

# DH-TPC-SD8320-T

## Thermal Network Hybrid Speed Dome Camera



- 336x256 VOx uncooled thermal sensor technology
- Athermalized Lens(thermal), Focus-free
- 1/1.9" 2Megapixel progressive scan Sony CMOS
- Powerful 30x optical zoom
- Support temperature measurement
- Support fire detection & alarm
- Max 240°/s pan speed, 360° endless pan rotation
- Up to 300 presets, 5 auto scan, 8 tour, 5 pattern
- 7/2 alarm in/out
- Micro SD memory, IP66



### System Overview

Featuring a dual lens speed dome camera, this series provides an all-in-one solution that is especially beneficial for long distance video surveillance in outdoor applications. Together with Dahua Thermal and Starlight technology, the camera's long range capabilities are able to be utilized even at night. The series combines one thermal camera for monitoring in total darkness and one camera with Starlight functionality and a motorized lens for confirming details up close.

### Functions

#### Uncooled Vox Technology

Dahua thermal cameras use uncooled Vox sensor technology. Their small size and better performance make them a cost-effective solution for thermal security.

#### High Sensitivity

High thermal sensitivity (<40mK) allows cameras to capture more image details and temperature difference information.

#### Fire Detection & Alarm

With built-in fire detection functionality, the camera has the ability to detect fires from long range. Because thermal cameras are sensitive to temperature, they provide higher fire detection accuracy than standard cameras, making them particularly fit for applications such as forest fire prevention.

#### Temperature Measurement

Dahua thermal cameras (-T models) provide remote temperature monitoring functionality with the ability to set temperature threshold alarms. Object temperatures can be monitored in daytime or at night, making them ideal for usage in power plant or oil extraction applications where overheating can be dangerous. When the temperature exceeds the set threshold, an alarm is triggered. The temperature range is between -40 °C to 550 °C (-40 °F to 1022 °F).

### Intelligent Video System (IVS)

IVS is a built-in video analytics algorithm that delivers intelligent functions to monitor a scene for tripwire violations, intrusion detection, and abandoned or missing objects. A camera with IVS quickly and accurately responds to monitoring events in a specific area.

### Auto-tracking

The camera supports auto-tracking. The tracking action can be triggered manually or automatically by defined rules. Once rules are triggered, the camera can zoom in and track the defined target automatically.

### Environmental

With a temperature range of -40 °C to +70 °C (-40 °F to +158 °F), the camera is designed for extreme temperature environments. Subjected and certified to rigorous dust and water immersion tests, the IP66 rating makes it suitable for demanding outdoor applications. For environments with rain, sleet, snow and fog, an integrated wiper provides users with clear visibility at all times.

### Protection

The camera allows for ±15% input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 6 kV lightning rating provides effective protection for both the camera and its structure against lightning.

## Technical Specification

### Thermal Camera

|                           |                                                                                      |
|---------------------------|--------------------------------------------------------------------------------------|
| Image Sensor              | Uncooled VOx Microbolometer                                                          |
| Effective Pixels          | 336(H)x256(V)                                                                        |
| Pixel Size                | 17um                                                                                 |
| Thermal Sensitivity(NETD) | <40mK@f/1.0                                                                          |
| Spectral Range            | 7~14um                                                                               |
| Image Setting             | Brightness/Sharpness/ROI/AGC/FFC/3D DNR                                              |
| Color Palettes            | 14(Whitehot/Blackhot/Ironrow/Icefire/Fusion/Rainbow/Globow/Icconbow1/Icconbow2 .etc) |

### Thermal Lens

|                                                   |                                                                       |                              |                              |
|---------------------------------------------------|-----------------------------------------------------------------------|------------------------------|------------------------------|
| Lens Type                                         | Fixed                                                                 |                              |                              |
| Focus Control                                     | Athermalized, Focus-free                                              |                              |                              |
| Focal Length                                      | 25mm                                                                  | 35mm                         | 50mm                         |
| Angle of View                                     | H:13°, V:10°                                                          | H:9.3°, V:7.1°               | H:6.5°, V:5°                 |
| Effective Distance <sup>①</sup><br>Man(1.8m*0.5m) | D <sup>②</sup> :1000m<br>R <sup>③</sup> :250m<br>I <sup>④</sup> :125m | D:1300m<br>R:320m<br>I:160m  | D:1700m<br>R:430m<br>I:220m  |
| Effective Distance<br>Vehicle(2.3m*2.3m)          | D:3000m<br>R:720m<br>I:360m                                           | D:4000m<br>R:1000m<br>I:500m | D:5000m<br>R:1400m<br>I:700m |

### Visible Camera

|                          |                                           |
|--------------------------|-------------------------------------------|
| Image Sensor             | 1/1.9" Sony CMOS                          |
| Effective Pixels         | 1944(H)x1092(V)                           |
| Electronic Shutter Speed | 1/1 ~ 1/30,000s                           |
| Min. Illumination        | 0.001Lux@F1.5(Color), 0.0001Lux@F1.5(B/W) |
| S/N Ratio                | More than 55dB                            |
| IR Distance              | 150m (492ft)                              |
| IR On/Off Control        | Auto / Manual                             |
| IR LEDs                  | 4                                         |

