



IP9165-LPC Kit

License Plate Capture Solution



Dual Lanes • Anti-Glare • 110MPH (180km/hr) • Scene Overview •
Recognition Distance 35M • Remote Back Focus • DIS • CVA Tech

VIVOTEK's IP9165-LPC Kit represents a total solution for LPC (License Plate Capture) applications by leveraging the top tier image quality and traffic monitoring ability of the IP9165-LPC box camera. The CaMate IR Illuminator utilizing CVA Tech provides adjustable beam angles for different distances. The Headlight filter is implemented to reduce instances of glare from direct headlight contact. The IP9165-LPC Kit delivers clear license plate images for reliable recognition, in both the sunniest days, and in the darkest nights.

Value-added features such as DIS (Digital Image Stabilization) and remote IR beam angle adjustment ensure that the IP9165-LPC Kit can be easily installed and adjusted to provide the perfect LPR solution. Further, with the high-resolution images supporting a wide range of up to two lanes, the IP9165-LPC Kit is also the most economic solution in LPR applications.

Empowered with VIVOTEK Scene Mode, which provides different exposure levels to avoid overexposure in some lighting conditions, the IP9165-LPC Kit can capture clear plate images from the vehicles moving at speeds of up to 110MPH (180km/hr).

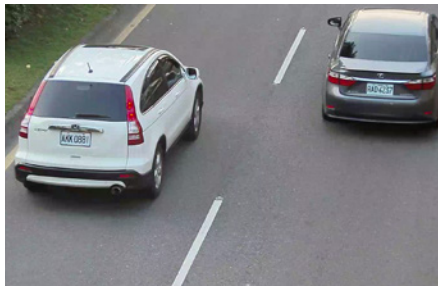
Key Features

- Capture Vehicle Speed up to 110MPH (180km/hr)
- One Camera Covers Both Scene Overview & LPC View
- Supreme Anti-Glare Capability
- One Camera Covers Dual Lanes
- Easy Installation & Low Maintenance
- Certified by Numerous LPR Software Manufacturers around the World
- CaMate IR Illuminator with CVA Tech (Continuous Variable Angle Technology)
- Vandal-Proof IK10-rated and Weather-Proof IP68-rated Housing

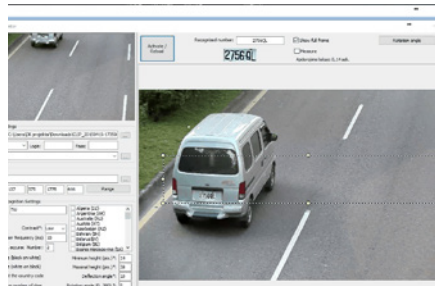
Functions

One Camera Covers Both Scene Overview & LPC View

VIVOTEK's 2 Mega-pixel resolution kit provides not only sufficient PPF for license plate capture, but also for a clear overview of moving vehicles, including car color, brand and type for general traffic surveillance purposes. Therefore, with only one VIVOTEK's IP9165-LPC Kit, users can yield more information from one single location.



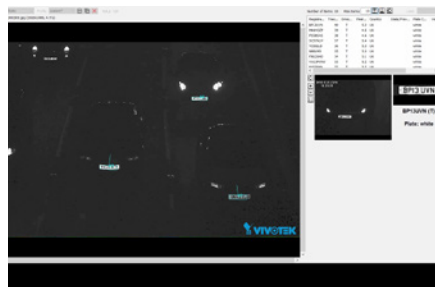
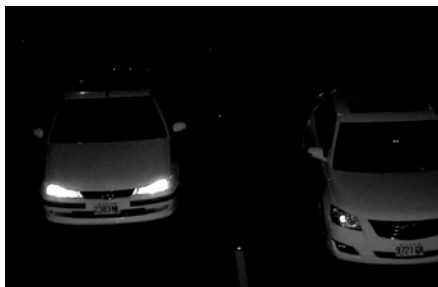
Scene Overview



License Plate Recognition View

Supreme Anti-Glare Capability

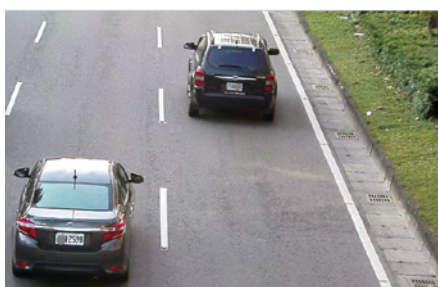
Capturing images at night is a challenging issue for any surveillance application, but for License Plate Capture applications the challenge is even greater due to noise and glare caused by the headlights of cars. The IP9165-LPC Kit is equipped with external 48W/80W IR Illuminators and a delicate headlight filter, which help to filter out reflected light and only capture detailed information from the plates. Moreover, the IR threshold is also programmed to deploy the IR Illuminator automatically to ensure 24/7 & Day/Night performance.



