

EN /  
**2020**

# CCTV ADVANCE

PROFESSIONAL RANGE

 **Comelit®**  
Passion. Technology. Design.



CCTV  
ADVANCE

PROFESSIONAL RANGE

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ITALY  
FRANCE  
SPAIN  
IRELAND  
BELGIUM  
NETHERLANDS  
GREAT BRITAIN  
IRELAND  
GREECE  
UNITED ARAB EMIRATES  
RUSSIA  
HONG KONG  
REPUBLIC OF SINGAPORE  
AUSTRALIA  
COLOMBIA  
UNITED STATES OF AMERICA

Comelit  
is an international group  
specialising in  
professional and  
integrated security  
systems.

Comelit has been constantly looking to the future since 1956. Innovation through continuous investment in manpower and technology finds an outlet in the design of new solutions dedicated to improving the quality of everyday life by maximising simplicity and functionality.

# Building a better, safer and more sustainable world is our main mission.

Our history is based on consolidated traditional values, constructed around the core values of personal development and respect for the environment. Anyone who works with us knows this. Some time ago we implemented a complete programme for our employees, which moves from upholding safety to continuous training and the promotion of active welfare policies.

Our strong connection to the local area translates into various initiatives benefiting the local community. Adherence to the strictest environmental protocols is proven by the adoption of an ISO 14001 certified system and a QHSE policy. A photovoltaic system provides us with the energy we use for our operations and we are involved with programmes aimed at reducing waste.





Comelit  
Experience:  
at your side to  
help you tackle  
the challenge of  
change.

The professionalism and skill of the people who - like you - sell or install our solutions has always been the focus of our service. This is why we make every effort to stay close to you every day as you work.

Our aim is to give you a first-hand experience of the "Comelit Experience": through update sessions at our premises, or visits to stores and sites.

We offer our partners precise technical assistance, as well as information and services. We respect the work our trusted distributors do, choosing not to go down the route of online sales and guaranteeing constant product availability.

Through the new MyComelit Pro service platform, we would like to offer targeted and valuable communication for every single user.

## The advantages of being a Comelit installer.

### 01

#### ONE POINT OF CONTACT FOR INTEGRATED AND PROFESSIONAL SYSTEMS.

Knowing you can count on the know-how and skill of an Italian company capable of meeting all your requirements is certainly a significant advantage. In fact, we at Comelit can give you advice and offer you the best and most versatile solutions. An extremely wide range of highly integrated options to tackle all the needs of the residential, commercial and industrial markets. Having a single representative means being able to count on one contact for all the problems you may need to tackle in your work, providing assistance and guiding you when choosing the product or system that best suits your requirements.

### 02

[pro.comelitgroup.com](http://pro.comelitgroup.com)

#### MYCOMELIT PRO: THE CONSTANT AND FRUITFUL DIGITAL DIALOGUE BETWEEN YOU AND THE PRODUCTS INSTALLED.

Entering the world of Comelit also means having a completely new and stimulating experience. Not just products and solutions, but a whole company at your service. With the MyComelit Pro website, every installer is constantly informed of the new products most relevant to them, and can access manuals, technical and installation sheets as well as video tutorials to easily find solutions to meet your needs.





## 03

## COMELIT TECHNICAL ASSISTANCE FOR DESIGN ADVICE AND ON-SITE SUPPORT.

Through the Comelit technical assistance service, we provide a valuable aid in your work: a fast response to queries and requests for information, on-site assistance and design advice.

Our projects office is on hand to fully support you on a technical level, using software to create a 3D representation of the structure if necessary, and guide you when it comes to regulations, enhancing and supplementing the products on offer.

ON-SITE TECHNICAL SUPPORT

DRAWING UP PROJECT DRAFTS

TECHNICAL-REGULATORY COMPARISON

DRAFTING SPECIFICATIONS AND CALCULATING NUMERICAL VALUES

SUPPORT DURING IMPLEMENTATION



### HELP LINE

Professional telephone assistance to resolve all types of problem.



### ASSISTED PROGRAMMING

Support for installers and assistance in resolving all types of problem. Specialist professionals with unrivalled knowledge of the Comelit products distributed in the various areas of the country.



### COMELIT ENGINEERING

An operative division entirely dedicated to providing customers with ideal solutions for non-standard system requirements. This division develops turnkey projects, primarily for large residential, business and industrial complexes.

## 04

## PROFESSIONAL THEORY AND PRACTICE UPDATE COURSES.

Training and keeping up to date is essential. In fact, at the Training Center, Comelit organises intensive theory and practical courses on its new systems, allowing you to try them out with dedicated personnel.

# A leader in the international professional video surveillance market for 40 years.

The video surveillance market is constantly growing, with demand increasing from different segments: from residential and small commercial concerns to large-scale industry and public monitoring. In line with this development trend, we at Comelit are committed to a constant and tireless quest for quality and reliability when it comes to our products, guaranteeing increasingly thorough and precise protection capable of preventing the phenomenon of small criminal acts and vandalism - unfortunately on the rise - before we even make it to the events linked to terrorism.

1980

First Vidicon single-card cameras produced

1986

First Italian company to produce CCD cameras

1990

First multiplexers and analogue DVRs

2000

First digital DVRs

2003

First network DVRs with RAS management software

2005

First IP CCTV system  
introduced

2012

Video analysis and 700  
Series introduced

2017

IP100 Series

2020

ADVANCE Series



# From the choice of materials to production technologies: Comelit quality is under control.

The quality of a product is the result of a process that is organised at every stage and subject to the most thorough procedures and in-depth tests. This pearl of wisdom has resulted in our decision to invest constantly in the most advanced production technologies and the most sophisticated testing equipment.

We operate according to strict quality parameters which are constantly monitored. In production we use high-quality components and raw materials: from the scratch-resistant, anti-glare glass to the furnace-painted die-cast aluminium body.

Our in-house laboratory carries out quality tests on product durability in climatic chambers with extreme temperatures, as well as functional tests and end-of-cycle checks before shipping. Further checks are carried out by certified external laboratories. Our products are subjected to over 1,000 approval tests, at hardware and software level.



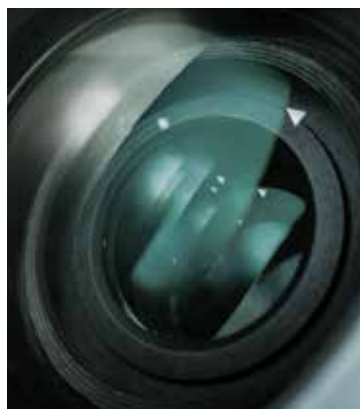
## Electromagnetic compatibility tests

### Emissions

- Conducted
- Radiated

### Immunity

- ESD
- Burst
- Surge
- Conducted



## Environmental tests

### Waterproof (IP rating)

### Vandalproof (IK rating)

### Saline Mist (NSS)

### Thermal cycles in climatic chamber

- High-temperature operating tests
- Low-temperature operating tests
- Thermal shock operating tests

