



Network

Bullet

# TNO-3020T

QVGA Thermal Camera



## Key Features

- Max. 320 x 240 resolution support
- Built-in 4.7 fixed lens
- H.265, H.264, MJPEG codec
- Max. 30fps@all resolutions (H.265, H.264, MJPEG)
- Directional detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Audio detection, Sound classification Temperature detection, Shock detection
- Micro SD / SDHC / SDXC memory slot (Max. 256GB)
- Hallway View, WiseStreamII support
- PoE, 24VAC, 12VDC / IP66, NEMA4X, IK10

## Compatible Accessories (Optional)



SBP-303PM

# TNO-3020T

## QVGA Thermal Camera



### Specifications

#### Video

Imaging Device	Uncooled micro bolometer
Resolution	320x240
Max. Framerate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 30fps/25fps(60Hz/50Hz)
NETD	<60mK
Pixel Size	12µm
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)	4.7mm fixed focal
Max. Aperture Ratio	F1.0
Angular Field of View	H:50.0°, V:36.4°, D:65.3°
Min. Object Distance	1m(3.28ft)
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
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
Color Palettes	Whitehot, Blackhot, Rainbow, Rainbow2, Sepia, Red, Iron, Custom

#### 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(5ea area), WiseStream II
Bitrate Control	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) Device Certificate(Hanwha Techwin Root CA)
<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(Windows 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. 8.7W, typical 7.5W 12VDC: Max. 7.8W, typical 6.7W 24VAC: Max. 9.2W, typical 8.0W

## Mechanical

<b>Color / Material</b>	White / Aluminum
<b>RAL Code</b>	RAL9003
<b>Product Dimensions / Weight</b>	Φ147.51x375.3mm(58.07x147.76") / 2512g(5.538lb)

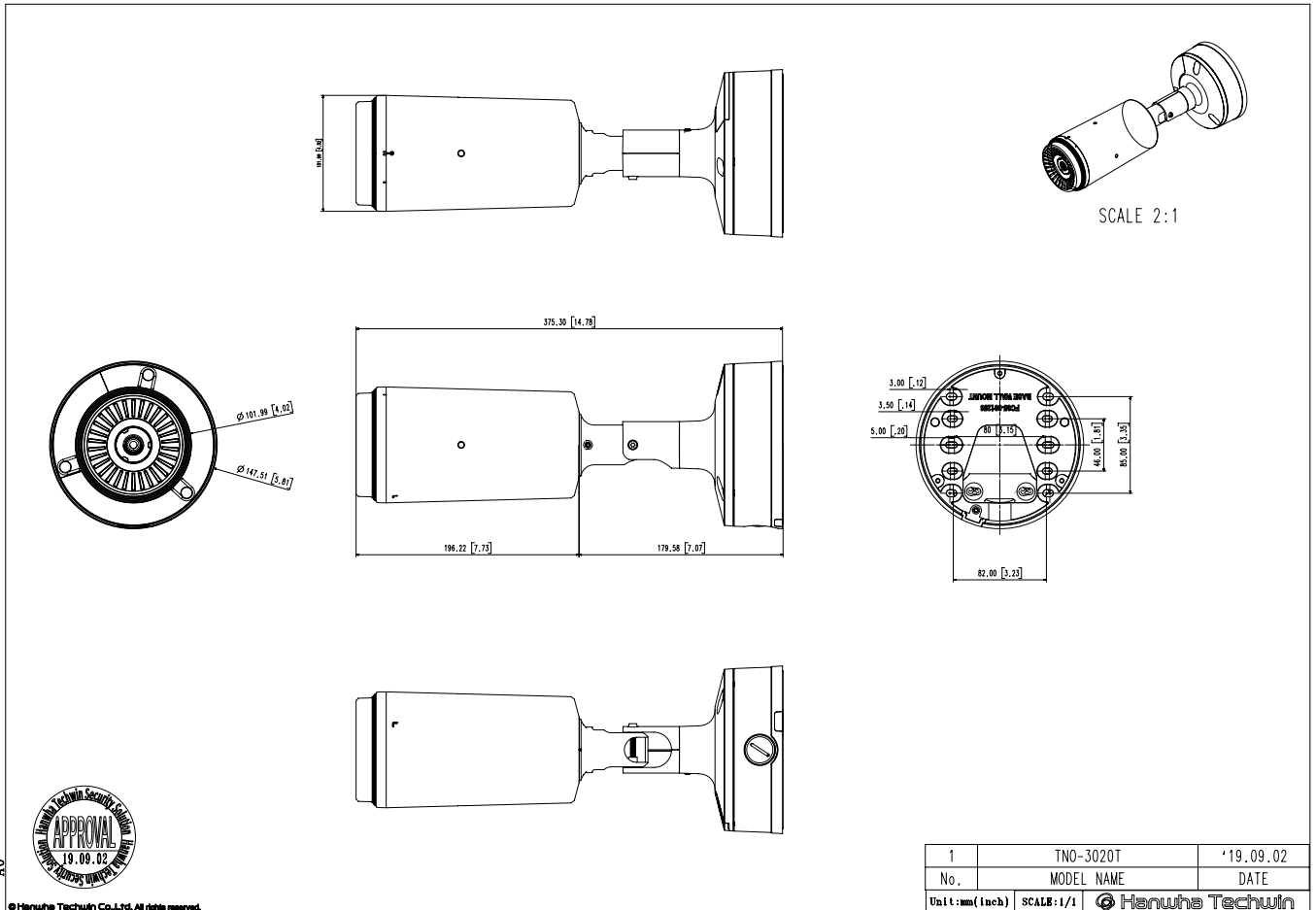
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Unit: mm [inch]

CAD



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