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IP Security Solutions

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WISENET P series
AI Cameras

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Increase event monitoring accuracy and operational efficiency by reducing false alarms

The never-ending rush of urban living translates into constant waves of people and vehicles surging through city streets at all hours. As the number of surveillance cameras grows along with the cities, an operator may be presented with too much information to handle, as conventional cameras equipped with motion-based detection generate too many event alarms. With operato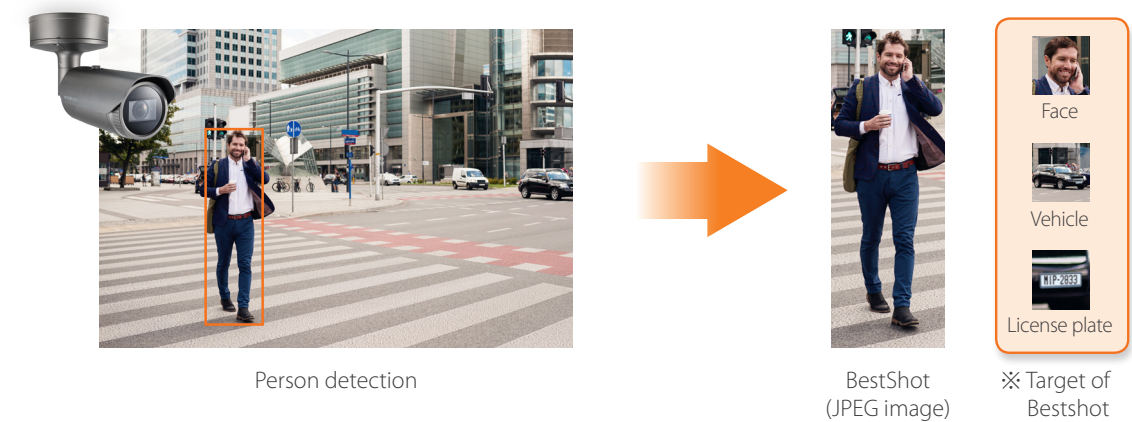rs under great strain to verify each one, there could be delays in response times. Now, AI algorithms built into Wisenet P series AI cameras are able to dramatically help improve operator efficiency.

Pixel based motion detection

AI based on object classification

Classify Target Objects with Attributes

Wisenet P series AI cameras differentiates what it sees into broad categories such as 'Person', 'Face', 'Vehicle' and 'license plate'. Delving deeper, Wisenet AI algorithms are quickly and accurately able to identify the different attributes of the objects within the camera's field of view. For example, the camera sees a person and immediately detects the color of clothing. It is also intelligent enough to distinguish whether the person is wearing glasses or holding a bag. These attributes are then saved as metadata alongside the captured footage.

Wisenet Webviewer

Vehicle color & type

Glasses
Face (Age, Gender)
Top wear /color
Bag
Bottom wear /color
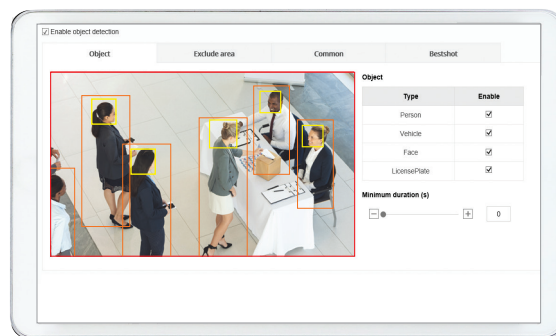
Faster forensic data search with bandwidth control

BestShots for objects, Metadata for attributes, minimizing storage and bandwidth requirements

Wisenet P series AI cameras are equipped with the BestShot feature which ensures that only the most suitable images of classified objects are sent to the backend server. Full video image can be up to 4K resolution to see details of objects, along with tagged attributes metadata. Users have the option to set the image resolution less than 4K for full video streaming or use BestShot to minimize bandwidth and storage requirements.

