

DA-710 Series

x86 embedded computers with 2 serial ports, quad LANs, VGA, 4 DIs, 4 DOs, USB, and 4 peripheral expansion slots



- > Intel Core 2 Duo T7500 2.2 GHz processor
- > 1 socket of 2GB DDR2-533/667 SODIMM SDRAM
- > 4 PCI slots for expansion modules
- > Quad 10/100/1000 Mbps Ethernet for network redundancy
- > 1 CompactFlash socket, 1 IDE, and 2 serial ATA-150 connectors for storage expansion
- > 4 USB 2.0 ports for high speed peripherals
- > 4 DIs, 4 DOs
- > Ready-to-Run Linux or Windows Embedded Standard 2009 platform
- > 19-inch rackmount model, 4U high
- > Fanless design
- > Dual 100/240 VAC/VDC power input



Overview

The DA-710 computer is based on the Intel x86 processor, supports VGA, and comes with 4 Ethernet ports, 2 RS-232 serial ports, CompactFlash, and USB. The DA-710 comes in a standard 19-inch, 4U high form factor, making it an ideal platform for industrial applications.

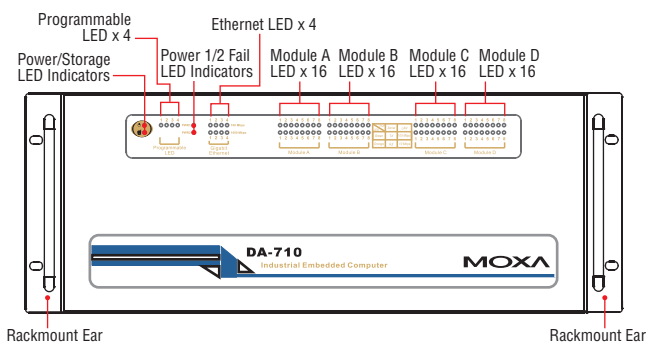
The DA-710 comes with 4 PCI slots for inserting expansion modules. Moxa provides a variety of communication modules, including an 8-port RS-232/422/485 module, a 4-port 10/100 Mbps LAN module, an 8-port RS-422/485 module, an 8-port switch module, and a

universal PCI expansion module. The friendly modular design gives users the advantage of being able to swap out modules quickly and easily.

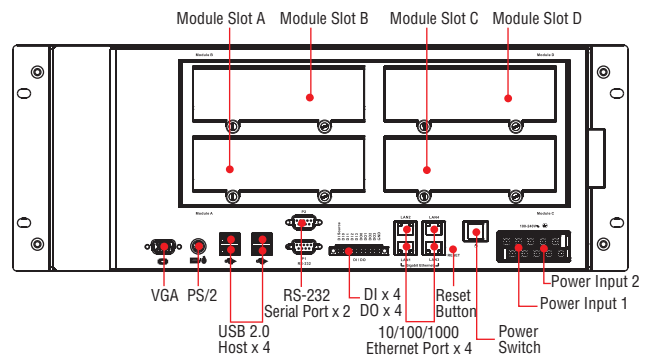
The DA-710 runs Linux, or Windows Embedded Standard 2009 (pre-installed), providing a friendly environment for developing sophisticated application software. The great software support that Moxa provides makes the programmer's job easier, and helps programmers develop bug-free code quickly and at a lower cost.

