

TDOEIS5502SA-I

5MP IR Fixed-focal Eyeball Network Camera



- 5-MP 1/2.7" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 5 MP (2960 × 1668) @25/30fps.
- Built-in IR LED, and the max. illumination distance is 50 m.
- ROI, SVC, SMART H.264+/H.265+, AI H.264/H.265, encoding after filter, flexible coding, applicable to various bandwidth and storage environments.
- Rotation mode, WDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- With deep learning algorithm, it supports: video metadata, smart sound detection, IVS, face detection, smart object detection, and people counting, etc.
- Alarm: 1 in, 1 out; audio: 1 in, 1 out; supports max. 512 GB Micro SD card, built-in MIC.
- 12 VDC/PoE power supply; ePoE.
- IP67 protection.
- SMD 3.0.



Functions

AI-Powered Image

With AI ISP technology, the camera is able to easily adapt to scenes, producing high quality images that reveal the fine details of targets.

Perimeter Protection

With deep learning algorithm, ToughDog Perimeter Protection technology can recognize human and vehicle accurately. In restricted area (such as pedestrian area and vehicle area), the false alarms of intelligent detection based on target type (such as tripwire, intrusion, fast moving, parking detection, loitering detection and gathering detection) are largely reduced.

Face Detection

ToughDog Face Detection technology can detect the face in the image. With deep learning algorithm, the technology supports detecting, tracking, capturing and selecting the best face image, and then outputs face snapshot.

Smart Sound Detection

With deep learning algorithms, ToughDog Smart Sound Detection technology can detect and identify the sound of screams, glass breaking, and more.

People Counting

With deep learning algorithm, ToughDog People Counting technology can track and process moving human body targets to realize the accurate statistics of enter No., leave No., and In Area No. Working with management platform, it outputs reports to meet your requirements.

Video Metadata

With deep learning algorithm, ToughDog Video Metadata technology can detect, track, capture vehicle, non-motor vehicle and people, and select the best images, and extract attributes.

Cyber Security

ToughDog network cameras employ a series of security technologies, including security authentication and authorization, access control protocols, trusted protection, encrypted transmission and encrypted storage. These technologies improve the camera's defense against external cyber threats and prevent malicious programs from compromising the device.

Protection (IP67, Wide Voltage)

IP67: The camera passes a series of strict test on dust and soak. It has dust-proof function, and the enclosure can work normally after soaking in 1 m deep water for 30 minutes.

Wide voltage: The camera allows $\pm 30\%$ (for some power supplies) input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

Technical Specification	
Camera	
Image Sensor	1/2.7" CMOS
Max. Resolution	2960 (H) × 1668 (V)
ROM	4 GB
RAM	1 GB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual 1/3 s–1/100,000 s
Min. Illumination	0.0009 lux@F1.6 (Color, 30 IRE) 0.0005 lux@F1.6(B/W, 30 IRE) 0 lux (Illuminator on)
S/N Ratio	>56 dB
Illumination Distance	50 m (164.04 ft) (IR)
Illuminator On/Off Control	Auto; Manual
Illuminator Number	2 (IR LED)
Angle Adjustment	Pan: 0°–360° Tilt: 0°–78° Rotation: 0°–360°

Lens					
Lens Type		Fixed-focal			
Lens Mount		M12			
Focal Length		2.8 mm			
Max. Aperture		F1.6			
Field of View		2.8 mm: H: 111°;V: 58°; D: 132°			
Iris Control		Fixed			
Close Focus Distance		2.8 mm: 1.1 m (3.06 ft)			
DORI Distance	Lens	Detect	Observe	Recognize	Identify
	2.8 mm	63.6 m (208.66 ft)	25.4 m (83.33 ft)	12.7 m (41.67 ft)	6.4 m (21.00 ft)

Intelligence	
IVS (Perimeter Protection)	Intrusion, tripwire, fast moving (the three functions support the classification and accurate detection of vehicle and human); loitering detection, people gathering, and parking detection
Smart Object Detection	Smart abandoned object; smart missing object
SMD 3.0	Less false alarm, longer detection distance
AI SSA	Yes

Face Detection	Face detection; track; snapshot; snapshot optimization; optimal face snapshot upload; face enhancement; face exposure; face attributes extraction including 6 attributes and 8 expressions; face snapshot set as face, one-inch photo or custom; snapshot strategies (real-time snapshot, quality priority and optimization snapshot); face angle filter; optimization time setting
People Counting	Tripwire people counting, generating and exporting report (day/week/month/year); people counting in area and queue management, generating and exporting report (day/week/month); 4 rules can be set for tripwire, people counting in area and queue management.
Heat Map	Yes
Video Metadata	Motor vehicle, non-motor vehicle, face, human body detection; track; snapshot; snapshot optimization; optimal face snapshot upload. Motor vehicle attributes: vehicle type, vehicle color, vehicle logo and other attributes : seatbelt, smoking, calling. Non-motor vehicle attributes: type, color, number of people, top type and color, hat. Human body attributes: gender, top/bottom type and color, bag, hat and umbrella. Face attributes: gender, age, expressions, glasses, face mask and beard.
Smart Search	Work together with Smart NVR to perform refine intelligent search, event extraction and merging to event videos
Smart Sound Detection	Yes

