

DHI-ITC413-PW4D Series

Dahua Access ANPR Camera



System Overview

Using deep learning algorithms, Smart ANPR Camera can recognize vehicles, license plates, vehicle brands and vehicle colors. It can be used in scenarios that require vehicle detection and recognition. It also supports using IVS to detect events, and triggers sound and light alarms. The camera can perform various functions without being connected to other devices, which not only greatly improves the security of factories and compounds, but also simplifies the installation process. The camera is dustproof, waterproof, and tamper-proof, and is IP67 rated and IK10 rated.

Functions

Vivid Images

With its intuitive CMOS image sensor, the camera has WDR, a high signal-to-noise ratio, and is highly sensitive, producing vivid images 24/7, making it ideal for use in the traffic industry.

Impressive Performance

The high-performance CPU processor extracts and analyzes information on motor and non-motor vehicles in real time, providing valuable information on their features. This information is useful for effective decision making.

High-level Protection

Resilient and versatile, the camera is uniquely designed with an illuminator, junction box and more integrated into its structure. It is IP67 rated and has low power consumption, making it suitable for harsh environments.

- High-performance CMOS image sensor and processor that supports continuously extracting metadata 24/7.
- Adopts intelligent deep learning algorithms and supports recognition of unlicensed vehicles and the type, brand and color of vehicles.
- Built-in signal port, data port, communication port and remote controllers assist in controlling external devices such as entry and exit barriers.
- Built-in LED for simplified installation and commissioning.
- All-in-one structure with junction box and bracket, and it is also low power consumption.
- IP67 and IK10 rated.
- Supports intrusion and loitering detection and triggers light and voice alarms when perimeter events occur to actively deter targets. Custom audios can also be imported and edited.
- Easily adapts to scenarios through its motorized vari-focal lens.

Easy Installation

Ideal for scenarios where license plate recognition is needed, the camera is capable of capturing more than ten different types of traffic violations, and supports traffic information collection and event detection. It is suitable for road scenarios.

Multi-dimensional Data Sensing

Easy to install and commission, the camera has an LED illuminator and motorized vari-focal lens embedded in its structure.

Scene

Suitable for shopping malls, hospitals, schools, communities, office buildings and stations.

Technical Specification

Camera

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|--------------------------|--|
| Image Sensor | 1/1.8" CMOS |
| Image Resolution | 2688 × 1520 |
| Electronic Shutter Speed | Auto/Manual 1/25 s–1/100,000 s |
| Max. Detection Speed | DHI-ITC413-PW4D-Z1, DHI-ITC413-PW4D-IZ1:80 km/h DHI-ITC413-PW4D-Z3, DHI-ITC413-PW4D-IZ3:120 km/h |
| Min. Illumination | DHI-ITC413-PW4D-Z1,DHI-ITC413-PW4D-IZ1: 0.001 Lux@F1.4 (Color, 30 IRE) 0.0002 Lux@F1.4 (B/W, 30 IRE) 0 Lux (Illuminator on) DHI-ITC413-PW4D-Z3,DHI-ITC413-PW4D-IZ3: 0.001 Lux@F1.6 (Color, 30 IRE) 0.0002 Lux@F1.6 (B/W, 30 IRE) 0 Lux (Illuminator on) |
| ROM | 4 GB |
| RAM | 1 GB |
| S/N Ratio | >56 dB |
| Scanning System | progressive scanning |

Lens

| | |
|----------------|--|
| Focal Length | DHI-ITC413-PW4D-Z1, DHI-ITC413-PW4D-IZ1: 2.7 mm–12 mm DHI-ITC413-PW4D-Z3, DHI-ITC413-PW4D-IZ3: 8 mm–32 mm |
| Field of View | DHI-ITC413-PW4D-Z1, DHI-ITC413-PW4D-IZ1: H: 92° (W)—46.1° (T) V: 49° (W)—26.0° (T) D: 109° (W)—52.8° (T) DHI-ITC413-PW4D-Z3, DHI-ITC413-PW4D-IZ3: H: 39.9° (W)—15.1° (T) V: 21.8° (W)—8.5° (T) D: 46.6° (W)—17.4° (T) |
| Focus Control | Auto, area focus, manual |
| Number of Lens | 1 |
| Lens Type | Motorized Vari-focal |
| Max. Aperture | DHI-ITC413-PW4D-Z1, DHI-ITC413-PW4D-IZ1:1.4 DHI-ITC413-PW4D-Z3, DHI-ITC413-PW4D-IZ3:1.6 |
| Iris Control | DHI-ITC413-PW4D-Z1, DHI-ITC413-PW4D-IZ1:DC-Iris DHI-ITC413-PW4D-Z3, DHI-ITC413-PW4D-IZ3:P-Iris |

