DHI-ITC1652-AU5F-IRL7ZF1640

Dahua 16MP All-in-One Enforcement Camera

- Ultra-high frame rate: Uses traffic-specific high-performance GS-CMOS image sensor with 30 fps high frame rate, high signal-to-noise ratio, and wide dynamic range, displaying realistic video images day and night.
- Video metadata: High-performance AI processor and deep learning algorithms allow the camera to detect and extract detailed information on motor vehicles and motorcycles, providing a reliable data source that can be used in making effective decisions.
- Applicable to various road scenes: Ideal for use in license plate recognition and E-police, it is capable of capturing more than 10 different kinds of traffic violations, and supports traffic information collection and event detection.
- Multi-dimensional data sensing: Uses GPS for positioning and attitude detection by electronic gyroscope.
- Safe and reliable: With its integrated design, it functions in a wide temperature and voltage range. It has a built-in lightning protection module, is IP66 rated, and is applicable for use in all-weather conditions.
- Starlight 1.1'' GS-CMOS image sensor, with HD image of maximum 5320 × 3032@30 fps.
- Dual stream, H.265 and H.264 codec.
- Features auto white balance, auto electronic shutter, and auto iris, and is suitable for various monitoring environments.
- Supports vehicle capture, license plate recognition, and vehicle metadata extraction of up to 5 lanes.
- Supports single shutter, holographic double shutters, and three shutters.
- Recognizes motor vehicles and motorcycles, supports license plate recognition, vehicle type recognition, capturing the violations of motor vehicles and motorcycles, vehicle color recognition, vehicle metadata capture, picture composition, and OSD overlay.
- Detects wrong-way driving, traffic congestion, illegal parking, and more.
- Generates statistics on vehicle flow, average speed, lane occupancy, average headway, average queue length, road status, and more.

Technical Specification

Camera

Image Sensor	1.1" GS-CMOS
Pixel	16 MP
Shutter Mode	Single shutter;Double shutters;Three shutters
Electronic Shutter Speed	Auto/Manual 1/50 s–1/100,000 s
Noise Reduction	3D NR
S/N Ratio	48 dB >48 dB
WDR	120 dB
Min. Illumination	0.001 lux
Day/Night	ICR auto switch: Uses IR cut-off filter (IRCF) with polarizer in the daytime, and uses ordinary filter at night.

Illuminator

Illuminator Number	8 (IR light) 8 (LED light)
Illuminator Brightness Adjustment	Adjustable brightness
IR Light	Yes
Illumination Distance	23 m–30 m (75.46 ft–98.43 ft)
Lane Coverage	Center mount: 5 lanes; Side mount: 4 lanes 1–4 lanes

Lens

Lens	Included
Lens Type	Motorized vari-focal
Focal Length	16 mm–40 mm
Max. Aperture	F1.4 F1.5
Iris Type	P-Iris
Field of View	H: 21.4°–50.6°; V: 12.3°–28.9°; D: 24.4°–58°
Exposure Mode	Auto; Manual (Select from shutter values or customize shutter range)

Function

Trigger Mode	Video trigger/Radar trigger
OSD Overlay	Time; address; lane No.; plate; plate color; and more
Alarm Event	Storage full; storage error; external alarm; no storage card; license plate blocklist; illegal access; network disconnection; IP conflict
Automatic Network Replenishment (ANR)	Platform and FTP (SD card is required) Platform and FTP (TF card is required)
Auto Registration	Yes
Storage	FTP, TF card (maximum 256 GB@Class10)

