



# HIKMICRO

## HM-TD8167-150ZC4F/WY

### Thermal & Optical Bi-spectrum Network Stable PTZ



HIKMICRO HM-TD8167-150ZC4F/WY Thermal & Optical Bi-spectrum Network Stable PTZ equipped with built-in GPU which supports intelligent perimeter protection algorithm, can realize high-precision VCA detection and real-time alarm. It is applied to perimeter protection scenes, such as airport, railway, farm, large parking lot. The pre-alarm system helps you discover unexpected events immediately and protects your property.

- Perimeter protection function, based on intelligent algorithm: line crossing, intrusion, region entrance and exit
- Temperature exception alarm for fire prevention
- Fire detection algorithm, Smoke detection algorithm
- 640 × 512 (the resolution of output image is 1920 × 1080) resolution 17 μm, VOx UFPA, NETD ≤ 35 mK (25 °C, F# = 1.0)
- High quality detector with 10 years guarantee
- Image processing technology: Liner, histogram, and self-adaptive thermal AGC mode, DDE, 3D DNR
- NEMA-4X Standard
- Smart tracking: Panorama tracking, Event tracking and Multi-scene patrol tracking
- Smart tracking linkage: thermal view and optical view
- Thermal channel and optical channel supports EIS, conflicted with intelligent function
- Support vessel detection like dredger, fishing boat and ship flow detection

## • Specification

| Thermal Module         |                                                                                                                             |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Image Sensor           | Vanadium Oxide Uncooled Focal Plane Arrays                                                                                  |
| Resolution             | 640 × 512 (the resolution of output image is 1920 × 1080)                                                                   |
| Pixel Interval         | 17 μm                                                                                                                       |
| Response Waveband      | 8 μm to 14 μm                                                                                                               |
| NETD                   | Less than 35 mK (@25 °C,F#=1.0)                                                                                             |
| Focal Length           | 30 to 150 mm                                                                                                                |
| Focus Mode             | Semi-auto & Manual                                                                                                          |
| IFOV                   | 0.57 to 0.11 mrad                                                                                                           |
| Aperture               | F0.8 to F1.2                                                                                                                |
| Field of View          | 20.56° × 16.51° (H × V) to 4.15° × 3.32° (H × V)                                                                            |
| Min. Focusing Distance | 3m                                                                                                                          |
| Digital Zoom           | ×2, ×4, ×8                                                                                                                  |
| Optical Module         |                                                                                                                             |
| Image Sensor           | 1/1.8" Progressive Scan CMOS                                                                                                |
| Resolution             | 2688 × 1520, 4 MP                                                                                                           |
| Min. Illumination      | Color: 0.0005 Lux @ (F1.5, AGC ON), B/W: 0.0001 Lux @ (F1.5, AGC ON)                                                        |
| Field of View          | 60° × 35.8° (H × V) to 1.2° × 0.7° (H × V)                                                                                  |
| Focal Length           | 6 to 336 mm 56x                                                                                                             |
| Aperture (Range)       | F1.36-F4.6                                                                                                                  |
| Focus Mode             | Semi-auto/Manual                                                                                                            |
| Shutter Speed          | 1s to 1/30,000s                                                                                                             |
| WDR                    | 120 dB                                                                                                                      |
| Digital Zoom           | ×2, ×4, ×8, ×16                                                                                                             |
| Optical Defog          | Yes                                                                                                                         |
| Image Effect           |                                                                                                                             |
| Picture in Picture     | Display partial image of thermal channel on the full screen of optical channel                                              |
| Target Coloration      | Supported in white hot and black hot mode                                                                                   |
| PTZ                    |                                                                                                                             |
| Movement Range         | Pan: 360° Continuous Rotate; Tilt: From -45° to + 45° (auto flip)                                                           |
| Pan Speed              | Configurable, From 0.01°/s to 40°/s, Preset Speed: 240°/s                                                                   |
| Tilt Speed             | Configurable, From 0.01°/s to 20°/s, Preset Speed: 200°/s                                                                   |
| Proportional Zoom      | Yes                                                                                                                         |
| Presets                | 300 in total, 273 are configurable.                                                                                         |
| Patrol Scan            | 8; Up to 32 Presets Per Patrol                                                                                              |
| Pattern Scan           | 4; More Than 10 Minutes Per Pattern                                                                                         |
| Power Off Memory       | Yes                                                                                                                         |
| Park                   | Preset/Pattern Scan/Patrol Scan/Auto Scan/Tilt Scan/Random Scan/Frame Scan/Panorama Scan                                    |
| PT Status              | Turn On/Turn Off                                                                                                            |
| Scheduled Task         | Preset/Pattern Scan/Patrol Scan/Auto Scan/Tilt Scan/Random Scan/Frame Scan/Panorama Scan/Doom Reboot/Doom Adjust/Aux Output |

