



2024 VCA AI CAMERA



ALL IN ONE



NX Embedded

Providing a complete camera-VMS solution at the edge. It brings all the advanced features of the Nx Witness server to the camera, allowing you to realise a completely distributed solution, a server free VMS.



ANPR & Vehicle Recognition

Available across the IPAi range, the plugin can turn your camera into a license plate detector with the added optional feature of make, model and colour recognition. Used as part of an integrated solution or standalone for access control.

Comprehensive line of cameras

The VCA AI camera range delivers a comprehensive line of cameras from 5MP up to 12MP that come in bullet, dome, minidome, pinhole, panoramic, and multi-sensor formats. The range of cameras provides a complete solution for any scenario, and with our advanced VCA edge analytics plugin, you're covered for all your needs.



Bringing the advanced AI tracking features of VCA to the camera

The VCA edge plugin allows AI analytics and events to be produced on the camera, removing the need for server hardware using three deep learning engines to provide excellent results.



Face Recognition

Turning the camera into a FACE detector, this plugin can create an event when a face is detected and forward the metadata as part of an integrated solution or can be used as a standalone facial recognition system for applications such as access control and time and attendance.



VCAforensics has been designed to work seamlessly with our video analytics, by storing all the metadata and taking snapshot images from our analytics engine. Our application provides a user interface to allow post-event forensic searches, helping to reduce time-draining investigations by allowing users to search hours, days and weeks of video footage for objects of interest in seconds.



RetailTrend uses VCA's industry leading analytics to generate and report highly accurate data on visitor statistics and demographics across Day/Week/Month, By Day/Hour on the inbuilt dashboards. Reports are built on the data provided by our advanced trackers, detecting and tracking people and interactions in real time, not by sampling, making outputs accurate and reliable.

AI Technology



DLOT _ Deep Learning Object Tracker

Designed for accurate detection and tracking of people, type of vehicles, and key objects in challenging environments where motion based tracking methods would struggle.



DLPT _ Deep Learning People Tracker

Designed to track people in dense and crowded environments where potentially only the head of a person is visible. Highly accurate and optimised for people counting and behaviour detection.



VCA Vehicle _ ANPR & Vehicle Recognition

This technology enables efficient control by accurately extracting vehicle attributes such as manufacturer, model, colour and vehicle type as well as detecting vehicle license plates.



VCA Face _ Face Recognition

This technology not only sends an alarm when it recognizes a face that matches a registered person, but it also enables you to expand your business by utilizing the extracted information such as age and gender.

APPLICATIONS



SECURITY and LOSS PREVENTION

Our roots are in the security sector. Our first products were designed to be installed in a range of IP CCTV cameras, perhaps the very first commercially available edge based analytics. Since then, we have extended our range of edge based analytics, including multiple Deep Learning engines and cameras. Working alongside the world's leading VMS, PSIM and NVR providers we have the widest range of analytics rules and events to provide a solution for almost any application.



RETAIL and BANKING

Analytics is about extracting the metadata from the video. As well as providing security and loss prevention services, VCA can also take the metadata and provide valuable insights into what is really happening in location, customer numbers, travel through the site, behaviour, dwell, queue data and much more. No special cameras or sensors, a single camera can provide security, loss prevention, business analytics and marketing insights.



TRANSPORTATION

Of course, security is a key part of any transport hub or mode, protecting people and assets and VCA can play a major part in improving this protection, detecting suspicious objects, protecting perimeters, alerting suspicious or aggressive behaviour. In addition, our ability to identify types of vehicles, colours and direction enables VCA to be used in wide range of safe city and highway applications.



FORENSIC SEARCH

VCA is constantly extracting the metadata from every camera connected, from every frame, every second building up an extensive database of metadata, data about data. Our forensic search tool enables the search of all of this metadata to find a person, vehicle or object of interest. For example, set search criteria of all people wearing red tops and black trousers carrying an orange bag between 10am and 4pm on this day and within seconds, the image will be returned. Image search also enables images to be uploaded and searched.

