

# DA-662 Series

**RISC-based 19-inch rackmount data acquisition computer with 16 serial ports, quad LANs, PCMCIA, CompactFlash, USB**



- > Intel XScale IXP-425 533 MHz processor
- > 128 MB RAM on-board, 32 MB flash
- > 16 software-selectable RS-232/422/485 serial ports
- > Quad 10/100 Mbps Ethernet for network redundancy
- > 15 KV ESD surge protection for all serial signals
- > Supports PCMCIA CardBus for WLAN 802.11b/g wireless network
- > CompactFlash and USB slots for storage expansion
- > Standard 19-inch rack-mount, 1U height installation
- > Wide range of power input voltages from 100 to 240 V AC/DC
- > LCM display and keypad for HMI
- > Ready-to-run Linux / Windows CE 5.0 platform
- > Robust, fanless design



## Overview

DA-662 embedded computers come with 16 software-selectable RS-232/422/485 serial ports, making them suitable for a variety of industrial applications, and four 10/100 Mbps Ethernet ports are included for network redundancy. In addition, the DA-662 has a PCMCIA socket to

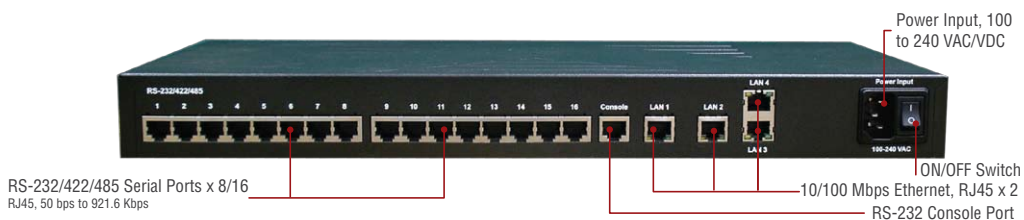
provide 802.11 b/g wireless LAN card expansion, and the CompactFlash and USB sockets make it easy to expand data capacity. The combination of features gives users an ideal, robust, and reliable solution for harsh industrial environments.

## Appearance

### Front View



### Rear View



## Hardware Specifications

### Computer

**CPU:** Intel XScale IXP-425 533 MHz  
**OS (pre-installed):** Embedded Linux or Windows CE 5.0  
**DRAM:** 128 MB onboard (256 MB for ODM)  
**Flash:** 32 MB onboard  
**PCMCIA:** Cardbus card and 16-bit PCMCIA 2.1/JEIDA 4.2 card  
**Storage Expansion:** Full function CompactFlash x 1  
**USB:** USB 2.0 hosts x 2

### LAN Interface

**Ethernet:** 10/100 Mbps x 4, RJ45 connectors  
**Magnetic Isolation Protection:** 1.5 KV built-in

### Serial Interface

**Number of Ports:** 16  
**Serial Standards:** RS-232/422/485, software-selectable  
**Connectors:** RJ45 (8 pins)  
**ESD Protection:** 15 KV for all signals  
**Console Port:** RS-232, RJ45 connector, supports PPP

### 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 Communication Parameters

**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:** OS Ready x 1  
**LAN:** 10M/100M x 4  
**Serial:** TxD, RxD (16 of each)

### Mini Screen with Push Buttons

**LCD Panel:** Liquid Crystal Display on the case, 2 x 16 text mode  
**Push Buttons:** Four membrane buttons for convenient on-site configuration

### Physical Characteristics

**Housing:** SECC sheet metal (1 mm)  
**Weight:** 2600 g  
**Dimensions:**  
**Without ears:** 440 x 45 x 198 mm (17.32 x 1.77 x 7.80 in)  
**With ears:** 480 x 45 x 198 mm (18.90 x 1.77 x 7.80 in)  
**Mounting:** Standard 19-inch rackmount

### Environmental Limits

**Operating Temperature:** -10 to 60°C (14 to 140°F)  
**Operating Humidity:** 5 to 95% RH  
**Storage Temperature:** -20 to 80°C (-4 to 176°F)

### Power Requirements

**Input Voltage:** 100 to 240 VAC/VDC auto ranging (47 to 63 Hz for AC input)  
**Power Consumption:** 20 watts

### Regulatory Approvals

**EMC:** CE (EN55022 Class A, EN61000-3-2 Class A, EN61000-3-3, EN55024), FCC (Part 15 Subpart B, CISPR 22 Class A)  
**Safety:** UL/cUL (UL60950-1, CSA C22.2 No. 60950-1-03), TÜV (EN60950-1)  
**MTBF:** 88,860 hrs.

