DAHUA TECHNOLOGY

2MP IR License Plate Recognition Camera
3.2 mm to 10.5 mm Vari-focal Network Camera

- 1/2.8-in 2MP CMOS Sensor
- License Plate Recognition Distance Distance up to 8 m (26.25 ft)
- Capture and Recognize License Plates from Vehicles Traveling up to 40 kph (25 mph)
- H.265 and H.264 Dual Codec
- 1080p at 30 fps Maximum Resolution
- 3.2 mm to 10.5 mm Motorized Vari-focal Lens
- Supports Signal, Data, and Communication Interfaces and Connection to External Devices
- Maximum IR LED Distance 12 m (39.37 ft)
- IP67 Ingress Protection

System Overview

The ITC215-PW6M-IRLZF-B is a license plate recognition camera camera with a recording resolution of 1920 x 1080 (1080p) at 30 frames per second with a 1/2.8-in. CMOS sensor. The camera includes a 3.2 mm to 10.5 mm vari-focal lens that lets the installer adjust the zoom angle of the picture, providing a 108.1° to 30.3° horizontal angle of view. The camera can capture and recognize license plates of vehicles traveling up to 40 kph (25 mph). The camera can be mounted between 3 m and 8 m (9.84 ft and 26.25 ft) from where the vehicles will be traveling. The ITC215-PW6M-IRLZF-B coupled with a Dahua NVR or DSS Video Management System offers a complete traffic management and parking solution.

Functions

License Plate Recognition

The License Plate Recognition camera automatically captures vehicle license plate images and recognizes license plate numbers and letters. 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 or can enter a license plate number to search for vehicles recorded with that plate. License plate recognition technology offers effective entrance/exit management, traffic security, and parking lot monitoring.

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.

Cybersecurity

Dahua network cameras are equipped with a series of key cybersecurity technologies including: security authentication and authorization, access control, trusted protection, encrypted transmission, and encrypted storage. These technologies improve the camera's ability to prevent malicious access and to protect data.

Environmental

With a temperature range of −30 °C to +65 °C (−22 °F to +149 °F), the camera is designed for extreme temperature environments. Subjected and certified to rigorous dust and water immersion tests, the IP67 rating makes it suitable for demanding outdoor applications.

Technical Specification

Camera

Image Sensor	1/2.8-in. 2MP CMOS
Effective Pixels	1920(H) x 1080(V)
Scanning System	Rolling Shutter
Electronic Shutter Speed	Auto, Manual, 1/50 s to 1/10000 s
IR Distance	Distance up to 12.0 m (39.37 ft)
IR On/Off Control	Auto, On, Off
IR LEDs	Six (6), adjustable brightness

Lens

Lens Type	ø14
Mount Type	ø14
Focal Length	3.2 mm to 10.5 mm
Angle of View	Horizontal: 108.1° to 30.3° Vertical: 56.3° to 17.1° Diagonal: 130.9° to 34.8°
Focus Control	Motorized, Automatic
Iris Control	Auto Iris (1.6 to 3.3)
Focus Width Range	3.50 m (11. 48 ft), approximately one (1) lane

Video

Compression	H.265, H.264M, H.264H, H.264B, MJPEG
Picture Encoding Format	JPEG
Streaming Capability	One (1) Stream
Resolution	1080p (1920 x 1080), 720p (1280 x 720)
Frame Rate	1080p or 720p at 30 fps
Bit Rate Control	CBR, VBR
Bit Rate	H.264B: 32 Kbps to 32768 Kbps H.264M: 32 Kbps to 32768 Kbps H.264H: 32 Kbps to 32768 Kbps H.265: 32 Kbps to 32768 Kbps MJPEG: 512 Kbps to 65536 Kbps
Day/Night	Auto (ICR), Color, B/W
Wide Dynamic Range	96 dB
White Balance	Auto, Outdoor, Manual, Part White Balance, Natural, Street Lamp
Gain Control	Automatic
Noise Reduction	3DNR
Edge Enhancement	Support
Exposure Mode	Full Auto, Customized Auto, Customized

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	Micro SD Card Slot, 64 GB maximum
Web Viewer	IE
Management Software	DSS
Cybersecurity	Video Encryption, Firmware Encryption, Configuration Encryption, Digest, WSSE, Account Lockout, Security Logs, IP/MAC Filtering, Generating and Importing X.509 Certification, Syslog, HTTPS, 802.1x, Trusted Boot, Trusted Execution, Trusted Upgrade

Certifications

Safety	IEC 62368-1:2014 (Second Edition)
Electromagnetic Compatibility (EMC)	47 CFR FCC Part 15 SubpartB, Class B EN 55032:2015, Class B EN61000-3-2:2014 EN 61000-3-3:2013 EN 55024:2010+A1:2015 EN55035:2017 EN 50130-4:2011+A1:2014

