

# MC-3201 Series Quick Installation Guide

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Technical Support Contact Information  
[www.moxa.com/support](http://www.moxa.com/support)

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**P/N: 1802032010012**



## Overview

The MC-3201 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 3.0 ports, 4 USB 2.0 ports, 4 GbE ports, and 2 3-in-1 RS-232/422/485 serial ports. The MC-3201 is also equipped with a 2.5" SSD 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.

With compliance with the DNV, IEC 60945, and E10 standards, the MC-3201 is sure to deliver stable and reliable system operation for marine and IIoT applications. These certifications are issued to products to indicate their suitability for marine applications to allow them to be used in potentially hazardous environments.

**NOTE** MC-3201 fulfills the enclosure requirements for installation on a bridge (e.g., of a ship) and within a protected space. A safe distance  $\geq 500$  mm must be maintained between the MC-3201 and a compass.

## Package Checklist

Before installing the MC-3201, verify that the package contains the following items:

- MC-3201 embedded computer
- Terminal block to power jack converter
- Power-jack-to-terminal-block cable
- Wall-mounting kit
- Quick installation guide (printed)
- Warranty card

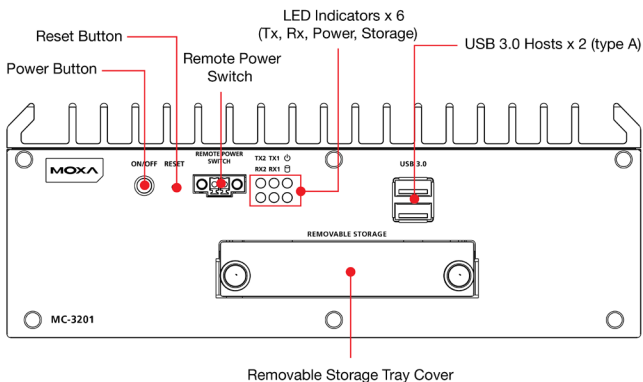
*Please notify your sales representative if any of the above items are missing or damaged.*

## Panel Layouts

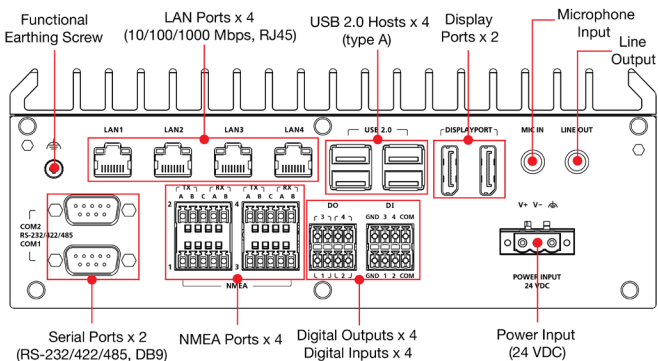
The panel layouts of the MC-3201 models are follows:

# MC-3201-M-S Models

## Front Panel

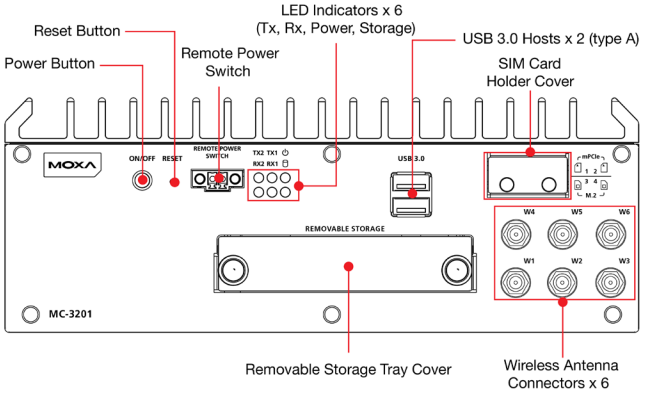


## Rear Panel

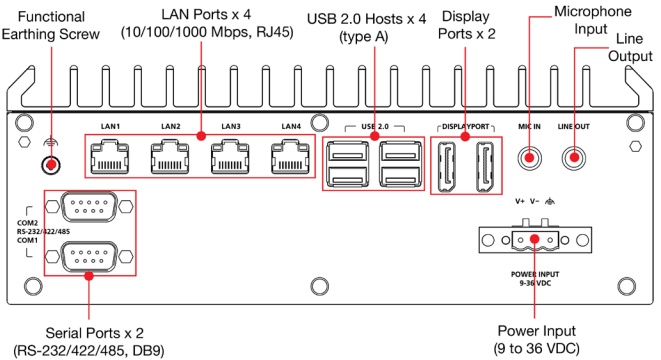


# MC-3201-S-S Models

## Front Panel

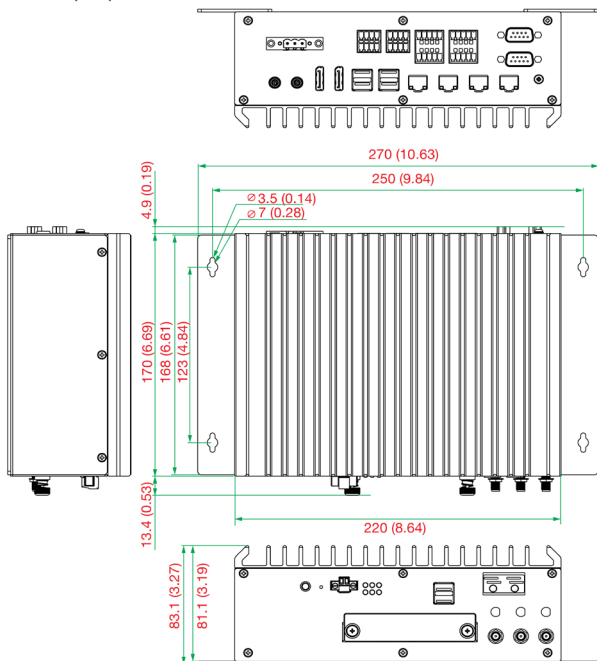


## Rear Panel





## Dimensions

Unit: mm (inch)



## LED Indicators

The following table describes the function of the LED indicators located on the front and rear panels:

LED Name	Status	Description
Power 	Green	Power is on and computer is functioning normally
	Off	Power is off
Storage 1 (mSATA) 	Yellow	Blinking: Data transmission
	Off	No data transmission.
LAN 1/2/3/4 (on connectors)	Green	Steady On: 100 Mbps Ethernet link Blinking: Data is being transmitted
	Yellow	Steady On: 1000 Mbps Ethernet link Blinking: Data is being transmitted
	Off	10 Mbps Ethernet link or LAN is not connected
Tx 1/2 (serial ports)	Green	Blinking: Data is being transmitted.
	Off	No connection
Rx 1/2 (serial ports)	Yellow	Blinking: Data is being transmitted.
	Off	No connection

## Installing the MC-3201

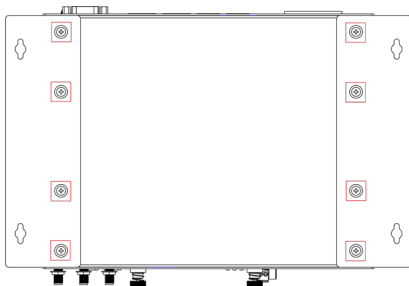
### **Wall Mounting**

The MC-3201 can be installed on a wall by using the wall-mounting kit included in the product package.

To install the MC-3201 on a wall, do the following:

#### **STEP 1:**

Use four screws per bracket to attach the brackets to the back of the MC-3201.