### Visible Lens

|                      |                               |
|----------------------|-------------------------------|
| Focal Length         | 6mm~180mm                     |
| Max Aperture         | F1.5 ~ F4.3                   |
| Angle of View        | H: 59° ~ 2.4°                 |
| Optical Zoom         | 30x                           |
| Focus Control        | Auto / Manual                 |
| Close Focus Distance | 100mm~ 1000mm (0.33ft~3.28ft) |

### PTZ

|                      |                                         |
|----------------------|-----------------------------------------|
| Pan/Tilt Range       | Pan: 0° ~ 360° endless;Tilt:-20° ~ 90°  |
| Manual Control Speed | Pan: 0.1° ~200° /s; Tilt: 0.1° ~120° /s |

|                 |                                                                                     |
|-----------------|-------------------------------------------------------------------------------------|
| Preset Speed    | Pan: 0.1° ~240° /s ;Tilt: 0.1° ~200° /s                                             |
| Preset          | 300                                                                                 |
| PTZ Mode        | 5 Auto Scan, 8 Tour, 5 Pattern, Auto Pan                                            |
| Speed Setup     | Human-oriented focal length/ speed adaptation                                       |
| Power up Action | Auto restore to previous PTZ and lens status after power failure                    |
| Idle Motion     | Activate Preset/ Scan/ Tour/ Pattern if there is no command in the specified period |
| Protocol        | DH-SD, Pelco-P/D (Auto recognition)                                                 |

### Video

|                                      |                                                                                                                                                                                                                         |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Compression                          | H.264 / MJPEG                                                                                                                                                                                                           |
| Frame Rate                           | Main Stream:<br>Thermal: 1280x1024(default) / 720P @1~25/30fps<br>Visible: 1080P(default) /720P @1~25/30fps<br>Sub Stream:<br>Thermal: 640x512(default) / 320x256 @1~25/30fps<br>Visible: CIF(default) / D1 @1~25/30fps |
| Bit Rate Control                     | CBR / VBR                                                                                                                                                                                                               |
| Bit Rate                             | H.264: 640 ~8192Kbps                                                                                                                                                                                                    |
| Day/Night                            | Auto(ICR) / Color / B/W                                                                                                                                                                                                 |
| BLC Mode                             | BLC / HLC / WDR                                                                                                                                                                                                         |
| White Balance                        | Auto / ATW / Indoor / Outdoor / Manual                                                                                                                                                                                  |
| Noise Reduction                      | 3D DNR                                                                                                                                                                                                                  |
| Motion Detetion                      | Off / On (4 zone, Rectangle)                                                                                                                                                                                            |
| Region of Interest                   | Off / On (4 zone)                                                                                                                                                                                                       |
| Electronic Image Stabilization (EIS) | NA                                                                                                                                                                                                                      |
| Defog                                | Off / On                                                                                                                                                                                                                |
| Digital Zoom                         | 16x                                                                                                                                                                                                                     |
| Flip                                 | 180°                                                                                                                                                                                                                    |
| Mirror                               | Off / On                                                                                                                                                                                                                |
| Privacy Masking                      | Off / On (4 area, Rectangle)                                                                                                                                                                                            |

### Temperature Measurement

|                      |                                                                                |
|----------------------|--------------------------------------------------------------------------------|
| Measurement Range    | Low Gain: -40°C ~ +550°C<br>High Gain:-40°C ~ +160°C                           |
| Measurement Accuracy | Max (±2°C, ±2%)                                                                |
| Measurement Mode     | Spot / Line / Area                                                             |
| Measurement Preset   | Spot: 12<br>Line: 12<br>Area: 12<br>Support 12 rules per preset simultaneously |

### Audio

|             |                        |
|-------------|------------------------|
| Compression | G.711A / G.711Mu / AAC |
|-------------|------------------------|

Intelligence

|                                |                                                                |
|--------------------------------|----------------------------------------------------------------|
| IVS                            | Tripwire, Intrusion, Object Abandoned/Missing                  |
| Advanced Intelligent Functions | Fire detection & alarm, Auto Tracking                          |
| Tracking Trigger Mode          | Manual / Auto (alarm triggered)                                |
| Tracking Trigger Event         | Targeting, Zoom, Tracking, Recording, Snapshot, Alarm and etc. |

Network

|                     |                                                                                                                                                            |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ethernet            | RJ-45 (10/100Base-T)                                                                                                                                       |
| Protocol            | IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter, QoS, Bonjour, 802.1x       |
| Interoperability    | ONVIF Profile S&G, PSIA, CGI                                                                                                                               |
| Streaming Method    | Unicast / Multicast                                                                                                                                        |
| Max. User Access    | 10 Users / 20 Users                                                                                                                                        |
| Edge Storage        | Micro SD (128GB)<br>Memory status display (Normal / Error / Active / Formatting / Lock),<br>NAS (Network Attached Storage), Local PC for instant recording |
| Web Viewer          | <IE11, <Chrome45, <Firefox52                                                                                                                               |
| Management Software | Smart PSS, DSS                                                                                                                                             |
| Smart Phone         | Android, ios                                                                                                                                               |

