Product Selection Guide for
Industrial Networking Solutions

2008
Selection
Guide

MOXA®

- Industrial Ethernet
- Serial Connectivity and Networking
- Industrial Wireless
- Embedded Computing

www.moxa.com

MOXA®

Leading provider of industrial networking solutions

Moxa at a Glance

The brand to ask for in industrial device networking

For over twenty years, industrial systems integrators have relied on Moxa products in major device networking installations all over the world. Moxa offers industrial-grade solutions backed by an excellent warranty and highly-specialized technical support for a diverse range of applications, including connecting PLCs to a wireless control network, transmitting temperature signals over long distances, and automating device control and monitoring at remote locations.

Wide selection of products for connecting and controlling industrial devices

Moxa offers a comprehensive selection of products that are designed for device communication in industrial settings:

- Industrial Ethernet switches
- Device servers (including the award-winning NPort® series)
- Serial, Ethernet, and fiber optic media converters
- Active Ethernet I/O servers
- Industrial wireless access points
- Embedded computing platforms
- Modbus gateways
- Industrial video networking solutions
- Multiport serial boards

Designed to exact specifications

In addition to standard product offerings, Moxa's expert R&D team can also deliver customized solutions for projects that have highly specialized requirements, including the development of specific technical functions or simple changes in connector type.

Trusted worldwide

Moxa was established in 1987 and has offices in Europe, the United States, China, and Taiwan. Working with a network of certified distributors, Moxa offers world-class industrial networking products to systems integrators and value-added resellers in over 60 countries. Clients place great trust in Moxa's business and environmental practices, which are backed by ISO 9001:2000 and ISO 140001 certification. All products obtain standard, internationally recognized certifications, as well as specialized certifications depending on client requirements.

Quality Assurance

An all-encompassing commitment to quality

At the core of Moxa's competitiveness is an all-encompassing commitment to quality. One aspect of this commitment is Moxa's acceptance into the ISO 9001:2000 family of certified organizations, with annual certification by some of the most demanding auditors. In addition, Moxa has also achieved ISO 14001 certification for adopting an environmental management system.

- **ISO 9001:2000**
  Research & Development, Manufacturing & Service, Quality product design
- **ISO 14001**
  Environmental Management System
- **5-year product warranty**
  Most Moxa products carry a solid 5-year warranty. See www.moxa.com/warranty for details.

Moxa's Green Products

The European Union's Waste Electrical and Electronic Equipment (WEEE) directive took effect in August of 2005, and the Restriction on Hazardous Substances (RoHS) directive was enforced starting in July of 2006.

Moxa is dedicated to producing "green products" that satisfy the EU's WEEE and RoHS directives.

International Recognition

Moxa products receive top honors from industry groups

Moxa takes great pride in developing well-designed products that meet the needs of industrial users. Many of Moxa's products have been recognized by prominent industry groups for outstanding performance, design, and innovation.

- **2008 reddot Product Design Award**
  EDS-728 modular industrial Gigabit Ethernet switch
- **2007 Engineer's Choice Award, Control Engineering Magazine**
  W345 RISC-based wireless computer
- **2007 Product of the Year Finalist, Plant Engineering Magazine**
  EDS-P308 industrial PoE switch
- **2006 New Product Award, IEN Magazine**
  NPort W2004 wireless device server
- **2006 iF Product Design Award**
  EDS-726 modular industrial Gigabit Ethernet switch
- **2006 Engineer's Choice Award, Control Engineering Magazine**
  ioLogik E2210 Active Ethernet I/O server
- **2006 Taiwan Symbol of Excellence**
  AWK-1100 wireless access point
- **2004 Editor's Choice Award, Control Engineering Magazine**
  EDS-508 industrial Ethernet switch

reddot design award
honourable mention 2008

Industrial Device Networking

Specializing in industrial communication interfaces and protocols

When working with industrial networks, one of the biggest challenges is finding a way to enable communication between devices that use different interfaces and protocols. Moxa products are designed to establish network connections for devices that use the following interfaces and protocols:

- RS-232, RS-422, RS-485
- PCI, PCIe
- 10/100/1000 Mbps Ethernet
- TCP, UDP
- DF1
- SNMP
- Single-mode and multi-mode optical fiber
- Modbus ASCII/RTU/TCP
- USB 2.0
- Analog and digital I/O
- 802.11a/b/g (Wi-Fi)
- GSM, GPRS, EDGE (cellular)
- CCTV video

Industrial-grade design

Moxa's industrial-grade products are tough enough to provide continuous, reliable, long-term operation in even the harshest industrial settings. Systems integrators will appreciate the fact that Moxa designs products with the following industry-friendly features:

- DIN-rail, wall, and 19-inch rack mounting
- Low power consumption
- Wide power input ranges
- Optical isolation and ESD protection
- IP30/67/68 protection ratings
- Wide operating temperatures
- M12 connectors
- Easy to use software libraries
- Generous 5-year warranty on most products
- Industry certifications such as UL, CE, Class 1 Div 2, ATEX
- Protection against shock and vibration
- Terminal block connectors

R&D

The world's best engineers and IT specialists

Moxa's products have the advantage of being engineered in Taiwan, one of the world's hottest spots for high-end electronics and information technology. Companies around the world rely on the high quality of components developed and made in Taiwan to maintain their own standards of quality and reliability. Industry specialists know that there is no better source for electronic components such as LCDs, touch screens, semiconductor wafers, ICs, PC motherboards, and more.

With direct access to Taiwan's talented labor pool, Moxa has assembled an expert R&D team that has developed innovative technologies and set new standards for the industry:

- Turbo Ring for redundant networking
- ADDC® (Automatic Data Direction Control)
- Automatic Configuration Backup
- On-panel LCDs for easy on-site configuration
- Turbo Serial Engine chip
- Active Ethernet I/O with Click&Go logic
- Real COM, TCP Client/Server, and UDP operation modes
- Modular Ethernet switches and I/O server design
- "Any Baudrate" support for serial connections


Sales and Service

Moxa maintains a global sales and service network that puts the customer first

Milestones

1987
- Moxa founded by five high school classmates

1988
- Moxa's first serial board released

1992
- Statistical multiplexer (MUX) released
- HDLC/BSC front-end sync board released

1994
- X.25 board for WANs released

1995
- Branch offices opened in China
- Byte magazine nominates Async server as "Best Connectivity Product"

1996
- Advanced ASIC chip developed for serial boards

1998
- PComm serial communication software released
- Internet sharing device released
- Windows 95/NT certification obtained for serial board driver

1999
- PCI serial board with small form factor released
- First NPort serial device server released

2000
- CN2500 async server released
- Device server with on-panel LCD released
- Serial board drivers developed for Linux
- Windows 2000 certification obtained

International coverage

With Moxa offices in the United States, Europe, China, and Taiwan, users around the world can benefit from the highest level of technical expertise and professionalism. In addition, the MTSC (Moxa Technical Support Certification) program ensures that certified distributors deliver the highest standard of service.

Highly experienced sales professionals

Moxa sales reps take great pride in their deep understanding of the market and available technology. Clients can speak directly with a Moxa sales rep about detailed project specifications, testing requirements, and network architecture. In addition, all Moxa distributors are required to meet rigorous standards for quality, integrity, and technical proficiency.

World-class support

In every region of the world, users of Moxa products receive the highest level of support from teams of specialists that are trained and certified by Moxa. Integrators also benefit from Moxa's extremely responsive engineering team, which can tailor products to fit a project's special needs. Most Moxa products are also backed by a 5-year warranty, which is one of the most generous warranties in the industry.

2001
- Serial board drivers developed for Windows XP
- Single-port device server released
- Industrial Ethernet switch released

2002
- US branch office opens in California
- Managed Ethernet switch released
- Serial-to-fiber converter released
- Universal PCI serial boards released

2003
- Moxa Technical Support Certification (MTSC) established
- Turbo Ring redundant network topology developed
- PC/104 serial boards released

2004
- Video servers released
- Embedded computer line introduced
- Dual-Ethernet terminal servers released

2005
- Control Engineering Editor's Choice award for EDS-508 Ethernet switch
- iF Product Design award for EDS-726 Ethernet switch
- ioLogik Ethernet I/O server released
- AWK wireless access point released

2006
- Europe branch office opens in Munich
- Control Engineering Engineer's Choice award for Active Ethernet I/O server
- Industrial Engineering News award for NPort W2004 wireless device server
- UPort USB-to-serial line introduced

2007
- OnCell industrial cellular modem released
- ioMirror peer-to-peer I/O server released
- Control Engineering Engineer's Choice award for W315 wireless embedded computer
- MGate Modbus gateways released

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Industrial Networking Applications

Power Automation

The field of power automation is composed of the following fundamental systems: power generation, power transmission, and power distribution. For each of these systems, Moxa offers device networking products to facilitate different power automation applications.

Transportation Automation

With advanced and cost-effective technology, there are many options to improve the efficiency of transportation systems through automation. A wide selection of Moxa products can be used for intelligent transportation system (ITS) applications of almost any size and scope.

Factory Automation

The two essential systems of every manufacturing facility are the production line and the facility. Moxa offers the right device networking products to help automate the different processes of production line management and facility monitoring.

Power Plant Automation

Speed and reliability are critical for communication between devices at a power plant or a power substation. Use Moxa products to build a truly industrial-grade network backbone that supports real-time monitoring and control.

Products

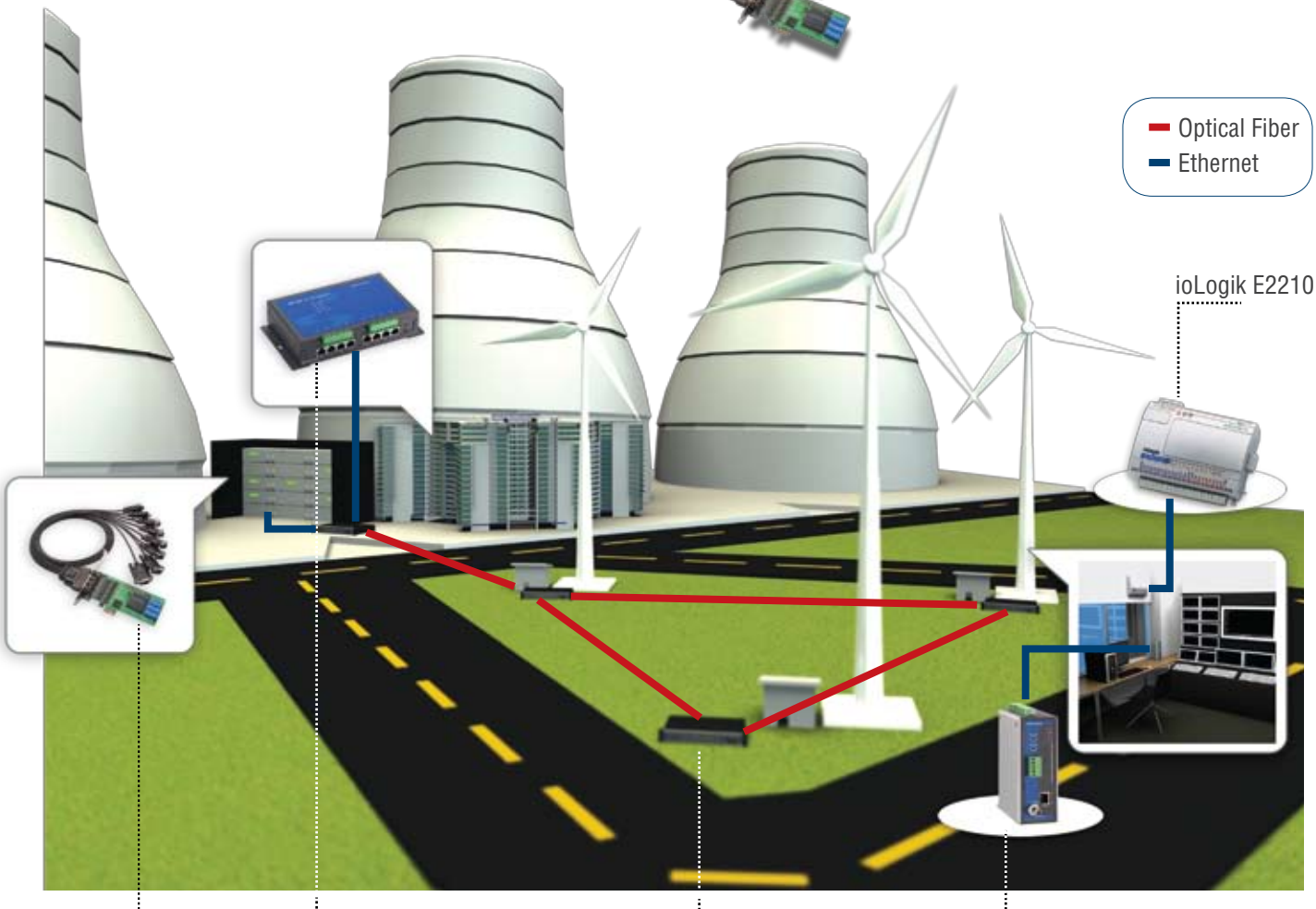
The **PT series** of Ethernet switches connects each wind turbine in a redundant fiber-optic network ring that automatically recovers from network failure within 20 ms.

The **VPort 351** connects standard video surveillance cameras to the network, enabling monitoring of each turbine from any network location and from the Internet.

The **ioLogik E2210** automatically reports sensor data over the network to central management servers so administrators know if there is a device failure or an physical intruder.

The **UC-7408** provides a network connection to protection devices, relays, RTUs, and other devices that require protocol conversion or other data processing.

The **CP-118** connects an IPC to multiple devices, including IEDs, protection devices, relays, PLCs, IEDs and meters.



Automatic Meter Reading

A lot of time and effort is consumed when engineers must make regular in-person visits to read and record every power meter in a region. An automated meter reading system can be established by using Moxa products to connect power meters to central management workstations.

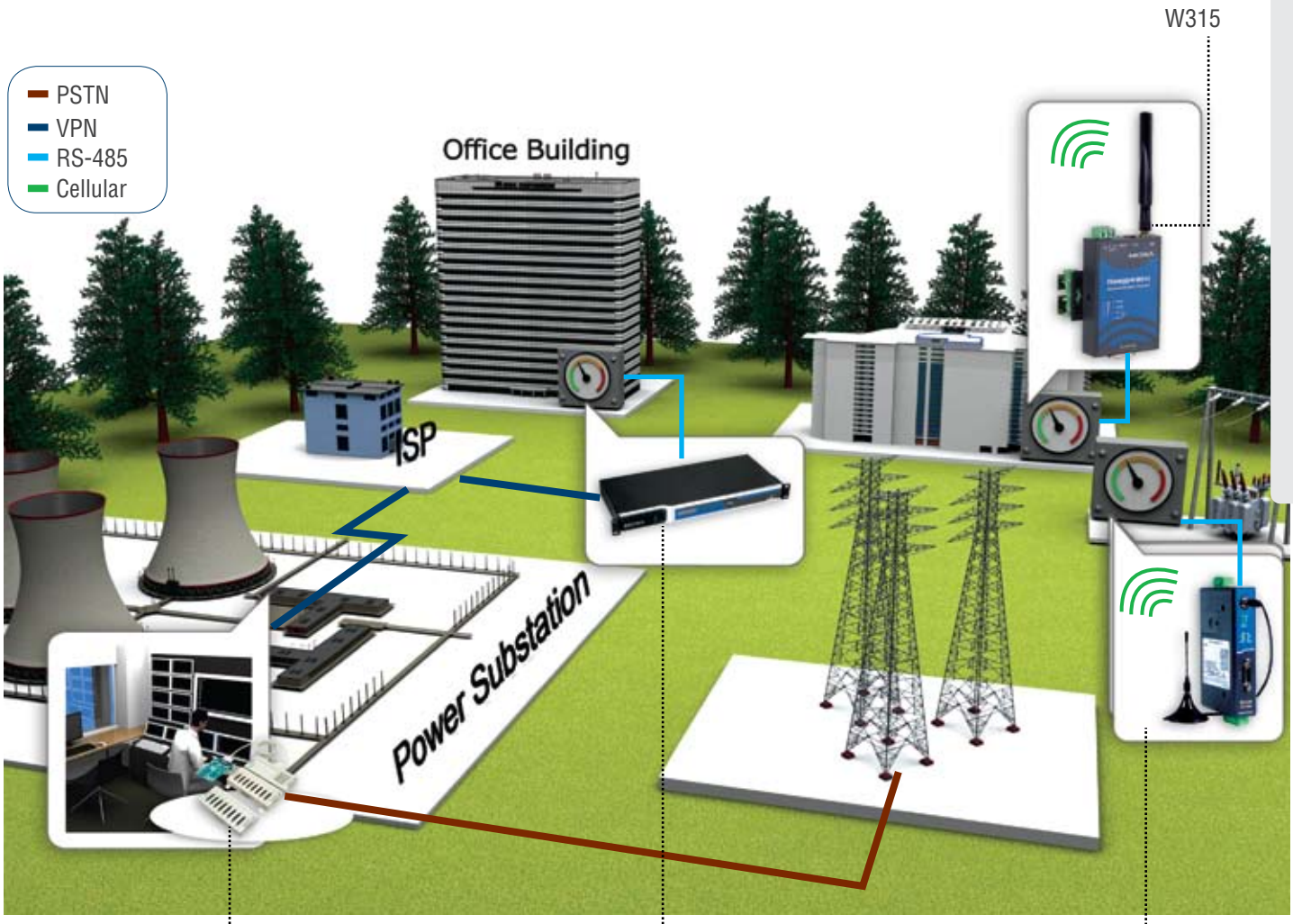
Products

The **C320Turbo** provides the central server with direct access to a bank of modems to connect to meters and remote users over phone lines.

The **NPort 6650** collects data from a bank of power meters over RS-232 or RS-485, then transmits the encrypted data to central servers through a VPN.

The **OnCell G2110** provides a data tunnel to power meters over cellular networks.

The **W315** stores meter data, converts it from proprietary protocols to the standard protocols used by the automation system, and transmits the data to central servers over cellular networks.



Fleet Management

The management of large fleets of trucks or buses around the country requires a scalable system that is designed for maximum mobility and efficiency. By taking advantage of Moxa's wide selection of products, a management system can be established to fit nearly any requirement and size.

Products

The **W315** collects data from the onboard GPS and transmits the vehicle's location wirelessly over cellular networks to the central station.

The **CP-118** connects a PC to a large number of devices for station management, including a ticket printer, scanner, vehicle sensor, and modem.

The **AWK-1200** allows information from the vehicle's data collection devices to be downloaded wirelessly when the vehicle arrives in the station.

The **NPort W2150** allows collected data on the EM-1240 to be transferred wirelessly to the central server when the vehicle is at the station.

The **EM-1240** processes data from the temperature recorder and stores it until the vehicle reaches a station.

Electronic Toll Collection

The process of toll collection can be automated for higher efficiency and intelligence by integrating many different elements into a single, coordinated network. A complete array of products are available from Moxa to automate data exchange between the different components of an electronic toll collection system.

Products

The **ioLogik 4000** connects traffic signals to the network and allows them to be monitored and controlled from the automation system.

The **ioLogik E2210** automatically reports vehicle sensor events to any network host, reducing the need for expensive sensor wiring and software development.

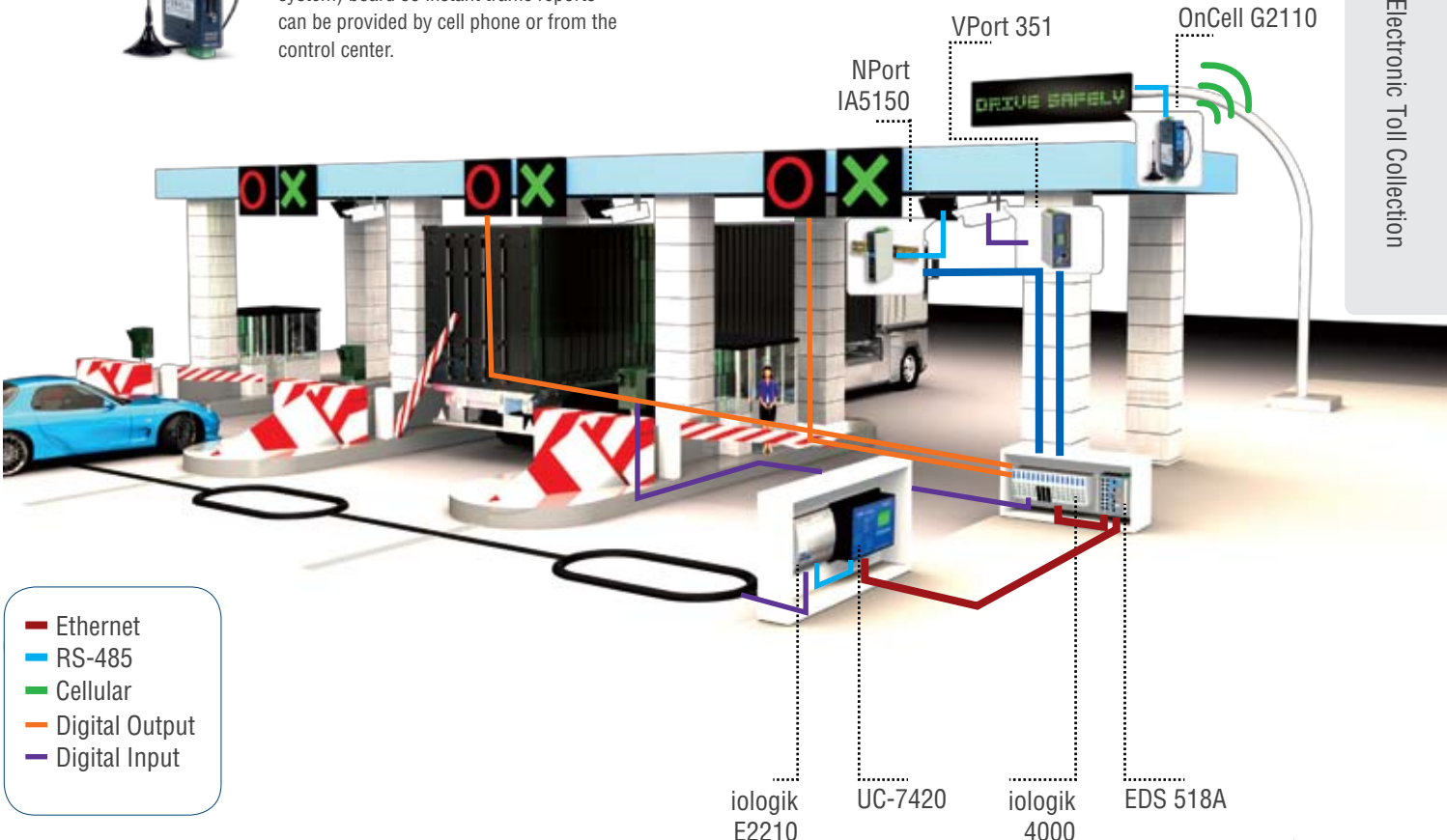
The **VPort 351** connects a video camera to the network, allowing real-time monitoring of each gate from the central office.

The **OnCell G2110** provides a cellular connection to a VMS (variable message system) board so instant traffic reports can be provided by cell phone or from the control center.

The **EDS-518A** forms the network backbone that connects Ethernet devices to each other and to the traffic control center.

The **UC-7420** stores vehicle sensor data locally and seamlessly converts proprietary protocols into the standard traffic communication protocol used by the traffic control center.

The **NPort IA5150** connects the vehicle RFID or IRID reader to the network, enabling automatic toll transactions for specially equipped vehicles.



Production Line and Facility Management

By incorporating machinery and facility monitoring devices into a centralized control network, manufacturers can achieve significant gains in productivity. Moxa offers products that directly or wirelessly connect CNCs, robots, AGVs, sensors, PLCs, RTUs, and other devices to management networks.