Person detection

BestShot (JPEG image)

Face
Vehicle
License plate

※ Target of Bestshot

WiseStream Ⅱ, optimized bandwidth solution

One of the primary issues of earlier generation AI cameras is bandwidth. In addition to BestShot, Wisenet P series AI cameras also utilize WiseStream Ⅱ, Hanwha Techwin's complementary video compression technology which, when it is combined with H.265 technology, improves bandwidth efficiency by up to 75% compared to current H.264 technology, and without compromising image quality.

Low movemnet

Medium movement

High Compression

Low Compression

WiseStream Ⅱ OFF : 7160kbps
WiseStream Ⅱ ON : 1787kbps

WiseStream Ⅱ OFF : 7260kbps
WiseStream Ⅱ ON : 2901kbps

Helping with intelligent management, as well as security

Wisenet WAVE AI smart search

Wisenet P series AI cameras are fully supported by the Wisenet WAVE Video Management Software (VMS), enabling operators to quickly perform forensic search for specific events or for objects with defined attributes, by filtering the recorded metadata.

Wisenet AI Camera
Detect and classify objects real-time

Wisenet WAVE AI Search
Quickly search based on attributes
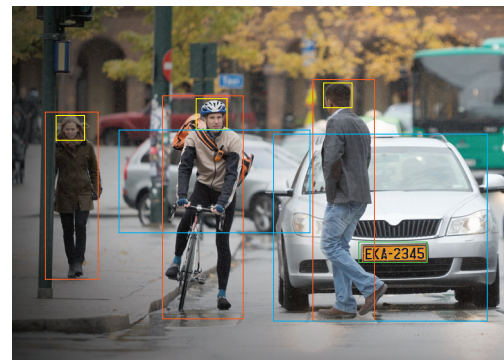
Attributes,
BestShot

* Person, face, vehicle, license plate

Plug-in support for VMS

Wisenet P series AI cameras provide integration with video management system from Milestone, Genetec , and Wisenet WAVE using **Hanwha**'s AI plugin. This plugin supports seamless integration so that users can easily search the AI metadata and events.

(Compatible models : Milestone, Genetec, Wisenet WAVE)

## Retail Insight v2.0, analyzing customer demographics

Store operators are able to combine Wisenet P series AI cameras with the Retail Insight v2.0 business intelligence application, to granularly look at what is happening within their stores, with the cameras using attribution identification to help track customer demographics, age and gender.

Conventional
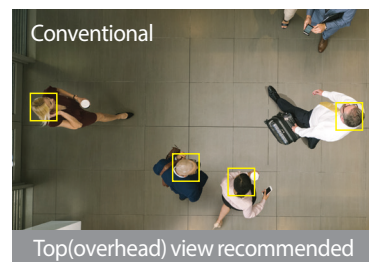
Top(overhead) view recommended
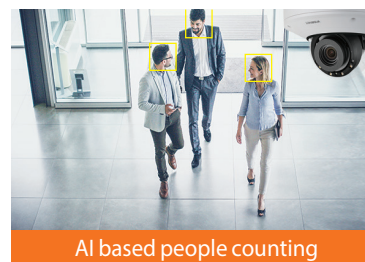
AI based people counting
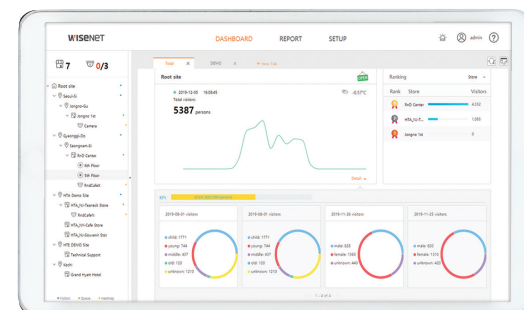
Wisenet Retail Insight v2.0

Clear and Sharp Image Quality

Enhanced WDR

The enhanced WDR technology(line by line type) built into the Wisenet P series AI cameras helps produce clear images from scenes containing a challenging mix of bright and dark areas and reduces the ghost effect which can occur with conventional multi-frame WDR.

Short Expoure

WDR image

Long Expoure

Digital PTZ

Wisenet P series AI cameras support 2 channel streaming. Channel 1 can be used for full screen video display with channel 2 simultaneously streaming the digital PTZ auto tracking of an object.