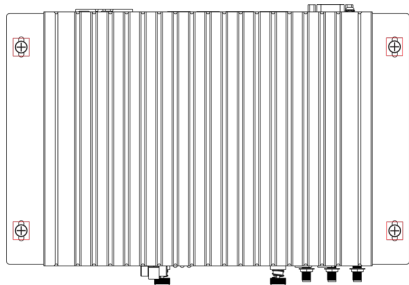
The screws for the mounting brackets are included in the wall-mounting kit. If you want to buy the screws separately, use the following specifications:

**M/FMS M4 x 6 mm Ni/90D Nylok**

#### **STEP 2:**

Use two screws per bracket to attach the MC-3201 to a wall or cabinet.

Ensure that the screws are securely locked in place as indicated in the diagram.

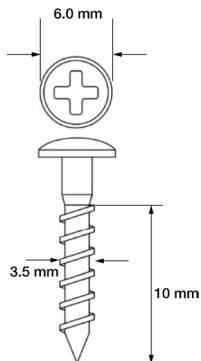


### Note:

Mounting the MC-3201 to a wall requires four screws. Use the MC-3201 computer, with the wall-mounting brackets attached, as a guide to mark the correct locations of the screws on the wall.

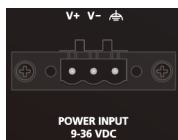
The heads of the screws should be at least 6.0 mm in diameter, the shafts should be 3.5 mm in diameter with a minimum depth of 10 mm as shown in the figure on the right.

Do not drive the screws in all the way; leave a space of about 2 mm to allow room for sliding the wall-mounting bracket between the wall and the screws. Once the mounting position is confirmed, tighten the screws to secure the computer to the wall.

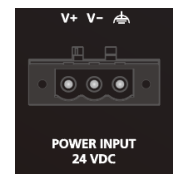


## Connector Descriptions

### Power Connector



Connect the power connector/terminal block to the power supply that can provide 9 to 36 VDC (MC-3201-TGL1 model) or 24 VDC (MC-3201-TGL7 model). Before connecting the device to DC power inputs, make sure the DC power source voltage is stable. If the power is supplied properly, the Power LED will light up. The OS is ready when the Power LED glows solid green.



The input terminal block wiring should be installed by a skilled person.

- Wire size: 12 to 28 AWG
- Torque value: 0.51 N-m
- Only one conductor per clamping point

If you are using a Class I adapter, the power cord should be connected to an outlet with an earthing connection.



### ATTENTION

**MC-3201-TGL7-M-S** is intended to be supplied by an external power source (UL listed and IEC 60950-1 / IEC 62368-1 compliant), whose output complies with ES1/SELV with an output rating of 24 VDC @ 2.7 A min.



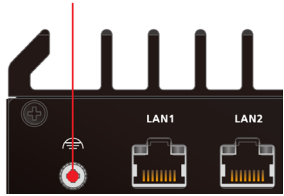
### ATTENTION

**MC-3201-TGL1-S-S** is intended to be supplied by an external power source (UL listed and IEC 60950-1 / IEC 62368-1 compliant), whose output complies with ES1/SELV with an output rating of 9 to 36 VDC @ 9.5 A min.

## Grounding the MC-3201

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the functional earthing screw (M4) to the grounding surface prior to connecting the power as shown in the illustration on the right.

Functional Earthing Screw



**NOTE** A 4 mm<sup>2</sup> conductor must be used when the connection to the external grounding screw is utilized. The heat sink is grounded to the chassis by an internal screw.

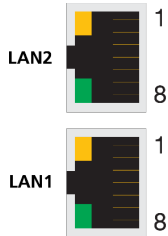
## Terminal Block

Terminal block (J1)—R/C (XCFR2, XCFR8), socket soldered on to the PWB, DINKLE ENTERPRISE CO., LTD, type 5EHDRM, rated 300 V, 15 A, 105°C. The terminal block is suitable for connecting to plug type 5ESDVM rated 300 V, 15 A, 105°C. The plug-half connection is secured by screws; suitable for 12 to 28 AWG wire size, secured on plug by screws with a torque value of 0.51 N-m (4.5 lb-in).

