## Thermal & Optical Bi-spectrum Network Dome Camera

#### TIC3612SA-F3-4F4AC-I1



#### Features

- Thermal & Optical dual spectrum image, dual video with single IP address, adaptable to more various scenes
- 1/2.8" target surface, high sensitivity sensor, satisfy the need of starlight monitoring
- Thermal module support reliable fire detection, smoking detection and fire shield area
- Thermal module supports temperature detection and cold&hot spot tracking which highlights the abnormal temperature, and link to alarm
- Thermal & Optical dual spectrum smart intrusion prevention: cross line, enter area, leave area, intrusion
- Optical module supports smog recognition, which can help with fire alarm reconfirm
- Support picture in picture mode, real time contrast live, more convenient and clear
- Support audio and light alarm, with red and blue warning lights built in
- Ultra 265, H.265, H.264, MJPEG
- Max 2688\*1520@30fps in the optical module and Max 960P@30fps in the thermal module
- DC12V25% or PoE power supply
- Alarm 2 in and 2 out, Audio 1 in and 1 out, Micro SD, up to 512 GB

### Specifications

| Channel                        | Optical Thermal                                                                 |                                            |  |  |  |  |
|--------------------------------|---------------------------------------------------------------------------------|--------------------------------------------|--|--|--|--|
| Camera                         |                                                                                 |                                            |  |  |  |  |
| Sensor                         | 1/2.8" CMOS                                                                     | Vanadium oxide uncooled focal plane arrays |  |  |  |  |
| Min. Illumination              | Colour: 0.003 lux (F1.6, AGC ON)<br>B/W: 0.002lux(F1.6,AGC ON)<br>0 lux with IR | N/A                                        |  |  |  |  |
| Day/Night                      | IR-cut filter with auto switch (ICR)                                            | N/A                                        |  |  |  |  |
| Original<br>Resolution-Thermal | N/A                                                                             | 256*192                                    |  |  |  |  |
| Pixel Size                     | N/A                                                                             | 12 um                                      |  |  |  |  |
| NETD                           | N/A                                                                             | < 50 mk @ F1.0 @ 25 °C                     |  |  |  |  |
| Shutter                        | Auto/Manual,1 to 1/100000 s                                                     |                                            |  |  |  |  |
| WDR                            | 120 dB                                                                          |                                            |  |  |  |  |
| S/N                            | S/N >56 dB                                                                      |                                            |  |  |  |  |
| Lens                           |                                                                                 |                                            |  |  |  |  |
| Focal Length                   | 4mm                                                                             | 3 mm                                       |  |  |  |  |
| Iris                           | F1.6                                                                            | F1.0                                       |  |  |  |  |
| Field of View (H)              | 72.9°                                                                           | 58.0°                                      |  |  |  |  |
| Field of View (V)              | 44.4°                                                                           | 42.5°                                      |  |  |  |  |
| Field of View (D)              | 89.8° 72°                                                                       |                                            |  |  |  |  |
| DORI                           |                                                                                 |                                            |  |  |  |  |
| DORI Distance<br>(Detect)      | 90.0m(295.3ft)                                                                  | N/A                                        |  |  |  |  |
| DORI Distance<br>(Observe)     | 36.0m(118.1ft)                                                                  | N/A                                        |  |  |  |  |
| DORI Distance<br>(Recognize)   | 18.0m(59.1ft)                                                                   | N/A                                        |  |  |  |  |
| DORI Distance<br>(Identify)    | 9.0m(29.5ft)                                                                    | N/A                                        |  |  |  |  |
| Illuminator                    |                                                                                 |                                            |  |  |  |  |
| Wavelength                     | 750 nm                                                                          | N/A                                        |  |  |  |  |

