Stainless steel

Stainless steel explosion-proof

Thermal

HEAD OFFICE
6, Pangyo-ro 319beon-gil, Bundang-gu, Seongnam-si,
Gyeonggi-do, 463-400 Rep. of KOREA
Tel : +82.70.7147.8753 Fax : +82.31.8018.3740
http://hanwha-security.com

Hanwha Techwin America
500 Frank W. Burr Blvd. Suite 43 Teaneck, NJ 07666
Toll Free : +1.877.213.1222
Direct : +1.201.325.6920
Fax : +1.201.373.0124
www.hanwhasecurity.com

Hanwha Techwin Europe
Heriot House, Heriot Road, Chertsey, Surrey, KT16 9DT, United Kingdom
Tel : +44.1932.57.8100
Fax : +44.1932.57.8101
www.hanwha-security.eu

Hanwha Techwin Tianjin
No.11 Weiliu Rd., Micro-electronic Industrial Park,
Jingang Road Tianjin 300385, China
Tel : +86.22.2388.7788 (8700)
www.hanwha-security.cn

Hanwha Techwin Middle East FZE
JAFZA View 18, 20th floor, office 2001, 2002, 2003,
Downtown Jebel Ali, Dubai, United Arab Emirates
http://hanwha-security.com

Hanwha Techwin Singapore Branch
4 Shenton Way, #15-06, SGX Centre 2, Singapore, 068807
Tel : +65.6221.7512
Fax : +65.6227.9337
http://hanwha-security.com

Hanwha Techwin Russia Office
40/4, Bolshaya Ordynka str., Moscow, Russia, 119017
Tel : +7.499.750.17.30
www.hanwha-security.eu/ru/

WISENET

Undertaking Tougher Missions
in Challenging Environment

Hanwha Techwin

EDITION 12-2018

Hanwha Techwin

Robust Security Monitoring
in Safe and Hazardous Zones
and Reliable Analytics for Any Threats

The importance of video surveillance cameras is more prominent in special circumstances than anywhere else. Blind zones and special facilities such as chemical plants are often impossible to monitor, yet they require unmanned security 24/7 in case of accidents or intrusion. Hanwha Techwin provides the most advanced security solutions to secure people, property and data with a product lineup such as cameras with stainless steel parts, explosion-proof cameras, and thermal cameras for monitoring coastal areas, national borders and industrial plants all of which are hard to keep watch with human eyes.

WISENET X series

Stainless steel

WISENET T series

Stainless steel explosion-proof

WISENET T series

Thermal

WISENET X series
Stainless Steel Cameras
Protection against corrosive elements

Hanwha Techwin

Why Stainless Steel Cameras?

Compared to conventional materials for surveillance cameras housings, stainless steel is more resistant to

Corrosion in acids and chlorine environments

Fire and heat

Impact

Wisenet adopted 316L austenitic stainless steel that provides high toughness, from elevated temperatures up to 55°C (131 ° F) to far blow freezing down to -40°C (-40 ° F) . Wisenet stainless steel cameras provide not only long term value by preventing rapid deterioration and premature replacement, also hygiene conditions and aesthetic appearance.

Applications for stainless steel cameras include:
Marine, Mining, Oil & gas, Food processing, Medical/Hospitals, Clean rooms and so on

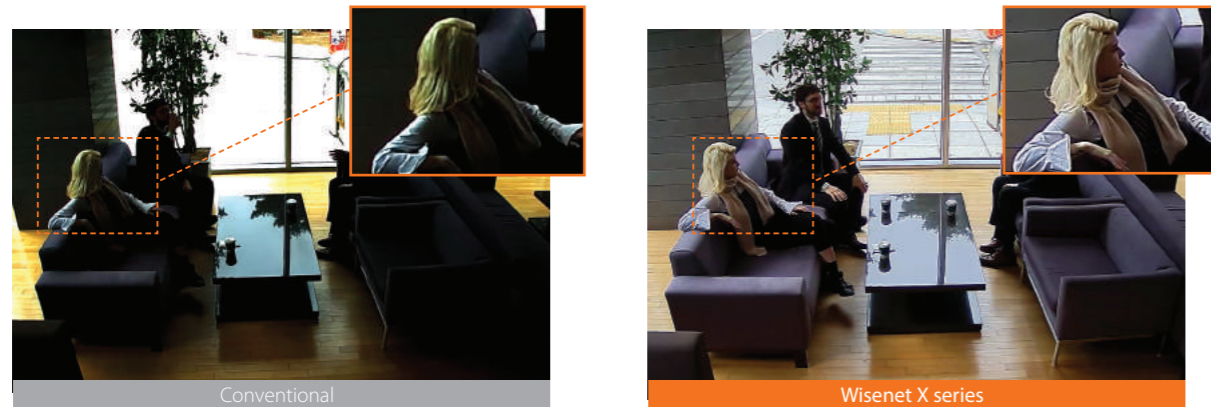Mining

Oil & gas

Clean rooms

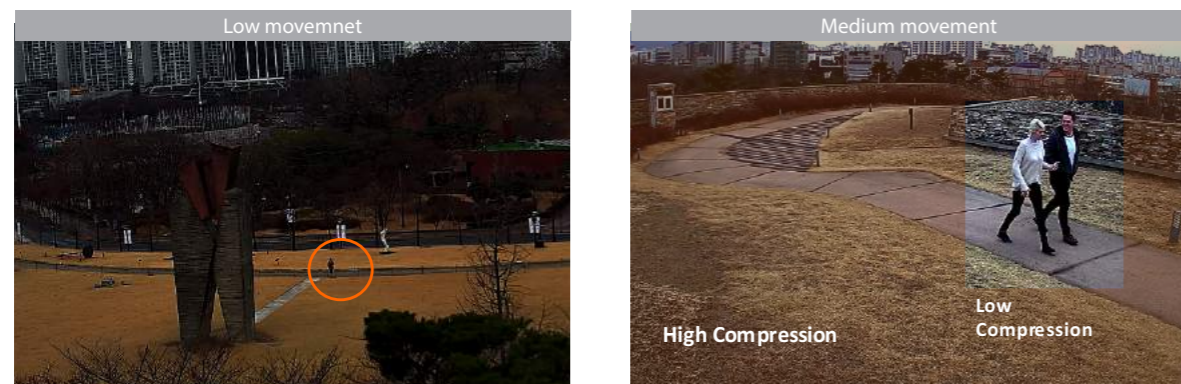Hospital

True WDR performance

Conventional WDR captures images by taking 2 frames taken at different exposures, whereas Wisenet X series cameras utilize 4 frame capture at different exposure levels to create a combined image. With the development of cutting-edge WDR technology, Wisenet X series cameras address a limitation found in conventional WDR cameras while producing clear and vivid images.

