



About Moxa

Industrial systems integrators have relied on Moxa products in major installations around the world for more than twenty years. Moxa offers industrial grade solutions for a diverse range of applications, backed by an excellent warranty and highly specialized technical support staff. Our products are used for applications such as connecting PLCs to wireless control networks, long-distance transmission of temperature signals, and automated remote device control.



Moxa Headquarters

Fl.4, No.135, Lane 235
Pao-Chiao Rd., Shing-Tien City
Taiwan, R.O.C.
Tel: +886-2-8919-1230
Fax: +886-2-8919-1231
www.moxa.com
info@moxa.com

Moxa Americas

Toll-free: 1-888-MOXA-USA
(1-888-669-2872)
Tel: +1-714-528-6777
Fax: +1-714-528-6778
www.moxa.com
usa@moxa.com

Moxa Europe

Tel: +49-89-3 70 03 99-0
Fax: +49-89-3 70 03 99-99
de.moxa.com
europe@moxa.com

Moxa Asia-Pacific

Tel: +886-2-8919-1230
Fax: +886-2-8919-1231
www.moxa.com
www.moxa.com.tw
japan.moxa.com
asia@moxa.com

Moxa China

www.moxa.com.cn
china@moxa.com

Shanghai Office

Tel: +86-21-5258-9955
Fax: +86-21-5258-5505

Beijing Office

Tel: +86-10-6872-3959/60/61
Fax: +86-10-6872-3958

Shenzhen Office

Tel: +86-755-8368-4084/94
Fax: +86-755-8368-4148



©2010 Moxa Inc. All rights reserved.

The MOXA logo is a registered trademark of Moxa Inc. All other logos appearing in this document are the intellectual property of the respective company, product, or organization associated with the logo.

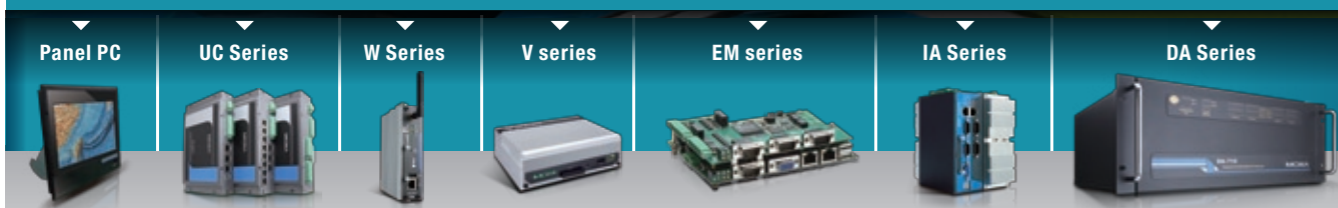
P/N : 1900031001010

A Ready-to-Run Platform Provider For Industrial Computing



City-Wide Computing Solutions that Surpass All Your Requirements

A Moxa-powered computerized city doesn't just satisfy your expectations, it exceeds them. Moxa offers a wide range of industrial computers with "Industrial Grade" hardware design and "Rcore® Ready-to-Run" software for different industrial applications, especially in renewable energy, railway, ITS, marine, and power. In addition, Moxa offers customized service with our industrial computing systems by designing customer-oriented products that give users the flexibility they need for specific applications. These complete integrated hardware and software solutions deliver exceptional value and performance.



01 Industrial Grade Hardware Design

What is "Industrial Grade"? Moxa builds products to exceed standards of versatility, reliability, ease-of-use, and cost-effectiveness. Moxa subjects all systems to days of rigorous real-world testing, constantly explores new ways to simplify deployment while expanding capabilities, and then proudly stands behind the outcome with a 3 or 5-year warranty. The result is a product that is truly industrial grade. For more information, please go to page 03

02 Rcore® Ready-to-Run Software

Moxa's Rcore provides users with an integrated ready-to-run embedded software platform that speeds up and reduces the effort required for system development, for a faster time-to-market. For more information, please go to page 07

03 Customized Service

Moxa provides quick and customized service to deliver solutions perfectly fit to customer demands. Our broad, versatile product portfolio can be further modified to meet your specific requirements. If you are looking for new ways to grow your business and increase your value, then Moxa's new DTO (designed to order) service may be for you. The customized service integrates hardware and software together. This new service tailors solutions specifically for your application, creating truly customer-oriented computing products of unparalleled flexibility and maximum ROI. For more information, please go to page 19

Our Mission

Continue Moxa's tradition of excellence by offering reliable, stable, wide temperature, and longer MTBF industrial-grade complete solutions and service.

Why Moxa develops industrial computers

☛ To Serve our Customers

Our customers have often asked us to apply the same expertise and dedication we bring to device networking to industrial computing solutions. We answered.

☛ Because Computing is Essential

Customer Value beyond consistent communications from point A to point B is added by introducing local intelligence and distributed computing

☛ To Deliver Extreme Computing

Moxa's world-class expertise in industrial-strength products is now devoted to offering our customers complete solutions.

Table of Contents

- P.01 About Moxa Industrial Computing
- P.03 Industrial Grade Hardware Design
- P.07 Rcore® Ready-to-Run Software
- P.11 Our Areas of Expertise: Vertical Markets
- P.19 Customized Service
- P.20 International Recognition
- P.21 Product Comparison

Industrial Grade – Rugged Design



- Wide Temperature
- Harsh Environments
- Cableless and Fanless
- Ultra-low Power Consumption

Moxa's industrial computers are cableless, fanless, and are subjected to rigorous testing to verify their fitness for harsh environments. Moxa's industrial computers meet industry certifications for ruggedness in specific applications, such as IEC 61850-3, EN 50155 and DNV. We consider excellence an ongoing pursuit, and Moxa constantly develops and implements innovative new technologies for wide operating temperature computing.

Harsh Environments

In industry, operating in harsh environments is just all in a day's work. That's why Moxa's computers are designed to shrug off adversity that would hobble less rugged machines: vibration, power failure, electrostatic discharge, and electromagnetic interference.

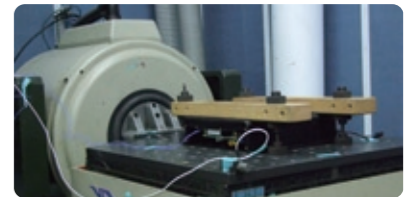
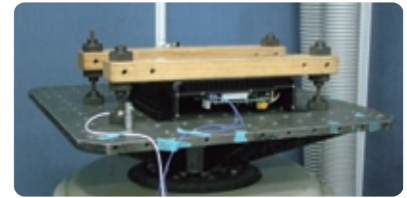
Moxa's industrial-grade systems are backed up by 5G vibration and 50G anti-shock guarantees and are ideal for moving locations such as automobiles or rolling stock. Safeguarding the data is important to any data acquisition system's storage devices, such as CF, SD, and Flash memory, are similarly protected from detachment.

Industrial-grade products also require strong power input design to guarantee continuous operations. Dual power inputs or power input protection with screwed terminal blocks allow Moxa's systems to circumvent power interruptions.

Isolation protection is another key part of creating a secure communication platform. All of Moxa's communication interfaces are well-protected with different isolation standards. All serial ports come with ESD protection for all signals, Ethernet ports come with magnetic protection, and DI/DO channels have optical isolation protection.

Electromagnetic interference presents a further challenge for engineers who design and develop embedded systems. Moxa's embedded computers use industrial-grade components that meet all international EMI standards and directives to reduce radiation effects and provide a reliable embedded platform for any industrial applications.

Anti-vibration and Anti-shock



Wide Temperature

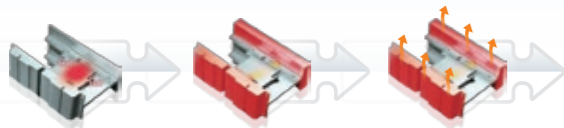
Moxa's industrial computers easily handle extremely hot or cold environments and can withstand temperatures ranging from -40 to 75°C. This makes it possible to deploy computers in harsh locations such as roadside cabinets or remote field sites. To achieve this level of ruggedness, Moxa's sophisticated hardware and software solutions are built with high-quality components, advanced heat dissipation design, system throttling software, and self-warming systems. Then, all our products prove their mettle with dynamic burn-in and rigorous chamber testing for both high and low temperatures. The result is a product ready to take on severe temperatures.

Wide Operating Temperature

Moxa Industrial Grade	Conventional
-40-75°C Operating Temp.	-10-60°C or -40-75°C Storage Temp.
40 hours uninterrupted burn in	N/A
Rigorous Chamber Testing Forced-convection & Natural-convection thermal chamber to test in real-world conditions	Standard Chamber Testing Forced-convection thermal chamber
BIOS Dynamic Throttling Technology	N/A

VS

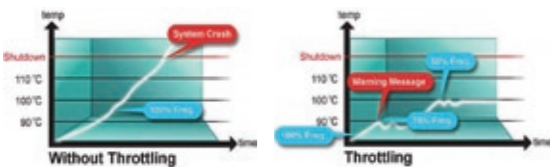
Special Heat Dissipation Design



Innovative Heat Dissipation Design

Traditional externally-attached heat sinks can only go so far. For even more robust heat dissipation, Moxa has patented an innovative "H-type" heat sink that makes direct contact with the major inner heat sources to cool down a device's internal temperature.

System Throttling Design



BIOS Dynamic Throttling Technology

BIOS throttling efficiently cools down the system, but also lowers system performance. Moxa's dynamic throttling technology optimizes throttling behavior for maximum reliable performance.

Cableless / Fanless

Cables and fans are additional components that increase the complexity of a hardware device. This weakens the overall resilience of the system by adding more moving parts and points of failure. Moxa's design philosophy emphasizes compact and elegant architectures that do not use cables or fans. Forgoing cables increases vibration tolerance and avoids signal interference issues. Meanwhile, a fanless design reduces size, complexity, susceptibility to dust, and wear and tear. Instead of taking shortcuts by using these two problematic components, Moxa selects components that generate less heat but can still maintain high system performance. The result is a more stable, reliable, and cost effective system that dramatically reduces total cost of ownership.



No cables, no moving parts



Ultra-low Power Consumption

The components of Moxa's embedded computers are chosen to meet industrial-grade demands. To achieve this task, Moxa uses a fanless, cable-less, no hard disk design that guarantees stable system operation, but without generating too much heat.