Interface

Alarm	Input	Three (3) Channels, Optocoupler
	Output	Three (3) Relay Channels • Two (2) Channels, Optocoupler Output • One (1) Channel, Relay Output
RS485		Two (2) Ports
RS232		One (1) Port

Electrical

Power Supply	12 VDC, 24 VAC, or PoE (IEEE802.3af Class 0)
Power Consumption	< 20 W

Environmental

Operating Temperature	−30° C to +65° C (−22° F to +149° F)
Operating Humidty	10% to 90% Relative, non-condensing
Storage Temperature	−30° C to +65° C (−22° F to +149° F)
Ingress Protection	IP67

Construction

Casing		Metal and Plastic
Dimensions	Camera	296.50 mm x 124.30 mm x 107.70 mm (11.67 in. x 4.89 in. x 4.24 in.)
	Camera with Bracket	486.70 mm x 124.30 mm x 185.50 mm (19.16 in. x 4.89 in. x 7.30 in.)
Net Weight		1.90 kg (4.19 lb)
Gross Weight		3.30 kg (7.28 lb)
Installation		Wall or Ceiling with Included Bracket

Performance

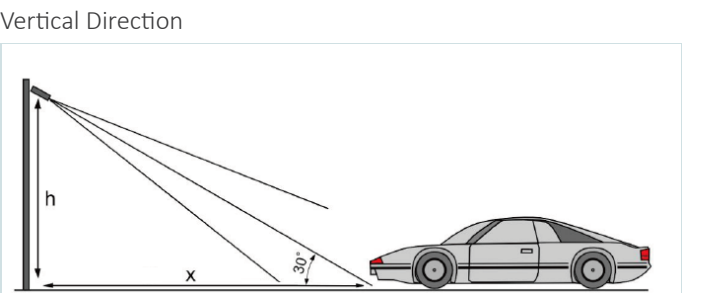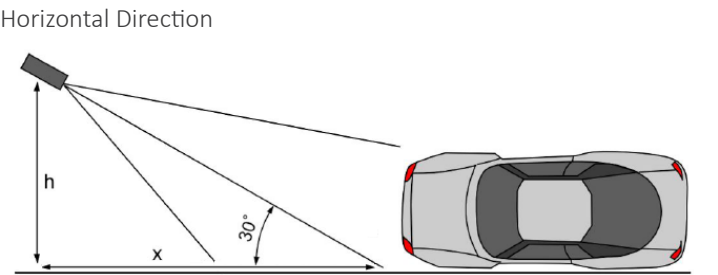|	
Trigger Mode	Video Detection I/O Coil Video Detection and I/O Coil
Shutter	Single
Image Tampering	Video/Picture Watermark
Alarm Event	No Storage Card Inadequate Storage Space Storage Card Error Network Disconnect IP Conflict Illegal Access
Security Mode	Authorized Username and Password MAC Address Binding HTTPS Encryption IEEE 802.1x Network Access Control
On-screen Display Overlay	Time Plate (number and color)

Intelligence

Vehicle Registration	Captures license plate images and extracts the numbers and letters
Intelligent Tracking	Displays vehicle plate and vehicle path

Installation Distances

Camera Height (h)	Snapshot Distance (x)	Lane Width	Vehicle Speed, max
Side Installation			
1.2 m (6.56 ft)	4 m to 6 m (13.12 ft ± 19.69 ft)	3.5 m (11. 48 ft)	40 kph (25 mph)

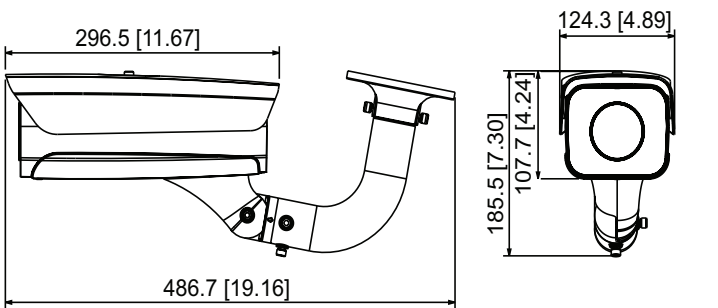|	
Distance to License Plate	Minimum/Maximum: 3 m to 8 m (9.84 ft to 26.25 ft) Optimal: 4 m to 6 m (13.12 ft to 19.69 ft)
Horizontal/Vertical Angles	< 30°
Inclination Angle	< 5°

Ordering Information

Type	Part Number	Description
2MP LPR Camera	ITC215-PW6MIRLZF-B	2MP IR License Plate Recognition Camera, Vari-focal lens, IR Illuminator, with mounting bracket
Accessories, optional	DH-PFA143	Outdoor Security Junction Box
	PFA150	Pole Mount

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 ($x ≥ 1.7 \times h$) for optimal license plate images.

Dimensions (mm/in.)

Installation