Products

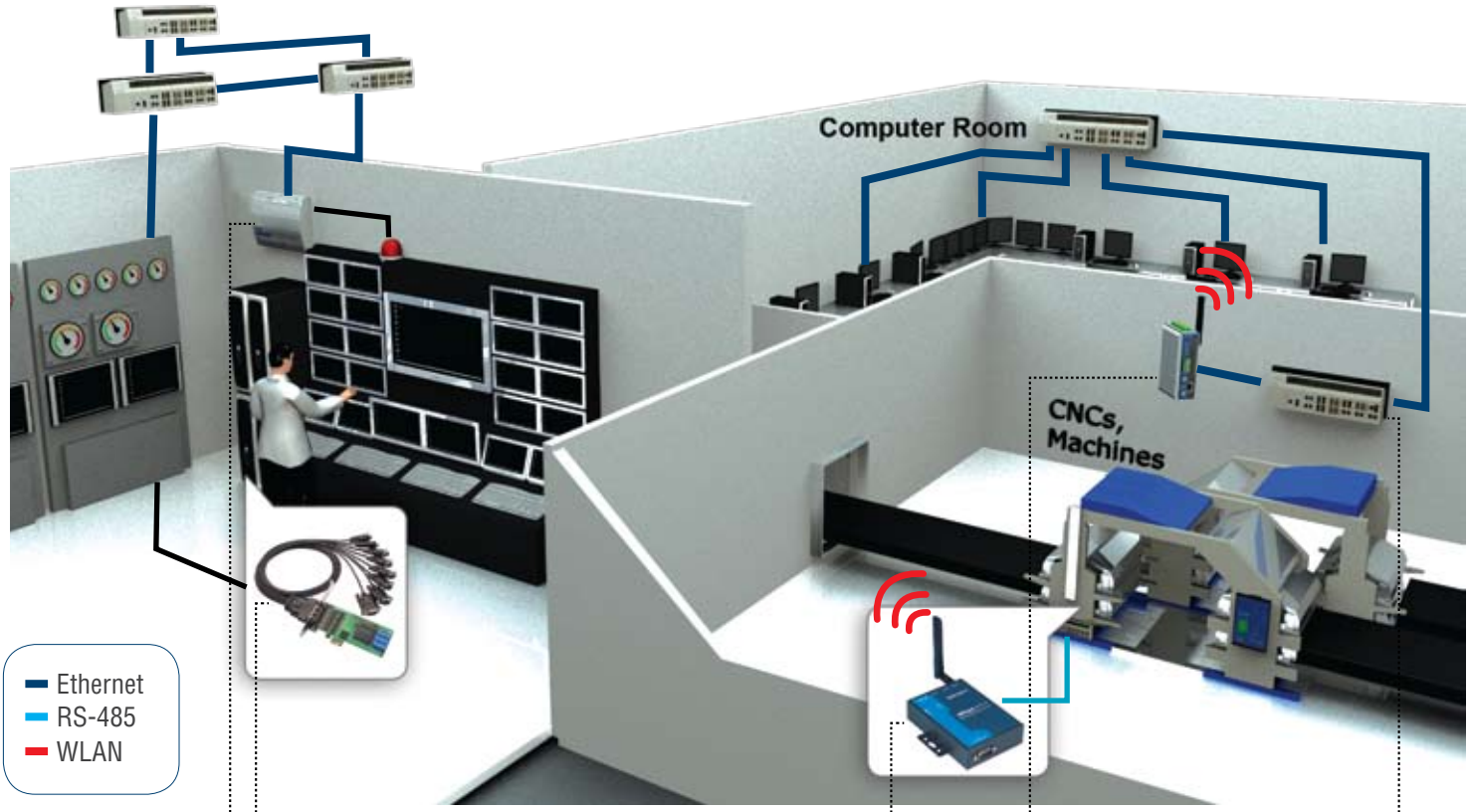
The **EDS-726** establishes a robust Ethernet or fiber optic communication infrastructure between devices and management systems using the Turbo Ring redundant topology.

The **CP-118** connects an industrial PC directly to multiple PLCs, meters, RTUs, and other devices that are used to monitor the facility.

The **ioLogik E2210** proactively reports sensor data to the facility monitoring system and triggers local warning lights and buzzers.

The **NPort W2150** provides a CNC or other manufacturing machine with the ability to connect wirelessly to an access point.

The **AWK-1100** connects local wireless devices such as the NPort W2150 to the main network.



New Product Showcase

New Product Showcase

Industrial Ethernet Switches

EDS-828 Series

24+4G-port layer 3 Gigabt modular managed Ethernet switch

Features

> Static routing and RIP V1/V2 supported
> 4 Gigabit plus 24 fast Ethernet ports for copper and fiber
> Gigabit Turbo Ring and RSTP/STP (IEEE 802.1w/D) for Ethernet redundancy
> QoS, IGMP snooping/GMRP, VLAN, LACP, SNMP V1/V2c/V3, RMON supported
> IEEE 802.1X and https/SSL to enhance network security
> ABC-01 (Automatic Backup Configurator) for system configuration backup

EDS-728 Series

24+4G-port Gigabt modular managed Ethernet switch

Features

> 4 Gigabit plus 24 fast Ethernet ports for copper and fiber
> Gigabit Turbo Ring and RSTP/STP (IEEE 802.1w/D) for Ethernet redundancy
> QoS, IGMP snooping/GMRP, VLAN, LACP, SNMP V1/V2c/V3, RMON supported
> IEEE 802.1X and https/SSL enhance network security
> ABC-01 (Automatic Backup Configurator) for system configuration backup

MoxaNMS

AVAILABLE IN Q2

Network management software for monitoring industrial networks

Features

> MoxaNMS's remote management capability provides an integrated environment for managing your industrial Ethernet infrastructure.

EDS-205/208/205A/208A Series

AVAILABLE IN Q2

5 and 8-port entry-level unmanaged Ethernet switches

Features

> 10/100BaseT(X) (RJ45 connector), 100BaseFX (Multi mode, SC or ST connector)
> Supports IEEE 802.3/802.3u/802.3x
> Redundant dual 24 or 48 VDC/VAC power inputs (EDS-205A/208A)
> IP30 metal case (EDS-205A/208A)
> -10 to 60°C operating temperature range

IEC 61850 Rackmount Ethernet Switches

PT-7828 Series

AVAILABLE IN Q2

24+4G-port layer 3 Gigabt modular managed Ethernet switch

Features

> Static routing and RIP V1/V2 supported
> IEC 61850-3, IEEE1613 (power substations), NEMA TS2 (traffic control systems), and EN50121-4 (railway applications) compliant
> Turbo Ring and RSTP/STP for Ethernet redundancy
> Isolated redundant power inputs with universal 24/48 VDC or 110/220 VDC/VAC power supply
> Modular design lets you choose from a variety of media combinations
> -40 to 85°C operating temperature range

PT-7728 Series

24+4G-port Gigabt modular managed Ethernet switch

Features

> IEC 61850-3, IEEE1613 (power substations), NEMA TS2 (traffic control systems), and EN50121-4 (railway applications) compliant
> Turbo Ring and RSTP/STP for Ethernet Redundancy
> Isolated redundant power inputs with universal 24/48 VDC or 110/220 VDC/VAC power supply range
> Modular design lets you choose from a variety of media combinations
> -40 to 85°C operating temperature range

PT-7710 Series

AVAILABLE IN Q2

8+2G-port Gigabt modular managed Ethernet switch

Features

> IEC 61850-3, IEEE1613 (power substations), NEMA TS2 (traffic control systems) and EN50121-4 (railway applications) compliant
> Turbo Ring and RSTP/STP for Ethernet redundancy
> Universal power supply range, 24/48 VDC or 110/220 VDC/VAC
> Modular design lets you choose from a variety of media combinations
> -40 to 85°C operating temperature range

PT-7324 Series

22+2G-port Gigabit smart Ethernet switch

Features

> IEC 61850-3, IEEE1613 (power substations), NEMA TS2 (traffic control systems), and EN50121-4 (railway applications) compliant
> Port-based VLAN to enhance security/network performance
> 802.1p priority queues, port-based QoS
> Smart web-based management makes configuration easy
> Universal power supply range, 24/48 VDC or 110/220 VDC/VAC
> -40 to 85°C operating temperature range

Remote I/O Servers

ioLogik E2214

AVAILABLE IN Q2

Active Ethernet I/O with 6 digital inputs and 6 relay outputs

Features

> 6 DIs supporting PNP, NPN, and dry contact
> 6 form A relay outputs (normal status open)
> Instant event messaging by TCP/UDP/e-mail/SNMP trap
> DI and relay counter saving when power off
> PC-based configuration utility and web console
> Power On default relay status setting with sequence
> Easy-to-use Click&Go™ Logic for local output control
> Windows/WinCE VB/VC and Linux C API
> I/O control over Modbus/TCP and SNMP protocol

ioLogik E2242

AVAILABLE IN Q2

Active Ethernet I/O with 4 analog inputs and 12 configurable DIO

Features

> 4 fixed differential analog input channels
> 12 configurable digital input/output channels
> Instant event messaging by TCP/UDP/e-mail/SNMP Trap
> Adjustable sampling rate
> PC-based configuration utility and web console
> Easy-to-use Click&Go™ Logic for local output control
> I/O control over Modbus/TCP and SNMP
> NIST traceable calibration

Video Networking Products

VPort 25

AVAILABLE IN Q2

IP66, day-and-night vandal-proof fixed dome IP camera for outdoors

Features

> -40 to 50°C operating temperature; heater or fan not required
> IP66-rated for protection from rain and dust
> Direct-wired power input and PoE for power redundancy up to 30 frames per second at 720 x 480 resolution
> One camera lens for both day and night use

VPort D351

1-channel MJPEG/MPEG4 industrial video decoder

Features

> Decode MJPEG and MPEG4 video streams to analog video signal automatically
> Manual selection or automatic scan with maximum of 64 video sources
> 2-way (1 in/1 out) audio supported
> Supports transparent PTZ control with legacy PTZ controller
> Supports SNMP for network managemen

VPort 251

Full motion, 1-channel MJPEG/MPEG4 video encoder

Features

> Compress analog video/audio signals into MJPEG/MPEG4 video stream
> Video stream up to 30 frames/sec at full D1 (720 x 480) resolution
> 2-way (1 in, 1 out) audio supported
> Transparent PTZ Control for using legacy PTZ control panel or keyboard
> Loop-through power output for powering an analog camera
> Free VPort SDK PLUS and 4-channel video surveillance software

Terminal Servers

CN2600 Series

8 and 16-port RS-232/422/485 terminal servers with LAN redundancy

Features

> LCD panel for easy IP address configuration
> Dual-LAN cards with two independent MAC addresses and IP addresses
> Redundant COM function available when both LANs are active
> Dual-host redundancy can be used to add a backup PC to your system
> Dual AC power inputs
> Real COM/TTY drivers for Windows and Linux

Serial Device Servers

NPort 5600 Desktop Series

8-port RS-232/422/485 serial device servers

Features

> 8 serial ports supporting RS-232/422/485
> Compact desktop design
> 10/100M auto-detecting Ethernet
> Built-in 15 KV ESD protection for all serial signals
> Easy IP address configuration with LCD panel
> Choice of configuration methods: Web console, Telnet console, and Windows utility
> Versatile socket operation modes, including TCP Server, TCP Client, UDP, and Real COM
> SNMP MIB-II for network management
> Built-in recorder: Use your own voice as the alert when exceptions occur

WE-2100T Series

Wireless LAN embedded serial device servers

Features

> Connects serial devices to IEEE 802.11a/b/g networks
> Choice of operation modes: Real COM, TCP Server, TCP Client, UDP, and RFC2217
> Windows (including Vista!) real COM and Linux fixed TTY drivers provided
> Wireless security with WEP, WPA, and WPA2
> Select Any Baudrate between 50 bps and 921.6 Kbps
> 9 programmable digital I/O channels
> SSL/SSH encryption for configuration
> Compact size and easily mounted housing

Ethernet Fieldbus Gateways

MGate MB3180/3280/3480

1, 2, and 4-port standard Modbus gateways

Features

> Convert between Modbus TCP and Modbus RTU/ASCII
> 1 Ethernet port and 1, 2, or 4 RS-232/422/485 ports
> Supports 16 simultaneous TCP masters with up to 32 simultaneous requests per master
> Easy hardware setup and configuration

MGate MB3170/3270

1 and 2-port advanced serial-to-Ethernet Modbus gateways

Features

> Configuration is exceptionally easy
> Slave mode supports 16 TCP masters and up to 62 serial slaves at the same time
> Master mode supports 32 TCP slaves at the same time
> Emergency request tunnels ensure QoS control
> Serial redirector function provided
> Embedded Modbus protocol analyzer
> Redundant dual DC power inputs
> Built-in Ethernet cascading for easy wiring

Multiport Serial Boards

CP-114EL/EL-I

AVAILABLE IN Q2

4-port RS-232/422/485 smart PCI Express board with 2 KV isolation protection

Features

> PCI Express x1 compliant
> 921.6 Kbps maximum baudrate for super fast data transmission
> 128-byte FIFO and on-chip H/W, S/W flow control
> Low profile form factor fits small-sized PCs
> Drivers provided for Windows (2000, XP, 2003, Vista x86/x64), Linux 2.4/2.6, and QNX 6
> 15 KV ESD protection on the board

CP-132EL/EL-I

AVAILABLE IN Q2

2-port RS-422/485 smart PCI Express boards with 2 KV isolation protection

Features

> PCI Express x1 compliant
> 921.6 Kbps maximum baudrate for super fast data transmission
> 128-byte FIFO and on-chip H/W, S/W flow control
> Low profile form factor fits small-sized PCs
> Drivers provided for Windows (2000, XP, 2003, Vista x86/x64), Linux 2.4/2.6, and QNX 6
> 15 KV ESD protection on the board

CP-118U-I/138U-I

8-port RS-232/422/485 Universal PCI serial boards with 2 KV optical isolation

Features

> Over 700 Kbps data throughput for top performance
> 921.6 Kbps maximum baudrate for super fast data transmission
> 128-byte FIFO and on-chip H/W, S/W flow control
> Compatible with 3.3/5V PCI and PCI-X
> Drivers provided for Windows (Vista, 2003, XP, 2000, 98, ME), WinCE 5.0, Linux, and Unix
> Easy maintenance with on-board LED display, and management software
> 15 KV ESD protection and 2 KV optical isolation on the board

CP-102E/EL

AVAILABLE IN Q2

2-port RS-232 smart PCI Express board

Features

> PCI Express x1 compliant
> 921.6 Kbps maximum baudrate for super fast data transmission
> 128-byte FIFO and on-chip H/W, S/W flow control
> Low profile form factor fits small-sized PCs
> Drivers provided for Windows (2000, XP, 2003, Vista x86/x64), Linux 2.4/2.6, and QNX 6
> 15 KV ESD protection on the board

CP-118U/138U

8-port RS-232/422/485 smart Universal PCI serial board

Features

> Over 700 Kbps data throughput for top performance
> 921.6 Kbps maximum baudrate for super fast data transmission
> 128-byte FIFO and on-chip H/W, S/W flow control
> Compatible with 3.3/5V PCI and PCI-X
> Drivers provided for Windows (Vista, 2003, XP, 2000, 98, ME), WinCE 5.0, Linux, and Unix
> Easy maintenance with on-board LED display, and management software
> 15 KV ESD protection on the board

CP-114UL

4-port RS-232/422/485 smart Universal PCI serial board

Features

> Over 800 Kbps data throughput for top performance
> 921.6 Kbps maximum baudrate for super fast data transmission
> 128-byte FIFO and on-chip H/W, S/W flow control
> Compatible with 3.3/5V PCI and PCI-X
> Drivers provided for Windows (Vista, 2003, XP, 2000), WinCE 5.0, Linux, and Unix
> MD1 Low Profile for compact-sized PCs
> Easy maintenance with on-board LED display, and management software
> 15 KV ESD protection on the board

POS-104UL

4-port RS-232 Universal PCI board with power over serial

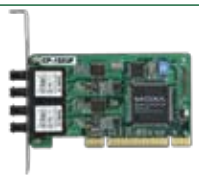
Features

> Over 800 Kbps data throughput, for top performance
> Power options for each port: 5V (output), 12V (output), RI (input)
> Serial port power from bus or power supply
> 921.6 Kbps maximum baudrate for super fast data transmission
> 128-byte FIFO and on-chip H/W, S/W flow control
> Compatible with 3.3/5V PCI and PCI-X
> MD1 Low Profile board, suitable for compact-sized PCs
> Drivers provided for Windows (Vista, 2003, XP, 2000), WinCE 5.0, Linux, and Unix
> 15 KV ESD protection on the board

CP-102UF Series

AVAILABLE IN Q2

2-port Universal PCI serial over fiber card



Features

> Extend serial transmission distance up to:
  - **40 km with single-mode (CP-102UF-S)**
  - **5 km with multi-mode (CP-102UF-M)**
> Supports “Ring” and “Point-to-Point” transmission modes
> 921.6 Kbps maximum baudrate for super fast data transmission
> 128-byte FIFO and on-chip H/W, S/W flow control
> Compatible with 3.3/5V PCI and PCI-X
> Drivers provided for Windows (Vista, 2003, XP, 2000, 98, ME), WinCE 5.0, Linux, and Unix
> Easy maintenance with on-board LED display and management software
> Immune from signal interference
> Guards against electronic degradation and chemical corrosion

CA-108

8-port RS-232 PC/104 module

Features

> 921.6 Kbps maximum baudrate for super fast data transmission
> On-chip H/W and S/W flow control
> Built-in 15 KV ESD protection
> IRQ and I/O settings are jumper and DIP switch selectable
> Onboard Tx and Rx LED indicators for each port
> Windows CE 5.0 and Windows XP embedded operating systems supported
> Wide temperature model available for -40 to 85°C environments

CA-114

4-port RS-232/422/485 PC/104 module

Features

> 921.6 Kbps maximum baudrate for super fast data transmission
> On-chip H/W and S/W flow control
> Built-in 15 KV ESD protection
> IRQ settings, I/O settings, and serial interface are jumper and DIP switch selectable
> Onboard Tx and Rx LED indicators for each port
> Windows CE 5.0 and Windows XP embedded operating systems supported
> Wide temperature model available for -40 to 85°C environments

CA-134I

4-port RS-422/485 PC/104 module with 2 KV optical isolation protection

Features

- > 921.6 Kbps maximum baudrate for super fast data transmission
- > On-chip H/W and S/W flow control
- > Built-in 15 KV ESD protection
- > IRQ settings, I/O settings, and serial interface are jumper and DIP switch selectable
- > Onboard Tx and Rx LED indicators for each port
- > Windows CE 5.0 and Windows XP embedded operating systems supported
- > Wide temperature model available for -40 to 85°C environments

CB-114

4-port RS-232/422/485 PC/104-Plus module

Features

- > 921.6 Kbps maximum baudrate for super fast data transmission
- > On-chip H/W and S/W flow control
- > Built-in 15 KV ESD protection
- > Serial interface is DIP switch selectable
- > Onboard Tx and Rx LED indicators for each port
- > Windows CE 5.0 and Windows XP embedded operating systems supported
- > Wide temperature model available for -40 to 85°C environments

CB-108

8-port RS-232 PC/104-Plus module

Features

- > 921.6 Kbps maximum baudrate for super fast data transmission
- > On-chip H/W and S/W flow control
- > Built-in 15 KV ESD protection
- > Onboard Tx and Rx LED indicators for each port
- > Windows CE 5.0 and Windows XP embedded operating systems supported
- > Wide temperature model available for -40 to 85°C environments

USB Connectivity

UPort™ 1150/1150I

1-port RS-232/422/485 USB-to-serial converters with optical isolation

Features

- > Compatible with USB 2.0
- > 12 Mbps USB data rate
- > Software selectable RS-232, RS-422, 4-wire RS-485, and 2-wire RS-485
- > Drivers provided for Windows (including Vista), WinCE 5.0, and Linux
- > 15 KV ESD protection for all serial ports
- > 2 KV optical isolation protection (UPort™ 1150I)
- > Full modem status LEDs for UPort™ 1150I

UPort™ 2210

AVAILABLE IN Q2

2-port RS-232 USB-to-serial converter

Features

- > Hi-Speed USB 2.0 for up to 480 Mbps USB transmission
- > 921.6 Kbps maximum baudrate for super fast data transmission
- > Additional I/O and IRQ not needed
- > Built-in 15 KV ESD protection for all serial ports
- > Drivers provided for Windows (including Vista) and Linux
- > Easy monitoring with LEDs and management software

UPort™ 2410

AVAILABLE IN Q2

4-port RS-232 USB-to-serial converter

Features

> Hi-Speed USB 2.0 for up to 480 Mbps USB transmission
> 921.6 Kbps maximum baudrate for super fast data transmission
> Additional I/O and IRQ not needed
> Built-in 15 KV ESD protection for all serial ports
> Drivers provided for Windows (including Vista) and Linux
> Easy monitoring with LEDs and management software

UPort™ 404

AVAILABLE IN Q2

4-port industrial USB hub

Features

> Hi-Speed USB 2.0 for up to 480 Mbps USB transmission
> Compatible with USB 1.1 devices
> 15N solid USB upstream connector
> Additional I/O and IRQ not needed
> DIN-Rail and wall mountable
> Comprehensive diagnostic LEDs

UPort™ 407

AVAILABLE IN Q2

7-port industrial USB hub

Features

> Hi-Speed USB 2.0 for up to 480 Mbps USB transmission
> Compatible with USB 1.1 devices
> 15N solid USB upstream connector
> Additional I/O and IRQ not needed
> DIN-Rail and wall mountable
> Comprehensive diagnostic LEDs

WLAN and Cellular Solutions

AWK-3121

AVAILABLE IN Q2

Industrial IEEE 802.11a/b/g wireless Access Point, Bridge, AP Client

Features

> IEEE 802.11a/b/g compliant
> Power input by redundant 24 VDC power inputs or Power-over-Ethernet
> Powerful security with WPA/WPA2/802.1X/MAC address filtering
> DIN-Rail or wall mounting ability
> IP30 protected high-strength metal case
> Fast Roaming support for rapid fault recovery

NPort W2150/2250 Plus

1 and 2-port RS-232/422/485 IEEE 802.3a/b/g wireless device servers

Features

> Link any serial device to an IEEE 802.11a/b/g network
> 921.6 Kbps baudrate for RS-232/422/485 transmissions
> Web-based configuration using built-in Ethernet or WLAN
> Enhanced remote configuration with HTTPS, SSH
> Secure data access with WEP, WPA, WPA2
> Built-in WLAN site survey tool
> Wireless roaming with user-defined signal strength threshold
> Off-line port buffering and serial data log
> Dual power inputs (1 power jack, 1 terminal block)

OnCell G3100 Series

Industrial quad-band GSM/ GPRS IP modem

Features

> Universal quad-band 850/900/1800/1900 MHz GSM/GPRS
> Choice of operation modes, including TCP Server, TCP Client, UDP, Real COM driver, and RFC2217
> Secure modes for TCP Server, TCP Client, and Real COM
> Versatile GSM/GPRS connection modes
> Redundant DC power input
> LED indicators for status and signal level
> 2 digital inputs and 1 relay output
> Choice of configuration methods, including web console and Telnet
> DIN-rail and wall mounting

OnCell G2100 Series

Industrial quad-band GSM/ GPRS modem

Features

> Quad-band 900/1800, 850/1900 MHz GSM/GPRS
> Separate RS-232 and RS-422/485 serial interfaces (G2150I only)
> 2.5 KV RMS isolation for 1 minute for all serial signals (G2150I only)
> Extended operating temperature from -30 to 75°C (G2110-T only)
> Vertical IP30 housing with SIM card protection
> LED indicators for GSM/BPRS, data transmission, and signal level
> DIN-rail and wall mounting
> SMS Tunnel Mode provided

x86-based Computers

V462

x86 embedded computers with 4 serial ports, dual LANs, VGA, CompactFlash, PCMCIA, USB

Features

> AMD Geode LX 800@0.9W CPU, 500 MHz
> Built-in 256 MB DDR SDRAM
> Built-in 256 MB industrial DOM to store the operating system
> 256 KB of SRAM with battery backup
> 2 RS-232 and 2 RS-232/422/485 serial ports, supporting non-standard baudrates
> Dual 10/100 Mbps Ethernet ports for network redundancy
> 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 WinXPe operating system
> DIN-rail and wall-mount installation

V464

x86 embedded computers with 4 serial ports, quad LANs, VGA, CompactFlash, USB

Features

> AMD Geode LX 800@0.9W CPU, 500 MHz
> Built-in 256 MB DDR SDRAM
> Built-in 256 MB industrial DOM to store operating system
> 256 KB of SRAM with battery backup
> 2 RS-232 and 2 RS-232/422/485 serial ports, supporting non-standard baudrates
> Quad 10/100 Mbps Ethernet ports for network redundancy
> 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 WinXPe operating system
> DIN-rail and wall-mount installation
> Robust, fan-less design

V466

x86 embedded computers with 4 serial ports, quad LANs, VGA, CompactFlash, built-in 8-port Ethernet switch, USB

Features

> AMD Geode LX 800@0.9W CPU, 500 MHz
> Built-in 256 MB DDR SDRAM
> Built-in 256 MB industrial DOM to store OS
> 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
> Built-in 8-port Ethernet switch for connecting network devices
> 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 WinXPe
> DIN-rail and wall-mount installation
> Robust, fan-less design

