

Network Thermal

TNO-C3050T

QVGA AI Tele lens Thermal Camera

Key Features

- High performance thermal sensitivity (NETD 20mK@25°C)
- AI based object classification
- NEMA4X, NEMA-TS2, MIL-STD-810H
- Secure element with FIPS 140-3 level3, CC EAL6+

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Specifications

映像

Imaging Device	タイプ	Uncooled micro bolometer (384x288)
解像度		768x576, 384x288
Max. Framerate	H.265/H.264	30fps
	MJPEG	30fps
Spectral Range		8~14㎛
NETD		≤20mK@25°C, F1.0
Pixel Size		17㎛
Video Out		USB: Micro USB Type B. Preview and installation ONLY. Requires WiFi dongle.

レンズ

Focal Length (mm)		19
Max Aperture Ratio (F number)	Wide	1.0
視野角度	Horizontal	19.3°
	Vertical	14.6°
	Diagonal	23.9°
iFoV		0.895 mRad
Min. Object Distance		10.6m(34.8ft)
Focus Control		Fixed
Lens Type		Athermalized

Pan / Tilt / Rotate

Pan / Tilt / Rotate Range	Pan	0°~350°
	Tilt	0°~90°
	回転	0°~350°

技能

モーション検知	Quantity	8ea
	Shape	8point Polygonal zones

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技能

Privacy Masking	Quantity	6ea
	Shape	Rectangular zones
	Color / Option	灰色, 黒, 白
ビデオ回転		FLIPモード, ミラー, Hallway view(90°/270°)
シリアルインターフェイス		RS-485
Alarm Interface	In/Out	2 configurable I/O ports
	その他	Support extra alarm I/O via optional I/O box
Alarm Triggers		分析, ネットワーク切断, アラーム入力, タイムスケジュール, MQTT購読
Alarm Events When Alarm Trigger Occurred		File upload(image): e-mail/FTP/SFTP, File upload(video clip): FTP/SFTP, Notification: e-mail, Recording: SD/SDHC/SDXC or NAS recording at event triggers,アラーム出力, Handover: PTZ preset, MQTT: publication
オーディオ入力		Selectable(mic in/line in)
オーディオ出力		Line out
Color Pallettes		Whitehot, Blackhot, Rainbow, Rainbow2, Sepia, Red, Iron, Custom

分析

Classified Object Type		人, 車両
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 (ロータリング、侵入、Enter、Exit) , モーション検知
	通常	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(Appear/Disappear)

Radiometry

Hybrid Pallettes	サポート
ROI Condition Monitoring	なし, 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/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		手動, WiseStream II , WiseStreamIII
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 20ユーザー
	マルチキャスト	サポート
	Multiple Streaming	最大 10プロファイル

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ネットワーク

プロトコル		IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SFTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, CDP, SRTP(TCP, UDP Unicast), MQTT, Syslog
Application Programming Interface	ONVIF	s, G, 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, Prevent brute-force attack
Network authentication	IEEE 802.1X(EAP-TLS, EAP-LEAP, EAP-PEAP, MSCHAPv2)
Secure Communication	HTTPS, WSS(WebSocket Secure), SRTP
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	SDcard partition encrypt(AES-256), Secure element
Security Certificate	Secure element(FIPS 140-3 level3, CC EAL6+)

一般

メモリ	RAM	2GB
	フラッシュ	512MB
Edge Storage	Micro SD/SDHC/SDXC	Max. 1TB x 1slot

Environmental & Electrical

動作条件	温度	-40°C~+60°C(-40°F~+140°F)
	湿度	0~95% RH(non-condensing)
保管条件	温度	-50°C~+60°C(-58°F~+140°F)
	湿度	0~95% RH(non-condensing)
Input Voltage		PoE(IEEE802.3af, Class3), 12VDC
消費電力	PoE	Max. 10.8W, typical 9W
	12VDC	Max. 9.4W, typical 7.7W

Mechanical

カラー	白
材料	アルミニウム
RAL Code	RAL9003
Product Dimensions	ø93.8x233.5mm(ø3.69x9.19")
Product Weight	1730g(3.81lb)
Compatible Conduit Hole	Support conduit compatibility via optional adaptor

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Mechanical

Compatible Gang Box	シングル, Double, 4" Octagon, 正方形

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, RCM AS-NZS CISPR 32 Class A, KS C 9832 Class A, KS C 9835, IC Regulation ICES-003 Issue 7 Class A
Safety	UL 62368-1, CAN/CSA C22.2 NO. 62368-1
環境	IEC/EN 63000, IEC 60529 IP66, IEC 60529 IP67, IEC 62262 IK10, NEMA TS 2-2013 (2.2.7, 2.2.8, 2.2.9), NEMA 250 type 4X, IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78, MIL-STD-810H 501.7, MIL-STD-810H 502.7, MIL-STD-810H 505.7, MIL-STD-810H 506.6, MIL-STD-810H 507.6, MIL-STD-810H 509.7, MIL-STD-810H 510.7, MIL-STD-810H 514.8, MIL-STD-810H 516.8, MIL-STD-810H 521.4

