MC-1121-E4-T-W7E

Quad-core fanless DIN-rail automation computer

> **Intel Atom Quad-core E3845 processor**
> **Dual-storage (SD and CFast slots)**
> **Dual-independent displays (VGA + display port)**
> **Variety of interfaces: 2 serial ports, 4 Giga LAN ports, 4 DIs, 4 DOs, 2 USB2.0 ports**
> **Mini-PCIe sockets for WiFi, 3G, LTE, GPS**
> **12 to 36 VDC, wide range isolated power**
> **-40 to 70°C system operating temperature range**
> **Moxa SmartRecovery utility to recover system from boot failure**
> **Marine-grade and Zone 2 compliance**
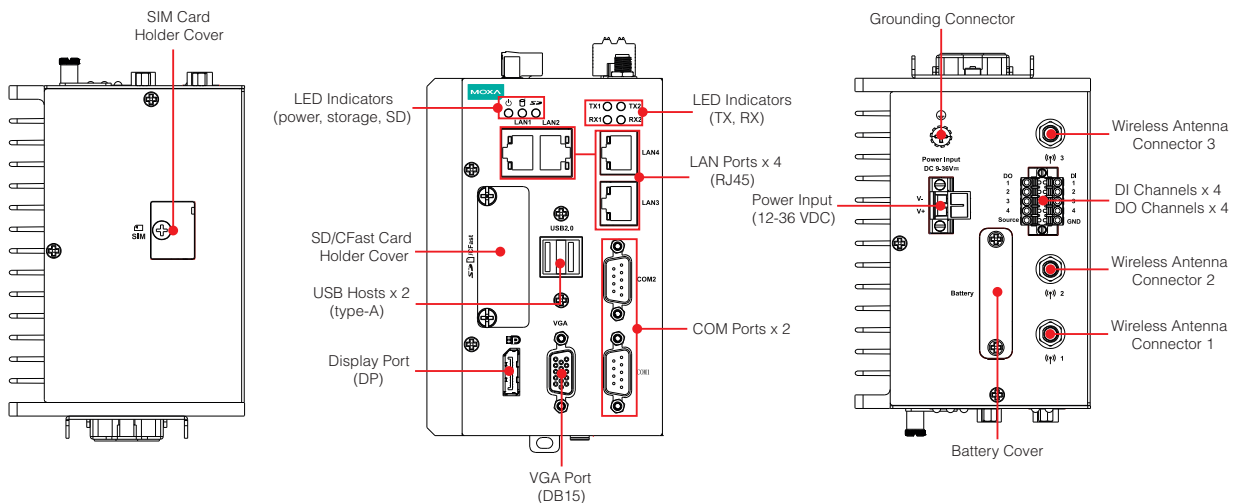
Overview

The Moxa MC-1121-E4-T-W7E DIN-rail, fanless, x86 embedded computers are based on the Intel® Atom™ E3845 processor, feature the most reliable I/O design to maximize connectivity, and support wireless modules (WiFi/3G/LTE), making them suitable for a diverse range of communication applications.

Powered by a wide operating temperature range (-40 to 70°C) and satisfying Safety/EMI/EMS compliances, the MC-1121-E4-T-W7E is ideal for intelligent computing and communication solutions in critical environments, including marine communication, oil & gas field site monitoring, and transportation.
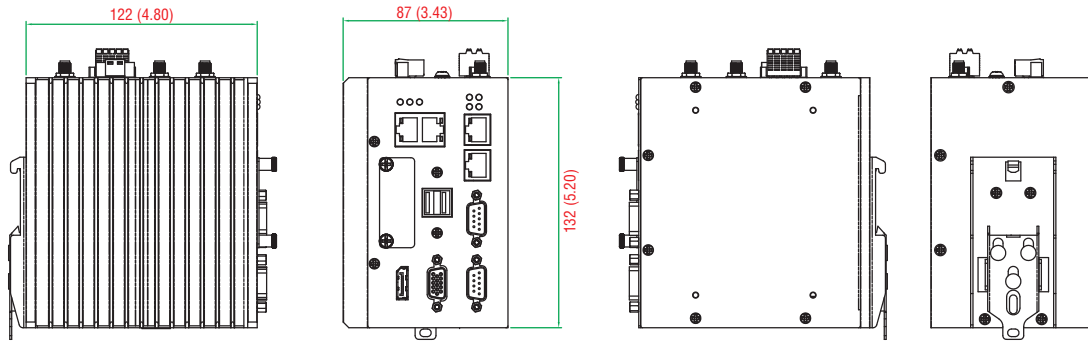
The MC-1121-E4-T-W7E supports "Moxa Hardware Monitoring" for device I/O status monitoring and alerts, system temperature monitoring and alerts, and system power management. Monitoring system status closely makes it easier to recover from errors and provides the most reliable platform for your applications.

