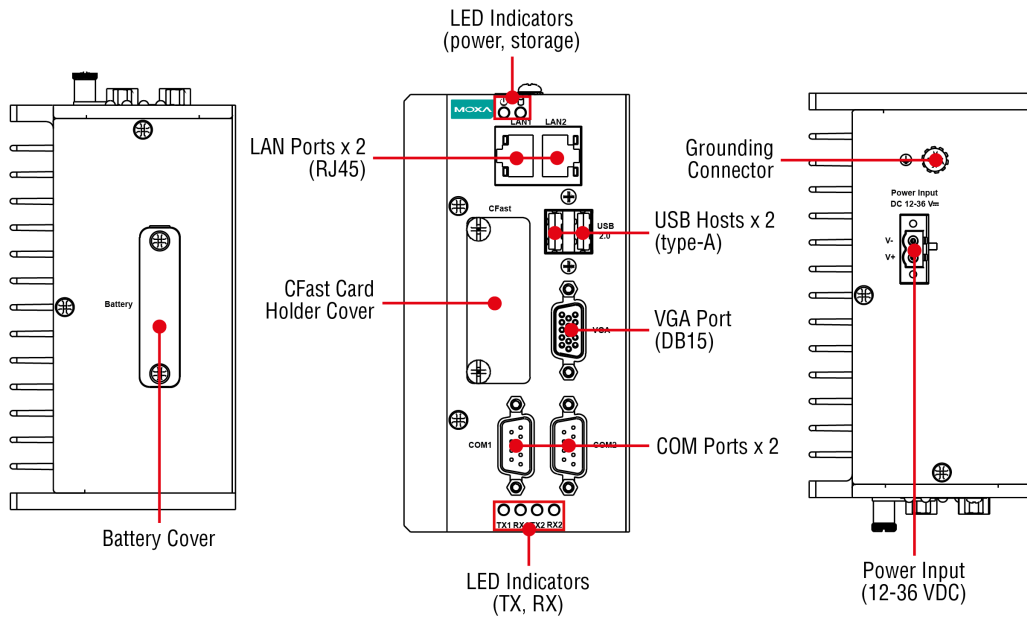
## MC-1111



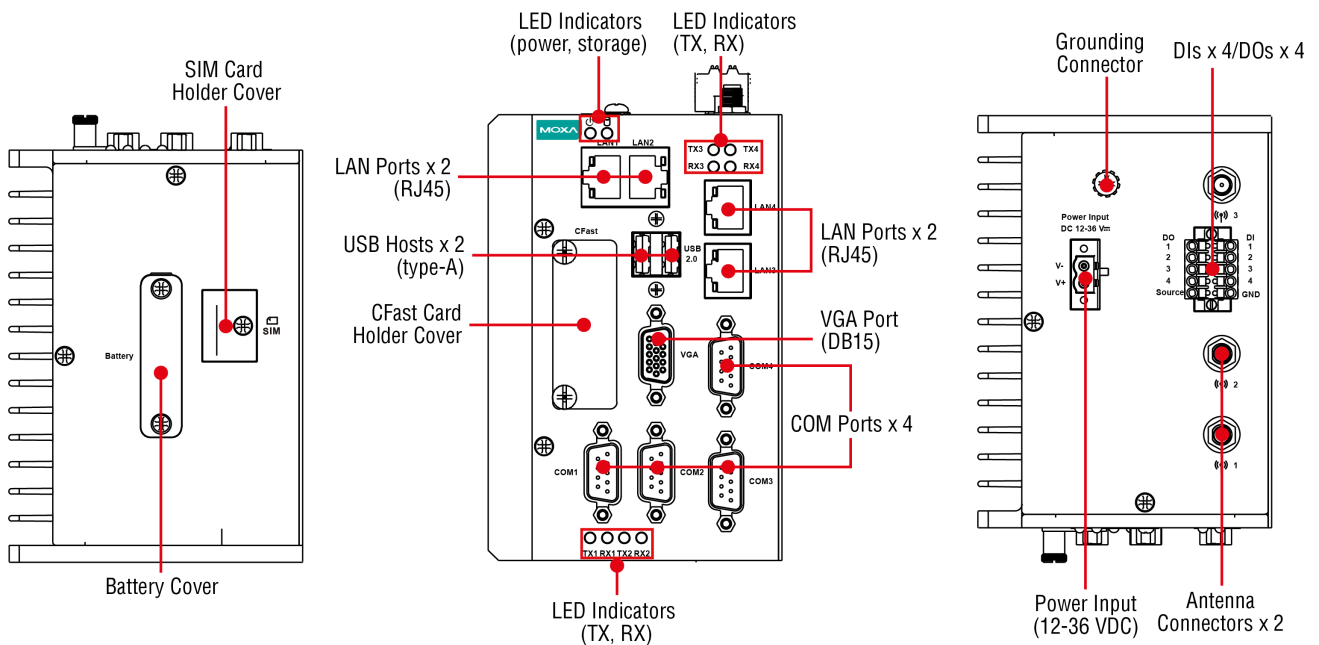
## MC-1121



## MC-1112



## MC-1122



## Specifications

### Computer

|                             |  |
|-----------------------------|--|
| CPU                         | MC-1100-E2-T Series: Intel Atom® Processor E3826 (1M Cache, 1.46 GHz)<br>MC-1100-E4-T Series: Intel Atom® Processor E3845 (2M Cache, 1.91 GHz) |
| Graphics Controller         | Intel® HD Graphics   |
| System Memory Pre-installed | 4 GB DDR3L   |
| System Memory Slot          | SODIMM DDR3/DDR3L slot x 1   |
| Supported OS                | Linux Debian 8 (Linux kernel v4.1)<br>Windows Embedded Standard 7 (WS7E) 64-bit<br>Windows 10 Embedded IOT Ent 2016 LTSP                       |
| Storage Slot                | All models: CFast x 1<br>MC-1111/1121 Series: SD x 1   |

## Computer Interface

|                 |  |
|-----------------|--|
| Ethernet Ports  | MC-1111/1112 Series: Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 2<br>MC-1121/1122 Series: Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 4 |
| Serial Ports    | MC-1121/1112 Series: RS-232/422/485 ports x 2, software-selectable (DB9 male)<br>MC-1122 Series: RS-232/422/485 ports x 4, software-selectable (DB9 male)      |
| USB 2.0         | USB 2.0 hosts x 2, type-A connectors   |
| Digital Input   | MC-1121/1122 Series: DIs x 4   |