Channel 1

Channel 2

Digital auto tracking of a person

## Easy installation with modular structure

The cameras designed to significantly reduce the time normally needed for installation, set-up and maintenance adjustments. With a four-part magnetic modular design which simplifies the installation process, Wisenet P series AI cameras are equipped with a number of other practical features which help minimize the time installers have to spend on site.
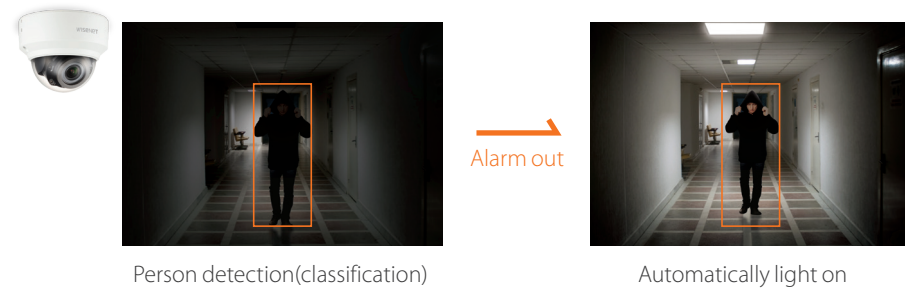
DC output for connected devices

Wisenet P series AI cameras come with a 12V DC power supply with maximum 50mA to enable connection of sensor devices, eliminating the need for additional power supply. They also have alarm in/out ports so that connected devices such as LEDs can be activated when a camera detects (classifies) a person.

Power supply → DC 12V → DC 12V → LEDs | PIR Sensors | Glass break detectors

* No needs for an additional power supply
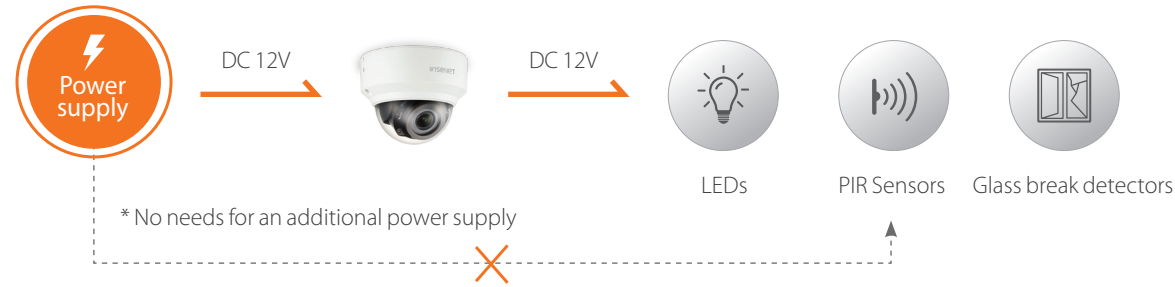
* Example of operation scenario

Person detection(classification) → Alarm out → Automatically light on

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

Advances in Wisenet image stabilisation technology allow for the reduction of motion blur caused by wind or vibration. A gyroscopic sensor plus DIS technology is specifically designed and engineered into select Wisenet P series AI cameras, resulting in sharp, stable images.