| DORI Distance | Lens | Detect | Observe | Recognize | Identify |
|---------------|---|-------------------------|------------------------|-----------------------|-----------------------|
| | W: (DHI-ITC413-PW4D-Z1, DHI-ITC413-PW4D-IZ1) | 60.4 m (198.16 ft) | 24.2 m (79.40 ft) | 12.1 m (39.70 ft) | 6.0 m (19.68 ft) |
| | T: (DHI-ITC413-PW4D-Z1, DHI-ITC413-PW4D-IZ1) | 128.7 m (422.24 ft) | 51.5 m (168.96 ft) | 25.7 m (84.32 ft) | 12.9 m (42.32 ft) |
| | W: (DHI-ITC413-PW4D-Z3, DHI-ITC413-PW4D-IZ3) | 160.0 m (524.93 ft) | 64.0 m (209.97 ft) | 32.0 m (104.99 ft) | 16.0 m (52.49 ft) |
| | T: (DHI-ITC413-PW4D-Z3, DHI-ITC413-PW4D-IZ3) | 406.9 m (1334.97 ft) | 162.8 m (534.12 ft) | 81.4 m (267.06 ft) | 40.7 m (133.53 ft) |

Illuminator

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| Illuminator Number | 4 |
| Illuminator On/Off Control | Auto, manual |
| Illuminator Type | DHI-ITC413-PW4D-IZ1, DHI-ITC413-PW4D-IZ3:IR (850 nm) DHI-ITC413-PW4D-Z1, DHI-ITC413-PW4D-Z3: Dual Illuminators (730 nm IR/warm light) |
| Illumination Distance | DHI-ITC413-PW4D-Z1, DHI-ITC413-PW4D-IZ1: ANPR: 10 m (32.81 ft) Video monitoring: 30 m (98.43 ft) DHI-ITC413-PW4D-Z3, DHI-ITC413-PW4D-IZ3: ANPR: 30 m (98.43 ft) Video monitoring: 60 m (196.85 ft) |
| Smart Illumination | According to the brightness of the environment, the camera automatically adjusts the intensity of its light to reveal the details of moving targets. Devices with warm light can automatically adjust the light intensity according to the time. |
| Infrared Wavelength | DHI-ITC413-PW4D-IZ1, DHI-ITC413-PW4D-IZ3:850 nm DHI-ITC413-PW4D-Z1, DHI-ITC413-PW4D-Z3:730 nm |

Video

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| Video 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) |
| Stream | 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); 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) |
| Video Compression | H.264H; H.264B; H.264M by default; H.265; MJPEG; H.264M |
| Video 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 |
| Scene Self-adaptation (SSA) | Yes |
| Gain Control | Manual; Auto |
| Noise Reduction | 3D NR |
| Region of Interest (RoI) | Yes, 3 |
| Image Tampering Prevention | Yes. Watermarks can be added to videos and images. The watermark can also be verified. |
| Bit Rate Control | CBR; VBR |

Function

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| Storage | Built-in TF card port. Supports Kingston 16 G, 32 G, 128 G, 256 G; Dahua card 16 G, 32 G, 128 G, 256 G; SanDisk 16 G, 32 G, 128 G, 256 G |
| Restricted List/Trusted List | Allowlist: 110,000 Blocklist: 110,000 |
| IVS | Intrusion detection, loitering detection, up to 4 areas can be set. |
| Basic Event | Alarms for events of defocus, no storage card, storage card no space, storage card error, network disconnection, IP conflict, and illegal access. |