IPAI-S SERIES SPECIFICATION

5
MP



	5MP Compact IR Dome IPAI345S-FR	5MP Mini IR Dome IPAI325S-MR	5MP Telephoto Mini IR Dome IPAI325S-NR
Image Sensor	1/2.8" 5.17M CMOS	1/2.8" 5.17M CMOS	1/2.8" 5.17M CMOS
Focal Length	2.8mm(F2.2)	2.7~13.5mm(F1.4)	6~22mm(F1.6)
Lens Type	Fixed	Two motor MFZ	Two motor MFZ
Iris Type	Auto Exposure	P-IRIS	P-IRIS
FoV	D: 121.8°, H: 97.7°, V: 73°	D:39.4°~125.5°, H:31.6°~98.3°, V:23.5°~70.8°	D:20.7°~49.6°, H:16.5°~39.2°, V:12.4°~29.2°
Day and Night	TDN(True day&Night)	TDN(True day&Night)	TDN(True day&Night)
Min. Illumination	Color : 0.08Lux BW : 0Lux with IR	Color : 0.04Lux BW : 0Lux with IR	Color : 0.05Lux BW : 0Lux with IR
WDR	True WDR	True WDR	True WDR
Video CODEC	H.264, H.265, MJPEG	H.264, H.265, MJPEG	H.264, H.265, MJPEG
Max Resolution	2592x1944	2592x1944	2592x1944
Frame Rate	30fps	30fps	30fps
Audio Input/Output	1[Built-in Mic]/1	1[Built-in Mic]/1	1[Built-in Mic]/1
DI/DO	1/1	1/1	1/1
Edge Storage	microSD	microSD	microSD
Power Source	12V, PoE(IEEE 802.3af Class3)	12V, PoE(IEEE 802.3af Class3)	12V, PoE(IEEE 802.3af Class3)
Operating Temperature	-30°C ~ 50°C	-30°C ~ 60°C	-30°C ~ 60°C
Weather Proof Rating	IP67	IP67	IP67
Impact Protection	IK10	IK10	IK10
Dimensions (W x H)	Ø105 x 72mm	Ø125 x 100mm	Ø125 x 100mm



	SMP IR Bullet IPAi685S-FR	SMP IR Bullet IPAi685S-MR	SMP Telephoto IR Bullet IPAi685S-ZR	SMP Pinhole IPAi815S-FP
Image Sensor	1/2.8" 5.17M CMOS	1/2.8" 5.17M CMOS	1/2.8" 5.17M CMOS	1/2.8" 5.17M CMOS
Focal Length	4.0mm(F2.0)	2.7~13.5mm(F1.4)	5~50mm(F2.0)	3.7mm(F2.5)
Lens Type	Fixed	Two motor MFZ	Two motor MFZ	Fixed
Iris Type	Auto Exposure	P-IRIS	P-IRIS	Auto Exposure
FoV	D : 99°, H : 76.6°, V : 56°	D:39.4°~125.5°, H:31.6°~98.3°, V:23.5°~70.8°	D:9.6°~58.7°, H:7.7°~46.2°, V:5.7°~34.1°	D:115°, H:87.6°, V:61.6°
Day and Night	TDN(True day&Night)	TDN(True day&Night)	TDN(True day&Night)	Digital Day & Night
Min. Illumination	Color : 0.08Lux BW : 0Lux with IR	Color : 0.04Lux BW : 0Lux with IR	Color : 0.08Lux BW : 0Lux with IR	Color : 0.13Lux BW : 0.02Lux
WDR	True WDR	True WDR	True WDR	True WDR
Video CODEC	H.264, H.265, MJPEG	H.264, H.265, MJPEG	H.264, H.265, MJPEG	H.264, H.265, MJPEG
Max Resolution	2592x1944	2592x1944	2592x1944	2592x1944
Frame Rate	30fps	30fps	30fps	30fps
Audio Input/Output	1/1	1/1	1/1	1/1
DI/DO	1/1	1/1	1/1	1/1
Edge Storage	microSD	microSD	microSD	microSD
Power Source	12V, PoE(IEEE 802.3af Class3)	12V, PoE(IEEE 802.3af Class3)	12V, PoE(IEEE 802.3af Class3)	12V, PoE(IEEE 802.3af Class3)
Operating Temperature	-30°C ~ 60°C	-30°C ~ 60°C	-30°C ~ 60°C	-20°C ~ 50°C
Weather Proof Rating	IP67	IP67	IP67	-
Impact Protection	IK10	IK10	IK10	-
Dimensions (W x H)	197.5mm x 86mm	197.5mm x 86mm	197.5mm x 86mm	Main Unit : 107mm x 36mm x 124mm Camera Unit : Ø28mm x 29.5mm Cable length : 1.5m