UC-7100
RISC-based Wallmount Embedded Computers
Consumes 4.1 watts



W315
RISC-based Wireless Embedded Computer
Consumes 4.8 watts



V2101
x86-based Wallmount Embedded Computer
Consumes 17 watts



DA-681
x86-based Rackmount Embedded Computer
Consumes 26 watts



Industrial Grade – Reliable Design

Reliable Design

- Quality Components
- 3 or 5-year Warranty
- Longer MTBF/Lower RMA Rate

Flexible Design

- Rich Connectivity
- Modular Design
- Friendly Design



Reliable Design

Any product is only as good as its components, and Moxa has chosen only the best. IPC providers typically offer warranties of only 1 to 3 years and the average RMA rate is 2%. Moxa confidently guarantees the quality of its industrial computers with a solid 3 or 5-year warranty. Our products can boast a longer MTBF and an RMA rate under 1.5%.

Flexible Design

Moxa has over 20 years of experience in device networking. Our abundant experience in computer peripheral solutions is evident in the rich integrated connectivity options of our embedded computers, creating designs that are both widely versatile and expandable.

Components

Moxa selects the highest quality components when manufacturing embedded computers. To maximize the cost-performance ratio, we rigorously test all components and find the optimal price point in order to deliver reliable and cost-effective industrial solutions.

3 or 5-year Warranty

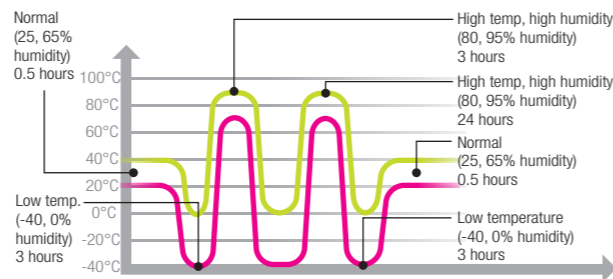
Moxa's embedded computers are backed by a solid 5-year (3-year for x86-based computers) warranty; this is longer than other IPC providers who can only offer a 2-year warranty. This reflects our confidence in the reliability of our products, even when used for demanding industrial applications.

Longer MTBF/Lower RMA Rate

With a 40-hour burn-in chamber test, Moxa's embedded computers are verified to offer longer MTBF. This translates to fewer parts to replace and lower overall cost for industrial systems. In addition, the low RMA rate (under 1.5%) guarantees that the applications can operate with low maintenance effort.

Embedded Products MTBF

Model Name	UC-7112 Series	W406 Series	IA260 Series	DA-681 Series	V481 Series
Platform	RISC	RISC	RISC	x86	x86
Temperature	0 to 60°C	0 to 60°C	-40 to 75°C	0 to 60°C	-35 to 75°C
Failure Rate	6.717319	5.878760	6.880977	9.915992	13.93070
MTBF (hrs)	148980 (13.9 years)	170162 (19.4 years)	145328 (16.6 years)	100847 (11.7 years)	71784 (8.2 years)



Industrial Grade – Flexible Design

Rich Connectivity

Over the past 23 years, Moxa's expertise with venerable serial communications technology has connected millions of serial devices to industrial networks. The patented ADDC (Automatic Data Direction Control) system used in RS-485 communication can precisely switch the transmitter on and off by hardware, effectively simplifying the complexity of software timing control. Moxa also provides wide non-standard baudrate selection from 50 bps to 921.6 Kbps, allowing flexible serial port configurations.

Ethernet ports, including LAN ports and switch ports, are also available to offer a diverse range of network communication options, allowing you to easily create an integrated industrial application including Ethernet protocols.

Moreover, some models offer digital input and digital output channels with 3 KV optical isolation for when you need to safely and reliably activate remote motion triggers. These DI/DO channels are useful for applications in security and environmental monitoring markets. Some models are even equipped with CAN ports to conveniently connect the CANbus devices to manufacturing automation networks.

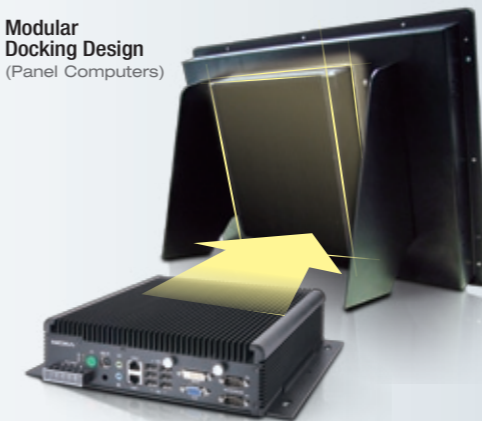
Rich Connectivity

Moxa Industrial Grade	Conventional
Integrated Peripherals: CAN, Serial, Switch, LAN, DI/DO	Integrated Peripherals: Serial, LAN, DI/DO
Switch Ports	No Switch Ports
Redundancy	No Redundancy
Multiple LANs (2-12)	Multiple LANs (2-4)
CAN + Isolation	CAN
Serial Baud rate : 50 bps to 921.6 Kbps	Serial Baud rate : 50 bps to 115.2 Kbps

Modular Design

The DA-682 and DA-710 computers feature flexible modular expandability. You can mix and match modules to create fine-tuned custom solutions off-the-shelf. Serial, LAN, switches and universal PCI port modules allow you to create the perfect connectivity suite for your specific industrial application. Meanwhile, our panel computers are designed for modular docking, enabling easy integration of the panel into the computer. These features make our computers cost-effective and best-fit solutions for many industrial applications.

Modular Docking Design (Panel Computers)



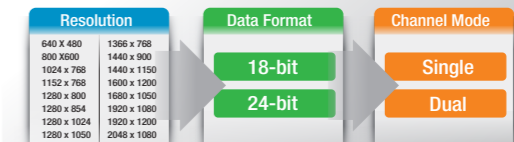
DA Series Expansion Modules



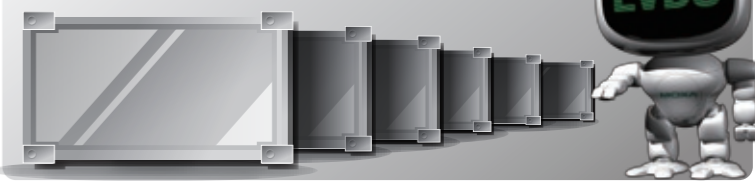
Friendly Design

Moxa's embedded computers have a user-centric design. We constantly strive to make it easier for you to deploy new hardware. For instance, small form factors allow the computers to be installed at any field site. Also, their low power consumption makes them an economical solution when establishing an industrial application. Meanwhile, Moxa's panel computer dimming technology enables simple adjustments of the brightness range from 0% to 100%--particularly convenient for harsh industrial field sites. In addition, you can choose any screen resolution you like with our innovative LVDS technology for data format and channel mode selection. This maximizes the flexibility of LVDS panels, and effectively reduces the workload of specific CV requests.

Innovation in LVDS Solution



From 16 to 64 options for more applications



Ready-to-Run Rcore Software

Empower Your Competitiveness for Faster Time-to-Market



The high reliability and stability of Moxa's embedded computers give our customers an edge over the competition. Moxa's Rcore embedded software platform further hones your competitiveness with faster time to market for your embedded computing systems. The Rcore software platform turbocharges system deployment at all tiers of project development by providing this suite of useful benefits:

- Operation and Support
- Production and Deployment
- Development
- Engineering and Prototyping
- Demonstration and Validation
- Concept Exploration & Definition
- Determination of Business Objective

- Easy-to-use application libraries
- Tested, and bug-free sample code
- Consulting-level advice for application development
- Fast concept validation and development cycle

BIOS and Boot Loader

Moxa provides full-featured BIOS and boot loader solutions both for x86-based and RISC-based systems. The wide range of options and extensions provide an answer to any potential need. Key features include:

Boot Loader:

- External disk boot option
- MDM remote management tool to remotely update firmware or recover
- Fast boot
- Boot loader customization and consulting

BIOS:

- Power failure recovery
- LVDS innovation: various resolutions supported (up to 64 options)
- Dynamic throttling technology
- Remote system wake-up
- Remote LAN boot
- Wide compatibility with peripheral devices
- Secure software protocols
- Fast boot
- BIOS code customization and consulting
- Secured pen drive boot

Operating Systems

Moxa's x86 and ARM industrial computers offer a powerful computing environment and stable system for a variety of industrial applications. These computers use either a Linux or Windows (CE and XPe) operating system to provide programmers with a familiar environment for application development, and help reduce the effort required for system integration. Moxa continues to look for real-time operating systems that are suitable for mission critical applications.

In addition, Moxa supports RISC porting which helps customers save 70% of development time. In addition, RISC and x86 systems both have file protection systems that preserves data during power failures



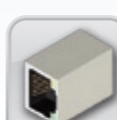




Middleware

Moxa offers a variety of middleware to help you easily integrate these application modules into your system. This allows you to take advantage of these modules' rich features without complicating the development process.