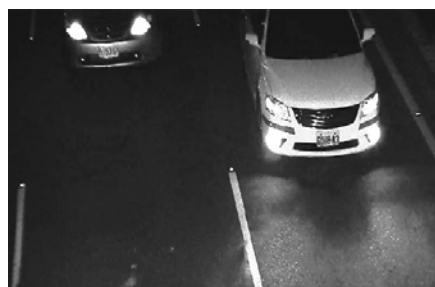
Clear Image Captured with IR Illuminators and Headlight Filter

One Camera Covers Dual Lanes

The high image quality of the IP9165-LPC Kit ensures wide coverage of two lanes with one Camera, whether used for Highway monitoring or for Street monitoring. With a single IP9165-LPC Kit covering dual lanes, the total cost of traffic monitoring will be reduced.

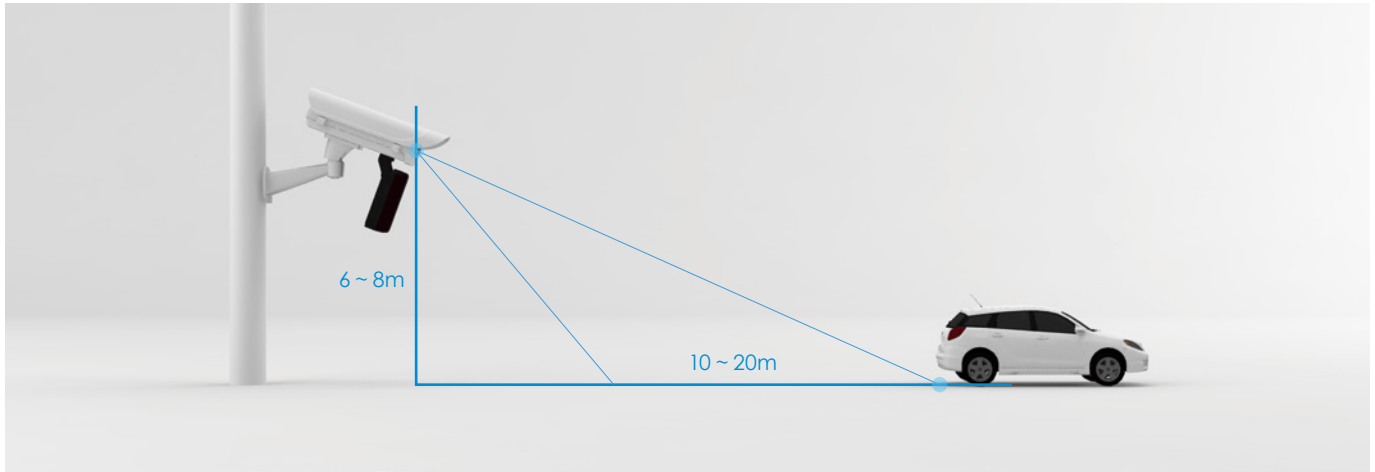


Day Time



Night Time

Suggested Installation



Ordering Information



Kit	IP9165-LPC Kit (Highway)	IP9165-LPC Kit (Street)	IP9165-LPC-A Kit (Street)
P/N.	199004200G	199004100G	199004500G
Category	Model/Description		
IP Camera	 IP9165-LPC 2MP, 60fps, WDR Pro 140dB, Remote Back Focus, 3DNR, DIS		
IR Illuminator	 CA8018-2040 80W IR Illuminator, 850nm, 20° ~ 40° remote control beam angle with CVA Tech	 CM4818-2040 48W IR Illuminator, 850nm, 20° ~ 40° adjustable beam angle with CVA Tech	 AI-109 48W embedded IR Illuminator, 850nm 10° ~ 30° remote control beam angle
Enclosure	 AE-23L Outdoor Enclosure with Anti-icing Heated Glass, Fan, 24VAC/ DC in, IP68, IK10, Sunshield	 AE-23A Outdoor Enclosure with Anti-icing Heated Glass, Fan, 24VAC/28VDC in, IP68, IK10, Sunshield, Optional IR Illuminators	
Bracket	 AM-21E Cable Management, Wall Mount Bracket		