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| Illumination<br>Distance (IR)          | 30m                                                                                                                                      | N/A                                                                                                                                                                                                      |  |  |  |  |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| Light On/Off<br>Control                | Auto/Manual                                                                                                                              | N/A                                                                                                                                                                                                      |  |  |  |  |
| Video                                  | Video                                                                                                                                    |                                                                                                                                                                                                          |  |  |  |  |
| Frame Rate                             | 4MP(2688*1520), Max 30fps 960P(1280*960), Max 30fps                                                                                      |                                                                                                                                                                                                          |  |  |  |  |
| Video Compression                      | Ultra 265, H.265, H.264, MJPEG                                                                                                           |                                                                                                                                                                                                          |  |  |  |  |
| Video Bit Rate                         | 128 Kbps to 16 Mbps                                                                                                                      |                                                                                                                                                                                                          |  |  |  |  |
| U-code                                 | Support                                                                                                                                  |                                                                                                                                                                                                          |  |  |  |  |
| ROI                                    | Support                                                                                                                                  |                                                                                                                                                                                                          |  |  |  |  |
| Video Stream                           | Triple Streams                                                                                                                           |                                                                                                                                                                                                          |  |  |  |  |
| OSD                                    | Up to 8 OSDs                                                                                                                             |                                                                                                                                                                                                          |  |  |  |  |
| Privacy Mask                           | Up to 8 areas (8 blacks/ 8 mosaics) N/A                                                                                                  |                                                                                                                                                                                                          |  |  |  |  |
| Image                                  | Image                                                                                                                                    |                                                                                                                                                                                                          |  |  |  |  |
| White Balance                          | Auto, Outdoor, Fine Tune, Sodium Lamp, Locked, N/A                                                                                       |                                                                                                                                                                                                          |  |  |  |  |
| Digital Noise<br>Reduction             | 2D/3D DNR                                                                                                                                |                                                                                                                                                                                                          |  |  |  |  |
| Flip                                   | Normal, Flip Vertical, Flip Horizontal, 180°, 90° Clockwise, 90° Anti-clockwise                                                          |                                                                                                                                                                                                          |  |  |  |  |
| HLC                                    | Support N/A                                                                                                                              |                                                                                                                                                                                                          |  |  |  |  |
| BLC                                    | Support                                                                                                                                  | N/A                                                                                                                                                                                                      |  |  |  |  |
| Defog                                  | Digital Defog                                                                                                                            | N/A                                                                                                                                                                                                      |  |  |  |  |
| Palette-Thermal                        | N/A                                                                                                                                      | white hot, lava, iron oxide red, hot iron, medical, arctic,<br>rainbow 1, rainbow 2, rainbow 3, depict hot, ice hot,<br>black hot, mazarine, fusion, red hot, green hot, color 1,<br>color 2, rain, puce |  |  |  |  |
| Intelligent                            |                                                                                                                                          |                                                                                                                                                                                                          |  |  |  |  |
| Smart Intrusion<br>Prevention          | Cross line detection, intrusion detection (support false alarm filtering and the classification of human, non-motor vehicle and vehicle) |                                                                                                                                                                                                          |  |  |  |  |
| Smoke and Fire<br>Detection            | Support                                                                                                                                  | N/A                                                                                                                                                                                                      |  |  |  |  |
| Temperature<br>Measurement<br>Accuracy |                                                                                                                                          | ±8 °C (±14.4 °F) or ±8% (whichever is greater)                                                                                                                                                           |  |  |  |  |

