

Network Thermal

TNO-C4052T

VGA AI テレレンズ サーマルカメラ

Key Features

- VGA Image Resolution
- 19mm Focal Length
- <16mK NETD
- Person, Vehicle, Vessel Detection
- 人物、車両、船舶の検出
- 1280x960解像度までのアップスケーリング
- 最大8fps@全解像度 (H.265/H.264, MJPEG)
- MIL-STD、NEMA 4X、NEMA TS規格

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Specifications

映像

Imaging Device	タイプ	Uncooled micro bolometer (640x480)
解像度		1280x960, 640x480, 640x360, 320x240, 320x180
Max. Framerate	H.265/H.264	8fps
	MJPEG	8fps
Spectral Range		8~14㎛
NETD		≤16mK@25°C, F1.0
Pixel Size		17㎛
Video Out		USB: USB Type C. 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	32.8°
	Vertical	24.6°
	Diagonal	41.1°
iFoV		0.89 mRad
Min. Object Distance		11m(36.1ft)
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

Digital Noise Reduction		WiseNR
モーション検知	Quantity	8ea
	Shape	8point Polygonal zones

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技能

Privacy Masking	Quantity	32ea
	Shape	8point Polygonal zones
	Color / Option	灰色, 緑, Red, 青, 黒, 白, モザイク, 紫色, 黄色
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, ケーステンパリング
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,send message by HTTP/HTTPS/TCP,Audio clip playback, 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, Vessel
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）, モーション検知, 仮想領域（ローターリング、侵入、Enter、Exit、Appear、Disappear）, サウンド分類
	通常	タンパリング, 音声検出, 衝撃検知, 温度変化検知

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(PCM): 8kHz(64kbps), G.726(ADPCM): 8kHz(16/24/32/40kbps), AAC-LC: 16kHz(48kbps), OPUS: 16kHz(64kbps)
Smart codec		WiseStream(Based on AI engine)
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 5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, SFTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour, LLDP, CDP, SRTP(TCP, UDP Unicast), MQTT, Syslog

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ネットワーク

Application Programming Interface	ONVIF	s, G, T, M
	その他	SUNAPI(HTTP API), Hanwha Vision Open Platform
Direct Cloud Connection		サポート

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, MAC-based access control, 自動ログアウト
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
Supply Chain Security	SBOM
Security Certificate	Secure element(FIPS 140-3 level3, CC EAL6+), ETSI EN 303 645

一般

SoC	Type	Wisenet 8
Edge Storage	Micro SD/SDHC/SDXC	Max. 1TB x 1slot
Edge Storage(OnCloud)	Micro SD/SDHC/SDXC	Max. 1TB x 1slot *Hanwha Vision branded microSD cards have been certified and recommended for OnCloud edge recording.

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	+74°C(+165°F)(Max) based on NEMA-TS 2(2.2.7)
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. 7.8W, typical 7.4W
	12VDC	Max. 8.1W, typical 7.8W

Mechanical

カラー	白
材料	アルミニウム, PC(Polycarbonate)
RAL Code	RAL9003
Product Dimensions	ø107.3 x 275mm(ø4.22/10.83")
Product Weight	2000g(4.4 lb)

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Mechanical

Compatible Conduit Hole	Support conduit compatibility via optional adaptor
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,FCC - IC Regulation ICES 003 Issue 7, RCM - EN IEC 63000:2018 Class A, VCCI - EN IEC 63000:2018 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 159m(522ft)
Vehicle(1.45m/4.8ft)	Wide	up to 227m(745ft)
Vessel(2.4m/7.9ft from Waterline)	Wide	up to 542m(1,778ft)

DRI (Johnson's Criteria)

Detection	Person(1.67PPM)	652m(2,140ft)
	Vehicle(0.65PPM)	1,667m(5,470ft)
Recognition	Person(6.67PPM)	163m(535ft)
	Vehicle(2.61PPM)	417m(1,367ft)
Identification	Person(13.33PPM)	82m(268ft)
	Vehicle(5.22PPM)	208m(684ft)

