

# VPort 36-2L Series

**1080P, day-and-night, rugged box IP cameras**



- > Industrial design with -40 to 75°C operating temperature (heater or cooling fan not required)
- > Maximum 1920 x 1080 resolution at 30 FPS
- > Built-in P-IRIS zoom lens with 3x (3 to 9 mm) and 2x (10 to 23 mm) optical zoom
- > Zoom and focus can be controlled remotely over an IP network
- > Four video streams with H.264 and MJPEG
- > SD card interface for disconnection and event recording
- > 12/24 VDC, 24 VAC, or PoE redundant power inputs
- > EN 50121-4, NEMA TS2 compliance



## Introduction

The VPort 36-2L rugged 1080P (1920 x 1080) box IP cameras are specially designed for mission-critical and extreme weather environments. The cameras have two kinds of built-in P-iris zoom lenses, 3 to 9 mm and 10 to 23 mm. They support remote zoom and focus control via an IP network, providing convenience and simplicity for camera operation, and feature a wide -40 to 75°C operating temperature range (-T models) and industrial-grade EMC (EMI/ Surge

Level 3) protection. The VPort 36-2L cameras are suitable for the kind of industrial and outdoor environments found with oil & gas, rail, and ITS applications. In addition, the VPort 36-2L supports a light sensor and ICR (IR-cut filter removable) for day & night viewing, advanced WDR (wide dynamic range), and DNR (digital noise reduction), allowing the VPort 36-2L to produce good quality images even in extreme sunlight conditions.

## Specifications

### Camera

**Sensor:** 1/3" progressive scan CMOS

**Lens:**

3X: f=3(wide) to 9 (tele) mm, F1.6 to F2.6

- Horizontal angle of view: 30.2° to 87.4°

- Vertical angle of view: 16.4° to 47°

- Diagonal angle of view: 32.4° to 95.7°

2X: f=10 (wide) to 23 (tele) mm, F1.2 to F2.3

- Horizontal angle of view: 11.4° to 26.9°

- Vertical angle of view: 6.3° to 14.4°

- Diagonal angle of view: 13.7° to 31°

**Illumination (low light sensitivity):**

Color: 0.2 Lux @ F1.2

B/W: 0.1 Lux @ 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)

**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:** On/Off, up to 100 dB

**AGC (auto gain control):** 2X, 4X, 8X, 16X

**IRIS:** Auto, P-IRIS

**Flickerless Control:** Automatic, 50 Hz, 60 Hz modes

**Auto Exposure:** Level ±5

**Image Rotation:** Flip, Mirror, 90°, 270° and 180° rotation

**Image Setting:** Manual tuning with saturation, sharpness, and contrast

**Video**

**Video Compression:** H.264 (ISO/IEC 14496-10) or MJPEG

**Video Output:** via Ethernet

**Video Streams:** 4, H.264, or MJPEG independent video streams

**Video Resolution and FPS (frames per second):**

	NTSC		PAL	
	Size	Max. FPS	Size	Max. FPS
CIF	352 x 240	30	352 x 288	25
VGA	640 x 480	30	640 x 480	25
4CIF	704 x 480	30	704 x 576	25
Full D1	720 x 480	30	720 x 576	25
SVGA	800 x 600	30	800 x 600	25
HD	1280 x 720	30	1280 x 720	25
SXGA	1280 x 1024	30	1280 x 1024	25
Full HD	1920 x 1080	30	1920 x 1080	25

**Video Viewing:**

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

**Audio**

**Audio Inputs:** 1, 3.5 mm phone jack

**Audio Outputs:** 1, 3.5 mm phone jack

**Audio Format:** Mono, PCM (G.711); AAC

**Network**

**Protocols:** IPv4/v6, TCP, UDP, HTTP, SMTP, FTP, NTP, DNS, DHCP, TFTP, UPnP, RTP, RTSP, ICMP, IGMPv3, ARP, QoS, SNMPv1/v2c/v3, DDNS, Modbus/TCP, 802.1X, SSH/HTTPS, OPT66/67

