



# Industrial Networking, Computing, and Automation Solutions

# Moxa: Your Trusted Partner in

Moxa provides the most reliable networks to power your most critical applications. Founded in 1987, our comprehensive convergence of industrial automation and information technology provide customers in industrial automation with maximum efficiency, rapid deployment, and ease of use.

By providing reliable solutions and professional service, our customers and partners can adapt to fast changing technologies and opportunities to achieve sustainable productivity and operational efficiency. At Moxa, we enjoy working closely with our global customers, channel partners, and solution partners to achieve and share success.

## Core Values

### >> Reliable Networks

Automation engineers can now take advantage of our smarter, more connected world to implement smoother, more efficient operations. Moxa presents customers with a comprehensive solution portfolio that unifies network infrastructures to enable automation convergence, and our extensive automation and network technologies and embedded computer capability far outpace competitors from across the globe.

### >> Sincere Service

We listen carefully to your expectations and needs and then use what we learned to ensure your own success and our continual improvement. We collaborate closely with our customers and partners to enable a faster time-to-market, and through premium customizations, network consulting, and a broad range of technical support options, provide the best customer-centric service available—wherever and whenever you need it.

As a world-class company, all Moxa employees adhere to high ethical standards of conduct. The four cornerstones of this code are our core values, which lead us to achieve our goals and earn the esteem of our partners, customers, and employees.

- **Integrity:** We pledge to operate our business with the highest professional integrity, and serve as a model corporation for our community.
- **Mutual Respect:** We respect individual and corporate needs and goals in order to fulfill individual potential and Moxa's success.
- **Customer Focus:** We are committed to meeting customers' needs and exceeding customers' expectations.
- **Execution:** We persist in finding the truth, getting things done right the first time, and delivering on our commitments.



# Industrial Automation



## Robust Quality

Quality is an integral part of Moxa's corporate culture, and we use a Total Quality Management (TQM) methodology to align quality assurance with customer satisfaction.

- **Continuous Improvement:** Moxa encourages each employee to improve operational efficiency and productivity through formal task forces and methodologies.
- **Robust Technology:** The quality team performs extensive quality testing throughout all design and production phases to achieve tangible quality benchmarks for mission-critical applications.
- **Project Lifecycle Management:** Moxa is certified by IRIS (International Railway Industry Standard), and extends the same quality model to facilitate a win-win project life cycle management for all parties involved.

## Technological Innovation

At Moxa, we cultivate continual technological innovation to fulfill our mission of providing more efficient and sustainable automation network solutions to meet the constantly changing requirements of industrial environments. Moxa offers application-driven technological advances to enhance all aspects of customer value and profitability.

- **Performance:** High speed wired/wireless connectivity for future-proof networks
- **Availability:** Millisecond-level resilience for non-stop operations
- **Security:** Robust access security for critical device protection and secure remote access
- **Manageability:** Easy operations in deployment, monitoring, and diagnostic maintenance
- **Interoperability:** Versatile fieldbus technologies for close automation network collaboration
- **Reliability:** Proven standards for reliable productivity
- **Lower TCO:** Built-in reliability and redundancy for reduced downtime and increased productivity

## Customer-Core Services

Moxa provides expert services to facilitate fast and successful network application deployment and operation.

- **Network Consulting:** Moxa's Professional Industrial Networking Services (PiNS) helps customers design and deploy industrial networking solutions, and optimize edge-to-core network architecture and performance as needed.
- **Premium Customization:** Extensive customization services are available to meet your specific requirements. We follow a well-defined design and manufacturing process for each project, giving you the assurance of quality products as promised.
- **Technical Services:** Moxa provides MTSC (Moxa Technical Support Certification) training sessions so that over 180 MTSC-qualified global partners remain up-to-date on how to best service Moxa's products and solutions.



# Connect to Moxa Anytime, Anywhere

Take advantage of Moxa's professionalism and 26 years of industrial experience to empower your network operations and applications. Moxa's global team of experts is ready to assist you with all aspects of your projects—from concept to completion.



## »» Global Sales and Service Network

Moxa has established a global network of professional sales people who are well trained to understand and fulfill customers' needs, and our distributor network extends throughout the Americas, Europe, Asia-Pacific, and China to reach end-users in over 70 countries around the world. Wherever you are in the world, you can receive the highest level of support from our teams of specially trained and certified staff.

Moxa's experienced, professional engineering team listens to your requirements, and then conducts a careful analysis of your needs before delivering a full report with detailed technical specifications. As a Moxa client, you have the freedom to request detailed changes to specifications, special testing requirements, as well as non-standard network architectures. The entire Moxa team, including our distributors around the world, is trained to meet rigorous industrial standards for quality and technical proficiency.

## »» Global Online Service



You can easily find the latest product information and news about Moxa at [www.moxa.com](http://www.moxa.com). In addition to real-time information about Moxa's products, the site provides a rich source of knowledge, technical know-how, and new solution ideas. With decades of experience in networking and industrial automation, Moxa is able to assist you in selecting the perfect solution for your applications.

Register as a site member to gain access to our extensive library of white papers and guidebooks. In addition to information and resources, the [www.moxa.com](http://www.moxa.com) website is a quick and convenient way to reach our technical support engineers, who often respond to inquiries within 24 hours. You may also find answers to your questions in our FAQ section, or track product RMA status online. Information is also available in German, Chinese, French, and Japanese on the respective regional websites.



TW  
Headquarters



**11**  
Branches

Americas: USA, Brazil  
Asia: Taiwan, India, Russia  
China: Beijing, Shanghai,  
Shenzhen  
Europe: Germany,  
France, UK

Distributors in  
**70+**  
countries  
worldwide

**180+**  
MTSC-Qualified  
Support Engineers

Over 180 Moxa channel  
partners receive annual  
MTSC certification  
to provide quality  
service.

**Moxa Online** (US only)

**Moxa Partner Zone** (Partners only)

**Moxa Newsletters**



**The Fastest and Easiest  
Way to Evaluate Moxa  
Products**

Moxa's online service makes it possible for end-users to acquire evaluation units of Moxa products in as little as 48 hours. The online ordering platform is designed to be user-friendly and easy to navigate, so you can find the exact model you need and complete your purchase with a minimum of hassle. Since a broad selection of products is kept in stock, purchases can often be shipped out before the end of the day, and when it comes time to make a larger purchase, friendly reps can guide you to an authorized Moxa distributor for special pricing and delivery arrangements.



**Exclusive News,  
Marketing Resources,  
and Sales Tools**

Moxa's authorized distributors can access Partner Zone to get the latest marketing material, sales tools, and technical documents. Registered partners receive a monthly newsletter to stay current with product news, and Moxa also provides integrated marketing programs and promotions to assist partners in promoting Moxa products and services.



**Keep Your Industrial  
Automation Knowledge  
Base Up to Date**

Every month, Moxa Connection explores hot new topics in industrial automation and networking. With Moxa Connection, you get access to insider industry know-how and can explore the best solutions for your specific problems.

Moxa Spotlight showcases the latest Moxa products and their potential applications, so you never miss any of the exciting emerging technologies that are transforming industry. Join the more than 70,000 industrial engineers who have already tapped this rich knowledge source by subscribing today at [www.moxa.com](http://www.moxa.com).

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**Green Core, Moxa's New Product Identification**

Color can speak for a brand, and the incorporation of Moxa's corporate color of green into our full range of products represents our commitment to provide end-users with the design concepts of simplicity, robustness, and user-centric experience.



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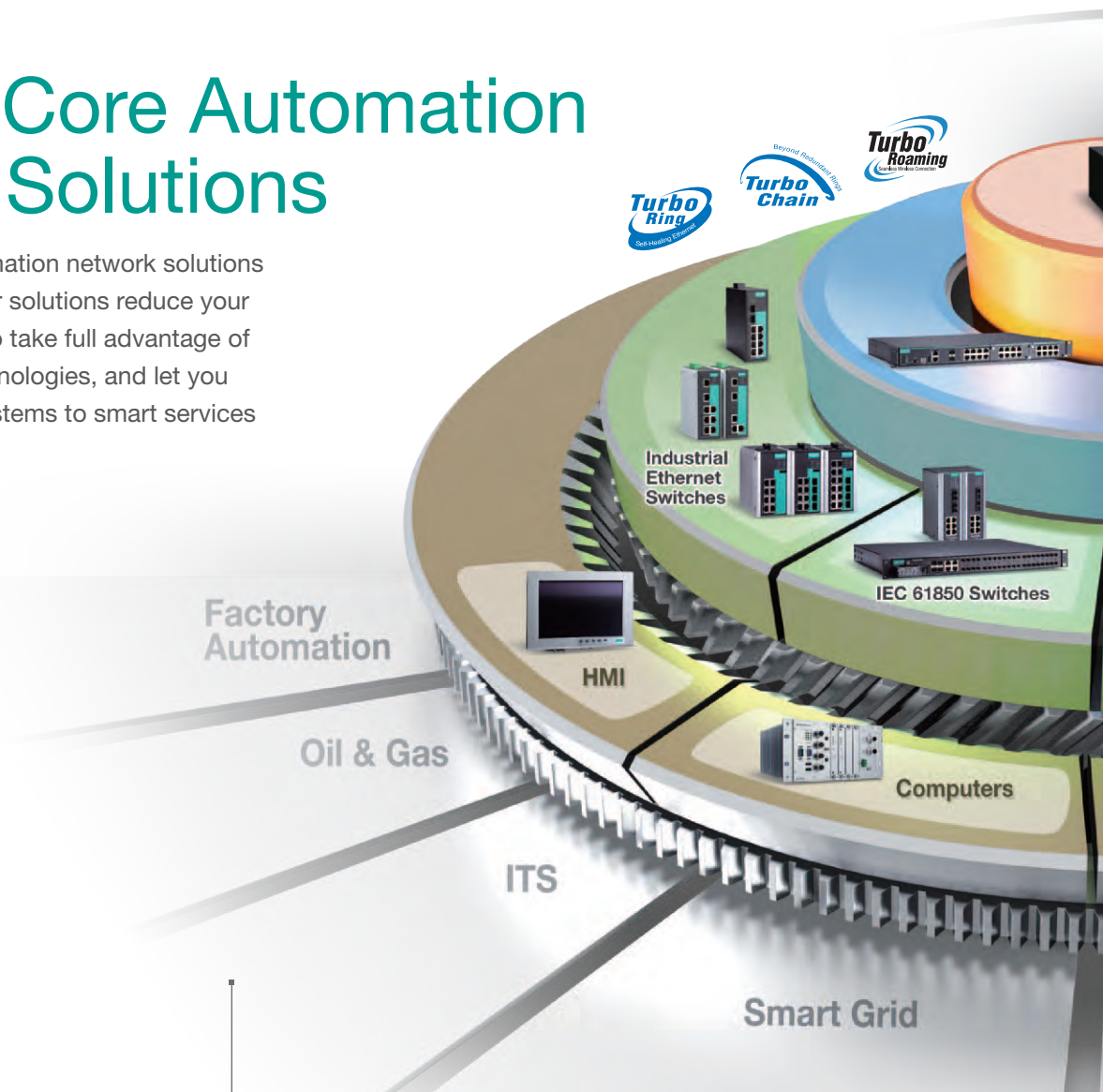
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# Edge-to-Core Automation Network Solutions

Moxa's edge-to-core automation network solutions are ready for the future. Our solutions reduce your time to market, allow you to take full advantage of converged networking technologies, and let you extend your automation systems to smart services and applications.



## >> Smart Services and Applications



Moxa is doing its part to make the world smarter by promoting innovative automation network solutions and diverse vertical market expertise to help end-users drive their success with increased business efficiency and productivity. By establishing collaborative partnerships with our distributors and customers, we are better able to solve the many challenges encountered in the ever-changing networking industry, and as a result enable our customers and business partners to keep up with current market trends.



### Factory Automation



Moxa's factory automation solutions are designed to drive productivity and cost reduction through network convergence from the edge to the core. The solutions deliver valuable process integration and automation-friendly management to help improve throughput and performance.

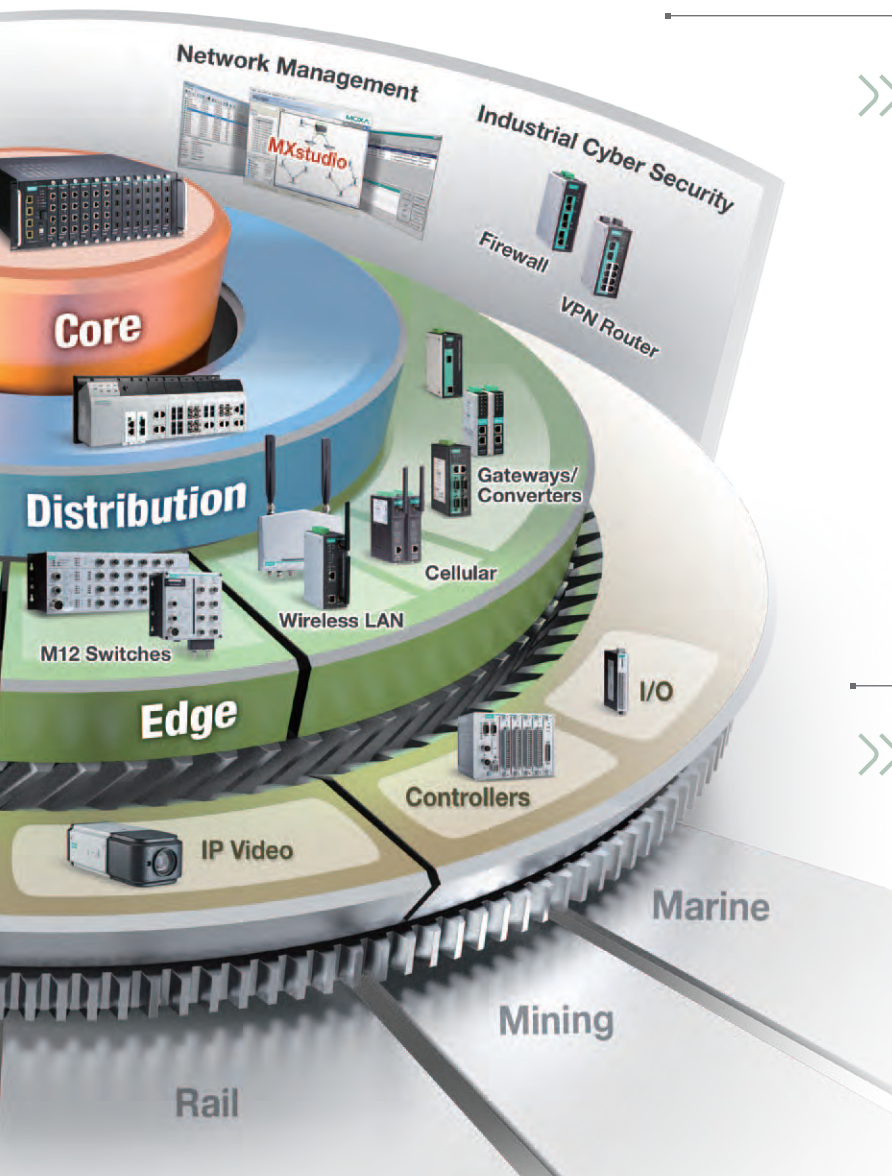


### Intelligent Transportation Systems



Moxa's ITS solutions combine high bandwidth networks and HD IP video solutions to create fast information convergence and non-stop operational continuity, allowing traffic control managers to quickly make decisions when faced with emergency road traffic events.





## ▶▶ Network Infrastructure

Moxa's industrial networking solutions include dynamic Ethernet-centric platforms that industrial customers and network developers can use to deploy network infrastructures for consolidating a wide range of automation equipment and systems. Moxa's networking solutions encompass an extensive range of hardware and software products that support a variety of industrial standards, including EtherNet/IP, PROFINET, Modbus, and IEEE 1588 precision time protocol for improved networking collaboration and streamlined management.

- Industrial network management
- Industrial Ethernet switches
- Industrial wireless and cellular
- NAT/VPN/firewall secure routers
- Industrial Ethernet gateways
- Serial connectivity solutions
- Ethernet media converters and extenders



## ▶▶ Automation Infrastructure

Moxa's automation infrastructure increases the versatility of industrial networks by providing advanced control, monitoring, and communications capabilities. By incorporating a wide variety of Ethernet, cellular, fieldbus and serial communications, and ONVIF video products and technologies, Moxa delivers an automation infrastructure that is compatible with several important industrial standards and application requirements. Moxa's software and technical expertise let you deploy your applications with greater flexibility and easier integration.

- Industrial computing solutions
- IP surveillance solutions
- Remote automation solutions



### Oil & Gas Automation

Moxa empowers highly efficient oil & gas automation solutions in compliance with UL Class 1 Division 2, ATEX Zone 2, and IECEx standards. Customers can achieve maximum uptime and improved productivity with Moxa's oil & gas networking, monitoring, and computing solutions.



### Power Automation

Moxa has delivered solutions in over 300 successful substation networking and computing applications. Moxa's solutions ensure GOOSE compliance and zero packet loss performance in compliance with IEC 61850-3 and IEEE 1613 standards.



### Marine Automation

Moxa's marine solutions are compliant with all major maritime certifications, and offer a wide range of marine-grade industrial Ethernet and computer products that ensure long-lasting, reliable operation in the types of demanding environments seen by ship, offshore oil & gas, and windmill applications.



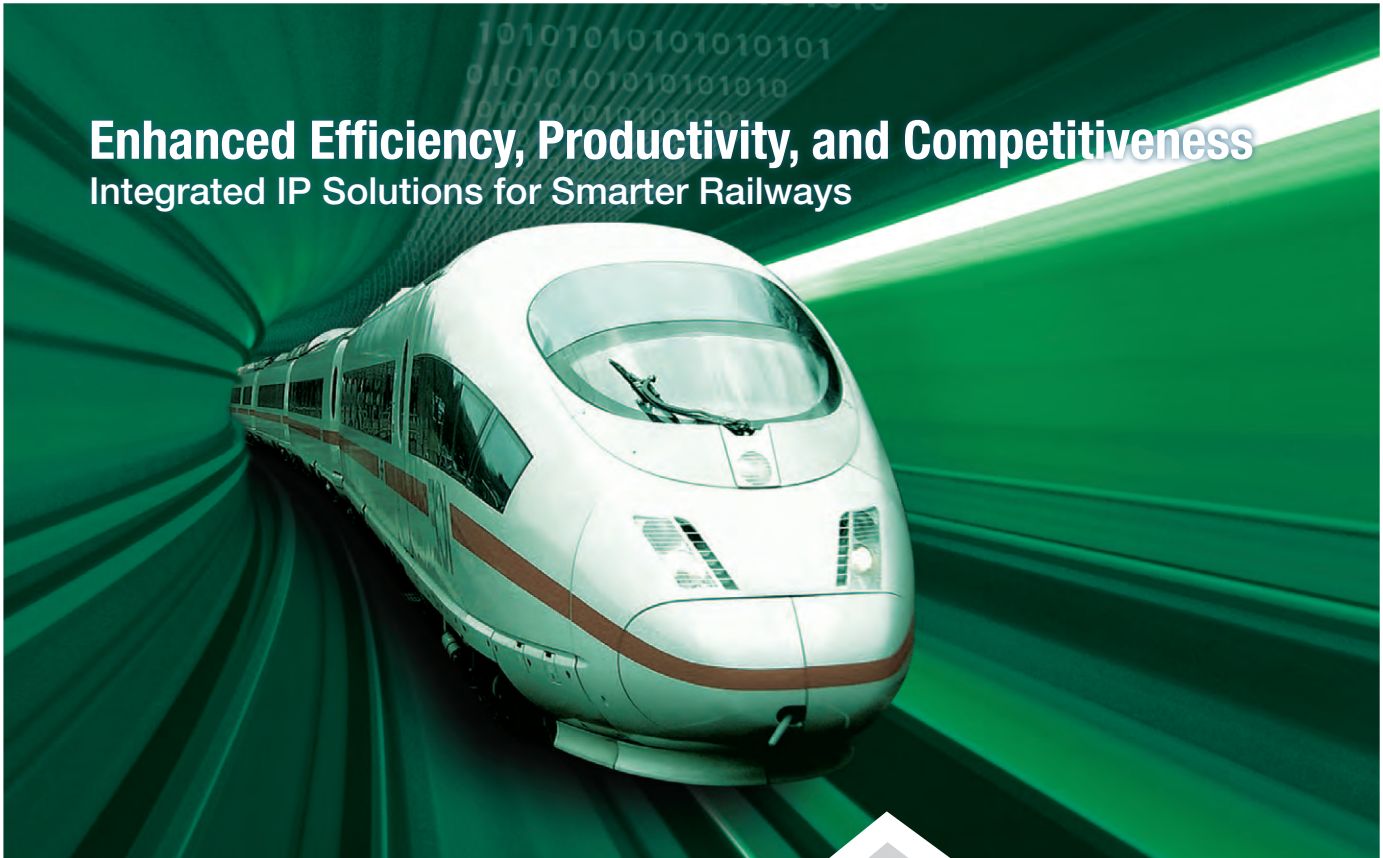
### Railway Automation

Moxa's IRIS-certified railway solutions come with the kind of top notch service quality and commitment that industrial customers demand. Moxa's railway solutions deliver EN 50155-compliant control and communication between train, ground, and trackside to ensure traffic safety and passenger service.



# Enhanced Efficiency, Productivity, and Competitiveness

## Integrated IP Solutions for Smarter Railways



### IRIS-Certified Rail Solutions Verified for Maximum Quality

Moxa is an IRIS-certified global leader in a wide range of IP-based communications solutions. Now, Moxa is contributing its networking expertise to the railway industry through membership in IEC railway committees. Railway operators world-wide have discovered new operational efficiencies by deploying Moxa's unique time and cost-saving railway technologies. By designing for a long MTBF, owning all the core component IPs, and building long-term partnerships, Moxa helps railway integrators create sustainable solutions with low life-cycle costs for passenger comfort and railway operation networks.

#### Application Focus

- Passenger-oriented service (e.g., onboard Wi-Fi, passenger information systems)
- Railway CCTV
- CBTC (Communication-Based Train Control)
- Wayside data communication systems
- Condition monitoring for turnouts and level crossings

#### Leading Technologies

- Turbo Ring and Turbo Chain: Advanced Ethernet redundancy solutions
- Turbo Roaming: Fast and secure train-to-ground wireless communications
- ACC: Intelligent wireless inter-carriage links
- FLI: Flexible, location-based, intelligent industrial-grade auto-configuration technology



**IRIS**  
Certification

Visit [www.moxa.com/rail](http://www.moxa.com/rail)



**ToughNet/EDS Series**  
Industrial Ethernet Switches  
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**AWK-RCC/RTG Series**  
Industrial Wireless AP/Bridge/Client  
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**NPort 5000AI-M12 Series**  
RS-232/422/485 Serial Device Servers  
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**TC-6000/V2000 Series**  
Industrial Embedded Computers  
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**VPort Series**  
Industrial IP Cameras  
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**ioPAC Series**  
Industrial RTU Controllers  
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**ioLogik E1500 Series**  
Remote I/Os  
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# Connect to The Smart Grid Today

## End-to-End Networking and Computing Solutions for the Power Industry



## Successful Deployments in Power Projects Worldwide

Create rock-solid and future-proof power networks by partnering with Moxa. Moxa is a Collective Member of CIGRE and has delivered solutions in over 300 successful substation transmission and distribution networking and computing applications around the world. Moxa is now the leading solar energy monitoring supplier in North America with many diverse projects in advanced metering infrastructures worldwide. You can rely on our expertise of more than 25 years in proven solutions in the following industry applications.

### Application Focus

- Solar power
- Wind power
- IEC 61850 substation transmission and distribution
- Advanced metering infrastructure

### Leading Technologies

- Industry's first IEC 61850 switch with MMS data modeling; SNMP/MMS management with integrated network monitoring solutions for power substation SCADA
- Industry's first integrated PRP/HSR redundancy box for zero recovery time
- Turbo Chain: Self-healing redundancy technology ensures non-stop wind power operation
- Patented computing platform for heat dissipation with wide temperature tolerance
- MXcloud: Cloud management for solar energy monitoring



### PT-7528 Series

IEC 61850 28-port IEEE 1613 Class 2 Managed Ethernet Switches  
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### DA-820 Series

x86 IEC 61850-3 Certified i7 Rackmount Computers  
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### NPort S8000 Series

Combo Switches / Serial Device Servers  
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### UC-8100 Series

RISC Energy Monitoring Computers  
▶Page 20-30



### DCU-8620-T Series

Data Concentration Units  
▶Available by request



Visit [www.moxa.com/SmartGrid](http://www.moxa.com/SmartGrid)

# Proven Solutions for the Harsh Oil & Gas Environments

## Integrated Networking, Monitoring, and Computing System



### Your Trusted Partner in Oil & Gas Automation

To ensure 24/7 sustainable oil production and real-time monitoring of oil & gas control systems, Moxa offers a complete range of industrial networking, monitoring, and computing products engineered for harsh mission-critical environments. Moxa's industrial-grade products have passed Class I, Div. 2, ATEX Zone 2, and IECEx certifications and rigorous design and production tests to ensure high network reliability and safety.

#### Application Focus

- Offshore oil drilling control system
- Onshore drilling monitoring
- Pump stations and pipeline monitoring
- Oil refining and gas station operations








#### Leading Technologies

- Turbo Ring and Turbo Chain: Unrivaled network redundancy solutions with 20 ms recovery
- Dual-Radio and Turbo Roaming: Zero packet loss and millisecond-level wireless roaming
- ISA99/IEC 62443 compliant for industrial security: Layered cybersecurity solution with innovative PacketGuard™ for Modbus TCP deep packet inspection
- Patented intelligent heating solutions: Rugged computing platform enables reliable boot-up and operates in extreme cold
- MXview, QuickLink, Active OPC Server: Efficient network management by smart visualization, automated configuration, and seamless integration with SCADA systems



Visit [www.moxa.com/Solutions/Oil\\_and\\_gas](http://www.moxa.com/Solutions/Oil_and_gas)



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**EDS/IKS/ICS Series**  
 Edge-to-Core Ethernet Switches  
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**EDR Series**  
 VPN/Firewall Secure Routers  
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**AWK Series**  
 IEEE 802.11a/b/g/n Wireless AP/Bridge/Client  
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**MGate and NPort Series**  
 Industrial Gateways and Device Servers  
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**ioLogik E1200 Series**  
 Ethernet Remote I/O  
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- 
**VPort Series**  
 HD IP Cameras  
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**EXPC-1319 Series**  
 Fanless Panel Computers  
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# Make Your Marine Vision a Reality

## Set Sail with Moxa's Reliable Marine Solutions



### Successful Deployment of Integrated Marine Bridge Solutions Worldwide

Moxa provides maritime professionals with industrial-grade marine computers, panel PCs, displays, and Ethernet switches that use leading technologies and reliable designs perfect for applications on docks, marine bridges, open decks, or in control rooms.

Moxa's marine solutions pass strict tests and follow critical industrial standards to ensure compliance with international marine standards, including DNV, ABS, GL, LR, IEC 60945, IEC 61174, and IACS, making Moxa's marine solutions the best option for marine applications.

#### Application Focus

- ECDIS (Electronic Chart Display and Information System)
- Radar System
- Conning System
- OSD (Oil Spill Detection)

#### Leading Technologies

- Advanced ECDIS color calibration technology: more consistent color rendering for a longer period of use
- Customer initiated smart OSD design: "Off-Screen-Display" control allows users to easily control the monitor in low light environments
- High performance computing power in a fanless design enhances computers' reliability and reduces customers' maintenance costs



Visit [www.moxa.com/marine](http://www.moxa.com/marine)



**MPC-2240 Series**  
Marine Panel Computers  
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**MD-119/124**  
Marine Displays  
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**MC-7000 Series**  
Marine ECDIS Computers  
▶Page 22-4



**MGate 5101-PBM-MN Series**  
PROFIBUS to Modbus TCP Gateways  
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**ioLogik E1200H Series**  
Ethernet Remote I/O  
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**EDS-408A Series**  
Managed Ethernet Switches  
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# Maximize Your Factory Potential With Reliability, Ease of Integration, and Global Support

## Your Trusted Partner for Factory Automation

To help manufacturers maximize the benefits of integrating network and automation technology, Moxa has been focused on the factory automation market for over 26 years. Moxa provides leading solutions for industrial communications including wired and wireless infrastructures, industrial computing, remote monitoring, and video surveillance.

### Application Focus

- SCADA
- Control system networks
- Wireless infrastructures and machine-to-machine communication
- Packaging equipment
- Cybersecurity
- Industrial video surveillance
- Material handling

### Main Benefits

#### Reliability

- Industry leading communication redundancy for < 20 ms recovery time
- Unique thermal design that supports fanless wide temperature operation (-40 to 75°C)
- Continual improvement of total quality management
- ISO 9001 quality management standard recognized

#### Ease of Integration

- User-friendly network and device management software
- Serial, Ethernet, I/O, and wireless solutions integrated into a single easy-to-manage network

#### Global Support

- Access to products and support in over 70 countries
- Customization service



#### VPort Series

Industrial IP Cameras  
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#### EDS Series

Industrial Ethernet Switches  
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#### MGate MB3170/3270

Industrial Ethernet Gateways  
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#### NPort Series

Serial-to-Ethernet Device Servers  
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#### ioLogik E1200 Series

Remote I/O Devices  
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#### EDR-810 Series

Industrial 8+2G Multiport Secure Routers  
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#### AWK-3121 Series

Industrial Wireless AP/Bridge/Client  
▶Page 6-20



# Driving Efficient Traffic Today

## Integrated Network Solutions for Intelligent Transportation



## Optimized, Robust Networks for ITS

Intelligent transportation systems are designed to optimize road utilization to provide safe, reliable, and efficient transportation. With 25 years of experience in industrial networking, Moxa provides robust, integrated networking solutions that are compliant with ITS standards (NEMA TS2 and eMark), and can withstand harsh operating environments.

### Application Focus

- Advanced Transportation Management Systems
- Tunnels
- Intelligent E-Bus
- Electronic Toll Collection (ETC)

### Leading Technologies

#### Reliability

- Turbo Ring and Turbo Chain self-recovery (< 20 ms @ 250 switches)
- Turbo Roaming and dual radio redundancy for wireless applications





#### Efficiency and Flexibility

- High performance edge to core industrial Ethernet solutions
- Comprehensive robust converged automation solutions to meet any requirements

#### Robustness

- Industrial certification approvals (NEMA TS2, eMark)
- Industrial-grade Ethernet solutions and IP surveillance



- 
**ICS Series**  
 Industrial 10GbE Ethernet Switches  
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**AWK Series**  
 802.11n/HSPA Wireless Devices  
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**EDS-P510A-8PoE Series**  
 8+2G-port Gigabit PoE+ Switches  
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**VPort Series**  
 Industrial HD IP Cameras  
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**IEX-402 Series**  
 Managed Ethernet Extenders  
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**NPort IA5000A Series**  
 2-Port Industrial Serial Device Servers  
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**MXstudio**  
 Industrial Network Management Suite  
 ▶Page 5-9



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# Rackmount Ethernet Switches

Managed Rackmount Switches



	ICS-G7852A	ICS-G7850A	ICS-G7848A	ICS-G7752A	ICS-G7750A	ICS-G7748A	ICS-G7828A	ICS-G7826A
<b>Supported Modules</b>								
Gigabit Ethernet Modules	✓	✓	✓	✓	✓	✓	-	-
Fast Ethernet Modules	-	-	-	-	-	-	-	-
SFP+ 10 Gigabit Ethernet Modules	✓	✓	-	✓	✓	-	✓	✓
SFP Gigabit Ethernet Modules	✓	✓	✓	✓	✓	✓	✓	✓
SFP Fast Ethernet Modules	✓	✓	✓	✓	✓	✓	✓	✓
<b>Number of Ports</b>								
Max. Number of Ports	52	50	48	52	50	48	28	26
10 Gigabit Ethernet	4	2	-	4	2	-	4	2
Gigabit Ethernet, 10/100/1000 Mbps	up to 48	up to 48	up to 48	up to 48	up to 48	up to 48	24	24
Fast Ethernet, 10/100 Mbps	-	-	-	-	-	-	-	-
<b>Available Power Supplies</b>								
24 VDC	-	-	-	-	-	-	-	-
24 VAC	-	-	-	-	-	-	-	-
48 VDC	-	-	-	-	-	-	-	-
12/24/48 VDC	-	-	-	-	-	-	-	-
85-264 VAC	✓	✓	✓	✓	✓	✓	✓	✓
88-300 VDC or 85-264 VAC, isolated	-	-	-	-	-	-	-	-
<b>Installation Options</b>								
DIN-Rail Mounting	-	-	-	-	-	-	-	-
Panel Mounting	-	-	-	-	-	-	-	-
Rack Mounting	✓	✓	✓	✓	✓	✓	✓	✓
<b>Supported Operating Temperatures</b>								
-10 to 60°C	✓	✓	✓	✓	✓	✓	✓	✓
-40 to 75°C	-	-	-	-	-	-	-	-
<b>Redundancy and Backup Options</b>								
Turbo Ring (Recovery Time < 20 ms)	-	-	-	-	-	-	-	-
Turbo Chain (Recovery Time < 20 ms)	-	-	-	-	-	-	-	-
Turbo Ring (Recovery Time < 50 ms)	✓	✓	✓	✓	✓	✓	✓	✓
Turbo Chain (Recovery Time < 50 ms)	✓	✓	✓	✓	✓	✓	✓	✓
STP/RSTP	✓	✓	✓	✓	✓	✓	✓	✓
Automatic Backup Configurator (ABC-02)	✓	✓	✓	✓	✓	✓	✓	✓
<b>Network Management and Control</b>								
Layer 3 Switching	✓	✓	✓	-	-	-	✓	✓
Port Trunking	✓	✓	✓	✓	✓	✓	✓	✓
Modbus/TCP	✓	✓	✓	✓	✓	✓	✓	✓
IEEE 1588 PTP	✓	✓	✓	✓	✓	✓	✓	✓
SNMP/RMON	✓	✓	✓	✓	✓	✓	✓	✓
LLDP	✓	✓	✓	✓	✓	✓	✓	✓
DHCP Option 66/67/82	✓	✓	✓	✓	✓	✓	✓	✓
IGMP/GMRP	✓	✓	✓	✓	✓	✓	✓	✓
QoS	✓	✓	✓	✓	✓	✓	✓	✓
VLAN	✓	✓	✓	✓	✓	✓	✓	✓
IEEE 802.1X	✓	✓	✓	✓	✓	✓	✓	✓
Port Lock	✓	✓	✓	✓	✓	✓	✓	✓
IPv6	-	-	-	✓	✓	✓	-	-
Relay Warning	✓	✓	✓	✓	✓	✓	✓	✓
<b>Standards and Certifications</b>								
CE/FCC	✓	✓	✓	✓	✓	✓	✓	✓
UL 60950-1	✓	✓	✓	✓	✓	✓	✓	✓
UL 508	-	-	-	-	-	-	-	-
DNV/GL	-	-	-	-	-	-	-	-
ABS/LR/NK	-	-	-	-	-	-	-	-
NEMA TS2	-	-	-	-	-	-	-	-
EN 50121-4	✓	✓	✓	✓	✓	✓	✓	✓



# Rackmount Ethernet Switches

Managed Rackmount Switches



	ICS-G7528A	ICS-G7526A	IKS-G6824A	IKS-G6524A	IKS-6728A	IKS-6726A
<b>Supported Modules</b>						
Gigabit Ethernet Modules	-	-	-	-	-	-
Fast Ethernet Modules	-	-	-	-	✓	✓
SFP+ 10 Gigabit Ethernet Modules	✓	✓	-	-	-	-
SFP Gigabit Ethernet Modules	✓	✓	✓	✓	✓	✓
SFP Fast Ethernet Modules	✓	✓	✓	✓	✓	✓
<b>Number of Ports</b>						
Max. Number of Ports	28	26	24	24	28	26
10 Gigabit Ethernet	4	2	-	-	-	-
Gigabit Ethernet, 10/100/1000 Mbps	24	24	24	24	4	2
Fast Ethernet, 10/100 Mbps	-	-	-	-	up to 24	up to 24
<b>Available Power Supplies</b>						
24 VDC	-	-	-	-	✓	✓
24 VAC	-	-	-	-	-	-
48 VDC	-	-	-	-	✓	✓
12/24/48 VDC	-	-	-	-	-	-
85-264 VAC	✓	✓	✓	✓	✓	✓
88-300 VDC or 85-264 VAC, isolated	-	-	-	-	-	-
<b>Installation Options</b>						
DIN-Rail Mounting	-	-	-	-	-	-
Panel Mounting	-	-	-	-	-	-
Rack Mounting	✓	✓	✓	✓	✓	✓
<b>Supported Operating Temperatures</b>						
-10 to 60°C	✓	✓	✓	✓	-	-
-40 to 75°C	-	-	✓	✓	✓	✓
<b>Redundancy and Backup Options</b>						
Turbo Ring (Recovery Time < 20 ms)	-	-	-	-	✓	✓
Turbo Chain (Recovery Time < 20 ms)	-	-	-	-	✓	✓
Turbo Ring (Recovery Time < 50 ms)	✓	✓	✓	✓	-	-
Turbo Chain (Recovery Time < 50 ms)	✓	✓	✓	✓	-	-
STP/RSTP	✓	✓	✓	✓	✓	✓
Automatic Backup Configurator (ABC-02)	✓	✓	✓	✓	✓	✓
<b>Network Management and Control</b>						
Layer 3 Switching	-	-	✓	-	-	-
Port Trunking	✓	✓	✓	✓	✓	✓
Modbus/TCP	✓	✓	✓	✓	✓	✓
IEEE 1588 PTP	✓	✓	✓	✓	✓	✓
SNMP/RMON	✓	✓	✓	✓	✓	✓
LLDP	✓	✓	✓	✓	✓	✓
DHCP Option 66/67/82	✓	✓	✓	✓	✓	✓
IGMP/GMRP	✓	✓	✓	✓	✓	✓
QoS	✓	✓	✓	✓	✓	✓
VLAN	✓	✓	✓	✓	✓	✓
IEEE 802.1X	✓	✓	✓	✓	✓	✓
Port Lock	✓	✓	✓	✓	✓	✓
IPv6	✓	✓	-	✓	✓	✓
Relay Warning	✓	✓	✓	✓	✓	✓
<b>Standards and Certifications</b>						
CE/FCC	✓	✓	✓	✓	✓	✓
UL 60950-1	✓	✓	✓	✓	✓	✓
UL 508	-	-	-	-	-	-
DNV/GL	-	-	-	-	Pending	Pending
ABS/LR/NK	-	-	-	-	-	-
NEMA TS2	-	-	-	-	Pending	Pending
EN 50121-4	✓	✓	✓	✓	✓	✓

# DIN-Rail Ethernet Switches

Managed DIN-Rail Switches



	EDS-828	EDS-728	EDS-619	EDS-616	EDS-611	EDS-608	EDS-G516E	EDS-G512E	EDS-G508E
<b>Supported Modules</b>									
Gigabit Ethernet Modules	✓	✓	–	–	–	–	–	–	–
Fast Ethernet Modules	✓	✓	✓	✓	✓	✓	–	–	–
SFP Gigabit Ethernet Modules	✓	✓	✓	–	✓	–	✓	✓	–
SFP Fast Ethernet Modules	–	–	✓	–	✓	–	✓	✓	–
<b>Number of Ports</b>									
Max. Number of Ports	28	28	19	16	11	8	16	12	8
Gigabit Ethernet, 10/100/1000 Mbps	up to 4	up to 4	3	–	3	–	16	12	8
Fast Ethernet, 10/100 Mbps	up to 24	up to 24	up to 16	up to 16	up to 8	up to 8	–	–	–
<b>Available Power Supplies</b>									
3.3 VDC	–	–	–	–	–	–	–	–	–
24 VDC	✓	✓	–	–	–	–	–	–	–
12/24/48 VDC	–	–	✓	✓	✓	✓	–	–	–
12/24/48/-48 VDC	–	–	–	–	–	–	✓	✓	✓
<b>Installation Options</b>									
DIN-Rail Mounting	✓	✓	✓	✓	✓	✓	✓	✓	✓
Panel Mounting	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit
Rack Mounting	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit
<b>Supported Operating Temperatures</b>									
0 to 60°C	✓	✓	✓	✓	✓	✓	–	–	–
-10 to 60°C	–	–	–	–	–	–	✓	✓	✓
-40 to 75°C	–	–	✓	✓	✓	✓	✓	✓	✓
<b>Redundancy and Backup Options</b>									
Turbo Ring (recovery time < 20 ms)	✓	✓	✓	✓	✓	✓	–	–	–
Turbo Chain (recovery time < 20 ms)	✓	✓	✓	✓	✓	✓	–	–	–
Turbo Ring (recovery time < 50 ms)	–	–	–	–	–	–	✓	✓	✓
Turbo Chain (recovery time < 50 ms)	–	–	–	–	–	–	✓	✓	✓
STP/RSTP	✓	✓	✓	✓	✓	✓	✓	✓	✓
MSTP	✓	✓	✓	✓	✓	✓	✓	✓	✓
Automatic Backup Configurator (ABC-01)	✓	✓	✓	✓	✓	✓	–	–	–
Automatic Backup Configurator (ABC-02)	–	–	–	–	–	–	✓	✓	✓
<b>Network Management and Control</b>									
Layer 3 Switching	✓	–	–	–	–	–	–	–	–
Port Trunking	✓	✓	✓	✓	✓	✓	✓	✓	✓
Modbus/TCP	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ethernet/IP	✓	✓	✓	✓	✓	✓	✓	✓	✓
PROFINET	–	–	–	–	–	–	✓	✓	✓
IEEE 1588 PTP	✓	✓	✓	✓	✓	✓	✓	✓	✓
SNMP/RMON	✓	✓	✓	✓	✓	✓	✓	✓	✓
LLDP	✓	✓	✓	✓	✓	✓	✓	✓	✓
DHCP Option 66/67/82	✓	✓	✓	✓	✓	✓	✓	✓	✓
IGMP Snooping/GMRP	✓	✓	✓	✓	✓	✓	✓	✓	✓
QoS	✓	✓	✓	✓	✓	✓	✓	✓	✓
IEEE 802.1Q VLAN	✓	✓	✓	✓	✓	✓	✓	✓	✓
Port-based VLAN	–	–	–	–	–	–	✓	✓	✓
ACL	✓	–	–	–	–	–	–	–	–
IEEE 802.1X	✓	✓	✓	✓	✓	✓	✓	✓	✓
Port Lock	✓	✓	✓	✓	✓	✓	✓	✓	✓
IPv6	–	✓	✓	✓	✓	✓	✓	✓	✓
Relay Warning	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Standards and Certifications</b>									
CE/FCC	✓	✓	✓	✓	✓	✓	✓	✓	✓
UL 60950-1	✓	✓	✓	✓	✓	✓	–	–	–
UL 508	✓	✓	✓	✓	✓	✓	–	–	–
UL/cUL Class 1 Div. 2	–	–	✓	✓	✓	✓	Pending	Pending	Pending
ATEX Zone 2	–	–	✓	✓	✓	✓	Pending	Pending	Pending
DNV/GL	✓	✓	✓	✓	✓	✓	–	–	–
ABS/LR/NK	✓	✓	✓	✓	✓	✓	–	–	–
NEMA TS2	–	–	✓	✓	✓	✓	✓	✓	✓
EN 50121-4	–	–	✓	✓	✓	✓	✓	✓	✓
IEEE 1613	–	–	–	–	–	–	✓	✓	✓



