

2 MP IR License Plate Recognition Camera

3.2 mm to 10.5 mm Vari-focal Network Camera



- 1/2.8-in 2 MP CMOS Sensor
- License Plate Recognition 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 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 surveillance, 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. 2 MP 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

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|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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

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|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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

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|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safety | IEC 62368-1:2014 (Second Edition) |
| Electromagnetic Compatibility (EMC) | 47 CFR FCC Part 15 Subpart B, Class B EN 55032:2015, Class B EN 61000-3-2:2014 EN 61000-3-3:2013 EN 55024:2010+A1:2015 EN 55035:2017 EN 50130-4:2011+A1:2014 |

Interface

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|-------|--------|-------------------------------------------------------------------------------------------------------|
| 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

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

Construction

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|--------------|---------------------|---------------------------------------------------------------------|
| 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

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|---------------------------|--------------------------------------------------------------------------------------------------------------------------|
| 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

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|----------------------|--------------------------------------------------------------------|
| 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) |

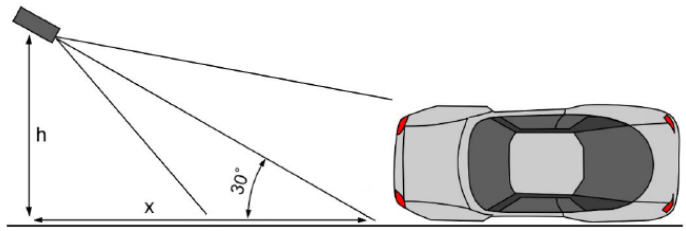
| | |
|----------------------------|-------------------------------------------------------------------------------------------------|
| Distance to License Plate | Minimum/Maximum: 3 m to 8 m (9.84 ft to 26.25 ft) Optimal: 4 m to 6 m (13.12 ft to 19.69 ft) |
| Horizontal/Vertical Angles | < 30° |
|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

Ordering Information

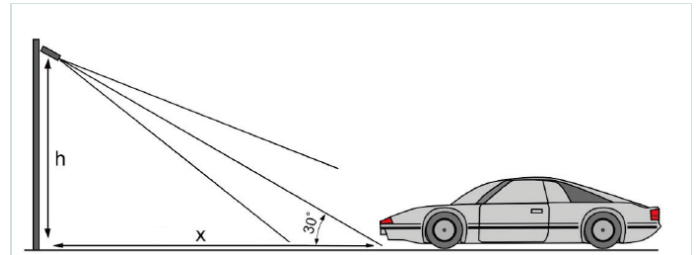
| Type | Part Number | Description |
|-----------------------|--------------------|--------------------------------------------------------------------------------------------------|
| 2 MP LPR Camera | ITC215-PW6MIRLZF-B | 2 MP IR License Plate Recognition Camera, Vari-focal lens, IR Illuminator, with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

Camera Placement

Horizontal Direction

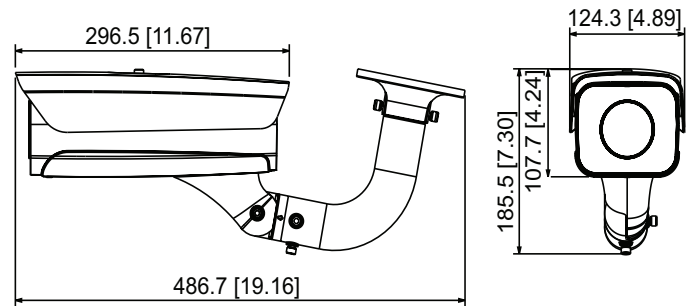


Vertical Direction



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

Dimensions (mm/in.)



Installation

