

# DA-682 Series

**x86 rackmount embedded computers with VGA, 4 Gigabit Ethernet ports, 2 peripheral expansion slots, CompactFlash, USB**



- > Intel Celeron M 1 GHz processor with 400 MHz FSB
- > Built-in DDR2 SDRAM and industrial flash disk module
- > Quad Gigabit Ethernet ports for network redundancy
- > 2 PCI expansion slots for expansion modules
- > 1 CompactFlash socket for storage expansion
- > USB 2.0 ports for high speed peripherals supporting system bootup
- > 19-inch rackmount, 2U high form factor
- > 100/240 VAC/VDC power inputs
- > Ready-to-Run Linux or Windows XP Embedded platform
- > Fanless design



## Overview

The DA-682 series of computers are x86 platforms with VGA, 4 Gigabit Ethernet ports, CompactFlash, USB, and two PCI ports for DA Series expansion modules. The DA-682 comes in a standard 19-inch, 2U high form factor.

With their robust design, DA-682 computers are specialized for industrial automation applications in the power industry that require 19-inch rackmount solutions, such as power automation, transportation, and oil and gas.

DA-682 computers run Linux or Windows XP Embedded (pre-installed), providing a friendly environment for developing

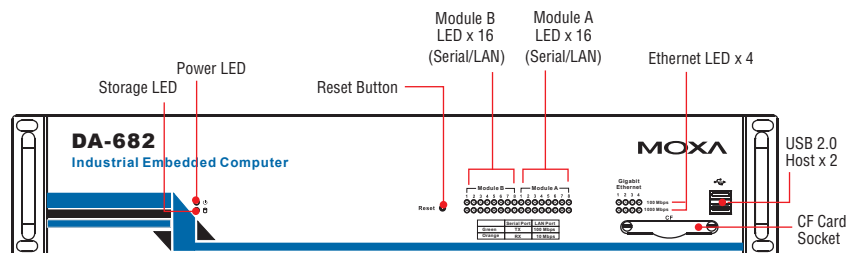
sophisticated application software. The great software support that Moxa provides makes the programmer's job easier, and helps programmers develop bug-free code quickly and at a lower cost.

The DA-682 comes with 2 PCI ports for DA Series 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, and a universal PCI expansion module. The friendly design gives users the advantage of being able to swap out modules quickly and easily.

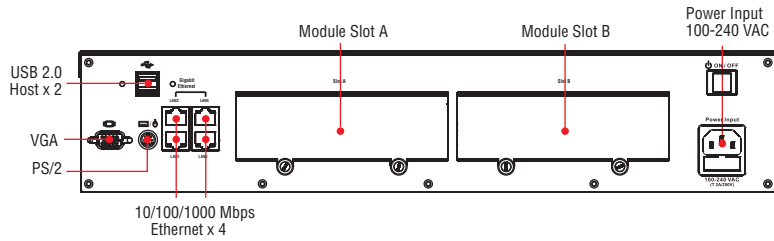
These features make the DA-682 an ideal solution for use with a wide array of industrial automation applications.

## Appearance

Front View



**Rear View**



**Hardware Specifications**

**Computer**

**CPU:** Intel Celeron M 1 GHz processor  
**OS (pre-installed):** Linux or Windows XP Embedded SP2  
**System Chipset:** Intel 915GME + ICH6M chipset  
**BIOS:** 4 mega-bit Flash BIOS, PCI Plug & Play, ACPI function support  
**FSB:** 400/533 MHz  
**System Memory:** 1 GB capacity, 512 MB pre-installed: 1 slot of 1 GB 200-pin DDR2-400/533 SO-DIMM  
**USB:** USB 2.0 compliant hosts x 4, Type A connector, supports system boot up

**Storage**

**Built-in:** 1 GB industrial DOM for read-only OS volume  
**Storage Expansion:** CompactFlash socket

**Other Peripherals**

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

**Display**

**Graphics Controller:** Integrated graphics with built-in Intel 915GME, and built-in Intel extreme Graphics 2 technology  
**Display Memory:** Dynamic video memory (shares up to 32 MB of system memory)  
**Display Interface:** CRT Interface for VGA output (DB15 female connector)  
**Resolution:** CRT display mode with pixel resolution up to 2548 x 1536 at 75 Hz

**Ethernet Interface**

**LAN:** 4 auto-sensing 10/100/1000 Mbps Gigabit ports (Realtek RTL8110SC controller)  
**Magnetic Isolation Protection:** 1.5 KV built-in

