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FIRST EDITION 11-2020 (M.H)

WISENET X/T series

Perfectly optimized products
for specific applications

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.



Stainless Steel Cameras



WISENET X_{series}

Stainless Steel

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



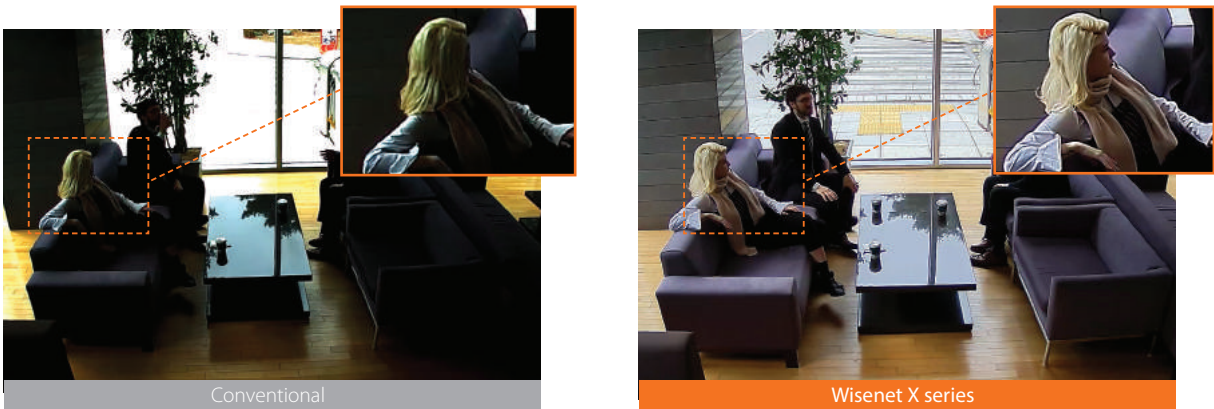
Clean rooms



Hospital

True WDR performance

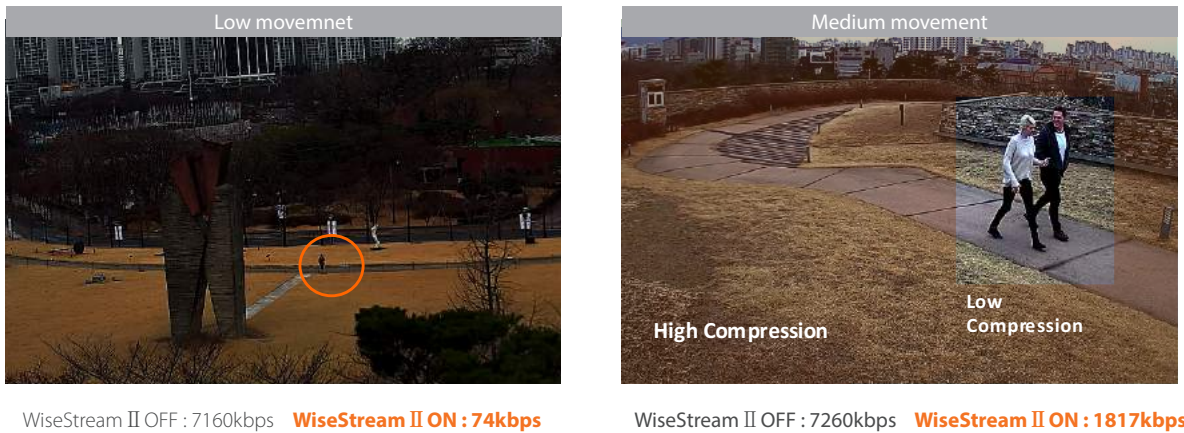
Conventional WDR captures images by taking 2 frames taken at different exposures, whereas Wisenet X series cameras utilize 4 frame capture at different exposure levels to create a combined image. With the development of cutting-edge WDR technology, Wisenet X series cameras address a limitation found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



※ 150dB WDR only available in 2MP X series

Improve bandwidth by up to 75% 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 75% 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.



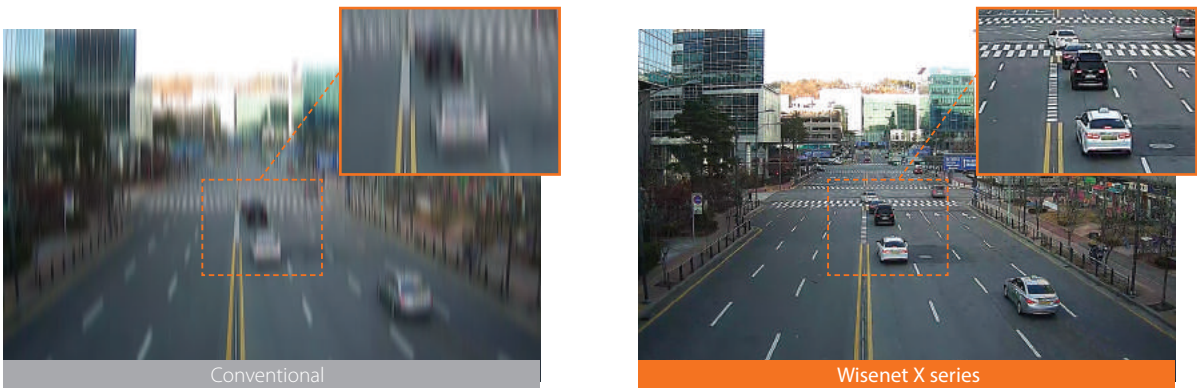
Clearer, sharper images in low light environments

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.



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.



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.

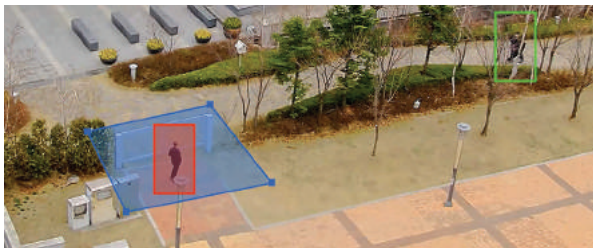


Enhanced Video / Audio Analytics

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

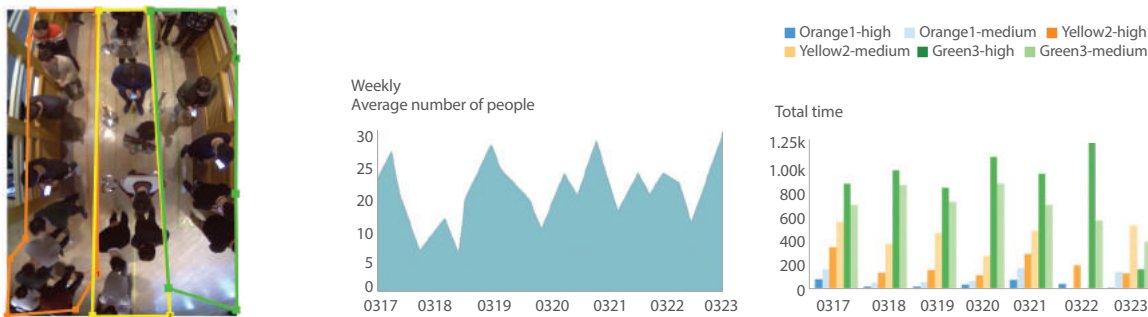
Loitering detection

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



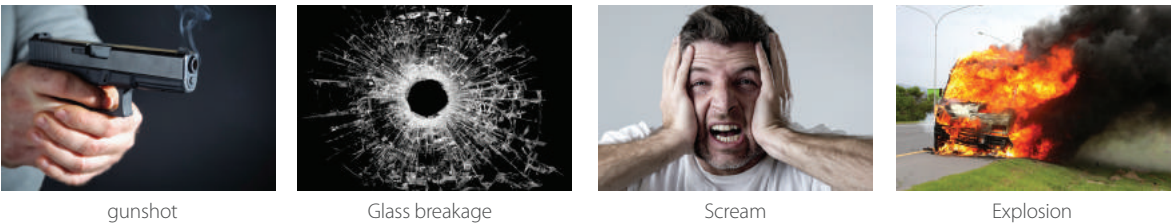
Queue management

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.



