

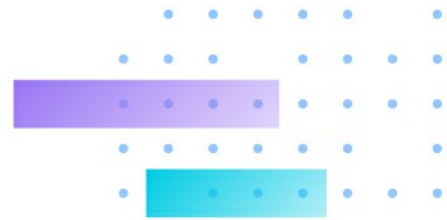
# IP9165-LPR-v2 Kit (Street)

Smart City License Plate Recognition Solution

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

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





# Technical Specifications - Kit

## System Information

Model	IP9165-LPR-v2 Kit (Street, 9-50mm, i-CS, Snap-in IR) IP9165-LPR-v2 Kit (Street, 12-40mm, Snap-in IR)
Max. Speed	60MPH (90 km/hr)
IR Threshold	IR on: 300 lux IR off: 600 lux RS485 configurable
Shutter Time	1/5 sec. to 1/32,000 sec.
Illuminators	48W, 10° ~ 30° remote control beam angle, embedded IR illuminator
Capture Range	Up to 35 meters
Captured Lanes	Dual Lane *Suggested width per lane: 3.5 ~ 4M
Power Input	AC 24V or DC 24V
Power Consumption	Max. 78 W (IR on) Max. 30 W (IR off) Suggested Power: DC 24V or AC 24V / 3.5A
Weight	6.2 kg
Housing	Weather-proof IP68-rated housing Vandal-proof IK10-rated housing
Operating Temperature	Starting Temperature: 0°C ~ 60°C (32°F ~ 140°F) Working Temperature: -20°C ~ 60°C (-4°F ~ 140°F) -40°C ~ 60°C (-40°F ~ 140°F), with optional cold start heater
Humidity	90% (non-condensing)

## Video

Compression	H.265, H.264, MJPEG
Maximum Streams	3 simultaneous streams
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

## Network

Users	Live viewing for up to 10 clients
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/1000 Base-T Ethernet (RJ-45) *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 <a href="http://www.onvif.org">www.onvif.org</a>

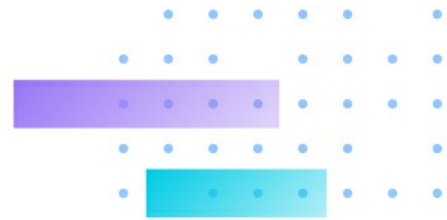
## Solution Integration

Video Motion Detection	Five-window video motion detection
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, motion detection, 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



Smart Focus System	RBF (Remote Back Focus)
IP Camera Connectors	DC 12V power input *1 AC 24V power input *1 Digital input *2 Digital output *2 RS485 *1 BNC *1
Safety Certifications	IP Camera: CE, LVD, FCC Class B, VCCI, C-Tick, UL/CUL
Warranty	36 months

### 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

## Technical Specifications - Network Camera

### System Information

Model	IP9165-LPR-v2, (9-50mm, iCS) IP9165-LPR-v2, (12-40mm, iCS) IP9165-LPR-v2, (W/O Lens)
CPU	Multimedia SoC (System-on-Chip)
Flash	8 GB
RAM	2 GB

### Camera Features

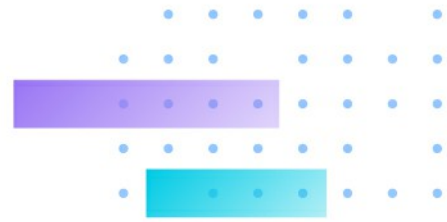
Image Sensor	1/2" Progressive CMOS
Maximum Resolution	1920x1080 (2MP)
Lens Type	Vari-focal, Remote Focus (i-CS), Manual Focus
Focal Length	f = 9 ~ 50 mm [IP9165-LPR-v2 (9-50mm)] f = 12 ~ 40 mm [IP9165-LPR-v2 (12-40mm)]
Aperture	F1.5 ~ F1.6 [IP9165-LPR-v2 (9-50mm)] F1.8 ~ F2.3 [IP9165-LPR-v2 (12-40mm)]
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)
WDR Technology	WDR Pro II
Day/Night	Yes
Pan/Tilt/Zoom Functionalities	ePTZ: 48x digital zoom (4x on IE plug-in, 12x built in)
On-board Storage	Built-in 32GB MicroSD card for LPR images Seamless Recording to MicroSD/SDHC/SDKC card and recording to network-attached storage (NAS)

### Video

Maximum Frame Rate	60 fps @ 1920x1080
S/N Ratio	66.2 dB
Dynamic Range	140 dB

### Audio

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



## Technical Specifications - IR Illuminator

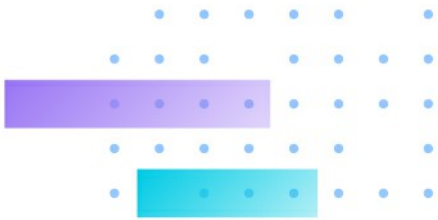
### General

Model	AI-109, Snap-in IR illuminator
Max. Distance	Up to 35meters for LPR street application
Beam Angle	10° ~ 30° remote adjustable
Power Input	24VAC/28VDC with AE-23A enclosure
Power Consumption	48W
Weight	450 g
Housing	Weather-proof IP68-rated housing Vandal-proof IK10-rated housing
Operating Temperature	-40 °C ~ 50 °C (-40°F ~ 122°F)
Color	White
Wavelength	850nm
Dimensions	135 x 106 x 111 mm (5.3 x 4.2 x 4.4 inch)
Certifications	CE, FCC Class B, EN62471
Integrated Control	Built-in photocell for automatic IR on/off

## Technical Specifications - Application

### LPR Analytics Supported Regions

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



# Compatible Accessories

## Lens



AL-24A  
12 ~ 40mm, F1.8, P-iris

## Lens



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

## Lens



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

## Lens



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

## Brackets



AM-315  
Pole Mount Bracket

## Power



AA-352  
Power Box, IP67, IK10

## Lens



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

## Lens



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

## Lens



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

## Brackets



AM-314  
Pole Mount Bracket

## Power

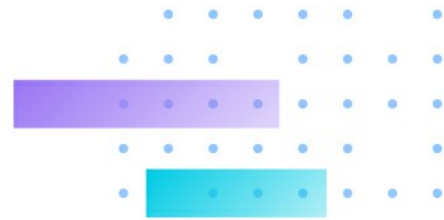


HLG-120H-24  
120W Single Output Switching Power Supply

## Power



AP-PSP-050  
Outdoor PoE Surge Protector



## Ordering Information

		
Kit P/N.	IP9165-LPR-v2 Kit (Street, 9-50mm, i-CS) 199B00100G	IP9165-LPR-v2 Kit (Street, 12-40mm) 199B00200G
Category	Model/Description	
IP Camera	 <b>IP9165-LPR-v2 (9-50mm)</b> 2MP, 60fps, WDR Pro 140dB, i-CS, 3DNR, DIS	 <b>IP9165-LPR-v2 (12-40mm)</b> 2MP, 60fps, WDR Pro 140dB, Remote Back Focus, 3DNR, DIS
Enclosure Kit AE-23A-P P/N: 900053100G	 <b>IR LED: AI-109</b> 48W embedded IR Illuminator, 850nm, 10° ~ 30° remote control beam angle	
	 <b>Enclosure: AE-23A</b> Outdoor Enclosure with Anti-Icing Heated Glass, Fan, AC24V or DC24V in, IP68, IK10, Sun shield, 80W surge protect, optional VAIR Illuminators	
	 <b>Bracket: AM-21E</b> Cable Management, Wall Mount Bracket	