# DIN-Rail Ethernet Switches

Managed DIN-Rail Switches



	EDS-G509	EDS-518A	EDS-510E	EDS-516A	EDS-508A	EDS-505A	EDS-408A	EDS-405A
<b>Supported Modules</b>								
Gigabit Ethernet Modules	-	-	-	-	-	-	-	-
Fast Ethernet Modules	-	-	-	-	-	-	-	-
SFP Gigabit Ethernet Modules	✓	✓	✓	-	-	-	-	-
SFP Fast Ethernet Modules	✓	-	✓	-	-	-	-	-
<b>Number of Ports</b>								
Max. Number of Ports	9	18	10	16	8	5	8	5
Gigabit Ethernet, 10/100/1000 Mbps	9	2	3	-	-	-	-	-
Fast Ethernet, 10/100 Mbps	-	16	7	16	8	5	8	5
<b>Available Power Supplies</b>								
3.3 VDC	-	-	-	-	-	-	-	-
24 VDC	-	✓	-	✓	✓	✓	✓	✓
12/24/48 VDC	✓	-	-	-	-	-	-	-
12/24/48/-48 VDC	-	-	✓	-	-	-	-	-
<b>Installation Options</b>								
DIN-Rail Mounting	✓	✓	✓	✓	✓	✓	✓	✓
Panel Mounting	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit
Rack Mounting	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit
<b>Supported Operating Temperatures</b>								
0 to 60°C	✓	✓	-	✓	✓	✓	✓	✓
-10 to 60°C	-	-	✓	-	-	-	-	-
-40 to 75°C	✓	✓	✓	✓	✓	✓	✓	✓
<b>Redundancy and Backup Options</b>								
Turbo Ring (Recovery Time < 20 ms)	-	✓	✓	✓	✓	✓	✓	✓
Turbo Chain (Recovery Time < 20 ms)	-	✓	✓	✓	✓	✓	✓	✓
Turbo Ring (recovery time < 50 ms)	✓	-	-	-	-	-	-	-
Turbo Chain (recovery time < 50 ms)	✓	-	-	-	-	-	-	-
STP/RSTP	✓	✓	✓	✓	✓	✓	✓	✓
MSTP	✓	✓	✓	✓	✓	✓	-	-
Automatic Backup Configurator (ABC-01)	✓	✓	-	✓	✓	✓	✓	✓
Automatic Backup Configurator (ABC-02)	-	-	✓	-	-	-	-	-
<b>Network Management and Control</b>								
Layer 3 Switching	-	-	-	-	-	-	-	-
Port Trunking	✓	✓	✓	✓	✓	✓	-	-
Modbus/TCP	✓	✓	✓	✓	✓	✓	✓	✓
Ethernet/IP	✓	✓	✓	✓	✓	✓	✓	✓
PROFINET	-	-	✓	-	-	-	EDS-408A-PN series only	EDS-405A-PN series only
IEEE 1588 PTP	✓	✓	✓	✓	✓	✓	-	-
SNMP/RMON	✓	✓	✓	✓	✓	✓	✓	✓
LLDP	✓	✓	✓	✓	✓	✓	✓	✓
DHCP Option 66/67/82	✓	✓	✓	✓	✓	✓	✓	✓
IGMP Snooping/GMRP	✓	✓	✓	✓	✓	✓	✓	✓
QoS	✓	✓	✓	✓	✓	✓	✓	✓
IEEE 802.1Q VLAN	✓	✓	✓	✓	✓	✓	✓	✓
Port-based VLAN	✓	✓	✓	✓	✓	✓	✓	✓
IEEE 802.1X	✓	✓	✓	✓	✓	✓	-	-
Port Lock	✓	✓	✓	✓	✓	✓	-	-
IPv6	✓	✓	✓	✓	✓	✓	✓	✓
Relay Warning	✓	✓	✓	✓	✓	✓	✓	✓
<b>Standards and Certifications</b>								
CE/FCC	✓	✓	✓	✓	✓	✓	✓	✓
UL 60950-1	-	✓	-	✓	✓	✓	✓	✓
UL 508	✓	✓	✓	✓	✓	✓	✓	✓
UL/cUL Class 1 Div. 2	-	✓	Pending	✓	✓	✓	✓	✓
ATEX Zone 2	-	✓	Pending	✓	✓	✓	✓	✓
DNV/GL	✓	✓	-	✓	✓	✓	✓	✓
ABS/LR/NK	✓	-	-	-	-	-	EDS-408A 3 Fiber series only	-
NEMA TS2	-	-	✓	-	-	-	✓	✓
EN 50121-4	✓	-	✓	-	-	-	✓	-
IEEE 1613	-	-	✓	-	-	-	-	-

# DIN-Rail Ethernet Switches








## Unmanaged DIN-Rail Switches



	EDS-G308	EDS-G205	EDS-316	EDS-309	EDS-308	EDS-305	EDS-210A	EDS-208A	EDS-205A	EDS-208	EDS-205
<b>Supported Modules</b>											
SFP Gigabit Ethernet Modules	✓	–	–	–	–	–	✓	–	–	–	–
SFP Fast Ethernet Modules	✓	–	–	–	–	–	✓	–	–	–	–
<b>Number of Ports</b>											
Max. Number of Ports	8	5	16	9	8	5	10	8	5	8	5
Gigabit Ethernet, 10/100/1000 Mbps	8	5	–	–	–	–	up to 2	–	–	–	–
Fast Ethernet, 10/100 Mbps	–	–	16	9	8	5	up to 9	8	5	8	5
<b>Available Power Supplies</b>											
24 VDC	–	–	–	✓	✓	✓	–	–	–	✓	✓
24 VAC	–	–	–	–	–	–	–	✓	✓	✓	✓
12/24/48 VDC	✓	✓	✓	–	–	–	✓	✓	✓	–	–
<b>Installation Options</b>											
DIN-Rail Mounting	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Panel Mounting	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	–	–
Rack Mounting	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit
<b>Supported Operating Temperatures</b>											
0 to 60°C	✓	✓	✓	✓	✓	✓	–	–	–	–	–
-10 to 60°C	–	–	–	–	–	–	✓	✓	✓	✓	✓
-40 to 75°C	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–
<b>Standards and Certifications</b>											
CE/FCC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
UL 60950-1	–	–	–	–	–	–	–	–	–	–	–
UL 508	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
UL/cUL Class 1 Div. 2	✓	✓	✓	✓	✓	✓	–	✓	✓	–	–
ATEX Zone 2	✓	✓	✓	✓	✓	✓	–	✓	✓	–	–
DNV/GL	✓	✓	✓	✓	✓	✓	–	✓	✓	–	–
ABS/LR/NK	✓	✓	–	–	–	–	–	✓	✓	–	–
NEMA TS2	–	–	–	–	–	–	–	✓	✓	–	–
EN 50121-4	–	–	–	–	–	–	–	✓	✓	–	–



# PoE Switches

	Managed Rackmount PoE Switches	Managed DIN-Rail PoE Switches			Unmanaged DIN-Rail PoE Switches		
							
	IKS-6728A-8PoE	EDS-P510A-8PoE	EDS-P510	EDS-P506A-4PoE	EDS-G205A-4PoE	EDS-P206A-4PoE	EDS-P308
Supported Modules							
Gigabit Ethernet Modules	–	–	–	–	–	–	–
Fast Ethernet Modules	✓	–	–	–	–	–	–
SFP Gigabit Ethernet Modules	✓	✓	✓	–	✓	–	–
SFP Fast Ethernet Modules	✓	✓	✓	–	–	–	–
Number of Ports							
Max. Number of Ports	28	10	10	6	5	6	8
Gigabit Ethernet, 10/100/1000 Mbps	up to 4	2	3	–	1	–	–
PoE, Gigabit Ethernet, 10/100/1000 Mbps	–	–	–	–	4 (PoE+)	–	–
Fast Ethernet, 10/100 Mbps	up to 24	–	3	2	–	2	4
PoE, Fast Ethernet, 10/100 Mbps	up to 24 (PoE+)	8 (PoE+)	4	4 (PoE+)	–	4 (PoE+)	4
Available Power Supplies							
24 VDC	–	–	–	✓	✓	✓	–
48 VDC	✓	✓	✓	✓	✓	✓	✓
12/24/48 VDC	–	–	–	–	–	–	–
85-264 VAC	✓	–	–	–	–	–	–
Installation Options							
DIN-Rail Mounting	–	✓	✓	✓	✓	✓	✓
Panel Mounting	–	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit
Rack Mounting	✓	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit
Supported Operating Temperatures							
0 to 60°C	–	–	✓	✓	✓	✓	✓
-10 to 60°C	–	✓	–	–	–	–	–
-40 to 75°C	✓	✓	✓	✓	✓	✓	✓
Redundancy and Backup Options							
Turbo Ring (Recovery Time < 20 ms)	✓	✓	✓	✓	–	–	–
Turbo Chain (Recovery Time < 20 ms)	✓	✓	✓	✓	–	–	–
STP/RSTP	✓	✓	✓	✓	–	–	–
MSTP	✓	✓	✓	✓	–	–	–
Automatic Backup Configurator (ABC-01)	–	✓	✓	✓	–	–	–
Automatic Backup Configurator (ABC-02)	✓	–	–	–	–	–	–
Network Management and Control							
Port Trunking	✓	✓	✓	✓	–	–	–
Modbus/TCP	✓	✓	✓	✓	–	–	–
Ethernet/IP	✓	✓	✓	✓	–	–	–
IEEE 1588 PTP	✓	✓	✓	✓	–	–	–
SNMP/RMON	✓	✓	✓	✓	–	–	–
LLDP	✓	✓	✓	✓	–	–	–
DHCP Option 66/67/82	✓	✓	✓	✓	–	–	–
IGMP Snooping/GMRP	✓	✓	✓	✓	–	–	–
QoS	✓	✓	✓	✓	–	–	–
VLAN	✓	✓	✓	✓	–	–	–
IEEE 802.1X	✓	✓	✓	✓	–	–	–
Port Lock	✓	✓	✓	✓	–	–	–
IPv6	✓	✓	✓	✓	–	–	–
Relay Warning	✓	✓	✓	✓	–	–	–
Standards and Certifications							
CE/FCC	✓	✓	✓	✓	✓	✓	✓
UL 60950-1	✓	–	–	–	–	–	–
UL 508	–	–	✓	✓	✓	✓	✓
UL/cUL Class 1 Div. 2	–	Pending	–	–	–	–	–
ATEX Zone 2	–	–	–	–	–	–	–
DNV/GL	–	–	✓	–	–	–	✓
ABS/LR/NK	–	–	✓	–	–	–	✓
NEMA TS2	Pending	✓	–	–	–	–	–
EN 50121-4	–	✓	–	✓	✓	–	–

# EN 50155 Ethernet Switches

	L3 Managed Switches		L2 Managed Ethernet Switches						Unmanaged Ethernet Switches	
	Gigabit and Fast Ethernet Series	Power-over-Ethernet Series	Gigabit Ethernet Series	Gigabit Ethernet and Power-over-Ethernet Series	Fast Ethernet Series	Power-over-Ethernet Series	Gigabit Fiber Ethernet Series	Gigabit Fiber and Power-over-Ethernet Series	Fast Ethernet Series	Power-over-Ethernet Series



	TN-5816/5818 Series	TN-5524-8PoE Series	TN-5510A/5518A Series	TN-5510A/5518A-8PoE Series	TN-5508A/5516A Series	TN-5508A/5516A-8PoE Series	TN-5510A-2GLSX-ODC Series	TN-5510A-8PoE-2GLSX-ODC Series	TN-5308 Series	TN-5305 Series	TN-5308-4PoE/8PoE Series
<b>Number of Ports</b>											
Max. Number of Ports	16/18	24	10/18	10/18	8/16	8/16	8	8	8	5	8
Gigabit Ethernet, 10/100/1000 Mbps	2 (TN-5818)	–	2	2	–	–	–	–	–	–	–
Gigabit Fiber Ethernet, 1000 Mbps	–	–	–	–	–	–	2	2	–	–	–
Fast Ethernet, 10/100 Mbps	16	24 (8 PoE)	8/16	8 (8 PoE) / 16 (8 PoE)	8/16	8 (8 PoE) / 16 (8 PoE)	8	8 (8 PoE)	8	5	8 (4 PoE) / 8 (8 PoE)
<b>Power Supply</b>											
24 to 110 VDC	–	–	✓	✓	✓	✓	✓	✓	–	–	–
12/24/36/48 VDC	✓	–	–	–	–	–	–	–	✓	–	–
72/96/110 VDC	✓	–	–	–	–	–	–	–	✓	–	–
80-300 VDC, 85-264 VAC	✓	–	–	–	–	–	–	–	–	–	–
24 VDC	–	✓	–	–	–	–	–	–	–	✓	–
48 VDC	–	–	–	–	–	–	–	–	–	–	✓
24 VAC	–	–	–	–	–	–	–	–	–	✓	–
<b>Installation Options</b>											
Din-Rail Mounting	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit	w/ optional kit
Panel Mounting	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Operating Temperature</b>											
-25 to 60°C	✓	–	–	–	–	–	–	–	✓	✓	✓
-40 to 75°C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Redundancy and Backup Options</b>											
Turbo Ring (Recovery Time < 20 ms)	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–
Turbo Chain (Recovery Time < 20 ms)	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–
Turbo Ring v2 with Dynamic Ring Coupling	–	–	✓	✓	✓	✓	✓	✓	–	–	–
STP/RSTP	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–
Bypass Relay	✓	–	✓	✓	–	–	–	–	–	–	–
<b>Network Management and Control</b>											
IPv6	–	✓	✓	✓	✓	✓	✓	✓	–	–	–
DHCP Option 66/67/82	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–
LLDP	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–
Modbus/TCP	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–
IGMP/GMRP	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–
Port Trunking	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–
IEEE 802.1X	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–
Port Lock	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–
SNMP/RMON	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–
VLAN	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–
QoS	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–
Relay Warning	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–
<b>Standards and Certifications</b>											
CE/FCC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
UL 508	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	Pending	✓	Pending
Railway Applications: EN 50155, EN 50121-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓ Pending	✓

# IEC 61850-3 Ethernet Switches

Managed Ethernet Switches



	PT-7728-PTP	PT-7828	PT-7728	PT-7528	PT-7710	PT-G7509	PT-508/510	PT-G503-PHR-PTP
<b>Number of Ports</b>								
Max. Number of Ports	28	28	28	28	10	9	8/10	3
Max. Number of Hardware PTP Ports	14	-	-	-	-	-	-	3
Gigabit Ethernet, 10/100/1000 Mbps	Up to 4	Up to 4	Up to 4	Up to 4	Up to 2	9	-	3
Fast Ethernet, 10/100 Mbps	Up to 28	Up to 28	Up to 28	Up to 28	Up to 10	9	8/10	3
<b>Power Supply</b>								
24 VDC, isolated	✓	✓	✓	-	-	✓	✓	-
48 VDC, isolated	✓	✓	✓	-	-	✓	✓	-
12/24/48 VDC	-	-	-	-	✓	-	-	-
24/48 VDC, isolated	-	-	-	✓	-	-	-	✓
88-300 VDC or 85-264 VAC, isolated	✓	✓	✓	✓	✓	✓	✓	✓
<b>Installation Options</b>								
Rack Mounting	✓	✓	✓	✓	✓	✓	-	-
Panel Mounting	-	-	-	-	✓	-	w/ optional kit	w/ optional kit
DIN-Rail Mounting	-	-	-	-	-	-	✓	✓
<b>Operating Temperature</b>								
-40 to 85°C	✓	✓	✓	✓	✓	✓	✓	✓
<b>Redundancy and Backup Options</b>								
PRP/HSR (Recovery Time ~0ms)	-	-	-	-	-	-	-	✓
Turbo Ring/Turbo Chain (Recovery Time < 20 ms)	✓	✓	✓	✓	✓	-	✓	-
Turbo Ring/Turbo Chain (Recovery Time < 50 ms)	-	-	-	-	-	✓	-	-
STP/RSTP	✓	✓	✓	✓	✓	✓	✓	-
Automatic Backup Configurator (ABC-01)	✓	✓	✓	-	✓	✓	✓	-
Automatic Backup Configurator (ABC-02)	-	-	-	✓	-	-	-	✓
Ethernet console port	-	-	-	-	-	-	-	✓
<b>Network Management and Control</b>								
Layer 3 Switching	-	✓	-	-	-	-	-	-
IPv6	✓	-	✓	✓	✓	✓	✓	-
DHCP Option 66/67/82	✓	✓	✓	✓	✓	✓	✓	-
NTP/SNTP	Later release	✓	✓	✓	✓	✓	✓	✓
Software-based IEEE 1588v2 PTP	✓	✓	✓	✓	✓	✓	✓	-
Hardware-based IEEE 1588v2 PTP	✓	-	-	-	-	-	-	✓
LLDP	✓	✓	✓	✓	✓	✓	✓	✓
Modbus TCP	✓	✓	✓	✓	✓	✓	✓	-
EtherNet/IP	Later release	✓	✓	✓	✓	✓	✓	-
IGMP/GMRP	✓	✓	✓	✓	✓	✓	✓	-
Port Trunking	✓	✓	✓	✓	✓	✓	✓	-
IEEE 802.1X	✓	✓	✓	✓	✓	✓	✓	Later release
Port Lock	✓	✓	✓	✓	✓	✓	✓	Later release
TACACS+/RADIUS	Later release	✓	✓	✓	✓	✓	✓	Later release
Port Mirror	✓	✓	✓	✓	✓	✓	✓	by Ethernet console port
SNMP/RMON	✓	✓	✓	✓	✓	✓	✓	✓
VLAN	✓	✓	✓	✓	✓	✓	✓	Later release
QoS	✓	✓	✓	✓	✓	✓	✓	Later release
Relay Warning	✓	✓	✓	✓	✓	✓	✓	✓
<b>Standards and Certifications</b>								
CE/FCC	✓	✓	✓	✓	✓	✓	✓	✓
UL/cUL 60950-1	✓	✓	✓	✓	✓	✓	-	-
UL 508	-	-	-	-	-	-	✓	✓
IEC 61850-3 (Power Substation)	✓	✓	✓	✓	✓	✓	✓	Pending
IEEE 1613 (Power Substation)	✓	✓	✓	✓	✓	✓	✓	Pending
50121-4 (Way-side Applications)	-	✓	✓	✓	✓	-	-	Pending
EN 50155 (Railway Applications)	-	✓	✓	-	✓	-	-	-
NEMA TS2 (Traffic Control System)	-	✓	✓	✓	✓	-	-	-

Industry-Specific Ethernet Switches > IEC 61850-3 Ethernet Switches



# Chassis Media Converters



	TRC-190-AC TRC-190-DC-48	TRC-2190-AC TRC-2190-DC-48 TRC-2190-DC-220	CSM-200-1213 CSM-200-1214	CSM-400-1213 CSM-400-1214	CSM-200-1218 CSM-400-1218	
<b>Optical Fiber Interface</b>						
Fiber Connector	-		SC or ST		SC	
Cable Requirements	-		Multi-mode: 50/125, 62.5/125, or 100/140 μm		Single-mode: 8.3/125, 8.7/125, 9/125, or 10/125 μm	
Transmission Distance	-		5 km		40 km	
Wavelength	-		1300 nm		1310 nm	
Tx Output	-		-10 to -20 dBm		0 to -5 dBm	
Rx Sensitivity	-		-32 dBm		-34 dBm	
Point-to-Point Transmission	-		Point-to-Point Transmission: Half-duplex or full-duplex		Point-to-Point Transmission: Half-duplex or full-duplex	
<b>Fast Ethernet Interface</b>						
Connector	-		RJ45			
Speed	-		10/100BaseT(X)			
<b>Physical Characteristics</b>						
Housing	SECC (1.2 mm)		-			
Dimensions (mm)	440 x 260 x 77 mm		86.8 x 136.5 x 21 mm			
Weight	5.2 kg (11.4 lbs), with one power module installed		CSM-200-1213: 115 g (0.25 lb) CSM-200-1214: 125 g (0.28 lb)		125 g (0.28 lb)	
Number of Slots	19 slots in the front for slide-in modules, 2 slots in the back for power supply modules		-			
<b>Environmental Limits</b>						
Operating Temperature	0 to 60°C					
Operating Humidity	5 to 95% RH					
Storage Temperature	-20 to 75°C					
<b>Power Requirements</b>						
Input Voltage	AC model: Universal 100 to 240 VAC (47 to 63 Hz) DC model: 36 to 72 VDC		12 VDC			
Power Consumption	3.2 A @ 36 VDC (max. output)		180 mA @ 12 VDC			
<b>Standards and Certifications</b>						
Safety	UL 60950-1, EN 60950-1					
EMC	CE, FCC					
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A					
EMS	EN61000-4-2 (ESD) Level 4, EN61000-4-3 (RS) Level 2, EN61000-4-4 (EFT) Level 3, EN61000-4-5 (Surge) Level 3, EN61000-4-6 (CS) Level 2, EN61000-4-8 (PFMF) Level 3, EN61000-4-11 (DIPS)		EN61000-4-2 (ESD) Level 4, EN61000-4-3 (RS) Level 3, EN61000-4-4 (EFT) Level 3, EN61000-4-5 (Surge) Level 3, EN61000-4-6 (CS) Level 2, EN61000-4-8 (PFMF) Level 3, EN61000-4-11 (DIPS)			
Freefall	-		IEC 60068-2-32			
<b>Reliability</b>						
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )					

# Ethernet-to-Fiber Media Converters



	PTC-101 Series (LV models)	PTC-101 Series (HV models)	IMC-P101 Series	IMC-101G Series	IMC-101 Series	IMC-21A Series	IMC-21 Series	
<b>IEEE Standards</b>								
IEEE 802.3	✓	✓	✓	✓	✓	✓	✓	
IEEE 802.3u	✓	✓	✓	✓	✓	✓	✓	
IEEE 802.3ab	–	–	–	–	–	–	–	
IEEE 802.3z	–	–	–	✓	–	–	–	
IEEE 802.3x	✓	✓	✓	–	–	✓	✓	
IEEE 802.3af	–	–	✓	–	–	–	–	
<b>Interface</b>								
RJ45 Ports	10/100BaseT(X)			10/100/1000BaseT(X)	10/100BaseT(X)			
M12 Port	✓	–	–	–	–	–	–	
Fiber Modes	Multi-mode Fiber / Single-mode Fiber			Multi-mode Fiber / Single-mode Fiber				
Fiber Ports	100BaseFX (SC, ST, or LC connectors)		100BaseFX (SC or ST connectors)	Optional 1000BaseSX/LSX/LX/LH/LHX/ZX/EZX (LC connector)	100BaseFX (SC or ST connectors)		100BaseFX (SC or ST)	
LED Indicators	PWR1, PWR2, Fiber Link/Act, 10/100M (TP port)		PWR1, PWR2, Fiber Link/Act, PSE Indicator, 10/100M (TP port)	PWR1, PWR2, FAULT, 10/100M (TP port), 100M (TP and Fiber port)	PWR1, PWR2, FAULT, 10/100M (TP port), 100M (Fiber port), FDX/ COL (Fiber port)		Power, 10/100M (TP port), 100M (fiber port), FDX/ COL (fiber port)	
DIP Switches	Auto Negotiation, Force TP Speed, Force TP Duplex, Link Fault Pass Through, Operating Mode		Auto Negotiation, Force TP Speed, Force TP Duplex, Link Fault Pass Through, Operating Mode, PSE, P.R.R. (PD Remote Reset)	Port break alarm, Fault Pass-Through, Fiber AN/Force	100BaseFX Full/Half duplex selection, Port break alarm		TP port's 10/100M, Half/Full modes, and Force/ Auto modes, fiber connection's Full/Half mode, Link Fault Pass-Through (LFP)	
Alarm Contact	Relay output: 1 A @ 24 VDC					–		
<b>Multi-mode Transmission Distance</b>								
1000BaseSX	–			See SFP-1G series datasheet	–			
1000BaseLX	–			See SFP-1G series datasheet	–			
<b>Single-mode Transmission Distance</b>								
1000BaseLX	–			See SFP-1G series datasheet	–			
1000BaseLHX	–			See SFP-1G series datasheet	–			
1000BaseZX	–			See SFP-1G series datasheet	–			
<b>Physical Characteristics</b>								
Housing	Metal (IP30)						Plastic (IP30)	
Dimensions (mm)	66.65 x 135.1 x 101.4	66.65 x 135.1 x 101.4	51.65 x 144.45 x 110.2	53.6 x 135 x 105	53.6 x 135 x 105	30 x 125 x 79	25 x 109 x 97	
Weight	690 g	690 g	525 g	630 g	630 g	170 g	125 g	
Installation	DIN-Rail mounting, wall mounting (with optional kit)							
<b>Environmental Limits</b>								
Operating Temperature	-40 to 85°C		0 to 60°C for standard models, -40 to 75°C for wide-temperature models				-10 to 60°C	
Operating Humidity	5 to 95% RH							
Storage Temperature	-40 to 85°C					-40 to 75°C		-40 to 70°C
<b>Power Requirements</b>								
Input Voltage	20 VDC to 72 VDC	85 VAC to 264 VAC 88 VDC to 300 VDC	48 VDC (46 to 57 VDC), redundant inputs	12 to 45 VDC redundant inputs		12 to 48 VDC		
Input Current	170 mA @ 20 VDC	73 mA @ 85 VAC 47 mA @ 88 VDC	430 mA @ 48 VDC	110 mA @ 24 VDC	160 mA @ 24 VDC	265 mA @ 12 VDC, 135 mA @ 24 VDC, 75 mA @ 48 VDC	150 mA @ 24 VDC	
Connection	Removable terminal block							
Overload Current Protection	1.6 A	1.6 A	1.6 A	2.5 A	1.1 A	1.1 A	1.1 A	
Reverse Polarity Protection	✓	✓	✓	✓	✓	✓	✓	
PoE	–	–	PSE, provides up to 15.4 W for PD	–	–	–	–	
<b>Standards and Certifications</b>								
Safety	UL 60950-1	UL 60950-1	UL 508	UL 508	UL 508, UL 60950-1	UL 60950-1	UL 508	
EMI	FCC Part 15, CISPR (EN 55022) class A			FCC Part 15, CISPR (EN 55022) class A				
EMS	EN 61000-4-2 (ESD) Level 4, EN 61000-4-3 (RS) Level 3, EN 61000-4-4 (EFT) Level 4, EN 61000-4-5 (Surge) Level 4, EN 61000-4-6 (CS) Level 3, EN 61000-4-8 (PFMF) Level 5, EN 61000-4-11		IEC 61000-4-2 (ESD) Level 4, IEC 61000-4-3 (RS) Level 3, IEC 61000-4-4 (EFT) Level 4, IEC 61000-4-5 (Surge) Level 3, IEC 61000-4-6 (CS) Level 3, IEC 61000-4-8 (PFMF) Level 1, IEC 61000-4-11	EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 3, EN 61000-4-4 (EFT) Level 3, EN 61000-4-5 (Surge) Level 2, EN 61000-4-6 (CS) Level 3, EN 61000-4-8, EN 61000-4-11		EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 2, EN 61000-4-4 (EFT) Level 2, EN 61000-4-5 (Surge) Level 2, EN 61000-4-6 (CS) Level 2	EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 2, EN 61000-4-4 (EFT) Level 2, EN 61000-4-5 (Surge) Level 2, EN 61000-4-6 (CS) Level 2, EN 61000-4-8 (PFMF) Level 1	
Hazardous Location	–	–	–	UL/cUL Class1, Division 2, Groups A, B, C, and D, ATEX Class1, Zone 2, Ex nC IIC		–	–	
Power	IEC 61850-3, IEEE 1613	IEC 61850-3, IEEE 1613	–	–	–	–	–	
Rail Traffic	EN 50155, EN 50121-4	EN 50155, EN 50121-4	–	–	–	–	–	
Freefall	IEC 60068-2-32							
Shock	IEC 60068-2-27							
Vibration	IEC 60068-2-6							
Maritime	–	–	–	–	DNV, GL	–	–	
MTBF	1,211,613 hrs	1,211,613 hrs	435,210 hrs	500,540 hrs	401,000 hrs	33,000 hrs	353,000 hrs	
<b>Reliability</b>								
Warranty	5 years (see <a href="http://www.moxa.com/warranty">http://www.moxa.com/warranty</a> )							

Ethernet Media Converters and Extenders > Ethernet-to-Fiber Media Converters

# Managed DSL Ethernet Extenders



	IEX-402-SHDSL	IEX-402-VDSL2
<b>Number of Ports</b>		
Fast Ethernet, 10/100 Mbps	1	1
DSL Port	1	1
<b>Available Power Supplies</b>		
12/24/48 VDC	✓	✓
<b>Installation Options</b>		
DIN-Rail Mounting	✓	✓
Panel Mounting	w/ optional kit	w/ optional kit
Rack Mounting	w/ optional kit	w/ optional kit
<b>Supported Operating Temperatures</b>		
-10 to 60°C	✓	✓
-40 to 75°C	✓	✓
Automatic Backup Configurator (ABC-01)	✓	✓
<b>Network Management and Control</b>		
Modbus/TCP	✓	✓
SNMP v1/v2/v3	✓	✓
LLDP	✓	✓
IPv6	✓	✓
<b>Maximum Support Speed/Distance over Twisted-Pair Copper Wire</b>		
100Mbps/3km	-	✓
15.3Mbps/8km	✓	-
<b>Standards and Certifications</b>		
CE/FCC	✓	✓
UL 508	✓	✓
NEMA TS2	-	✓
EN 50121-4	✓	✓



# Industrial Ethernet Gateways



	MGate MB3180	MGate MB3280	MGate MB3480	MGate MB3170 (-IEX) MGate MB3170-T (-IEX) MGate MB3170I (-IEX) MGate MB3170I-T (-IEX)	MGate MB3270 (-IEX) MGate MB3270-T (-IEX) MGate MB3270I (-IEX) MGate MB3270I-T (-IEX)	MGate EIP3170 (-IEX) MGate EIP3170-T (-IEX) MGate EIP3170I (-IEX) MGate EIP3170I-T (-IEX)	MGate EIP3270 (-IEX) MGate EIP3270-T (-IEX) MGate EIP3270I (-IEX)
<b>Ethernet Interface</b>							
Protocol	Modbus TCP			CIP (PCCC) on Ethernet/IP			
Number of Ports	1	2 (1 IP, Ethernet cascade)			2 (2 IPs)		
Speed	10/100 Mbps, Auto MDI/MDIX						
Connector	RJ45						
Magnetic Isolation Protection	1.5 kV (built-in)						
<b>Serial Interface</b>							
Protocol	Modbus RTU/ASCII Slave/Master			DF1 Full-duplex			
Number of Ports	1	2	4	1	2	1	2
Serial Standards	RS-232/422/485			RS-232/422			
Connectors	DB9-M			RS-232: DB9-M RS-422/485: Terminal block	DB9-M	RS-232: DB9-M RS-422: Terminal block	DB9-M
ESD Protection	15 kV						
RS-485 Data Direction Control	ADDCC®			-			
Serial Communication Parameters	Data Bits: 7, 8 Stop Bits: 1, 2			Data Bits: 8 Stop Bits: 1, 2			
Parity	None, Even, Odd, Space, Mark			None, Even, Odd			
Flow Control	RTS/CTS, DTR/DSR (RS-232 only)						
Baudrate	50 bps to 921.6 Kbps					1200 bps to 921.6 Kbps	
Isolation	-	-	-	2 kV (built-in, -I model only)			
<b>Software</b>							
Utilities	MGate Manager for Windows 2000/XP/2003/Vista/Server 2008/7/8 (x86/x64), Windows Server 2008 R2/2012 (x64)						
Smart Routing	✓	✓	✓	✓	✓	✓	✓
Serial Redirection	-	-	-	-	✓	-	✓
ProCOM	-	-	-	✓	✓	✓	✓
Priority Control	-	-	-	✓	✓	-	-
MXview	✓	✓	✓	✓	✓	✓	✓
SNMP	v1 (read only)						
<b>Physical Characteristics</b>							
Housing	Metal (IP30)			Plastic			
Dimensions	22 x 52 x 80 mm	22 x 77 x 111 mm	35.5 x 102.7 x 157.2 mm	29 x 89.2 x 118.5 mm			
<b>Environmental Limits</b>							
Operating Temperature	0 to 55°C			0 to 60°C or -40 to 75°C (-T model only)			
Operating Humidity	5 to 95% RH						
Storage Temperature	-20 to 70°C			-40 to 85°C			
Atmospheric Pressure	Up to 2000 m (795 hPa), higher altitudes on demand						
<b>Power Requirements</b>							
Input Voltage	12 to 48 VDC						
Power Connector	Power jack	Power jack and terminal block		Terminal block			
<b>Standards and Certifications</b>							
Safety	UL 60950-1, EN 60950-1			UL 508, EN 60950-1			
Hazardous Location	-	-	-	UL/cUL Class 1 Division 2 Groups A/B/C/D, ATEX Zone 2 Ex na IIC T3 Gc, IECEx (-IEX model only)			
EMC	CE, FCC						
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A						
EMS	EN 55024, EN 61000-4-2 (ESD) Level 2, EN 61000-4-3 (RS) Level 2, EN 61000-4-4 (EFT) Level 2, EN 61000-4-5 (Surge) Level 2, EN 61000-4-6 (CS) Level 2, EN 61000-4-8 (PFMF) Level 1, EN 61000-4-11			EN 55024, EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 3, EN 61000-4-4 (EFT) Level 4, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 3, EN 61000-4-8 (PFMF) Level 1, EN 61000-4-11			
Marine	-	-	-	DNV		-	-
Shock	-	-	-	IEC 60068-2-27			
Freefall	-	-	-	IEC 60068-2-32			
Vibration	-	-	-	IEC 60068-2-6			
<b>Reliability</b>							
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )						

# Industrial Ethernet Gateways



	MGate 4101-MB-PBS MGate 4101-MB-PBS-T MGate 41011-MB-PBS MGate 41011-MB-PBS-T	MGate 5101-PBM-MN MGate 5101-PBM-MN-T	MGate 5102-PBM-PN MGate 5102-PBM-PN-T	MGate 5105-MB-EIP MGate 5105-MB-EIP-T
<b>Ethernet Interface</b>				
Protocol	–	Modbus TCP	PROFINET RT	EtherNet/IP, Modbus TCP
Number of Ports	–	1	2 (1 IP, Ethernet cascade)	–
Connectors	–	RJ45	–	–
Magnetic Isolation Protection	–	1.5 kV (built-in)	–	–
Speed	–	10/100 Mbps, Auto MDI/MDIX	–	–
<b>PROFIBUS Interface</b>				
Protocol	PROFIBUS DP-V0 Slave	PROFIBUS DP-V1 Master	–	–
Number of Ports	1	–	–	–
Data Rate	9600 bps to 12 Mbps	–	–	–
Connector	DB9-F	–	–	–
Isolation Protection	2 kV (built-in)	–	–	–
<b>Modbus Interface</b>				
Number of Ports	1	–	–	1
Serial Standards	RS-232/422/485, software selectable	–	–	RS-232/422/485, software selectable
Connectors	DB9-M	–	–	DB9-M
ESD Protection	15 kV	–	–	–
RS-485 Data Direction Control	ADDC®	–	–	ADDC®
Serial Communication Parameters	Data Bits: 7, 8 Stop Bits: 1, 2	–	–	Data Bits: 5, 6, 7, 8 Stop Bits: 1, 1.5, 2
Parity	None, Even, Odd, Space, Mark	–	–	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS, DTR/DSR (RS-232 only)	–	–	RTS/CTS, RTS Toggle
Baudrate	50 bps to 921.6 Kbps	–	–	50 bps to 921.6 kbps
Isolation Protection	2 kV (built-in, -I model only)	–	–	2 kV (built-in)
<b>Software</b>				
Utilities	MGate Manager for Windows 2000/XP/2003/Vista/Server 2008/7/8 (x86/x64), Windows Server 2008 R2/2012 (x64)			
QuickLink	✓	–	–	–
Paging	✓	–	–	–
AutoScan	–	✓	✓	–
MXview	–	✓	✓	✓
SNMP	–	v1, v2, v3, Private MIB	–	–
<b>Physical Characteristics</b>				
Housing	Metal (IP30)			
Dimensions	36 x 105 x 140 mm			
Storage Card Slot	1 microSD (SDHC) card slot (supports up to 32 GB)			
<b>Environmental Limits</b>				
Operating Temperature	0 to 60°C or -40 to 75°C (-T model only)			
Operating Humidity	5 to 95% RH			
Storage Temperature	-40 to 85°C			
Atmospheric Pressure	Up to 2000 m (795 hPa), higher altitudes on demand			
<b>Power Requirements</b>				
Input Voltage	12 to 48 VDC			
Power Connector	Terminal block			
<b>Standards and Certifications</b>				
Safety	UL 60950-1, EN 60950-1		UL 508, EN 60950-1	
Hazardous Location	UL/cUL Class 1 Division 2 Groups A/B/C/D (Pending), ATEX Zone 2 Ex nA nC IIC T3 Gc (Pending), IECEx (Pending)		UL/cUL Class 1 Division 2 Groups A/B/C/D, ATEX Zone 2 Ex nA nC IIC T3 Gc, IECEx (Pending)	
EMC	CE, FCC			
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A			
EMS	EN 55024, EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 2, EN 61000-4-4 (EFT) Level 3, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 2, EN 61000-4-8 (PFMF) Level 1	EN 55024, EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 2, EN 61000-4-4 (EFT) Level 3, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 3, EN 61000-4-8 (PFMF) Level 1	EN 55024, EN 61000-4-2 (ESD) Level 4, EN 61000-4-3 (RS) Level 3, EN 61000-4-4 (EFT) Level 4, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 3, EN 61000-4-8 (PFMF) Level 3	
Shock	IEC 60068-2-27			
Freefall	IEC 60068-2-32			
Vibration	IEC 60068-2-6			
<b>Reliability</b>				
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )			

Industrial Ethernet Gateways > Industrial Ethernet Gateways

# Industrial Ethernet Gateways (Wireless)



	MGate 5106-DNMB-GSM MGate 5106-DNMB-GSM-T	MGate 5207-DNMB-HSPA MGate 5207-DNMB-HSPA-T
<b>Ethernet Interface</b>		
Protocol	Modbus TCP, DNP3 IP	
Number of Ports	1	2 (1 IP, Ethernet cascade)
Connectors	RJ45	
Magnetic Isolation Protection	1.5 kV (built-in)	
Speed	10/100 Mbps, Auto MDI/MDIX	
<b>Serial Interface</b>		
Protocol	Modbus RTU/ASCII, DNP3 Serial	
Number of Ports	1	2
Serial Standards	RS-232/422/485, software selectable	
Baudrate	50 to 921.6 Kbps	
Flow Control	RTS/CTS, RTS Toggle	
Serial Communication Parameters	Data Bits: 5, 6, 7, 8 Stop Bits: 1, 1.5, 2	
Parity	None, Even, Odd, Space, Mark	
Connector	DB9-M	
<b>Wireless Network</b>		
Number of SIM Card	1	2
Number of Antenna	1	2
Broadband	GSM/GPRS: 850/900/1800/1900 MHz	GSM/GPRS/EDGE: 850/900/1800/1900 MHz, UMTS/HSPA: 850/900/1700/1900/2100 MHz, AWS: 1700/2100 MHz
Generation	2.5 G	3.75 G
Class	GPRS: 10	GSM: 4 (850/900), 1 (1800/1900) EDGE: E2, WCDMA: 3
<b>Inputs and Outputs</b>		
Digital Input	1 channel	2 channels
Digital Output	1 channel	2 channels
Contact Type	4-pin terminal block	6-pin terminal block
DI: Dry Contact	Logic 0: Short to GND Logic 1: Open	
DI: Wet Contact (COM to DI)	Logic 0: +10-30 VDC Logic 1: 0-+3 VDC	
DOU (Sink Type)	Current: Max. 200 mA Per channel Voltage: Max. 30 VDC	
<b>Software</b>		
Utilities	MGate Manager for Windows 2000/XP/2003/Vista/Server 2008/7/8 (x86/x64), Windows Server 2008 R2/2012 (x64)	
Network Protocol	UDP/TCP, SNTIP, ICMP, DDNS, DHCP, PPP, DNS, HTTP/HTTPS, Telnet, SSH, SNMP, ARP	
VPN	IPSec, PPTP, L2TP, Port Forwarding, IP Filter	
MXview	✓	
SNMP	v1, v2, v3, Private MIB	
<b>Physical Characteristics</b>		
Housing	Metal (IP30)	
Dimensions	45.8 x 134.8 x 105 mm	
Storage Card Slot	-	1 microSD (SDHC) card slot (supports up to 32 GB)
<b>Environmental Limits</b>		
Operating Temperature	0 to 60°C or -40 to 75°C (-T model only)	
Operating Humidity	5 to 95% RH	
Storage Temperature	-40 to 85°C	
Atmospheric Pressure	Up to 2000 m (795 hPa), higher altitudes on demand	
<b>Power Requirements</b>		
Input Voltage	9 to 60 VDC	
Power Connector	3-pin terminal block	
<b>Standards and Certifications</b>		
Safety	UL 508, EN 60950-1	
EMC	CE, FCC	
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A	
EMS	EN 55024, EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 3, EN 61000-4-4 (EFT) Level 4, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 3, EN 61000-4-8 (PFMF) Level 3	
Shock	IEC 60068-2-27	
Freefall	IEC 60068-2-32	
Vibration	IEC 60068-2-6	
Radio	FCC Part 22H, FCC Part 24E, EN 301489-1, EN 301489-7, EN 301511	FCC Part 22H, FCC Part 24E, EN 301489-1, EN 301489-24, EN 301908-1
<b>Reliability</b>		
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )	



