

MC-3201 Series

Compact computers with 11th Gen Intel® Core™ processor, designed for IIoT, AI, and marine applications, -20 to 55°C operating temperature



Features and Benefits

- 11th Gen Intel® Core™ processor (Tiger Lake U)
- 2 built-in DDR4 memory slots; total capacity up to 32 GB
- M.2 B key socket for 5G, GPS, and M.2 SATA SSD expansion modules
- M.2 E key socket for Wi-Fi and BT expansion modules
- Variety of interfaces: 2 serial ports, 4 Giga LAN ports, 2 USB 3.1 (type A) ports, and 4 USB 2.0 (type A) ports
- Built-in TPM 2.0 module
- Complies with IEC-60945 and IACS E10 standards

Certifications



Introduction

The MC-3201 Series computers are built around a 11th Gen Intel® Celeron® or Intel® Core™ i3, i5, or i7 processor and come with 2 DisplayPort interfaces, 2 USB 3.1 ports, 4 GbE ports, and 2 3-in-1 RS-232/422/485 serial ports. The computers are also equipped with a 2.5-inch SSD/HDD slot and a built-in TPM 2.0 module.

Additional value and convenience are provided through a modular design with two independent slots for flexible system integration and expansion. Users have the option to add a variety of different communications modules, including Wi-Fi, 5G, LTE, GPS, and M.2 SATA SSD expansion modules.

Compliance with the IEC-60945 and IACS E10 standards ensures the MC-3201 delivers stable and reliable system operations for marine and IIoT applications. These certifications are issued to indicate the suitability of product for use in marine applications.