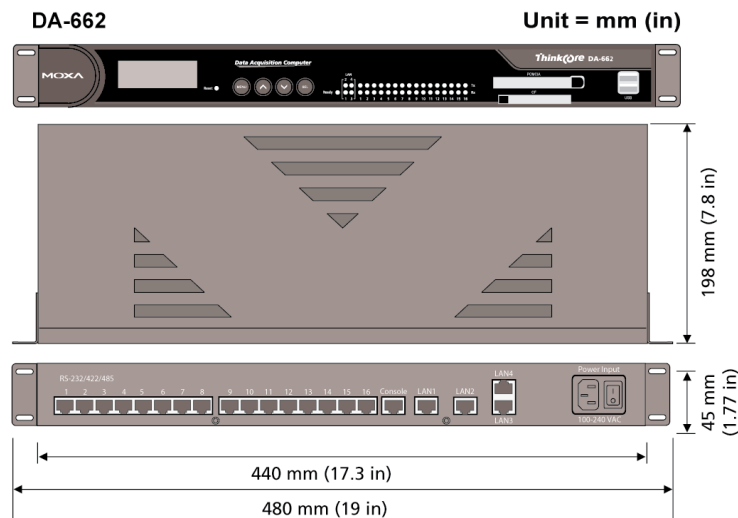
### Reliability

**Alert Tools:** Built-in buzzer and RTC (real-time clock)  
**Automatic Reboot Trigger:** Built-in WDT (watchdog timer)

### Warranty

**Warranty Period:** 5 years  
**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

## Dimensions



## Software Specifications

### Linux

**Kernel Version:** 2.6.10

**Protocol Stack:** TCP, UDP, IPv4, SNMP V1, ICMP, IGMP, ARP, HTTP, CHAP, PAP, SSH 1.0/2.0, SSL, DHCP, NTP, NFS, SMTP, Telnet, FTP, PPP, PPPoE

**File System:** JFFS2 (on-board flash)

**System Utilities:** bash, busybox, tinylogin, telnet, ftp, scp

**Supporting Services and Daemons:**

**telnetd:** Telnet Server daemon

**ftpd:** FTP server daemon

**sshd:** Secure shell server

**Apache:** Web server daemon, supporting PHP and XML

**OpenVPN:** Virtual private network service manager

**iptables:** Firewall service manager

**pppd:** dial in/out over serial port daemon & PPPoE

**snmpd:** snmpd agent daemon

**inetd:** TCP server manager program

**Application Development Environment:**

Moxa Linux API Library for device control

**Linux Tool Chain:** Gcc, Glibc, GDB

### Windows Embedded CE 5.0

**System Utilities:** Windows command shell, telnet, ftp, web-based administration manager

**File System:** FAT (on-board flash)

**Protocol Stack:** TCP, UDP, IPv4, SNMP, ICMP, IGMP, ARP, HTTP, CHAP, PAP, SSL, DHCP, SNTP, SMTP, Telnet, FTP, PPP

**Supporting Services and Daemons:**

**Telnet Server:** Allows remote administration through a standard telnet client.

**FTP Server:** Used for transferring files to and from remote computer systems over a network.

**Web Server (httpd):** WinCE IIS, including ASP, ISAPI Secure Socket Layer support, SSL 2, SSL 3, and Transport Layer Security (TLS/SSL 3.1) public key-based protocols, and Web Administration ISAPI Extensions.

**Dial-up Networking Service:** RAS client API and PPP, supporting Extensible Authentication Protocol (EAP) and RAS scripting.

**Application Development Environment:**

Moxa WinCE 5.0 SDK

C Libraries and Run-times

Component Services (COM and DCOM)

Microsoft Foundation Classes (MFC)

Microsoft® .NET Compact Framework 2.0 SP2

XML, including DOM, XQL, XPATH, XSLT, SAX2

SOAP Toolkit

Winsock 2.2

## Ordering Information

### Available Models

**DA-662-16-LX:** RISC-based 19-inch rackmount data acquisition computer with 16 serial ports, quad LANs, PCMCIA, CompactFlash, USB, Linux OS

**DA-662-16-CE:** RISC-based 19-inch rackmount data acquisition computer with 16 serial ports, quad LANs, PCMCIA, CompactFlash, USB, WinCE 5.0 OS



### Package Checklist

- DA-662 computer
- 19-inch rackmount kit
- Ethernet cable: RJ45 to RJ45 cross-over cable, 100 cm
- CBL-RJ45F9-150: 8-pin RJ45 to DB9 female console port cable, 150 cm
- CBL-RJ45M9-150: 8-pin RJ45 to DB9 male serial port cable, 150 cm
- Power Cord
- Document and Software CD
- Quick Installation Guide (printed)
- Warranty Card