V468

x86-based computers with 4 serial ports, quad LANs, VGA, 8 DI, 8 DO, CompactFlash, USB

> **AMD Geode LX 800@0.9W CPU, 500 MHz**
> **Built-in 256 MB (CE) or 512 MB (XPe) DDR SDRAM**
> **Built-in 256 MB (CE) or 1 GB (XPe) industrial DOM to store the operating system**
> **256 KB battery backup SRAM**
> **2 RS-232 and 2 RS-232/422/485 serial ports, supporting non-standard baudrates**
> **Quad 10/100 Mbps Ethernet ports for network redundancy**
> **8 DI and 8 DO interfaces for digital input/output connections, with 3 KV isolation protection**
> **CompactFlash socket for storage expansion**
> **4 USB 2.0 hosts supporting system boot up**
> **LED indicators for power, battery, storage**
> **Ready-to-run WinCE 6.0 or Windows XP Embedded platform**
> **DIN-rail and wall-mount installation**
> **Robust, fan-less design**

Microsoft® Windows® Embedded   CCC   e   RoHS   CE   FC   c UL us LISTED

⋮ Overview

The V468 embedded computer is based on the AMD x86 processor, and features 4 serial ports, quad LAN ports, 4 USB 2.0 hosts, and CompactFlash. A VGA interface is included to make the V468 particularly well-suited for industrial applications, such as SCADA and factory automation.
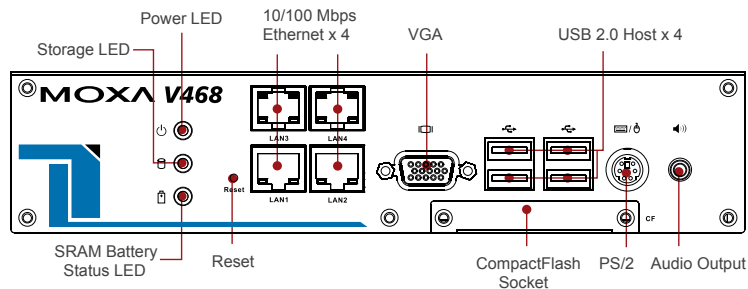
The V468's 4 serial ports make the computer ideal for connecting a wide range of serial devices, and the quad 10/100 Mbps Ethernet ports offer a reliable solution for network redundancy, promising continuous operation for data communication and management. As an added convenience, the V468 has 8 DI and 8 DO interfaces for connecting digital input/output devices. In addition, the CompactFlash and USB sockets provide the V468 with the reliability needed for industrial applications that require data buffering and storage expansion.
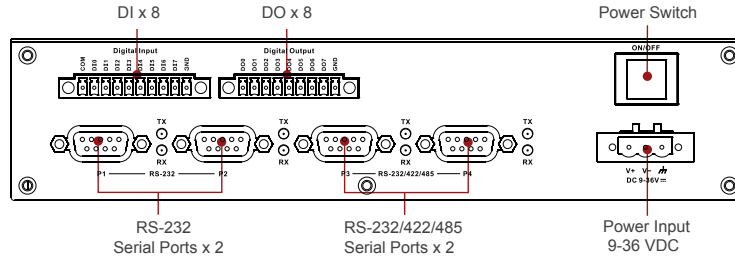
The V468 comes with the WinCE 6.0 or WinXP Embedded operating system already installed. WinCE 6.0 or WinXP Embedded provides programmers with a friendly environment for developing sophisticated, bug-free application software at a lower cost.

⋮ Appearance

Front View

Storage LED
Power LED
10/100 Mbps Ethernet x 4
VGA
USB 2.0 Host x 4
SRAM Battery Status LED
Reset
CompactFlash Socket
PS/2
Audio Output

Rear view

DI x 8   DO x 8   Power Switch

RS-232
Serial Ports x 2

RS-232/422/485
Serial Ports x 2

Power Input
9-36 VDC

: Hardware Specifications

Computer

CPU: AMD Geode LX 800@0.9W processor with 128K L2 Cache, 500 MHz

OS (pre-installed): Windows CE 6.0

FSB: 400 MHz

System Chipset: AMD CS5536

Expansion Bus: PC/104-Plus onboard

BIOS: 4 mega-bit Flash BIOS, supporting Plug & Play, APM 1.2, ACPI 1.0

System Memory: 200-pin SO-DIMM socket with built-in 256 MB (CE) or 512 MB (XPe) DDR, supporting DDR400 up to 1 GB

SRAM: 256 KB, battery backup

Display

Graphics Controller: CPU integrated 2D graphics

Display Interface: CRT interface for VGA output

Storage

Built-in: 256 MB (CE) or 1 GB (XPe) industrial DOM for OS

Expansion: Second CompactFlash socket available for storage expansion

Other Peripherals

USB: USB 2.0 compliant hosts x 4, type A connector, supports system boot up

Audio: AC97 audio, supports speaker-out interface

KB/MS: 1 PS/2 interface supporting standard PS/2 keyboard and mouse through Y-type cable

Ethernet Interface

Ethernet: Auto-sensing 10/100 Mbps x 4, RJ45 connectors

Controller: Realtek RTL8100CL

Magnetic Isolation Protection: 1.5 KV built-in

Serial Interface

Number of Ports: 4

Serial Standards: RS-232 x 2, RS-232/422/485 x 2 (software-select-able)

Connectors: DB9 male

ESD protection: 15 KV for all signals

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

Digital Input

Channels: 8

Input Voltage:
Logic 0: 0-0.8 V
Logic 1: 2.0-5.5 V

Digital Output

Channels: 8

Output Current: 24 mA

Output Voltage:
Logic 0: 0-0.55 V
Logic 1: 2.5-3.3 V

Protection: 3 KV optical isolation

LEDs

System: Power, Battery, Storage

LAN: 10M/Link x 4, 100M/Link x 4 (on connector)