Intelligence

Target Detection	Motor vehicle; motorcycle
Face Detection	Detects the driver and front-seat passenger of motor vehicles, and motorcycle drivers; extracts face images
ANPR	Adopts Dahua developed algorithms to recognize license plate numbers and letters Adopts 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 head: SUV, Large bus, sedan, light truck, pickup, heavy truck, medium truck, van, medium bus, MPV 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 (color recognition is not supported during the nighttime) White, pink, black, red, yellow, gray, blue, green, dark orange, purple, brown, and silver gray (color recognition is not supported during nighttime)
Vehicle Brand/Logo Recognition	Vehicle head: Acura, AlfaRomeo, AshokLeyland, AstonMartin, Audi, BAIC, Bently, Benz, BMW, Buick, BYD, Cadillac, Chery_old, Chery, Chevrolet, Chevrolet1, Chrysler, Citroen, Dacia, Daihatsu, Datsun, Dodge_Ram, Dodge, DS, Ferrari, FIAT, FIAT_old, Force, Ford, Ford_FORD, Ford_Mustang, Foton, Geely, GMC, GreatWall, GreatWall_old, Hino, Honda, Hyundai, Infiniti, Infiniti_ESQ, Isuzu, Iveco, Iveco_Naveco, JAC, JAC_JAC, Jaguar, Jeep, KIA, KINGLONG, Land_Discovery, LAND_RANGE-ROVER, LAND_ROVER, 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, ToyotaToyota_TOYOTA, Toyota_alpha, Toyota_Crowm, Toyoya_VIZI, UD, Volkswagen, Volvo Acura, Alfaromeo, Ashokleyland, Astonmartin, Audi, Baic, Bently, Benz, Bmw, Buick, Byd, Cadillac, Chery_Old, Chery, Chevrolet, Chevrolet1, Chrysler, Citroen, Dacia, Daihatsu, Datsun, Dodge_Ram, Dodge, Ds, Ferrari, Fiat, Fiat_Old, Force, Ford, Ford_Ford, Ford_Mustang, Foton, Geely, Gmc, Greatwall, Greatwall_Old, Hino, Honda, Hyundai, Infiniti, Infiniti_Esq, Isuzu, Isuzu, Iveco, Iveco_Naveco, Jac, Jac_Jac, Jaguar, Jeep, Kia, Kinglong, Land_Discovery, Land_Range-Rover, Land_Rover, Lexus, Lifan, Lincoln, Mahindra, Man, Maserati, Mazda, Mercury, Mg, Mini, Mitsubishi, Nissan, Opel, Peugeot, Porsche, Renault, Rollsroyce, Saab, Scania, Seat, Skoda, Smart, Subaru, Suzuki, Suzuki, Tata, Tesla,
Vehicle Brand/Logo Recognition	Toyota, Toyota_Toyota, Toyota_Alpha, Toyota_Crowm, Toyoya_Vizi, Ud, Volkswagen, Volvo
Motor Vehicle Violation Capture	ANPR mode: Wrong-way driving, speeding, driving slow, crossing the solid white line, crossing the solid yellow line and illegal lane change E-Police mode: Running a red light, wrong-way driving, crossing the solid white line, crossing the solid yellow line, disobeying the lane direction sign, disobeying the direction arrow, illegal left turn, illegal right turn, illegal U-turn (not supported by side-mounted cameras), and crossing the stop line ANPR mode: Wrong-way driving, speeding, driving slow, crossing the solid white line, crossing the solid yellow line, illegal lane change, unfasten seat belt, calling while driving, smoking while driving E-Police mode: Running a red light, wrong-way driving, crossing the solid white line, crossing the solid yellow line, disobeying the direction arrow, illegal left turn, illegal right turn, illegal U-turn (not supported by side-mounted cameras), and crossing the stop line
Motorcycle Violation Capture	Captures traffic violations including carrying passenger, not wearing helmet, and wrong-way driving
Traffic Flow Detection	Generates statistics on vehicle flow, queue length, average speed, lane occupancy, and more Statistics of 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	16M (5320 × 3032) ; 9M (4096 × 2160) ; 7M (3392 × 2008) ; UXGA (1600 × 1200) ; 1080P (1920 × 1080)
Video Frame Rate	50Hz: Maximum 25 fps; default main stream (4096 × 2160@12.5fps), sub stream (1600 × 1200@12.5 fps) 30Hz: Maximum 30 fps; default main stream (4096 × 2160@15 fps), sub stream (1600 × 1200@15 fps) 50Hz: Maximum 25 fps; default main stream (4096 × 2160@12.5 fps), sub stream (1600 × 1200@12.5 fps) 60Hz: Maximum 30 fps; default main stream (4096 × 2160@15 fps), sub stream (1600 × 1200@15 fps)
Video Bit Rate	H.264: 32 kbps–32768 kbps H.265: 32 kbps–32768 kbps MJPEG: 512 kbps–32768 kbps 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;Customized Color Temperature;Night Auto;Manual;Outdoor;Natural;Street Lamp;Area white balance
Edge Enhancement	Yes
HLC	Yes
BLC	Yes
Bad Pixel Correction	Yes
Gain Range	0-100