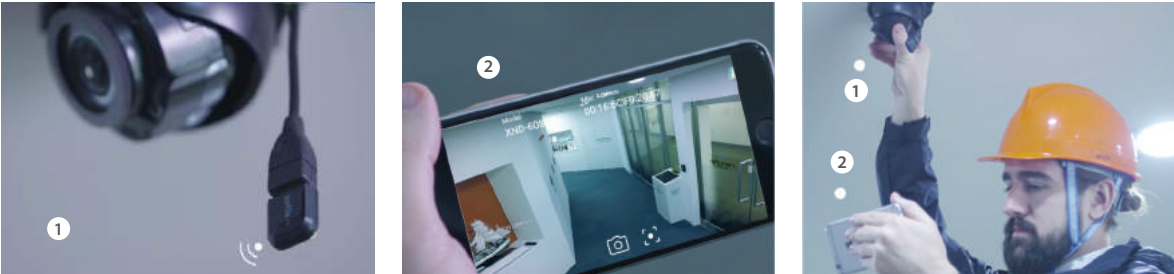
Sound classification

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.



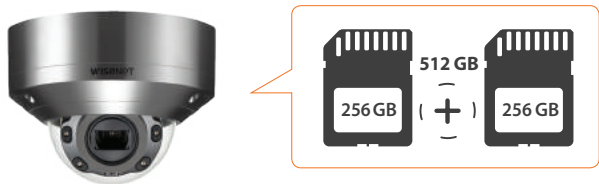
More convenient installation with USB

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.



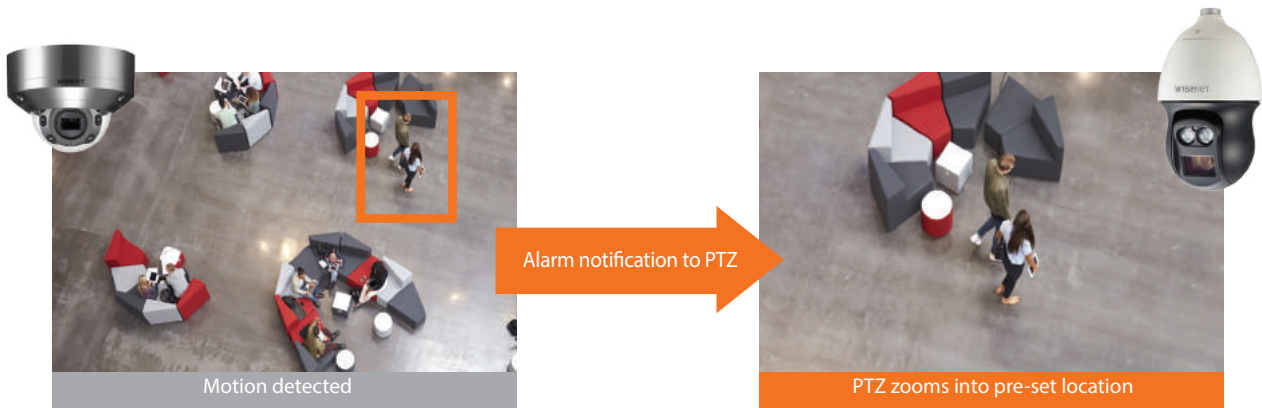
Dual SD slots

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.



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.



Product Specifications



XNV-8080RSA
5MP Stainless IR Vandal Dome Camera

Imaging Device	1/18" CMOS
Min. Illumination	Color : 0.07Lux (F1.3) B/W : 0Lux (IR LED on)
Video Output	CVBS 1.0Vp-p, Micro USB type B
Focal Length	3.9~9.4mm (2.4x) motorized varifocal
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)
Pan / Tilt / Rotate	0°~ 354° / 0°~ 67° / 0°~ 355°
IR Viewable Length	50m (164.04ft)
Day & Night	Auto (ICR)
Wide Dynamic Range	120dB
Digital Noise Reduction	SSNR V
Digital Image Stabilization	Support
Analytics	Intelligent analytics Audio detection Sound classification
Business Intelligence	-
Alarm I/O	1 / 1
Audio I/O	Selectable (mic in/line in) / Line out
Video Compression	H.265, H.264, MJPEG
Resolution / Max. Frame Rate	5MP / 30fps
WiseStream	WiseStream II
Streaming	Up to 10 Profiles
Edge Storage	Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF profile S/G, SUNAPI Wisenet open platform
Operating Temperature	-40°C ~ +55°C (-40°F ~ +131°F)
Certification	IP66, NEMA4X, IP6K9K, IK10+
Power Consumption	PoE : Max 12.95W 12VDC : Max 11.5W 24VAC : Max 14W
Dimensions (WxHxD) /Weight	Ø160 X 120.5mm (Ø6.38" x 4.74") 2.8kg (6.17lb)
Additional Features	Handover, Hallway View



XNV-6080RSA
2MP Stainless IR Vandal Dome Camera

Imaging Device	1/2.8" CMOS
Min. Illumination	Color : 0.015Lux (F1.4) B/W : 0Lux (IR LED on)
Video Output	CVBS 1.0Vp-p, Micro USB type B
Focal Length	2.8 ~ 12mm (4.3x) motorized varifocal
Angular Field of View	H : 119.5° (Wide) ~ 27.9° (Tele) / V : 62.8° (Wide) ~ 15.7° (Tele) / D : 142.1° (Wide) ~ 32.0° (Tele)
Pan / Tilt / Rotate	0° ~ 354° / 0° ~ 67° / 0° ~ 355°
IR Viewable Length	50m (164.04ft)
Day & Night	Auto (ICR)
Wide Dynamic Range	150dB
Digital Noise Reduction	SSNR V
Digital Image Stabilization	Support
Analytics	Intelligent analytics Audio detection, Sound classification
Business Intelligence	-
Alarm I/O	1 / 1
Audio I/O	Selectable (mic in/line in) / Line out
Video Compression	H.265, H.264, MJPEG
Resolution / Max. Frame Rate	2MP / 60fps
WiseStream	WiseStream II
Streaming	Up to 10 Profiles
Edge Storage	Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF profile S/G, SUNAPI, Wisenet open platform
Operating Temperature	-40°C ~ +55°C (-40°F ~ +131°F)
Certification	IP66, NEMA4X, IP6K9K, IK10+
Power Consumption	PoE : Max 12.95W 12VDC : Max 11.5W 24VAC : Max 14W
Dimensions (WxHxD) /Weight	Ø160 x 120.5mm (Ø6.38" x 4.74") 2.8kg (6.17lb)
Additional Features	Handover, Hallway View



