



# Industrial IP Surveillance Solutions for Mission-Critical Applications

COMTRONIC  
[www.comtro.com](http://www.comtro.com) [info@comtro.com](mailto:info@comtro.com)  
Tlf: 937 750 750 Fax: 937 754 426

**MOXA**<sup>®</sup>  
Reliable Networks ▲ Sincere Service

# Committed to the Reliability and Quality of Moxa's IP Cameras

Moxa has been a player in the industrial automation field for over 25 years, and one of the most important lessons we've learned in this time is how critical it is to provide reliable, high quality products to ensure safety. Our commitment to reliability and quality is built into our IP cameras, since we take strict measures at each phase of product development, from selecting materials to conducting a complete product inspection. Our IP cameras are designed to work reliably in harsh, industrial environments, where security and safety is a top priority. When accidents occur, operators need to react as quickly as possible to maximize safety and minimize damage.

At Moxa, we only make the highest quality, industrial-grade IP cameras that can meet our customers' critical requirements for operating in harsh environments.



## Table of Contents

<b>Committed to the Reliability and Quality of Moxa's IP Cameras</b>	P.1
--	-----

<b>Application</b>	
Rolling Stock	P.4
Wayside	P.6
Oil and Gas	P.8
Transportation	P.10
Enterprise	P.11
<b>IP Cameras</b>	P.12
<b>IP Camera Accessories</b>	P.14
<b>Video Servers</b>	P.15
<b>Video Management</b>	P.16
<b>IP Camera Selection Guide</b>	P.18
<b>Network Infrastructure</b>	P.20
<b>Data Acquisition</b>	P.21

COMTRONIC

[www.comtro.com](http://www.comtro.com) [info@comtro.com](mailto:info@comtro.com)

Tlf: 937 750 750 Fax:937 754 426

## How Moxa Manufactures High Quality Industrial IP Cameras

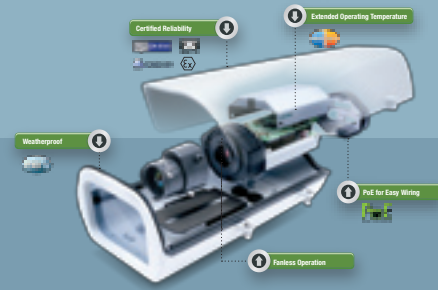
Moxa manufactures high quality industrial grade IP cameras by implementing the following four commitments:

- Creating a Consistent Rugged Design
- Designing for Optimal Image Quality
- Strict Industrial-Strength Testing
- 100% Product and Quality Inspection

## Creating a Consistent Rugged Design

Moxa's entire IP camera line is produced with the same consistent rugged design and quality:

- We select only the highest quality, industrial grade materials and components for our IP cameras
- Our expertise in thermal design ensures reliable operation in extreme, -40 to 75° environments
- Our rugged cameras are water and dust-proof, vandal-resistant, and protect against shock and vibration



## Designing for Optimal Image Quality

Regardless of the environment, Moxa's IP cameras produce the same high quality images with crystal clear details:

- Our cameras undergo several consecutive hours of testing in outdoor, onboard, and day-and-night conditions to simulate real-world environments
- EN 50132-7 compliant image quality
- DNR, WDR, and BLC for image optimization
- Auto-iris lens and IR for day and night visibility



Day & Night Image Quality

## Strict Industrial-Strength Testing

Moxa's IP cameras undergo strict industrial-strength testing to guarantee a rugged design and top quality

- Key component cyclic burn-in test includes 20+ days of testing for the lens and 200+ hours of testing for the IP camera motor in a chamber at -45 to 85°C
- 40+ hours of cyclic wide-temperature testing and burn-in
- Shock and vibration tests simulating rolling stock conditions that comply with IEC 61373\*
- Our cameras are IP66 airtight and IK-8/10 (EN 62262) vandal-proof tested



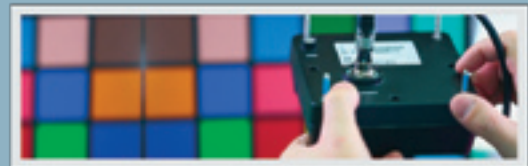
IP66 water-proof test

IK-10 vandal resistant test

## 100% Product and Quality Inspection

All Moxa IP cameras undergo strict inspections to ensure product quality

- All camera functions are tested, including the light sensor, light and dark spots, and color calibration
- Our cameras undergo chambered burn-in for 6 to 40 hours, at temperatures ranging from 60 to 75°C
- After burn-in, all IP camera functionality is re-tested. Airtight testing takes place during this stage to ensure that the cameras are IP66 dust and water-proof



Color Calibration Test

\*Cyclic burn-in duration/temperature/shock/vibration/IK-rating varies depending on the IP camera's specs and warranty. See product specs for details.



# Any Environment, Any Scene, Any Application

## More Secure Than Ever

Moxa's IP surveillance solutions are designed to serve a broad spectrum of industries around the world. In response to the high security standards now required for applications that operate in demanding and unpredictable environments, reliable video surveillance systems have become indispensable for mission-critical surveillance security applications.

The industrial-grade features, hazardous location certification, and optimized video network of Moxa's IP surveillance solutions ensure reliable performance and are ideal for keeping video security systems running continuously. In addition, the extended operating temperature range (-40 to 75°C) and fan-less design guarantee that our products are well suited for the types of extreme environments seen by oil & gas, traffic monitoring, mining, railway, and other outdoor applications.



Certified for Maximum Security and Reliability



Oil & Gas



Transportation



Wayside







Rolling Stock



Mining



Power



Environmental Management



Enterprise





# Reliable IP CCTV Solutions for Onboard Applications

Due in part to population increases, public transportation is becoming more important for meeting the everyday needs of people around the world. Rolling stock, including subways and trains, are an extremely common form of transportation, and providing a reliable IP CCTV system onboard is critical to maintaining the safety and security of passengers. Rolling stock environments tend to be critical and harsh, and to ensure onboard safety, Moxa's IP camera solutions are industry-certified to comply with onboard requirements.