### Cycles with high humidity in climatic chamber

### Sunlight



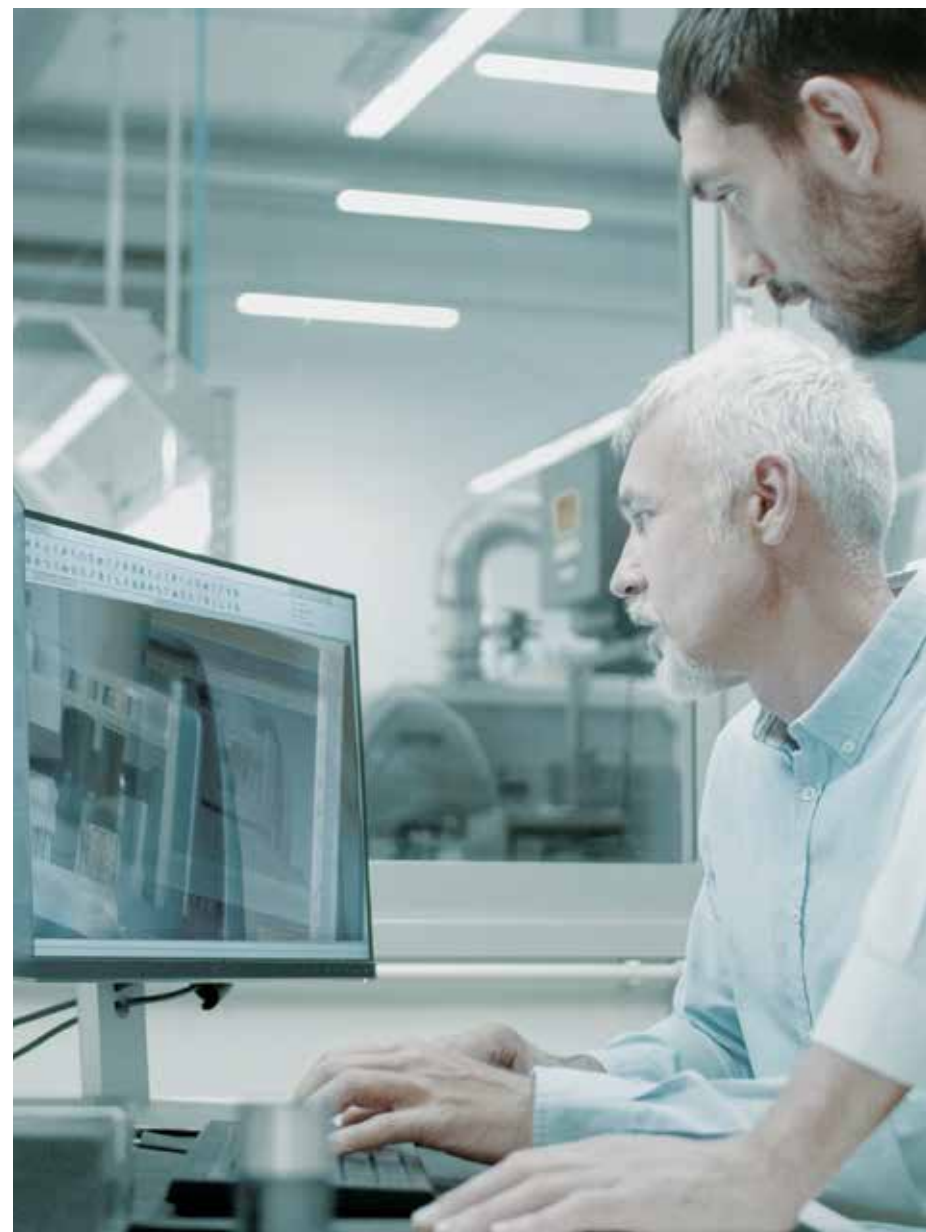
## Mechanical tests

### Vibration

### Dropped package

### Scratch resistance

### Labelling durability



## Comelit solutions protecting data and keeping it secure.

For Comelit, the privacy of our customers is a primary concern. For this reason, we implemented a management system for our customers' data much earlier than 2016, when the GDPR legislation came into effect, to guarantee optimum security. We have adapted the privacy information on the various devices (available on the website [www.comelit-group.com](http://www.comelit-group.com)). We have placed our servers, on which the information is archived and memorised, in EC countries. We have minimised the acquisition of personal data as much as possible and clarified the use of this data, aimed at device functionality and the constant improvement of the services offered. Finally, we have always committed NOT to pass this data on to third parties.



- Detailed privacy information for the user
- Compulsory password entry request
- Advanced protection against password generators
- Compulsory password change
- Password security indicator
- Encrypted password recovery mechanism
- Level-based user authority management
- Automatic logout
- Secure HTTPS protocol
- 802.X security protocol
- Telnet port closure
- Cloud P2P cloud service with secure connection
- Online upgrade via dedicated Cloud
- White /Black List for remote connection
- Encrypted configuration files
- Event log register up to 6 months
- Recording duration configuration for every single channel
- Data encryption on HDD
- Backup video encryption
- Protected RS-232 connection
- Option of disabling live video when disconnected



# Comelit for every application.

CAMPUSES



SMART CITIES



HOSPITALS



RETAIL



INDUSTRIES



LOGISTICS



BANKS





Application examples.

## Smart Cities

EVERY CORNER OF THE CITY UNDER CONTROL: FROM VIDEO ANALYSIS TO AUTO TRACKING, FACE RECOGNITION AND PLATE READING IN HIGH RESOLUTION, AND THE OPTIMISATION OF TRANSMISSIONS AND STORAGE THANKS TO THE LOW BITRATE.

With the aim of offering a complete and evolved prevention and monitoring response for the management of public safety within the city, we launched a customised and complete solution for integration with our video surveillance products. The solution uses e-maps to manage all the monitoring sites and employs advanced artificial intelligence technologies based on people and vehicles.

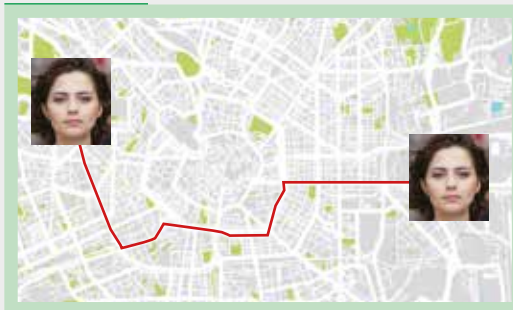


## E-MAP



The E-map module is used to display all installed video surveillance systems - such as NVRs, cameras and alarms - on several levels. In the event of an alarm, E-map instantly displays a preview of the video and the information relating to the alarm. The system also supports online maps (Google Maps).

## Human face Tracking



This function allows the cameras located on an online map to detect a human face and, in dynamic mode, shows its movement within the map.

## 180° panoramic images



Multisensor cameras can be used to capture high-definition 180° images in any atmospheric conditions. Ideal for parks and public squares, they allow video surveillance of a large area using just one camera.

## Data and statistics



All information relating to the flow of vehicles and people in the city is displayed and analysed. If plate reading and face recognition cameras are installed, it is possible to view graphics and complete statistics, and perform detailed searches for events.

## DVA Deep video analysis



Comelit IP cameras have a powerful capacity for intelligent video analysis. They are, in fact, capable of identifying and recognising vehicles, plate numbers and human features.

## Easy operation and maintenance



The simple and intuitive graphic interface, which features a dashboard with pie charts, can be used to view the online status of the connected devices and proceed with system maintenance.



Application examples.

## Retail

THE INNOVATIVE SOLUTION FOR THE SECURITY AND ANALYSIS OF STATISTICAL DATA: HIGH RESOLUTION AND FISHEYE CAMERAS FOR 360° VIEWING OF SPACES, PREVENTION AND CUSTOMISED VIP SERVICE VIA THE FACE RECOGNITION FUNCTION, VIDEO ANALYSIS AND 24H REMOTE ONLINE SURVEILLANCE.

Our Retail solution combines face recognition with the intelligent video analysis data algorithm to explore the potential value of goods and identify high-value groups of consumers, offering extremely useful tools to improve the quality of the service and increase sales.

## Fisheye cameras



Fisheye cameras offer a 360° view of the entire shop. Plus, different view layouts allow you to have a customised frame for sensitive areas of the shop.

## Heat Map



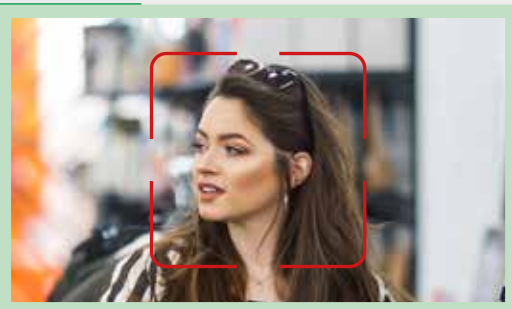
Heat maps record the movement of customers in a specific period. They highlight the areas with the greatest density of customers using a colour scale, thereby offering useful data for identifying where goods should be displayed within the shop.