VPN	The VPN (OpenVPN, L2TP, and IPSec) middleware makes it easy for user applications to create secure tunnels between communication parties.
Firewall	The firewall (iptables) middleware protects enterprise information from unauthorized access.
Database	The database system (MySQL and MSSQL) middleware can be used to manage field-data acquisition, with web services (Web, PHP, ASP) included to give programmers an integration framework for building Internet accessible field applications, such as WebSCADA

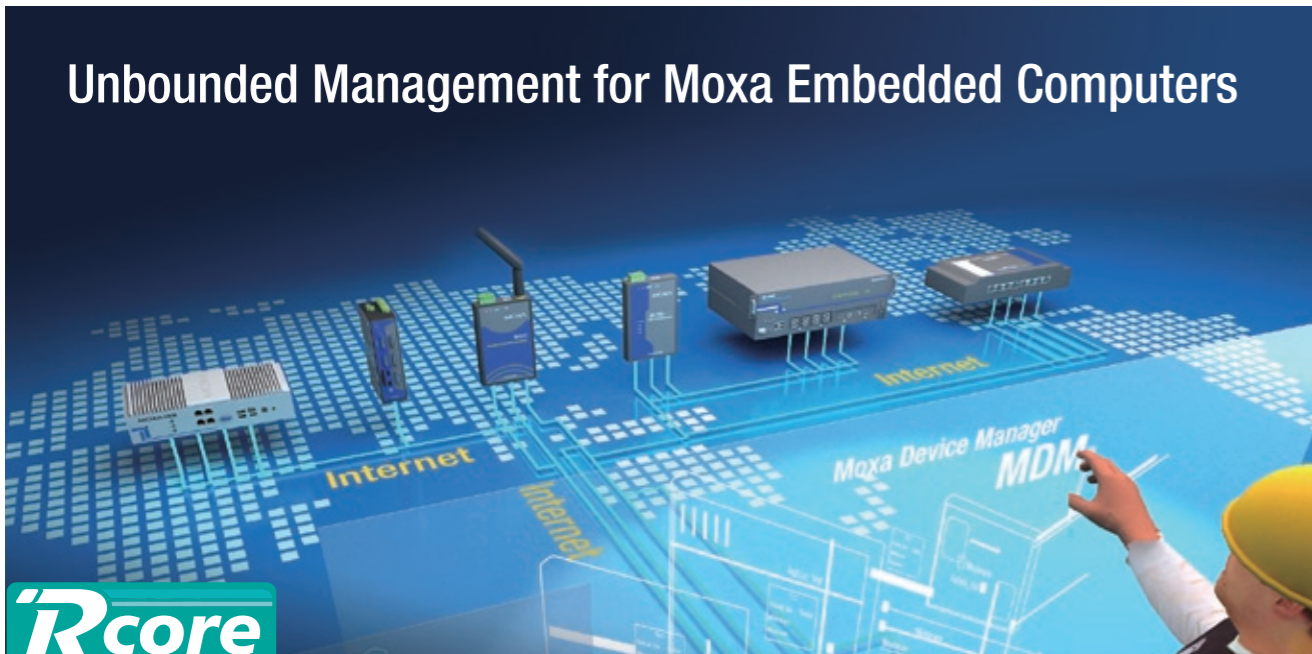
Sample Code

In addition to being part of the Linux community, the Moxa embedded computer family also includes models running the Microsoft® Windows® Embedded operating system. Adopting a widely used programming environment makes our embedded computers suitable for software development and legacy system migration

 <p>Keypad The Keypad Programming function helps developers easily program keypad buttons on the UC-7410/7420 and DA-660 series computers. In addition to the primary function, additional API functions are provided, such as a callback function defined by programmers to associate with an event.</p>	 <p>LCM The LCM Programming function helps developers easily program LCM displays on the UC-7410/7420 and DA-660 series computers.</p>
 <p>Socket Moxa embedded computers come with network interfaces that allow client-server applications to communicate with each other across a computer network. A Socket Programming function helps developers implement socket programming with TCP or UDP protocols.</p>	 <p>Serial In addition to the primary Serial Port Programming function, Moxa embedded computers offer higher level APIs for serial connections.</p>
 <p>Real Time Clock Developers can use the RTC Programming function to get the current time, set the hardware clock time to a specified time, set the hardware clock time to the system time, and set the system time from the hardware clock, by use of the function sample codes.</p>	 <p>Buzzer A Buzzer Programming function allows developers to trigger alarm beep for unusual events</p>
 <p>Watchdog Timer Moxa's embedded computers are also equipped with a Watchdog Timer Programming function that sets the system back to normal if applications don't acknowledge.</p>	

Moxa Device Manager (MDM)

Unbounded Management for Moxa Embedded Computers



Systems that incorporate several devices located at remote sites present a big challenge to solution providers. This is particularly true for industrial applications that use several headless embedded computers distributed over a wide area. Although this type of computer is generally accessible from over the network, the existing remote management options present a rather clumsy solution for managing large numbers of embedded computers.

The Benefits of MDM

Remote Control and Management

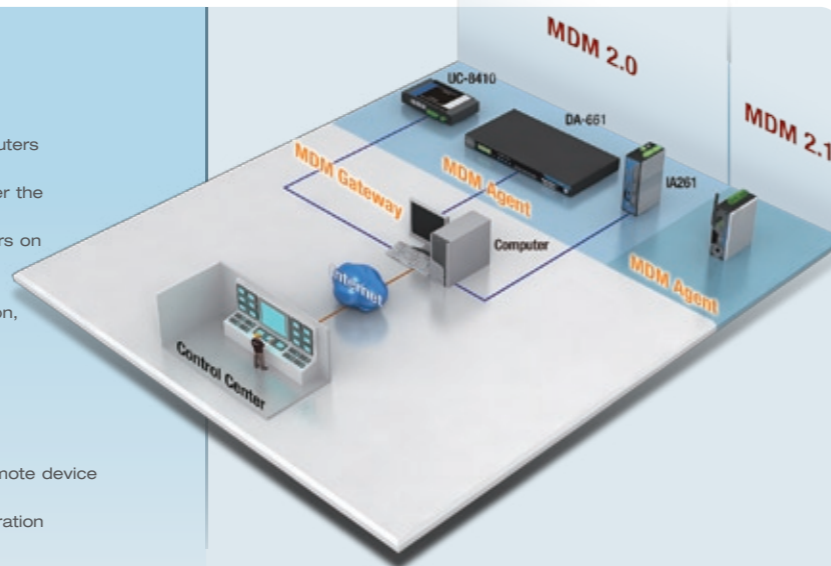
- Supports all models of Moxa's embedded computers and Linux, WinCE, WinXP operating systems
- Control and monitor remote embedded units over the Internet
- Broadcast search for Moxa embedded computers on the same LAN
- Get instant device status
- List basic information (IP, Model, Firmware version, OS, hostname, CPU, product image, memory information, and storage information) of all devices on the main page

Easy-to-use User Interface

- User-friendly "click and operate" interface for remote device management
- Friendly windows-based utilities for easy configuration

Command-line Free Configuration and Maintenance

- Launch programs automatically when booting up
- One-to-multiple file transfers
- Perform remote file system management
- Configure network interfaces
- Monitor and kill processes



- View detailed system information
- Reboot devices
- Upgrade firmware for multiple devices at one time
- Update system time

Rcore Application

Smart and Secured Machine to Machine Gateway

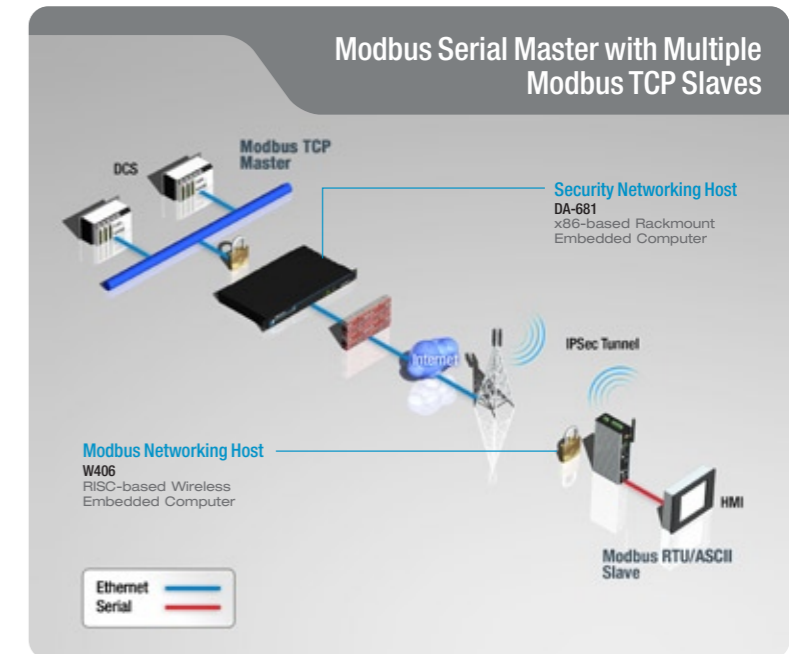
- **Tiers:** Middleware + Sample Code
- **Time to Market Reducer:**
 - Modbus gateway (sample code)
 - IPSec (middleware)
 - Moxa Device Manager (Modbus and IPSec configuration tools)

- **Benefits:** Streamline a variety of tasks, reducing development time and costs
- **Products:** SMG-6100 + SMG-1100
- **Location:** India

This embedded computing solution offers a sophisticated M2M solution for distributed wireless Modbus devices. This solution features a remote Modbus gateway and a communication gateway at the control site.

The Modbus gateway networks Modbus devices with Modbus RTU/ASCII protocols via GSM/GPRS/EDGE or Ethernet to Modbus TCP. The Modbus Gateway supports an unlimited number of serial slaves in an IP network and performs protocol conversions. The SMG-1100 can serve as both the serial master and slave. Its built-in IPSec function guarantees that data transmissions are encrypted, even in wireless environments.

The solution package is more than just a gateway solution for distributed Modbus devices. It is also a communication gateway for creating a tunnel server (IPsec) and two-way IP communications. The communication gateway serves as a secure networking host (IPsec) to back-end host computers and Modbus TCP master/slave devices. A single communication gateway can support an unlimited number of Modbus gateways.



Recommended Applications:

- AMR (automatic meter reading) in power automation.
- Encrypted machine to machine communication using wireless connectivity in industrial automation fields.

