IPEL-B40V-LPR1
4MP IR License Plate Recognition Bullet Network Camera

IC REALTIME

- 4MP 1/1.8" CMOS image sensor, 8-32mm Varifocal lens
- Outputs 4MP (2688 × 1520) @25/30 fps
- License plate recognition up to 65 feet @75MPH
- Vehicle Detection, Intrusion and Loitering Detection
- Built-in Mic & Speaker, Indicator LEDs
- Dual illumination- IR & White LED Max. Distance 196 ft
- Micro SD support, IP67, IK10, 12VDC or PoE
- Made In South Korea And Conforms To The Trade Agreements Act (TAA)

System Overview

IC Realtime's IPEL-B40V-LPR1 is an upgraded version of our previous ANPR (Automatic number-plate recognition) camera. This specialized 4MP (2688 × 1520) Elite line camera features dual illumination that allows white light or IR illumination for a license plate capture range up to 65ft with vehicles going up to 75 mph. The license plates captured are stored internally and work with IC Realtime AI recorders for vehicle recognition metadata and plate number search.

The camera comes not only equipped with onboard storage for white list/ black list support but also Active Deterrent sound and light alarm with built-in microphone and speakers and built-in red and blue LEDs. This motorized varifocal camera also features an IP67 and IK10 rated housing for outside install protection and an included integrated junction mount.

To maximize the ANPR capabilities, it is recommended to pair this camera with an IC Realtime ANPR -supported NVRs for video search and extraction.

Functions

ANPR (Automated License Plate Recognition) Technology
This camera is equipped with Multi-Regional ANPR technology. Using Vehicle Detection, ANPR automatically capture's a vehicles license plate and works with IC Realtime's ANPR supported NVR's for ease of search using captured vehicle and plate information as well as creation of allow and block lists to permit or deny entry when tied into a gate system. This makes this LPR camera a perfect choice for vehicle exit, entrance and gate monitoring.

Interoperability
The camera conforms to the ONVIF (Open Network Video Interface Forum) specifications, ensuring interoperability between network video products regardless of manufacturer.

Starlight Technology
Featuring Starlight Technology, this camera is ideal for applications with challenging lighting conditions. Its low-light performance delivers usable video with minimal ambient light. Even in extreme low-light conditions, Starlight Technology is capable of delivering color images in near complete darkness (0.001 lux).

Smart H.265+
Deliver high quality video without straining the network, Smart H.265+ is the optimized implementation of H.265. The Smart H.265+ encoding technology includes a scene adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction, providing saving of up to 70% of bandwidth and storage when compared with standard H.265.

Smart IR Technology
With IR illumination, detailed images can be captured in low light or total darkness. The camera's Smart IR technology adjusts the intensity of camera's infrared LEDs to compensate the distance of an object. Smart IR technology prevents IR LEDs from whitening out images as they come closer to the camera. The camera's integrated infrared illumination provides high performance in extreme low-light environments up to 196ft (30m) for monitoring purposes.

Wide dynamic range (WDR)
The camera achieves vivid images, even in the most intense contrast lighting conditions, using industry-leading wide dynamic range (WDR) technology. For applications with both bright and low lighting conditions that change quickly, true WDR (140 dB) optimizes both the bright and dark areas of a scene at the same time to provide usable video.

Protection (IP67, IK10)
Subjected and certified to rigorous dust and immersion tests (IP67) and impact tests (IK10), The camera complies with an IK10 impact rating making it capable of withstanding the equivalent of 11.02 lbs (5 kg) of force dropped from a height of 15.75 in. (40 cm)

Technical Specification

Camera

Image Sensor	1/1.8" CMOS
Effective Pixels	4MP (2688 × 1520)
RAM/ROM	1GB/4GB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/25 s–1/100,000 s
Minimum Illumination	0.001 Lux@F1.6 (Color, 30 IRE) 0.0002 Lux@F1.6 (B/W, 30 IRE) 0 Lux (Illuminator on)
Illumination Distance	**ANPR**: 65.62 ft (20m)
	Monitoring: 196.85 ft (60m)
Illumination On/Off Control	IR or White Light: Auto, On, Off, Schedule
IR LEDs	2x 730 nm IR illuminators (brightness adjustable)
Warm Light LED	2 (brightness adjustable)