Appearance

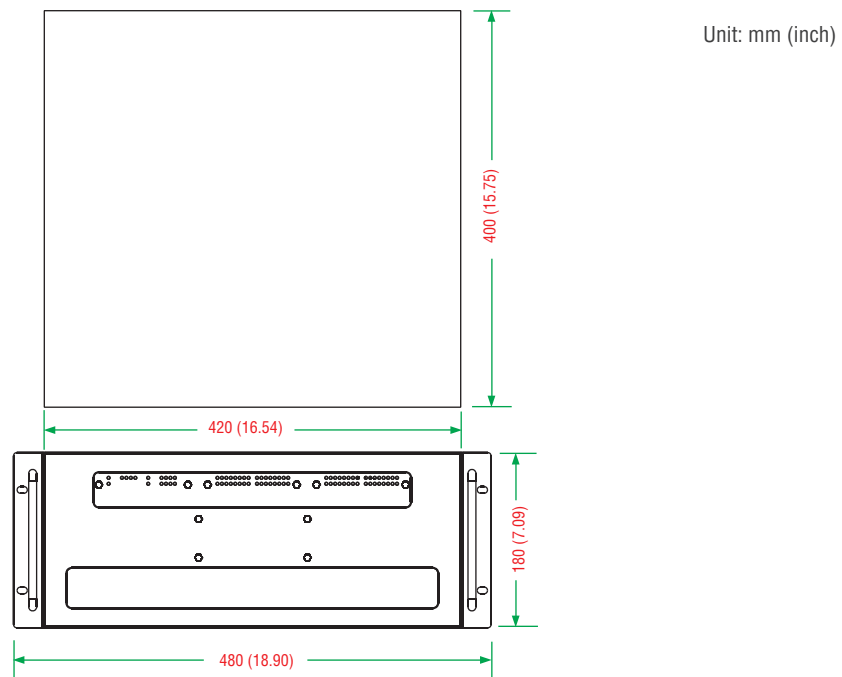
Front View



Rear View



Dimensions



Hardware Specifications

Computer

CPU: Intel Core 2 Duo T7500 2.2 GHz processor
OS (pre-installed): Windows Embedded Standard 2009, Linux 2.6
System Chipset: Intel GME965 + ICH8M
BIOS: 8 Mbit SPI Serial Flash, PCI Plug & Play, ACPI function support
FSB: 800 MHz
System Memory: 2 GB capacity, 1 GB pre-installed: 1 slot of DDR2-533/667 200-pin SO-DIMM SDRAM
USB: USB 2.0 compliant hosts x 4, type A connector, supports system boot up

Storage

Built-in: 2 GB industrial DOM onboard to store OS
Storage Expansion: CompactFlash socket
HDD Support: 2 x SATA connector, 1 x IDE connector

Other Peripherals

KB/MS: 1 PS/2 interface, supports standard PS/2 keyboard and PS/2 mouse

Display

Graphics Controller: Integrated Intel graphics media accelerator (GMA X3100)
Display Memory: Dynamic video memory technology
Intel Clear Video Technology: MPEG-2 hardware accelerator, Microsoft DirectX 9
Display Interface: CRT interface for VGA output (DB15 female connector)
Resolution: QXGA maximum with resolution up to 2048 x 1536 at 60 Hz

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 ports (DB9 male)
ESD Protection: 4 kV for all signals

Serial Communication Parameters

Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: XON/XOFF
Baudrate: 50 bps to 115.2 kbps

Serial Signals

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

Digital Input

Input Channels: 4, source type
Input Voltage: 0 to 30 VDC
Digital Input Levels for Dry Contacts:
 • Logic level 0: Close to GND
 • Logic level 1: Open

Digital Input Levels for Wet Contacts:

• Logic level 0: +3 V max.
 • Logic level 1: +10 to +30 V (DI Source to DI)
Connector Type: 6-pin screw terminal block (4 points, DI Source, GND)

Isolation: 4 kV optical isolation

Digital Output

Output Channels: 4, sink type
Output Current: Max. 200 mA per channel
On-state Voltage: 24 VDC nominal, open collector to 30 V
Connector Type: 5-pin screw terminal block (4 points, GND)
Isolation: 4 kV optical isolation

LEDs

System: Power x 1, Storage x 1
LAN: 100M x 4, 1000M x 4
Power Failure: LED x 2
Programmable: LED x 4
Module: Module A x 16, Module B x 16, Module C x 16, Module D x 16

Physical Characteristics

Housing: SECC sheet metal (1 mm)

Weight: 14 kg

Dimensions:

- Without ears: 400 x 420 x 180 mm (15.75 x 16.54 x 7.09 in)
- With ears: 400 x 480 x 180 mm (15.75 x 18.90 x 7.09 in)

Mounting: Standard 19-inch rackmount

Environmental Limits

Operating Temperature: -10 to 50°C (14 to 122°F)

Storage Temperature: -20 to 80°C (4 to 176°F)

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

Power Requirements

Input Voltage: Single or dual inputs, 100 to 240 VAC/VDC auto-ranging, 47 to 63 Hz, terminal block

Power Consumption: 60 W

Standards and Certifications

Safety: UL 60950-1, CSA C22.2 No. 60950-1-07, CCC (GB4943, GB9254, GB17625.1)

EMC: EN 55022 Class A, EN 61000-3-2, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A

Green Product: RoHS, CRoHS, WEEE

Reliability

Alert Tools: Built-in buzzer and RTC (real-time clock) with backup lithium battery

Automatic Reboot Trigger: Built-in WDT (watchdog timer) supporting 1-255 time interval levels for system reset, software programmable