# Industrial Wireless IEEE 802.11 Solutions



Dual-radio Industrial Wireless AP/Bridge/Client				
	AWK-6232	AWK-5232	AWK-6222	AWK-5222
<b>WLAN</b>				
IEEE802.11 Standards	a/b/g/n		a/b/g	
Number of RF modules	2	2	2	2
<b>Interfaces</b>				
Number of Antenna Connectors	4	4	4	4
Antenna Connector Type	N-type (female)	RP-SMA	N-type (female)	RP-SMA
Number of LAN Ports	2	2	2	2
LAN Port Type	M12	RJ45	RJ45	RJ45
LAN Port Speed	10/100/1000BaseT(X)	10/100/1000BaseT(X)	10/100BaseT(X)	10/100BaseT(X)
RS-232 Console Port	1, waterproof RJ45	1, RJ45	1, waterproof RJ45	1, RJ45
DI/DO	✓	✓	✓	✓
DI/DO Connector Type	8-pin M12 (A-coding, male)	10-pin terminal block	8-pin M12 (A-coding, female)	10-pin terminal block
<b>Housing Protection</b>				
IP-rating	IP68	IP30	IP68	IP30
<b>Installation Options</b>				
DIN-Rail Mounting	✓ (optional)	✓	✓ (optional)	✓
Wall Mounting	✓	✓ (optional)	✓	✓ (optional)
Pole Mounting	✓ (optional)	–	✓ (optional)	–
<b>Power Requirements</b>				
Input Voltage	12 to 48 VDC			
Connector	5-pin M12 (A-coding)	10-pin terminal block	5-pin M12 (A-coding)	10-pin terminal block
PoE Support	✓ (PoE+ only)	✓ (PoE+ only)	✓	✓
Reverse Polarity Protection	✓	✓	✓	✓



Single-radio Industrial Wireless AP/Bridge/Client								
	AWK-4131	AWK-3131	AWK-1131A	AWK-4121	AWK-3121	AWK-1127	AWK-1121	
<b>WLAN</b>								
IEEE802.11 Standards	a/b/g/n			a/b/g				
Number of RF modules	1	1	1	1	1	1	1	1
<b>Interfaces</b>								
Number of Antenna Connectors	2	2	2	2	2	2	2	2
Antenna Connector Type	N-type (female)	RP-SMA (female)	RP-SMA (female)	N-type (female)	RP-SMA (female)	RP-SMA (female)	RP-SMA (female)	RP-SMA (female)
Total Number of LAN Ports	1	1	1	1	1	1	1	1
LAN Port Type	M12/ SFP (Combo)	RJ45/ SFP (Combo)	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45
LAN Port Speed	10/100/1000BaseT(X) or 1000BaseSFP	10/100/1000BaseT(X) or 1000BaseSFP	10/100/1000BaseT(X)	10/100BaseT(X)	10/100BaseT(X)	10/100BaseT(X)	10/100BaseT(X)	10/100BaseT(X)
RS-232 Console Port	1, waterproof RJ45	1, RJ45	1, RJ45	1, waterproof RJ45	1, RJ45	1, RJ45	1, RJ45	1, RJ45
DB9 RS-232/422/485 Serial Port	–	–	–	–	–	1	–	–
DI/DO	✓	✓	–	✓	✓	–	–	–
DI/DO Connector Type	8-pin M12 (A-coding, male)	10-pin terminal block	–	8-pin M12 (A-coding, female)	10-pin terminal block	–	–	–
<b>Housing Protection</b>								
IP-rating	IP68	IP30	IP30	IP68	IP30	IP30	IP30	IP30
<b>Installation Options</b>								
DIN-Rail Mounting	✓ (optional)	✓	✓	✓ (optional)	✓	✓	✓	✓
Wall Mounting	✓	✓ (optional)	✓ (optional)	✓	✓ (optional)	✓ (optional)	✓ (optional)	✓ (optional)
Pole Mounting	✓ (optional)	–	–	✓ (optional)	–	–	–	–
<b>Power Requirements</b>								
Input Voltage	12 to 48 VDC							
Connector	5-pin M12 (A-coding)	10-pin terminal block	4-pin terminal block	5-pin M12 (A-coding)	10-pin terminal block	4-pin terminal block	4-pin terminal block	4-pin terminal block
PoE Support	✓	✓	✓	✓	✓	✓*	✓*	✓*
Reverse Polarity Protection	✓	✓	✓	✓	✓	✓	✓	✓

\* For PoE models only

# Cellular Routers & Advanced IP Gateways



	Cellular Router		Cellular Advanced IP Gateway				
	OnCell 5004-HSPA	OnCell 5104-HSPA	OnCell G3110-HSPA	OnCell G3150-HSPA	OnCell G3110	OnCell G3150	
<b>Cellular Interface</b>							
Standards	GSM/GPRS/EDGE/UMTS/HSPA		GSM/GPRS/EDGE/UMTS/HSPA		GSM/GPRS/EDGE		
3G band Options	800/850/AWS/1900/2100 MHz		800/850/AWS/1900/2100 MHz		-		
HSPA Data Rate	14.4 Mbps DL, 5.76 Mbps UL		14.4 Mbps DL, 5.76 Mbps UL		-		
2G band Options	850/900/1800/1900 MHz						
EDGE Data Rate	237 Kbps DL, 237 Kbps UL						
GPRS Data Rate	85.6 Kbps DL, 85.6 Kbps UL						
<b>Ethernet WAN Interface</b>							
Number of Ports	1		-				
Ethernet	10/100M (RJ45)		-				
<b>LAN Interface</b>							
Number of Ports	4		1				
Ethernet	10/100M (RJ45)		10/100M (RJ45)				
<b>SIM Interface</b>							
Number of SIMs	2		1				
SIM Control	3 V		3 V				
<b>Serial Interface</b>							
Number of Ports	-		1				
Serial Standards	-		RS-232	RS-232/422/485	RS-232	RS-232/422/485	
Connector	-		DB9-M	DB9-M and TB	DB9-M	DB9-M and TB	
2.5 kV Optical Isolation	-						
<b>I/O Interface</b>							
Alarm Contacts	-		1				
Digital Inputs	-		2				
<b>Software</b>							
Protocols	ARP, DDNS, DHCP/BOOTP, DNS Relay, HTTP, HTTPS, ICMP, IPsec, PPP, PPPoE, SMTP, SNMP, SSH, SSL, TCP/IP, Telnet, UDP		ARP, DDNS, DHCP/BOOTP, DNS Relay, HTTP, HTTPS, ICMP, IPsec, SMTP, SNMP, SSH, SSL, TCP/IP, Telnet, UDP		ARP, AT Commands (Virtual Modem), DDNS, DHCP/BOOTP, DNS Relay, HTTP, HTTPS, ICMP, IPsec, SMTP, SNMP, SSH, SSL, TCP/IP, Telnet, UDP		
Routing/Firewall	NAT, port forwarding, WAN IP filtering, static route		NAT, port forwarding, WAN IP filtering				
Virtual Private Network	IPsec						
Serial Security	-		Accessible IP list				
Serial Operation Modes	-		Real COM, Reverse Real COM, TCP Server, TCP Client, UDP, SMS Tunnel, RFC2217 Secure Real COM, Secure TCP Server, Secure TCP Client				
Cellular Connectivity	GuaranLink						
Utilities	OnCell Central Manager, OnCell Search Utility, SNMP v1/v2/v3, Web/Telnet/Serial Console, SSH, Remote SMS Control, Auto IP Report						
<b>Physical Characteristics</b>							
Housing	Aluminum (IP30)						
Weight	505±5 g	645±5 g	440±5 g				
Dimensions	158 x 103 x 34	160 x 50 x 103	28 x 126 x 93				
<b>Environmental Limits</b>							
Operating Temperature	-30 to 55°C	Standard Models: -30 to 55°C Wide Temp. Models: -30 to 70°C	Standard Models: -30 to 55°C Wide Temp. Models: -30 to 70°C				
Operating Humidity	5 to 95%						
Storage Temperature	-40 to 75°C						
<b>Power Requirements</b>							
Power Input	Dual Power Input						
Input Voltage	12 to 48 VDC						
Connector Type	2-pin terminal block and 1 power jack	10-pin terminal block	10-pin terminal block				
<b>Standards and Certifications</b>							
Safety	UL 60950-1						
EMC	FCC Part 15 Subpart B Class A EN 55022 Class A, EN 55024						
Radio	FCC Part 22H, FCC Part 24E EN 301 489-1, EN 301 489-7, EN 301 489-24 EN 301511, EN 301 908		FCC Part 22H, FCC Part 24E EN 301 489-1, EN 301 489-7, EN 301 489-24 EN 301511, EN 301 908		FCC Part 22H, FCC Part 24E EN 301 489-1, EN 301 489-7 EN 301511		
Mobile Network	-		-				PTCRB
<b>Reliability</b>							
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )						

# Cellular Compact IP Gateways & Modems



	Cellular Compact IP Gateway				Cellular Modem	
	OnCell G3111-HSPA	OnCell G3151-HSPA	OnCell G3111 OnCell G3211	OnCell G3151 OnCell G3251	OnCell G2111	OnCell G2151
<b>Cellular Interface</b>						
Standards	GSM/GPRS/EDGE/UMTS/HSPA		GSM/GPRS		GSM/GPRS	
3G band Options	800/850/AWS/1900/2100 MHz		-		-	
HSPA Data Rate	14.4 Mbps DL, 5.76 Mbps UL		-		-	
2G band Options	850/900/1800/1900 MHz		-		-	
EDGE Data Rate	237 Kbps DL, 237 Kbps UL		-		-	
GPRS Data Rate	85.6 Kbps DL, 85.6 Kbps UL		85.6 Kbps DL, 42.8 Kbps UL		85.6 Kbps DL, 42.8 Kbps UL	
<b>Ethernet WAN Interface</b>						
Number of Ports	-		-		-	
Ethernet	-		-		-	
<b>LAN Interface</b>						
Number of Ports	1		-		-	
Ethernet	10/100 Mbps (RJ45)		-		-	
<b>SIM Interface</b>						
Number of SIMs	1		-		-	
SIM Control	3 V		-		-	
<b>Serial Interface</b>						
Number of Ports	1		1 for OnCell G3111 2 for OnCell G3211	1 for OnCell G3151 2 for OnCell G3251	1	
Serial Standards	RS-232	RS-232/422/485	RS-232	RS-232/422/485	RS-232	RS-232/422/485
Connector	DB9-M		-		DB9-F	DB9-F and 5-pin TB
2.5 kV Optical Isolation	-		-		-	✓
<b>I/O Interface</b>						
Alarm Contacts	-		-		-	
Digital Inputs	-		-		-	
<b>Software</b>						
Protocols	ARP, DDNS, DHCP/BOOTP, DNS Relay, HTTP, HTTPS, ICMP, SMTP, SNMP, SSH, SSL, TCP/IP, Telnet, UDP				AT Commands	
Routing/Firewall	NAT, port forwarding, WAN IP filtering				-	
Virtual Private Network	-				-	
Serial Security	Accessible IP list				-	
Serial Operation Modes	Real COM, Reverse Real COM, TCP Server, TCP Client, UDP, SMS Tunnel, RFC2217				-	
Cellular Connectivity	GuaranLink				-	
Utilities	OnCell Central Manager, OnCell Search Utility, SNMP v1/v2/v3, Web/Telnet/Serial Console, SSH, Remote SMS Control, Auto IP Report				-	
<b>Physical Characteristics</b>						
Housing	Aluminum (IP30)		-		ABS + PC (IP30)	
Weight	165±5 g		185±5 g		150 ± 5 g	
Dimensions	111 x 77 x 26 mm		-		27 x 123 x 79 mm	
<b>Environmental Limits</b>						
Operating Temperature	-30 to 55°C				Standard Models: 0 to 55°C Wide Temp. Models: -30 to 75°C	
Operating Humidity	5 to 95%				0 to 55°C	
Storage Temperature	-40 to 75°C				-	
<b>Power Requirements</b>						
Power Input	Single Power Input				-	
Input Voltage	12 to 48 VDC				-	
Connector Type	3-pin terminal block		Power jack		3-pin terminal block	
<b>Standards and Certifications</b>						
Safety	UL 60950-1				-	
EMC	FCC Part 15 Subpart B Class A EN 55022 Class A, EN 55024 EN 61000-6-2, EN 61000-6-4		FCC Part 15 Subpart B Class A EN 55022 Class A, EN 55024		FCC Part 15 Subpart B Class A EN 55022 Class A, EN 55024	
Radio	FCC Part 22H, FCC Part 24E EN 301 489-1, EN 301 489-7, EN 301 489-24 EN 301511, EN 301 908		FCC Part 22H, FCC Part 24E EN 301 489-1, EN 301 489-7 EN 301511		FCC Part 22H, FCC Part 24E EN 301 489-1, EN 301 489-7 EN 301511	
Mobile Network	-				PTCRB (OnCell G3151 Only)	
<b>Reliability</b>						
Warranty	5 years (see www.moxa.com/warranty)				-	



# Railway Wireless LAN Solutions



	Rail Train-to-Ground Series				Rail Carriage-to-Carriage Series	
	TAP-6226	AWK-3121-M12-RTG	AWK-3121-M12-HP-RTG	AWK-3121-SSC-RTG	AWK-3131-M12-RCC	AWK-5232-M12-RCC
<b>WLAN</b>						
IEEE 802.11 Standards	a/b/g				a/b/g/n	
Number of RF Modules	2	1	1	1	1	2
High Power RF Modules	✓ (400mW)	-	✓ (400mW)	-	-	-
<b>Interfaces</b>						
Number of Antenna Connectors	2	2	2	2	2	4
Antenna Connector Type	N-type (female)	QMA (female)	QMA (female)	RP-SMA (female)	QMA (female)	QMA (female)
Number of LAN Ports	6	1	1	1	1	2
LAN Port Type	4, M12; 2, SFP	1, M12	1, M12	1, SC connector	1, M12	2, M12
LAN Port Speed	10/100BaseT(X); 100BaseFX	10/100BaseT(X)	10/100BaseT(X)	100BaseFX	10/100/1000BaseT(X)	10/100/1000BaseT(X)
RS-232 Console Port	1, M12	1, RJ45	1, RJ45	1, RJ45	1, RJ45	1, RJ45
DI/DO	-	✓	✓	✓	✓	✓
DI/DO Connector Type	-	10-pin terminal block	10-pin terminal block	10-pin terminal block	10-pin terminal block	10-pin terminal block
<b>Housing Protection</b>						
IP-rating	IP68	IP30	IP30	IP30	IP30	IP30
<b>Installation Options</b>						
DIN-Rail Mounting	-	✓	✓	✓	✓	✓
Wall Mounting	✓	✓ (optional)	✓ (optional)	✓ (optional)	✓ (optional)	✓ (optional)
<b>Power Requirements</b>						
Input Voltage	110/220 VDC/VAC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC
Connector	M23	10-pin terminal block	10-pin terminal block	10-pin terminal block	10-pin terminal block	10-pin terminal block
PoE Support	✓	✓	✓	✓	✓	✓
Reserve Polarity Protection	✓	✓	✓	✓	✓	✓



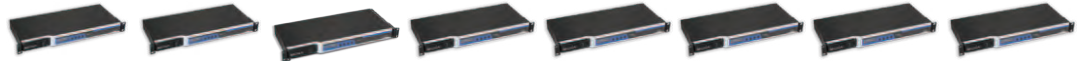
	Wireless Access Controller	
	WAC-1001	WAC-2004
<b>Controller Features</b>		
WLAN Security Support	WPA/WAP2-Personal and Enterprise	
Turbo Roaming for Layer 2 Network	✓	✓
Turbo Roaming for Layer 3 Network	-	✓
Mobile IP	-	✓
<b>Interfaces</b>		
Number of LAN Ports	1	4
LAN Port Type	1, RJ45	4, RJ45
LAN Port Speed	10/100BaseT(X)	10/100/1000BaseT(X)
RS-232 Console Port	1, RJ45	1, DB9 (male)
DI/DO	✓	-
DI/DO Connector Type	10-pin terminal block	-
<b>Housing Protection</b>		
IP-rating	IP30	-
<b>Installation Options</b>		
DIN-Rail Mounting	✓	-
Wall Mounting	✓ (optional)	-
Rack Mounting	-	Standard 19-inch rackmounting
<b>Power Requirements</b>		
Input Voltage	12 to 48 VDC	100 to 240 VAC
Connector	10-pin terminal block	AC power socket
PoE Support	✓	-
Reserve Polarity Protection	✓	-

# NPort® 6000 Terminal Servers



	NPort 6150/6150-T	NPort 6250/6250-T	NPort 6250-M-SC/ 6250-M-SC-T	NPort 6250-S-SC/ 6250-S-SC-T	NPort 6450/6450-T	NPort 6610-8	NPort 6610-8-48V	NPort 6610-16	NPort 6610-16-48V
<b>LAN Interface</b>									
10/100BaseT(X) Ports	1 port (8-pin RJ45 connector)								
Magnetic Isolation Protection	1.5 kV								
100BaseFX Ports	-	-	1 (multi-mode)	1 (single-mode)	-	-	-	-	-
<b>Expansion Modules</b>									
10/100BaseT(X) (RJ45)	-	-	-	-	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports
Multi-mode Fiber (SC)	-	-	-	-	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports
Single-mode Fiber (SC)	-	-	-	-	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports
Modem	-	-	-	-	✓	✓	✓	✓	✓
<b>Serial Interface</b>									
RS-232 Ports	-	-	-	-	-	8	8	16	16
RS-232/422/485 Ports	1	2	2	2	4	-	-	-	-
Connectors	DB9 male	DB9 male	DB9 male	DB9 male	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 (supports non-standard baudrates)								
15 kV ESD Protection	✓	✓	✓	✓	✓	✓	✓	✓	✓
RS-485 Data Direction Control	ADDC	ADDC	ADDC	ADDC	ADDC	ADDC	ADDC	ADDC	ADDC
RS-232 Console Port	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Advanced Features</b>									
Serial Data Log	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB
Offline Port Buffering	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB
SD Slot	-	✓	✓	✓	✓	✓	✓	✓	✓
<b>Software</b>									
Network Protocols	ICMP, IPv4/v6, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1/V2c/V3, DDNS, HTTP, SMTP, HTTPS, SSL, SSH, PPPoE, RFC2217, IPv6, IPv4, Turbo Ring, Turbo Ring 2								
Security Protocols	DES, 3DES, AES, SSH, SSL								
Configuration Options	Web Console, Telnet Console, Serial Console, Windows Search Utility								
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded								
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X								
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.x								
Management	SNMP MIB-II								
IP Routing	Static, RIP-I, RIP-II								
Standard Operation Modes	Real COM, TCP Server, TCP Client, UDP, Pair Connection, RFC2217, Terminal, Reverse Telnet, Ethernet Modem, Printer, PPP, Disabled								
Secure Operation Modes	Secure Real COM, Secure TCP Server, Secure TCP Client, Secure Pair Connection, SSH, Reverse SSH								
Terminal Sessions	8 sessions per port								
<b>Physical Characteristics</b>									
Housing	Metal								
Weight	700 g	730 g	730 g	730 g	1020 g	3460 g	3460 g	3580 g	3580 g
Dimensions (mm)	67 x 100.4 x 29	77 x 111 x 29	77 x 111 x 29	77 x 111 x 29	158 x 103 x 35	440 x 195 x 44	440 x 195 x 44	440 x 195 x 44	440 x 195 x 44
<b>Environmental Limits</b>									
Operating Temperature	0 to 55°C (-40 to 75°C for T models)								
Storage Temperature	-40 to 75°C								
Ambient Relative Humidity	5 to 95% (non-condensing)								
Altitude	Up to 2000 m <b>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</b>								
<b>Power Requirements</b>									
Input Voltage	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	100 to 240 VAC	±48 VDC	100 to 240 VAC	±48 VDC
Power Consumption	285 mA @ 12 V 150 mA @ 24 V	333 mA @ 12 V 173 mA @ 24 V	428 mA @ 12 V 219 mA @ 24 V	376 mA @ 12 V 193 mA @ 24 V	730 mA @ 12 V 330 mA @ 24 V	285 mA @ 100 V 190 mA @ 240 V	293 mA @ 48 V	285 mA @ 100 V 190 mA @ 240 V	293 mA @ 48 V
<b>Standards and Certifications</b>									
Safety	UL 60950-1, EN 60950-1								
EMC	CE (EN 55022 Class A, EN 55024), FCC Part 15 Subpart B Class A								
<b>Reliability</b>									
Buzzer, RTC, WDT	✓	✓	✓	✓	✓	✓	✓	✓	✓
MTBF	231,709 hrs	226,128 hrs	225,762 hrs	225,762 hrs	120,354 hrs	135,891 hrs	135,891 hrs	102,373 hrs	102,373 hrs
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )								

# NPort® 6000 Terminal Servers



	NPort 6610-32	NPort 6610-32-48V	NPort 6650-8/ 6650-8-T	NPort 6650-8-48V	NPort 6650-16/ 6650-16-T	NPort 6650-16-48V	NPort 6650-32	NPort 6650-32-48V
<b>LAN Interface</b>								
10/100BaseT(X) Ports	1 port (8-pin RJ45 connector)							
Magnetic Isolation Protection	1.5 kV							
100BaseFX Ports	-							
<b>Expansion Modules</b>								
10/100BaseT(X) (RJ45)	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports
Multi-mode Fiber (SC)	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports
Single-mode Fiber (SC)	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports	1 or 2 ports
Modem	✓	✓	✓	✓	✓	✓	✓	✓
<b>Serial Interface</b>								
RS-232 Ports	32	32	-	-	-	-	-	-
RS-232/422/485 Ports	-	-	8	8	16	16	32	32
Connectors	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 (supports non-standard baudrates)							
15 kV ESD Protection	✓	✓	✓	✓	✓	✓	✓	✓
RS-485 Data Direction Control	ADDC	ADDC	ADDC	ADDC	ADDC	ADDC	ADDC	ADDC
RS-232 Console Port	✓	✓	✓	✓	✓	✓	✓	✓
<b>Advanced Features</b>								
Serial Data Log	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB
Offline Port Buffering	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB
SD Slot	✓	✓	✓	✓	✓	✓	✓	✓
<b>Software</b>								
Network Protocols	ICMP, IPv4/v6, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1/V2c/V3, DDNS, HTTP, SMTP, HTTPS, SSL, SSH, PPPoE, RFC2217, IPv6, IPv4, Turbo Ring, Turbo Ring 2							
Security Protocols	DES, 3DES, AES, SSH, SSL							
Configuration Options	Web Console, Telnet Console, Serial Console, Windows Search Utility							
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded							
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X							
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.x							
Management	SNMP MIB-II							
IP Routing	Static, RIP-I, RIP-II							
Standard Operation Modes	Real COM, TCP Server, TCP Client, UDP, Pair Connection, RFC2217, Terminal, Reverse Telnet, Ethernet Modem, Printer, PPP, Disabled							
Secure Operation Modes	Secure Real COM, Secure TCP Server, Secure TCP Client, Secure Pair Connection, SSH, Reverse SSH							
Terminal Sessions	8 sessions per port							
<b>Physical Characteristics</b>								
Housing	Metal							
Weight	3600 g	3600 g	3460 g	3460 g	3580 g	3580 g	3600 g	3600 g
Dimensions (mm)	440 x 195 x 44	440 x 195 x 44	440 x 195 x 44	440 x 195 x 44	440 x 195 x 44	440 x 195 x 44	440 x 195 x 44	440 x 195 x 44
<b>Environmental Limits</b>								
Operating Temperature	Standard Temperature	0 to 55°C						
	Wide Temperature	-	-	-40 to 75°C	-	-40 to 75°C	-	-
Storage Temperature	-40 to 75°C							
Ambient Relative Humidity	5 to 95% (non-condensing)							
Altitude	Up to 2000 m <b>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</b>							
<b>Power Requirements</b>								
Input Voltage	100 to 240 VAC	±48 VDC	100 to 240 VAC	±48 VDC	100 to 240 VAC	±48 VDC	100 to 240 VAC	±48 VDC
Power Consumption	285 mA @ 100 V 190 mA @ 240 V	293 mA @ 48 V	285 mA @ 100 V 190 mA @ 240 V	293 mA @ 48 V	285 mA @ 100 V 190 mA @ 240 V	293 mA @ 48 V	285 mA @ 100 V 190 mA @ 240 V	293 mA @ 48 V
<b>Standards and Certifications</b>								
Safety	UL 60950-1, EN 60950-1							
EMC	CE (EN 55022 Class A, EN 55024), FCC Part 15 Subpart B Class A							
<b>Reliability</b>								
Buzzer, RTC, WDT	✓	✓	✓	✓	✓	✓	✓	✓
MTBF	68,707 hrs	68,707 hrs	135,370 hrs	135,370 hrs	101,783 hrs	101,783 hrs	68,177 hrs	68,177 hrs
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )							

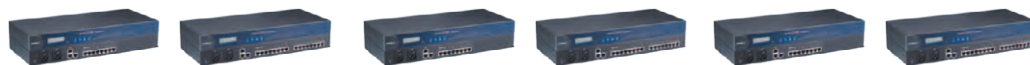


# CN2600 Terminal Servers



	CN2610-8-2AC	CN2610-16-2AC	CN2650-8	CN2650-16
<b>LAN Interface</b>				
10/100BaseT(X) Ports	2 ports (2 IPs, 8-pin RJ45 connectors)			
Magnetic Isolation Protection	1.5 kV			
<b>Serial Interface</b>				
RS-232 Ports	8	16	–	–
RS-232/422/485 Ports	–	–	8	16
Connectors	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			
15 kV ESD Protection	✓	✓	✓	✓
2 kV isolation protection	–	–	–	–
RS-485 Data Direction Control	ADDC®	ADDC®	ADDC®	ADDC®
RS-232 Console Port	✓	✓	✓	✓
<b>Advanced Features</b>				
Serial Data Log	128K			
Offline Port Buffering	128K			
<b>Software</b>				
Network Protocols	ICMP, IPv4, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1/V2c/V3, HTTP, SMTP, ARP, PPPoE, DDNS			
Security Protocols	RADIUS, HTTPS, SSH, PAP, CHAP			
Configuration Options	Web Console, Telnet Console, Serial Console, Windows Search Utility			
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded			
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X			
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.x			
Management	SNMP MIB-II			
IP Routing	Static, RIP-I, RIP-II			
Standard Operation Modes	Real COM, TCP Server, TCP Client, UDP, RFC2217, Terminal, Reverse Telnet, PPP, DRDAS, Redundant COM, Disabled			
Terminal Sessions	8 sessions per port			
<b>Physical Characteristics</b>				
Housing	Metal			
Weight	3760 g	3980 g	3740 g	3790 g
Dimensions (mm)	440 x 198 x 45.5			
<b>Environmental Limits</b>				
Operating Temperature	0 to 55°C			
Storage Temperature	-40 to 75°C			
Ambient Relative Humidity	5 to 95% (non-condensing)			
Altitude	Up to 2000 m <b>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</b>			
<b>Power Requirements</b>				
Dual Power Inputs for Redundancy	✓	✓	–	–
Input Voltage	100 to 240 VAC, 47 to 63 Hz			
Power Consumption	235 mA @ 100 VAC, 145 mA @ 240 V			
<b>Standards and Certifications</b>				
Safety	UL 60950-1, EN 60950-1			
EMC	CE (EN 55022 Class A, EN 55024), FCC Part 15 Subpart B Class A			
<b>Reliability</b>				
Buzzer, RTC, WDT	✓	✓	✓	✓
MTBF	99,302 hrs			
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )			

# CN2600 Terminal Servers



	CN2650-8-2AC CN2650-8-2AC-T	CN2650-16-2AC CN2650-16-2AC-T	CN2650I-8	CN2650I-16	CN2650I-8-2AC	CN2650I-16-2AC
<b>LAN Interface</b>						
10/100BaseT(X) Ports	2 ports (2 IPs, 8-pin RJ45 connectors)					
Magnetic Isolation Protection	1.5 kV					
<b>Serial Interface</b>						
RS-232 Ports	-					
RS-232/422/485 Ports	8	16	8	16	8	16
Connectors	8-pin RJ45	8-pin RJ45	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					
15 kV ESD Protection	✓	✓	✓	✓	✓	✓
2 kV Isolation protection	-	-	✓	✓	✓	✓
RS-485 Data Direction Control	ADDC®	ADDC®	ADDC®	ADDC®	ADDC®	ADDC®
RS-232 Console Port	✓	✓	✓	✓	✓	✓
<b>Advanced Features</b>						
Serial Data Log	128 KB					
Offline Port Buffering	128 KB					
<b>Software</b>						
Network Protocols	ICMP, IPv4, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1/V2c/V3, HTTP, SMTP, ARP, PPPoE, DDNS					
Security Protocols	RADIUS, HTTPS, SSH, PAP, CHAP					
Configuration Options	Web Console, Telnet Console, Serial Console, Windows Search Utility					
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded					
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X					
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.x					
Management	SNMP MIB-II					
IP Routing	Static, RIP-I, RIP-II					
Standard Operation Modes	Real COM, TCP Server, TCP Client, UDP, RFC2217, Terminal, Reverse Telnet, PPP, DRDAS, Redundant COM, Disabled					
Terminal Sessions	8 sessions per port					
<b>Physical Characteristics</b>						
Housing	Metal					
Weight	3900 g	3980 g	3666 g	3776 g	3932 g	4022 g
Dimensions (mm)	440 x 198 x 45.5					
<b>Environmental Limits</b>						
Operating Temperature	Standard Temperature	0 to 55°C				
	Wide Temperature	-40 to 75°C	-40 to 75°C	-	-	-
Storage Temperature	-20 to 70°C					
Ambient Relative Humidity	5 to 95% (non-condensing)					
Altitude	Up to 2000 m <b>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</b>					
<b>Power Requirements</b>						
Dual Power Inputs for Redundancy	✓	✓	-	-	✓	✓
Input Voltage	100 to 240 VAC, 47 to 63 Hz					
Power Consumption	235 mA @ 100 VAC, 145 mA @ 240 VAC					
<b>Standards and Certifications</b>						
Safety	UL 60950-1, EN 60950-1					
EMC	CE (EN 55022 Class A, EN 55024), FCC Part 15 Subpart B Class A					
<b>Reliability</b>						
Buzzer, RTC, WDT	✓	✓	✓	✓	✓	✓
MTBF	99,302 hrs					
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )					

# Combo Switch / Serial Device Servers



Serial-to-Ethernet Device Servers > Combo Switch / Serial Device Servers

NPort S8455/S8458: Ethernet Switch Specifications	
<b>Ethernet Interface</b>	
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) and 100Base FX IEEE 802.3x for Flow Control IEEE 802.1D for Spanning Tree Protocol IEEE 802.1w for Rapid STP IEEE 802.1Q for VLAN Tagging IEEE 802.1p for Class of Service IEEE 802.1X for Authentication IEEE 802.3ad for Port Trunk with LACP
Network Protocols	ICMP, IPv4, TCP, UDP, ARP, Telnet, DNS, HTTP, SMTP, SNMP, IGMPv1/v2 device, GVRP, SNMPv1/v2c/v3, DHCP Server/Client, DHCP Option 82, BootP, TFTP, SNT, SMTP, RARP, GMRP, LACP, RMON
MIB	MIB-II, Ethernet-Like MIB, P-BRIDGE MIB, Q-BRIDGE MIB, Bridge MIB, RSTP MIB, RMON MIB Group 1, 2, 3, 9
Flow Control	IEEE 802.3x flow control, back pressure flow control interface
<b>Switch Properties</b>	
Priority Queues	4
Max. Number of Available VLANs	64
VLAN ID Range	VID 1 to 4094
IGMP Groups	256
<b>Switch Interface</b>	
Optical Fiber Interface	Multi-mode or Single-mode
RJ45 Ports	10/100BaseT(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection
DIP Switches	Turbo Ring, Master, Coupler, Reserve
Alarm Contact	2 relay outputs with current carrying capacity of 1A @ 24 VDC

NPort S8455/S8458: Device Server Specifications	
<b>Serial Interface</b>	
Number of Ports	4
Serial Standards	RS-232/422/485
Connectors	DB9 male
Serial Line Protection	15 kV ESD protection for all signals 2 kV isolation protection
RS-485 Data Direction Control	ADDC® (automatic data direction control)
Pull High/Low Resistor for RS-485	1 kΩ, 150 kΩ
Terminator for RS-485	120 Ω
Console Port	Dedicated RS-232 console port (8-pin RJ45)
<b>Serial Communication Parameters</b>	
Data Bits	5, 6, 7, 8
Stop Bits	1, 1.5, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	RTS/CTS and XON/XOFF
Baudrate	50 bps to 921.6 kbps
<b>Serial Signals</b>	
RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND
<b>Software</b>	
Configuration Options	Web Console, Telnet Console, Serial Console, Windows Search Utility
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.x
Operation Modes	Real COM, TCP Server, TCP Client, UDP, RFC2217
Management	SNMP MIB-II
IP Routing	Static, RIP-I, RIP-II
<b>Reliability</b>	
Alert Tools	Built-in buzzer and RTC (real-time clock)
Automatic Reboot Trigger	Built-in WDT (watchdog timer)

NPort S8455/S8458: General Specifications		
<b>Port Summary</b>		
Serial Ports	4 RS-232/422/485 ports	
Ethernet Switch Ports	3 RJ45 copper ports, 2 multi-mode fiber ports	
Console Ports	1 (8-pin RJ45 connector)	
LED Indicators	PWR1, PWR2, READY, MASTER, COUPLER, LINK4, LINK5	
<b>Physical Characteristics</b>		
Housing	Metal	
Weight	995 g	
Dimensions	73.1 x 134 x 105 mm	
<b>Environmental Limits</b>		
Operating Temperature	Standard Temperature	0 to 60°C
	Wide Temperature	-40 to 75°C
Operating Humidity	5 to 95% (non-condensing)	
Storage Temperature	-40 to 75°C	
Altitude	Up to 2000 m <i>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</i>	
<b>Power Requirements</b>		
Input Voltage	12 to 48 VDC	
Power Consumption	935mA @ 12 V, 470 mA @ 24 V	
<b>Standards and Certifications</b>		
Safety	UL 508, UL 60950-1, EN 60950-1	
EMC	CE, FCC	
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A	
EMS	IEC 61000-4-2, Level 4 (ESD) IEC 61000-4-4, Level 4 (EFT) IEC 61000-4-5 for serial port, Level 1 (Surge) IEC 61000-4-5 for Power Line, Level 3 (Surge) IEC 61000-4-5 for LAN port, Level 2 (Surge)	
<b>Reliability</b>		
Buzzer, RTC, WDT	✓	
MTBF	200,951 hrs	
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )	



# Railway Device Servers



	NPort 5150AI-M12/ NPort 5150AI-M12-T/ NPort 5150AI-M12-CT	NPort 5250AI-M12/ NPort 5250AI-M12-T/ NPort 5250AI-M12-CT	NPort 5450AI-M12/ NPort 5450AI-M12-T/ NPort 5450AI-M12-CT
<b>Ethernet Interface</b>			
10/100BaseT(X) Ports	1	1	1
Connector	M12	M12	M12
<b>Serial Interface</b>			
RS-232/422/485 Ports	1	2	4
Connector	DB9 male	DB9 male	DB9 male
15 kV ESD Protection	Yes	Yes	Yes
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark		
Flow Control	RTS/CTS, DTR/DSR, XON/XOFF		
Baudrate	50 bps to 921.6 kbps		
<b>Software</b>			
Network Protocols	ICMP, IPv4, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1, HTTP, SMTP, IGMP V1/2, LLDP		
Web Console	Yes		
Telnet Console	Yes		
Windows Utility	Yes		
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded		
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X		
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.x		
<b>Physical Characteristics</b>			
Housing	Metal, IP40 protection		
Weight	686 g		
Dimensions	80 x 216.6 x 52.9 mm (3.15 x 8.53 x 2.08 in)		
<b>Environmental Limits</b>			
Operating Temperature	Standard Temperature	-25 to 55°C (-13 to 131°F)	
	Wide Temperature	-40 to 75°C (-40 to 167°F)	
Operating Humidity	5 to 95% (non-condensing)		
Storage Temperature	(-40) to 85°C (-40 to 185°F)		
Altitude	Up to 2000 m <b>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</b>		
<b>Power Requirements</b>			
Input Voltage	12 to 48 VDC		
Power Consumption	310mA @12V	360mA @12V	440mA @12V
Connector	M12	M12	M12
<b>Standards and Certifications</b>			
Safety	UL 60950-1, EN 60950-1		
EMC	CE, FCC		
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A		
EMS	EN 55024		
Rail Traffic	EN 50155, EN 50121-4		
Vibration	IEC 60068-2-6		
<b>Reliability</b>			
Conformal Coating	Yes (-CT model only)	Yes (-CT model only)	Yes (-CT model only)
Buzzer, RTC, WDT	Yes	Yes	Yes
MTBF	789,341 hrs	639,622 hrs	467,777 hrs
Warranty	5 years	5 years	5 years

# General-purpose Device Servers



	NPort 5110A NPort 5110A-T	NPort 5130A NPort 5130A-T	NPort 5150A NPort 5150A-T	NPort 5110 NPort 5110-T	NPort 5130	NPort 5150	NPort P5150A	NPort DE-211	NPort DE-311	
<b>Ethernet Interface</b>										
10BaseT Ports	–	–	–	–	–	–	–	1	–	
10/100BaseT(X) Ports	1	1	1	1	1	1	1	–	1	
Connector	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	
<b>Serial Interface</b>										
RS-232 Ports	1	–	–	1	–	–	–	–	–	
RS-422/485 Ports	–	1	–	–	1	–	–	–	–	
RS-232/422/485 Ports	–	–	1	–	–	1	1	1	1	
Connector	DB9-M	DB9-M	DB9-M	DB9-M	DB9-M	DB9-M	DB9-M	DB25-F	DB9-F	
15 kV ESD Protection	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark									
Flow Control	RTS/CTS, XON/XOFF									
Baudrate	50 bps to 921.6 kbps			110 bps to 230.4 kbps		50 bps to 921.6 kbps		150 bps to 230.4 kbps	150 bps to 230.4 kbps	
<b>Software</b>										
Network Protocols	ICMP, IPv4, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1, HTTP, SMTP, IGMP V1/2			ICMP, IPv4, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1, HTTP, SMTP			ICMP, IPv4, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1, HTTP, SMTP, IGMP V1/2	DHCP, BOOTP, Telnet, TCP, UDP, IPv4, ICMP, ARP		
Web Console	✓	✓	✓	✓	✓	✓	✓	–	–	
Serial Console	✓	–	✓	✓	–	✓	✓	✓	✓	
Telnet Console	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Windows Utility	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded									
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X									
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.x									
<b>Physical Characteristics</b>										
Housing	Metal									
Weight	340 g			340 g			300 g	480 g		
Dimensions	52 x 80 x 22 mm			52 x 80 x 22 mm			77 x 111 x 26	67 x 100.4 x 22 mm		
<b>Environmental Limits</b>										
Operating Temperature	Standard Temperature	0 to 60°C			0 to 55°C					
	Wide Temperature	-40 to 75°C			-40 to 75°C		–			
Operating Humidity	5 to 95% (non-condensing)									
Storage Temperature	-40 to 75°C									
Altitude	Up to 2000 m <i>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</i>									
<b>Power Requirements</b>										
Input Voltage	12 to 48 VDC								12 to 30 VDC	9 to 30 VDC
Power Consumption @ 12/24/48 VDC	82.5 mA / 47.3 mA / –	89.1 mA / 49.5 mA / –	92.4 mA / 52.8 mA / –	128.7 mA / 72 mA / –	200 mA / 106 mA / –	200 mA / 106 mA / –	125 mA / 40 mA / 180 mA (PoE)	180 mA / 100 mA / –	150 mA / –	
<b>Standards and Certifications</b>										
Safety	UL 60950-1, EN 60950-1									
EMC	CE, FCC									
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A									
EMS	EN 55024									
Medical	–								EN 60601-1-2 Class B, EN 55011	
<b>Reliability</b>										
Buzzer, RTC, WDT	WDT only									
MTBF	2,231,530 hrs	2,231,530 hrs	2,231,530 hrs	279,122 hrs	246,505 hrs	246,034 hrs	2,231,530 hrs	347,822 hrs	225,529 hrs	
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )									

# General-purpose Device Servers



	NPort 5210A NPort 5210A-T	NPort 5230A NPort 5230A-T	NPort 5250A NPort 5250A-T	NPort 5210 NPort 5210-T	NPort 5230 NPort 5230-T	NPort 5232 NPort 5232-T	NPort 5232I NPort 5232I-T
<b>Ethernet Interface</b>							
10/100BaseT(X) Ports	1	1	1	1	1	1	1
Connector	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV
<b>Serial Interface</b>							
RS-232 Ports	2	–	–	2	1	–	–
RS-422/485 Ports	–	2	–	–	1	2	2
RS-232/422/485 Ports	–	–	2	–	–	–	–
Connector	DB9-M	TB	DB9-M	RJ45	TB	TB	TB
15 kV ESD Protection	✓	✓	✓	✓	✓	✓	✓
2 kV Isolation Protection	–	–	–	–	–	–	✓
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark						
Flow Control	RTS/CTS, XON/XOFF						
Baudrate	50 bps to 921.6 kbps			110 bps to 230.4 kbps			
<b>Software</b>							
Network Protocols	ICMP, IPv4, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1, HTTP, SMTP, IGMP V1/2						
Web Console	✓	✓	✓	✓	✓	✓	✓
Serial Console	✓	–	✓	✓	✓	–	–
Telnet Console	✓	✓	✓	✓	✓	✓	✓
Windows Utility	✓	✓	✓	✓	✓	✓	✓
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded						
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X						
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.x						
<b>Onsite Configuration</b>							
Mini Screen with Push Buttons	–	–	–	–	–	–	–
<b>Physical Characteristics</b>							
Housing	Metal						
Weight	340 g				360 g		380 g
Dimensions	52 x 80 x 22 mm			67 x 100.4 x 22 mm			67 x 100.4 x 35 mm
<b>Environmental Limits</b>							
Operating Temperature	Standard Temperature			0 to 60°C			
	Wide Temperature			-40 to 75°C			
Operating Humidity	5 to 95% (non-condensing)						
Storage Temperature	-40 to 75°C						
Altitude	Up to 2000 m <i>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</i>						
<b>Power Requirements</b>							
Input Voltage	12 to 48 VDC						
Power Consumption @ 12/24 VDC	119 mA / 65 mA	119 mA / 65 mA	119 mA / 65 mA	325 mA / 190 mA	325 mA / 190 mA	280 mA / 150 mA	509.4 mA / 200 mA
<b>Standards and Certifications</b>							
Safety	UL 60950-1, EN 60950-1						
EMC	CE, FCC						
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A						
EMS	EN 55024						
Power Line Protection	Level 2 Burst (EFT), EN 61000-4-4 (Surge) Level 3, EN 61000-4-5			–	–	–	–
Marine	–	–	–	DNV	DNV	DNV	DNV
Medical	–	–	–	EN 60601-1-2 Class B, EN 55011	–	–	–
<b>Reliability</b>							
Buzzer, RTC, WDT	✓						
MTBF	847,750 hrs	847,750 hrs	847,750 hrs	134,850 hrs	106,955 hrs	102,344 hrs	87,083 hrs
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )						