Conventional | Wisenet P series AI Camera
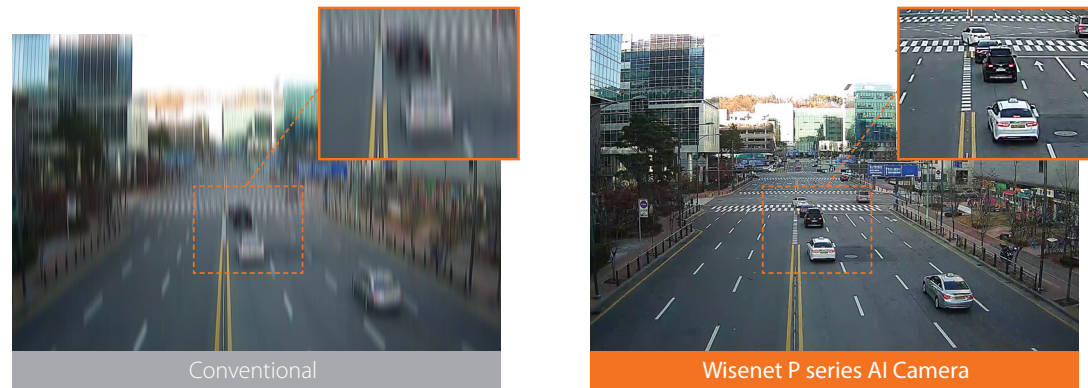
	PNO-A9081R 4K AI IR Bullet Camera	**PNV-A9081R** 4K AI IR Vandal Dome Camera	**PND-A9081RV** 4K AI IR Dome Camera
Imaging Device	1/1.8" 8MP CMOS	1/1.8" 8MP CMOS	1/1.8" 8MP CMOS
Min. Illumination	Color : 0.05Lux(F1.6) BW : 0Lux(IR LED on)	Color : 0.05Lux(F1.6) BW : 0Lux(IR LED on)	Color : 0.05Lux(F1.6) BW : 0Lux(IR LED on)
Video Output	CVBS : 1.0 Vp-p	CVB S : 1.0 Vp-p	CVBS : 1.0 Vp-p
Focal Length	4.5~10mm(2.2x) motorized varifocal	4.5~10mm(2.2x) motorized varifocal	4.5~10mm(2.2x) motorized varifocal
Angular Field of View	H: 101.4°(Wide)~45.5°(Tele) / V: 53.6°(Wide)~25.5°(Tele) / D: 120.7°(Wide)~52.3°(Tele)	H: 101.4°(Wide)~45.5°(Tele) / V: 53.6°(Wide)~25.5°(Tele) / D: 120.7°(Wide)~52.3°(Tele)	H: 101.4°(Wide)~45.5°(Tele) / V: 53.6°(Wide)~25.5°(Tele) / D: 120.7°(Wide)~52.3°(Tele)
Pan / Tilt / Rotate	-	0˚~360˚ / -45˚~85˚ / 0˚~355˚	0˚~360˚ / -45˚~85˚ / 0˚~355˚
IR Viewable Length	30m(98.42ft)	30m(98.42ft)	30m(98.42ft)
Day & Night	Auto(ICR)	Auto(ICR)	Auto(ICR)
Wide Dynamic Range	120dB	120dB	120dB
Digital Noise Reduction	SSNRV	SSNRV	SSNRV
Digital Image Stabilization	Support(built-in gyro sensor)	Support(built-in gyro sensor)	Support(built-in gyro sensor)
Analytics	Object detection (Person/Vehicle/Face/License plate), Audio detection, Sound classification	Object detection (Person/Vehicle/Face/License plate), Audio detection, Sound classification	Object detection (Person/Vehicle/Face/License plate), Audio detection, Sound classification
Business Intelligence	People counting, Queue management, Heatmap	People counting, Queue management, Heatmap	People counting, Queue management, Heatmap
Alarm I/O	1 / 1	1 / 1	1 / 1
Audio I/O	Line in / Line out	Line in / Line out	Line in / Line out
Video Compression	H.265, H.264, MJPEG	H.265, H.264, MJPEG	H.265, H.264, MJPEG
Resolution / Max. Frame Rate	8MP/30fps	8MP/30fps	8MP/30fps
WiseStream	WiseStream II	WiseStream II	WiseStream II
Streaming	Up to 3 profiles	Up to 3 profiles	Up to 3 profiles
Edge Storage	Micro SD/SDHC/SDXC	Micro SD/SDHC/SDXC	Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF Profile S/G/T SUNAPI(HTTP API) Wisenet open platform	ONVIF Profile S/G/T SUNAPI(HTTP API) Wisenet open platform	ONVIF Profile S/G/T SUNAPI(HTTP API) Wisenet open platform
Operating Temperature	-40℃ ~ +55℃ (-40°F ~ +131°F) * Start up above -30℃	-40℃ ~ +55℃(-40°F ~ +131°F) -40℃ ~ +60℃ (-13°F ~ +140°F) * Start up above -30℃	-25℃ ~ +50℃ (-13°F ~ +122°F) / IR LED on -25℃ ~ +55℃ (-13°F ~ +131°F) / IR LED off
Certification	IP66/IP67, IK10, NEMA4X	IP66/IP67/IP6K9K, IK10+, NEMA4X	IP52, IK10
Power Consumption	PoE+: Max 20.0W, typical 17.00W 12VDC: Max 18.00W, typical 16.00W	PoE+: Max 20.00W, typical 17.00W 12VDC: Max 18.70W, typical 15.00W	PoE+: Max 20.00W, typical 16.00W 12VDC: Max 17.70W, typical 14.00W
Dimensions (WxHxD) / Weight	Ø91.0 x 368.6mm (3.58" x 14.51") (Without sunshield), Weight : 2.48Kg (5.47lb)	Ø180 x 125mm(7.09" x 4.92"), Weight : 1.90Kg (4.19lb)	Ø160 x 125mm(6.30" x 4.92"), Weight : 1.60Kg (3.53lb)
Additional Features	AI : BestShot, Attributes (Person, Vehicle, Face, License plate)	AI : BestShot, Attributes (Person, Vehicle, Face, License plate)	AI : BestShot, Attributes (Person, Vehicle, Face, License plate)

