Network    Multi-sensor

# TNM-C4940TD
## Bi-spectrum AI Thermal Camera

FC | c UL us LISTED | C E | EAC | NDAA

## Key Features

• Bi-spectrum: VGA thermal & 8MP visible sensor
• Dual (thermal & visible) channel by one device, one IP
• Maximum 30fps @ all resolutions (H.265/H.264)
• Lens : 9.1mm fixed thermal & 4.4~9.3mm motorized varifocal visible
• Day & Night(ICR), WDR(120dB)
• Maximum IR viewable length : 30m
• Noise reduction : WiseNR II (Based on AI engine, visible only)
• Smart codec : WiseStream III (Based on AI engine, visible), WiseStream II (thermal)
• Video Analytics based on AI (visible)
• IP66/IP67, NEMA4X
• PoE+(IEEE802.3at), 12VDC
• Wall & Pole mount all-in-one design

# T series  TNM-C4940TD

# TNM-C4940TD

Bi-spectrum AI Thermal Camera

## Specifications

| Video | Thermal | Visible |
|---|---|---|
| Imaging Device | Uncooled micro bolometer | 1/1.8" CMOS |
| Resolution | 640x480 (can be scaled up to 1280x960) 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360 | 3840x2160, 3072x1728, 2592x1944, 2688x1520, 2560x1440, 2048x1536, 1920x1080, 1600x1200, 1280x1024,1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360 |
| Max. Framerate | H.265/H.264: Max. 30fps MJPEG: Max. 3fps | H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 1fps/1fps(60Hz/50Hz) |
| NETD | ＜60mK | |
| Pixel Size | 12μm | |
| Min. Illumination | | Color: 0.06Lux(F1.3, 1/30sec) BW: 0.004Lux(F1.3, 1/30sec), 0Lux(IR LED on) |
| Video Out | USB : Micro USB Type B, 1280x720 for installation | |

| Lens | | |
|---|---|---|
| Focal Length (Zoom Ratio) | 9.1mm fixed focal | 4.4~9.3mm(2.2x) motorized varifocal |
| Max. Aperture Ratio | F1.0 | F1.3(Wide)~F2.15(Tele) |
| Angular Field of View | H: 50.0-, V: 37.0-, D: 63.8- | H:112.1°(Wide)~47.5°(Tele) / V:58.0°(Wide)~26.6°(Tele) / D:137.5°(Wide)~54.6°(Tele) |
| Min. Object Distance | 3.5m(11.48ft) | Wide: 1.75m(5.74ft) / Tele: 5.21m(17.09ft) |
| Focus Control | Fixed | Simple foucs |

| Operational | | |
|---|---|---|
| Camera Title | Displayed up to 85 characters | |
| Day & Night | | Auto(ICR) |
| Backlight Compensation | | BLC, WDR, SSDR |
| Wide Dynamic Range | | WDR(120dB) |
| Digital Noise Reduction | | SSNR V, WiseNR II |
| Digital Image Stabilization | | Support(built-in gyro sensor) |
| Motion Detection | 8ea, polygonal zones | |
| Privacy Masking | 6ea, rectangle zones - Color: Gray/Black/White | |
| Gain Control | | Low / Middle / High |
| White Balance | | ATW / AWC / Manual / Indoor / Outdoor |
| LDC | | Support |
| Electronic Shutter Speed | | Minimum / Maximum / Anti flicker(1/5~1/12,000sec) Auto prefer shutter control(Based on AI engine) |