Feature Comparison

Kit	IP9165-LPC Kit (Highway)	IP9165-LPC Kit (Street)	IP9165-LPC-A Kit (Street)
			
P/N	199004200G	199004100G	199004500G
Max. Vehicle Speed	110MPH (180 km/hr)	60MPH (90 km/hr)	60MPH (90 km/hr)
Lane	Road-side: 2 Lanes Gantry: 2 Lanes	Road-side: 2 Lanes Gantry: 2 Lanes	Road-side: 1 Lane Gantry: 2 Lanes
IR Pan/Tilt	Pan: +/- 15 degree Tilt: 0~ 90 degree	Pan: +/- 15 degree Tilt: 0~ 90 degree	-
IR Mount	External	External	Embedded

Technical Specifications - IP9165-LPC Kit

Model	IP9165-LPC Kit (Highway): 110MPH (180 km/hr), with CA8018-2040 IR IP9165-LPC Kit (Street): 60MPH (90 km/hr), with CM4818-2040 IR IP9165-LPC-A Kit (Street): 60MPH (90 km/hr), with AI-109 IR	Weight	IP9165-LPC Kit (Highway)/(Street): 6,482 g IP9165-LPC-A Kit (Street): 6,200 g
Max. Speed	IP9165-LPC Kit (Highway): 110MPH (180 km/hr) IP9165-LPC Kit (Street)/LPC-A Kit (Street): 60MPH (90 km/hr)	Housing	Weather-proof IP68-rated housing Vandal-proof IK10-rated housing
IR Threshold	IR on: 300 Lux IR off: 600 Lux RS485 configurable	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
Shutter Time	IP9165-LPC Kit (Highway): 1/1,600 to 1/10,000 sec. IP9165-LPC Kit (Street)/LPC-A Kit (Street): 1/1,000 to 1/10,000 sec.	Humidity	90%
Max. Shutter Time	1/5 to 1/32,000 sec.	Video	
IR Illuminators	IP9165-LPC Kit (Highway): CA8018-2040 *1, 80W, 20° ~ 40° remote control beam angle IP9165-LPC Kit (Street): CM4818-2040 *1, 48W, 20° ~ 40° adjustable beam IP9165-LPC-A Kit (Street): AI-109 *1, 48W, 10° ~ 30° remote control beam angle, embedded IR illuminator	Compression	H.265, H.264, MJPEG
Capture Range	Up to 35 meters *Suggested Distance: 10 ~ 20 m	Maximum Streams	4 simultaneous streams
Captured Lanes	IP9165-LPC Kit (Highway)/(Street): Road-side: 2 Lanes Gantry: 2 Lanes IP9165-LPC-A Kit (Street): Road-side: 1 Lane Gantry: 2 Lanes *Suggested width per lane: 3.5 ~ 4M	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, DIS, video rotation, lens profile, LPC scene mode
Power Input	AC/DC 24V	Network	
Power Consumption	IP9165-LPC Kit (Highway): Max. 110 W, AC/DC 24V Suggested Power: AC 24V or DC 24V/ 5A IP9165-LPC Kit (Street)/LPC-A Kit (Street): Max. 78 W, AC/DC 24V Suggested Power: DC 24V or AC 24V / 3.5A	Users	Live viewing for up to 10 clients
		Protocols	IPv4, IPv6, TCP/IP, HTTP, HTTPS, UPnP, RTSP/ RTP/RTCP, IGMP, CIFS/SMB, SMTP, FTP, DHCP, NTP, DNS, DDNS, PPPoE, CoS, QoS, SNMP, 802.1X, UDP, ICMP, ARP, TLS
		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	Supported, specification available at www.onvif.org
		Intelligent Video	