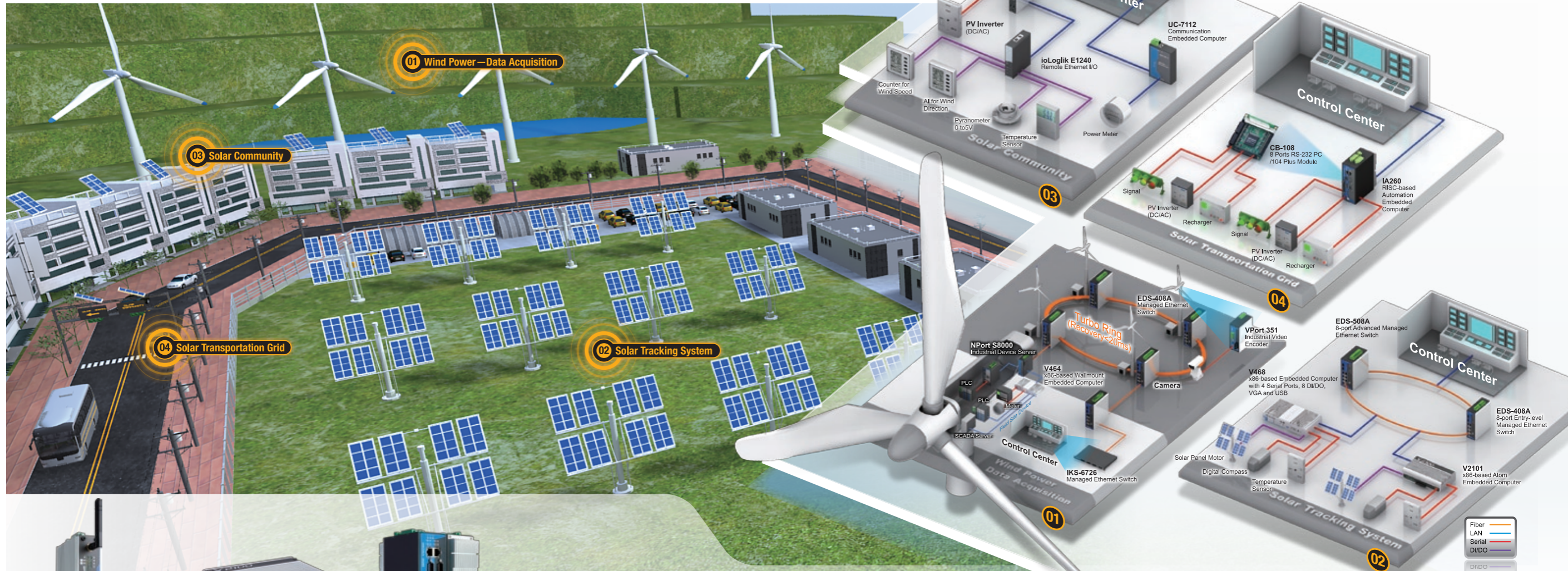
Utility Tool Application

- **Tier:** Utility Tools
- **Time to Market Reducer:** Windows XP embedded backup and restore

- **Benefit:** 50% reduction of development and maintenance time
- **Product:** V481
- **Location:** India

Moxa developed a comprehensive backup and restore tool for Moxa embedded systems. This program is stored on a USB drive and allows users to backup OS images from Moxa's embedded computers. In the event of system instability, users can restore the system complete with all the customized software or files they've previously backed up. This one software tool can backup and restore all the software and files on the embedded computer, instead of requiring laborious installations of each individual software program. This helps the customer reduce development and maintenance time by over 50%.

Renewable Energy



W406

RISC-based wireless embedded computer

- GSM 850/900/1800/1900 MHz supported, GPRS/EDGE Class 12 supported
- SMS tunnel mode provided
- 4 DI, 4 DO
- Auto-connect function can grab the exact parameters for customers automatically
- -40 to 70°C wide operating temperature model available

V2101

x86-based Atom embedded computer

- Intel Atom Z510PT 1.1 GHz processor, 400 MHz FSB
- Dual independent displays (VGA + LVDS)
- -40 to 85°C wide operating temperature
- DDR2 SODIMM socket, supports DDR2 400/533 up to 2 GB
- 2 Gigabit Ethernet ports
- 3 DIs and 3 DOs

IA260

RISC-based DIN-Rail embedded computer

- Patented "H-Type" heat dissipation
- 4 RS-232/422/485 serial ports, 8+8 DI/DO channels, up to 30 VDC
- RISC-based with VGA interface for field site monitoring
- Dual LAN ports for network redundancy
- -40 to 75°C wide operating temperature

01 Wind Power (Data Acquisition)

Recommended Product : V464

Solution Requirements:

- A robust front-end embedded computer to monitor substation devices and wind power field sites
- Highly reliable systems for remote management and monitoring

Why Moxa?

- Multiple communication interfaces available to support each level of field site devices
- Low power consumption and exclusive advanced heat sink designs for improved heat dissipation

02 Solar Tracking System

Recommended Product : V2101 or V468

Solution Requirements:

- A front-end embedded computer to control the electronic compass and monitor solar panel effectiveness
- Ultra-low power consumption design to maximize the electrical output of the solar power plant
- DI/DO interface to connect to electronic compass

Why Moxa?

- Small, compact, and ultra low power consumption design
- Multiple communication interfaces available to support each level of field site devices

03 Solar Community

Recommended Product : W406 or UC-7112

Solution Requirements:

- A front-end embedded computer to monitor the energy from solar PV panels and power meters
- Ultra-low power consumption design to maximize the electrical output of the solar power plant
- Both wireline and wireless solutions to fit into different infrastructures

Why Moxa?

- Small, compact, and ultra-low power consumption design
- Multiple communication interfaces available to support each level of field site devices
- Integrated GSM/GPRS/EDGE wireless module eliminates the extra hassle of separate wireless cards and drivers
- Both Linux and Windows platforms available for flexible programming

04 Solar Transportation Grid

Recommended Product : IA260

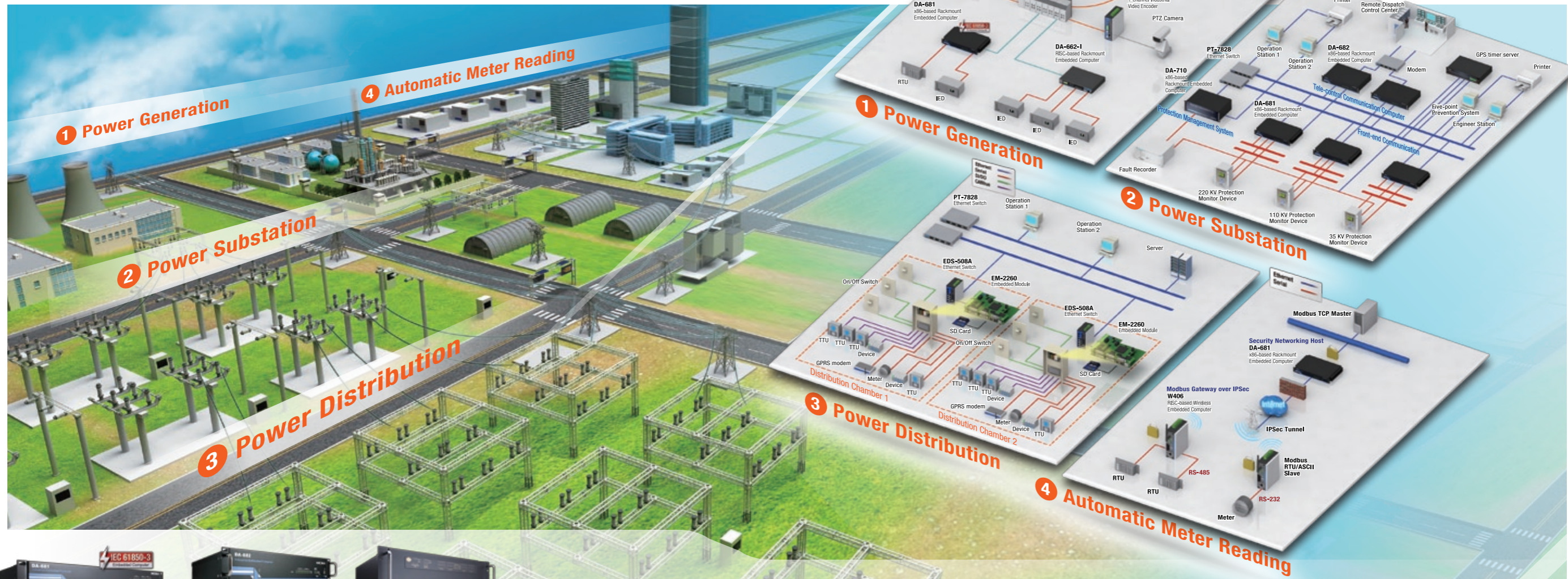
Solution Requirements:

- Front-end embedded computer to monitor the energy from solar PV panels and control panels
- Ultra-low power consumption design to maximize the electrical output of the solar power plant
- RISC-based platform with VGA to simplifying local debugging and setup

Why Moxa?

- Small, compact, and ultra-low power consumption design
- Multiple communication interfaces available to support each level of field site devices
- RISC-based embedded computer with VGA
- Both Linux and Windows platforms available for flexible programming

Power Automation



DA-681 x86-based rackmount embedded computer

- World's first IEC 61850-3 certified rackmount computer
- Dual power inputs for redundancy (dual power and power protected models only)
- Multiple serial ports and LAN ports for network redundancy

DA-682 x86-based rackmount embedded computer

- Variety of modules for greater versatility
- Built-in industrial-grade DOM, CF/SATA interface for storage expansion
- 100~240 AC/DC wide range power input suitable for substation environments

DA-710 x86-based rackmount embedded computer

- 4 peripheral slots for expansion modules
- Quad 10/100/1000 Mbps Ethernet for network redundancy
- High performance Intel® processor with fanless design
- Dual 100 to 240 VAC/VDC wide range power input provided

01 Power Generation

Recommended Product : DA-681 or DA-662-I

Solution Requirements:

- Embedded computer as protocol conversion gateway
- Connections for multiple peripherals
- Strong EMC design to counter electromagnetic interface

Why Moxa?

- Effective and readily available protocol conversion facilitates seamless communications between legacy devices using different protocols
- Moxa's products have been proven effective in several power automation applications
- Multiple connection options for devices and network redundancy
- IEC 61850-3 certified

02 Power Substation

Recommended Product : DA-710 DA-682, DA-681

Solution Requirements:

- Rackmount computers for protocol conversion, front-end computing, protection management and tele-control communication
- Support for fast switching and system backup architecture
- Multiple LANs for network redundancy and communications with dispatch control center
- 100-240 AC/DC power input required
- 19-inch rackmount, fanless design

Why Moxa?

- Modular design with multiple connection options for network redundancy and centralized communication
- Dual power design to connect simultaneously to 100 VDC and 240 VAC power sources
- Dedicated customer service
- IEC 61850-3 certified

03 Power Distribution

Recommended Product : EM-2260

Solution Requirements:

- A gateway capable of handling multiple devices running different protocols via different interfaces
- Stable system with quick communication response and ultra-low power consumption
- An integrated system with a variety of communication interfaces, including CANBus, DI/DO, serial ports, and Ethernet LANs ports

Why Moxa?