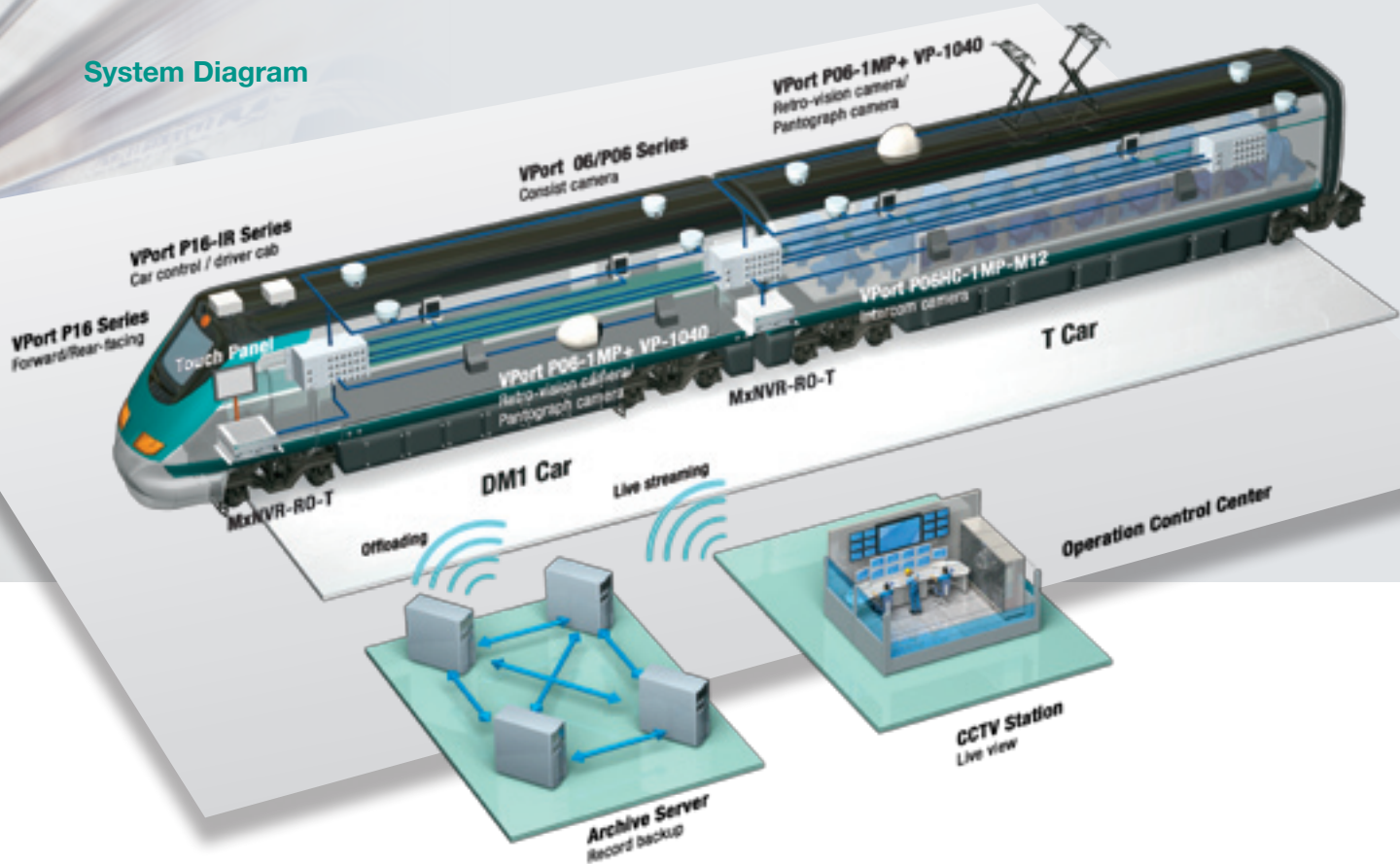
## System Requirements

- Onboard CCTV cameras that operate reliably in high vibration, unstable rolling stock environments subject to water, dust, and extreme temperatures.
- Diverse product portfolio to cope with different applications and viewing conditions, such as low luminance, and unstable or fluctuating lighting conditions.
- The flexibility to integrate with existing systems and third party CCTV devices and VMSs
- The ability to seamlessly integrate with other onboard electronic devices, including fire alarms and displays for monitoring drivers.
- The ability to provide a total solution, including a diverse selection of IP cameras and video servers with the requisite industrial certifications.

## Moxa Benefits

- **Mission-Critical Reliability:** To ensure reliable onboard operation, Moxa's IP cameras and NVRs are industry-certified, and comply with onboard requirements that include EN 50155, IP66 dust/water resistance, IK8 to IK10 vandal resistance, and high EMC protection (EN 50121-3-2). With a wide -40 to 75°C operating temperature, without heater or fan, Moxa's IP cameras are suitable for many different applications, and the lack of moving parts increases system reliability and provides a longer MTBF.
- **Diverse Viewing & Application:** Moxa provides a diverse selection of IP cameras suitable for a variety of needs and installations. The lighting conditions onboard a train will vary wildly as the vehicle passes through a variety of different environments, including tunnels, open air, and shade. To continuously provide crystal clear image quality, the IP cameras must capture a wide dynamic range of dark and light, as well as reduce noise and motion blur. Cameras with built-in ICR and low lux sensitivity make day-and-night viewing possible, and Moxa's infrared cameras provide high resolution black and white images in the dark of night.
- **Easy Management:** Moxa's IP CCTV systems can seamlessly integrate and communicate with onboard electronic devices like fire alarms and displays for monitoring drivers. With Onvif Profile S, Moxa's cameras and NVRs can integrate with any third party CCTV device and VMS, providing operators scalability and flexibility.
- **Total Solution:** Moxa offers operators a wide selection of industrial-grade IP cameras, NVRs and VMSs, wired or wireless networking products, serial-over-IP servers, industrial computers, and digital I/O solutions.

## System Diagram



## Suggested Products

**VPort P16-1MP-M12**

IK10 vandal-proof, IP66 rain and dust protection

- -40 to 70°C operating temperature without fan or heater
- HD resolution (1280 x 720) with DNR and WDR
- IK10 and IP66 rated
- EN 50155 compliant

**VPort P16-1MP-M12-IR**

Wide-temperature, built-in IR for day and night viewing

- -40 to 70°C operating temperature without fan or heater
- HD resolution (1280 x 720) with DNR and WDR
- Day-and-night viewing, built-in ICR
- EN 50155 compliant

**VPort P06-1MP-M12**

EN 50155 compliant, HD image, compact design

- -40 to 70°C operating temperature without fan or heater
- HD resolution (1280 x 720) with DNR and WDR
- IP66 rain and dust protection
- EN 50155 compliant

**VPort P06HC-1MP-M12**

HD video image, square-type IP camera


- -25 to 55°C operating temperature without fan or heater
- HD image quality (1280 x 720)
- Flush mountable for a discreet profile
- Built-in microphone
- EN 50155 compliant

**MxNVR-RO-T**

EN 50155 compliant, industrial-grade, onboard NVR

- Capable of recording 1080P images at up to 900 frames/second
- Supports live view 1080P images at up to 120 frames/second
- EN 50155:2007 and EN 50121-3-2 compliant
- Operating temperature: -40 to 70°C for EN 50155 TX
- ONVIF Profile S supported

# IP Video Surveillance for a Smarter and Safer Wayside Environment



Railroad crossings and tracksides are still a cause for concern, even with the active warning systems now used to keep the tracks clear for oncoming trains. To improve and help ensure trackside safety, Moxa's rugged IP cameras are designed to work reliably in harsh environments, and provide operators with sharp images in real time to identify when and where problems occur.

