

ThinkCore V481 New

x86 Ready-to-Run Embedded Computer with VGA, Dual LANs, 8 Serial Ports, CompactFlash, USB, Audio

Wide Temperature



Features

- Intel Celeron M 1 GHz CPU, 400 MHz FSB
- Built-in 256 MB DDR SDRAM, 256 MB industrial CompactFlash
- 8 software-selectable RS-232/422/485 serial ports
- Serial port speed from 50 bps to 921.6 Kbps, supporting ANY BAUDRATE
- 10/100 and 10/100/1000 Mbps LANs for network redundancy
- Supports 2nd CompactFlash socket for storage expansion
- 2 USB 2.0 Hosts that support system bootup
- LED indicators for System Power and Storage
- Designed to withstand 5G continuous vibration and 50G shocks
- Ready-to-run WinCE 5.0 platform
- DIN-rail or wall-mount installation
- Robust, fanless design
- Wide temperature model available



Overview

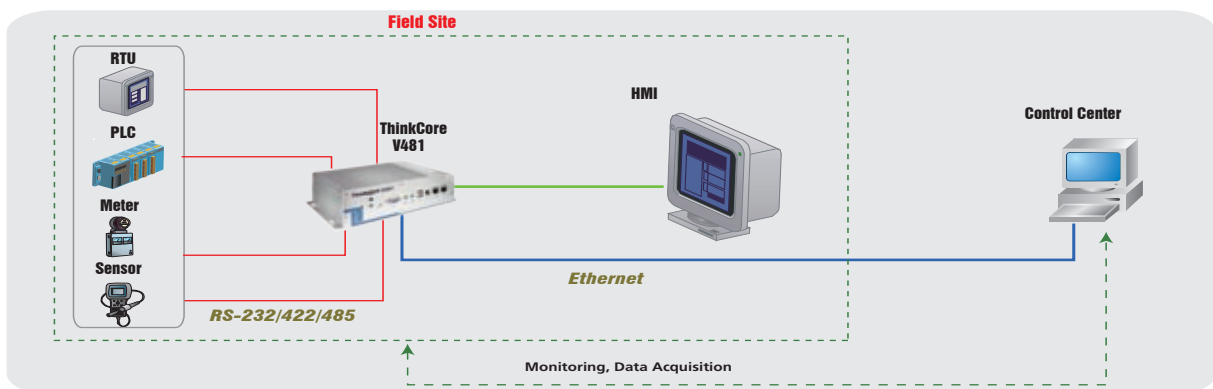
The ThinkCore V481, which is based on the Intel x86 processor, is a ready-to-run embedded computer with VGA, dual LANs, 8 serial ports, CompactFlash, USB, and audio. The VGA interface was included to make this computer particularly well-suited for industrial applications, such as SCADA and factory automation.

The ThinkCore V481 comes with 8 software-selectable RS-232/422/485 serial ports built in, making it ideal for connecting a wide range of serial devices. The 10/100 Mbps and 10/100/1000 Mbps LAN ports offer a reliable solution for network redundancy, promising continuous operation for data communication and management. In addition, the second CompactFlash socket makes storage expansion easier, and the

USB slots can be used to connect different types of devices, making the ThinkCore V481 a reliable embedded computer for industrial applications that require VGA and HMI features.

The ThinkCore V481 comes with the WinCE 5.0 operating system pre-installed, providing a friendly environment for programmers to develop sophisticated application software. The great software support that Moxa provides makes the programmer's job easier, and makes it possible to develop bug-free code quickly and at a lower cost. In addition, the wide operating temperature model, which works in temperatures ranging from -35 to 75°C, provides users a great solution for any harsh environment.

