MOXA®

MC-7270-MP-T Series
Quick Installation Guide

First Edition, September 2014

Overview

Standard Moxa MC-7270-MP-T marine computers are powered by the third generation Intel® Core™ i CPU processor. With eight NMEA 0183 ports, four DB9 serial ports, four Gigabit Ethernet ports, six USB 2.0 ports, two Super Speed USB 3.0 ports, and eight digital I/O terminal blocks, this computer offers a full range of I/O connectivity in a powerful, compact package. In addition, it also has two PCI slots alongside a PCIe Gen 3 slot (x16), allowing even more versatile peripheral expansion opportunities for industrial applications.

Package Checklist

Before installing the MC-7270-MP-T, verify that the package contains the following items:

- 1 MC-7270-MP-T marine computer
- 2 removable storage protection keys
- Wall mounting kit, with 8 screws
- 1 2-pin terminal block for DC power input
- 1 2-pin terminal block for Power ON/OFF switch
- 2 6-pin digital input terminal blocks
- 2 8-pin digital output terminal blocks
- 8 5-pin terminal blocks for NMEA 0183 ports
- Documentation and driver CD
- Quick installation guide

NOTE: Please notify your sales representative if any of the above items are missing or damaged.
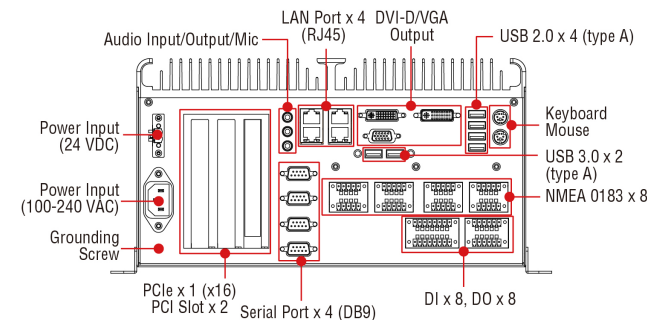
MC-7270-MP-T I/O Layout

The following figures show the I/O layout of the MC-7270-MP-T.

MC-7270-MP-T Front View
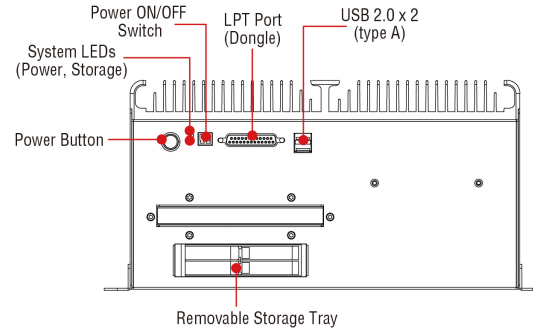

MC-7270-MP-T Rear View

LED Indicators

The following table describes the LED indicators of the MC-7270-MP-T.

LED Name	LED Color	LED Function
Power (on front panel)	Green	Power is on and functioning normally
	Off	Power is off or there is an error
Storage (on front panel)	Red (on)	Storage drive is functioning properly
	Red (blinking)	Drive is accessing or writing data
	Off	No activity
LAN (on connectors)	Green	100 Mbps Ethernet mode
	Yellow	1000 Mbps (Gigabit) Ethernet mode
	Off	No activity or 10 Mbps Ethernet mode
Storage (on storage tray)	Red (on)	Storage disk is functioning properly
	Red (blinking)	Storage disk is being accessed
	Red (off)	No activity
	Blue (on)	w/ SATA power

Installing the MC-7270-MP-T

Wall or Cabinet Mounting

The MC-7270-MP-T has brackets for both wall and cabinet mounting. Attach one bracket on each side of the MC-7270-MP-T and then use suitable screws to attach the brackets to the wall or cabinet.
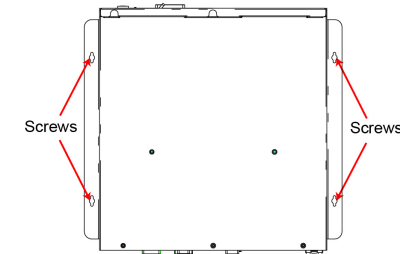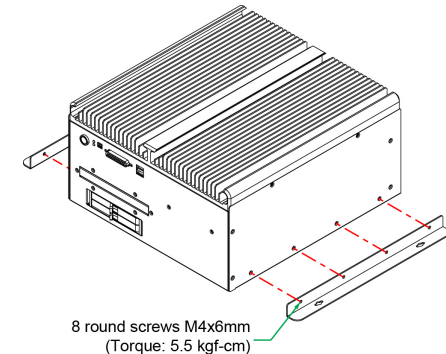
⚠️ **Restricted Access Location**

This equipment is intended to be used in restricted access locations, such as a computer room, with access limited to service personnel or users who have been instructed on how to handle the metal chassis of equipment that is so hot that special protection may be needed before touching it. The location should only be accessible with a key or through a security identity system.