Lens

Lens	8 mm–32 mm
Iris	P-Iris
Lens Type	Motorized Vari-focal
Max. Aperture	F1.6
Angle of View	Horizontal: 39.9° (W)—15.1° (T) Vertical: 21.8° (W)—8.5° (T)
Focus Control	Auto, area focus, manual

DORI Distance		Detect	Observe	Recognize	Identify
	W	524ft	209ft	104ft	52ft
	T	1334ft	534ft	267ft	133ft

Video

Compression	H.264B/H.264M/H.264H/H.265/MJPEG
Streaming Capability	2 Streams
Resolution	Main stream: 4M (2688 × 1520)/1080p (1920 × 1080)/720p (1280 × 720)
	Sub stream: 720p (1280 × 720)/960H (960 × 576, 960 × 480)/D1 (704 × 576, 704 × 480)/CIF (352 × 288, 352 × 240)
Frame Rate	**NTSC:** Main stream: (2688 × 1520@30 fps, 1920 × 1080@30 fps, 1280 × 720@30 fps) Sub stream (1280 × 720@30 fps, 960 × 480@30 fps, 704 × 408@30 fps, 352 × 240@30 fps)
	PAL: Main stream: (2688 × 1520@25 fps, 1920 × 1080@25 fps, 1280 × 720@25 fps), Sub stream (1280 × 720@25 fps, 960 × 576@25 fps, 704 × 576@25 fps, 352 × 288@25 fps)
Bit Rate Control	CBR/VBR
Bit Rate	H.264B: 2,179 kbps–13,074 kbps H.264M: 2,179 kbps–13,074 kbps H.264H: 2,179 kbps–13,074 kbps H.265: 2,179 kbps–13,074 kbps MJPEG: 6,537 kbps–39,223 kbps
Image Encoding	JPEG
WDR	140dB WDR
Digital Detail Enhancement	Supported
White Balance	Auto; Regional Custom; Manual; Outdoor; Natural; Street Lamp
Gain Control	Auto / Manual
Noise Reduction	3D DNR
Smart IR/LED	Supported

Day/Night	IR filter, supports three modes: color/B/W/auto
Mirror/ Flip	N/A

Network

Ethernet	RJ-45; 100/1000M Ethernet port (RJ45)
Protocol	HTTP; Https; 802.1x; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; IPv4/v6; NTP; SFTP;DDNS; SNMP; PPPoE
Security	Username and password; MAC address; HTTPS; IEEE 802.1x; network access control
Alarm Event	Upload to FTP/Memory card, notify monitoring center, send e-mail, trigger alert output, snapshot and active deterrence
Max. User Access	10
Interoperability	ONVIF (Profile S/Profile T); CGI; ITSAPI; API, SDK
Edge Storage	Micro SD Card Slot, 64 GB maximum
Web Viewer	IE, Chrome, Firefox, Safari
Management Software	IC Now, DSS
Smart Phone	IOS, Android

Certifications

Certifications	FCC Part 15, Subpart B

Interface

Video Interface	1
Audio Interface	Built-in Mic (Pick-up distance: 9.84 ft, Sampling Rate: 48 k.), Audio Input port
	Built-in 2W Speakers, Audio Output port
RS485	2 (half duplex, Transparent, DHRS, Pushes Data through Serial Port)
Wiegand	1 channel, SHA-1 26 bit
Alarm	Input: 2, optocoupler input (wet node on-off value: 5 V)
	Output: 2, relay output (2A 30 VDC/0.5A 125 VAC), which can connect to devices such as gates.
Sound and Light Alarm	Blue & red LED indicator, and supports broadcasting custom audio via text-to-speech.