**Ethernet:** 1 10/100BaseT(X) Ethernet port, RJ45 connector

**Serial Port**

**PTZ Ports:** 1, RS-485, terminal block connector

**PTZ Driver:** Pelco D, Pelco P, custom camera

**Local Storage**

**SD Socket:** Standard SD socket (SDXC, SDHC)

**GPIO**

**Digital Inputs:** 1, max. 8 mA,

- High: +13 V to +30 V

- Low: -30 V 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:** 12/24 VDC, 24 VAC or Power-over-Ethernet redundant power design

**Physical Characteristics**

**Housing:** Metal, IP30 protection

**Dimensions:** 200 x 90 x 70 mm ( 7.9 x 3.5 x 2.8 in)

**Installation:** Wall mounting, pole mounting, corner mounting

*Note: Optional external housing and mounting accessories may be required.*

**Alarms**

**Intelligent Video:** Camera tamper

**Video Motion Detection:** 3 independently configurable motion areas

**Scheduling:** Daily repeat timing schedule

**Imaging:** JPEG snapshots for pre/trigger/post alarm images

**Video Recording:** Event/always 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 model: -25 to 60°C (-13 to 140°F)

Wide Temp. model: -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 60068-2-27, 20g/11ms

**Altitude:** 2000 m

**Standards and Certifications**

**Safety:** UL 60950-1

**Rail Traffic:** EN 50121-4

**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: 10 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: Signal: 10 V

IEC 61000-4-8

IEC 61000-4-11

**Traffic Control:** NEMA TS2

**MTBF** (mean time between failures)

**Time:** 630,908 hrs

**Standard:** Telcordia TR/SR

**Warranty**

**Warranty Period:** 5 years (limited warranty on moving parts; see Moxa's online warranty policy for details)

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

**Minimum Viewing System Requirements**

**CPU:** Intel Core i3 or above

**Memory:** 2 GB of memory

**OS:** Windows 7

**Browser:** Internet Explorer 10 or above

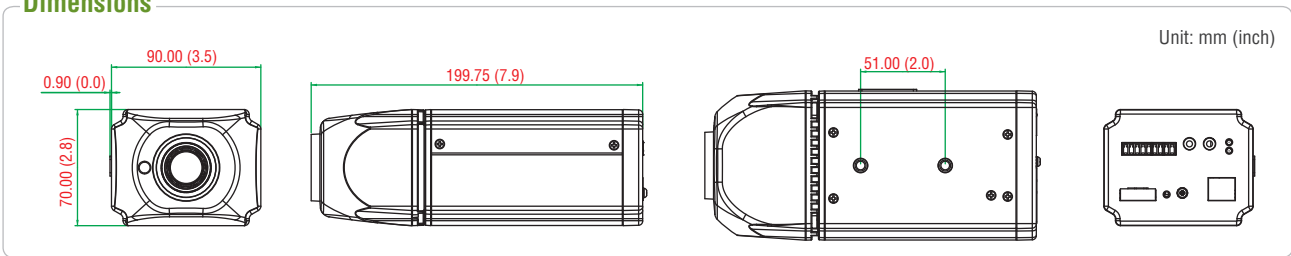
**Multimedia:** DirectX 11.0 or above

**Software Development**

**VPort SDK PLUS:** Includes CGI commands, ActiveX Control, and API library for customized applications or system integration for third-party developers (the latest version of SDK is available for download from Moxa's website).

**Standard:** ONVIF Profile S

**Dimensions**



**Ordering Information**

Model	Lens		Ethernet		Temperature	
	3 to 9 mm	10 to 23 mm	RJ45	Single-Mode Fiber	-25 to 60°C	-40 to 75°C
VPort 36-2L3X	✓	–	✓	–	✓	–
VPort 36-2L2X	–	✓	✓	–	✓	–
VPort 36-2L3X-T	✓	–	✓	–	–	✓
VPort 36-2L2X-T	–	✓	✓	–	–	✓

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

**VP-C1701:** IP68 outdoor housing, 406(L) x 109(H) x 145(W) mm

**VP-C1800:** Wall-mounting bracket for an outdoor housing, 213(L) x 146(H) x 80(W) mm

**VP-C1815:** Pole-mounting bracket for a Ø70 to Ø230 mm pole

**VP-C1820:** Pole-mounting bracket for a 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 36-2L series IP camera
- Quick installation guide (printed)
- Documentation and software CD
- Warranty card