4K

PND-A9081RF

4K AI IR Dome Camera

4K

PNB-A9001

4K AI Box Camera

Memo

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	PND-A9081RF	PNB-A9001
Imaging Device	1/1.8" 8MP CMOS	1/1.8" 8MP CMOS
Min. Illumination	Color : 0.05Lux(F1.6) BW : 0Lux(IR LED on)	Color : 0.03Lux(F1.2, 1/30sec)
Video Output	CVBS : 1.0 Vp-p	CVBS : 1.0 Vp-p
Focal Length	4.5~10mm(2.2x) motorized varifocal	-
Angular Field of View	H: 101.4°(Wide)~45.5°(Tele) / V: 53.6°(Wide)~25.5°(Tele) / D: 120.7°(Wide)~52.3°(Tele)	-
Pan / Tilt / Rotate	0˚~360˚ / -45˚~85˚ / 0˚~355˚	-
IR Viewable Length	30m(98.42ft)	-
Day & Night	Auto(ICR)	Auto(ICR)
Wide Dynamic Range	120dB	120dB
Digital Noise Reduction	SSNRV	SSNRV
Digital Image Stabilization	Support(built-in gyro sensor)	Support(built-in gyro sensor)
Analytics	Object detection (Person/Vehicle/Face/License plate), Audio detection, Sound classification	Object detection (Person/Vehicle/Face/License plate), Audio detection, Sound classification
Business Intelligence	People counting, Queue management, Heatmap	People counting, Queue management, Heatmap
Alarm I/O	1 / 1	1 / 1
Audio I/O	Line in / Line out	Line in / Line out
Video Compression	H.265, H.264, MJPEG	H.265, H.264, MJPEG
Resolution / Max. Frame Rate	8MP/30fps	8MP/30fps
WiseStream	WiseStream II	WiseStream II
Streaming	Up to 3 profiles	Up to 3 profiles
Edge Storage	Micro SD/SDHC/SDXC	Micro SD/SDHC/SDXC
Application Programming Interface	ONVIF Profile S/G/T SUNAPI(HTTP API) Wisenet open platform	ONVIF Profile S/G/T SUNAPI(HTTP API) Wisenet open platform
Operating Temperature	-25°C ~ +50°C (-13°F ~ +122°F) / IR LED on -25°C ~ +55°C (-13°F ~ +131°F) / IR LED off	-10°C ~ +55°C (+14°F ~ +131°F)
Certification	IP52, Plenum rated	-
Power Consumption	PoE+: Max 20.00W, typical 16.00W 12VDC: Max 17.70W, typical 14.00W	PoE+: Max 16.50W, typical 12.50W 12VDC: Max 13.50W, typical 10.80W
Dimensions (WxHxD) / Weight	Ø205 x 163mm(8.07" x 4.92"), Weight : 1.95Kg (4.30lb)	73.1 x 66.6 x 147.8mm, Weight : 0.70Kg (1.54lb)
Additional Features	AI : BestShot, Attributes (Person, Vehicle, Face, License plate)	AI : BestShot, Attributes (Person, Vehicle, Face, License plate)