**LEDs**

**System:** Power, Storage  
**LAN:** 10/100M mode  
**Gigabit LAN:** 100M x 4, 1000M x 4  
**Serial:** TX/RX  
**Communication:** Module A x 16, Module B x16

**Switches and Buttons**

**Power Switch:** on/off (on rear panel)  
**Reset Button:** To reset system hardware (on front panel)

**Physical Characteristics**

**Housing:** SECC sheet metal (1 mm)  
**Weight:** 7 kg  
**Dimensions:** 440 x 315 x 90 mm (17.32 x 12.40 x 3.54 in) (without rackmount ears)  
**Mounting:** Standard 19-inch rackmount

**Environmental Limits**

**Operating Temperature:** -10 to 60°C (14 to 140°F)  
**Storage Temperature:** -20 to 80°C (-4 to 176°F)  
**Ambient Relative Humidity:** 5 to 95% (non-condensing)  
**Anti-vibration:** 2 g rms @ IEC-68-2-34, random wave, 5-500 Hz, 1 hr per axis  
**Anti-shock:** 20 g @ IEC-68-2-27, half sine wave, 11 ms

**Power Requirements**

**Input Voltage:** 100 to 240 VAC auto-ranging (47 to 63 Hz for AC input), VDC model available on request  
**Power Consumption:** 30 W (full loading)

**Standards and Certifications**

**Safety:** UL 60950-1, CSA C22.2 No. 60950-1-03, EN 60950-1, CCC (GB4943, GB9254, GB17625.1)  
**EMC:** EN 61000-6-4, 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 battery lithium backup  
**Automatic Reboot Trigger:** Built-in WDT (watchdog timer) supporting 1-255 level time interval system reset, software programmable  
**MTBF (mean time between failures):** 134,407 hrs

**Warranty**

**Warranty Period:** 3 years  
**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

**Software Specifications**

**Linux**

**OS:** Linux 2.6.18, Debian Etch 4.0  
**File System:** EXT2, JFFS2  
**Internet Protocol Suite:** TCP, UDP, IPv4, SNMPv1/v2c/v3, ICMP, ARP, HTTP, CHAP, PAP, SSH 1.0/2.0, SSL, DHCP, NTP, NFS, Telnet, FTP, TFTP, PPP, PPPoE  
**Internet Security:** OpenVPN, iptables firewall  
**Web Server (Apache):** Allows you to create and manage web sites; supports 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 that 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 hardware function to trigger system reset in a user specified time interval (Moxa API provided)

**Application Development Software:**

- Moxa API Library (Watchdog timer, Moxa serial I/O control)
- GNU C/C++ cross-compiler
- GNU C library
- Perl

### Windows XP Embedded

**OS:** Windows XP Embedded

**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

**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)

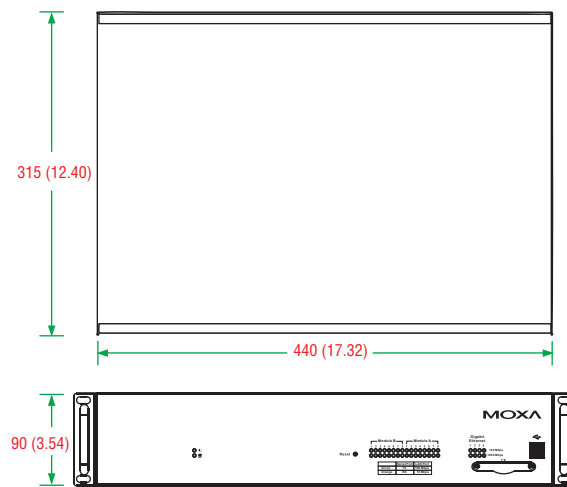
**Enhanced Writer Filter:** Redirect disk write operations to volatile (RAM) or non-volatile (disk) storage

### Application Development Software:

- Moxa API Library
- Microsoft .Net Framework 2.0 with SP 2
- Active Directory Service Interface (ADSI) Core
- Active Template Library (ATL), ASP.NET 2.0
- 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

### Dimensions

Unit: mm (inch)



### Ordering Information

#### Available Models

**DA-682-XPE:** x86 rackmount computer with VGA, 4 Gigabit Ethernet ports, 2 PCI slots, CompactFlash, USB, WinXPe

**DA-682-LX:** x86 rackmount computer with VGA, 4 Gigabit Ethernet ports, 2 PCI slots, CompactFlash, USB, Linux

#### 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

#### Package Checklist

- DA-682 embedded computer
- Rackmount kit
- Ethernet cable: RJ45 to RJ45 cross-over cable, 100 cm
- AC power cable
- Documentation and software CD or DVD
- Quick installation guide (printed)
- Warranty card