# General-purpose Device Servers



	NPort 5410	NPort 5430	NPort 5430I	NPort 5450 NPort 5450-T	NPort 5450I NPort 5450I-T
<b>Ethernet Interface</b>					
10BaseT Ports	–	–	–	–	–
10/100BaseT(X) Ports	1	1	1	1	1
100BaseFX	–	–	–	–	–
Connector	RJ45	RJ45	RJ45	RJ45	RJ45
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV
<b>Serial Interface</b>					
RS-232 Ports	4	–	–	–	–
RS-422/485 Ports	–	4	4	–	–
RS-232/422/485 Ports	–	–	–	4	4
Connector	DB9-M	TB	TB	DB9-M	DB9-M
15 kV ESD Protection	✓	✓	✓	✓	✓
2 kV Isolation Protection	–	–	✓	–	✓
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark				
Flow Control	RTS/CTS, XON/XOFF				
Baudrate	50 bps to 921.6 kbps				
<b>Software</b>					
Network Protocols	ICMP, IPv4, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1, HTTP, SMTP, SNTIP, Rtelnet, ARP				
Web Console	✓	✓	✓	✓	✓
Serial Console	–	–	–	–	–
Telnet Console	✓	✓	✓	✓	✓
Windows Utility	✓	✓	✓	✓	✓
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded				
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X				
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.x				
<b>Onsite Configuration</b>					
Mini Screen with Push Buttons	✓	✓	✓	✓	✓
<b>Physical Characteristics</b>					
Housing	Metal				
Weight	740 g	740 g	740 g	740 g	740 g
Dimensions	158 x 103 x 33 mm	158 x 103 x 33 mm	158 x 103 x 33 mm	158 x 103 x 33 mm	158 x 103 x 33 mm
<b>Environmental Limits</b>					
Operating Temperature	0 to 55°C			Standard temperature: 0 to 55°C Wide temperature: -40 to 75°C (without LCM)	
Operating Humidity	5 to 95% (non-condensing)			5 to 95% (non-condensing)	
Storage Temperature	-20 to 70°C			-40 to 75°C	
Altitude	Up to 2000 m			Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.	
<b>Power Requirements</b>					
Input Voltage	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC
Power Consumption @ 12/24 VDC	350 mA / 190 mA	320 mA / 175 mA	530 mA / 280 mA	350 mA / 190 mA	554 mA / 294 mA
<b>Standards and Certifications</b>					
Safety	UL 60950-1, EN 60950-1				
EMC	CE, FCC				
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A				
EMS	EN 55024				
Marine	DNV (standard temp. models only)				
Medical	EN 60601-1-2 Class B, EN 55011 (NPort 5410, 5450, and 5450I only)				
<b>Reliability</b>					
Buzzer, RTC, WDT	✓				
MTBF	206,903 hrs				
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )				



# General-purpose Device Servers



	NPort 5610-8	NPort 5610-8-48V	NPort 5610-16	NPort 5610-16-48V	NPort 5630-8	NPort 5630-16	NPort 5650-8 NPort 5650-8-T	NPort 5650-8-M-SC	NPort 5650-8-S-SC
<b>Ethernet Interface</b>									
10BaseT Ports	–	–	–	–	–	–	–	–	–
10/100BaseT(X) Ports	1	1	1	1	1	1	1	–	–
100BaseFX Ports	–	–	–	–	–	–	–	1 (multi-mode)	1 (single-mode)
Connector	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	SC	SC
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	–	–
<b>Serial Interface</b>									
RS-232 Ports	8	8	16	16	–	–	–	–	–
RS-422/485 Ports	–	–	–	–	8	16	–	–	–
RS-232/422/485 Ports	–	–	–	–	–	–	8	8	8
Connector	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45
15 kV ESD Protection	✓	✓	✓	✓	✓	✓	✓	✓	✓
2 kV Isolation Protection	–	–	–	–	–	–	–	–	–
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark								
Flow Control	RTS/CTS, XON/XOFF								
Baudrate	50 bps to 921.6 kbps								
<b>Software</b>									
Network Protocols	ICMP, IPv4, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1, HTTP, SMTP, SNTP, ARP, PPP, SLIP, RTelnet, RFC2217								
Web Console	✓	✓	✓	✓	✓	✓	✓	✓	✓
Serial Console	–	–	–	–	–	–	–	–	–
Telnet Console	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows Utility	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded								
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X								
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.x								
<b>Onsite Configuration</b>									
Mini Screen with Push Buttons	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Physical Characteristics</b>									
Housing	Metal								
Weight	3340 g	3160 g	3420 g	3260 g	3380 g	3400 g	3360 g	3380 g	3380 g
Dimensions	440 x 45 x 198 mm								
<b>Environmental Limits</b>									
Operating Temperature	0 to 55°C	0 to 55°C	0 to 55°C	0 to 55°C	0 to 55°C	0 to 55°C	0 to 55°C -40 to 75°C	0 to 55°C	0 to 55°C
Operating Humidity	5 to 95% (non-condensing)								
Storage Temperature	-20 to 70°C								
Altitude	Up to 2000 m <i>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</i>								
<b>Power Requirements</b>									
Input Voltage	100 to 240 VAC, 47 to 63 Hz	±48 VDC	100 to 240 VAC, 47 to 63 Hz	±48 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	100 to 240 VAC, 47 to 63 Hz
Power Consumption @ 48 VDC	–	135 mA	–	135 mA	–	–	–	–	–
Power Consumption @ 100/240 VAC	141/93 mA	–	141/93 mA	–	152/98 mA	152/98 mA	158/102 mA	174/113 mA	164/110 mA
<b>Standards and Certifications</b>									
Safety	UL 60950-1, EN 60950-1								
EMC	CE, FCC								
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A								
EMS	EN 55024								
Medical	EN 60601-1-2 Class B, EN 55011								
<b>Reliability</b>									
Buzzer, RTC, WDT	✓								
MTBF	97,294 hrs	96,758 hrs	94,928 hrs	94,417 hrs	118,405 hrs	91,483 hrs	117,584 hrs	116,914 hrs	116,914 hrs
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )								

# General-purpose Device Servers



	NPort 5650-16 NPort 5650-16-T	NPort 5650-16-M-SC	NPort 5650-16-S-SC	NPort 5610-8-DT	NPort 5610-8-DT-J	NPort 5650-8-DT	NPort 5650I-8-DT	NPort 5650-8-DT-J
<b>Ethernet Interface</b>								
10BaseT Ports	-	-	-	-	-	-	-	-
10/100BaseT(X) Ports	1	-	-	2 (1 IP)	2 (1 IP)	2 (1 IP)	2 (1 IP)	2 (1 IP)
100BaseFX Ports	-	1 (multi-mode)	1 (single-mode)	-	-	-	-	-
Connector	RJ45	SC	SC	RJ45	RJ45	RJ45	RJ45	RJ45
Magnetic Isolation Protection	1.5 kV	-	-	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV
<b>Serial Interface</b>								
RS-232 Ports	-	-	-	8	8	-	-	-
RS-422/485 Ports	-	-	-	-	-	-	-	-
RS-232/422/485 Ports	16	16	16	-	-	8	8	8
Connector	RJ45	RJ45	RJ45	DB9-M	RJ45	DB9-M	DB9-M	RJ45
15 kV ESD Protection	✓	✓	✓	✓	✓	✓	✓	✓
2 kV Isolation Protection	-	-	-	-	-	-	✓	-
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark							
Flow Control	RTS/CTS, XON/XOFF							
Baudrate	50 bps to 921.6 kbps							
<b>Software</b>								
Network Protocols	ICMP, IPv4, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1, HTTP, SMTP, SNMP, ARP, PPP, SLIP, Rtelnet, RFC2217			ICMP, IPv4, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1, HTTP, SMTP, SNMP, Rtelnet, ARP, RFC2217				
Web Console	✓	✓	✓	✓	✓	✓	✓	✓
Serial Console	-	-	-	✓	✓	✓	✓	✓
Telnet Console	✓	✓	✓	✓	✓	✓	✓	✓
Windows Utility	✓	✓	✓	✓	✓	✓	✓	✓
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded							
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X							
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.x							
<b>Onsite Configuration</b>								
Mini Screen with Push Buttons	✓	✓	✓	✓	✓	✓	✓	✓
<b>Physical Characteristics</b>								
Housing	Metal							
Weight	3460 g	3440 g	3440 g	1760 g	1170 g	1770 g	1850 g	1710 g
Dimensions	440 x 45 x 198 mm			197 x 44 x 125 mm				
<b>Environmental Limits</b>								
Operating Temperature	0 to 55°C	0 to 55°C	0 to 55°C	0 to 55°C	0 to 55°C	0 to 55°C	0 to 55°C	0 to 55°C
Operating Humidity	5 to 95% (non-condensing)	5 to 95% (non-condensing)	5 to 95% (non-condensing)	5 to 95% (non-condensing)	5 to 95% (non-condensing)	5 to 95% (non-condensing)	5 to 95% (non-condensing)	5 to 95% (non-condensing)
Storage Temperature	-20 to 70°C	-20 to 70°C	-20 to 70°C	-20 to 70°C	-20 to 70°C	-20 to 70°C	-20 to 70°C	-20 to 70°C
Altitude	Up to 2000 m <i>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</i>							
<b>Power Requirements</b>								
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	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC	12 to 48 VDC
Power Consumption @ 12/24/48 VDC	-	-	-	611/300/140 mA	611/300/140 mA	615/300/156 mA	1066/510/200 mA	615/300/156 mA
Power Consumption @ 100/240 VAC	158/102 mA	174/113 mA	164/110 mA	-	-	-	-	-
<b>Standards and Certifications</b>								
Safety	UL 60950-1, EN 60950-1							
EMC	CE, FCC							
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A							
EMS	EN 55024							
Medical	EN 60601-1-2 Class B, EN 55011			-	-	-	-	-
<b>Reliability</b>								
Buzzer, RTC, WDT	✓							
MTBF	104,767 hrs	87,528 hrs	87,528 hrs	163,356 hrs	163,356 hrs	163,356 hrs	163,356 hrs	163,356 hrs
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )							

# General-purpose Device Servers



	NPort 5610-8-DTL NPort 5610-8-DTL-T	NPort 5650-8-DTL NPort 5650-8-DTL-T	NPort 5650I-8-DTL NPort 5650I-8-DTL-T
<b>Ethernet Interface</b>			
10BaseT Ports	–	–	–
10/100BaseT(X) Ports	1	1	1
100BaseFX Ports	–	–	–
Connector	RJ45	RJ45	RJ45
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV
<b>Serial Interface</b>			
RS-232 Ports	8	–	–
RS-422/485 Ports	–	–	–
RS-232/422/485 Ports	–	8	8
Connector	DB9-M	DB9-M	DB9-M
15 kV ESD Protection	✓	✓	✓
2 kV Isolation Protection	–	–	✓
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark		
Flow Control	RTS/CTS, XON/XOFF		
Baudrate	50 bps to 921.6 kbps		
<b>Software</b>			
Network Protocols	ICMP, IPv4, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1, HTTP, SMTP		
Web Console	✓	✓	✓
Serial Console	✓	✓	✓
Telnet Console	✓	✓	✓
Windows Utility	✓	✓	✓
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded		
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X, HP-UX 11i		
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.x		
<b>Physical Characteristics</b>			
Housing	Metal		
Weight	1760 g	1770 g	1850 g
Dimensions	197 x 44 x 125 mm		
<b>Environmental Limits</b>			
Operating Temperature	Standard Temperature	0 to 60°C	
	Wide Temperature	-40 to 75°C	
Operating Humidity	5 to 95% (non-condensing)		
Storage Temperature	-40 to 75°C		
Altitude	Up to 2000 m <b>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</b>		
<b>Power Requirements</b>			
Input Voltage	12 to 48 VDC		
Power Consumption @ 12/24 VDC	340 mA / 180 mA	470 mA / 250 mA	740 mA / 370 mA
<b>Standards and Certifications</b>			
Safety	UL 60950-1, EN 60950-1		
EMC	CE, FCC		
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A		
EMS	EN 55024		
<b>Reliability</b>			
Buzzer, RTC, WDT	✓		
MTBF	163,356 hrs		
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )		

# Industrial-grade Device Servers



	NPort IA5150A NPort IA5150A-T	NPort IA5150AI NPort IA5150AI-T	NPort IA5250A NPort IA5250A-T	NPort IA5250AI NPort IA5250AI-T	NPort IA5450A NPort IA5450A-T	NPort IA5450AI NPort IA5450AI-T
<b>Ethernet Interface</b>						
10/100BaseT(X) Ports	2 (2 IPs)	2 (2 IPs)	2 (2 IPs)	2 (2 IPs)	2 (2 IPs)	2 (2 IPs)
Connector	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV
<b>Serial Interface</b>						
RS-232/422/485 Ports	1	1	2	2	4	4
Connector	DB9-M/TB	DB9-M/TB	DB9-M	DB9-M	DB9-M	DB9-M
15 kV ESD Protection	✓	✓	✓	✓	✓	✓
2 kV Isolation Protection	-	✓	-	✓	-	✓
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark					
Flow Control	RTS/CTS, XON/XOFF					
Baudrate	50 bps to 921.6 kbps					
<b>Software</b>						
Network Protocols	ICMP, IPv4, TCP, UDP, DHCP, BOOTP, Telnet, Rtelnet, DNS, SNMP V1, HTTP, SMTP, SNTIP, IGMP					
Configuration Options	Web Console, Serial Console, Telnet Console, Windows Utility					
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded					
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X					
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.x					
<b>Physical Characteristics</b>						
Housing	Metal					
Weight	475 g	475 g	485 g	485 g	560 g	560 g
Dimensions	36 x 105 x 140 mm	36 x 105 x 140 mm	36 x 105 x 140 mm	36 x 105 x 140 mm	45.8 x 134 x 105 mm	45.8 x 134 x 105 mm
<b>Environmental Limits</b>						
Operating Temperature	Standard Temperature	0 to 60°C				
	Wide Temperature	-40 to 75°C				
Operating Humidity	5 to 95% (non-condensing)					
Storage Temperature	-40 to 75°C					
Altitude	Up to 2000 m <b>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</b>					
<b>Power Requirements</b>						
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
Power Consumption @ 12/24 VDC	220 mA / 110 mA	225 mA / 130 mA	250 mA / 125 mA	290 mA / 150 mA	374 mA / 184 mA	512 mA / 242 mA
<b>Standards and Certifications</b>						
Safety	UL 508					
Hazardous Location	UL/cUL Class I Division 2 Groups A/B/C/D, ATEX Class I Zone 2, IECEx					
EMC	CE, FCC					
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A					
EMS	EN 55024, EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 3, EN 61000-4-4 (EFT) Level 4, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 3, EN 61000-4-8, EN 61000-4-11					
Shock	IEC 60068-2-27					
Freefall	IEC 60068-2-32					
Vibration	IEC 60068-2-6					
<b>Reliability</b>						
Buzzer, RTC, WDT	✓					
MTBF	262,805 hrs	262,805 hrs	262,805 hrs	262,805 hrs	262,805 hrs	262,805 hrs
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )					



# Industrial-grade Device Servers



	NPort IA5150 NPort IA5150-T	NPort IA5150I NPort IA5150I-T	NPort IA5150-M-SC NPort IA5150-M-SC-T	NPort IA5150I-M-SC NPort IA5150I-M-SC-T	NPort IA5150-S-SC NPort IA5150-S-SC-T	NPort IA5150I-S-SC NPort IA5150I-S-SC-T	NPort IA5250 NPort IA5250-T
<b>Ethernet Interface</b>							
10/100BaseT(X) Ports	2 (1 IP)	2 (1 IP)	–	–	–	–	2 (1 IP)
100BaseFX Ports	–	–	1 (multi-mode)	1 (multi-mode)	1 (single-mode)	1 (single-mode)	–
Connector	RJ45	RJ45	SC	SC	SC	SC	RJ45
Magnetic Isolation Protection	1.5 kV	1.5 kV	–	–	–	–	1.5 kV
<b>Serial Interface</b>							
RS-232/422/485 Ports	1	1	1	1	1	1	2
Connector	DB9-M/TB	DB9-M/TB	DB9-M/TB	DB9-M/TB	DB9-M/TB	DB9-M/TB	DB9-M
15 kV ESD Protection	✓	✓	✓	✓	✓	✓	✓
2 kV Isolation Protection	–	✓	–	✓	–	✓	–
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark						
Flow Control	RTS/CTS, XON/XOFF						
Baudrate	110 bps to 230.4 kbps						
<b>Software</b>							
Network Protocols	ICMP, IPv4, TCP, UDP, DHCP, BOOTP, Telnet, Rtelnet, DNS, SNMP V1, HTTP, SMTP, SNTP						
Configuration Options	Web Console, Serial Console, Telnet Console, Windows Utility						
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded						
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X						
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.x						
<b>Physical Characteristics</b>							
Housing	Plastic (IP30)						
Weight	360 g						
Dimensions	29 x 89.2 x 118.5 mm						
<b>Environmental Limits</b>							
Operating Temperature	Standard Temperature	0 to 55°C					
	Wide Temperature	-40 to 75°C					
Operating Humidity	5 to 95% (non-condensing)						
Storage Temperature	-40 to 85°C						
Altitude	Up to 2000 m <b>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</b>						
<b>Power Requirements</b>							
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
Power Consumption	360 mA @ 12 V, 195 mA @ 24 V	420 mA @ 12 V, 215 mA @ 24 V	500 mA @ 12 V, 250 mA @ 24 V	510 mA @ 12 V, 260 mA @ 24 V	470 mA @ 12 V, 210 mA @ 24 V	490 mA @ 12 V, 250 mA @ 24 V	440 mA @ 12 V, 200 mA @ 24 V
<b>Standards and Certifications</b>							
Safety	UL 508, UL 60950-1, EN 60950-1						
Hazardous Location	UL/cUL Class I Division 2 Groups A/B/C/D, ATEX Class 1 Zone 2, IECEx						
EMC	CE, FCC						
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A						
EMS	EN 55024, EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 3, EN 61000-4-4 (EFT) Level 4, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 3, EN 61000-4-8, EN 61000-4-11						
Marine	DNV						
Shock	IEC 60068-2-27						
Freefall	IEC 60068-2-32						
Vibration	IEC 60068-2-6						
<b>Reliability</b>							
Buzzer, RTC, WDT	✓						
MTBF	183,747 hrs	195,614 hrs	183,747 hrs	195,614 hrs	183,747 hrs	195,614 hrs	194,765 hrs
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )						

# Wireless Device Servers



		NPort® W2150A NPort® W2150A-T	NPort® W2250A NPort® W2250A-T
<b>WLAN Interface</b>			
IEEE 802.11a/g/b		✓	
Radio Frequency Type		DSSS/OFDM	
WEP		✓	
WPA, WPA2, 802.11i		✓	
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	
Max. Transmission Rate		54 Mbps	
Max. Transmission Distance		100 m	
<b>LAN Interface</b>			
Ethernet Ports		1 x 10/100 Mbps (RJ45)	
1.5 kV Magnetic Isolation Protection		✓	
<b>Serial Interface</b>			
Number of Ports		1	2
Serial Standards		RS-232/422/485	
Connector		DB9-M	
Serial Communication Parameters		Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark	
Flow Control		RTS/CTS, XON/XOFF	
Baudrate		50 bps to 921.6 kbps	
Serial Data Log		64 KB	
<b>Software</b>			
Network Protocols		ICMP, IPv4, TCP, UDP, DHCP, Telnet, DNS, SNMP V1/V2c/V3, HTTP, SMTP, SNTp, SSH, HTTPS	
Configuration Options		Web Console, Serial Console, Telnet Console, Windows Utility	
Management		SNMP MIB-II	
Secure Configuration Options		HTTPS, SSH	
Utilities		NPort Search Utility and NPort Windows Driver Manager	
Windows Real COM Drivers		Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded	
Fixed TTY Drivers		SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X	
Linux Real TTY Drivers		Linux 2.4.x, 2.6.x, 3.x	
<b>Physical Characteristics</b>			
Housing		Aluminum	
Weight		547 g	557 g
Dimensions		77 x 111 x 26 mm	
<b>Environmental Limits</b>			
Operating Temperature	Standard Temperature	0 to 55°C	
	Wide Temperature	-40 to 75°C	
Operating Humidity		5 to 95% (non-condensing)	
Storage Temperature		-40 to 75°C	
Altitude		Up to 2000 m <b>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</b>	
<b>Power Requirements</b>			
Input Voltage		12 to 48 VDC	
Power Consumption		179mA @ 12VDC	200mA @ 12VDC
<b>Standards and Certifications</b>			
Safety		UL 60950-1, EN 60950-1	
EMC		CE, FCC	
EMI		FCC Part 15 (Subpart B Class A, Subpart C, Subpart E), VCCI	
EMS		EN 55022 Class A	
Radio		CE (ETSI EN 301 893, ETSI EN 300 328), ARIB RCR STD-33, ARIB STD-66	
<b>Reliability</b>			
Warranty		5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )	

# ZigBee Device Servers



	NPort® Z2150 NPort® Z2150-T	NPort® Z3150 NPort® Z3150-T
<b>ZigBee Interface</b>		
RF Standard	802.15.4	
Frequency Band	2.4 GHz	
RF Data Rate	250 kbps	
Encryption	128-bit AES	
Network Topology	Star, Mesh, Cluster tree	
Transmission Distance	100 m	
<b>Ethernet Interface (NPort Z3150 only)</b>		
Ethernet Ports	–	1 x 10/100 Mbps (RJ45)
1.5 kV Magnetic Isolation Protection	–	✓
<b>Serial Interface</b>		
Number of Ports	1	
Serial Standards	RS-232/422/485	
Connector	DB9-M	
Serial Communication Parameters	Data Bits: 8; Stop Bits: 1, 2; Parity: None, Even, Odd	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 2; Parity: None, Even, Odd, Space, Mark
Flow Control	RTS/CTS	RTS/CTS, XON/XOFF
Baudrate	50 bps to 230.4 kbps	50 bps to 921.6 kbps
<b>Software</b>		
Configuration	ZigBee Configuration Utility	Web Console
Management	–	SNMP v1
Secure Configuration Options	–	HTTPS, SSH
Utilities	ZigBee Configuration Utility	NPort Search Utility and NPort Windows Driver Manager
Windows Real COM Drivers	–	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8 x86/x64, Embedded CE 5.0/6.0, XP Embedded, x64, Windows 2012 x64
Fixed TTY Drivers	–	–
Linux Real TTY Drivers	–	–
<b>Physical Characteristics</b>		
Housing	Aluminum	
Weight	340 g	780 g
Dimensions	52 x 80 x 22 mm	77 x 111 x 26 mm
<b>Environmental Limits</b>		
Operating Temperature	Standard Temperature	0 to 55°C
	Wide Temperature	-40 to 75°C
Operating Humidity	5 to 95% (non-condensing)	
Storage Temperature	-40 to 75°C	
Altitude	Up to 2000 m <b>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</b>	
<b>Power Requirements</b>		
Input Voltage	12 to 48 VDC	
Power Consumption	45 mA @ 12 VDC	120 mA @ 12 VDC
<b>Standards and Certifications</b>		
Safety	UL 60950-1, EN 60950-1	
EMC	CE, FCC	
EMI	FCC Part 15 (Subpart B Class A, Subpart C, Subpart E), VCCI	
EMS	EN 55022 Class A	
Radio	CE (ETSI EN 301 893, ETSI EN 300 328), ARIB RCR STD-33, ARIB STD-66	
<b>Reliability</b>		
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )	

# Embedded Device Servers



	MiiNePort E2/E2-T MiiNePort E2-H/E2-H-T	MiiNePort E3/E3-T MiiNePort E3-H/E3-H-T	MiiNePort W1/W1-T
<b>Form Factor</b>			
Type	Drop-in module	Pin header module	Drop-in module
Dimensions	29 x 17 x 12.6 mm	35 x 52.5 x 18 mm	44.4 x 44.4 x 9.7 mm
<b>Ethernet Interface</b>			
10/100BaseT(X) Ports	1	1	1
Connector	4-pin pin header	RJ45	-
Magnetic Isolation Protection	1.5 kV	1.5 kV	-
<b>WLAN Interface</b>			
Standard Compliance	-	-	IEEE 802.11b/g
Radio Frequency Type	-	-	DSSS, CCK, OFDM
Wireless Security	-	-	AES, WEP, WPA, WPA2, PSK, 802.11i
Network Modes	-	-	Infrastructure mode (b/g), Ad-Hoc mode (b/g)
<b>Serial Interface</b>			
TTL Ports	1 (data port)		1 (data port)
Serial 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
Flow Control	RTS/CTS, DTR/DSR, XON/XOFF		RTS/CTS, XON/XOFF
Baudrate	MiiNePort E2: 50 bps to 230.4 kbps (non-standard baudrates supported) MiiNePort E2-H: 50 bps to 921.6 kbps (non-standard baudrates supported)	MiiNePort E3: 50 bps to 230.4 kbps (non-standard baudrates supported) MiiNePort E3-H: 50 bps to 921.6 kbps (non-standard baudrates supported)	50 bps to 921.6 kbps
Programmable GPIO Pins	4		-
<b>Software</b>			
Network Protocols	ICMP, ARP, IPv4/v6, TCP, UDP, DHCP, HTTP, SNMP V1, SMTP, TFTP, Auto IP, Telnet, BOOTP		ICMP, IP, TCP, UDP, DHCP, Telnet, DNS, SNMP V1/V2c/V3, HTTP, SMTP, SNMP, SSH, HTTPS
Configuration Options	Web/Serial/Telnet Console, Windows Search Utility		
Serial Command Mode	✓		✓
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded		
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X		
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.x		
Operation Modes	TCP Server, TCP Client, UDP, Real COM, Ethernet Modem, RFC2217		Real COM, TCP Server, TCP Client, UDP, RFC2217
NetEZ Technology	EZPower, EZPage, SCM, AutoCFG, MCSC	EZPower, EZPage, SCM, AutoCFG	SCM
<b>Environmental Limits</b>			
Operating Temperature	Standard Temperature	0 to 55°C	
	Wide Temperature	-40 to 85°C	-40 to 75°C
Operating Humidity	5 to 95% (non-condensing)		
Storage Temperature	-40 to 60°C (Package included)		
Altitude	Up to 2000 m <i>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</i>		
<b>Power Requirements</b>			
Input Voltage	3.3 to 5 VDC (±5%)		3.3 VDC (±5%)
Power Consumption	140 mA @ 3.3 VDC, 92 mA @ 5 VDC input max.	157 mA @ 3.3 VDC, 119 mA @ 5 VDC input max.	360 mA @ 3.3 VDC input max.
<b>Standards and Certifications</b>			
Safety	-		UL 60950-1, EN 60950-1
EMC	CE, FCC		CE, FCC, EN 301 489-1/17
EMI	EN 55022 Class B, FCC Part 15 Subpart B Class B		EN 55022 Class A, FCC Part 15 Subpart B Class A
EMS	EN 55024, EN 61000-4-2 (ESD), EN 61000-4-3 (RS), EN 61000-4-4 (EFT), EN 61000-4-5 (Surge), EN 61000-4-6 (CS), EN 61000-4-8, EN 61000-4-11		
Radio	-		EN 300 328, EN 301 893, DSPP (Japan)
Shock	IEC-68-2-27	IEC-68-2-27	IEC-68-2-27
Freefall	IEC-68-2-34, IEC-68-2-32	IEC-68-2-34, IEC-68-2-32	IEC-68-2-34, IEC-68-2-32
Vibration	IEC-68-2-6	IEC-68-2-6	IEC-68-2-6
Green Product	RoHS, CRoHS, WEEE		
<b>Reliability</b>			
Watchdog Timer	✓		✓
MTBF	5,696,350 hrs		3,608,031 hrs
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )		



# Embedded Device Servers



	NE-4110S	NE-4110A	NE-4120S	NE-4120A	NE-4100T
<b>Form Factor</b>					
Type	Pin header module				Drop-in module
Dimensions	57 × 40 mm	57 × 40 mm	57 × 40 mm	57 × 40 mm	45 × 36 mm
<b>Ethernet Interface</b>					
10/100BaseT(X) Ports	1	1	1	1	1
Connector	RJ45	RJ45	5-pin pin header		26-pin dual-in-line
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV
<b>WLAN Interface</b>					
Standard Compliance	–	–	–	–	–
Radio Frequency Type	–	–	–	–	–
Wireless Security	–	–	–	–	–
Network Modes	–	–	–	–	–
<b>Serial Interface</b>					
TTL Ports	1 (console port)				2 (1 data port, 1 console port)
RS-232 Ports	1 (data port)	–	1 (data port)	–	–
RS-422/485 Ports	–	1 (data port)	–	1 (data port)	–
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark				
Flow Control	RTS/CTS, XON/XOFF				
Baudrate	110 bps to 230.4 kbps				
Programmable GPIO Pins	4				
<b>Software</b>					
Network Protocols	ICMP, ARP, IPv4, TCP, UDP, DHCP, Telnet, HTTP, SNMP V1/V2c, SMTP				
Configuration Options					
Serial Command Mode	✓	✓	✓	✓	✓
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded				
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X				
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.x				
Operation Modes	Real COM, TCP Server, TCP Client, UDP				
NetEZ Technology	–	–	–	–	–
<b>Environmental Limits</b>					
Operating Temperature	Standard Temperature	0 to 55°C			
	Wide Temperature	-40 to 75°C			
Operating Humidity	5 to 95% (non-condensing)				
Storage Temperature	-40 to 60°C (Package included)				
Altitude	Up to 2000 m				
	<b>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</b>				
<b>Power Requirements</b>					
Input Voltage	5 VDC (±5%)	5 VDC (±5%)	5 VDC (±5%)	5 VDC (±5%)	5 VDC (±5%)
Power Consumption	290 mA @ 5 VDC max.				
<b>Standards and Certifications</b>					
Safety	–				
EMC	CE, FCC				
EMI	EN 55022 Class B, FCC Part 15 Subpart B Class A				
EMS	EN 55024, EN 61000-4-2 (ESD), EN 61000-4-3 (RS), EN 61000-4-4 (EFT), EN 61000-4-5 (Surge), EN 61000-4-6 (CS), EN 61000-4-8, EN 61000-4-11				
Radio	–	–	–	–	–
Shock	–	–	–	–	–
Freefall	–	–	–	–	–
Vibration	–	–	–	–	–
Green Product					
<b>Reliability</b>					
Watchdog Timer	✓	✓	✓	✓	✓
MTBF	290,276 hrs	289,573 hrs	289,573 hrs	289,573 hrs	288,173 hrs
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )				

# Embedded Device Servers Software Development Kit



MiiNePort E2-SDK	
<b>Software</b>	
OS	eCos
Software Development Tool	MiiNePort-IDE
Search/Upload Firmware Utility	Windows Search Utility
Wizard	Project/SNMP/CLI(Telnet)/SCM/User Configuration
Windows Real COM Drivers	Windows 98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8 x86/x64, 2012 x64, Embedded CE 5.0/6.0, XP Embedded
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x
Linux Real TTY Drivers	Linux kernel 2.4.x, 2.6.x, 3.x
Operation Modes	Real COM, Ethernet Modem
Serial/Ethernet Testing Tool	PComm Lite
Serial to Ethernet Sample Source Code	<ol style="list-style-type: none"> <li>1. TCP Server Echo</li> <li>2. TCP Server to Serial (single connection)</li> <li>3. TCP Server to Serial (multiple connections)</li> <li>4. TCP Client Echo</li> <li>5. TCP Client to Serial (startup)</li> <li>6. TCP Client to Serial (any character)</li> <li>7. TCP Client to Serial (designated destination TCP/IP port from serial)</li> <li>8. UDP echo</li> <li>9. UDP to serial</li> </ol>
<b>Environmental Limits</b>	
Altitude	Up to 2000 m <b>Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.</b>
<b>Reliability</b>	
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )

# PCI Express Serial Boards



	C320Turbo/PCIEL	CP-118EL-A	CP-168EL-A	CP-114EL	CP-114EL-I	CP-104EL-A	CP-102E
<b>Hardware</b>							
Comm. Controller	16C550C compatible						
Bus	PCI Express x1						
Connector	DB25 female	VHDCI 68		DB44 female		DB9 male	
<b>Serial Interface</b>							
RS-232 Ports	32	–	8	–	–	4	2
RS-422 Ports	32	–	–	–	–	–	–
RS-422/485 Ports	–	–	–	–	–	–	–
RS-232/422/485 Ports	–	8	–	4	4	–	–
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	–	15 kV	15 kV	15 kV	15 kV	15 kV	15 kV
Electrical Isolation	–	–	–	–	2 kV	–	–
<b>Driver Support</b>							
Windows 95/98/ME/NT	–	–	–	–	–	–	–
Windows 2000	✓	✓	✓	✓	✓	✓	✓
Windows XP/2003/Vista (x86/x64)	✓	✓	✓	✓	✓	✓	✓
Windows 2008 (x86/x64)	✓	✓	✓	✓	✓	✓	✓
Windows 7 (x86/x64)	✓	✓	✓	✓	✓	✓	✓
Windows 8/8.1 (x86/x64)	✓	✓	✓	✓	✓	✓	✓
Windows 2008 R2/2012/2012 R2 (x64)	✓	✓	✓	✓	✓	✓	✓
Windows CE 5.0	–	–	–	–	–	–	–
Windows CE 6.0	–	–	–	–	–	–	–
Windows XP Embedded	–	✓	✓	✓	✓	✓	✓
DOS	–	✓	✓	✓	✓	✓	✓
Linux 2.4.x, 2.6.x	✓	✓	✓	✓	✓	✓	✓
FreeBSD 4/5	–	✓	✓	–	–	✓	–
QNX 4.25	–	–	–	–	–	–	–
QNX 6	–	✓	✓	✓	✓	✓	✓
SCO Open Server	–	✓	✓	✓	✓	✓	✓
UnixWare 7	–	✓	✓	✓	✓	✓	✓
<b>Environmental Limits</b>							
Dimensions (mm)	67 x 135	64.4 x 132	62.7 x 102	67.2 x 136.9	67.2 x 136.9	62.7 x 100	85.0 x 100
Operating Temperature	0 to 55°C						
Storage Temperature	-20 to 85°C						
Ambient Relative Humidity	5 to 95% RH (non-condensing)						
<b>Standards and Certifications</b>							
FCC Part 15 Subpart B Class	A	B	B	B	B	B	B
EN 55022	✓	✓	✓	✓	✓	✓	✓
EN 55024	✓	✓	✓	✓	✓	✓	✓
EN 61000-3-2	–	✓	✓	✓	✓	✓	✓
EN 61000-3-3	–	✓	✓	✓	✓	✓	✓
EN 61000-6-2	–	–	–	–	–	✓	–
EN 61000-6-4	–	–	–	–	–	✓	–
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 (DIPS)	✓	✓	✓	✓	✓	✓	✓
<b>Reliability</b>							
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )						

Multiport Serial Boards > PCI Express Serial Boards

# PCI Express Serial Boards



Multiport Serial Boards > PCI Express Serial Boards

	CP-102EL	CP-132EL	CP-132EL-I	CP-116E-A	CP-118E-A-I	CP-138E-A-I	CP-134EL-A-I
<b>Hardware</b>							
Comm. Controller	16C550C compatible			16C550C compatible			
Bus	PCI Express x1						
Connector	DB25 female			VHDCI 68	DB 78 Female	DB 78 Female	DB 44 Female
<b>Serial Interface</b>							
RS-232 Ports	2	-	-	-	-	-	-
RS-422 Ports	-	-	-	-	-	-	-
RS-422/485 Ports	-	2	2	-	-	✓	✓
RS-232/422/485 Ports	-	-	-	✓	✓	-	-
Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark			Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark			
Flow Control	RTS/CTS, XON/XOFF	XON/XOFF		RTS/CTS, XON/XOFF			
Baudrate	50 bps to 460.8 kbps			50 bps to 921.6 kbps			
ESD Protection	15 kV	15 kV	15 kV	15 kV	15 kV	15 kV	15 kV
Electrical Isolation	-	-	2 kV	-	2 kV	2 kV	2 kV
<b>Driver Support</b>							
Windows 95/98/ME/NT	-	-	-	✓	✓	✓	✓
Windows 2000	✓	✓	✓	✓	✓	✓	✓
Windows XP/2003/Vista (x86/x64)	✓	✓	✓	✓	✓	✓	✓
Windows 2008 (x86/x64)	✓	✓	✓	✓	✓	✓	✓
Windows 7 (x86/x64)	✓	✓	✓	✓	✓	✓	✓
Windows 8/8.1 (x86/x64)	✓	✓	✓	✓	✓	✓	✓
Windows 2008 R2/2012/2012 R2 (x64)	✓	✓	✓	✓	✓	✓	✓
Windows CE 5.0	-	-	-	✓	✓	✓	✓
Windows CE 6.0	-	-	-	✓	✓	✓	✓
Windows XP Embedded	✓	✓	✓	✓	✓	✓	✓
DOS	✓	✓	✓	-	-	-	-
Linux 2.4.x, 2.6.x	✓	✓	✓	-	-	-	-
FreeBSD 4/5	-	-	-	-	-	-	-
QNX 4.25	-	-	-	-	-	-	-
QNX 6	✓	✓	✓	✓	✓	✓	✓
SCO Open Server	✓	✓	✓	✓	✓	✓	✓
UnixWare 7	✓	✓	✓	✓	✓	✓	✓
Solaris 10	-	-	-	✓	✓	✓	✓
<b>Environmental Limits</b>							
Dimensions (mm)	67.2 x 102	67.2 x 102	67.2 x 104	97.9 x 88.9 mm	109.5 x 130 mm		67.2 x 103 mm
Operating Temperature	0 to 55°C			0 to 55°C			
Storage Temperature	-20 to 85°C			-20 to 85°C			
Ambient Relative Humidity	5 to 95% RH (non-condensing)			5 to 95% RH (non-condensing)			
<b>Standards and Certifications</b>							
FCC Part 15 Subpart B Class	B						
EN 55022	✓	✓	✓	✓	✓	✓	✓
EN 55024	✓	✓	✓	✓	✓	✓	✓
EN 61000-3-2	✓	✓	✓	✓	✓	✓	✓
EN 61000-3-3	✓	✓	✓	✓	✓	✓	✓
EN 61000-6-2	-	-	-	-	-	-	-
EN 61000-6-4	-	-	-	-	-	-	-
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 (DIPS)	✓	✓	✓	✓	✓	✓	✓
<b>Reliability</b>							
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )						



# Universal PCI Serial Boards



	C320Turbo/PCI	C218Turbo/PCI	CP-118U CP-118U-T	CP-138U CP-138U-T	CP-118U-I CP-118U-I-T	CP-138U-I CP-138U-I-T	CP-168U CP-168U-T	CP-114UL CP-114UL-T	CP-114UL-I CP-114UL-I-T	CP-104UL CP-104UL-T
<b>Hardware</b>										
Comm. Controller	MU860 (16C550C compatible)									
Bus	32-bit Universal PCI									
Connector	DB25 female	DB62 female			DB78 female		DB62 female		DB44 female	
<b>Serial Interface</b>										
RS-232 Ports	32	8	–	–	–	–	8	–	–	4
RS-422 Ports	–	–	–	–	–	–	–	–	–	–
RS-422/485 Ports	–	–	–	8	–	8	–	–	–	–
RS-232/422/485 Ports	–	–	8	–	8	–	–	4	4	–
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			
Baudrate	50 bps to 460.8 kbps	50 bps to 921.6 kbps								
ESD Protection	–	Optional	15 kV	15 kV	15 kV	15 kV	15 kV	15 kV	15 kV	15 kV
Electrical Isolation	–	Optional	–	–	2 kV	2 kV	Optional	–	2 kV	–
<b>Driver Support</b>										
Windows 95/98/ME/NT	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows 2000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows XP/2003/Vista (x86/x64)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows 2008 (x86/x64)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows 7 (x86/x64)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows 8/8.1 (x86/x64)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows 2008 R2/2012/2012 R2 (x64)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows CE 5.0	–	–	✓	✓	✓	✓	✓	✓	✓	✓
Windows CE 6.0	–	–	✓	✓	✓	✓	✓	✓	✓	✓
Windows XP Embedded	–	–	✓	✓	✓	✓	✓	✓	✓	✓
DOS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Linux 2.4.x, 2.6.x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FreeBSD 4/5	–	–	✓	✓	✓	✓	✓	✓	✓	✓
QNX 4.25	✓	✓	–	–	–	–	–	–	–	–
QNX 6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SCO Open Server	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
UnixWare 7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Environmental Limits</b>										
Dimensions (mm)	90 x 120	105 x 180	82 x 135	82 x 135	105 x 133	105 x 133	82 x 120	64.4 x 120	64.4 x 120	64.4 x 120
Operating Temperature	Standard Temperature		0 to 55°C		0 to 55°C					
	Wide Temperature		–		–40 to 85°C					
Storage Temperature	–20 to 85°C		–40 to 85°C							
Ambient Relative Humidity	5 to 95% (non-condensing)		5 to 95% (non-condensing)							
<b>Standards and Certifications</b>										
FCC Part 15 Subpart B Class	A	A	B	B	B	B	B	B	B	B
EN 55022	✓	–	✓	✓	✓	✓	✓	✓	✓	✓
EN 55024	–	–	✓	✓	✓	✓	✓	✓	✓	✓
EN 61000-3-2	–	✓	✓	✓	✓	✓	✓	✓	✓	✓
EN 61000-3-3	–	✓	✓	✓	✓	✓	✓	✓	✓	✓
EN 61000-4-2	✓	✓	–	–	–	–	–	–	–	–
EN 61000-4-3	✓	✓	–	–	–	–	–	–	–	–
EN 61000-4-4	✓	✓	–	–	–	–	–	–	–	–
EN 61000-4-5	–	✓	–	–	–	–	–	–	–	–
EN 61000-4-6	–	✓	–	–	–	–	–	–	–	–
EN 61000-4-11 (DIPS)	–	✓	–	–	–	–	–	–	–	–
EN 61000-6-1	–	✓	–	–	–	–	–	–	–	–
EN 61000-6-3	–	✓	–	–	–	–	–	–	–	–
IEC 61000-4-2	–	–	✓	✓	✓	✓	✓	✓	✓	✓
IEC 61000-4-3	–	–	✓	✓	✓	✓	✓	✓	✓	✓
IEC 61000-4-4	–	–	82 x 135	82 x 135	✓	✓	✓	✓	✓	✓
IEC 61000-4-5	–	–	0 to 55°C	0 to 55°C	✓	✓	✓	✓	✓	✓
IEC 61000-4-6	–	–	–40 to 85°C	–40 to 85°C	✓	✓	✓	✓	✓	✓
IEC 61000-4-8	–	–	✓	✓	✓	✓	✓	✓	✓	✓
IEC 61000-4-11 (DIPS)	–	–	✓	✓	✓	✓	✓	✓	✓	✓
<b>Reliability</b>										
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )									

