DHI-ITC431-RW1F-IRL8

4 MP AI Enforcement Camera



- 1/1.8" 4 MP starlight CMOS sensor.
- H.265 and H.264 dual codec.
- Maximum resolution: 2688 × 1520@25 fps.
- Motorized vari-focal lens: 10 mm-50 mm.
- Max ANPR IR distance: 30 m.
- Protection: IP67, IK10 rated.
- Under recommended installation and lighting conditions:
  Capture rate > 99%
  LPR accuracy > 98%

The DHI-ITC431-RW1F-IRL8 is a powerful series that features license plate recognition, and has a recording resolution of 4 MP at 25 frames per second with a 1/1.8'' starlight CMOS sensor.

System Overview

Highly intuitive, the 4 MP AI Enforcement Camera employs its 10 mm to 50 mm motorized vari-focal lens to perform long-range video monitoring. Coming in a rugged, IP67 rated housing, the camera offers IR illumination, which makes it suitable for most harsh environments, and for locations with poor lighting. To reduce light pollution, it uses IR mode at night.

Functions

Intelligent traffic monitoring

Captures traffic violations, records passing vehicles, collects data on traffic flow, and performs event detection.

High-level protection

Built to be reliable and durable, this camera is IP67 and IK10 rated.

Multiple types of power supplies

Supports PoE and 12–36 VDC power supplies, meeting the various power supply needs of today's customers.

Scene

This camera is ideal for detecting traffic violations (line crossing, speeding), recording vehicles that pass, traffic data collection, and event detection (congestion, road parking).

Technical Specification

Camera

Image Sensor	1/1.8'' CMOS
Image Resolution	2688 (H) × 1520 (V) (OSD black background is not calculated in the pixels)
Shutter Mode	Single shutter
Electronic Shutter Speed	Auto/Manual 1/50 s–1/100,000 s
Noise Reduction	3D NR
S/N Ratio	> 56 dB
WDR	140 dB
Min. Illumination	0.0001lux
Day/Night	Supports ICR auto switch: IR cut-off filter (IRCF) with the polarizing filter is used during the daytime, and switches to the common IR cut-off filter at night

Illuminator

Illuminator Number	4 illuminators (830 nm LED illuminators, adjustable brightness)
IR Light	Yes
Illumination Distance	23 m–30 m (75.46 ft–98.43 ft) (adjustable brightness)
Lane Coverage	1–2 lanes

Lens

Lens	Motorized vari-focal
Focal Length	10 mm–50 mm
Max. Aperture	Max. F1.33

Field of View	Horizontal: 9.4°–40.8° Vertical: 5.4°–22.9° Diagonal: 10.7°–46.9°
Exposure Mode	Auto; Manual (Select from shutter values or customize shutter range)

Function

Trigger Mode	Video detection; radar
Speed Detection Range	0 km/h–180 km/h
OSD Overlay	Time, address, device SN, lane No., plate number, plate color, vehicle logo, vehicle type, vehicle color, vehicle size, vehicle speed, country/region, event (violation name), and motorcycle attributes (type, number of people, and helmet)
Alarm Event	Storage full, storage error, external alarm, no storage space, license plate blocklist, illegal access, and security fault
Automatic Network Replenishment (ANR)	Platform and FTP (TF card is required)
Auto Registration	Yes

Intelligence

Target Detection	Motor vehicle; motorcycle
ANPR	Adopts Dahua developed algorithms to recognize license plate numbers and letters
Vehicle Type Recognition	Vehicle head: Large bus, heavy truck, medium truck, sedan, van, light truck, medium bus, SUV, MPV, and pickup Vehicle tail: SUV, large bus, sedan, light truck, pickup, medium truck, van, and heavy truck
Vehicle Color Recognition	White, pink, black, red, yellow, gray, blue, green, dark orange, purple, brown, and silver gray (color recognition is not supported during nighttime)
Accuracy	(Under recommended installation and lighting conditions) : Capture rate > 99%;LPR accuracy > 98%
Vehicle Brand/Logo Recognition	Acura; Alfaromeo; Ashokleyland; Astonmartin; Audi; Baic; Bently; Benz; BMW; Buick; BYD; Cadillac; Chery; Chevrolet; Chrysler; Citroen; Dacia; Daihatsu; Datsun; Dodge; DS; Ferrari; Fiat; Force; Ford; Foton; Geely; GMC; Greatwall; Hino; Honda; Hyundai; Infiniti; Isuzu; Iveco; Jac; Jaguar; Jeep; Kia; Kinglong; Land; Lexus; Lifan; Lincoln; Mahindra; MAN; Maserati; Mazda; Mercury; MG; Mini; Mitsubishi; Nissan; Opel; Peugeot; Porsche; Renault; Rollsroyce; Saab; Scania; Seat; Skoda; Smart; Subaru; Suzuki; Tata; Tesla; Toyota; UD; Volkswagen; Volvo
Motor Vehicle Violation Capture	Speeding; driving slow; wrong-way driving; illegal lane change
Motorcycle Violation Capture	Overload; not wearing helmet
Traffic Flow Detection	Statistics on vehicle flow, average speed, vehicle type, lane occupancy, average time headway, average queue length, and road status
Traffic Event	Motor vehicle illegal stopping on the roadway; traffic congestion

