Network | Multi-sensor

TNM-C4942TDR

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	Uncooled micro bolometer	1/1.8" 8MP 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. 8fps MJPEG: Max. 3fps	H.265/H.264: Max. 30fps/25fps (AI 2CH ON - 15fps) MJPEG: Max. 1fps
NETD	＜60mK	
Pixel Size	12㎛	
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° (iFoV: 1.319 mRad)	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

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

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

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Electronic Shutter Speed		Minimum / Maximum / Anti flicker(1/5~1/12,000sec) Auto prefer shutter control(Based on AI engine)
Analytics	Classified object type: Person/Vehicle Support BestShot Analytics events based on AI engine - Object detection, Virtual line(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit) Analytics events - Motion detection	Classified object type: Person/Face/Vehicle/License plate Attributes: Vehicle(Type:car/bus/truck/motorcycle/bicycle) Support BestShot Analytics events based on AI engine - Object detection, Virtual line(Crossing/Direction), Virtual area*(Loitering/Intrusion/Enter/Exit) Analytics events - Defocus detection, Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Appear/Disappear) * Some of the video analytics only works with people and vehicle detection
Business Intelligence	Temperature Analysis	
Alarm I/O	4 configurable I/O ports	
Alarm Triggers	Analytics, Network disconnect, Alarm input, MQTT subscription	
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) - MQTT: publication	
Audio In	Selectable(mic in/line in)	
Audio Out	Line out	
Light Type		30m (98.42ft)
Color Palettes	Whitehot, Blackhot, Rainbow, Rainbow2, Sepia, Red, Iron, Custom	

Radiometry		
Temperature Detect Range	-20°C~130°C(-4°F~266°F)	
Temperature Accuracy	±5°C(≤100°C), ±20%(>100°C) * This temperature accuracy is based on testing the minimum object distance (MoD) at room temperature as a reference value.	
Temperature Detection	10 Polygonal ROI zones, whole FoV area	
Additional	Hybrid palettes, Spot temperature reading	

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, CDP, SRTP (TCP, UDP Unicast), MQTT	
Application Programming Interface	ONVIF Profile S/T/M SUNAPI(HTTP API) Wisenet open platform (visible channel only)	

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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
Audit	Access / System / Event Log management
Device ID	Device Certificate(Hanwha Private Root CA)
Secure Storage	HTPM(Hanwha Trusted Platform Module), SDcard partition encrypt
Security Certificate	TPM with FIPS 140-2 level 2

General	
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Edge Storage	Micro SD/SDHC/SDXC 2slots 512GB
Memory	4608MB RAM, 512MB Flash

Environmental & Electrical	
Operating Temperature / Humidity	-40°C to +60°C(-58°F to +140°F) * Start up should be done at above -30°C 0~95% RH(non-condensing)
Storage Temperature / Humidity	-50°C~+60°C(-58°F~+140°F) / 0~90% RH
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 12VDC : Max 21.5W, Typ 14.0W

Mechanical	
Color / Material	White / Aluminum
RAL Code	RAL9003
Product Dimensions / Weight	353.4(W)x287.5(H)x191.2(D)mm(13.92x11.32x7.53"), 4.53kg(9.99lb)

Certifications & Standards	
EMC	FCC 47 CFR 15 Subpart B Class A ICES-3(A)/NMB-3(A) CE/UKCA - EN 55032 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
Safety	UL/CSA 62368-1 KC 62368-1
Environment	IEC/EN 60529 IP66/IP67, IEC/EN 62262 IK10 NEMA 250 type 4X, NEMA TS-2

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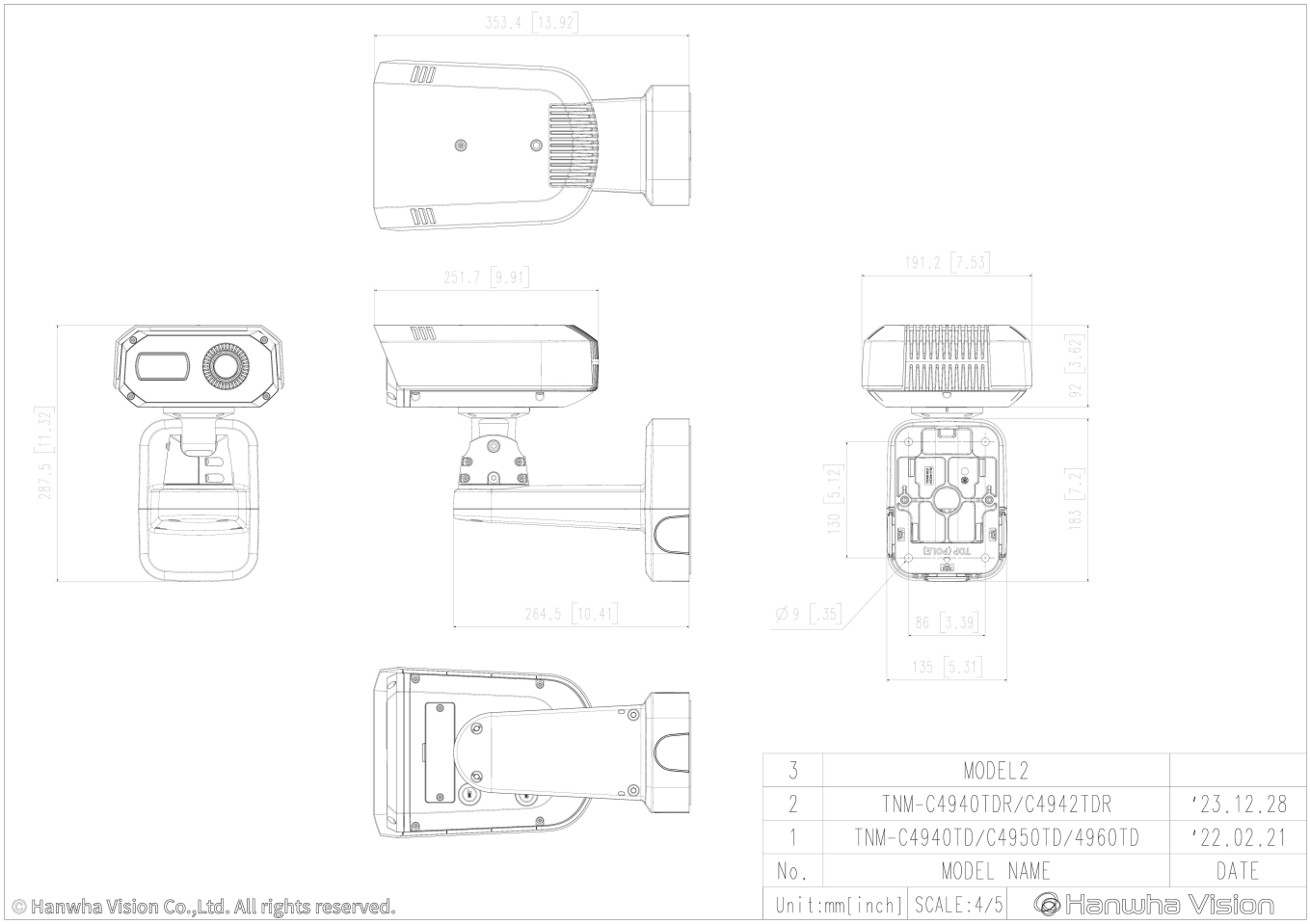
CAD

Unit:mm [inch]



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