- Moxa's integrated embedded system dramatically improves reliability and development time compared to a self-assembled system
- CANbus and multiple serial ports offer fast I/O communication and versatile configuration
- Prompt and customized service tailored to customer needs

04 Automatic Meter Reading

Recommended Product : W406 or DA-681

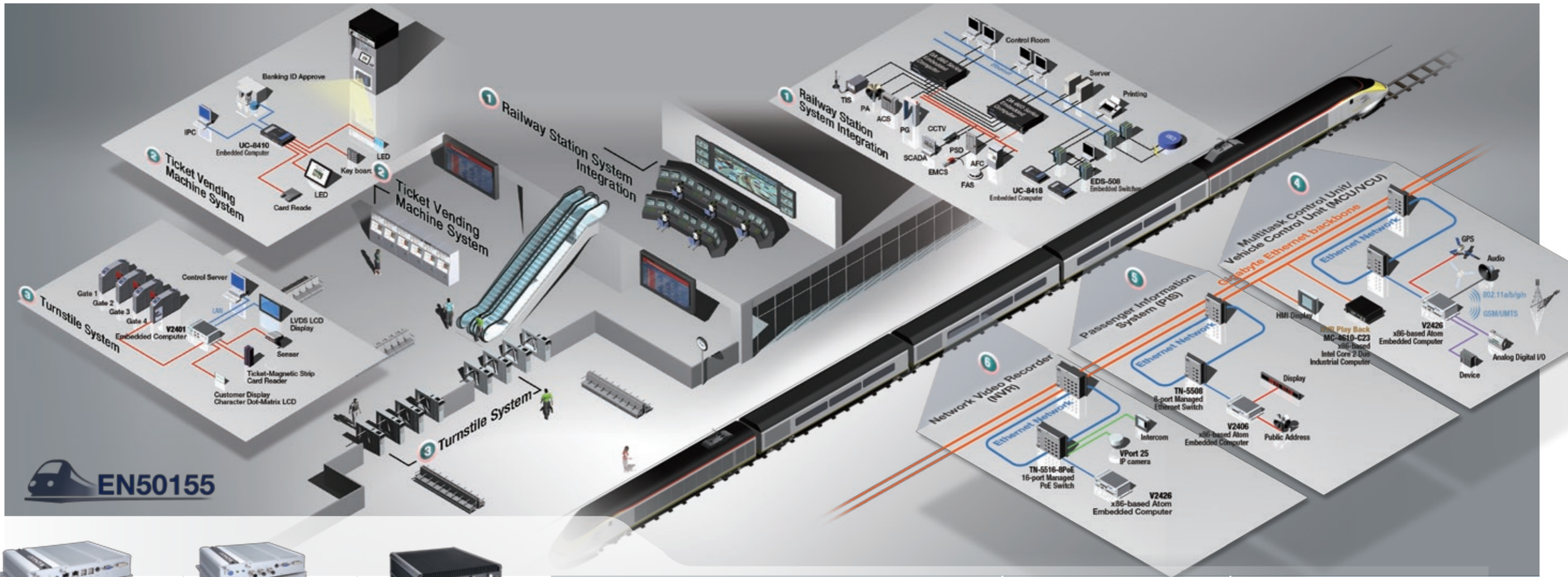
Solution Requirements:

- Embedded computers to improve legacy data collection to control networks and verifiable meter billing
- Front-end embedded computer for remote monitoring, data acquisition, data logging, reporting, and protocol conversion
- Ensure data accuracy, and reduce lead time and costs

Why Moxa?

- Sample code helps software developers simplify protocol conversion, expediting product development
- The IPsec function ensures network security both in wireline and wireless communication
- Allows multiple devices to use different protocols for data communication

Railway Automation



V2401 x86-based Atom embedded computer

- Rugged high-grade Intel Atom N270 x86 processor
- Dual independent displays (VGA, DVI, LVDS selectable)
- DDR2 SODIMM socket, supporting DDR2 533 up to 2 GB (max.)
- 4 RS-232/422/485 and 8 RS-232 serial ports; 4+4 DI/DO channels

V2406/V2426 x86-based Atom embedded computers

- Rugged high-grade Intel Atom N270 x86 processor
- Dual Independent displays (VGA + DVI)
- 4 Serial ports, 6 DI + 2 DO, 4 USB 2.0 ports
- 2 10/100 Mbps Ethernet ports with M12 connector

MC-4610-C23 x86-based Core 2 duo industrial computer

- Dual 10/100/1000 Mbps Ethernet ports with screwed RJ45 connector
- 3 USB 2.0 ports, 8x DI channels, 2 serial ports
- M23 tightened power connector
- Dual independent displays (VGA + DVI)

01 Railway Station System Integration

Recommended Product : DA-682

Solution Requirements:

- Multiple serial ports and Ethernet ports to integrate various end devices
- Computing capability
- High system reliability and stability

Why Moxa?

- DA-682 features modular flexibility for greater versatility
- High CPU performance
- Fanless design to provide a highly available system
- Two redundant LANs to provide high network availability

02 Turnstile System

Recommended Product : V2401

Solution Requirements:

- Multiple serial ports, Ethernet ports, IO and dual display to integrate various end devices
- High computing performance for various applications
- High reliability to accommodate heavy passenger flow

Why Moxa?

- Supports serial, Ethernet, DI/DO, and dual displays for simple integration and improved communications
- Flexible and ready-to-run platform
- Fanless and cableless with no moving parts for high availability

03 Ticketing Vending Machine System

Recommended Product : UC-8410

Solution Requirements:

- Multiple serial ports, Ethernet ports, and IOs to integrate various end devices
- Compact rugged design for deployment in small spaces

Why Moxa?

- Supports 8 RS232/422/485 serial ports, triple LAN ports, and DI/DO interface for simple integration and improved communications
- Fanless and cableless with no moving parts for high availability

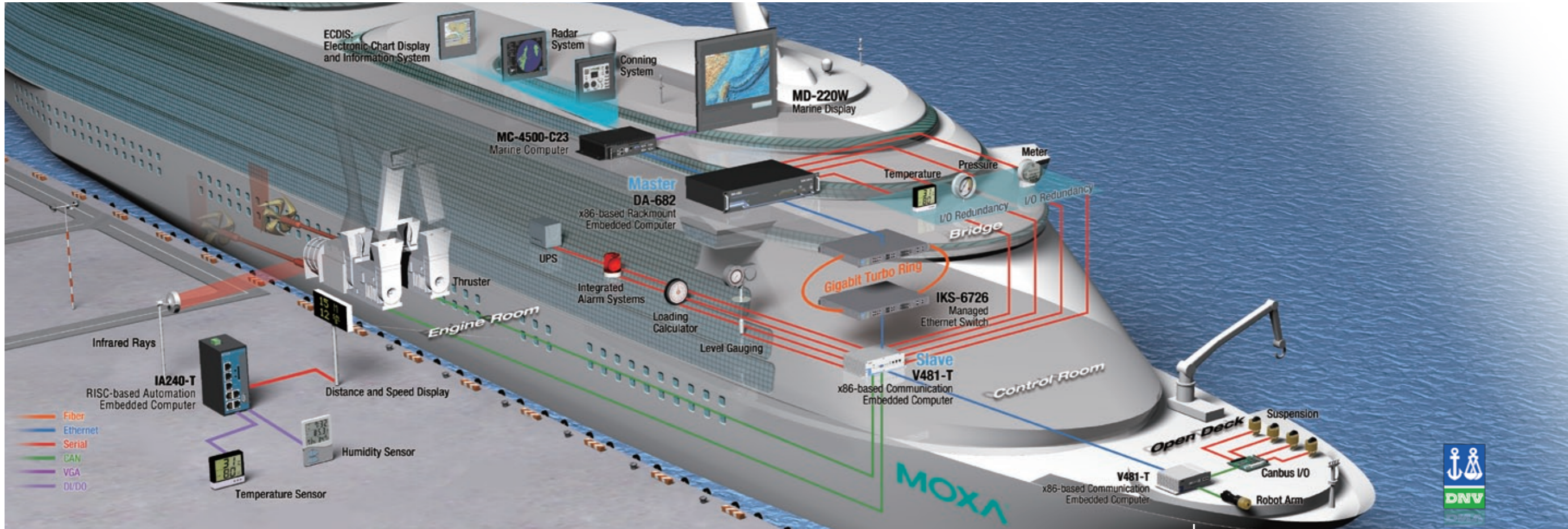
04 05 06 MCU/PIS/NVR

Recommended Product : V2406/V2426

Solution Requirements:

- Wide range of power input options to satisfy various power requirements at different field sites
 - Various industrial-grade certifications to meet industrial standards, such as EN50155 and e-mark
- Why Moxa?**
- Versatile interfaces, including serial, Ethernet, switch, DI/DO, CAN, M12 connectors, and USB
 - Flexible and modular design for easy future expansion
 - Wide-temperature models available for operations in extreme environments
 - Fanless and cableless with no moving parts for high availability

Maritime



Coming Soon

MPC-220W-C23 Marine Panel PC

- Superior computing performance
- Fanless design with compact size
- Full-dimming control
- State-of-the-art optical bonding
- Industrial-grade panel with super wide viewing angle
- Marine computer and display use a modular docking design



Coming Soon

MC-4510-C23 x86-based Core 2 duo industrial computer

- Dual 10/100/1000 Mbps Ethernet ports with screwed RJ45 connector
- 3 USB 2.0 ports, 8x DI channels, 2 serial ports
- M23 tightened power connector
- Dual independent displays (VGA + DVI)



DA-682 x86-based rackmount embedded computer

- Variety of modules for greater versatility
- Built-in industrial-grade DOM, CF/SATA interface for storage expansion
- Built-in DDR2 SDRAM and industrial flash disk module

01 Dock

Recommended Product : IA240-T

Solution Requirements:

- RISC-based embedded computer with wide operating temperature range to manage the distance between the ship and harbor
- Digital Input/Output with humidity and temperature devices. Serial communications with display of distance and speed. LAN port for data transmission with control center.
- Wide operating temperature for harsh environments

Why Moxa?

