

# ThinkCore DA-662

RISC-based 19-inch Rackmount Data Acquisition Embedded Computers with 16 Serial Ports, Quad LANs, PCMCIA, CompactFlash and USB



## Features

- > Intel XScale IXP-425 533 MHz processor
- > 128 MB RAM on-board, 32 MB flash disk
- > 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 240V AC/DC
- > LCM display and keypad for HMI
- > Ready-to-run Linux / Windows CE 5.0 platform
- > Robust, fanless design



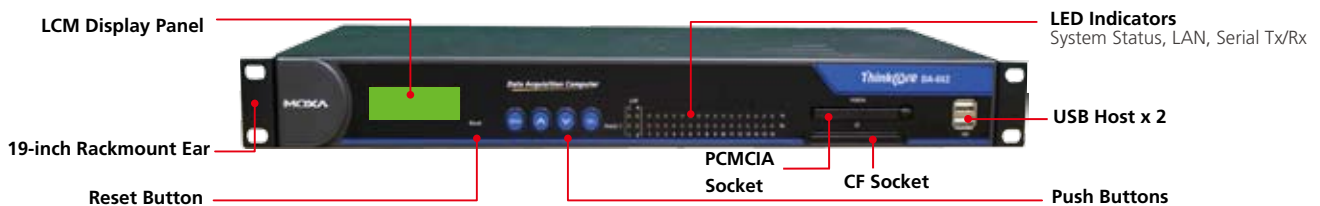
ThinkCore DA-662

## Overview

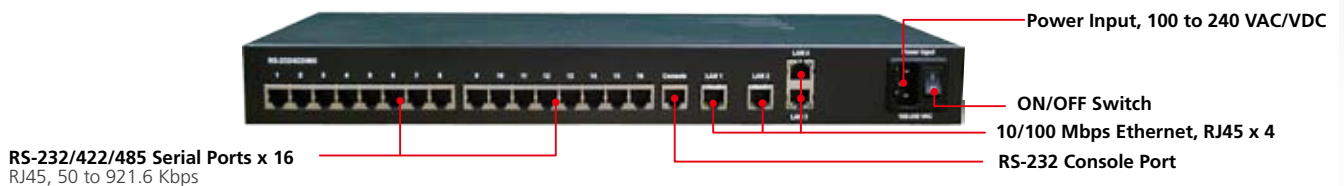
ThinkCore DA-662 embedded computers come with 16 software-selectable RS-232/422/485 serial ports, making them suitable for a variety of industrial applications, and four 10/100 Mbps Ethernet ports are included for network redundancy. In addition, the DA-662 has a PCMCIA socket to provide 802.11 b/g wireless 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.

## DA-662 Appearance

### Front View

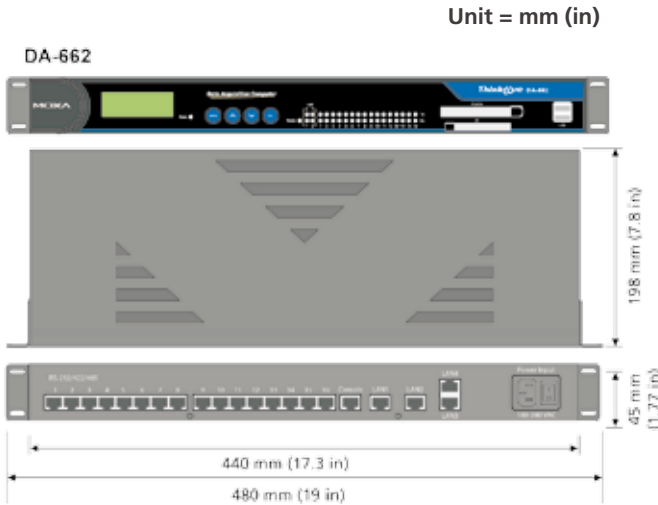


### Rear View

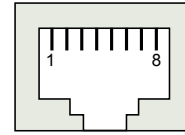


Dimensions

Pin Assignment



Serial Port, RJ45 Connector



PIN	RS-232	RS-422	RS-485
1	DSR	---	---
2	RTS	TxD+	---
3	GND	GND	GND
4	TxD	TxD-	---
5	RxD	RxD+	Data+
6	DCD	RxD-	Data-
7	CTS	---	---
8	DTR	---	---

