Hikvision DS-2TD1217-2/V1 Thermal & Optical Network Turret Camera equipped with built-in GPU which support intelligent behavior analysis algorithm, can realize high precision VCA detection and real-time alarm. It is applied to fire-prevention purposes in indoor space such as: engine room, ATM, conference room, warehouse, museum, train station, gem, power station, and so on. The pre-alarm system helps you discover unexpected events immediately and protects you from property loss.

**Smart Function (Thermal Imaging)**
- Leading image processing technology: Adaptive AGC, DDE, 3D DNR, NETD less than 40 mk (25°C), F#=1.1
- Powerful behavior analysis function, based on deep learning algorithm: Line crossing, Intrusion, Region Entrance & Exit
- Reliable temperature exception alarm function
- Advanced fire detection algorithm
- Bi-spectrum image fusion, picture in picture preview

**Thermal Imaging Module Function**
- 160 × 120 (the resolution of output image is 320 × 240) resolution sensor, high sensitivity sensor, support contrast adjustment
- Shutter adjustment in various modes
- 3D DNR, 15 palettes of color adjustable, image detail enhancement
## Specification

### Thermal Module

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image Sensor</td>
<td>Vanadium Oxide Uncooled Focal Plane Arrays</td>
</tr>
<tr>
<td>Max. Resolution</td>
<td>160 × 120 (the resolution of output image is 320 × 240)</td>
</tr>
<tr>
<td>Pixel Interval</td>
<td>17μm</td>
</tr>
<tr>
<td>Response Waveband</td>
<td>8μm to 14μm</td>
</tr>
<tr>
<td>NETD</td>
<td>less than 40 mk (25°C), F#=1.1</td>
</tr>
<tr>
<td>Lens (Focal Length)</td>
<td>1.8 mm</td>
</tr>
<tr>
<td>MRAD</td>
<td>9.44 mrad</td>
</tr>
<tr>
<td>Field of View</td>
<td>90° × 66.4° (H × V)</td>
</tr>
<tr>
<td>Min. Focusing Distance</td>
<td>0.1 m</td>
</tr>
<tr>
<td>Aperture</td>
<td>F1.1</td>
</tr>
</tbody>
</table>

### Optical Module

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Image Resolution</td>
<td>1920 × 1080</td>
</tr>
<tr>
<td>Image Sensor</td>
<td>1/2.7” Progressive Scan CMOS</td>
</tr>
<tr>
<td>Min. Illumination</td>
<td>Color: 0.002 Lux @(F1.2, AGC ON), B/W: 0.0002 Lux @(F1.2, AGC ON)</td>
</tr>
<tr>
<td>Shutter Speed</td>
<td>1s to 1/100,000s</td>
</tr>
<tr>
<td>Lens (Focal Length)</td>
<td>2.1 mm</td>
</tr>
<tr>
<td>Field of View</td>
<td>TBD (H × V)</td>
</tr>
<tr>
<td>WDR</td>
<td>120 WDR</td>
</tr>
<tr>
<td>Day &amp; Night</td>
<td>IR cut filter with auto switch</td>
</tr>
</tbody>
</table>

### Image Function

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bi-spectrum Image Fusion</td>
<td>Fusion view of thermal view and overlaid details of the optical channel</td>
</tr>
<tr>
<td>Picture in Picture</td>
<td>Combines details of thermal and optical image PIP, overlay thermal image on optical image</td>
</tr>
</tbody>
</table>

### Smart Function

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>VCA (Video Content Analysis)</td>
<td>4 VCA rule types (Line Crossing, Intrusion, Region Entrance, and RegionExiting), up to 8 VCA rules.</td>
</tr>
<tr>
<td>Temperature Measurement</td>
<td>3 temperature measurement rule types, 21 rules (10 points, 10 areas, and 1 line)</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-20 °C to +150 °C (-4 °F to +302°F)</td>
</tr>
<tr>
<td>Temperature Accuracy</td>
<td>± 8 °C (± 14.4 °F)</td>
</tr>
<tr>
<td>Fire detection</td>
<td>Dynamic fire point detection, up to 10 fire points detectable.</td>
</tr>
</tbody>
</table>

### Infrared

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>IR Distance</td>
<td>Up to 15 m</td>
</tr>
<tr>
<td>IR Intensity and Angle</td>
<td>Automatically adjusted</td>
</tr>
</tbody>
</table>
## Network

| Main Stream | Visible Light: 50Hz: 25fps (1920 × 1080), 25fps (1280 × 960), 25fps (1280 × 720)  
|            | Visible Light: 60Hz: 30fps (1920 × 1080), 30fps (1280 × 960), 30fps (1280 × 720)  
|            | Thermal: 25fps (160 × 120 (the resolution of output image is 320 × 240))  
| Sub Stream | Visible Light: 50Hz: 25fps (704 × 576), 25fps (640 × 480)  
|            | Visible Light: 60Hz: 30fps (704 × 480), 30fps (640 × 480)  
|            | Thermal: 25fps (160 × 120 (the resolution of output image is 320 × 240))  
| Video Compression | H.265/H.264, H.265+/H.264+ encoding with Baseline/Main/High Profile  
| Audio Compression | G.711u/G.711a/G.722.1/MP2L2/G.726/PCM  
| Protocols | TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, IPv6, UDP, Bonjour  
| Simultaneous Live View | Up to 20  
| User/Host level | Up to 32 users, 3 levels: Administrator, Operator, User  
| Security Measures | User authentication (ID and PW), MAC address binding, HTTPS encryption, IEEE 802.1x access control, IP address filtering  