IPAi SERIES SPECIFICATION

5
MP



	5MP Compact IR Dome IPAi365-FR	5MP Mini IR Dome IPAi355-MR	5MP Mini IR Bullet IPAi655-FR
Image Sensor	1/2.8" 5.14M CMOS	1/2.8" 5.14M CMOS	1/2.8" 5.14M CMOS
Focal Length	2.8mm(F1.8)	2.7~13.5mm(F1.4)	4.0mm(F2.0)
Lens Type	Fixed	Two motor MFZ	Fixed
Iris Type	Auto Exposure	P-IRIS	Auto Exposure
FoV	D : 125.5°, H : 102.4°, V : 77.4°	D:39.4°~125.5°, H:31.6°~98.3°, V:23.5°~70.8°	D:106.6°, H:82.3°, V:58.8°
Day and Night	TDN(True day&Night)	TDN(True day&Night)	TDN(True day&Night)
Min. Illumination	Color : 0.13Lux BW : 0Lux with IR	Color : 0.08Lux BW : 0Lux with IR	Color : 0.16Lux BW : 0Lux with IR
WDR	True WDR	True WDR	True WDR
Video CODEC	H.264, H.265, MJPEG	H.264, H.265, MJPEG	H.264, H.265, MJPEG
Max Resolution	2592 x 1944	2592 x 1944	2592 x 1944
Frame Rate	30fps	30fps	30fps
Audio Input/Output	1[Built-in Mic]/1	1[Built-in Mic]/1	-
DI/DO	1/1	1/1	-
Edge Storage	microSD	microSD	microSD
Power Source	12V, PoE(IEEE 802.3af Class3)	12V, PoE(IEEE 802.3af Class3)	12V, PoE(IEEE 802.3af Class3)
Operating Temperature	-30°C ~ 50°C	-30°C ~ 60°C	-30°C ~ 50°C
Weather Proof Rating	IP67	IP67	IP67
Impact Protection	IK10	IK10	-
Dimensions (W x H)	ø105 x 60.7mm	ø125 x 92mm	174mm x 72mm