## Ethernet Ports

The 10/100/1000 Mbps Ethernet ports use RJ45 connectors.

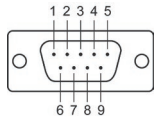
Pin	10/100 Mbps	1000 Mbps
1	ETx+	TRD(0)+
2	ETx-	TRD(0)-
3	ERx+	TRD(1)+
4	-	TRD(2)+
5	-	TRD(2)-
6	ERx-	TRD(1)-
7	-	TRD(3)+
8	-	TRD(3)-



## Serial Ports

The serial ports use DB9 connectors. Each port can be configured by software as a RS-232, RS-422, or RS-485 port. The pin assignments for the ports are shown below:

Pin	RS-232	RS-422	RS-485 (4-wire)	RS-485 (2-wire)
1	DCD	TxDA(-)	TxDA(-)	-
2	RxD	TxDB(+)	TxDB(+)	-
3	TxD	RxDB(+)	RxDB(+)	DataB(+)
4	DTR	RxDA(-)	RxDA(-)	DataA(-)
5	GND	GND	GND	GND
6	DSR	-	-	-
7	RTS	-	-	-
8	CTS	-	-	-





## **USIM Slot**

The MC-3201-TGLX-S model has four USIM slots for 5G/LTE wireless Internet connections. Each slot supports four USIM cards. To install a USIM card, gently remove the outer cover on the front panel, and then insert the USIM card into the slot.

## **USB Hosts**

The MC-3201 has 2 USB 3.0 and 4 USB 2.0 Type-A connectors located on the front panel. The ports support keyboard and mouse devices and can also be used to connect a flash disk for storing large amounts of data.

## **Display Connectors**

The MC-3201 has two DisplayPort connectors located on the rear panel, allowing users to connect to audio or video devices.

**NOTE** Make sure you use a DP-certified cable for a reliable audio or video connection.

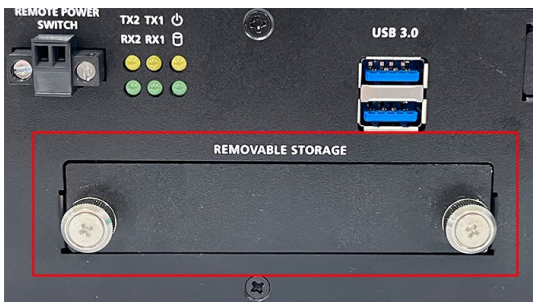
## **Installing Storage Disk**

The MC-3201 comes with one slot for installing a storage disk such as a hard disk drive or solid-state drive.

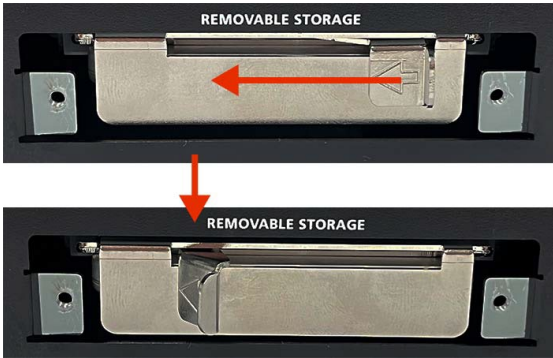
**NOTE** The storage disk should be installed and maintained by a skilled person.

To install a storage disk, do the following:

**Step 1:** Unfasten two screws and remove the storage cover on the front panel of the MC-3201.



**Step 2:** Slide the latch on the disk tray to the left and pull out the tray from the slot.



**Step 3:** Place the storage disk onto the tray.



**Step 4:** Fasten the four screws on the back of the storage tray.



**Step 5:** Insert the storage tray into the storage slot of the MC-3201. Ensure that you insert the tray into the plastic rails on both sides of the slot.



**Step 6:** Pull the latch on the tray to the right to secure the tray in the slot.



**Step 7:** Put back the cover on the storage slot and fasten the two screws to secure the cover in place.

