

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

映像		Thermal	Visible
Imaging Device	サイズ		1/1.8"
	タイプ	Uncooled micro bolometer (640x480)	CMOS
解像度		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)	
	MJPEG	3fps	1fps
	その他	Max. 15fps when both channel AI on	
Spectral Range		8~14㎛	
NETD		≤60mK	
Pixel Size		12㎛	
Min. Illumination (Lux)	Color(1/30sec, 30IRE)		0.06
	BW(1/30sec, 30IRE)		0.004
Video Out		USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.	

レンズ

Focal Length (mm)		9.1	4.4~9.3
Max Aperture Ratio (F number)	Wide	1.0	1.3
	Tele		2.15
視野角度	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	シンプルフォーカス

Pan / Tilt / Rotate

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

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技能

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)	
モーション検知	Quantity	8ea	
	Shape	8point Polygonal zones	
Privacy Masking	Quantity	6ea	
	Shape	Rectangular zones	
	Color / Option	灰色, 黒, 白	
ゲイン制御			低, 中, 高
ホワイトバランス			ATW, AWC, 手動, 室内, 屋外
LDC			サポート
Electronic Shutter	モード		最小, 最大, アンチフリッカー, Prefer shutter control(Based on AI engine)
	Speed Range		1/5~1/12,000sec
Alarm Interface	In/Out	4 configurable I/O ports	
Alarm Triggers		分析, ネットワーク切断, アラーム入力, MQTT購読	
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,アラーム出力, Handover: PTZ preset,send message by HTTP/HTTPS/TCP, MQTT: publication	
オーディオ入力		Selectable(mic in/line in)	
オーディオ出力		Line out	
Light Type		IR LED	
Light Viewable Length	IR	30m(98.42ft)	
IR Wavelength		850nm	
Color Pallettes		Whitehot, Blackhot, Rainbow, Rainbow2, Sepia, Red, Iron, Custom	

分析

Classified Object Type		人, 車両	人, 顔, 車両, ナンバープレート
属性	車両		Type(car, bus, truck, motorcycle, bicycle)
サムネイル		ベストショット	
分析イベント	Based on AI Engine	対象物検知, 仮想線（交差·方向）, 仮想領域（ローターリング、侵入、Enter、Exit）	
	通常	モーション検知, 温度検知	焦点ぼけ検知, モーション検知, タンパリング, 音声検出, サウンド分類, 衝撃検知, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear)

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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		サポート	
Spot Temperature Reading		サポート	
ROI Condition Monitoring		以上, 以下, 増加, 減少	

ネットワーク

Ethernet		Metal shielded RJ-45(10/100/1000BASE-T)	
映像圧縮		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	手動, WiseStream III
ビットレートコントロール		H.265/H.264: CBR or VBR, MJPEG: VBR	
Streaming	Unicast	最大 6ユーザー	
	マルチキャスト	サポート	
	Multiple Streaming	最大 3プロファイル	
プロトコル		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	s, T, M	
	その他	SUNAPI(HTTP API), Hanwha Vision Open Platform	

セキュリティ

OS / Firmware Protect	Encrypted firmware, Secure boot, Signed firmware
ユーザー認証	ダイジェスト認証
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
デバイス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

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一般

メモリ	RAM	4GB
	フラッシュ	512MB
Edge Storage	Micro SD/SDHC/SDXC	Max. 256GB x 2slot(Total 512GB)

Environmental & Electrical

動作条件	温度	-40°C~+60°C(-40°F~+140°F)
	湿度	0~95% RH(non-condensing)
	その他	Start up should be done at above -30°C
保管条件	温度	-50°C~+60°C(-58°F~+140°F)
	湿度	0~90% RH(non-condensing)
Input Voltage		PoE+(IEEE802.3at, Class4), 12VDC
消費電力	PoE	Max. 25.5W, Typical 16.0W
	12VDC	Max. 21.5W, Typical 14.0W

Mechanical

カラー	白
材料	アルミニウム
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), 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
Safety	UL 62368-1, CAN/CSA C22.2 NO. 62368-1
環境	IEC 60529 IP66, IEC 60529 IP67, IEC 62262 IK10, NEMA 250 type 4X, NEMA TS 2-2013 (2.2.8, 2.2.9)

DRI (Johnson's Criteria)

