

DHI-ITC952-SU2F-PQE-C1R1-IRL7ZF1640

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.
- 730 nm IR illumination.

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. It is suitable for road scenarios.

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	50 Hz: Auto/Manual 1/50 s–1/100,000 s 60 Hz: Auto/Manual 1/60 s–1/100,000 s
Noise Reduction	3D NR; 2D NR
S/N	48 dB
WDR	90 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	730 nm
Illumination Distance	23 m–50 m (75.46 ft–164.04 ft) (adjustable brightness)
IR Covered lane	3 lanes
radar	
Central Frequency	24.05 to 24.25 GHz
Measurement Accuracy	±2 km/h
Velocity Range	5 to 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, abnormal device attitude, 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	Recognizes license plate numbers and letters
Vehicle Type Recognition	Vehicle head mode: Large bus, heavy truck, medium truck, sedan, van, light truck, medium bus, SUV, MPV, and pickup Vehicle tail mode: SUV, large bus, sedan, light truck, pickup, medium truck, van, and heavy truck
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)
Vehicle logo	Vehicle head mode: Acura, Alfa Romeo, Ashokleyland, Aston Martin, Audi, Baic, Bentley, 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 white solid line, crossing the yellow solid 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 × 2160@25 fps), sub stream (1600 × 1200@25 fps)
Video Bit Rate	H.264: 32 kbps–32768 kbps H.265: 32 kbps–32768 kbps MJPEG: 512 kbps–32768 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	Combines 1, 2, 3 and 4 images into one 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	IE: IE 9–IE 11 Chrome: Chrome 41 and earlier Firefox: Firefox 49 and earlier Win10 needs to open the browser with administrator rights
Positioning	GPS
Time Synchronization	NTP; GPS

Port

Frequency Source Sync	1, supports synchronizing the camera with the mains electricity
Peripheral Light	6, 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, continuous light, and all-in-one illuminator
RS-232	1, for serial port debugging
Alarm Output	1 (can be configured as an alarm output port)

General

Power Supply	36 VDC
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%
Storage Humidity	10%–90%
Product Dimensions	435.4 mm × 416.0 mm × 173.8 mm (17.14" × 16.38" × 6.84") (L × W × H)
Net Weight	7.5 kg (16.53 lb)
Gross Weight	12.5 kg (27.56 lb)
Installation	Center mount; Side mount

Ordering Information

Type	Model	Description
AI Enforcement Camera	DHI-ITC952-SU2F-PQE-C1R1-IRL7ZF1640	9MP all-in-one IR AI Traffic camera
Accessories (Optional)	PFA150	Pole Mount Bracket (purchase separately)
	3102	Wall Mount Bracket (purchase separately)

Accessories

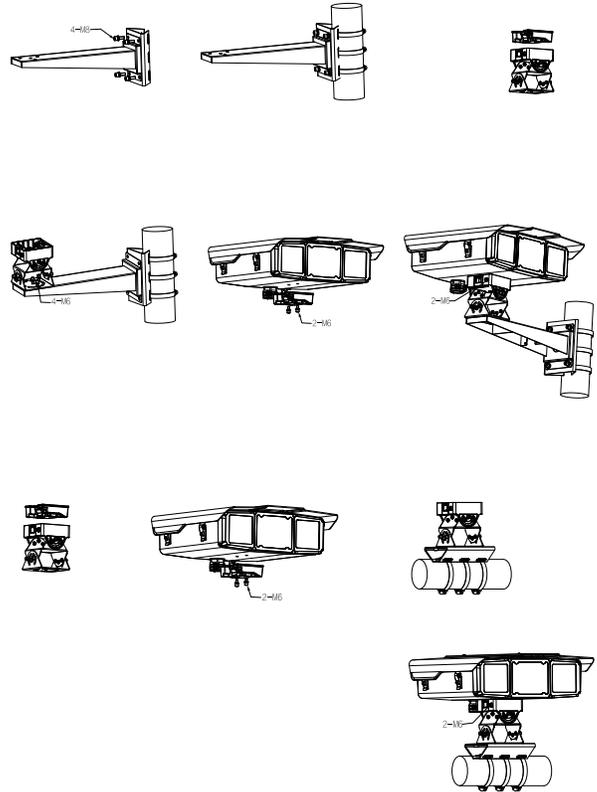
Optional:



PFA150 Pole Mount Bracket (purchase separately)



3102 Wall Mount Bracket (purchase separately)



Dimensions (mm[inch])

