



Network

Thermal

TNM-C4940TDR

Bi-spectrum AI IR Thermal Camera



Key Features

- Radiometry AI Bi-Spectrum for Outdoor environment
- Bi-spectrum monitoring with 8MP visible & VGA thermal
- AI based Object classification with Both Channels (person/vehicle)
- Remote Temperature Monitoring within -20 ~ 130°C range
- 10 of polygonal ROI areas for temperature monitoring
- Improved All-in-One installation solution (wall&pole)

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Specifications

Video		Thermal	Visible
Imaging Device	Size		1/1.8"
	Type	Uncooled micro bolometer (640x480)	CMOS
Resolution		720x480, 800x600, 800x448, 1024x768, 1280x720, 1280x960, 720x576, 640x360, 640x480	1600x1200, 2688x1520, 3072x1728, 640x480, 640x360, 720x576, 1280x960, 720x480, 1280x1024, 1280x720, 2592x1944, 1920x1080, 1024x768, 2560x1440, 3840x2160, 2048x1536, 800x448, 800x600
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		<60mK	
Pixel Size		12 μ m	
Min. Illumination (Lux)	Color(1/30sec, 30IRE)		0.06
	BW(1/30sec, 30IRE)		0.004
Video Out		USB: Micro USB Type B	

Lens

Focal Length (mm)		9.1	4.4~9.3
Max Aperture Ratio (F number)	Wide	1.0	1.3
	Tele		2.15
Angular Field of View	Horizontal	50.0°	112.1°~47.5°
	Vertical	37.0°	58.0°~26.6°
	Diagonal	63.8°	137.5°~54.6°
iFoV		1.319mRad	
Min. Object Distance		3.5m(11.48ft)	1.75m(5.74ft)
Focus Control		Fixed	Simple focus

Pan / Tilt / Rotate

Pan / Tilt / Rotate Range	Pan	-170° ~+170°
	Tilt	-40°~50°

Operational

Day & Night			Auto(ICR)
Backlight Compensation			BLC, WDR, SSSR
Wide Dynamic Range (dB)			120
Digital Noise Reduction			SSNR V, WiseNR II (Based on AI engine)
Digital Image Stabilization		Support(built-in gyro sensor)	
Motion Detection	Quantity	8ea	
	Shape	8point Polygonal zones	
Privacy Masking	Quantity	6ea	
	Shape	Rectangular zones	
	Color / Option	Gray, Black, White	
Gain Control			High, Middle, Low
White Balance			AWC, Indoor, ATW, Manual, Outdoor
LDC			Support
Electronic Shutter	Mode		Maximum, Minimum, Prefer shutter control(Based on AI engine), Anti flicker
	Speed Range		1/5~1/12,000sec
Alarm Interface	In/Out	4 configurable I/O ports	
Alarm Triggers		Alarm input, Analytics, Network disconnect, MQTT subscription	
Alarm Events When Alarm Trigger Occurred		Handover: PTZ preset, send message by HTTP/HTTPS/TCP, File upload(image): e-mail/FTP, MQTT: publication, Recording: SD/SDHC/SDXC or NAS recording at event triggers, Alarm output, Notification: e-mail	
Audio In		Selectable(mic in/line in)	
Audio Out		Line out	
Light Type		IR LED	
Light Viewable Length	IR	30m(98.42ft)	
IR Wavelength		850nm	
Color Palettes		Red, Iron, Rainbow2, Rainbow, Whitehot, Sepia, Blackhot, Custom	

Analytics

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

Radiometry

Temperature Detect Range		-20°C~130°C
Temperature Accuracy		±5°C(≤100°C), ±20%(>100°C)
Temperature Detection ROI Zones	Quantity	10ea
	Shape / Option	Polygonal
Hybrid Pallettes		Support
Spot Temperature Reading		Support
ROI Condition Monitoring		Below, Decrease, Increase, Above

Network

Ethernet		Metal shielded RJ-45(10/100/1000BASE-T)
Video Compression		H.265/H.264: Main/High, MJPEG
Audio Compression		G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps, G.711 u-law /G.726 selectable, G.726(ADPCM) 8KHz, G.711 8KHz, AAC-LC: 48Kbps at 16KHz
Smart Codec		WiseStream II WiseStreamIII, Manual
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
Protocol		TCP/IP, DNS, SNMPv1/v2c/v3(MIB-2), RTP(TCP), SSL/TLS, QoS, SMTP, DDNS, IGMP, HTTP, UPnP, CDP, LLDP, MQTT, RTSP, ICMP, SRTP(TCP, UDP Unicast), RTP(UDP), IPv4, HTTPS, FTP, Bonjour, UDP/IP, IPv6, RTCP, DHCP, ARP, NTP
Application Programming Interface	ONVIF	M, S, T
	Others	Hanwha Vision Open Platform, SUNAPI(HTTP API)
Direct Cloud Connection		Support

