VIVOTEK

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.

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).

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.

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.
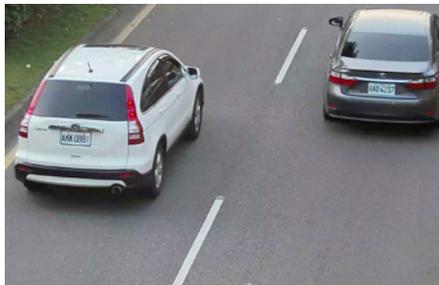
Scene Overview
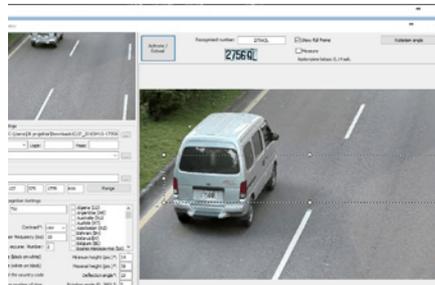
License Plate Recognition View

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.
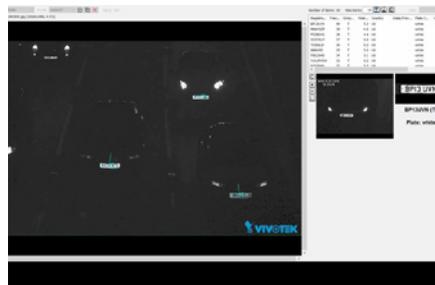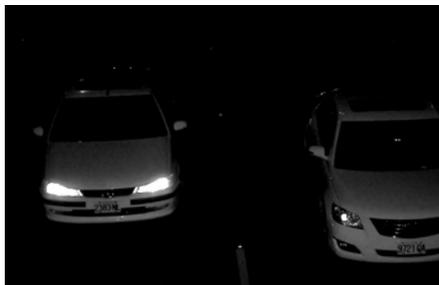
Clear Image Captured with IR Illuminators and Headlight Filter

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.
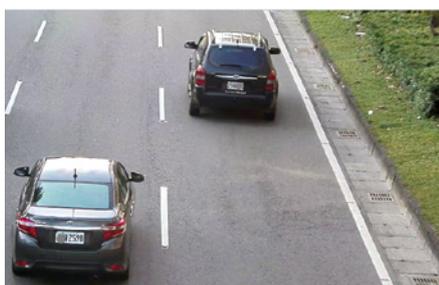

Day Time
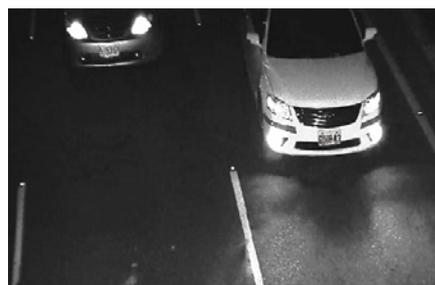
Night Time

Suggested Installation

6 ~ 8m

10 ~ 20m

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	**CA80I8-2040** 80W IR Illuminator, 850nm, 20° ~ 40° remote control beam angle with CVA Tech	**CM48I8-2040** 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 CA80I8-2040 IR IP9165-LPC Kit (Street): 60MPH (90 km/hr), with CM48I8-2040 IR IP9165-LPC-A Kit (Street): 60MPH (90 km/hr), with AI-109 IR
Max. Speed	IP9165-LPC Kit (Highway): 110MPH (180 km/hr) IP9165-LPC Kit (Street)/LPC-A Kit (Street): 60MPH (90 km/hr)
IR Threshold	IR on: 300 Lux IR off: 600 Lux RS485 configurable
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.
Max. Shutter Time	1/5 to 1/32,000 sec.
IR Illuminators	IP9165-LPC Kit (Highway): CA80I8-2040 *1, 80W, 20° ~ 40° remote control beam angle IP9165-LPC Kit (Street): CM48I8-2040 *1, 48W, 20° ~ 40° adjustable beam IP9165-LPC-A Kit (Street): AI-109 *1, 48W, 10° ~ 30° remote control beam angle, embedded IR illuminator
Capture Range	Up to 35 meters *Suggested Distance: 10 ~ 20 m
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
Power Input	AC/DC 24V
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

Weight	IP9165-LPC Kit (Highway)/(Street): 6,482 g IP9165-LPC-A Kit (Street): 6,200 g
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%

Video

Compression	H.265, H.264, MJPEG
Maximum Streams	4 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, DIS, video rotation, lens profile, LPC scene mode

Network

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 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
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	CA80I8-2040 CM48I8-2040 AI-109
Max. Distance	CA80I8-2040: 170 ~ 280 meters CM48I8-2040: 120 ~ 200 meters AI-109: 150 ~ 350 meters
Beam Angle	CA80I8-2040: 20° ~ 40° remote adjustable CM48I8-2040: 20° ~ 40° adjustable AI-109: 10° ~ 30° remote adjustable
Input Power	CA80I8-2040: 24VDC ±10%, 24VAC(50/60Hz) ±10% CM48I8-2040: 12 ~ 24VDC ±10%, 24VAC(50/60Hz) ±10% AI-109: 24VAC/28VDC with AE-23A enclosure
Power Consumption	CA80I8-2040: 80W CM48I8-2040: 48W AI-109: 48W
Weight	CA80I8-2040/CM48I8-2040: 2.1 kg AI-109: 1.2 kg
Housing	Weather-proof IP68-rated housing Vandal-proof IK10-rated housing
Operating Temperature	CA80I8-2040: -40 °C ~ 60 °C (-40 °F ~ 140 °F) CM48I8-2040: -40 °C ~ 50°C (-40 °F ~ 122 °F) AI-109: -40 °C ~ 50 °C (-40°F ~ 122°F)
Color	CA80I8-2040/CM48I8-2040: Black AI-109: White
Wavelength	850nm
Dimensions	CA80I8-2040/CM48I8-2040: 220 x 160 x 73 mm AI-109: 135 x 106 x 111 mm
Included Accessories	CA80I8-2040/CM48I8-2040: U-Type Bracket (134 × 34 × 81.5 mm)

Technical Specifications - IR Illuminator

Certifications	CA80I8-2040: IEC 62471, EN 50130-4, CE: EN61000-6-3, EN60598-1, EN60598-2-5, FCC Class A, EN60529 CM48I8-2040: 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	AL-24A	AL-24B	AL-24D	AL-251
8 ~ 80 mm, F1.6, DC-iris	12 ~ 40 mm, F1.8, P-iris (Standard Package)	3.6 ~ 17 mm, F1.5, P-iris	25 ~ 135 mm, F1.8, P-iris	3.9 ~ 10mm, F1.5, i-CS

Brackets		Power		
AM-314	AM-315	HLG-120H-24	AA-351	AA-352
Pole Mount Bracket	Pole Mount Bracket	120W Single Output Switching Power Supply, DC24V	Outdoor Power Box, IP67, IK10	Outdoor Power Box, IP67, IK10