## Statistics regarding the flow of customers



Comelit IP cameras, with powerful video analysis algorithms, offer flexible installation and accurate counting of people or vehicles, thereby providing statistics and detailed data on the flow of customers, which are instrumental in determining company actions and decisions.

## Face recognition



The cameras with a face recognition system make it possible to create activation rules and customised notifications for monitoring employees, to identify faces in a Black list or to automatically greet VIPs.

## Integration of POS devices



Transaction information can be overlapped in the preview for live video and recorded video from the corresponding camera. The information recorded during transactions can be used to track down and check any errors.

## Easy operation and maintenance



The shop manager or security manager can view the cameras in real time and play back the videos recorded directly on their smartphone, thanks to the Comelit Advance App. A push notification is sent immediately after an alarm.



Application examples.

## Industrial Parks

KEEPING COMPANY ASSETS SAFE AND SECURE:  
ACCESS CONTROL GUARANTEED BY FACE  
RECOGNITION AND THE PLATE READING SYSTEMS,  
PERIMETER PROTECTION THROUGH VIDEO  
ANALYSIS, 24H SURVEILLANCE OF EVERY DETAIL  
PROVIDED BY THE HIGH RESOLUTION.

An industrial environment always has a large flow of people and vehicles coming in and going out. In this situation it is important to adopt video surveillance solutions that effectively keep people and property safe. In view of this, we have developed a complete solution with the ADVANCE VMS software platform, which integrates NVRs, DVRs and IP cameras. Functions such as parking management, face access control and intelligent perimeter protection create a reliable and intelligent video surveillance system.

### Parking Management



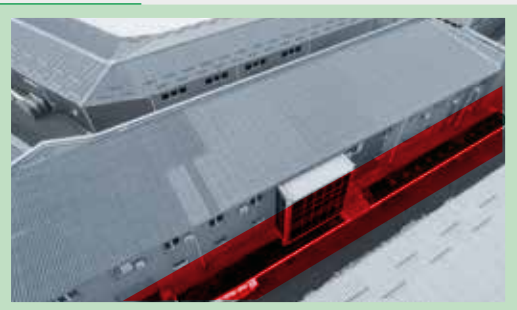
Parking management allows plate recognition, vehicle counting, validity management, etc. This function allows authorised vehicles to pass the access point without having to stop; the number of spaces available will be updated automatically.

### Real-time Alarm



Following face detection, different actions can be linked, such as: output activation, audio or pop-up triggering with a personalised message, sending of a push notification on the App, an email, a recording.

### Intelligent Perimeter Protection



The DVA (Deep video analysis) algorithm allows the camera to accurately recognise people, vehicles and objects: false alarms generated by animals, rain, branches, etc. will be drastically reduced.

### Face Access Control



This solution allows access control and management in large office buildings and industrial settings. The system uses face recognition to grant or deny access to a point of entry.





## Main advantages.

# DVA Deep Video Analysis

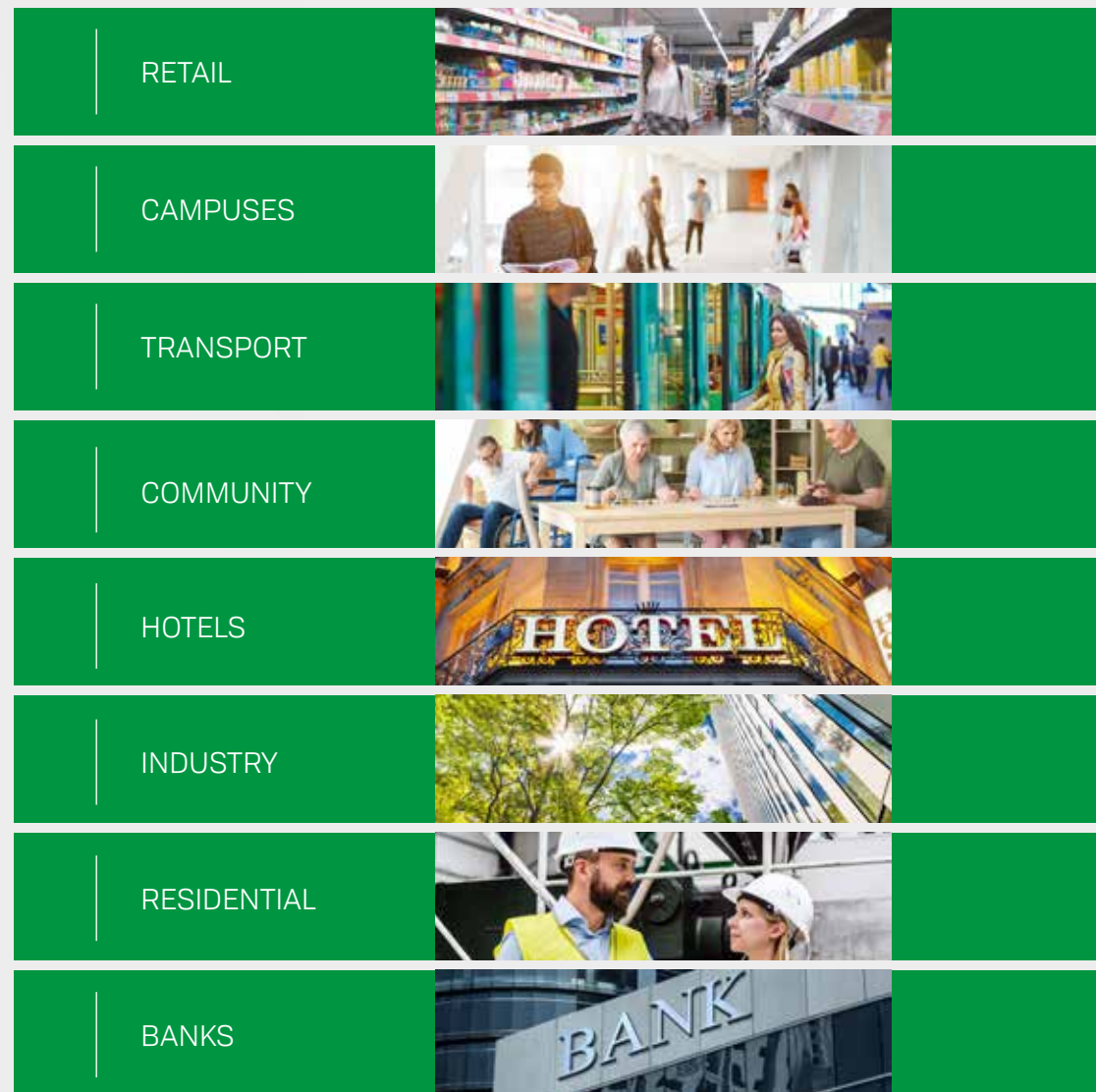
**The new algorithms based on DVA (Deep Video Analysis) improve performance in terms of detecting and identifying people and vehicles, providing increasingly accurate and reliable information. This allows quick and effective searching of the stored data.**

Going beyond simple video surveillance: this is the meaning of Deep Video Analysis, which allows intelligent processing of the information so as to improve the analysis and response abilities of video surveillance systems.

To achieve this result, at Comelit we have adopted Deep Learning elements that optimise the intelligence of an entire range of cameras and recording equipment, always offering new functions and cutting-edge applications.

Recognising people, motor vehicles and non-motorised vehicles through the video structure and incorporating functions such as line crossing and area intrusion makes it easier to filter false alarms triggered by small animals and environmental factors, and rapidly improves crime surveillance efficiency. The vehicle counting function can obtain reliable data, providing a good point of reference for company decisions.

## TYPICAL APPLICATIONS



### Object removed/abandoned



An alarm is generated whenever an object is removed or abandoned within a programmed area.

### Region entrance detection (human/vehicle classification)



An alarm is generated if an entry point within an area is crossed. It is also possible to identify whether it is a person or a vehicle entering the programmed area, creating custom alarm activation rules.

### Region exiting detection (human/vehicle classification)



An alarm is generated if an exit point within an area is crossed. It is also possible to identify whether it is a person or a vehicle exiting the programmed area, creating custom alarm activation rules.