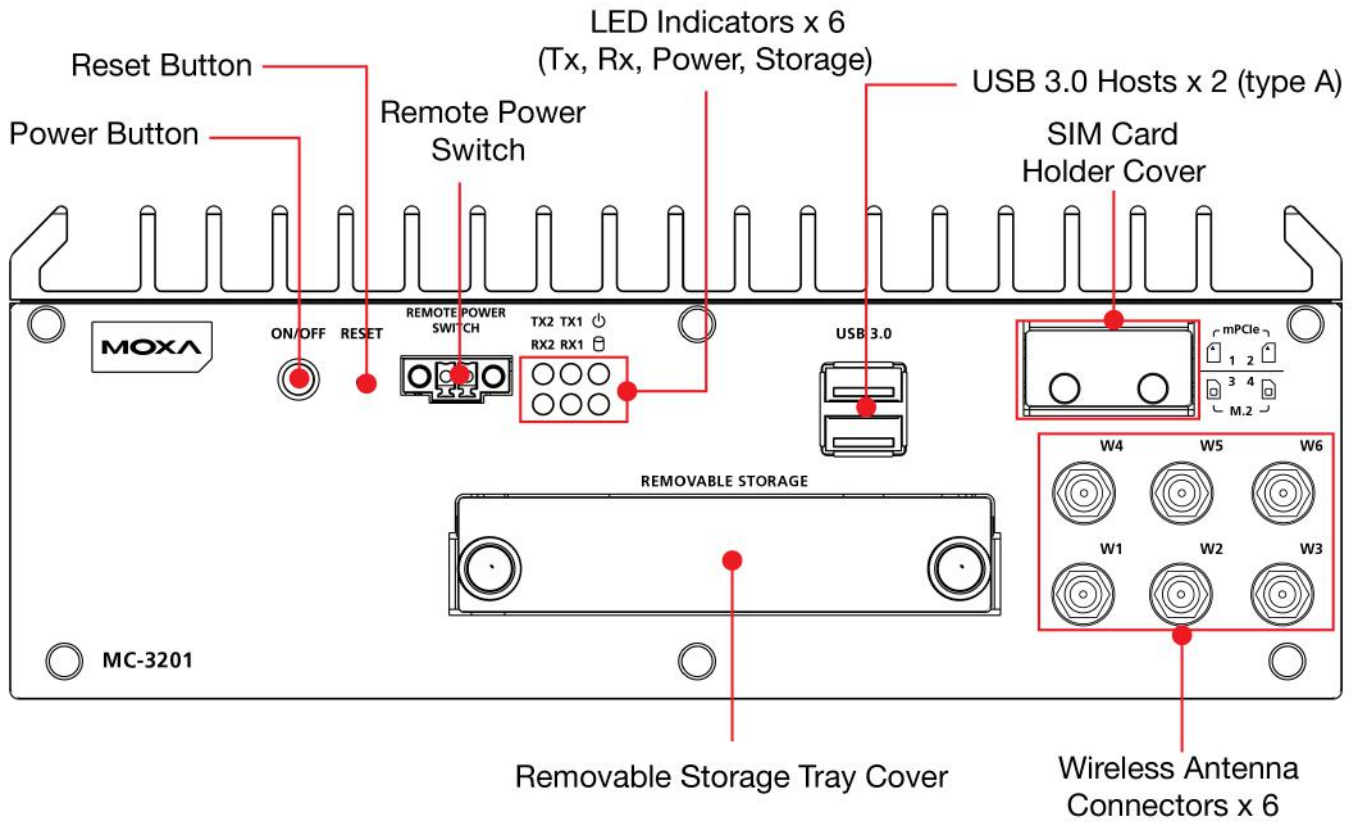
Proactive Monitoring Function

Moxa Proactive Monitoring is a small-footprint, resource-friendly, easy-to-use utility available with some Moxa computers to track a number of system parameters. You can view the current values for key parts by simply clicking on the icons corresponding to the parameters in a Windows-based user interface. User-defined key part indicators (KPIs) are used to monitor the computer's key parts. Visible and/or audio alerts are triggered automatically via relays and SNMP traps when these KPIs exceed their preset threshold values, making it extremely convenient for operators to avoid system downtime by setting up predictive maintenance tasks well in advance.

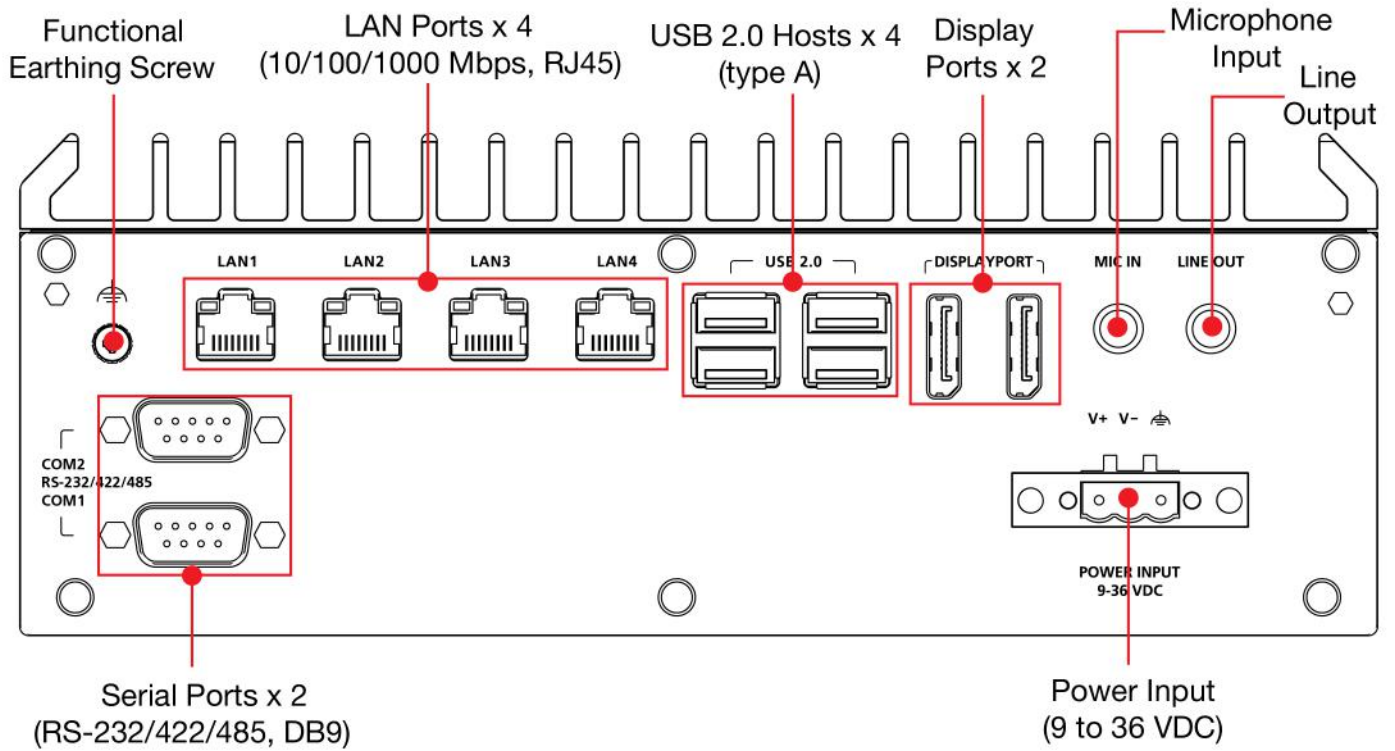
The Proactive Monitoring tool is currently available with DA-720 Series, DA-820C Series, MC-1200 Series, MC-3201 Series, and MC-7400 Series.

