2 MP IR License Plate Capture Camera

5 mm to 50 mm Vari-focal Ultra WDR Network Camera

- 1/2.8-in 2 MP STARVIS™ CMOS Sensor
- License Plate Capture Distance up to 40 m (131 ft)
- Capture License Plates in up to Two (2) Lanes
- Dual-stream Encoding
- H.265 and H.264 Dual Codec
- 1080p at 30 fps Maximum Resolution
- 5 mm to 50 mm Vari-focal Lens
- Ultra Wide Dynamic Range (140 dB) and True Day/Night (ICR)
- Maximum IR LED Distance 40 m (131 ft)
- IP66 Ingress Protection
- Five-year Warranty*

System Overview

The DHI-ITC237-PU1B-IR is a license plate capture camera with a recording resolution of 1920 x 1080 (1080p) at 30 frames per second with a 1/2.8-in STARVIS™ CMOS sensor. The camera includes a 5 mm to 50 mm vari-focal lens that lets the installer adjust the zoom angle of the picture, providing a 50° to 5.6° horizontal angle of view. The camera can capture license plates of vehicles traveling up to 25 mph (40 kph). The camera can be mounted between 4 m and 30 m (13 ft and 98 ft) from where the vehicles will be traveling and can capture plates from two lanes at once. The DHI-ITC237-PU1B-IR coupled with a Dahua NVR or DSS Video Management System offers a complete traffic management and parking solution.

Functions

License Plate Capture

The License Plate Capture camera paired with an LPC-enabled NVR or the DSS Video Management System creates a system that automatically captures and stores vehicle license plate images. During playback, an operator can perform a license plate search by Time and Date to view thumbnail images of all plates captured during the specified time period. License plate capture technology offers effective entrance/exit management, traffic surveillance, and parking lot monitoring.

Ultra Wide Dynamic Range

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, Ultra WDR (140 dB) optimizes both the bright and dark areas of a scene at the same time to provide usable video.

High Efficiency Video Coding (H.265)

The H.265 (ITU-T VCEG) video compression standard offers double the data compression ratio at the same level of video quality, or substantially improved video quality at the same bit rate, as compared to older video compression technologies. H.265 offers such impressive compression by expanding the pattern comparison and difference-coding, improving motion vector prediction and motion region merging, and incorporating an additional filtering step called sample-adaptive offset filtering.

Environmental

With a temperature range of –30 °C to +60 °C (–22 °F to +140 °F), the camera is designed for extreme temperature environments. Subjected and certified to rigorous dust and water immersion tests, the IP66 rating makes it suitable for demanding outdoor applications.

Protection

Supporting ±30% input voltage tolerance, this camera suits even the most unstable conditions for outdoor applications. Its 4KV lightning rating provides protection against the camera and its structure from the effects of lightning.

*Warranty applies to products sold through an authorized Dahua Dealer.

Technical Specification

Camera

Image Sensor	1/2.8-in. 2 MP STARVIS™ CMOS
Effective Pixels	1920(H) x 1080(V)
Scanning System	Progressive
Electronic Shutter Speed	Auto, Manual, 1/50 s to 1/10000 s
Minimum Illumination	Color: 0.002 lux at F1.6 0 lux at F1.6 (IR on)
S/N Ratio	More than 50 dB
IR Distance	Distance up to 40.0 m (131.23 ft)
IR On/Off Control	Auto, Manual
IR LEDs	Six (6)

Lens

Lens Type	Manual / Auto Iris (DC)
Mount Type	CS
Focal Length	5 mm to 50 mm
Max. Aperture	F1.6
Angle of View	Horizontal: 50° to 5.6° Vertical: 37.5° to 4.2°
Focus Control	Manual
Close Focus Distance	4.0 m to 40.0 m (13.12 ft to 131.23 ft) for license plate capture (Different height required, > 10.0 m long range recommendation)
Focus Width Range	3.50 m to 7.0 m (11.48 ft to 22.97 ft), approximately two (2) lanes

Video

Compression	H.265, H.264M, H.264H, H.264B, MJPEG
Streaming Capability	Two (2) Streams
Resolution	1080p (1920 x 1080), 720p (1280 x 720), D1 (704 x 480)
Frame Rate	Main Stream: 1080p at 30 fps
	Sub Stream: 720p or D1 at 30 fps
Bit Rate Control	CBR, VBR
Bit Rate	32 Kbps to 16384 Kbps
Day/Night	Auto (ICR), Color, B/W
BLC Mode	BLC, HLC, Ultra WDR (140 dB)
White Balance	Auto, Manual
Gain Control	Auto, Manual
Noise Reduction	3D

