

DA-663 Series

RISC-based 19-inch rackmount data acquisition computers with 16 serial ports, dual multi-mode fiber, PCMCIA, CompactFlash, USB



- > Intel XScale IXP425 533 MHz processor
- > 128 MB RAM on-board, 32 MB flash
- > 16 software-selectable RS-232/422/485 serial ports
- > Dual 100BaseFX multi-mode fiber ports
- > 15 KV ESD 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 240 V AC/DC
- > LCM display and keypad for HMI
- > Ready-to-run Linux or Windows CE 5.0 platform
- > Robust, fanless design



Overview

The 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

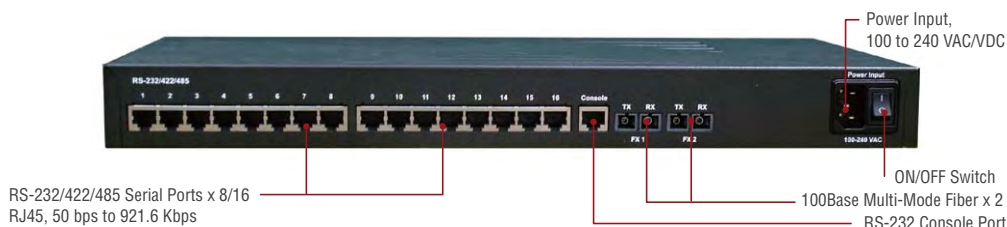
and USB sockets make it easy to add more memory. This combination of features gives users an ideal, robust, and reliable solution for harsh industrial environments.

Appearance

Front View



Rear View



Hardware Specifications

Computer

CPU: Intel XScale IXP425 533 MHz
OS (pre-installed): Embedded Linux or Windows CE 5.0
DRAM: 128 MB onboard
Flash: 32 MB onboard
PCMCIA: Cardbus card and 16-bit PCMCIA 2.1/JEIDA 4.2 card
Storage Expansion: Full function CompactFlash
USB: USB 2.0 hosts x 2

LAN Interface

Optical Fiber: 100BaseFX Multi-mode fiber ports x 2, SC connectors
Link Distance: Up to 2 km
Optical Wavelength: 1300 nm typical
Data Rate: 155 Mbps

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 Signals

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: 100BaseFX x 2
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: 88,810 hrs.

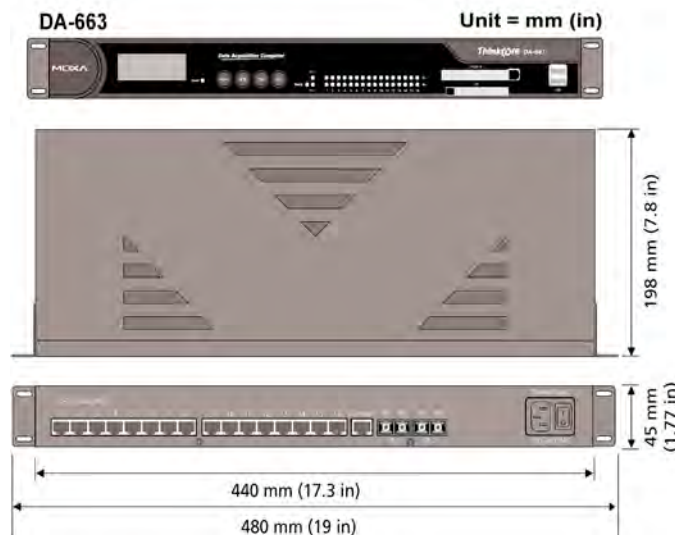
Reliability

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

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-663-16-LX: RISC-based 19-inch rackmount data acquisition computer with 16 serial ports, dual multi-mode fiber LANs, PCMCIA, CompactFlash, USB, Linux OS

DA-663-16-CE: RISC-based 19-inch rackmount data acquisition computer with 16 serial ports, dual multi-mode fiber LANs, PCMCIA, CompactFlash, USB, WinCE 5.0



Package Checklist

- DA-663 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