Appearance

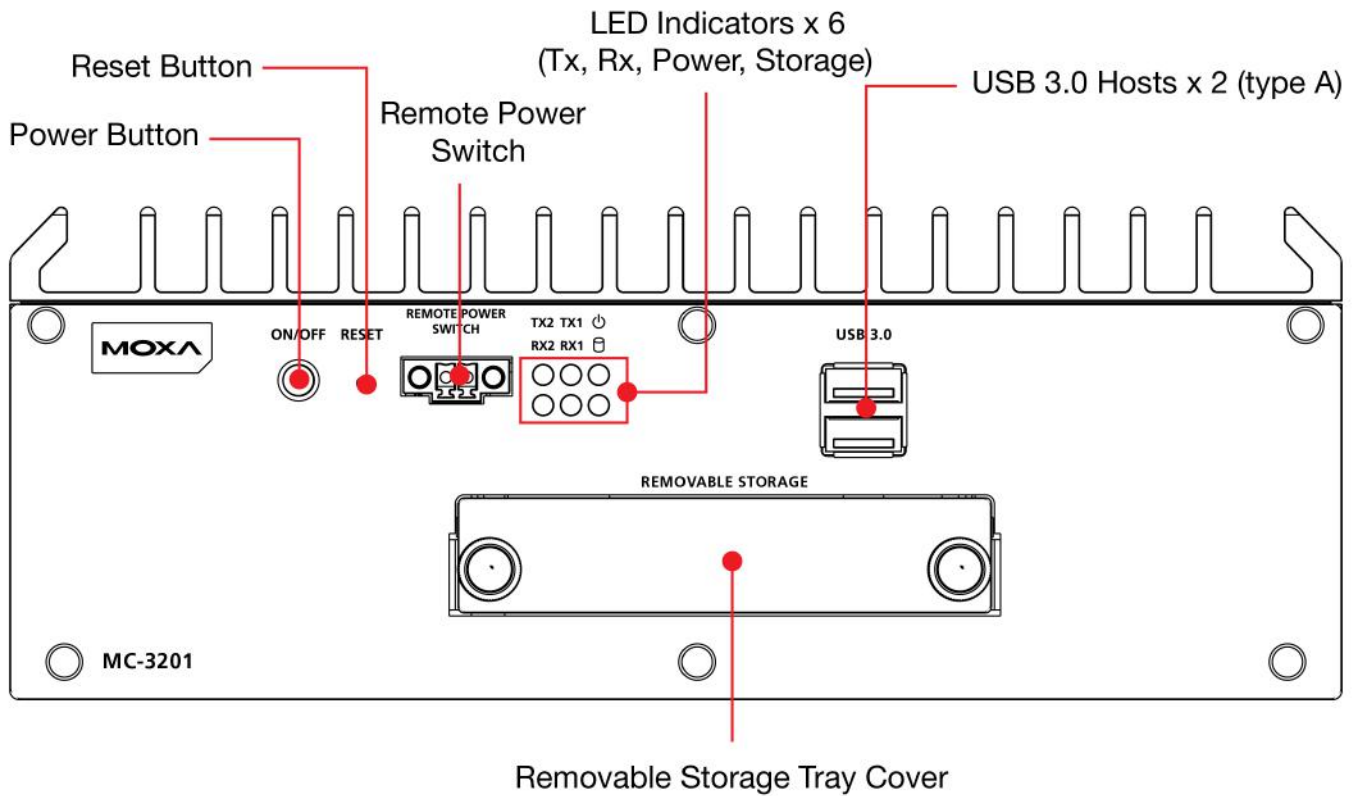
Front Panel (S-S models)



