

# DHI-ITC413-PW4D-IZ1

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.

### Easy Installation

Highly convenient, the device can be configured through a single network port and supports floor-standing installation, making it easy to install and commission.

- 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.
- Bad Pixel Correction Support

## Scene

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

Technical Specification	
Camera	
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-IZ1:80 km/h
Min. Illumination	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)
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: 5 mm—50 mm			
Field of View		DHI-ITC413-PW4D-IZ1: H: 92° (W)—46.1° (T) V: 49° (W)—26.0° (T) D: 109° (W)—52.8° (T)			
Focus Control		Auto, area focus, manual			
Number of Lens		1			
Lens Type		Motorized Vari-focal			
Max. Aperture		DHI-ITC413-PW4D-IZ1:1.4			
Iris Control		DHI-ITC413-PW4D-IZ1:DC-Iris			
DORI Distance	Lens	Detect	Observe	Recognize	Identify
	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)

Illuminator	
Illuminator Number	4
Illuminator On/Off Control	Auto, manual
Illuminator Type	DHI-ITC413-PW4D-IZ1 IR (850 nm)
Illumination Distance	DHI-ITC413-PW4D-IZ1: ANPR: Upto 100m (328.1 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 :850 nm

Video	
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) Support Third Stream
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) Sub-Stream 2; 1Fps@CIF
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	
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.

# Smart ANPR Camera | DHI-ITC413-PW4D-IZ1

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-IZ1: 3 m–8 m (9.84 ft–26.25 ft)
Detected Width	DHI-ITC413-PW4D-IZ1: 3 m–4 m (9.84 ft–13.12 ft)

## Network

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/ Profile G; 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

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 (color, type)

## Audio

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

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

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

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

## Intelligence

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: 10 options (87 countries) General: Supports universal characters GCC (U.A.E., Saudi Arabia, Morocco, Oman, Iraq, Egypt, Jordan, Qatar, Kuwait, Bahrain, Lebanon) South Africa: South Africa, Tanzania, Mozambique, Zambia, Uganda, Equatorial Guinea, Mauritius, Kenya South Asia Region (India Region) : India, Maldives 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) South American Economies Collection (Uruguay, Paraguay, Brazil, Argentina, Chile, Colombia, Peru, Ecuador, Guyana, Bolivia ) Mexico and other countries: Mexico, Costa Rica, Curacao, Guatemala Eurasian Collection (Russia, Ukraine, Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan, Moldova, Lithuania, Latvia, Georgia, Azerbaijan, Turkmenistan) North America (United States, Canada) North Africa Region Collection: Tunisia, Morocco, Algeria, Libya The baseline algorithm is supported for the following 19 countries: Republic of Korea, Indonesia, Singapore, Cambodia, Australia, Thailand, Bassett, Nigeria, Pakistan, Viet Nam, Mongolia, Bangladesh, Myanmar, Philippines, Laos, Iraq, Japan, Maldives, Nepal.
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 $\geq 98\%$
Wireless	
Sub 1G Modulation Type	FSK
Sub 1G Frequency Range	433.82–434.02 MHz; 868.2–868.4 MHz
Sub 1G Power Transmission	433.82–434.02 MHz@10 dBm; 868.2–868.4 MHz@10 dBm
General	
Remote control	Yes

Ordering Information		
Type	Part Number	Description
Smart ANPR Camera	DHI-ITC413-PW4D-IZ1	4MP Smart ANPR Camera (IR illuminator, 5 mm-50 mm)
		4MP Smart ANPR Camera (IR illuminator, 5 mm-50 mm, Optional)
Accessories (Optional)	PFA150	Pole Mount

Technical drawing of the SMD 100 camera showing three views: front, side, and top. The front view shows a square camera body with a central lens and mounting holes. The side view shows the camera's profile with dimensions for width, height, and mounting bracket. The top view shows the camera's top surface with dimensions for width and height. All dimensions are in millimeters, with values in brackets representing inches.

Dimensions (mm) [inches]:

- Front View:
  - Width: 60.6 [2.39]
  - Height: 52.5 [2.07]
  - Mounting Hole Diameter: Ø 6.6 [0.26]
  - Body Diameter: Ø 70.0 [2.76]
- Side View:
  - Width: 395.0 [15.55]
  - Height: 137.1 [5.40]
  - Mounting Bracket Height: 55.6 [2.19]
  - Body Height: 127.8 [5.03]
- Top View:
  - Width: 120.8 [4.75]
  - Height: 10.9 [0.43]