XNV-6120RSA
2MP Stainless IR Vandal Dome Camera

Imaging Device	1/2.8" CMOS
Min. Illumination	Color : 0.03Lux (F1.6) B/W : 0Lux (IR LED on)
Video Output	CVBS 1.0Vp-p, Micro USB type B
Focal Length	5.2 ~ 62.4mm (Optical 12x)
Angular Field of View	H : 54.6°(Wide) ~ 5.30°(Tele) / V : 32.2°(Wide) ~ 3.00°(Tele) / D : 61.40°(Wide) ~ 6.06°(Tele)
Pan / Tilt / Rotate	0° ~ 354° / 0° ~ 75° / 0° ~ 355°
IR Viewable Length	70m (229.66ft)
Day & Night	Auto (ICR)
Wide Dynamic Range	150dB
Digital Noise Reduction	SSNR V
Digital Image Stabilization	Support (Built-in Gyro sensor)
Analytics	Intelligent analytics Audio detection Sound classification
Business Intelligence	-
Alarm I/O	1 / 1
Audio I/O	Selectable (mic in/line in) / Line out
Video Compression	H.265, H.264, MJPEG
Resolution / Max. Frame Rate	2MP / 60fps
WiseStream	WiseStream II
Streaming	Up to 10 Profiles
Edge Storage	Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF profile S/G, SUNAPI, Wisenet open platform
Operating Temperature	-40°C ~ +55°C (-40°F ~ +131°F) *Start up above -35°C (-31°F)
Certification	IP66, NEMA4X, IP6K9K, IK10+
Power Consumption	PoE : Max 12.95W 12VDC : Max 11.5W 24VAC : Max 14W
Dimensions (WxHxD) /Weight	Ø162 x 134.5mm (Ø6.38" x 5.3") 2.7kg (5.95 lb)
Additional Features	Handover, Hallway View

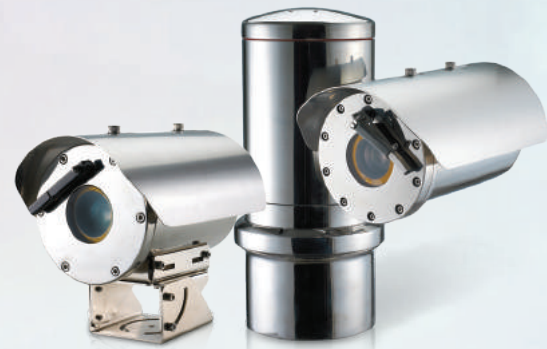


XNP-6320HS
2MP Stainless 32x PTZ Camera

Imaging Device	1/2.8" CMOS
Min. Illumination	Color : 0.05Lux (F1.6) B/W : 0.005Lux (F1.6)
Video Output	CVBS 1.0Vp-p, Micro USB type B
Focal Length	4.44 ~ 142.6mm (32x) zoom
Angular Field of View	H : 61.8° (Wide) ~ 2.19° (Tele) / V : 36.2° (Wide) ~ 1.24° (Tele)
Pan / Tilt / Rotate	360° Endless / 210° (-15° ~ 195°) / -
IR Viewable Length	-
Day & Night	Auto (ICR)
Wide Dynamic Range	150dB
Digital Noise Reduction	SSNRV
Digital Image Stabilization	Support (Built-in Gyro sensor)
Analytics	Intelligent analytics, Audio detection Sound classification Shock detection
Business Intelligence	-
Alarm I/O	4 / 2
Audio I/O	Selectable (mic in/line in) / Line out
Video Compression	H.265, H.264, MJPEG
Resolution / Max. Frame Rate	2MP / 60fps
WiseStream	WiseStream II
Streaming	Up to 10 Profiles
Edge Storage	Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF profile S/G, SUNAPI, Wisenet open platform
Operating Temperature	PoE+ : -35°C ~ +55°C (-31°F ~ +131°F) 24VAC : -50°C ~ +55°C (-58°F ~ +131°F)
Certification	IP67, IP66, NEMA4X, IK10
Power Consumption	24VAC : Max 65W
Dimensions (WxHxD) /Weight	Ø227 x 296mm (Ø8.94" x 11.65") 5.3kg (11.69lb)
Additional Features	Defog, Auto tracking

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

Explosion-proof Cameras



WISENET T series

Explosion-proof

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.



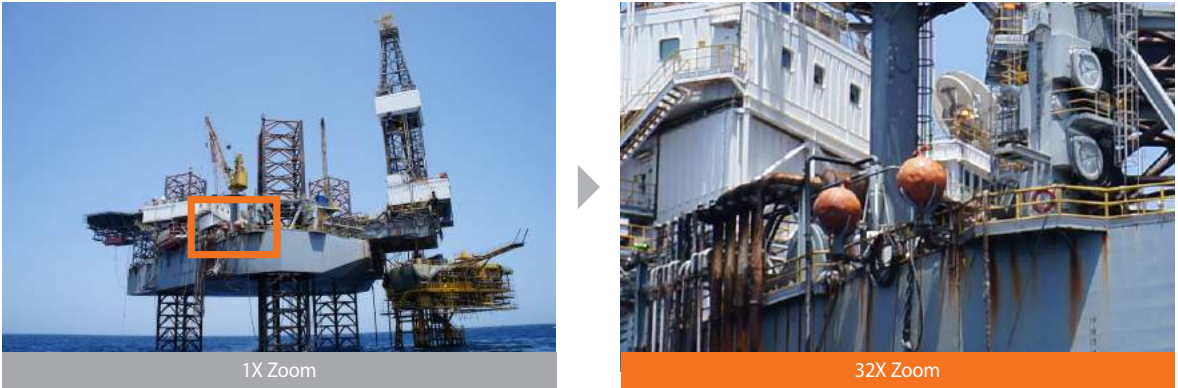
Stainless steel 316L enclosure to prevent explosions

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.



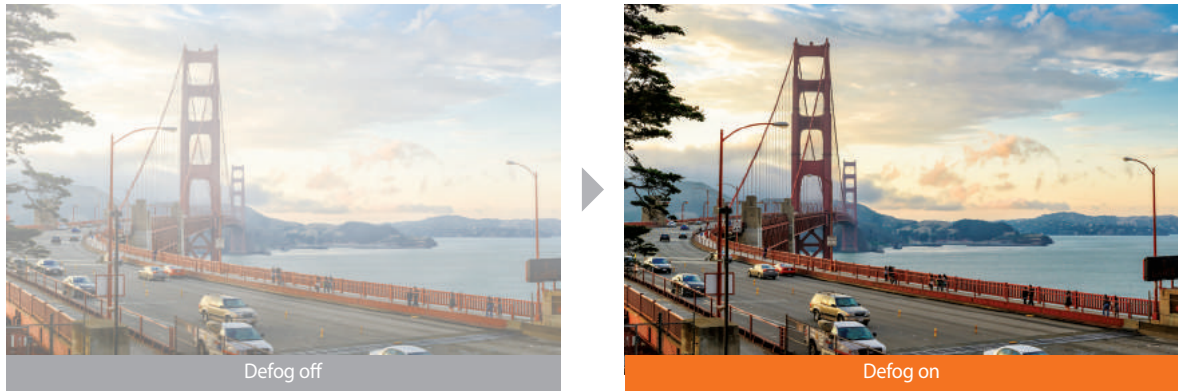
Capture details with 2MP 32x optical zoom

Wisenet 2MP optical 32x zoom box camera 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.



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.



360° endless pan rotation and 255 preset mode

Wisenet explosion-proof camera 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

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.



