MC-4510-C23

x86-based industrial embedded computer with Intel Core 2 Duo, 2 optically-isolated serial ports, 2 Gigabit LANs, CompactFlash, dual displays, audio, 6 USB ports

> High performance with Intel Core 2 Duo 2.26 GHz processor, 6 MB L2 cache
> Built-in 2 GB DDR3 memory, supporting up to 4 GB
> Dual independent displays (DVI-D + VGA)
> 2 Gigabit Ethernet ports for network redundancy
> 2 optically isolated RS-232/422/485 serial ports
> Onboard mini-PCIe slot reserved for future expansions and upgrades
> 6 USB 2.0 hosts for connecting peripheral devices
> CompactFlash card socket and optional hard disk drive support for storage expansion
> 1-g anti-vibration and 15-g anti-shock design
> Fanless design with compact size
> Low power consumption
> Modular design for integration with Moxa panels
> Supports Windows 7, Windows XP SP3, Windows XP Embedded, and Windows CE 6.0
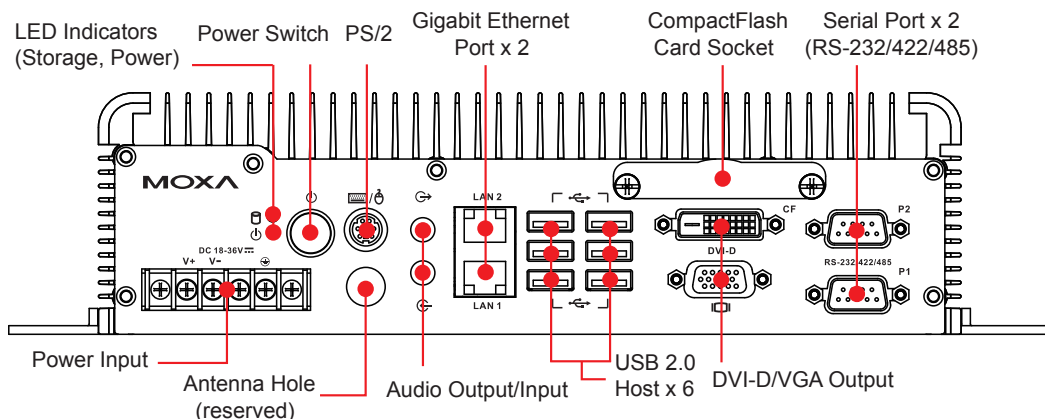
Overview

The MC-4510-C23 computer is based on the Intel Core 2 Duo mobile processor and comes with 2 RS-232/422/485 serial ports with optical isolation, 2 Gigabit Ethernet ports, 6 USB 2.0 hosts, and a CompactFlash socket, offering high performance and versatile peripherals for marine, railway, power, and other industrial applications.

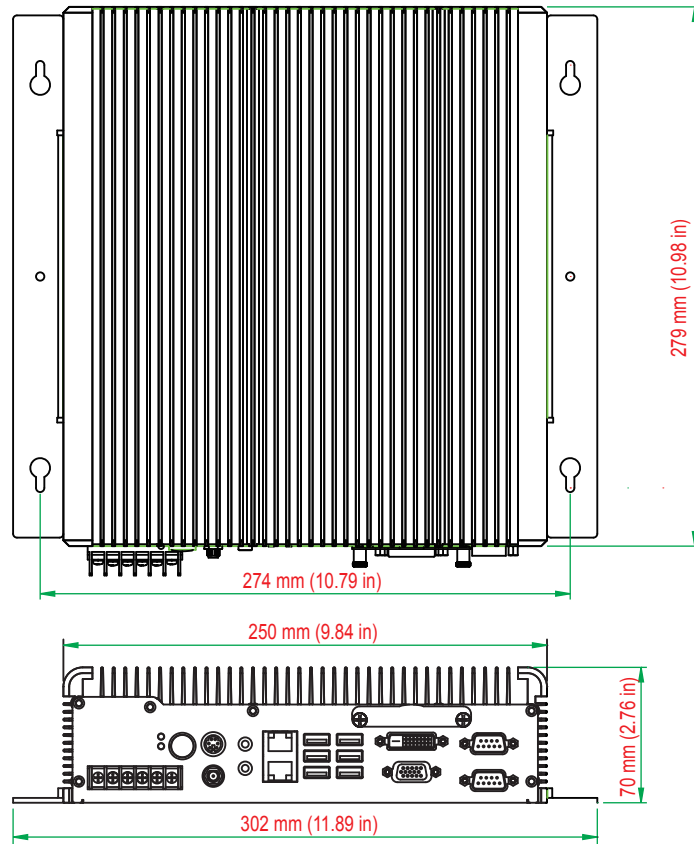The MC-4510-C23's rugged and fanless design and 1-g anti-vibration and 15-g anti-shock design makes it particularly well-suited for bridge systems in marine applications. In addition, the compact size and low power consumption features ensure an easy installation and reliable system operation, and the modular design allows easy integration with the panel.