Multiport Serial Boards > Universal PCI Serial Boards

# Universal PCI Serial Boards



	CP-104JU CP-104JU-T	CP-134U CP-134U-T	CP-134U-I CP-134U-I-T	CP-112UL CP-112UL-T	CP-112UL-I CP-112UL-I-T	CP-102U CP-102U-T	CP-102UL CP-102UL-T	CP-132UL CP-132UL-T	CP-132UL-I CP-132UL-I-T	POS-104UL POS-104UL-T
<b>Hardware</b>										
Comm. Controller	MU860 (16C550C compatible)									
Bus	32-bit Universal PCI									
Connector	RJ45 x 4	DB44 female		DB25 female		DB9 male x 2	DB25 female			DB44 female
<b>Serial Interface</b>										
RS-232 Ports	4	-	-	-	-	2	2	-	-	4
RS-422 Ports	-	-	-	-	-	-	-	-	-	-
RS-422/485 Ports	-	4	4	-	-	-	-	2	2	-
RS-232/422/485 Ports	-	-	-	2	2	-	-	-	-	-
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							XON/XOFF		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	15 kV	15 kV	15 kV
Electrical Isolation	-	-	2 kV	-	2 kV	-	-	-	2 kV	-
<b>Driver Support</b>										
Windows 95/98/ME/NT	✓	✓	✓	-	-	✓	✓	✓	✓	✓
Windows 2000	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows XP/2003/Vista (x86/x64)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows 2008 (x86/x64)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows 7 (x86/x64)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows 8/8.1(x86/x64)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows 2008 R2/2012/2012 R2 (x64)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows CE 5.0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows CE 6.0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows XP Embedded	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DOS	✓	✓	✓	-	-	✓	✓	✓	✓	✓
Linux 2.4.x, 2.6.x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FreeBSD 4/5	✓	✓	✓	-	-	✓	✓	✓	✓	✓
QNX 4.25	-	-	-	-	-	-	-	-	-	-
QNX 6	✓	✓	✓	-	-	✓	✓	✓	✓	✓
SCO Open Server	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
UnixWare 7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Environmental Limits</b>										
Dimensions (mm)	83 x 120	82.5 x 120	115 x 120	-	-	80 x 120	64.5 x 120	64.5 x 120	64.5 x 120	64.4 x 120
Operating Temperature	Standard Temperature	0 to 55°C								
	Wide Temperature	-40 to 85°C								
Storage Temperature	-40 to 85°C									
Ambient Relative Humidity	5 to 95% (non-condensing)									
<b>Standards and Certifications</b>										
FCC Part 15 Subpart B Class	B	B	B	B	B	B	B	B	B	B
EN 55022	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
EN 55024	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
EN 61000-3-2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
EN 61000-3-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
EN 61000-6-2	-	-	-	-	-	-	-	-	-	✓
EN 61000-6-4	-	-	-	-	-	-	-	-	-	✓
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 (DIPS)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Reliability</b>										
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )									

# ISA Serial Boards



	C168H/C168HS	C104H/C104HS	CI-134/CI-134I/CI-134IS	CI-132/CI-132I/CI-132IS
<b>Hardware</b>				
Comm. Controller				
Bus				
Connector		DB37 female	DB37 female	DB9 male x 2
<b>Serial Interface</b>				
RS-232 Ports	8	4	–	–
RS-422 Ports	–	–	–	–
RS-422/485 Ports	–	–	4	2
RS-232/422/485 Ports	–	–	–	–
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	– / – / 25 kV	– / – / 25 kV
Electrical Isolation	Optional	–	– / 2 kV / 2 kV	– / 2 kV / 2 kV
<b>Driver Support</b>				
Windows 95/98/ME/NT	✓	✓	✓	✓
Windows 2000	✓	✓	✓	✓
Windows XP/2003/Vista (x86/x64)	✓	✓	✓	✓
Windows 2008 (x86/x64)	✓	✓	✓	✓
Windows 7 (x86/x64)	✓	✓	✓	✓
Windows 8/8.1 (x86/x64)	✓	✓	✓	✓
Windows 2008 R2/2012/2012 R2 (x64)	✓	✓	✓	✓
Windows CE 5.0	–	–	–	–
Windows CE 6.0	–	–	–	–
Windows XP Embedded	✓	✓	✓	✓
DOS	✓	✓	✓	✓
Linux 2.4.x, 2.6.x	✓	✓	✓	✓
FreeBSD 4/5	✓	✓	✓	✓
QNX 4.25	✓	✓	✓	✓
QNX 6	✓	✓	✓	✓
SCO Open Server	✓	✓	✓	✓
UnixWare 7	✓	✓	✓	✓
<b>Environmental Limits</b>				
Dimensions (mm)	93 x 157	83 x 157	85 x 160	75 x 157
Operating Temperature				
Storage Temperature				
Ambient Relative Humidity				
<b>Standards and Certifications</b>				
FCC Part 15 Subpart B Class	A	A	B	B
EN 55022	✓	✓	✓	✓
EN 61000-3-2	–	–	–	–
EN 61000-3-3	–	–	–	–
EN 61000-4-2	✓	✓	✓	✓
EN 61000-4-3	✓	✓	✓	✓
EN 61000-4-4	✓	✓	✓	✓
EN 61000-4-5	–	–	–	–
EN 61000-4-6	–	–	–	–
EN 61000-4-11 (DIPS)	–	–	–	–
EN 61000-6-1	–	–	–	–
EN 61000-6-3	–	–	–	–
<b>Reliability</b>				
Warranty				

# PC/104 and PC/104-Plus Modules



	CA-108 CA-108-T	CA-114 CA-114-T	CA-134I CA-134I-T	CA-104 CA-104-T	CA-132 CA-132-T	CA-132I CA-132I-T	CB-108 CB-108-T	CB-114 CB-114-T	CB-134I CB-134I-T	
<b>Hardware</b>										
Comm. Controller	MU860 (16C550C compatible)						MU860 (16C550C compatible)			
Bus	PC/104 bus									
Box Header Connector	40-pin				20-pin		40-pin	40-pin	40-pin	
<b>Serial Interface</b>										
RS-232 Ports	8	-	-	4	-	-	8	-	-	
RS-422 Ports	-	-	-	-	-	-	-	-	-	
RS-422/485 Ports	-	-	4	-	2	2	-	-	4	
RS-232/422/485 Ports	-	4	-	-	-	-	-	4	-	
Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark						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						50 bps to 921.6 kbps			
ESD Protection	15 kV	15 kV	15 kV	15 kV	15 kV	15 kV	15 kV	15 kV	15 kV	
Electrical Isolation	-	-	2 kV	-	-	2 kV	-	-	2 kV	
<b>Driver Support</b>										
Windows 95/98/ME/NT	✓	✓	✓	✓	✓	✓	-	-	-	
Windows 2000	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Windows XP/2003/Vista (x86/x64)	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Windows 2008 (x86/x64)	-	-	-	-	-	-	✓	✓	✓	
Windows 7 (x86/x64)	-	-	-	-	-	-	✓	✓	✓	
Windows 8/8.1 (x86/x64)	-	-	-	-	-	-	✓	✓	✓	
Windows 2008 R2/2012/2012 R2 (x64)	-	-	-	-	-	-	✓	✓	✓	
Windows CE 5.0	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Windows CE 6.0	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Windows XP Embedded	✓	✓	✓	✓	✓	✓	✓	✓	✓	
DOS	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Linux 2.4.x, 2.6.x	✓	✓	✓	✓	✓	✓	✓	✓	✓	
FreeBSD 4/5	-	-	-	-	-	-	-	-	-	
QNX 4.25	✓	✓	✓	✓	✓	✓	-	-	-	
QNX 6	✓	✓	✓	✓	✓	✓	✓	✓	✓	
SCO Open Server	-	-	-	-	-	-	-	-	-	
UnixWare 7	-	-	-	-	-	-	-	-	-	
<b>Environmental Limits</b>										
Dimensions (mm)	90 x 96						90 x 96			
Operating Temperature	Standard Temperature	0 to 55°C						0 to 55°C		
	Wide Temperature	-40 to 85°C						-40 to 85°C		
Storage Temperature	-40 to 85°C						-40 to 85°C			
Ambient Relative Humidity	5 to 95% (non-condensing)						5 to 95% (non-condensing)			
<b>Standards and Certifications</b>										
FCC Part 15 Subpart B Class	A	A	A	A	A	A	A	A	A	
EN 55022	✓	✓	✓	✓	✓	✓	✓	✓	✓	
EN 55024	✓	✓	✓	✓	✓	✓	✓	✓	✓	
EN 61000-3-2	✓	✓	✓	✓	✓	✓	✓	✓	✓	
EN 61000-3-3	✓	✓	✓	✓	✓	✓	✓	✓	✓	
IEC 61000-6-2	✓	✓	✓	✓	✓	✓	✓	✓	✓	
IEC 61000-6-4	✓	✓	✓	✓	✓	✓	✓	✓	✓	
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 (DIPS)	✓	✓	✓	✓	✓	✓	✓	✓	✓	
<b>Reliability</b>										
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )						5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )			

Multiport Serial Boards > PC/104 and PC/104-Plus Modules



# CAN Interface Boards/Modules



	CP-602U-I CP-602U-I-T	CP-602E-I CP-602E-I-T	CB-602I CB-602I-T
<b>Hardware</b>			
CAN Controller	NXP SJA1000		
CAN Transceiver	PCA82C251		
Bus	32-bit Universal PCI	PCI Express x1	PC/104-Plus bus
Connectors	DB9 male x 2	DB9 male	20-pin
<b>CAN Interface</b>			
CAN Specification	CAN 2.0 A/B		
Signal Support	CAN_H, CAN_L, GND		
Ports	2		
Transfer Rate	1 Mbps		
Max Number of Boards per PC	4		
Electrical Isolation	2 kV		
Termination Resistors	120 ohm (selected by jumper)		
<b>Driver Support</b>			
Windows 2000	✓	✓	✓
Windows XP/2003/Vista (x86/x64)	✓	✓	✓
Windows 2008 (x86/x64)	✓	✓	✓
Windows 7 (x86/x64)	✓	✓	✓
Windows 8/8.1 (x86/x64)	✓	✓	✓
Windows 2008 R2/2012/2012 R2 (x64)	✓	✓	✓
Visual Basic Library	✓	✓	✓
C/C++ Library	✓	✓	✓
<b>Environmental Limits</b>			
Dimensions (mm)	120 x 80	120 x 80	90 x 96
Operating Temperature	Standard Temperature	0 to 55°C	
	Wide Temperature	-40 to 85°C	
Storage Temperature	-40 to 85°C		
Ambient Relative Humidity	5 to 95% (non-condensing)		
<b>Standards and Certifications</b>			
FCC Part 15 Subpart B Class	B	B	B
EN 61000-3-2	✓	✓	-
EN 61000-3-3	✓	✓	✓
IEC 61000-4-2	✓	✓	✓
IEC 61000-4-3	✓	✓	✓
EC 61000-4-4	✓	✓	✓
IEC 61000-4-5	✓	✓	✓
IEC 61000-4-6	✓	✓	✓
IEC 61000-4-8	✓	✓	✓
IEC 61000-4-11 (DIPS)	✓	✓	✓
<b>Reliability</b>			
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )		

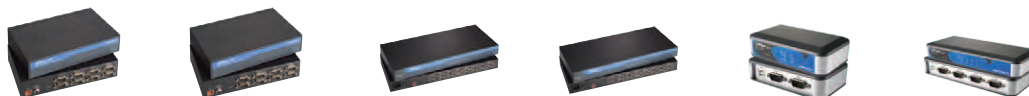
# USB-to-Serial Converters



Industrial USB > USB-to-Serial Converters

	UPort® 1110	UPort® 1130 UPort® 1130I	UPort® 1150	UPort® 1150I	UPort® 1250	UPort® 1250I	UPort® 1410	UPort® 1450	UPort® 1450I
<b>USB Interface</b>									
Compliance	USB 1.1/2.0 compliant								
Connector	USB type A			USB type B					
Speed	12 Mbps (Full-Speed USB)				480 Mbps (Hi-Speed USB) and 12 Mbps (Full-Speed USB)				
<b>Serial Interface</b>									
Number of Ports	1 x RS-232	1 x RS-422/485	1 x RS-232/422/485	2 x RS-232/422/485			4 x RS-232	4 x RS-232/422/485	
Connector	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								
FIFO	64 bytes				128 bytes				
Baudrate	50 bps to 921.6 kbps								
Embedded ESD Protection	15 kV								
Electrical Isolation	-	2 kV (UPort 1130I)	-	2 kV	-	2 kV	-	-	2 kV
<b>Driver Support</b>									
Windows 98/ME	✓	✓	✓	✓	-	-	-	-	-
Windows 2000	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows XP/2003 x86/x64	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows Vista x86/x64	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows 7 x86/x64	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows 8/8.1 x86/x64	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows 2012 x64	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows 2008 R2/2012 R2 x64	✓	✓	✓	✓	✓	✓	✓	✓	✓
WinCE 5.0/6.0	✓	✓	✓	✓	✓	✓	✓	✓	✓
Linux 2.4.x	✓	✓	✓	✓	✓	✓	✓	✓	✓
Linux 2.6.x	✓	✓	✓	✓	✓	✓	✓	✓	✓
Linux 3.0.x	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Physical Characteristics</b>									
Housing	ABS + PC			SECC sheet metal (1 mm)					
Product Weight	65 g			75 g	180 g	720 g			
Packaged Weight	200 g			370 g	370 g	680 g	1320 g		
Dimensions (mm)	38.4 x 60 x 20			52 x 80 x 22	77 x 26 x 111		204 x 30 x 125		
<b>Environmental Limits</b>									
Operating Temperature	0 to 55°C								
Operating Humidity	5 to 95% (non-condensing)								
Storage Temperature	-20 to 70°C								
<b>Standards and Certifications</b>									
Safety	-	-	-	UL 60950-1	UL 60950-1				
EMI	EN 55022 Class B, EN 61000-3-2, EN 61000-3-3, FCC Part 15 Subpart B Class B				EN 55022 Class A, EN 61000-3-2, EN 61000-3-3, FCC Part 15 Subpart B Class A				
EMS	EN 55024, 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				EN 55024, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, IEC 61000-4-8, IEC 61000-4-11				
Green Product	RoHS, CRoHS, WEEE				RoHS, CRoHS, WEEE				
<b>Power Requirements</b>									
Power Consumption	30 mA @ 5 VDC	60 mA @ 5 VDC	77 mA @ 5 VDC	260 mA @ 5 VDC	360 mA @ 5 VDC	200 mA @ 12 VDC	385 mA @ 5 VDC	300 mA @ 12 VDC	360 mA @ 12 VDC
<b>Reliability</b>									
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )								

# USB-to-Serial Converters



	UPort® 1610-8	UPort® 1650-8	UPort® 1610-16	UPort® 1650-16	UPort® 2210	UPort® 2410
<b>USB Interface</b>						
Compliance	USB 1.1/2.0 compliant					
Connector	USB type B					
Speed	480 Mbps (Hi-Speed USB) and 12 Mbps (Full-Speed USB)					
<b>Serial Interface</b>						
Number of Ports	8 x RS-232	8 x RS-232/422/485	16 x RS-232	16 x RS-232/422/485	2 x RS-232	4 x RS-232
Connector	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					
FIFO	128 bytes				16 bytes	
Baudrate	50 bps to 921.6 kbps					
Embedded ESD Protection	15 kV					
<b>Driver Support</b>						
Windows 98/ME	-	-	-	-	-	-
Windows 2000	✓	✓	✓	✓	✓	✓
Windows XP/2003 x86/x64	✓	✓	✓	✓	✓	✓
Windows Vista x86/x64	✓	✓	✓	✓	✓	✓
Windows 2008 x86/x64	✓	✓	✓	✓	✓	✓
Windows 7 x86/x64	✓	✓	✓	✓	✓	✓
Windows 8/8.1 x86/x64	✓	✓	✓	✓	✓	✓
Windows 2012 x64	✓	✓	✓	✓	✓	✓
WinCE 5.0/6.0	✓	✓	✓	✓	-	-
Linux 2.4.x	✓	✓	✓	✓	-	-
Linux 2.6.x	✓	✓	✓	✓	✓	✓
Linux 3.0.x	✓	✓	✓	✓	✓	✓
<b>Physical Characteristics</b>						
Housing	SECC sheet metal (1 mm)				Polycarbonate (PC)	
Product Weight	835 g		2475 g		120 g	210 g
Packaged Weight	1440 g		3440 g		325 g	455 g
Dimensions (mm)	204 x 44 x 125		440 x 45.5 x 198.1		70 x 35 x 120	80 x 35 x 185
<b>Environmental Limits</b>						
Operating Temperature	0 to 55°C					
Operating Humidity	5 to 95% (non-condensing)					
Storage Temperature	-20 to 70°C					
<b>Standards and Certifications</b>						
Safety	UL 60950-1					
EMI	EN 55022 Class A, EN 61000-3-2, EN 61000-3-3, FCC Part 15 Subpart B Class A				EN 55022 Class B, EN 61000-3-2, EN 61000-3-3, FCC Part 15 Subpart B Class B	
EMS	EN 55024, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11				EN 55024, 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	
Green Product	RoHS, CRoHS, WEEE					
<b>Power Requirements</b>						
Power Consumption	230 mA @ 12 VDC	340 mA @ 12 VDC	130 mA @ 100 VAC	150 mA @ 100 VAC	140 mA @ 5 VDC	240 mA @ 5 VDC
<b>Reliability</b>						
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )					

# USB Hubs



	UPort@ 404	UPort@ 407	UPort@ 404-T	UPort@ 407-T	UPort@ 204	UPort@ 207
<b>USB Interface</b>						
Compliance	USB 1.1/2.0 compliant					
Upstream USB Ports	1 (Type B)					
Downstream USB Ports	4 (Type A)	7 (Type A)	4 (Type A)	7 (Type A)	4 (Type A)	7 (Type A)
Speed	480 Mbps (Hi-Speed USB) and 12 Mbps (Full-Speed USB)					
Supply Current	500 mA max. per channel					
<b>Physical Characteristics</b>						
Housing	Aluminum				Polycarbonate (PC)	
Dimensions (mm)	80 x 35 x 130	100 x 35 x 192	80 x 35 x 130	100 x 35 x 192	80 x 35 x 130	100 x 35 x 195
<b>Environmental Limits</b>						
Operating Temperature	0 to 60°C	0 to 60°C	-40 to 85°C	-40 to 85°C	0 to 60°C	0 to 60°C
Operating Humidity	5 to 95% (non-condensing)	5 to 95% (non-condensing)	5 to 95% (non-condensing)	5 to 95% (non-condensing)	5 to 95% (non-condensing)	5 to 95% (non-condensing)
Storage Temperature	-20 to 75°C	-20 to 75°C	-40 to 85°C	-40 to 85°C	-20 to 75°C	-20 to 75°C
<b>Standards and Certifications</b>						
Safety	UL 508, LVD					
EMI	EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 61000-6-4, FCC Part 15 Subpart B Class A					
EMS	EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11					
Green Product	RoHS, CRoHS, WEEE					
<b>Power Requirements</b>						
Power Consumption	1300 mA @ 12 VDC	2300 mA @ 12 VDC	1300 mA @ 12 VDC	2300 mA @ 12 VDC	1210 mA @ 12 VDC	2170 mA @ 12 VDC
<b>Reliability</b>						
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )					

# Chassis Media Converters



	TRC-190-AC TRC-190-DC-48	TCF-142-M-SC-RM TCF-142-M-ST-RM	TCF-142-S-SC-RM TCF-142-S-ST-RM
<b>Optical Fiber Side</b>			
Fiber Connector	–	SC or ST	
Cables Requirements	–	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
Wavelength	–	850 nm	1310 nm
Tx Output	–	> -5 dBm	
Rx Sensitivity	–	-20 dBm	-25 dBm
Point-to-Point Transmission	–	Point-to-Point Transmission: Half-duplex or full-duplex	
<b>RS-232/422/485 Side</b>			
Connector	–	DB9	
RS-232 Signals	–	TxD, RxD, GND	
RS-422 Signals	–	TxD+, TxD-, RxD+, RxD-, GND	
RS-485-4w Signals	–	TxD+, TxD-, RxD+, RxD-, GND	
RS-485-2w Signals	–	Data+, Data-, GND	
Baudrate	–	50 bps to 921.6 kbps	
ESD Protection	–	15 kV	
<b>Physical Characteristics</b>			
Housing	SECC (1.2 mm)	–	
Dimensions (mm)	440 x 260 x 77 mm	86.8 x 136.5 x 21 mm	
Weight	5.2 kg (11.4 lbs), with one power module installed	–	
Number of Slots	19 slots in the front for slide-in modules, 2 slots in the back for power supply modules	–	
<b>Environmental Limits</b>			
Operating Temperature	0 to 60°C		
Operating Humidity	5 to 95% RH		
Storage Temperature	-20 to 75°C		
<b>Power Requirements</b>			
Input Voltage	100 to 240 VAC or 36 to 72 VDC	12 VDC	
Power Consumption	3.2 A @ 36 VDC (max. output)	150 mA @ 12 V	
<b>Standards and Certifications</b>			
Safety	UL 60950-1, EN 60950-1		
EMC	CE, FCC		
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A		
EMS	EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 2, EN 61000-4-4 (EFT) Level 2, EN 61000-4-5 (Surge) Level 2, EN 61000-4-6 (CS) Level 2, EN 61000-4-8 (PFMF) Level 3, EN 61000-4-11 (DIPS)		
Freefall	–	IEC 60068-2-32	
Green Product	RoHS, CRoHS, WEEE		
<b>Reliability</b>			
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )		



# Serial-to-Fiber Media Converters



	ICF-1150-M-SC/ST ICF-1150-M-SC/ST-T	ICF-1150I-M-SC/ST ICF-1150I-M-SC/ST-T	ICF-1150-S-SC/ST ICF-1150-S-SC/ST-T	ICF-1150I-S-SC/ST ICF-1150I-S-SC/ST-T	TCF-142-M-SC/ST TCF-142-M-SC/ST-T	TCF-142-S-SC/ST TCF-142-S-SC/ST-T	TCF-90-M/S	
<b>Optical Fiber Side</b>								
Fiber Connector	SC or ST						ST	
Cables Requirements	Single-mode: 8.3/125, 8.7/125, 9/125, or 10/125 $\mu$ m Multi-mode: 50/125, 62.5/125, or 100/140 $\mu$ m							
Transmission Distance	Single-mode: 40 km Multi-mode: 5 km							
Wavelength	Single-mode: 1310 nm Multi-mode: 850 nm							
Tx Output	Single-mode: > -5 dBm Multi-mode: > -5 dBm							
Rx Sensitivity	Single-mode: -25 dBm Multi-mode: -20 dBm							
Point-to-Point Transmission	Half-duplex or full-duplex						-	
Multi-drop Transmission	Half-duplex, fiber ring						-	
<b>RS-232 Side</b>								
Connector	DB9 female			Terminal block			DB9 female	
Signals	Tx, Rx, GND						TxD, RxD, GND (Loop-back wiring: RTS to CTS, DTR to DSR and DCD)	
Baudrate	50 bps to 921.6 kbps						300 bps to 115.2 kbps	
<b>RS-232/422/485 Side</b>								
Connector	Terminal Block							
RS-232 Signals	TxD, RxD, GND							
RS-422 Signals	TxD+, TxD-, RxD+, RxD-, GND							
RS-485-4w Signals	TxD+, TxD-, RxD+, RxD-, GND							
RS-485-2w Signals	Data+, Data-, GND							
Baudrate	50 bps to 921.6 kbps							
ESD Protection	15 kV for all signals							
Isolation	-	2 kV	-	2 kV	-	-	-	
<b>Physical Characteristics</b>								
Housing	Metal						ABS + PC	
Dimensions (mm)	30.3 x 70 x 115 mm			67 x 100 x 22 mm			42 x 80 x 22 mm	
<b>Environmental Limits</b>								
Operating Temperature	0 to 60°C or -40 to 85°C (for T models)						0 to 60°C	
Operating Humidity	5 to 95% RH						5 to 95% RH	
Storage Temperature	-40 to 85°C						-20 to 75°C	
<b>Power Requirements</b>								
Source of Input Power	-	-	-	-	-	-	RS-232 port (TxD, RTS, DTR) or power input jack	
Input Voltage	12 to 48 VDC							
Power Consumption	127 mA @ 12 V	163 mA @ 12 V	127 mA @ 12 V	163 mA @ 12 V	140 mA @ 12 V		20 mA @ 5 V	
Voltage Reversal Protection	Protects against V+/V- reversal						-	
Over Current Protection	1.1 A				1.1 A		-	
<b>Standards and Certifications</b>								
Safety	UL 508				UL 60950-1		UL 60950-1	
Hazardous Location	Hazardous Location: UL/cUL Class I Division 2 Groups A/B/C/D, ATEX Zone 2 EEx nC IIC, IECEx				-		-	
EMC	CE, FCC							
EMI	EN 55022 Class B, FCC Part 15 Subpart B Class B						FCC Part 15 Subpart B Class B	
EMS	EN 61000-4-2 (ESD) Level 4, EN 61000-4-3 (RS) Level 2, EN 61000-4-4 (EFT) Level 4, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 2, EN 61000-4-8 (PFMF) Level 3				EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 2, EN 61000-4-4 (EFT) Level 2, EN 61000-4-5 (Surge) Level 2, EN 61000-4-6 (CS) Level 2, EN 61000-4-8 (SFMF) Level 1		IEC 61000-4-2 (ESD) Level 2, IEC 61000-4-3 (RS) Level 2, IEC 61000-4-4 (EFT) Level 2, IEC 61000-4-5 (Surge) Level 3, IEC 61000-4-6 (CS) Level 2, IEC 61000-4-8 (SFMF) Level 1	
Freefall	IEC 60068-2-32				-		-	
Green Product	RoHS, CRoHS, WEEE				RoHS, CRoHS, WEEE		RoHS, CRoHS, WEEE	
<b>Reliability</b>								
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )							

# Serial Converters and Repeaters



	TCC-100 TCC-100-T	TCC-100I TCC-100I-T	TCC-80	TCC-80I	TCC-120	TCC-120I	TCC-82
<b>RS-232 Side</b>							
Connector	DB9 female		DB9 female		-		DB9 male/female
Signals	TxD, RxD, RTS, CTS, GND (Loop-back wiring: DTR to DSR and DCD)		TxD, RxD, GND (Loop-back wiring: RTS to CTS, DTR to DSR and DCD)		-		TxD, RxD, RTS, CTS, GND (Loop-back wiring: DTR to DSR and DCD)
<b>RS-422/485 Side</b>							
Connector	Terminal Block		Terminal Block or DB9 male		Terminal block on both ends		-
Signals	(interface selected by DIP switch) RS-422: TxD+, TxD-, RxD+, RxD-, GND RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND RS-485-2w: Data+, Data-, GND		(interface selected by DIP switch) RS-422: TxD+, TxD-, RxD+, RxD-, GND RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND RS-485-2w: Data+, Data-, GND		(interface selected by DIP switch) RS-422: TxD+, TxD-, RxD+, RxD-, GND RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND RS-485-2w: Data+, Data-, GND		-
RS-485 Data Direction Control	ADDC®		ADDC®		ADDC®		-
<b>Serial Communication</b>							
Baudrate	50 bps to 921.6 kbps		50 bps to 115.2 kbps		50 bps to 921.6 kbps		50 bps to 115.2 kbps
Pull High Resistance	1K/150K ohm		1K ohm		4.7K ohm		1K/150K ohm
Pull Low Resistance	1K/150K ohm		1K ohm		4.7K ohm		1K/150K ohm
ESD Protection	15 kV	15 kV	15 kV	15 kV	15 kV	15 kV	15 kV
Optical Isolation	-	2 kV	-	2.5 kV	-	2 kV	4 kV
<b>Physical Characteristics</b>							
Housing	Metal		ABS + PC		Metal		ABS
Dimensions (mm)	67 x 100.4 x 22 mm		42 x 80 x 22 mm		67 x 100.4 x 22 mm		42 x 80 x 23.6 mm
Weight	148 ± 5 g		50 ± 5 g		148 ± 5 g		60 ± 5 g
<b>Environmental Limits</b>							
Operating Temperature	-20 to 60°C, or -40 to 85°C		0 to 60°C		-20 to 60°C		0 to 60°C
Operating Humidity	5 to 95% RH		5 to 95% RH		5 to 95% RH		5 to 95% RH
Storage Temperature	-40 to 85°C		-20 to 75°C		-20 to 75°C		-20 to 75°C
<b>Power Requirements</b>							
Source of Input Power	Power input jack		RS-232 port (TxD, RTS, DTR) or power input jack		Power input jack		RS-232 port (TxD, RTS, DTR) or power input jack
Input Voltage	12 to 48 VDC		5 to 12 VDC		12 to 48 VDC		5 to 12 VDC
Power Consumption	85 mA @ 12 V	150 mA @ 12 V	10 mA @ 5 V	20 mA @ 5 V	65 mA @ 12 V	180 mA @ 12 V	20 mA @ 5 V
Voltage Reversal Protection	Protects against V+/V- reversal		-	-	Protects against V+/V- reversal		-
Over Current Protection	✓	✓	-	-	✓	✓	-
<b>Standards and Certifications</b>							
Safety	UL 60950-1						
EMC	CE, FCC						
EMI	FCC Part 15 Subpart B Class B						
EMS	IEC 61000-4-2 (ESD) Level 2, IEC 61000-4-3 (RS) Level 2, IEC 61000-4-4 (EFT) Level 2, IEC 61000-4-5 (Surge) Level 2, IEC 61000-4-6 (CS) Level 2, IEC 61000-4-8 (SFMF) Level 1		EN 61000-4-2 (ESD) Level 2, EN 61000-4-3 (RS) Level 2, EN 61000-4-4 (EFT) Level 2, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 2, EN 61000-4-8 (RFMF) Level 1				
Green Product	RoHS, CRoHS, WEEE						
<b>Reliability</b>							
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )						

# Serial Surge Protector



	ISD-1110-T	ISD-1130-T	ISD-1210-T	ISD-1230-T
<b>Data Line Surge Protection</b>				
Interface	RS-232	RS-422/485	RS-232	RS-422/485
Maximum Power Protection	400 watts		5000 watts	
Number of Protected Lines	7	4		
Surge Capacity	4 kV, 8/20 $\mu$ s impulse per line		20 kV, 8/20 $\mu$ s impulse per line	
Working Voltage	15V	5V	15V	5V
Maximum Load Current	0.1 A (23°C), 0.05 A (85°C)	0.12 A (23°C), 0.07 A (85°C)	0.4 A (20°C), 0.13 A (85°C)	0.4 A (20°C), 0.13 A (85°C)
Response Time	< 1 ns			
Bandwidth	10 MHz loss < 1 dB			
<b>Connector</b>				
Connector	Data in: DB9 male Data out: DB9 female	Data in: Terminal Block Data out: Terminal Block		
<b>Physical Characteristics</b>				
Housing	Plastic (IP30)		Metal (IP30)	
Dimension (mm)	53 x 37 x 20.6 mm		95 x 53 x 25 mm	
<b>Environmental Limits</b>				
Operating Temperature	-40 to 85°C (-40 to 185°F)			
Storage Temperature	-40 to 85°C (-40 to 185°F)			
Operating Humidity	5 to 95% RH			
<b>Standards and Certifications</b>				
EMS	EN 61000-4-5 Level 4 (4 kV)		IEC 61643-21 C2 (20 kV 1.2/50, 10 kA 8/20)	
<b>Reliability</b>				
Warranty	5 years (limited to 1-time use) (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> ) <b>Note: ISD products will only be repaired once within 5 years of purchase. After the first repair, the product's warranty will no longer be valid.</b>			

# CAN-to-Fiber, PROFIBUS-to-Fiber Converters



	ICF-1170I-M-ST ICF-1170I-S-ST-T	ICF-1180I-M-ST/ST-T ICF-1180I-S-ST/ST-T	ICF-1280I-M-ST/ST-T ICF-1280I-S-ST/ST-T
<b>Optical Fiber Side</b>			
Fiber Connector	ST		
Cables Requirements	Multi-mode: 50/125, 62.5/125, or 100/140 μm		
Transmission Distance	Up to 2 km	Multi-mode: 4km Single-mode: 45km	Multi-mode: 4km Single-mode: 45km
Wavelength	Multi-mode: 850 nm	Multi-mode: 820 nm Single-mode: 1310 nm	Multi-mode: 820 nm Single-mode: 1310 nm
Tx Output	Multi-mode: > -5 dBm	Multi-mode: > -14 dBm Single-mode: > -7 dBm	Multi-mode: > -14 dBm Single-mode: > -7 dBm
Rx Sensitivity	Multi-mode: -20 dBm	Multi-mode: -28 dBm Single-mode: -29 dBm	Multi-mode: -28 dBm Single-mode: -29 dBm
<b>Fieldbus Interface</b>			
Connector	3-pin removable screw terminal	DB9 female	DB9 female
Specification	CAN 2.0 A and 2.0B (ISO 11898-2)	PROFIBUS DP (IEC 61158-2)	PROFIBUS DP (IEC 61158-2)
Signal Support	CAN_H, CAN_L, CAN_GND	PROFIBUS D+, PROFIBUS D-, RTS, Signal common, 5V	PROFIBUS D+, PROFIBUS D-, RTS, Signal common, 5V
Optical Isolation	2 kV		
Transfer rate	Up to 1 Mbps	Up to 12Mbps	Up to 12Mbps
Termination Resistors	120 ohms (selected by DIP switch)		
<b>Physical Characteristics</b>			
Housing	Metal		
Dimensions (mm)	30.3 x 115 x 70 mm (11.9 x 45.3 x 27.6 in)		
<b>Environmental Limits</b>			
Operating Temperature	Standard Temperature	0 to 60°C	
	Wide Temperature	-40 to 85°C	-40 to 75°C
Operating Humidity	5 to 95% RH		
Storage Temperature	-40 to 85°C	-40 to 75°C	-40 to 75°C
<b>Power Requirements</b>			
Input Voltage	12 to 48 VDC dual power inputs for redundant power		
Power Consumption	221 mA @ 12 V	186 mA @ 12 V	315 mA @ 12 V
Voltage Reversal Protection	Protects against V+/V- reversal		
Over Current Protection	1.1 A (protects against two signals shorted together)		
<b>Standards and Certifications</b>			
Safety	UL 508, EN 60950-1	UL 508, EN 60950-1	UL 508, EN 60950-1
EMC	CE, FCC		
EMI	EN 55022 Class A, FCC Part 15 Subpart B Class A	EN 55022 Class A, FCC Part 15 Subpart B Class A	EN 55022 Class A, FCC Part 15 Subpart B Class A
EMS	EN 61000-4-2 (ESD) Level 4, EN 61000-4-3 (RS) Level 2, EN 61000-4-4 (EFT) Level 4, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 2, EN 61000-4-8 (PFMF) Level 3	EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 3, EN 61000-4-4 (EFT) Level 3, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 3	EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 3, EN 61000-4-4 (EFT) Level 3, EN 61000-4-5 (Surge) Level 3, EN 61000-4-6 (CS) Level 3
Freefall	IEC 60068-2-32	IEC 60068-2-32	IEC 60068-2-32
Green Product	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE
<b>Reliability</b>			
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )		

Serial Media Converters > CAN-to-Fiber, PROFIBUS-to-Fiber Converters

# Modular and Compact RTU Controllers



	ioPAC 8020 Series	ioPAC 8500 Series	ioPAC 5542 Series
<b>Inputs/Outputs</b>			
Digital Inputs	–	–	8
Digital Outputs	–	–	–
Relay Outputs	–	–	–
DI/DO Configurable	–	–	8
Analog Inputs	–	–	8
<b>Cellular</b>			
HSPA	–	–	✓ (ioPAC 5542-HSPA)
<b>Ethernet</b>			
Ports (Connector)	2 (M12 or RJ45)	–	2 (RJ45)
Speed	10/100 Mbps	–	–
Switch (Daisy Chain)	✓	–	–
Switch (2 MACs)	–	✓	✓
Protocols	–	–	–
<b>Serial</b>			
Ports (Connector)	1 (DB9 male)	2 (DB9 male)	2 (DB9 male)
Interface	RS-232/422/485	–	RS-232/422/485
Protocols	–	–	–
<b>Physical Characteristics</b>			
I/O Module Slots	5/9	2/5/9	–
<b>Environmental Limits</b>			
Operating Temp.	-40 to 75°C	–	-40 to 75°C (-30 to 75°C for HSPA model)
Storage Temp.	-40 to 85°C	–	–
Ambient Relative Humidity	5 to 95% RH (non-condensing)	–	–
<b>Software</b>			
Programmability	C/C++	C/C++, IEC 61131-3	–
Active OPC Server	✓	✓	–
DA-Center	✓	✓	–
Configuration Utility	RTUAdmin	RTUxpress	–
Linux Utilities*	TinyLogin, Telnet, SSH, FTP, SntpClient, ntpdate, Trivial FTP, Dynamic DNS	–	–
Linux Daemons*	PPP, Telnet, Inet (Internet Service), FTP, SSH, OpenVPN, OpenSSL, NTP	–	–
<b>Standards and Certifications</b>			
Safety	UL 508	–	UL 508, NCC (ioPAC 5542-HSPA)
Hazardous Location	–	–	UL/cUL Class 1 Division 2; ATEX Zone 2
EMI	FCC Part 15, Subpart B, Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-6-4 or EN 55022	–	EN 55022, EN 61000-3-2, EN 61000-3-3, FCC Part 15 Subpart B, Class A
EMS	EN 55024; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-8; EN 61000-4-11; EN 61000-6-2	–	EN 55024, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11
Shock	IEC 60068-2-27	–	–
Freefall	IEC 60068-2-32	–	–
Vibration	IEC 60068-2-6	–	–
Rail Traffic	EN 50155; EN 50121-3-2; EN 50121-4	–	EN 50121-4
<b>Reliability</b>			
Warranty	5 years	–	–

\* Unsupported protocols and daemons may be integrated by request.