Product Specifications



TNO-6320E
2MP Explosion-proof Camera



TNU-6320E
2MP Explosion-proof PTZ Camera

Imaging Device	1/2.8" CMOS	1/2.8" CMOS
Min. Illumination	Color : 0.15Lux, B/W: 0.015Lux	Color : 015Lux (F1.6) B/W : 0.015Lux (F1.6)
Video Output	-	-
Focal Length	4.44 ~ 142.6mm (Optical 32x), F1.6(Wide) / F4.4(Tele)	4.44 ~ 142.6mm (Optical 32x)
Angular Field of View	H: 62.8°(Wide)~2.23°(Tele) / V: 36.80°(Wide)~1.26°(Tele)	H : 62.8° (Wide) ~ 2.23° (Tele) / V : 36.8° (Wide) ~ 1.26° (Tele)
Pan / Tilt / Rotate	-	360° Endless / 180° (-90° ~ 90°) / -
IR Viewable Length	-	-
Day & Night	Auto(ICR)	Auto (ICR)
Wide Dynamic Range	120dB	120dB
Digital Noise Reduction	SSNRIII	SSNRIII
Digital Image Stabilization	Support	Support
Analytics	Face detection, Motion detection, Appear/Disappear, Enter/Exit, Tampering, Virtual line	Intelligent analytics
Business Intelligence	-	-
Alarm I/O	1/1	1 / 1
Audio I/O	-	-
Video Compression	H.264, MJPEG	H.264, MJPEG
Resolution / Max. Frame Rate	2MP / 60fps	2MP / 60fps
WiseStream	-	-
Streaming	Up to 10 profiles	Up to 10 Profiles
Edge Storage	-	-
Application Programming Interface	SUNAPI, Wisenet open plarform	SUNAPI, Wisenet open platform
Operating Temperature	-40°C~+60°C (-40°F~+140°F) / Less than 90% RH * Start up should be done at above -30°C	-30°C ~ +60°C (-22°F ~ +140°F)
Certification	IP67, IK10, CE2460, EX II 2 GD, Ex d IIC T6 Gb, IP67, Ex tb IIIC T85°C Db	IP67, IK10, CE2460, EX II 2 GD, Ex d IIC T6 Gb IP67, Ex tb IIIC T80°C Db
Power Consumption	24VAC : Max 28W	24VAC : Max 49W
Dimensions (WxHxD) / Weight	Ø162 x 244mm(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 (77.16lb)
Additional Features	Stainless(SUS316L) housing, Built in wiper	Stainless (SUS316L) housing, Built in wiper

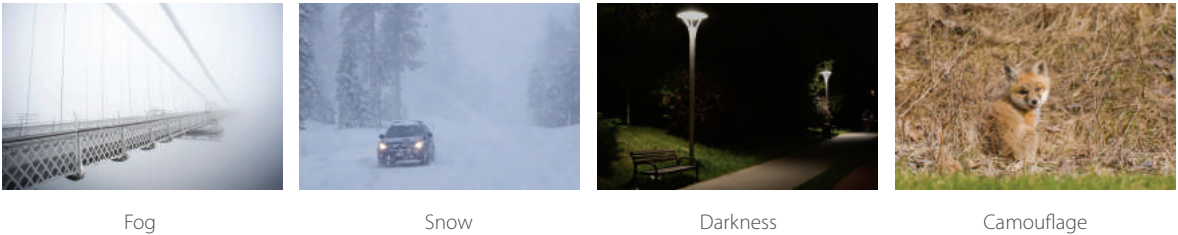
* The latest product information / sepecification can be found at hanwha-security.com
* These products will be replaced with TNO-6322ER, TNU-6322E/6322ER with advanced features in 2021.

Thermal Cameras



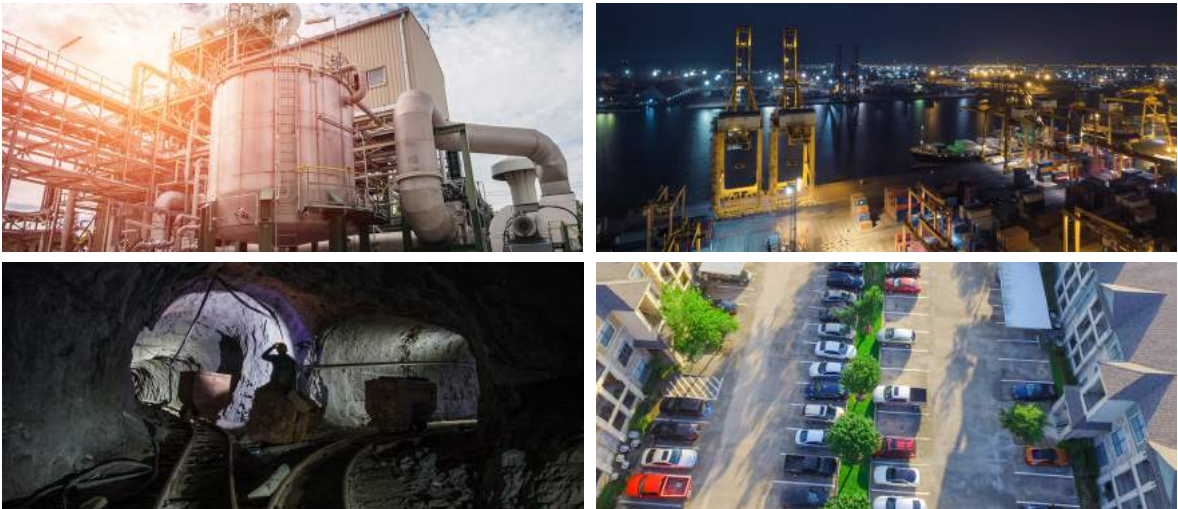
Detect people and objects 24/7 with thermal cameras

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.



Secure a wide variety of applications

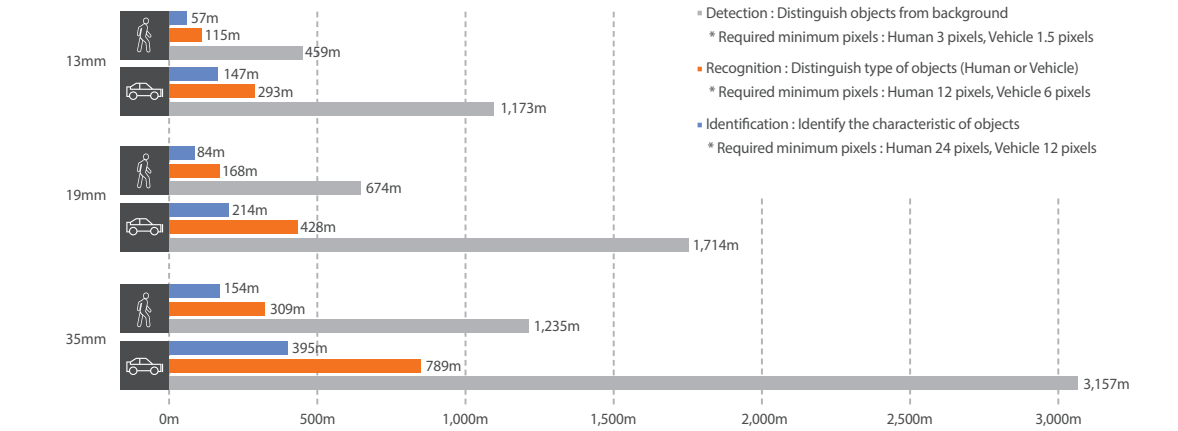
Wisenet thermal cameras can be a powerful tool when monitoring applications where there is very little light, due to their ability to create images based on heat. Thermal cameras are especially applicable in manufacturing and industrial facilities, air and seaports, and mining areas.