| | | |
|---|---|---|
| Analytics | - Analytics events based on AI engine(NPU) : Object detection (Person/Vehicle, Bestshot, IVA (Virtual line/Area, Enter/Exit, Loitering, direction, intrusion), Stopped vehicle, Traffic jam<br>- Analytics events : Motion detection | - Analytics events based on AI engine(NPU) : Object detection (Person/Face/Vehicle(car/truck/bus/bicycle/motorcycle)/License plate), Bestshot, IVA (Virtual line/Area, Enter/Exit, Loitering, direction, intrusion), Stopped vehicle, Traffic jam<br>- Analytics events : Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Appear/Disappear |
| Alarm I/O | 4 configurable I/O ports | |
| Alarm Triggers | Analytics, Network disconnect, Alarm input | |
| Alarm Events | When alarm trigger occurred<br>- File upload(image) : e-mail/FTP<br>- Notification : e-mail<br>- Recording : SD/SDHC/SDXC or NAS recording at event triggers<br>- Alarm output<br>- Handover(PTZ preset, Send message by HTTP/HTTPS/TCP)<br>- Audio clip playback | |
| Audio In | Selectable(mic in/line in)<br>Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm | |
| Audio Out | Line out, Max.output level: 1Vrms | |
| IR Viewable Length | 30m (98.42ft) | |
| Color Palettes | Whitehot, Blackhot, Rainbow, Rainbow2, Sepia,<br>Red, Iron, Custom | |

## Network

| | |
|---|---|
| Ethernet | Metal shielded RJ-45(10/100/1000BASE-T) |
| Video Compression | H.265/H.264: Main/High, MJPEG |
| Audio Compression | G.711 u-law / G.726 Selectable<br>G.726(ADPCM) 8KHz, G.711 8KHz<br>G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps<br>AAC-LC: 48Kbps at 16KHz |
| Smart Codec | WiseStream II                    Manual(5ea area), WiseStreamIII |
| Bitrate Control | H.264/H.265: CBR or VBR<br>MJPEG: VBR |
| Streaming | Unicast(6 users) / Multicast<br>Multiple streaming(Up to 3 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) |
| Security | TPM 2.0 (FIPS 140-2 level 2)<br>HTTPS(SSL) login authentication<br>Digest login authentication<br>IP address filtering<br>User access log<br>802.1X authentication(EAP-TLS, EAP-LEAP, EAP-PEAP MSCHAPv2)<br>Device certificate(Hanwha Techwin Root CA, pre-installed)<br>Secure boot, Secure firmware |
| Application Programming Interface | ONVIF Profile S/T<br>SUNAPI(HTTP API)<br>Wisenet open platform (visible channel only) |

## General

| | |
|---|---|
| Webpage Language | English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek |
| Edge Storage | Micro SD/SDHC/SDXC 2slots 512GB |
| Memory | 4GB RAM, 512MB FLASH |

## Environmental & Electrical

| | |
|---|---|
| Operating Temperature / Humidity | -40°C to +60°C(-58°F to +140°F)<br>* Start up should be done at above -30°C<br>less than 95% RH(non-condensing) |

| Storage Temperature / Humidity | -50°C to +60°C(-58°F to +140°F) / Less than 95% RH(Non-condensing) |
|---|---|
| Certification | IP66/IP67, IK10, NEMA4X, NEMA TS 2(2.2.8, 2.2.9) |
| Input Voltage | PoE+(IEEE802.3at, Class4), 12VDC |
| Power Consumption | PoE+ : Max 25.5W, Typ 16.0W<br>12VDC : Max 21.5W, Typ 14.0W |

## Mechanical

| Color / Material | White / Aluminum |
|---|---|
| RAL Code | RAL9003 |
| Product Dimensions / Weight | 353.4 * 287.5 * 191.2mm (13.92 * 11.32 * 7.53in) / 4.533kg |

## DORI (EN62676-4 standard)

| Detect (25PPM/ 8PPF) | Wide: 51.7m(169.94ft) / Tele: 174.5m(572.64ft) |
|---|---|
| Observe (63PPM/ 19PPF) | Wide: 20.7m(67.85ft) / Tele: 69.8m(229.06ft) |
| Recognize (125PPM/ 38PPF) | Wide: 10.3m(33.93ft) / Tele: 34.9m(114.53ft) |
| Identify (250PPM/ 76PPF) | Wide: 5.2m(16.96ft) / Tele: 17.5m(57.26ft) |

Hanwha Vision

# TNM-C4940TD

Bi-spectrum AI Thermal Camera

## CAD

Unit: mm [inch]



| 3 | MODEL 2 | |
| 2 | MODEL 1 | |
| 1 | TNM-A4940TD | '22.02.21 |
| No. | MODEL NAME | DATE |

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