

Network Thermal

# TNO-C4040T

VGA H.265 Thermal Camera

## Key Features

- VGA Image Resolution
- 13mm Focal Length
- <16mK NETD
- Person, Vehicle, Vessel Detection
- H.265, H.264, MJPEG codec
- Max. 30fps@all resolutions (H.265, H.264, MJPEG)
- Motion detection, Handover, Tampering, Loitering
- SD / SDHC / SDXC memory slot (Max. 256GB)
- Hallway View, WiseStreamII support
- PoE, 24V AC, 12V DC
- IP66, NEMA4X, IK10

※ Bridge firmware is required to upgrade from 1.00~1.2X versions to the latest version. For more details, please refer to the [UPGRADE NOTIFICATION] or [Release Note] included with your firmware (ZIP file).

Design and specifications are subject to change without notice. The latest product information / specification can be found at HanwhaVision.com
Hanwha Vision is formerly known as Hanwha Techwin.

© Hanwha Vision CO., LTD. All rights reserved.

# TNO-C4040T

VGA H.265 Thermal Camera



## Specifications

### Video

| | | |
|---|---|---|
| **Imaging Device** | Type | Uncooled micro bolometer (640x480) |
| **Resolution** | | 1280x960, 640x480, 640x360, 320x240, 320x180 |
| **Max. Framerate** | H.265/H.264 | 30fps/25fps(60Hz/50Hz) |
| | MJPEG | 30fps |
| **Spectral Range** | | 8~14㎛ |
| **NETD** | | ≤16mK@25°C, F1.0 |
| **Pixel Size** | | 17㎛ |
| **Video Out** | | USB: USB Type C. Preview and installation ONLY. Requires WiFi dongle. |

### Lens

| | | |
|---|---|---|
| **Focal Length (mm)** | | 13 |
| **Max Aperture Ratio (F number)** | Wide | 1.0 |
| **Angular Field of View** | Horizontal | 49.1° |
| | Vertical | 36.4° |
| | Diagonal | 62.3° |
| **iFoV** | | 1.31 mRad |
| **Min. Object Distance** | | 5m(16.4ft) |
| **Focus Control** | | Fixed |
| **Lens Type** | | Athermalized |

### Pan / Tilt / Rotate

| | | |
|---|---|---|
| **Pan / Tilt / Rotate Range** | Pan | 0°~350° |
| | Tilt | 0°~90° |
| | Rotate | 0°~350° |

### Operational

| | | |
|---|---|---|
| **Digital Noise Reduction** | | WiseNR |
| **Motion Detection** | Quantity | 8ea |
| | Shape | 8point Polygonal zones |

Design and specifications are subject to change without notice. The latest product information / specification can be found at HanwhaVision.com
Hanwha Vision is formerly known as Hanwha Techwin.

© Hanwha Vision CO., LTD. All rights reserved.

## Operational

| | | |
|---|---|---|
| **Privacy Masking** | Quantity | 32ea |
| | Shape | 8point Polygonal zones |
| | Color / Option | Gray, Green, Red, Blue, Black, White, Mosaic, Purple, Yellow |
| **Video Rotation** | | Flip, Mirror, Hallway view(90°/270°) |
| **Serial Interface** | | RS-485 |
| **Alarm Interface** | In/Out | 2 configurable I/O ports |
| | Others | Support extra alarm I/O via optional I/O box |
| **Alarm Triggers** | | Analytics, Network disconnect, Alarm input, Time schedule, MQTT subscription, Case tampering |
| **Alarm Events When Alarm Trigger Occurred** | | File upload(image): e-mail/FTP/SFTP,<br>File upload(video clip): FTP/SFTP,<br>Notification: e-mail,<br>Recording: SD/SDHC/SDXC or NAS recording at event triggers,Alarm output,<br>Handover: PTZ preset,send message by HTTP/HTTPS/TCP,Audio clip playback,<br>MQTT: publication |
| **Audio In** | | Selectable(mic in/line in) |
| **Audio Out** | | Line out |
| **Color Pallettes** | | Whitehot, Blackhot, Rainbow, Rainbow2, Sepia, Red, Iron, Custom |