Conventional

Wisenet X series

※150dB WDR only available in 2MP X series

Improve bandwidth by up to 99% using WiseStream II

When Hanwha Techwin's original video compression technology WiseStreamII is combined with H.265 compression, the bitrate data data is reduced by up to 99% compared to current H.264 technology.
The costs of configuring and maintaining the system are also greatly reduced, while still maintaining the same pixels and high quality.

Low movemnet

WiseStream II OFF : 7160kbps **WiseStream II ON : 74kbps**

Medium movement

High Compression

Low Compression

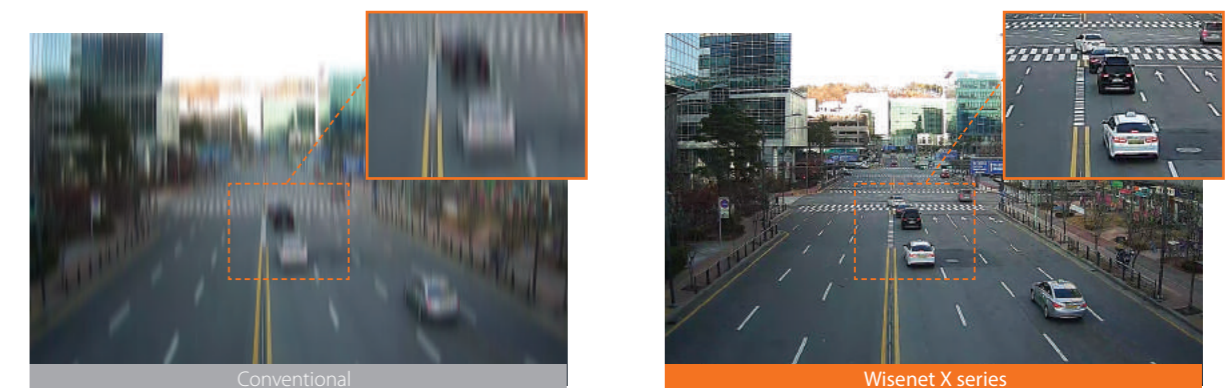WiseStream II OFF : 7260kbps **WiseStream II ON : 1817kbps**

Clearer, sharper images in low light environments

Wisenet X series achieves optimal performance in low-light conditions by capturing and producing crystal-clear images regardless of the environment or time of day.

Conventional

Wisenet X series

Digital Image Stabilization(DIS) with built-in Gyro sensor

Advances in Wisenet image stabilization technology allow for the reduction of motion blur caused by wind or vibration. A gyroscopic sensor plus DIS technology is specifically added to the Wisenet X series cameras resulting in sharp, stable images.

Conventional

Wisenet X series

Fog Detection

Wisenet X series delivers outstanding image quality in foggy weather with Fog Detection. Any change in an image is automatically deleted with the defog function to provide a clear image.

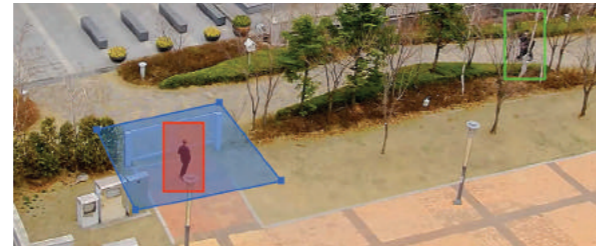Detect fog

Activate Defog(Auto/Manual)

Enhanced Video / Audio Analytics

Wisenet X series support a variety of exclusive Video and Audio Analytics, providing enhanced monitoring solutions and market intelligence.
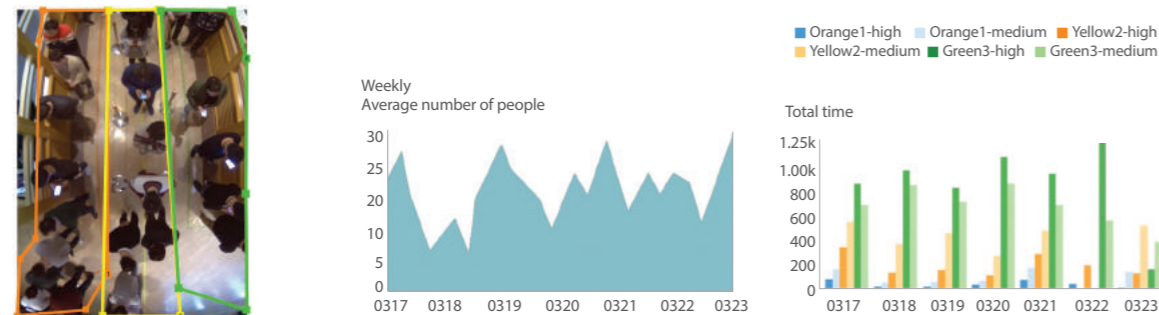
Loitering detection

This feature detects when an object remain in a designated area longer than the time threshold set by user.
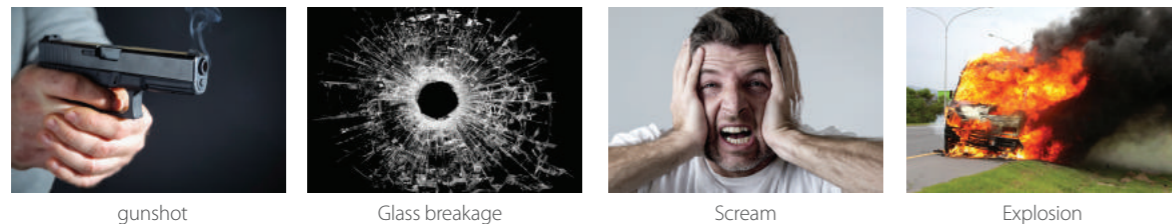

Queue management

This feature provides statistical analysis and measurement for average dwell time and number of people in queues. This insight is critical for business to manage their operations more efficiently, while providing the insight necessary to manage campaigns, displays and promotions throughout retail locations.

