

# TNO-4051T

VGA H.265 Thermal Camera

Network



FC | UL LISTED | CE | ENEC

## Key Features

- Max. 640 x 480 resolution support
- Built-in 35mm fixed lens
- H.265, H.264, MJPEG codec
- Max. 30fps@all resolutions (H.265, H.264, MJPEG)
- Handover, Tampering, Loitering, Sound classification
- Shock/Audio/Motion detection
- Directional detection, Temperature change detection
- SD / SDHC / SDXC memory slot (Max. 256GB)
- WiseStreamII support
- PoE, 24V AC, 12V DC
- IP66, NEMA4X

※ Bridge firmware is required to upgrade from 1.00~1.2X versions to the latest version. For more details, please refer to the [UPGRADE NOTIFICATION] or [Release Note] included with your firmware (ZIP file).

Video	
Imaging Device	Uncooled micro bolometer
Resolution	640x480, 640x360, 320x240
Max. Framerate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 30fps/25fps(60Hz/50Hz)
NETD	< 50mK
Pixel Size	17μm
Video Out	CVBS: 1.0 Vp-p / 75Ω composite, 720x480(N), 720x576(P) for installation
Lens	
Focal Length (Zoom Ratio)	35mm fixed focal
Max. Aperture Ratio	F1.0
Angular Field of View	H: 17.2° / V: 13° / D: 22°
Min. Object Distance	36m(118.11ft)
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	32ea, 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
Serial Interface	RS-485/422(Samsung-T, Pelco-D/P, Panasonic, Bosch, AD, GE, Vicon, Honeywell)
Alarm I/O	Input 1ea / Output 2ea
Alarm Triggers	Analytics, Network disconnect, Alarm input
Alarm Events	File upload via FTP and e-mail Notification via e-mail SD/SDHC/SDXC or NAS recording at event triggers Alarm output Handover
Audio In	Selectable(mic in/line in) Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm
Audio Out	Line out, Max.output level: 1Vrms
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

<b>Smart Codec</b>	Manual(5ea area), WiseStream II
<b>Bitrate Control</b>	H.264/H.265: CBR or VBR MJPEG: VBR
<b>Streaming</b>	Unicast(20 users) / Multicast Multiple streaming(Up to 10 profiles)
<b>Protocol</b>	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
<b>Security</b>	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access log 802.1X Authentication(EAP-TLS, EAP-LEAP)
<b>Application Programming Interface</b>	ONVIF Profile S/G/T SUNAPI(HTTP API) Wisenet open platform

### General

<b>Web Viewer</b>	Supported OS: Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12 Recommended Browser: Google Chrome Supported Browser: MS Explorer11, MS Edge, Mozilla Firefox(Window 64bit only), Apple Safari(Mac OS X only)
<b>Edge Storage</b>	Micro SD/SDHC/SDXC 1slot 256GB
<b>Memory</b>	1024MB RAM, 256MB Flash

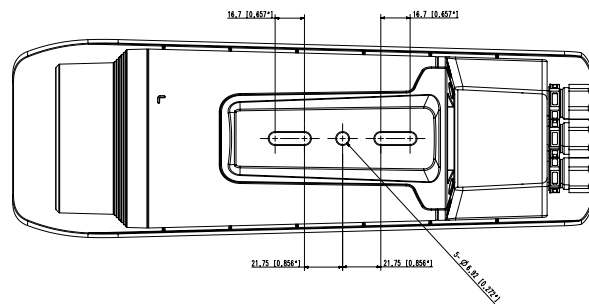
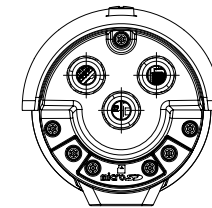
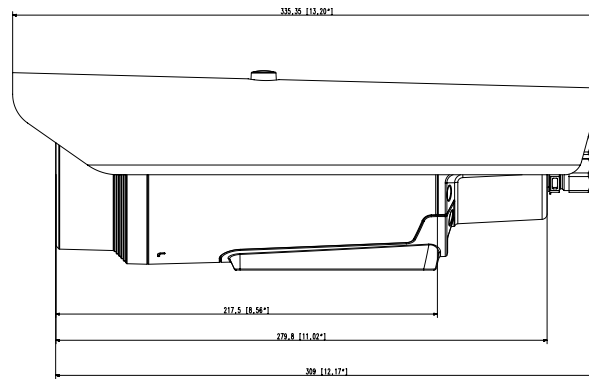
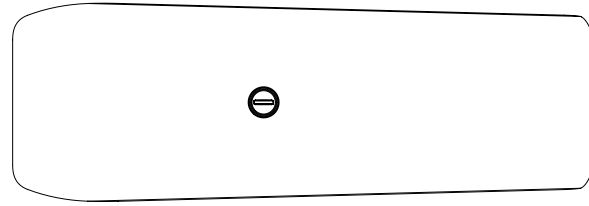
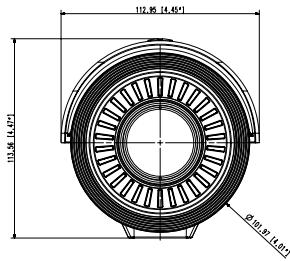
### Environmental & Electrical

<b>Operating Temperature / Humidity</b>	-40°C ~ +60°C (-40°F ~ +140°F) / Less than 90% RH
<b>Storage Temperature / Humidity</b>	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH
<b>Certification</b>	IP66, IK10, NEMA4X
<b>Input Voltage</b>	PoE(IEEE802.3af, Class3), 24VAC, 12VDC
<b>Power Consumption</b>	PoE: Max. 10W, typical 8.6W 12VDC: Max. 9W, typical 7.5W 24VAC: Max. 10.5W, typical 8.9W

### Mechanical

<b>Color / Material</b>	White / Aluminum
<b>RAL Code</b>	RAL9003
<b>Product Dimensions / Weight</b>	Φ101.97x309mm(4.01x12.17") / 2452g(5.41lb)

- The latest product information / specification can be found at [hanwha-security.com](http://hanwha-security.com)
- Design and specifications are subject to change without notice.
- Wisenet is the proprietary brand of Hanwha Techwin, formerly known as Samsung Techwin.



Apperance TNO-4051T  
Unit : mm [inch]