	SMP IR Bullet IPAi65A05-MR	SMP Telephoto IR Bullet IPAi65A05-ZR	SMP IR Fisheye IPAi255-FR	SMP Flashlight Full Color Turret IPAi375-MCA	SMP Flashlight IR Turret IPAi375-MRA
Image Sensor	1/2.8" 5.14M CMOS	1/2.8" 5.14M CMOS	1/2.8" 5.14M CMOS	1/2.8" 5.17M CMOS	1/2.8" 5.17M CMOS
Focal Length	2.7~13.5mm(F1.4)	6~50mm(F1.6)	1.19mm(F2.0)	2.7~12mm(F1.2)	2.7~13.5mm(F1.4)
Lens Type	Two motor MFZ	Two motor MFZ	Fisheye	Two motor MFZ	Two motor MFZ
Iris Type	P-IRIS	P-IRIS	Auto Exposure	P-IRIS	P-IRIS
FoV	D:39.4°~125.5°, H:31.6°~98.3°, V:23.5°~70.8°	D:8.6° ~ 52°, H:6.9° ~ 40.8°, V:5.2° ~ 30.2°	D:180°, H:180°, V:180°	D:39.4°~115.9°, H:31.5°~89.9°, V:23.6°~64.5°	D:39.4°~125.5°, H:31.6°~98.3°, V:23.5°~70.8°
Day and Night	TDN(True day&Night)	TDN(True day&Night)	TDN(True day&Night)	Day(Color) mode only	TDN(True day&Night)
Min. Illumination	Color : 0.08Lux BW : 0Lux with IR	Color : 0.1Lux BW : 0Lux with IR	Color : 0.16Lux BW : 0Lux with IR	Color : 0.03Lux (0 Lux with Warm white-light ON)	Color : 0.04Lux BW : 0Lux with IR
WDR	True WDR	True WDR	True WDR	True WDR	True WDR
Video CODEC	H.264, H.265, MJPEG	H.264, H.265, MJPEG	H.264, H.265, MJPEG	H.264, H.265, MJPEG	H.264, H.265, MJPEG
Max Resolution	2592 x 1944	2592 x 1944	2592 x 1944	2592 x 1944	2592 x 1944
Frame Rate	30fps	30fps	30fps	30fps	30fps
Audio Input/Output	1/1	1/1	1[Built-in Mic]/1	1[Built-in Mic]/1[Built-in Speaker]	1[Built-in Mic]/1[Built-in Speaker]
DI/DO	1/1	1/1	1/1	1/1	1/1
Edge Storage	microSD	microSD	microSD	microSD	microSD
Power Source	12V, PoE+(IEEE 802.3at Class4)	12V, PoE+(IEEE 802.3at Class4)	12V, PoE(IEEE 802.3af Class3)	12V, PoE+(IEEE 802.3at Class4)	12V, PoE+(IEEE 802.3at Class4)
Operating Temperature	-40°C ~ 60°C	-40°C ~ 60°C	-30°C ~ 50°C	-30°C ~ 50°C	-30°C ~ 50°C
Weather Proof Rating	IP67	IP67	IP67	IP67	IP67
Impact Protection	IK10	IK10	IK10	IK10	IK10
Dimensions (W x H)	310mm x 96.7mm	310mm x 96.7mm	ø125 x 58mm	ø125 x 122mm	ø125 x 122mm

IPAi SERIES SPECIFICATION

8/12
MP



	8MP Mini IR Dome IPAi358-MR	8MP Mini IR Dome IPAi328-MR	8MP Telephoto Mini IR Dome IPAi328-NR	8MP IR Dome IPAi38A08-MR
Image Sensor	1/2.8" 8.6M CMOS	1/2.8" 8.6M CMOS	1/2.8" 8.6M CMOS	1/2.8" 8.6M CMOS
Focal Length	2.7 ~ 13.5mm(F1.4)	2.7 ~ 13.5mm(F1.4)	6 ~ 22mm(F1.6)	2.7 ~ 13.5mm(F1.4)
Lens Type	Two motor MFZ	Two motor MFZ	Two motor MFZ	Two motor MFZ
Iris Type	P-IRIS	P-IRIS	P-IRIS	P-IRIS
FoV	D:38.2°~105°, H:33.1°~90.3°, V:18.9°~49°	D:38.2°~105°, H:33.1°~90.3°, V:18.9°~49°	D:20.7°~50.8°, H:18.1°~49.3°, V:10.2°~24.3°	D:38.2°~105°, H:33.1°~90.3°, V:18.9°~49°
Day and Night	TDN(True day&Night)	TDN(True day&Night)	TDN(True day&Night)	TDN(True day&Night)
Min. Illumination	Color : 0.09Lux BW : 0Lux with IR	Color : 0.09Lux BW : 0Lux with IR	Color : 0.12Lux BW : 0Lux with IR	Color : 0.09Lux BW : 0Lux with IR
WDR	True WDR (Max. 15fps when WDR is on)	True WDR (Max. 15fps when WDR is on)	True WDR (Max. 15fps when WDR is on)	True WDR (Max. 15fps when WDR is on)
Video CODEC	H.264, H.265, MJPEG	H.264, H.265, MJPEG	H.264, H.265, MJPEG	H.264, H.265, MJPEG
Max Resolution	3840 X 2160	3840 X 2160	3840 X 2160	3840 X 2160
Frame Rate	30fps	30fps	30fps	30fps
Audio Input/Output	1[Built-in Mic]/1	1[Built-in Mic]/1	1[Built-in Mic]/1	1[Built-in Mic]/1
DI/DO	1/1	1/1	1/1	1/1
Edge Storage	microSD	microSD	microSD	microSD
Power Source	12V, PoE(IEEE 802.3af Class3)	12V, PoE(IEEE 802.3af Class3)	12V, PoE(IEEE 802.3af Class3)	12V, PoE(IEEE 802.3af Class3)
Operating Temperature	-30°C ~ 50°C	-30°C ~ 50°C	-30°C ~ 50°C	-40°C ~ 60°C
Weather Proof Rating	IP67	IP67	IP67	IP67
Impact Protection	IK10	IK10	IK10	IK10
Dimensions (W x H)	ø125 x 92mm	Ø125 x 100mm	Ø125 x 100mm	Ø146 x 130mm