V468

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

Features

> AMD Geode LX 800@0.9W CPU, 500 MHz
> Built-in 256 MB DDR SDRAM
> Built-in 256 MB industrial DOM to store OS
> 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
> 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 WinXPe
> DIN-rail and wall-mount installation
> Robust, fan-less design

V481

x86 embedded computer with VGA, dual LANs, 8 serial ports, CompactFlash, USB, audio

Features

> Intel Celeron M 1 GHz CPU, 400 MHz FSB
> 256 MB DDR SDRAM, 256 MB industrial CompactFlash built in
> 8 software-selectable RS-232/422/485 serial ports
> Serial port speed from 50 bps to 921.6 Kbps, supporting non-standard baudrates
> 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 or WinXPe platform
> DIN-rail or wall-mount installation
> Robust, fanless design
> Wide temperature model available

DA-682

AVAILABLE IN Q2

x86-based rackmount computer with VGA, quad Gigabt Ethernet ports, 8 serial ports with optical isolation, CompactFlash, USB, WinCE 6.0

Features

> Intel Celeron M 1 GHz processor with 400/533 MHz FSB
> Built-in DDR2 SDRAM and industrial flash disk module
> Quad qigabit Ethernet ports for network redundancy
> Software selectable RS-232/422/485 with 2 KV isolation protection
> PCI expansion slot for inserting expansion modules
> 1 CompactFlash socket for storage expansion
> USB 2.0 ports for high speed peripherals, supporting system bootup
> 19-inch rackmount, 2U high form factor
> 100/240 VAC/VDC power inputs
> Ready-to-Run WinCE 6.0 or WinXPe platform
> Fanless Design

RISC-based Computers

IA261/262 Series

RISC-based computers with 2 or 4 serial ports, dual LANs, VGA, CAN, DIO, CompactFlash, USB

Features

> Cirrus Logic EP9315 ARM9 CPU, 200 MHz
> 128 MB RAM on-board, 32 MB flash disk
> VGA interface for field site monitoring
> 2 KV digitally isolated RS-232/422/485 serial ports
> Dual 10/100 Mbps Ethernet for network redundancy
> Dual 2 KV digitally isolated CAN ports with CANopen protocol support
> 8+8 DI/DO with 3 KV optical isolation protection
> 12 to 48 VDC redundant power input design
> Supports CompactFlash and USB 2.0 hosts
> Ready-to-run WinCE 6.0 platform
> -40 to 75°C wide temperature models available

EM-2260

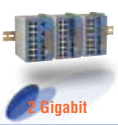
RISC-based embedded computers with 2 or 4 serial ports, dual LANs, VGA, CAN, DIO, CompactFlash, USB

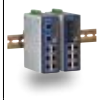
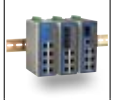
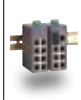
Features

> Cirrus Logic EP9315 ARM9 CPU, 200 MHz
> 128 MB RAM on-board, 32 MB flash disk
> Graphical interface for external VGA output connection
> 4 high speed TTL serial ports
> Dual 10/100 Mbps Ethernet for network redundancy
> 8 DI and 8 DO channels
> Supports EIDE interface and USB 2.0 hosts
> Ready-to-run WinCE 6.0 platform
> Full-function development kit for quick evaluation and application development
> -40 to 75°C wide temperature model available

Product Selection Guides

Industrial Ethernet Switch Selection Guide

	Modular Ethernet Switches		Managed Ethernet Switches				
	 Layer 3	 4 Gigabit	 2 Gigabit		 3 Gigabit		
Model Name	EDS-828	EDS-728	EDS-518A	EDS-516A	EDS-510A	EDS-508A	EDS-505A
Modular Design							
Gigabit Ethernet Module	√	√	---	---	---	---	---
Fast Ethernet Module	√	√	---	---	---	---	---
Number of Ports							
Total Number of Ports	**28 (max.)**	**28 (max.)**	**18**	**16**	**10**	**8**	**5**
Gigabit Ethernet	**4 (max.)**	**4 (max.)**	**2**	**---**	**3**	**---**	**---**
10/100/1000BaseT(X)	4 (max.)	4 (max.)	2 (max.)	---	3 (max.)	---	---
1000BaseSX/LX/LHX/ZX	4 (max.)	4 (max.)	2 (max.)	---	3 (max.)	---	---
Fast Ethernet	**24 (max.)**	**24 (max.)**	**16**	**16**	**7**	**8**	**5**
10/100BaseT(X)	24 (max.)	24 (max.)	16 (max.)	16 (max.)	7	8 (max.)	5 (max.)
100BaseFX	24 (max.)	24 (max.)	2 (max.)	2 (max.)	---	2 (max.)	2 (max.)
10/100 Mbps (PoE)	---	---	---	---	---	---	---
10/100 Mbps (M12/IP67)	---	---	---	---	---	---	---
Power Supply							
24 VDC (12 to 45 VDC)	√	√	√	√	√	√	√
24 VAC (18 to 30 VAC)	---	---	---	---	---	---	---
24 VDC (12 to 48 VDC)	---	---	---	---	---	---	---
48 VDC (46 to 50 VDC)	---	---	---	---	---	---	---
Installation							
DIN-Rail Mounting	√	√	√	√	√	√	√
Panel Mounting	√	√	√	√	√	√	√
Operating Temperature							
0 to 60°C	√	√	√	√	√	√	√
-10 to 60°C	---	---	---	---	---	---	---
-40 to 75°C	---	---	√	√	√	√	√
Redundancy							
Turbo Ring (Recovery Time < 20 ms)	√	√	√	√	√	√	√
STP/RSTP	√	√	√	√	√	√	√
Automatic Backup Configurator, ABC-01	√	√	√	√	√	√	√
Network Management and Control							
Static Routing	√	---	---	---	---	---	---
RIP V1/V2	√	---	---	---	---	---	---
IGMP/GMRP	√	√	√	√	√	√	√
Port Trunking	√	√	√	√	√	√	√
IEEE 802.1X	√	√	√	√	√	√	√
Port Lock	√	√	√	√	√	√	√
SNMP/RMON	√	√	√	√	√	√	√
VLAN	√	√	√	√	√	√	√
QoS	√	√	√	√	√	√	√
Relay Warning	√	√	√	√	√	√	√
Regulatory Approvals							
CE/FCC	√	√	√	√	√	√	√
UL/cUL 60950-1	Pending	Pending	√	√	√	√	√
UL508	Pending	Pending	√	√	√	√	√
UL/cUL Class 1, Div. 2/ATEX Class 1, Zone 2	Pending	Pending	Pending	Pending	√ / Pending	√ / Pending	√ / Pending
DNV/GL	Pending	Pending	√	√	√	√	√

		Unmanaged Ethernet Switches									
		 PoE	 M12/IP67								
EDS-408A	EDS-405A	EDS-P308	EDS-305-M12	EDS-316	EDS-309	EDS-308	EDS-305	EDS-208A	EDS-205A	EDS-208	EDS-205
---	---	---	---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---	---	---	---
8	**5**	**8**	**5**	**16**	**9**	**8**	**5**	**8**	**5**	**8**	**5**
---	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
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8	**5**	**8**	**5**	**16**	**9**	**8**	**5**	**8**	**5**	**8**	**5**
8 (max.)	5 (max.)	4	---	16 (max.)	6	6 (max.)	5 (max.)	8 (max.)	5	8 (max.)	5
2 (max.)	2 (max.)	---	---	2 (max.)	3	2 (max.)	1 (max.)	1 (max.)	---	1 (max.)	---
---	---	4	---	---	---	---	---	---	---	---	---
---	---	---	5	---	---	---	---	---	---	---	---
√	√	---	√	√	√	---	---	√	√	√	√
---	---	---	√	---	---	---	---	√	√	√	√
---	---	---	---	---	---	√	√	√	√	---	---
---	---	√	---	---	---	---	---	√	√	---	---
√	√	√	---	√	√	√	√	√	√	√	√
√	√	√	√	√	√	√	√	---	---	---	---
√	√	√	√	√	√	√	√	---	---	---	---
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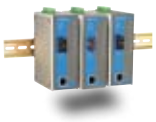
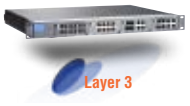
√	√	√	---	√	√	√	√	---	---	---	---
√	√	√	√	√	√	√	√	√	√	√	√
√	√	---	---	√	√	√	√	---	---	√	---
√	√	√	Pending	√	√	√	√	Pending	Pending	√	√
√ / Pending	√ / Pending	Pending	Pending	Pending	√ / Pending	√ / Pending	√	---	---	---	---
√	√	Pending	Pending	√	√	√	√	---	---	---	---

Industrial Media Converter Selection Guide

	Ethernet to Fiber Converters			
				
Model Name	IMC-101G	IMC-101	IMC-21 100Mega	IMC-21 10Mega
Number of Ports				
Total Number of Ports	2	2	2	2
Gigabit Ethernet	2	---	---	---
10/100/1000BaseT(X)	1	---	---	---
1000BaseSX/LX/LHX/ZX	1	---	---	---
Fast Ethernet	---	2	2	---
10/100BaseT(X)	---	1	1	---
100BaseFX	---	1	1	---
Ethernet	---	---	---	2
10BaseT	---	---	---	1
10BaseFL	---	---	---	1
Power Supply				
24 VDC (12 to 45 VDC)	√	---	√	√
24 VDC (12 to 48 VDC)	---	√	---	---
24 VAC (18 to 30 VAC)	---	---	√	√
Installation				
DIN-Rail Mounting	√	√	√	√
Panel Mounting	√	√	---	---
Operating Temperature				
0 to 60°C	√	√	---	---
-10 to 60°C	---	---	√	√
-40 to 75°C	√	√	---	---
Network Management				
Relay Warning	√	√	---	---
Regulatory Approvals				
CE/FCC	√	√	√	√
UL/cUL 60950-1	---	√	√	√
UL508	√	√	√	√
DNV/GL	Pending	√	---	---

Rackmount Switch Selection Guide

	Rackmount Ethernet Switches			
	 Layer 3	 4 Gigabit		
Model Name	PT-7828	PT-7728	PT-7710	PT-7324
Layer 3				
Static Routing	√	---	---	---
RIP V1/V2	√	---	---	---
Modular Design				
Gigabit Ethernet Module	√	√	√	√
Fast Ethernet Module	√	√	√	√
Number of Ports				
Total (A+B)	28	28	10	24
Gigabit Ethernet (A=A1+A2)	4 (max.)	4 (max.)	2 (max.)	2 (max.)
A1: 10/100/1000BaseT(X)	0/2/4	0/2/4	0/2	0/2
A2: 1000BaseSX/LX/LHX/ZX	0/2/4	0/2/4	0/2	0/2
Fast Ethernet (B=B1+B2)	24 (max.)	24 (max.)	8 (max.)	24 (max.)
B1: 10/100BaseT(X)	0/2/4/6/.../24	0/2/4/6/.../24	0/1/2/3/.../8	0/1/2/3/.../22
B2: 100BaseFX	0/1/2/3/.../18	0/1/2/3/.../18	0/1/2/3/.../8	0/1/2
Power Supply				
24 VDC (18 to 36 VDC), isolated	√	√	---	---
48 VDC (36 to 72 VDC), isolated	√	√	---	---
24/48 VDC (9 to 60 VDC)	---	---	√	√
88-300 VDC or 85-264 VAC, isolated	√	√	√	√
Installation				
Rack Mounting	√	√	√	√
Operating Temperature				
-40 to 85°C	√	√	√	√
Redundancy				
Turbo Ring	√	√	√	---
STP/RSTP	√	√	√	---
Automatic Backup Configurator, ABC-01	√	√	√	---
Network Management and Control				
Web Broswer	√	√	√	√
Windows Utility Setting	√	√	√	---
IGMP/GMRP	√	√	√	---
Port Trunking	√	√	√	---
IEEE802.1X	√	√	√	---
Port Lock	√	√	√	---
SNMP/RMON	√	√	√	---
VLAN	√	√	√	(Port-based)
QoS	√	√	√	√
Regulatory Approvals				
CE/FCC	√	√	√	√
UL/cUL 60950-1	Pending	Pending	Pending	Pending
EMC Complince				
IEC 61850-3 (Power Substation)	Pending	Pending	Pending	Pending
IEEE 1613 (Power Substation)	Pending	Pending	Pending	Pending
NEMA TS 2 (Traffic Control System)	Pending	Pending	Pending	Pending
EN 50121-4 (Railway Applications)	Pending	Pending	Pending	Pending

Active Ethernet I/O Selection Guide

	Digital Input/Output		
			
Model Name	E2210	E2212	E2214
Digital Input			
Channels	12	8	6
Modes	DI or Event Counter (Event Counter up to 900 Hz, with configurable filtering time)		
Dry Contact	Yes		
Wet Contact	Source type, 24 VDC	Source/sink selectable, 24 VDC	Source/sink selectable, 24 VDC
COM Ports	1	2	2
Isolation	3K VDC, 2K Vrms		
Digital Output			
Channels	8	8	6 relay outputs (normal status Open)
Modes	DO or Pulse Output (Pulse Output up to 1 KHz, hi/lo width configurable)	DO or Pulse Output (Pulse Output up to 100 Hz, hi/lo width configurable)	DO or Pulse Output (Pulse Output up to 20 times per minute, hi/lo width configurable)
Current	200 mA/channel	200 mA/channel	Contact rating 5A/30 VDC, 5A/240 VAC, 5A/110 VAC Inductance load: 2A Resistance load: 5A
Protection	Over current limit, over temperature shutdown		
Configurable DI/DO			
Channels	---	4	---
Common Specifications			
Interface	10/100 Mbps Ethernet		
Protocols	Modbus/TCP, Bootp, DHCP, SNMP, HTTP, SNTP		
Security	IP filtering		
LCD display	Optional, hot-pluggable		
Software Management			
Click&Go Logic	Yes		
Physical Properties			
Dimensions	120.3 x 79 x 40.39 mm		
Installation	DIN-Rail mounting		

	Analog Input/Output
	
Model Name	E2240
Analog Input	
Channels	8, differential
Resolution	16-bit
Modes	±150 mV, ±500 mV, ±5V, ±10V, 0 to 20 mA, 4 to 20 mA
Sampling Rate	Voltage: 10 samples/sec (all channels) Current: 6 samples/sec (all channels)
Isolation	3K VDC or 2K Vrms
Analog Output	
Channels	2
Resolution	12-bit
Modes	0 to 10V, 4 to 20 mA
Accuracy	+/- 0.1% FSR @ 25°C +/- 0.3% FSR @ -10 & 60°C
zCommon Specifications	
Interface	10/100 Mbps Ethernet
Protocols	Modbus/TCP, Bootp, DHCP, SNMP, HTTP, SNTP
Security	IP filtering
LCD display	Optional, hot-pluggable
Software Management	
Click&Go Logic	Yes
Physical Properties	
Dimensions	120.3 x 79 x 40.39 mm
Installation	DIN-Rail mounting

	Mixed Input/Output
	
Model Name	E2242
Analog Input	
Channels	4, differential
Resolution	16-bit
Modes	±150 mV, ±500 mV, ±5V, ±10V, 0 to 20 mA, 4 to 20 mA
Sampling Rate	100 samples/sec (all channels)
Isolation	3K VDC or 2K Vrms
Digital Input	
Channels	8
Mode	DI or Event Counter (Event Counter up to 900 Hz, with configurable filtering time)
Dry Contact	Yes
Wet Contact	Source/sink selectable, 24 VDC
COM Ports	2
Isolation	3K VDC or 2K Vrms
Digital Output	
Channels	8
Mode	DO or Pulse Output (Pulse Output up to 100 Hz, hi/lo width configurable)
Current	200 mA/channel
Protection	Over current limit, over temperature shutdown
Configurable DI/DO	
Channels	4
Common Specifications	
Interface	10/100 Mbps Ethernet
Protocols	Modbus/TCP, Bootp, DHCP, SNMP, HTTP, SNTP
Security	IP filtering
LCD display	Optional, hot-pluggable
Software Management	
Click&Go Logic	Yes
Physical Properties	
Dimensions	120.3 x 79 x 40.39 mm
Installation	DIN-Rail mounting

	Temperature I/O	
		
Model Name	E2260	E2262
Input		
Channels	6 RTD	8, Thermocouple
Resolution	16-bit	16-bit
Modes	PT, JPT, Ni, Resistor	J, K, T, E, R, S, B, N
Sampling Rate	12 samples/sec (all channels)	10 samples/sec (all channels)
Accuracy	+/- 0.1% FSR @ 25°C +/- 0.3% FSR @ -10 & 60°C	+/- 0.1% FSR @ 25°C +/- 0.3% FSR @ -10 & 60°C
Isolation	3K VDC or 2K Vrms	
Output		
Channels	4	4
Modes	D/O or Pulse Output (Pulse Output up to 100 Hz, hi/lo width configurable)	D/O or Pulse Output (Pulse Output up to 100 Hz, hi/lo width configurable)
Current	200 mA/channel	200 mA/channel
Protection	Over current limit, over temperature shutdown	
Common Specifications		
Interface	10/100 Mbps Ethernet	
Protocols	Modbus/TCP, Bootp, DHCP, SNMP, HTTP, SNTP	
Security	IP filtering	
LCD display	Optional, hot-pluggable	
Software Management		
Click&Go Logic	Yes	
Physical Properties		
Dimensions	120.3 x 79 x 40.39 mm	
Installation	DIN-Rail mounting	

Serial and Peer-to-Peer I/O Selection Guide

	Digital Input/Output
	
Model Name	R2110
Digital Input	
Channels	12
Modes	D/I or Event Counter (Event Counter up to 50 Hz, with configurable filtering time)
Dry Contact	Yes
Wet Contact	Source Type, 24 VDC
Isolation	3K VDC,or 2K Vrms
Digital Output	
Channels	8
Modes	DO or Pulse Output (Pulse Output up to 50 Hz, hi/lo width configurable)
Current	200 mA/channel
Protection	Over current limit, over temperature shutdown
Common Specifications	
Interface	RS-485 (2-wire) From 1200 to 115200 Kbps
Protocols	Modbus/RTU
LCD display	Optional, hot-pluggable
Physical Properties	
Dimensions	120.3 x 79 x 40.39 mm
Installation	DIN-Rail mounting

	Analog Input/Output
	
Model Name	R2140
Analog Input	
Channels	8
Resolution	16-bit
Modes	±150 mV, ±500 mV, ±5V, ±10V, 0 to 20 mA, 4 to 20 mA
Sampling Rate	Voltage: 10 samples/sec (all channel) Current: 6 samples/sec (all channel)
Isolation	3K VDC or 2K Vrms
Analog Output	
Channels	2
Resolution	12-bit
Modes	0 to 10V, 4 to 20 mA
Accuracy	+/- 0.1% FSR @ 25°C +/- 0.3% FSR @ -10 & 60°C
Common Specifications	
Interface	RS-485 (2-wire) From 9600 to 115200 Kbps
Protocols	Modbus/RTU
LCD display	Optional, hot-pluggable
Physical Properties	
Dimensions	120.3 x 79 x 40.39 mm
Installation	DIN-Rail mounting

	Digital Input/Output
	
Model Name	E3210
Digital Input	
Channels	12
Modes	Digital Input
Dry Contact	Yes
Wet Contact	Source Type, 24 VDC
Isolation	3K VDC or 2K Vrms
Digital Output	
Channels	8
Modes	Digital Output
Current	200 mA/channel
Protection	Over current limit, over temperature shutdown
Common Specifications	
Interface	10/100 Mbps Ethernet
Protocols	Modbus/TCP, Bootp, DHCP, HTTP, SNTP
Security	IP filtering
LCD display	Optional, hot-pluggable attachment
Software Management	
ioMirror	Yes
Physical Properties	
Dimensions	120.3 x 79 x 40.39 mm
Installation	DIN-Rail mounting

Modular Remote I/O Selection Guide

I/O Modules

Digital Input Modules											
Specs	Model	M-1400	M-1401	M-1410	M-1411	M-1800	M-1801	M-1600	M-1601	M-1450	M-1451
	Channels	4	4	4	4	8	8	16	16	4	4
	Sink/Source	Sink	Source	Sink	Source	Sink	Source	Sink	Source	–	–
	Connector	RTB	RTB	RTB	RTB	RTB	RTB	20-pin	20-pin	RTB	RTB
	Voltage	24 VDC	24 VDC	48 VDC	48 VDC	24 VDC	24 VDC	24 VDC	24 VDC	110 VAC	220 VAC
	Isolation	Optical isolation									

Digital Output Modules													
Specs	Model	M-2400	M-2401	M-2800	M-2801	M-2600	M-2601	M-2402	M-2403	M-2404	M-2405	M-2250	M-2254
	Channels	4	4	8	8	16	16	4	4	4	4	2	2
	Sink/Source	Sink	Source	Sink	Source	Sink	Source	Sink	Source	Sink	Source	Relay	Triac
	Connector	RTB	RTB	RTB	RTB	20-pin	20-pin	RTB	RTB	RTB	RTB	RTB	RTB
	Voltage	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	230 VAC/ 24 VDC	12 to 125 VDC
	Current	0.5A	0.5A	0.5A	0.5A	0.3A	0.3A	0.5A	0.5A	2.0A	2.0A	2.0A	0.5A
	Isolation	Optical isolation											
	Diagnostics	–	–	–	–	–	–	Yes	Yes	Yes	Yes	–	–

Analog Input Modules													
Specs	Model	M-3400	M-3402	M-3410	M-3412	M-3414	M-3401	M-3403	M-3411	M-3413	M-3415	M-6200	M-6201
	Channels	4	4	4	4	4	4	4	4	4	4	2	2
	Current	0 to 20 mA	4 to 20 mA	–	–	–	0 to 20 mA	4 to 20 mA	–	–	–	–	–
	Voltage	–	–	0 to 10V	-10 to 10V	0 to 5V	–	–	0 to 10V	-10 to 10V	0 to 5V	–	–
	Connector	RTB	RTB	RTB	RTB	RTB	RTB	RTB	RTB	RTB	RTB	RTB	RTB
	Resolution	12-bit	12-bit	12-bit	12-bit	12-bit	14-bit	14-bit	14-bit	14-bit	14-bit	–	–
	Isolation	Optical isolation											
	Sensor Input	–	–	–	–	–	–	–	–	–	–	RTD (Ohm)	Thermo-couple (μV)

Analog Output Modules						
Specs	Model	M-4201	M-4202	M-4210	M-4211	M-4212
	Channels	2	2	2	2	2
	Current	0 to 20 mA	4 to 20 mA	–	–	–
	Voltage	–	–	0 to 10V	-10 to 10V	0 to 5V
	Resolution	12-bit	12-bit	12-bit	12-bit	12-bit
	Connector	RTB	RTB	RTB	RTB	RTB
	Isolation	1K VDC galvanic isolation				

Power Modules							
Specs	Model	M-7001	M-7002	M-7803	M-7804	M-7805	M-7806
	Channels	0	0	8	8	8	8
	Voltage	24 VDC	DC: 5, 24, 48 VDC AC: 110/220 VAC	-	0 V	24 VDC	4 for 0 VDC 4 for 24 VDC
	Purpose	System power	Field power	Shield signal	Field power	Field power	Field power