# I/O Modules for ioPAC 8500 Products



	Digital Input		Digital Output		Analog Input			High Speed Analog Input		Communication
	85M-1602-T	85M-2600-T	85M-3800	85M-3801	85M-6600-T	85M-6810-T	85M-3801-T	85M-3811-T	85M-5401-T	
<b>Module Properties</b>										
Channels/Ports (Connector)	16 (terminal block)	16 (terminal block)	8 (terminal block)	8 (terminal block)	6 (terminal block)	8 (terminal block)	8 (terminal block)	8 (terminal block)	4 (DB44 female)	
Input/Output Mode	24 VDC	24 VDC	4-20 mA	0-10V	RTD	Thermocouple	4-20 mA	0-10V	-	
Type	sink/source	sink	-	-	-	-	-	-	-	
-	-	-	All channels: 100 Hz samples/sec Per channel: 12.5 Hz samples/sec	All channels: 100 Hz samples/sec Per channel: 12.5 Hz samples/sec	All channels: 12 Hz samples/sec Per channel: 2 Hz samples/ sec	All channels: 12 Hz samples/ sec Per channel: 1.5 Hz samples/sec	All channels: 40kHz samples/sec Per channel: 5kHz samples/ sec	All channels: 40kHz samples/sec Per channel: 5kHz samples/ sec	-	
Serial ports	-	-	-	-	-	-	-	-	4 RS-232/422/485	
Cellular	-	-	-	-	-	-	-	-	-	
<b>Environmental Limits</b>										
Operating Temperature	-40 to 75°C									
Storage Temperature	-40 to 85°C									
Ambient Relative Humidity	5 to 95% RH (non-condensing)									
<b>Reliability</b>										
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )									

# I/O Modules for ioPAC 8020 Products



	Digital Input		Digital Output		Analog Input		Ethernet Switch
	RM-1050-T	RM-1602-T	RM-2600-T	RM-3802-T	RM-3810-T	RM-2430-T	KM-2430-T
<b>Module Properties</b>							
Channels/Ports (Connector)	10 (terminal block)	16 (terminal block)	16 (terminal block)	8 (terminal block)	8 (terminal block)	4 (M12)	
Mode/Speed	110 VDC	24 VDC	24 VDC	4-20 mA	0-10 VDC	10/100 Mbps	
Type	isolated	sink/source	sink	-	-	unmanaged	
<b>Environmental Limits</b>							
Operating Temperature	-40 to 75°C						
Storage Temperature	-40 to 85°C						
Ambient Relative Humidity	5 to 95% RH (non-condensing)						
<b>Reliability</b>							
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )						

Programmable RTU Controllers > I/O Modules for ioPAC 8500 Products

# Smart Remote I/O with Click&Go Plus Logic



Remote I/O > Smart Remote I/O with Click&Go Plus Logic

	ioLogik 2512	ioLogik 2542	ioLogik 2512-WL1	ioLogik 2542-WL1	ioLogik 2512-GPRS	ioLogik 2542-GPRS	ioLogik 2512-HSPA	ioLogik 2542-HSPA
<b>Inputs/Outputs</b>								
Digital Input	8	–	8	–	8	–	8	–
DI/DO Configurable	8	12	8	12	8	12	8	12
Analog Inputs	–	4	–	4	–	4	–	4
<b>Cellular</b>								
	–	–	–	–	GSM/GPRS/EDGE 850/900/1800/1900MHz	GSM/GPRS/EDGE 850/900/1800/1900MHz	Five-Bands UMTS/HSPA+ (WCDMA/FDD) 800/850/ AWS1700/1900/2100 MHz Quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz	Five-Bands UMTS/HSPA+ (WCDMA/FDD) 800/850/ AWS1700/1900/2100 MHz Quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz
<b>WLAN</b>								
	–	–	IEEE 802.11a/b/g for Wireless LAN IEEE 802.11i for Wireless Security	IEEE 802.11a/b/g for Wireless LAN IEEE 802.11i for Wireless Security	–	–	–	–
<b>Ethernet</b>								
Ports (Connector)	4 switched 10/100 Mbps RJ45 ports, with 1 optimized port for faster downstream communications with daisy-chained ioLogik E1200 units							
Speed	10/100 Mbps							
Protocols	Modbus/TCP, TCP/IP, UDP, DHCP, BOOTP, SNMP, HTTP, CGI, SNTP, SMTP							
<b>Serial</b>								
Ports (Connector)	2 RJ45 ports							
Interface	RS232/422/485 software-selectable							
Protocols	Modbus/RTU (master), serial tunnel mode (client/server)							
<b>Environmental Limits</b>								
Standard Operating Temp.	-10 to 60°C (14 to 140°F)							
Wide Operating Temp.	-40 to 75°C (-40 to 167°F)				-30 to 70°C (-40 to 167°F)			
Storage Temp.	-40 to 85°C (-40 to 185°F)							
Ambient Relative Humidity	5 to 95% (non-condensing)							
<b>Software</b>								
Programmability	Click&Go Plus							
MX-AOPC UA Suite	✓	✓	✓	✓	✓	✓	✓	✓
Configuration Utility	✓	✓	✓	✓	✓	✓	✓	✓
<b>Standards and Certifications</b>								
Safety	UL 508							
EMI	EN 61000-3-2; EN 61000-3-3; EN 61000-6-4; FCC Part 15, Subpart B, Class A							
EMS	EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11, EN 61000-6-2							
Shock	IEC 60068-2-27							
Freefall	IEC 60068-2-32							
Vibration	IEC 60068-2-6							
Green Product	RoHS, CRoHS, WEEE							
<b>Reliability</b>								
Warranty	5 years							

# Smart Ethernet Remote I/O with Click&Go Logic



	ioLogik E2210	ioLogik E2212	ioLogik E2214	ioLogik E2240	ioLogik E2242	ioLogik E2260	ioLogik E2262
<b>Inputs/Outputs</b>							
Digital Inputs	12	8	6	–	–	–	–
Digital Outputs	8	8	–	–	–	4	4
Relay Outputs	–	–	6	–	–	–	–
DI/DO Configurable	–	4	–	–	12	–	–
Analog Inputs	–	–	–	8	4	–	–
Analog Outputs	–	–	–	2	–	–	–
RTD Inputs	–	–	–	–	–	6	–
Thermocouple Inputs	–	–	–	–	–	–	8
<b>Ethernet</b>							
Ports (connector type)	1 (RJ45)						
Speed	10/100 Mbps						
Protocols	Modbus/TCP, TCP/IP, UDP, DHCP, BOOTP, SNMP, HTTP, CGI, SNTP, SMTP						
<b>Serial</b>							
Ports (connector type)	1 euroblock terminal						
Interface	RS-485						
Protocols	Modbus/RTU						
<b>Environmental Limits</b>							
Standard Operating Temp.	-10 to 60°C						
Wide Operating Temp.	-40 to 75°C (-40 to 167°F)						
Storage Temperature	-40 to 85°C						
Ambient Relative Humidity	5 to 95% RH (non-condensing)						
<b>Software</b>							
Programmability	Click&Go						
Active OPC Server	✓	✓	✓	✓	✓	✓	✓
MX-AOPC UA Suite	✓	✓	✓	✓	✓	✓	✓
MXIO	✓	✓	✓	✓	✓	✓	✓
ioAdmin	✓	✓	✓	✓	✓	✓	✓
<b>Standards and Certifications</b>							
Safety	UL 508						
EMI	FCC Part 15, Subpart B, Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-6-4						
EMS	EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-8; EN 61000-4-11; EN 61000-6-2						
Shock	IEC 60068-2-27						
Freefall	IEC 60068-2-32						
Vibration	IEC 60068-2-6						
<b>Reliability</b>							
Warranty	5 years	5 years	2 years*	5 years	5 years	5 years	5 years

\*Because of the limited lifetime of power relays, products using that component are covered by a 2-year warranty.

Remote I/O > Smart Ethernet Remote I/O with Click&Go Logic

# Smart Cellular Remote I/O with Click&Go Logic



	ioLogik W5312	ioLogik W5340	ioLogik W5340-HSPA
<b>Inputs/Outputs</b>			
Digital Inputs	8	–	–
Digital Outputs	8	–	–
Relay Outputs	–	2	2
DI/DO Configurable	4	8	8
Analog Inputs	–	4	4
<b>Cellular</b>			
GSM/GPRS/EDGE	✓	✓	–
UMTS/HSPA+	–	–	✓
<b>Ethernet</b>			
Ports (Connector)	1 (RJ45)		
Speed	10/100 Mbps		
Protocols	Modbus/TCP, TCP/IP, UDP, DHCP, BOOTP, SNMP, SNTP, SMTP		
<b>Serial</b>			
Ports (Connector)	1 (male DB9 or euroblock terminal)		
Interface	RS-232/422/485 software-selectable		
Protocols	Modbus/RTU (master)		
<b>Physical Characteristics</b>			
I/O Module Slots	–		
<b>Environmental Limits</b>			
Standard Operating Temp.	-10 to 55°C		
Wide Operating Temp.	-30 to 70°C		
Storage Temp.	-40 to 85°C		
Ambient Relative Humidity	5 to 95% RH (non-condensing)		
<b>Software</b>			
Programmability	Click&Go		
Active OPC Server	✓	✓	✓
MX-AOPC UA Suite	✓	✓	✓
DA-Center	✓	✓	✓
MXIO	✓	✓	✓
Configuration Utility	✓	✓	✓
<b>Standards and Certifications</b>			
Safety	UL 508		
EMI	FCC Part 15, Subpart B, Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-6-4 or EN 55022		
EMS	EN 55024; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-8; EN 61000-4-11; EN 61000-6-2		
Shock	IEC 60068-2-27		
Freefall	IEC 60068-2-32		
Vibration	IEC 60068-2-6		
Rail Traffic	EN 50155; EN 50121-3-2; EN 50121-4		
<b>Reliability</b>			
Warranty	5 years	2 years*	2 years*

\*Because of the limited lifetime of power relays, products using that component are covered by a 2-year warranty.

# Wireless Remote I/O



	ioLogik 1312-WL1	ioLogik 1342-WL1	ioLogik 1312-GPRS	ioLogik 1342-GPRS	ioLogik 1312-HSPA	ioLogik 1342-HSPA
<b>Inputs/Outputs</b>						
Digital Input	8	–	8	–	8	–
DI/DO Configurable	8	12	8	12	8	12
Analog Inputs	–	4	–	4	–	4
<b>Cellular</b>						
	–	–	GSM/GPRS/EDGE 850/900/1800/1900 MHz	GSM/GPRS/EDGE 850/900/1800/1900 MHz	Five-Bands UMTS/ HSPA+ (WCDMA/FDD) 800/850/ AWS1700/1900/2100 MHz Quad-band GSM/GPRS/ EDGE 850/900/1800/1900 MHz	Five-Bands UMTS/ HSPA+ (WCDMA/FDD) 800/850/ AWS1700/1900/2100 MHz Quad-band GSM/GPRS/ EDGE 850/900/1800/1900 MHz
<b>WLAN</b>						
	IEEE 802.11a/b/g or Wireless LAN IEEE 802.11i for Wireless Security	IEEE 802.11a/b/g or Wireless LAN IEEE 802.11i for Wireless Security	–	–	–	–
<b>Ethernet</b>						
Ports (Connector)	4 10/100 Mbps RJ45 ports; 1 switched port with optimized communications for daisy-chaining with ioLogik E1200 devices					
Speed	10/100 Mbps					
Protocols	Modbus/TCP, TCP/IP, UDP, DHCP, BOOTP, SNMP, HTTP, CGI, SNTIP, SMTP					
<b>Environmental Limits</b>						
Standard Operating Temp.	-10 to 60°C (14 to 140°F)					
Wide Operating Temp.	-40 to 75°C (-40 to 167°F)		-30 to 70°C			
Storage Temp.	-40 to 85°C (-40 to 185°F)					
Ambient Relative Humidity	5 to 95% (non-condensing)					
<b>Software</b>						
MX-AOPC UA Suite	✓	✓	✓	✓	✓	✓
MXIO	✓	✓	✓	✓	✓	✓
Configuration Utility	✓	✓	✓	✓	✓	✓
<b>Standards and Certifications</b>						
Safety	UL 508					
EMI	EN 61000-3-2; EN 61000-3-3; EN 61000-6-4; FCC Part 15, Subpart B, Class A					
EMS	EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11, EN 61000-6-2					
Shock	IEC 60068-2-27					
Freefall	IEC 60068-2-32					
Vibration	IEC 60068-2-6					
Green Product	RoHS, CRoHS, WEEE					
<b>Reliability</b>						
Warranty	5 years	5 years	5 years	5 years	5 years	5 years

# Ethernet Remote I/O



	ioLogik E1210	ioLogik E1211	ioLogik E1212	ioLogik E1214	ioLogik E1213**	ioLogik E1240	ioLogik E1241	ioLogik E1242	ioLogik E1260	ioLogik E1262
<b>Input/Output</b>										
Digital Inputs	16	–	8	6	4	–	–	4	–	–
Digital Outputs	–	16	–	–	4	–	–	–	–	–
Relay Outputs	–	–	–	6	–	–	–	–	–	–
Configurable DI/DOs	–	–	8	–	4	–	–	4	–	–
Analog Inputs	–	–	–	–	–	8	–	4	–	–
Analog Outputs	–	–	–	–	–	–	4	–	–	–
RTD Inputs	–	–	–	–	–	–	–	–	6	–
Thermocouple Inputs	–	–	–	–	–	–	–	–	–	8
<b>Ethernet</b>										
Ports (Connector)	2 (RJ45)									
Speed	10/100 Mbps									
Switch (Daisy Chain)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Protocols	Modbus/TCP, TCP/IP, UDP, DHCP, BOOTP, HTTP									
<b>Environmental Limits</b>										
Standard Models	-10 to 60°C									
Wide Temp. Models	-40 to 75°C									
Storage Temperature	-40 to 85 °C									
Operating Humidity	5 to 95% RH (non-condensing)									
<b>Software</b>										
Active OPC Server	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MX-AOPC UA Suite	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DA-Center	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ioSearch	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MXIO	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Peer-to-peer	✓	✓	✓	✓	✓	✓	✓	✓	–	–
<b>Standards and Certifications</b>										
Safety	UL 508									
EMI	FCC Part 15, Subpart B, Class A; EN 55022; EN 61000-3-2; EN 61000-3-3									
EMS	EN 55024; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-8; EN 61000-4-11									
Shock	IEC 60068-2-27									
Freefall	IEC 60068-2-32									
Hazardous Locations	UL/cUL Class 1 Division 2; ATEX Zone 2									
Vibration	IEC 60068-2-6									
<b>Reliability</b>										
Warranty	5 years	5 years	5 years	2 years*	5 years	5 years	5 years	5 years	5 years	5 years

\*Because of the limited lifetime of power relays, products using that component are covered by a 2-year warranty.

\*\*DO of ioLogik E1213 is source type DO



# Robust Remote I/O



	ioLogik E1261W-T	ioLogik E1263H-T	ioLogik E1261H-T	ioLogik E1510-M12-T	ioLogik E1512-M12-T
<b>Input/Output</b>					
Digital Inputs	–	–	–	12	4
Configurable DI/DOs	12	24	12	–	4
Analog Inputs	5	10	5	–	–
RTD Inputs	3	3	3	–	–
<b>Ethernet</b>					
Ports (Connector)	1 (RJ45)			1 (M12)	
Speed	10/100 Mbps				
Switch (Daisy Chain)	✓	✓	✓	–	–
Protocols	Modbus/TCP, TCP/IP, UDP, DHCP, BOOTP, HTTP				
<b>Environmental Limits</b>					
Operating Temperature	-40 to 75°C			-40 to 85°C	
Storage Temperature	-40 to 85 °C				
Operating Humidity	5 to 95% RH (non-condensing)				
<b>Software</b>					
Active OPC Server	✓	✓	✓	✓	✓
MX-ADPC UA Suite	✓	✓	✓	✓	✓
DA-Center	✓	✓	✓	✓	✓
ioSearch	✓	✓	✓	✓	✓
MXIO	✓	✓	✓	✓	✓
<b>Standards and Certifications</b>					
Safety	UL 508 (Pending)			UL 508	
EMI	FCC Part 15, Subpart B, Class A; EN 55022; EN 61000-3-2; EN 61000-3-3				
EMS	EN 55024; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-8; EN 61000-4-11				
Shock	IEC 60068-2-27				
Freefall	IEC 60068-2-32				
Vibration	IEC 60068-2-6				
Rail Traffic	–	–	–	EN 50155; EN 50121-3-2; EN 50121-4	
Marine Communications	IEC 60945: 4th Edition (Pending)			–	–
<b>Reliability</b>					
Warranty	5 years				

# RS-485 Remote I/O



	ioLogik R1210	ioLogik R1212	ioLogik R1214	ioLogik R1240	ioLogik R1241
<b>Input/Output</b>					
Digital Inputs	16	8	6	–	–
Relay Outputs	–	–	6	–	–
Configurable DI/DOs	–	8	–	–	–
Analog Inputs	–	–	–	8	–
Analog Outputs	–	–	–	–	4
<b>Serial</b>					
Ports (Connector)	1 (5-wire euroblock terminal)				
Interface	Dual RS-485				
Protocols	Modbus/RTU (slave)				
<b>Environmental Limits</b>					
Standard Models	-10 to 60°C				
Wide Temp. Models	-40 to 85°C				
Storage Temperature	-40 to 85 °C				
Operating Humidity	5 to 95% RH (non-condensing)				
<b>Software</b>					
ioSearch	✓	✓	✓	✓	✓
MXIO	✓	✓	✓	✓	✓
<b>Standards and Certifications</b>					
Safety	UL 508				
EMI	FCC Part 15, Subpart B, Class A; EN 55022; EN 61000-3-2; EN 61000-3-3				
EMS	EN 55024; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-8; EN 61000-4-11				
Shock	IEC 60068-2-27				
Freefall	IEC 60068-2-32				
Vibration	IEC 60068-2-6				
<b>Reliability</b>					
Warranty	5 years	5 years	2 years*	5 years	5 years

\*Because of the limited lifetime of power relays, products using that component are covered by a 2-year warranty.

# Modular Remote I/O

Modular Remote I/O



	NA-4010	NA-4020	NA-4021	ioLogik E4200
<b>Inputs/Outputs</b>				
Digital Inputs	–	–	–	–
Digital Outputs	–	–	–	–
Analog Inputs	–	–	–	–
Analog Outputs	–	–	–	–
<b>Ethernet</b>				
Ports (connector)	1 (RJ45)	–	–	2 (RJ45)
Speed	10/100 Mbps	–	–	10/100 Mbps
Protocols	Modbus/TCP, BOOTP, HTTP	–	–	Modbus/TCP, TCP/IP, UDP, DHCP, BOOTP, SNMP, HTTP, SNTp
<b>Serial</b>				
Ports (connector)	–	1 (terminal block)	1 (DB9 female)	1 (DB9 male)
Interface	–	RS-485	RS-232	RS-232
Protocols	–	Modbus/RTU, Modbus/ASCII	–	Modbus/RTU
<b>Physical Characteristics</b>				
I/O Module Slots	32	32	32	16
<b>Environmental Limits</b>				
Operating Temperature	-10 to 60°C			
Storage Temperature	-40 to 85°C			
Ambient Relative Humidity	5 to 95% RH (non-condensing)			
<b>Software</b>				
Click&Go	–	–	–	✓
Active OPC Server	–	–	–	✓
DA-Center	–	–	–	✓
MXIO	✓	✓	✓	✓
ioAdmin	✓	✓	✓	–
Modular ioAdmin	–	–	–	✓
<b>Standards and Certifications</b>				
Safety	UL 508			
EMI	FCC Part 15, Subpart B, Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-6-4			
EMS	EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-8; EN 61000-4-11; EN 61000-6-2			
Shock	IEC 60068-2-27			
Freefall	IEC 60068-2-32			
Vibration	IEC 60068-2-6			
<b>Reliability</b>				
Warranty	2 years	2 years	2 years	2 years

# Digital I/O Modules



	M-1450	M-1451	M-1600	M-1601	M-1800	M-1801	M-2450	M-2600	M-2601	M-2800	M-2801
<b>Inputs/Outputs</b>											
Digital Inputs	4 (110 VAC)	4 (220 VAC)	16 (Sink)	16 (Source)	8 (Sink)	8 (Source)	–	–	–	–	–
Digital Outputs	–	–	–	–	–	–	–	16 (Sink)	16 (Source)	8 (Sink)	8 (Source)
Relay Outputs	–	–	–	–	–	–	4	–	–	–	–
Warranty	2 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )										

# Analog I/O Modules



	M-3802	M-3810	M-4402	M-4410	M-6200	M-6201
<b>Inputs/Outputs</b>						
Analog Inputs	8 (4-20 mA)	8 (0-10 V)	–	–	–	–
Analog Outputs	–	–	4 (4-20 mA)	4 (0-10 V)	–	–
RTD Inputs	–	–	–	–	2	–
Thermocouple Inputs	–	–	–	–	–	2
Warranty	2 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )					

# Power Modules



	M-7001	M-7002	M-7804	M-7805
<b>Power</b>				
VDC	24	5/24/48	0	24
VAC	–	110/220	–	–
Purpose	System	Field	Field	Field
Warranty	2 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )			

# IP Cameras

IP Cameras



	VPort 56-2MP	VPort 36-1MP Series	VPort 26A-1MP Series
<b>Video Performance</b>			
Max. Resolution	1920 x 1080	1280 x 800	1280 x 800
Max. FPS	30	30	30
Connections (Max.)	10 unicast 50 multicast RTSP	5 unicast 50 multicast RTSP	5 unicast 50 multicast RTSP
<b>Video Stream</b>			
H.264	✓	✓	✓
MJPEG	✓	✓	✓
No. of Streams	3	3	3
DynaStream™	✓	✓	✓
GBR Pro™	✓	✓	✓
Image Stabilizer	✓	–	–
<b>Camera</b>			
Image Sensor	1/2.8" CMOS	1/2.7" CMOS	1/2.7" CMOS
Lens (mm)	6.3 to 63mm Zoom lens	C/CS mount lenses	3 to 9mm vari-focal lens
Day & Night	✓	✓	✓
Minimum Illumination	–	0.2 Lux @ F1.2, color 0.05 Lux @ F1.2, B/W	0.2 Lux @ F1.2, color 0.05 Lux @ F1.2, B/W
White Balance	ATW/AWB	ATW/AWB	ATW/AWB
Electronic Shutter	Auto (1/50 to 1/10000)	Auto (1/30 to 1/25000 sec)	Auto (1/30 to 1/25000 sec)
Sense up	✓	–	–
AGC Control	✓	✓	✓
Wide Dynamic Range	–	✓	✓
Back light compensation	✓	–	–
Auto Exposure	✓	✓	✓
Image Rotation (Flip, mirror, and 180° rotation)	✓	✓	✓
Digital noise reduction	✓	✓	✓
<b>Network Connections</b>			
10/100 Mbps, M12 Connector	–	–	1
10/100 Mbps, RJ45 Connector	1	1	1
100Mbps fiber connector	1, single-model	–	–
<b>Peripherals</b>			
Audio	1 line-in, 1 line-out	–	1 line-in, 1 line-out
DI/ Relay	1 DI/ 1 Relay	1 DI, 1 relay	1 DI, 1 relay
SD Slot	1, SDHC/SDXC	1, SDHC	1, SDHC
<b>Network Management and Control</b>			
Web Browser	✓	✓	✓
SNMP Protocols	v1/v2c/v3	v1/v2c/v3	v1/v2c/v3
RTSP (Real Time Streaming Protocol)	✓	✓	✓
Multicast (IGMP)	v3	v3	v3
QoS	✓	✓	✓
Automatic Configuration	–	DHCP Opt 66/67	–
<b>Form Factor</b>			
Protection Rating	IP30	IP30	IP66
Surface/Ceiling Mounting	✓	✓	✓
Flush Mount	–	–	–
Outdoor Installation Accessory	✓	✓	✓
<b>Power Requirements</b>			
Power-over-Ethernet (PoE)	✓ (PoE+)	✓	✓
12/24VDC, 24VAC	✓	✓	✓
<b>Alarms</b>			
VMD (Video Motion Detection)	✓	✓	✓
Alarm Snapshot Image	✓	✓	✓
Tamper alarm	pending	✓	✓
<b>Supported Operating Temperature Ranges</b>			
Standard Model	0 to 60°C	0 to 60°C	–40 to 50°C
Wide temp. model	–40 to 75°C	–40 to 75°C	–40 to 75°C
<b>Regulatory Approvals</b>			
CE/FCC	✓	✓	✓
UL 60950-1	✓	✓	✓
EN 50155:2007	–	–	–
EN 50121-3-2	–	–	–
EN 50121-4	✓	✓	✓
NEMA TS2	✓	✓	–
Class 1 Division 2 / Atex Zone 2	pending	✓	–
EN 62262	–	–	IK10
ONVIF	✓	✓	✓
Profiles S	✓	✓	✓

# IP Cameras

## IP Cameras



	VPort P16-1MP-M12	VPort 16-M12 Series	VPort P06-1MP-M12 Series	VPort P06HC-1MP-M12 Series
<b>Video Performance</b>				
Max. Resolution	1280 x 800	800 x 600	1280 x 800	1280 x 800
Max. FPS	30	NTSC: 30; PAL: 25	30	30
Connections (Max.)	5 unicast 50 multicast RTSP	8 unicast 50 multicast RTSP	3 unicast 5 multicast RTSP	5 unicast 50 multicast RTSP
<b>Video Stream</b>				
H.264	✓	✓	✓	✓
MJPEG	✓	✓	✓	✓
No. of Streams	3	3	3	3
DynaStream™	✓	✓	✓	✓
CBR Pro™	✓	-	✓	✓
Image Stabilizer	-	-	-	-
<b>Camera</b>				
Image Sensor	1/2.7" CMOS	1/3" CCD	1/2.7" CMOS	1/2.7" CMOS
Lens (mm)	3.6, 6.0	3.0, 3.6, 6.0, 8.0, 16	3.6, 4.2, 6.0	3.6
Day & Night	✓	-	-	-
Minimum Illumination	0.2 Lux @ F1.2, color 0.05 Lux @ F1.2, B/W	0.02 Lux @ F2.0, color	0.2 Lux @ F1.2, color	0.2 Lux @ F1.2, color
White Balance	ATW/AWB	ATW/AWC	ATW/AWB	ATW/AWB
Electronic Shutter	Auto (1/30 to 1/25000 sec)	Auto (NTSC: 1/60 to 1/120,000 sec PAL: 1/50 to 1/120,000 sec)	Auto (1/30 to 1/25000 sec)	Auto (1/30 to 1/25000 sec)
Sense up	-	✓	-	-
AGC Control	✓	✓	✓	✓
Wide Dynamic Range	✓	-	✓	✓
Back light compensation	-	✓	-	-
Auto Exposure	✓	✓	✓	✓
Image Rotation (Flip, mirror, and 180° rotation)	✓	✓	✓	✓
Digital noise reduction	✓	✓	✓	✓
<b>Network Connections</b>				
10/100 Mbps, M12 Connector	1	1	1	1
10/100 Mbps, RJ45 Connector	-	-	-	-
100Mbps fiber connector	-	-	-	-
<b>Peripherals</b>				
Audio	-	-	1 line-in or mic-in	1 mic-in
DI/ Relay	-	-	-	1 DI
SD Slot	-	1, SDHC	-	-
<b>Network Management and Control</b>				
Web Browser	✓	✓	✓	✓
SNMP Protocols	v1/v2c/v3	v1/v2c/v3	v1/v2c/v3	v1/v2c/v3
RTSP (Real Time Streaming Protocol)	✓	✓	✓	✓
Multicast (IGMP)	v3	v3	v3	v3
QoS	✓	✓	✓	✓
Automatic Configuration	DHCP Opt 66/67	DHCP Opt 66/67	DHCP Opt 66/67	DHCP Opt 66/67
<b>Form Factor</b>				
Protection Rating	IP66	IP66	IP66	IP66
Surface/Ceiling Mounting	✓	✓	✓	-
Flush Mount	✓	✓	✓	✓
Outdoor Installation Accessory	-	-	-	-
<b>Power Requirements</b>				
Power-over-Ethernet (PoE)	✓	✓	✓	✓
12/24VDC, 24VAC	-	-	-	-
<b>Alarms</b>				
VMD (Video Motion Detection)	✓	✓	✓	✓
Alarm Snapshot Image	✓	✓	✓	✓
Tamper alarm	✓	-	✓	✓
<b>Supported Operating Temperature Ranges</b>				
Standard Model	-25 to 55°C	-25 to 55°C	-25 to 55°C	-25 to 55°C
Wide temp. model	-40 to 70°C	-	-40 to 70°C	-
<b>Regulatory Approvals</b>				
CE/FCC	✓	✓	✓	✓
UL 60950-1	Pending	✓	✓	✓
EN 50155:2007	✓	✓	✓	✓
EN 50121-3-2	✓	✓	✓	✓
EN 50121-4	-	-	-	-
NEMA TS2	-	-	-	-
Class 1 Division 2 / Atex Zone 2	-	-	-	-
EN 62262	IK10	IK10 (Dome model)	IK9	-
ONVIF	✓	✓	✓	✓
Profiles S	✓	-	✓	✓

# Industrial Video Decoders/Recorders

## Industrial Video Encoders



	VPort 364A	VPort 461	VPort D361
<b>Form Factor</b>			
Protection Rating	IP30	IP30	IP30
DIN-Rail Mounting	✓	✓	✓
Panel Mounting	w/ optional kit	w/ optional kit	w/ optional kit
<b>Audio/Video Channels</b>			
Video Inputs	4	1	0
Video Outputs	0	0	1
Audio Inputs	1	1	1
Audio Outputs	1	1	1
<b>Video Stream</b>			
H.264	✓	✓	✓
MJPEG	✓	✓	✓
MPEG4	–	–	–
No. of Streams	2	3	–
DynaStream	✓	✓	–
<b>Video Performance</b>			
Max. Resolution	NTSC: 720 x 480 PAL: 720 x 576	NTSC: 720 x 480 PAL: 720 x 576	–
Max. FPS	NTSC: 30 PAL: 25	NTSC: 30 PAL: 25	–
Quad View	30 FPS (max.)	–	–
Connections (Max.)	8 unicast 50 multicast RTSP	10 unicast 50 multicast RTSP	–
Multicast Push	✓	✓	–
<b>Network Connections</b>			
10/100BaseT(X) Ports	1	2	1
100BaseFX Ports (optional)	1	–	–
<b>Peripherals</b>			
PTZ Ports	1	1	1
COM Ports	–	1	–
RS-232 Console Ports	1	1	1
SDHC Slot	–	1	–
<b>Network Management and Control</b>			
Web Browser	✓	✓	✓
SNMP Protocols	v1/v2c/v3	v1/v2c/v3	v1/v2c/v3
RTSP (Real Time Streaming Protocol)	✓	✓	✓
Modbus/TCP	✓	✓	✓
Multicast (IGMP)	v3	v3	–
QoS	✓	✓	–
UPnP	✓	✓	✓
DDNS	✓	✓	✓
IP Filtering	✓	✓	✓
<b>Power Requirements</b>			
Power Redundancy	✓	✓	–
Power Inputs	2	2	1
<b>Alarms</b>			
VMD (Video Motion Detection)	✓	✓	–
Digital Inputs	4	2	2
Relay (Digital) Outputs	2	2	2
Alarm Video Recording	–	–	–
Alarm Snapshot Image	✓	✓	–
<b>Supported Operating Temperature Ranges</b>			
0 to 60°C	✓	✓	✓
-30 to 70°C	–	–	–
-40 to 75°C	✓	✓	✓
<b>Standards and Certifications</b>			
CE/FCC	✓	✓	✓
UL 508 / UL 60950-1	✓	✓	✓
Class I Div. 2	–	–	–
DNV	–	–	–
ONVIF	✓	✓	–

## Industrial Video Recorders



	MxNVR-IA8	MxNVR-M04
Type of Product	Network Video Recorder	Digital Video Recorder
<b>Form Factor</b>		
Size	19", 1 U height	92.8 x 135 x 150.4 mm (W x H x D)
Mounting	Rackmount	Panel mount/ DIN-Rail mount
<b>Video Recording</b>		
Video Inputs	8, via Ethernet	4, via BNC connector
Capability	up to 240 FPS at 720 x 480 video resolution; Up to 200 FPS at 720 x 576 video resolution	up to 120 FPS at 720 x 480 video resolutions; up to 100 FPS at 720 x 576 video resolutions
Video Stream	H.264, MJPEG, MPEG4	H.264, MJPEG
Video File Format	AVI	AVI
Record Mode	Manual, Schedule, Event	Manual, Schedule, Event
Pre-Alarm Record	up to 30 sec	N/A
Post-Alarm Record	up to 60 sec	Based on setting
<b>Search</b>		
Search Mode	camera, date/time, event	N/A
<b>Playback</b>		
Remote Playback	web browser, client software	client software
File Download	FTP	FTP
Popular Media Players	✓	✓
<b>Network Connections</b>		
10/100/1000Mbps, RJ45 Connector	1	–
10/100Mbps, M12 Connector	–	1
<b>Storage</b>		
SATA interface	2	1
<b>Network Management and Control</b>		
Web Browser	✓	✓
SNMP Protocols	v1/v2c/v3	v1/v2c/v3
RTSP (Real Time Streaming Protocol)	✓	✓
Modbus/TCP	✓	✓
Multicast (IGMP)	v3	v3
QoS	✓	✓
UPnP	✓	✓
DDNS	✓	✓
IP Filtering	✓	✓
802.1X	✓	✓
Connections	Up to 10	Up to 8
<b>Peripherals</b>		
Audio Ports	1 input	2 inputs
COM Ports	2	1 (console)
USB Ports	1	0
Digital Inputs	6	4
Digital Outputs	2	1
<b>Power Requirements</b>		
Power Inputs	1	1
<b>Supported Operating Temperature Ranges</b>		
0 to 60°C	✓	✓
-40 to 75°C	✓	✓
<b>Regulatory Approvals</b>		
CE/FCC	✓	✓
UL 60950-1	✓	✓
EN 50155:2007	–	✓
EN 50121-3-2	–	✓



# Power Computers



	DA-820 DA-820-W7E DA-820-LX	DA-685-XPE DA-685-W7E DA-685-LX	DA-710-XPE DA-710-LX	DA-681-I-SP-XPE DA-681-I-SP-LX	DA-681-I-DP-XPE DA-681-I-DP-LX	DA-681-I-DPP-T-XPE DA-681-I-DPP-T-LX
<b>Computer</b>						
CPU Speed	2.5/2.1 GHz	1.66 GHz	2 GHz	1 GHz	1 GHz	1 GHz
OS (pre-installed)	Linux or W7E	WinXPE Emb, W7E or Linux	WinXP Emb. or Linux	WinXP Emb. or Linux	WinXP Emb. or Linux	WinXP Emb. or Linux
DRAM	–	–	–	–	–	–
FSB	–	667 MHz	533 MHz	400 MHz	400 MHz	400 MHz
Flash	–	–	–	–	–	–
System Memory	2 or 4 GB (16 GB max.)	1 GB (2 GB max.)	1 GB (2 GB max.)	512 MB (1 GB max.)	512 MB (1 GB max.)	512 MB (1 GB max.)
PCMCIA	–	–	–	–	–	–
Expansion Bus	PCI 104	–	4 slots	–	–	–
USB Ports	6 (USB 2.0)	2 (USB 2.0)	4 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)
Digital I/O	–	4 DIs, 4 DOs	4 DIs, 4 DOs	–	–	–
Analog I/O	–	–	–	–	–	–
<b>Storage</b>						
Built-in	–	2 GB (DOM)	2 GB	2 GB	2 GB	2 GB
CompactFlash Socket	16 GB (CFast)	✓	✓	✓	✓	✓
HDD Support	✓	✓	✓	✓	✓	✓
<b>Other Peripherals</b>						
KB/MS	✓	✓	✓	✓	✓	✓
<b>Display</b>						
Graphics Controller	✓	✓	✓	✓	✓	✓
<b>LAN Interface</b>						
10/100 Mbps Ethernet Ports	–	–	–	6	6	6
10/100/1000 Mbps Ethernet Ports	4	6	4	–	–	–
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV
<b>Serial Interface</b>						
RS-232 Ports	2 (DB9-M)	2	2 (DB9-M)	4 (DB9-M)	4 (DB9-M)	4 (DB9-M)
RS-485 Ports	–	6	–	8 (TB)	8 (TB)	8 (TB)
RS-232/422/485 Ports	–	–	–	–	–	–
RS-422/485	–	–	–	–	–	–
ESD Protection	–	–	4 kV	15 kV	15 kV	15 kV
Digital Isolation	–	–	–	2 kV	2 kV	2 kV
Console Port	–	–	–	–	–	–
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark					
Flow Control	–	RTS/CTS, XON/XOFF	RTS/CTS, XON/XOFF	RTS/CTS, XON/XOFF	RTS/CTS, XON/XOFF	RTS/CTS, XON/XOFF
Baudrate	–	50 bps to 115.2 Kbps	50 bps to 115.2 Kbps	50 bps to 115.2 Kbps	50 bps to 115.2 Kbps	50 bps to 115.2 Kbps
<b>LEDs</b>						
System	Power, Storage	Power, Storage, Power Failure	Power, Storage, Power Failure	Power, Storage, Power Failure	Power, Storage, Power Failure	Power, Storage, Power Failure
LAN	100M, 1000M	100M, 1000M	100M, 1000M	10M, 100M	10M, 100M	10M, 100M
Serial	TX, RX	TX, RX	TX, RX (for 4 modules), Programmable	TX, RX	TX, RX	TX, RX
<b>Physical Characteristics</b>						
Housing	SECC sheet metal (1 mm)					
Weight	6 kg	4 kg	14 kg	4.5 kg	4.5 kg	4.5 kg
Dimensions	315 x 440 x 90 mm	315 x 440 x 90 mm	400 x 480 x 180 mm	440 x 315 x 45 mm	440 x 315 x 45 mm	440 x 315 x 45 mm
Mounting	Standard 19-in rackmount	Standard 19-in rackmount	Standard 19-in rackmount	Standard 19-in rackmount	Standard 19-in rackmount	Standard 19-in rackmount
<b>Environmental Limits</b>						
Operating Temperature	-40 to 75°C	-10 to 60°C	-10 to 50°C	0 to 60°C	0 to 60°C	-40 to 75°C
Storage Temperature	-20 to 80°C	-20 to 80°C	-20 to 80°C	-20 to 75°C	-20 to 75°C	-40 to 85°C
Ambient Relative 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
<b>Regulatory Approvals</b>						
EMC	FCC, CE (Class A)	FCC, CE (Class A)	EN 55022 Class A, EN 61000-3-2, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A	EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A, IEC 61850-3 (DPP-T models only)	EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A, IEC 61850-3 (DPP-T models only)	EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A, IEC 61850-3 (DPP-T models only)
Safety	LVD, UL, cUL, CCC	LVD, UL, cUL, CCC	UL 60950-1, CSA C22.2 No. 60950-1-07, CCC (GB4943, GB9254, GB17625.1)	UL 60950-1, CSA C22.2 No. 60950-1-03, EN 60950-1, CCC (GB4943, GB9254, GB17625.1)	UL 60950-1, CSA C22.2 No. 60950-1-03, EN 60950-1, CCC (GB4943, GB9254, GB17625.1)	UL 60950-1, CSA C22.2 No. 60950-1-03, EN 60950-1, CCC (GB4943, GB9254, GB17625.1)
Green Product	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE
<b>Reliability</b>						
Buzzer, RTC, WDT	✓	✓	✓	✓	✓	✓
Warranty	3 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )					

# Power Computers



	DA-682A DA-682A-W7E DA-682A-LX	DA-683-SP-XPE DA-683-SP-W7E DA-683-SP-LX	DA-683-DPP-T-XPE DA-683-DPP-T-W7E DA-683-DPP-T-LX	DA-660-16-LX DA-662-16-LX	UC-8100	IA3341
<b>Computer</b>						
CPU Speed	1.4/1.1/1.5 GHz	1.66 GHz	1.66 GHz	533 MHz	300/600/800/1000 MHz	192 MHz
OS (pre-installed)	W7E or Linux	WinXP Emb., W7E or Linux	WinXP Emb., W7E or Linux	Linux	Linux	Linux
DRAM	–	–	–	128 MB	64 MB	64 MB
FSB	–	667 MHz	667 MHz	–	–	–
Flash	–	–	–	32 MB	16 MB	16 MB
System Memory	1/2 GB (4 GB max.)	1 GB (2 GB max.)	1 GB (2 GB max.)	–	–	–
PCMCIA	–	–	–	–	–	–
Expansion Bus	2 slots	2 slots	2 slots	–	–	–
USB Ports	4 (USB 2.0)	4 (USB 2.0)	4 (USB 2.0)	2 (USB 2.0, DA-662)	1 (USB 2.0)	1 (USB 2.0)
Digital I/O	–	4 DIs, 4 DOs	4 DIs, 4 DOs	–	–	4 DIs, 4 DOs
Analog I/O	–	–	–	–	–	2 AIs, 2 Thermocouple inputs
<b>Storage</b>						
Built-in	2/8 GB (DOM)	2 GB (DOM)	2 GB (DOM)	–	2 GB (SD)	–
CompactFlash Socket	✓	✓	✓	–	–	–
HDD Support	✓	✓	✓	–	–	–
<b>Other Peripherals</b>						
KB/MS	✓	✓	✓	–	–	–
<b>Display</b>						
Graphics Controller	✓	✓	✓	–	–	–
<b>LAN Interface</b>						
10/100 Mbps Ethernet Ports	–	–	–	2 (DA-660)/4 (DA-662)	2	2
10/100/1000 Mbps Ethernet Ports	6	6	6	–	–	–
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV
<b>Serial Interface</b>						
RS-232 Ports	–	2	2	–	–	–
RS-485 Ports	–	–	–	–	–	–
RS-232/422/485 Ports	–	–	–	16	–	2
RS-422/485	–	–	–	–	2	–
ESD Protection	–	–	–	1.5 kV	–	–
Digital Isolation	–	–	–	–	–	–
Console Port	–	–	–	✓	1	1
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark					
Flow Control	–	RTS/CTS, XON/XOFF	RTS/CTS, XON/XOFF	RTS/CTS, XON/OFF, ADDC	RTS/CTS, XON/XOFF	RTS/CTS, XON/XOFF
Baudrate	–	50 bps to 115.2 Kbps	50 bps to 115.2 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps	50 bps to 921.6 Kbps
<b>LEDs</b>						
System	–	Power, Storage, Power Failure	Power, Storage, Power Failure	OS	Power	Power, Ready, Storage
LAN	100M, 1000M	100M, 1000M	100M, 1000M	10M/100M	10M, 100M	10M, 100M
Serial	TX, RX	TX, RX	Tx, Rx	Tx, Rx	–	Tx, Rx
<b>Physical Characteristics</b>						
Housing	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)	SECC sheet metal (1 mm)	Polycarbonate plastic	SECC sheet metal (1 mm)
Weight	7 kg	4 kg	4 kg	2.6 kg	224 g	585 g
Dimensions	440 x 315 x 90 mm	440 x 315 x 90 mm	440 x 315 x 90 mm	440 x 45 x 198	101 x 27 x 128	116 x 35 x 146
Mounting	Standard 19-in rackmount	Standard 19-in rackmount	Standard 19-in rackmount	Standard 19-inch rackmount	DIN rail, wall	DIN rail, wall
<b>Environmental Limits</b>						
Operating Temperature	-10 to 60°C	-10 to 60°C	-40 to 75°C	-10 to 60°C	-10 to 60°C	-10 to 60°C
Storage Temperature	-20 to 80°C	-20 to 80°C	-40 to 85°C	-20 to 80°C	-20 to 80°C	-20 to 80°C
Ambient Relative 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
<b>Regulatory Approvals</b>						
EMC	EN 61000-6-4, EN 61000-3-2, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A	CE (EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024), FCC (Part 15 Subpart B, CISPR 22 Class ), CCC (GB9254, GB 17625.1), IEC 61850-3 (DPP-T models only)		EN 55022 Class A, EN 61000-3-2 Class A, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A	EN55022 Class B, EN 55024-4-2, EN 55024-4-3, EN 55024-4-4, FCC Part 15 Subpart B Class B	EN 55022 Class A, EN 61000-3-2 Class A, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A
Safety	UL 60950-1, CSA C22.2 No. 60950-1-03, EN 60950-1, CCC (GB4943, GB9254, GB17625.1)	UL/cUL (UL 60950-1, CSA C22.2 No. 60950-1-03), LVD (EN 60950-1), CCC (GB4943)		UL 60950-1, CSA C22.2 No. 60950-1-03, EN 60950-1	UL 60950-1, EN 60950-1, CCC (GB9254, GB17625.1)	UL 60950-1, EN 60950-1, CCC (GB4943, GB9254, GB17625.1)
Green Product	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEE	RoHS, CRoHS, WEE
<b>Reliability</b>						
Buzzer, RTC, WDT	✓	✓	✓	✓	✓	✓
Warranty	3 years (see www.moxa.com/warranty)			5 years	5 years	5 years