Legend:
- Orange1-high
- Orange1-medium
- Yellow2-high
- Yellow2-medium
- Green3-high
- Green3-medium
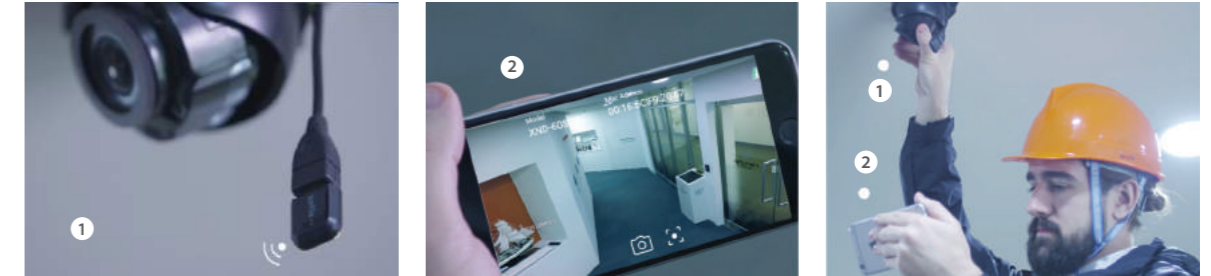
Weekly
Average number of people

Total time

Sound classification

Wisenet X series camera help user respond immediately in case of situation in danger, so that can classify sound such as gunshot, glass breakage, scream and explosion.
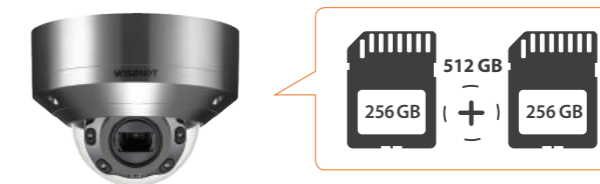

gunshot · Glass breakage · Scream · Explosion

More convenient installation with USB

Wisenet X series can connect cameras and mobile devices through USB and Wi-Fi. View angles can be checked immediately after installation using a smartphone. No additional devices are required, saving you time and money.

Dual SD slots

Dual SD slots allow up to 512 GB to be saved automatically to the camera, keeping data safe in the event of an unstable network. Obviously this allows to record more video footage than single SD slot.

512 GB
256 GB (+) 256 GB

Handover to PTZ

The handover feature allows a PTZ camera* to receive an alarm(motion detection) from Wisenet X series camera operating on the same IP video surveillance system. Once the notification is received, the PTZ camera will zoom into the assigned camera pre-set location.

※ XNP-6370RH/6320H/6320, PNP-9200RH

Alarm notification to PTZ

Motion detected

PTZ zooms into pre-set location

Product Specifications

	XNV-8080RS	XNV-6080RS
Resolution	5MP	2MP
Imaging Device	1/1.8" 6M CMOS	1/2.8" 2M CMOS
Video Compression	H.265, H.264, MJPEG	
Resolution / Frame Rate	5M / 30fps	2M / 60fps
Streaming Capacity	Multiple (Up to 10 Profiles)	
Max. User Access	20 (Unicast)	
Min. Illumination	Color : 0.07Lux, B/W : 0Lux (IR LED on)	Color : 0.015Lux, B/W : 0Lux (IR LED on)
Video Output	CVBS 1.0Vpp, Micro USB type B	
Lens	3.9 ~ 9.4mm (2.4x) motorized V/F (F1.3)	2.8 ~ 12mm (4.3x) motorized V/F (F1.4)
Angular Field of View	H : 92.1°(Wide) ~ 38.7°(Tele) / V : 67.2°(Wide) ~ 29.0°(Tele) / D : 119.9°(Wide) ~ 48.6°(Tele)	H : 119.5°(Wide) ~ 27.9°(Tele) / V : 62.8°(Wide) ~ 15.7°(Tele) / D : 142.1°(Wide) ~ 32.0°(Tele)
Focus Control	Simple focus (motorized V/F) / Manual	
IR Viewable Length	50m (164.04ft)	
Pan / Tilt / Rotate	0° ~ 354° / 0° ~ 67° / 0° ~ 355°	
Day & Night	True (ICR)	
Backlight Compensation	WDR (120dB)	WDR (150dB)
Digital Noise Reduction	SSNRV (2D+3D Noise filter)	
Digital Image Stabilization	Support	
Video & Audio Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter/Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification	
Protocol	ONVIF profile S/G, SUNAPI	
Alarm I/O	1 / 1	
Audio	Bi-Directional	
Edge Storage	SD/SDHC/SDXC, NAS, Local PC	
Environment Protection	IP66, NEMA 4X, IK10+	
Operating Temperature	-40℃ ~ +55℃ (-40°F ~ +131°F)	
Power	Max. 11.5W(12V DC), Max. 12.95W(PoE), Max. 14W(24V AC)	Max. 14W (24V AC) Max. 11.5W (12V DC) Max. 12.95W (PoE)
Dimensions (WxHxD) / Weight	Ø 162 X 120.5mm (Ø6.38" x 4.74") 2.68kg(5.91lb)	Ø162 x 120.5mm (Ø6.38" x 4.74") 2.68kg (5.91 lb)
Additional Features	Handover, WiseStream II, Advanced video analytics, Sound classification Hallway View, SUS316L	

	XNV-6120RS	XNP-6320HS
Resolution	2MP	
Imaging Device	1/2.8" 2M CMOS	
Video Compression	H.265, H.264, MJPEG	
Resolution / Frame Rate	2M / 60fps	
Streaming Capacity	Multiple (Up to 10 Profiles)	
Max. User Access	20 (Unicast)	
Min. Illumination	Color : 0.03Lux, B/W : 0Lux (IR LED on)	Color : 0.05Lux, B/W : 0.005Lux
Video Output	CVBS 1.0Vpp, Micro USB type B	
Lens	5.2 ~ 62.4mm (Optical 12x) F1.6(Wide) / F3.0(Tele)	4.44 ~ 142.6mm(Optical 32x) F1.6 (Wide) / F4.4 (Tele)
Angular Field of View	H : 54.58°(Wide) ~ 5.30°(Tele) / V : 32.19°(Wide) ~ 3.00°(Tele) / D : 61.40°(Wide) ~ 6.06°(Tele)	H : 61.8°(Wide) ~ 2.19°(Tele) / V : 36.2°(Wide) ~ 1.24°(Tele)
Focus Control	Auto / Manual / One shot AF	Auto / Manual / One shot AF
IR Viewable Length	70m (229.66ft)	-
Pan / Tilt / Rotate	0° ~ 354° / 0°~ 75° / 0°~ 355°	360° Endless / 210° (-15° ~ 195°)
Day & Night	True (ICR)	
Backlight Compensation	WDR (150dB)	
Digital Noise Reduction	SSNRV (2D+3D Noise filter)	
Digital Image Stabilization	Support (Built in Gyro sensor)	
Video & Audio Analytics	Tampering, Loitering, Directional detection, Defocus detection, Fog detection, Virtual line, Enter/Exit, (Dis)Appear, Audio detection, Motion detection, Face detection, Digital auto tracking, Sound classification	
Protocol	ONVIF profile S/G, SUNAPI	
Alarm I/O	1 / 1	4 / 2 (Relay)
Audio	Bi-Directional	
Edge Storage	SD/SDHC/SDXC, NAS, Local PC	
Environment Protection	IP66, NEMA 4X, IK10+	IP67, IP66, NEMA4X, IK10
Operating Temperature	-40℃ ~ +55℃ (-40°F ~ +131°F)	-50℃ ~ +55℃ (-58°F ~ +131°F) (24V AC) * Start up above -40℃ (-40°F) -35℃ ~ +55℃ (-31°F ~ +131°F) (PoE+) * Start up above -25℃ (-13°F)
Power	Max. 14W (24V AC), Max. 11.5W (12V DC), Max. 12.95W (PoE)	Max. 24.0W - Heater off (24V AC, PoE+), Max. 65.0W - Heater on (24V AC)
Dimensions (WxHxD) / Weight	Ø162 x 134.5mm (Ø6.38" x 5.3") 2.92kg (6.44 lb)	Ø227 x 295.5mm (Ø8.94" x 11.63") 5.3Kg (11.68 lb)
Additional Features	Handover, WiseStream II, Advanced video analytics, Sound classification, Hallway View, SUS316L	WiseStream II, Advanced video analytics, Auto Tracking, SUS316L, Sound classification