Security

OS / Firmware Protect		Signed firmware, Secure boot, Encrypted firmware
User authentication		Digest authentication
Network authentication		IEEE 802.1X(EAP-TLS, EAP-LEAP, EAP-PEAP, MSCHAPv2)
Secure Communication		WSS(WebSocket Secure), HTTPS
Access Control		IP-based access control
Data Protect		Encrypt compress for live recording file export, Encryption credentials
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	0~90% RH(non-condensing)
Input Voltage		12VDC, PoE+(IEEE802.3at, Class4)
Power Consumption	PoE	Max. 25.5W, Typical 16.0W
	12VDC	Max. 21.5W, Typical 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")
Product Weight	4.53kg(9.99lb)

Certifications & Standards

EMC	FCC 47 CFR 15 Subpart B Class A, ICES-3(A)/NMB-3(A), VCCI CISPR 32 Class A, RCM AS-NZS CISPR 32 Class A, CE/UKCA - EN55032 Class A, EN 50130-4, EN 61000-3-2, EN 61000-3-3
Safety	UL 62368-1, CAN/CSA C22.2 NO. 62368-1
Environment	NEMA TS 2-2013 (2.2.8, 2.2.9), IEC 62262 IK10, IEC 60529 IP67, NEMA 250 type 4X, IEC 60529 IP66

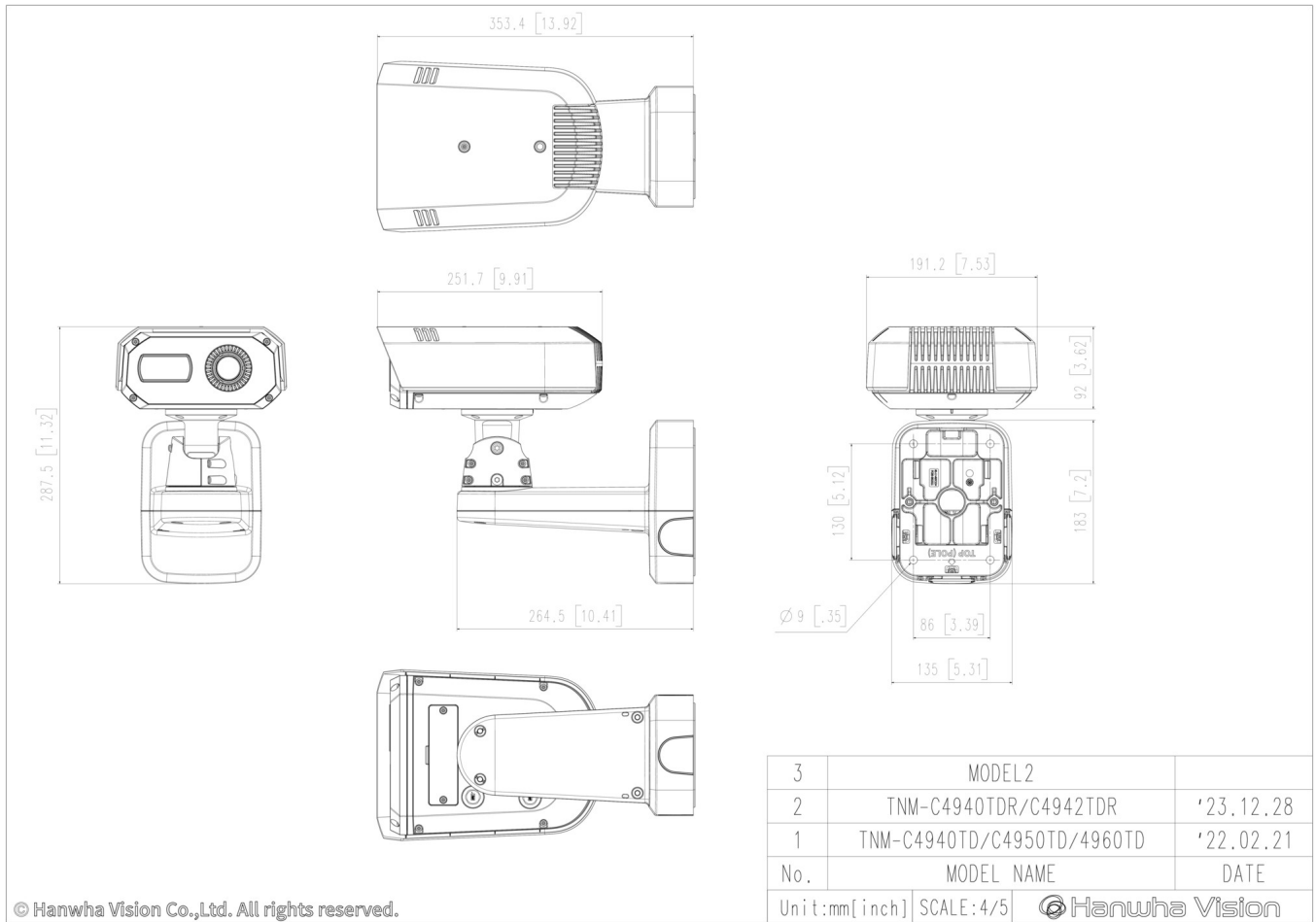
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CAD

Unit: mm [inch]



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