



Network

Thermal

TNM-C4950TD

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 : 13.5mm 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

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Specifications

Video		Thermal	Visible
Imaging Device	Size		1/1.8"
	Type	Uncooled micro bolometer (640x480)	CMOS
Resolution		1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360	3840x2160, 3072x1728, 2688x1520, 2592x1944, 2560x1440, 2048x1536, 1920x1080, 1600x1200, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360
Max. Framerate	H.265/H.264	30fps/25fps(60Hz/50Hz)	30fps/25fps(60Hz/50Hz)
	MJPEG	3fps	1fps
	Others	Max. 15fps when both channel AI on	Max. 15fps when both channel AI on
Spectral Range		8~14 μ m	
NETD		$\leq$ 60mK	
Pixel Size		12 μ m	
Min. Illumination (Lux)	Color(1/30sec, 30IRE)		0.06
	BW(1/30sec, 30IRE)		0.005
Video Out		USB: Micro USB Type B	

Lens

Focal Length (mm)		13.5	10.9~29
Zoom Ratio	Optical		2.6x
Max Aperture Ratio (F number)	Wide	1.0	1.7
	Tele		1.73
Angular Field of View	Horizontal	31.9°	42.0°~15.0°
	Vertical	24.2°	22.8°~8.4°(Tele)
	Diagonal	39.5°	48.7°~17.1°
iFoV		0.47mRad	
Min. Object Distance		7.6m(24.93ft)	2.5m(8.20ft)
Focus Control		Fixed	Simple focus

Pan / Tilt / Rotate

Pan / Tilt / Rotate Range	Pan	-170°~+170°
	Tilt	-40° ~ 50°
Sequence		Preset(255ea)

Operational

Day & Night		Auto(ICR)
Backlight Compensation		BLC, WDR, SSDR
Wide Dynamic Range (dB)		120
Digital Noise Reduction		WiseNR II (Based on AI engine), SSNR V
Digital Image Stabilization		Support(built-in gyro sensor)
Gain Control		Low, Middle, High
White Balance		ATW, AWC, Manual, Indoor, Outdoor
LDC		Support
Electronic Shutter	Mode	Minimum, Maximum, Anti flicker, Prefer shutter control(Based on AI engine)
	Speed Range	1/5~1/12,000sec

Analytics

Classified Object Type		Person, Vehicle	Person, Face, Vehicle, License plate
Attributes	Vehicle		Type(car, bus, truck, motorcycle, bicycle)
Thumbnail		BestShot	BestShot
Analytics Events	Based on AI Engine	Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Stopped vehicle, Traffic jam	Object detection, Virtual line(Crossing/Direction), Virtual area(Loitering/Intrusion/Enter/Exit), Stopped vehicle, Traffic jam
	Normal	Motion detection, Temperature change detection	Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear)
Business Intelligence	Normal	Vehicle counting	Vehicle counting

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
Bitrate Control		H.265/H.264: CBR or VBR, MJPEG: VBR
Streaming	Unicast	Up to 6 users
	Multicast	Support
	Multiple Streaming	Up to 3 profiles

Network

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, CDP, SRTP(TCP, UDP Unicast)
Application Programming Interface	ONVIF	S, T
	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
Network authentication		IEEE 802.1X(EAP-TLS, EAP-LEAP, EAP-PEAP, MSCHAPv2)
Secure Communication		HTTPS, WSS(WebSocket Secure)
Access Control		IP-based access control
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		HTPM(Hanwha Trusted Platform Module), SDcard partition encrypt(AES-256)
Security Certificate		TPM 2.0 with FIPS 140-2 level2

General

Memory	RAM	4GB
	Flash	512MB
Edge Storage	Micro SD/SDHC/SDXC	Max. 256GB x 2slot(Total 512GB)

Environmental & Electrical

Operating Condition	Temperature	-40°C~+60°C(-40°F~+140°F)
	Humidity	0~95% RH(non-condensing)
	Others	Start up should be done at above -30°C
Storage Condition	Temperature	-50°C~+60°C(-58°F~+140°F)
	Humidity	0~95% RH(non-condensing)
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		White
Material		Aluminum
RAL Code		RAL9003
Product Dimensions		353.4(W)x287.5(H)x191.2(D)mm(13.92x11.32x7.53")

Mechanical

Product Weight	4.53kg(9.99lb)
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Certifications & Standards

EMC	FCC 47 CFR 15 Subpart B Class A, ICES-3(A)/NMB-3(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
Safety	UL 62368-1, CAN/CSA C22.2 NO. 62368-1
Environment	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

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]

