

UC-7410/7420 Series

RISC ready-to-run computers with 8 serial ports, dual LANs, USB, PCMCIA, CompactFlash, web server



- > 128 MB RAM onboard, 32 MB flash
- > 8 RS-232/422/485 serial ports
- > Dual 10/100 Mbps LANs for network redundancy
- > USB 2.0 host
- > CompactFlash socket for storage expansion
- > PCMCIA supporting WLAN, GPRS, UMTS, HSDPA
- > LCM display and keypad for HMI
- > Built-in firewall and VPN function
- > Apache web server supporting PHP and XML
- > Ready-to-run Linux or WinCE 5.0 platform
- > DIN-rail or wallmount installation
- > Robust, fanless design



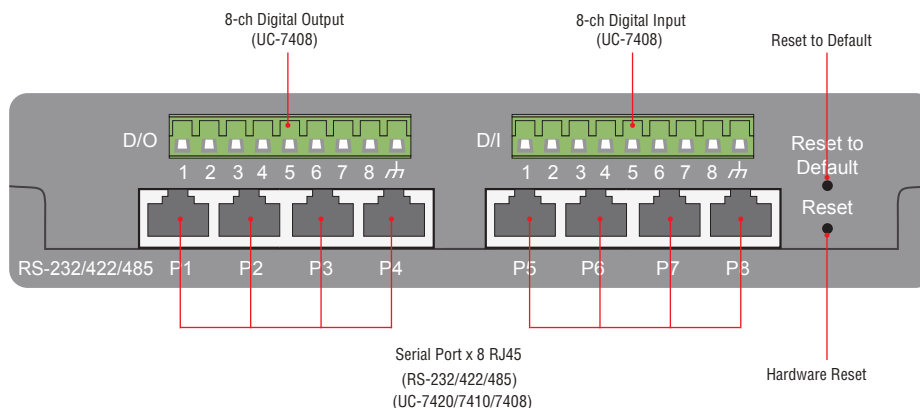
Overview

The UC-7410/7420 Series RISC-based ready-to-run Linux and WinCE computers are designed for embedded applications. The computers feature 8 RS-232/422/485 serial ports, a PCMCIA interface for wireless LAN communication, CompactFlash, and USB ports for adding external memory. The built-in firewall, VPN, and web server make these computers ideal for applications that require a web server and front-end controller in the industrial embedded system.

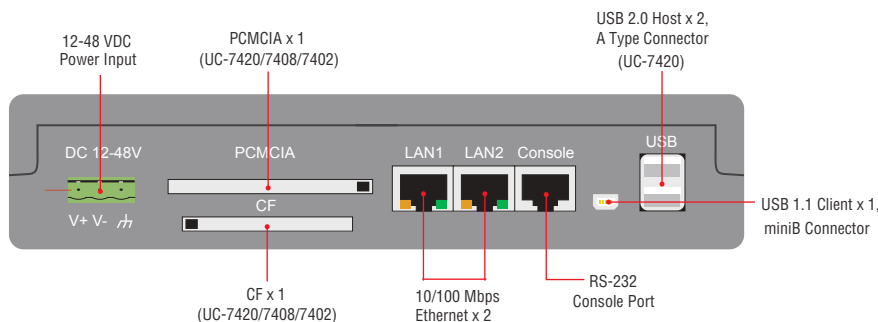
The pre-installed open-standard Linux or WinCE OS operating system provide a convenient platform for software development. In fact, software written for a desktop PC can be ported as is to the UC-7410/7420 platform using readily available development tools, and the code can be stored in the UC-7410/7420's Flash memory. System integrators will find it easy to use the UC-7410/7420 computers as part of distributed control systems based on embedded technology.