Video

Video Compression	H.265; H.264M; H.264H; MJPEG
Video Resolution	4M (2688 × 1520); 1080p (1920 × 1080); UXGA (1600 × 1200); 720p (1280 × 720); D1 (704 × 576); CIF (352 × 288)
Video Frame Rate	Max. 25 fps; main stream (2688 × 1520@25 fps), sub stream (1600 × 1200@25 fps)
Video Bit Rate	H.264: 32 kbps–32767 kbps H.265: 32 kbps–32767 kbps MJPEG: 512 kbps–32767 kbps
Bit Rate Control	CBR; VBR
White Balance	Auto; Manual; Outdoor; Natural; Street Lamp; Partial white balance
Edge Enhancement	Yes
HLC	Yes
BLC	Yes
Bad Pixel Correction	Yes
Gain Range	0–100

Image

Composite Image	Supports combining up to 3 source images, and 1 close-up image into a composite image
Image Resolution	2688 (H) × 1520 (V) (OSD black background is not calculated in the pixels)
Image Encoding Format	JPEG
Image Tampering Prevention	Verifies watermarks in videos and images

Network

Network Port	1 × RJ-45 Ethernet port, 10/100/1000 M network transmission
SDK and API	Yes
Security	Authorized username and password, MAC address binding, HTTPS encryption, and network access control
Protocol	IPv4; IPv6; HTTP; TCP; IP; UDP; NTP; DHCP
Interoperability	ONVIF (Profile S/Profile G/Profile T)
Browser	IE: IE 9–11 Chrome: Chrome 41 and earlier Firefox: Firefox 49 and earlier For Win 10 users, run the browser as administrator
Positioning	GPS
Time Synchronization	NTP; GPS

Port

Storage	1, supports maximum 256 GB TF card local storage
RS-485	2, connects to devices such as radars
RS-232	2, con is used for serial debugging and R T G is for connecting to radars
Audio Input	1 channel
Audio output	1 channel
Alarm Input	3 channel
Alarm Output	2 channels. 2 for relay

General

Power Supply	12–36 VDC, PoE
Power Consumption	≤ 13 W
Operating Temperature	–40 °C to +65 °C (–40 °F to +149 °F)
Storage Temperature	–40 °C to +65 °C (–40 °F to +149 °F)
Operating Humidity	10%–90%
Storage Humidity	10%–90%

Protection	IP67, IK10 rated
Certifications	CE: E234884-A6183-IT-1/4789603556-1 FCC: 4789603556-2 UL: E234884-A6183-X3
Product Dimensions	466.4 mm × 135.8 mm × 134.1 mm (18.36'' × 5.35'' × 5.28'') (L × W × H)
Net Weight	3.9 kg (8.59 lb)
Gross Weight	4.8 kg (10.58 lb)
Installation	Installs with universal mounting brackets, or as a side-mount with mounting brackets

Ordering Information

Type	Model	Description
4 MP Camera	DHI-ITC431-RW1F-IRL8	4 MP AI enforcement camera
Accessories (Optional)	8019	3-dimensional universal mounting bracket (purchase separately)
	PFA150	Mounting bracket (purchase separately)

Accessories

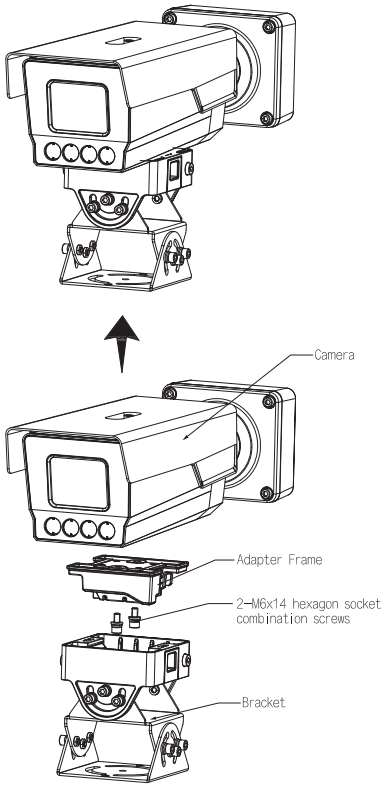
Optional:



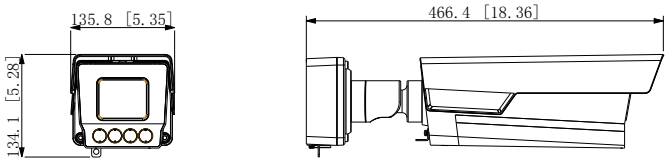
8019
3-dimensional universal mounting bracket
(purchase separately)



PFA150
Mounting bracket
(purchase separately)



Dimensions (mm[inch])



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