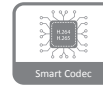


# TDODIA4302-AI

4MP IR Fixed-focal Dome Network Camera



- 4-MP 1/2.9" CMOS image sensor, low luminance, and high definition image.
- Outputs max. 4 MP (2688 × 1520)@20 fps, and supports 2560 × 1440@25/30 fps.
- H.265 codec, high compression rate, ultra-low bit rate.
- Built-in IR LED, and the max. illumination distance is 30 m.
- ROI, SMART H.264+/H.265+, flexible coding, applicable to various bandwidth and storage environments.
- Rotation mode, WDR, 3D NR, HLC, BLC, digital watermarking, applicable to various monitoring scenes.
- Intelligent monitoring: Intrusion, tripwire (the two functions support the classification and accurate detection of vehicle and human).
- Supports max. 256 G Micro SD card; built in MIC.
- 12 VDC/PoE power supply, easy for installation.
- IP67, IK10 protection.
- SMD Plus.



## Functions

### SMD Plus

With intelligent algorithm, TOUGHDOG Smart Motion Detection technology can categorize the targets that trigger motion detection and filter the motion detection alarm triggered by non-concerned targets to realize effective and accurate alarm.

### Smart H.265+ & Smart H.264+

With advanced scene-adaptive rate control algorithm, TOUGHDOG smart encoding technology realizes the higher encoding efficiency than H.265 and H.264, provides high-quality video, and reduces the cost of storage and transmission.

### 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) are largely reduced.

## WDR

With advanced Wide Dynamic Range (WDR) technology, TOUGHDOG network camera provides clear details in the environment of strong brightness contrast. The bright and dark area can get clear video even in high brightness environment or with backlight shadow.

## 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, IK10, 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.

**IK10:** The enclosure can stand the punch more than 5 times from a 5 kg hammer falling from a height of 40 cm (Impact energy is 20J).

**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               | 1/2.9" CMOS   |
| Max. Resolution            | 2688 (H) × 1520 (V)   |
| ROM                        | 128 MB  |
| RAM                        | 128 MB  |
| Scanning System            | Progressive   |
| Electronic Shutter Speed   | Auto/Manual 1/3 s–1/100,000 s   |
| Min. Illumination          | 0.006 lux@F1.6 (Color, 30 IRE)<br>0.0006 lux@F1.6 (B/W, 30 IRE)<br>0 lux (Illuminator on) |
| S/N Ratio                  | >56 dB  |
| Illumination Distance      | 30 m (98.43 ft) (IR LED)  |
| Illuminator On/Off Control | Auto; Manual  |
| Illuminator Number         | 3 (IR LED)  |
| Pan/Tilt/Rotation Range    | Pan: 0°–355°<br>Tilt: 0°–65°<br>Rotation: 0°–355°   |

### Lens

|                      |                                  |                       |                      |                      |                     |
|----------------------|----------------------------------|-----------------------|----------------------|----------------------|---------------------|
| Lens Type            | Fixed-focal                      |                       |                      |                      |                     |
| Lens Mount           | M12                              |                       |                      |                      |                     |
| Focal Length         | 2.8 mm                           |                       |                      |                      |                     |
| Max. Aperture        | F1.6                             |                       |                      |                      |                     |
| Field of View        | 2.8 mm: H: 102°; V: 54°; D: 121° |                       |                      |                      |                     |
| Iris Control         | Fixed                            |                       |                      |                      |                     |
| Close Focus Distance | 2.8mm: 1.1m(2.30 ft)             |                       |                      |                      |                     |
| DORI Distance        | Lens                             | Detect                | Observe              | Recognize            | Identify            |
|                      | 2.8 mm                           | 63.6 m<br>(208.66 ft) | 25.4 m<br>(83.33 ft) | 12.7 m<br>(41.67 ft) | 6.4 m<br>(21.00 ft) |

### Intelligence

|                            |   |
|----------------------------|---|
| IVS (Perimeter Protection) | Intrusion, tripwire (the two functions support the classification and accurate detection of vehicle and human)  |
| Smart Search               | Work together with Smart NVR to perform refine intelligent search, event extraction and merging to event videos |