Electrical

Power Supply	12 VDC, 2 A and POE:802.3at,Type 2,Class 4,(44V to 57V), 0.455A to 0.351A,max.20W
Power Consumption	Illumination off < 6 W Illumination on <12 W Speaker and Red/Blue Light Warning on < 17 W

Environmental

Operating Conditions	−22°F to +149 °F (−30°C to +65°C)
Working Humidity	10%–90% (no condensation)
Ingress Protection	IP67
Vandal Resistance	IK10

Construction

Casing	Aluminum alloy body+ Plastic visor
Dimensions (Camera Only)	15.55" × 4.76" ×5.03" (395.0 mm × 120.8 mm × 127.8 mm) (L × W × H)
Dimensions (With Bracket)	17.60" × 9.45" × 9.17" (447.0 mm × 240.0 mm × 233.0 mm) (L × W × H)
Net Weight	5.07lb (2.3kg)
Gross Weight	7.05lb (3.2kg)

ANPR Functions

Vehicle Detection	Recognizes 10 vehicle types: Large Bus, Heavy Truck, Medium Truck, Sedan, Van, Light Truck, Medium Bus, SUV, MPV, Pickup
Capture Rate	If in the recommended installation and lighting condition, the vehicle capture rate ≥ 99%
Recognition Rate	If in the recommended installation and lighting condition, the recognition rate for positive and departing vehicles≥ 96%; the recognition rate for European vehicle plates ≥ 98%
OSD Overlay	Supports overlay of time, address (position of channel), lane (number/direction), plate (number and color), vehicle (speed, color, type)
Video Metadata	Displays the intelligent frame, plate and vehicle paths

Database

Capabilities	Captures recognized license plates and stores them internally.
Allow/ Block List	Allowlist: 110,000 Blocklist: 110,000

Intelligent Search

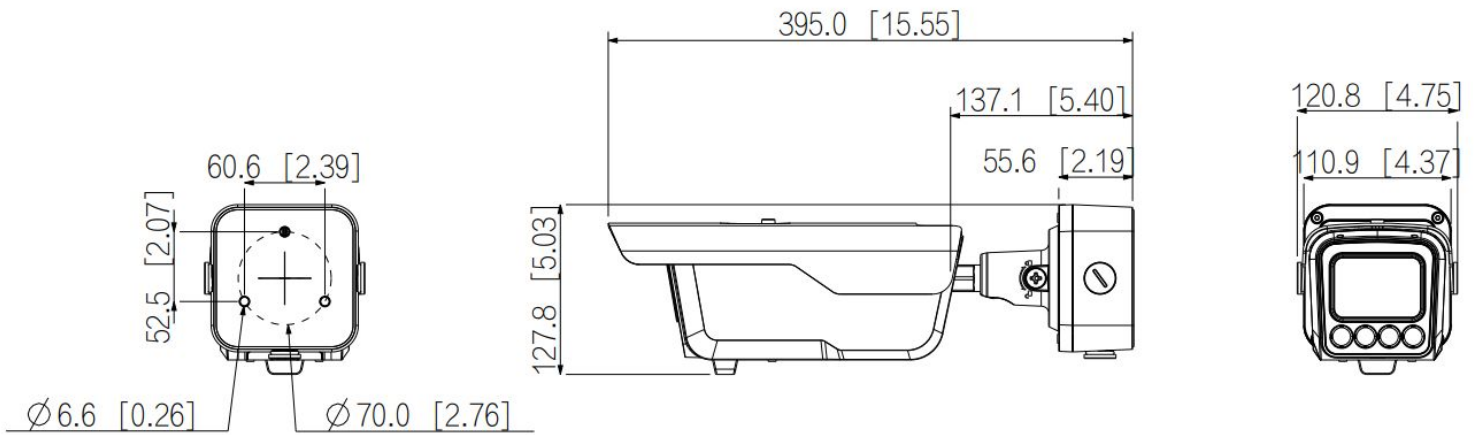|	
Capabilities	Able to independently search for vehicle information and captured plates (Snapshot) within the internal database.
	Works together with IC Realtime AI enabled NVRs to perform refined intelligent search and event video extraction.

Capture Parameters

Capture Range	26.25 ft to 65.62 ft (8m–20m)
Detected Lane Width	19.69 ft to 26.25 ft (6m –8m)
Max Speed for Detection	75 MPH (120 km/h)

AI Functions

IVS

Basic IVS	Intrusion detection, loitering detection (up to 4 areas can be configured)

Dimensions (mm/in)

Installation (Included mount)