## System Requirements

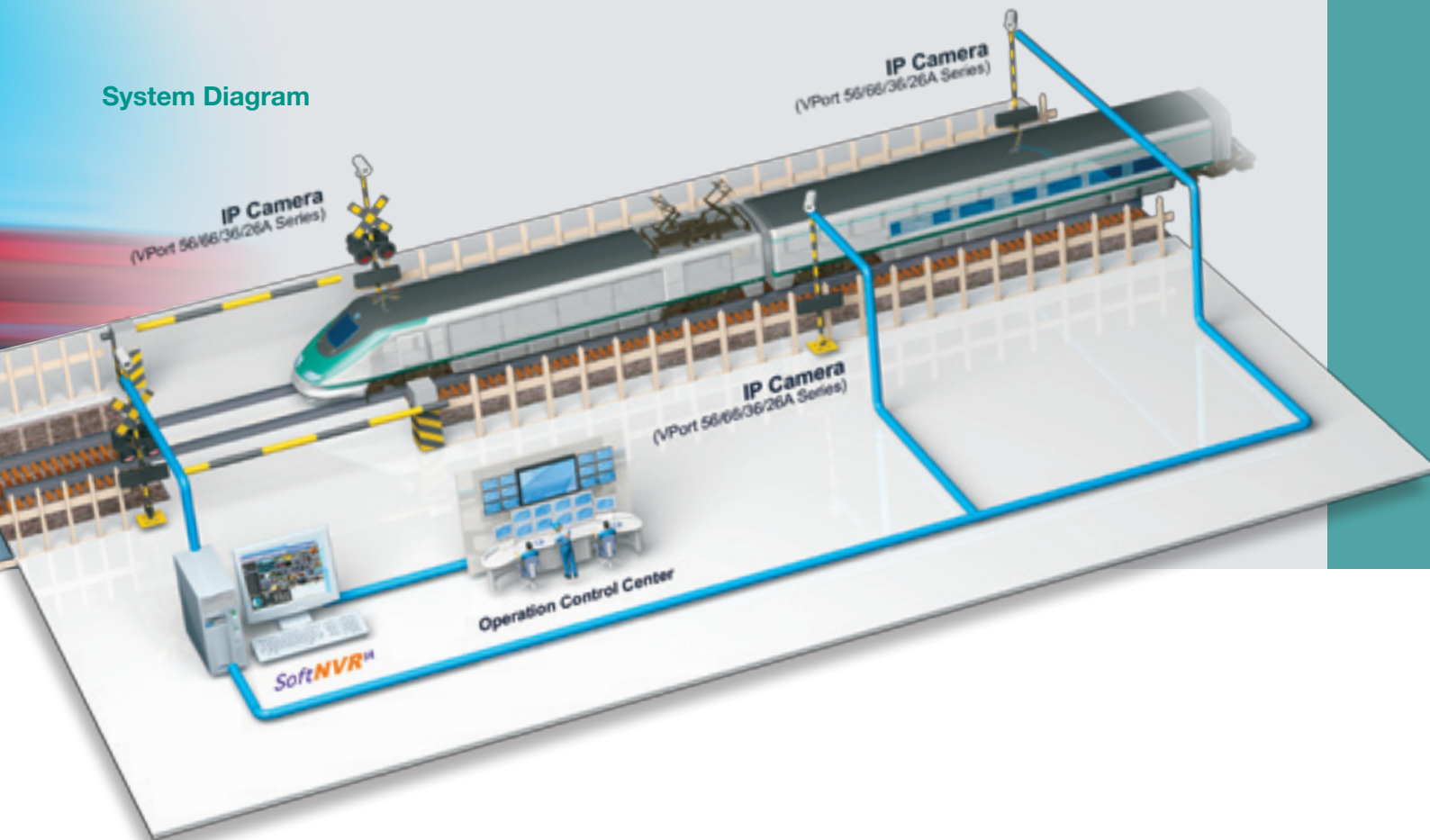
- IP cameras that operate reliably in harsh outdoor environments, and that can withstand extreme temperatures and electromagnetic disturbances from passing rolling stock, as well as dust and water particles from the surrounding environment.
- In order to monitor a vast, open area, the cameras must be able to zoom in and out, and provide 360° wide area monitoring.
- Obstacle detection capability and the ability to react and send notifications immediately.
- The ability to integrate or expand current systems with third party CCTV devices and VMSs.
- Provide a total solution for operators, including a diverse selection of IP cameras and video servers with the requisite industrial certifications.

## Moxa Benefits

- **Industrial-Grade Reliability:** Moxa's industrial-grade IP cameras are suitable for outdoor, harsh environments, and provide the reliable 24/7 operation crucial for trackside monitoring. Moxa's IP cameras are compliant with EN 50121-4 railway requirements, operate reliably in temperatures ranging from -40 to 75°C without a heater or fan, are IP66 dust and waterproof rated, and IK8 to IK10 vandal resistant.
- **Wide Area Monitoring:** Wayside environments include railway crossings and the large expanses between crossings. With PTZ functionality, and wide 360° panning, Moxa's VPort 66-2MP is suitable for both types of environment.
- **Real-Time Alerts:** Moxa's VPort 36-1MP-IVA comes with an Intelligent Video Analysis (IVA) function that automatically detects objects. Operators receive real-time notifications when objects appear unexpectedly, thereby minimizing the danger from potential threats.
- **Easy Integration:** Moxa's IP cameras and NVRs comply with Onvif Profile S, meaning they can be seamlessly integrated with any third party CCTV device and VMS, for better scalability and flexibility.
- **Total Solution:** Moxa's diverse selection of cameras and housings give operators what they need for different applications and environments. As a total solution provider, Moxa can deliver a complete selection of IP cameras, NVRs and VMSs, wired or wireless networking products, serial-over-IP servers, industrial computers, and digital I/O solutions.



## System Diagram



## Suggested Products

**VPort 66-2MP****1080P Full HD outdoor PTZ speed dome camera**

- -40 to 65°C operating temperature
- 1080P (1920 x 1080) at 60 fps
- 22x/30x optical and 20x digital zoom
- H.264 and triple MJPEG streams
- DNR/ICR/WDR for image optimization
- IP66 rain and dust protection

**VPort 56-2MP****1080P day-and-night H.264 zoom IP camera**

- -40 to 75°C operating temperature without fan (T model)
- 1080P (1920 x 1080) full HD resolution
- H.264 and triple MJPEG streams @ 30 fps
- 10x optical and 16x digital zoom
- DNR, BLC, and image stabilizer
- Optional fiber port

**VPort 36-1MP****720P day-and-night box IP camera**

- -40 to 75°C operating temperature without fan or heater (T model)
- 1280 x 720 HD resolution
- H.264 and triple MJPEG streams @ 30 fps
- IVA function (VPort 36-1MP-IVA model)
- DNR/BLC/WDR for superior image quality
- Day-and-night viewing with built-in ICR

**VPort 26A-1MP****IP66 day-and-night HD fixed dome IP camera**

- -40 to 75°C operating temperature without fan or heater (T model)
- 1/2.7" progressive scan CMOS camera with 1280 x 800 resolution
- Day-and-night viewing with built-in ICR
- IK10 vandal protection

# Trusted Industrial-Grade IP CCTV System for Hazardous Oil and Gas Environments



Oil and gas will continue to have a major impact on the global economy for many years to come. New oil platforms, rigs, and pipelines are constantly being constructed to meet the demand for oil, with a corresponding growth in the number of factories and control centers used to process and manage crude oil. To maximize safety and increase reliability, Moxa's IP surveillance systems have an intrusion detection alarm system (IDAS) and are easily integrated with SCADA systems for process CCTV monitoring.