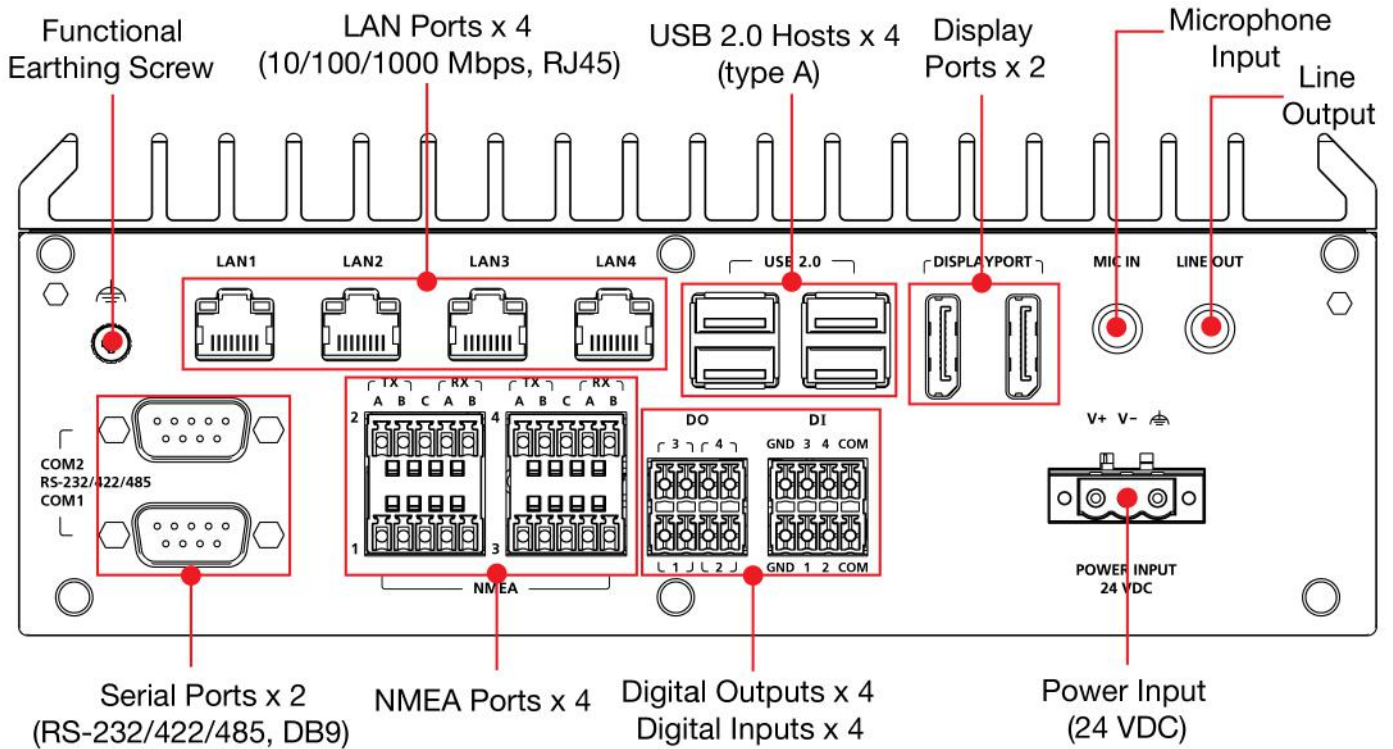
Rear Panel (S-S models)



Front Panel (M-S models)



Rear Panel (M-S models)



Specifications

Computer

CPU	MC-3201-TGL7-M-S/S-S Models: Intel® Core™ i7-1185G7E processor (12M Cache, up to 1.8 GHz) MC-3201-TGL5-M-S/S-S Models: Intel® Core™ i5-1145G7E processor (8M Cache, up to 1.5 GHz) MC-3201-TGL3-M-S/S-S Models: Intel® Core™ i3-1115G4E processor (6M Cache, up to 2.2 GHz) MC-3201-TGL1-M-S/S-S Models: Intel® Celeron® 6305E processor (4M Cache, up to 1.8 GHz)
Graphics Controller	Intel® Iris® Xe Graphics
System Memory Pre-installed	8 GB DDR4
System Memory Slot	SODIMM DDR4 2133 slot x 2, up to 32 GB max.
Supported OS	Linux Debian 11, 64-bit, kernel 5.10 Windows 10 Embedded IoT Ent 2019 LTSC 64-bit (Both optional, available via CTOS)
Storage Slot	External: 2.5-inch HDD/SSD slots x 1 Internal: M.2 B key socket x 1 mPCIe socket x 1