Switches and Buttons

Switches: Power on/off

Buttons: Reset button for warm reboot

Physical Characteristics

Enclosure: Aluminum, EPIC form factor

Weight: 1.32 kg

Dimensions:
Without ears: 223 x 120.5 x 57 mm (8.78 x 4.74 x 2.24 in)
With ears: 248 x 140 x 70 mm (9.76 x 5.51 x 2.76 in)

Mounting: DIN-rail, wall

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: 9 to 36 VDC (3-pin terminal block for V+, V-, SG)

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), CCC (GB9254, GB 17625.1)

Safety: UL/cUL (UL60950-1, CSA C22.2 No. 60950-1-03), LVD, CCC (GB4943)

Directives: RoHS, WEEE

Reliability

Alert Tools: Built-in buzzer and RTC (real-time clock) with battery backup

Automatic Reboot Trigger: Built-in WDT (watchdog timer) supporting 1-255 level time interval system reset, software programmable

Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

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V468

: Software Specifications

Windows Embedded CE 6.0

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.
File Server: Enables clients to access files and other resources over the network (Microsoft® Wincows® CE)
Web Server (httpd): Includes 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.
Watchdog Service: CPU Hardware function to reset CPU in a user specified time interval (triggered by calling a MOXA library function)

Application Development Environment:
Moxa WinCE 6.0 SDK
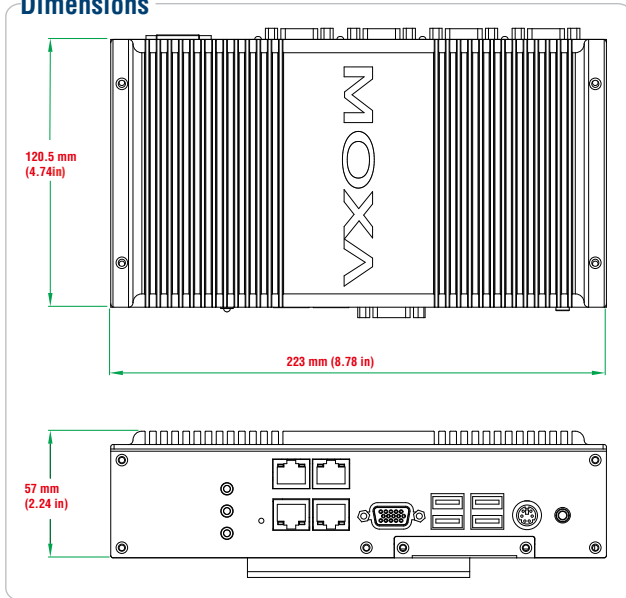C Libraries and Run-times
Component Services (COM and DCOM)
Microsoft® .NET Compact Framework 2.0 SP2
XML, including DOM, XQL, XPATH, XSLT, SAX, SAX2
SOAP Toolkit Client
Winsock 2.2

Windows XP Embedded

Protocol Stack: DHCP, IPv4, DNS, IPsec, HTTP, TCP, UDP, ICMP, IGMP, ARP, TAPI, TSP, SNMP, NTP, ICS, PPP, CHAP, EAP, SNTP, Telnet, SNTP, FTP, SMTP, PPPoE, PPTP, NetBIOS

File System: NTFS

System Utilities: Windows command shell, Telnet, ftp, web-based administration manager, Wireless Zero Configuration

Supported Services and Daemons:
Telnet Server: Allows users to connect to Telnet servers from remote computers.
IIS Web Server: Allows you to create and manage Web sites.
Terminal Server: Microsoft Terminal Server client application (mstsc.exe).
COM+ Services: The next evolution of Microsoft Component Object Model (COM) and Microsoft Transaction Server (MTS).
Computer Browser Service: Computer browsing functionality exposed by Windows through Microsoft Networking. It allows a client machine to browse its network neighborhood for available computers exposing file and print sharing services.
Disk Management Services: Support for disk and volume management operations. The component implements a Component Object Model (COM) interface that can be used to query and configure disks and volumes, both basic and dynamic. The component also monitors disk arrivals and removals and other changes in the storage subsystem.
Remote Registry Service: Enables remote users to modify registry settings on this computer.

Application Development Environment:
Microsoft .Net Framework 2.0 with service pack 2 (CLR and the .NET Framework class library)
Active Directory Service Interface (ADSI) Core
Active Template Library (ATL),ASP.NET 2.0
Certificate Request Client & Certificate Autoenrollment (CLR and the .NET Framework class library)
COM APIs
Common Control Libraries
Common File Dialogs
Direct3D, DirectPlay, DirectShow and Direct show filters
Distributed Transaction Coordinator (MSDTC)
Enhanced Write Filter (Redirect disk write operations to volatile (RAM) or non-volatile (disk) storage)
Event Log, Internet Explorer
Mapi32 Libraries
Message Queuing (MSMQ) Core
Microsoft Visual C++ Run Time Libraries
Power Management dynamic-link library
Registry Editor
RPC
Smart Card Cryptographic Service Providers
USB 2.0 core drivers compliant with The USB .95 or 1.0
Windows API, Media Player 10, Script Engines, and WMI

Dimensions

120.5 mm (4.74in)

223 mm (8.78 in)

57 mm (2.24 in)

: Ordering Information

Available Models

V468-CE: x86 embedded computer with 4 serial ports, quad LANs, VGA, 8 DI, 8 DO, CompactFlash, USB

V468-XPE: x86 embedded computer with 4 serial ports, quad LANs, VGA, 8 DI, 8 DO, CompactFlash, USB

Package Checklist

- V468 embedded computer
- Document and Software CD
- Quick Installation Guide (printed)
- Warranty Card