## System Requirements

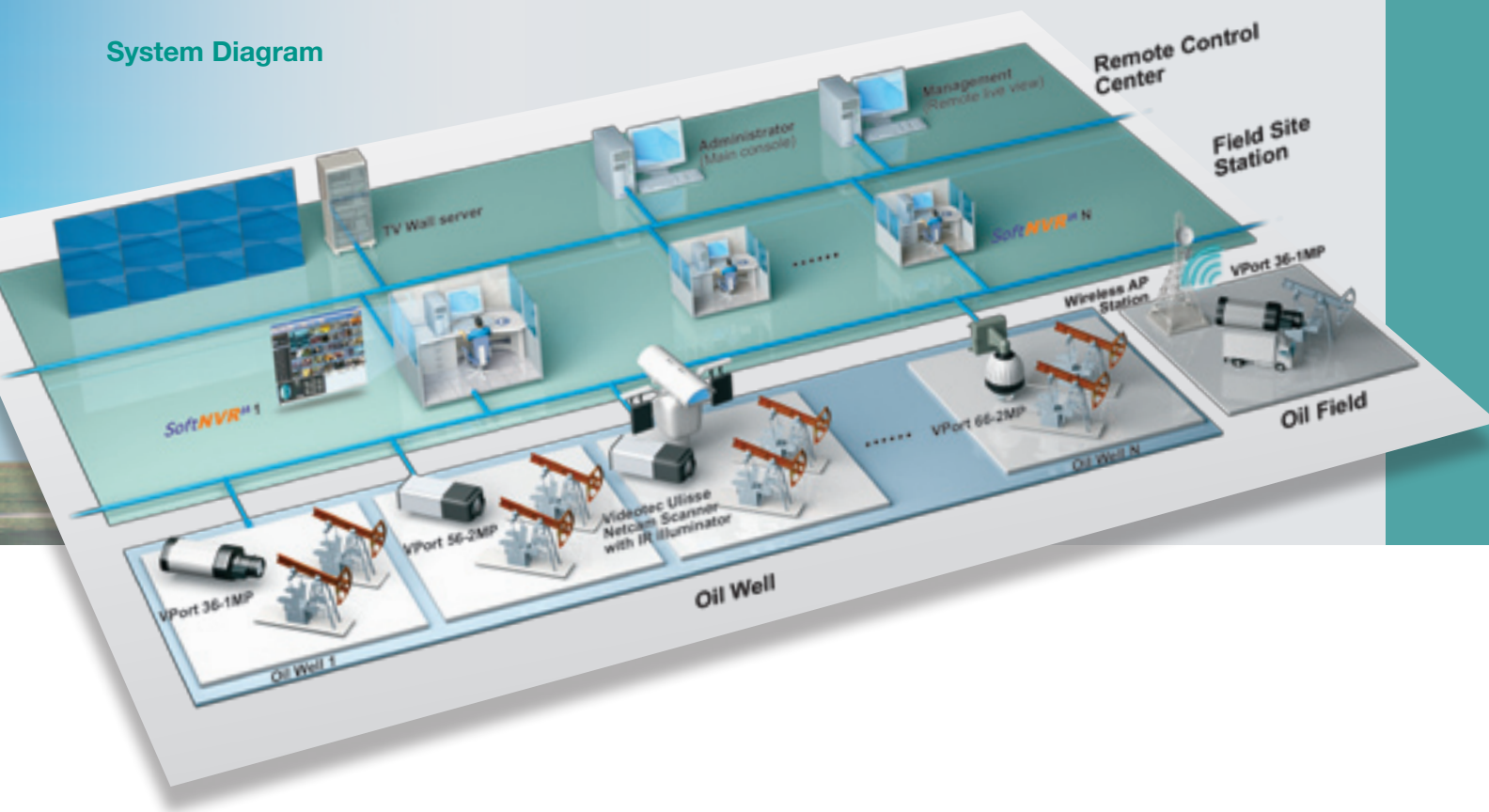
- Field site devices need to be highly reliable for use in hazardous environments, including extreme temperatures, water and dust, and explosion prone environments.
- IP CCTV system to monitor unmanned field-site equipment and to minimize maintenance and reduce costs.
- Automatic video alarms to greatly improve surveillance efficiency.
- Complete IP CCTV system for integrating communications with other systems, including SCADA and access control.
- Versatile camera solution that supports pan/tilt/zoom, and has a long distance lens and IP68 housing for different surveillance environments and purposes.

## Moxa Benefits

- **Higher Reliability:** Moxa's rugged hardware ensures system reliability 24/7, even in -40 to 75°C oil & gas environments, without the need for a heater or fan. This no-heater, no-fan design reduces maintenance costs, has a longer MTBF, and comes with a 3 or 5-year warranty.
- **Lower Costs:** Compared to traditional analog cameras, Moxa's IP CCTV systems are easy to install and use. Remote monitoring allows operators to easily maintain field sites, detect system problems, and reduce manpower costs.
- **Real-Time Alerts:** Moxa's VPort 36-1MP-IVA comes with an Intelligent Video Analysis (IVA) function that automatically detects objects. Operators receive real-time notifications when objects appear unexpectedly, thereby minimizing the danger from potential threats.
- **Easy Integration:** Moxa's IP CCTV systems can seamlessly integrate and communicate with SCADA and access control systems. With Onvif Profile S, Moxa's cameras and NVRs can integrate with any third-party CCTV device and VMS system, giving operators greater scalability and flexibility.
- **Total Solution:** Moxa's diverse selection of cameras and housings give operators what they need for different applications and environments. As a total solution provider, Moxa can deliver a complete selection of IP cameras, NVRs and VMSs, wired or wireless networking products, serial-over-IP servers, industrial computers, and digital I/O solutions.