8MP Telephoto IR Dome
IPAI38A08-NR

8MP IR Bullet
IPAI65A08-MR

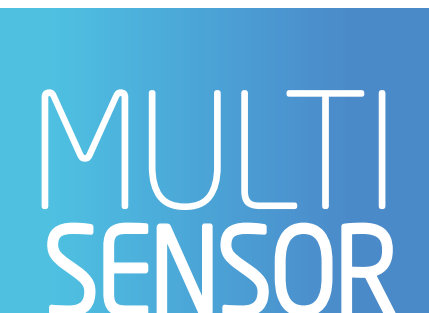
8MP IR Bullet
IPAI68A08-MR

12MP IR Fisheye
IPAI259-FR

8MP 180° view IR Bullet
IPAI66A08-FR

Image Sensor	1/2.8" 8.6M CMOS	1/2.8" 8.6M CMOS	1/2.8" 8.6M CMOS	1/2.3" 12.3M CMOS	1/1.8" 8.48M CMOS
Focal Length	6 ~ 22mm(F1.6)	2.7 ~ 13.5mm(F1.4)	2.7 ~ 13.5mm(F1.4)	1.55mm(F2.0)	2.3mm(F2.8)
Lens Type	Two motor MFZ	Two motor MFZ	Two motor MFZ	Fixed	Fixed
Iris Type	P-IRIS	P-IRIS	P-IRIS	Auto Exposure	Auto Exposure
FoV	D:20.7°~50.8°, H:18.1°~49.3°, V:10.2°~24.3°	D:38.2°~105°, H:33.1°~90.3°, V:18.9°~49°	D:38.2°~105°, H:33.1°~90.3°, V:18.9°~49°	D:185°, H:185°, V:185°	H:180°, V:80°
Day and Night	TDN(True day&Night)	TDN(True day&Night)	TDN(True day&Night)	TDN(True day&Night)	TDN(True day&Night)
Min. Illumination	Color : 0.12Lux BW : 0Lux with IR	Color : 0.09Lux BW : 0Lux with IR	Color : 0.09Lux BW : 0Lux with IR	Color : 0.5Lux BW : 0Lux with IR	Color : 0.15Lux BW : 0Lux with IR
WDR	True WDR (Max. 15fps when WDR is on)	True WDR (Max. 15fps when WDR is on)	True WDR (Max. 15fps when WDR is on)	True WDR (Max. 15fps when WDR is on)	True WDR (Max. 15fps when WDR is on)
Video CODEC	H.264, H.265, MJPEG	H.264, H.265, MJPEG	H.264, H.265, MJPEG	H.264, H.265, MJPEG	H.264, H.265, MJPEG
Max Resolution	3840 X 2160	3840 X 2160	3840 X 2160	4000 X 3000	3840 X 2160
Frame Rate	30fps	30fps	30fps	20fps(4000 X 3000) / 30pfs(3008 X 3000)	30fps
Audio Input/Output	1[Built-in Mic]/1	1/1	1[Built-in Mic]/1	1[Built-in Mic]/1	1/1
DI/DO	1/1	1/1	1/1	1/1	1/1
Edge Storage	microSD	microSD	microSD	microSD	microSD
Power Source	12V, PoE(IEEE 802.3af Class3)	12V, PoE+(IEEE 802.3at Class4)	12V, PoE(IEEE 802.3af Class3)	12V, PoE(IEEE 802.3af Class3)	12V, PoE(IEEE 802.3af Class3)
Operating Temperature	-40°C ~ 60°C	-40°C ~ 50°C	-40°C ~ 60°C	-30°C ~ 50°C	DC12V : -40°C ~ 50°C, PoE : -30°C ~ 50°C
Weather Proof Rating	IP67	IP67	IP67	IP67	IP67
Impact Protection	IK10	IK10	IK10	IK10	IK10
Dimensions (W x H)	Ø146 x 130mm	310mm x 96.7mm	289mm x 147mm	Ø125 x 58mm	228mm x 96.7mm