- Compact RISC-based embedded computer
- Reliable systems with low RMA rate
- Moxa direct technical support for Linux kernel timers and local distributor service
- -40 to 75°C wide operating temperature and 5-year warranty

02 Open Deck

Recommended Product : V481-T

Solution Requirements:

- x86-based embedded computer with wide operating temperature range to manage the equipment on the open deck
- CANbus communication with robot arms. Serial communication with other open deck devices. Dual LAN port for data transmission with bridge systems.
- Wide operating temperature for harsh environments

Why Moxa?

- Moxa direct technical support for CANbus drivers and local distributor service
- -35 to 75°C wide operating temperature
- DNV certified

03 Bridge

Recommended Product : MPC-220W-C23

Solution Requirements:

- x86-based extreme performance CPU to ensure optimal and stable system performance
- Marine-grade display with wide viewing angle, optical bondings, and full-dimming control functions
- IP65, IEC 60945, DNV, E10, ECDIS compliant marine display.

Why Moxa?

- Increased reliability
- Competitive life-cycle support
- Simple upgrade solutions
- Modular panel computer system; the marine computer and marine display use a modular design for greater versatility
- Quick and customizable service tailored to the demands of key accounts
- OEM service available for key accounts
- IEC 60945/DNV/E10/ECDIS certified

04 Control Room

Recommended Product : V481-T

Solution Requirements:

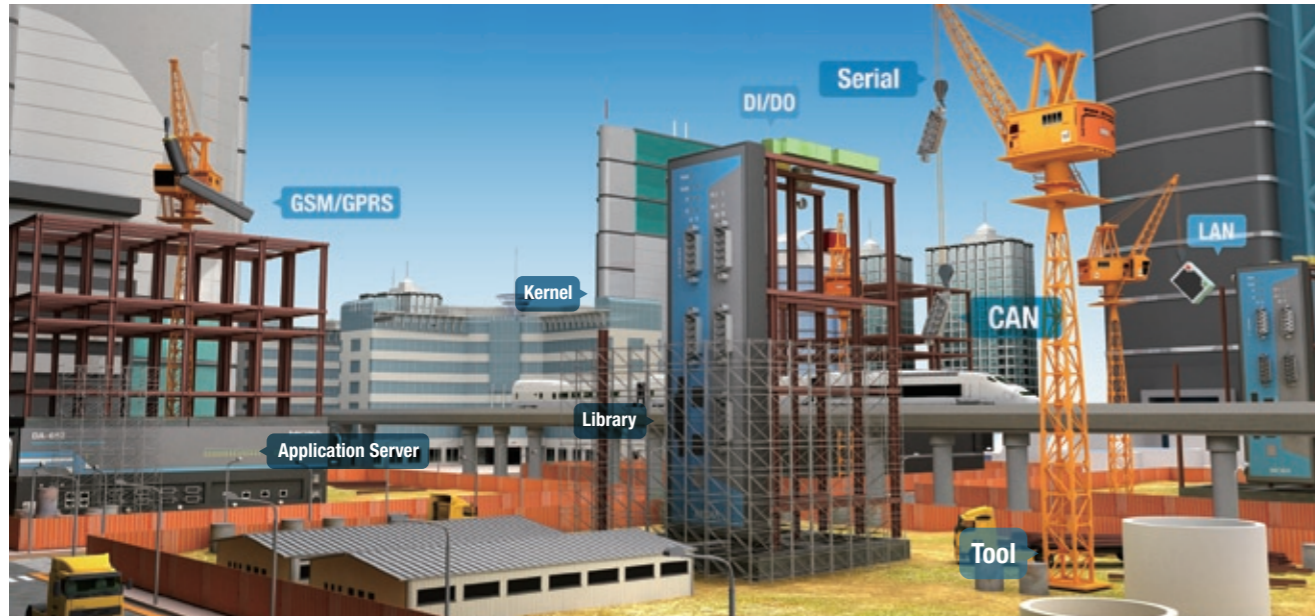
- x86-based embedded computer with wide temperature range to manage control room and bridge equipment
- Serial communications for temperature, pressure, meter, UPS, integrated alarm systems, loading calculator, and level gauge devices. Dual LAN ports to support system redundancy between the bridge system and control room.

- Wide operating temperature range for harsh environments
- DNV certification

Why Moxa?

- x86-based high performance embedded computer
- Reliable system with low RMA rate
- Supports up to 8 serial ports
- Dual 10/100/1000 LAN redundancy
- Moxa direct technical support for serial drivers and local distributor service
- -35 to 75°C wide operating temperature
- DNV certified

Moxa Industrial Computers Customized Service



With more than 20 years of R&D experience, Moxa's professional technical support and customer-first culture has made us a world leader in the industrial networking and communication industry. We apply this expertise both to a variety of off-the-shelf solutions to meet the requirements of your specific industrial applications:

High Quality

- Over 20 years of experience
- Solid 2 or 3 or 5-year warranty
- Low RMA

Expertise

- Computing communication and control
- Value added software platform
- Designed for harsh environments

We have received many inquiries about customized industrial computing products and solutions from system integrators seeking well-designed computing products for industrial automation. Moxa offers Designed to Order (DTO) service to tailor solutions specifically for your application, creating truly customer-oriented computing products of unparalleled flexibility and maximum ROI. As a leading provider of industrial communication and networking technology, Moxa has acquired a wealth of expertise in the development of modular technology for a variety of CPU platforms, which we put to use to provide highly customized solutions of consistent high quality.

Integrated Yet Customized Service

Hardware	Software	Project Management
<ul style="list-style-type: none"> • Modular Hardware, Including CPU, Peripherals • Standard and Non-Standard Mechanisms • Wide Thermal Range • Private Label Service 	<ul style="list-style-type: none"> • Customized for Linux and Windows • Rich Device Drivers for Special Driver Modification • Middleware Packages • BIOS and Boot Loader 	<ul style="list-style-type: none"> • Technical Support • Exclusive Account Service • Quick Response • Customer Centric

International Recognition



▶2006 Taiwan Excellence Award

IA240/241 RISC-based DIN-Rail embedded computers

▶2007 Engineers' Choice Award, Control Engineering

W345 RISC-based wireless embedded computer

▶2007 Engineers' Choice Award, Control Engineering

DA-662 RISC-based rackmount embedded computer

▶2007 Embedded Award, Embedded World Exhibition and Conference

W315/325/345 RISC-based wireless embedded computers

▶2007 Best Product, PC/Embedded Control Category, China Industrial Control and Automation Website

W311/321/341 RISC-based wireless embedded computers

▶2008 Reader's Choice Award, Automation & Drives Magazine

W315/325/345 RISC-based wireless embedded computers

▶2009 Taiwan Excellence Award

IA260 RISC-based DIN-Rail embedded computer
DA-682 x86-based rackmount embedded computer

▶2009 World's First IEC 61850-3 Certified Rackmount Computer

DA-681 x86-based rackmount embedded computer

▶2010 Taiwan Excellence Award

DA-681 x86-based rackmount embedded computer
W406 RISC-based wireless embedded computer



x86-based Wallmount Embedded Computers



V2101
x86-based Atom Wallmount Embedded Computer for Digital Signage

Features

- Intel Atom Z510PT 1.1 GHz processor
- Dual independent displays (VGA + LVDS)
- 2 Gigabit Ethernet ports
- 4 USB 2.0 hosts
- 2 RS-232/422/485 serial ports, supporting non-standard baudrates
- 3 Digital Input channels and 3 Digital Output channels
- Ready-to-run Linux, Windows CE or Windows Embedded Standard 2009 platforms
- -40 to 85°C wide temperature models for harsh environments



V2401 and V2402
x86-based Atom Wallmount embedded computer for AFC

Features

- Intel Atom N270 1.6 GHz processor
- Dual independent displays (VGA, DVI, and LVDS selectable)
- 4 RS-232/422/485 serial ports, supporting non-standard baudrates
- 8 RS-232 serial ports, supporting non-standard baudrates
- 6 USB 2.0 hosts
- 4 Digital Input channels and 4 Digital Output channels
- Ready-to-run Linux, Windows CE or Windows Embedded Standard 2009 platforms



x86-based Processor with Powerful Performance

These V Series computers feature either Intel or AMD processors, offering powerful performance for sophisticated industrial applications, such as data acquisition, data computing and protocol conversion.

Display Output for Field Site Monitoring

All V Series computers are equipped with a VGA output, providing an ideal solution for applications that involve field site monitoring. Some models even come with LVDS output, offering more display connection flexibility.

Multiple Communication Interfaces

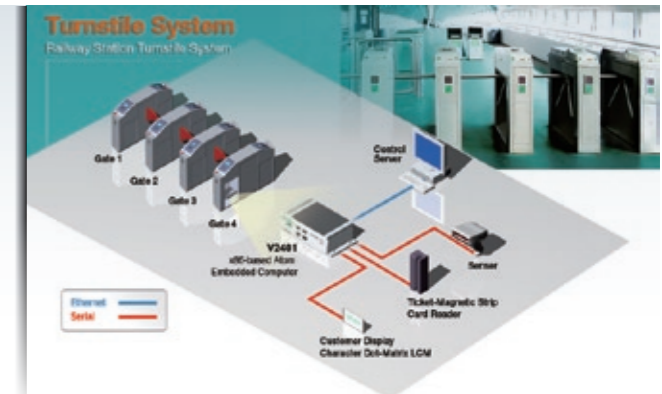
All V Series computers feature various communication interfaces, such as serial ports, DI/DO channels, LAN ports, switch ports, PCMCIA slots, USB hosts, and CompactFlash sockets. These multiple interface options make Moxa's V Series computers perfect solutions for industrial automation, such as in factory automation, production lines, and even mining facilities.

Model Name	Serial Ports		LAN Ports		Storage			PCMCIA	DI/DO	Switch	OS		Wide Temp.
	RS-232	RS-232/422/485	10/100 Mbps	Gigabit	CF	USB	IDE				CE	XPE	
V462	2	2	2	-	✓	4	-	✓	-	-	✓	✓	-
V464	2	2	4	-	✓	4	-	-	-	-	✓	✓	-
V466	2	2	4	-	✓	4	-	-	-	8	✓	✓	-
V468	2	2	4	-	✓	4	-	-	8/8	-	✓	✓	-
V481	-	8	1	1	✓	2	✓	-	-	-	✓	✓	✓

Brand New Computers for AFC and Rolling Stock

Low Power Consumption

All V Series computers feature sophisticated power-saving designs. For example, Moxa's V2100 and V2400 Series Intel Atom computers consume less than 30W, yet feature powerful performance. This combination of low power requirements and high performance is particularly helpful for industrial applications such as Automatic Fare Collection (AFC) and Rolling Stock.