| Smart Function          |                                                                                                                                                                                                                                                             |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VCA                     | Support 4 VCA rule types (Line Crossing, Intrusion, Region Entrance, and Region Exiting), up to 10 scenes and 8 VCA rules for each scene                                                                                                                    |
| Temperature Measurement | Support 3 temperature measurement rule types, 273 presets as scene, 21 rules of each scene (10 points, 10 areas, and 1 line)                                                                                                                                |
| Temperature Range       | -20 °C to 150 °C (-4 °F to 302 °F)                                                                                                                                                                                                                          |
| Temperature Accuracy    | ± 8 °C (±14.4 °F)                                                                                                                                                                                                                                           |
| Fire Detection          | Dynamic fire point detection, up to 10 fire points detectable.                                                                                                                                                                                              |
| Video and Audio         |                                                                                                                                                                                                                                                             |
| Main Stream             | Optical channel<br>50 Hz: 25 fps (2688 × 1520, 1920 × 1080, 1280 × 960, 1280 × 720)<br>60 Hz: 30 fps (2688 × 1520, 1920 × 1080, 1280 × 960, 1280 × 720)<br>Thermal channel<br>50 fps (1920 × 1080, 1280 × 960, 1280 × 720, 704 × 576, 640 × 480, 384 × 288) |
| Sub-stream              | Optical channel<br>50 Hz: 25 fps (704 × 576, 352 × 288)<br>60 Hz: 30 fps (704 × 576, 352 × 288)<br>Thermal channel<br>50 fps (704 × 576, 640 × 480, 384 × 288)                                                                                              |
| Video Compression       | Main stream: H.265+/H.265/H.264+/ H.264<br>Sub-stream: H.265/H.264/MJPEG                                                                                                                                                                                    |
| Audio Compression       | G.711u/G.711a/G.722.1/MP2L2/G.726/PCM                                                                                                                                                                                                                       |
| Network                 |                                                                                                                                                                                                                                                             |
| Protocols               | IPv4/IPv6, HTTP, HTTPS, 802.1x, Qos, FTP, SMTP, UPnP, SNMP, DNS, DDNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMP, ICMP, DHCP, PPPoE                                                                                                                              |
| Network Storage         | MicroSD/SDHC/SDXC card (up to 256 G) local storage, and NAS (NFS, SMB/CIFS), auto network replenishment (ANR)                                                                                                                                               |
| API                     | ISAPI, HIKVISION SDK, third-party management platform, ONVIF (Profile S, Profile G, Profile T)                                                                                                                                                              |
| 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                                                                                                                                                                                                                                      |
| Web Browser             | Live view (plug-in allowed) : Internet Explorer 11<br>Live view (plug-in free) : Chrome 57.0 +, Firefox 52.0 +<br>Local service : Chrome 57.0+, Firefox 52.0 +                                                                                              |
| Interface               |                                                                                                                                                                                                                                                             |
| Alarm Input             | 7-ch inputs (0-5 VDC)                                                                                                                                                                                                                                       |
| Alarm Output            | 2-ch relay outputs, alarm response actions configurable                                                                                                                                                                                                     |
| Alarm Action            | Preset/Patrol Scan/Pattern Scan/SD Card Record/Relay Output/Smart capture/FTP upload/Email linkage                                                                                                                                                          |
| Audio Input             | 1, 3.5 mm Mic in/Line in interface. 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.<br>1, RS-485 interface                                                                                                                                                                                 |

|                           |                                                                                                                                                                                                                                                                                                                                              |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Analog Video Output       | 1.0 V [p-p]/75 $\Omega$ , BNC for thermal channel                                                                                                                                                                                                                                                                                            |
| <b>General</b>            |                                                                                                                                                                                                                                                                                                                                              |
| Web Client Language       | 32 languages<br>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              | 48 VDC $\pm$ 20%, two-core terminal block                                                                                                                                                                                                                                                                                                    |
| Power Consumption         | Basic: <190 W; Max: <270 W (Heater on)                                                                                                                                                                                                                                                                                                       |
| Work Temperature/Humidity | From -40 °C to 65 °C (-40 °F to 149 °F); Humidity: 95% or Less                                                                                                                                                                                                                                                                               |
| Wiper                     | Yes                                                                                                                                                                                                                                                                                                                                          |
| Protection Level          | IP66 Standard; TVS 6000V Lightning Protection, Surge Protection and Voltage Transient Protection                                                                                                                                                                                                                                             |
| Dimension                 | 559 mm $\times$ 379 mm $\times$ 646 mm (22.0 " $\times$ 14.9 " $\times$ 25.4 ")                                                                                                                                                                                                                                                              |
| Weight                    | Approx. 60 kg (132.3 lb)                                                                                                                                                                                                                                                                                                                     |

## ▪ Range Table

| VCA Range<br>(Vehicles: 1.4 $\times$<br>4.0 m) | VCA Range<br>(Humans: 1.8 $\times$<br>0.5 m) | Temperature<br>Measurement<br>(Object: 2 $\times$ 2 m) | Temperature<br>Measurement<br>(Object: 1 $\times$ 1 m) | Fire Detection<br>(Object: 2 $\times$ 2 m) | Fire Detection<br>(Object: 1 $\times$ 1 m) |
|------------------------------------------------|----------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|--------------------------------------------|--------------------------------------------|
| 3150 m                                         | 1050 m                                       | 3529 m                                                 | 1765 m                                                 | 8824 m                                     | 4412 m                                     |

## ▪ DORI

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

Detection Range: In order to distinguish an object from the background, the image must be covered by 1.5 or more pixels.

Recognition Range: In order to classify the object (animal, human, vehicle, etc.), the image must have at least 6 pixels across its critical dimension.

Identification Range: In order to identify the object and describe it in details, the critical dimension must have be least 12 pixels across

| Detection Range<br>(Vehicles: 1.4 $\times$<br>4.0 m) | Detection Range<br>(Humans: 1.8 $\times$<br>0.5 m) | Recognition<br>Range (Vehicles:<br>1.4 $\times$ 4.0 m) | Recognition<br>Range (Humans:<br>1.8 $\times$ 0.5 m) | Identification<br>Range (Vehicles:<br>1.4 $\times$ 4.0 m) | Identification<br>Range (Humans:<br>1.8 $\times$ 0.5 m) |
|------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------|------------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------|
| 13529 m                                              | 4412 m                                             | 3382 m                                                 | 1103 m                                               | 1691 m                                                    | 551 m                                                   |

## ▪ Available Model

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## ▪ Dimension

