TDOEIY417L2

4MP WDR Eyeball AI Network Camera

· 1/1.8" 4Megapixel progressive scan CMOS

· H.265 & H.264 triple-stream encoding

· 25/30 fps@2688 × 1520, 50/60 fps@1080 (1920 × 1080)

· WDR (140 dB), Day/Night (Electronic), 3D DNR, AWB, AGC, BLC

· Multiple network monitoring: Web viewer, CMS (DSS/PSS) & DMSS

· 2.8 mm fixed lens

· Built-in MIC

· Max. LEDs Length 20 m

· Micro SD memory, IP67

TOUGHDOG AI series products adopt the most advanced AI technologies, including deep learning algorithms that primarily target people and vehicles, which provides higher flexibility and accuracy for end-users. This enables the TOUGHDOG AI series to offer various advanced applications such as Face Recognition,ANPR, Metadata, People Counting, traffic data statistics, etc.The complete lineup of TOUGHDOG AI includes network (PTZ) cameras, network video recorders, servers, and platform management products. Beyond seeing the world, the power of AI allows devices to perceive the environment and understand the world in a better way.

System Overview

Pro AI series contains Face Capture, Perimeter Protection and People Counting functions.Powered by deep-learning Artificial Intelligence algorithms, significantly improved accuracy. Meanwhile, the series features starlight and smart IR technology. This series fully protected from dust and water, certified to IP67 standard.

Functions

Face Capture

Face capture is a software application that automatically captures faces from within a digital image or a video frame from a video source. TOUGHDOG cameras use advanced deep learning algorithms and are trained by a large number of face data sources, enabling the camera to locate faces quickly and accurately from the video source and capture facial images.

Perimeter Protection

TOUGHDOG's Perimeter Protection functions significantly improved accu-racy. Perimeter Protection reduces false alarms and decreases pixel count requirements for object detection. Perimeter Protection features custom tripwires based on object type for automation in limited access areas such as pedestrian or vehicle-only zones. This combination of advanced AI analytics and real-time alerts to a desktop or to a mobile client reduces system requirements and resources resulting in greater surveillance system efficiency.

People Counting

People Counting function uses advanced image processing technology to capture depth information from within images. The camera pairs this information with deep learning algorithms to analyze and detect human bodies and track target objects in real time. The camera provides statistics for separate individuals' entrance and exit with up to 95% counting accuracy.

Full-color Starlight

The camera adopts F1.6 large aperture lens and 1/2.8" high perfor-mance sensor. With higher amount of absorbed light and advanced image processing algorithm, the camera presents an impressive lowlight performance with an exceptional balance between noise reduction and the blur of moving object.

Warm Supplemental lights

With two warm supplemental LED lights, the camera is able to provide a colorful and vivid image even in total darkness. It also provides visible By default, the camera is set to smart light mode, in which the camera can automatically adjust the exposure time and light sensitivity simultane-ously to avoid overexposureing of the objects in the image center. Also, the sensitivity and intensity of the LED lights can be remotely controlled by OSD menu.

Protection(IP67, wide voltage)

The camera allows for ±30% input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 6KV lightning rat-ing provides effective protection for both the camera and its structure against lightning. Subjected and certified to rigorous dust and immer-sion tests (IP67) , the camera is the choice for installation in even the most unforgiving environments.

TD0EIY417L2

Technical Specification

Camera

Image Sensor	1/1.8" 4Megapixel progressive scan CMOS
Effective Pixels	2688 (H) × 1520 (V)
RAM/ROM	512 MB/128 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual, 1/3 s–1/100000 s
Minimum Illumination	0.001 Lux@F1.6
LED Distance	Distance up to 20 m (66 ft)
LED On/Off Control	Auto/Manual
LEDs	2

Lens

Lens Type	Fixed
Mount Type	Board-in
Focal Length	2.8 mm
Max. Aperture	F1.6
Angle of View	H: 113°, V: 60°/H: 89°, V: 48°/H: 56°, V: 31°
Optical Zoom	N/A
Aperture Type	Fixed
Close Focus Distance	1.3 m (4.27 ft)/1.9 m (6.23 ft)/3.8 m(12.47 ft)

DORI Distance	Lens	Detect	Observe	Recognize	Identify
	2.8mm	58m(192ft)	23m(75ft)	12m(39ft)	6m(20ft)

