



IP9165-LPR-v2

Smart City License Plate Recognition Box Camera

Embedded Traffic VCA LPR+ Software • Vehicle Type, Color, and Direction Recognition • Widely Supported Countries List • On-Edge List Management • NDAA Compliance

- Supports License Plates from over 100+ Countries
- License Plate Reading with Vehicle Type, Color & Direction Recognition
- Black and White Lists for License Plate Verification
- Fully Support VAST 2
- Various Open APIs Available for 3rd Party Integration
- Trend Micro IoT Security
- NDAA Compliance





Technical Specifications

System Information

Model	IP9165-LPR-v2 (9-50mm, i-CS) IP9165-LPR-v2 (12-40mm)
CPU	Multimedia SoC (System-on-Chip)
Flash	8 GB
RAM	2 GB

Camera Features

Image Sensor	1/2" Progressive CMOS
Max. Resolution	1920x1080 (2MP)
Lens Type	Vari-focal, Remote Focus (i-CS), Manual Focus
Focal Length	f = 9 ~ 50 mm [IP9165-LPR-v2 (9-50mm)] f = 12 ~ 40 mm [IP9165-LPR-v2 (12-40mm)]
Aperture	F1.5 ~ F1.6 [IP9165-LPR-v2 (9-50mm)] F1.8 ~ F2.3 [IP9165-LPR-v2 (12-40mm)]
Iris Type	i-CS [IP9165-LPR-v2 (9-50mm)] P-iris [IP9165-LPR-v2 (12-40mm)] (i-CS/P-iris/DC-iris all reserved)
Field of View	IP9165-LPR-v2 (9-50mm): 42.8° ~ 8.3° (Horizontal) 24.3° ~ 4.7° (Vertical) 48.9° ~ 9.46° (Diagonal) IP9165-LPR-v2 (12-40mm): 34.2° ~ 11.6° (Horizontal) 18.7° ~ 6.6° (Vertical) 39.8° ~ 13.3° (Diagonal)
Shutter Time	1/5 sec. to 1/32,000 sec.
WDR Technology	WDR Pro II
Day/Night	Yes
Removable IR-cut Filter	Yes (Headlight filter design for Anti-Glare)
Minimum Illumination	IP9165-LPR-v2 (9-50mm, i-CS): 0.01 lux @ F1.5 (Color) IP9165-LPR-v2 (12-40mm): 0.08 lux @ F1.8 (Color)
Pan/Tilt/Zoom Functionalities	ePTZ: 48x digital zoom (4x on IE plug-in, 12x built-in)
Storage	Built-in 32GB MicroSD card for LPR images Seamless Recording to MicroSD/SDHC/SDKC card and recording to network-attached storage (NAS)

Video

Video Compression	H.265, H.264, MJPEG
Maximum Frame Rate	60 fps @ 1920x1080
Maximum Streams	3 simultaneous streams
S/N Ratio	66.2 dB
Dynamic Range	140 dB
Video Streaming	Adjustable resolution, quality and constant bit rate control, Smart Stream III
Image Settings	Adjustable image size, quality and bit rate; Time stamp, text overlay, flip & mirror; Configurable brightness, contrast, saturation, sharpness, white balance, exposure control, gain, backlight compensation, AE speed, privacy masks; Scheduled profile settings, HLC, defog, 3DNR, EIS, video rotation, lens profile, remote focus(i-CS), Remove back focus, Scene Mode

Audio

Audio Capability	Two-way Audio
Audio Compression	G.711, G.726
Audio Interface	External microphone input External line output

Network

Users	Live viewing for up to 10 clients
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Security	Access list, CSRF protection, digest authentication, HTTPS , IEEE 802.1x, password protection, secure boot, signed firmware, Trend Micro IoT Security (brute force attack event, cyberattack event, quarantine event), user access log, user account management
Protocols	802.1X, ARP, Bonjour, CIFS/SMB, DDNS, DHCP, DNS, FTP/SFTP, HTTP/HTTPS, ICMP, IGMPv3, IPv4, IPv6, NTP, PPPoE, QoS (CoS/DSCP), RTSP/RTP/RTCP, SMTP, SNMP, SSL, TCP/IP, TLS 1.2, UDP, UPnP
Interface	10 Base-T/100 Base-TX Ethernet *It is highly recommended to use standard CAT5e & CAT6 cables which are compliant with the 3P/ETL standard.
ONVIF	Profile G, S, T supported, specification available at www.onvif.org

Solution Integration

Embedded Software	Traffic VCA LPR+ [Color: 9 ; Type: 5 (MOTORBIKE, CAR, VAN, TRUCK, BUS); Direction Recognition]
VADP Package	Stratocast, Trend Micro IoT Security

Alarm and Event

Event Trigger	Audio detection, camera tampering detection, cybersecurity events (brute force attack event, cyberattack event, quarantine event), digital input, manual trigger, periodical trigger, recording notification, SD card life expectancy, shock detection, system boot
Event Action	Camera: Event notification via digital output, email, HTTP, FTP, NAS server, SD card File upload via email, HTTP, FTP, NAS server, SD card ANPR Software: Socket client, socket server, onvif event, digital output trigger, HTTP(S), FTP, send event to Milestone VMS, wiegand protocol supported

