

MC-7270-MP-T

x86 fanless, wide temperature industrial computer with 3rd Generation Intel® Core™ processor



- > High performance Intel® Core™ processor: i7 3555LE, i3 3120ME, or Celeron 1047UE
- > Fanless design
- > Full marine I/O design
- > PCI/PCIe slot
- > 3 independent displays (DVI-D x 2 + VGA x 1)
- > 2 USB 3.0 ports, 6 USB 2.0 ports
- > 2 SATA drive slots for greater storage capacity
- > Dual power: 100 to 240 VAC and 24 VDC
- > -40 to 70°C operating temperature range



Overview

The MC-7270-MP-T marine computer is powered by the latest 3rd generation Intel® Core™ i7 3555LE processor, delivering a full range of I/O connectivity, including 8 NMEA 0183 ports, 4 serial ports, 4 Gigabit Ethernet ports, as well as 6 USB 2.0 and 3 SuperSpeed USB 3.0 ports. The MC-7270-MP-T is designed to provide outstanding PC performance, bringing a new level of flexibility and control to marine applications.

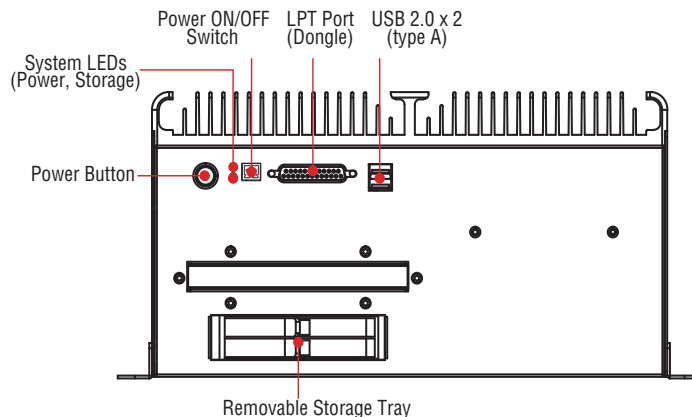
Designed with the highest quality and durability in mind, the marine-grade MC-7270-MP-T computer features a rugged chassis that can withstand vibrations up to 1G to provide the most reliable

operation for harsh environments and conditions. In addition, low power consumption delivers an optimal thermal solution and makes installation easy for bridge systems in marine applications. Another plus are the 1 PCIe (x16) slot and 2 universal PCI slots that allow users to easily install a variety of adapters, including radar cards, PROFIBUS cards, and VGA graphics cards, to fully satisfy all your marine network needs.

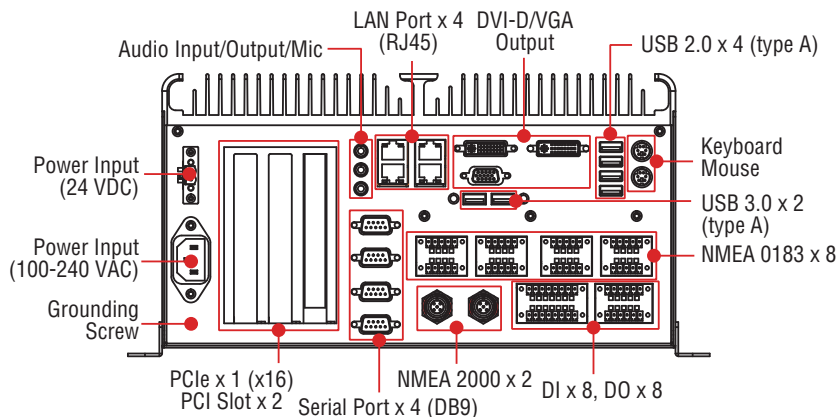
Users can easily install Windows XP Embedded, XP Professional, or Windows 7, to provide a flexible and friendly environment for system development and application implementation.