Model Name	Serial Ports		LAN Ports	Storage				DI/DO	Display			OS			Wide Temp.	
	RS-232	RS-232/422/485		CF	SD	USB	SATA		VGA	DVI	LVDS	CE	XPE	Linux		
V2101	-	2	2	✓	✓	4	-	3/3 (30 VDC)	✓	-	✓	✓	✓	✓	✓	✓
V2401	8	4	2	✓	-	4	✓	4/4 (5 VDC)	✓	✓	✓	✓	✓	✓	✓	-
V2402	-	4	2	✓	-	4	✓	4/4 (5 VDC)	✓	✓	-	✓	✓	✓	✓	-

Rackmount Embedded Computers

Power Applications Evolve

- A powerful controller with multiple serial ports for legacy devices
- Multiple LAN ports for network redundancy
- Carry out front-end tasks or remote monitoring and management



DA-681

The World's First IEC 61850-3 Certified Rackmount Computer

- Strong EMC protection
- -40 to 75°C wide operating temperature models for harsh environments
- Vibration and shock resistant



IEC 61850-3 & IEEE 1613 certified

The IEC 61850-3 and IEEE 1613 standards define the highest standard of EMI immunity and error free communication requirements for network equipment used in substations. Moxa's substation Ethernet switches and embedded computers comply with the IEC 61850-3 and IEEE 1613 standards, guaranteeing that the computers are protected against various environmental factors.

An Intel Featured Product



19-inch Rackmount Installation for Easy Deployment

All DA Series computers come in a 19-inch rackmount design that is well-suited for data collection and computing in power automation. These computers are also the ideal front-end controllers for dealing with complicated protocol conversion scenarios in substation automation.

Powerful Serial and Network Communication

Multiple serial ports and network interfaces allow more options for device connections. They also offer a convenient way to build a redundant system architecture. You can also easily add WLAN/Cellular connections by adding the appropriate interface card into the PCMCIA slot.

Dual Power Input for Reliable Operation

With dual power inputs featuring 100-240V AC/DC compatibility DA series computers are resistant to power interruptions.

Versatile Storage Options for Data Logging

DA series computers come with CompactFlash sockets, USB ports, and even additional hard disk expansion slots. This provides many convenient options for storage expansion and data options.

Industrial-grade Design for Stable System Operations

The industrial-grade design of DA Series computers ensure reliable and stable operations for various industrial applications. The DA design philosophy eschewed fans and cables in order to reduce part count, wear and tear, and points of failure. The DA-681-I-DPP-T is even IEC 61850-3 certified, making it the optimal solution for power substation applications that require IEC 61850.

Multiple Expansion Modules for Great Flexibility

DA-682 and DA-710 offer two or four expansion slots that can be used with the seven available DA Series expansion modules. This allows you to tailor the perfect communications suite for your specific application. Expansion modules include 8-port RS-232/422/485 modules, 4-port 10/100 Mbps LAN modules, 8-port RS-422/485 modules, 8-port switch modules, and universal PCI expansion modules. The modules include a user-centric design that allows you to swap modules quickly and easily.

x86-based Rackmount Computers

Model Name	Serial Ports	LAN Ports	Storage			DI/DO	OS			PCI Slot	Power		IEC 61850-3 Certified
			SATA	CF	USB		30 VDC	CE	XPE		Linux	Single	
DA-681	RS-232: 4 (isolated) RS-485: 8 (isolated)	6	✓	✓	2	-	✓	✓	✓	-	✓	✓	✓
DA-682	-	4(Gigabit)	✓	✓	4	-	✓	✓	✓	2	✓	✓	-
DA-710	RS-232:2	4(Gigabit)	✓	✓	4	4/4	-	✓	✓	4	✓	✓	-

DA Series Expansion Modules

DA-SP08-DB

8 RS-232/422/485 ports with DB9 connectors



DA-SP08-I-DB

8 RS-232/422/485 ports with DB9 connectors, 2 KV isolation



DA-SP38-I-TB

8 RS-422/485 ports, terminal block, 2 KV Isolation



DA-LN04-RJ

4-port 10/100 Mbps LAN module with RJ45 connectors



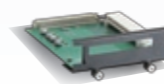
DA-SW08-RJ

8-port 10/100 Mbps switch module with RJ45 connectors



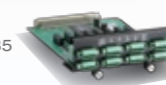
DA-UPCI-DK

1-slot Universal PCI expansion adaptor



DA-SP08-I-TB

8 RS-232/422/485 ports, terminal block, 2 KV isolation



DA-Series Expansion Modules

Model Name	Serial Ports		Isolation	Switch	LAN	Connector			PCI
	RS-232/422/485	RS-232/485				DB9	RJ-45	Terminal Block	
DA-SP08-I-DB	8	-	✓	-	-	✓	-	-	-
DA-SP08-DB	8	-	-	-	-	✓	-	-	-
DA-SP08-I-TB	8	-	✓	-	-	-	-	✓	-
DA-SP38-I-TB	-	8	✓	-	-	-	-	✓	-
DA-SW08-RJ	-	-	-	8	-	-	✓	-	-
DA-LN04-RJ	-	-	-	-	4	-	✓	-	-
DA-UPCI-DK	-	-	-	-	-	-	-	-	✓

RISC-based Wallmount Embedded Computers



UC-8400 Series

RISC-based Wallmount Embedded Computers

Features

- Built-in PCI-104 bus for flexible expansion
- XScale IXP435 533 MHz processor
- 256 Kb battery backup SRAM
- 8 RS-232/422/485 serial ports, supporting non-standard baudrates
- 8 Ethernet switch ports
- 2 CAN ports
- 12 Digital Input channels + 12 Digital Output channels
- CompactFlash socket for storage expansion
- Ready-to-run Linux platform
- -40 to 75°C wide temperature models for harsh environments

UC series computers include multiple connection options for data communication, such as serial ports, PCMCIA, SD, DI/DO, and USB hosts. These products work well as front-end controllers for demanding applications including data acquisition, data computing, and protocol conversion.

RISC-based Processor for Optimal Solutions

UC Series computers all come with RISC-based processors, offering the most cost-effective solutions for building various industrial applications.

Model Name	Serial Ports		CAN Ports		LAN Ports	Storage		DI/DO	Switch	OS		Wide Temp.
	RS-232/422/485	No. of Ports	Optical Isolation	10/100 Mbps	CF	USB	30 VDC		CE	Linux		
UC-8410	8	-	-	3	✓	2	4/4	-	-	Coming Soon	✓	✓
UC-8416	8	-	-	3	✓	2	4/4	8	-	Coming Soon	✓	✓
UC-8418	8	2	2 KV	3	✓	2	12/12	-	-	Coming Soon	✓	✓

Model Name	Serial Ports	LAN Ports	Storage		OS			Wide Temp.
	RS-232/422/485	10/100 Mbps	SD	USB	CE	Linux	µClinux	
UC-7101	1	1	✓	-	-	-	✓	✓
UC-7110	2	2	-	-	-	-	✓	✓
UC-7112	2	2	✓	-	-	✓	✓	-
UC-7122	2	2	✓	1	✓	-	-	✓
UC-7124	4	2	✓	1	✓	-	-	✓

Model Name	Serial Ports	LAN Ports	PCMCIA	Storage		DI/DO	OS	Wide Temp.
	RS-232/422/485	10/100 Mbps		CF	USB	3.3 VDC	Linux	
UC-7420 Plus	8	2	✓	✓	1.1:1 2.0:2	-	✓	-
UC-7410 Plus	8	2	-	-	1.1:1	-	✓	-
UC-7408 Plus	8	2	✓	✓	1.1:1	8/8	✓	✓
UC-7402 Plus	-	2	✓	✓	-	-	✓	-

Smart M2M Gateways



SMG-6100

Machine to Machine Modbus Gateway

Features

- Secure communication platform with tunnel server (IPSec) for 2-way IP communication to distributed wireless Modbus Gateway
- Unlimited Masters on the serial or network side
- Networking host to back-end host computers and Modbus TCP Master/Slave devices
- MDM 2.2 for Modbus and IPsec configuration



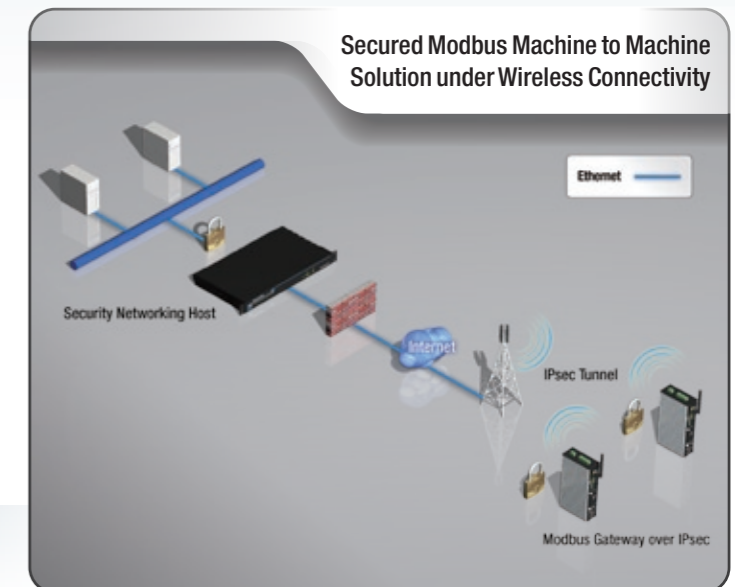
SMG series products are sophisticated gateways that can be used to create secure M2M solutions. SMG computers can construct a smart gateway with tunnel servers (IPSec) and bi-directional IP communications. When used with Moxa's SMG-1100 Series, the SMG-6100 can use IPSec to serve as a secure networking host to back-end host computers and Modbus TCP Master/Slave devices. One of the key benefits of this architecture is that it can work with an unlimited number of SMG-1100 units to remotely monitor and manage Modbus devices.

