# DHI-ITC431-RW4F-G

## Dahua 4MP All-in-One Enforcement Camera



## Series Overview

With its high-performance AI processor, the Spotter Nano camera delivers high quality images even in the toughest weather conditions. It utilizes Dual Light technology and its built-in LED illuminators to supplement light, enabling you to freely switch between its warm light and IR light options. The tilted window design and glass heating capability together enable rapid image capture and fast data transmission for crisp and clear visuals. Additionally, the camera also leverages DCG technology to deliver high-quality images even in challenging lighting conditions. Its 4G card facilitates seamless network transmission, eliminating the need for cumbersome network cables. Built for durability, the camera has an IP68 and IK10 rating, making it ideal for outdoor use.

## Functions

**Wireless 4G**

With its built-in 4G mobile network module, you can register devices to the platform wirelessly when a 4G card is inserted into the card slot. Data on violations, ANPR and more can also be sent to the platform through the wireless network.

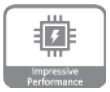
**Impressive Performance**

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.

**Intelligent Defogging**

Suitable for use in all weather conditions, the camera can automatically control the ITO glass to defog based on the temperature and humidity inside the cover, effectively preventing the glass from icing and fogging.

- 1/1.8" 4 MP starlight CMOS sensor.
- Maximum resolution: 2688 × 1520@30 fps.
- Video compression standards: H.265, H.264M, H.264H and MJPEG.
- With its advanced image technology, it can work in ultra-low lighting conditions and complete darkness.
- Protection: IP68, IK10 rated.
- Supports 4G.
- The embedded dual-LED lights offer warm light and 850 nm IR light options that can be conveniently switched between.
- Built-in vari-focal lens that allows the device to seamlessly adapt to multiple scenes.




**Protection**

IP68: The camera passes a series of strict test on dust and soak. With the water-proof enclosure, the camera can work normally after soaking in 1 m deep water for 2 hours.

**Dual Light**

Through Dahua Dual Light technology, the camera offers flexible illumination modes, featuring both warm light and 850 nm infrared light options.

**WDR**

Featuring advanced Wide Dynamic Range (WDR) technology, the camera captures crisp and clear videos and snapshots, even in environments with extreme lightng contrasts.

## Scene

Dahua's new generation of urban road surveillance cameras can be widely used in urban roads, rural streets, parks, and residential scenarios, which significantly improves the efficiency of urban safety management and makes roads safer, smoother, and smarter.

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 1/1.8" CMOS |
| Pixel | 4 MP |
| 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 | 0.0001 lux |

### Illuminator

| | |
|---|---|
| Illuminator Number | 3 illuminators (850 nm LED illuminator or 3500 K LED illuminator) |
| Illuminator Brightness Adjustment | brightness adjustable |
| Illumination Distance | 23 m–30 m (75.46 ft–98.43 ft) (adjustable brightness) |
| Lane Coverage | 1–2 lanes |

### Lens

| | |
|---|---|
| Lens Type | Motorized vari-focal |
| Focal Length | 8 mm–32 mm |
| Max. Aperture | Max. F1.6 |
| Field of View | H: 42.5°–15.2°; V: 23.4°–8.6°; D: 49.4°–17.3° |
| Exposure Mode | Auto; Manual (Select from shutter values or customize shutter range) |

| | Lens | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| DORI Distance | W | 150.3 m (492.99 ft) | 60.1 m (197.13 ft) | 30.1 m (98.73 ft) | 15 m (49.2 ft) |
| | T | 400 m (1312 ft) | 160 m (524.8 ft) | 80 m (262.4 ft) | 40 m (131.1 ft) |

### Function

| | |
|---|---|
| Trigger Mode | Video trigger |
| 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 card; license plate blocklist; illegal access; network disconnection; IP conflict; intrusion; unlicensed vehicle |
| Automatic Network Replenishment (ANR) | Platform and FTP (TF card is required) |
| Auto Registration | Yes |
| Restricted List/Trusted | List:Allowlist:10000/Blocklist:10000 |

### Intelligence

| | |
|---|---|
| Target Detection | Motor vehicle; motorcycle |
| ANPR | Adopts deep-learning algorithms to recognize license plate numbers and letters |
| Vehicle Type Recognition | Vehicle head: SUV, Large bus, sedan, light truck, pickup, heavy truck, medium truck, van, medium bus, MPV<br>Vehicle tail: SUV, large bus, sedan, light truck, pickup, heavy truck, medium truck, van |
| Vehicle Color Recognition | White, pink, black, red, yellow, gray, blue, green, dark orange, purple, brown, and silver gray |
| 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 | Captures traffic violations including carrying passenger, not wearing helmet, and wrong-way driving |
| Traffic Flow Detection | Traffic flow mode: Covers up to 4 lanes. Statistics on vehicle flow, average speed, vehicle type, lane occupancy, average time headway, average queue length, and road status. Supports data classification and generating statistics on lanes, vehicle type, speed, and the date. The results can be exported to the CSV file format. |
| Traffic Event | Motor vehicle illegal stopping on the roadway; traffic congestion |

### Video

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|---|---|
| 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 | 50 Hz: Max. 25fps; default main stream( 2688 × 1520@25 fps) , sub stream( 1280 × 720@25 fps)<br>60 Hz: Max. 30fps; default main stream( 2688 × 1520@30 fps) , sub stream( 1280 × 720@30 fps) |
| Video Bit Rate | H.264: 32 kbps–32768 kbps<br>H.265: 32 kbps–32768 kbps<br>MJPEG: 512 kbps–32768 kbps |
| Bit Rate Control | VBR; CBR |
| White Balance | Auto; Manual; Natural; Street Lamp; Outdoor; 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 closeup 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