### Region intrusion detection (human/vehicle classification)



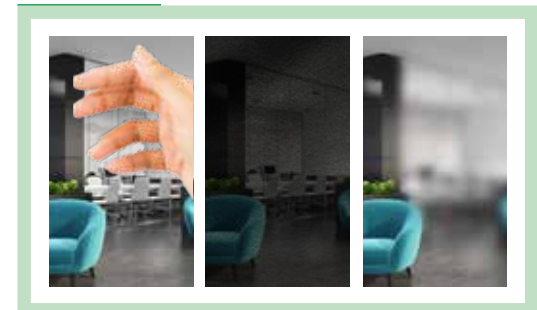
An alarm is generated if there is an intrusion within an area. It is also possible to identify whether it is a person or a vehicle entering the programmed area, creating custom alarm activation rules.

### Line crossing detection (human/vehicle classification)



An alarm is generated if one or more configured lines are crossed. It is possible to identify whether it is a person or a vehicle crossing the programmed line, creating custom alarm activation rules.

### Camera tampering



3 situations can be detected and alarmed: forced movement of the camera; camera masking or covering; lens tampering which is causing blurry images.

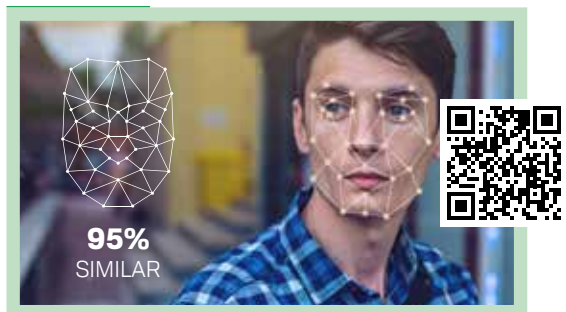


## Face detection



Detects and captures people's faces, for quick and easy searching of the event video recording associated with the face.

## Face recognition



Detects a face and registers its features. Set a similarity level; the system will compare the detected face with those stored in a database.

## Crowd density detection



Generates an alarm whenever the configured threshold for the number of people within an area is exceeded.

## Heat map



Uses a colour scale to show where the greatest density of people/customers is located.

## Human/vehicle classification



Offers reliable identification of the target and allows identification of people, vehicles, bikes and motorcycles, eliminating false alarms generated by atmospheric events, animals or moving objects.

## Human/Vehicle counting



Allows counting of people and vehicles both entering and exiting a configured area.

Main advantages.

## Face Recognition

**This function, as well as detecting faces, can recognise them by comparing the images already in the database; it can also be used to save images and search for faces.**

Our face recognition system is specifically designed for application in any setup: from more complex and articulated systems (e.g. banks, supermarkets, schools, stations) to small and medium-sized businesses.

Compared to other systems with similar functions, Comelit face recognition has a simple and economical layout, based on the "IP camera+NVR" structure. The system, as well as detecting faces, recognises them by comparing the images already in the database; it also saves images and searches for faces.

### Simple structure and limited budget

The simple structure with "Face detection via IPC + Face recognition via NVR" simplifies surveillance implementation at low cost.

### Excellent performance

**Side face recognition:** cameras are capable of detecting a face turned to the left/right by up to 30° or tilted upwards/downwards by 20°

**Face Detecting:** max.10 faces at once.

**Face recognition:** 3 ~ 4 faces / sec

**Database:** 10,000 faces

### Ultra Starlight

Recognition with colour images 24 hours a day.





### Face recognition on any channel

Comelit NVRs can use face recognition on any channel to which a camera with the face detection function is connected. Plus, all channels with this function enabled can run at the same time.

### Simple and intuitive graphic interface

Easy to use and highly efficient, this has various functions such as: face track, real-time alarm, face database management, face information, statistics, etc.

## TYPICAL APPLICATIONS

SECURITY



HANDS-FREE ACCESS



SMART SHOP (VIP CUSTOMERS)



REAL TIME WELCOME AND CHECK (HOTELS AND CHECK-IN)



ACCESS MANAGEMENT

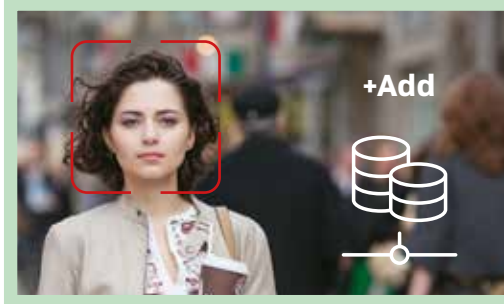


### Face Detection / Capture



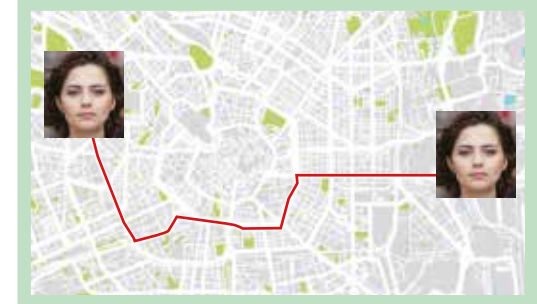
Detects the faces in every video. Identifies the face, acquires it and follows it within the image (Tracking).

### Face Registration



A face can be registered in the database in various ways: locally, by importing the face from a USB drive, via the Comelit Advance App, or via web page. It is also possible to create groups, lists and white/black lists.

### Human face Tracking



The cameras arranged on an online map detect the face and dynamically show the person's movements within the map.

### Face Recognition



The algorithm and built-in SOC chip ensure that all facial features are captured, saved and compared with a database. It also allows face recognition in real time, even on several channels at once.

### Search by image



Allows simple and quick searching of events and videos associated with one or more faces.

### Real-time Alarm



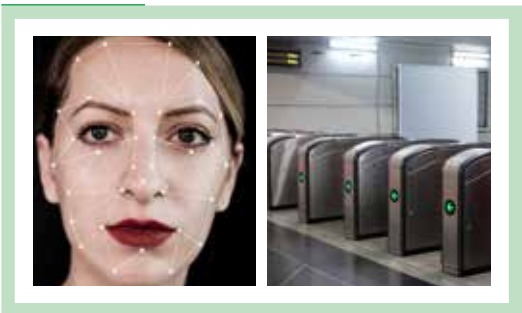
Following face detection, different actions can be linked, such as: output activation, audio or pop-up triggering with a personalised message, sending of a push notification on the App, an email, a recording.

## Face Database Management



The user has complete control of database management, the creation of white/black lists and the addition/updating/removal of one or more faces.

## Access control via Face Recognition



Face recognition can be used to activate an output for opening access points and doors, just like a real access control system. It is also possible to define groups and link them to a weekly planner.





IP Cameras



NVRs



XVRs (5 in 1)



Storage System



AdvanceVMS



Matrix Video Wall System



SW Client



Accessories



Monitor, Switch, WI-FI Transmission



 **Comelit**<sup>®</sup>

**ADVANCE** Series

# IP Cameras

**ADVANCE** Series





## MAIN FUNCTIONS

### DVA Deep video analysis

The cameras support the most complex artificial intelligence algorithms: line crossing, entering/exiting an area, object removed and abandoned, people counting, face detection, crowd detection, etc.

### IP67

The cameras offer IP67 certification.

### IK10

The outdoor IP cameras adhere to IK10 vandalproof standards.

### -30°C~60°C

Most IP cameras also operate in extreme temperature conditions (-30°C /+60°C).

### Microphone

Some IP cameras have a built-in microphone, for easier audio management.

### ONVIF

ONVIF version support, profile S and profile G.

### 2-8MP

2 MP to 8 MP (4K) resolution.

### Fisheye

6 MP Fisheye camera with different display layouts, supported by both NVRs and by Advance VMS Software.

### TVS 6000V

The IP cameras are equipped with 6,000V protection against lightning and 2,000V overload protection.

### ZOOM

PTZ IP cameras reach an optical zoom up to 30X.

### 3 Streams

All IP cameras in the Advance series support 3 streams.

### Alarm Inputs and Outputs

Many models have alarm inputs and outputs.