Appearance

SIM Card Holder Cover

LED Indicators (power, storage, SD)

SD/CFast Card Holder Cover

USB Hosts x 2 (type-A)

Display Port (DP)

VGA Port (DB15)

LED Indicators (TX, RX)

LAN Ports x 4 (RJ45)

Power Input (12-36 VDC)

COM Ports x 2

Grounding Connector

Wireless Antenna Connector 3

DI Channels x 4
DO Channels x 4

Wireless Antenna Connector 2

Wireless Antenna Connector 1

Battery Cover

MOXA®

Dimensions

Unit: mm (inch)

122 (4.80) 87 (3.43) 132 (5.20)

Specifications

Computer
CPU: Intel® Atom™ processor E3845 (quad-core, 1M cache, 1.91 GHz)
System Memory: 1 DDR3L SO-DIMM slot, 2 GB pre-installed; supports 2 GB, 4 GB, and 8 GB.
USB: USB 2.0 hosts x 2, Type A connectors
Storage:
• CFast: 1 CFast socket for OS storage; 32 GB pre-installed; supports 32 GB, 64 GB, and 128 GB.
• SD: 1 SD 3.0 (SDHC/SDXC) socket for storage expansion; SD supports 16 GB, 32 GB, 64 GB, and 128 GB.
Operating System: 64-bit Windows 7 embedded

Other Peripherals
USB: 2 bootable USB 2.0 ports (type A)
Expansion Slots: 1 MiniPCIe socket; USB signal for wireless Wifi/3G/LTE modules
USIM Slots: 1

Display
Display Interface:
• VGA interface x 1: 15-pin D-Sub connector (female), with resolution up to 1920 x 1200 pixels at 75 Hz
• Display port interface x 1: Display port connector, with resolution up to 2560 x 1600 pixels at 60 Hz
Graphics Controller: Intel® HD Graphics 4000

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)

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

Digital Input
Input Channels: DI x 4 (Non-Isolation)
Input Voltage:
Logic level 0: Close for GND
Logic level 1: Open

Digital Output
Output Channels: DO x 4 (TTL Output/Non-Isolation)
Output Voltage:
Logic level 0: 0 to 0.3V
Logic level 1: 5VDC (4.7 to 5V)
Output Clamping Current: 50mA

LEDs
System: Power
Storage: CFast, SD
LAN: 2 LEDs per port (100/1000 Mbps)
Serial: 2 LEDs per port (Tx and Rx)

Physical Characteristics
Housing: Aluminum, sheet metal
Weight:
• MC-1121: 1.75 kg (3.86 lb)
Dimensions:
• MC-1121: 132 x 122 x 87 mm (5.20 x 4.81 x 3.43 in)
Mounting: DIN rail, wall (optional)

Environmental Limits
Operating Temperature: -40 to 70°C (-40 to 158°F)
Storage Temperature: -45 to 75°C (-49 to 167°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
Anti-Shock: 50g/11ms ±X, ±Y, ±Z, 3 shocks each axis w/ CFast, SD

Power Requirements
Input Voltage: 12/24 VDC typical (11.4 to 36 VDC tolerance, 2-pin terminal block)
Power Consumption: Less than 30 W

Standards and Certifications
Safety: UL 60950-1

MOXA®

Hazardous Environments: Class 1 Division 2*
EMC: EN 55032, EN 55024
EMI: CISPR 32, FCC Part 15B Class A
EMS:
IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV
IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m
IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV
IEC 61000-4-5 Surge: Power: 1 kV; Signal: 1 kV
IEC 61000-4-6 CS: 10 V
IEC 61000-4-8
Marine Standards: IEC 60945
Marine Type Approval: DNV 2.4*
Green Product: RoHS, cRoHS, WEEE
*DNV 2.4 and UL Class 1 Division 2 are pending

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

Package Checklist
- MC-1121 embedded computer
- Terminal block to power jack converter
- Din-rail mounting kit
- Documentation and software CD or DVD
- Quick installation guide (printed)
- Warranty card

Optional Accessories

Type	Model Name	Description
Power Adapters		
Adapter	PWR-24250-DT-S1	Power adapter, input voltage 90 to 264 VAC, output voltage 24 V with 2.5 A DC load
Power Cord	PWC-C7EU-2B-183	Power cord with 2-pin connector, Europe plug