VPort 36-1MP Series

HD, rugged, day-and-night box type IP cameras

> Industrial design with -40 to 75°C operating temperature (heater or cooling fan not required)
> 1/2.7” progressive scan CMOS camera with HD resolution (max. 1280 x 720)
> DNR, WDR for superb image quality
> Triple video streams with H.264 and MJPEG
> Compatible with C/CS-mount lenses with built-in ICR support
> EN 50121-4 and NEMA TS2 compliant
> DynaStream™ support for maximum network efficiency
> Local storage capability with SD card slot

Note: Lens must be purchased separately.

Introduction

Rugged Design

The VPort 36-1MP series includes the world’s first rugged IP camera that can operate reliably in temperatures ranging from -40 to 75°C, without a heater or cooling fan.

Superb Video Quality

The VPort 36-1MP series is designed to be compatible with C/CS-mount lenses to meet any viewing angle and distance requirement. With a built-in, removable IR-cut filter and automatic color mode switching, the VPort 36-1MP series is suitable for either day or night use. Highly-tuned ROI (Regions of Interest), and WDR (Wide Dynamic Range) functions enable the VPort 36-1MP series to produce exceptionally clear images.

Specifications

Camera

- Sensor: 1/2.7” HD progressive scan CMOS
- Lens: Designed for C/CS-mount lens (lens not included)
- Illumination (low light sensitivity):
  - Color: 0.2 lux at F1.2
  - B/W: 0.05 lux at F1.2
- Day & Night: Auto/Color/BW; ICR Control
- Synchronization: Internal
- White Balance: ATW/AWB
- Electronic Shutter: Auto, Fixed (1/30 to 1/25000 sec)
- Dynamic Range:
  - Color: 100 dB
  - B/W: 110 dB
- S/N Ratio: 50 dB (AGC OFF; DNR ON)
- ICR Control: Auto (light sensor control) or DI control
- DNR: Built-in DNR (digital noise reduction)
- WDR: Levels 1-8

- Color: 100 dB
- B/W: 110 dB
- AGC (auto gain control): 2X, 4X, 8X, 16X, 32X, 64X
- IRIS: Auto, DC drive
- Flickerless Control: Indoor/Outdoor mode
- Auto Exposure: Level ±5
- Image Rotation: Flip, Mirror, and 180° rotation
- Image Setting: Manual tuning with saturation, sharpness, and contrast
- Black Level Control: High/Medium/Low

Video

- Video Compression: H.264 (ISO/IEC 14496-10) or MJPEG
- Video Output: via Ethernet
- Video Streams: 3, H.264, or MJPEG independent video streams

Convenient Installation

The VPort 36-1MP series includes unique and competitive cameras with features such as high EMI/surge protection, optional IP68 housing for rain/dust protection, and -40 to 75°C operation without a heater or cooling fan. The cameras are available with PoE (Power over Ethernet, 802.3af) or wire power input supporting 12/24 VDC or 24 VAC.

High Video Performance and Network Security

The VPort 36-1MP series can encode analog video into both H.264 and MJPEG video streams and can transmit up to 3 independent video streams (2 in H.264, and 1 in MJPEG) simultaneously. Advanced video encoding technology enables the cameras to support up to 30 FPS for each of the H.264 and MJPEG streams.
Video Resolution and FPS (frames per second):

<table>
<thead>
<tr>
<th></th>
<th>NTSC</th>
<th></th>
<th>PAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>QCIF</td>
<td>176x112</td>
<td>30</td>
<td>176x144</td>
</tr>
<tr>
<td>QVGA</td>
<td>320x240</td>
<td>30</td>
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<tr>
<td>CIF</td>
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<tr>
<td>4CIF</td>
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<td>30</td>
<td>704x576</td>
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<tr>
<td>Full D1</td>
<td>720x480</td>
<td>30</td>
<td>720x576</td>
</tr>
<tr>
<td>SVGA</td>
<td>800x600</td>
<td>30</td>
<td>800x600</td>
</tr>
<tr>
<td>HD</td>
<td>1280x720</td>
<td>30</td>
<td>1280x720</td>
</tr>
<tr>
<td>WXGA</td>
<td>1280x800</td>
<td>30</td>
<td>1280x800</td>
</tr>
</tbody>
</table>

Note: Multiple streams may not support up to 30 FPS.