Certifications

|               |                                                |
|---------------|------------------------------------------------|
| Certification | CE (EN 60950:2000) FCC (FCC Part 15 Subpart B) |
|---------------|------------------------------------------------|

Interface

|                 |                                          |
|-----------------|------------------------------------------|
| Video Interface | 1.0Vp-p/75Ω, PAL / NTSC (HDCVI Optional) |
| Audio Interface | Input/Output 1 Input / 1 Output          |
| RS485           | Support                                  |
| Alarm           | 7/2 In/Out                               |

Electrical

|                   |                              |
|-------------------|------------------------------|
| Power Supply      | 24V AC ±15%                  |
| Power Consumption | Max. 38W (24V AC, Heater on) |

Environmental

|                     |                                                                                                       |
|---------------------|-------------------------------------------------------------------------------------------------------|
| Operating Condition | -40°C ~ +70°C (-40°F ~ +158°F) / Less than 95% RH<br>* Start up should be done at above -40°C (-40°F) |
| Storage Conditions  | -40°C ~ +70°C (-40°F ~ +158°F) / Less than 95% RH                                                     |
| Ingress Protection  | IP66                                                                                                  |

Construction

|              |                                  |
|--------------|----------------------------------|
| Casing       | Metal                            |
| Dimensions   | Φ240mm x 382mm (Φ9.45" x 15.04") |
| Net Weight   | 6.8Kg (14.99 lb)                 |
| Gross Weight | 9.5Kg (20.94 lb)                 |

Note:

- ① Effective distance values shown are nominal values and should be used as estimates only. Exact value calculations depend on a wide variety of conditions.
- ② D: Detection Distance
- ③ R: Recognition Distance
- ④ I : Identification Distance

Ordering Information

| Type            | Part Number                                | Description                                                               |
|-----------------|--------------------------------------------|---------------------------------------------------------------------------|
| DH-TPC-SD8320-T | DH-TPC-SD8320P-TA25<br>DH-TPC-SD8320N-TA25 | Thermal: 336x256 25mm lens<br>Visible: 2MP 30X<br>Temperature measurement |
|                 | DH-TPC-SD8320P-TA35<br>DH-TPC-SD8320N-TA35 | Thermal: 336x256 35mm lens<br>Visible: 2MP 30X<br>Temperature measurement |
|                 | DH-TPC-SD8320P-TA50<br>DH-TPC-SD8320N-TA50 | Thermal: 336x256 50mm lens<br>Visible: 2MP 30X<br>Temperature measurement |

Accessories

Included:



PFA111  
Mount Adapter



AC24V/3A  
Power Supply



PFB303W  
Wall Mount

Optional:



PFA140  
Power box



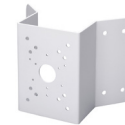
PFB300C  
Ceiling Mount



PFA120  
Junction Box

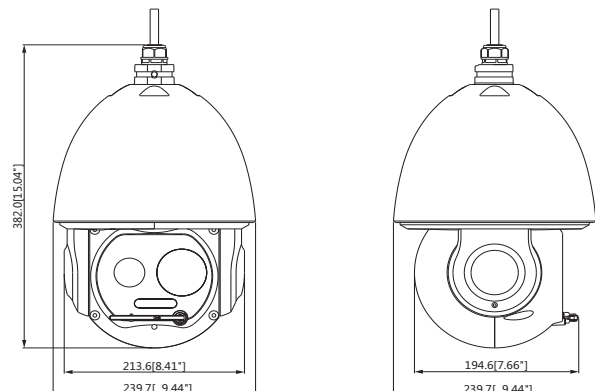


PFA150  
Pole Mount

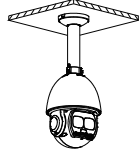
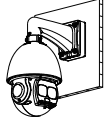
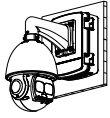

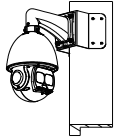
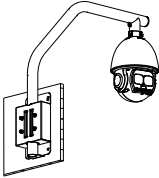


PFA151  
Corner Mount

Dimensions (mm)



**Mounting Type**

|                                                                                                                                               |                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Ceiling Mount</b><br/>PFA111 + PFB300C</p>             | <p><b>Junction Mount</b><br/>PFA111 + PFB303W + PFA120</p>  |
| <p><b>Power Box Mount</b><br/>PFA111 + PFB303W + PFA140</p>  | <p><b>Pole Mount</b><br/>PFA111 + PFB303W + PFA150</p>      |
| <p><b>Corner Mount</b><br/>PFA111 + PFB303W + PFA151</p>     | <p><b>Parapet Mount</b><br/>PFA111+ PFB303S</p>             |