

**DS-2TD2528T-3/Q(C)****Explosion-Proof Optical & Thermal Network Bullet Camera**

Hikvision DS-2TD2528T-3/Q(C) Explosion-Proof Thermographic Thermal & Optical Bi-spectrum bullet camera series are applied to perimeter protection and fire-prevention in critical infrastructures such as: oil industry, mine fields, chemical industry, port, grain processing industry, and so on. It adopts 304L stainless steel + anti-corrosion coatings to meet the requirements of used in explosion-proof environment. The accurate temperature measurement system sends you alarms to protect your property.

- 256 × 192 resolution, 12 μm, VOx UFPA, NETD ≤ 40 mK (25°C, F1.0)
- Temperature exception alarm for fire prevention, -20 °C to 650 °C (-4 °F to 1202 °F), Max. (± 2 °C, ± 2%)
- Support Fire detection and smoke detection Algorithm
- Support sun-reflection filter and forklift alarm filter algorithm (forklift alarm filter is exclusive with VCA function)
- Powerful perimeter protection functions, based on intelligent algorithm: Line crossing, intrusion, region entrance & exit
- 316L Stainless Steel enclosure, protecting camera in corrosive environments
- ATEX: II 2 G Ex db IIC T6 Gb/II 2 D Ex tb IIIC T80°C Db; IECEx: Ex db IIC T6 Gb/ Ex tb IIIC T80°C Db
- High quality detector with 10 years warranty

## ▪ Specification

| Thermal Module           |                                                                                                                                                                                                    |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image Sensor             | Vanadium Oxide Uncooled Focal Plane Arrays                                                                                                                                                         |
| Resolution               | 256 x 192                                                                                                                                                                                          |
| Pixel Pitch              | 12 μm                                                                                                                                                                                              |
| NETD                     | ≤ 40 mK (@25° C, F# = 1.0)                                                                                                                                                                         |
| Focal Length             | 3.6 mm                                                                                                                                                                                             |
| IFOV                     | 3.33 mrad                                                                                                                                                                                          |
| Aperture                 | F1.0                                                                                                                                                                                               |
| Field of View            | 50° × 37.3° (H × V)                                                                                                                                                                                |
| Min. Focusing Distance   | 0.5 m                                                                                                                                                                                              |
| Digital Zoom             | ×2, ×4                                                                                                                                                                                             |
| Optical Module           |                                                                                                                                                                                                    |
| Image Sensor             | 1/2.7" Progressive Scan CMOS                                                                                                                                                                       |
| Resolution               | 2688 × 1520                                                                                                                                                                                        |
| Min. Illumination        | Color: 0.05 Lux @ (F1.6, AGC ON), B/W: 0.01 Lux @ (F1.6, AGC ON)                                                                                                                                   |
| Field of View            | 83.7° × 43°(H × V)                                                                                                                                                                                 |
| Focal Length             | 4.3 mm                                                                                                                                                                                             |
| Shutter Speed            | 1 s to 1/100,000 s                                                                                                                                                                                 |
| Day & Night Mode         | IR Cut Filter with Auto Switch                                                                                                                                                                     |
| WDR                      | 120 dB                                                                                                                                                                                             |
| Image Effect             |                                                                                                                                                                                                    |
| Bi-spectrum Image Fusion | Display the details of optical channel on thermal channel                                                                                                                                          |
| Picture in Picture       | Display partial image of thermal channel on the full screen of optical channel                                                                                                                     |
| Target Coloration        | Yes. Supported in white hot and black hot mode.                                                                                                                                                    |
| Illuminator              |                                                                                                                                                                                                    |
| IR Distance              | Up to 30 m                                                                                                                                                                                         |
| IR Intensity and Angle   | Automatically adjusted                                                                                                                                                                             |
| Smart Function           |                                                                                                                                                                                                    |
| VCA                      | 4 VCA rule types (line crossing, intrusion, region entrance, and region exiting), up to 8 VCA rules in total.                                                                                      |
| Temperature Measurement  | 3 temperature measurement rule types, 21 rules in total (10 points, 10 areas, and 1 line)                                                                                                          |
| Temperature Range        | -20 °C to 650 °C (-4 °F to 1202 °F)                                                                                                                                                                |
| Temperature Accuracy     | Max (± 2 °C, ±2 %)                                                                                                                                                                                 |
| Fire Detection           | Dynamic fire detection, up to 10 fire points detectable                                                                                                                                            |
| Smoking Detection        | Up to 10 smoking points detected                                                                                                                                                                   |
| Smoke Detection          | Support smoke detection on optical channel                                                                                                                                                         |
| Video and Audio          |                                                                                                                                                                                                    |
| Main Stream              | Optical channel<br>50 HZ: 25 fps (2688 × 1520, 1920 × 1080, 1280 × 720)<br>60 HZ: 30 fps (2688 × 1520, 1920 × 1080, 1280 × 720)<br>Thermal channel<br>25 fps (1280×720, 704×576, 640×512, 320×240) |