* The lastest product information / sepecification can be found at hanwha-security.com

* TNU-6320E at Hanwha Chemical plant

WISENET T series
Explosion-proof Cameras
for Hazardous area

Explosion proof cameras for hazardous environments

Heavy industrial facilities such as gas pipelines, petrochemical plants or oil refineries are potentially explosive because of flammable gases and dusts emitted. Therefore, it is important that a video surveillance system used in heavy industrial facilities is not the cause of explosions whilst still delivering high quality images. Wisenet T series explosion proof cameras satisfy both requirements by the powerful network camera and stainless steel housing enclosure surrounding it.

Stainless steel 316L enclosure to prevent explosions

T series explosion proof cameras are designed to be safely operated in hazardous areas with the special enclosure made of stainless steel 316L housing. The ATEX certified enclosure has the ability to contain any internal explosions or prevent sparks from escaping the device which may lead to a disaster.
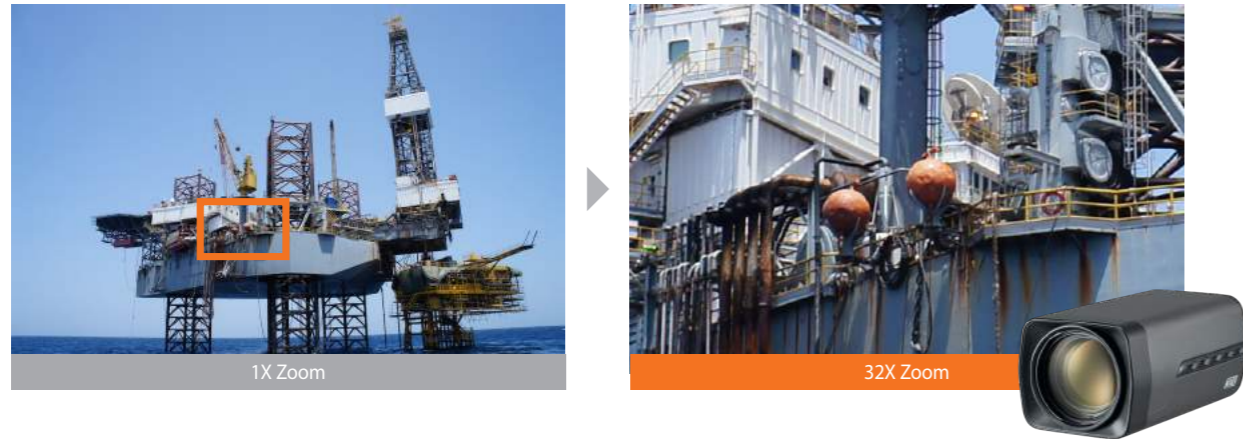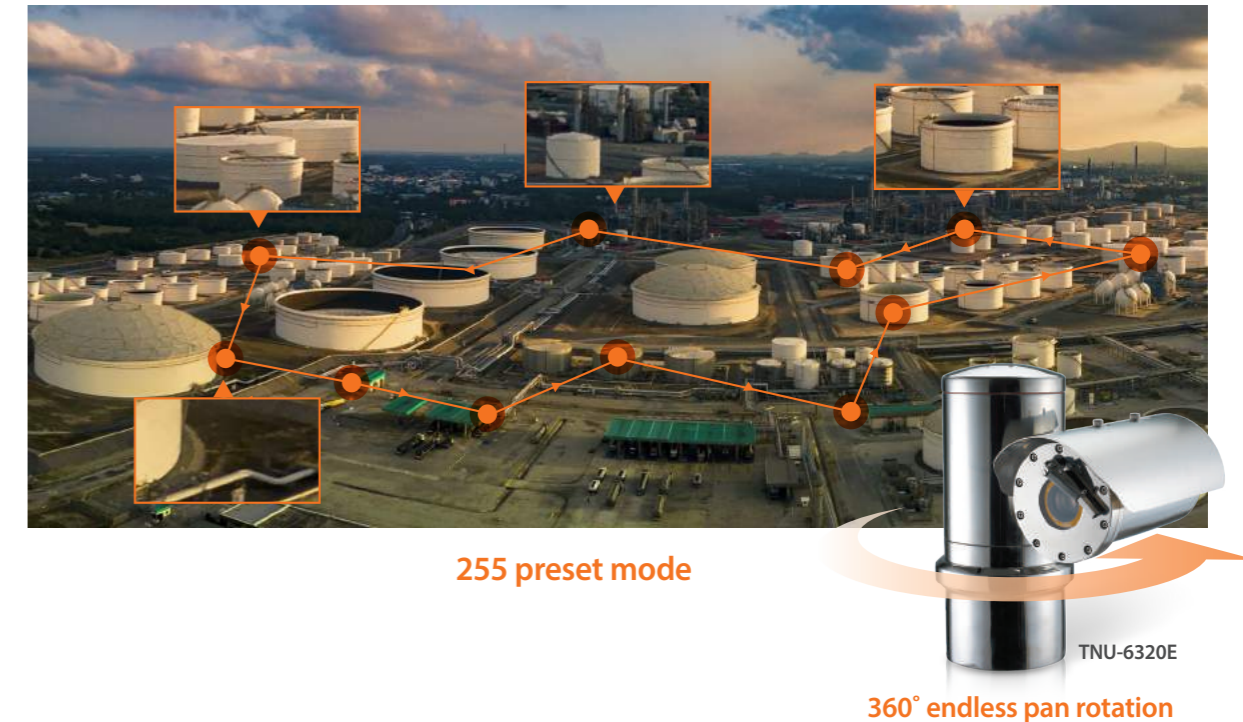

Hanwha Techwin

Capture details with 2MP 32x optical zoom

The powerful 2MP optical zoom 32x (4.44~142.6mm) camera SNZ-6320 is built in the explosion proof enclosure. 32x Optical zoom and 16x digital zoom helps users to see more further and clearly, capturing everything with sharpness without losing detail.