## Integration

| Alarm Input | 1-ch inputs (0-5vDC)  
| Alarm Output | 1-ch relay outputs, alarm response actions configurable  
| Alarm Action | SD recording/Relay output/Smart capture/FTP upload/Email linkage  
| Audio Input | 1 3.5mm Mic in/Line in interface. Line input: 2-2.4V[p-p], output impedance:1KΩ±10%  
| Audio Output | Linear Level; Impedance: 600Ω  
| Reset | 1 Reset Button  
| Ethernet | 1 RJ45 10M/100M Self-adaptive Ethernet interface, 1 RS-485 interface  
| SD Memory Card | Built-in Micro SD card slot, support Micro SD/SDHC/SDXC card (up to 256G), support manual/alarm recording  
| Analog Video Output | 1.0V [p-p]/75Ω, PAL/NTSC/BNC  
| Application Programming | Open-ended API, support ISAPI, HIKVISION SDK and third-party management platform  
| Client | iVMS-4200  
| Web Browser | IE9+, chrome31-chrome44, Firefox 30-Firefox51, Safari 5.02+(mac)  

## General

| Menu language | English  
| Power | 12 VDC± 20%, two-core terminal block  
| Power Consumption | 12 VDC ± 20%: 0.7 A, max. 8W  
| Working Temperature/Humidity | -30 °C to 60 °C (-22 °F to 140 °F), 95% or less  
| Protection Level | IP67 Standard  
| Dimensions | 134.2 mm × 123.9 mm × 107.7 mm (5.28 " × 4.87" × 4.24 ")  
| Weight | TBD  
| Protection Level | TVS 6000V Lightning protection, surge protection, voltage transient protection  
| Dimensions | 134.2 mm × 123.9 mm × 107.7 mm (5.28 " × 4.87" × 4.24 ")  
| Weight | TBD  

### Video Compression

- Visible Light: 50Hz, 25fps (1920 × 1080), 25fps (1280 × 960), 25fps (1280 × 720)  
- Visible Light: 60Hz, 30fps (1920 × 1080), 30fps (1280 × 960), 30fps (1280 × 720)  
- Thermal, 25fps (160 × 120 (the resolution of output image is 320 × 240))

### Audio Compression

- G.711u/G.711a/G.722.1/MP2L2/G.726/PCM

### Protocols

- TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, IPv6, UDP, Bonjour

### Simultaneous Live View

- Up to 20

### User/Host level

- Up to 32 users, 3 levels: Administrator, Operator, User

### Security Measures

- User authentication (ID and PW), MAC address binding, HTTPS encryption, IEEE 802.1x access control, IP address filtering

### Alarm Input

- 1-ch inputs (0-5vDC)

### Alarm Output

- 1-ch relay outputs, alarm response actions configurable

### Alarm Action

- SD recording/Relay output/Smart capture/FTP upload/Email linkage

### Audio Input

- 3.5mm Mic in/Line in interface. Line input: 2-2.4V[p-p], output impedance:1KΩ±10%

### Audio Output

- Linear Level; Impedance: 600Ω

### Reset

- 1 Reset Button

### Ethernet

- 1 RJ45 10M/100M Self-adaptive Ethernet interface, 1 RS-485 interface

### SD Memory Card

- Built-in Micro SD card slot, support Micro SD/SDHC/SDXC card (up to 256G), support manual/alarm recording

### Analog Video Output

- 1.0V [p-p]/75Ω, PAL/NTSC/BNC

### Application Programming

- Open-ended API, support ISAPI, HIKVISION SDK and third-party management platform

### Client

- iVMS-4200

### Web Browser

- IE9+, chrome31-chrome44, Firefox 30-Firefox51, Safari 5.02+(mac)

### Menu language

- English
**Detection Range Table**

*The table is only for reference, the performance may vary from camera to camera.*

**Smart functions Range**

Different targets trigger the VCA events within different range limits.

<table>
<thead>
<tr>
<th>VCA Range</th>
<th>VCA Range</th>
<th>Temperature Measurement (Object: 2×2 m)</th>
<th>Temperature measurement (Object: 1×1 m)</th>
<th>Fire Detection (Object: 2×2 m)</th>
<th>Fire Detection (Object: 1×1 m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Vehicles: 1.4×4.0m)</td>
<td>(Humans: 1.8×0.5m)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42 m</td>
<td>14 m</td>
<td>44 m</td>
<td>22 m</td>
<td>108 m</td>
<td>54 m</td>
</tr>
</tbody>
</table>

**Wide Range Coverage**

There is range limit for detecting, recognizing, and identifying human/vehicle targets.

<table>
<thead>
<tr>
<th>Detection Range (Vehicles: 1.4×4.0m)</th>
<th>Detection Range (Humans: 1.8×0.5m)</th>
<th>Recognition Range (Vehicles: 1.4×4.0m)</th>
<th>Recognition Range (Humans: 1.8×0.5m)</th>
<th>Identification Range (Vehicles: 1.4×4.0m)</th>
<th>Identification Range (Humans: 1.8×0.5m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>162 m</td>
<td>53 m</td>
<td>41 m</td>
<td>13 m</td>
<td>20 m</td>
<td>7 m</td>
</tr>
</tbody>
</table>

**Available Model**

DS-2TD1217-2/V1

**Dimensions**

![Dimensions Diagram]

Unit: mm (inch)