|                              |                                                                                                                                                                                                                                                                                                                                           |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sub-stream                   | Optical channel<br>50 HZ: 25 fps (704 × 576, 352 × 288)<br>60 HZ: 30 fps (704 × 480, 352 × 240)<br>Thermal channel<br>25 fps (704 × 576, 352 × 288, 384 × 288)                                                                                                                                                                            |
| Video Compression            | Main Stream: H.265/H.264<br>Sub-Stream: H.265/H.264/MJPEG                                                                                                                                                                                                                                                                                 |
| Audio Compression            | G.722.1/G.711ulaw/G.711alaw/MP2L2/G.726/PCM                                                                                                                                                                                                                                                                                               |
| <b>Video and Image</b>       |                                                                                                                                                                                                                                                                                                                                           |
| Color Palettes               | 17 types (White hot, Black hot, Fusion 1, Rainbow, Fusion 2, Ironbow 1, Ironbow 2, Sepia, Color 1, Color 2, Ice fire, Rain, Red hot, Green hot, Dark blue, Winter, Summer)                                                                                                                                                                |
| <b>Network</b>               |                                                                                                                                                                                                                                                                                                                                           |
| Protocols                    | IPv4/IPv6, HTTP, HTTPS, 802.1x, QoS, FTP, SMTP, UPnP, SNMP, DNS, DDNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMP, ICMP, DHCP, PPPoE, TP, Bonjour, SFTP, SRTP, TLS                                                                                                                                                                              |
| Network Storage              | MicroSD/SDHC/SDXC card (up to 512G) local storage, NAS (NFS, SMB/CIFS), Auto Network Replenishment (ANR)                                                                                                                                                                                                                                  |
| API                          | ISAPI, ISUP, HIKVISION SDK, and third-party management platform, Open Network Video Interface, ONVIF (Profile S, Profile G, Profile T, Profile M), OTAP                                                                                                                                                                                   |
| Simultaneous Live View       | Up to 20 channels                                                                                                                                                                                                                                                                                                                         |
| User/Host level              | Up to 32 users, 3 levels: Administrator, Operator, User                                                                                                                                                                                                                                                                                   |
| Security                     | User authentication (ID and password), MAC address binding, HTTPS encryption, IEEE 802.1x access control, IP address filtering                                                                                                                                                                                                            |
| Client                       | iVMS-4200, Hik-Connect                                                                                                                                                                                                                                                                                                                    |
| <b>Interface</b>             |                                                                                                                                                                                                                                                                                                                                           |
| Alarm Input                  | 2, alarm input (0-5 VDC)                                                                                                                                                                                                                                                                                                                  |
| Alarm Output                 | 2-ch, relay outputs (alarm response actions configurable)                                                                                                                                                                                                                                                                                 |
| Alarm Action                 | SD recording/Relay output/Smart capture/FTP upload/Email linkage                                                                                                                                                                                                                                                                          |
| Audio Input                  | 1, 3.5 mm Mic in/Line in interface<br>Line input: 2 - 2.4 V [p-p], output impedance: 1 KΩ ± 10%                                                                                                                                                                                                                                           |
| Audio Output                 | Linear level, impedance: 600 Ω                                                                                                                                                                                                                                                                                                            |
| Communication Interface      | 1, RJ45 10 M/100 M Self-adaptive Ethernet interface                                                                                                                                                                                                                                                                                       |
| <b>General</b>               |                                                                                                                                                                                                                                                                                                                                           |
| Menu Language                | 32 languages English, Russian, Estonian, Bulgarian, Hungarian, Greek, German, Italian, Czech, Slovak, French, Polish, Dutch, Portuguese, Spanish, Romanian, Danish, Swedish, Norwegian, Finnish, Croatian, Slovenian, Serbian, Turkish, Korean, Traditional Chinese, Thai, Vietnamese, Japanese, Latvian, Lithuanian, Portuguese (Brazil) |
| Power Supply                 | 100 to 240 VAC, PoE (802.3af)                                                                                                                                                                                                                                                                                                             |
| Power Consumption            | 100 to 240 VAC, PoE (802.3af), max.8W                                                                                                                                                                                                                                                                                                     |
| Working Temperature/Humidity | Temperature: -40°C to 60°C (-40°F to 140°F)<br>Humidity: 90% or less                                                                                                                                                                                                                                                                      |
| Protection Level             | IP68 Standard<br>TVS 6000V lightning protection, surge protection, voltage transient protection<br>IK10-rated housing<br>NEMA 4X anti-corrosion housing                                                                                                                                                                                   |
| Dimensions                   | 286.7 mm × 175.2 mm × 150.1 mm (11.29" × 6.9" × 5.91")                                                                                                                                                                                                                                                                                    |
| Weight                       | Approx. 5.85 kg (12.90 lb)                                                                                                                                                                                                                                                                                                                |

