



Network

Multi-sensor

# TNM-C4940TD

Bi-spectrum AI Thermal Camera



## 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

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## Specifications

Video	Thermal	Visible
<b>Imaging Device</b>	Uncooled micro bolometer	1/1.8" CMOS
<b>Resolution</b>	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
<b>Max. Framerate</b>	H.265/H.264: Max. 30fps MJPEG: Max. 3fps	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 1fps/1fps(60Hz/50Hz)
<b>NETD</b>	< 60mK	None
<b>Pixel Size</b>	12µm	None
<b>Min. Illumination</b>	None	Color: 0.06Lux(F1.3, 1/30sec) BW: 0.004Lux(F1.3, 1/30sec), 0Lux(IR LED on)
<b>Video Out</b>	USB : Micro USB Type B, 1280x720 for installation	

## Lens

<b>Focal Length (Zoom Ratio)</b>	9.1mm fixed focal	4.4~9.3mm(2.2x) motorized varifocal
<b>Max. Aperture Ratio</b>	F1.0	F1.3(Wide)~F2.15(Tele)
<b>Angular Field of View</b>	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)
<b>Min. Object Distance</b>	3.5m(11.48ft)	Wide: 1.75m(5.74ft) / Tele: 5.21m(17.09ft)
<b>Focus Control</b>	Fixed	Simple focus

## Operational

<b>Camera Title</b>	Displayed up to 85 characters	
<b>Day &amp; Night</b>	None	Auto(ICR)
<b>Backlight Compensation</b>	None	BLC, WDR, SSSDR
<b>Wide Dynamic Range</b>	None	WDR(120dB)
<b>Digital Noise Reduction</b>	None	SSNR V, WiseNR II
<b>Digital Image Stabilization</b>	None	Support(built-in gyro sensor)
<b>Motion Detection</b>	8ea, polygonal zones	
<b>Privacy Masking</b>	6ea, rectangle zones - Color: Gray/Black/White	
<b>Gain Control</b>	None	Low / Middle / High
<b>White Balance</b>	None	ATW / AWC / Manual / Indoor / Outdoor
<b>LDC</b>	None	Support
<b>Electronic Shutter Speed</b>	None	Minimum / Maximum / Anti flicker(1/5~1/12,000sec) Auto prefer shutter control(Based on AI engine)
<b>Analytics</b>	- Analytics events : Directional detection, Motion detection, Enter/Exit, Virtual line, Temperature Change 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 - Analytics events : Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Appear/Disappear
<b>Alarm I/O</b>	4 configurable I/O ports	
<b>Alarm Triggers</b>	Analytics, Network disconnect, Alarm input	
<b>Alarm Events</b>	When alarm trigger occurred - File upload(image) : e-mail/FTP - Notification : e-mail - Recording : SD/SDHC/SDXC or NAS recording at event triggers - Alarm output - Handover(PTZ preset, Send message by HTTP/HTTPS/TCP) - Audio clip playback	

<b>Audio In</b>	Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm
<b>Audio Out</b>	Line out, Max.output level: 1Vrms
<b>IR Viewable Length</b>	None <span style="float: right;">30m (98.42ft)</span>
<b>Color Palettes</b>	Whitehot, Blackhot, Rainbow, Rainbow2, Sepia, Red, Iron, Custom <span style="float: right;">None</span>

## Network

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

## General

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

## Environmental & Electrical

<b>Operating Temperature / Humidity</b>	-40°C to +60°C(-58°F to +140°F) * Start up should be done at above -30°C less than 95% RH(non-condensing)
<b>Storage Temperature / Humidity</b>	-50°C to +60°C(-58°F to +140°F) / Less than 95% RH(Non-condensing)
<b>Certification</b>	IP66/IP67, IK10, NEMA4X, NEMA TS 2(2.2.8, 2.2.9)
<b>Input Voltage</b>	PoE+(IEEE802.3at, Class4), 12VDC
<b>Power Consumption</b>	PoE+ : Max 25.5W 12VDC : Max 21.5W

## Mechanical

<b>Color / Material</b>	White / Aluminum
<b>RAL Code</b>	RAL9003
<b>Product Dimensions / Weight</b>	353.4 * 287.5 * 191.2mm (13.92 * 11.32 * 7.53in) / 4.533kg
<b>Detect (25PPM/ 8PPF)</b>	None <span style="float: right;">Wide: 51.7m(169.94ft) / Tele: 174.5m(572.64ft)</span>
<b>Observe (63PPM/ 19PPF)</b>	None <span style="float: right;">Wide: 20.7m(67.85ft) / Tele: 69.8m(229.06ft)</span>
<b>Recognize (125PPM/ 38PPF)</b>	None <span style="float: right;">Wide: 10.3m(33.93ft) / Tele: 34.9m(114.53ft)</span>
<b>Identify (250PPM/ 76PPF)</b>	None <span style="float: right;">Wide: 5.2m(16.96ft) / Tele: 17.5m(57.26ft)</span>

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CAD

Unit: mm [inch]