Video Networking Product Selection Guide

	Industrial Video Servers					IP Camera
						
Model Name	VPort 351	VPort 3310	VPort D351	VPort 251	VPort 2141	VPort 25
Type	Encoder	Encoder	Decoder	Encoder	Encoder	IP Dome Camera
Number of Channels						
Video Inputs	1	1	0	1	4	0
Video Outputs	1	1	1	0	0	1
Aduio Inputs	1	1	1	1	0	1
Audio Outputs	1	0	1	1	0	1
Algorithm						
MJPEG	√	---	√ (Decode)	√	√	√
MPEG4	√	√	√ (Decode)	√	---	√
Video Performance						
QCIF (NTSC: 176 x 120, PAL: 176 x 144)	---	30 FPS max.	---	---	30 FPS max.	---
QVGA (NTSC: 320 x 240, PAL: 320 x 288)	30 FPS max.	---	30 FPS max.	30 FPS max.	---	30 FPS max.
CIF (NTSC: 352 x 240, PAL: 352 x 288)	30 FPS max.	30 FPS max.	30 FPS max.	30 FPS max.	30 FPS max.	30 FPS max.
VGA (NTSC: 640 x 480, PAL: 640 x 576)	30 FPS max.	10 FPS max.	30 FPS max.	30 FPS max.	---	30 FPS max.
4CIF (NTSC: 704 x 480, PAL: 704 x 576)	30 FPS max.	10 FPS max.	30 FPS max.	30 FPS max.	10 FPS max.	30 FPS max.
Full D1 (NTSC: 720 x 480, PAL: 720 x 576)	30 FPS max.	---	30 FPS max.	30 FPS max.	---	30 FPS max.
Quad View	---	---	---	---	15 FPS max.	---
Network Connection						
10/100BaseT(X)	√	√	√	√	√	√
100BaseFX	√	---	---	---	---	---
Number of COM Ports						
COM Ports for PTZ Control	1	1	1	1	2	1
RS-232 Console Ports	1	0	1	1	0	0
Alarm						
VMD (Video Motion Detection)	√	√	N/A	√	√	√
Digital Inputs	2	2	2	1	4	1
Relay (Digital) Outputs	2	2	2	1	4	1
Alarm Video Recording	√	---	N/A	---	---	---
Alarm Snapshot Image	√	√	N/A	√	√	√
Operating Temperature						
0 to 60˚C	√	√	√	√	√	---
-40 to 75˚C	√	√	---	---	---	-40 to 50˚C
Power						
Power Input	2 (Redundant)	2 (Redundant)	2 (Redundant)	1	2	1
Power Output	0	0	0	1 (Loop)	1	0
Power-over-Ethernet	---	---	---	---	---	√
Network Management and Control						
Web Broswer	√	√	√	√	√	√
SNMP Protocols	√	√	√	√	---	√
RTSP (Real Time Streaming Protocol)	√	√	√	√	---	√
Multicast (IGMP)	√	√	N/A	√	---	√
UPnP	√	√	√	√	√	√
DDNS	√	√	√	√	√	√
PPPoE	---	√	---	---	√	---
IP Filtering	√	√	√	√	√	√
Form Factor						
Protection Rating	IP30	IP30	IP30	N/A	N/A	IP66
DIN-Rail Monuting	√	√	√	Optional Kit	Optional Kit	---
Panel Mounting	Optional Kit	Optional Kit	Optional Kit	√	√	√
Regulatory Approvals						
CE/FCC	√	√	√	√	√	√
UL508	√	---	√	---	---	Pending
Class 1, Div 2/ATEX Class 1, Zone 2	Pending	---	---	---	---	---

NPort® 6000 Terminal Server Selection Guide




	NPort® 6150	NPort® 6250	NPort® 6250-M-SC	NPort® 6250-S-SC
LAN Interface				
10/100BaseT(X)	1, RJ45 connector	1, RJ45 connector	---	---
100BaseFX	---	---	1, SC connector	1, SC connector
1.5 KV Magnetic Isolation	√	√	---	---
Expansion Slot	---	---	---	---
10/100BaseT(X) Module (RJ45 connector)	---	---	---	---
Multi-mode Fiber Module (SC connector)	---	---	---	---
Sinlge-mode Fiber Module (SC connector)	---	---	---	---
GSM/GPRS Module	---	---	---	---
Modem Module	---	---	---	---
Serial Interface				
Number of Ports	1 x RS-232/422/485	2 x RS-232/422/485	2 x RS-232/422/485	2 x RS-232/422/485
Connector	DB9 male	DB9 male	DB9 male	DB9 male
Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark			
Flow Control	RTS/CTS, DTR/DSR, XON/XOFF			
Baudrate	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps
Supports Any Baudrate	√	√	√	√
15 KV ESD Protection	√	√	√	√
RS-232 Console Port	√	√	√	√
Advanced Features				
LCD Panel with 4 push buttons	---	---	---	---
Serial Data Log	64 KB	64 KB	64 KB	64 KB
Offline Port Buffering	64 KB	64 KB	64 KB	64 KB
Slot for SD Card	---	√	√	√
Software				
Network Protocols	ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP, HTTP, SMTP, ARP, PPPoE, DDNS, RIP			
Security Protocols	DES, 3DES, AES, SSH, SSL, HTTPS, RADIUS, PAP, CHAP, TACACS+			
Configuration Options	Web Console, Serial Console, Telnet Console, Windows Search Utility			
Driver Support	Windows Real COM drivers (for Windows 95, 98, ME, NT, 2000, XP, 2003, Vista, XP x64, 2003 x64, Vista x64), Linux Real TTY driver, Fixed TTY drivers (for SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i)			
Management	SNMP MIB II			
IP Routing	Static, RIP-I, RIP-II			
Operation Modes				
Standard	Real COM, TCP Server, TCP Client, UDP, Pair Connection, RFC2217, Terminal, Reverse Terminal, Ethernet Modem, Printer, PPP, Disabled			
Secure	Secure Real COM, Secure TCP Server, Secure TCP Client, Secure Pair Connection, SSH, Reverse SSH			
Physical Characteristics				
Upper Casing	Aluminum sheet metal (1 mm)	Aluminum sheet metal (1 mm)	Aluminum sheet metal (1 mm)	Aluminum sheet metal (1 mm)
Lower Casing	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)
External Components	Polycarbonate (PC)	Polycarbonate (PC)	Polycarbonate (PC)	Polycarbonate (PC)
Dimensions	67 x 100.4 x 28 mm (2.64 x 3.95 x 1.1 in)	77 x 111 x 28 mm (3.30 x 4.37 x 1.1 in)	77 x 111 x 28 mm (3.30 x 4.37 x 1.1 in)	77 x 111 x 28 mm (3.30 x 4.37 x 1.1 in)
Environmental Limits				
Operating Temperature	0 to 55°C (32 to 131°F)			
Operating Humidity	5 to 95% RH			
Storage Temperature	-20 to 85°C (-4 to 185°F)			
Power Requirements				
Input Voltage	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC
Power Consumption	285 mA @ 12 V (max.)	430 mA @ 12 V (max.)	430 mA @ 12 V (max.)	430 mA @ 12 V (max.)
Regulatory Approvals				
EMC	CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B Class A			
Safety	UL (UL60950-1), CUL, TÜV (EN60950-1)			
EN61000-4-2 (ESD)	4 KV contact	4 KV contact	4 KV contact	4 KV contact
EN61000-4-4 (EFT)	1 KV power	1 KV power	1 KV power	1 KV power
EN61000-4-5 (Surge)	2 KV power	2 KV power	2 KV power	2 KV power
Reliability				
Buzzer, RTC, WDT	√	√	√	√
MTBF	231709 hrs	226128 hrs	225762 hrs	225762 hrs
Warranty	5 years (see www.moxa.com/warranty for details)			

NPort® 6000 Terminal Server Selection Guide (continued)

	NPort® 6450	NPort® 6610-8/16/32	NPort® 6610-8/16/32-48V	NPort® 6650-8/16/32	NPort® 6650-8/16/32-48V
LAN Interface					
10/100BaseT(X)	1, RJ45 connector	1, RJ45 connector	1, RJ45 connector	1, RJ45 connector	1, RJ45 connector
100BaseFX	---	---	---	---	---
1.5 KV Magnetic Isolation	√	√	√	√	√
Expansion Slot	√	√	√	√	√
10/100BaseT(X) Module (RJ45 connector)	Optional	Optional	Optional	Optional	Optional
Multi-mode Fiber Module (SC connector)	Optional	Optional	Optional	Optional	Optional
Sinlge-mode Fiber Module (SC connector)	Optional	Optional	Optional	Optional	Optional
GSM/GPRS Module	Optional	Optional	Optional	Optional	Optional
Modem Module	Optional	Optional	Optional	Optional	Optional
Serial Interface					
Number of Ports	4 x RS-232/422/485	8/16/32 x RS-232	8/16/32 x RS-232	8/16/32 x RS-232/422/485	8/16/32 x RS-232/422/485
Connector	DB9 male	8-pin RJ45	8-pin RJ45	8-pin RJ45	8-pin RJ45
Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark				
Flow Control	RTS/CTS, DTR/DSR, XON/XOFF				
Baudrate	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps
Supports Any Baudrate	√	√	√	√	√
15 KV ESD Protection	√	√	√	√	√
RS-232 Console Port	√	√	√	√	√
Advanced Features					
LCD Panel with 4 push buttons	√	√	√	√	√
Serial Data Log	64 KB	64 KB	64 KB	64 KB	64 KB
Offline Port Buffering	64 KB	64 KB	64 KB	64 KB	64 KB
Slot for SD Card	√	√	√	√	√
Software					
Network Protocols	ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP, HTTP, SMTP, ARP, PPPoE, DDNS, RIP				
Security Protocols	DES, 3DES, AES, SSH, SSL, HTTPS, RADIUS, PAP, CHAP, TACACS+				
Configuration Options	Web Console, Serial Console, Telnet Console, Windows Search Utility				
Driver Support	Windows Real COM drivers (for Windows 95, 98, ME, NT, 2000, XP, 2003, Vista, XP x64, 2003 x64, Vista x64), Linux Real TTY driver, Fixed TTY drivers (for SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i)				
Management	SNMP MIB II				
IP Routing	Static, RIP-I, RIP-II				
Operation Modes					
Standard	Real COM, TCP Server, TCP Client, UDP, Pair Connection, RFC2217, Terminal, Reverse Telnet, Ethernet Modem, Printer, PPP, Disabled				
Secure	Secure Real COM, Secure TCP Server, Secure TCP Client, Secure Pair Connection, SSH, Reverse SSH				
Physical Characteristics					
Upper Casing	Aluminum sheet metal (1 mm)	Aluminum sheet metal (1 mm)	Aluminum sheet metal (1 mm)	Aluminum sheet metal (1 mm)	Aluminum sheet metal (1 mm)
Lower Casing	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)
External Components	Polycarbonate (PC)	Polycarbonate (PC)	Polycarbonate (PC)	Polycarbonate (PC)	Polycarbonate (PC)
Dimensions	158 x 103 x 35 mm (6.22 x 4.06 x 1.38 in)	440 x 195 x 44 mm (17.32 x 7.68 x 1.73 in)	440 x 195 x 44 mm (17.32 x 7.68 x 1.73 in)	440 x 195 x 44 mm (17.32 x 7.68 x 1.73 in)	440 x 195 x 44 mm (17.32 x 7.68 x 1.73 in)
Environmental Limits					
Operating Temperature	0 to 55°C (32 to 131°F)				
Operating Humidity	5 to 95% RH				
Storage Temperature					
Power Requirements					
Input Voltage	12 to 48 VDC	100 to 240 VAC	±48 VDC (20 to 72 VDC, -20 to -72 VDC)	100 to 240 VAC	±48 VDC (20 to 72 VDC, -20 to -72 VDC)
Power Consumption	730 mA @ 12 V (max.)	285 mA @ 100 VAC, 190 mA @ 240 VAC	293 mA @ 48 VDC	285 mA @ 100 VAC, 190 mA @ 240 VAC	293 mA @ 48 VDC
Regulatory Approvals					
EMC	CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B Class A				
Safety	UL (UL60950-1), CUL, TÜV (EN60950-1)				
EN61000-4-2 (ESD)	4 KV contact	4 KV contact	4 KV contact	4 KV contact	4 KV contact
EN61000-4-4 (EFT)	1 KV power	1 KV power	1 KV power	1 KV power	1 KV power
EN61000-4-5 (Surge)	2 KV power	2 KV power	2 KV power	2 KV power	2 KV power
Reliability					
Buzzer, RTC, WDT	√	√	√	√	√
MTBF	120354 hrs	6610-8: 135891 hrs 6610-16: 102373 hrs 6610-32: 68707 hrs	6610-8: 135891 hrs 6610-16: 102373 hrs 6610-32: 68707 hrs	6650-8: 135370 hrs 6650-16: 101783 hrs 6650-32: 68177 hrs	6650-8: 135370 hrs 6650-16: 101783 hrs 6650-32: 68177 hrs
Warranty	5 years (see www.moxa.com/warranty for details)				

CN2600 Terminal Server Selection Guide



	CN2610-8/16	CN2610-8/16-2AC	CN2650-8/16
LAN Interface			
10/100BaseT(X)	2, RJ45 connector	2, RJ45 connector	2, RJ45 connector
100BaseFX	---	---	---
1.5 KV Magnetic Isolation	√	√	√
Serial Interface			
Number of Ports	8/16 x RS-232	8/16 x RS-232	8/16 x RS-232/422/485
Connector	8-pin RJ45	8-pin RJ45	8-pin RJ45
Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark		
Flow Control	RTS/CTS, DTR/DSR, XON/XOFF		
Baudrate	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps
Supports Any Baudrate	√	√	√
15 KV ESD Protection	√	√	√
2 KV Optical Isolation	---	---	---
RS-232 Console Port	√	√	√
Advanced Features			
LCD Panel with 4 push buttons	√	√	√
Serial Data Log	128 KB		
Offline Port Buffering	128 KB		
Software			
Network Protocols	ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP, HTTP, SMTP, ARP, PPPoE, DDNS, RIP		
Security Protocols	SSH, HTTPS, RADIUS, PAP, CHAP		
Configuration Options	Web Console, Serial Console, Telnet Console, Windows Search Utility		
Driver Support	Windows Real COM drivers (for Windows 95, 98, ME, NT, 2000, XP, 2003, Vista, XP x64, 2003 x64, Vista x64), Linux Real TTY driver, Fixed TTY drivers (for SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i)		
Management	SNMP MIB II	SNMP MIB II	SNMP MIB II
IP Routing	Static, RIP-I, RIP-II	Static, RIP-I, RIP-II	Static, RIP-I, RIP-II
Operation Modes			
Standard	Real COM, TCP Server, TCP Client, UDP, Terminal, Reverse Terminal, Telnet, Reverse Telnet, Printer, PPP, Disabled, Redundant COM, DRDAS		
Secure	---	---	---
Physical Characteristics			
Upper Casing	Aluminum sheet metal (1 mm)	Aluminum sheet metal (1 mm)	Aluminum sheet metal (1 mm)
Lower Casing	Aluminum sheet metal (1 mm)	Aluminum sheet metal (1 mm)	Aluminum sheet metal (1 mm)
External Components	---	---	---
Dimensions	440 x 198 x 45 mm (17.32 x 7.80 x 1.77 in)	440 x 198 x 45 mm (17.32 x 7.80 x 1.77 in)	440 x 198 x 45 mm (17.32 x 7.80 x 1.77 in)
Environmental Limits			
Operating Temperature	0 to 55°C (32 to 131°F)		
Operating Humidity	5 to 95% RH		
Storage Temperature	-20 to 85°C (-4 to 185°F)		
Power Requirements			
Input Voltage	100 to 240 VAC, 47 to 63 Hz	100 to 240 VAC, 47 to 63 Hz	100 to 240 VAC, 47 to 63 Hz
Power Consumption	235 mA @ 100 VAC, 145 mA @ 240 VAC	235 mA @ 100 VAC, 145 mA @ 240 VAC	235 mA @ 100 VAC, 145 mA @ 240 VAC
Regulatory Approvals			
EMC	CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B Class A		
Safety	UL (UL60950-1), CUL, TÜV (EN60950-1)		
EN61000-4-2 (ESD)	4 KV contact	4 KV contact	4 KV contact
EN61000-4-4 (EFT)	1 KV power	1 KV power	1 KV power
EN61000-4-5 (Surge)	2 KV power	2 KV power	2 KV power
Reliability			
Buzzer, RTC, WDT	√	√	√
MTBF	99302 hrs		
Warranty	5 years (see www.moxa.com/warranty for details)		

CN2600 Terminal Server Selection Guide (continued)



	CN2650-8/16-2AC	CN2650I-8/16	CN2650I-8/16-2AC
LAN Interface			
10/100BaseT(X)	2, RJ45 connector	2, RJ45 connector	2, RJ45 connector
100BaseFX	---	---	---
1.5 KV Magnetic Isolation	√	√	√
Serial Interface			
Number of Ports	8/16 x RS-232/422/485	8/16 x RS-232/422/485	8/16 x RS-232/422/485
Connector	8-pin RJ45	DB9 male	DB9 male
Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark		
Flow Control	RTS/CTS, DTR/DSR, XON/XOFF		
Baudrate	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps
Supports Any Baudrate	√	√	√
15 KV ESD Protection	√	√	√
2 KV Optical Isolation	---	√	√
RS-232 Console Port	√	√	√
Advanced Features			
LCD Panel with 4 push buttons	√	√	√
Serial Data Log	128 KB		
Offline Port Buffering	128 KB		
Software			
Network Protocols	ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP, HTTP, SMTP, ARP, PPPoE, DDNS, RIP		
Security Protocols	SSH, HTTPS, RADIUS, PAP, CHAP		
Configuration Options	Web Console, Serial Console, Telnet Console, Windows Search Utility		
Driver Support	Windows Real COM drivers (for Windows 95, 98, ME, NT, 2000, XP, 2003, Vista, XP x64, 2003 x64, Vista x64), Linux Real TTY driver, Fixed TTY drivers (for SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i)		
Management	SNMP MIB II	SNMP MIB II	SNMP MIB II
IP Routing	Static, RIP-I, RIP-II	Static, RIP-I, RIP-II	Static, RIP-I, RIP-II
Operation Modes			
Standard	Real COM, TCP Server, TCP Client, UDP, Terminal, Reverse Terminal, Telnet, Reverse Telnet, Printer, PPP, Disabled, Redundant COM, DRDAS		
Secure	---	---	---
Physical Characteristics			
Upper Casing	Aluminum sheet metal (1 mm)	Aluminum sheet metal (1 mm)	Aluminum sheet metal (1 mm)
Lower Casing	Aluminum sheet metal (1 mm)	Aluminum sheet metal (1 mm)	Aluminum sheet metal (1 mm)
External Components	---	---	---
Dimensions	440 x 198 x 45 mm (17.32 x 7.80 x 1.77 in)	440 x 198 x 45 mm (17.32 x 7.80 x 1.77 in)	440 x 198 x 45 mm (17.32 x 7.80 x 1.77 in)
Environmental Limits			
Operating Temperature	0 to 55°C (32 to 131°F)		
Operating Humidity	5 to 95% RH		
Storage Temperature	-20 to 85°C (-4 to 185°F)		
Power Requirements			
Input Voltage	100 to 240 VAC, 47 to 63 Hz	100 to 240 VAC, 47 to 63 Hz	100 to 240 VAC, 47 to 63 Hz
Power Consumption	235 mA @ 100 VAC, 145 mA @ 240 VAC	235 mA @ 100 VAC, 145 mA @ 240 VAC	235 mA @ 100 VAC, 145 mA @ 240 VAC
Regulatory Approvals			
EMC	CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B Class A		
Safety	UL (UL60950-1), CUL, TÜV (EN60950-1)		
EN61000-4-2 (ESD)	4 KV contact	4 KV contact	4 KV contact
EN61000-4-4 (EFT)	1 KV power	1 KV power	1 KV power
EN61000-4-5 (Surge)	2 KV power	2 KV power	2 KV power
Reliability			
Buzzer, RTC, WDT	√	√	√
MTBF	99302 hrs		
Warranty	5 years (see www.moxa.com/warranty for details)		

General-purpose Device Server Selection Guide





	NPort® DE-211	NPort® DE-311	NPort® 5110/5110-T	NPort® 5130/5130-T	NPort® 5150/5150-T
LAN Interface					
10/100BaseT(X)	1 x 10 Mpbs, RJ45 connector	1, RJ45 connector	1, RJ45 connector	1, RJ45 connector	1, RJ45 connector
100BaseFX	---	---	---	---	---
1.5 KV Magnetic Isolation	√	√	√	√	√
Serial Interface					
Number of Ports	1 x RS-232/422/485	1 x RS-232/422/485	1 x RS-232	1 x RS-232/422	1 x RS-232/422/485
Connector	DB25 female	DB9 female	DB9 male	DB9 male	DB9 male
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	RTS/CTS, XON/XOFF	RTS/CTS, DTR/DSR, XON/XOFF	XON/XOFF	RTS/CTS and DTR/DSR (RS-232 only), XON/XOFF
Baudrate	50 bps to 230.4 Kbps	50 bps to 230.4 Kbps	110 bps to 230.4 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps
15 KV ESD Protection	√	√	√	√	√
2 KV Optical Isolation	---	---	---	---	---
On-site Configuration					
LCD Panel with 4 push buttons	---	---	---	---	---
Software					
Network Protocols	DHCP, BootP, Telnet,, TCP, UDP, IP, ICMP, ARP		ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP, HTTP, SMTP		
Configuration Options	Web Console, Serial Console, Telnet Console, Windows Utility				
Driver Support	Windows Real COM driver (for Windows 95, 98, ME, NT, 2000, XP, 2003, Vista, XP x64, 2003 x64, Vista x64), Linux Real TTY driver, Fixed TTY driver (for SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i)				
Operation Modes	Real COM, TCP Server, TCP Client, UDP, Pair Connection, Ethernet Modem		Real COM, TCP Server, TCP Client, UDP, Pair Connection, Reverse Telnet, Ethernet Modem, Disabled		
Physical Characteristics					
Housing	SECC (1 mm)	SECC (1 mm)	Aluminum (1 mm)	Aluminum (1 mm)	Aluminum (1 mm)
Dimensions	67 x 100.4 x 22 mm (2.64 x 3.95 x 0.87 in)	67 x 100.4 x 22 mm (2.64 x 3.95 x 0.87 in)	52 x 80 x 22 mm (2.05 x 3.15 x 0.87 in)	52 x 80 x 22 mm (2.05 x 3.15 x 0.87 in)	52 x 80 x 22 mm (2.05 x 3.15 x 0.87 in)
Environmental Limits					
Operating Temperature	Standard Models: 0 to 55°C (32 to 131°F); Wide Temp. Models: -40 to 75°C (-40 to 167°F)				
Operating Humidity	5 to 95% RH				
Storage Temperature	-20 to 85°C (-4 to 185°F)				
Power Requirements					
Input Voltage	12 to 30 VDC	9 to 30 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC
Power Consumption	150 mA @ 12 V max.	300 mA @ 9 V max.	128.7 mA @ 12 V, 72 mA @ 24 V	200 mA @ 12 V, 106 mA @ 24 V	200 mA @ 12 V, 106 mA @ 24 V
Burst Protection (EN61000-4-4: EFT/B)	---	---	1 KV	1 KV	1 KV
Surge Protection (EN61000-4-5)	---	---	0.5 KV	0.5 KV	0.5 KV
Regulatory Approvals					
EMC	CE (EN55022 Class B, EN55024 Class B), FCC Part 15 Subpart B		CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B Class A		
Safety	UL (UL60950), TÜV (EN60950)		UL (UL60950-1), CUL, TÜV (EN60950-1)		
Medical	---	---	---	---	---
Marine	---	---	---	---	---
Reliability					
Buzzer, Realtime Clock, Watchdog Timer	---	---	WDT only	WDT only	WDT only
MTBF	347822 hrs	225529 hrs	279122 hrs	246505 hrs	246034 hrs
Warranty	5 years	5 years	5 years	5 years	5 years

General-purpose Device Server Selection Guide (continued)




	NPort® 5210/5210-T	NPort® 5230/5230-T	NPort® 5232/5232-T	NPort® 5232I/5232I-T
LAN Interface				
10/100BaseT(X)	1, RJ45 connector	1, RJ45 connector	1, RJ45 connector	1, RJ45 connector
100BaseFX	---	---	---	---
1.5 KV Magnetic Isolation	√	√	√	√
Serial Interface				
Number of Ports	2 x RS-232	1 x RS-232, 1 x RS-422/485	2 x RS-422/485	2 x RS-422/485
Connector	8-pin RJ45	Terminal Block	Terminal Block	Terminal Block
Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark			
Flow Control	RTS/CTS, DTR/DSR, XON/XOFF	RTS/CTS and DTR/DSR (RS-232 only), XON/XOFF	XON/XOFF	XON/XOFF
Baudrate	110 bps to 230.4 Kbps	110 bps to 230.4 Kbps	110 bps to 230.4 Kbps	110 bps to 230.4 Kbps
15 KV ESD Protection	√	√	√	√
2 KV Optical Isolation	---	---	---	√
On-site Configuration				
LCD Panel with 4 push buttons	---	---	---	---
Software				
Network Protocols	ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP, HTTP, SMTP			
Configuration Options	Web Console, Serial Console, Telnet Console, Windows Utility		Web Console, Telnet Console	
Driver Support	Windows Real COM driver (for Windows 95, 98, ME, NT, 2000, XP, 2003, Vista, XP x64, 2003 x64, Vista x64), Linux Real TTY driver, Fixed TTY driver (for SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i)			
Operation Modes	Real COM, TCP Server, TCP Client, UDP, Pair Connection, Reverse Telnet, Disabled			
Physical Characteristics				
Housing	Aluminum (1 mm), providing IP30 protection	Aluminum (1 mm), providing IP30 protection	Aluminum (1 mm), providing IP30 protection	Aluminum (1 mm), providing IP30 protection
Dimensions	67 x 100.4 x 22 mm (2.64 x 3.95 x 0.87 in)	67 x 100.4 x 22 mm (2.64 x 3.95 x 0.87 in)	67 x 100.4 x 22 mm (2.64 x 3.95 x 0.87 in)	67 x 100.4 x 35 mm (2.64 x 3.95 x 1.37 in)
Environmental Limits				
Operating Temperature	Standard Models: 0 to 55°C (32 to 131°F); Wide Temp. Models: -40 to 75°C (-40 to 167°F)			
Operating Humidity	5 to 95% RH			
Storage Temperature	-20 to 85°C (-4 to 185°F)			
Power Requirements				
Input Voltage	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC
Power Consumption	305 mA @ 12 V max.	347.1 mA @ 12 V max.	259.6 mA @ 12 V max.	509.4 mA @ 12 V max.
Burst Protection (EN61000-4-4: EFT/B)	1 KV	1 KV	1 KV	1 KV
Surge Protection (EN61000-4-5)	0.5 KV	0.5 KV	0.5 KV	0.5 KV
Regulatory Approvals				
EMC	CE (EN55022 and EN55024 Class A), FCC Part 15 Subpart B Class A			
Safety	UL (UL60950-1), TÜV (EN60950-1)			
Medical	EN60601-1-2 Class B, EN55011			
Marine	DNV	DNV	DNV	DNV
Reliability				
Buzzer, Realtime Clock, Watchdog Timer	√	√	√	√
MTBF	134850 hrs	106955 hrs	102344 hrs	87083 hrs
Warranty	5 years	5 years	5 years	5 years