## System Diagram



## Suggested Products

**VPort 66-2MP**

**1080P Full HD outdoor PTZ speed dome camera**

- -40 to 65°C operating temperature
- 1080P (1920 x 1080) at 60 fps
- 22x/30x optical and 20x digital zoom
- H.264 and triple MJPEG streams
- DNR/ICR/WDR for image optimization
- IP66 rain and dust protection

**VPort 56-2MP**

**1080P day-and-night H.264 zoom IP camera**

- -40 to 75°C operating temperature without fan (T model)
- 1080P (1920 x 1080) full HD resolution
- H.264 and triple MJPEG streams @ 30 fps
- 10x optical and 16x digital zoom
- DNR, BLC, and image stabilizer
- Optional fiber port

**VPort 36-1MP**

**720P day-and-night box IP camera**

- -40 to 75°C operating temperature without fan or heater (T model)
- 1280 x 720 HD resolution
- H.264 and triple MJPEG streams @ 30 fps
- IVA function (VPort 36-1MP-IVA model)
- DNR/BLC/WDR for superior image quality
- Day-and-night viewing with built-in ICR

# Efficient CCTV Solution for BRT Transportation Systems

Public transportation has been an important focus for city development in recent years to improve traffic management and quality of life. Bus Rapid Transit (BRT) systems are popular thanks to their low cost, high flexibility, high efficiency, and shorter development time compared to railways or MRTs, and have seen extensive development in both South America and China.



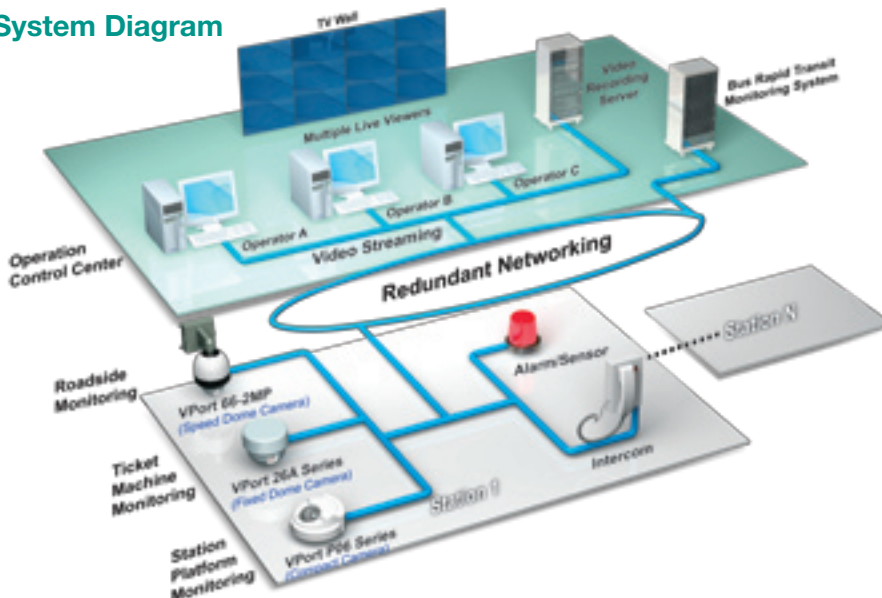
## System Requirements

- The flexibility to expand CCTV devices with minimum system changes.
- IP CCTV networks need to operate reliably in both indoor and outdoor environments, which could be subject to extreme temperatures, rain, dust, and high electromagnetic disturbances.
- The ability to cope with different applications, environments, and viewing angles.
- The ability to view multiple images simultaneously in real time
- An IP CCTV system that is easy to manage, maintain, and upgrade.

## Moxa Benefits

- **Scalability and Flexibility:** Moxa's IP based network solution provides operators the flexibility and scalability to change the size of the surveillance solution with minimum system changes.
- **Reliable Performance:** Moxa provides industrial-grade IP cameras with an operating temperature of -40 to 75°C without heater or fan, IP66 dust & waterproof rating, and IK8 to 10 vandal resistance.
- **Versatile Camera Types:** Moxa's diverse selection of IP cameras meets a variety of needs. The VPort 66-2MP pans 360°, making it suitable for monitoring roadside conditions, and the VPort 26A can be mounted on the ceiling to monitor station platforms.
- **Reduce Latency:** Moxa's IP cameras support multicast protocol to minimize transmission and bandwidth issues, and provide real-time images smoothly and simultaneously.
- **Easy Integration:** Moxa's IP CCTV systems offer seamless integration with third party CCTV devices and VMS systems, station alarms and intercoms, and comply with industry protocols for communicating with SCADA systems.

## System Diagram



## Suggested Products



**VPort 66-2MP**  
1080P Full HD outdoor PTZ speed dome camera



**VPort 26A-1MP**  
IP66 day-and-night HD fixed dome IP camera



**VPort P06-1MP-M12**  
EN 50155 compliant, HD, compact IP camera



# Building Small Scale IP CCTV Solutions for Enterprises

Large and small enterprises alike need to know the status of their operation and be able to see what's happening in their factories and warehouses. The safety and security of your products, as well as the people working for you are top priority, and Moxa's IP surveillance solutions can be customized to meet any demand.

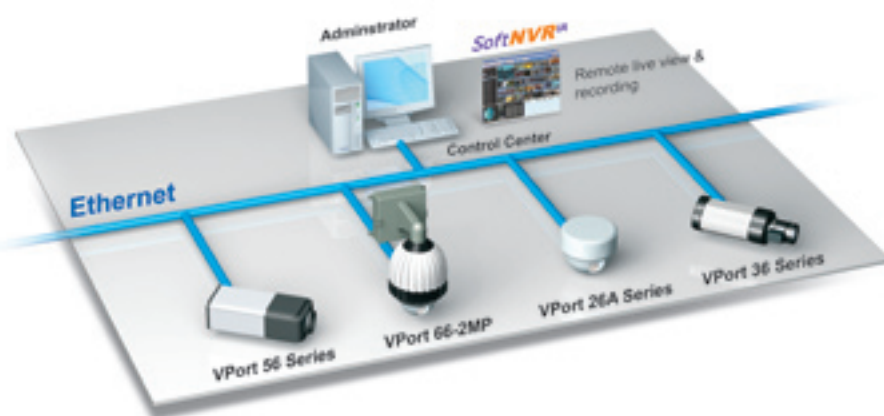
## System Requirements

- Designed for outdoor applications and harsh environments, including exposure to water, dust, and extreme temperatures.
- The ability to detect specific objects or events, and provide an immediate response.
- A total solution provider with efficient turnkey solutions to meet different needs.

## Moxa Benefits

- **Trusted Reliability:** Moxa's IP surveillance solutions are industry certified and designed to meet the critical needs of outdoor environments. Our IP cameras can withstand extreme operating temperatures between -40 to 75°C without heater or fan, and are IP66 dust and waterproof rated. The fan-less and heater-less design eliminates interruptions due to fan or heater failure.
- **Instant Alerts:** Moxa's VPort 36-1MP-IVA comes with an Intelligent Video Analysis (IVA) function that automatically detects objects. Operators receive real-time notifications when objects appear unexpectedly, thereby minimizing the danger from potential threats.
- **Total Solution Provider:** Moxa's diverse selection of cameras and housings give operators what they need for different applications and environments. As a total solution provider, Moxa can deliver a complete selection of IP cameras, NVRs and VMSs, wired or wireless networking products, serial-over-IP servers, industrial computers, and digital I/O solutions.