| Digital Output  | MC-1121/1122: DOs x 4  |
| Expansion Slots | mPCIe slot x 1   |
| TPM             | TPM v1.2 (MC-1122-E4-TPM-T only)   |
| Video Output    | MC-1111/1121 Series: VGA x 1, DisplayPort x 1<br>All models: VGA x 1, 15-pin D-sub connector (female)  |
| Number of SIMs  | MC-1121/1122 Series: 1   |
| SIM Format      | MC-1121/1122 Series: Mini  |

## LED Indicators

|        |                               |
|--------|-------------------------------|
| System | Power x 1<br>Storage x 1      |
| LAN    | 2 per port (10/100/1000 Mbps) |
| Serial | 2 per port (Tx, Rx)           |

## Serial Interface

|              |  |
|--------------|--|
| Baudrate     | 50 bps to 115.2 kbps   |
| Connector    | DB9 male   |
| Data Bits    | 5, 6, 7, 8   |
| Flow Control | ADDC® (automatic data direction control) for RS-485<br>RTS/CTS, XON/XOFF |
| Isolation    | N/A  |
| Parity       | None, Even, Odd, Space, Mark   |

## Power Parameters

|                   |                                |
|-------------------|--------------------------------|
| Input Voltage     | 11.4 to 36 VDC                 |
| Power Connector   | Terminal block (for DC models) |
| Power Consumption | 30 W (max.)                    |

## Reliability

|                          |              |
|--------------------------|--------------|
| Automatic Reboot Trigger | Built-in WDT |
|--------------------------|--------------|