General

Connectors	RJ-45 cable connector for 10/100/1000Mbps Network/PoE connection Audio input Audio output AC 24V power input *1 DC 12V power input*1 Digital input *2 Digital output *2 (DO+: 12V, 50mA; DO-: 30V, Open Drain, 1A) RS485*1 BNC *1
LED Indicator	System power and status indicator
Power Input	AC 24V, DC 12V, IEEE 802.3af PoE Class 0
Power Consumption	DC 12V: Max. 8.88 W AC 24V: Max. 17 W PoE: Max. 10 W
Dimensions	Without lens: 155 (D) x 70 (W) x 61 (H) mm IP9165-LPR-v2 (9-50mm): 263 (D) x 78 (W) x 84 (H) mm IP9165-LPR-v2 (12-40mm, i-CS): 203 (D) x 70 (W) x 61 (H) mm
Weight	Without lens: 680 g IP9165-LPR-v2 (9-50mm): 970 g IP9165-LPR-v2 (12-40mm): 790 g
Certifications	CE, LVD, FCC Class B, VCCI, C-Tick, UL/CUL
Operating Temperature	Start Temperature: 0°C ~ 50°C (32°F ~ 122°F) Working temperature: -10°C ~ 60°C (14°F ~ 140°F)
Humidity	90% (non-condensing)

System Requirements

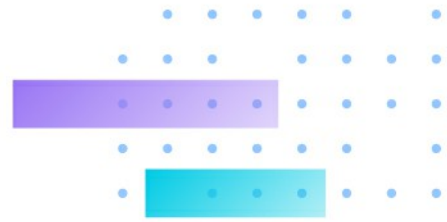
Operating System	Microsoft Windows 10/8/7 Mac 10.12 (Chrome only)
Web Browser	Chrome 58.0 or above Internet Explorer 11
Other Players	VLC: 1.1.11 or above

Included Accessories

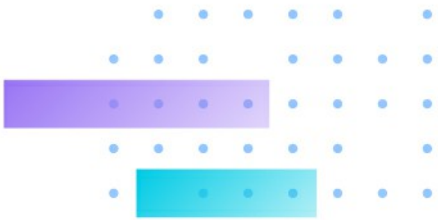
Packing Contents	Quick installation guide, lens* * Lens: depend on model
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LPR Analytics Supported Regions

North America	Canada, USA* (*Small stacked characters on license plate are not supported)
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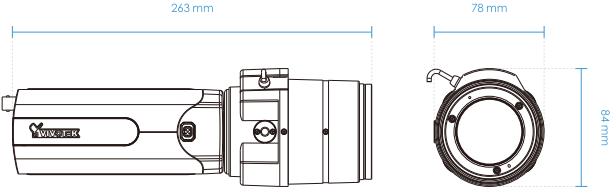


South America & Central	Argentina, Bermuda, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, Uruguay, Venezuela, Saint Lucia, Barbados, Jamaica
Europe	Andorra, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Gibraltar, Greece, Hungary, Ireland (ROI), Italy, Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Spain, Sweden, Switzerland, Ukraine, United Kingdom, Great Britain, Albania, Lithuania, Latvia, Malta, Serbia, Kosovo, Montenegro, Macedonia, San Marino, Iceland
Asia	Abu Dhabi, Azerbaijan, Bahrain, Dubai, Hong-Kong, Indonesia, Israel, Lebanon, Macau, Malaysia, Philippines, Russia, Singapore, Taiwan, Turkey, Vietnam, Oman, Kuwait, Uzbekistan (*Arabic alphabets are not supported)
Africa	Angola, Burkina Faso, Kenya, Morocco, Nigeria, Senegal, South Africa, Tanzania, Tunisia, Uganda, Botswana, Ghana, Cameroon, Ethiopia, Djibouti, Mozambique
Oceania	Australia, New Zealand

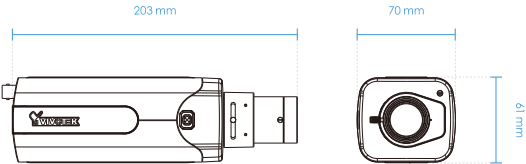


Dimensions

IP9165-LPR(9-50mm)



IP9165-LPR(12-40mm)



Compatible Accessories

Enclosures



AE-23E-v2
Outdoor enclosures, PoE input, IP68, IK10

Enclosures



AE-244
Outdoor enclosures, PoE input, built-in 50m IR, PoE input, IP68, IK10

Lens



AL-24A
12 ~ 40mm, F1.8, P-iris (Standard Package)

Lens



AL-24E
3.9 ~ 10mm, F1.5, P-iris

Lens



AL-24F
4.4 ~ 10mm, F1.3, P-iris

Lens



AL-24G
10 ~ 40mm, F1.3, P-iris

Lens



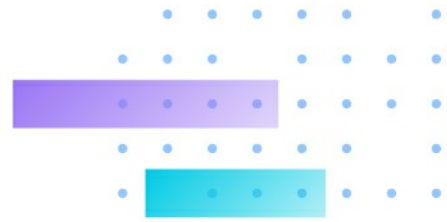
AL-248
12 ~ 50mm, F1.8, P-iris

Lens



AL-251
3.9 ~ 10mm, F1.5, i-CS

Lens



AL-252
9 ~ 50mm, F1.5, i-CS