## System Diagram



## Suggested Products



**VPort 66-2MP**  
1080P Full HD outdoor PTZ speed dome camera



**VPort 56-2MP**  
1080P day-and-night H.264 zoom IP camera



**VPort 36-1MP**  
720P day-and-night box IP camera



**VPort 26A-1MP**  
IP66 day-and-night HD fixed dome IP camera



### Moxa's New Rugged 1080P Full HD PTZ Speed Dome IP Camera

Moxa's VPort 66-2MP Full HD PTZ speed dome IP camera provides pan/tilt/zoom for wide area coverage and lets operators zoom in to the finest detail. The industrial-grade design makes the VPort 66-2MP an ideal solution for any industrial security system. Benefits and key features include :



#### Precise, Zero Blind Spot Coverage

- 360° pan, -6° to +96° tilt for wide area coverage
- 22x/30x optical; 20x digital zoom to view the finest details



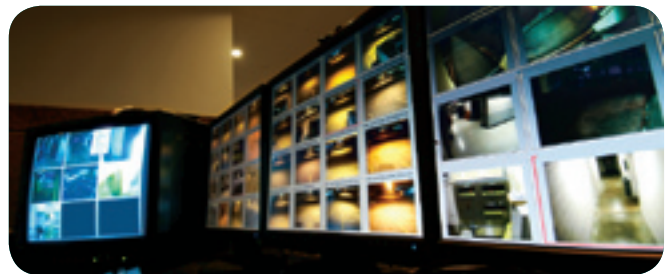
#### Rugged Design For Critical Environments

- -40 to 65°C wide operating temperature
- IP66 rated and NEMA Type 4 form factor
- EN 50121-4 compliant
- Vent-free design; high-tech heat dissipation; water and dust-proof



#### Superior Image Quality

- 1080P (1920 x 1080) at 60 fps
- Auto sense up; Auto-iris; Day & Night; ICR; 3D DNR image stabilizer
- CBR Pro supported for excellent image quality in fast motion



#### Easy Development and Integration

- Supports DynaStream™ for adaptive bandwidth control
- OnVIF Profile S conformity for IP video interoperability
- NTCIP protocol supported for ITS



## Product Family



Preliminary

### VPort 66-2MP

#### 1080P Full HD outdoor PTZ speed dome camera

- -40 to 65°C operating temperature
- 1080P (1920 x 1080) at 60 fps
- 22x/30x optical and 20x digital zoom
- H.264 and triple MJPEG streams
- DNR/ICR/WDR for image optimization



### VPort 36-1MP

#### 720P day-and-night box IP camera

- -40 to 75°C operating temperature without fan or heater
- HD resolution (1280 x 720) with IVA function
- DNR/BLC/WDR technologies for superior image quality
- Day-and-night viewing with built-in ICR



### VPort P16-1MP-M12

#### EN 50155 compliant, HD, rugged IP camera

- -40 to 70°C operating temperature without fan or heater
- HD resolution (1280 x 720) with DNR and WDR
- IK10 and IP66 rated



### VPort P06-1MP-M12

#### EN 50155 compliant, HD, compact IP camera

- -40 to 70°C operating temperature without fan or heater
- HD resolution (1280 x 720) with DNR and WDR
- IP66 rain and dust protection



### VPort 56-2MP

#### 1080P day-and-night H.264 zoom IP camera

- -40 to 75°C operating temperature without fan
- 1080P (1920 x 1080) H.264 image quality
- 10x optical and 16x digital zoom
- H.264 and triple MJPEG streams at up to 30 fps
- Optional fiber port



### VPort 26A-1MP

#### IP66 day-and-night HD fixed dome IP camera

- -40 to 75°C operating temperature without fan or heater
- 1/2.7" progressive scan CMOS camera
- Day-and-night viewing with built-in ICR
- IK10 vandal protection



### VPort P16-1MP-M12-IR

#### EN 50155 compliant, HD, day-and-night fixed-dome IP camera

- -25 to 55°C operating temperature without fan or heater
- HD resolution (1280 x 720) with DNR and WDR
- Day-and-night view, built-in ICR



### VPort P06HC-1MP-M12

#### EN 50155 compliant, HD, square-type IP camera

- -25 to 55°C operating temperature without fan or heater
- HD image quality (1280 x 720)
- Flush mountable for a discreet profile, built-in microphone



COMTRONIC

www.comtro.com info@comtro.com

Tlf: 937 750 750 Fax: 937 754 426

# Industrial Camera Accessories

- Wide selection of video accessories
- Industrial-proven certifications
- Indoor and outdoor options



## IP Camera Lenses



### VP-3112MPIR and VP-3113MPIR

#### 3.1-8 mm F1.2 Day-and-Night Lens

- Works with the VPort 36-1MP Series
- Mounting Type: CS mount
- Iris: DC Auto Iris (for VP-3112MPIR)
- Focus: Manual
- Zoom: Manual
- Dimensions: Ø37 x 48.2 x 55 mm
- Weight: 59 g



### VP-1214MPIR

#### 12.5-50 mm F1.4 Day-and-Night Lens

- Works with the VPort 36-1MP series
- Mounting Type: CS mount
- Focal Length: 12.5 to 50 mm
- Max. Aperture Ratio: 1:1.4
- Iris: DC Auto Iris
- Focus: Manual
- Zoom: Manual
- Max. Image Format: 3.2 x 5.8 mm (Ø6.6 mm)
- Dimensions: Ø46 x 59.3 x 58.4 mm

Angle of View:

Angle	D	1/2.7 type (16:9)	123.1°-48.3°	1/2.7 type (4:3)	123.1°-48.3°
	H		105.4°-42.2°		95.9°-38.7°
	V		57.9°-23.8°		71.0°-29.1°

Angle of View:

Angle	D	1/2.7 type (16:9)	30.3°-7.7°
	H		26.3°-6.7°
	V		14.5°-3.8°

## IP Camera Housing

### IP68 Indoor/Outdoor



#### VP-CI701

- Works with the VPort 36-1MP and VPort 56-2MP
- Construction: Die cast aluminum alloy
- Dimensions: 406 x 109 x 145 mm
- View Window: Tempered glass
- Housing Style: Clam shell
- Latch: Dual side screw-locking
- Weight: 2,200 g

### Positioning System



#### Videotec Ulisse Netcam\*

- Works with the VPort 36-1MP and VPort 56-2MP
- Variable speed: 0.02 to 100°/s pan; 0.02 to 40°/s tilt
- 360° horizontal continuous rotation; vertical rotation from +90° to -40°
- -20 to 60°C (-4 to 140°F) operating temperature
- IP66 rain and dust protection
- Preset accuracy: Max. ±0.02
- Optional IR illuminators for night view

\*This product was designed and produced by Videotec, which is responsible for the brand name, specifications, quality, and warranty of the product.