1X Zoom

32X Zoom

Defog technology to improve image clarity

Defog function is an image processing technology which helps increase image clarity in poor weather conditions such as fog or yellow dust. The visibility of the cameras can be enhanced in any weather condition so that users can monitor full-time.
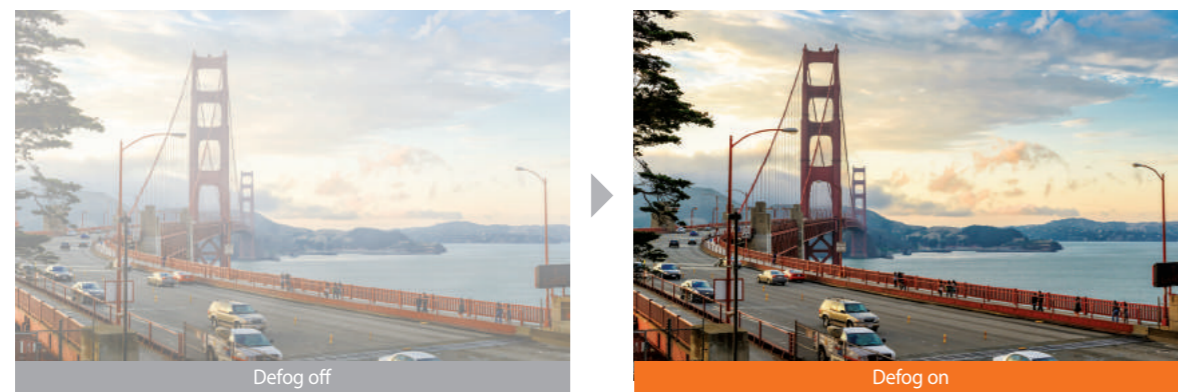
Defog off

Defog on

360° endless pan rotation and 255 preset mode

TNU-6320E is capable of monitoring a broad range, with its 360° endless pan and 180° tilt feature moving at 1~50° /sec preset speed. In addition, the camera's flexibility is increased by 255 preset positions, allowing users to save settings for pan/tilt functions and automatically view the location desired.

255 preset mode

TNU-6320E

360° endless pan rotation

True WDR(120dB)

The true WDR function built into the explosion-proof camera provides enhanced picture quality, by resolving different brightness in a scene.

WDR off

WDR on

Product Specifications

	TNO-6320E	TNU-6320E
Resolution	2MP	
Imaging Device	1/2.8" 2.38M CMOS	
Video Compression	H.264, MJPEG	
Resolution / Frame Rate	2M / 60fps	
Streaming Capacity	Multiple (Up to 10 Profiles)	
Max. User Access	10 (Unicast)	
Min. Illumination	Color : 015Lux, B/W : 0.015Lux	
Lens	4.44 ~ 142.6mm (Optical 32x), F1.6(Wide) / F4.4(Tele)	
Angular Field of View	H : 62.8°(Wide) ~ 2.23°(Tele) / V : 36.8°(Wide) ~ 1.26°(Tele)	
Focus Control	Auto / Manual / One push	
Pan / Tilt / Rotate	-	360° Endless / 180° (-90° ~ 90°) / -
Day & Night	Auto (ICR)	
Backlight Compensation	WDR (120dB)	
Digital Noise Reduction	SSNRIII (2D+3D Noise filter)	
Digital Image Stabilization	Support	
Video & Audio Analytics	Motion detection, Virtual line, Enter/Exit, (Dis)Appear, Audio detection, Face detection	
Protocol	ONVIF Profile S, SUNAPI	
Alarm I/O	1 / 1 (Relay)	
Edge Storage	NAS	
Environment Protection	IP67, IK10	
Operating Temperature	-40°C ~ +60°C (-40°F ~ +140°F) * Start up above -30°C (-22°F)	
Power	Max. 28.0W - Heater on （24V AC）	Max. 49.0W - Heater on （24V AC）
Dimensions (WxHxD) / Weight	Ø162.0 x 244.0mm (Ø6.38" x 9.61") 7Kg (15.43 lb)	384.0 x 402.0 x 250.0mm (15.12" x 15.83" x 9.84") 35Kg (77.16 lb)
Additional Features	Explosion certification : CE2460 EX II 2 GD Ex d IIC T6 Gb IP67 Ex tb IIIC T85°C Db, Built in wiper	

WISENET T series
VGA Thermal Network Cameras
for challenging weather or lighting conditions.

Hanwha Techwin

Detect people and objects 24/7 with thermal cameras

In challenging weather(fog, smoke, rain) or lighting conditions(complete darkness, backlight), it can be difficult to distinguish people or objects in a complex background by a visible camera or a human eye.
For accurate monitoring purposes, a professional surveillance system is required. Wisenet thermal cameras are the excellent choice : they provide high contrast images based on temperature differences between the object and background, so that users can detect incidents more easily. The advanced thermal imaging technology provides high contrast to make the unseen details visible without additional lighting.

Fog   Snow   Darkness   Camouflage
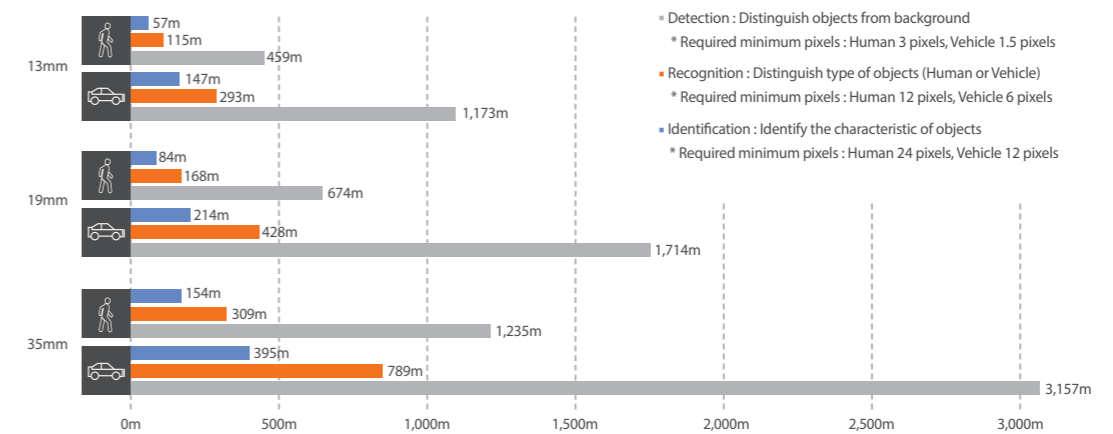
Secure a wide variety of applications

Wisenet thermal cameras can be a powerful tool when monitoring applications where there is very little light, due to their ability to create images based on heat. Thermal cameras are especially applicable in manufacturing and industrial facilities, air and seaports, and mining areas.