Pan/Tilt/Rotation

Pan/Tilt/Rotation Range	Pan: 0˚–360˚; Tilt: 0˚–78˚; Rotation: 0˚–360˚

Artificial Intelligence

Face Capture	Support face image capture
Perimeter Protection	Tripwire, Intrusion (Human & Vehicle classification)
People Counting	Support Line crossing/Region/Queueing people counting; Support 4 accesses independent detection, 4 areas independent detection

General Intelligence

Event Trigger	Motion detection, Video tampering , Scene changing, Network disconnection , IP address conflict, Illegal Access, Storage anomaly
General Intelligence	Object Abandoned/Missing

Video

Compression	H.265+, H.265, H.264+, H.264, H.264B, H.264H, MJPEG(sub stream)
Streaming Capability	3 Streams
Resolution	2688 × 1520/2560 × 1440/2304 × 1296/1080P (1920 × 1080)/1.3M (1280 × 960)/720P (1280 × 720)/D1 (704 × 576/704 × 480)/VGA (640 × 480)/CIF (352 × 288/352 × 240)

Frame Rate	Main Stream: 2688 × 1520 (1 fps–25/30 fps) 2560 × 1440 (1 fps–25/30 fps) 1920 × 1080 (1 fps–50/60 fps) Sub Stream: D1 (1 fps–25/30 fps) D1 (1 fps–50/60 fps) Third Stream: 1080P (1 fps–16 fps)
Bit Rate Control	CBR/VBR
Bit Rate	H.264: 32 Kbps–8192 Kbps H.265: 19 Kbps–8192 Kbps
Day/Night	Day/Night: Electronic Auto/Color/B/W
BLC Mode	BLC/HLC/WDR (140 dB)
White Balance	Auto/Natural/Street Lamp/Outdoor/Manual
Gain Control	Auto/Manual
Noise Reduction	3D DNR
Motion Detetion	Off/On (4 Zone, Rectangle)
Region of Interest	Off/On (4 Zone)
Electronic Image Stabilization (EIS)	N/A
Smart IR	Support
Defog	Support
Digital Zoom	N/A
Flip	0°/90°/180°/270°
Mirror	Off/On
Privacy Masking	Off/On (4 Area, Rectangle)

Audio

Compression	G.711a, G.711Mu, G.726, AAC, G.723

Network

Ethernet	RJ-45 (10/100 Base-T)
Protocol	HTTP, TCP, ARP, RTSP, RTP, UDP, RTCP, SMTP, FTP, DHCP, DNS, DDNS, PPPoE, IPv4/v6, SNMP, QoS, UPnP, NTP, ICMP, HTTPS, IGMP, 802.1x
Interoperability	ONVIF (Profile S/Profile G), CGI, Milstone, Genetec, P2P
Streaming Method	Unicast/Multicast
Max. User Access	20 Users
Edge Storage	NAS FTP Micro SD card 256 GB
Web Viewer	IE (versions newer than IE8), Chrome, Firefox, Safari (versions newer than Safari 12)
Management Software	Smart PSS, DSS, P2P
Smart Phone	iOS, Android

Certifications

Certifications	CE-LVD: EN60950-1 CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU FCC: 47 CFR FCC Part 15, Subpart B UL/CUL: UL60950-1 CAN/CSA C22.2 No.60950-1-07

TDOEIY417L2

Interface

Video Interface	N/A
Audio Interface	Built-in MIC
RS485	N/A
Alarm	N/A

Electrical

Power Supply	DC 12V (±30%), PoE (802.3af) (Class 0)
Power Consumption	<7.2W

Environmental

Operating Conditions	-30° C to +60° C (-22° F to +140° F)/10%RH–95%RH
Strorage Conditions	-30° C to +60° C (-22° F to +140° F)
Ingress Protection	IP67

Construction

Casing	Metal
Dimensions	Φ106 mm × 99.2 mm (4.17" × 3.91")
Net Weight	0.55 kg (1.21 lb)
Gross Weight	0.71 kg (1.57 lb)

Accessories

Optional:

PFA130-E Junction box	PFA151 Corner Mount	PFB204W Wall Mount	PFA152-E Pole Mount

Junction Mount	Corner Mount
PFA130-E	PFA151+PFB204W

Wall Mount	Ceiling Mount
PFB204W	PFA106+PFB220C

Ceiling Mount	Pole Mount
	PFB204W + PFA152-E

Dimensions (mm[inch])

∅106.0 [∅4.17"]

∅69.0 [∅2.72"]

4–∅4.5 [∅0.18"]

99.2 [3.9"]