# Railway Computers



	TC-6110-CT-W7E TC-6110-CT-LX TC-6110-CT-T-W7E TC-6110-CT-T-LX	V2616A-C5/C7/C8-W7E V2616A-C5/C7/C8-LX V2616A-C5/C7/C8-CT-T-W7E V2616A-C5/C7/C8-CT-T-LX	V2406-24I-XPE, V2406-24I-T-XPE V2406-24I-LX, V2406-24I-T-LX	V2406A-C2/C7-W7E V2406A-C2/C7-T-W7E V2406A-C2/C7-LX V2406A-C2/C7-T-LX	V2416A-C2/C7-W7E V2416A-C2/C7-T-W7E V2416A-C2/C7-LX V2416A-C2/C7-T-LX
<b>w</b>					
CPU Speed	1.8 GHz	1.7/2.1/2.7 GHz	1.6 GHz	1.4/1.7 GHz	1.4/1.7 GHz
OS (pre-installed)	W7E or Linux	W7E or Linux	WinXP Emb. or Linux	W7E or Linux	W7E or Linux
FSB			533 MHz	-	-
Flash	-	-	-	-	-
System Memory	2 GB (4 GB max.)	4 GB (16 GB max.)	1 GB (2 GB max.)	2 GB (8 GB max.)	2 GB (8 GB max.)
USB Ports	3 (USB 2.0)	3 (USB 2.0)	3 (USB 2.0)	3 (USB 2.0)	3 (USB 2.0)
Digital I/O	-	6 DIs, 2 DOs	6 DIs, 2 DOs	6 DIs, 2 DOs	6 DIs, 2 DOs
<b>Storage</b>					
Built-in	8 GB (CF)	8 GB (CFast)	2 GB (DOM)	8 GB (CFast)	8 GB (CFast)
CompactFlash Socket	-	-	✓	✓	✓
SD Slot	-	-	-	-	-
HDD Support	✓	✓	✓	✓	✓
<b>Other Peripherals</b>					
KB/MS	-	-	✓	-	-
Audio	✓	✓	✓	✓	✓
<b>Display</b>					
Graphics Controller	✓	✓	✓	✓	✓
VGA Output	✓	✓	✓	✓	✓
DVI Output	-	✓	✓	✓	✓
LVDS Output	-	-	-	-	-
<b>LAN Interface</b>					
10/100/1000 Mbps Ethernet Ports	2	2	2	2	2
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV
<b>Serial Interface</b>					
RS-232 Ports	1 (DB9)	-	-	-	-
RS-485 Ports	-	-	-	-	-
RS-232/422/485 Ports	-	2 (DB9-M)	4 (DB9-M)	4 (DB9-M)	4 (DB9-M)
ESD Protection	4 kV	4 kV	4 kV	4 kV	4 kV
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark				
Flow Control	RTS/CTS, XON/XOFF	RTS/CTS, XON/XOFF	RTS/CTS, XON/XOFF	RTS/CTS, XON/XOFF	RTS/CTS, XON/XOFF
Baudrate	50 bps to 115.2 Kbps	50 bps to 921.6 Kbps	50 bps to 115.2 Kbps	50 bps to 115.2 Kbps	50 bps to 115.2 Kbps
<b>LEDs</b>					
System	Storage, Power	Storage, Power	Storage, Power	Storage, Power	Storage, Power
LAN	100M, 1000M	100M, 1000M	10M, 100M	100M, 1000M	100M, 1000M
Serial	Tx, Rx	Tx, Rx	Tx, Rx	Tx, Rx	Tx, Rx
<b>Physical Characteristics</b>					
Housing	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Weight	5 kg	5 kg	4 kg	2 kg	4 kg
Dimensions	210 x 222 x 133 mm	287 x 250 x 101 mm	250 x 98 x 154 mm	250 x 57 x 154 mm	250 x 86 x 154 mm
Mounting	Rackmount	Wallmount	Wallmount	Wallmount	Wallmount
<b>Environmental Limits</b>					
Operating Temperature	-25 to 55°C or -40 to 70°C	-25 to 55°C or -40 to 70°C	-25 to 60°C or -40 to 70°C	-25 to 60°C or -40 to 70°C	-25 to 60°C or -40 to 70°C
Storage Temperature	-40 to 85°C	-30 to 60°C	-40 to 85°C	-40 to 85°C	-40 to 85°C
Ambient Relative Humidity	5 to 95%	5 to 95%	5 to 95%	5 to 95%	5 to 95%
Anti Vibration/Shock	EN 50155 standard	EN 50155 standard	EN 50155 standard	EN 50155 standard	EN 50155 standard
<b>Regulatory Approvals</b>					
EMC	EN 55022 Class A, EN 61000-3-2 Class D, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A, EN 50155, EN 50121-2-3, EN 50121-4, IEC 61373				
Safety	UL 60950-1, CSA C22.2 No. 60950-1-07, EN 60950-1				
Green Product	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE
<b>Reliability</b>					
Buzzer, RTC, WDT	✓	✓	✓	✓	✓
Warranty	3 years (see www.moxa.com/warranty)				

# Railway Computers



	V2426A-C2/C7-W7E V2426A-C2/C7-T-W7E V2426A-C2/C7-LX V2426A-C2/C7-T-LX	UC-8481-LX UC-8481-T-LX	RNAS-1201-T RNAS-1211-T
<b>w</b>			
CPU Speed	1.4/1.7 GHz	533 MHz	1.0 GHz
OS (pre-installed)	W7E or Linux	Linux	Linux
FSB	–	–	–
Flash	–	32 MB (OS); 512 MB (data)	2 GB (OS)
System Memory	2 GB (8 GB max.)	512 MB	512 MB
USB Ports	3 (USB 2.0)	2 (USB 2.0)	–
Digital I/O	6 DIs, 2 DOs	4 DIs, 4 DOs	–
<b>Storage</b>			
Built-in	8 GB (CFast)	–	–
CompactFlash Socket	✓	✓	–
SD Slot	–	–	–
HDD Support	✓	–	✓
<b>Other Peripherals</b>			
KB/MS	–	–	–
Audio	✓	–	–
<b>Display</b>			
Graphics Controller	✓	–	–
VGA Output	✓	–	–
DVI Output	✓	–	–
LVDS Output	–	–	–
<b>LAN Interface</b>			
10/100/1000 Mbps Ethernet Ports	2 (M12)	2 (M12)	2 (M12)
Magnetic Isolation Protection	1.5 kV	1.5 kV	–
<b>Serial Interface</b>			
RS-232 Ports	–	–	–
RS-485 Ports	–	–	–
RS-232/422/485 Ports	4 (DB9-M)	2 (DB9-M)	–
ESD Protection	4 kV	4 kV	–
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None	Even, Odd, Space, Mark	–
Flow Control	RTS/CTS, XON/XOFF	RTS/CTS, XON/XOFF	–
Baudrate	50 bps to 115.2 Kbps	50 bps to 115.2 Kbps	–
<b>LEDs</b>			
System	Storage, Power	Storage, Power	RAID, Ready, HDD1, HDD2
LAN	100M, 1000M	10M, 100M	100M, 1000M
Serial	Tx, Rx	Tx, Rx	–
<b>Physical Characteristics</b>			
Housing	Aluminum	Aluminum	Aluminum
Weight	4 kg	1.8 kg	1.98/2 kg
Dimensions	250 x 86 x 154 mm	200 x 57 x 120 mm	252 x 130 x 57 mm
Mounting	Wallmount	Wallmount	Wallmount
<b>Environmental Limits</b>			
Operating Temperature	-25 to 55°C or -40 to 70°C	-25 to 55°C or -25 to 70°C	-40 to 70°C
Storage Temperature	-40 to 85°C	-25 to 75°C or -40 to 80°C	-40 to 85°C
Ambient Relative Humidity	5 to 95%	5 to 95%	5 to 95%
Anti Vibration/Shock	EN 50155 standard	EN 50155 standard	EN 50155 standard
<b>Regulatory Approvals</b>			
EMC	EN 55022 Class A, EN 61000-3-2 Class D, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A, EN 50155, EN 50121-2-3, EN 50121-4, IEC 61373		EN 55022 Class A, EN 61000-3-2, EN 61000-3-3, EN 55024
Safety	UL 60950-1, CSA C22.2 No. 60950-1-07, EN 60950-1		UL 60950-1
Green Product	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE
<b>Reliability</b>			
Buzzer, RTC, WDT	✓	✓	✓
Warranty	3 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )	5 years (not apply to cellular module)	5 years

# Marine Displays and Computers



	MC-4510-C23	MC-5150-DC-CP	MC-5150-AC/DC	MC-5157-AC/DC	MC-7130-MP	MC-7270-MP	MC-7270-DC-CP
Computer/Panel Computer/Display	Computer	Computer	Computer	Computer	Computer	Computer	Computer
CPU Speed	2.26 GHz	2.4 GHz	2.4 GHz	2.4 GHz	2.4 GHz	2.5 GHz	2.5 GHz
OS (pre-installed)	–	–	–	–	–	–	–
System Memory	2 GB (2 GB max.)	2 GB (8 GB max.)	2 GB (8 GB max.)	2 GB (8 GB max.)	4 GB (16 GB max.)	4 GB (16 GB max.)	4 GB (16 GB max.)
USB Ports	6 (USB 2.0)	6 (USB 2.0)	6 (USB 2.0)	6 (USB 2.0)	6 (USB 2.0) + 2 (USB 3.0)	6 (USB 2.0) + 2 (USB 3.0)	6 (USB 2.0) + 2 (USB 3.0)
Digital I/O	–	–	–	–	8Di8 DO	–	8Di8 DO
<b>Storage</b>							
Built-in	–	✓	–	–	–	–	–
CompactFlash Socket	✓	–	–	–	–	–	–
SD Slot	–	–	–	–	–	–	–
2.5" SSD Support	✓	✓	✓	✓	✓	✓	✓
<b>Other Peripherals</b>							
KB/MS	✓	✓	✓	✓	✓	✓	✓
Audio	✓	✓	✓	✓	✓	✓	✓
PCI Slot	–	–	–	2	2	–	2
PCIe Slot	–	–	–	–	1	–	1
<b>Display</b>							
VGA Output	✓	✓	✓	✓	✓	✓	✓
DVI Output	✓	✓	✓	✓	✓	DVI x 2	DVI x 2
<b>Display Characteristics</b>							
Panel Size	–	–	–	–	–	–	–
Aspect Ratio	–	–	–	–	–	–	–
Pixels	–	–	–	–	–	–	–
Response Time	–	–	–	–	–	–	–
Contrast Ratio	–	–	–	–	–	–	–
Viewing Angles	–	–	–	–	–	–	–
Max Colors	–	–	–	–	–	–	–
Optical Bonding	–	–	–	–	–	–	–
Touch	–	–	–	–	–	–	–
<b>LAN Interface</b>							
10/100/1000 Mbps Ethernet Ports	2	2	2	2	4	4	4
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV
<b>Serial Interface</b>							
RS-232 Ports	–	2 (DB9-M)	2 (DB9-M)	2 (DB9-M)	2 (DB9-M)	2 (DB9-M)	2 (DB9-M)
RS-485	–	–	–	–	–	–	–
RS-232/422/485 Ports	2 (DB9-M)	2 (DB9-M)	2 (DB9-M)	2 (DB9-M)	2 (DB9-M)	2 (DB9-M)	2 (DB9-M)
NMEA Ports	–	–	8 (terminal block)	8 (terminal block)	8 (terminal block)	–	8 (terminal block)
<b>Physical Characteristics</b>							
Housing	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum, sheet metal	Aluminum, sheet metal	Aluminum, sheet metal
Weight	3.75 kg	3.75 kg	6.85 kg	7.85 kg	8 kg	8 kg	3.85 kg
Dimensions	302 x 70 x 279 mm	287 x 250 x 70 mm	287 x 250 x 140 mm	320 x 300 x 171 mm	322 x 300 x 150 mm	320 x 300 x 160 mm	287 x 250 x 70 mm
Mounting	Wall	Wall	Wall	Wall	Wall	Wall	Wall
<b>Environmental Limits</b>							
Operating Temperature	-15 to 55°C	-15 to 55°C	-15 to 55°C	-15 to 55°C	-15 to 55°C	-40 to 70°C	-40 to 70°C
Storage Temperature	-20 to 60°C	-20 to 60°C	-20 to 60°C	-20 to 60°C	-20 to 60°C	-50 to 80°C	-50 to 80°C
Ambient Relative Humidity	5 to 95%	5 to 95%	5 to 95%	5 to 95%	5 to 95%	5 to 95%	5 to 95%
<b>Type Approvals</b>							
Marine type approvals	IEC 60945 4th, DNV2.4 and IACS E10 type approved	IEC 60945 4th, DNV2.4 and IACS E10 type approved	IEC 60945 4th, IEC 61162, DNV2.4 and IACS E10 type approved	IEC 60945 4th, IEC 61162, DNV2.4 and IACS E10 type approved	IEC 60945 4th, IEC 61162, DNV2.4 ABS and IACS E10 type approved	Pending	Pending
Warranty	3 years	3 years	3 years	3 years	3 years	3 years	3 years

# Marine Displays and Computers



	MPC-122-K	MPC-2240X	MD-119	MD-124	EXPC-1319
Computer/Panel Computer/Display	Panel Computer	Panel Computer	Display	Display	Panel Computer
CPU Speed	2.26 GHz	1.4 GHz	–	–	1.8 GHz
OS (pre-installed)	–	–	–	–	W7E
System Memory	2 GB (4 GB max.)	4 GB (8 GB max.)	–	–	2 GB (4 GB max.)
USB Ports	7 (USB 2.0)	4 (USB 2.0)	–	–	2 (USB 2.0)
Digital I/O	–	n/a (optional 4DI4DO)	–	–	–
<b>Storage</b>					
Built-in	–	–	–	–	32 GB (SSD)
CompactFlash Socket	–	–	–	–	✓
SD Slot	–	–	–	–	–
2.5" SSD Support	✓	✓	–	–	✓
<b>Other Peripherals</b>					
KB/MS	✓	✓	–	–	✓
Audio	✓	✓	–	–	–
PCI Slot	–	–	–	–	–
PCIe Slot	–	–	–	–	–
<b>Display</b>					
VGA Output	✓	✓	✓	✓	✓
DVI Output	✓	✓	✓	✓	–
<b>Display Characteristics</b>					
Panel Size	22" wide-screen	24" wide-screen	19" screen	24" wide-screen	19"
Aspect Ratio	16:10	16:09	05:04	16:09	5:4
Pixels	1680 x 1050	1920 x 1080	1280 x 1024	1920 x 1080	1280 x 1024
Response Time	8 ms	25 ms	5 ms	25 ms	5 ms
Contrast Ratio	1000:01:00	5000:01:00	1000:01:00	5000:01:00	1000:1
Viewing Angles	178/178	178/178	170/160	178/178	170 x 160
Max Colors	16.7M (8-bit/color)	16.7M (8-bit/color)	16.7 M (8 bits/color)	16.7 M (8 bits/color)	16.7 M (8bits/color)
Optical Bonding	Available on request	Available on request	Available on request	Available on request	Available on request
Touch	Available on request	Available on request	Available on request	Available on request	Available on request
<b>LAN Interface</b>					
10/100/1000 Mbps Ethernet Ports	2	–	–	–	2
Magnetic Isolation Protection	1.5 kV	–	–	–	15 kV
<b>Serial Interface</b>					
RS-232 Ports	–	–	1 (DB9-M)	1 (DB9-M)	–
RS-485	–	–	–	–	–
RS-232/422/485 Ports	2 (DB9-M)	2 (DB9-M)	–	–	2 (DB9-M)
NMEA Ports	–	8 (terminal block)	–	–	–
<b>Physical Characteristics</b>					
Housing	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Weight	15 kg	12.4 kg	10.5 kg	12 kg	10.7 kg
Dimensions	124 x 560 x 420 mm	595 x 393 x 75 mm	82 x 483 x 444 mm	95 x 647 x 414 mm	483 x 408 x 99 mm
Mounting	Desktop, Panel and Vesa mount	Desktop, Panel and Vesa mount	Desktop, Panel and Vesa mount	Desktop, Panel and Vesa mount	Desktop, Panel and Vesa mount
<b>Environmental Limits</b>					
Operating Temperature	-15 to 55°C	-15 to 55°C	-15 to 55°C	-15 to 55°C	-20 to 60°C
Storage Temperature	-20 to 60°C	-20 to 60°C	-20 to 60°C	-20 to 60°C	-40 to 60°C
Ambient Relative Humidity	5 to 95%	5 to 95%	5 to 95%	5 to 95%	5 to 95%
<b>Type Approvals</b>					
Marine type approvals	IEC 60945 4th, IEC 61174, DNV2.4 and IACS E10 type approved	IEC 60945 4th, IEC 61162, IEC 61174, DNV2.4, ABS and IACS E10 (Available in Q2, 2014)	Pending	Pending	UL Class 1 Division 2, ATEX ZONE 2, IECEx
Warranty	1 year	1 year	1 year	1 year	3 years (1 year for LCD panel)



# x86 Computers



	V2101-T-CE	V2101-T-XPE	V2101-T-LX	V2401-CE	V2401-XPE	V2401-LX
<b>Computer</b>						
CPU Speed	1.1 GHz	1.1 GHz	1.1 GHz	1.6 GHz	1.6 GHz	1.6 GHz
OS (pre-installed)	WinCE 6.0	Windows Embedded Standard 2009	Linux	WinCE 6.0	Window Embedded Standard 2009	Linux
FSB	400 MHz	400 MHz	400 MHz	533 MHz	533 MHz	533 MHz
Flash	-	-	-	-	-	-
System Memory	1 GB (2 GB max.)	1 GB (2 GB max.)	1 GB (2 GB max.)	1 GB (2 GB max.)	1 GB (2 GB max.)	1 GB (2 GB max.)
USB Ports	4 (USB 2.0)	4 (USB 2.0)	4 (USB 2.0)	6 (USB 2.0)	6 (USB 2.0)	6 (USB 2.0)
Digital I/O	3 DIs, 3 DOs	3 DIs, 3 DOs	3 DIs, 3 DOs	4 DIs, 4 DOs	4 DIs, 4 DOs	4 DIs, 4 DOs
<b>Storage</b>						
Built-in	2 GB	2 GB	2 GB	2 GB (DOM)	2 GB (DOM)	2 GB (DOM)
CompactFlash Socket	✓ (for storing OS)	✓ (for storing OS)	✓ (for storing OS)	✓	✓	✓
SD Slot	✓	✓	-	-	-	-
HDD Support	-	-	-	✓	✓	✓
<b>Other Peripherals</b>						
KB/MS	-	-	-	1 PS/2 interface supporting standard PS/2 keyboard and mouse through Y-type cable		
Audio	AC97 audio, with line-in/out interface			HD audio, with line-in/out interface		
<b>Display</b>						
Graphics Controller	✓	✓	✓	✓	✓	✓
VGA Output	✓	✓	✓	✓	✓	✓
DVI Output	-	-	-	✓	✓	✓
LVDS Output	✓	✓	✓	✓	✓	✓
<b>LAN Interface</b>						
10/100/1000 Mbps Ethernet Ports	2	2	2	2	2	2
10/100 Mbps Ethernet Port	-	-	-	-	-	-
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV
<b>Serial Interface</b>						
RS-232 Ports	-	-	-	8 (68-pin VHDC)	8 (68-pin VHDC)	8 (68-pin VHDC)
RS-485	-	-	-	-	-	-
RS-232/422/485 Ports	2 (DB9-M)	2 (DB9-M)	2 (DB9-M)	4 (DB9-M)	4 (DB9-M)	4 (DB9-M)
ESD Protection	2 kV	2 kV	2 kV	4 kV	4 kV	4 kV
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark					
Flow Control	RTS/CTS, XON/XOFF			RTS/CTS, XON/XOFF, ADDC®		
Baudrate	50 bps to 115.2 Kbps			50 bps to 921.6 Kbps (non-standard baudrates supported)		
<b>LEDs</b>						
System	Power, Storage					
LAN	100M, 1000M		100M, 1000M	100M, 1000M	100M, 1000M	100M, 1000M
Serial	Tx, Rx		Tx, Rx	Tx, Rx	Tx, Rx	Tx, Rx
<b>Physical Characteristics</b>						
Housing	Aluminum		Aluminum	Aluminum	Aluminum	Aluminum
Weight	940 g		940 g	2.1 kg	2.1 kg	2.1 kg
Dimensions	150 x 49 x 125 mm			250 x 57 x 152 mm		
Mounting	DIN-Rail, wall, VESA					
<b>Environmental Limits</b>						
Operating Temperature	-40 to 85°C			-10 to 60°C		
Storage Temperature	-40 to 85°C					
Ambient Relative Humidity	5 to 95% RH					
Anti Vibration/Shock	2g/20g			5g/50g		
<b>Regulatory Approvals</b>						
EMC	CE (EN55022 Class A, EN61000-3-2 Class D, EN61000-3-3, EN55024), FCC (Part 15 Subpart B, CISPR 22 Class A), CCC (GB9254, GB 17625.1)					
Safety	UL/cUL (UL508, UL609500-1, CSA C22.2 No. 60950-1-03), LVD, CCC (GB4943)					
Green Product	RoHS, cROHS, WEEE		RoHS, cROHS, WEEE			
<b>Reliability</b>						
Buzzer, RTC, WDT	✓		✓	✓	✓	✓
Warranty	3 years (see www.moxa.com/warranty)					

# x86 Computers



	V2402-CE	V2402-XPE	V2402-LX	V2422-LX V2422-XPE
<b>Computer</b>				
CPU Speed	1.6 GHz	1.6 GHz	1.6 GHz	1.6 GHz
OS (pre-installed)	WinCE 6.0	Windows Embedded Standard 2009	Linux	WinXPE Emb. or Linux
FSB	533 MHz	533 MHz	533 MHz	533 MHz
Flash	-	-	-	-
System Memory	1 GB (2 GB max.)	1 GB (2 GB max.)	1 GB (2 GB max.)	1 GB (2 GB max.)
USB Ports	6 (USB 2.0)	6 (USB 2.0)	6 (USB 2.0)	6 (USB 2.0)
Digital I/O	4 Dis, 4 DOs	4 Dis, 4 DOs	4 Dis, 4 DOs	4 Dis, 4 DOs
<b>Storage</b>				
Built-in	2 GB (DOM)	2 GB (DOM)	2 GB (DOM)	2 GB (DOM)
CompactFlash Socket	✓	✓	✓	✓
SD Slot	-	-	-	-
HDD Support	✓	✓	✓	✓
<b>Other Peripherals</b>				
KB/MS	1 PS/2 interface supporting standard PS/2 keyboard and mouse through Y-type cable			
Audio	HD audio, with line-in/out interface			
<b>Display</b>				
Graphics Controller	✓	✓	✓	✓
VGA Output	✓	✓	✓	✓
DVI Output	✓	✓	✓	✓
LVDS Output	-	-	-	-
<b>LAN Interface</b>				
10/100/1000 Mbps Ethernet Ports	2	2	2	2
10/100 Mbps Ethernet Port				
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV	1.5 kV
<b>Serial Interface</b>				
RS-232 Ports	-	-	-	-
RS-485	-	-	-	-
RS-232/422/485 Ports	4 (DB9-M)	4 (DB9-M)	4 (DB9-M)	4 (DB9-M)
ESD Protection	4 kV	4 kV	4 kV	4 kV
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark			
Flow Control	RTS/CTS, XON/XOFF, ADDC®			
Baudrate	50 bps to 921.6 Kbps (non-standard baudrates supported)			
<b>LEDs</b>				
System				
LAN	100M, 1000M	100M, 1000M	100M, 1000M	100M, 1000M
Serial	Tx, Rx	Tx, Rx	Tx, Rx	Tx, Rx
<b>Physical Characteristics</b>				
Housing	Aluminum	Aluminum	Aluminum	Aluminum
Weight	2 kg	2 kg	2 kg	2 kg
Dimensions	250 x 57 x 152 mm			154 x 250 x 86 mm
Mounting	DIN-Rail, wall, VESA			Wall
<b>Environmental Limits</b>				
Operating Temperature	-10 to 60°C			
Storage Temperature	-40 to 85°C			-20 to 80°C
Ambient Relative Humidity	5 to 95% RH			
Anti Vibration/Shock	5g/50g			
<b>Regulatory Approvals</b>				
EMC	CE (EN55022 Class A, EN61000-3-2 Class D, EN61000-3-3, EN55024), FCC (Part 15 Subpart B, CISPR 22 Class A), CCC (GB9254, GB 17625.1)			EN 55022 Class A, EN 61000-3-2 Class D, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A, e-Mark (e4)
Safety	UL/cUL (UL508, UL609500-1, CSA C22.2 No. 60950-1-03), LVD, CCC (GB4943)			UL 508, UL 60950-1, CSA C22.2 No. 60950-1-07, EN 60950-1, CCC (GB9254, GB17625.1)
Green Product	RoHS, cROHS, WEEE			
<b>Reliability</b>				
Buzzer, RTC, WDT	✓	✓	✓	✓
Warranty	3 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )			

# RISC Computers



	UC-8410-LX UC-8410-T-LX	UC-8410-CE UC-8410-T-CE	UC-8416-LX UC-8416-T-LX	UC-8416-CE UC-8416-T-CE	UC-8418-LX UC-8418-T-LX	UC-8418-CE UC-8418-T-CE	UC-8430-LX UC-8418-T-LX	UC-8430-CE UC-8430-T-CE	UC-7410-LX Plus
<b>Computer</b>									
CPU Speed	533 MHz	533 MHz	533 MHz	533 MHz	533 MHz	533 MHz	533 MHz	533 MHz	533 MHz
OS (pre-installed)	Linux	Windows CE 6.0	Linux	Windows CE 6.0	Linux	Windows CE 6.0	Linux	Windows CE 6.0	Linux
DRAM	256 MB	256 MB	256 MB	256 MB	256 MB	256 MB	256 MB	256 MB	128 MB
SRAM	256 KB	256 KB	256 KB	256 KB	256 KB	256 KB	256 KB	256 KB	-
FSB	-	-	-	-	-	-	-	-	-
Flash	16 MB (OS); 32 MB (data)	16 MB (OS); 32 MB (data)	16 MB (OS); 32 MB (data)	16 MB (OS); 32 MB (data)	16 MB (OS); 32 MB (data)	16 MB (OS); 32 MB (data)	32 MB (OS); 32 MB (data)	32 MB (OS); 32 MB (data)	32 MB
System Memory	-	-	-	-	-	-	-	-	-
PCMCIA	-	-	-	-	-	-	-	-	-
Expansion Bus	-	-	-	-	-	-	-	-	-
USB Ports	2 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)	6 (USB 2.0)	6 (USB 2.0)	1 (USB 1.1)
Digital I/O	4 Dis, 4 DOs	4 Dis, 4 DOs	4 Dis, 4 DOs	4 Dis, 4 DOs	12 Dis, 12 DOs	12 Dis, 12 DOs	4 Dis, 4 DOs	4 Dis, 4 DOs	-
<b>Storage</b>									
Built-in	-	-	-	-	-	-	-	-	-
CompactFlash Socket	✓	✓	✓	✓	✓	✓	✓	✓	-
SD Slot	-	-	-	-	-	-	-	-	-
<b>Display</b>									
Mini Screen with Push Buttons	-	-	-	-	-	-	-	-	✓
<b>LAN Interface</b>									
10/100 Mbps Ethernet Ports	3	3	3	3	3	3	3	3	2
Switch Ports	-	-	8	8	-	-	-	-	-
Magnetic Isolation Protection	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV
<b>Serial Interface</b>									
RS-232/422/485 Ports	8 (RJ45)	8 (RJ45)	8 (RJ45)	8 (RJ45)	8 (RJ45)	8 (RJ45)	8 (RJ45)	8 (RJ45)	8 (RJ45)
ESD Protection	15 KV	15 KV	15 KV	15 KV	15 KV	15 KV	15 KV	15 KV	15 KV
Console Port	✓	✓	✓	✓	✓	✓	✓	✓	✓
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark								
Flow Control	RTS/CTS, XON/XOFF, ADDC®								
Baudrate	50 bps to 921.6 Kbps (non-standard baudrates supported)								
CANbus	-	-	-	-	2 (DB9-M)	2 (DB9-M)	-	-	-
<b>LEDs</b>									
System	Power, Ready, Storage, Battery								OS Ready, Console
LAN	10M, 100M								
Serial	TxD, RxD								
<b>Physical Characteristics</b>									
Housing	SECC sheet metal (1 mm)								
Weight	850 g	850 g	930 g	930 g	1 kg	1 kg	1 kg	1 kg	810 g
Dimensions	200 x 37 x 120 mm	200 x 37 x 120 mm	200 x 56 x 120 mm						197 x 44 x 125 mm
Mounting	DIN-Rail, wall								
<b>Environmental Limits</b>									
Operating Temperature	-10 to 60°C or -40 to 75°C								-10 to 60°C
Storage Temperature	-20 to 80°C or -40 to 85°C								-20 to 80°C
Ambient Relative Humidity	5 to 95% RH								
Anti Vibration/ Shock	1g/5g	1g/5g	1g/5g	1g/5g	1g/5g	1g/5g	1g/5g	1g/5g	1g/5g
<b>Regulatory Approvals</b>									
EMC	CE (EN55022 Class B, EN55024-4-2, EN55024-4-3, EN55024-4-4), FCC (Part 15 Subpart B, Class B)								UL 60950-1, CSA C22.2 No. 60950-1-03, EN 60950-1
Safety	UL/cUL (UL60950-1), CCC, LVD								UL 60950-1, CSA C22.2 No. 60950-1-03, EN 60950-1
Green Product	RoHS, CRoHS, WEEE								
<b>Reliability</b>									
Buzzer, RTC, WDT	✓	✓	✓	✓	✓	✓	✓	✓	✓
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )								

# RISC Computers



	IA260-LX IA260-T-LX	IA260-CE IA260-T-CE	IA261-I-LX IA261-I-T-LX	IA261-I-CE IA261-I-T-CE	IA262-I-LX IA262-I-T-LX	IA262-I-CE IA262-I-T-CE	IA240-LX IA240-T-LX
<b>Computer</b>							
CPU Speed	200 MHz	200 MHz	200 MHz	200 MHz	200 MHz	200 MHz	192 MHz
OS (pre-installed)	Linux	WinCE 6.0	Linux	WinCE 6.0	Linux	WinCE 6.0	Embedded Linux
DRAM	128 MB (256 MB max.)						64 MB
Flash	32 MB (64 MB max.)		32 MB	32 MB	32 MB	32 MB	32 MB
PCMCIA	-		-	-	-	-	-
USB Ports	2 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)	1 (USB 2.0)
Digital I/O	8 Dis, 8 DOs	8 Dis, 8 DOs	8 Dis, 8 DOs	8 Dis, 8 DOs	8 Dis, 8 DOs	8 Dis, 8 DOs	4 Dis, 4 DOs
AI/Thermocouples	-		-	-	-	-	-
<b>Storage</b>							
CompactFlash Socket	✓	✓	✓	✓	✓	✓	-
SD Slot	-	-	-	-	-	-	✓
<b>Display</b>							
Graphics Controller	✓	✓	✓	✓	✓	✓	-
<b>LAN Interface</b>							
10/100 Mbps Ethernet Ports	2	2	2	2	2	2	2
Magnetic Isolation Protection	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV
<b>Serial Interface</b>							
RS-232/422/485 Ports	4 (DB9-M)	4 (DB9-M)	4 (DB9-M)	4 (DB9-M)	2 (DB9-M)	2 (DB9-M)	4 (RJ45)
ESD Protection	4 KV	4 KV	15 KV	15 KV	15 KV	15 KV	15 KV
Digital Isolation	-	-	2 KV	2 KV	2 KV	2 KV	-
Console Port	✓	✓	✓	✓	✓	✓	✓
Serial Communication Parameters							
Flow Control							
Baudrate							
CANbus	-	-	-	-	2 (DB9-M)	2 (DB9-M)	-
<b>LEDs</b>							
System							
LAN	10M, 100M	10M, 100M	10M, 100M	10M, 100M	10M, 100M	10M, 100M	10M, 100M
Serial	TxD, RxD	TxD, RxD	TxD, RxD	TxD, RxD	TxD, RxD	TxD, RxD	TxD, RxD
<b>Physical Characteristics</b>							
Housing							SECC sheet metal (1 mm)
Weight	1 kg	1 kg	950 g	950 g	950 g	950 g	430 g
Dimensions	52 x 113 x 162 mm	52 x 113 x 162 mm	60 x 115 x 152 mm	60 x 115 x 152 mm	60 x 115 x 152 mm	60 x 115 x 152 mm	60 x 137 x 100 mm
Mounting	DIN-Rail, wall	DIN-Rail, wall	DIN-Rail, wall	DIN-Rail, wall	DIN-Rail, wall	DIN-Rail, wall	DIN-Rail, wall
<b>Environmental Limits</b>							
Operating Temperature	-10 to 60°C or -40 to 75°C						
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	5 to 95% RH
Storage Temperature	-20 to 80°C or -40 to 85°C						
<b>Regulatory Approvals</b>							
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)						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), LVD (EN60950-1), CCC (GB4943)						UL/cUL (UL60950-1, CSA C22.2 No. 60950-1-03), TÜV (EN60950-1)
Green Product							
<b>Reliability</b>							
Buzzer, RTC, WDT	✓	✓	✓	✓	✓	✓	✓
Warranty							

# Wireless Embedded Computers



	MAR-2000	W406-CE	W406-T-CE	W406-LX	W406-T-LX
<b>Computer</b>					
CPU Speed	533 MHz	200 MHz	200 MHz	200 MHz	200 MHz
OS (pre-installed)	Linux	WinCE 6.0	WinCE 6.0	Embedded Linux	Embedded Linux
DRAM	512 MB	32 MB	32 MB	32 MB	32 MB
Flash	32 MB	16 MB	16 MB	16 MB	16 MB
USB Ports	2 (USB 2.0)	1 (USB 2.0)	1 (USB 2.0)	1 (USB 2.0)	1 (USB 2.0)
Relay Outputs	4 Dis, 4 DOs	4 Dis, 4 DOs	4 Dis, 4 DOs	4 Dis, 4 DOs	4 Dis, 4 DOs
<b>Storage</b>					
SD Slot	–	✓	✓	✓	✓
CompactFlash	✓	–	–	–	–
<b>LAN Interface</b>					
10/100 Mbps Ethernet Ports	2	1	1	1	1
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV
<b>WLAN Interface</b>					
Standard Compliance	802.11a/b/g/n	–	–	–	–
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	–	–	–	–	–
Wireless Security	WEP: 64-bit/128-bit WPA, WPA2 data encryption	–	–	–	–
WLAN Modes	Ad-hoc (802.11b/g), Infrastructure	–	–	–	–
<b>Cellular Interface</b>					
Cellular Modes	GSM/GPRS/EDGE/UMTS/HSPA+ • Five band UMTS(WCDMA/FDD) • 800/850/1900 AWS and 2100 MHz • Quad-band GSM: 850/900/1800/1900 MHz	GSM/GPRS/EDGE	GSM/GPRS/EDGE	GSM/GPRS/EDGE	GSM/GPRS/EDGE
Radio Frequency Bands	–	850/900/1800/1900 MHz	850/900/1800/1900 MHz	850/900/1800/1900 MHz	850/900/1800/1900 MHz
GPRS Class	12	12	12	12	12
EDGE Class	12	12	12	12	12
Coding Schemes	–	CS1 to CS4	CS1 to CS4	CS1 to CS4	CS1 to CS4
<b>Serial Interface</b>					
RS-232/422/485 Ports	–	2 (DB9-M)	2 (DB9-M)	2 (DB9-M)	2 (DB9-M)
ESD Protection	–	15 kV	15 kV	15 kV	15 kV
Console Port	–	✓	✓	✓	✓
Serial Communication Parameters	–	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark			
Flow Control	–	RTS/CTS, XON/XOFF, ADDC™			
Baudrate	–	50 bps to 921.6 Kbps (non-standard baudrates supported)			
<b>LEDs</b>					
System	Power, Ready, Storage, Programmable	Ready, Storage	Ready, Storage	Ready, Storage	Ready, Storage
LAN	10M, 100M	10M, 100M	10M, 100M	10M, 100M	10M, 100M
WLAN	–	–	–	–	–
Cellular	–	Cellular Enabled, Signal Strength	Cellular Enabled, Signal Strength	Cellular Enabled, Signal Strength	Cellular Enabled, Signal Strength
Serial	–	TxD, RxD	TxD, RxD	TxD, RxD	TxD, RxD
<b>Physical Characteristics</b>					
Housing	SECC sheet metal (1 mm)	Aluminum (1 mm)	Aluminum (1 mm)	Aluminum (1 mm)	Aluminum (1 mm)
Weight	1 kg	1 kg	1 kg	1 kg	1 kg
Dimensions	200 x 57 x 120 mm	44 x 119 x 40 mm	44 x 119 x 40 mm	44 x 119 x 40 mm	44 x 119 x 40 mm
Mounting	Wall	DIN-Rail, wall	DIN-Rail, wall	DIN-Rail, wall	DIN-Rail, wall
Antenna Length	85 mm	85 mm	85 mm	85 mm	85 mm
<b>Environmental Limits</b>					
Operating Temperature	-25 to 55°C	-10 to 60°C or wide temperature (by request)	By request	-10 to 60°C	By request
Operating Humidity	–	5 to 95% RH	5 to 95% RH	5 to 95% RH	5 to 95% RH
Storage Temperature	-25 to 70°C	-20 to 80°C or wide temperature (by request)	-20 to 80°C	-20 to 80°C	-20 to 80°C or by request
Anti Vibration/Shock	IEC 61373 standard	2g/6g with DIN-rail/20g with wall mount	2g/6g with DIN-rail/20g with wall mount	2g/6g with DIN-rail/20g with wall mount	2g/6g with DIN-rail/20g with wall mount
<b>Regulatory Approvals</b>					
Safety	UL 60950-1, EN 60950-1	EN 60950-1, CSA C22.2 No. 60950-1-03			
EMC	EN 55022 Class B, EN 55024-4-2, EN 55024-4-3, EN 55024-4-4, FCC Part 15 Subpart B Class B	EN 55022 Class B, EN 61000-3-2 Class A, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class B			
Radio	–	EN 301 489-1, EN 301 489-7, EN 301 511			
Wheeled Vehicles	EN 50155, EN 50121-2-3, EN 50121-4, IEC 61373	–	–	–	–
Green Product	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE
<b>Reliability</b>					
Buzzer, RTC, WDT	✓	✓	✓	✓	✓
Warranty	5 years (see www.moxa.com/warranty)				

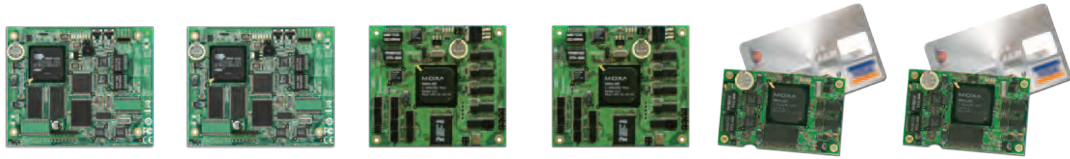
# Wireless Embedded Computers



	W315A-LX	W325A-LX	W321-LX	W341-LX
<b>Computer</b>				
CPU Speed	192 MHz	192 MHz	192 MHz	192 MHz
OS (pre-installed)	Embedded Linux			
DRAM	32 MB	32 MB	32 MB	64 MB
Flash	16 MB	16 MB	16 MB	16 MB
USB Ports	–	–	–	2 (USB 2.0)
DI/DO	–	–	4 Dis, 4 DOs	1 Relay Output
<b>Storage</b>				
SD Slot	✓	✓	✓	✓
CompactFlash	–	–	–	–
<b>LAN Interface</b>				
10/100 Mbps Ethernet Ports	1	1	1	1
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV	1.5 kV
<b>WLAN Interface</b>				
Standard Compliance	–	–	802.11b/g/n	
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) 802.11b: 11 Mbps 802.11g: 54 Mbps 802.11n: 135 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/n), Infrastructure	
<b>Cellular Interface</b>				
Cellular Modes	GSM, GPRS		–	–
Radio Frequency Bands	850/900/1800/1900 MHz		–	–
GPRS Class	10		–	–
EDGE Class	–	–	–	–
Coding Schemes	CS1 to CS4		–	–
<b>Serial Interface</b>				
RS-232/422/485 Ports	1 (DB9-M)	2 (DB9-M)	2 (DB9-M)	4 (DB9-M)
ESD Protection	15 kV	15 kV	15 kV	15 kV
Console Port	✓	✓	✓	✓
Serial Communication Parameters				
Flow Control				
Baudrate				
<b>LEDs</b>				
System	Ready, SD	Ready, SD	Ready, SD	Ready, SD
LAN	10M, 100M	10M, 100M	10M, 100M	10M, 100M
WLAN	–	–	–	–
Cellular	GPRS Enabled, GSM Signal Strength		–	–
Serial	TxD, RxD	TxD, RxD	TxD, RxD	TxD, RxD
<b>Physical Characteristics</b>				
Housing	Aluminum (1 mm)			
Weight	195 g	195 g	185 g	390 g
Dimensions	77 x 111 x 26 mm	77 x 111 x 26 mm	77 x 111 x 26 mm	150 x 100 x 38 mm
Mounting	DIN-Rail, wall	DIN-Rail, wall	DIN-Rail, wall	DIN-Rail, wall
Antenna Length	110 mm	110 mm	150 mm	150 mm
<b>Environmental Limits</b>				
Operating Temperature	-10 to 60°C	-10 to 60°C	-10 to 60°C	-10 to 60°C
Operating Humidity	5 to 95% RH	5 to 95% RH	5 to 95% RH	5 to 95% RH
Storage Temperature	-20 to 80°C	-20 to 80°C	-20 to 80°C	-20 to 80°C
Anti Vibration/Shock	5g/50g	5g/50g	5g/50g	5g/50g
<b>Regulatory Approvals</b>				
Safety	UL 60950-1, EN 60950-1, CSA C22.2 No. 60950-1-03			
EMC	EN 55022 Class A, EN 61000-3-2, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A			
Radio	EN 301 489-1, EN 301 489-7, EN 301 511			
Wheeled Vehicles	–	–	e-Mark (e13)	–
Green Product	RoHS, CRoHS, WEEE	RoHS, CRoHS, WEEE		
<b>Reliability</b>				
Buzzer, RTC, WDT	✓	✓	✓	✓
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )			



