DA-663 Series

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

16

> **Intel XScale IXP-425 533 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**

The certification logos shown here apply to some or all of the products in this section. Please see the **Specifications** section or Moxa's website for details.
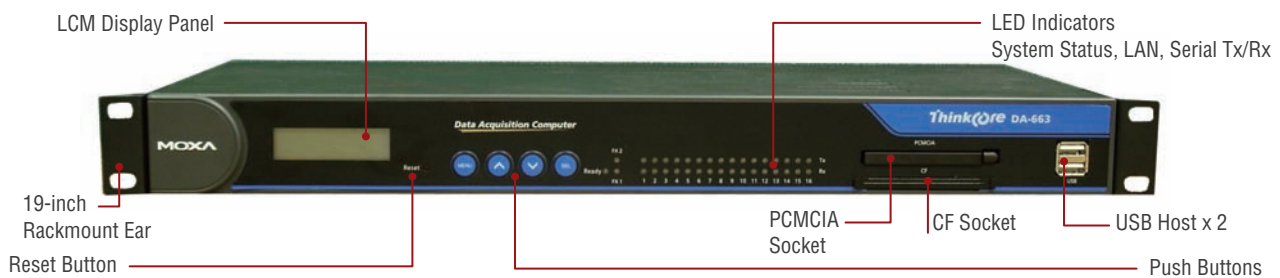
: Overview

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 p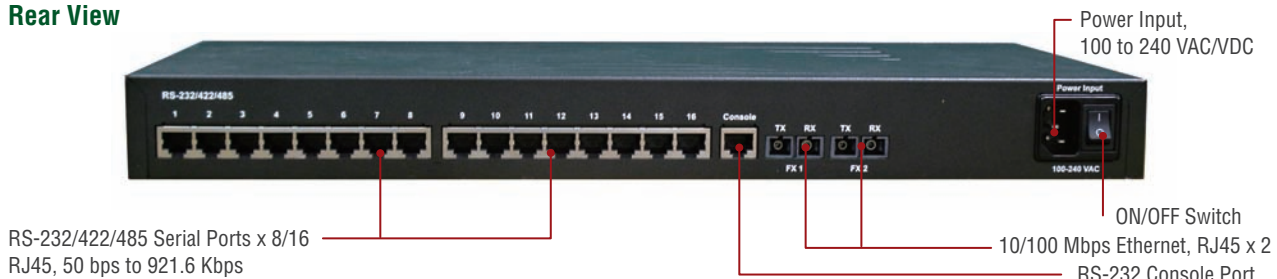rovide 802.11 b/g wireless LAN card expansion, and the CompactFlash and USB sockets it easy to add more memory. This combination of features gives users an ideal, robust, and reliable solution for harsh industrial environments.

: Appearance

Front View

LCM Display Panel

LED Indicators
System Status, LAN, Serial Tx/Rx

19-inch Rackmount Ear

Reset Button

PCMCIA Socket

CF Socket

USB Host x 2

Push Buttons

Rear View

Power Input, 100 to 240 VAC/VDC

RS-232/422/485 Serial Ports x 8/16
RJ45, 50 bps to 921.6 Kbps

ON/OFF Switch

10/100 Mbps Ethernet, RJ45 x 2

RS-232 Console Port

⋮ 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

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 (non-standard baudrates supported; 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)

Reliability

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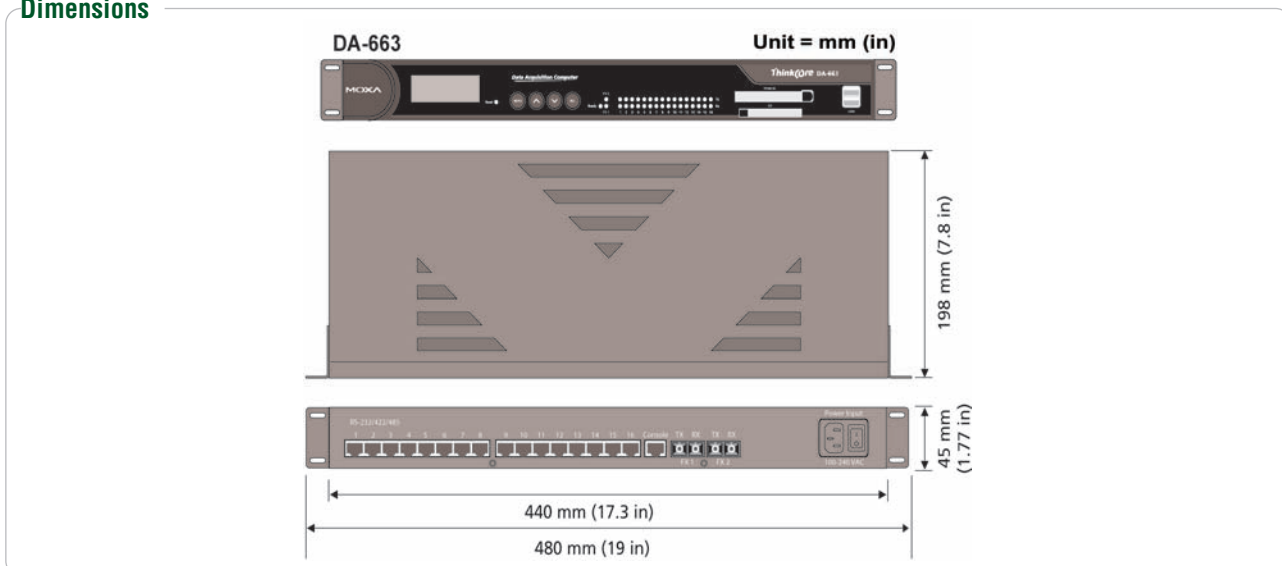
Automatic Reboot Trigger: Built-in WDT (watchdog timer)

Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

16

RISC-based Computers › DA-663 Series

Dimensions

DA-663   Unit = mm (in)

198 mm (7.8 in)
45 mm (1.77 in)
440 mm (17.3 in)
480 mm (19 in)

16

⋮ 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