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| Temperature Range                                                                                                                                                         | Selectable between -20 °C to 150 °C (-4 °F to 302 °F)<br>and 100 °C to 550 °C (212 °F to 1022 °F)                                                        |                                                                                                                                                                                          |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| Temperature<br>Detection-Thermal                                                                                                                                          | N/A                                                                                                                                                      | Thermal channel supports rule-based temperature<br>measurements.Supports real-time display of the highest,<br>lowest, and average temperatures in the rule-defined area<br>on the screen |  |  |  |
| Smoking<br>Detection-Thermal                                                                                                                                              | N/A                                                                                                                                                      | Thermal channel supports the detection of smoking behavior in the environment                                                                                                            |  |  |  |
| Events                                                                                                                                                                    |                                                                                                                                                          |                                                                                                                                                                                          |  |  |  |
| Fire Detection                                                                                                                                                            | N/A Support                                                                                                                                              |                                                                                                                                                                                          |  |  |  |
| Basic Detection                                                                                                                                                           | Motion Detection, Tampering Alarm, Audio Detection                                                                                                       | N/A                                                                                                                                                                                      |  |  |  |
| General Function Watermark, IP Address Filtering, Access Policy, ARP Protection, RTSP Authentication, User Authentication, HTTP Authentication, Alarm Input, Alarm Output |                                                                                                                                                          |                                                                                                                                                                                          |  |  |  |
| Audio                                                                                                                                                                     |                                                                                                                                                          |                                                                                                                                                                                          |  |  |  |
| Audio Compression                                                                                                                                                         | G.711U, G.711A                                                                                                                                           |                                                                                                                                                                                          |  |  |  |
| Audio Bitrate                                                                                                                                                             | 128 Kbps                                                                                                                                                 |                                                                                                                                                                                          |  |  |  |
| Two-way Audio                                                                                                                                                             | Support                                                                                                                                                  |                                                                                                                                                                                          |  |  |  |
| Suppression                                                                                                                                                               | Support                                                                                                                                                  |                                                                                                                                                                                          |  |  |  |
| Sampling Rate                                                                                                                                                             | 16KHZ                                                                                                                                                    |                                                                                                                                                                                          |  |  |  |
| Storage                                                                                                                                                                   |                                                                                                                                                          |                                                                                                                                                                                          |  |  |  |
| Edge Storage                                                                                                                                                              | Edge Storage Micro SD, up to 512 GB                                                                                                                      |                                                                                                                                                                                          |  |  |  |
| Network Storage                                                                                                                                                           | torage ANR                                                                                                                                               |                                                                                                                                                                                          |  |  |  |
| Network                                                                                                                                                                   |                                                                                                                                                          |                                                                                                                                                                                          |  |  |  |
| Protocols                                                                                                                                                                 | IGMP, RTP, SMTP, IPv4, IPv6, ICMP, ARP, TCP, UDP, DHCP, PPPoE, RTSP, RTCP, RTMP, DNS, DDNS, NTP, FTP, UPnP, HTTP, HTTPS, 802.1x, SNMP, QoS, SSL/TLS, SSH |                                                                                                                                                                                          |  |  |  |
| Compatible<br>Integration                                                                                                                                                 | ONVIF (Profile S, Profile G, Profile T), API, SDK                                                                                                        |                                                                                                                                                                                          |  |  |  |
| User/Host                                                                                                                                                                 | Up to 32 users. 3 user levels: administrator, common user and operator                                                                                   |                                                                                                                                                                                          |  |  |  |
| Client                                                                                                                                                                    | EZStation, UNV-Link, UNV-Link Pro                                                                                                                        |                                                                                                                                                                                          |  |  |  |
| Web Browser                                                                                                                                                               | Plug-in required live view: IE 10+, Chrome 45+, Firefox 52+, Edge 79+                                                                                    |                                                                                                                                                                                          |  |  |  |
| Interface                                                                                                                                                                 |                                                                                                                                                          |                                                                                                                                                                                          |  |  |  |
| Built-in Mic                                                                                                                                                              | Support                                                                                                                                                  |                                                                                                                                                                                          |  |  |  |
| Built-in Speaker                                                                                                                                                          | Support                                                                                                                                                  |                                                                                                                                                                                          |  |  |  |