Video	
Video Compression	H.265; H.264; H.264H; H.264B; MJPEG (Only supported by the sub stream)
Smart Codec	Smart H.265+; Smart H.264+
AI Coding	AI H.265; AI H.264
Video Frame Rate	Main stream: 2960 × 1668@(1–25/30 fps) Sub stream: D@(1–25/30 fps) Third stream: 1080p@(1–25/30 fps) Fourth stream: 720p@(1–25/30 fps) *The values above are the max. frame rates of each stream; for multiple streams, the values will be subjected to the total encoding capacity.
Stream Capability	4 streams
Resolution	5M (2960 × 1668/2880 × 1620); 4M (2688 × 1520); 3.6M (2560 × 1440); 3M (2048 × 1536/2304 × 1296); 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240)
Bit Rate Control	CBR/VBR
Video Bit Rate	H.264: 32 kbps–16384 kbps H.265: 12 kbps–11776 kbps
Day/Night	Auto(ICR)/Color/B/W
BLC	Yes
HLC	Yes
WDR	120 dB
Scene Self-adaptation (SSA)	Yes
White Balance	Auto; natural; street lamp; outdoor; manual; regional custom
Gain Control	Auto

TDOEIS5502SA-I

Noise Reduction	3D NR
Motion Detection	OFF/ON (4 areas, rectangular)
Region of Interest (Rol)	Yes (4 areas)
Smart Illumination	Yes
Defog	Yes
Image Rotation	0°/90°/180°/270° (Support 90°/270° with 4M (2688 × 1520) resolution and lower)
Mirror	Yes
Privacy Masking	8 areas

Audio

Built-in MIC	Yes
Audio Compression	G.711a; G.711Mu; PCM; G.726; G.723

Alarm

Alarm Event	No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; motion detection; video tampering; tripwire; intrusion; fast moving; abandoned object; missing object; loitering detection; people gathering; parking detection; scene changing; audio detection; voltage detection; external alarm; face detection; SMD; people counting in area; stay detection; people counting; people number error detection; queue people number alarm; queue time alarm; security exception
-------------	---

Network

Network Port	RJ-45 (10/100 Enhancement Base-T)
SDK and API	Yes
Network Protocol	IPv4; IPv6; HTTP; TCP; UDP; ARP; RTP; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; QoS; UPnP; NTP; Multicast; ICMP; IGMP; NFS; SAMBA; PPPoE; SNMP; P2P
Interoperability	ONVIF (Profile S/Profile G/Profile T); CGI
User/Host	20 (Total bandwidth: 80 M)
Storage	FTP; SFTP; Micro SD card (support max. 512 GB); NAS
Browser	IE: IE 9 and later Chrome: Chrome 102 and later Firefox: Firefox 88 and later
Management Software	SmartPSS Lite; DSS; DMSS
Mobile Client	iOS; Android
Cyber Security	Configuration encryption; trusted execution; Digest; security logs; WSSE; account lockout; syslog; video encryption; 802.1x; IP/MAC filtering; HTTPS; trusted upgrade; trusted boot; firmware encryption; generation and importing of X.509 certification

Certification

Certifications	CE-LVD: EN62368-1 CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU FCC: 47 CFR FCC Part 15, Subpart B UL/CUL: UL62368-1 & CAN/CSA C22.2 No. 62368-1-14
----------------	---

Port

Audio Input	1 channel (RCA port)
Audio Output	1 channel (RCA port)

Alarm Input	1 channel in: wet contact, 5 mA 3V–5 VDC
Alarm Output	1 channel out: wet contact, 300mA 12V DC

Power

Power Supply	12 VDC/PoE (802.3af)/ePoE
Power Consumption	Basic: 4 W (12 VDC); 5.8 W (PoE) Max. (H.265+ WDR+ Intelligence on+IR on): 6.2 W (12 VDC); 8.3 W (PoE)

Environment

Operating Temperature	−40 °C to +60 °C (−40 °F to +140 °F)
Operating Humidity	≤95%
Storage Temperature	−40 °C to +60 °C (−40 °F to +140 °F)
Storage Humidity	10%–95% (RH), non- condensing
Protection	IP67

Structure

Casing Material	Inner core: Metal Cover: Metal Decoration ring: Plastic Quick install mounting plate: Metal
Product Dimensions	99.1 mm × Φ121.9 mm (3.90" × Φ4.80")
Net Weight	500 g (1.10 lb)
Gross Weight	770 g (1.70 lb)

Ordering Information

Type	Model	Description
SMP Camera	TDOEIS5502SA-I	SMP IR Fixed-focal Eyeball Network Camera

Accessories (Optional)	PFA130-E	Water-proof Junction Box
	PFA152-E	Pole Mount Bracket

Accessories

Optional:

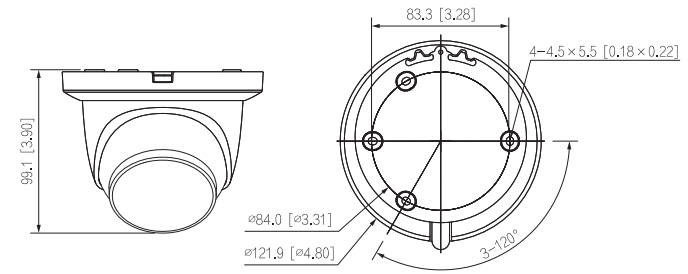


PFA130-E
Water-proof
Junction Box



PFA152-E
Pole Mount Bracket

Dimensions (mm[inch])



Junction Mount	Ceiling Mount	Wall Mount
Pole Mount(Vertical)		