- Industrial facilities
- Mining areas
- Power plants
- Dams
- Border security
- Sea port
- City surveillance
- Bridges
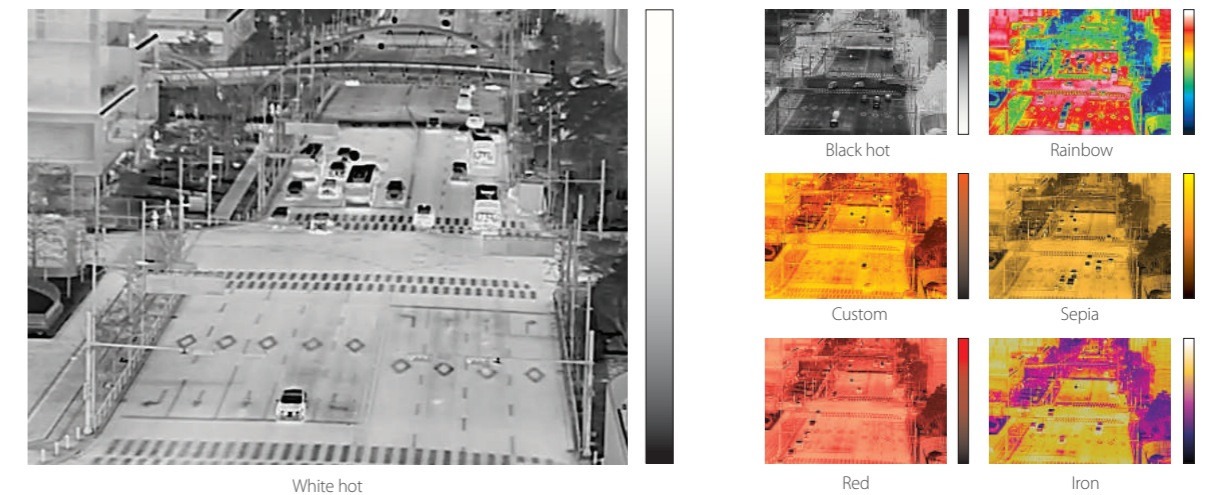- Pipelines
- Warehouse

Long detection range up to 3,157m

The main task of the thermal camera is to detect events that occur at long distances. Wisenet thermal cameras are equipped with a 35/19/13mm lens(Horizontal FoV 17°/32°/49°) to detect vehicles up to 3,157m away. The camera provides an image with high color contrast according to the temperature, so it can easily distinguish objects and background from a long distance. At closer range it can recognize the type of object or identify the characteristic by capturing details.

- Detection : Distinguish objects from background
  * Required minimum pixels : Human 3 pixels, Vehicle 1.5 pixels
- Recognition : Distinguish type of objects (Human or Vehicle)
  * Required minimum pixels : Human 12 pixels, Vehicle 6 pixels
- Identification : Identify the characteristic of objects
  * Required minimum pixels : Human 24 pixels, Vehicle 12 pixels

13mm — Human: 57m / 115m / 459m — Vehicle: 147m / 293m / 1,173m
19mm — Human: 84m / 168m / 674m — Vehicle: 214m / 428m / 1,714m
35mm — Human: 154m / 309m / 1,235m — Vehicle: 395m / 789m / 3,157m

(0m, 500m, 1,000m, 1,500m, 2,000m, 2,500m, 3,000m)

* The size of the human is vertically 1.8m(5.9ft) and vehicle is vertically 2.3m(7.5ft)

Multiple color palettes

Wisenet thermal cameras provide seven different types of color palette for users to select the best image in various situations. Each color palette has a specific set of colors which change according to the temperature range of the scene.

White hot

Black hot   Rainbow
Custom   Sepia
Red   Iron

Enhanced video & audio analytics

Wisenet T thermal cameras offers reliable video and audio analytics for efficient monitoring.
The featured analytics improves the overall security system's efficiency by automatically notifying users when abnormal behavior is detected.

Temperature change detection

Drastic temperature changes can be detected in advance to prevent incidents occurring.
(20/40/60/80/100°C difference from current temperature)

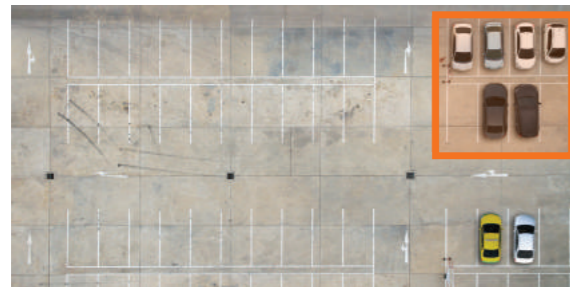* An alarm will be sent when a drastic temperature change is detected for a duration of 2 minutes.

Virtual line

Alarm events are automatically triggered when the camera detects the moving object crossing the virtual line.

Motion Detection

An alarm is triggered when movement is detected within the defined user area.

Shock detection

Shock detection protects the camera when events such as vibrations, quivers and shocks occur.

Sound classification

Sound classification can help users respond immediately in dangerous situations, by classifying sounds such as gunshots, breaking glass, screams and explosions.
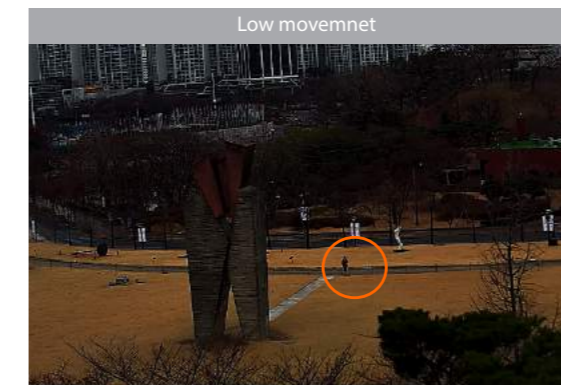

| Gunshot | Glass breakage | Scream | Explosion |

Improve bandwidth by up to 99% using WiseStreamⅡ

When Hanwha Techwin's original video compression technology WiseStreamⅡ is combined with H.265 compression, the bitrate data is reduced by up to 99% compared to current H.264 technology.
The costs of configuring and maintaining the system are also greatly reduced, while still maintaining the same pixels and high quality.