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

Long detection range up to 3,157m

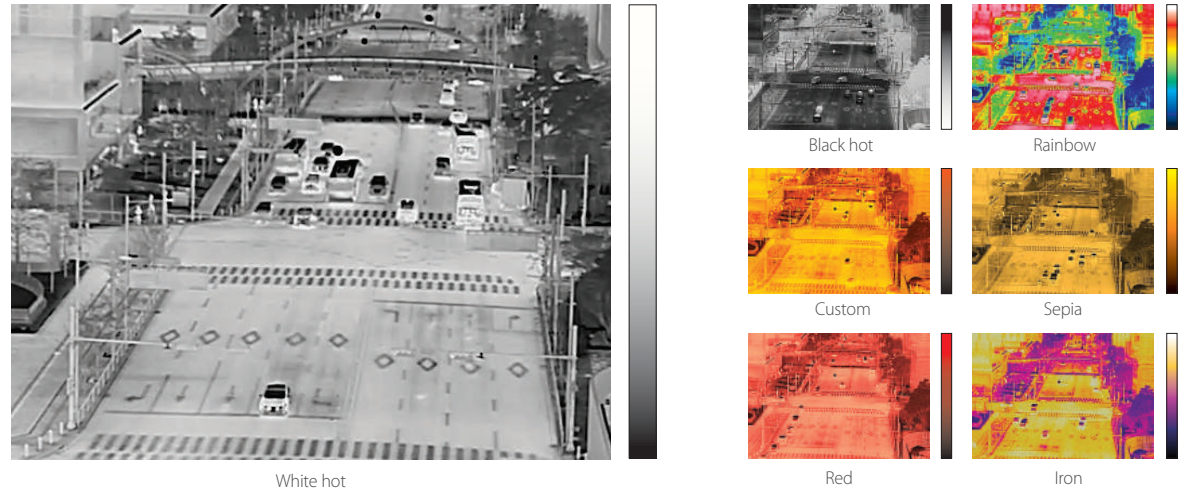
The main task of the thermal camera is to detect events that occur at long distances. Wisenet thermal cameras are equipped with a 35/19/13mm lens(Horizontal FoV 17°/32°/49°) to detect vehicles up to 3,157m away. The camera provides an image with high color contrast according to the temperature, so it 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.



* 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.



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 75% 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 75% 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.



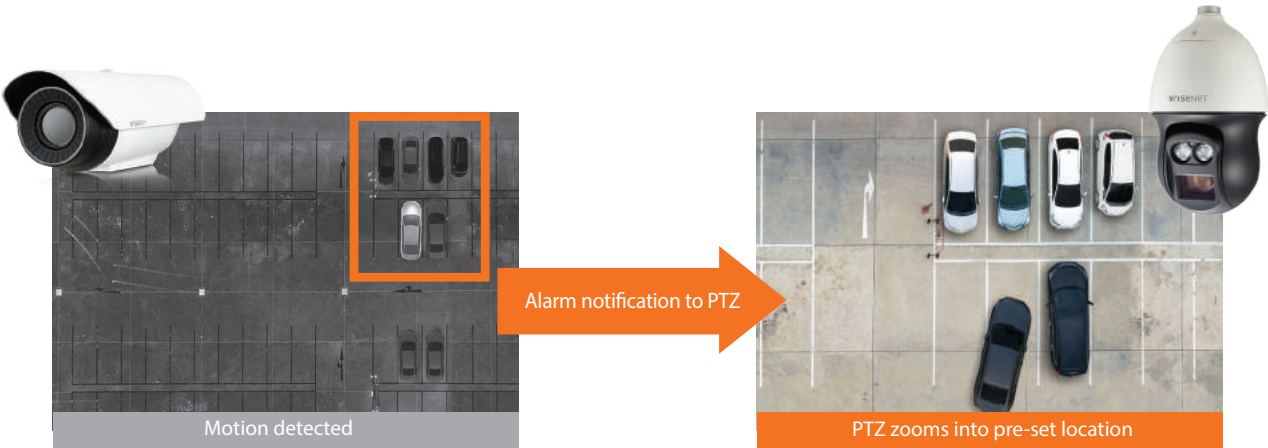
WiseStream II OFF : 7160kbps WiseStream II ON : 74kbps



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.



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



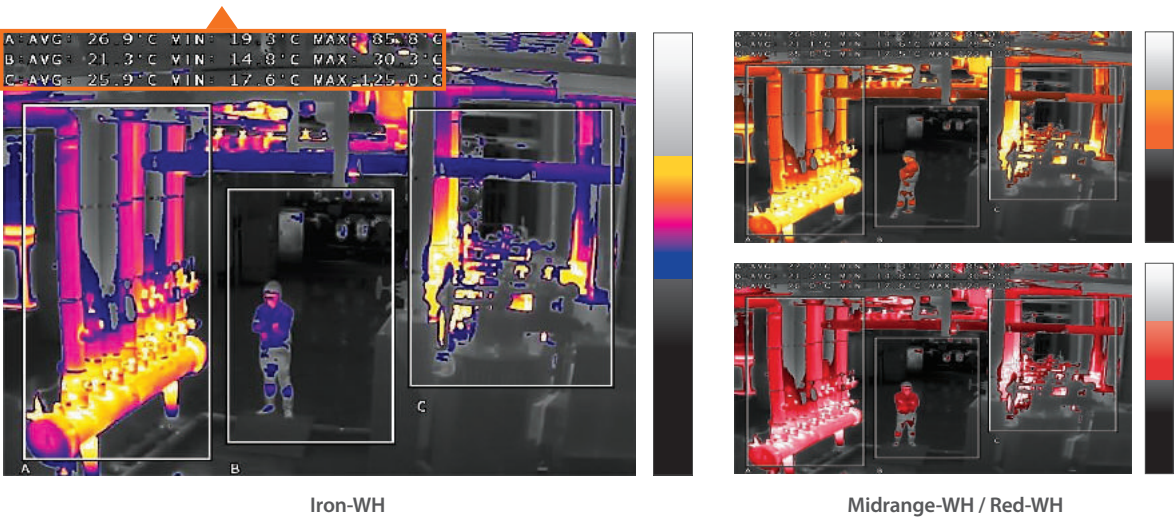
Temperature measurement to monitor incidents

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

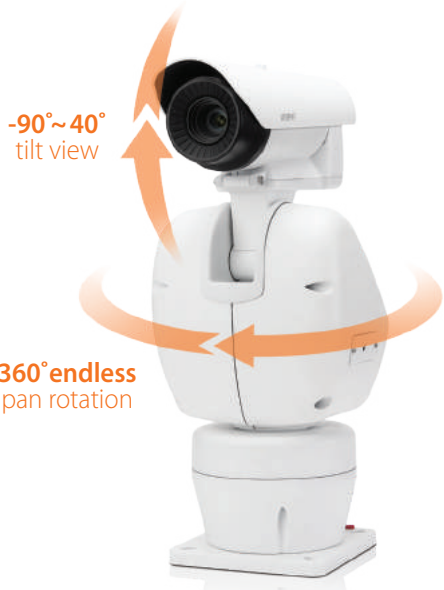
Using hybrid color palette, the selected range of temperature can be displayed in vivid colors, helping users observe monitoring areas with greater ease. The temperature out of the defined range is expressed in white hot color of black and white, ensuring the camera covers the entire monitoring areas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

Temperature of 3 areas displayed on screen



Hybrid color palette

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



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

Temperature Detection Thermal Camera (TNM-3620TDY)

Identification
Visible image 2MP 4mm fixed focal (H : 87.6°, V : 46.4°)

Detection
Thermal image QVGA 4.7mm fixed focal (H : 50.0°, V : 36.4°)



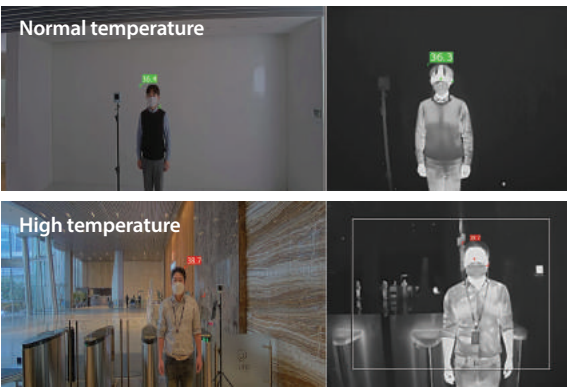
Bi-spectrum camera with dual lens for visible and thermal imaging

TNM-3620TDY camera features both QVGA (320x240) thermal camera with 4.7mm fixed focal lens and 2MP (1920x1080) visible camera with 4MP fixed focal lens together. This camera can quickly screen high temperature and can recognize the object (who the person is) with visible camera.