Computer Interface

Ethernet Ports	Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 4
Serial Ports	RS-232/422/485 ports x 2, software selectable (DB9 male)
Digital Input	M-S Models: DIs x 4

Digital Output	M-S Models: DOs x 4
USB 3.0	USB 3.0 hosts x 2, type-A connectors
USB 2.0	USB 2.0 hosts x 4, type-A connectors
Video Output	DisplayPort x 2 up to 3840 x 2160 resolution at 60 Hz
Audio Input/Output	Line in x 1, Line out x 1, 3.5 mm phone jack
Buttons	Reset button Power button
TPM	TPM v2.0

Ethernet Interface

Magnetic Isolation Protection	1.5 kV (built-in)
10/100/1000BaseT(X) Ports (RJ45 connector)	4

Serial Interface

Baudrate	50 bps to 115.2 kbps
Connector	DB9 male
Data Bits	5, 6, 7, 8
Flow Control	RTS/CTS, XON/XOFF
Parity	None, Even, Odd, Space, Mark
Stop Bits	1, 1.5, 2
ESD Protection	4 kV contact, 8 kV air

Serial Signals

RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-485-2w	Data+, Data-, GND

LED Indicators

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

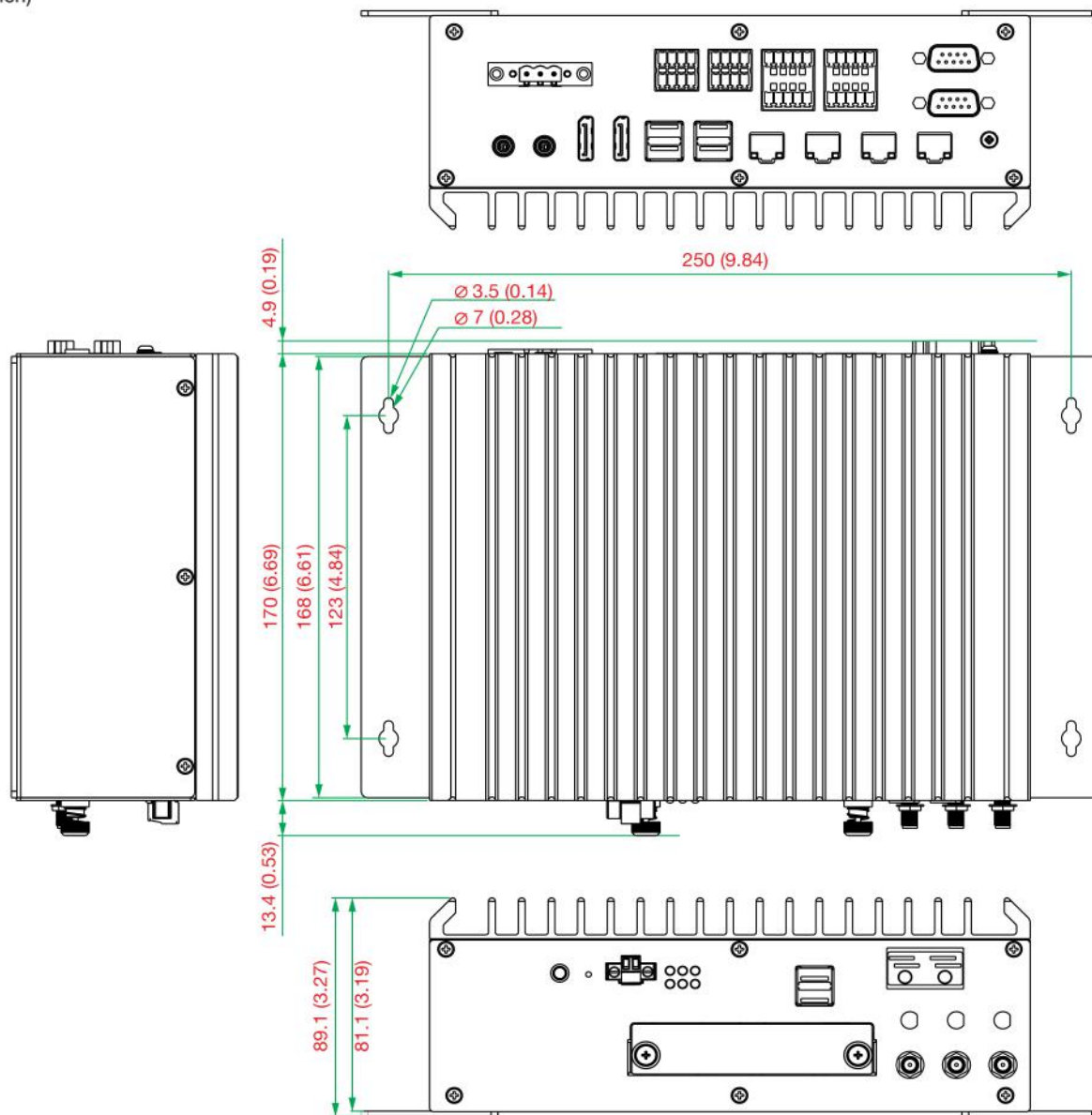
Physical Characteristics

Dimensions	220 x 80 x 170 mm (8.66 x 3.15 x 6.69 in)
Weight	3,000 g (6.61 lb)
Housing	Metal
Installation	Wall mounting

Power Parameters	
Input Voltage	M-S Models: 24 VDC S-S Models: 9 to 36 VDC
Environmental Limits	
Operating Temperature	-20 to 55°C (-4 to 131°F)
Storage Temperature	-30 to 60°C (-22 to 140°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Standards and Certifications	
EMC	EN 55032/35
EMI	CISPR 32, FCC Part 15B Class A
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 EN 62368-1 IEC 62368-1 IEC 60950-1