Appearance

Front View

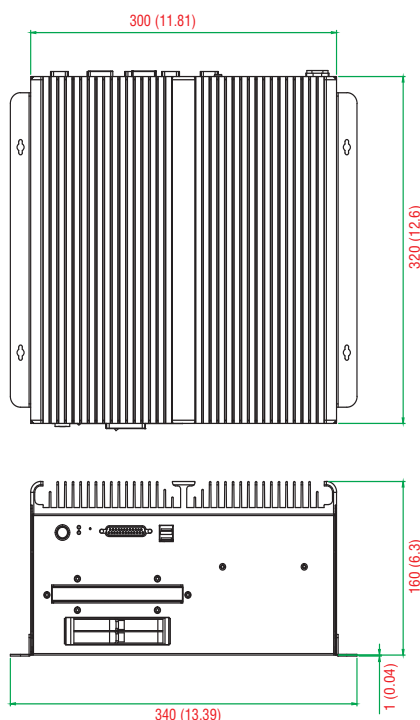


Rear View



Dimensions

Unit: mm (inch)



Specifications

Computer

CPU: Intel® Core™ i7-3555LE, dual core 64-bit 2.5 GHz processor

Supported OS: Windows 7, Windows XP SP3, Windows XP Embedded (must be installed by the user)

System Chipset: Intel® QM77 Express Chipset

System Memory: 16 GB capacity, with 4 GB pre-installed (2 slots total, with a 4 GB DDR3/DDR3L-1600 204 pin SO-DIMM SDRAM pre-installed in 1 slot)

USB: USB 2.0 hosts x 6, USB 3.0 hosts x 2, Type A connectors

Storage:

- 2 SATA III 6 Gbps ports for removable storage tray
- 2 SATA II 3 Gbps ports (internal, for installing optional hard disks)

Other Peripherals

Audio: Line in x 1, Line out x 1, Microphone x 1

KB/MS: 2 PS/2 interfaces supporting standard PS/2 keyboard and mouse

PCI Slots: 2

LPT Port: 1

PCIe x16 Slots: 1

Display

Display Interface:

- VGA Interface x 1: 15-pin D-Sub connector (female), with resolution up to 2048x1536 pixels with 32-bit color at 75 Hz
- DVI-D Interface x 2: 29-pin DVI-D connectors (female), with resolution up to 1920 x1200 pixels with 32-bit color at 60 Hz

Graphics Controller: Onboard Intel® HD 4000 graphics

Ethernet Interface

LAN: 4 auto-sensing 10/100/1000 Mbps ports (RJ45)

Magnetic Isolation Protection: 1.5 kV built in

Serial Interface

Serial Standards:

- 2 RS-232/422/485 ports, software-selectable (DB9 male)
- 2 RS-232 ports (DB9)
- 8 NMEA 0183 terminals (NMEA 2000 available on request)

Serial Communication Parameters

Data Bits: 5, 6, 7, 8

Stop Bits: 1, 1.5, 2

Parity: None, Even, Odd, Space, Mark

Flow Control: RTS/CTS, XON/XOFF, ADDC® (automatic data direction control) for RS-485

Baudrate: 50 bps to 115.2 kbps

Serial Signals

RS-232: TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND

RS-422: TxD+, TxD-, RxD+, RxD-, GND

RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND

RS-485-2w: Data+, Data-, GND

NMEA Interface

Serial Standards: NMEA 0183v2 (NMEA 2000 available on request)

Base Serial Standard:

- NMEA 0183: RS-422
- NMEA 2000: CAN bus (available on request)

Optical Isolation Protection: 3 kV

Voltage Differential: -6 V to +6 V (maximal differential level)

Baudrate: 4800 bps

Data Bits: 8

Stop Bits: 1, 1.5, 2

Parity: None

Handshake: None

Digital Input

Input Channels: 8 dry channels, with 4 grounds

Digital Input Levels for Dry Contacts:

- Logic level 0: Close to GND
- Logic level 1: Open

Connector Type: 6-pin Phoenix-compatible 3.81 mm screw terminal block x 2

Isolation: ESD protection to DNV specifications

Relay Output

Type: Form A (N.O.) power relay

Output Channels: 8 output channels

Contact Rating: 2 A, 30 VDC / 0.5 A, 125 VAC under resistor load

Initial Insulation Resistance: 1000 Mohm (min.) @ 500 VDC

Mechanical Endurance: 100,000,000 operations @ 2 A, 30 VDC resistive load

Electrical Endurance: 100,000 operations

Contact Resistance: Max. 50 Mohm @ 6 V, 0.1 A

Connector Type: 8-pin Phoenix-compatible 3.81 mm screw terminal blocks x 2

Isolation: Relay isolation; ESD protection to DNV specifications

LEDs

System: Storage, Power

LAN: 100M/Link x 4, 1000M/Link x 4 (on connector)

Physical Characteristics

Housing: Aluminum, sheet metal

Weight: 8 kg

Dimensions: 320 x 240 x 160 mm (12.6 x 13.39 x 6.3 in), with mounting ears

Mounting: Wall

Environmental Limits

Operating Temperature: -40 to 70°C (-40 to 158°F)

Storage Temperature: -50 to 80°C (-58 to 176°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

Anti-Vibration:

- 0.7 g @ DNV 2.4 (Class A), sine wave, 2-100 Hz, 1 Oct./min., 1.5 hr per axis
- 1 g @ DNV 2.4, random wave, 3-100 Hz, 2.5 hr per axis
- 2.1 g @ DNV 2.4 (Class C), sine wave, 2-50 Hz, 1 Oct./min., 1.5 hr per axis

Power Requirements

Input Voltage:

- DC: 24 VDC (with tolerance from 18 to 32 VDC, 2-pin terminal block)
- AC: 100 to 240 VAC

Power Consumption: Less than 100 W, 2.5 A @ 24 VDC

Standards and Certifications

Safety: UL 60950-1, CCC

EMC: EN 55022 Class B, EN 55024-4-2, EN 55024-4-3, EN 55024-4-4, FCC Part 15 Subpart B Class A

Marine Standards: IEC 60945 4th, IEC 61162, IEC 61174 (Pending)

Marine Type Approval: DNV 2.4 (Pending)

Green Product: RoHS, cRoHS, WEEE

Reliability

Automatic Reboot Trigger: Built-in watchdog timer (WDT), configurable for resets following 1-255 second hang intervals; software programmable

Warranty

Warranty Period: 3 years

Details: See www.moxa.com/warranty

Ordering Information

Available Models

MC-7270-MP-T: x86-based industrial computer with 3rd gen. Intel® Core™ i7 3555LE processor, 4 serial ports, 8 NMEA 0183 ports, 4 Gigabit Ethernet ports, 8 DIs, 8 DOs, 6 USB 2.0 ports, 2 USB 3.0 ports, 2 PCI slots, 1 PCIe x16 slot, VGA/DVI, and AC/DC power inputs

MC-7230-MP-T: x86-based industrial computer with 3rd gen. Intel® Core™ i3 3120ME processor, 4 serial ports, 8 NMEA 0183 ports, 4 Gigabit Ethernet ports, 8 DIs, 8 DOs, 6 USB 2.0 ports, 2 USB 3.0 ports, 2 PCI slots, 1 PCIe x16 slot, VGA/DVI, and AC/DC power inputs

MC-7210-MP-T: x86-based industrial computer with 3rd gen. Intel® Celeron 1047 processor, 4 serial ports, 8 NMEA 0183 ports, 4 Gigabit Ethernet ports, 8 DIs, 8 DOs, 6 USB 2.0 ports, 2 USB 3.0 ports, 2 PCI slots, 1 PCIe x16 slot, VGA/DVI, and AC/DC power inputs

Optional Accessories (can be purchased separately, for AC power input)

PWC-C13US-3B-183: Power cord with 3-pin connector, USA plug

PWC-C13EU-3B-183: Power cord with 3-pin connector, Euro plug

PWC-C13UK-3B-183: Power cord with 3-pin connector, British plug

PWC-C13AU-3B-183: Power cord with 3-pin connector, Australia plug

PWC-C13CN-3B-183: Power cord with 3-pin connector, China plug

Package Checklist

- 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