

ThinkCore DA-663

RISC-based 19-inch Rackmount Data Acquisition Embedded Computers with 16 Serial Ports, Dual Multi-mode Fiber, PCMCIA, CompactFlash and USB

ThinkCore DA-663



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
- > Dual 100Base Multi-mode Fiber ports
- > 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 rackmount, 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

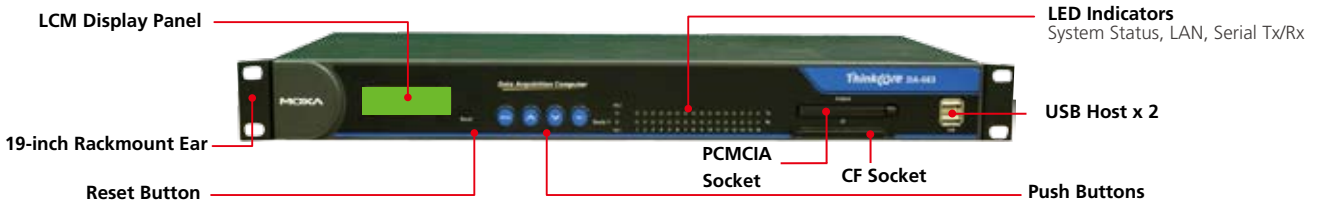


Overview

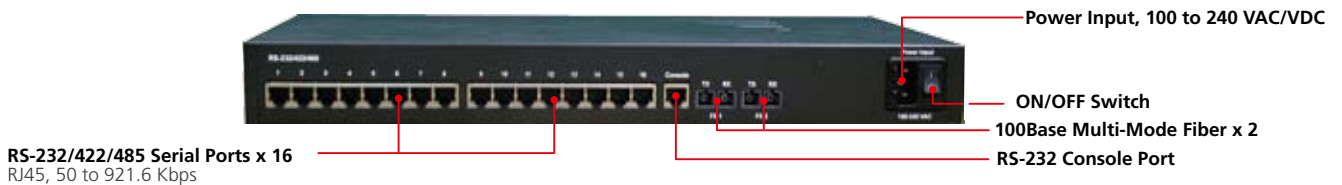
ThinkCore DA-663 embedded computers come with 16 software-selectable RS-232/422/485 serial ports, making them suitable for a variety of industrial applications, and dual 100Base Multi-mode Fiber ports for network redundancy. In addition, the DA-663 has a PCMCIA socket to provide 802.11 b/g wireless LAN card expansion, and the CompactFlash and USB sockets it easy to expand data capacity. The combination of features gives users an ideal, robust, and reliable solution for harsh industrial environments.

DA-663 Appearance

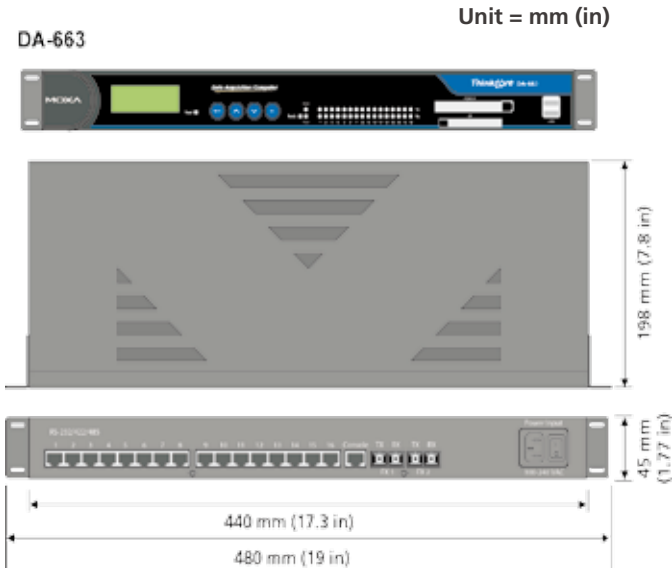
Front View



Rear View

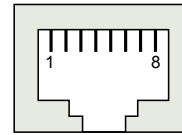


Dimensions



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

Optical Fiber: 100Base Multi-mode Fiber ports x 2
SC connector

Link Distance: Up to 2 km

Optical Wavelength: 1,300 nm typical

Data Rate: 155 Mbps

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

Fiber: 100Base FX x 2

Serial: TxD x 16, RxD x 16

Power Requirements

Power Input: 100 to 240 VAC/VDC 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 rack-mount

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-663-16-LX

RISC-based 19-inch Rackmount Data Acquisition Embedded Computer with 16 Serial Ports, Dual Multi-mode Fiber, LAN, PCMCIA, CompactFlash, USB, Linux OS

ThinkCore DA-663-16-CE

RISC-based 19-inch Rackmount Data Acquisition Embedded Computer with 16 Serial Ports, Dual Multi-mode Fiber, PCMCIA, CompactFlash, USB, WinCE 5.0

All items include

- 1 DA-663
- 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