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| Sound and Light Alarm | Yes, blue & red indicator, and supports broadcasting custom audio. |
| Alarm Linkage | Upload to FTP/Memory card, notify monitoring center, send e-mail, trigger alert output, snapshot and active deterrence |
| Capture Distance | DHI-ITC413-PW4D-Z1, DHI-ITC413-PW4D-IZ1: 3 m–8 m (9.84 ft–26.25 ft) DHI-ITC413-PW4D-Z3, DHI-ITC413-PW4D-IZ3: 8 m–30 m (26.25 ft–98.43 ft) |
| Detected Width | DHI-ITC413-PW4D-Z1, DHI-ITC413-PW4D-IZ1: 3 m–4 m (9.84 ft–13.12 ft) DHI-ITC413-PW4D-Z3, DHI-ITC413-PW4D-IZ3: 6 m–8 m (19.69 ft–26.25 ft) |

Network

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|---------------------|---|
| Network Protocol | HTTP; Https; 802.1x; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; IPv4/v6; NTP; SFTP; DDNS; SNMP; PPPoE |
| API | Yes |
| SDK | Yes |
| Interoperability | ONVIF (Profile S/Profile T); CGI; ITSAPI; P2P |
| Management Software | DSS Pro; DSS Express; Cybercity; Smart PSS |
| Security | Username and password; MAC address; HTTPS; IEEE 802.1x; network access control |
| Browser | Plug in: IE 9, 10, 11. Chrome 52 and earlier versions Firefox 42 and earlier versions No plug in: Chrome 92 and later versions |

Image

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|----------------------------------|--|
| Image Encoding Format | JPEG |
| Image Setting | Brightness; contrast; saturation; gamma; sharpness; gain; white balance |
| Day/Night | IR filter, support three modes: color/B/W/auto |
| WDR | 140 dB |
| HLC | Yes |
| BLC | Yes |
| White Balance | Auto; Regional Custom; Manual; Outdoor; Natural; Street Lamp |
| Digital Detail Enhancement (DDE) | Yes |
| OSD Overlay | Supports overlay of time; address (position of channel), lane (number/direction), plate (number and color), vehicle (speed, color, type) |

Audio

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| Audio Port | Yes |
| Built-in MIC | Yes; Pick-up distance: 3 m (9.84 ft), Sampling Rate: 48 k. |
| Built-in Speaker | Yes; Power: 2 W |

Port

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| Audio Output | 1 channel (RCA port) |
| Network Port | RJ-45 (10/100/1000 self-adaptive Ethernet Port) |

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| Alarm Input | 2, optocoupler input (wet node on-off value: 5 V) |
| Alarm Output | 2, relay output (2A 30 VDC/0.5A 125 VAC), which can connect to devices such as barriers |
| RS-485 | 2 (half duplex, Transparent, DHRS, Push Data through Serial Port) |
| Reset Button | Yes |
| Wiegand | 1 channel, SHA-1 26 bit |

Performance

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| Maximum Number of Passed Vehicles | 10,000 |
| Max. Number of Connections | 10 |

Intelligence

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| AI Recognition | Recognizes vehicle types, vehicle signs, vehicle color, vehicle plate, plate, vehicle without plate. |
| Video Metadata | Displays the intelligent frame, plate and vehicle paths. |
| Vehicle Brand | Recognizes 147 vehicle logos. |
| Vehicle Color | Recognizes 12 colors: Grey, black, white, silver, blue, green, purple, red, orange, pink, brown, and yellow. |
| Vehicle Type Recognition | Recognizes 10 vehicle types: Large Bus, Heavy Truck, Medium Truck, Sedan, Van, Light Truck, Medium Bus, SUV, MPV, Pickup |
| Country and Region Supported by ANPR | Baseline support: GCC (U.A.E., Saudi Arabia, Morocco, Oman, Iraq, Egypt, Jordan, Qatar, Kuwait, Bahrain, Lebanon) Europe (Netherlands, France, Germany, Britain, Italy, Poland, Belgium, Bulgaria, Serbia, Slovakia, Spain, Denmark, Turkey, Israel, Czech Republic, Bosnia and Herzegovina, Switzerland, Austria, Hungary, Romania, Lithuania, Latvia, Sweden, Estonia, Portugal, Greece, Slovenia, Luxembourg, Palestine, Lebanon, Ireland, Finland, Norway, Croatia, North Macedonia) Russian-speaking regions (Russia, Ukraine, Kyrgyzstan, Uzbekistan, Moldova, Lithuania, Latvia, Georgia, Azerbaijan, Turkmenistan) SADC (Uruguay, Paraguay, Brazil, Argentina, Chile, Colombia, Peru, Ecuador, Guyana) North America (United States, Canada) Can be customized: Mongolia, Japan, Philippines, Vietnam, Laos, Cambodia, myanmar, Thailand, Malaysia, Singapore, Indonesia, Bangladesh, India, Pakistan, Curacao, Mexico, Guatemala, Costa Rica, Australia, New Zealand, Tunisia, Algeria, Ethiopia, Tanzania, Uganda, Equatorial Guinea, Nigeria, Zambia, Mozambique, South Africa, Mauritius |
| Capture Rate | In the recommended installation and lighting condition, the vehicle capture rate \geq 99% |
| Recognition Rate | In the recommended installation and lighting condition, the recognition rate for positive and departing vehicles \geq 96%; the recognition rate for European vehicle plates \geq 98% |

