DHI-ITC952-SU2F-PQE-C1R1-IRL8ZF1640

9MP All-in-one IR AI Traffic Camera

- GS-CMOS image sensor.
- 4096 × 2160@50 fps.
- Video compression standards: H.265, H.264M, H.264H and MJPEG.
- A camera, illuminator, radar and more combined in one.
- 850 nm IR illumination.
- Works in poor lighting and does not smear.
- High-speed capture.
- IP66.
- Under recommended installation and lighting conditions:

  Capture rate >99%

  LPR accuracy >98%

System Overview

With its high-performance AI processor, 9MP All-in-one IR AI Traffic Camera delivers high quality images even in the toughest weather conditions. For monitoring, it uses deep learning algorithms and GS-CMOS image sensors with a wide dynamic range and a high frame rate, making it ideal for traffic scenarios. The IR illuminators supplement light when the camera captures license plates without using the external flashing light or strobe, significantly reducing light pollution. A radar is also built into the device, allowing it to measure vehicle speed and sense data from a wide range of perspectives.

Functions

Reduced Light Pollution

The IR illuminators supplement light when the camera captures license plates without using the external flashing light or strobe, significantly reducing light pollution.

Ultra-high Frame Rate

Uses high performance GS-CMOS image sensors with a wide dynamic range, a high frame rate of 50 fps, and a high signal-to-noise ratio, displaying realistic video images in the day and night. This makes it ideal for traffic scenarios.

Video Metadata

Deep learning algorithms and a high-performance AI processor allow the camera to detect and extract metadata on motor vehicles and non-motor vehicles, providing a reliable data source that can be used in making effective decisions.

Applicable to Various Road Scenes

Ideal for scenarios where license plate recognition is needed, the camera is capable of capturing more than 10 different types of traffic violations, and supports traffic information collection and event detection.

Multi-dimensional Data Sensing

GPS positioning is supported, and used in time synchronization. A radar is also built into the device, allowing it to measure vehicle speed and sense data from a wide range of perspectives.

Safe and Reliable Performance

Built to withstand the toughest conditions, this camera functions in a wide temperature and voltage range. It allowing its camera, illuminator, radar and the other components integrated into its design to be secure. Feel safe using it in all-weather types.

Scene

The camera is ideal for use in intelligent traffic management and for smart city businesses. It is capable of detecting traffic violations, capturing license plates, generating passing vehicle records, collecting traffic data, and detecting events.

Technical Specification

Camera

Image Sensor	1" GS-CMOS
Shutter Mode	Single shutter; Double shutter; Three shutters
Electronic Shutter Speed	Auto/Manual 1/50 s–1/100,000 s
Noise Reduction	3D NR
S/N	48 dB
WDR	120 dB
Minimum intensity	0.001 lux
Day/Night	Supports ICR auto switch: IR cut-off filter (IRCF) with the polarizing filter is used during the daytime, and switches to the IR transmitting filter at night

Illuminator

Illuminator Number	16
IR	850 nm
Illumination Distance	23 m–50 m (75.46 ft–164.04 ft) (adjustable brightness)
IR Covered lane	Center mount: 4 lanes Side mount: 3 lanes

Radar

Central Frequency	24.05 GHz–24.25 GHz
Measurement Accuracy	±2 km/h
Speed Measurement Range	5 km/h–300 km/h
Tracking Target	Up to 64

Lens

Lens Type	Motorized vari-focal
Focal Length	16 mm–40 mm
Max. Aperture	F1.5
Aperture Type	P iris
Field of View	Horizontal: 20.8°–46.4° Vertical: 11.1°–25.4° Diagonal: 23.4°–51.7°

Function

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

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 developed 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 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, orange, purple, brown, and silver gray (color recognition is not supported during the nighttime)
Accuracy (under recommended installation and lighting conditions)	Capture rate > 99%; LPR accuracy > 98%
Vehicle logo	Vehicle head mode: 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 Snapshot	ANPR mode: Wrong-way driving, overspeed, driving slow, crossing the solid white line, crossing the solid yellow line, illegal lane change, not wearing seatbelt, 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 vehicle 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
Traffic Event	Detects parking violations of motor vehicles, wrong-way driving, and traffic congestion

Video

Video Compression	H.265; H.264M; H.264H; MJPEG
Video Resolution	4096 × 2160; QFHD (3840 × 2160); 1080p (1920 × 1080); UXGA (1600 × 1200); 720p (1280 × 720)
Video Frame Rate	50 Hz: Maximum 50 fps; default main stream (4096 × 2160@25 fps), sub stream (1600 × 1200@25 fps) 60 Hz: Maximum 30 fps; default main stream (4096 × 2824@15 fps), sub stream (1600 × 1200@15 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/night/custom color temperature
Edge Enhancement	Yes
HLC	Yes
BLC	Yes
Bad Pixel Correction	Yes
Gain Scope	0–100

image

Composite Image	Supports combining up to 4 images into a composite image
Image Resolution	4096 (H) × 2160 (V) (OSD black background is not calculated in the pixels)

Image Encoding Format	JPEG
Image Tampering Prevention	Watermark and verification are available for 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	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
Time Synchronization	NTP; GPS

Port

Frequency Source Sync	1, supports synchronizing the camera with the mains electricity
Peripheral Light	5, optocoupler signal output (can be configured as flashing light or LED strobe sync output port, frequency adjustable)
RS-485	1, connects to devices such as signal detector, strobe, and more
Alarm Output	1 (can be configured as an alarm output port)
Alarm In	1

General

Power Supply	100–240 VAC, 50 Hz/60 Hz
Power Consumption	≤40 W
Operating Temperature	−40 °C to +65 °C (−40 °F to +149 °F)
Storage Temperature	−40 °C to +70 °C (−40 °F to +154 °F)
Operating Humidity	10%-90% (RH)
Storage Humidity	10%-90% (RH)
Product Dimensions	435.4 mm × 416.0 mm × 173.8 mm (17.14'' × 16.38'' × 6.84'') (L × W × H)
Certifications	CE: SHES221102111001; KSCR2211002258; KSCR221100225701 IP66: A2230003736101
Net Weight	9.2 kg (20.28 lb)
Gross Weight	14.2 kg (31.31 lb)
Installation	Center mount; Side mount

Ordering Information

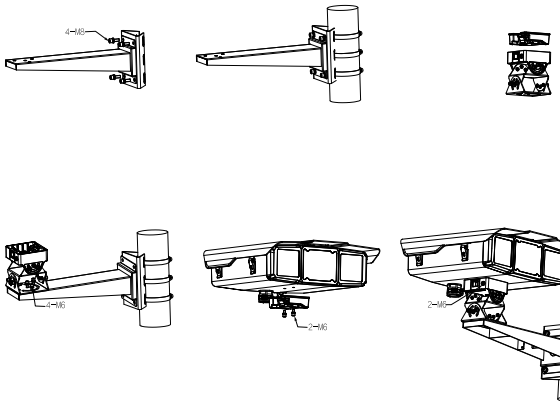
Type	Model	Description
AI Enforcement Camera	DHI-ITC952-SU2F-PQE-C1R1-IRL8ZF1640	9MP all-in-one IR AI Traffic camera
Accessories (Optional)	PFA150	Pole Mount Bracket (purchase separately)
	3012	Wall Mount Bracket (purchase separately)

Accessories

Optional:

PFA150
Pole Mount Bracket
(purchase separately)

3012
Wall Mount Bracket
(purchase separately)



Dimensions (mm[inch])