## Analytics

| | | |
|---|---|---|
| **Classified Object Type** | | Person, Vehicle, Vessel |
| **Thumbnail** | | BestShot |
| **Analytics Events** | Based on AI Engine | Object detection, Virtual line(Crossing/Direction), Motion detection, Virtual area(Loitering/Intrusion/Enter/Exit/Appear/Disappear), Sound classification |
| | Normal | Tampering, Audio detection, Shock detection, Temperature change detection |

## Network

| | | |
|---|---|---|
| **Ethernet** | | Metal shielded RJ-45(10/100/1000BASE-T) |
| **Video Compression** | | H.265: Main,<br>H.264: Main/Baseline/High,MJPEG |
| **Audio Compression** | | G.711(PCM): 8kHz(64kbps),<br>G.726(ADPCM): 8kHz(16/24/32/40kbps),<br>AAC-LC: 16kHz(48kbps),<br>OPUS: 16kHz(64kbps) |
| **Smart Codec** | | WiseStream(Based on AI engine) |
| **Bitrate Control** | | H.265/H.264: CBR or VBR,<br>MJPEG: VBR |
| **Streaming** | Unicast | Up to 20 users |
| | Multicast | Support |
| | Multiple Streaming | Up to 5 profiles |
| **Protocol** | | IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SFTP, SMTP, ICMP, IGMPv2, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, CDP, SRTP(TCP, UDP Unicast), MQTT, Syslog |

Design and specifications are subject to change without notice. The latest product information / specification can be found at HanwhaVision.com
Hanwha Vision is formerly known as Hanwha Techwin.

© Hanwha Vision CO., LTD. All rights reserved.

## Network

| | | |
|---|---|---|
| Application Programming Interface | ONVIF | S, G, T, M |
| | Others | SUNAPI(HTTP API), Hanwha Vision Open Platform |
| Direct Cloud Connection | | Support |

## Security

| | |
|---|---|
| OS / Firmware Protect | Encrypted firmware, Secure boot, Signed firmware |
| User authentication | Digest authentication, Prevent brute-force attack |
| Network authentication | IEEE 802.1X(EAP-TLS, EAP-LEAP, EAP-PEAP, MSCHAPv2) |
| Secure Communication | HTTPS, WSS(WebSocket Secure), SRTP |
| Access Control | IP-based access control, MAC-based access control, Auto logout |
| Data Protect | Encryption credentials, Encrypt compress for live recording file export |
| Audit | Access / System / Event Log management |
| Device ID | Device certificate(Hanwha Vision Root CA) |
| Secure Storage | SDcard partition encrypt(AES-256), Secure element |
| Supply Chain Security | SBOM |
| Security Certificate | Secure element(FIPS 140-3 level3, CC EAL6+), Consumer IoT Security Standard (ETSI EN 303 645) |

## General

| | | |
|---|---|---|
| SoC | Type | Wisenet 8 |
| Edge Storage | Micro SD/SDHC/SDXC | Max. 1TB x 1slot |
| Edge Storage(OnCloud) | Micro SD/SDHC/SDXC | Max. 1TB x 1slot *Hanwha Vision branded microSD cards have been certified and recommended for OnCloud edge recording. |

## Environmental & Electrical

| | | |
|---|---|---|
| Operating Condition | Temperature | -40°C~+60°C(-40°F~+140°F) |
| | Humidity | 0~95% RH(non-condensing) |
| | Others | +74°C(+165°F)(Max) based on NEMA-TS 2(2.2.7) |
| Storage Condition | Temperature | -50°C~+60°C(-58°F~+140°F) |
| | Humidity | 0~95% RH(non-condensing) |
| Input Voltage | | PoE(IEEE802.3af, Class3), 12VDC |
| Power Consumption | PoE | Max. 7.8W, typical 7.4W |
| | 12VDC | Max. 8.1W, typical 7.8W |

## Mechanical

| | |
|---|---|
| Color | White |
| Material | Aluminum, PC(Polycarbonate) |
| RAL Code | RAL9003 |
| Product Dimensions | ø107.3 x 275mm(ø4.22/10.83") |

Design and specifications are subject to change without notice. The latest product information / specification can be found at HanwhaVision.com
Hanwha Vision is formerly known as Hanwha Techwin.