General-purpose Device Server Selection Guide (continued)

	NPort® 5410	NPort® 5430	NPort® 5430I	NPort® 5450	NPort® 5450I
LAN Interface					
10/100BaseT(X)	1, RJ45 connector	1, RJ45 connector	1, RJ45 connector	1, RJ45 connector	1, RJ45 connector
100BaseFX	---	---	---	---	---
1.5 KV Magnetic Isolation	√	√	√	√	√
Serial Interface					
Number of Ports	4 x RS-232	4 x RS-422/485	4 x RS-422/485	4 x RS-232/422/485	4 x RS-232/422/485
Connector	DB9 male	Terminal Block	Terminal Block	DB9 male	DB9 male
Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark				
Flow Control	DSR/DTR, RTS/CTS, XON/XOFF	XON/XOFF	XON/XOFF	RTS/CTS and DTR/DSR (RS-232 only), XON/XOFF	RTS/CTS and DTR/DSR (RS-232 only), XON/XOFF
Baudrate	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps
15 KV ESD Protection	√	√	√	√	√
2 KV Optical Isolation	---	---	√	---	√
On-site Configuration					
LCD Panel with 4 push buttons	√	√	√	√	√
Software					
Network Protocols	ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP, HTTP, SMTP, SNTP, Rtelnet, ARP				
Configuration Options	Web Console, Telnet Console, Windows Utility				
Driver Support	Windows Real COM driver (for Windows 95, 98, ME, NT, 2000, XP, 2003, Vista, XP x64, 2003 x64, Vista x64), Linux Real TTY driver, Fixed TTY driver (for SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i)				
Operation Modes	Real COM, TCP Server, TCP Client, UDP, Pair Connection, Reverse Telnet, Disabled				
Physical Characteristics					
Housing	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)
Dimensions	158 x 103 x 33 mm (6.22 x 4.06 x 1.30 in)	158 x 103 x 33 mm (6.22 x 4.06 x 1.30 in)	158 x 103 x 33 mm (6.22 x 4.06 x 1.30 in)	158 x 103 x 33 mm (6.22 x 4.06 x 1.30 in)	158 x 103 x 33 mm (6.22 x 4.06 x 1.30 in)
Environmental Limits					
Operating Temperature	0 to 55°C (32 to 131°F)				
Operating Humidity	5 to 95% RH				
Storage Temperature	-20 to 70°C (-4 to 158°F)				
Power Requirements					
Input Voltage	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC
Power Consumption	350 mA @ 12 V max.	350 mA @ 12 V max.	585 mA @ 12 V max.	350 mA @ 12 V max.	554 mA @ 12 V max.
Burst Protection (EN61000-4-4: EFT/B)	4 KV	4 KV	4 KV	4 KV	4 KV
Surge Protection (EN61000-4-5)	2 KV	2 KV	2 KV	2 KV	2 KV
Regulatory Approvals					
EMC	CE (EN55022 and EN55024 Class A), FCC Part 15 Subpart B Class A				
Safety	UL (UL60950-1), CUL, TÜV (EN60950-1)				
Medical	EN60601-1-2 Class B, EN55011				
Marine	DNV	DNV	DNV	DNV	DNV
Reliability					
Buzzer, Realtime Clock, Watchdog Timer	√	√	√	√	√
MTBF	205153 hrs	201699 hrs	114540 hrs	206903 hrs	206903 hrs
Warranty	5 years	5 years	5 years	5 years	5 years

General-purpose Device Server Selection Guide (continued)

	NPort® 5610-8/16	NPort® 5610-8/16-48V	NPort® 5630-8/16	NPort® 5650-8/16	NPort® 5650-8/16-M-SC	NPort® 5650-8/16-S-SC
LAN Interface						
10/100BaseT(X)	1, RJ45 connector	1, RJ45 connector	1, RJ45 connector	1, RJ45 connector	---	---
100BaseFX	---	---	---	---	1, SC connector	1, SC connector
1.5 KV Magnetic Isolation	√	√	√	√	√	√
Serial Interface						
Number of Ports	8 or 16 x RS-232	8 or 16 x RS-232	8 or 16 x RS-422/485	8 or 16 x RS-232/422/485	8 or 16 x RS-232/422/485	8 or 16 x RS-232/422/485
Connector	8-pin RJ45	8-pin RJ45	8-pin RJ45	8-pin RJ45	8-pin RJ45	8-pin RJ45
Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark					
Flow Control	DSR/DTR, RTS/CTS, XON/XOFF	DSR/DTR, RTS/CTS, XON/XOFF	XON/XOFF	DSR/DTR and RTS/CTS (RS-232 only), XON/XOFF	DSR/DTR and RTS/CTS (RS-232 only), XON/XOFF	DSR/DTR and RTS/CTS (RS-232 only), XON/XOFF
Baudrate	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps
15 KV ESD Protection	√	√	√	√	√	√
2 KV Optical Isolation	---	---	---	---	---	---
On-site Configuration						
LCD Panel with 4 push buttons	√	√	√	√	√	√
Software						
Network Protocols	ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP, HTTP, SMTP, SNTP, ARP, PPP, SLIP, RTelnet, RFC2217					
Configuration Options	Web Console, Telnet Console, Windows Utility					
Driver Support	Windows Real COM driver (for Windows 95, 98, ME, NT, 2000, XP, 2003, Vista, XP x64, 2003 x64, Vista x64), Linux Real TTY driver, Fixed TTY driver (for SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i)					
Operation Modes	Real COM, TCP Server, TCP Client, UDP, Pair Connection, RFC2217, Reverse Telnet, Disabled, PPP					
Physical Characteristics						
Housing	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)
Dimensions	440 x 45 x 198 mm (17.32 x 1.77 x 7.80 in)	440 x 45 x 198 mm (17.32 x 1.77 x 7.80 in)	440 x 45 x 198 mm (17.32 x 1.77 x 7.80 in)	440 x 45 x 198 mm (17.32 x 1.77 x 7.80 in)	440 x 45 x 198 mm (17.32 x 1.77 x 7.80 in)	440 x 45 x 198 mm (17.32 x 1.77 x 7.80 in)
Environmental Limits						
Operating Temperature	0 to 55°C (32 to 131°F)					
Operating Humidity	5 to 95% RH					
Storage Temperature	-20 to 75°C (-4 to 167°F)					
Power Requirements						
Input Voltage	100 to 240 VAC, 47 to 63 hz	±48 VDC (20 to 72 VDC, -20 to -72 VDC)	100 to 240 VAC, 47 to 63 hz	100 to 240 VAC, 47 to 63 hz	100 to 240 VAC, 47 to 63 hz	100 to 240 VAC, 47 to 63 hz
Power Consumption	141 mA @ 100 VAC, 93 mA @ 240 VAC	135 mA @ 48 VDC	152 mA @ 100 VAC, 98 mA @ 240 VAC	158 mA @ 100 VAC, 102 mA @ 240 VAC	174 mA @ 100 VAC, 113 mA @ 240 VAC	164 mA @ 100 VAC, 110 mA @ 240 VAC
Burst Protection (EN61000-4-4: EFT/B)	4 KV	4 KV	4 KV	4 KV	4 KV	4 KV
Surge Protection (EN61000-4-5)	2 KV	2 KV	2 KV	2 KV	2 KV	2 KV
Regulatory Approvals						
EMC	CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B Class A NPort® 5610 only: IEC61000-4-12					
Safety	UL (UL60950-1), TÜV (EN60950-1)					
Medical	EN60601-1-2 Class B, EN55011					
Marine	DNV	DNV	DNV	DNV	DNV	DNV
Reliability						
Buzzer, Realtime Clock, Watchdog Timer	√	√	√	√	√	√
MTBF	NPort® 5610-8: 97294 hrs NPort® 5610-16: 94928 hrs	NPort® 5610-8-48V: 96758 NPort® 5610-16-48V: 94417 hrs	NPort® 5630-8: 118405 hrs NPort® 5630-16: 91483 hrs	NPort® 5650-8: 117584 hrs NPort® 5650-16: 104767 hrs	NPort® 5650-M-SC-8: 116914 hrs NPort® 5650-M-SC-16: 87528 hrs	NPort® 5650-S-SC-8: 116914 hrs NPort® 5650-S-SC-16: 87528 hrs
Warranty	5 years	5 years	5 years	5 years	5 years	5 years

General-purpose Device Server Selection Guide (continued)

	NPort® 5610-8-DT	NPort® 5610-8-DT-J	NPort® 5650-8-DT	NPort® 5650I-8-DT	NPort® 5650-8-DT-J
LAN Interface					
10/100BaseT(X)	2, RJ45 connector	2, RJ45 connector	2, RJ45 connector	2, RJ45 connector	2, RJ45 connector
100BaseFX	---	---	---	---	---
1.5 KV Magnetic Isolation	√	√	√	√	√
Serial Interface					
Number of Ports	8 x RS-232	8 x RS-232	8 x RS-232/422/485	8 x RS-232/422/485	8 x RS-232/422/485
Connector	DB9 male	8-pin RJ45	DB9 male	DB9 male	8-pin RJ45
Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark				
Flow Control	DSR/DTR, RTS/CTS, XON/XOFF	DSR/DTR, RTS/CTS, XON/XOFF	DSR/DTR and RTS/CTS (RS-232 only), XON/XOFF, ADDC®	DSR/DTR and RTS/CTS (RS-232 only), XON/XOFF, ADDC®	DSR/DTR and RTS/CTS (RS-232 only), XON/XOFF, ADDC®
Baudrate	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps
15 KV ESD Protection	√	√	√	√	√
2 KV Optical Isolation	---	---	---	Ö	---
On-site Configuration					
LCD Panel with 4 push buttons	√	√	√	√	√
Software					
Network Protocols	ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP, HTTP, SMTP, SNTP, Rtelnet, ARP, RFC2217				
Configuration Options	Web Console, Telnet Console, Windows Utility				
Driver Support	Windows Real COM driver (for Windows 95, 98, ME, NT, 2000, XP, 2003, Vista, XP x64, 2003 x64, Vista x64), Linux Real TTY driver, Fixed TTY driver (for SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i)				
Operation Modes	Real COM, TCP Server, TCP Client, UDP, Pair Connection, RFC2217, Reverse Telnet, Disabled, PPP				
Physical Characteristics					
Housing	SECC sheet metal (0.8 mm)	SECC sheet metal (0.8 mm)	SECC sheet metal (0.8 mm)	SECC sheet metal (0.8 mm)	SECC sheet metal (0.8 mm)
Dimensions	197 x 44 x 135.5 mm (7.76 x 1.73 x 5.33 in)	197 x 44 x 135.5 mm (7.76 x 1.73 x 5.33 in)	197 x 44 x 135.5 mm (7.76 x 1.73 x 5.33 in)	197 x 44 x 135.5 mm (7.76 x 1.73 x 5.33 in)	197 x 44 x 135.5 mm (7.76 x 1.73 x 5.33 in)
Environmental Limits					
Operating Temperature	0 to 55°C (32 to 131°F)				
Operating Humidity	5 to 95% RH				
Storage Temperature	-20 to 70°C (-4 to 158°F)				
Power Requirements					
Input Voltage	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC
Power Consumption	621 mA @ 12 V, 140 mA @ 48 V	621 mA @ 12 V, 140 mA @ 48 V	580 mA @ 12 V, 156 mA @ 48 V	1066 mA @ 12 V, 200 mA @ 48 V	580 mA @ 12 V, 156 mA @ 48 V
Burst Protection (EN61000-4-4: EFT/B)	4 KV	4 KV	4 KV	4 KV	4 KV
Surge Protection (EN61000-4-5)	2 KV	2 KV	2 KV	2 KV	2 KV
Regulatory Approvals					
EMC	CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B Class A				
Safety	UL (UL60950-1), TÜV (EN60950-1)				
Medical	---	---	---	---	---
Marine	---	---	---	---	---
Reliability					
Buzzer, Realtime Clock, Watchdog Timer	√	√	√	√	√
MTBF	163356 hrs				
Warranty	5 years	5 years	5 years	5 years	5 years

Industrial-grade Device Server Selection Guide

	NPort® IA5150/5150-T	NPort® IA5150I/5150I-T	NPort® IA5150-M-SC/5150-M-SC-T	NPort® IA5150I-M-SC/5150I-M-SC-T	NPort® IA5150-S-SC/5150-S-SC-T	NPort® IA5150I-S-SC/5150I-S-SC-T	NPort® IA5250/5250-T
LAN Interface							
10/100BaseT(X)	2, RJ45 connector	2, RJ45 connector	---	---	---	---	2, RJ45 connector
100BaseFX	---	---	Multi-mode, SC connector	Multi-mode, SC connector	Single-mode, SC connector	Single-mode, SC connector	---
1.5 KV Magnetic Isolation	√	√	---	---	---	---	√
Serial Interface							
Number of Ports	1 x RS-232/422/485	1 x RS-232/422/485	1 x RS-232/422/485	1 x RS-232/422/485	1 x RS-232/422/485	1 x RS-232/422/485	2 x RS-232/422/485
Connector	RS-232: DB9 male, RS-422/485: Terminal Block	RS-232: DB9 male, RS-422/485: Terminal Block	RS-232: DB9 male, RS-422/485: Terminal Block	RS-232: DB9 male, RS-422/485: Terminal Block	RS-232: DB9 male, RS-422/485: Terminal Block	RS-232: DB9 male, RS-422/485: Terminal Block	DB9 male
Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark						
Flow Control	RTS/CTS (RS-232 only), XON/XOFF						
Baudrate	110 bps to 230.4 Kbps						
15 KV ESD Protection	√	√	√	√	√	√	√
2 KV Optical Isolation	---	√	---	√	---	√	---
Software							
Network Protocols	ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, Rtelnet, DNS, SNMP, HTTP, SMTP, SNTP						
Configuration Options	Web Console, Serial Console, Telnet Console, Windows Utility						
Driver Support	Windows Real COM driver (for Windows 95, 98, ME, NT, 2000, XP, 2003, Vista, XP x64, 2003 x64, Vista x64), Linux Real TTY driver, Fixed TTY driver (for SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i)						
Operation Modes	Real COM, TCP Server, TCP Client, UDP, Pair Connection, Ethernet Modem, Reverse, Telnet, Disabled						
Physical Characteristics							
Housing	Polycarbonate (2 mm)						
IP30 protection	√	√	√	√	√	√	√
Dimensions	29 x 89.2 x 118.5 mm (0.82 x 3.51 x 4.57 in)						
DIN-Rail, Wall Mountable	√	√	√	√	√	√	√
Environmental Limits							
Operating Temperature	Standard Models: 0 to 55°C (32 to 131°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)						
Operating Humidity	5 to 95% RH						
Storage Temperature	-20 to 85°C (-4 to 185°F)						
Power Requirements							
Input Voltage	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC
Redundant Power Inputs	√	√	√	√	√	√	√
Power Consumption	360 mA @ 12V max.	420 mA @ 12V max.	500 mA @ 12V max.	510 mA @ 12V max.	470 mA @ 12V max.	490 mA @ 12V max.	440 mA @ 12V max.
Regulatory Approvals							
EMC	FCC Part 15 Subpart B Class A, CE EN55022 Class A, CE EN55024						
Safety	UL60950-1, UL 508, TÜV EN60950-1						
Hazardous Location	UL/cUL Class 1 Division 2 Groups A, B, C and D; ATEX Class Zone 2						
IEC	IEC60068-2-27 (Shock); IEC60068-2-23 (Freefall); IEC60068-2-6 (Vibration)						
EN	EN61000-4-2 (ESD) Level 3; EN61000-4-3 (RS) Level 3; EN61000-4-4 (EFT) Level 4; EN61000-4-5 (Surge) Level 3; EN61000-4-6 (CS) Level 3; EN61000-4-8 Passed; EN61000-4-11 Passed; EN61000-4-12 Passed						
Other	Medical (ATEX Class 1 Zone 2); Marine (DNV)						
Reliability							
Buzzer, Realtime Clock, Watchdog Timer	√	√	√	√	√	√	√
Warranty	5 years (see www.moxa.com/warranty)						

Embedded Device Server Selection Guide




	NE-4110S NE-4110A	NE-4120S NE-4120A	NE-4100T	WE-2100T
Form Factor				
Typical Installation Examples				
Type	Stand-alone module	Stand-alone module	Drop-in	Drop-in
Dimensions	57 × 40 mm (2.24 x 1.57 in)	57 × 40 mm (2.24 x 1.57 in)	45 × 36 mm (1.77 x 1.42 in)	54 x 40 x 13.3 mm (2.13 x 1.57 x 0.52 in)
LAN Interface				
10/100BaseT(X)	1, RJ45	1, Pin header (5 pins)	1, Dual-in-line pin header (26 pins)	1, Dual-in-line pin connector (44 pins)
1.5 KV Magnetic Isolation	√	√	√	√
WLAN Interface				
Standard Compliance	---	---	---	IEEE 802.11a/b/g
Radio Frequency Type	---	---	---	DSSS, CCK, OFDM
Wireless Security	---	---	---	SEP, SPA, SPA2, 802.11i
Network Modes	---	---	---	Infrastructure (a/b/g), Ad Hoc (b/g)
Serial Interface				
Number of Ports	2	2	2	2
Standards for Port 1	NE-4110S: RS-232 NE-4110A: RS-422/485	NE-4120S: RS-232 NE-4120A: RS-422/485	TTL	TTL
Standards for Port 2	TTL console port	TTL console port	TTL console port	TTL console port
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			
Baudrate	110 bps to 230.4 Kbps			50 bps to 921.6 Kbps
Software				
Network Protocols	ICMP, ARP, IP, TCP, UDP, DHCP, Telnet, HTTP, SNMP, SMTP			ICMP, IP, TCP, UDP, DHCP, Telnet, DNS, SNMP, HTTP, SMTP, SNTP, SSH, HTTPS
Configuration Options	Web Console, Serial Console, Telnet Console, Windows Utility (for Windows 95, 98, ME, NT, 2000, XP, 2003)			Web Console, Serial Console, Telnet Console, Windows Utility (for Windows 95, 98, ME, NT, 2000, XP, 2003, Vista), Serial command mode (configured through the data port)
Driver Support	Windows Real COM driver (for Windows 95, 98, ME, NT, 2000, XP, 2003, XP x64, 2003 x64), Linux Real TTY driver, Unix			Windows COM driver (for Windows 98, ME, NT, 2000, XP, 2003, XP x64, 2003 x64, Vista), Linux Real TTY driver, SCO Unix, SCO OpenServer 5, UnixWare 7, UnixWare 2.1.x, SVR4.2, QNX
Operation Modes	Real COM, TCP Server, TCP Client, UDP			Real COM, TCP Server, TCP Client, UDP, RFC2217
Environmental Limits				
Operating Temperature	Standard Models: 0 to 55°C (32 to 131°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)			0 to 55°C (32 to 131°F)
Operating Humidity	5 to 95% RH			
Storage Temperature	-20 to 85°C (-4 to 185°F)			
Surface Temperature (at full baudrate of 921.6 Kbps)				
Top Panel	---	---	---	43°C, when air temp = 25°C 55°C, when air temp = 55°C
Bottom Panel	---	---	---	44.5°C, when air temp = 25°C 67.0°C, when air temp = 55°C
Power Requirements				
Input Voltage	5 VDC (±5%)	5 VDC (±5%)	5 VDC (±5%)	3.3 VDC (±5%)
Power Consumption	290 mA @ 5 VDC max.	290 mA @ 5 VDC max.	290 mA @ 5 VDC max.	921.6 Kbps (full speed): 540 mA Idle: 190 mA Ethernet mode: 670 mA Inrush current: 2100 mA
Regulatory Approvals				
EMC	CE (EN55022 Class B EN55024), FCC Part 16 Subpart Class B			CE (EN55024), 55022 Class A, ETSI EN 301 489-17, ETSI EN 301 489-1, FCC Part 15 Subpart B Class A, FCC Part 17 Subpart B Class A,
Reliability				
Watchdog Timer	√	√	√	√
Warranty	5 years (see www.moxa.com/warranty)			

Ethernet Fieldbus Gateway Selection Guide



	MGate™ MB3180	MGate™ MB3280	MGate™ MB3480
Ethernet Interface			
Number of Ports	1		
Speed	10/100 Mbps, Auto MDI/MDIX		
Connector	8-pin RJ45		
Magnetic Isolation Protection	1.5 KV built-in		
Serial Interface			
Number of Ports	1	2	4
Serial Standards	RS-232/422/485, software selectable		
Connectors	DB9 male		
15 KV ESD Protection	√	√	√
2 KV Optical Isolation Protection	---	---	---
Parameters	Data Bits: 7, 8; Stop Bits: 1, 2; Parity: None, Even, Odd, Space, Mark		
Baudrate	50 bps to 921.6 Kbps		
Flow Control	RTS/CTS, XON/XOFF		
ADDC®	√	√	√
Software			
Operation Modes	RTU Slave, RTU Master, ASCII Slave, ASCII Master		
Utilities	MGate™ Manager Suite for Windows 98, ME, NT, 2000, XP, 2003, Vista		
Smart Routing	√	√	√
Serial Redirector	---	---	---
Priority Control	---	---	---
Physical Characteristics			
Housing	Aluminum (1 mm)		SECC sheet metal (0.8 mm)
Dimensions	22 x 52 x 80 mm (0.87 x 2.05 x 3.15 in)	22 x 77 x 111 mm (0.87 x 3.03 x 4.37 in)	35.5 x 103 x 158 mm (1.40 x 4.06 x 6.22 in)
Environmental Limits			
Operating Temperature	0 to 55°C (32 to 131°F)		
Operating Humidity	5 to 95% RH		
Storage Temperature	-20 to 85°C (-4 to 185°F)		
Power Requirements			
Input Voltage	12 to 48 VDC		
Power Connector	Power jack	Power jack and terminal block	Power jack and terminal block
Power Line Protection	Burst: 1 KV Surge: 0.5 KV		
Regulatory Approvals			
EMC	EMC: CE (EN55022 Class A and EN55024), FCC Part 15 Subpart B Class A		
Safety	Safety: UL (UL60950-1), TÜV (EN60950-1)		
Hazardous Location	---	---	---
Shock	---	---	---
Freefall	---	---	---
Vibration	---	---	---
EN61000-4-2 (ESD)	Level 2		
EN61000-4-3 (RS)	Level 2		
EN61000-4-4 (EFT)	Level 2		
EN61000-4-5 (Surge)	Level 2		
EN61000-4-6 (CS)	Level 2		
EN61000-4-8	Passed		
EN61000-4-11	Passed		
EN61000-4-12	Passed		
Marine	---	---	---
Reliability			
Warranty	5 years (see www.moxa.com/warranty)		

Ethernet Fieldbus Gateway Selection Guide (continued)