DHI-ITC1652-AU5F-IRL7ZF1640

Image

Composite Image	Supports combining up to 4 images into a composite image Supports combining up to 3 source images, and 1 close-up image into a composite image.
Image Resolution	5320 (H) × 3032 (V) (OSD black strip excluded)
Image Encoding Format	JPEG
Image Tampering Prevention	Verifies watermarks in videos and images

Network

Network Port	2 × RJ-45 Ethernet ports, 10/100/1000 M network transmission 1 × RJ-45 Ethernet port, 10/100/1000 M network transmission
SDK and API	Yes
Security Mode	Authorized username and password, MAC address binding, HTTPS encryption, and network access control
Network Protocol	IPv4/IPv6; HTTP; TCP/IP; UDP; NTP; DHCP
Interoperability	ONVIF (Profile S/Profile G/Profile T)
Browser	Microsoft Edge IE: IE9–IE11 Chrome: Chrome 41 and earlier Firefox: Firefox 49 and earlier For Win 10 users, run the browser as administrator
Positioning	GPS
Timing	NTP; GPS

Port

Storage	1, TF card (maximum 256 GB@Class10) 1, supports maximum 256 GB TF card local storage
Iris Control	1, connects to DC auto iris or P-IRIS
Focus Control	1, connects to motorized vari-focal lens
Frequency Source Sync	1, supports synchronizing the camera with the mains electricity
Peripheral Light	7, optocoupler signal output (can be configured as flash light or LED strobe sync output interface, frequency adjustable)
USB	2 USB 3.0 Ports
RS-485	2, connects to devices such as signal detector, flashing light, continuous light, radar, and more 2 × RJ-45 Ethernet ports, 10/100/1000 M network transmission
RS-232	4 (3 for radar connection, and 1 for serial port debugging) 2, con is used for serial debugging and R T G is for connecting to radars
I/O	4, same functions as ALARM IN port
Audio Input	1 channel (3.5mm JACK port)
Audio Output	1 channel (3.5mm JACK port)
Alarm Input	4, same functions as I/O port
Alarm Output	2 (AO1 is for relay output and AO2 for optocoupler output)
Power Output	12 VDC ± 10% voltage output, ≤1.5 A current output

General

Power Supply	100–240 VAC, 50 Hz/60 Hz
Power Consumption	≤20 W
Operating Temperature	–40 °C to +65 °C (–40 °F to +149 °F)
Storage Temperature	–40 °C to +70 °C (–40 °F to +158 °F) –40 °C to +65 °C (–40 °F to +149 °F)
Operating Humidity	10%–90% (RH), non-condensing
Storage Humidity	0%–90% (RH), non-condensing
Protection	IP66;IK10 IP67;IK10
Anti-corrosion Level	Basic Protection *The products are designed for general use and are applicable even in areas with no specific requirements for anti-corrosion protection.
Certifications	CE、 FCC CE: E234884-A6104-IT-4; 4790433450-2 FCC: 4790433450-1
Product Dimensions	554.0 mm × 204.2 mm × 209.6 mm (21.81" × 8.04" × 8.25") (L × W × H)
Net Weight	4.6 kg (10.14 lb)
Gross Weight	6.6 kg (14.55 lb)
Installation	Center mount; side mount

Ordering Information

Type	Model	Description
All-in-One Enforcement Camera	DHI-ITC1652-AU5F-IRL7ZF1640	Dahua 16MP All-in-One Enforcement Camera
Accessories (Optional)	DH-PFA150	Pole Mount Bracket
	8019	Cardan bracket
	DH-PFA150	Pole Mount Bracket
	3012	Wall Mount Bracket

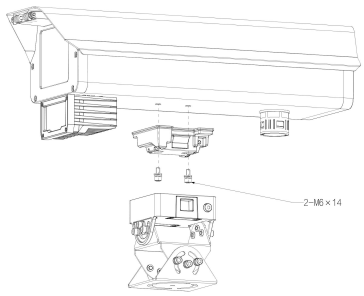
Accessories

Optional:

DH-PFA150
Pole Mount Bracket

8019
Cardan bracket

3012
Wall Mount Bracket



Dimensions (mm[inch])