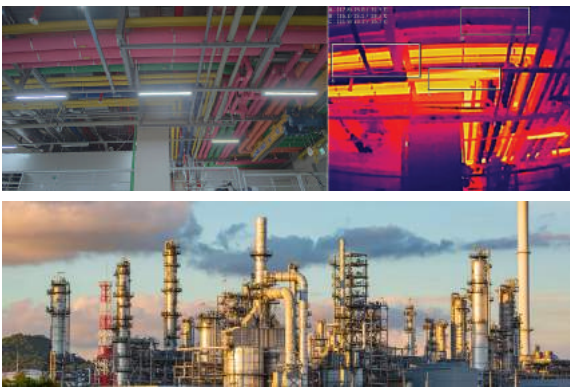
Two detection modes support

Users can select two modes of detection in the camera according to their needs: estimated body temperature (EBT) mode and normal radiometric mode. Under the EBT mode, the camera can cover temperature range between 30~45°C, use AI to detect faces, and measure the temperature over the eye area as it is closest to the core body temperature. In the normal radiometric mode, the temperature between -20~130°C can be measured, making it ideal for fire-sensitive areas such as utility tunnels and plants or forest fire monitoring.

EBT(Estimated Body Temperature) mode

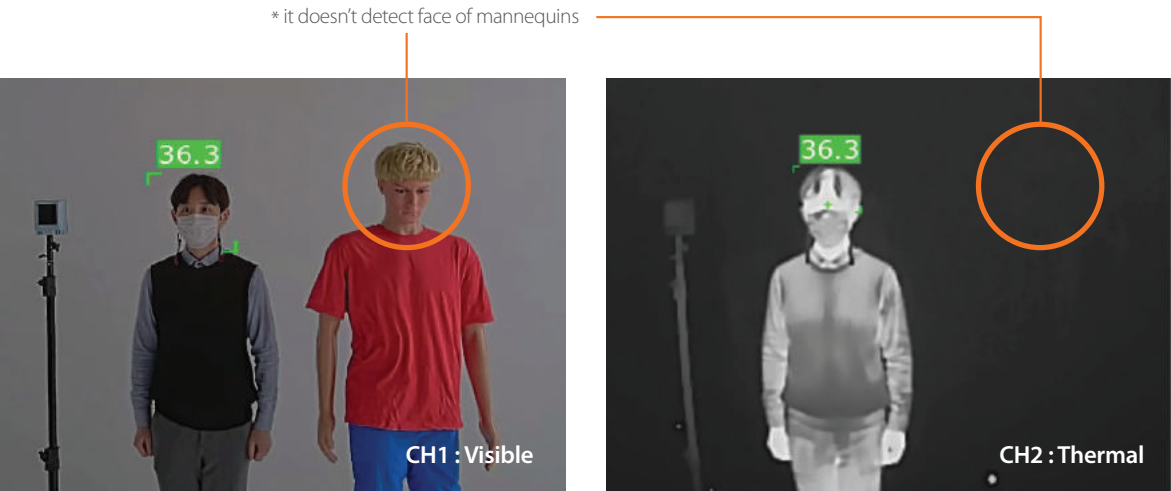


Normal radiometric mode



High accuracy with AI deep-learning technology

TNM-3620TDY utilizes built-in AI deep-learning technology to detect the human faces and generates alarms for only humans, making the monitoring more precise and efficient. Users can choose a channel between visible camera and thermal camera to detect human faces. When the thermal camera is selected as a channel to detect human faces, it only detects faces with fever. And therefore, the faces of mannequins or faces in photographs are not detected as shown in the image below. In addition, users can synchronize images of two channels by calibrating the image grid, so that the camera can detect the exact location of objects' faces and measure body temperature.



Simultaneous detection of multiple faces

TNM-3620TDY supports simultaneous detection of multiple faces in the distance between 1 to 3 meters. To increase the accuracy, Hanwha Techwin highly recommends installing and operating the camera in accordance with the US FDA's guidelines. According to the guidelines, measuring the temperature should be proceeded one person at a time. Using a separately sold blackbody (SBI-35B) is one of recommendations for more precise measurement.



Product Specifications

			
TNM-3620TDY Temperature Detection Thermal Camera		TNU-4041T / 4051T VGA Thermal Positioning Camera	
Imaging Device	Uncooled micro bolometer	1/2.8" CMOS	Uncooled Micro bolometer
Min. Illumination	-	Color : 0.05 lux (F1.6, 1/30sec) B/W : 0.005 lux (F1.6, 1/30sec)	-
Video Output	CVBS : 1.0Vp-p, Micro USB Type B		CVBS : 1.0Vp-p
Focal Length	4.7mm fixed focal	4mm fixed focal	19mm / 35mm fixed
Angular Field of View	H : 50.0° , V : 36.4° , D : 65.3°	H : 87.6, V : 46.4° , D : 104.5°	H : 32° / V : 24.3° / D : 39.2° H : 17.2° / V : 13° / D : 22°
Pan / Tilt / Rotate	-		360° Endless / -90° ~ 40°
Day & Night	-	Auto (ICR)	-
Wide Dynamic Range	-	extreme WDR (150dB)	-
Digital Noise Reduction	-	SSNRV	-
Digital Image Stabilization	Support(built-in gyro sensor)		Support (Built-in Gyro sensor)
Analytics	Normal mode : Directional detection, Motion detection, Enter/Exit, Tampering,Virtual line, Audio detection, Temperature detection EBT mode : Temperature detection, Blackbody abnormality		Intelligent analytics, Audio detection, Sound classification, Shock detection, Temperature change detection
Alarm I/O	1 / 2		1 / 1
Audio I/O	Selectable (mic in/line in) / Line out		Selectable (mic in/line in) / Line out
Video Compression	H.265, H.264, MJPEG		H.265, H.264, MJPEG
Resolution / Max. Frame Rate	Max. 30fps /25fps (H.265, H.264)		640 x 480 / 30fps
WiseStream	WiseStream II		WiseStream II
Streaming	Up to 6 Profiles		Up to 10 Profiles
Edge Storage	Micro SD/SDHC/SDXC		Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF Profile S/T, SUNAPI		ONVIF profile S/G, SUNAPI, Wisenet open platform
Operating Temperature	EBT mode : +10°C~+35°C(+50°F~+95°F) / Less than 95% RH Normal mode : -10°C~+55°C (+14°F~+131°F) / Less than 95% RH		-40°C ~ +60°C (-40°F ~ +140°F)
Certification	-		IP66, NEMA 4X, IK10
Power Consumption	PoE+ : Max. 17.0W, typical 12.5W 12VDC : Max. 14.5W, typical 11.0W		24VAC : Max 84W - Heater On Max 62W - Heater Off
Dimensions (WxHxD) / Weight	135 x 75 x 188.5mm (5.31" x 2.95" x 7.42") 1712g (3.77lb)		219 x 528 x 335mm (8.62" x 20.79" x 13.19") 11.7kg (25.79lb)
Additional Features	Bi-spectrum camera, Two temperature detection mode, Face detection		Various color palettes