| Detection Range Table     |                                                                                                                                                             |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VCA Range for Humans      | 24 m                                                                                                                                                        |
| VCA Range for Vehicles    | 72 m                                                                                                                                                        |
| Approval                  |                                                                                                                                                             |
| EMC                       | CE-EMC (EN 55032: 2015, EN 61000-3-2:2019, EN 61000-3-3: 2013+A1:2019, EN50130-4: 2011+A1: 2014);<br>RCM (AS/NZS CISPR 32: 2015);<br>IC (ICES-003: Issue 7) |
| Safety                    | CB: IEC 62368-1: 2014+A11;<br>CE-LVD: EN 62368-1: 2014/A11: 2017;                                                                                           |
| Protection                | IP68: IEC 60529-2013<br>IK10: IEC 62262-2002                                                                                                                |
| Anti-Corrosion Protection | NEMA 4X (NEMA 250-2018), C5                                                                                                                                 |

## ▪ Range Table

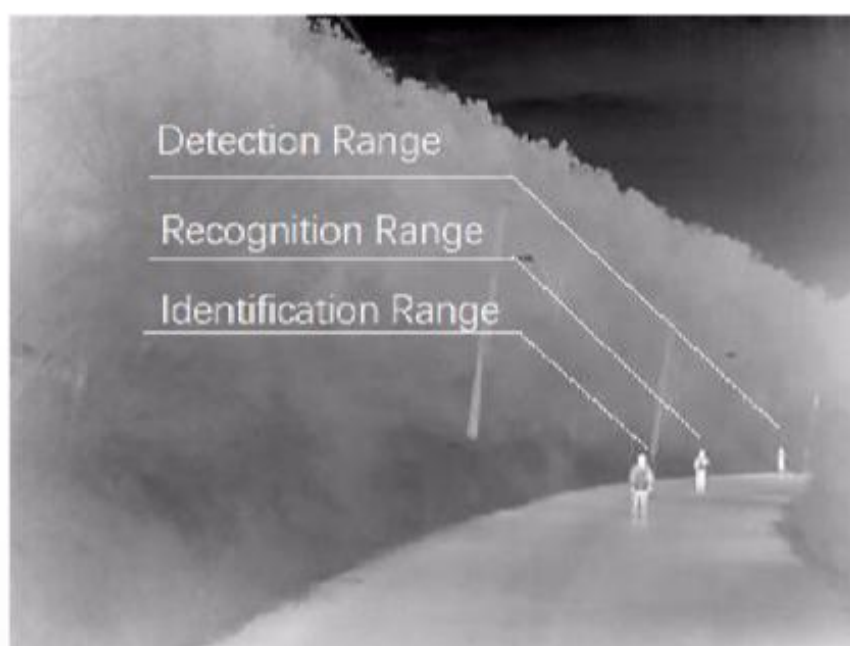
| VCA Range<br>(Vehicles: 1.4<br>x 4.0 m) | VCA Range<br>(Vehicles: 1.4<br>x 4.0 m) | Temperature<br>Measurement<br>(Object: 0.2 x<br>0.2 m) | Temperature<br>Measurement<br>(Object: 0.5 x<br>0.5 m) | Fire Detection<br>(Object: 0.2 x<br>0.2m) | Smoke<br>Detection<br>(Object: 0.5m<br>x 0.5m) | Smoking<br>Detection |
|-----------------------------------------|-----------------------------------------|--------------------------------------------------------|--------------------------------------------------------|-------------------------------------------|------------------------------------------------|----------------------|
| 72m                                     | 24m                                     | 10m                                                    | 25m                                                    | 30m                                       | 12m                                            | 4.5m                 |