### Explosion Proof



#### Eaton YHH30\*

- Works with the VPort 36-1MP and VPort 56-2MP
- Construction: SS316L
- Dimensions: 657 x 198 x 188 mm
- IP66 rain and dust protection
- -40 to 60°C operating temperature
- Weight: 16,000 g
- ATEX certification: Exd IIC T6 Gb
- Ext IIIC T80°C Db

\*This product was designed and produced by Eaton China, which is responsible for the brand name, specifications, quality, and warranty of the product.



# Migrate Your Analog System to an IP-Based Video Solution



## Rugged Design

Designed for critical industrial applications, Moxa's video encoders and decoders can operate reliably in temperatures ranging from -40 to 75°C. The video servers come with an IP30 protected metal housing, Level 3 EMC/EMI protection, and can be mounted on a DIN rail.



## Optimized Streaming

VPort video encoders support up to 3 video streams with h.264 and MJPEG format. To increase network transmission efficiency, an innovative DynaStream function is provided for changing the frame rate automatically based on an event or external commands.



## 5-Year Warranty

To demonstrate our commitment to product reliability and providing excellent customer service, Moxa's video servers are protected by a 5-year warranty, one of the best in the industry. Moxa's video servers meet the highest standards, and are suitable for surveillance applications in harsh environments.



## Video Servers



### VPort 461

VPort 461A available in Q3 2015

#### Excellent video performance, 1-channel H.264/MJPEG industrial video encoders

- 3 simultaneous video streams for H.264 and MJPEG
- Video latency under 200 ms
- 2 Ethernet ports for cascade and Ethernet port redundancy
- Moxa DynaStream™ function supported for network efficiency
- ONVIF supported for standardization and interoperability
- Local storage capability with SD card slot
- Industrial design with -40 to 75°C operating temperature
- VPort SDK PLUS supported



### VPort 364A

#### Excellent video quality, 4-channel H.264/MJPEG industrial video encoders

- Dual simultaneous H.264 and MJPEG video streams
- Video latency under 200 ms
- Moxa DynaStream™ function supported for network efficiency
- ONVIF supported for standardization and interoperability
- Industrial design with -40 to 75°C operating temperature
- VPort SDK PLUS provided free



# Industrial Network Video Management Solution



## Video Recorder and Platform

### Rugged Network Performance for Centralized Video Recording



Preliminary

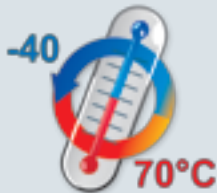
#### MxNVR-RO-T Series

##### EN 50155 compliant Onboard NVR

- Records 1080P images at up to 900 frames/second
- Live view of 1080P images at up to 120 frames/second
- EN 50155:2007 and EN 50121-3-2 compliant
- Operating temperature: -40 to 70°C for EN 50155 TX
- ONVIF Profile S supported

#### Industrial Grade, Rugged Design

Rugged design, with wide -40 to 70°C operating temperature, redundant recording, and EN 50155:2007 and EN 50121-3-2 compliance.



#### Onboard Real-Time Live-Viewing

The MxNVR-RO-T provides recording, live viewing, and DriverView, a simple, easy-to-use interface designed for onboard drivers. With DriverView, drivers can easily access and control recorded images in real time.



#### Easy Integration and Management

Provides OnVIF Profile S conformity for IP video interoperability, and camera management is easy with a user-friendly interface for configuring and controlling all Moxa IP camera functions.







## Minimize Network Bandwidth with Distributed Video Recording



### Standalone MxNVR-IA8

#### 8-channel industrial network video recorders

- Supports H.264/MJPEG/MPEG4 video recording
- Embedded Linux system for high reliability
- -40 to 75°C operating temperature (requires solid state disk)
- No heater or fan for high MTBF
- Schedule and event recording

### Tailor-Made for Field Site Applications

Rugged design features: -40 to 75°C operating temperature without heater or fan, protection against high EMI and surges, and less bandwidth required to transmit video streams.

### Zero Bandwidth Recording

Recording is unaffected by bandwidth limitations since video is recorded and stored in its own internal memory. Only uses network resources when responding to a request.

### Communicate with SCADA

With Modbus/TCP support for communicating with SCADA systems, the MxNVR-IA8 is ideal for automation applications. The MxNVR-IA8 can record, and event videos can be uploaded using simple SCADA system commands.



## Video Management Software



### SoftNVR-IA

#### 64-channel IP video surveillance software

- Up to 64 channels
- Built-in OPC Server
- H.264/MPEG4/MJPEG viewing
- Dual monitor display



### VPort SDK Plus

- User-friendly software development kits for third-party developers to customize their IP video management system
- URL (CGI) commands
- ActiveX Control SDK Plus
- API SDK Plus

### OnVIF Profile S Conformity

With OnVIF Profile S conformity, Moxa's IP cameras and NVR offer excellent system flexibility and can communicate with any major video management software or IP camera. In virtually any application, users can quickly add Moxa's IP camera or NVR to existing surveillance systems.



## IP Camera Selection Guide



	VPort 66-2MP	VPort 56-2MP	VPort 36-1MP Series	VPort 26A-1MP Series
<b>Video Performance</b>				
Max. Resolution	1920 x 1080	1920 x 1080	1280 x 800	1280 x 800
Max. FPS	60	30	30	30
Connections (Max.)	5 unicast 50 multicast RTSP	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	3
DynaStream™	✓	✓	✓	✓
CBR Pro™	✓	✓	✓	✓
Image Stabilizer	✓	✓	—	—
<b>Camera</b>				
Image Sensor	1/2.8" CMOS	1/2.8" CMOS	1/2.7" CMOS	1/2.7" CMOS
Lens (mm)	4.3 to 94.6, 4.3 to 129	6.3 to 63mm Zoom lens	C/CS mount lenses	3 to 9mm vari-focal lens
Day & Night	✓	✓	✓	✓
Minimum Illumination	0.4 lux@F1.6, color 0.03 lux@F1.6, B/W	—	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/ Auto IRIS	✓	✓	✓	✓
Image Rotation (Flip, mirror, and 180° rotation)	Flip, Mirror, 90°, 180°, and 270° rotation	✓	✓	✓
Digital Noise Reduction	✓	✓	✓	✓
<b>Network Connections</b>				
10/100 Mbps, M12 Connector	—	—	—	1
10/100 Mbps, RJ45 Connector	1	1	1	1
100 Mbps Fiber Connector	—	1, single-model	—	—
<b>Peripherals</b>				
Audio	1 line-in, 1 line-out	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	1 DI, 1 relay
SD Slot	1, SDXC	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	v1/v2c/v3
RTSP (Real Time Streaming Protocol)	✓	✓	✓	✓
Multicast (IGMP)	v3	v3	v3	v3
QoS	✓	✓	✓	✓
Automatic Configuration	—	—	DHCP Opt 66/67	—
<b>Form Factor</b>				
Protection Rating	IP66	IP30	IP30	IP66
Surface/Ceiling Mounting	—	✓	✓	✓
Flush Mount	—	—	—	—
Outdoor Installation Accessory	V (with optional kit)	✓	✓	✓
<b>Power Requirements</b>				
Power-over-Ethernet (PoE)	—	✓ (PoE+)	✓	✓
12/24 VDC, 24 VAC	24VAC/VDC	✓	✓	✓
<b>Alarms</b>				
VMD (Video Motion Detection)	✓	✓	✓	✓
Alarm Snapshot Image	✓	✓	✓	✓
Tamper alarm	✓	pending	✓	✓
<b>Supported Operating Temperature Ranges</b>				
Standard Models	-40 to 75°C	-25 to 60°C	-25 to 60°C	-40 to 50°C
Wide Temp. Models	—	-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	✓	✓	✓	✓