	MGate™ MB3170	MGate™ MB3170I	MGate™ MB3270	MGate™ MB3270I
Ethernet Interface				
Number of Ports	2 (1 IP)			
Speed	10/100 Mbps, Auto MDI/MDIX			
Connector	8-pin RJ45			
Magnetic Isolation Protection	1.5 KV built-in			
Serial Interface				
Number of Ports	1	1	2	2
Serial Standards	RS-232/422/485, software selectable			
Connectors	RS-232: DB9 male; RS-422/485: Terminal Block		DB9 male	
15 KV ESD Protection	√	√	√	√
2 KV Optical Isolation Protection	---	√	---	√
Parameters	Data Bits: 7, 8; Stop Bits: 1, 2; Parity: None, Even, Odd, Space, Mark			
Baudrate	50 bps to 921.6 Kbps			
Flow Control	RTS/CTS, XON/XOFF			
ADDC®	√	√	√	√
Software				
Operation Modes	RTU Slave, RTU Master, ASCII Slave, ASCII Master			
Utilities	MGate™ Manager Suite for Windows 98, ME, NT, 2000, XP, 2003, Vista			
Smart Routing	√	√	√	√
Serial Redirector	---	---	√	√
Priority Control	√	√	√	√
Physical Characteristics				
Housing	Polycarbonate (2 mm)			
Dimensions	29 x 89.2 x 118.5 mm (1.14 x 3.51 x 4.67 in)			
Environmental Limits				
Operating Temperature	Standard Models: 0 to 55°C (32 to 131°F) Wide Temperature Models: -40 to 75°C (-40 to 167°F)			
Operating Humidity	5 to 95% RH			
Storage Temperature	-20 to 85°C (-4 to 185°F)			
Power Requirements				
Input Voltage	12 to 48 VDC			
Power Connector	Terminal block			
Power Line Protection	Burst: 1 KV Surge: 0.5 KV			
Regulatory Approvals				
EMC	EMC: CE (EN55022 Class A and EN55024), FCC Part 15 Subpart B Class A			
Safety	Safety: UL (UL60950-1), TÜV (EN60950-1)			
Hazardous Location	UL/cUL Class 1 Division 2 Groups A, B, C, D; ATEX Class 1 Zone 2 (pending)			
Shock	IEC60068-2-27			
Freefall	IEC60068-2-23			
Vibration	IEC60068-2-6			
EN61000-4-2 (ESD)	Level 3			
EN61000-4-3 (RS)	Level 3			
EN61000-4-4 (EFT)	Level 4			
EN61000-4-5 (Surge)	Level 3			
EN61000-4-6 (CS)	Level 3			
EN61000-4-8	Passed			
EN61000-4-11	Passed			
EN61000-4-12	Passed			
Marine	DNV (pending)			
Reliability				
Warranty	5 years (see www.moxa.com/warranty)			

PCI Express Board Selection Guide

	CP-118EL	CP-168EL	CP-114EL	CP-114EL-I	CP-104EL
Hardware					
Comm. Controller	MU860 (16C550C compatible)	MU860 (16C550C compatible)	16C550C compatible	16C550C compatible	MU860 (16C550C compatible)
Bus	PCI Express x1				
Connector	VHDCI 68	VHDCI 68	DB44 female	DB44 female	DB44 female
Serial Interface					
Number of Ports	8 x RS-232/422/485	8 x RS-232	4 x RS-232/422/485	4 x RS-232/422/485	4 x RS-232
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				
Baudrate	50 bps to 921.6 Kbps				
15 KV ESD Protection	√	√	√	√	√
2 KV Optical Isolation	---	---	---	√	---
Driver Support					
Operating Systems	Windows (2000, XP/2003/Vista x86/x64), Windows CE 5.0, Windows XP Embedded, DOS, Linux 2.4/2.6, FreeBSD 4/5, QNX 6, SCO Open Server 5/6, UnixWare 7		Windows (2000, XP/2003/Vista x86/x64), Linux 2.4/2.6, QNX 6		Windows (2000, XP/2003/Vista x86/x64), Windows CE 5.0, Windows XP Embedded, DOS, Linux 2.4/2.6, FreeBSD 4/5, QNX 6, SCO Open Server 5/6, UnixWare 7
Physical Characteristics					
Dimensions	64.41 x 132 mm (2.54 x 5.20 in)	62.71 x 102 mm (2.47 x 4.02 in)	100 x 67.27 mm (3.94 x 2.65 in)	100 x 67.27 mm (3.94 x 2.65 in)	62.71 x 100 mm (2.47 x 3.94 in)
Environmental Limits					
Operating Temperature	0 to 55°C (32 to 131°F)				
Operating Humidity	5 to 95% RH				
Storage Temperature	-20 to 85°C (-4 to 185°F)				
Regulatory Approvals	EN55022, EN55024, EN61000-3-2, EN61000-3-3, EN61000-6-2, IEC-61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11, FCC Part 15 Class B				
Reliability					
Warranty	5 years (see www.moxa.com/warranty)				

PCI Express Board Selection Guide (continued)




	CP-102E	CP-102EL	CP-132EL	CP-132EL-I
Hardware				
Comm. Controller	16C550C compatible	16C550C compatible	16C550C compatible	16C550C compatible
Bus	PCI Express x1			
Connector	DB9 male	DB25 female	DB25 female	DB25 female
Serial Interface				
Number of Ports	2 x RS-232	2 x RS-232	2 x RS-422/485	2 x RS-422/485
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			
Baudrate	50 bps to 921.6 Kbps			
15 KV ESD Protection	√	√	√	√
2 KV Optical Isolation	---	---	---	√
Driver Support				
Operating Systems	Windows (2000, XP/2003/Vista x86/x64), Linux 2.4/2.6, QNX 6			
Physical Characteristics				
Dimensions	120 x 80 mm (4.72 x 3.15 in)	100 x 67.27 mm (3.94 x 2.65 in)	100 x 67.27 mm (3.94 x 2.65 in)	100 x 67.27 mm (3.94 x 2.65 in)
Environmental Limits				
Operating Temperature	0 to 55°C (32 to 131°F)			
Operating Humidity	5 to 95% RH			
Storage Temperature	-20 to 85°C (-4 to 185°F)			
Regulatory Approvals	EN55022, EN55024, EN61000-3-2, EN61000-3-3, EN61000-6-2, IEC-61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11, FCC Part 15 Class B			
Reliability				
Warranty	5 years (see www.moxa.com/warranty)			

Universal PCI Board Selection Guide

	C320Turbo/PCI	C218Turbo/PCI	CP-118U	CP-138U	CP-118U-I
Hardware					
Comm. Controller	16C550C or compatible x 8	16C550C or compatible x 8	MU860 (16C550C compatible)	MU860 (16C550C compatible)	MU860 (16C550C compatible)
Bus	32-bit Universal PCI				
Connector	DB25 female	DB62 female	DB62 female	DB62 female	DB78 female
Serial Interface					
Number of Ports	32 x RS-232	8 x RS-232	8 x RS-232/422/485	8 x RS-422/485	8 x RS-232/422/485
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				
Baudrate	50 bps to 460.8 Kbps	50 bps to 921.6 Kbps			
ESD Protection	---	25 KV per port (with optional connector)	15 KV	15 KV	15 KV
Optical Isolation Protection	---	2 KV (with optional connector)	---	---	2 KV
Driver Support					
Operating Systems	Windows (2000, XP/2003/Vista x86/x64, 9X/ME/NT), DOS, Linux 2.4/2.6, SCO Open Server 5/6, UnixWare 7, QNX 4		Windows (2000, XP/2003/Vista x86/x64, 9X/ME/NT), Windows CE 5.0, Windows XP Embedded, DOS, Linux 2.4/2.6, FreeBSD 4/5, QNX 6, SCO Open Server 5/6, UnixWare 7	Windows (2000, XP/2003/Vista x86/x64, 9X/ME/NT), Windows CE 5.0, Windows XP Embedded, DOS, Linux 2.4/2.6, FreeBSD 4/5, QNX 6	Windows (2000, XP/2003/Vista x86/x64, 9X/ME/NT), Windows CE 5.0, Windows XP Embedded, DOS, Linux 2.4/2.6, FreeBSD 4/5, QNX 6, SCO Open Server 5/6, UnixWare 7
Physical Characteristics					
Dimensions	90 x 120 mm (3.54 x 4.72 in)	105 x 180 mm (4.13 x 7.09 in)	82 x 135 mm (3.22 x 5.31 in)	82 x 135 mm (3.22 x 5.31 in)	105 x 133 mm (4.13 x 5.23 in)
Environmental Limits					
Operating Temperature	0 to 55°C (32 to 131°F)				
Operating Humidity	5 to 95% RH				
Storage Temperature	-20 to 85°C (-4 to 185°F)				
Regulatory Approvals	EN61000-4-2, EN61000-4-3, EN61000-4-4, ENV50204, FCC Part 15 Class A	EN55022, EN55024, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11, FCC Part 15 Class A	EN55022, EN55024, EN61000-3-2, EN61000-3-3, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8, IEC61000-4-11, FCC Part 15 Class B		
Reliability					
Warranty	5 years (see www.moxa.com/warranty)				

Universal PCI Board Selection Guide (continued)





	CP-138U-I	CP-168U	CP-114UL	CP-104UL	CP-104JU
Hardware					
Comm. Controller	MU860 (16C550C compatible)				
Bus	32-bit Universal PCI				
Connector	DB78 female	DB62 female	DB44 female	DB44 female	Connectors: RJ45 x 4
Serial Interface					
Number of Ports	8 x RS-422/485	8 x RS-232	4 x RS-232/422/485	4 x RS-232	4 x RS-232
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				
Baudrate	50 bps to 921.6 Kbps				
ESD Protection	15 KV	15 KV	15 KV	15 KV	15 KV
Optical Isolation Protection	2 KV	2 KV (with optional connector)	---	---	---
Driver Support					
Operating Systems	Windows (2000, XP/2003/ Vista x86/x64, 9X/ME/NT), Windows CE 5.0, Windows XP Embedded, DOS, Linux 2.4/2.6, FreeBSD 4/5, QNX 6	Windows (2000, XP/2003/Vista x86/x64, 9X/ME/NT), Windows CE 5.0, Windows XP Embedded, DOS, Linux 2.4/2.6, FreeBSD 4/5, QNX 6, SCO Open Server 5/6, UnixWare 7			
Physical Characteristics					
Dimensions	105 x 133 mm (4.13 x 5.23 in)	82 x 120 mm (3.22 x 4.72 in)	64.5 x 120 mm (2.53 x 4.72 in)	64.4 x 120 mm (2.53 x 4.72 in)	83 x 120 mm (3.27 x 4.72 in)
Environmental Limits					
Operating Temperature	0 to 55°C (32 to 131°F)				
Operating Humidity	5 to 95% RH				
Storage Temperature	-20 to 85°C (-4 to 185°F)				
Regulatory Approvals	EN55022, EN55024, EN61000-3-2, EN61000-3-3, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8, IEC61000-4-11, FCC Part 15 Class B				
Reliability					
Warranty	5 years (see www.moxa.com/warranty)				

Universal PCI Board Selection Guide (continued)

	CP-134U	CP-134U-I	CP-102U	CP-102UL	CP-132UL	CP-132UL-I	POS-104UL
Hardware							
Comm. Controller	MU860 (16C550C compatible)						
Bus	32-bit Universal PCI						32-bit Universal PCI (power from serial bus or power supply)
Connector	DB44 female	DB44 female	DB9 male x 2	DB25 female	DB25 female	DB25 female	DB44 female
Serial Interface							
Number of Ports	4 x RS-422/485	4 x RS-422/485	2 x RS-232	2 x RS-232	2 x RS-422/485	2 x RS-422/485	4 x RS-232
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						
Baudrate	50 bps to 921.6 Kbps						
ESD Protection	15 KV	15 KV	15 KV	15 KV	15 KV	15 KV	15 KV
Optical Isolation Protection	---	2 KV	---	---	---	2 KV	---
Driver Support							
Operating Systems	Windows (2000, XP/2003/Vista x86/x64, 9X/ME/NT), Windows CE 5.0, Windows XP Embedded, DOS, Linux 2.4/2.6, FreeBSD 4/5, QNX 6		Windows (2000, XP/2003/Vista x86/x64, 9X/ME/NT), Windows CE 5.0, Windows XP Embedded, DOS, Linux 2.4/2.6, FreeBSD 4/5, QNX 6, SCO Open Server 5/6, UnixWare 7		Windows (2000, XP/2003/Vista x86/x64, 9X/ME/NT), Windows CE 5.0, Windows XP Embedded, DOS, Linux 2.4/2.6, FreeBSD 4/5, QNX 6		Windows (2000, XP/2003/Vista x86/x64, 9X/ME/NT), DOS, Linux 2.4/2.6, FreeBSD 4/5, QNX 6
Physical Characteristics							
Dimensions	82.5 x 120 mm (3.24 x 4.72 in)	115 x 120 mm (4.52 x 4.72 in)	120 x 120 mm (3.15 x 4.72 in)	64.5 x 120 mm (2.53 x 4.72 in)	64.5 x 120 mm (2.53 x 4.72 in)	64.5 x 120 mm (2.53 x 4.72 in)	64.4 x 120 mm (2.53 x 4.72 in)
Environmental Limits							
Operating Temperature	0 to 55°C (32 to 131°F)						
Operating Humidity	5 to 95% RH						
Storage Temperature	-20 to 85°C (-4 to 185°F)						
Regulatory Approvals	EN55022, EN55024, EN61000-3-2, EN61000-3-3, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8, IEC61000-4-11, FCC Part 15 Class B						EN61000-6-2, EN61000-6-4, EN61000-3-2, EN61000-3-3, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8, IEC61000-4-11, FCC Part 15 Class B
Reliability							
Warranty	5 years (see www.moxa.com/warranty)						

Optical Fiber Board Selection Guide

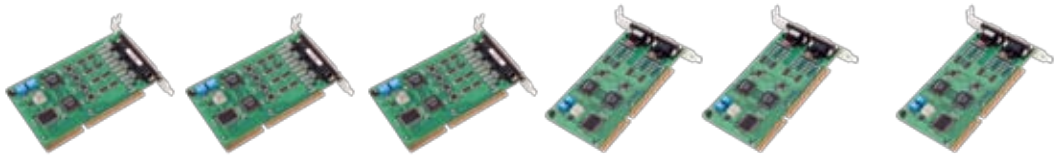
	CP-102UF-M	CP-102UF-S
Hardware		
Bus	32-bit Universal PCI	
Optical Fiber Interface		
Mode	Multi-mode	Single-mode
Fiber Connectors	ST type	
Cable Requirements	50/125, 62.5/125, or 100/140 µm	8.3/125, 8.75/125, 9/125 or 10/140 µm
Transmission Distance	Up to 5 km	Up to 40 km
Wavelength	820 nm	1310 nm
Tx Output	-5 dBm	-5 dBm
Rx Sensitivity	-20 dBm	-24 dBm
Point-to-Point Transmission	Half or full duplex	
Ring Transmission	Half duplex	
Serial Interface		
Number of Ports	2	
Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark	
Flow Control	Flow Control: XON/XOFF	
Baudrate	50 bps to 921.6 Kbps	
Driver Support		
Operating Systems	Windows (2000, XP/2003/Vista x86/x64), DOS, Linux 2.4/2.6, QNX 6	
Physical Characteristics		
Dimensions	120 x 70 mm (4.72 x 2.76 in)	
Environmental Limits		
Operating Temperature	0 to 55°C (32 to 131°F)	
Operating Humidity	5 to 95% RH	
Storage Temperature	-20 to 85°C (-4 to 185°F)	
Regulatory Approvals		
FCC	Part 15 Class B	
EMI	EN55022 Class B	
EMS	EN55024 EN 61000-3-2 EN 61000-3-3 IEC 61000-4-2(ESD) IEC 61000-4-3(RS) IEC 61000-4-4(EFT) IEC 61000-4-5(Surge) IEC 61000-4-6(CS) IEC 61000-4-8 IEC 61000-4-11(DIPS)	
Reliability		
Warranty	5 years (see www.moxa.com/warranty)	

ISA Board Selection Guide




	C168H	C168HS	C104H	C104HS
Hardware				
Comm. Controller	16C550C or compatible x 8	16C550C or compatible x 8	16C550C or compatible x 4	16C550C or compatible x 4
Bus	16-bit ISA			
Connector	DB62 female	DB62 female	DB37 female	DB37 female
Serial Interface				
Number of Ports	8 x RS-232	8 x RS-232	4 x RS-232	4 x RS-232
Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark			
Flow Control	---	---	---	---
Baudrate	50 bps to 921.6 Kbps			
ESD Protection	---	25 KV	---	25 KV
Optical Isolation Protection	2 KV (with optional connector)		---	---
Driver Support				
Operating Systems	Windows (2000/XP/2003, 9X/ME/NT), DOS, Linux 2.4/2.6, QNX 4/6, FreeBSD 4/5		Windows (2000/XP/2003, 9X/ME/NT, 3.x), DOS, Linux 2.4/2.6, QNX 4/6, FreeBSD 4/5	
Physical Characteristics				
Dimensions	93 x 157 mm (3.66 x 6.18 in)	93 x 157 mm (3.66 x 6.18 in)	83 x 157 mm (3.27 x 6.18 in)	83 x 157 mm (3.27 x 6.18 in)
Environmental Limits				
Operating Temperature	0 to 55°C (32 to 131°F)			
Operating Humidity	5 to 95% RH			
Storage Temperature	-20 to 85°C (-4 to 185°F)			
Regulatory Approvals	EN55022, EN61000-4-2, EN61000-4-3, EN61000-4-4, ENV50204, FCC Part 15 Class A			
Reliability				
Warranty	5 years (see www.moxa.com/warranty)			

ISA Board Selection Guide (continued)



	CI-134	CI-134I	CI-134IS	CI-132	CI-132I	CI-132IS
Hardware						
Comm. Controller	16C550C or compatible x 4	16C550C or compatible x 4	16C550C or compatible x 4	16C550C or compatible x 2	16C550C or compatible x 2	16C550C or compatible x 2
Bus	16-bit ISA					
Connector	DB37 female	DB37 female	DB37 female	DB9 male	DB9 male	DB9 male
Serial Interface						
Number of Ports	4 x RS-422/485	4 x RS-422/485	4 x RS-422/485	2 x RS-422/485	2 x RS-422/485	2 x RS-422/485
Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark					
Flow Control	---	---	---	---	---	---
Baudrate	50 bps to 921.6 Kbps					
ESD Protection	---	---	25 KV	---	---	25 KV
Optical Isolation Protection	---	2 KV	2 KV	---	2 KV	2 KV
Driver Support						
Operating Systems	Windows (2000/XP/2003, 9X/ME/NT, 3.x), DOS, Linux 2.4/2.6, SCO Open Server 5/6, UnixWare 7, QNX 4/6, FreeBSD 4/5			Windows (2000/XP/2003, 9X/ME/NT), DOS, Linux 2.4/2.6, QNX 4/6, FreeBSD 4/5		
Physical Characteristics						
Dimensions	85 x 160 mm (3.35 x 6.30 in)	110 x 180 mm (4.33 x 7.09 in)	110 x 180 mm (4.33 x 7.09 in)	75 x 157 mm (2.95 x 6.18 in)	105 x 157 mm (4.13 x 6.18 in)	105 x 157 mm (4.13 x 6.18 in)
Environmental Limits						
Operating Temperature	0 to 55°C (32 to 131°F)					
Operating Humidity	5 to 95% RH					
Storage Temperature	-20 to 85°C (-4 to 185°F)					
Regulatory Approvals	EN55022, EN61000-4-2, EN61000-4-3, EN61000-4-4, ENV50204, FCC Part 15 Class B					
Reliability						
Warranty	5 years (see www.moxa.com/warranty)					

PC/104 & PC/104-*Plus* Module Selection Guide




	CA-108/108-T	CA-114/114-T	CA-134I/134I-T	CA-104/104-T
Hardware				
Comm. Controller	16C550C or compatible x 8	16C550C or compatible x 4	16C550C or compatible x 4	16C550C or compatible x 4
Bus	PC/104 bus			
Connector	40-pin box header			
Serial Interface				
Number of Ports	8 x RS-232	4 x RS-232/422/485	4 x RS-422/485	4 x RS-232
Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark			
Baudrate	50 bps to 921.6 Kbps			
15 KV ESD Protection	√	√	√	√
2 KV Optical Isolation	---	---	√	---
Driver Support				
Operating Systems	Windows (2000/XP/2003), Windows 9X/ME/NT, Windows CE 5.0, Windows XP Embedded, DOS, Linux 2.4/2.6, QNX 4/6			Windows (2000/XP/2003), Windows 9X/ME/NT, Windows CE 5.0, Windows XP Embedded, DOS, Linux 2.4/2.6, FreeBSD 4, QNX 4/6
Physical Characteristics				
Dimensions	90 x 96 mm (3.54 x 3.78 in)			
Environmental Limits				
Operating Temperature	Standard Model: 0 to 55°C (32 to 131°F) Wide Temp. Model: -40 to 85°C (-40 to 185°F)			
Operating Humidity	5 to 95% RH			
Storage Temperature	-40 to 55°C (-40 to 131°F)			
Regulatory Approvals	EN55022, EN55024, EN61000-3-2, EN61000-3-3, IEC61000-6-2, IEC61000-6-4, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8, IEC61000-4-11, FCC Part 15 Class A			
Reliability				
Warranty	5 years (see www.moxa.com/warranty)			

PC-104 and PC-104-*Plus* Module Selection Guide (continued)





	CA-132/132-T	CA-132I/132I-T	CB-108/108-T	CB-114/114-T	CB-134I/134I-T
Hardware					
Comm. Controller	16C550C or compatible x 2	16C550C or compatible x 2	MU860 (16C550C compatible)		
Bus	PC/104 bus		PC/104-Plus bus		
Connector	20-pin box header		40-pin box header		
Serial Interface					
Number of Ports	2 x RS-422/485	2 x RS-422/485	8 x RS-232	4 x RS-232/422/485	4 x RS-422/485
Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark				
Baudrate	50 bps to 921.6 Kbps				
15 KV ESD Protection	√	√	√	√	√
2 KV Optical Isolation	---	√	---	---	√
Driver Support					
Operating Systems	Windows (2000/XP/2003, 9X/ME/NT), Windows CE 5.0, Windows XP Embedded, DOS, Linux 2.4/2.6, FreeBSD 4, QNX 4/6		Windows (2000, XP/2003/Vista x86/x64), Windows CE 5.0, Windows XP Embedded, DOS, Linux 2.4/2.6, FreeBSD 4/5, QNX 6		
Physical Characteristics					
Dimensions	90 x 96 mm (3.54 x 3.78 in)		90 x 96 mm (3.54 x 3.78 in)		
Environmental Limits					
Operating Temperature	Standard Model: 0 to 55°C (32 to 131°F) Wide Temp. Model: -40 to 85°C (-40 to 185°F)				
Operating Humidity	5 to 95% RH				
Storage Temperature	-40 to 55°C (-40 to 131°F)				
Regulatory Approvals	EN55022, EN55024, EN61000-3-2, EN61000-3-3, IEC61000-6-2, IEC61000-6-4, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8, IEC61000-4-11, FCC Part 15 Class A				
Reliability					
Warranty	5 years (see www.moxa.com/warranty)				

USB-to-Serial Server Selection Guide

	UPort™ 1110	UPort™ 1130	UPort™ 1150	UPort™ 1150I	UPort™ 1250	UPort™ 1250I	UPort™ 1410
USB							
Compliance	USB 1.0/1.1 compliant, USB 2.0 compatible				USB 1.1/2.0 compliant		USB 1.1/2.0 compliant
Connector	USB type A			USB type B			USB type B
Speed	12 Mbps (Full-Speed USB)				480 Mbps (Hi-Speed USB) and 12 Mbps (Full-Speed USB)		480 Mbps (Hi-Speed USB) and 12 Mbps (Full-Speed USB)
Serial Interface							
Number of Ports	1				2		4
Serial Standards	RS-232	RS-422/485	RS-232/422/485				RS-232
Connectors	DB9 male						
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						
IRQ Assigned by BIOS	√	√	√	√	√	√	√
FIFO	64 bytes				128 bytes		
Baudrate	50 bps to 921.6 Kbps						
15 KV ESD Protection	√	√	√	√	√	√	√
2 KV Optical Isolation Protection	---	---	---	√	---	√	---
Physical Characteristics							
Housing	ABS + PC			SECC sheet metal (1 mm)			
Weight	Product only: 85 g (0.19 lb) Packaged: 170 g (0.37 lb)	Product only: 85 g (0.19 lb) Packaged: 190 g (0.42 lb)	Product only: 85 g (0.19 lb) Packaged: 195 g (0.43 lb)	Product only: 71 g (0.16 lb) Packaged: 181 g (0.40 lb)	Product only: 180 g (0.40 lb) Packaged: 660 g (1.45 lb)		Product only: 720 g (1.59 lb) Packaged: 1345 g (2.96 lb)
Dimensions	37.5 x 60 x 20.5 mm (1.48 x 2.36 x 0.81 in)		37.5 x 60 x 20.5 mm (1.48 x 2.36 x 0.81 in)	52 x 80 x 22 mm (2.05 x 3.15 x 0.87 in)	77 x 26 x 111 mm (3.03 x 1.02 x 4.37 in)		204 x 30 x 125 mm (8.03 x 1.18 x 4.92 in)
Environmental Limits							
Operating Temperature	0 to 55°C (32 to 131°F)						
Operating Humidity	5 to 95% RH						
Storage Temperature	-20 to 70°C (-4 to 158°F)				-20 to 75°C (-4 to 167°F)		
Regulatory Approvals	EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-8, FCC Part 15 Class B		EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11, FCC Part 15 Class B		EN55022 Class A, EN55024, EN61000-3-2, EN61000-3-3, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, FCC Part 15 Class A, UL, CUL, TÜV		EN55022 Class A, EN55024, EN61000-3-2, EN61000-3-3, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, FCC Part 15 Class A, UL, CUL, TÜV
Power Requirements							
Power Consumption	30 mA @ 5 VDC	90 mA @ 5 VDC	77 mA @ 5 VDC	260 mA @ 5 VDC	360 mA @ 5 VDC (bus power)	200 mA @ 12 VDC (external power)	180 mA @ 5 VDC (bus power)
Reliability							
Warranty	5 years (see www.moxa.com/warranty)						