## ▪ DORI

\* The table is only for reference and the performance may vary according to different environment.

\* The optimal human 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.



| Detection Range<br>(Vehicles: 1.4 x<br>4.0 m) | Detection Range<br>(Humans: 1.8 x<br>0.6 m) | Recognition<br>Range (Vehicles:<br>1.4 x 4.0 m) | Recognition<br>Range (Humans:<br>1.8 x 0.6 m) | Identification<br>Range (Vehicles:<br>1.4 x 4.0 m) | Identification<br>Range (Humans:<br>1.8 x 0.6 m) |
|-----------------------------------------------|---------------------------------------------|-------------------------------------------------|-----------------------------------------------|----------------------------------------------------|--------------------------------------------------|
| 383m                                          | 125m                                        | 96m                                             | 31m                                           | 48m                                                | 16m                                              |

## ▪ Typical Application

Hikvision products are classified into three levels according to their anti-corrosion performance. Refer to the following description to choose for your using environment.

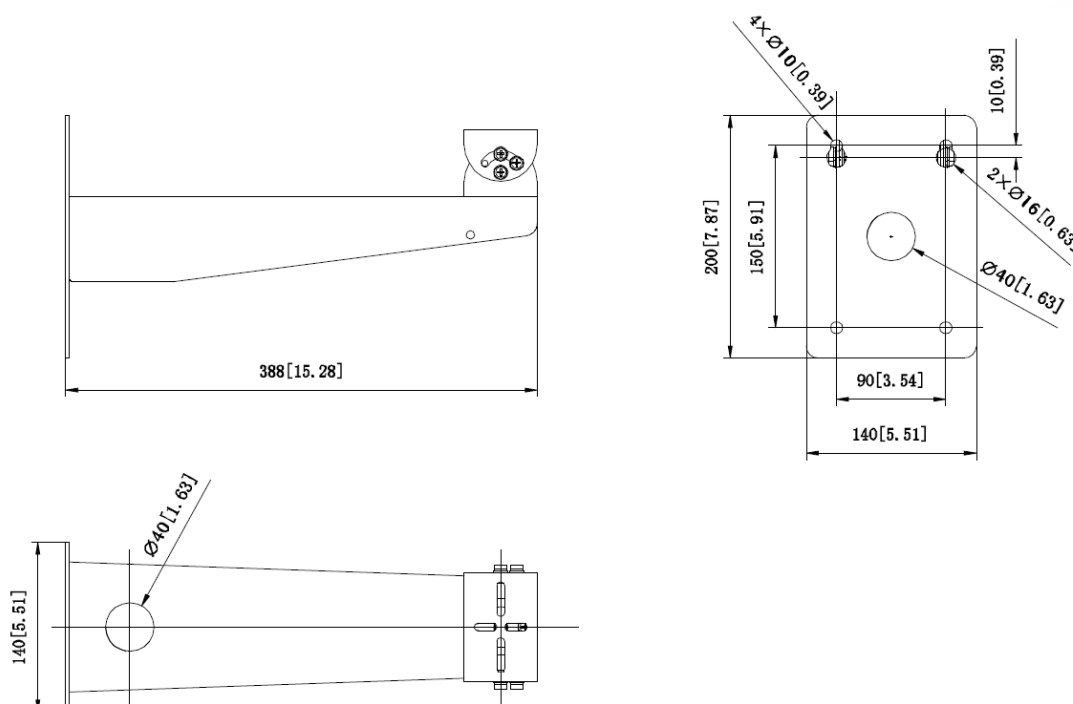
No products could be used under HYDROGEN FLUORIDE environment. This model has Top-level PROTECTION.