© Hanwha Vision CO., LTD. All rights reserved.

## Mechanical

| | |
|---|---|
| **Product Weight** | 2000g(4.4 lb) |
| **Compatible Conduit Hole** | Support conduit compatibility via optional adaptor |
| **Compatible Gang Box** | Single, Double, 4" Octagon, Square |

## Certifications & Standards

| | |
|---|---|
| **EMC** | FCC 47 CFR 15 Subpart B Class A,CE/UKCA - EN55032 Class A,EN 50130-4,EN 61000-3-2,EN 61000-3-3,VCCI CISPR 32 Class A,RCM AS-NZS CISPR 32 Class A,KS C 9832 Class A,KS C 9835,IC Regulation ICES-003 Issue 7 Class A,FCC - IC Regulation ICES 003 Issue 7, RCM - EN IEC 63000:2018 Class A,<br>VCCI - EN IEC 63000:2018 Class A |
| **Safety** | UL 62368-1, CAN/CSA C22.2 NO. 62368-1 |
| **Environment** | IEC/EN 63000, IEC 60529 IP66, IEC 60529 IP67, IEC 62262 IK10, NEMA TS 2-2013 (2.2.7, 2.2.8, 2.2.9), NEMA 250 type 4X, IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78, MIL-STD-810H 501.7, MIL-STD-810H 502.7, MIL-STD-810H 505.7, MIL-STD-810H 506.6, MIL-STD-810H 507.6, MIL-STD-810H 509.7, MIL-STD-810H 510.7, MIL-STD-810H 514.8, MIL-STD-810H 516.8, MIL-STD-810H 521.4 |

## AI Detection Distance

| | | |
|---|---|---|
| **Person(1.8m/5.9ft)** | Wide | up to 108m(354ft) |
| **Vehicle(1.45m/4.8ft)** | Wide | up to 153m(502ft) |
| **Vessel(2.4m/7.9ft from Waterline)** | Wide | up to 366m(1,200ft) |

## DRI (Johnson's Criteria)

| | | |
|---|---|---|
| **Detection** | Person(1.67PPM) | 420m(1,379ft) |
| | Vehicle(0.65PPM) | 1,074m(3,524ft) |
| **Recognition** | Person(6.67PPM) | 105m(345ft) |
| | Vehicle(2.61PPM) | 269m(881ft) |
| **Identification** | Person(13.33PPM) | 53m(172ft) |
| | Vehicle(5.22PPM) | 134m(441ft) |

Design and specifications are subject to change without notice. The latest product information / specification can be found at HanwhaVision.com
Hanwha Vision is formerly known as Hanwha Techwin.

© Hanwha Vision CO., LTD. All rights reserved.