Technical Specifications - IP9165-LPC Kit

Video Motion Detection	Five-window video motion detection
Alarm and Event	
Alarm Triggers	Motion detection, manual trigger, digital input, periodical trigger, system boot, recording notification, camera tampering detection, audio detection, advanced motion detection, MicroSD card life expectancy
Alarm Events	Event notification using digital output, HTTP, SMTP, FTP, NAS server and MicroSD card File upload via HTTP, SMTP, FTP, NAS server and MicroSD card
General	
IP Camera Connectors	RJ-45 cable connector for Network/PoE connection *1 Audio input *1 Audio output *1 DC 12V/AC 24V power in *1 Digital input *2 Digital output *2 RS485 *1 BNC *1
Safety Certifications	IP Camera: CE, LVD, FCC Class B, VCCI, C-Tick, UL
Warranty	36 months
System Requirements	
Operating System	Microsoft Windows 8/7
Web Browser	Mozilla Firefox 7~43 (streaming only) Internet Explorer 10/11
Other Players	VLC: 1.1.11 or above QuickTime: 7 or above
Technical Specifications - Network Camera	
Model	IP9165-LPC
CPU	Multimedia SoC (System-on-Chip)
Flash	128 MB
RAM	1 GB
Camera Features	
Image Sensor	1/2" Progressive CMOS
Maximum Resolution	1920x1080 (2MP)
Lens Type	Vari-focal, Remote Back Focus
Focal Length	f = 12 ~ 40 mm
Aperture	F1.8 ~ F2.3
Auto-iris	P-iris (i-CS/DC-iris reserved)
Field of View	11.6° ~ 34.2° (Horizontal) 6.6° ~ 18.7° (Vertical) 13.3° ~ 39.8° (Diagonal)
WDR Technology	WDR Pro II
Day/Night	Removable IR-cut filter for day & night function (Headlight filter design for Anti-Glare)

Pan/Tilt/Zoom Functionalities	ePTZ: 48x digital zoom (4x on IE plug-in, 12x built in)
On-board Storage	Slot type: MicroSD/SDHC/SDXC card slot (Max. SD card capacity: 128GB) Seamless Recording
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	
Model	CA8018-2040 CM4818-2040 AI-109
Max. Distance	CA8018-2040: 170 ~ 280 meters CM4818-2040: 120 ~ 200 meters AI-109: 150 ~ 350 meters
Beam Angle	CA8018-2040: 20° ~ 40° remote adjustable CM4818-2040: 20° ~ 40° adjustable AI-109: 10° ~ 30° remote adjustable
Input Power	CA8018-2040: 24VDC ±10%, 24VAC(50/60Hz) ±10% CM4818-2040: 12 ~ 24VDC ±10%, 24VAC(50/60Hz) ±10% AI-109: 24VAC/28VDC with AE-23A enclosure
Power Consumption	CA8018-2040: 80W CM4818-2040: 48W AI-109: 48W
Weight	CA8018-2040/CM4818-2040: 2.1 kg AI-109: 1.2 kg
Housing	Weather-proof IP68-rated housing Vandal-proof IK10-rated housing
Operating Temperature	CA8018-2040: -40 °C ~ 60 °C (-40 °F ~ 140 °F) CM4818-2040: -40 °C ~ 50 °C (-40 °F ~ 122 °F) AI-109: -40 °C ~ 50 °C (-40 °F ~ 122 °F)
Color	CA8018-2040/CM4818-2040: Black AI-109: White
Wavelength	850nm
Dimensions	CA8018-2040/CM4818-2040: 220 x 160 x 73 mm AI-109: 135 x 106 x 111 mm
Included Accessories	CA8018-2040/CM4818-2040: U-Type Bracket (134 × 34 × 81.5 mm)

Technical Specifications - IR Illuminator

Certifications	CA8018-2040: IEC 62471, EN 50130-4, CE: EN61000-6-3, EN60598-1, EN60598-2-5, FCC Class A, EN60529
	CM4818-2040: IEC 62471, EN 50130-4, CE: EN61000-6-3, EN60598-1, EN60598-2-5, FCC Class B, EN60529
AI-109:	CE, FCC class B, EN62471
Integrated Control	Built-in photocell for automatic IR on/off

Compatible Accessories

Lens



AL-239
8 ~ 80 mm, F1.6, DC-iris



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



AL-24B
3.6 ~ 17 mm, F1.5, P-iris



AL-24D
25 ~ 135 mm, F1.8, P-iris



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

Brackets



AM-314
Pole Mount Bracket



AM-315
Pole Mount Bracket

Power



HLG-120H-24
120W Single Output
Switching Power Supply,
DC24V



AA-351
Outdoor Power Box, IP67,
IK10



AA-352
Outdoor Power Box, IP67,
IK10