### H.265+

H265+ integrates different functions: scene recognition, a smart noise reduction algorithm and bit rate control based on macroblocks. In the majority of scenes the bit rate can be reduced by 40% (compared with the H.264 and H.265 standards). Compatible with third-party NVRs and VMS.

### Ultra Starlight

The 1/2" sensor increases sensitivity to light by 5 times in relation to classic cameras; it provides sharp images with a high contrast even in low lighting conditions.



## MAIN FUNCTIONS

### True WDR

Self-adapting ultra wide dynamic range technology, with a dynamic range up to 120 dB.



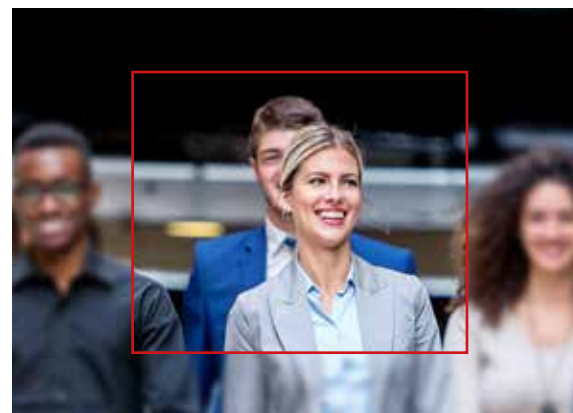
### Smart IR

Dynamic management of IR lighting intensity to prevent overexposure of essential details (e.g. people's faces at night).



### ROI (Region Of Interest)

Ensures image quality and detail in several zones within the scene, optimising the overall bandwidth of the video stream.



---

## Recording to SD Memory

Supports recording to SD card (max. 128 GB) on event and according to planned times.

## HFR (High frame rate)

Cameras with 4 MP resolution support the HFR function (2M@60fps), ideal for critical applications where sharp still images are essential (transport, casinos, cash processing rooms, etc.).

## Differentiated Motion

Various motion sensitivity levels can be set in different areas: e.g. higher in the most important area and lower in others, where animals, wind, etc. may disturb the scene.

## Day and Night

Automatic mode manages day and night transition in complex situations and can be used to schedule time-based switching.

## Min.~Max. Shutter

The shutter can be adjusted automatically or manually, for improved performance in the scenario in use.

## SNMP

XVRs, NVRs and IP cameras support SNMP standards V1.0, 2.0 and 3.0, ideal for the network management of networking devices.

## HLC/BLC/HDR

Various backlighting compensations are available, for increased flexibility.

## 802.1X

Authentication mechanism for the installation of networking devices on the LAN.

## HTTPS

HTTPS is the secure and encrypted version of HTTP protocol, which is used to transmit data between the computer and the web browser for the camera.

## IP 2MP


**ULTRA STARLIGHT**
**IPTCAMA02FA**

**ULTRA STARLIGHT**
**IPTCAMA02ZA**

**ULTRA STARLIGHT**
**IPKCAMA02ZA**

<b>Sensor</b>	1/2.8" CMOS	1/2.8" CMOS	1/2.8" CMOS
<b>Resolution</b>	1920 x 1080 (2MP)	1920 x 1080 (2MP)	1920 x 1080 (2MP)
<b>Lens</b>	2.8 mm, Fixed lens	2.8-12 mm, Motorised lens with autofocus	2.8-12 mm, Motorised lens with autofocus
<b>Min. Lighting</b>	0.005 lux@F1.6, AGC ON; 0 lux with IR 0.0028 lux@F1.2, AGC ON; 0 lux with IR	0.005 lux@F1.6,AGC ON; 0 lux with IR 0.0028 lux@F1.2,AGC ON; 0 lux with IR	0.005 lux@F1.6, AGC ON; 0 lux with IR 0.0028 lux@F1.2, AGC ON; 0 lux with IR
<b>Day/Night</b>	Auto(ICR)/Day/Night/Timed	Auto(ICR)/Day/Night/Timed	Auto(ICR)/Day/Night/Timed
<b>IR</b>	1 led array / 30m (Smart IR)	2 LED arrays / 50 m (Smart IR)	3 LED arrays / 50 m (Smart IR)
<b>WDR</b>	120 dB	120 dB	120 dB
<b>Starlight</b>	Ultra Starlight	Ultra Starlight	Ultra Starlight
<b>White balancing</b>	Auto/Manual/Indoor/Outdoor	Auto/Manual/Indoor/Outdoor	Auto/Manual/Indoor/Outdoor
<b>BLC/DNR/HLC</b>	BLC/3D DNR/HLC	BLC/3D DNR/HLC	BLC/3D DNR/HLC
<b>Video Compression</b>	Smart H.265 / H.265+ / H.265 / Smart H.264 / H.264+ / H.264 / MJPEG	Smart H.265 / H.265+ / H.265 / Smart H.264 / H.264+ / H.264 / MJPEG	Smart H.265 / H.265+ / H.265 / Smart H.264 / H.264+ / H.264 / MJPEG
<b>Frame rate</b>	Main Stream: 60Hz: 1080P / 720P(1 ~ 30fps); 50Hz: 1080P/ 720P (1 ~ 25fps) Sub Stream: 60Hz: 720P/D1/CIF (1~30fps); 50Hz: 720P/ D1/CIF (1~25fps) Third Stream: 60Hz: D1/CIF/480x240 (1~30fps); 50Hz: D1/CIF/480x240 (1~25fps)	Main Stream: 60Hz: 1080P / 720P(1 ~ 30fps ); 50Hz : 1080P/ 720P (1 ~ 25fps) Sub Stream: 60Hz: 720P/D1/CIF (1~30fps); 50Hz: 720P/ D1/CIF (1~25fps) Third Stream: 60Hz: D1/CIF/480x240 (1~30fps); 50Hz: D1/CIF/480x240 (1~25fps)	Main Stream: 60Hz: 1080P / 720P(1 ~ 30fps ); 50Hz : 1080P/ 720P (1 ~ 25fps) Sub Stream: 60Hz: 720P/D1/CIF (1~30fps); 50Hz: 720P/ D1/CIF (1~25fps) Third Stream: 60Hz: D1/CIF/480x240 (1~30fps); 50Hz: D1/CIF/480x240 (1~25fps)
<b>Multi Streaming</b>	3 Streams	3 Streams	3 Streams
<b>Digital effects</b>	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation), flip, lens distortion correction	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation), flip, lens distortion correction	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation), flip, lens distortion correction
<b>DVA Video Analysis*</b>	Area entry/exit/Intrusion (distinction between humans/vehicles), line crossing (distinction between humans/vehicles), video tampering, scene change, face detection, face capture, target counting (humans/vehicles), human tracking, motion detection, *object abandoned/removed, crowd density, heat map	Area entry/exit/Intrusion (distinction between humans/vehicles), line crossing (distinction between humans/vehicles), video tampering, scene change, face detection, face capture, target counting (humans/vehicles), human tracking, motion detection, *object abandoned/removed, crowd density, heat map	Area entry/exit/Intrusion (distinction between humans/vehicles), line crossing (distinction between humans/vehicles), video tampering, scene change, face detection, face capture, target counting (humans/vehicles), human tracking, motion detection, *object abandoned/removed, crowd density, heat map
<b>ROI</b>	8 areas	8 areas	8 areas
<b>Privacy zones</b>	4	4	4
<b>Integration protocols</b>	ONVIF (Profile S, Profile G)	ONVIF (Profile S, Profile G)	ONVIF (Profile S, Profile G)
<b>SD card slot</b>	Built-in SD card slot (supports up to 128GB)	Built-in SD card slot (supports up to 128GB)	Built-in SD card slot (supports up to 128GB)
<b>Alarm Inputs/Outputs</b>	/	/	1 input - 1 output
<b>Audio Inputs/Outputs</b>	1CH audio input; Built-in microphone x1	1CH audio input; Built-in microphone x1	1CH audio input; Built-in microphone x1 audio. 1 audio output
<b>IP rating</b>	IP67	IP67	IP67
<b>IK rating</b>	IK10	IK10	IK10
<b>Power supply</b>	12 Vdc (<7.5W)	12 Vdc (<10.5W)	12 Vdc (<10.5W)
<b>POE power supply</b>	Standard IEEE802.3af	Standard IEEE802.3af	Standard IEEE802.3af
<b>Operating temperature</b>	-30°C ~ 60°C < 95% RH	-30°C ~ 60°C < 95% RH	-30°C ~ 60°C < 95% RH
<b>Dimensions (mm)</b>	94.6 x 94.6 x 82.8	111.5 x 111.5 x 99.6	141 x 141 x 100.2