General

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|-------------------------|---|
| Remote control | Yes |
| Communication Band | 433 MHz; 868 MHz |
| Remote Control Distance | 15 m (49.21 ft) (In an open, undisturbed environment) |
| 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 | Power consumption in different conditions: No lighting < 6 W Lighting <12 W Speaker and Red/Blue Light Warning on < 17 W |

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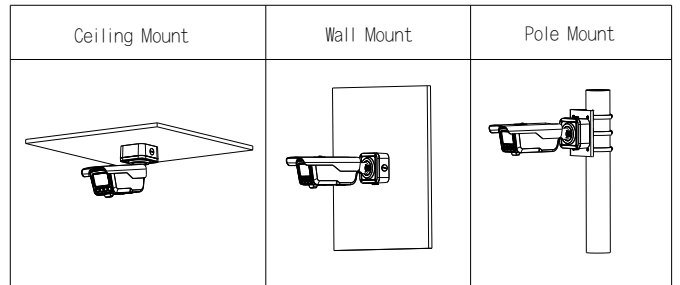
| | |
|-----------------------|---|
| Protection | IK10; IP67 |
| Material | Aluminum alloy body+Plastic |
| Product Dimensions | 395.0 mm × 120.8 mm × 127.8 mm (15.55" × 4.76" × 5.03") (L × W × H) |
| Packaging Dimensions | 447.0 mm × 240.0 mm × 233.0 mm (17.60" × 9.45" × 9.17") |
| Net Weight | 2.3 kg (5.07 lb) |
| Gross Weight | 3.2 kg (7.05 lb) |
| Storage Humidity | -40 °C to +70 °C (-40 °F to +158 °F) |
| Storage Temperature | ≤ 95% (non-condensing) |
| Operating Temperature | -30 °C to +65 °C (-22 °F to +149 °F) |
| Operating Humidity | 10%–90% (non-condensing) |
| Certifications | CE-EMC; CE-LVD; CE-RED; FCC |

Accessories

Optional:



PFA150 Pole Mount



Ordering Information

| Type | Part Number | Description | |
|-------------------|------------------------|--|------------|
| Smart ANPR Camera | DHI-ITC413-PW4D-Z1 | 4MP Smart ANPR Camera (Dual Illuminators, 2.7 mm-12 mm, 433 MHz) | |
| | | 4MP Smart ANPR Camera (Dual Illuminators, 2.7 mm-12 mm, 868MHz) | |
| | DHI-ITC413-PW4D-IZ1 | 4MP Smart ANPR Camera (IR illuminator, 2.7 mm-12 mm, 433 MHz) | |
| | | 4MP Smart ANPR Camera (IR illuminator, 2.7 mm-12 mm, 868MHz) | |
| | DHI-ITC413-PW4D-Z3 | 4MP Smart ANPR Camera (Dual Illuminators, 8 mm-32 mm, 433 MHz) | |
| | | 4MP Smart ANPR Camera (Dual Illuminators, 8 mm-32 mm, 868MHz) | |
| | DHI-ITC413-PW4D-IZ3 | 4MP Smart ANPR Camera (IR illuminator, 8 mm-32 mm, 433 MHz) | |
| | | 4MP Smart ANPR Camera (IR illuminator, 8 mm-32 mm, 868MHz) | |
| | Accessories (Optional) | PFA150 | Pole Mount |

Dimensions (mm [inch])