Users can easily install Windows 7, Windows XP SP3, Windows XP Embedded, or Windows CE 6.0 to provide a flexible and friendly environment for system development and application implementation.

Appearance

LED Indicators (Storage, Power)
Power Switch
PS/2
Gigabit Ethernet Port x 2
CompactFlash Card Socket
Serial Port x 2 (RS-232/422/485)
Power Input
Antenna Hole (reserved)
Audio Output/Input
USB 2.0 Host x 6
DVI-D/VGA Output

Dimensions (unit = mm)

279 mm (10.98 in)

274 mm (10.79 in)

250 mm (9.84 in)

70 mm (2.76 in)

302 mm (11.89 in)

: Hardware Specifications

Computer
CPU: Intel Core 2 Duo SP9300 2.26 GHz, 6 MB for L2 cache
OS: Windows 7, Windows XP SP3, Windows XP Embedded, Windows CE 6.0 (must be installed by the user)
System Chipset: Intel GS45 + ICH9M
DRAM: 2 GB DDR3 SDRAM onboard (supports DDR3 up to 4 GB)
Expansion Bus: Mini-PCIe onboard
USB: USB 2.0 host x 6

Storage
Storage Expansion: CompactFlash socket
HDD Support: 2 SATA connectors for HDD expansion

Other Peripherals
Audio: line-in/out interface

Display
Graphics Controller: GMA 4500MHD (Intel GS45 built-in)
Display Interface: 15-pin D-Sub connector x 1 (female), 25-pin DVI-D connector x 1 (female)

Ethernet Interface
LAN: 2 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)
Optical Isolation Protection: 2 KV

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 921.6 Kbps (supports non-standard baudrates; see user's manual for details)

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

LEDs
System: Storage, Power
LAN: 10M/Link x 2, 100M/Link x 2 (on connector)

Physical Characteristics
Housing: Aluminum, sheet metal
Weight: 3.75 kg
Dimensions: 302 x 70 x 279 mm (11.98 x 2.76 x 10.98 in)
Mounting: Wall

MOXA®

Environmental Limits

Operating Temperature: -10 to 55°C (14 to 131°F)
Operating Humidity: 5 to 95% RH
Storage Temperature: -20 to 60°C (-4 to 140°F)
Anti-vibration:
• 0.7 g, sine wave, 2-100 Hz, 1 Oct./min., 1.5 hr per axis
• 1 grms, random wave, 3-100 Hz, 2.5 hr per axis
• 2.1 g, sine wave, 2-50 Hz, 1 Oct./min., 1.5 hr per axis
Anti-shock: 50 g @ IEC 60068-2-27, half sine wave, 11 ms

Power Requirements

Input Voltage: 18 to 36 VDC (3-pin terminal block)
Power Consumption: 48.6 W
• 1.35 mA @ 36 VDC
• 1.96 mA @ 24 VDC
• 2.61 mA @ 18 VDC

Regulatory Approvals

EMC: CE (EN55022 Class B, EN55024-4-2, EN55024-4-3, EN55024-4-4), FCC (Part 15 Subpart B, Class B)
Safety: UL/cUL (UL60950-1), IEC 60945 4th. IACS-E10, CCC
Green Product: RoHS, cRoHS, WEEE

Warranty

Warranty Period: 3 years
Details: See www.moxa.com/warranty

: Ordering Information

Available Models

MC-4510-C23: Industrial computer with Intel Core 2 Duo 2.26 GHz, 2 optically-isolated serial ports, 2 Gigabit LANs, dual displays, CompactFlash, USB, audio

Package Checklist

• 1 MC-4510-C23 embedded computer
• PS/2 to KB/MS Y-type cable
• 2 sets of hard disk drive cables
• Hard disk drive ground sticker
• Documentation & Driver CD
• Quick Installation Guide (printed)
• Product Warranty Statement (printed)