## Physical Characteristics

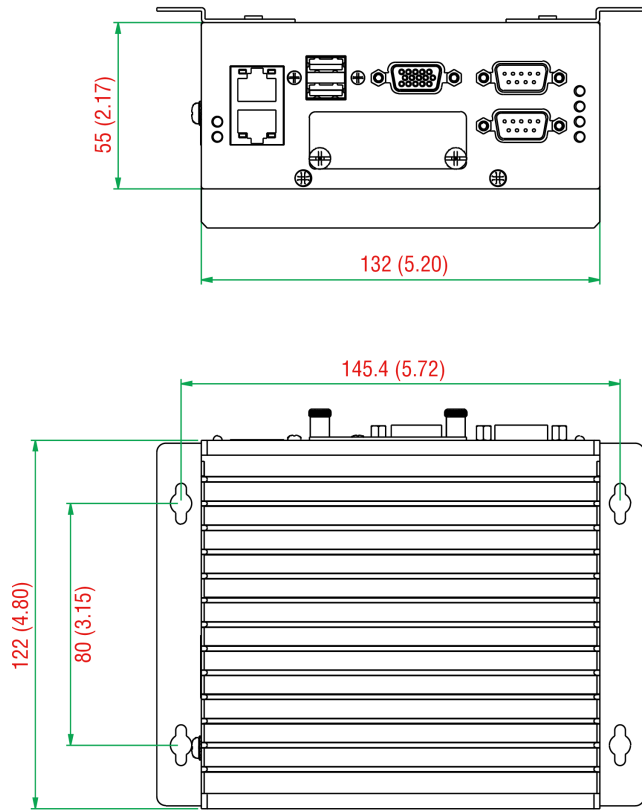
|            |  |
|------------|--|
| Housing    | Metal  |
| Dimensions | MC-1111/1112 Series: 132 x 122 x 68 mm (5.2 x 4.81 x 2.68 in)<br>MC-1121/1122 Series: 132 x 122 x 87 mm (5.2 x 4.81 x 3.43 in) |

|  |  |
|--|--|
| Weight                                 | MC-1111/1112 Series: 1,022 g (2.25 lb)<br>MC-1121/1122 Series: 1,340 g (2.95 lb)   |
| Installation                           | DIN-rail mounting<br>Wall mounting (with optional kit)   |
| <b>Environmental Limits</b>            |  |
| Operating Temperature                  | -40 to 70°C (-40 to 158°F)   |
| Storage Temperature (package included) | -45 to 75°C (-49 to 167°F)   |
| Ambient Relative Humidity              | 5 to 95% (non-condensing)  |
| <b>Standards and Certifications</b>    |  |
| EMC                                    | EN 55032/24  |
| EMI                                    | CISPR 32, FCC Part 15B Class A   |
| EMS                                    | IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m<br>IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV<br>IEC 61000-4-8 PFMF<br>IEC 61000-4-6 CS: 10 V<br>IEC 61000-4-5 Surge: Power: 1 kV; Signal: 1 kV<br>IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV |
| Hazardous Locations                    | ATEX Zone 2<br>Class I Division 2<br>IECEx Zone 2  |
| Maritime                               | DNV-GL<br>IEC 60945  |
| Radio Frequency                        | FCC  |
| Safety                                 | UL 60950-1   |
| <b>Warranty</b>                        |  |
| Warranty Period                        | 3 years  |
| Details                                | See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>   |
| <b>Package Contents</b>                |  |
| Device                                 | 1 x MC-1100 Series computer  |
| Cable                                  | 1 x terminal block to power jack converter   |
| Installation Kit                       | 1 x terminal block, 2-pin<br>1 x DIN-rail kit  |
| Documentation                          | 1 x quick installation guide<br>1 x warranty card  |

# Dimensions

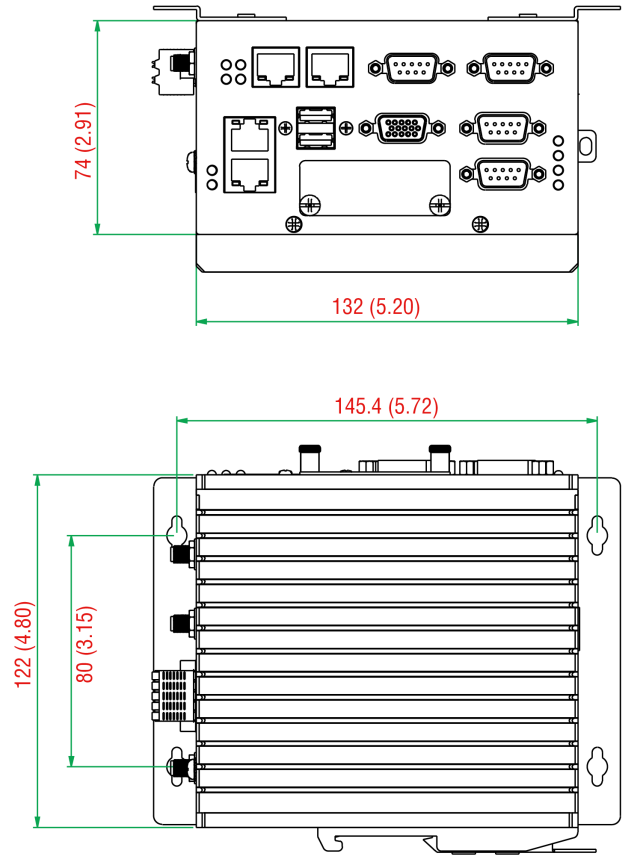
## MC-1112

Unit: mm (inch)