### 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+  |
| Video Frame Rate  | Main stream: 2688 × 1520@(1–20 fps)/2560 × 1440@(1–25/30 fps)<br>Sub stream: 704 × 576@(1–25 fps)/704 × 480@(1–30 fps)<br>*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        | 2 streams   |
| Resolution               | 4M (2688 × 1520/2560 × 1440); 3M (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–6144 kbps<br>H.265: 12 kbps–6144 kbps  |
| Day/Night                | Auto(ICR)/Color/B/W   |
| BLC                      | Yes   |
| HLC                      | Yes   |
| WDR                      | 120 dB  |
| White Balance            | Auto; natural; street lamp; outdoor; manual; regional custom  |
| Gain Control             | Manual; Auto  |
| Noise Reduction          | 3D NR   |
| Motion Detection         | OFF/ON (4 areas, rectangular)   |
| Region of Interest (RoI) | Yes (4 areas)   |
| Smart Illumination       | Yes   |
| Image Rotation           | 0°/90°/180°/270° (Support 90°/270° with 2688 × 1520 resolution and lower)   |
| Mirror                   | Yes   |
| Privacy Masking          | 4 areas   |

### Audio

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

### Alarm

|             |   |
|-------------|---|
| Alarm Event | No SD card; SD card full; SD card error; network disconnection; IP conflict; illegal access; motion detection; video tampering; tripwire; intrusion; audio detection; voltage detection; SMD; security exception; |
|-------------|---|

### Network

|                     |  |
|---------------------|--|
| Network Port        | RJ-45 (10/100 Base-T)  |
| SDK and API         | Yes  |
| Network Protocol    | IPv4; IPv6; HTTP; TCP; UDP; ARP; RTP; RTSP; RTCP; RTMP; SMTP; FTP; SFTP; DHCP; DNS; DDNS; NTP; Multicast; ICMP; IGMP |
| Interoperability    | ONVIF (Profile S/Profile G); CGI; P2P  |
| User/Host           | 6 (Total bandwidth: 36 M)  |
| Storage             | FTP; SFTP; Micro SD card (support max. 256 GB)   |
| Browser             | IE; Chrome; Firefox  |
| Management Software | DSS; DMSS  |
| Mobile Client       | iOS; Android   |

|                |   |
|----------------|---|
| Cyber Security | Video encryption;Firmware encryption;Configuration encryption;Digest;WSSE;Account lockout;Security logs;IP/MAC filtering;Generation and importing of X.509 certificate;syslog;HTTPS;802.1x;Trusted boot;Trusted execution;Trusted upgrade |
|----------------|---|

### Certification

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

### Power

|                   |   |
|-------------------|---|
| Power Supply      | 12 VDC/PoE  |
| Power Consumption | Basic: 2.3 W (12 VDC); 2.9 W (PoE)<br>Max. (ICR + H.265 + WDR + max. Illumination + intelligence on): 5 W (12 VDC); 6 W (PoE) |

### Environment

|                       |                                      |
|-----------------------|--------------------------------------|
| Operating Temperature | -40 °C to +60 °C (-40 °F to +140 °F) |
| Operating Humidity    | ≤95%                                 |
| Protection            | IP67; IK10                           |

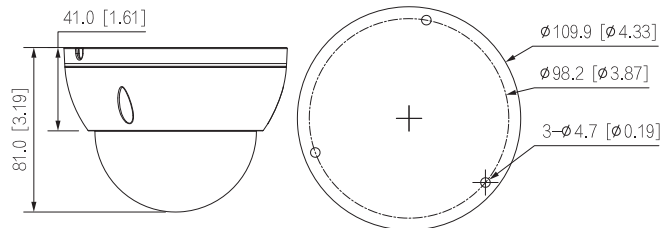
### Structure

|                    |                                     |
|--------------------|-------------------------------------|
| Casing Material    | Metal                               |
| Product Dimensions | 81.0 mm × Φ109.9 mm (3.19"× Φ4.33") |
| Net Weight         | 0.34 kg (0.75 lb)                   |
| Gross Weight       | 0.49 kg (1.08 lb)                   |

### Ordering Information

| Type                   | Model         | Description                            |
|------------------------|---------------|--|
| 4MP Camera             | TDODIA4302-AI | 4MP IR Fixed-focal Dome Network Camera |
| Accessories (Optional) | PFA136        | Junction Box                           |
|                        | PFB203W       | Wall Mount Bracket                     |
|                        | PFA152-E      | Pole Mount Bracket                     |
|                        | PFA150        | Pole Mount Bracket                     |
|                        | PFB305W       | Wall Mount Bracket                     |

### Dimensions (mm[inch])



### Accessories

Optional:



PFA136  
Junction  
Box



PFB203W  
Wall Mount  
Bracket



PFA152-E  
Pole Mount  
Bracket



PFA150  
Pole Mount  
Bracket



PFB305W  
Wall Mount  
Bracket