Hardware Specifications

System

- CPU:** Intel XScale IXP-425 533 MHz
- DRAM:** 128 MB onboard
- Flash:** 32 MB onboard
- LCM:** 2 x 16 Text Mode
- Keypad:** 4 membrane buttons
- Console Port:** RS-232 x 1, RJ45, supports PPP
- Other:** RTC, buzzer, Watchdog Timer
- OS:** Built-in embedded Linux or Windows CE 5.0

Network Communication

- LAN:** 10/100 Mbps x 4, RJ45
- Protection:** Built-in 1.5 KV magnetic isolation protection

Serial Communication

- Serial Ports:** RS-232/422/485 x 16, software-selectable, RJ45
- Protection:** Built-in 15 KV ESD protection for all signals
- Data Bits:** 5, 6, 7, 8
- Stop Bits:** 1, 1.5, 2
- Parity:** None, Even, Odd, Space, Mark
- Flow Control:** RTS/CTS, XON/XOFF, RS-485 ADDC™
- Speed:** 50 bps to 921.6 Kbps, supports Any Baudrate

LEDs

- System:** Ready x 1
- LAN:** 10M/100M x 4
- Serial:** TxD x 16, RxD x 16

Power Requirements

**Power Input:** 100 to 240 VAC/DC auto ranging (47 to 63 Hz for AC input)

**Power Consumption:** 20W

Mechanical

**Dimensions (WxDxH):**  
 480 x 198 x 45 mm (19 x 7.8 x 1.77 in) (including rackmount ears)  
 440 x 198 x 45 mm (17.3 x 7.8 x 1.77 in) (without rackmount ears)

**Weight:** 2.6 kg

**Construction Material:** SECC sheet metal, 1 mm

**Mounting:** Standard 19-inch rackmount

Environmental

**Operating Temperature:** -10 to 60°C (14 to 140°F), 5 to 95% RH

**Storage Temperature:** -20 to 80°C (-4 to 176°F), 5 to 95% RH

Regulatory Approvals

**EMC:** FCC Part 15, CISPR 22 Class A  
 CE Class A: EN55022 Class A, EN61000-3-2 Class A, EN61000-3-3, EN55024

**Safety:** TÜV: IEC/EN60950

UL/cUL: UL60950, CAN/CSA-C22.2 No. 60950-00

**Warranty:** 5 years

## Software Specifications

### Linux

**Kernel Version:** 2.6.10

**Boot Loader:** Redboot

**Protocol Stacks:** TCP, UDP, IPv4, SNMP V1/V3, 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, supports PHP and XML  
MySQL: Database Server and Client  
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  
Linux Tool Chain: Gcc, Glibc, GDB  
Windows Tool Chain: Gcc, Glibc, Insight (Windows-based source level debug utility)  
UC Finder: UC's LAN IP broadcast search utility for Windows and Linux

#### Device Drivers:

Watchdog Timer (WDT), UART, RTC, Buzzer, LCM, Keypad  
MOXA 2G NPort Real TTY Driver

### Windows CE 5.0

**Boot Loader:** Redboot

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

**File Systems:** TFAT (on-board flash)

**Protocol Stacks:** 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, offering 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  
XML, including DOM, XQL, XPATH, XSLT, SAX2  
SOAP Toolkit  
Winsock 2.2

#### Device Drivers:

Watchdog Timer (WDT) API, UART, RTC, Buzzer, LCM, Keypad

## Ordering Information

### ThinkCore DA-662-16-LX

RISC-based 19-inch Rackmount Data Acquisition Embedded Computer with 16 Serial Ports, Quad LANs, PCMCIA, CompactFlash, USB, Linux OS

### ThinkCore DA-662-16-CE

RISC-based 19-inch Rackmount Data Acquisition Embedded Computer with 16 Serial Ports, Quad LANs, PCMCIA, CompactFlash, USB, WinCE 5.0

### All items include

- 1 DA-662
- Quick Installation Guide
- 19-inch Rackmount Kit
- Document & Software CD
- Ethernet Cable: RJ45 to RJ45 cross-over cable, 100 cm
- Console Port Cable: CBL-RJ45F9-150 8-pin RJ45 to female DB9 cable, 150 cm
- Serial Port Cable: CBL-RJ45M9-150 8-pin RJ45 to male DB9 cable, 150 cm
- Power Cord
- Product Warranty Statement