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

					
TNO-4051T VGA Thermal Bullet Camera		TNO-4050T VGA Thermal Bullet Camera		TNO-4041T VGA Thermal Bullet Camera	
Imaging Device	Uncooled Micro bolometer	Uncooled Micro bolometer	Uncooled Micro bolometer	Uncooled Micro bolometer	Uncooled Micro bolometer
Min. Illumination	-	-	-	-	-
Video Output	CVBS : 1.0Vp-p	CVBS : 1.0Vp-p, Micro USB Type B	CVBS : 1.0Vp-p	CVBS : 1.0Vp-p	CVBS : 1.0Vp-p
Focal Length	35mm fixed	35mm fixed	35mm fixed	19mm fixed	19mm fixed
Angular Field of View	H : 17.2° / V : 13° / D : 22°	H : 17.2° / V : 13° / D : 22°	H : 17.2° / V : 13° / D : 22°	H : 32° / V : 24.3° / D : 39.2°	H : 32° / V : 24.3° / D : 39.2°
Pan / Tilt / Rotate	-	-	-	-	-
Day & Night	-	-	-	-	-
Wide Dynamic Range	-	-	-	-	-
Digital Noise Reduction	-	-	-	-	-
Digital Image Stabilization	Support (Built-in Gyro sensor)	Support (Built-in Gyro sensor)	Support (Built-in Gyro sensor)	Support (Built-in Gyro sensor)	Support (Built-in Gyro sensor)
Analytics	Intelligent analytics, Audio detection, Sound classification, Shock detection, Temperature change detection	Intelligent analytics, Audio detection, Sound classification, Shock detection, Temperature change detection	Intelligent analytics, Audio detection, Sound classification, Shock detection, Temperature change detection	Intelligent analytics, Audio detection, Sound classification, Shock detection, Temperature change detection	Intelligent analytics, Audio detection, Sound classification, Shock detection, Temperature change detection
Alarm I/O	1 / 2	1 / 2	1 / 2	1 / 2	1 / 2
Audio I/O	Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out	Selectable (mic in/line in) / Line out
Video Compression	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG
Resolution / Max. Frame Rate	640 x 480 / 30fps	640 x 480 / 30fps	640 x 480 / 30fps	640 x 480 / 30fps	640 x 480 / 30fps
WiseStream	WiseStream II	WiseStream II	WiseStream II	WiseStream II	WiseStream II
Streaming	Up to 10 Profiles	Up to 10 Profiles	Up to 10 Profiles	Up to 10 Profiles	Up to 10 Profiles
Edge Storage	Micro SD/SDHC/SDXC	Micro SD/SDHC/SDXC	Micro SD/SDHC/SDXC	Micro SD/SDHC/SDXC	Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF profile S/G, SUNAPI, Wisenet open platform	ONVIF profile S/G, SUNAPI, Wisenet open platform	ONVIF profile S/G, SUNAPI, Wisenet open platform	ONVIF profile S/G, SUNAPI, Wisenet open platform	ONVIF profile S/G, SUNAPI, Wisenet open platform
Operating Temperature	-40°C ~ +60°C (-40°F ~ +140°F)	-40°C ~ +60°C (-40°F ~ +140°F)	-40°C ~ +60°C (-40°F ~ +140°F)	-40°C ~ +60°C (-40°F ~ +140°F)	-40°C ~ +60°C (-40°F ~ +140°F)
Certification	IP66, NEMA 4X	IP66, NEMA 4X	IP66, NEMA 4X	IP66, NEMA 4X, IK10	IP66, NEMA 4X, IK10
Power Consumption	PoE : Max 10W 12VDC : Max 9W 24VAC : Max 10.5W	PoE : Max 10W 12VDC : Max 9W 24VAC : Max 10.5W	PoE : Max 10W 12VDC : Max 9W 24VAC : Max 10.5W	PoE : Max 10W 12VDC : Max 9W 24VAC : Max 10.5W	PoE : Max 10W 12VDC : Max 9W 24VAC : Max 10.5W
Dimensions (WxHxD) / Weight	Ø101.97 x 309mm (Ø4.01" x 12.17") 2,501g (5.51lb)	Ø147.51 x 401.8mm (Ø5.81" x 15.82") 3,175g (7.0lb)	Ø147.51 x 401.8mm (Ø5.81" x 15.82") 3,175g (7.0lb)	Ø101.97 x 309mm (Ø4.01" x 12.17") 2,501g (5.51lb)	Ø101.97 x 309mm (Ø4.01" x 12.17") 2,501g (5.51lb)
Additional Features	Various color palettes, PT type	Various color palettes	Various color palettes	Various color palettes, PT type	Various color palettes, PT type

Product Specifications



TNO-4041TR
VGA Radiometric Thermal Bullet Camera

Imaging Device	Uncooled Micro bolometer
Video Output	CVBS : 1.0 Vp-p
Focal Length	19mm fixed
Angular Field of View	H : 32° / V : 24.3° / D : 39.2°
Digital Image Stabilization	Support (Built-in Gyro sensor)
Analytics	Intelligent analytics, Audio detection, Sound classification, Shock detection, Temperature detection
Alarm I/O	1 / 2
Audio I/O	Selectable (mic in/line in) / Line out
Video Compression	H.265, H.264, MJPEG
Resolution / Max. Frame Rate	640 x 480 / 30fps
WiseStream	WiseStream II
Streaming	Up to 10 Profiles
Edge Storage	Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF profile S/G/T, SUNAPI, Wisenet open platform
Operating Temperature	-40°C ~ +60°C (-40°F ~ +140°F)
Certification	IP66, NEMA 4X, IK10
Power Consumption	PoE : Max 10W 12VDC : Max 9W 24VAC : Max 10.5W
Dimensions (WxHxD) / Weight	Ø101.97 x 309mm (Ø4.01" x 12.17") 2,452g (5.41lb)
Additional Features	Various color palettes Spot temperature reading, PT type



TNO-4040T
VGA Thermal Bullet Camera

Imaging Device	Uncooled Micro bolometer
Video Output	CVBS : 1.0 Vp-p, Micro USB Type B
Focal Length	19mm fixed
Angular Field of View	H : 32° / V : 24.3° / D : 39.2°
Digital Image Stabilization	Support (Built-in Gyro sensor)
Analytics	Intelligent analytics, Audio detection, Sound classification, Shock detection, Temperature detection
Alarm I/O	1 / 2
Audio I/O	Selectable (mic in/line in) / Line out
Video Compression	H.265, H.264, MJPEG
Resolution / Max. Frame Rate	640 x 480 / 30fps
WiseStream	WiseStream II
Streaming	Up to 10 Profiles
Edge Storage	Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF profile S/G, SUNAPI, Wisenet open platform
Operating Temperature	-40°C ~ +60°C (-40°F ~ +140°F)
Certification	IP66, NEMA 4X, IK10
Power Consumption	PoE : Max 10W 12VDC : Max 9W 24VAC : Max 10.5W
Dimensions (WxHxD) / Weight	Ø147.51 x 401.8mm (Ø5.81" x 15.82") 3,175g (7.0lb)
Additional Features	Various color palettes



