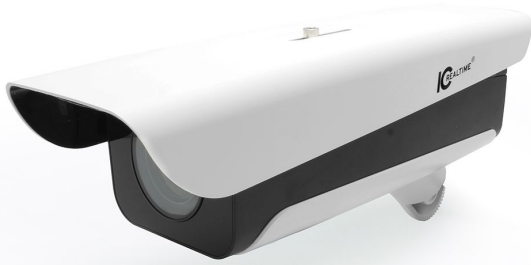# IPEL-B20V-LPR
2MP IR License Plate Recognition Bullet Network Camera

IC REALTIME

- 2MP 1/1.8" CMOS image sensor
- H.265, H.264, & MJPEG support
- Outputs 2MP (1920 × 1080) @25/30 fps
- License plate recognition up to 98 feet @ 37MPH
- Vehicle Detection and Metadata support
- Max. IR Length 98 ft
- Micro SD support, IP67, 12VDC, 24VAC or PoE
- Made In South Korea And Conforms To The Trade Agreements Act (TAA)

System Overview

The IPEL-B20V-LPR is introduced as IC Realtime's first ANPR (Automatic number-plate recognition) camera. This specialized 2MP (1920x 1080p) Elite line camera features a license plate capture range up to 98ft with vehicles going up to 37mph. 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 equipped with onboard storage for white list/black list support, 3 Alarm inputs and Outputs, RCA Audio input and output ports and flexible power options with 12V DC, 24V AC, and PoE compatibility. This bullet camera also features an IP67 rated housing for outside install protection and an included integrated mount.

Functions

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 (0.002 lux).

Protection (IP67, wide voltage)
Subjected and certified to rigorous dust and water immersion tests, the IP67 rating makes it suitable for demanding outdoor applications. For environments with rain, sleet, snow and fog, an integrated wiper provides users with clear visibility at all times.Wide voltage: The camera allows ±30% input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with unstable voltage.

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

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 98ft (30m).

Technical Specification

Camera

Image Sensor	1/1.8" CMOS
Effective Pixels	1920 × 1080
Scanning System	Rolling Shutter
Electronic Shutter Speed	1/50–1/10000, auto or manual
Minimum Illumination	0.002 Lux.
IR Distance	98.43 ft (30m)
IR On/Off Control	Auto, On, Off
IR LEDs	6 IR illuminators (brightness adjustable)

Lens

Lens	10mm–50mm
Iris	Auto iris, (W) F1.3–(T):F2.3
Shutter	Single shutter
Angle of View	Horizontal: 46.60° - 10.62° Vertical:40.60° - 9.30
Focus Control	Motorized, Automatic
Focus Width Range	11.48 ft (3.50 m); (Approximately one lane)

Video

Compression	H.264B/H.264M/H.264H/H.265/MJPEG
Streaming Capability	2 Streams
Resolution	Main stream: 1080P (1920 × 1080) / 720P(1280 × 720)
	Sub stream: 720P (1280 × 720) / D1 (704 × 576, 704 × 480) / CIF (352 × 288, 352 × 240)
Frame Rate	**NTSC:** Main stream: 1920 × 1080@30fps, 1280 × 720@30fps Sub stream: 1280 × 720@30fps, 704 × 408@30fps, 352 × 240@30fps
	PAL: Main stream: 1920 × 1080@25fps, 1280 × 720@25fps Sub stream: 1280 × 720@25fps, 704 × 576@25fps, 352 × 288@25fps)
Bit Rate Control	CBR/VBR
Bit Rate	H.264B: 32Kbps–32768Kbps H.264M: 32Kbps–32768Kbps H.264H: 32Kbps–32768Kbps H.265: 32Kbps–32768Kbps MJPEG: 512Kbps–65536Kbps
Image Encoding	JPEG
WDR	96dB WDR
Edge Enhancement	Support
White Balance	Full auto; auto color temperature range; customized color temperature
Gain Control	Auto / Manual
Noise Reduction	3D DNR
Smart IR	Support
Flip	N/A
Mirror	N/A

Network

Ethernet	RJ-45; 100/1000M Ethernet port (RJ45)
Protocol	IPv4/IPv6, HTTP, TCP/IP, UDP, NTP, DHCP, DNS
Security	Authorized username and password, MAC address binding, HTTPS encryption, IEEE 802.1x, and network access control
Alarm Event	Alarm in the event of no storage card, lack of storage space, storage card error, network disconnection, IP conflict, and illegal access
ANR (Automatic Network Replenishment)	Yes. Platform/ FTP
Interoperability	ONVIF (Profile S)
Max. User Access	20
Edge Storage	Micro SD Card Slot, 64 GB maximum
Web Viewer	IE, Chrome, Firefox, Safari
Management Software	SmartICRSS, DSS
Smart Phone	IOS, Android

Certifications

Certifications	FCC Part 15, Subpart B

Interface

Video Interface	1
Audio Interface	1 channel input/ output (3.5mm JACK port)
RS485	2
RS-232 port	1
Alarm	Input: 3 channels in, optocoupler input (switch quantity)
	Output: 3 channels out: 2-channel optocoupler output, 1-channel relay output, which can connect to devices such as gates.