\* Available with firmware 5.1.0

**ULTRA STARLIGHT****IPBCAMA02FA****ULTRA STARLIGHT****IPBCAMA02ZA****ULTRA STARLIGHT****IPBCAMA02Z01A**

<b>Sensor</b>	1/2.8" CMOS	1/2.8" CMOS	1/2.8" CMOS
<b>Resolution</b>	1920 x 1080 (2MP)	1920 x 1080 (2MP)	1920 x 1080 (2MP)
<b>Lens</b>	2.8 mm, Fixed lens	2.8-12 mm, Motorised lens with autofocus	2.8-12 mm, Motorised lens with autofocus
<b>Min. Lighting</b>	0.005 lux@F1.6, AGC ON; 0 lux with IR 0.0028 lux@F1.2, AGC ON; 0 lux with IR	0.005 lux@F1.6, AGC ON; 0 lux with IR 0.0028 lux@F1.2, AGC ON; 0 lux with IR	0.005 lux@F1.6, AGC ON; 0 lux with IR 0.0028 lux@F1.2, AGC ON; 0 lux with IR
<b>Day/Night</b>	Auto(ICR)/Day/Night/Timed	Auto(ICR)/Day/Night/Timed	Auto(ICR)/Day/Night/Timed
<b>IR</b>	2 led array / 50m (Smart IR)	2 LED arrays / 50 m (Smart IR)	4 LED arrays / 70m (Smart IR)
<b>WDR</b>	120 dB	120 dB	120 dB
<b>Starlight</b>	Ultra Starlight	Ultra Starlight	Ultra Starlight
<b>White balancing</b>	Auto/Manual/Indoor/Outdoor	Auto/Manual/Indoor/Outdoor	Auto/Manual/Indoor/Outdoor
<b>BLC/DNR/HLC</b>	BLC/3D DNR/HLC	BLC/3D DNR/HLC	BLC/3D DNR/HLC
<b>Video Compression</b>	Smart H.265 / H.265+ / H.265 / Smart H.264 / H.264+ / H.264 / MJPEG	Smart H.265 / H.265+ / H.265 / Smart H.264 / H.264+ / H.264 / MJPEG	Smart H.265 / H.265+ / H.265 / Smart H.264 / H.264+ / H.264 / MJPEG
<b>Frame rate</b>	Main Stream: 60Hz: 1080P / 720P (1 ~ 30fps); 50Hz: 1080P / 720P (1 ~ 25fps) Sub Stream: 60Hz: 720P/D1/CIF (1~30fps); 50Hz: 720P/D1/CIF (1~25fps) Third Stream: 60Hz: D1/CIF/480x240 (1~30fps); 50Hz: D1/CIF/480x240 (1~25fps)	Main Stream: 60Hz: 1080P / 720P (1 ~ 30fps); 50Hz: 1080P / 720P (1 ~ 25fps) Sub Stream: 60Hz: 720P/D1/CIF (1~30fps); 50Hz: 720P/D1/CIF (1~25fps) Third Stream: 60Hz: D1/CIF/480x240 (1~30fps); 50Hz: D1/CIF/480x240 (1~25fps)	Main Stream: 60Hz: 1080P / 720P (1 ~ 30fps); 50Hz: 1080P / 720P (1 ~ 25fps) Sub Stream: 60Hz: 720P/D1/CIF (1~30fps); 50Hz: 720P/D1/CIF (1~25fps) Third Stream: 60Hz: D1/CIF/480x240 (1~30fps); 50Hz: D1/CIF/480x240 (1~25fps)
<b>Multi Streaming</b>	3 Streams	3 Streams	3 Streams
<b>Digital effects</b>	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation), flip, lens distortion correction	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation), flip, lens distortion correction	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation), flip, lens distortion correction
<b>DVA Video Analysis*</b>	Area entry/exit/Intrusion (distinction between humans/vehicles), line crossing (distinction between humans/vehicles), video tampering, scene change, face detection, face capture, target counting (humans/vehicles), human tracking, motion detection, *object abandoned/removed, crowd density, heat map	Area entry/exit/Intrusion (distinction between humans/vehicles), line crossing (distinction between humans/vehicles), video tampering, scene change, face detection, face capture, target counting (humans/vehicles), human tracking, motion detection, *object abandoned/removed, crowd density, heat map	Area entry/exit/Intrusion (distinction between humans/vehicles), line crossing (distinction between humans/vehicles), video tampering, scene change, face detection, face capture, target counting (humans/vehicles), human tracking, motion detection, *object abandoned/removed, crowd density, heat map
<b>ROI</b>	8 areas	8 areas	8 areas
<b>Privacy zones</b>	4	4	4
<b>Integration protocols</b>	ONVIF (Profile S, Profile G)	ONVIF (Profile S, Profile G)	ONVIF (Profile S, Profile G)
<b>SD card slot</b>	Built-in SD card slot (supports up to 128GB)	Built-in SD card slot (supports up to 128GB)	Built-in SD card slot (supports up to 128GB)
<b>Alarm Inputs/Outputs</b>	/	/	1 input - 1 output
<b>Audio Inputs/Outputs</b>	1CH audio input	1CH audio input	1CH audio input; 1 audio output
<b>IP rating</b>	IP67	IP67	IP67
<b>IK rating</b>	IK10	IK10	IK10
<b>Power supply</b>	12 Vdc (-9.5W)	12 Vdc (-9.5W)	12 Vdc (-12W)
<b>POE power supply</b>	Standard IEEE802.3af	Standard IEEE802.3af	Standard IEEE802.3af
<b>Operating temperature</b>	-30°C ~ 60°C < 95% RH	-30°C ~ 60°C < 95% RH	-30°C ~ 60°C < 95% RH
<b>Dimensions (mm)</b>	217.7 x 80.5 x 80.5	217.7 x 80.5 x 80.5	141 x 141 x 100.2