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### DATASHEET

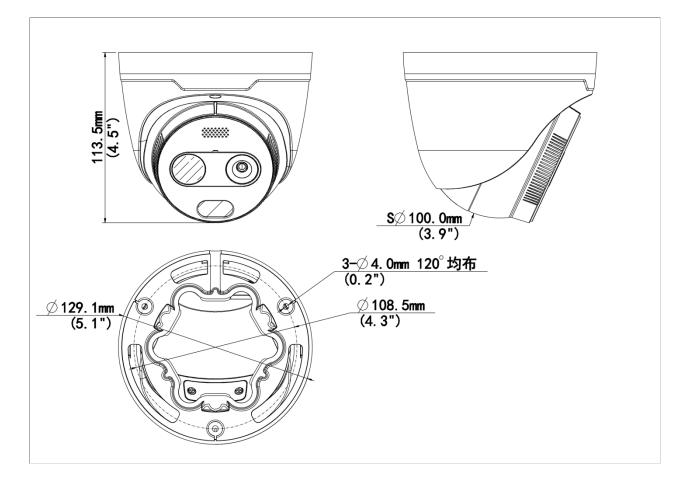
| Audio I/O              | 1 Input: impedance 1 kΩ, amplitude 2.5 V [p-p], 1 Output: impedance 600 Ω, amplitude 2 V [p-p]                                                                    |  |  |  |  |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|
| Alarm I/O              | 2/2                                                                                                                                                               |  |  |  |  |
| Serial Port            | 1 channel RS485 interface                                                                                                                                         |  |  |  |  |
| Network                | 1 × RJ45 10 M/100 M Base-TX Ethernet                                                                                                                              |  |  |  |  |
| Video Output           | N/A 1 BNC (For debugging)                                                                                                                                         |  |  |  |  |
| Certification          |                                                                                                                                                                   |  |  |  |  |
| EMC                    | CE-EMC (EN 55032: 2015+A1:2020,EN 61000-3-3: 2013+A1: 2019,EN IEC 61000-3-2: 2019+A1: 2021,EN 50130-4:2011+A1:2014)<br>FCC (FCC CFR 47 part15 B, ANSI C63.4-2014) |  |  |  |  |
| Safety                 | CE LVD (EN IEC 62368-1:2020+A11:2020)<br>UL (UL 62368-1, 2nd Ed., Issue Date: 2014-12-01)                                                                         |  |  |  |  |
| Environment            | CE-RoHS (2011/65/EU;(EU)2015/863); WEEE (2012/19/EU); Reach (Regulation (EC) No 1907/2006)                                                                        |  |  |  |  |
| Protection             | IP67 (IEC 60529:1989+AMD1:1999+AMD2:2013)                                                                                                                         |  |  |  |  |
| General                |                                                                                                                                                                   |  |  |  |  |
| Power                  | DC12V(±25%), PoE(IEEE802.3af)                                                                                                                                     |  |  |  |  |
| Power Consumption      | Max 12W                                                                                                                                                           |  |  |  |  |
| Power Interface        | Ø5.5 mm coaxial power plug                                                                                                                                        |  |  |  |  |
| Dimensions             | Φ129 x 114 mm(Φ5.08" x 4.49")(Φ x H)                                                                                                                              |  |  |  |  |
| Weight                 | 0.72kg(1.6lb)                                                                                                                                                     |  |  |  |  |
| Working<br>Environment | -40 °C to 70 °C (-40 °F to 158 °F), Humidity: $\leq$ 95% RH (non-condensing)                                                                                      |  |  |  |  |
| Storage<br>Environment | -40 °C to 70 °C (-40 °F to 158 °F), Humidity: $\leq$ 95% RH (non-condensing)                                                                                      |  |  |  |  |
| Surge Protection       | 6 KV                                                                                                                                                              |  |  |  |  |
| Reset Button           | Support                                                                                                                                                           |  |  |  |  |
| RTC                    | Support                                                                                                                                                           |  |  |  |  |
| Web Client             | 1 Language                                                                                                                                                        |  |  |  |  |
| Language               | English                                                                                                                                                           |  |  |  |  |
| Live View              |                                                                                                                                                                   |  |  |  |  |
| Maximum Bitstream      | 35                                                                                                                                                                |  |  |  |  |
| Maximum<br>Bandwidth   | 50 Mbps                                                                                                                                                           |  |  |  |  |