# Embedded CPU Modules



	EM-2260-CE	EM-2260-LX	EM-1240-LX	EM-1240-T-LX	EM-1220-LX	EM-1220-T-LX
<b>Computer</b>						
CPU Speed	200 MHz	200 MHz	192 MHz	192 MHz	192 MHz	192 MHz
OS (pre-installed)	WinCE 6.0	Linux	Embedded µClinux	Embedded µClinux	Embedded µClinux	Embedded µClinux
DRAM	128 MB	128 MB	16 MB	16 MB	16 MB	16 MB
Flash	32 MB	32 MB	8 MB	8 MB	8 MB	8 MB
Digital I/O	8 DIs, 8 DOs	8 DIs, 8 DOs	10 GPIOs	10 GPIOs	10 GPIOs	10 GPIOs
<b>Storage</b>						
SD Slot	–	–	✓	✓	✓	✓
EIDE Interface	✓	✓	–	–	–	–
<b>Display</b>						
Graphics Controller	✓	✓	–	–	–	–
<b>LAN Interface</b>						
10/100 Mbps Ethernet Ports	2	2	2	2	2	2
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV
<b>Serial Interface</b>						
RS-232/422/485 Ports	4	4	4	4	2	2
ESD Protection	15 kV	15 kV	15 kV	15 kV	15 kV	15 kV
Console Port	✓	✓	✓	✓	✓	✓
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark					
Flow Control	RTS/CTS, XON/XOFF, ADDC®					
Baudrate	50 bps to 921.6 Kbps (non-standard baudrates supported; see user's manual for details)					
<b>Physical Characteristics</b>						
Weight	70 g	70 g	50 g	50 g	40 g	40 g
Dimensions	106 x 87 mm	106 x 87 mm	90 x 80 mm	90 x 80 mm	80 x 50 mm	80 x 50 mm
Module Interface	– Two 2 x 28 pin-headers (1.27 x 1.27 mm pitch)					
<b>Environmental Limits</b>						
Operating Temperature	-10 to 60°C	-10 to 60°C	-10 to 60°C or -40 to 75°C			
Storage Temperature	-20 to 80°C	-20 to 80°C	-20 to 80°C or -40 to 85°C			
Ambient Relative 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
<b>Regulatory Approvals</b>						
EMC	EN 55022 Class A, EN 61000-3-2 Class A, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A		CE (EN55022 Class A, EN61000-3-2 Class A, EN61000-3-3, EN55024), FCC (Part 15 Subpart B, CISPR 22 Class A)			
Green Product	RoHS, CRoHS, WEEE					
<b>Reliability</b>						
Buzzer, RTC, WDT	✓	✓	✓	✓	✓	✓
Warranty	5 years (see <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a> )					



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## Accessories



# Serial Connection Options

## Serial Board Connection Box/Cable Usage Chart

Serial Board Model Name	Connection Boxes						Connection Cables																
	8-port						8-port						4-port				2-port						
	OPT8-M9	OPT8-RJ45	OPT8A/B/S	OPT8-M9+	OPT8A+/B+/S+	OPT8-RJ45+	CBL-M68M25x8-100 (OPT8C+)	CBL-M68M9x8-100 (OPT8D+)	CBL-M62M25x8-100 (OPT8C)	CBL-M62M9x8-100 (OPT8D)	CBL-M78M25x8-100	CBL-M78M9x8-100	CBL-M44M9x4-50	CBL-M44M9x4-50(POS)	CBL-M44M25x4-50	CBL-M37M9x4-30 (OPT4C)	CBL-M37M9x4-30 (OPT4D)	CBL-F40M9x4-50	CBL-F40M25x4-50	CBL-M25M9x2-50	CBL-F20M9x2-50	CBL-F20M25x2-50	
C218Turbo Series	✓	✓	✓	-	-	-	-	-	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-
C104H Series	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-	-	-
CP-114 Series	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-	-	-	-
CI-134 Series	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-	-	-	-
CP-118U	✓	✓	✓	-	-	-	-	-	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-
CP-138U	✓	✓	✓	-	-	-	-	-	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-
CP-168U	✓	✓	✓	-	-	-	-	-	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-
C168H Series	✓	✓	✓	-	-	-	-	-	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-
CP-104UL	-	-	-	-	-	-	-	-	-	-	-	✓	-	✓	-	-	-	-	-	-	-	-	-
CP-134U Series	-	-	-	-	-	-	-	-	-	-	-	✓	-	✓	-	-	-	-	-	-	-	-	-
CP-114UL	-	-	-	-	-	-	-	-	-	-	-	✓	-	✓	-	-	-	-	-	-	-	-	-
CP-114UL-I	-	-	-	-	-	-	-	-	-	-	-	✓	-	✓	-	-	-	-	-	-	-	-	-
CP-104EL-A	-	-	-	-	-	-	-	-	-	-	-	✓	-	✓	-	-	-	-	-	-	-	-	-
CP-114EL	-	-	-	-	-	-	-	-	-	-	-	✓	-	✓	-	-	-	-	-	-	-	-	-
CP-114EL-I	-	-	-	-	-	-	-	-	-	-	-	✓	-	✓	-	-	-	-	-	-	-	-	-
CP-112UL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-
CP-112UL-I	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-
CP-132UL Series	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-
CP-102UL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-
CP-102EL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-
CP-132EL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-
CP-132EL-I	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-
CP-118EL-A	-	-	-	✓	✓	✓	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CP-168EL-A	-	-	-	✓	✓	✓	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CP-118U-I	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
CP-138U-I	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-
POS-104UL	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-
CA-108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-
CB-108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-
CA-114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-
CB-114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-
CA-134I	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-
CB-134I	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-
CA-104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-	-
CA-132	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-
CA-132I	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-



Accessories > Serial Connection Options

## 8-port RS-232 Connection Boxes

Model Name	OPT8-M9	OPT8-RJ45	OPT8A/S	OPT8B
Accessories Image				
Pin Assignment				
Board-side Connector	DB62 male x 1		DB25 female x 8	DB25 male x 8
Device-side Connector	DB9 male x 8	8-pin RJ45 x 8		
LEDs	TxD, RxD indicators for each device-side port	-	TxD, RxD indicators for each device-side port	
Baudrate	-	-	50 bps to 921.6 Kbps	
Dimensions	90 x 111 x 27.5 mm (3.5 x 4.3 x 1 in)	152.8 x 32.8 x 32 mm (6 x 1.29 x 1.25 in)	247 x 108 x 35 mm (9.7 x 4.3 x 1.4 in)	
Protection	-	-	25 KV ESD, 2 KV EFT surge protection (OPT8S only)	-
Connection Cable	DB62 male to DB62 female 150 cm connection cable for connecting to the serial board	-	DB62 male to DB62 male 150 cm connection cable for connecting to the serial board	
Related Products	See page A-2 for details			


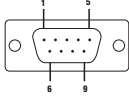
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 Accessories > Serial Connection Options

Model Name	OPT8-M9+	OPT8-RJ45+	OPT8A+/S+	OPT8B+
Accessories Image				
Pin Assignment				
Board-side Connector	VHDCI 68 x 1		DB25 female x 8	DB25 male x 8
Device-side Connector	DB9 male x 8	8-pin RJ45 x 8		
LEDs	TxD, RxD indicators for each device-side port	-	TxD, RxD indicators for each device-side port	
Baudrate	-	-	50 bps to 921.6 Kbps	
Dimensions	90 x 111 x 27.5 mm (3.5 x 4.3 x 1 in)	152.8 x 32.8 x 32 mm (6 x 1.29 x 1.25 in)	247 x 108 x 35 mm (9.7 x 4.3 x 1.4 in)	
Protection	-	-	25 KV ESD, 2 KV EFT surge protection (OPT8S only)	-
Connection Cable	DB68 male to DB62 female 150 cm connection cable for connecting to the serial board	-	DB68 male to DB62 male 150 cm connection cable for the connecting to the serial board	
Related Products	See page A-2 for details			





## 8-port RS-232 Connection Cables

Model Name	CBL-M62M25x8-100 (OPT8C)	CBL-M62M9x8-100 (OPT8D)	CBL-M68M25x8-100 (OPT8C+)	CBL-M68M9x8-100 (OPT8D+)	CBL-M78M25x8-100	CBL-M78M9x8-100
Accessories Image						
Pin Assignment						
Board-side Connector	DB62 male x 1		VHDCI 68 x 1		DB78 male x 1	
Device-side Connector	DB25 male x 8	DB9 male x 8	DB25 male x 8	DB9 male x 8	DB25 male x 8	DB9 male x 8
Cable Length	100 cm					
Related Products	See page A-2 for details					









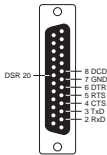

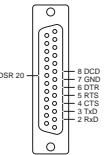
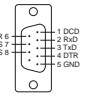
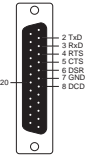
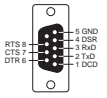
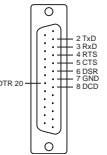
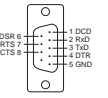
## 2-port Connection Cables

Model Name	CBL-M25M9x2-50																		
Accessories Image																			
Pin Assignment	 <table border="1"> <thead> <tr> <th>PIN</th> <th>RS-232</th> </tr> </thead> <tbody> <tr><td>1</td><td>DCD</td></tr> <tr><td>2</td><td>RxD</td></tr> <tr><td>3</td><td>TxD</td></tr> <tr><td>4</td><td>DTR</td></tr> <tr><td>5</td><td>GND</td></tr> <tr><td>6</td><td>DSR</td></tr> <tr><td>7</td><td>RTS</td></tr> <tr><td>8</td><td>CTS</td></tr> </tbody> </table>	PIN	RS-232	1	DCD	2	RxD	3	TxD	4	DTR	5	GND	6	DSR	7	RTS	8	CTS
PIN	RS-232																		
1	DCD																		
2	RxD																		
3	TxD																		
4	DTR																		
5	GND																		
6	DSR																		
7	RTS																		
8	CTS																		
Description	DB25 male to DB9 male x 2																		
Cable Length	50 cm																		
Related Products	See page A-2 for details																		

## 4-port Connection Cables

Model Name	CBL-M44M9x4-50	CBL-M44M25x4-50																																																																																																				
Accessories Image																																																																																																						
Pin Assignment	 <table border="1"> <thead> <tr> <th>PIN</th> <th>RS-232</th> <th>RS-422</th> <th>RS-485-4w</th> <th>RS-485-2w</th> </tr> </thead> <tbody> <tr><td>1</td><td>DCD</td><td>TxD-(A)</td><td>TxD-(A)</td><td>-</td></tr> <tr><td>2</td><td>RxD</td><td>TxD+(B)</td><td>TxD+(B)</td><td>-</td></tr> <tr><td>3</td><td>TxD</td><td>RxD+(B)</td><td>RxD+(B)</td><td>Data+(B)</td></tr> <tr><td>4</td><td>DTR</td><td>RxD-(A)</td><td>RxD-(A)</td><td>Data-(A)</td></tr> <tr><td>5</td><td>GND</td><td>GND</td><td>GND</td><td>GND</td></tr> <tr><td>6</td><td>DSR</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>7</td><td>RTS</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>8</td><td>CTS</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>9</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>	PIN	RS-232	RS-422	RS-485-4w	RS-485-2w	1	DCD	TxD-(A)	TxD-(A)	-	2	RxD	TxD+(B)	TxD+(B)	-	3	TxD	RxD+(B)	RxD+(B)	Data+(B)	4	DTR	RxD-(A)	RxD-(A)	Data-(A)	5	GND	GND	GND	GND	6	DSR	-	-	-	7	RTS	-	-	-	8	CTS	-	-	-	9	-	-	-	-	 <table border="1"> <thead> <tr> <th>PIN</th> <th>RS-232</th> <th>RS-422</th> <th>RS-485-4w</th> <th>RS-485-2w</th> </tr> </thead> <tbody> <tr><td>2</td><td>TxD</td><td>RxD+(B)</td><td>RxD+(B)</td><td>Data+(B)</td></tr> <tr><td>3</td><td>RxD</td><td>TxD+(B)</td><td>TxD+(B)</td><td>-</td></tr> <tr><td>4</td><td>RTS</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>5</td><td>CTS</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>6</td><td>DSR</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>7</td><td>GND</td><td>GND</td><td>GND</td><td>GND</td></tr> <tr><td>8</td><td>DCD</td><td>TxD-(A)</td><td>TxD-(A)</td><td>-</td></tr> <tr><td>20</td><td>DTR</td><td>RxD-(A)</td><td>RxD-(A)</td><td>Data-(A)</td></tr> <tr><td>22</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>	PIN	RS-232	RS-422	RS-485-4w	RS-485-2w	2	TxD	RxD+(B)	RxD+(B)	Data+(B)	3	RxD	TxD+(B)	TxD+(B)	-	4	RTS	-	-	-	5	CTS	-	-	-	6	DSR	-	-	-	7	GND	GND	GND	GND	8	DCD	TxD-(A)	TxD-(A)	-	20	DTR	RxD-(A)	RxD-(A)	Data-(A)	22	-	-	-	-
PIN	RS-232	RS-422	RS-485-4w	RS-485-2w																																																																																																		
1	DCD	TxD-(A)	TxD-(A)	-																																																																																																		
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22	-	-	-	-																																																																																																		
Description	DB44 male to DB9 male x4	DB44 male to DB25 male x4																																																																																																				
Cable Length	50 cm																																																																																																					
Related Products	See page A-2 for details																																																																																																					





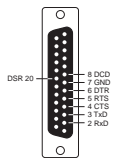
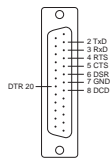
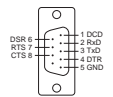
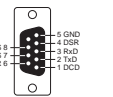
## 8-pin RJ45 to DB9/DB25 Connection Cables

Model Name	CBL-RJ45F25-150	CBL-RJ45F9-150	CBL-RJ45M25-150	CBL-RJ45M9-150	CBL-RJ45SF25-150	CBL-RJ45SF9-150	CBL-RJ45SM25-150	CBL-RJ45SM9-150
Accessories Image								
Pin Assignment								
Cable Type	-	-	-	-	Shielded	-	-	-
Board-side Connector	8-pin RJ45 x 1							
Device-side Connector	DB25 female x 1	DB9 female x 1	DB25 male x 1	DB9 male x 1	DB25 female x 1	DB9 female x 1	DB25 male x 1	DB9 male x 1
Cable Length	150 cm							
Related Products	CP-104JU, OPT8-RJ45, NPort 5210, NPort 5600, NPort 6600, CN2510/2600, NPort W2004, UC-7410/7420							







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Accessories > Serial Connection Options

## 10-pin RJ45 to DB9/DB25 Connection Cables

Model Name	CN20030	CN20040	CN20060	CN20070
Accessories Image				
Pin Assignment				
Board-side Connector	10-pin RJ45 x 1			
Device-side Connector	DB25 female x 1	DB25 male x 1	DB9 male x 1	DB9 female x 1
Cable Length	150 cm			
Related Products	C320Turbo Series, CP-204J, CI-104J, A52, A53, A60			

## Wiring Kits

Model Name	TB-M9	TB-F9	TB-M25	TB-F25	ADP-RJ458P-DB9M	ADP-RJ458P-DB9F
Accessories Image						
Type	DB9 male DIN-Rail wiring terminal	DB9 female DIN-Rail wiring terminal	DM25 male DIN-Rail wiring terminal	DB25 female DIN-Rail wiring terminal	RJ45-to-DB9 adaptor (male)	RJ45-to-DB9 adaptor (female)
Connector	DB9 male	DB9 female	DB25 male	DB25 female	-	-
Rating	300 V, 20 A (IEC250V 10A)				-	-
Operating Temperature	-40 to 105°C (-40 to 221°F)				-	-
Suitable Wiring	24-12 AWG (IEC 0.5-2.5 mm <sup>2</sup> )				-	-
Dimensions	77.5 x 45 x 51 mm (3.05 x 1.77 x 2.01 in)		77.5 x 90 x 51 mm (3.05 x 3.54 x 2.01 in)		-	-

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Accessories > Serial Connection Options



# Power Accessories

## Power Cords

Model Name	PWC-C13US-3B-183	PWC-C-13EU-3B-183 (CEE 7/7 to IEC C13)	PWC-C13UK-3B-183	PWC-C13JP-3B-183	PWC-C13AU-3B-183	PWC-C13CN-3B-183
Accessories Image						
Region	US	EU	UK	JP	AU	CN
Voltage	125 V	250 V	250 V	125 V	250 V	250 V
Thickness	6.3 ± 0.2 mm	6.7 ± 0.2 mm	6.7 ± 0.2 mm	7.0 ± 0.2 mm	6.7 ± 0.2 mm	6.7 ± 0.2 mm
Max. Current	10 A	10 A	10 A	7 A	10 A	10 A
Length	1830 ± 30 mm	1830 ± 30 mm	1830 ± 30 mm	1830 ± 30 mm	1830 ± 30 mm	1830 ± 30 mm
Related Products	CN2500 Series, NPort 6600 Series, NPort 5600 Series, PWR-12200-DT-S1					

Model Name	PWC-C7US-2B-183	PWC-C7EU-2B-183	PWC-C7UK-2B-183	PWC-C7JP-2B-183	PWC-C7AU-2B-183	PWC-C7CN-2B-183
Accessories Image						
Region	US	EU	UK	JP	AU	CN
Length	1830 ± 200 mm	1830 ± 200 mm	1830 ± 200 mm	1830 ± 200 mm	1830 ± 200 mm	1830 ± 200 mm
Related Products	PWR-12125-DT-S2					

## Power Adapters

Model Name	PWR-12050-WPUSJP-S1	PWR-12050-WPEU-S1	PWR-12050-WPUK-S1	PWR-12050-WPAU-S1	PWR-12050-WPCN-S1
Accessories Image					
<b>Input Rating</b>					
I/P	100-240VAC 50-60Hz	100-240VAC 50-60Hz	100-240VAC 50-60Hz	100-240VAC 50-60Hz	100-240VAC 50-60Hz
<b>Input Plug</b>					
Plug Type	US/JP	EU	UK	AU	CN
<b>Output Rating</b>					
O/P	0.5A @ 12VDC	0.5A @ 12VDC	0.5A @ 12VDC	0.5A @ 12VDC	0.5A @ 12VDC
<b>Output Plug</b>					
Connector Type	S-Type 5.5/2.1/7.5	S-Type 5.5/2.1/7.5	S-Type 5.5/2.1/7.5	S-Type 5.5/2.1/7.5	S-Type 5.5/2.1/7.5
Outer Diameter	5.5 ± 0.1 mm	5.5 ± 0.1 mm	5.5 ± 0.1 mm	5.5 ± 0.1 mm	5.5 ± 0.1 mm
Inner Diameter	2.1 ± 0.1 mm	2.1 ± 0.1 mm	2.1 ± 0.1 mm	2.1 ± 0.1 mm	2.1 ± 0.1 mm
<b>Physical Characteristics</b>					
Dimensions (L x W x H)	64 x 40.5 x 47.5 mm	64 x 40.5 x 68.7 mm	64 x 40.5 x 56.2 mm	64 x 40.5 x 58.5 mm	64 x 40.5 x 46.5 mm
Weight	70g	70g	70g	70g	70g
Cord Length	1530 ± 100 mm	1530 ± 100 mm	1530 ± 100 mm	1530 ± 100 mm	1530 ± 100 mm
<b>Environmental Limits</b>					
Operating Temperature	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)
<b>Regulatory Approvals</b>					
Safety	CE/FCC/UL/GS/PSE/RCM/CCC	CE/FCC/UL/GS/PSE/RCM/CCC	CE/FCC/UL/GS/PSE/RCM/CCC	CE/FCC/UL/GS/PSE/RCM/CCC	CE/FCC/UL/GS/PSE/RCM/CCC
<b>Related Products</b>					
Related Products	NPort 5110A, NPort 5130A, NPort 5150A, NPort 5210A, NPort 5230A, NPort 5250A, NPort Z2150/Z3150, NPort W2150A/W2250A				

Model Name	PWR-12050-WPUSJP-S2	PWR-12050-WPEU-S2	PWR-12050-WPUK-S2	PWR-12050-WPAU-S2	PWR-12050-WPCN-S2
Accessories Image					
<b>Input Rating</b>					
I/P	100-240VAC 50-60Hz	100-240VAC 50-60Hz	100-240VAC 50-60Hz	100-240VAC 50-60Hz	100-240VAC 50-60Hz
<b>Input Plug</b>					
Plug Type	US/JP	EU	UK	AU	CN
<b>Output Rating</b>					
O/P	0.5A @ 12VDC	0.5A @ 12VDC	0.5A @ 12VDC	0.5A @ 12VDC	0.5A @ 12VDC
<b>Output Plug</b>					
Connector Type	L-Type 5.5/2.1/9.0	L-Type 5.5/2.1/9.0	L-Type 5.5/2.1/9.0	L-Type 5.5/2.1/9.0	L-Type 5.5/2.1/9.0
Outer Diameter	5.5 ± 0.1 mm	5.5 ± 0.1 mm	5.5 ± 0.1 mm	5.5 ± 0.1 mm	5.5 ± 0.1 mm
Inner Diameter	2.1 ± 0.1 mm	2.1 ± 0.1 mm	2.1 ± 0.1 mm	2.1 ± 0.1 mm	2.1 ± 0.1 mm
<b>Physical Characteristics</b>					
Dimensions(L x W x H)	64 x 40.5 x 47.5 mm	64 x 40.5 x 68.7 mm	64 x 40.5 x 56.2 mm	64 x 40.5 x 58.5 mm	64 x 40.5 x 46.5 mm
Weight	70g	70g	70g	70g	70g
Cord Length	1830 ± 100 mm	1830 ± 100 mm	1830 ± 100 mm	1830 ± 100 mm	1830 ± 100 mm
<b>Environmental Limits</b>					
Operating Temperature	0 to 40 (32 to 104 )	0 to 40 (32 to 104 )	0 to 40 (32 to 104 )	0 to 40 (32 to 104 )	0 to 40 (32 to 104 )
<b>Regulatory Approvals</b>					
Safety	CE/FCC/UL/RMC/PSE/CCC	CE/FCC/UL/RMC/PSE/CCC	CE/FCC/UL/RMC/PSE/CCC	CE/FCC/UL/RMC/PSE/CCC	CE/FCC/UL/RMC/PSE/CCC
<b>Regulatory Products</b>					
Related Products	NPort 5110, NPort 5130, NPort 5150, NPort 5210, NPort 5230, NPort 5232, NPort 5232i, MGate MB3180, MGate MB3280, DE-211, DE-311, A52, A53				

Model Name	PWR-12125-USJP-S1	PWR-12150-EU-S2	PWR-12150-UK-S2	PWR-12150-AU-S2	PWR-12150-CN-S1
Accessories Image					
<b>Input Rating</b>					
I/P	100-240 VAC 50-60Hz	100-240 VAC 50-60Hz	100-240 VAC 50-60Hz	100-240 VAC 50-60Hz	100-240 VAC 50-60Hz
<b>Input Plug</b>					
Plug type	US/JP	EU	UK	AU	CN
<b>Output Rating</b>					
O/P	1.25A @ 12VDC	1.5A @ 12VDC	1.5A @ 12VDC	1.5A @ 12VDC	1.5A @ 12VDC
<b>Output Plug</b>					
Connector type	L-Type 5.5/2.1/9.5	L-Type 5.5/2.1/9.0	S-Type 5.5/2.1/9.0	L-Type 5.5/2.1/9.0	L-Type 5.5/2.1/9.0
Outer Diameter	5.5 ± 0.1 mm	5.5 ± 0.1 mm	5.5 ± 0.1 mm	5.5 ± 0.1 mm	5.5 ± 0.1 mm
Inner Diameter	2.1 ± 0.1 mm	2.1 ± 0.1 mm	2.1 ± 0.1 mm	2.1 ± 0.1 mm	2.1 ± 0.1 mm
<b>Physical Characteristics</b>					
Dimensions (L x W x H)	74 x 43.5 x 52.5 mm	70 x 45 x 66.5 mm	70 x 48 x 60 mm	70 x 55 x 56 mm	70 x 45 x 54 mm
Weight	108g	200g	200g	200g	200g
Cord Length	1530 ± 100 mm	1800 ± 200 mm	1800 ± 200 mm	1800 ± 200 mm	1800 ± 200 mm
<b>Environmental Limits</b>					
Operating Temperature	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)
<b>Regulatory Approvals</b>					
Safety	CE/FCC/UL/RMC/GS	CE/GS	CE	RMC	CCC
<b>Related Products</b>					
Related Products	NPort 5410, NPort 5430, NPort 5430i, NPort 5450, NPort 5450i, MGate MB3480				

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Accessories > Power Accessories

Model Name	PWR-12200-DT-S1	PWR-12125-DT-S2	PWR-12150-CN-S2
Accessories Image			
<b>Input Rating</b>			
I/P	100-240 VAC 50-60Hz	100-240 VAC 50-60Hz	100-240 VAC 50-60Hz
<b>Input Plug</b>			
Plug type	Desktop	Desktop	CN
<b>Output Rating</b>			
O/P	2A @ 12VDC	1.25A @ 12VDC	1.5A @ 12VDC
<b>Output Plug</b>			
Connector type	S-Type 5.5/2.1/7.5	S-Type 5.5/2.1/7.5	S-Type 5.5/2.1/7.5
Outer Diameter	5.5 ± 0.1 mm	5.5 ± 0.1 mm	5.5 ± 0.1 mm
Inner Diameter	2.1 ± 0.1 mm	2.1 ± 0.1 mm	2.1 ± 0.1 mm
<b>Physical Characteristics</b>			
Dimensions (L x W x H)	110.8 x 51.8 x 32 mm	75 x 47.5 x 27.3 mm	70 x 45 x 54mm
Weight	200g	200g	200g
Cord Length	1800 ± 200 mm	1530 ± 100 mm	1800 ± 200 mm
<b>Environmental Limits</b>			
Operating Temperature	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)
<b>Regulatory Approvals</b>			
Safety	UL/CE/FCC/GS/CCC/PSE/BSMI/TUV	UL/GS/CE/FCC/PSE	CCC
<b>Related Products</b>			
Related Products	NPort 5610-8-DT, NPort 5610-8-DT-J, NPort 5650-8-DT, NPort 5650-8-DT-J, NPort 5650I-8-DT, NPort 5610-8-DTL, NPort 5650-8-DTL, NPort 5650I-DTL	NPort 6150, NPort 6250-M-SC, NPort 6250, NPort 6250-S-SC, NPort 6450, UPort 1250I, UPort 1450, UPort 1450I, UPort 1610-8, UPort 1650-8	NPort 6150, NPort 6250, NPort 6250-M-SC, NPort 6250-S-SC, NPort 6450, UPort 1250I, UPort 1450, UPort 1450I, UPort 1610-8, UPort 1650-8

Note: PWR-12200-DT-S1 and PWR-12125-DT-S2 not included with power cord

Model Name	PWR-12300-WPUSJP-S1	PWR-12300-WPEU-S1	PWR-12300-WPUK-S1	PWR-12300-WPAU-S1	PWR-12300-WPCN-S1
Accessories Image					
<b>Input Rating</b>					
I/P	100-240 VAC 50-60Hz	100-240 VAC 50-60Hz	100-240 VAC 50-60Hz	100-240 VAC 50-60Hz	100-240 VAC 50-60Hz
<b>Input Plug</b>					
Plug type	US/JP	EU	UK	AU	CN
<b>Output Rating</b>					
O/P	3A @ 12VDC	3A @ 12VDC	3A @ 12VDC	3A @ 12VDC	3A @ 12VDC
<b>Output Plug</b>					
Connector type	S-Type 5.5/2.1/7.5	S-Type 5.5/2.1/7.5	S-Type 5.5/2.1/7.5	S-Type 5.5/2.1/7.5	S-Type 5.5/2.1/7.5
Outer Diameter	5.5 ± 0.1 mm	5.5 ± 0.1 mm	5.5 ± 0.1 mm	5.5 ± 0.1 mm	5.5 ± 0.1 mm
Inner Diameter	2.1 ± 0.1 mm	2.1 ± 0.1 mm	2.1 ± 0.1 mm	2.1 ± 0.1 mm	2.1 ± 0.1 mm
<b>Physical Characteristics</b>					
Dimensions (L x W x H)	74 x 43.5 x 52.3 mm	74 x 43.5 x 73.5 mm	74 x 43.5 x 61 mm	74 x 43.5 x 63.3 mm	74 x 43.5 x 51.3 mm
Weight	163g	163g	163g	163g	163g
Cord Length	1530 ± 200 mm	1530 ± 200 mm	1530 ± 200 mm	1530 ± 200 mm	1530 ± 200 mm
<b>Environmental Limits</b>					
Operating Temperature	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)	0 to 40°C (32 to 104°F)
<b>Regulatory Approvals</b>					
Safety	FCC/CE/UL/GS/CCC/RCM/PSE	FCC/CE/UL/GS/CCC/RCM/PSE	FCC/CE/UL/GS/CCC/RCM/PSE	FCC/CE/UL/GS/CCC/RCM/PSE	FCC/CE/UL/GS/CCC/RCM/PSE
<b>Related Products</b>					
Related Products	UPort 204, UPort 207, UPort 404, UPort 407				

## Wide Temperature Power Adapters

Model Name	PWR-12150-USJP-SA-T	PWR-12150-EU-SA-T	PWR-12150-UK-SA-T	PWR-12150-AU-SA-T	PWR-12150-CN-SA-T
Accessories Image					
<b>Input Rating</b>	100-240 VAC, 50-60 Hz				
I/P	100-240 VAC, 50-60 Hz				
<b>Input Plug</b>					
Plug Type	US/JP	EU	UK	AU	CN
<b>Output Rating</b>	1.5A @ 12VDC				
O/P	1.5A @ 12VDC				
<b>Protection Requirements</b>	Over current protection/ Over voltage protection				
Protection	Over current protection/ Over voltage protection				
<b>Output Plug</b>	L-Type 5.5/2.1/7.5				
Connector Type	L-Type 5.5/2.1/7.5				
Outer Diameter	5.5 ± 0.1 mm				
Inner Diameter	2.1 ± 0.1 mm				
<b>Physical Characteristics</b>					
Dimensions (L x W x H)	32 x 70.3 x 88 mm	32 x 85.3 x 88 mm	50 x 91 x 82.5 mm	41 x 73.9 x 89.5 mm	32 x 69 x 88 mm
Weight	200g		200g	200g	200g
Cord Length	1500 ± 200 mm				
<b>Environmental Limits</b>	-40 to 75°C (-40 to 167°F)				
Operating Temperature	-40 to 75°C (-40 to 167°F)				
<b>Regulatory Approvals</b>					
Safety	FCC/UL/PSE	TUV/CE/GS	CE	RCM	CCC
<b>Related Products</b>	NPort 5110-T, NPort 5450-T, NPort 5450I-T, NPort 5110A-T, NPort 5610-8-DTL-T, NPort 5650-8-DTL-T, NPort 5650I-8-DTL-T, NPort 5130A-T, NPort 5150A-T, NPort 5210A-T, NPort 5230A-T, NPort 5250A-T, NPort 6100-T, NPort 6200-T, NPort 6400-T				

## Power Supplies

### 24/48 VDC power supplies for installation on a DIN-rail

	24 VDC DIN-Rail Power Supplies					48 VDC DIN-Rail Power Supplies		
Model Name	DR-4524	DR-75-24	DR-120-24	MDR-40-24	MDR-60-24	DR-75-48	DR-120-48	DRP-240-48
Accessories Image								
<b>Physical Characteristics and Temperature Limits</b>								
Dimensions (mm)	78 x 67 x 93	55.5 x 100 x 125.2	65.5 x 100 x 125.2	40 x 90 x 100	40 x 90 x 100	55.5 x 100 x 125.2	65.5 x 100 x 125.2	125.5 x 125.5 x 100
Weight	400 g	550 g	650 g	260 g	280 g	550 g	650 g	1.2 kg
Operating Temperature	-10 to 50°C (14 to 122°F)	-10 to 60°C (14 to 140°F)		-20 to 70°C (-4 to 158°F)		-10 to 60°C (14 to 140°F)		-10 to 70°C (14 to 158°F)
Relative Humidity	20 to 90% RH	20 to 90% RH		20 to 90% RH		20 to 90% RH		
<b>Power Requirements</b>								
Wattage	45 W	75 W	120 W	40 W	60 W	75 W	120 W	240 W
Input	85-264 VAC (47-63 Hz), or 120-370 VDC		88-132 VAC, or 176-264 VAC (47-63 Hz) by switch, or 248-370 VDC	85-264 VAC (47-63 Hz) or 120-370 VDC		85-264 VAC (27-63 Hz) or 120-370 VDC		88-132 VAC, or 176-264 VAC (47-63 Hz) by switch, or 248-370 VDC
Output	48 W (24 VDC @ 0-2 A)	76.8 W (24 VDC @ 0-3.2 A)	120 W (24 VDC @ 0-5 A)	40 W (24 VDC @ 0-1.7 A)	60 W (24 VDC @ 0-2.5 A)	76.8 W (48 VDC @ 0-1.6 A)	120 W (48 VDC @ 0-2.5 A)	240 W (48 VDC @ 0-5 A)
Over-voltage Protection	27.6-32.4 V		29-33 V	31.2-36 V		58-65 V		54-60 V
Overload Protection Type	105-150% Constant Current Limiting							
Reset	Auto Recovery							
Inrush Current	30 A and 115 V, or 60 A and 230 V							
<b>Reliability</b>								
Safety Standards	EN 60950-1, UL 508 approved							
EMC Standards	EN 55022 Class B, EN 61000-4-2/3/4/5/6/8/11, ENV 50204, EN 61000-3-2, EN 50082-2							
Warranty	3 years (see www.moxa.com/warranty)							

A

Accessories > Power Accessories

# Fiber Accessories

## Fiber Optic Adapters

### SC male to ST female duplex adapters



These SC male to ST female duplex adaptors are provided as an optional accessory to give users of Moxa industrial Ethernet switches more fiber optic connection options. Simply plug the adaptors directly into the SC connector of any Moxa industrial Ethernet switch to convert the original SC connector into an ST connector. This allows you to use an ST connector with any MOXA industrial Ethernet switch, but without the need for an extra patchcord.

#### ADP-SCm-STf-S

SC male to ST female duplex adaptor for single-mode fiber

**Single-mode:** 9/125 μm

**Ferrules and Sleeves:** Zirconia Ceramic

**Body Color:** Blue

**Insertion Loss:** 0.5/1.1 (TYP/MAX)

**SC-side Connector:** SC male

**ST-side Connector:** ST female

#### ADP-SCm-STf-M

SC male to ST female duplex adaptor for multi-mode fiber

**Multi-mode:** 62.5/125 μm

**Ferrules and Sleeves:** Zirconia Ceramic

**Body Color:** Gray

**Insertion Loss:** 0.1/0.3 (TYP/MAX)

**SC-side Connector:** SC male

**ST-side Connector:** ST female

## Caps

Model Name	A-CAP-M12M-M	A-CAP-M12F-M	A-CAP-N-M	A-CAP-M30M-MIP67	A-CAP-WPRJ45-MC
Accessories Image					
Description	Metal cap to cover M12-male connector	Metal cap to cover M12-female connector	Metal cap to cover N-type connector	Metal cap to cover M30 connector	Metal cap with chain for RJ45 connector
Related Products	Power cap for the AWK-4121 AWK-4131-M12 AWK-6222 AWK-6232-M12  DI/O cap for the AWK-4131-M12 AWK-6232-M12 PM-7200-4M12 TN Series	DI/O cap for the AWK-4121 AWK-6222  LAN cap for the AWK-1121, AWK-1127 AWK-3121-M12 AWK-3131-M12 AWK-4131-M12 AWK-5222-M12 AWK-5232-M12 AWK-6232-M12 TN Series	Antenna cap for the AWK-4121 AWK-4131-M12 AWK-6222 AWK-6232-M12	SFP cap for the AWK-4131-M12	Console & LAN caps for the AWK-4121 AWK-6222  Console cap for the AWK-4131-M12 AWK-6232-M12



# Connectors

Model Name	CBL-M12(FF5P)/ OPEN-100 IP67	CBL-M12D(MM4P)/ RJ45-100 IP67	CBL-M23(FF6P)/ OPEN-BK-100 IP67	M12A-5P-IP68	M12A-8PMM-IP68	CBL-M12DFF4PRJ45- BK-10-IP67	CBL-M12MM8PRJ45- BK-100-IP67	M12A-8PFF-IP67	
Accessories Image									
Description	1-meter M12-to-5-pin power cable with IP67-rated 5-pin female A-coded M12 connector	1-meter M12-to-RJ45 Cat-5C UTP Ethernet cable with IP67-rated 4-pin male D-coded M12 connector	1-meter M23-to-6-pin power cable with IP-67-rated female 6-pin M23 connector	Field-installation A-coded M12 screw-in 5-pin connector, female connector female pins	Field-installation A-coded M12 screw-in 8-pin connector, male connector male PIN	M12-to-RJ45 Cat-5E UTP Ethernet cable with IP67-rated female 4-pin D-coded M12 connector	M12-to-RJ45 Cat-5E UTP Ethernet cable with IP67-rated male 8-pin A-coded M12 connector	Field-installation A-coded M12 screw-in 8-pin connector, female connector female PIN	
Cable Length	1 m	-	-	-	-	10 m	1 m	-	
Related Products	AWK-4121 AWK-4131-M12 AWK-6222 AWK-6232-M12	TN Series	TN Series	Power connector for the AWK-4121 Series AWK-4131-M12 AWK-6222 Series AWK-6232-M12	DI/O connector for the AWK-4121 AWK-6222 LAN connector for the AWK-4131-M12 AWK-6232-M12	AWK-4121 AWK-6222	AWK-4131 Series	DI/DO connector for the AWK-4131 Series AWK-6232-M12	


Field-Installation Connectors		
Model Name	A-PLG-WPM30/IP67-01	A-PLG-WPRJ
Accessories Image		
Description	Field-Installation for M30 plug	Field-installation RJ-type plug
Cable Length	-	-
Related Products	SFP LAN connector for the AWK-4131-M12	LAN connector for the AWK-4121 AWK-6222




# A

Accessories > Connectors

# Mounting Kits

Wall Mounting Kits				
Model Name	WK-30	WK-32	WK-36-02	WK-46
Accessories Image				
Dimensions	40 x 30 x 1 mm	30.3 x 140 x 12.3 mm	36 x 67 x 2 mm	51.6 x 66.8 x 1 mm
Related Products	EDS-205A Series EDS-G205 Series EDS-G205A-4PoE Series ICF-11701 Series	EDS-828 Series EDS-728 Series	NPort IA5150A Series NPort IA5250A Series	EDS-208A Series EDS-300 Series EDS-400A Series EDS-500A Series EDS-G308 Series EDS-G509 Series EDS-P206A-4PoE Series EDS-P308 Series EDS-P510 Series OBU-102 Series IMC-101G/101 Series ioLogik W5312 Series ioLogik W5340 Series PT-500 Series VPort 254 Series VPort 351 Series VPort 354 Series VPort 364 Series VPort 451 Series VPort 461 Series VPort 3310 Series VPort D351 Series VPort D361 Series

Wall Mounting Kits					
Model Name	WK-51-01	WK-55	WK-75	WK-90	WK-195
Accessories Image					
Dimensions	55 x 67 x 1 mm	55 x 34.5 x 2.5 mm	75 x 90 x 2.5 mm	99 x 62 x 2.5 mm	195 x 17.5 x 52.5 mm
Related Products	AWK-1121 AWK-1127 AWK-3121 Series AWK-3131 Series AWK-5222 Series EDR-G902 Series EDR-G903 Series EDS-P506A-4PoE Series EDS-316 Series IMC-P101 Series PTC-101 Series NPort IA5450A Series	AWK-4121 AWK-4131-M12 AWK-6222 AWK-6232-M12	EDS-600 Series ioPAC 8000 Series	ioLogik E1500 Series	PT-7710 Series

DIN-rail Mounting Kits				Pole Mounting Kit	
Model Name	DK-DC50131	DK-TN-5308	DK-M12-305	DK-35A	PK-DC2DOF
Accessories Image					
Dimensions	50 x 131 x 1 mm	66 x 174 x 12.8 mm	60 x 125 x 12.8 mm	42.5 x 10 x 19.34 mm	-
Related Products	TN-5500 Series AWK-3121 Series AWK-3131 Series AWK-4121 Series AWK-4131 Series AWK-5222 Series AWK-6222 Series AWK-6232 Series ioPAC 8000 Series ioLogik E1500 Series MxNVR-M04 Series	TN-5308 Series	TN-5305 Series	MGate™ 3x80 Series NPort Express DE-211 NPort Express DE-311 NPort 5100 Series NPort 5100A Series NPort 5200 Series NPort 5200A Series NPort 5400 Series NPort 6150/6250/6450 NPort W2x50A UPort 1150I UPort 404/407 UPort 1250/1250I TCF-142 Series TCC-100/100I TCC-120/120I	AWK-4121 AWK-4131-M12 AWK-6222 AWK-6232-M12

A

Accessories > Mounting Kits





Simplicity



Robustness



User-Centric Experience

# Moxa Green Core

## Delivering a Unified Brand Presence

Moxa's brand new "Green Core" product identity incorporates a special shade of green to deliver a unified brand presence. The Green Core product identity emphasizes the three design concepts of simplicity, robustness, and user-centric experience, and was carefully planned to complement our brand promise of "Reliable Networks, Sincere Service."

New Moxa products already adhere to the Green Core product identity, and existing products will be converted to the Green Core design starting in May 2014. All Moxa products will be Green Core by the end of 2015. For more information about Moxa Green Core, please visit [www.moxa.com/greencore](http://www.moxa.com/greencore) to understand our brand promise, essence, and story.

Every effort is made to ensure that the information 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.

> The latest product information can be found here: [www.moxa.com/product](http://www.moxa.com/product)

## Your Trusted Partner in Automation

Moxa is a leading manufacturer of industrial networking, computing, and automation solutions. With over 25 years of industry experience, Moxa has connected more than 30 million devices worldwide and has a distribution and service network that reaches customers in more than 70 countries. Moxa delivers lasting business value by empowering industry with reliable networks and sincere service for automation systems.

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