



Network

Thermal

## TNM-C3622TDR

Bi-Spectrum AI Thermal Camera



### Key Features

- Bi-spectrum monitoring with 2MP visible & QVGA thermal
- AI based Object classification with visible channel only (person)
- Remote Temperature Monitoring within -20 ~ 130°C range
- 6 of quadrangle ROI areas for temperature monitoring
- Compact and Light-weight for Indoor purpose

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Bi-Spectrum AI Thermal Camera



### Specifications

Video		Thermal	Visible
Imaging Device	Size		1/2.8"
	Type	Uncooled micro bolometer (320x240)	CMOS
Resolution		1280x960, 640x480, 320x240	1920x1080, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240
Max. Framerate	H.265/H.264	8fps	30fps/25fps(60Hz/50Hz)
	MJPEG	8fps	30fps
Spectral Range		8~14 $\mu$ m	
NETD		$\leq$ 50mK	
Pixel Size		12 $\mu$ m	
Min. Illumination (Lux)	Color(1/30sec, 30IRE)		0.05
	BW(1/30sec, 30IRE)		0.005
Video Out		CVBS: 1.0 Vp-p / 75 $\Omega$ composite for installation, USB: Micro USB Type B	

### Lens

Focal Length (mm)		4.7	4
Max Aperture Ratio (F number)	Wide	F1.0	1.6
Angular Field of View	Horizontal	50°	87.6°
	Vertical	37°	46.4°
	Diagonal	66°	104.5°
iFoV		2.553mRad	
Min. Object Distance		1m(3.28ft)	
Focus Control		Fixed	Fixed

### Operational

Day & Night		Auto(ICR)
Backlight Compensation		BLC, WDR, SDR
Wide Dynamic Range (dB)		150
Digital Noise Reduction		SSNRV

## Operational

<b>Digital Image Stabilization</b>		Support(built-in gyro sensor)
<b>Motion Detection</b>	Quantity	8ea
	Shape	8point Polygonal zones
<b>Privacy Masking</b>	Quantity	24ea
	Shape	Polygonal zones
	Color / Option	Gray, Green, Red, Blue, Black, White, Mosaic
<b>Gain Control</b>		Low, Middle, High
<b>White Balance</b>		ATW, AWC, Manual, Indoor, Outdoor
<b>LDC</b>		Support
<b>Electronic Shutter</b>	Mode	Minimum, Maximum, Anti flicker
	Speed Range	2~1/12,000sec
<b>Video Rotation</b>		Flip, Mirror
<b>Alarm Interface</b>	In/Out	Input 1ea, Output 2ea
<b>Alarm Triggers</b>		Analytics, Network disconnect, Alarm input, MQTT subscription
<b>Alarm Events When Alarm Trigger Occurred</b>		File upload(image): e-mail/FTP, Notification: e-mail, Recording: SD/SDHC/SDXC or NAS recording at event triggers,Alarm output, Handover: PTZ preset, MQTT: publication
<b>Audio In</b>		Selectable(mic in/line in)
<b>Audio Out</b>		Line out
<b>Color Palettes</b>		Whitehot, Blackhot, Rainbow, Rainbow2, Sepia, Red, Iron, Custom

## Analytics

<b>Classified Object Type</b>		Person, Face
<b>Analytics Events</b>	Based on AI Engine	Object detection
	Normal	Motion detection, Virtual area(Intrusion/Enter/Exit), Virtual line(Crossing, Direction) , Temperature detection Motion detection, Tampering, Audio detection, Virtual area(Intrusion/Enter/Exit), Virtual line(Crossing, Direction)

## Radiometry

<b>Temperature Detect Range</b>		-20°C~130°C
<b>Temperature Accuracy</b>		±5°C(≤100°C), ±20%(>100°C)
<b>Temperature Detection ROI Zones</b>	Quantity	6ea
	Shape / Option	Quadrangle
<b>Hybrid Palettes</b>		Support
<b>Spot Temperature Reading</b>		Support
<b>ROI Condition Monitoring</b>		Above, Below, Increase, Decrease

## Network

Ethernet		Metal shielded RJ-45(10/100BASE-T), RJ-45(10/100BASE-T)
Video Compression		H.265/H.264: Main/Baseline/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		Manual, WiseStream II
Bitrate Control		H.265/H.264: CBR or VBR, MJPEG: VBR
Streaming	Unicast	Up to 20 users
	Multicast	Support
	Multiple Streaming	Up to 6 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), MQTT
Application Programming Interface	ONVIF	S, T, M
	Others	SUNAPI(HTTP API)
Direct Cloud Connection		Optional (needs gateway)

## 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 1slot

## Environmental & Electrical

Operating Condition	Temperature	-10°C~+55°C(+14°F~+131°F)
	Humidity	0~95% RH(non-condensing)
Storage Condition	Temperature	-30°C~+60°C(-22°F~+140°F)
	Humidity	0~95% RH(non-condensing)

## Environmental & Electrical

Input Voltage		PoE+(IEEE802.3at, Class4), 12VDC
Power Consumption	PoE	Max. 17.0W, typical 12.5W
	12VDC	Max. 14.5W, typical 11.0W

## Mechanical

Color	White
Material	Aluminum
RAL Code	RAL9003
Product Dimensions	135(W)x75(H)x188.5(D)mm(5.31x2.95x7.42")
Product Weight	1.7kg(3.77lb)

## Certifications & Standards

EMC	FCC 47 CFR 15 Subpart B Class A, CE/UKCA - EN55032 Class A, EN 50130-4, EN 61000-3-2, EN 61000-3-3, VCCI CISPR 32 Class A, IC Regulation ICES 003: 2016 ANSI C63.4 2014 Class A
Safety	UL 62368-1, CAN/CSA C22.2 NO. 62368-1
Environment	IEC/EN 63000

## DORI (EN62676-4 standard)

Detect (25PPM/ 8PPF)	Wide	80.1m(262.8ft)
Observe (63PPM/ 19PPF)	Wide	32.0m(105.1ft)
Recognize (125PPM/ 38PPF)	Wide	16.0m(52.6ft)
Identify (250PPM/ 76PPF)	Wide	8.0m(26.3ft)

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### CAD

Unit: mm [inch]