Video Viewing:
- DynaStream™ support for changing the video frame rate automatically
- 3 privacy mask areas provided
- Adjustable image size and quality
- Timestamp and text overlay
- Maximum of 5 simultaneous unicast connections, 50 multicast clients
- CBR Pro™ support for accurate streaming bit rate control

Network
- Protocols: TCP, UDP, HTTP, SMTP, FTP, Telnet, NTP, DNS, DHCP, UPnP, RTP, RTSP, ICMP, IGMPv3, SNMPv1/v2c/v3, DDNS, Modbus/TCP, 802.1X, SSH/HTTPS
- Ethernet: 110/100 BaseT(X) Ethernet port, RJ45 connector

Serial Port
- PTZ Ports: 1, RS-485, terminal block connector

Local Storage
- SD Socket: Standard SD socket (SDHC)

GPIO
- Digital Inputs: 1, max. 8 mA
  - High: +13 to +30 V; Low: -30 to +3 V
- Relay Outputs: 1, max. 24 VDC @ 1 A

LED Indicators
- STAT: Indicates if the system is booted properly or not
- Network: 10 Mbps or 100 Mbps
- Power: Power on/off

Power Requirements
- Input Voltage: 24 VDC (12 to 24 VDC) / 24 VAC, and PoE (802.3af) redundant power design
- Input Current: 12 to 24 VDC, 0.8 A or 24 VAC, 7.5 W or 48 VDC (PoE), 0.135 A

Physical Characteristics
- Housing: Metal, IP30 protection
- Dimensions: 81.76 x 69.65 x 147.6 mm (3.22 x 2.74 x 5.81 in)
- Weight: 770 g (1.69 lb)
- Installation: Wall mounting, pole mounting, corner mounting
  - Note: Optional external housing and mounting accessories may be required.

Alarms
- Intelligent Video:
  - VP-3113MPIR lens is Class I Div. 2 and ATEX Zone 2 certified.
- Video Motion Detection: 3 independently configurable areas; includes sensitivity tuning
- Scheduling: Daily repeat timing schedule
- Imaging: JPEG snapshots for pre/trigger/post alarm images
- Video Recording: Event recordings stored on the SD card
- Custom Alarms: HTTP event servers for setting customized alarm actions

Email/FTP Messaging: Automatic transfer of stored images via email or FTP as event-triggered actions

Pre-alarm Buffer: 24 MB video buffer for JPEG snapshot images

Security
- Password: User level password protection
- Filtering: By IP address
- Authentication: 802.1X
- Encryption: HTTPS, SSH

Environmental Limits
- Operating Temperature:
  - Standard Models: -25 to 60°C (-13 to 140°F)
  - Wide Temp. Models: -40 to 75°C (-40 to 167°F)
- Storage Temperature: -40 to 85°C (-40 to 185°F)
- Ambient Relative Humidity: 5 to 95% (non-condensing)
- Vibration:
  - IEC 60068-2-6, 2 to 13.2 Hz: 2 mm (peak-peak); 13.2 to 100 Hz: 0.7g; 1.50 hrs/axis
  - IEC 60068-2-6, 3 to 9 Hz: 7 mm (peak-peak); 9 to 150 Hz: 1.0g; 1.86 hrs/axis
  - Shock: IEC 60608-2-27, 20g/11ms
- Altitude: 2000 m

Standards and Certifications
- Safety: UL 60950-1
- Rail Traffic: EN50121-4
- EMC: EN 55022/24
- EMI: CISPR 22, FCC Part 15B Class A
- EMS:
  - IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV
  - IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m
  - IEC 61000-4-4 EFT: Power: 2 kV; Signal: 2 kV
  - IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV
  - IEC 61000-4-6 CS: 10 V
  - IEC 61000-4-8
- Hazardous Location: UL/cUL Class I Division 2 Groups A/B/C/D, ATEX Zone 2 Ex nCnAnL IIC T4
  - Note: The VP-3113MPIR lens is Class I Div. 2 and ATEX Zone 2 certified.
- Transportation: NEMA TS2
  - Note: Please check Moxa’s website for the most up-to-date certification status.