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-64
Maritime	M-S Models: IEC 60945, IACS E10
Green Product	RoHS, CRoHS, WEEE
MTBF	
Time	323,270 hrs
Standards	Telcordia (Bellcore) Standard TR/SR
Warranty	
Warranty Period	3 years
Details	See www.moxa.com/warranty
Package Contents	
Device	1 x MC-3201 Series computer
Installation Kit	1 x wall-mounting kit
Cable	1 x Power-jack-to-terminal-block cable
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	CPU	RAM	Optional OS Storage (SSD/HDD)	LAN/Serial Ports	USB 3.0/2.0 Ports	Video Outputs	Interface Expansion
MC-3201-TGL7-S-S	Intel® Core™ i7-1185G7E	8 GB	512 GB (max)	4/2	2/4	2 x Display	1 x mPCIe 1 x M.2 B key 1 x M.2 E key
MC-3201-TGL5-S-S	Intel® Core™ i5-1145G7E	8 GB	512 GB (max)	4/2	2/4	2 x Display	1 x mPCIe 1 x M.2 B key 1 x M.2 E key
MC-3201-TGL3-S-S	Intel® Core™ i3-1115G4E	8 GB	512 GB (max)	4/2	2/4	2 x Display	1 x mPCIe 1 x M.2 B key 1 x M.2 E key
MC-3201-TGL1-S-S	Intel® Celeron® 6305E	8 GB	512 GB (max)	4/2	2/4	2 x Display	1 x mPCIe 1 x M.2 B key 1 x M.2 E key
MC-3201-TGL7-M-S	Intel® Core™ i7-1185G7E	8 GB	512 GB (max)	4/2	2/4	2 x Display	1 x mPCIe 1 x M.2 B key 1 x M.2 E key

Model Name	CPU	RAM	Optional OS Storage (SSD/ HDD)	LAN/Serial Ports	USB 3.0/2.0 Ports	Video Ouputs	Interface Expansion
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MC-3201-TGL3-M-S	Intel® Core™ i3-1115G4E	8 GB	512 GB (max)	4/2	2/4	2 x Display	1 x mPCIe 1 x M.2 B key 1 x M.2 E key
MC-3201-TGL1-M-S	Intel® Celeron® 6305E	8 GB	512 GB (max)	4/2	2/4	2 x Display	1 x mPCIe 1 x M.2 B key 1 x M.2 E key

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