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|---|---|
| Network Port | 1 × RJ-45 Ethernet port |
| SDK and API | Yes |
| Security | Authorized username and password, MAC address binding, HTTPS, and network access control |
| Network Protocol | IPv4; IPv6; DHCP; NTP; IP;HTTP; UDP; TCP |
| Interoperability | ONVIF (Profile S & Profile G & Profile T & Profile M) |
| Browser | Microsoft Edge<br>Chrome: Chrome 41 and earlier<br>Firefox: Firefox 49 and earlier<br>For Win 10 users, run the browser as administrator |
| Timing | NTP |
| 4G Type | GSM/WCDMA/LTE |
| 4G Frequency Range | NL668-EAU:<br>LTE FDD: Band 1/3/7/8/20/28<br>LTE TDD: Band 38/40<br>WCDMA: Band 1/8<br>GSM: 900/1800 MHz<br>NL668-LA:<br>LTE FDD: Band 1/2/3/4/5/7/8/28/66<br>LTE TDD: Band 38/40<br>WCDMA: Band 1/2/3/4/5/8<br>GSM: 850/900/1800 MHz |
| 4G Power Transmission | NL668-EAU:<br>LTE: Power class3: 23 dBm±2 dB<br>WCDMA: Power class3: 24 dBm+1/-3 dB<br>GSM: Power class0: 30 dBm±2 dB (GSM1800); Power class5: 33 dBm±2 dB (GSM900)<br>NL668-LA:<br>LTE: Power class3: 23 dBm± 2dB<br>WCDMA: Power class3: 24 dBm+1/-3 dB<br>GSM: Power class0: 30 dBm±2dB (GSM1800); Power class5: 33 dBm±2dB (GSM850/900) |

## Port

| | |
|---|---|
| Storage | 1, supports maximum 1 TB TF card local storage |
| RS-485 | 1 |
| RS-232 | 1 |
| Alarm Input | 1 channel |
| Alarm Output | 2 channels |

## General

| | |
|---|---|
| Power Supply | PoE;12 VDC |
| Power Consumption | With light turned off < 8.5 W<br>With IR light turned on < 12.5 W<br>With warm light turned on < 17.5 W |
| Operating Temperature | –30 °C to +65 °C (–22 °F to +149 °F) |
| Storage Temperature | –30 °C to +65 °C (–22 °F to +149 °F) |
| Operating Humidity | 10%–90% (RH), non-condensing |
| Storage Humidity | 0%–90% (RH), non-condensing |
| Protection | IK10; IP68 |
| Anti-corrosion Level | Basic Protection |

| | |
|---|---|
| Certifications | CE EMC:EN 61000-3-3;EN IEC 61000-3-2;EN 301 489-1;EN 301 489-51;EN 301 489-52;EN 301 511;EN 301 908-1;EN 301 908-2;EN 301 908-13;EN 305 550-2;EN IEC 62311<br>CE LVD:EN62368-1<br>CE RED:EN 61000-3-3;EN IEC 61000-3-2;EN 301 489-1;EN 301 489-51;EN 301 489-52;EN 301 511;EN 301 908-1;EN 301 908-2;EN 301 908-13;EN 305 550-2;EN IEC 62311<br>IK10:IEC60068-2-75:2014<br>IP68:IEC60529:2013 |
| Product Dimensions | 350 mm × 109 mm × 150 mm (13.78" × 4.29" × 5.91") (L × W × H) |
| Packaging Dimensions | 400 mm × 197 mm × 171 mm (15.75" × 7.76" × 6.73") (L × W × H) |
| Net Weight | 1.744 kg (3.84 lb) |
| Gross Weight | 2.384 kg (5.26 lb) |
| Installation | Installs with universal mounting brackets, or as a side-mount with mounting brackets |

## Ordering Information

| Type | Model | Description |
|---|---|---|
| Spotter Nano | DHI-ITC431-RW4F-G | Dahua 4MP All-in-One Enforcement Camera |
| Accessories (Optonal) | DH-PFA5510 | Quick-install Pole Mount Braket |

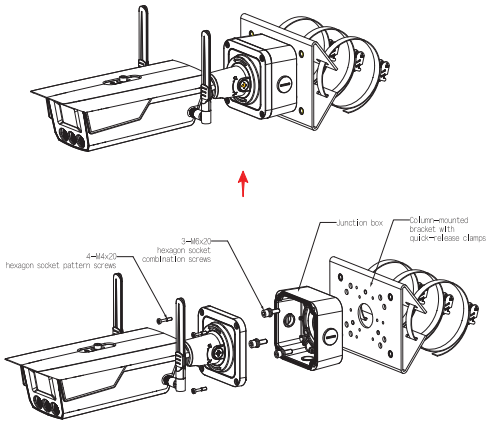
## Accessories

Optional:

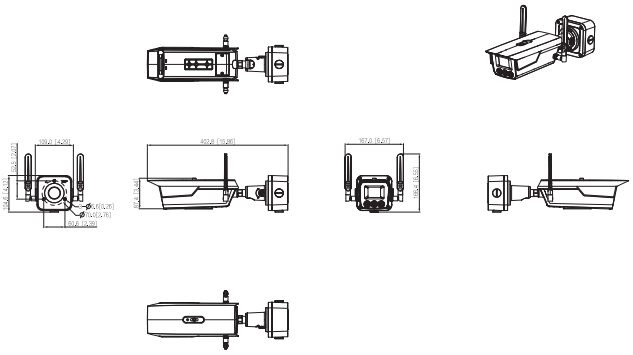


DH-PFA5510
Quick-install Pole Mount Braket

## Installation



## Dimensions (mm [inch])



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