Network

Ethernet	RJ-45 (100/1000 Base-T)
Protocol	IPv4/IPv6, HTTP, TCP/IP, UDP, NTP, DHCP, DNS
Interoperability	ONVIF, CGI
Streaming Method	Unicast, Multicast
Maximum User Access	20 Users
Edge Storage	Local PC for instant recording Micro SD Card Slot, 64 GB maximum
Web Viewer	IE, Chrome
Management Software	DSS

Certifications

Safety	UL6950-1
Electromagnetic Compatibility (EMC)	FCC CFR 47 Part 15 Subpart B

Interface

Audio	Input: Two (2) Channels Output: One (1) Channel
Alarm	Input: Two (2) Channels Output: Two (2) Channels

Electrical

Power Supply	PoE+ (IEEE802.3at Class 4)
Power Consumption	17 W

Environmental

Operating Temperature	–30° C to +60° C (–22° F to +140° F) Less than 95% RH
Storage Temperature	–30° C to +60° C (–22° F to +140° F) Less than 95% RH
Ingress Protection	IP66

Construction

Casing	Metal
Dimensions	404.0 mm x 163.80 mm x 132.10 mm (15.91 in. x 6.45 in. x 5.20 in.)
Net Weight	
Gross Weight	4.10 kg (9.04 lb)

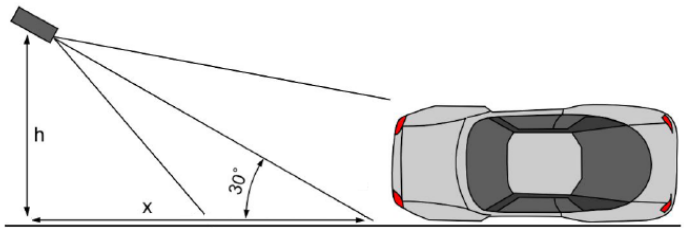
Installation Distances

Camera Height	Snapshot Distance	Lane Width	Vehicle Speed, max
Front Installation			
6 m (19.69 ft)	25 m (82.02 ft)	3.5 m to 7 m (11. 48 ft to 22.97 ft)	60 kph (37 mph)
Side Installation			
2 m (6.56 ft)	7 m ± 2 m (22.97 ft ± 6.56 ft)	3.5 m (11. 48 ft)	40 kph (25 mph)
3 m (9.84 ft)	12 m ± 2 m (39.37 ft ± 6.56 ft)	3.5 m to 7 m (11. 48 ft to 22.97 ft)	60 kph (37 mph)
4 m (13.12 ft)	16 m ± 2 m (52.49 ft ± 6.56 ft)	3.5 m to 7 m (11. 48 ft to 22.97 ft)	60 kph (37 mph)
5 m (16.40 ft)	16 m ± 2 m (52.49 ft ± 6.56 ft)	3.5 m to 7 m (11. 48 ft to 22.97 ft)	60 kph (37 mph)

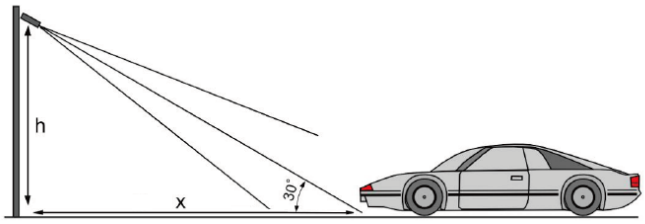
Distance to License Plate	4 m to 40 m (13.12 ft to 131.23 ft), depending on camera height
Horizontal/Vertical Angles	< 30°
Inclination Angle	< 5°

Camera Placement

Horizontal Direction



Vertical Direction



In both the vertical and the horizontal placement, the angle between the camera lens and the farther lane border must be less than 30°. Ensure the snapshot distance (*x*) of the camera is greater than 1.7 times the height (*h*) of the camera ($x \geq 1.7 \times h$) for optimal license plate images.

Ordering Information

Type	Part Number	Description
2 MP LPC Camera	DHI-ITC237-PU1B-IR	2 MP IR License Plate Capture Camera, Vari-focal lens, WDR
Accessories, optional	PFA162	Mount Adapter for LPC Cameras
	ITC-BRACKET-1200	1.20 m (3.94 ft) Ceiling Mount for LPC Cameras
	PFB604W	Wall Mount Bracket

Accessories

Optional:

PFA162
Mount Adapter

ITC-BRACKET-1200
1.2 m Ceiling Mount

PFB604W
Wall Mount Bracket

Dimensions (mm/in.)