Detection	Person(1.67PPM)	412m(1,351ft)	
	Vehicle(0.65PPM)	1,052m(3,452ft)	
Recognition	Person(6.67PPM)	103m(338ft)	
	Vehicle(2.61PPM)	263m(863ft)	
Identification	Person(13.33PPM)	51m(169ft)	
	Vehicle(5.22PPM)	132m(432ft)	

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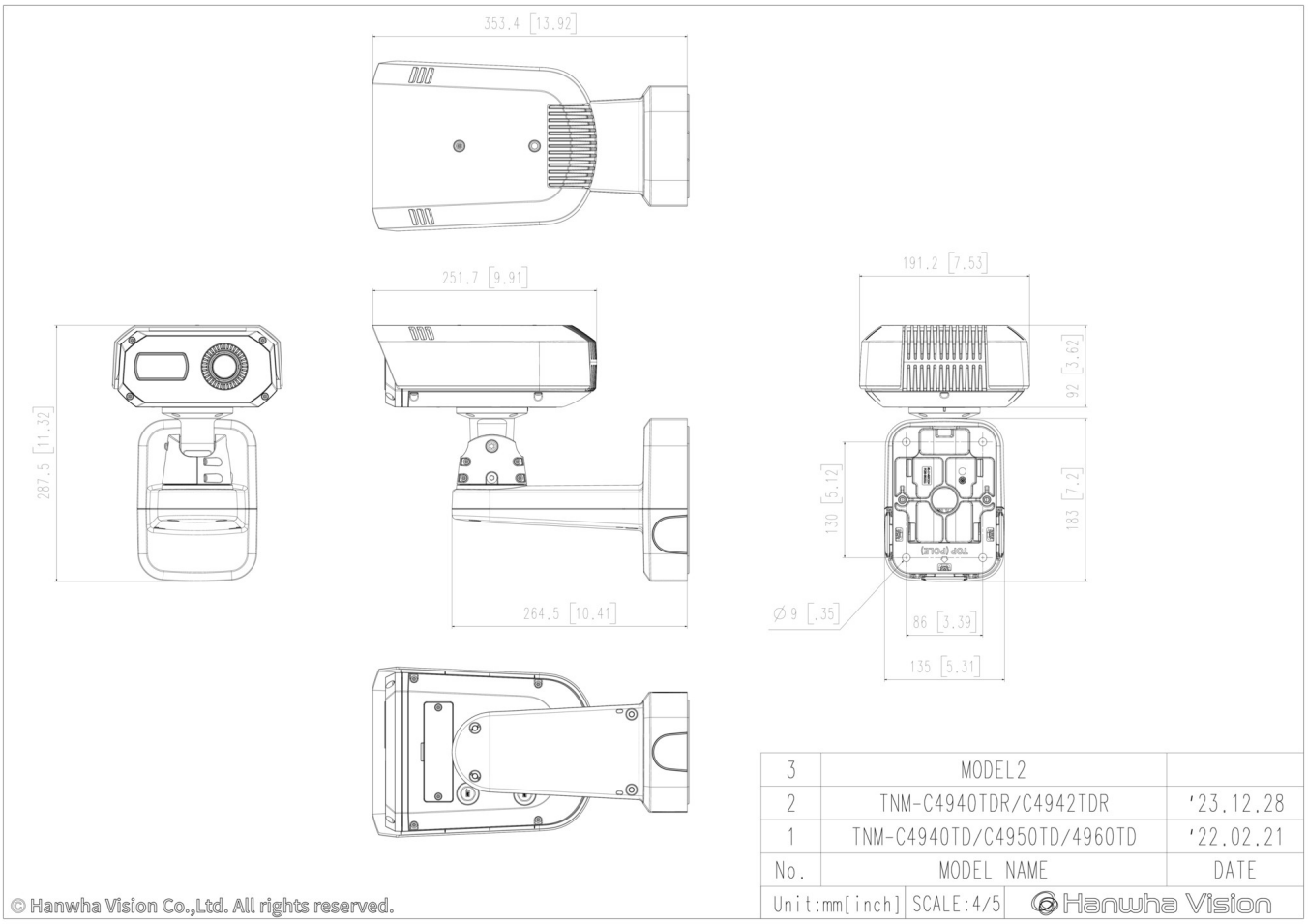
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CAD

Unit: mm [inch]



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