## unv

### DATASHEET

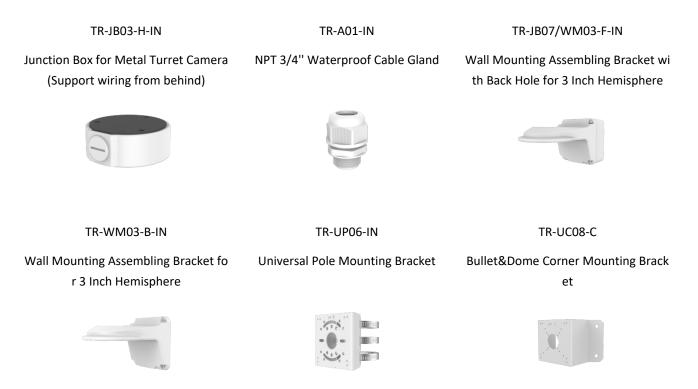
| OSD Font                | Vector  |  |  |  |
|-------------------------|---------|--|--|--|
| OSD Color               | Support |  |  |  |
| OSD Character<br>Number | 40      |  |  |  |
| Other                   |         |  |  |  |
| Corridor Mode           | Support |  |  |  |
| Software Version        | Q6202   |  |  |  |

### Dimensions



### DATASHEET

#### Accessories



### **DRI** Description

The optimal detection, recognition, and identification distances are calculated according to Johnson's Criteria. Detection Range: In order to distinguish an object from the background, the object must be covered by 1.5 or more pixels. Recognition Range: In order to classify the object (animal, human, vehicle, etc.), the object must be covered by 6 or more pixels. Identification Range: In order to identify the object and describe it in details, the object must be covered by 12 or more pixels.

#### **DRI Range Table**

| Lens  | Detection Range<br>(Vehicles:4.0 ×<br>1.4 m) | Detection Range<br>(Humans:1.8 ×<br>0.5 m) | Recognition Ra<br>nge (Vehicles: 4<br>.0 × 1.4 m) | Recognition Ra<br>nge (Humans: 1.<br>8 × 0.5 m) | Identification R<br>ange (Vehicles:<br>1.4 × 4.0 m) | Identification Rang<br>e (Humans: 1.8 × 0<br>.5 m) |
|-------|----------------------------------------------|--------------------------------------------|---------------------------------------------------|-------------------------------------------------|-----------------------------------------------------|----------------------------------------------------|
| 2.1mm | 207m                                         | 83m                                        | 52m                                               | 21m                                             | 30m                                                 | 12m                                                |
| 3mm   | 296m                                         | 119m                                       | 74m                                               | 30m                                             | 49m                                                 | 17m                                                |
| 7mm   | 690m                                         | 277m                                       | 173m                                              | 69m                                             | 99m                                                 | 40m                                                |

#### Smart Function Table(Thermal)

| Lens  | SIP Detection Ran<br>ge (Vehicles:4.0 ×<br>1.4 m) | SIP Detection Ran<br>ge (Humans:1.8 ×<br>0.5 m) | Fire Detection Ran<br>ge (target: 0.1x 0.1<br>m) | Smoking detection<br>(target: cigarette bu<br>tt) | Temperature detection (t arget: 0.1m x 0.1m) |
|-------|---------------------------------------------------|-------------------------------------------------|--------------------------------------------------|---------------------------------------------------|----------------------------------------------|
| 2.1mm | 42m                                               | 21m                                             | 9m                                               | 1m                                                | 3.5m                                         |
| 3mm   | 60m                                               | 30m                                             | 13m                                              | 2m                                                | 8m                                           |
| 7mm   | 140m                                              | 70m                                             | 29m                                              | 5m                                                | 20m                                          |

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