\* Available with firmware 5.1.0

## IP 4MP | High Frame Rate


**ULTRA STARLIGHT**
**IPTCAMA04FA**

**ULTRA STARLIGHT**
**IPTCAMA04ZA**

**ULTRA STARLIGHT**
**IPKAMA04ZA**

<b>Sensor</b>	1 / 3" CMOS	1 / 3" CMOS	1 / 3" CMOS
<b>Resolution</b>	2592 × 1520 (4MP)	2592 × 1520 (4MP)	2592 × 1520 (4MP)
<b>Lens</b>	2.8 mm, Fixed lens	2.8-12 mm, Motorised lens with autofocus	2.8-12 mm, Motorised lens with autofocus
<b>Min. Lighting</b>	0.005 lux@F1.6, AGC ON; 0 lux with IR 0.0028 lux@F1.2, AGC ON; 0 lux with IR	0.005 lux@F1.4, AGC ON; 0 lux with IR 0.0028 lux@F1.2, AGC ON; 0 lux with IR	0.005 lux@F1.4, AGC ON; 0 lux with IR 0.0028 lux@F1.2, AGC ON; 0 lux with IR
<b>Day/Night</b>	Auto(ICR)/Day/Night/Timed	Auto(ICR)/Day/Night/Timed	Auto(ICR)/Day/Night/Timed
<b>IR</b>	1 led array / 30m (Smart IR)	2 LED arrays / 50 m (Smart IR)	3 LED arrays / 50 m (Smart IR)
<b>WDR</b>	120 dB	120 dB	120 dB
<b>Starlight</b>	Ultra Starlight	Ultra Starlight	Ultra Starlight
<b>White balancing</b>	Auto/Manual/Indoor/Outdoor	Auto/Manual/Indoor/Outdoor	Auto/Manual/Indoor/Outdoor
<b>BLC/DNR/HLC</b>	BLC/3D DNR/HLC	BLC/3D DNR/HLC	BLC/3D DNR/HLC
<b>Video Compression</b>	Smart H.265 / H.265+ / H.265 / Smart H.264 / H.264+ / H.264 / MJPEG	Smart H.265 / H.265+ / H.265 / Smart H.264 / H.264+ / H.264 / MJPEG	Smart H.265 / H.265+ / H.265 / Smart H.264 / H.264+ / H.264 / MJPEG
<b>Frame rate</b>	Main Stream: 4MP/2K/3MP/1080P / 720P (60Hz:1 ~ 30fps; 50Hz: 1-25fps) HFR mode: 1080P / 720P (60Hz: 1 ~ 60fps; 50Hz: 1-50fps) Sub Stream: 720P/D1/CIF (60Hz: 1 ~ 30fps; 50Hz: 1-25fps) Third Stream: D1/CIF/480x240 (60Hz: 1 ~ 30fps; 50Hz: 1-25fps)	Main Stream: 4MP/2K/3MP/1080P / 720P (60Hz:1 ~ 30fps; 50Hz: 1-25fps) HFR mode: 1080P / 720P (60Hz: 1 ~ 60fps; 50Hz: 1-50fps) Sub Stream: 720P/D1/CIF (60Hz: 1 ~ 30fps; 50Hz: 1-25fps) Third Stream: D1/CIF/480x240 (60Hz: 1 ~ 30fps; 50Hz: 1-25fps)	Main Stream: 4MP/2K/3MP/1080P / 720P (60Hz:1 ~ 30fps; 50Hz: 1-25fps) HFR mode: 1080P / 720P (60Hz: 1 ~ 60fps; 50Hz: 1-50fps) Sub Stream: 720P/D1/CIF (60Hz: 1 ~ 30fps; 50Hz: 1-25fps) Third Stream: D1/CIF/480x240 (60Hz: 1 ~ 30fps; 50Hz: 1-25fps)
<b>Multi Streaming</b>	3 Streams	3 Streams	3 Streams
<b>Digital effects</b>	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation), flip, lens distortion correction	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation), flip, lens distortion correction	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation), flip, lens distortion correction
<b>DVA Video Analysis*</b>	Area entry/exit/Intrusion (distinction between humans/vehicles), line crossing (distinction between humans/vehicles), video tampering, scene change, face detection, face capture, target counting (humans/vehicles), human tracking, motion detection, *object abandoned/removed, crowd density, heat map	Area entry/exit/Intrusion (distinction between humans/vehicles), line crossing (distinction between humans/vehicles), video tampering, scene change, face detection, face capture, target counting (humans/vehicles), human tracking, motion detection, *object abandoned/removed, crowd density, heat map	Area entry/exit/Intrusion (distinction between humans/vehicles), line crossing (distinction between humans/vehicles), video tampering, scene change, face detection, face capture, target counting (humans/vehicles), human tracking, motion detection, *object abandoned/removed, crowd density, heat map
<b>ROI</b>	8 areas	8 areas	8 areas
<b>Privacy zones</b>	4	4	4
<b>Integration protocols</b>	ONVIF (Profile S, Profile G)	ONVIF (Profile S, Profile G)	ONVIF (Profile S, Profile G)
<b>SD card slot</b>	Built-in SD card slot (supports up to 128GB)	Built-in SD card slot (supports up to 128GB)	Built-in SD card slot (supports up to 128GB)
<b>Alarm Inputs/Outputs</b>	/	/	1 input - 1 output
<b>Audio Inputs/Outputs</b>	1CH audio input; Built-in microphone x1	1CH audio input; Built-in microphone x1	1CH audio input; Built-in microphone x1 audio. 1 audio output
<b>IP rating</b>	IP67	IP67	IP67
<b>IK rating</b>	IK10	IK10	IK10
<b>Power supply</b>	12 Vdc (<7.5W)	12 Vdc (<9.5W)	12 Vdc (<8W)
<b>POE power supply</b>	Standard IEEE802.3af	Standard IEEE802.3af	Standard IEEE802.3af
<b>Operating temperature</b>	-30°C ~ 60°C < 95% RH	-30°C ~ 60°C < 95% RH	-30°C ~ 60°C < 95% RH
<b>Dimensions (mm)</b>	94.6 × 94.6 × 82.8	111.5 × 111.5 × 99.6	141 × 141 × 100.2

**ULTRA STARLIGHT****IPBCAMA04FA****ULTRA STARLIGHT****IPBCAMA04ZA****ULTRA STARLIGHT****IPBCAMA04Z01A**

<b>Sensor</b>	1 / 3" CMOS	1 / 3" CMOS	1 / 3" CMOS
<b>Resolution</b>	2592 × 1520 (4MP)	2592 × 1520 (4MP)	2592 × 1520 (4MP)
<b>Lens</b>	2.8 mm, Fixed lens	2.8-12 mm, Motorised lens with autofocus	2.8-12 mm, Motorised lens with autofocus
<b>Min. Lighting</b>	0.005 lux@F1.6,AGC ON; 0 lux with IR 0.0028 lux@F1.2,AGC ON; 0 lux with IR	0.005 lux@F1.6,AGC ON; 0 lux with IR 0.0028 lux@F1.2,AGC ON; 0 lux with IR	0.005 lux@F1.6,AGC ON; 0 lux with IR 0.0028 lux@F1.2,AGC ON; 0 lux with IR
<b>Day/Night</b>	Auto(ICR)/Day/Night/Timed	Auto(ICR)/Day/Night/Timed	Auto(ICR)/Day/Night/Timed
<b>IR</b>	2 led array / 50m (Smart IR)	2 LED arrays / 50 m (Smart IR)	4 LED arrays / 70m (Smart IR)
<b>WDR</b>	120 dB	120 dB	120 dB
<b>Starlight</b>	Ultra Starlight	Ultra Starlight	Ultra Starlight
<b>White balancing</b>	Auto/Manual/Indoor/Outdoor	Auto/Manual/Indoor/Outdoor	Auto/Manual/Indoor/Outdoor
<b>BLC/DNR/HLC</b>	BLC/3D DNR/HLC	BLC/3D DNR/HLC	BLC/3D DNR/HLC
<b>Video Compression</b>	Smart H.265 / H.265+ / H.265 / Smart H.264 / H.264+ / H.264 / MJPEG	Smart H.265 / H.265+ / H.265 / Smart H.264 / H.264+ / H.264 / MJPEG	Smart H.265 / H.265+ / H.265 / Smart H.264 / H.264+ / H.264 / MJPEG
<b>Frame rate</b>	Main Stream: 4MP/2K/3MP/1080P / 720P (60Hz:1 ~ 30fps; 50Hz: 1-25fps) HFR mode: 1080P / 720P (60Hz: 1 ~ 60fps; 50Hz: 1-50fps) Sub Stream: 720P/D1/CIF (60Hz: 1 ~ 30fps; 50Hz: 1-25fps) Third Stream: D1/CIF/480x240 (60Hz: 1 ~ 30fps; 50Hz: 1-25fps)	Main Stream: 4MP/2K/3MP/1080P / 720P (60Hz:1 ~ 30fps; 50Hz: 1-25fps) HFR mode: 1080P / 720P (60Hz: 1 ~ 60fps; 50Hz: 1-50fps) Sub Stream: 720P/D1/CIF (60Hz: 1 ~ 30fps; 50Hz: 1-25fps) Third Stream: D1/CIF/480x240 (60Hz: 1 ~ 30fps; 50Hz: 1-25fps)	Main Stream: 4MP/2K/3MP/1080P / 720P (60Hz:1 ~ 30fps; 50Hz: 1-25fps) HFR mode: 1080P / 720P (60Hz: 1 ~ 60fps; 50Hz: 1-50fps) Sub Stream: 720P/D1/CIF (60Hz: 1 ~ 30fps; 50Hz: 1-25fps) Third Stream: D1/CIF/480x240 (60Hz: 1 ~ 30fps; 50Hz: 1-25fps)
<b>Multi Streaming</b>	3 Streams	3 Streams	3 Streams
<b>Digital effects</b>	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation), flip, lens distortion correction	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation), flip, lens distortion correction	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation), flip, lens distortion correction
<b>DVA Video Analysis*</b>	Area entry/exit/Intrusion (distinction between humans/vehicles), line crossing (distinction between humans/vehicles), video tampering, scene change, face detection, face capture, target counting (humans/vehicles), human tracking, motion detection, *object abandoned/removed, crowd density, heat map	Area entry/exit/Intrusion (distinction between humans/vehicles), line crossing (distinction between humans/vehicles), video tampering, scene change, face detection, face capture, target counting (humans/vehicles), human tracking, motion detection, *object abandoned/removed, crowd density, heat map	Area entry/exit/Intrusion (distinction between humans/vehicles), line crossing (distinction between humans/vehicles), video tampering, scene change, face detection, face capture, target counting (humans/vehicles), human tracking, motion detection, *object abandoned/removed, crowd density, heat map
<b>ROI</b>	8 areas	8 areas	8 areas
<b>Privacy zones</b>	4	4	4
<b>Integration protocols</b>	ONVIF (Profile S, Profile G)	ONVIF (Profile S, Profile G)	ONVIF (Profile S, Profile G)
<b>SD card slot</b>	Built-in SD card slot (supports up to 128GB)	Built-in SD card slot (supports up to 128GB)	Built-in SD card slot (supports up to 128GB)
<b>Alarm Inputs/Outputs</b>	/	/	1 input - 1 output
<b>Audio Inputs/Outputs</b>	1CH audio input	1CH audio input	1CH audio input; 1 audio output
<b>IP rating</b>	IP67	IP67	IP67
<b>IK rating</b>	IK10	IK10	IK10
<b>Power supply</b>	12 Vdc (-9.5W)	12 Vdc (-12W)	12 Vdc (-10W)
<b>POE power supply</b>	Standard IEEE802.3af	Standard IEEE802.3af	Standard IEEE802.3af
<b>Operating temperature</b>	-30°C ~ 60°C < 95% RH	-30°C ~ 60°C < 95% RH	-30°C ~ 60°C < 95% RH
<b>Dimensions (mm)</b>	217.7 × 80.5 × 80.5	217.7 × 80.5 × 80.5	279.5 × 100.3 × 88.9