SMG-1100

Machine to Machine Modbus Gateway

Features

- Built-in GSM/GPRS/EDGE cellular communication
- GSM 850/900/1800/1900 MHz
- SMS tunnel mode provided
- Modbus RTU and Modbus ASCII serial protocols support
- Modbus TCP support
- Use Modbus addressing to route network traffic
- Automatic connection management
- Use an unlimited number of Masters on serial or network side
- IPsec support
- User interface for Modbus & IPsec configuration



DIN-Rail/Module Embedded Computers



Wide Operating Temperature
Low Power Consumption
Fanless and Cableless Design
Multiple Connection Options

IA260 RISC-based DIN-Rail Embedded Computer

Features

- Patented “H-type” heat dissipation
- 4 RS-232/422/485 serial ports, 8+8 DI/DO channels, up to 30 VDC
- -40 to 75°C wide operating temperature

EM-2260 RISC-based Embedded Core Modules

Features

- Mini-size core modules integrate easily into existing systems
- Full-functioned development kit
- Short time to market

IA Series

Rugged and DIN-rail Mountable for Easy Installation

IA series systems are all designed with a rugged vertical DIN-rail form factor. This makes them easy to install in small cabinets, making the IA series a cost effective solution for industrial automation applications such as manufacturing automation and mining.

Overcomes Harsh Environments

Wide operating temperature variants of IA series products are available. These feature a -40 to 75°C operating temperature range, creating a reliable solution for harsh industrial automation environments.

Model Name	Serial Ports	CAN Ports	LAN Ports	PCMCIA	Storage			DI/DO	VGA	OS		Wide Temp
	RS-232/422/485		10/100 Mbps		CF	SD	USB			CE	Linux	
IA240	4	-	2	-	-	√	1	4/4 (5 VDC)	-	-	√	√
IA241	4	-	2	√	-	√	1	4/4 (5 VDC)	-	-	√	√
IA260	4	-	2	-	√	√	2	8/8 (30 VDC)	√	√	√	√
IA261-I	4	-	2	-	√	-	2	8/8 (30 VDC)	√	√	√	√
IA262-I	2	2	2	-	√	-	2	8/8 (30 VDC)	√	√	√	√

EM Series

Reduce Your Time to Market

Moxa's embedded modules are available with the μClinux operating system pre-installed to help you minimize your system development time. In addition, the compact, all-in-one design provides all the components you need to get your products to market in no time—CPU, RAM, Flash, and even more complex components, such as an OS kernel, drivers, and middleware.

Easy-to-use Development Kit

The embedded module development kit is an invaluable tool for testing and evaluating Moxa's embedded modules. The kit can be ordered separately, and includes an embedded module, embedded module carrier board, relevant documents, a software CD, and the items needed to set up a basic layout. The kit makes it easy for users to evaluate the functionality of the embedded modules, and you can develop and integrate the specific hardware on the module in advance to make the embedded modules completely compatible with industrial systems and applications.

Model Name	Serial Ports	LAN Ports	GPIO	Storage			OS			Wide Temp
	RS-232/422/485	10/100 Mbps		CF	SD	USB	CE	Linux	uClinux	
EM-1220	2	2	10	-	√	-	-	-	√	√
EM-1240	4	2	10	-	√	-	-	-	√	√
EM-2260	4	2	8DI/8DO	√	-	-	√	√	-	-

Wireless Embedded Computers



W406 RISC-based Wireless Embedded Computer

Features

- SMS tunnel mode and 4+4 DI/DO provided
- -40 to 75°C wide operating temperature
- Moxa Device Manager for wireless embedded computer support
- GSM 850/900/1800/1900 MHz support, GPRS/EDGE Class 12 support

WLAN Solution for Short-range Communication

802.11a/b/g

The embedded 802.11a/b/g module provides a stable wireless network connection and reliable communication, enabling the wireless computers to be used as control units for short-range communication.

Dual Network Mode

The W311/W321/W341 embedded computers support Infrastructure Mode and Ad-hoc Mode for added flexibility when constructing a wireless architecture.

Full Encryption for Data Transmission Security

The WEP, WPA, and WPA2 designs provide safe and reliable wireless communication and data acquisition for remote devices.

Repeater Function

The W311/W321/W341 computers can be used as a repeater to relay communications from wireless embedded computers, providing a cost-effective solution when building a WLAN architecture for industrial applications.



Cellular Solution for Long-range Communication

Quad Band GSM/GPRS/EDGE Service:

When used with the embedded GSM/ GPRS 900/1800/850/1900 MHz module, the W315/W325/W345 computers provide long-range communication that is suitable for industrial applications where wired and wireless LAN services are impossible or extremely costly.

Stable and Reliable Wireless Communication:

Support for GPRS multi-slot Class 10 and GPRS mobile station Class B standards allows these wireless computers to offer quick and reliable wireless communication for any industrial M2M applications.

Model Name	Serial Ports	WLAN	Cellular	LAN Ports	DI/DO	Storage		OS	
	RS-232/422/485	802.11 a.b/g	850/900/1800 /1900 MGz	10/100 Mbps		SD	USB	Linux	CE
W311	1	√	-	1	-	√	-	√	-
W321	2	√	-	1	-	√	-	√	-
W341	4	√	-	1	1 x Relay Output	√	2	√	-
W315	1	-	GSM/GPRS	1	-	√	-	√	-
W325	2	-	GSM/GPRS	1	-	√	-	√	-
W345	4	-	GSM/GPRS	1	1 x Relay Output	√	2	√	-
W406	2	-	GSM/GPRS /EDGE	1	4 (30 VDC)	√	1	√	√

Panel Computers



MPC-220W-C23

Panel PC *Coming Soon*

Features

- Superior computing performance
- Fanless and compact design
- Full-dimming control
- State-of-the-art optical bonding
- Industrial-grade panel with super-wide viewing angle
- Modular docking design

MC-4510-C23

Marine Computer *Coming Soon*

Features

- High performance. (up to 2.26GHz Core 2 Duo with 6MB Level 2 cache)
- Fanless/noiseless design with compact size
- Low power consumption
- Aluminum cooling chassis
- Modular design to easily integrate panel and computer

Industrial-grade Design for Reliable System Operations

Moxa's panel computers feature sophisticated designs with industrial grade components, ensuring reliable system operation for various industrial applications.

Fan and Cable-free

Using fans and cables in a system increases the number of components and moving parts. This is antithetical to reliable system design, because it adds more potential points of failure and joints to suffer wear and tear. Instead of using fans, Moxa applies its expertise to select components that generate less heat but can still maintain high system performance. This makes Moxa's panel computers ideal solutions for applications in extremely harsh environments. Meanwhile, the elegant cable-free design reduces the noise produced and ensures reliable and stable operations.

Compact Size and Rugged Design

Moxa's panel computers are compact in size, making them ideal for industrial environments, especially at field sites that do not have a lot of extra space. Meanwhile, the rugged design and high-quality components allow the device to disdain the environmental hazards of those field sites.

High Performance

With the Intel Core 2 Duo processor, Moxa's panel computers can bring high performance computing to a variety of industrial applications. They can handle complicated industrial tasks such as data acquisition, data computing and information analysis, serving well as front-end controllers that can reduce the load on the back-end servers.

Sophisticated All-Aspect Display Technology

Moxa's panel displays incorporate many advanced technologies for a more pleasant user experience.

Wide Viewing Angle

The wide viewing angle guarantees that the displays can be clearly viewed from any angle without color washout. This is particularly helpful for field site applications where staff mobility is crucial.

Optical Bonding

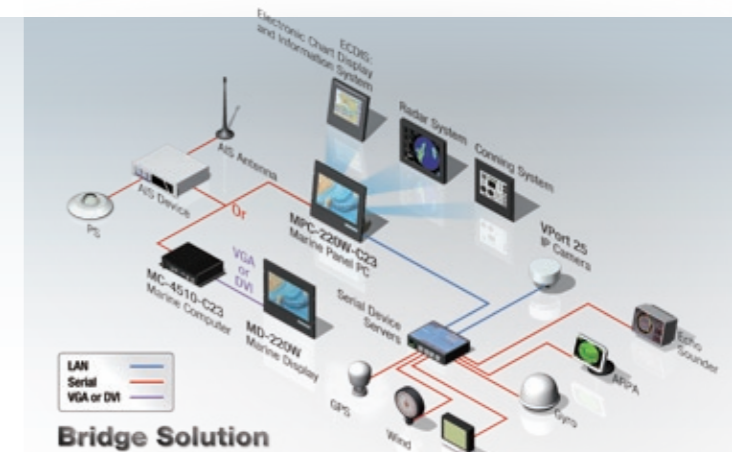
This feature can help increase the contrast ratio, so they can be viewed with the optimal contrast.

Full Dimming

Full dimming allows brightness ratio adjustment from nearly 0% to 100%. This provides the greatest possible range for heightened flexibility and convenience, particularly helpful for harsh environments.

Docking Design for Seamless Integration

Moxa's marine computers can be seamlessly docked with Moxa's panel displays to allow quick system deployment. The "dock" design eliminates the costs and hassles of display cables. The display and computer can also be used separately, as demanded by your specific scenario. Compared to an architecture that combines different computers with different displays, Moxa's pre-integrated solutions are more convenient, reliable, and durable.



Certified for Reliable Operation in Specific Markets

Moxa's panel computers have achieved international certifications for various industrial markets.

IEC 60945/DNV/IACS E10/CE/FCC

DNV 2.4, IEC 60945, and IACS E10 directive certifications attest that Moxa's marine computers operate reliably in marine applications. This creates a solid computing infrastructure for various navigation, radar, and conning tasks. Another application for marine computers is in the control room to process applications such as the positioning system and automation control system. CE and FCC standards compliance ensure that these computers minimize radiation effects and provide a reliable embedded platform.



ECDIS (Electronic Chart Display & Information System)

The ECDIS delivers precise positioning information and intuitive route and navigation planning functions to improve the safety and efficiency of seagoing vessels. Moxa's ECDIS-compliant computers help mariners handle various navigation-related tasks. ECDIS digital charts, displays, and data make marine navigation easy and reliable.