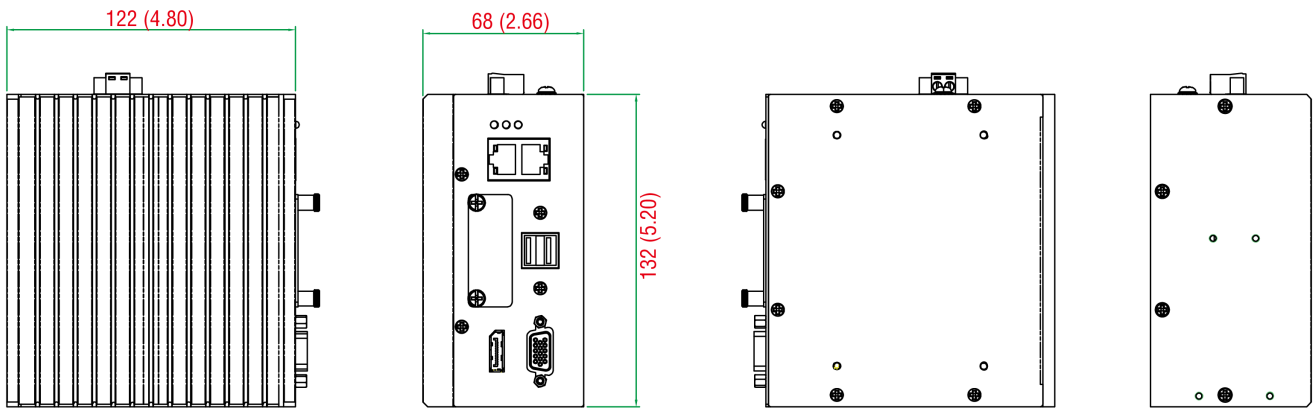
## MC-1122

Unit: mm (inch)



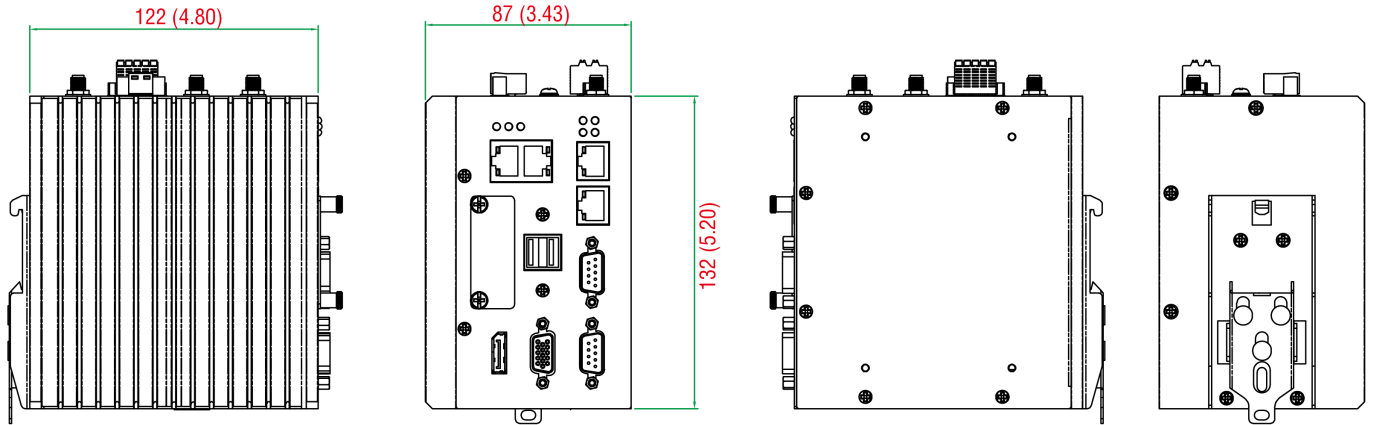
## MC-1111

Unit: mm (inch)



## MC-1121

Unit: mm (inch)



