Hanwha Vision



Network Thermal

TNM-C3622TDR

Bi-spectrum AI Radiometric Camera QVGA thermal / 2MP visible

Key Features

- Thermal: 320 x 240 (uncooled) @ 8fps <50mK (NETD), built-in 4.7mm thermal fixed lens (HFoV: 50°),
- Visible: 2MP @ 30fps, built-in 4mm fixed lens (HFoV: 87.6°)
- Triple triple codec H.265/H.264/MJPEG with Wisestream II and WiseStream III (based on AI engine) support
- WDR 150dB
- AI object detection (visible): Person/Face, Detection Shot
- Analytics events based on AI engine (visible): Virtual line (Crossing/ Direction), Virtual area (Loitering/Intrusion/Enter/Exit), Motion detection, Audio detection, Virtual area(Appear/Disappear)
- Alarm events: Image upload (e-mail/FTP), Notification (e-mail), Recording (edge/NAS), Alarm output, Handover (PTZ preset), Send message by HTTP/ HTTPS/TCP message), Audio clip playback, MQTT (publication)
- Radiometric: whole FoV area or up 6 user programmable quadrangle ROIs, Temperature detection range from -20°C to 130°C (-4°F to 266°F)
- FIPS 140-2, Level 2
- 1x micro SD card (256GB x1)
- PoE+/12VDC
- This product is subject to the Thermal agreement

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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㎛	
NETD		≤50mK	
Pixel Size		12㎛	
Min. Illumination (Lux)	Color(1/30sec, 30IRE)		0.05
	BW(1/30sec, 30IRE)		0.005
Video Out		CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.	

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	

Operational

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

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Operational

Digital Image Stabilization		Support(built-in gyro sensor)	
Motion Detection	Quantity	8ea	
	Shape	8point Polygonal zones	
Privacy Masking	Quantity	24ea	
	Shape	Polygonal zones	
	Color / Option	Gray, Green, Red, Blue, Black, White, Mosaic	
Gain Control			Low, Middle, High
White Balance			ATW, AWC, Manual, Indoor, Outdoor
LDC			Support
Electronic Shutter	Mode		Minimum, Maximum, Anti flicker
	Speed Range		2~1/12,000sec
Video Rotation		Flip, Mirror	
Alarm Interface	In/Out	Input 1ea, Output 2ea	
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, MQTT: publication	
Audio In		Selectable(mic in/line in)	
Audio Out		Line out	
Color Pallettes		Whitehot, Blackhot, Rainbow, Rainbow2, Sepia, Red, Iron, Custom	

Analytics

Classified Object Type			Person, Face
Analytics Events	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

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

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Network

Ethernet		Metal shielded RJ-45(10/100BASE-T), RJ-45(10/100BASE-T)
Video Compression		H.265: Main, 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, IGMPv2, 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)

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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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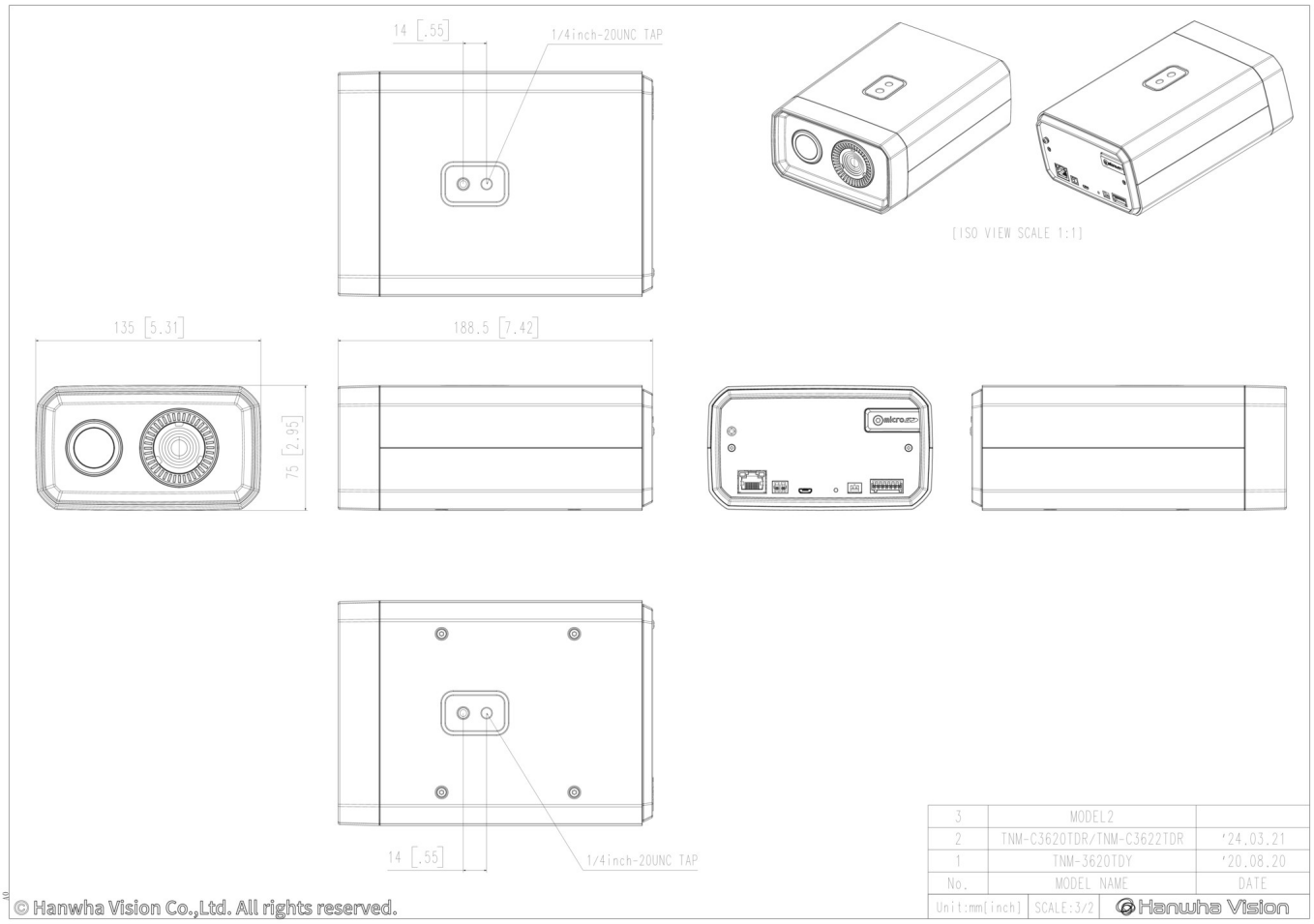
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CAD

Unit: mm [inch]



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