Hanwha Vision

Network   Multi-sensor

TNM-C4960TD
Bi-spectrum AI Thermal Camera

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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 : 25mm fixed thermal & 10.9~29mm motorized varifocal visible
- Day & Night(ICR), WDR(120dB)
- 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
- IP66/IP67, IK10, NEMA4X, NEMA TS 2(2.2.8, 2.2.9)
- PoE+(IEEE802.3at), 12VDC
- Wall & Pole mount all-in-one design

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.

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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/25fps (AI 2CH ON - 15fps) MJPEG: Max. 3fps	H.265/H.264: Max. 30fps/25fps (AI 2CH ON - 15fps) MJPEG: Max. 1fps
NETD	＜60mK	
Pixel size	12μm	
Min. Illumination		Color: 0.06Lux(F1.7, 1/30sec) BW: 0.005Lux(F1.7, 1/30sec)
Video Out	USB : Micro USB Type B	

Lens		
Focal Length (Zoom Ratio)	25mm fixed focal	10.9~29mm(2.6x) motorized varifocal
Max. Aperture Ratio	F1.0	F1.7(Wide)~F1.73(Tele)
Angular Field of View	H: 17.4°, V: 13.1°, D: 21.6°	H:42.0°(Wide)~15.0°(Tele) / V:22.8°(Wide)~8.4°(Tele) / D:48.7°(Wide)~17.1°(Tele)
Min. Object Distance	26m(85.30ft)	Wide: 2.5m(8.20ft) / Tele: 6m(19.68ft)
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 : Object detection (Person/Vehicle), Bestshot, IVA (Virtual line/Area, Enter/Exit, Loitering, direction, intrusion), Stopped vehicle, Traffic jam - Analytics events : Motion detection	Analytics events based on AI engine - Object detection(Person, face, Vehicle(car/bus/truck/motorcycle/bicycle), License plate), Bestshot, Virtual line*(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit), Stopped vehicle, Traffic jam - Analytics events : Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear)
Business Intelligence	Vehicle counting	Vehicle counting
Alarm I/O	4 configurable I/O ports	
Alarm Triggers	Analytics, Network disconnect, Alarm input	
Alarm Events	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	
Audio In	Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm	
Audio Out	Line out, Max.output level: 1Vrms	
Color Palettes	Whitehot, Blackhot, Rainbow, Rainbow2, Sepia, 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 G.726(ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps AAC-LC: 48Kbps at 16KHz	
Smart Codec	WiseStream II	Manual(5ea area), WiseStreamIII
Bitrate Control	H.264/H.265: CBR or VBR MJPEG: VBR	
Streaming	Unicast(6 users) / Multicast 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) 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	
Application Programming Interface	ONVIF Profile S/T SUNAPI(HTTP API) 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

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Operating Temperature / Humidity	-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)
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 23.5W, Typ 16.0W 12VDC : Max 19.5W, 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: 200.1m(656.40ft) / Tele: 583.4m(1913.89ft)
Observe (63PPM/ 19PPF)	Wide: 80.0m(262.56ft) / Tele: 233.3m(765.56ft)
Recognize (125PPM/ 38PPF)	Wide: 40.0m(131.28ft) / Tele: 116.7m(382.78ft)
Identify (250PPM/ 76PPF)	Wide: 20.0m(65.64ft) / Tele: 58.3m(191.39ft)

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CAD

Unit:mm [inch]

3	MODEL2	
2	MODEL1	
1	TNM-A4940TD	'22.02.21
No.	MODEL NAME	DATE
		Hanwha Techwin

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