IPAI SERIES SPECIFICATION



20MP IR Surround View
IPAI97A20-MR

10MP Mini Dual IR Dome
IPAI96A10-FR

5MP Dual Thermal Bullet
IPAI98A05-Q56

			Visible	Thermal
Image Sensor	1/2.8" 5.14M CMOS x 4EA	1/2.8" 5.14M CMOS x 2EA	1/2.8" 5.14M CMOS	Uncooled Vanadium Oxide Microbolometer Spectral Response : 7.8~14 μm NETD : 65mK(Typical), Less than 100mK(max) @ 25°C
Focal Length	2.8~8mm(F1.6)	2.8mm(F1.8)	4.0mm(F2.0)	4.0 mm(F1.0)
Lens Type	Two motor MFZ	Fixed	Fixed	Fixed
Iris Type	Auto Exposure	Auto Exposure	Auto Exposure	-
FoV	D : 64°~119°, H : 51°~93°, V : 39°~68°	D : 125.5°, H : 102.4°, V : 77.4°	H:56°, V:42°	H : 56°, V : 42°
Day and Night	TDN(True day&Night)	TDN(True day&Night)	TDN(True day&Night)	-
Min. Illumination	Color : 0.1Lux BW : 0Lux with IR	Color : 0.13Lux BW : 0Lux with IR	Color : 0.16Lux BW : 0Lux with IR	-
WDR	True WDR	True WDR	True WDR	-
Video CODEC	H.264, H.265, MJPEG	H.264, H.265, MJPEG	H.264, H.265, MJPEG	H.264, H.265, MJPEG
Max Resolution	2592x1944	2592x1944	2592x1944	320(H) X 240(V), Pixel size : 12 μm
Frame Rate	30fps per Camera	30fps/15fps	30fps	9fps
Audio Input/Output	1/1	1[Built-in Mic]/1		1/1
DI/DO	1/1	1/1		1/1
Edge Storage	4 x microSD	microSD		microSD
Power Source	12V, Ultra PoE(IEEE 802.3bt Class5)	12V, PoE(IEEE 802.3af Class3)		12V, PoE(IEEE 802.3af Class3)
Operating Temperature	-30°C ~ 50°C	-30°C ~ 60°C		DC12V : -40°C ~ 50°C, PoE : -30°C ~ 50°C
Weather Proof Rating	IP67	IP67		IP66
Impact Protection	IK10	IK10		IK09
Dimensions(W x H)	Ø280.5 x 126.2 mm	Ø139 x 74mm		216mm x 64mm

AI Features



QR Code

Locate and decode QRcodes at the edge for logistics, and asset management applications. Send the QRcode data to integrated applications to facilitate end to end delivery tracking from distribution to final delivery from the CCTV solution.



Counting

Make use of advanced detection and recognition algorithms to count key metrics available in the metadata. Count events, types of objects and even advanced object behaviours to generate real time alerts for use in reporting and dashboarding solutions.



Face

This technology not only sends an alarm when it recognizes a face that matches a registered person, but it also enables you to expand your business by utilizing the extracted information such as age and gender.



Vehicle

This technology enables efficient control by accurately extracting vehicle attributes such as manufacturer, model, color and vehicle type as well as detecting vehicle license plates.



Person / Object

Designed to track people in dense and crowded environments where potentially only the head of a person is visible. Highly accurate and optimized for people counting and behavior detection.

VCA Edge Rule Set



Zones



Tamper Detection



Meta Data



Counting



Counting Lines



Presence



Appear



Disappear



Stopped



Tail Gating



Enter



Exit



Direction



Dwell



QR Code Reader



Colour Filter



Logical Rules



DL Filter



DL Object Tracker



DL People Tracker



Face



Vehicle



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