



Network

Bullet

# 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  $-20^{\circ}\text{C}\sim 130^{\circ}\text{C}$ ( $-4^{\circ}\text{F}\sim 266^{\circ}\text{F}$ )
- Additional Hybrid palettes, Spot temperature reading
- PoE, 24VAC, 12VDC / IP66, IK10, NEMA4X

# TNO-L4040TR

VGA Thermal Camera



## Specifications

### Video

Imaging Device	Uncooled micro bolometer
Resolution	640x480, 640x360, 320x240
Max. Framerate	H.265/H.264/MJPEG: Max. 8fps
NETD	<50mK
Pixel Size	17μm
Video Out	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation USB: Micro USB Type B, 1280x720 for installation

### Lens

Focal Length (Zoom Ratio)	19mm fixed focal
Max. Aperture Ratio	F1.0
Angular Field of View	H: 32° / V: 24.3° / D: 39.2°
Min. Object Distance	11m(36.09ft)
Focus Control	Fixed

### Operational

Camera Title	Displayed up to 85 characters
Digital Image Stabilization	Support(built-in gyro sensor)
Motion Detection	8ea, 8point polygonal zones
Privacy Masking	24ea, polygonal zones - Color: Grey/Green/Red/Blue/Black/White - Mosaic
Video Rotation	Flip, Mirror, Hallway view(90-/270-)
Analytics	Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Temperature detection, Sound classification, Shock detection
Alarm I/O	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) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm
Audio Out	Line out, Max.output level: 1Vrms
Color Palettes	Whitehot, Blackhot, Rainbow, Rainbow2, Sepia, Red, Iron, Custom

### Radiometry

Temperature Detect Range	-20°C~130°C(-4°F~266°F)
Temperature Accuracy	±5°C(≤100°C), ±20%(>100°C)

Design and specifications are subject to change without notice. The latest product information / specification can be found at [HanwhaVision.com](http://HanwhaVision.com).

Hanwha Vision is formerly known as Hanwha Techwin.

Temperature Detection	6 Quadrangle ROI zones, whole FoV area
Additional	Hybrid palettes, Spot temperature reading
<b>Network</b>	
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(5ea area), WiseStream II
Bitrate Control	H.264/H.265: CBR or VBR MJPEG: VBR
Streaming	Unicast(20 users) / Multicast 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, PIM-SM, UPnP, Bonjour, LLDP, SRTP, MQTT
Application Programming Interface	ONVIF Profile S/G/T SUNAPI(HTTP API) Wisenet open platform
<b>Security</b>	
OS / Firmware Protect	Firmware encryption
User authentication	Digest Authentication, Prevent brute-force attack
Network authentication	802.1X Authentication(EAP-TLS, EAP-LEAP, EAP-PEAP MSCHAPv2)
Secure Communication	HTTPS, SRTP, WSS(Websocket secure)
Access Control	Access control based on IP address
Data Protect	Authentication information encryption, ZIP compression encryption
Audit	User Access/System/Event log management
Device ID	Device Certificate(Hanwha Private Root CA)
<b>General</b>	
Webpage Language	English, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Edge Storage	Micro SD/SDHC/SDXC 1slot 256GB
Memory	1024MB RAM, 256MB Flash
<b>Environmental &amp; Electrical</b>	
Operating Temperature / Humidity	-40°C ~ +60°C (-40°F ~ +140°F) / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
Certification	IP66, IK10, NEMA4X
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
<b>Mechanical</b>	
Color / Material	White / Aluminum
RAL Code	RAL9003
Product Dimensions / Weight	ø101.97x401.8mm(4.01x15.82") / 3,124g(6.89lb)