Electrical

Power Supply	12V DC, 24V AC or, PoE
Power Consumption	<20W

Environmental

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

Construction

Casing	Metal + plastic
Dimensions (Camera Only)	14.58"x4.91"x4.16" (370.46 mm x 124.73 mm x 105.73 mm) (L × W × H)
Dimensions (With Bracket)	20.28"×4.91"×7.21" (515.2mm×124.7mm×183.2mm) (L × W × H)
Net Weight	4.19lb (1.9kg)
Gross Weight	7.28lb (3.3kg)

Capture Parameters

Capture Range	26.25 ft–98.43 ft (8 m–30 m)
Detected Lane Width	19.69 ft–22.97 ft (6 m –7 m)
Max Speed for Detection	37MPH (60 km/h)
Trigger Mode	Video detection; I/O coil; video detection and I/O coil
Image Tampering Prevention	Supported, Video/ Snapshots can be checked through watermark and verification

ANPR Functions

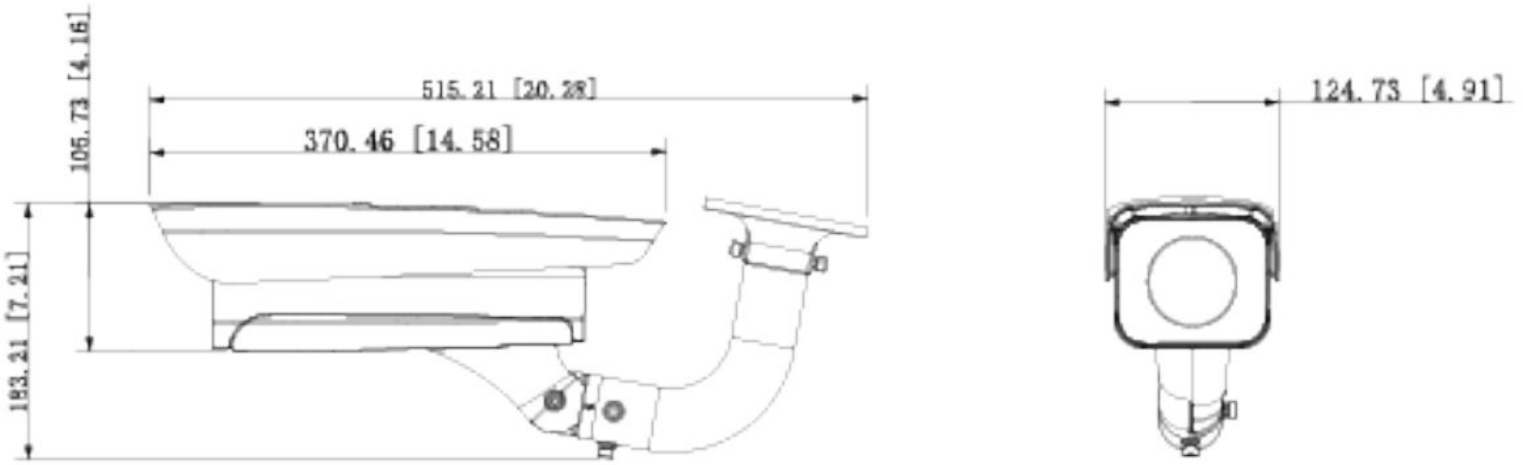|	
Vehicle Detection	Supported, vehicle capture rate ≥99%
Vehicle Recognition	Recognizes vehicle type, vehicle color, license plate, and vehicles without plates. Vehicle recognition rate ≥95%
OSD Overlay	Supports overlay of time, address (position of channel), lane (number/direction), plate (number and color), vehicle (speed, color, type)
Video Metadata	Supported
Intelligent Track Frame	Intelligent frame display. Supports displaying vehicle plate and vehicle path

Database

Capabilities	Captures recognized license plates and stores them internally.

Intelligent Search

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

Dimensions (mm/in)

Installation (Included mount)

Mounting surface

M8 expansion screw (4pcs)

Mounting bracket

Camera