	VPort P16-1MP-M12-IR	VPort P16-1MP-M12	VPort P06-1MP-M12 Series	VPort P06HC-1MP-M12 Series
<b>Video Performance</b>				
Max. Resolution	1280 x 800	1280 x 800	1280 x 800	1280 x 800
Max. FPS	30	30	30	30
Connections (Max.)	5 unicast 50 multicast RTSP	5 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	1/2.7" CMOS	1/2.7" CMOS	1/2.7" CMOS
Lens (mm)	3.6, 8	3.6, 6.0	3.6, 4.2, 6.0	3.6
Day & Night	✓	✓	–	–
Minimum Illumination	Color: 0.2 Lux @ F1.2 B/W: 0.05Lux@F1.2	0.2 Lux @ F1.2, color 0.05 Lux @ F1.2, B/W	0.2 Lux @ F1.2, color	0.2 Lux @ F1.2, color
White Balance	✓	ATW/AWB	ATW/AWB	ATW/AWB
Electronic Shutter	✓	Auto (1/30 to 1/25000 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)	Flip, Mirror, 90°, 180° rotation	✓	✓	✓
Digital Noise Reduction	✓	✓	✓	✓
<b>Network Connections</b>				
10/100 Mbps, M12 Connector	1	1	1	1
10/100 Mbps, RJ45 Connector	–	–	–	–
100 Mbps Fiber Connector	–	–	–	–
<b>Peripherals</b>				
Audio	1, built-in microphone	–	1 line-in or mic-in	1 mic-in
DI/ Relay	1 DI	–	–	1 DI
SD Slot	–	–	–	–
<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
<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)	✓	✓	✓	✓
12/24 VDC, 24 VAC	–	–	–	–
<b>Alarms</b>				
VMD (Video Motion Detection)	✓	✓	✓	✓
Alarm Snapshot Image	✓	✓	✓	✓
Tamper alarm	✓	✓	✓	✓
<b>Supported Operating Temperature Ranges</b>				
Standard Models	–25 to 55°C	–25 to 55°C	–25 to 55°C	–25 to 55°C
Wide Temp. Models	–	–	–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	IK9	–
ONVIF	✓	✓	✓	✓
Profiles S	✓	✓	✓	✓

## Optimize Your Industrial Networks for HD Surveillance

- 1GbE/10GbE uplinks
- Millisecond-level redundancy
- Cost-effective scalability
- Industrial reliability



### Industrial Rackmount Switches



#### ICS-G7828A

##### 10-Gigabit industrial Ethernet switches

- Layer 3 routing interconnects multiple LAN segments
- 24 Gigabit Ethernet ports plus up to 4 10G Ethernet ports
- Up to 28 optical fiber connections (SFP slots)
- Fanless, 0 to 60°C operating temperature range
- Turbo Ring, Turbo Chain, and RSTP/STP for network redundancy



### Industrial EN 50155 PoE Switches



#### TN-5518A-8PoE

##### EN 50155 16+2G-port Gigabit Ethernet switches with up to 8 PoE ports

- 2 Gigabit ports with optional bypass relay function
- Isolated power with wide 24 to 110 VDC power supply range
- -40 to 75°C operating temperature range
- 8 IEEE 802.3at/af compliant combo PoE and Ethernet ports
- Turbo Ring, Turbo Chain, and RSTP/STP for network redundancy



### Industrial Wireless Connectivity



#### AWK-1131A

##### Industrial IEEE 802.11n AP/Client

- IEEE 802.11a/b/g/n compliant
- Up to 300 Mbps data rate
- Millisecond-level Turbo Roaming
- One Gigabit link
- Advanced EMS protection
- 12-48 VDC dual power inputs



### High Power PoE Switches



#### EDS-G512E-8PoE

##### Gigabit PoE+ managed Ethernet switches

- 8 IEEE 802.3af/at PoE+ ports
- Up to 36 watts of output per PoE+ port
- 3 kV surge protection for harsh environments
- Gigabit Ethernet recovery < 50 ms (@ 250 switches)
- -40 to 75°C operating temperature range
- Supports EtherNet/IP, PROFINET, and Modbus/TCP protocols for easy PLC and SCADA integration



### Automation-Friendly Network Management Software Suite

MXstudio industrial network management suite combines all the tools you need throughout the network lifecycle including installation, operation, maintenance, and diagnostics. With advanced visualization features, automation engineers can easily monitor the real-time network, and keep the system up and running. A free trial version can be downloaded from Moxa's website.

- Manages Moxa's edge to core devices and third-party SNMP devices
- Mass configuration function to reduce initial setup time
- Easy-to-use graphical interface for real-time network monitoring and event notification
- Integration with SCADA and other NMS





# Reliable and Smart I/O Solutions

- Reliable wired to wireless monitoring and alarms
- Supports CGI (commands) for video surveillance
- Flexible I/O combination enables seamless communication
- Supports the SNMP protocol



## Programmable Controller



### ioPAC 8600 Series

#### Modular Programmable Controller

- Supports C/C++ and IEC 61131-3 programming languages and ready-to-run services
- Wide power input (24-110V) and galvanic isolated power
- Supports 24-110V and ch-to-ch isolated DIO
- Supports unmanaged PoE switch module



### Click&Go Plus™ Control Logic

The simple yet powerful Click&Go Plus™ enables intelligent local control through IF-THEN-ELSE rule-sets that allow Moxa's I/O and RTU products to identify user-defined events and send triggered and time-stamped exception messages through SMS, TCP, and email.



## Smart Ethernet Remote I/O



### ioLogik 2500 Series

#### Smart Ethernet remote I/O with Click&Go Plus™ Logic

- New Click&Go Plus logic provides powerful front-end intelligence
- 4-port Ethernet switch built in for linking to Ethernet devices
- Optimized I/O expansion port for daisy chaining up to 8 ioLogik E1200 units
- 2 serial ports (RS-232/422/485) for connecting field devices
- Built-in datalogger supports an FTP server and microSD™ card with up to a 32 GB



### Active OPC Server

Moxa's remote I/O devices can achieve faster communication with SCADA systems. Active OPC Server offers seamless connection from ioLogik products to a number of different SCADA systems, including Wonderware, Citect, and iFix.