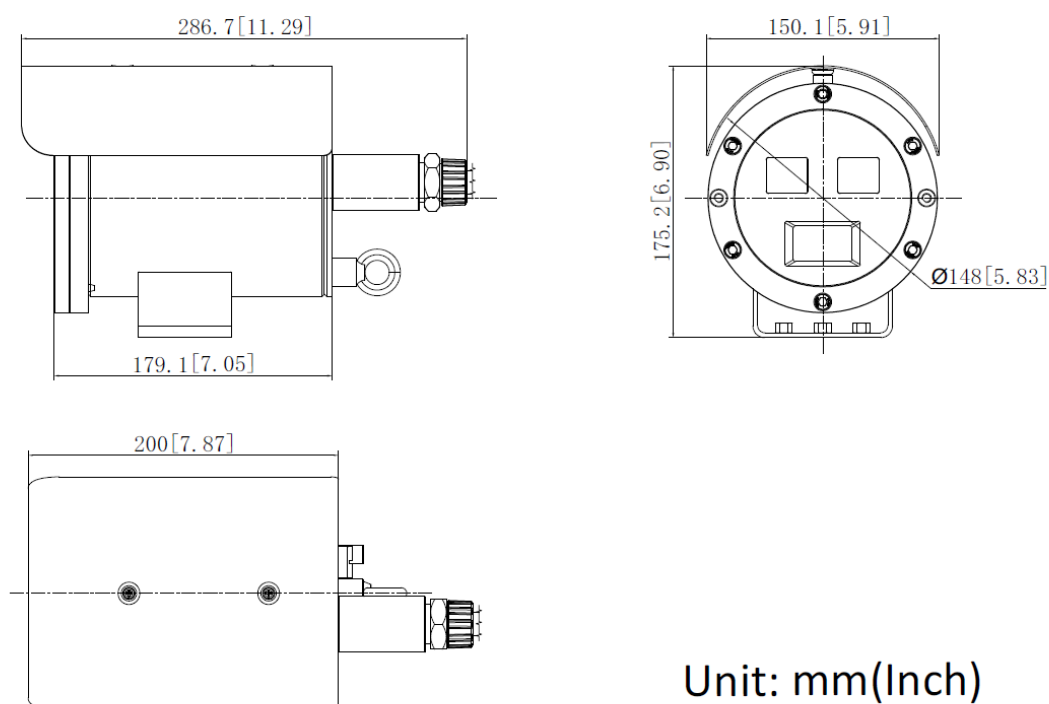
| Level                  | Description                                                                                                                                                                                                                                                                               |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Top-level Protection   | Hikvision products at this level are equipped for use in areas where professional anti-corrosion protection is a must. Usually it is used in salt-spray and sulfur dioxide (with a concentration volume ratio of less than 0.67%) environment, such as chemical plants and coastal lines. |
| Moderate Protection    | Hikvision products at this level are equipped for use in areas with moderate anti-corrosion demands. Typical application scenarios include coastal areas about 2 kilometers (1.24 miles) away from coastlines, as well as areas affected by acid rain.                                    |
| No Specific Protection | Hikvision products at this level are equipped for use in areas where no specific anti-corrosion protection is needed.                                                                                                                                                                     |

## ▪ Available Model

DS-2TD2528T-3/Q(C)

## ▪ Dimension





▪ **Accessory**

▪ **Optional**

| DS-2XE2601-1(CS)                                                                    | DS-2780ZJ-X(OS)(O<br>-STD)/316L                                                      |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |

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[www.hikvision.com](http://www.hikvision.com)  
[support@hikvision.com](mailto:support@hikvision.com)

