



Network

Thermal

## TNO-3020T

QVGA Thermal Camera



### Key Features

- Max. 320 x 240 resolution support
- Built-in 4.7 fixed lens
- H.265, H.264, MJPEG codec
- Max. 30fps@all resolutions (H.265, H.264, MJPEG)
- Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Sound classification Temperature detection, Shock detection
- Micro SD / SDHC / SDXC memory slot (Max. 256GB)
- Hallway View, WiseStreamII support
- PoE, 24VAC, 12VDC / IP66, NEMA4X, IK10

### Compatible Devices



SBP-303PM

## TNO-3020T

QVGA Thermal Camera



### Specifications

| Video                         |                |                                                                           |
|-------------------------------|----------------|---------------------------------------------------------------------------|
| Imaging Device                | Type           | Uncooled micro bolometer (320x240)                                        |
| Resolution                    |                | 320x240                                                                   |
| Max. Framerate                | H.265/H.264    | 30fps/25fps(60Hz/50Hz)                                                    |
|                               | MJPEG          | 30fps                                                                     |
| NETD                          |                | ≤60mK                                                                     |
| Pixel Size                    |                | 12μm                                                                      |
| Video Out                     |                | CVBS: 1.0 Vp-p / 75Ω composite for installation,<br>USB: Micro USB Type B |
| Lens                          |                |                                                                           |
| Focal Length (mm)             |                | 4.7                                                                       |
| Max Aperture Ratio (F number) | Wide           | 1.0                                                                       |
| Angular Field of View         | Horizontal     | 50°                                                                       |
|                               | Vertical       | 36.4°                                                                     |
|                               | Diagonal       | 65.3°                                                                     |
| Min. Object Distance          |                | 1m(3.28ft)                                                                |
| Focus Control                 |                | Fixed                                                                     |
| Operational                   |                |                                                                           |
| Digital Image Stabilization   |                | Support(built-in gyro sensor)                                             |
| Motion Detection              | Quantity       | 8ea                                                                       |
|                               | Shape          | 8point Polygonal zones                                                    |
| Privacy Masking               | Quantity       | 32ea                                                                      |
|                               | Shape          | Polygonal zones                                                           |
|                               | Color / Option | Gray, Green, Red, Blue, Black, White, Mosaic                              |
| Video Rotation                |                | Flip, Mirror, Hallway view(90°/270°)                                      |
| Alarm Interface               | In/Out         | Input 1ea, Output 2ea                                                     |
| Alarm Triggers                |                | Analytics, Network disconnect, Alarm input                                |

## Operational

|                                          |                                                                                                                                                              |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Alarm Events When Alarm Trigger Occurred | File upload(image): e-mail/FTP,<br>Notification: e-mail,<br>Recording: SD/SDHC/SDXC or NAS recording at event triggers,Alarm output,<br>Handover: PTZ preset |
| Audio In                                 | Selectable(mic in/line in)                                                                                                                                   |
| Audio Out                                | Line out                                                                                                                                                     |
| Color Palettes                           | Whitehot, Blackhot, Rainbow, Rainbow2, Sepia, Red, Iron, Custom                                                                                              |

## Analytics

|                  |        |                                                                                                                                                                                                                 |
|------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Analytics Events | Normal | Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Temperature detection |
|------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Network

|                                   |                    |                                                                                                                                                                                                                    |
|-----------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ethernet                          |                    | RJ-45(10/100BASE-T)                                                                                                                                                                                                |
| Video Compression                 |                    | H.265/H.264: Main/Baseline/High, MJPEG                                                                                                                                                                             |
| Audio Compression                 |                    | G.711 u-law /G.726 selectable,G.726(ADPCM) 8kHz,G.711 8kHz,<br>G.726: 16kbps,24kbps,32kbps,40kbps,<br>AAC-LC: 48kbps at 16kHz                                                                                      |
| Smart Codec                       |                    | Manual, WiseStream II                                                                                                                                                                                              |
| Bitrate Control                   |                    | H.265/H.264: CBR or VBR,<br>MJPEG: VBR                                                                                                                                                                             |
| Streaming                         | Unicast            | Up to 20 users                                                                                                                                                                                                     |
|                                   | Multicast          | Support                                                                                                                                                                                                            |
|                                   | Multiple Streaming | Up to 10 profiles                                                                                                                                                                                                  |
| Protocol                          |                    | IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, SRTP(TCP, UDP Unicast), PIM-SM |
| Application Programming Interface | ONVIF              | S, G, T                                                                                                                                                                                                            |
|                                   | Others             | SUNAPI(HTTP API), Hanwha Vision Open Platform                                                                                                                                                                      |

## Security

|                        |                                           |
|------------------------|-------------------------------------------|
| OS / Firmware Protect  | Encrypted firmware                        |
| User authentication    | Digest authentication                     |
| Network authentication | IEEE 802.1X(EAP-TLS, EAP-LEAP)            |
| Secure Communication   | HTTPS, WSS(WebSocket Secure), SRTP        |
| Access Control         | IP-based access control                   |
| Data Protect           | Encryption credentials                    |
| Audit                  | Access / System / Event Log management    |
| Device ID              | Device certificate(Hanwha Vision Root CA) |

## General

|              |                    |                    |
|--------------|--------------------|--------------------|
| Memory       | RAM                | 1GB                |
|              | Flash              | 256MB              |
| Edge Storage | Micro SD/SDHC/SDXC | Max. 256GB x 1slot |

## Environmental & Electrical

|                     |             |                                        |
|---------------------|-------------|----------------------------------------|
| Operating Condition | Temperature | -40°C~+60°C(-40°F~+140°F)              |
|                     | Humidity    | 0~90% RH(non-condensing)               |
| Storage Condition   | Temperature | -50°C~+60°C(-58°F~+140°F)              |
|                     | Humidity    | 0~90% RH(non-condensing)               |
| Input Voltage       |             | PoE(IEEE802.3af, Class3), 24VAC, 12VDC |
| Power Consumption   | PoE         | Max. 8.7W, typical 7.5W                |
|                     | 12VDC       | Max. 7.8W, typical 6.7W                |
|                     | 24VAC       | Max. 9.2W, typical 8.0W                |

## Mechanical

|                    |                              |
|--------------------|------------------------------|
| Color              | White                        |
| Material           | Aluminum                     |
| RAL Code           | RAL9003                      |
| Product Dimensions | ø147.51x375.3mm(5.81x14.78") |
| Product Weight     | 2512g(5.538lb)               |

## Certifications & Standards

|             |                                                  |
|-------------|--------------------------------------------------|
| Environment | IEC 60529 IP66, IEC 62262 IK10, NEMA 250 type 4X |
|-------------|--------------------------------------------------|

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CAD

Unit: mm [inch]