MTBF (mean time between failures)
- Time: 541,826 hours
- Standard: Telcordia SR332

Warranty
- Warranty Period: 5 years
- Details: See www.moxa.com/warranty

Minimum Viewing System Requirements
- CPU: Pentium 4, 2.4 GHz
- Memory: 512 MB of memory
- OS: Windows XP/2000 with SP4 or above, Windows Vista, Windows 7
- Browser: Internet Explorer 9.x or above
- Multimedia: DirectX 9.0c or above

Software Development
- VPort SDK PLUS: Includes CGI commands, ActiveX Control, and API library for customized applications or system integration for third-party developers (latest version available on Moxa website).
- Standard: ONVIF Profile S
### Dimensions

#### Unit: mm (inch)

- **147.6 (5.81)**
- **81.76 (3.22)**
- **76.29 (3)**
- **62.64 (2.47)**
- **69.65 (2.74)**

**Ordering Information**

**Available Models**

- **VPort 36-1MP**: H.264/MJPEG fixed box IP camera, 12/24 VDC or 24 VAC power input or Power-over-Ethernet, -25 to 60°C operating temperature
- **VPort 36-1MP-T**: H.264/MJPEG fixed box IP camera, 12/24 VDC or 24 VAC power input or Power-over-Ethernet, -40 to 75°C operating temperature
- **VPort 36-1MP-IVA**: H.264/MJPEG fixed box IP camera, 12/24 VDC or 24 VAC power input or Power-over-Ethernet, -25 to 60°C operating temperature, 1 IVA license
- **VPort 36-1MP-IVA-T**: H.264/MJPEG fixed box IP camera, 12/24 VDC or 24 VAC power input or Power-over-Ethernet, -40 to 75°C operating temperature, 1 IVA license

**Optional Accessories** (can be purchased separately)

- **VP-CI701**: IP68-rated outdoor housing, 406(L) x 109(H) x 145 (W) mm
- **VP-CI800**: Wall-mounting bracket for outdoor housing, 213 (L) x 146 (H) x 80(W) mm
- **VP-CI815**: Pole-mounting bracket for Ø70 to Ø230 mm pole
- **VP-CI820**: Pole-mounting bracket for Ø360 mm pole
- **SoftNVR-IA**: 64-channel IP surveillance software for industrial automation applications
- **DR-4524/75-24/120-24**: 45/75/120 W DIN rail 24 VDC power supplies
- **MDR-40-24/60-24**: 40/60 W DIN rail 24 VDC power supplies, -20 to 70°C operating temperature

**Package Checklist**

- VPort 36-1MP series IP camera
- Inner hexagon screwdriver
- C/CS-mount adapter ring
- 5-pin terminal block
- 3-pin terminal block
- 2-pin terminal block
- Quick installation guide (printed)
- Software and document CD
- Warranty card

**3.1-8 mm F1.2 Day & Night Lens**

**VP-3112MPIR**

- **Mounting Type**: CS mount
- **Iris**: DC Auto Iris
- **Focus**: Manual
- **Zoom**: Manual
- **Dimensions**: Ø37 x 48.2 x 55 mm
- **Weight**: 59 g
- **Angle of View**:
  
<table>
<thead>
<tr>
<th>Angle of View</th>
<th>D (16:9)</th>
<th>H (9:16)</th>
<th>V (4:3)</th>
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<tbody>
<tr>
<td>1/2.7 type</td>
<td>123.1° - 48.3°</td>
<td>105.4° - 42.2°</td>
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<td>95.9° - 38.7°</td>
<td>71.0° - 29.1°</td>
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</tbody>
</table>

**3.1-8 mm F1.2 Day & Night Lens**

**VP-3113MPIR**

- **Mounting Type**: CS mount
- **Focus**: Manual
- **Zoom**: Manual
- **Dimensions**: Ø37 x 48.2 x 55 mm
- **Weight**: 59 g
- **Hazardous Location**: UL/cUL Class I Division 2 Groups A/B/C/D, ATEX Zone 2 Ex nC nA nL IIC T4
- **Angle of View**:
  
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</tr>
</tbody>
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**12.5-50 mm F1.4 Day & Night Lens**

**VP-1214MPIR**

- **Mounting Type**: CS mount
- **Iris**: DC Auto Iris
- **Focus**: Manual
- **Zoom**: Manual
- **Dimensions**: Ø46 x 59.3 x 58.4 mm
- **Weight**: 74 g
- **Angle of View**:
  
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<th>V (4:3)</th>
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<td>26.3° - 6.7°</td>
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<td>24.0° - 6.2°</td>
<td>17.8° - 4.7°</td>
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