Typical Application



Hardware Specifications

System

CPU: Intel ULV Celeron M 1 GHz processor

System Chipset: Intel 852GM GMCH +ICH4 chipset

FSB: 400 MHz

BIOS: 4Mbit Flash BIOS, supports Plug & Play

System Memory: 200-pin SO-DIMM socket x 1 with built-in 256 MB DDR SDRAM, supports DDR200/266 up to 1 GB

OS: Windows CE 5.0

Display

Graphics Controller:

Integrated graphics with built-in Intel 852GM GMCH, built-in Intel extreme Graphics 2 technology

Display Memory:

Dynamic video memory, sharing up to 32 MB of system memory

Display Interface: CRT

Storage

Built-in: 256 MB industrial CompactFlash card onboard to store OS

Expansion: Second CompactFlash socket available for storage expansion

Network Communication

LAN1: Auto-sensing 10/100 Mbps Ethernet, using Integrated MAC and Intel 82562GZ Transceiver, RJ45 connector

LAN2: Auto-sensing 10/100/1000 Mbps Gigabit Ethernet, using Realtek RTL8110SC Controller, RJ45 connector

Protection: Built-in 1.5 KV magnetic isolation protection

Serial Communication

Serial Ports:

RS-232/422/485 x 8, software-selectable, male DB9 connector

RS-232 signals: TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND

RS-422 signals: TxD+, TxD-, RxD+, RxD-, GND

4-wire RS-485 signals: TxD+, TxD-, RxD+, RxD-, GND

2-wire RS-485 signals: Data+, Data-, GND

Protection: Built-in 15 KV ESD protection for all signals

Data bits: 5, 6, 7, 8

Stop bit(s): 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

Other Peripherals

USB: USB 2.0 compliant Host x 2, type A connector, supporting system bootup

Audio: AC97 audio, supporting line-in and speaker-out interface

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

Watchdog Timer: Supports 1 to 255 level time interval system reset, software programmable

RTC: Yes, battery backup

LEDs

System: Power x 1, Storage x 1

LAN1: Act/Link and 10/100 Mbps mode (on connector)

LAN2: Act/Link and 10/100/1000 Mbps mode (on connector)

Switches and Buttons

Switch: Power on/off x 1

Button: Reset button for system warm reboot x 1

Power Requirements

Power Input: 9 to 36 VDC

Power Consumption: 25W; 650 mA @ 36 VDC; 2750 mA @ 9 VDC

Mechanical

Dimensions (WxDxH, with enclosure):

225 x 140 x 70 mm (without wall-mount ears and DIN-rail kit)

Weight: 2.2 kg

Construction Material: Aluminum

Mounting: Wall-mount, DIN-rail

Environment

Operating Temperature:

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

-35 to 75°C (-31 to 167°F), 5 to 95% RH (for T model)

Storage Temperature:

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

-40 to 85°C (-40 to 185°F), 5 to 95% RH (for T model)

Anti-Vibration: 5G @ IEC-68-2-6, sine wave, 5-500 Hz, 1 Oct./min, 1 hr/axis. (with CompactFlash card)

Anti-Shock: 50G @ IEC-68-2-27, half sine wave, 30 ms (with CompactFlash card)

Regulatory Approvals

EMC: FCC: Part 15 Subpart B, CISPR 22 Class A

CE: EN61000-6-4, EN61000-6-2, EN61000-3-3, EN61000-3-2

Safety: LVD: EN60950-1

UL/cUL: UL60950-1, CSA C22.2 No. 60950-1-03

Directives: RoHS, CROHS, WEEE

Warranty: 5 years

ISAPI Extensions.

Dial-up Networking Service: RAS client API and PPP, support 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 with SP2

XML, including DOM, XQL, XPATH, XSLT, SAX2

SOAP Toolkit, Winsock 2.2, SQL Mobile

Device Drivers:

CF Card, Watchdog Timer (WDT) API, UART, RTC, Buzzer, Audio

Software Specifications

Windows CE 5.0

Protocol Stacks: TCP, UDP, IPv4, SNMP, ICMP, IGMP, ARP, HTTP, CHAP, PAP, SSL, DHCP, SNTP, SMTP, Telnet, FTP, PPP

File Systems: TFAT (on-board flash)

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

Supporting Services and Daemons:

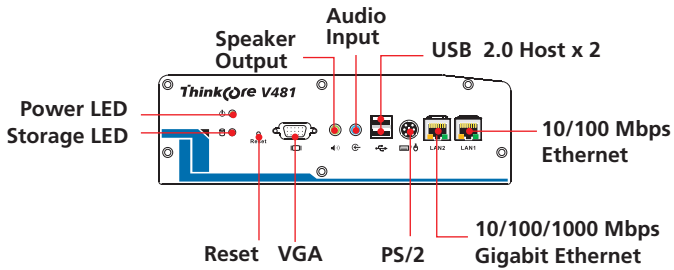
Telnet Server: Allows remote administration through a standard Telnet client

FTP Server: Used for transferring files to and from remote computer systems over a network.

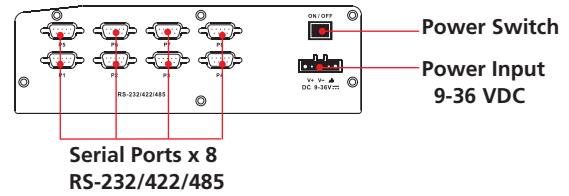
Web Server (http): WinCE IIS, with ASP, ISAPI Secure Socket Layer support, SSL 2, SSL 3, and Transport Layer Security (TLS/SSL 3.1) public key-based protocols, and Web Administration

Panel

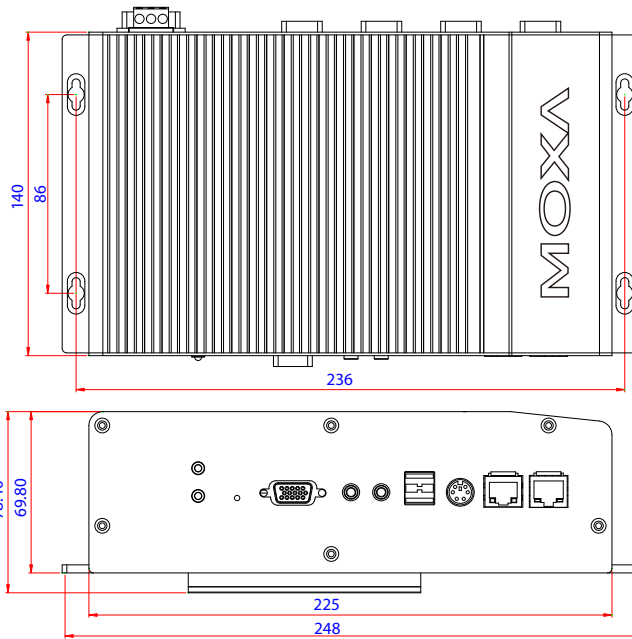
Front View Panel



Rear View Panel



Dimensions



Unit = mm

Ordering Information

ThinkCore V481-CE **New**

x86 Ready-to-Run Embedded Computer with VGA, Dual LANs, 8 Serial Ports, CompactFlash, USB, Audio, WinCE 5.0

ThinkCore V481-T-CE **New**

x86 Ready-to-Run Embedded Computer with VGA, Dual LANs, 8 Serial Ports, Compact Flash, USB, Audio, WinCE 5.0, Wide Temperature

All items include

- 1 ThinkCore V481
- Quick Installation Guide
- DIN-Rail Mounting Kit
- Document & Software CD
- Ethernet Cable: RJ45 to RJ45 cross-over cable, 100 cm
- Cable: CBL-MiniDIN6P/6Px2-20, Ytype cable for Keyboard & Mouse
- Terminal block to power jack converter (includes terminal block)
- Product Warranty Statement

Optional Accessories

- Switching Power Adapter for ThinkCore V481: 1117224250210, 60W, 24 VDC output, without power cord, 100 to 240 VAC input
- Power Cord: 9199000000500, Power Cord with Australia Plug; 9199000000600, Power Cord with UK Plug; 9199000000700, Power Cord with Euro Plug; 9199000000800, Power Cord with US Plug