Low movemnet

Medium movement

High Compression

Low Compression

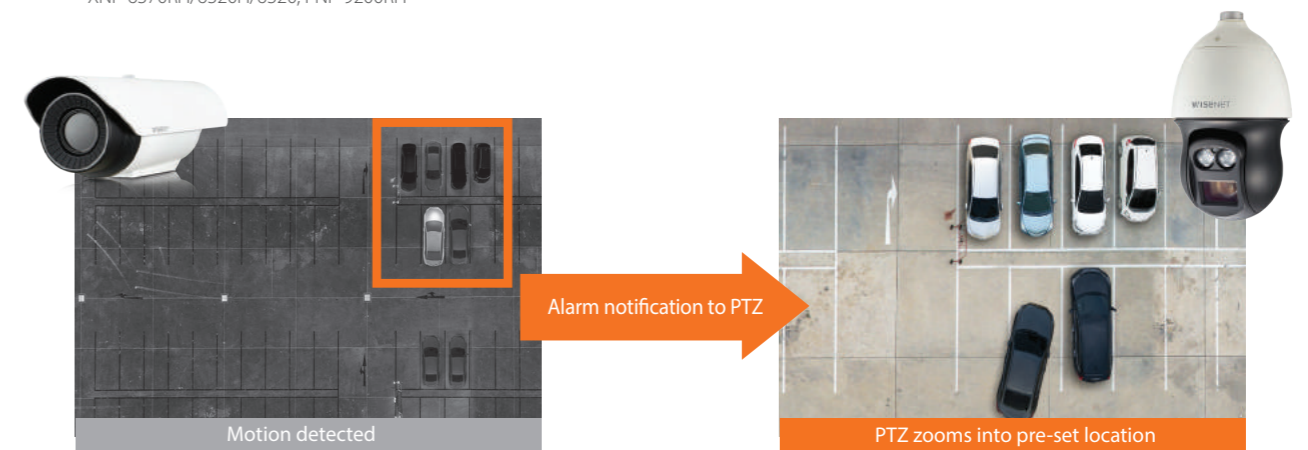WiseStream Ⅱ OFF : 7160kbps   **WiseStream Ⅱ ON : 74kbps**

WiseStream Ⅱ OFF : 7260kbps   **WiseStream Ⅱ ON : 1817kbps**

Handover to PTZ

The handover feature allows a PTZ camera* to receive an alarm from a thermal camera operating on the same IP video surveillance system. Once the notification is received, the PTZ camera will zoom into the assigned camera pre-set location. With this feature, PTZ cameras support the thermal camera by providing high resolution images whenever a specific detail is required.

* XNP-6370RH/6320H/6320, PNP-9200RH

Alarm notification to PTZ

Motion detected

PTZ zooms into pre-set location

VGA Thermal Radiometric Camera
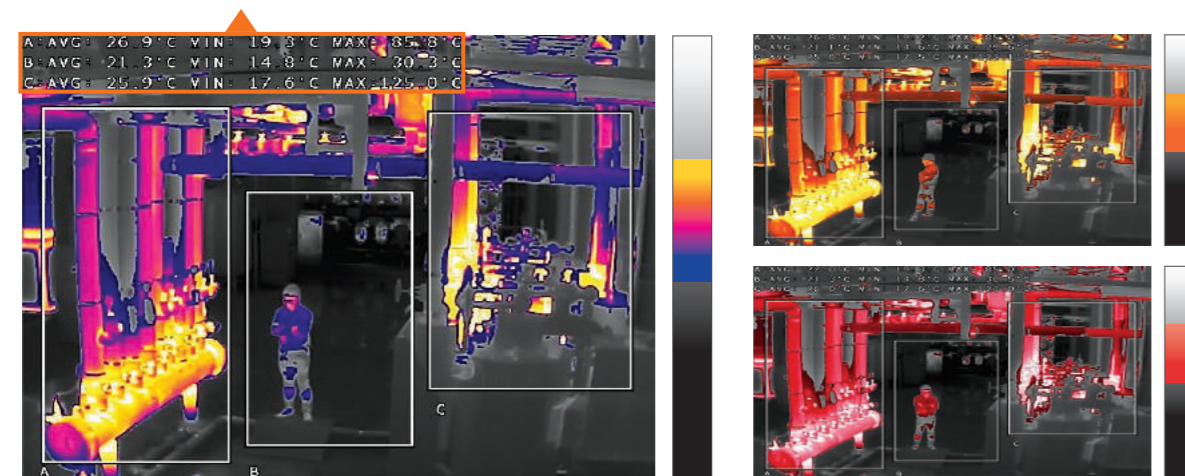## (TNO-4041TR/4040TR/4030TR)

Temperature measurement to monitor incidents

The Wisenet thermal radiometric camera has added a feature to detect the temperature range of -20˚C to +130˚C. Alarms are generated and sent to users in case the temperature of three areas in the monitoring screen is above or below a defined value or the temperature increases or decreases beyond the preset range.
In addition, the screen displays average/minimum/maximum temperature of the three areas for more thorough temperature measurement. With accurate temperature measurement, radiometric cameras are perfect for monitoring areas which can be difficult to detect by a visible camera.

Selected temperature range displayed in vivid colors

Using hybrid color palette, the selected range of temperature can be displayed in vivid colors, helping users observe monitoring areas with greater ease. The temperature out of the defined range is expressed in white hot color of black and white, ensuring the camera covers the entire monitoring areas with thermal detection.

Temperature of 3 areas displayed on screen

Iron-WH	Midrange-WH / Red-WH

Hybrid color palette

VGA Thermal Positioning Camera
(TNU-4051T/4041T)

-90˚~40˚ tilt view

360˚endless pan rotation

Broad thermal monitoring with positioning

The TNU-4051T/4041T combines a thermal imaging camera and a positioning unit capable of monitoring a broad range, with its 360˚ endless pan and -90˚ to +40˚ tilt. In addition, the camera's flexibility is increased by 300 preset positions, allowing users to save the settings for pan/tilt functions and automatically view the location desired.

300 preset mode

Product Specifications

	TNO-4030T	TNO-4040T	TNO-4041T
Resolution	VGA		
Imaging Device	Uncooled Microbolometer		
Video Compression	H.265, H.264, MJPEG		
Resolution / Frame Rate	640 x 480 / 30fps		
Streaming Capacity	Multiple (Up to 10 Profiles)		
Max. User Access	20 (Unicast)		
Video Output	CVBS 1.0Vpp, Micro USB type B		CVBS 1.0Vpp
Lens	13mm fixed (F1.0)	19mm fixed (F1.0)	19mm fixed (F1.0)
Angular Field of View	H : 48.6° / V : 36.4° / D : 61.6°	H : 32° / V : 24.3° / D : 39.2°	H : 32° / V : 24.3° / D : 39.2°
Focus Control	Fixed		
Digital Image Stabilization	Support (Built in Gyro sensor)		
Video & Audio Analytics	Tampering, Loitering, Directional detection, Virtual line, Enter/Exit, (Dis)Appear, Audio detection, Motion detection, Sound classification, Shock detection, Temperature change detection		
Protocol	ONVIF profile S&G, SUNAPI		
Alarm I/O	1 / 2		
Audio	Bi-directional		
Edge Storage	SD/SDHC/SDXC, NAS, Local PC		
Environment Protection	IP66, NEMA4X, IK10		
Operating Temperature	-40℃ ~ +60℃ (-40°F ~ +140°F)		
Power	Max. 10.5W (24V AC), Max. 9W (12V DC), Max. 10W (PoE)		
Dimensions (WxHxD) / Weight	Ø101.97 x 401.8mm (Ø4.01" x 15.82") 3.12Kg (6.89 lb)	Ø101.97 x 401.8mm (Ø4.01" x 15.82") 3.13Kg (6.89 lb)	Ø101.97 x 309mm (Ø4.01" x 12.17") 2.45Kg (5.40 lb)
Additional Features	Handover, WiseStream II, Advanced video analytics, Sound classification, Hallway view, Various Color palettes		Handover, WiseStream II, Advanced video analytics, Sound classification, Various Color palettes, PT type