MTBF (mean time between failures): 118,815 hrs

Warranty

Warranty Period: 3 years

Details: See www.moxa.com/warranty

Software Specifications

Linux

OS: Linux 2.6.26, Debian 5 (Lenny)

File System: EXT2

Internet Protocol Suite: TCP, UDP, IPv4, SNMP v1/v2c/v3, ICMP, ARP, HTTP, CHAP, PAP, SSH 1.0/2.0, SSL, DHCP, NTP, NFS, Telnet, FTP, TFTP, PPP, PPPoE

Internet Security: iptables firewall, OpenVPN

Web Server (Apache): Allows you to create and manage Web sites, supporting PHP and XML

Terminal Server (SSH): Provides secure encrypted communications between two un-trusted hosts over an insecure network.

Dial-up Networking: PPP Daemon for Linux allows Unix machines to connect to the Internet through dialup lines, using the PPP protocol, as a PPP server or client. Works with 'chat', 'dip', and 'diald', among (many) others. Supports IP, TCP, UDP and (for Linux) IPX (Novell).

File Server: Enables remote clients to access files and other resources over the network

Watchdog: Features a software function to trigger system reset in a user specified time interval (Moxa API provided)

Application Development Software:

- Moxa API Library
- GNU C/C++ compiler
- GNU C library

Windows XP Embedded

OS: Windows Embedded Standard 2009

File System: NTFS

Internet Protocol Suite: DHCP, DNS, FTP, HTTP, SMTP, NTP, Telnet, SMTP, SNMPv2, TCP, UDP, IPv4, ICMP, IGMP, IPsec, TAPI, ICS, PPP, CHAP, EAP, PPPoE, PPTP, NetBIOS

Web Server (IIS): Allows users to create and manage websites

Silverlight 2.0: A free runtime that powers rich application experiences and delivers high quality, interactive video across multiple platforms and browsers, using the .NET framework

Remote Desktop: The Terminal Server Remote Desktop component provides remote access for the desktop of a computer running Terminal Services

Remote Registry Service: Enables remote users to modify registry settings on this computer

Watchdog: Features a hardware function to trigger system reset in a user specified time interval (Moxa API provided)

Enhanced Write Filter: Redirect disk write operations to volatile (RAM) or non-volatile (disk) storage

Application Development Software:

- Moxa API Library
- Microsoft .Net Framework 3.5 with SP1
- Active Directory Service Interface (ADSI) Core
- Common Control Libraries
- Common File Dialogs
- Direct3D, DirectPlay, DirectShow, and Direct show filters
- Mapi32 Libraries
- Message Queuing (MSMQ) Core
- Microsoft Visual C++ Run Time Libraries
- Power Management dynamic-link library
- RPC
- Windows API, Script Engines, and WMI

Ordering Information

Available Models

DA-710-XPE: x86-based rackmount embedded computer with 2 RS-232 ports, 4 LANs, 4 peripheral expansion slots, 4 DIs, 4 DOs, VGA, CompactFlash, USB, Windows Embedded Standard 2009

DA-710-LX: x86-based rackmount embedded computer with 2 RS-232 ports, 4 LANs, 4 peripheral expansion slots, 4 DIs, 4 DOs, VGA, CompactFlash, USB, Linux 2.6

Expansion Modules (can be purchased separately)

DA-SP08-I-DB: 8-port RS-232/422/485 serial module with DB9 connector and digital isolation

DA-SP08-DB: 8-port RS-232/422/485 serial module with DB9 connector

DA-SP08-I-TB: 8-port RS-232/422/485 serial module with terminal block connector and digital isolation

DA-SP38-I-TB: 8-port RS-422/485 serial module with terminal block connector and digital isolation

DA-SW08-RJ: 8-port 10/100 Mbps unmanaged switch module

DA-LN04-RJ: 4-port 10/100 Mbps LAN module

DA-UPCI-DK: Universal PCI development kit

DA-FX04-MM-ST-T: 4-port (100BaseFX) fiber LAN module with multi-mode, ST connector, supports IP Teaming

Optional Accessories (can be purchased separately)

FK-12072-01: Hard disk installation package (8 screws, 4 brass standoffs, 1 SATA cable, 1 hard disk mounting bracket)

Package Checklist

- DA-710 embedded computer
- Ethernet cable: RJ45 to RJ45 cross-over cable, 100 cm
- Documentation and software CD or DVD
- Quick installation guide (printed)
- Warranty card