USB-to-Serial Server Selection Guide (continued)

	UPort™ 1450	UPort™ 1450I	UPort™ 1610-8	UPort™ 1610-16	UPort™ 1650-8	UPort™ 1650-16	UPort™ 2210	UPort™ 2410
USB								
Compliance	USB 1.1/2.0 compliant							
Connector	USB type B							
Speed	480 Mbps (Hi-Speed USB) and 12 Mbps (Full-Speed USB)							
Serial Interface								
Number of Ports	4		8	16	8	16	2	4
Serial Standards	RS-232/422/485		RS-232		RS-232/422/485		RS-232	
Connectors	DB9 male							
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							
IRQ Assigned by BIOS	√	√	√	√	√	√	√	√
FIFO	128 bytes							
Baudrate	50 bps to 921.6 Kbps							
15 KV ESD Protection	√	√	√	√	√	√	√	√
2 KV Optical Isolation Protection	---	√	---	---	---	---	---	---
Physical Characteristics								
Housing	SECC sheet metal (1 mm)						Plastic	
Weight	Product only: 720 g (1.59 lb) Packaged: 1345 g (2.96 lb)		Product only: 835 g (1.84 lb) Packaged: 1435 g (3.16 lb)	Product only: 2475 g (5.45 lb) Packaged: 3485 g (7.68 lb)	Product only: 835 g (1.84 lb) Packaged: 1435 g (3.16 lb)	Product only: 2475 g (5.45 lb) Packaged: 3485 g (7.68 lb)	---	---
Dimensions	204 x 30 x 125 mm (8.03 x 1.18 x 4.92 in)		204 x 44 x 125 mm (8.03 x 1.73 x 4.92 in)				70 x 35 x 120 mm (2.76 x 1.38 x 4.72 in)	80 x 35 x 185 mm (3.15 x 1.38 x 7.28 in)
Environmental Limits								
Operating Temperature	0 to 55°C (32 to 131°F)							
Operating Humidity	5 to 95% RH							
Storage Temperature	-20 to 75°C (-4 to 167°F)							
Regulatory Approvals	EN55022 Class A, EN55024, EN61000-3-2, EN61000-3-3, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, FCC Part 15 Class A, UL, CUL, TÜV						EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11, FCC Part 15 Class B	
Power Requirements								
Power Consumption	260 mA @ 12 VDC	360 mA @ 12 VDC	230 mA @ 12 VDC (external power)	130 mA @ 100 VAC	340 mA @ 12 VDC (external power)	150 mA @ 100 VAC	---	---
Reliability								
Warranty	5 years (see www.moxa.com/warranty)							

USB Hub Selection Guide

	UPort™ 404	UPort™ 407
USB		
Compliance	USB 1.1/2.0 compliant	
Upstream	1 USB port, Type B connector	
Downstream	4 USB ports, Type A connectors	7 USB ports, Type A connectors
Speed	480 Mbps (Hi-Speed USB) and 12 Mbps (Full-Speed USB)	
Supply Current	500 mA max. per channel	
Physical Characteristics		
Housing	Aluminum	
Dimensions	80 x 35 x 130 mm (3.15 x 1.38 x 5.12 in)	100 x 35 x 195 mm (3.94 x 1.38 x 7.68 in)
Environmental Limits		
Operating Temperature	0 to 70°C (32 to 158°F)	
Operating Humidity	5 to 95% RH	
Storage Temperature	-20 to 75°C (-4 to 167°F)	
15 KV ESD Protection	√	√
Regulatory Approvals	EN61000-6-4, EN61000-6-2, FCC Part 15 Class A, UL508, LVD	
Warranty		
Warranty	5 years (see www.moxa.com/warranty)	

Serial-to-Fiber Converter Selection Guide

	TCF-142-M-SC/ 142-M-SC-T	TCF-142-M-ST/ 142-M-ST-T	TCF-142-S-SC/ 142-S-SC-T	TCF-142-S-ST/ 142-S-ST-T	TCF-90-M	TCF-90-S
RS-232/422/485 Side						
Connector	Terminal Block				DB9 female	
RS-232 Signals	Tx, Rx, GND				Tx, Rx, GND (Loop-back wiring: RTS to CTS, DTR to DSR and DCD)	
RS-422/485-4w Signals	TxD+, TxD-, RxD+, RxD-, GND				---	---
RS-485-2w Signals	Data+, Data-, GND	Data+, Data-, GND	Data+, Data-, GND	Data+, Data-, GND	---	---
Baudrate	300 bps to 921.6 Kbps					
15 KV ESD Protection	√	√	√	√	√	√
Optical Fiber Side						
Fiber Connector	SC	ST	SC	ST	ST	ST
Single-mode	---	---	√	√	---	√
Multi-mode	√	√	---	---	√	---
Cable Requirements	50/125, 62.5/125, or 100/140 µm		8.3/125, 8.7/125, 9/125, or 10/125 µm		50/125, 62.5/125, or 100/140 µm	8.3/125, 8.7/125, 9/125, or 10/125 µm
Transmission Distance	5 km		40 km		5 km	40 km
Wavelength	820 nm		1310 nm		850 nm	1310 nm
Tx Output	> -5 dBm					
Rx Sensitivity	-20 dBm		-25 dBm		-20 dBm	-24 dBm
Point-to-Point Transmission			Half-duplex or full-duplex		√	√
Ring Transmission	Half-duplex				√	√
Physical Characteristics						
Case	Aluminum (1 mm)				ABS + PC	
Dimensions	67 x 100 x 22 mm (2.64 x 3.94 x 0.87 in)				42 x 80 x 22 mm (1.65 x 3.15 x 0.87 in)	
Environmental Limits						
Operating Temperature	Standard Models: 0 to 60°C (32 to 140°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)				0 to 60°C (32 to 140°F)	
Operating Humidity	5 to 95% RH				5 to 95% RH	
Storage Temperature	-40 to 85°C (-40 to 185°F)				-20 to 75°C (-14 to 167°F)	
Power Requirements						
Source of Input Power	Detachable terminal				RS-232 port (TxD signal) or power input jack	
Input Voltage	12 to 48 VDC					
Power Consumption	140 mA @ 12 V				20 mA @ 5 V (with termination disabled)	
Power Line Protection	Burst: 2 KV Surge: 2 KV				√	√
Voltage Reversal Protection	Protects against V+/V- reversal				√	√
Over Current Protection	1.1 A (protects against two signals shorted together)				√	√
Regulatory Approvals						
UL/CUL	UL60950-1				√	√
CE	√	√	√	√	Class B	
TÜV	EN60950-1				√	√
FCC	Part 15 Subclass B				Class B	
EMI	EN55022 1998, Class B				√	√
EMS	EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-11(DIPS) [Criteria A, Level 2]				√	√
Reliability						
Warranty	5 years (see www.moxa.com/warranty)					

Serial-to-Serial Converter Selection Guide




	TCC-100	TCC-100I	TCC-80-DB9	TCC-80	TCC-80I-DB9	TCC-80I
RS-232 Side						
Connector: DB9 female	DB9 female					
Signals: RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND	Signals: RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND		Signals: RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND (Loop-back wiring: RTS to CTS, DTR to DSR and DCD)			
RS-422/485 Side						
Connector	DB9 male		DB9 male	Terminal Block	DB9 male	Terminal Block
Signals (interface selected by DIP switch)	RS-422: TxD+, TxD-, RxD+, RxD-, GND RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND RS-485-2w Signals: Data+, Data-, GND					
ADDC®	---	---	√	√	√	√
Serial Transmission						
Baudrate	300 bps to 921.6 Kbps		300 bps to 115.2 Kbps			
15 KV ESD Protection	√	√	√	√	√	√
Optical Isolation Protection	---	2 KV	---	---	2.5 KV	
Pull High Resistance of 1k ohm	√	√	√	√	√	√
Pull Low Resistance of 150k ohm	√	√	√	√	√	√
Physical Characteristics						
Case	Aluminum		ABS + PC			
Weight	148 ± 5 g		50 ± 5 g			
Dimensions	67 x 100.4 x 22 mm (2.64 x 3.93 x 0.87 in)		42 x 80 x 22 mm (1.65 x 3.15 x 0.87 in)			
Environmental Limits						
Operating Temperature	20 to 60°C (-4 to 140°F)	20 to 60°C (-4 to 140°F)	0 to 60°C (32 to 140°F)	0 to 60°C (32 to 140°F)	0 to 60°C (32 to 140°F)	0 to 60°C (32 to 140°F)
Operating Humidity	5 to 95% RH	5 to 95% RH	5 to 95% RH	5 to 95% RH	5 to 95% RH	5 to 95% RH
Storage Temperature	-20 to 85°C (-14 to 176°F)	-20 to 85°C (-14 to 176°F)	-20 to 85°C (-14 to 176°F)	-20 to 85°C (-14 to 176°F)	-20 to 85°C (-14 to 176°F)	-20 to 85°C (-14 to 176°F)
Power Requirements						
Power over RS-232	√	√	√	√	√	√
Power Jack	√	√	√	√	√	√
Input Voltage	12 to 48 VDC		5 to 12 VDC			
Power Consumption	300 mA @ 12 V	400 mA @ 12 V	20 mA @ 5 V (with termination disabled)			
Power EFT/Surge Protection	√	√	---	---	---	---
Voltage Reversal Protection	√	√	---	---	---	---
Over Current Protection	√	√	---	---	---	---
Regulatory Approvals						
CE, FCC	Class B					
Warranty						
Warranty	5 years (see www.moxa.com/warranty)					

Serial Repeater and Isolator Selection Guide



	TCC-120	TCC-120I	TCC-82
Serial Communication			
Connectors	Terminal Block on both ends		DB9 male and DB9 female
Baudrate	300 bps to 230.4 Kbps		300 bps to 115.2 Kbps
Signals	RS-422/485-4w: TxD+, TxD-, RxD+, RxD- RS-485-2w: Data+, Data-		RS-232: TxD, RxD, RTS, CTS (Loop-back wiring: DTR to DSR and DCD)
ADDC®	√	√	---
15 KV ESD Protection	√	√	√
Optical Isolation Protection	---	2 KV	4 KV
Physical Characteristics			
Case	Aluminum		ABS
Weight	148 ± 5 g		60 ± 5 g
Dimensions	67 x 100.4 x 22 mm (2.64 x 3.93 x 0.87 in)		42 x 80 x 23.6 mm (1.65 x 3.15 x 0.93 in)
Environmental Limits			
Operating Temperature	-20 to 60°C (-4 to 140°F)		0 to 60°C (32 to 140°F)
Operating Humidity	5 to 95% RH		
Storage Temperature	-20 to 85°C (-14 to 176°F)		
Power Requirements			
Power over RS-232	√	√	√
Power Jack	√	√	√
Input Voltage	12 to 48 VDC		5 to 12 VDC
Power Consumption	98 mA @ 12 V, 1.18 W	234 mA @ 12 V, 2.81 W	20 mA @ 5 V
Voltage Reversal Protection	√	√	---
Over Current Protection	√	√	---
Regulatory Approvals			
CE, FCC	Class B		
Warranty			
Warranty	5 years (see www.moxa.com/warranty)		

Access Point/Bridge/AP Client Selection Guide




	AWK-1100	AWK-1200-AP	AWK-1200-AC	AWK-3121
WLAN				
IEEE 802.11g/b (wireless LAN)	√	√	√	√
IEEE 802.3u (10/100M Ethernet LAN)	√	√	√	√
IEEE 802.3af (power-over-Ethernet)	√	√	√	√
IEEE 802.1d (Spanning Tree Protocol)	---	---	---	√
Frequency	2.4 GHz			2.4and 5 GHz
Modulation	11b: DBPSK, DQPSK, CCK 11g: OFDM			11b: DBPSK, DQPSK, CCK 11g: OFDM with BPSK, QPSK, 16QAM, 64QAM 11a: OFDM with BPSK, QPSK, 16QAM, 64QAM
Channels	US: 11 channels EU: 12 channels JP: 14 channels			11b/g: US: 11 channels EU: 12 channels JP: 14 channels 11a: US: 12 channels EU: 19 channels JP: 19 channels
Security	64-bit and 128-bit WEP encryption, WPA (IEEE 802.1X/ RADIUS and TKIP), Hide SSID	WEP, WPA, WPA2, IEEE 802.1X, MAC address filtering, Hide SSID	64-bit and 128-bit WEP encryption, WPA	64-bit and 128-bit WEP encryption, WPA / WPA2 (IEEE 802.1X/RADIUS and TKIP), Hide SSID
802.11b Data Rates (Mbps)	1, 2, 5.5, 11			
802.11g Data Rates (Mbps)	6, 9, 12,18, 24, 36, 48, 54			
802.11a Data Rates (Mbps)	---	---	---	6, 9, 12,18, 24, 36, 48, 54
Configuration	Web-based management			Web-based management Console management
Interface				
Antenna	2 dBi omni-directional antenna with an RP-SMA connector	5 dBi External / N-type connector	9 dBi Internal	2 dBi dual-band omni-directional antenna with an RP-SMA connector
RJ45 Port	10/100BaseT(X) auto negotiation			
Alarm Contact	---	---	---	√
Digital Inputs	---	---	---	2
Console	---	---	---	RS-232 (RJ45)
Power Requirements				
Power Input	12-45 VDC or 48 VDC (PoE)	48 VDC (PoE)	48 VDC (PoE)	±12-48 VDC or 48 VDC (PoE)
Number of Power Inputs	3	1	1	3
Overload Current Protection	√	---	---	√
Reverse Polarity Protection	√	---	---	√
Physical Characteristics				
Housing	metal, IP30 protection	IP68 protection	IP67 protection	metal, IP30 protection
Dimensions	53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in.)	284.4 x 254.3 x 77.5 mm (11.20 x 10.01 x 3.05 in)	165.8 x 195.8 x 60.3 mm (6.53 x 7.71 x 2.37 in)	53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)
Installation Options	DIN-Rail mounting, wall mounting	Wall or Mast Mounting	Wall or Mast Mounting	DIN-Rail mounting, wall mounting
Environmental Limits				
Operating Temperature	0 to 60°C (32 to 140°F)	-20 to 70°C (-4 to 158°F)		Standard models: 0 to 60°C (32 to 140°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature	-20 to 70°C (-4 to 158°F)	-40 to 80°C (-40 to 176°F)		-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5% to 95% (non-condensing)			
Regulatory Approvals				
CE	√	√	√	√
FCC	√	√	√	√
Safety	EN60950-1: 2001, UL60950-1	---	---	EN60950-1: 2001, UL60950-1, UL508, UL2043 (pending)
Hazardous location	UL/cUL Class I, Division 2, Groups A, B, C and D ATEX Class I, Zone 2, EEx nC IIC (pending)	---	---	UL/cUL Class I, Division 2, Groups A, B, C, and D (pending) ATEX Class I, Zone 2, EEx nC IIC (pending)
Radio	EN300 328-1/-2			
EMC	EN301 489-1/-17			
EMI	FCC Part 15.247			
Reliability				
Warranty	5 years (see www.moxa.com/warranty)			

Wireless Device Server Selection Guide

	NPort® W2004	NPort® W2150 Plus	NPort® W2250 Plus
LAN Interface			
Ethernet	10/100 Mbps (RJ45)		
1.5 KV Magnetic Isolation Protection	√	√	√
WLAN Interface			
Standard Compliance	802.11b/g	802.11a/b/g	
Radio Frequency Type	DSSS/OFDM		
Rx Sensitivity	-80 dBm	-80 dBm	-80 dBm
Transmission Rate	54 Mbps (max.) with auto fallback (54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, 1 Mbps)	802.11a: 54 Mbps 802.11b: 11 Mbps 802.11g: 54 Mbps (max.) with auto fallback (54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, 1 Mbps)	
Transmission Distance	Up to 300 meters (at 12 Mbps in open areas)	Up to 100 meters (in open areas)	
Network Modes	Infrastructure, Ad-Hoc		
Wireless Security	64-bit/128-bit data encryption with WEP	WEP: 64-bit/128-bit data encryption WPA, WPA2, 802.11i: Enterprise mode and Pre-Share Key (PSK) mode Encryption: 128-bit TKIP/AES-CCMP EAP-TLS, PEAP/GTC, PEAP/MD5, PEAP/MSCHAPV2, EAP-TTLS/PAP, EAP-TTLS/CHAP, EAP-TTLS/MSCHAP, EAP-TTLS/MSCHAPV2, EAP-TTLS/EAP-MSCHAPV2, EAP-TTLS/EAP-GTC, EAP-TTLS/EAP-MD5, LEAP	
Serial Interface			
Serial Standards	RS-232/422/485		
Number of Ports	4	1	2
Connectors	RJ45	DB9 male	
Console Port	√	---	---
64 KB Serial Data Log	---	√	√
Off-line Port Buffering	---	20 MB	10 MB
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	RTS/CTS, XON/XOFF, DTR/DSR	
Baudrate	50 bps to 460.8 Kbps	50 bps to 921.6 Kbps	
Software			
Network Protocols	ICMP, IP, TCP, UDP, DHCP, Telnet, DNS, SNMP, HTTP, SMTP, SNTP, SSH, HTTPS	ICMP, IP, TCP, UDP, DHCP, Telnet, DNS, SNMP, HTTP, SMTP, SNTP, SSH, HTTPS	
Configuration Options	Web Console, Serial Console, Telnet Console		
Utilities	NPort® Search Utility and NPort® Windows Driver Manager		
Driver Support	Windows Real COM driver (for Windows 95, 98, ME, NT, 2000, XP, 2003, Vista, XP x64, 2003 x64, Vista x64), Linux Real TTY driver, Fixed TTY driver (for SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i)		
Physical Characteristics			
Housing	SECC sheet metal (1 mm)	Aluminum sheet metal (1 mm)	
Dimensions	45.8 x 135 x 105 mm (1.80 x 5.31 x 4.13 in)	77 x 111 x 26 mm (3.03 x 4.37 x 1.02 in)	
Environmental Limits			
Operating Temperature	0 to 55°C (32 to 131°F)		
Operating Humidity	5 to 95% RH		
Storage Temperature	-20 to 85°C (-4 to 185°F)		
Regulatory Approvals			
EMC	CE (EN55022 and EN55024 Class A, ETSI EN 301 489-17, ETSI EN 301 489-1), FCC (Part 15 Subpart C, Part 17 Subpart B Class A)	CE (EN55022 and EN55024 Class A, ETSI EN 301 489-17, ETSI EN 301 489-1), FCC Part 15 and 17 Subpart B Class A	
Safety	UL (UL60950-1), TÜV (EN60950-1)		
DSPR	---	ARIB-STD 33, ARIB-STD 66	
Reliability			
Warranty	5 years (see www.moxa.com/warranty)		

RISC-based WLAN Computer Selection Guide



	W311-LX	W321-LX	W341-LX
Computer			
CPU	MOXA ART ARM9 32-bit 192 MHz		
OS (pre-installed)	Embedded Linux with MMU support		
DRAM	32MB		64 MB
Flash	16 MB		
Reset Button	√	√	√
Storage			
SD socket	---	√	√
Other Peripherals			
USB	---	---	√
Relay Output	---	---	√
LAN Interface			
Ethernet	10/100 Mbps (RJ45)		
1.5 KV Magnetic Isolation Protection	√	√	√
WLAN Interface			
Standard Compliance	802.11a/b/g		
Radio Frequency Type	DSSS, CCK, OFDM		
Transmission Rate	54 Mbps (max.) with auto fallback (54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, 1 Mbps) 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b: 1, 2, 5.5, 11 Mbps		
Transmission Distance	Up to 100 meters (@ 11 Mbps in open areas)		
Wireless Security	WEP: 64-bit/128-bit, WPA, WPA2 data encryption		
WLAN Modes	Ad-hoc (802.11b/g), Infrastructure		
Serial Interface			
Serial Standards	RS-232/422/485		
Number of Ports	1	2	4
Connector	DB9 male		
ESD Protection	15 KV		
RS-232 Console Port	√	√	√
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™		
Baudrate	50 bps to 921.6 Kbps		
LEDs			
System	Ready	Ready, SD	
LAN	10M/Link, 100M/Link (on connector)		
WLAN	Enable, Signal Strength		
Serial	TxD, RxD		
Physical Characteristics			
Housing: Aluminum (1 mm)	Aluminum (1 mm)		
Weight	150 g	185 g	390 g
Dimensions	67 x 100.4 x 22 mm (2.64 x 3.95 x 0.87 in)	77 x 111 x 26 mm (3.03 x 4.37 x 1.02 in)	150 x 100 x 38 mm (5.91 x 3.94 x 1.50 in)
Mounting	DIN-rail (requires optional DK-35A DIN-rail kit), 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)		
5-g Anti-Vibration	√	√	√
50-g Anti-Shock	√	√	√
Regulatory Approvals			
EMC	CE (ETSI EN 301 489-1/-17, ETSI EN 301 893, ETSI EN 300 328, EN50392), FCC Part 15C & Part 15E		
Safety	UL/cUL (UL60950-1), T V (EN60950-1)		
Directives	RoHS, CRoHS, WEEE		
Reliability			
Buzzer, RTC, WDT	√	√	√
Warranty	5 years (see www.moxa.com/warranty)		

Industrial Cellular Selection Guide




	OnCell G3110	OnCell G3150	OnCell G2110/G2110-T	OnCell G2150I
Hardware				
CPU	MOXA ART CPU, 192 MHz		---	---
RAM	8 MB		---	---
Flash ROM	4 MB		---	---
LAN Interface				
Ethernet	10/100 Mbps (RJ45)		---	---
1.5 KV Magnetic Isolation Protection	√	√	---	---
Cellular Interface				
Standards	GSM/GPRS/EDGE		GSM/GPRS	
Band Options	Quad-band 850/900 and 1800/1900 MHz			
GPRS Multi-slot Class	Class 12		Class 10	
GPRS Terminal Device Class	Class B			
GPRS Coding Schemes	CS1 to CS4			
SMS	Point-to-point Text/PDU, Mobile Originated (MO) and Mobile Terminated (MT Cell Broadcast in accordance with GSM 07.05)			
Serial Interface				
Serial Standards	RS-232	RS-232/422/485	RS-232	RS-232/422/485
Number of Ports: 1	1	1	1	1
2.5 KV Serial Line Isolation	DB9 male	RS-232: DB9 male RS-422/485: 5-pin terminal block	DB9 female	RS-232: DB9 female RS-422/485: 5-pin terminal block
2 KV Power EFT/Surge Protection	---	---	---	√
ESD Protection: 15 KV	√	√	√	√
Serial Communication Parameters				
Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark		Data Bits: 7, 8; Stop Bits: 1, 2; Parity: None, Even, Odd, Space, Mark	
Flow Control	RTS/CTS, XON/XOFF		RTC/CTS	
Baudrate	50 bps to 921.6 Kbps		300 bps to 115.2 Kbps	
Physical Characteristics				
Housing	Aluminum, IP30 protected		ABS + PC, IP30 protected	
Environmental Limits				
Operating Temperature	0 to 55°C (32 to 131°F)			
Operating Humidity	5 to 95% RH			
Storage Temperature	-40 to 75°C (-40 to 167°F)			
Regulatory Approvals				
Safety	UL UL EN60950-1, TÜV EN60950-1		---	---
EMC	FCC part 15 subpart B, Class A, CE EN55022 Class A, CE EN55024			
EN61000-4-2 (ESD)	√	√	√	√
EN61000-4-3 (RS)	√	√	√	√
EN61000-4-4 (EFT)	√	√	√	√
EN61000-4-5 (Surge)	√	√	√	√
EN61000-4-8	√	√	√	√
EN61000-4-12	√	√	---	---
RF	FCC Part22H FCC PART24E EN301 489-1 EN301 489-7 EN301 511			
Reliability				
Warranty	5 years (see www.moxa.com/warranty)			

