



Network

Thermal

## TNO-L4040TR

VGA Thermal Camera



### Key Features

- Max. 640x480 resolution support
- Built-in 19mm fixed focal lens
- H.265, H.264, MJPEG codec
- Max. 8fps@all resolutions (H.265, H.264, MJPEG)
- Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Temperature detection, Sound classification, Shock detection
- Micro SD / SDHC / SDXC memory 1-slot (Max. 256GB)
- Hallway View, WiseStreamII support
- Temperature Detect Range '-20°C~130°C(-4°F~266°F)
- Additional Hybrid palettes, Spot temperature reading
- PoE, 24VAC, 12VDC / IP66, IK10, NEMA4X

## TNO-L4040TR

VGA Thermal Camera



### Specifications

#### Video

Imaging Device	Type	Uncooled micro bolometer (640x480)
Resolution		640x480, 640x360, 320x240
Max. Framerate	H.265/H.264	8fps
	MJPEG	8fps
NETD		≤50mK
Pixel Size		17μm
Video Out		CVBS: 1.0 Vp-p / 75Ω composite for installation, USB: Micro USB Type B

#### Lens

Focal Length (mm)		19
Max Aperture Ratio (F number)	Wide	1.0
Angular Field of View	Horizontal	32°
	Vertical	24.3°
	Diagonal	39.2°
Min. Object Distance		11m(36.09ft)
Focus Control		Fixed

#### 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
Video Rotation		Flip, Mirror, Hallway view(90°/270°)
Alarm Interface	In/Out	Input 1ea, Output 2ea
Alarm Triggers		Analytics, Network disconnect, Alarm input, MQTT subscription

## Operational

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

Analytics Events	Normal	Motion detection, Tampering, Audio detection, Sound classification, Shock detection, Virtual area(Lotering, Intrusion, Enter/Exit, Appear/Disappear), Virtual line(Crossing, Direction) , Temperature detection
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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	6ea
	Shape / Option	Quadrangle
Hybrid Pallettes	Support	
Spot Temperature Reading	Support	

## Network

Ethernet	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 10 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, SRTPT(TCP, UDP Unicast), MQTT, PIM-SM	
Application Programming Interface	ONVIF	S, G, T
	Others	SUNAPI(HTTP API), Hanwha Vision Open Platform

## Security

OS / Firmware Protect	Encrypted firmware
User authentication	Digest authentication
Network authentication	IEEE 802.1X(EAP-TLS, EAP-LEAP)

## Security

Secure Communication	HTTPS, SRTP
Access Control	IP-based access control
Audit	Access / System / Event Log management

## General

Memory	RAM	1GB
	Flash	256MB
Edge Storage	Micro SD/SDHC/SDXC	Max. 256GB x 1slot

## Environmental & Electrical

Operating Condition	Temperature	-40°C~+60°C(-40°F~+140°F)
	Humidity	0~90% RH(non-condensing)
Storage Condition	Temperature	-50°C~+60°C(-58°F~+140°F)
	Humidity	0~90% RH(non-condensing)
Input Voltage		PoE(IEEE802.3af, Class3), 24VAC, 12VDC
Power Consumption	PoE	Max. 10W, typical 8.6W
	12VDC	Max. 9W, typical 7.5W
	24VAC	Max. 10.5W, typical 8.9W

## Mechanical

Color	White
Material	Aluminum
RAL Code	RAL9003
Product Dimensions	ø101.97x401.8mm(4.01x15.82")
Product Weight	3175g(7.01lb)

## Certifications & Standards

Environment	IEC 60529 IP66, IEC 62262 IK10, NEMA 250 type 4X
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# TNO-L4040TR

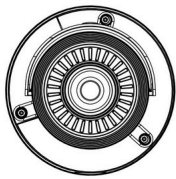
VGA Thermal Camera



CAD

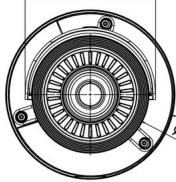
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## TNO-L4040T/L4040TR/L4050T VGA Thermal Camera



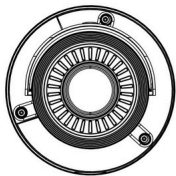
TNO-4030T, 4030TR  
TNO-L4030T, L4030TR

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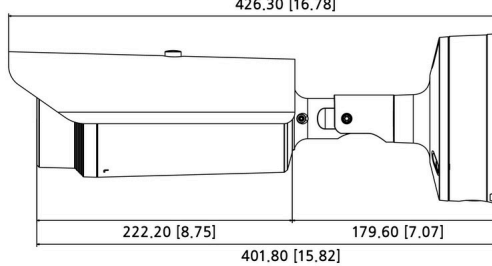
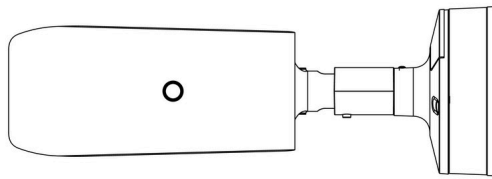


TNO-4040T, 4040TR  
TNO-L4040T, L4040TR

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TNO-4050T, L4050T

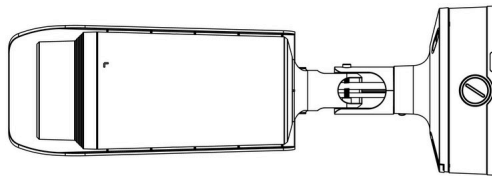


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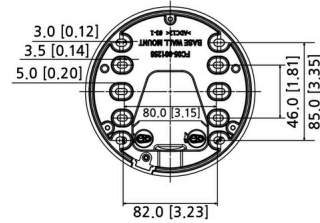
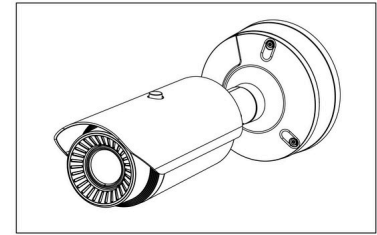
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Reference image



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Revision	V1.0
Revision Date	24/12/10
Paper Size	A0
Unit	mm [inch]
Scale	1 : 1

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