TNO-4040TR
VGA Radiometric Thermal Bullet Camera

Imaging Device	Uncooled Micro bolometer
Video Output	CVBS : 1.0 Vp-p, Micro USB Type B
Focal Length	19mm fixed
Angular Field of View	H : 32° / V : 24.3° / D : 39.2°
Digital Image Stabilization	Support (Built-in Gyro sensor)
Analytics	Intelligent analytics, Audio detection, Sound classification, Shock detection, Temperature detection
Alarm I/O	1 / 2
Audio I/O	Selectable (mic in/line in) / Line out
Video Compression	H.265, H.264, MJPEG
Resolution / Max. Frame Rate	640 x 480 / 30fps
WiseStream	WiseStream II
Streaming	Up to 10 Profiles
Edge Storage	Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF profile S/G/T, SUNAPI, Wisenet open platform
Operating Temperature	-40°C ~ +60°C (-40°F ~ +140°F)
Certification	IP66, NEMA 4X, IK10
Power Consumption	PoE : Max 10W 12VDC : Max 9W 24VAC : Max 10.5W
Dimensions (WxHxD) / Weight	Ø101.97 x 401.8mm (Ø4.01" x 15.82") 3,124g (6.89lb)
Additional Features	Various color palettes Spot temperature reading



TNO-4030T
VGA Thermal Bullet Camera

Imaging Device	Uncooled Micro bolometer
Video Output	CVBS : 1.0 Vp-p, Micro USB Type B
Focal Length	13mm fixed
Angular Field of View	H : 48.6° / V : 36.4° / D : 61.6°
Digital Image Stabilization	Support (Built-in Gyro sensor)
Analytics	Intelligent analytics, Audio detection, Sound classification, Shock detection, Temperature detection
Alarm I/O	1 / 2
Audio I/O	Selectable (mic in/line in) / Line out
Video Compression	H.265, H.264, MJPEG
Resolution / Max. Frame Rate	640 x 480 / 30fps
WiseStream	WiseStream II
Streaming	Up to 10 Profiles
Edge Storage	Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF profile S/G, SUNAPI, Wisenet open platform
Operating Temperature	-40°C ~ +60°C (-40°F ~ +140°F)
Certification	IP66, NEMA 4X, IK10
Power Consumption	PoE : Max 10W 12VDC : Max 9W 24VAC : Max 10.5W
Dimensions (WxHxD) / Weight	Ø147.51 x 401.8mm (Ø5.81" x 15.82") 3,173g (7.0lb)
Additional Features	Various color palettes

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

Product Specifications



TNO-4030TR
VGA Radiometric Thermal Bullet Camera

Imaging Device	Uncooled Micro bolometer
Video Output	CVBS : 1.0 Vp-p, Micro USB Type B
Focal Length	13mm fixed
Angular Field of View	H : 48.6° / V : 36.4° / D : 61.6°
Digital Image Stabilization	Support (Built-in Gyro sensor)
Analytics	Intelligent analytics, Audio detection, Sound classification, Shock detection, Temperature detection
Alarm I/O	1 / 2
Audio I/O	Selectable (mic in/line in) / Line out
Video Compression	H.265, H.264, MJPEG
Resolution / Max. Frame Rate	640 x 480 / 30fps
WiseStream	WiseStream II
Streaming	Up to 10 Profiles
Edge Storage	Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF profile S/G/T, SUNAPI, Wisenet open platform
Operating Temperature	-40°C ~ +60°C (-40°F ~ +140°F)
Certification	IP66, NEMA 4X, IK10
Power Consumption	PoE : Max 10W 12VDC : Max 9W 24VAC : Max 10.5W
Dimensions (WxHxD) / Weight	Φ101.97 x 401.8mm (Φ4.01" x 15.82") 3,124g (6.89lb)
Additional Features	Various color palettes Spot temperature reading



TNO-3010T
QVGA Thermal Bullet Camera

Imaging Device	Uncooled Micro bolometer
Video Output	CVBS : 1.0 Vp-p, Micro USB Type B
Focal Length	2.7mm fixed focal
Angular Field of View	H : 92.0°, V : 65.5°, D : 125.7°
Digital Image Stabilization	Support (Built-in Gyro sensor)
Analytics	Intelligent analytics Audio detection Sound classification Shock detection Temperature detection
Alarm I/O	1 / 2.
Audio I/O	Selectable (mic in/line in) / Line out
Video Compression	H.265, H.264, MJPEG
Resolution / Max. Frame Rate	320 x 240 / 30fps
WiseStream	WiseStream II
Streaming	Up to 10 Profiles
Edge Storage	Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF profile S/G/T, SUNAPI, Wisenet open platform
Operating Temperature	-40°C ~ +60°C (-40°F ~ +140°F)
Certification	IP66, NEMA 4X, IK10
Power Consumption	PoE : Max. 8.7W, typical 7.5W 12VDC : Max. 7.8W, typical 6.7W 24VAC : Max. 9.2W, typical 8.0W
Dimensions (WxHxD) / Weight	Ø147.51 x 375.3mm (Ø5.81" x 14.78") 2512g (5.538lb)
Additional Features	Various color palettes



TNO-3020T
QVGA Thermal Bullet Camera

Imaging Device	Uncooled Micro bolometer
Video Output	CVBS : 1.0 Vp-p, Micro USB Type B
Focal Length	4.7mm fixed focal
Angular Field of View	H : 50.0°, V : 36.4°, D : 65.3°
Digital Image Stabilization	Support (Built-in Gyro sensor)
Analytics	Intelligent analytics Audio detection Sound classification Shock detection Temperature detection
Alarm I/O	1 / 2.
Audio I/O	Selectable (mic in/line in) / Line out
Video Compression	H.265, H.264, MJPEG
Resolution / Max. Frame Rate	320 x 240 / 30fps
WiseStream	WiseStream II
Streaming	Up to 10 Profiles
Edge Storage	Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF profile S/G/T, SUNAPI, Wisenet open platform
Operating Temperature	-40°C ~ +60°C (-40°F ~ +140°F)
Certification	IP66, NEMA 4X, IK10
Power Consumption	PoE : Max. 8.7W, typical 7.5W 12VDC : Max. 7.8W, typical 6.7W 24VAC : Max. 9.2W, typical 8.0W
Dimensions (WxHxD) / Weight	Ø147.51 x 375.3mm (Ø5.81"x14.78") 2512g (5.538lb)
Additional Features	Various color palettes



TNO-3030T
QVGA Thermal Bullet Camera

Imaging Device	Uncooled Micro bolometer
Video Output	CVBS : 1.0 Vp-p, Micro USB Type B
Focal Length	13.7mm fixed focal
Angular Field of View	H : 16.0°, V : 12.0°, D : 20.0°
Digital Image Stabilization	Support (Built-in Gyro sensor)
Analytics	Intelligent analytics Audio detection Sound classification Shock detection Temperature detection
Alarm I/O	1 / 2.
Audio I/O	Selectable (mic in/line in) / Line out
Video Compression	H.265, H.264, MJPEG
Resolution / Max. Frame Rate	320 x 240 / 30fps
WiseStream	WiseStream II
Streaming	Up to 10 Profiles
Edge Storage	Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF profile S/G/T, SUNAPI, Wisenet open platform
Operating Temperature	-40°C ~ +60°C (-40°F ~ +140°F)
Certification	IP66, NEMA 4X, IK10
Power Consumption	PoE : Max. 8.7W, typical 7.5W 12VDC : Max. 7.8W, typical 6.7W 24VAC : Max. 9.2W, typical 8.0W
Dimensions (WxHxD) / Weight	Ø147.51 x 375.3mm (Ø5.81" x 14.78") 2512g (5.538lb)
Additional Features	Various color palettes

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