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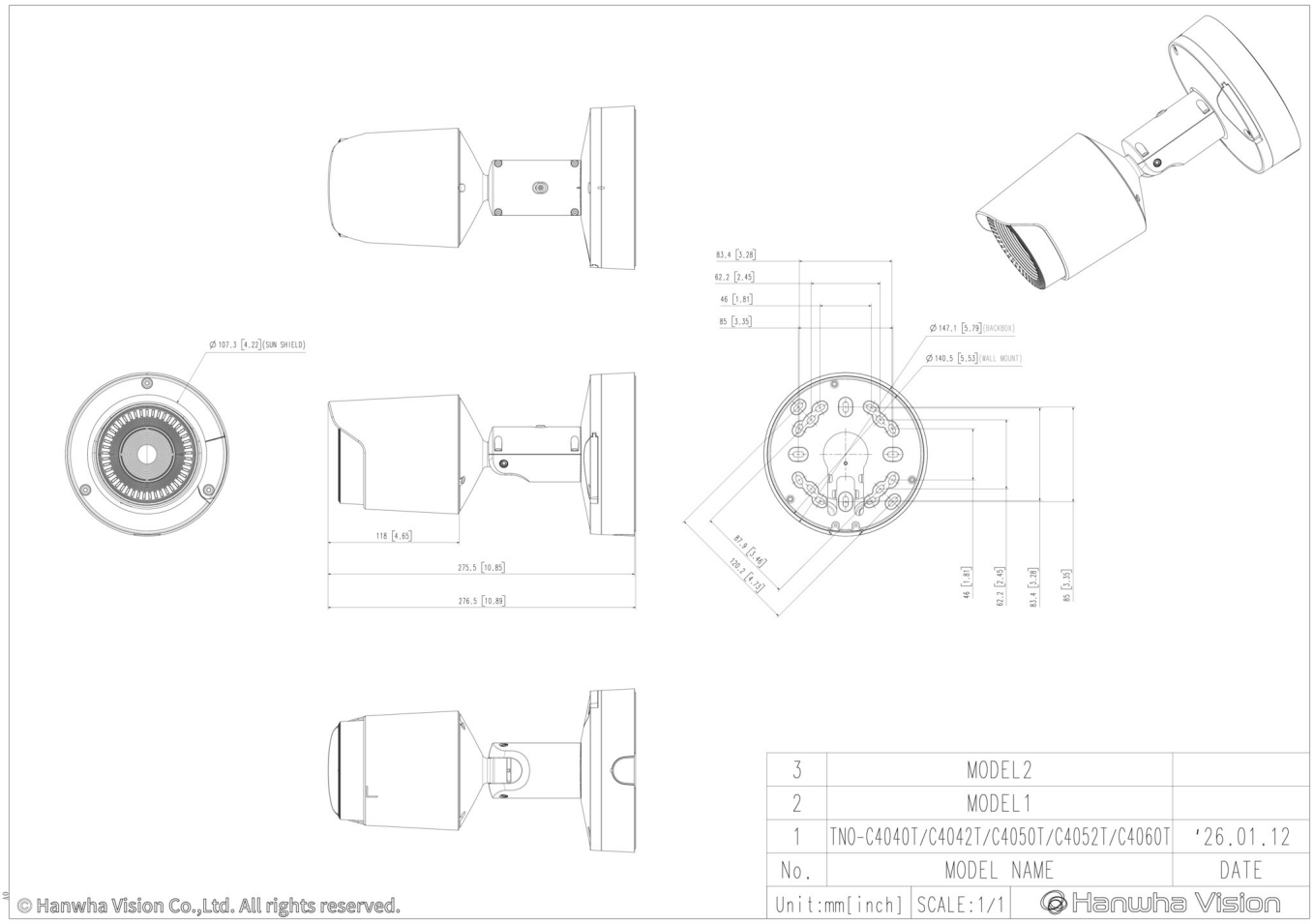
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CAD

Unit: mm [inch]



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Compatible Devices


SBP-160HMW1


SBP-140CMB


SBP-180CMB


SBP-180CMS


SBP-150CMP

SBP-300CMP

SBP-900CMP

SBP-C15H


SBP-C15NP


SBP-C35H


SBP-C15P


SBP-150CMI


SBP-300CMI


SBP-300CMW1


SBP-900CMW

SBP-300CMTW


SBP-300CMTS


SBP-250WMW


SBP-400WMW


SBP-200WMW


SBP-350WMW


SBP-115PFA


SBP-150PMW


SBD-180PMW


SBP-156KMW


SBP-156LMW1


SBP-150NBW


SBP-061BA

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