⚠️ **WARNING**

External metal parts of this equipment are extremely hot!! Before touching the equipment, you must take special precautions to protect your hands and body from serious injury.

Connector Description

Power Connector

The MC-7270-MP-T comes with a 100 to 240 VAC power input, and has another 24 VDC terminal block power input. If power is supplied properly, the **Power** LED will light up.

Grounding the MC-7270-MP-T

Proper grounding and wire routing help to limit the effects of noise from electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface prior to connecting the power. There is a ground symbol next to the connector. Connect the EG wire to an appropriate grounded metal surface.

> ⚠️ **ATTENTION**
>
> This product is intended to be mounted to a well-grounded mounting surface, such as a metal panel.
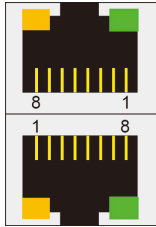
VGA and DVI-D Outputs

For connecting display monitors, the MC-7270-MP-T comes with a female D-sub 15-pin (DA-15) VGA interface on the rear panel, and has an additional pair of DVI-D interfaces on the rear panel.

Ethernet Ports

The four 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)-

PCI and PCIe Slots

The MC-7270-MP-T comes with 2 universal PCI slots (3.3/5/12 V) that can connect to various peripheral cards, such as radar or Profibus cards. A third generation PCIe x16 slot is also available for connecting an additional VGA graphics card (or other peripherals). To insert a peripheral card, remove the screws and open the chassis cover, then remove the covering plates and insert the peripheral card into the slot.

Serial Ports

The serial ports use DB9 connectors. COM1 and COM2 support RS-232, and COM3 and COM4 support RS-232/422/485.

| 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	–	–	–
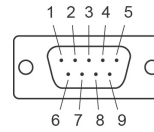
Removable Storage Tray

The MC-7270-MP-T computer has two removable HDD/SSD trays on the front panel, and an internal storage drive expansion slot inside the chassis. To provide better system safety, protection keys are provided to lock the removable tray.

NMEA 0183 Ports

The MC-7270-MP-T comes with 8 NMEA 0183 ports on the rear panel. See the following figure for the NMEA pin outs.
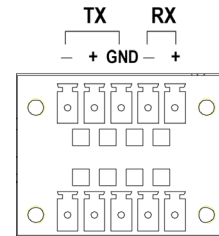
Digital Input/Output Channels

The MC-7270-MP-T comes with 8 digital input and 8 digital output channels on the rear panel. These input/output channels can be connected via the terminal blocks included in the package. See the following figure for the pin assignments.
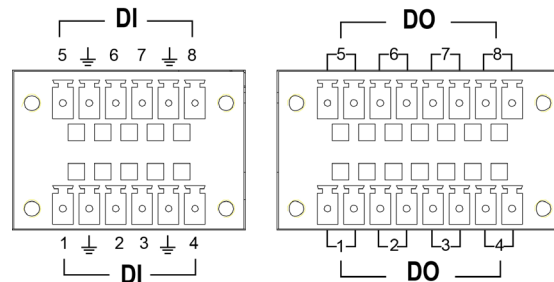
Power ON/OFF Switch

The MC-7270-MP-T comes with a power ON/OFF switch on the front panel. Users can boot up the computer by the 2-pin terminal block on the power ON/OFF switch.

USB Hosts

The MC-7270-MP-T has six USB 2.0 and two SuperSpeed USB 3.0 type A ports, respectively, supported by EHCI and xHCI for full high speed bandwidth. The USB ports support peripherals like keyboards, mice, and other devices such as portable HDDs or DVD-ROMs.

Audio Interface

The MC-7270-MP-T comes with an audio line-in, an audio line-out, and a microphone input, allowing users to connect a speaker system, an earphone, or a microphone.

Real Time Clock

The MC-7270-MP-T's real time clock (RTC) is powered by a lithium battery. We strongly recommend that you do not replace the lithium battery without help from a qualified Moxa support engineer. If you need to change the battery, contact the Moxa RMA service team at http://www.moxa.com/rma/about_rma.aspx.

> ⚠️ **ATTENTION**
>
> There is a risk of explosion if the battery is replaced with an incorrect type of battery.

Powering on the MC-7270-MP-T

To power on the MC-7270-MP-T, you may connect a 24 VDC power source to the MC-7270-MP-T's DC terminal block (located on the rear panel), or plug in the AC power cord. It takes about 30 seconds for the system to boot up. Once the system is ready, the **Power** LED will light up.

MOXA® **www.moxa.com/support**

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