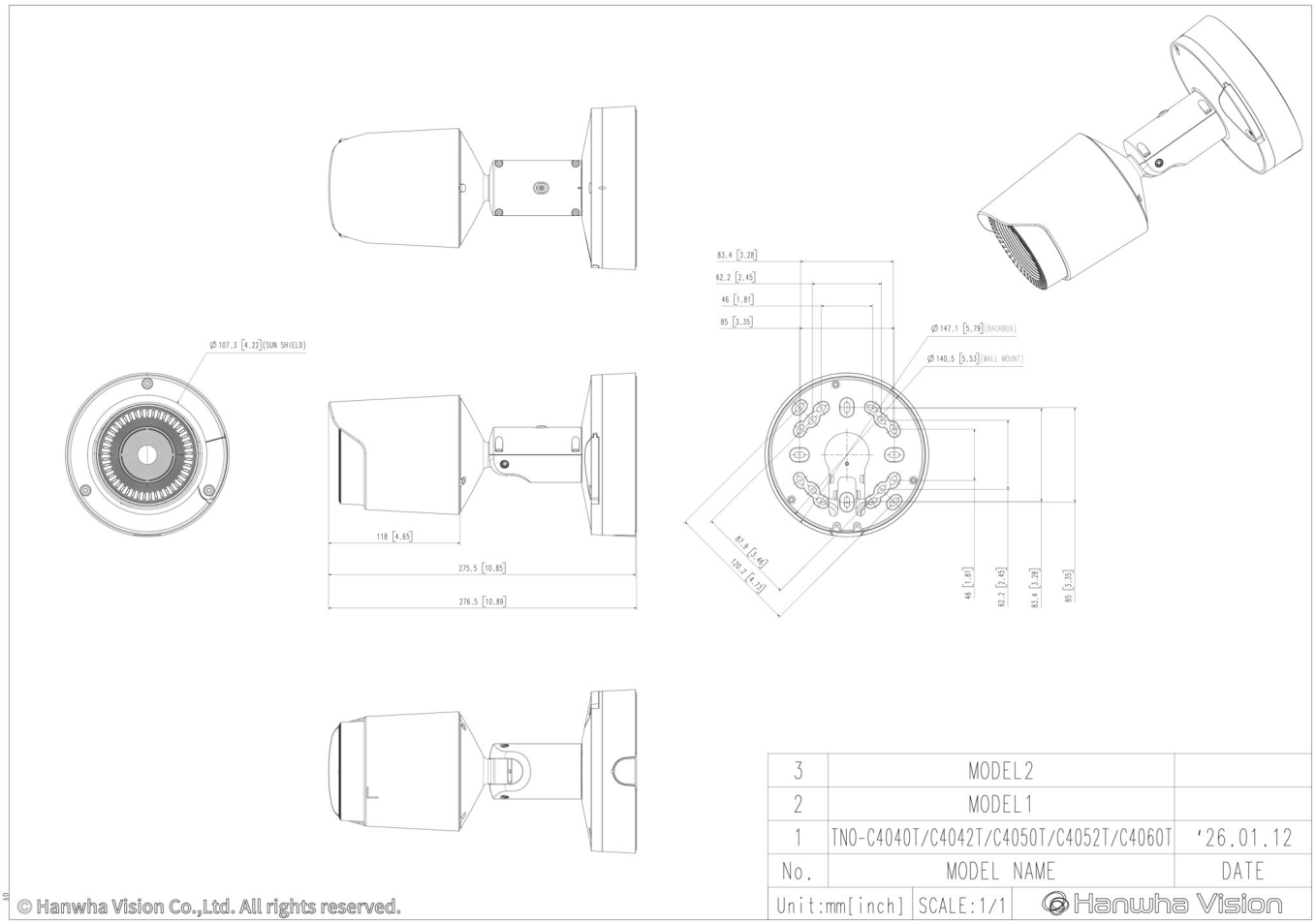
# TNO-C4040T

VGA H.265 Thermal Camera



## CAD

**Unit:** mm [inch]




Design and specifications are subject to change without notice. The latest product information / specification can be found at HanwhaVision.com
Hanwha Vision is formerly known as Hanwha Techwin.

© Hanwha Vision CO., LTD. All rights reserved.

## Compatible Devices



SBP-160HMW1



SBP-150CMI



SBP-300CMI



SBP-900CMW



SBP-300CMTW



SBD-180PMW



SBP-156KMW

Design and specifications are subject to change without notice. The latest product information / specification can be found at HanwhaVision.com
Hanwha Vision is formerly known as Hanwha Techwin.

© Hanwha Vision CO., LTD. All rights reserved.