	TNO-4050T	TNO-4051T
Resolution	VGA	
Imaging Device	Uncooled Microbolometer	
Video Compression	H.265, H.264, MJPEG	
Resolution / Frame Rate	640 x 480 / 30fps	
Streaming Capacity	Multiple (Up to 10 Profiles)	
Max. User Access	20 (Unicast)	
Video Output	CVBS 1.0Vpp	
Lens	35mm fixed (F1.0)	
Angular Field of View	H : 17.2° / V : 13° / D : 22°	
Focus Control	Fixed	
Digital Image Stabilization	Support (Built in Gyro sensor)	
Video & Audio Analytics	Tampering, Loitering, Directional detection, Virtual line, Enter/Exit, (Dis)Appear, Audio detection, Motion detection, Sound classification, Shock detection, Temperature change detection	
Protocol	ONVIF profile S&G, SUNAPI	
Alarm I/O	1 / 2	
Audio	Bi-directional	
Edge Storage	SD/SDHC/SDXC, NAS, Local PC	
Environment Protection	IP66, NEMA4X	
Operating Temperature	-40℃ ~ +60℃ (-40°F ~ +140°F)	
Power	Max. 10.5W (24V AC), Max. 9W (12V DC), Max. 10W (PoE)	
Dimensions (WxHxD) / Weight	Ø101.97 x 401.8mm (Ø4.01" x 15.82") 3.13Kg (6.89 lb)	Ø101.97 x 309mm (Ø4.01" x 12.17") 2.45Kg (5.40 lb)
Additional Features	Handover, WiseStream II, Advanced video analytics, Sound classification, Hallway view, Various Color palettes	Handover, WiseStream II, Advanced video analytics, Sound classification, Various Color palettes, PT type

Product Specifications

	TNO-4041TR	TNO-4040TR
Resolution	VGA	
Imaging Device	Uncooled Microbolometer	
Video Compression	H.265, H.264, MJPEG	
Resolution / Frame Rate	640 x 480 / 30fps	
Streaming Capacity	Multiple (Up to 10 Profiles)	
Max. User Access	20 (Unicast)	
Video Output	CVBS 1.0Vpp	CVBS 1.0Vpp, Micro USB type B
Lens	19mm fixed (F1.0)	
Angular Field of View	H : 32° / V : 24.3° / D : 39.2°	
Focus Control	Fixed	
Digital Image Stabilization	Support (Built in Gyro sensor)	
Video & Audio Analytics	Tampering, Loitering, Directional detection, Virtual line, Enter/Exit, (Dis)Appear, Audio detection, Motion detection, Sound classification, Shock detection, Temperature detection	
Protocol	ONVIF profile S&G, SUNAPI	
Alarm I/O	1 / 2	
Audio	Bi-directional	
Edge Storage	SD/SDHC/SDXC, NAS, Local PC	
Environment Protection	IP66, NEMA4X, IK10	
Operating Temperature	-40℃ ~ +60℃ (-40°F ~ +140°F)	
Power	Max. 10.5W (24V AC), Max. 9W (12V DC), Max. 10W (PoE)	
Dimensions (WxHxD) / Weight	Ø101.97 x 309mm (Ø4.01" x 12.17") 2.45Kg (5.40 lb)	Ø101.97 x 401.8mm (Ø4.01" x 15.82") 3.12Kg (6.89 lb)
Additional Features	Handover, WiseStream II, Advanced video analytics, Sound classification, Various Color palettes, PT type, Radiometry	Handover, WiseStream II, Advanced video analytics, Sound classification, Hallway view, Various Color palettes, Radiometry

	TNO-4030TR	TNU-4051T/4041T
Resolution	VGA	
Imaging Device	Uncooled Microbolometer	
Video Compression	H.265, H.264, MJPEG	
Resolution / Frame Rate	640 x 480 / 30fps	
Streaming Capacity	Multiple (Up to 10 Profiles)	
Max. User Access	20 (Unicast)	
Video Output	CVBS 1.0Vpp, Micro USB type B	CVBS 1.0Vpp
Lens	13mm fixed (F1.0)	35mm fixed (F1.0) (TNU-4051T) 19mm fixed (F1.0) (TNU-4041T)
Angular Field of View	H : 48.6° / V : 36.4° / D : 61.6°	H : 17.2° / V : 13° / D : 22° (TNU-4051T) H : 32° / V : 24.3° /D : 39.2° (TNU-4041T)
Focus Control	Fixed	
Digital Image Stabilization	Support (Built in Gyro sensor)	
Video & Audio Analytics	Tampering, Loitering, Directional detection, Virtual line, Enter/Exit, (Dis)Appear, Audio detection, Motion detection, Sound classification, Shock detection, Temperature detection	Tampering, Loitering, Directional detection, Virtual line, Enter/Exit, (Dis)Appear, Audio detection, Motion detection, Sound classification, Shock detection, Temperature change detection
Protocol	ONVIF profile S&G, SUNAPI	
Alarm I/O	1 / 2	1 / 1
Audio	Bi-directional	
Edge Storage	SD/SDHC/SDXC, NAS, Local PC	
Environment Protection	IP66, NEMA4X, IK10	IP66, NEMA4X, IK10 (TNU-4041T)
Operating Temperature	-40℃ ~ +60℃ (-40°F ~ +140°F)	
Power	Max. 10.5W (24V AC), Max. 9W (12V DC), Max. 10W (PoE)	84W - Heater on, 62W - Heater off (24V AC)
Dimensions (WxHxD) / Weight	Ø101.97 x 401.8mm (Ø4.01" x 15.82") 3.12Kg (6.88 lb)	219×528×335mm (8.62" x 20.79" x 13.19") 11.7 kg (25.79 lb)
Additional Features	Handover, WiseStream II, Advanced video analytics, Sound classification, Hallway view, Various Color palettes, Radiometry	Handover, WiseStream II, Advanced video analytics, Sound classification, Various Color palettes