AI Detection Distance

Person(1.8m/5.9ft)	Wide	up to 128m(419ft)
Vehicle(1.45m/4.8ft)	Wide	up to 170m(558ft)

DRI (Johnson's Criteria)

Detection	Person(1.67PPM)	678m(2,223ft)
	Vehicle(0.65PPM)	1,731m(5,680ft)
Recognition	Person(6.67PPM)	169m(556ft)
	Vehicle(2.61PPM)	433m(1,420ft)
Identification	Person(13.33PPM)	85m(278ft)
	Vehicle(5.22PPM)	216m(710ft)

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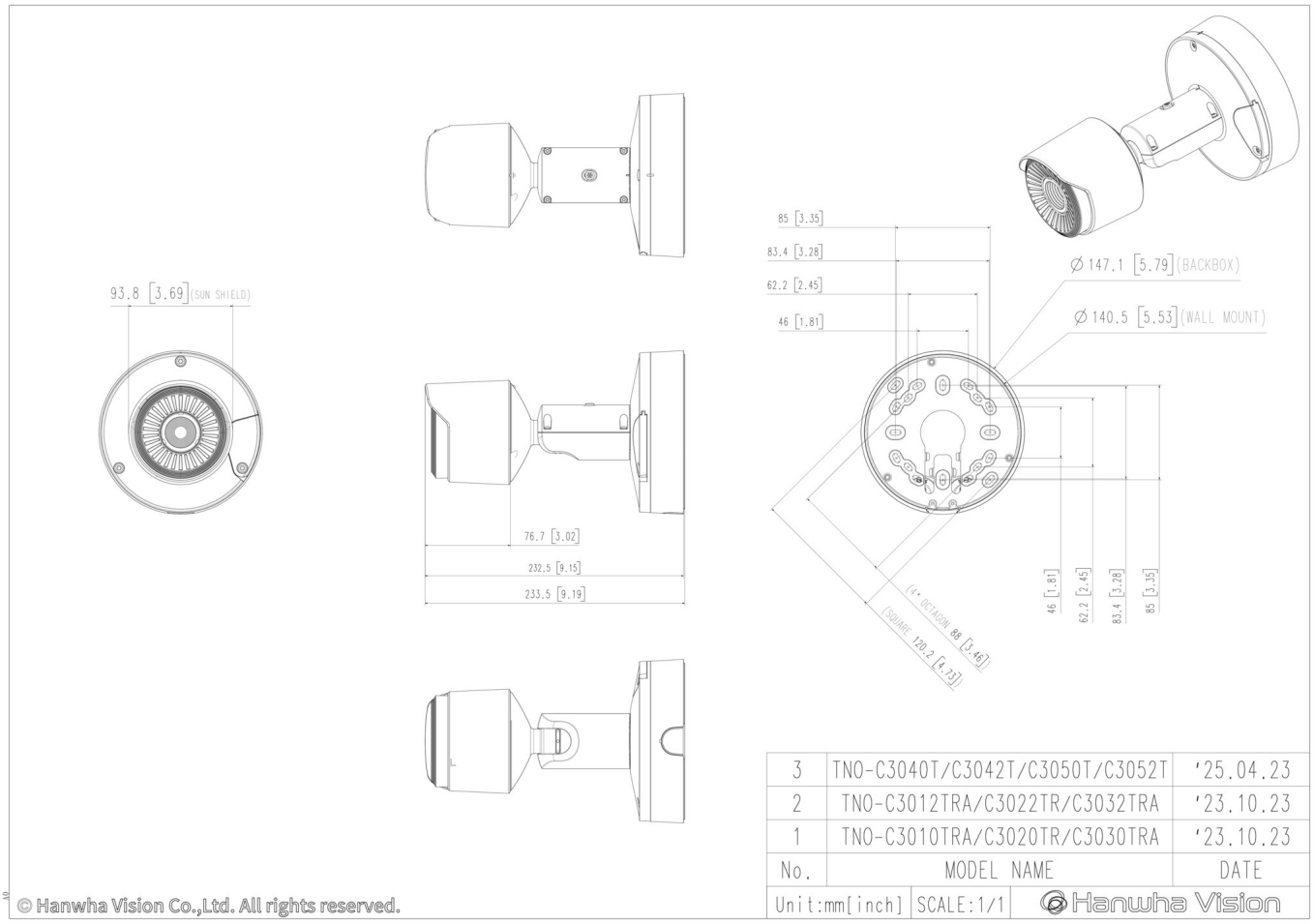
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CAD

Unit: mm [inch]



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