Appearance

Front View



Rear View



Hardware Specifications

Computer

CPU:

UC-7410/7420: Intel XScale IXP422 266 MHz

UC-7410/7420 Plus: 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 ro JEIDA 4.2 card (UC-7420 only)

USB:

- USB 2.0 compliant hosts x 2, A-type connector
- USB 1.1 client x 1, mini B connector

Storage

Storage Expansion: CompactFlash socket (UC-7420, UC-7420 Plus)

Ethernet Interface

LAN: 2 auto-sensing 10/100 Mbps ports (RJ45)

Magnetic Isolation Protection: 1.5 KV built-in

Serial Interface

Serial Standards: RS-232/422/485 software-selectable (8-pin RJ45), 8 ports

ESD Protection: 15 KV for all signals

Console Port: RS-232 (all signals), 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: Tx/D, Rx/D, DTR, DSR, RTS, CTS, DCD, GND

RS-422: Tx/D+, Tx/D-, Rx/D+, Rx/D-, GND

RS-485-4w: Tx/D+, Tx/D-, Rx/D+, Rx/D-, GND

RS-485-2w: Data+, Data-, GND

LEDs

System: OS Ready, Console (Tx/D/Rx/D)

LAN: 10M/100M x 2

Serial: Tx/D x 8, Rx/D x 8 (UC-7408/7410/7420, UC-7408/7410/7420 Plus only)

Physical Characteristics

Housing: SECC sheet metal (1 mm)

Weight:

UC-7410: 810 g

UC-7420: 875 g

Dimensions: 197 x 44 x 125 mm (7.76 x 1.73 x 4.92 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)

Anti-vibration: 1 g @ IEC-68-2-6, sine wave (resonance search), 5-500 Hz, 1 Oct/min, 1 cycle, 13 min 17 sec per axis

Anti-Shock: 5 g @ IEC-68-2-27, half sine wave, 30 ms

Power Requirements

Input Voltage: 12 to 48 VDC

Power Consumption:

UC-7410: 10 W

- 415mA @ 24 VDC

- 830 mA @ 12 VDC

UC-7420: 11 W

- 450 mA @ 24 VDC

- 890 mA @ 12 VDC

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

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

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 Software:

- 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, IPv6 Tunneling, SNMP V2, ICMP, IGMP, ARP, HTTP, CHAP, PAP, SSL, DHCP, SMTP, Telnet, FTP, PPP

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.

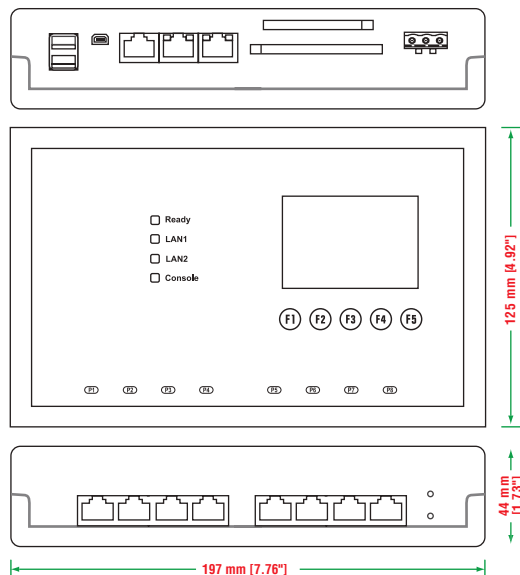
Web Server (httpd): WinCE IIS, including ASP, ISAPI Secure Socket Layer support, SSL 2, SSL 3, and Transport Layer Security (TLS/SSL 3.1) public key-based protocols, and Web Administration ISAPI Extensions.

Dial-up Networking Service: RAS client API and PPP, supporting Extensible Authentication Protocol (EAP) and RAS scripting.

Application Development Software:

- 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

Dimensions (unit = mm)



Ordering Information

Available Models

UC-7410-LX Plus: RISC-based IXP425 embedded computer with 8 serial ports, dual LANs, Linux 2.6

UC-7410-CE: RISC-based IXP422 embedded computer with 8 serial ports, dual LANs, WinCE 5.0

UC-7420-LX Plus: RISC-based IXP425 embedded computer with 8 serial ports, dual LANs, USB, PCMCIA, CompactFlash, Linux 2.6

UC-7420-CE: RISC-based IXP422 embedded computer with 8 serial ports, dual LANs, USB, PCMCIA, CompactFlash, WinCE 5.0

Package Checklist

- 1 UC-7410 or UC-7420 computer
- Wall mounting kit
- DIN-Rail mounting 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
- Universal power adaptor
- Document and Software CD
- Quick Installation Guide (printed)
- Product Warranty Statement (printed)