## Ordering Information

| Model Name       | CPU               | RAM  | Storage Slots                            | OS Preinstalled | LAN/Serial | USB 2.0 | Video Outputs     | Interface Expansion |
|------------------|-------------------|------|--|-----------------|------------|---------|-------------------|---------------------|
| MC-1111-E2-T     | Intel Atom® E3826 | 4 GB | 1 x CFast<br>1 x SD                      | -               | 2/-        | 2       | 1 x VGA<br>1 x DP | -                   |
| MC-1111-E4-T     | Intel Atom® E3845 | 4 GB | 1 x CFast<br>1 x SD                      | -               | 2/-        | 2       | 1 x VGA<br>1 x DP | -                   |
| MC-1121-E2-T     | Intel Atom® E3826 | 4 GB | 1 x CFast<br>1 x SD                      | -               | 4/2        | 2       | 1 x VGA<br>1 x DP | 1 x mPCIe           |
| MC-1121-E4-T     | Intel Atom® E3845 | 4 GB | 1 x CFast<br>1 x SD                      | -               | 4/2        | 2       | 1 x VGA<br>1 x DP | 1 x mPCIe           |
| MC-1121-E4-T-W7E | Intel Atom® E3845 | 4 GB | 1 x CFast (32 GB preinstalled)<br>1 x SD | WS7E            | 4/2        | 2       | 1 x VGA<br>1 x DP | 1 x mPCIe           |
| MC-1112-E2-T     | Intel Atom® E3826 | 4 GB | 1 x CFast                                | -               | 2/2        | 2       | 1 x VGA           | -                   |
| MC-1112-E4-T     | Intel Atom® E3845 | 4 GB | 1 x CFast                                | -               | 2/2        | 2       | 1 x VGA           | -                   |
| MC-1122-E2-T     | Intel Atom® E3826 | 4 GB | 1 x CFast                                | -               | 4/4        | 2       | 1 x VGA           | 1 x mPCIe           |
| MC-1122-E4-T     | Intel Atom® E3845 | 4 GB | 1 x CFast                                | -               | 4/4        | 2       | 1 x VGA           | 1 x mPCIe           |
| MC-1122-E4-TPM-T | Intel Atom® E3845 | 4 GB | 1 x CFast                                | -               | 4/4        | 2       | 1 x VGA           | 1 x mPCIe           |

## Accessories (sold separately)

### Cellular Wireless Modules

|                     |  |
|---------------------|--|
| CELLULAR-LTE (L201) | LTE cellular module, with 2 mounting screws, for LTE (FDD) bands B2, B4, B5, B13 and B41 in the North American region  |
| CELLULAR-LTE (L210) | LTE cellular module, with 2 mounting screws, for LTE (FDD) bands B1, B3, B5, B7, B8 and B20 in Europe and APAC regions |

### Wi-Fi Wireless Modules

|                  |  |
|------------------|--|
| Wi-Fi-BGN(252NI) | Wi-Fi module, 2 antennas with cable and connector, 2 black screws, 2 lock washers, 2 nuts, 1 thermal pad |
|------------------|--|

### DIN-Rail Mounting Kits

|                      |                                 |
|----------------------|---------------------------------|
| MC-1100 DIN-Rail Kit | DIN-rail mounting kit, 4 screws |
|----------------------|---------------------------------|

### Wall-Mounting Kits

|                       |                             |
|-----------------------|-----------------------------|
| MC-1100 Wallmount Kit | Wall-mounting kit, 4 screws |
|-----------------------|-----------------------------|

### Power Cords

|                 |   |
|-----------------|---|
| PWC-C7AU-2B-183 | Power cord with Australian (AU) plug, 2.5A/250V, 1.83 m         |
| PWC-C7CN-2B-183 | Power cord with two-prong China (CN) plug, 1.83 m               |
| PWC-C7EU-2B-183 | Power cord with Continental Europe (EU) plug, 2.5A/250V, 1.83 m |
| PWC-C7UK-2B-183 | Power cord with United Kingdom (UK) plug, 2.5A/250V, 1.83 m     |
| PWC-C7US-2B-183 | Power cord with United States (US) plug, 10A/125V, 1.83 m       |

### Power Adapters

|                 |  |
|-----------------|--|
| PWR-24270-DT-S1 | Power adapter, input voltage 90 to 264 VAC, output voltage 24 V with 2.5 A DC load |
|-----------------|--|

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