Cellular Computer Selection Guide



	W315-LX	W325-LX	W345-LX
Computer			
CPU	MOXA ART ARM9 32-bit RISC CPU, 192 MHz		
OS (pre-installed)	Embedded Linux with MMU support		
DRAM	32 MB		64 MB
Flash	16 MB		
Reset Button	√	√	√
Storage			
SD Socket	---	√	√
Other Peripherals			
USB	---	---	√
Relay Output	---	---	√
LAN Interface			
Ethernet	10/100 Mbps (RJ45)		
1.5 KV Magnetic Isolation Protection	√	√	√
Cellular Interface			
Cellular Modes	GSM, GPRS		
Radio Frequency Bands	850/900/1800/1900 MHz		
GPRS Class	10		
Coding Schemes	CS1 to CS4	CS1 to CS4	CS1 to CS4
Serial Interface			
Serial Standards	RS-232/422/485		
Number of Ports	1	2	4
Connector	DB9 male		
15 KV ESD protection	√	√	√
RS-232 Console Port	√	√	√
Serial Communication Parameters			
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®		
Baudrate	50 bps to 921.6 Kbps (non-standard baudrates supported; see user's manual for details)		
LEDs			
System		Ready, SD	
LAN	10M/Link, 100M/Link (on connector)		
Cellular	GPRS Enabled, GSM Signal Strength		
Serial	TxD, RxD		
Physical Characteristics			
Housing	Aluminum (1 mm)		
Weight	195 g		400 g
Dimensions	77 x 111 x 26 mm (3.03 x 4.37 x 1.02 in)		150 x 100 x 38 mm (5.91 x 3.94 x 1.50 in)
Mounting	DIN-rail (requires optional DK-35A DIN-rail kit), 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)		
5-g Anti-Vibration	√	√	√
50-g Anti-Shock	√	√	√
Regulatory Approvals			
EMC	CE (Class A), FCC		
Safety	UL/cUL, T V		
Directives	RoHS, CRoHS, WEEE		
Reliability			
Buzzer, RTC, WTC	√	√	√
Warranty	5 years (see www.moxa.com/warranty)		

x86-based Selection Guide

	V462-CE/XPE, V462-T-CE/XPE	V464-CE/XPE, V464-T-CE/XPE	V466-CE/XPE, V466-T-CE/XPE	V468-CE/XPE, V468-T-CE/XPE
Computer				
CPU	AMD Geode LX 800@0.9W processor, 128K L2 Cache, 500 MHz			
OS (pre-installed)	Windows CE 6.0 or Windows XP Embedded			
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 DDR (for CE models) or 512 MB DDR (for XPE models), 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			
Display Memory	---	---	---	---
Storage				
Built-in Storage	256 MB industrial DOM for OS			
Expansion Slot	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, with speaker-out interface			
KB/MS	1 PS/2 interface supporting standard PS/2 keyboard and mouse through Y-type cable			
PCMCIA	Cardbus card and 16-bit PCMCIA 2.1/JEIDA 4.2 card	---	---	---
Switch Ports	---	---	Built-in 8-port Ethernet switch (10/100 Mbps, unmanaged)	---
8 Channel DI/DO	---	---	---	√
Ethernet Interface				
Number of Ports	2 x 10/100 Mbps	4 x 10/100 Mbps		
Magnetic Isolation Protection	1.5 KV built-in			
Serial Interface				
Number of Ports	4	4	4	4
Serial Standards	RS-232 x 2, RS-232/422/485 x 2			
Connectors	DB9 male			
ESD protection	15 KV			
Optical Isolation Protection	---	---	---	---
Console Port (RS-232)	---	---	---	---
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™			
Baudrate	50 bps to 921.6 Kbps (non-standard baudrates supported; see user's manual for details)			
Mini Screen with Push Buttons				
LCD panel on the case	---	---	---	---
Push buttons for on-site configuration	---	---	---	---
Physical Characteristics				
Case	Aluminum, EPIC form factor			
Weight	---	---	---	---
Dimensions	223 x 120.5 x 57 mm (8.78 x 4.74 x 2.24 in)			
Mounting Options	DIN-rail, wall			
Environmental Limits				
Operating Temperature	Standard Models: -10 to 60°C (14 to 140°F) Wide Temp Models: -40 to 75°C (-40 to 167°F)			
Operating Humidity	5 to 95% RH			
Storage Temperature	Standard Models: -20 to 80°C (-4 to 176°F) Wide Temp Models: -40 to 85°C (-40 to 185°F)			
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, GB17625.1)			
Safety	UL/cUL (UL60950-1, CSA C22.2 No. 60950-1-03), LVD, CCC (GB4943CCC)			
Directives	RoHS, WEEE			
Reliability				
Buzzer, RTC, WDT	√	√	√	√
Warranty	5 years (see www.moxa.com/warranty)			

x86-based Selection Guide (continued)

	V481-CE/XPE, V481-T-CE/XPE	DA-682-I-8-CE/XPE
Computer		
CPU	Intel ULV Celeron M 1 GHz processor	Intel Celeron M 1GHz processor
OS (pre-installed)	Windows CE 5.0 or Windows XP Embedded	Windows CE 6.0 or Windows XP Embedded
FSB	400 MHz	400/533 MHz
System Chipset	Intel 852GM GMCH +ICH4	Intel 915GME+ICH6M
Expansion Bus	PC/104-Plus onboard	2 PCI expansion slots
BIOS	4 mega-bit Flash BIOS, supporting Plug & Play	4 mega-bit Flash BIOS, supporting PCI Plug & Play, and ACPI function
System Memory	200-pin SO-DIMM socket with built-in 256 MB DDR, supporting DDR400 up to 1 GB	200-pin SO-DIMM socket with built-in 256 MB DDR (CE model) or 512 MB DDR (XPE model), supporting DDR2 400/533 up to 1 GB
SRAM	---	---
Display		
Graphics Controller	Integrated graphics with built-in Intel 852GM GMCH and Intel extreme Graphics 2 technology	Integrated graphics with built-in Intel 915GME and Intel extreme Graphics 2 technology
Display Interface	CRT	
Display Memory	Dynamic video memory sharing up to 32 MB of system memory	
Storage		
Built-in Storage	256 MB (CE model) or 1 GB (XPE model) industrial CompactFlash card onboard to store OS	256 MB (CE model) or 1 GB (XPE model) industrial Flash Disk Module to store OS
Expansion Slot	Second CompactFlash socket available for storage expansion	CompactFlash Type-I/II socket with DMA mode support
Other Peripherals		
USB	USB 2.0 compliant hosts x 2, type A connector, supports system boot up	
Audio	AC97 audio, with speaker-out interface	---
KB/MS	1 PS/2 interface supporting standard PS/2 keyboard and mouse through Y-type cable	
PCMCIA	---	---
Switch Ports	---	---
8 Channel DI/DO	---	---
Ethernet Interface		
Number of Ports	1 x 10/100 Mbps, 1 x 10/100/1000 Mbps	4 x 10/100 Mbps
Magnetic Isolation Protection	1.5 KV built-in	
Serial Interface		
Number of Ports	8	
Serial Standards	RS-232/422/485 x 8	
Connectors	DB9 male	
ESD protection	15 KV	
Optical Isolation Protection	---	2 KV
Console Port (RS-232)	---	---
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™	
Baudrate	50 bps to 921.6 Kbps (non-standard baudrates supported; see user's manual for details)	
Mini Screen with Push Buttons		
LCD panel on the case	---	---
Push buttons for on-site configuration	---	---
Physical Characteristics		
Case	Aluminum	SECC sheet metal (1 mm)
Weight	2.2 kg	2.94 kg
Dimensions	225 x 140 x 70 mm (8.86 x 5.51 x 2.76 in)	440 x 224 x 45 mm (17.3 x 8.82 x 1.77 in)
Mounting Options	DIN-rail, wall	Standard 19-inch rackmount
Environmental Limits		
Operating Temperature	Standard Models: -10 to 60°C (14 to 140°F) Wide Temp Models: -35 to 75°C (-31 to 167°F)	-10 to 60°C (14 to 140°F)
Operating Humidity	5 to 95% RH	
Storage Temperature	Standard Models: -20 to 80°C (-4 to 176°F) Wide Temp Models: -40 to 85°C (-40 to 185°F)	-20 to 80°C (-4 to 176°F)
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		
Buzzer, RTC, WDT	√	√
Warranty	5 years (see www.moxa.com/warranty)	

RISC-based Rackmount Computer Selection Guide






	DA-660-8-LX DA-660-8-CE	DA-660-16-LX DA-660-16-CE	DA-661-16-LX DA-661-16-CE	DA-662-16-LX DA-662-16-CE	DA-662-I-16-LX DA-662-I-16-CE	DA-663-16-LX DA-663-16-CE
Computer						
CPU	Intel XScale IXP-422 266 MHz		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	---	---	√	√	√	√
Full-function CompactFlash	---	---	√	√	√	√
SD Socket or Signals	---	---	---	---	---	---
EIDE	---	---	---	---	---	---
NVSRAM	---	---	---	---	---	---
USB	---	---	√	√	√	√
DI/DO Channels	---	---	---	---	---	---
Reset Button	---	---	---	---	---	---
LAN Interface						
10/100 Mbps Ethernet	2 ports			4 ports		---
1.5 KV Magnetic Isolation Protection	√	√	√	√	√	---
Fiber	---	---	---	---	---	√
Serial Interface						
Number of Ports	8	16				
Serial Standards	RS-232/422/485					
Connectors	8-pin RJ45					
15 KV ESD Protection	√	√	√	√	√	√
2 KV Optical Isolation Protection	---	---	---	---	√	---
RS-232 Console Port	√	√	√	√	√	√
Configuration 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™					
Baudrate	50 bps to 921.6 Kbps (non-standard baudrates supported; see user's manual for details)					
CANbus	---	---	---	---	---	---
Display						
Graphics Controller	---	---	---	---	---	---
LEDs	OS Ready, 10M/100M x 2, TxD x 8, RxD x 8	OS Ready, 10M/100M x 2, TxD x 16, RxD x 16		OS Ready, 10M/100M x 4, TxD x 16, RxD x 16		100Base FX x 2, TxD x 16, RxD x 16
Mini Screen with Push Buttons	√	√	√	√	√	√
Physical Characteristics						
Housing	SECC sheet metal (1 mm)					
Weight	2600 g				2940 g	2600 g
Dimensions	440 x 45 x 198 mm (17.32 x 1.77 x 7.80 in)				440 x 45 x 228 mm (17.32 x 1.77 x 8.98 in)	440 x 45 x 198 mm (17.32 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)					
Anti-vibration, Anti-shock	---	---	---	---	---	---
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)					
Directives	RoHS, CRoHS, WEEE					
Reliability						
Buzzer, RTC, WDT	√	√	√	√	√	√
Warranty	5 years (see www.moxa.com/warranty)					

RISC-based DIN-Rail Computer Selection Guide




	IA240-LX IA240-T-LX	IA241-LX IA241-T-LX	IA261-CE IA261-T-CE	IA262-CE IA262-T-CE
Computer				
CPU	MOXA ART ARM9 32-bit RISC CPU, 192 MHz		Cirrus EP9315 ARM9 CPU, 200 MHz	
OS (pre-installed)	Embedded Linux		Windows CE 6.0	
DRAM	64 MB onboard (128 MB for IA241 ODM)		128 MB onboard (256 MB for ODM)	
Flash	16 MB onboard (32 MB for IA241 ODM)		32 MB onboard	
PCMCIA	---	√	---	---
Full-function CompactFlash	---	---	√	---
SD Socket or Signals	√	√	---	---
EIDE	---	---	---	---
NVSRAM	---	---	√	√
USB	√	√	√	√
DI/DO Channels	4		8	
Reset Button	---	---	√	√
LAN Interface				
10/100 Mbps Ethernet	2 ports			
1.5 KV Magnetic Isolation Protection	√	√	√	√
Fiber	---	---	---	---
Serial Interface				
Number of Ports	4	4	4	2
Serial Standards	RS-232/422/485			
Connectors	8-pin RJ45		DB9 male	
15 KV ESD Protection	√	√	√	√
2 KV Optical Isolation Protection	---	---	√	√
RS-232 Console Port	√	√	√	√
Configuration 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™			
Baudrate	50 bps to 921.6 Kbps (non-standard baudrates supported; see user's manual for details)			
Number of CANbus Ports	---	---	---	2
Display				
Graphics Controller	---	---	√	√
LEDs	Power, Ready, 10M/Link x 2, 100M/Link x 2, TxD x 4, RxD x 4		Power, Ready, 10M/Link x 2, 100M/Link x 2, TxD x 4, RxD x 4, P1, P2, P3, P4	
Mini Screen with Push Buttons	---	---	---	---
Physical Characteristics				
Housing	Aluminum (1 mm)		Aluminum, industrial vertical form factor	
Weight	430 g	500 g		
Dimensions	60 x 137 x 100 mm (2.36 x 5.39 x 3.94 in)		60 x 115 x 152 mm (2.36 x 4.53 x 5.98 in)	
Mounting	DIN-Rail, wall			
Environmental Limits				
Operating Temperature	Standard Models: -10 to 60°C (14 to 140°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)			
Operating Humidity	5 to 95% RH			
Storage Temperature	Standard model: -20 to 80°C (-4 to 176°F) Wide temp. model: -40 to 85°C (-40 to 185°F)			
Anti-vibration, Anti-shock	---	---	---	---
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)		CE (Class A), FCC	
Safety	UL/cUL (UL60950-1, CSA C22.2 No. 60950-1-03), TÜV (EN60950-1)		UL/cUL	
Directives	RoHS, CRoHS, WEEE			
Reliability				
Buzzer, RTC, WDT	√	√	√	√
Warranty	5 years (see www.moxa.com/warranty)			

RISC-based Box Computer Selection Guide



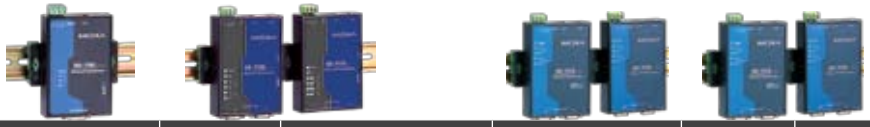

	UC-7410-LX UC-7410-CE	UC-7420-LX UC-7420-CE	UC-7410-LX-Plus	UC-7420-LX-Plus
Computer				
CPU	Intel XScale IXP-422 266 MHz		Intel XScale IXP-425 533 MHz	
OS (pre-installed)	Embedded Linux or Windows CE 5.0			
DRAM	128 MB onboard (256 MB for ODM)			
Flash	32 MB onboard			
PCMCIA	---	√	---	√
Full-function CompactFlash	---	√	---	√
SD Socket or Signals	---	---	---	---
EIDE	---	---	---	---
NVSRAM	---	---	---	---
USB	√	√	√	√
DI/DO Channels	---	---	---	---
Reset Button	---	---	---	---
LAN Interface				
10/100 Mbps Ethernet	2 ports			
1.5 KV Magnetic Isolation Protection	√	√	√	√
Fiber	---	---	---	---
Serial Interface				
Number of Ports	8	8	8	8
Serial Standards	RS-232/422/485			
Connectors	8-pin RJ45			
15 KV ESD Protection	√	√	√	√
2 KV Optical Isolation Protection	---	---	---	---
RS-232 Console Port	√	√	√	√
Configuration 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™			
Baudrate	50 bps to 921.6 Kbps (non-standard baudrates supported; see user's manual for details)			
CANbus	---	---	---	---
Display				
Graphics Controller	---	---	---	---
LEDs	OS Ready, Console (TxD/RxD), 10M/100M x 2, TxD x 8, RxD x 8			
Mini Screen with Push Buttons	√	√	√	√
Physical Characteristics				
Housing	SECC sheet metal (1 mm)			
Weight	810 g	875 g	810 g	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, Anti-shock	√	√	√	√
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)			
Directives	RoHS, CRoHS, WEEE			
Reliability				
Buzzer, RTC, WDT	√	√	√	√
Warranty	5 years (see www.moxa.com/warranty)			

RISC-based Box Computer Selection Guide (continued)




	UC-7408-LX UC-7408-CE	UC-7408-LX Plus	UC-7402-LX	UC-7402-LX Plus
Computer				
CPU	Intel XScale IXP-422 266 MHz	Intel XScale IXP-425 533 MHz	Intel XScale IPX-422 266 MHz	Intel XScale IXP-425 533 MHz
OS (pre-installed)	Embedded Linux or Windows CE 5.0		Embedded Linux	
DRAM	128 MB onboard (256 MB for ODM)			
Flash	32 MB onboard			
PCMCIA	√	√	√	√
Full-function CompactFlash	√	√	√	√
SD Socket or Signals	---	---	---	---
EIDE	---	---	---	---
NVSRAM	---	---	---	---
USB	√	√	---	---
DI/DO Channels	8	8	---	---
Reset Button	---	---	---	---
LAN Interface				
10/100 Mbps Ethernet	2 ports			
1.5 KV Magnetic Isolation Protection	√	√	√	√
Fiber	---	---	---	---
Serial Interface				
Number of Ports	8	8	---	---
Serial Standards	RS-232/422/485		---	---
Connectors	8-pin RJ45		---	---
15 KV ESD Protection	√	√	---	---
2 KV Optical Isolation Protection	---	---	---	---
RS-232 Console Port	√	√	√	√
Configuration 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™		---	---
Baudrate	50 bps to 921.6 Kbps (non-standard baudrates supported)		---	---
CANbus	---	---	---	---
Display				
Graphics Controller	---	---	---	---
LEDs	OS Ready, Console (TxD/RxD), 10M/100M x 2, TxD x 8, RxD x 8		OS Ready, Console (TxD/RxD), 10M/100M x 2	
Mini Screen with Push Buttons	---	---	---	---
Physical Characteristics				
Housing	SECC sheet metal (1 mm)			
Weight	870 g	870 g	830 g	830 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, Anti-shock	√	√	√	√
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)			
Directives	RoHS, CRoHS, WEEE			
Reliability				
Buzzer, RTC, WDT	√	√	√	√
Warranty	5 years (see www.moxa.com/warranty)			

RISC-based Palm-size Computer Selection Guide



	UC-7101-LX UC-7101-T-LX	UC-7122-CE	UC-7124-CE	UC-7110-LX UC-7110-T-LX	UC-7112-LX	UC-7112-LX Plus
Computer						
CPU	MOXA ART ARM9 32-bit 192 MHz processor	Cirrus EP9302 ARM9 CPU, 200 MHz		MOXA ART ARM9 32-bit 192 MHz processor		
OS (pre-installed)	µClinux (based on Linux Kernel 2.6)	Windows CE 5.0		µClinux or Linux		
DRAM	16 MB	32 MB onboard (64 MB for ODM)		16 MB (32 MB for ODM)		32 MB onboard (64 MB for ODM)
Flash	8 MB	16 MB onboard (32 MB for ODM)		8 MB onboard (16 MB for ODM)		16 MB onboard
PCMCIA	---	---	---	---	---	---
Full-function CompactFlash	---	---	---	---	---	---
SD Socket or Signals	√	√	√	---	√	√
EIDE	---	---	---	---	---	---
NVSRAM	---	---	---	---	---	---
USB	---	√	√	---	---	---
DI/DO Channels	---	---	---	---	---	---
Reset Button	√	---	---	---	---	---
LAN Interface						
10/100 Mbps Ethernet	1 port	2 ports				
1.5 KV Magnetic Isolation Protection	√	√	√	√	√	√
Fiber	---	---	---	---	---	---
Serial Interface						
Number of Ports	1	2	4	2	2	2
Serial Standards	RS-232/422/485					
Connectors	DB9 male	8-pin RJ45		DB9 male		
15 KV ESD Protection	√	√	√	√	√	√
2 KV Optical Isolation Protection	---	---	---	---	---	---
RS-232 Console Port	√	√	√	√	√	√
Configuration 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™					
Baudrate	50 bps to 921.6 Kbps (non-standard baudrates supported; see user's manual for details)					
CANbus	---	---	---	---	---	---
Display						
Graphics Controller	---	---	---	---	---	---
LEDs	Ready, 10M/Link x 1, 100M/Link x 1, TxD, RxD		Ready, 10M/Link x 1, 100M/Link x 1, TxD x 4, RxD x 4	Ready, 10M/Link x 1, 100M/Link x 1, TxD x 2, RxD x 2		
Mini Screen with Push Buttons	---	---	---	---	---	---
Physical Characteristics						
Housing	Aluminum (1 mm)					
Weight	130 g	190 g	200 g	190 g		
Dimensions	67 x 22 x 100.4 mm (2.64 x 0.87 x 3.95 in)	77 x 111 x 26 mm (3.03 x 4.37 x 1.02 in)				
Mounting	DIN-Rail, wall					
Environmental Limits						
Operating Temperature	Standard models: -10 to 60°C (14 to 140°F) Wide temp. models: -40 to 75°C (-40 to 167°F)	-10 to 60°C (14 to 140°F)		Standard Models: -10 to 60°C (14 to 140°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)	-10 to 60°C (14 to 140°F)	
Operating Humidity	5 to 95% RH					
Storage Temperature	Standard model: -20 to 80°C (-4 to 176°F) Wide temp. model: -40 to 85°C (-40 to 185°F)	-20 to 80°C (-4 to 176°F)		Standard model: -20 to 80°C (-4 to 176°F) Wide temp. model: -40 to 85°C (-40 to 185°F)	-20 to 80°C (-4 to 176°F)	
Anti-vibration, Anti-shock	---	---	---	---	---	---
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)					
Directives	RoHS, CRoHS, WEEE					
Reliability						
Buzzer, RTC, WDT	√	√	√	√	√	√
Warranty	5 years (see www.moxa.com/warranty)					

RISC-based Embedded Module Selection Guide



	EM-2260-CE EM-2260-T-CE	EM-1220-LX EM-1220-T-LX	EM-1240-LX EM-1240-T-LX
Computer			
CPU	Cirrus Logik EP9315 ARM9 CPU, 200 MHz	MOXA ART ARM9 32-bit 192 MHz processor	
OS (pre-installed)	Windows CE 6.0	Embedded µClinux (kernel 2.6.9)	
DRAM	128 MB onboard (optional 256 MB)	16 MB onboard (32 MB for ODM)	
Flash	32 MB	8 MB onboard (16 MB for ODM)	
PCMCIA	---	---	---
Full-function CompactFlash	---	---	---
SD Socket or Signals	---	√	√
EIDE	√	---	---
NVSRAM	√	---	---
USB	√	---	---
DI/DO Channels	8	---	---
Reset Button	√	---	---
LAN Interface			
10/100 Mbps Ethernet	2 ports		
1.5 KV Magnetic Isolation Protection	√	√	√
Fiber	---	---	---
Serial Interface			
Number of Ports	4	2	4
Serial Standards	High speed TTL		RS-232/422/485
Connectors			
15 KV ESD Protection		√	√
2 KV Optical Isolation Protection	---	---	---
RS-232 Console Port	√	√	√
Configuration 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™		
Baudrate	50 bps to 921.6 Kbps (non-standard baudrates supported; see user's manual for details)		
CANbus	√	---	---
Display			
Graphics Controller	√	---	---
LEDs	---	Ready, 10M/Link x 2, 100M/Link x 2, TxD x 4, RxD x 4	
Mini Screen with Push Buttons	---	---	---
Physical Characteristics			
Housing			
Weight	70 g	40 g	50 g
Dimensions	106 x 87 mm (4.17 x 3.43 in)	80 x 50 mm (3.15 x 1.97 in)	90 x 80 mm (3.54 x 3.15 in)
Mounting			
Environmental Limits			
Operating Temperature	Standard Models: -10 to 60°C (14 to 140°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)		
Operating Humidity	5 to 95% RH		
Storage Temperature	Standard model: -20 to 80°C (-4 to 176°F) Wide temp. model: -40 to 85°C (-40 to 185°F)		
Anti-vibration, Anti-shock	---	---	---
Regulatory Approvals			
EMC	CE (Class A), FCC	CE (EN55022 Class A, EN61000-3-2 Class A, EN61000-3-3, EN55024), FCC (Part 15 Subpart B, CISPR 22 Class A)	
Safety	---	---	---
Directives	RoHS, CRoHS, WEEE		
Reliability			
Buzzer, RTC, WDT	√	√	√
Warranty	5 years (see www.moxa.com/warranty)		

Notes

Notes

Every effort is made to ensure that the information provided in this catalog is accurate. However, please note that no guarantee or legal contract is implied with the presentation of this information. This catalog is intended for informational purposes only, and Moxa reserves the right to update or modify this information at any time.

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- **A list of errata for the 2008 Moxa Master Catalog is available here: www.moxa.com/catalog_errata**
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