\* Available with firmware 5.10

## IP 8MP



	<b>IPTCAMA08FA</b>	<b>IPTCAMA08ZA</b>	<b>IPKAMA08ZA</b>
<b>Sensor</b>	1/3" CMOS	1/3" CMOS	1/3" CMOS
<b>Resolution</b>	3840 x 2160 (8MP)	3840 x 2160 (8MP)	3840 x 2160 (8MP)
<b>Lens</b>	2.8 mm, Fixed lens	2.8-12 mm, Motorised lens with autofocus	2.8-12 mm, Motorised lens with autofocus
<b>Min. Lighting</b>	0.11 lux @F2.2, AGC ON; 0 lux with IR 0.032 lux @ F1.2, AGC ON; 0 lux with IR	0.11 lux @F2.2, AGC ON; 0 lux with IR 0.032 lux @ F1.2, AGC ON; 0 lux with IR	0.11 lux @F2.2, AGC ON; 0 lux with IR 0.032 lux @ F1.2, AGC ON; 0 lux with IR
<b>Day/Night</b>	Auto(ICR)/Day/Night/Timed	Auto(ICR)/Day/Night/Timed	Auto(ICR)/Day/Night/Timed
<b>IR</b>	1 LED array / 30 m (Smart IR)	2 LED arrays / 50 m (Smart IR)	2 LED arrays / 50 m (Smart IR)
<b>WDR</b>	D-WDR, 100dB	D-WDR, 100dB	D-WDR, 100dB
<b>Starlight</b>	/	/	/
<b>White balancing</b>	Auto/Manual/Indoor/Outdoor	Auto/Manual/Indoor/Outdoor	Auto/Manual/Indoor/Outdoor
<b>BLC/DNR/HLC</b>	BLC/3D DNR/HLC	BLC/3D DNR/HLC	BLC/3D DNR/HLC
<b>Video Compression</b>	H.265 / H.264	H.265 / H.264	H.265 / H.264
<b>Frame rate</b>	Main Stream: 8MP/ 6MP/ 5MP (60Hz: 1 ~ 25fps; 50Hz: 1-20fps) Sub Stream: 720P/D1/CIF (60Hz: 1 ~ 25fps; 50Hz: 1-20fps) Third Stream: D1/CIF/480x240 (60Hz: 1 ~ 25fps; 50Hz: 1-20fps)	Main Stream: 8MP/ 6MP/ 5MP (60Hz: 1 ~ 25fps; 50Hz: 1-20fps) Sub Stream: 720P/D1/CIF (60Hz: 1 ~ 25fps; 50Hz: 1-20fps) Third Stream: D1/CIF/480x240 (60Hz: 1 ~ 25fps; 50Hz: 1-20fps)	Main Stream: 8MP/ 6MP/ 5MP (60Hz: 1 ~ 25fps; 50Hz: 1-20fps) Sub Stream: 720P/D1/CIF (60Hz: 1 ~ 25fps; 50Hz: 1-20fps) Third Stream: D1/CIF/480x240 (60Hz: 1 ~ 25fps; 50Hz: 1-20fps)
<b>Multi Streaming</b>	3 Streams	3 Streams	3 Streams
<b>Digital effects</b>	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation)	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation)	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation)
<b>Video Analysis</b>	Line crossing, video tampering, scene change, motion detection	Line crossing, video tampering, scene change, motion detection	Line crossing, video tampering, scene change, motion detection
<b>ROI</b>	8 Areas	8 Areas	8 Areas
<b>Privacy zones</b>	4	4	4
<b>Integration protocols</b>	ONVIF (Profile S, Profile G)	ONVIF (Profile S, Profile G)	ONVIF (Profile S, Profile G)
<b>SD card slot</b>	Built-in SD card slot (supports up to 128GB)	Built-in SD card slot (supports up to 128GB)	Built-in SD card slot (supports up to 128GB)
<b>Alarm Inputs/Outputs</b>	/	/	1 input - 1 output
<b>Audio Inputs/Outputs</b>	1CH built-in microphone; 1CH audio input	1CH built-in microphone; 1CH audio input	1CH audio input, 1 audio output
<b>IP rating</b>	IK10	IK10	IK10
<b>IK rating</b>	IP67	IP67	IP67
<b>Power supply</b>	12 Vdc (-6W)	12 Vdc (-9W)	12 Vdc (-9W)
<b>POE power supply</b>	Standard IEEE802.3af	Standard IEEE802.3af	Standard IEEE802.3af
<b>Operating temperature</b>	-30°C ~ 60°C < 95% RH	-30°C ~ 60°C < 95% RH	-30°C ~ 60°C < 95% RH
<b>Dimensions (mm)</b>	94.6 x 94.6 x 82.8	111.5 x 111.5 x 99.6	141 x 141 x 100.2





	<b>IPBCAMA08FA</b>	<b>IPBCAMA08ZA</b>	<b>IPBCAMA08Z01A</b>
<b>Sensor</b>	1/3" CMOS	1/3" CMOS	1/3" CMOS
<b>Resolution</b>	3840 x 2160 (8MP)	3840 x 2160 (8MP)	3840 x 2160 (8MP)
<b>Lens</b>	2.8 mm, Fixed lens	2.8-12 mm, Motorised lens with autofocus	2.8-12 mm, Motorised lens with autofocus
<b>Min. Lighting</b>	0.11 lux @F2.2, AGC ON; 0 lux with IR 0.032 lux @ F1.2, AGC ON; 0 lux with IR	0.11 lux @F2.2, AGC ON; 0 lux with IR 0.032 lux @ F1.2, AGC ON; 0 lux with IR	0.11 lux @F2.2, AGC ON; 0 lux with IR 0.032 lux @ F1.2, AGC ON; 0 lux with IR
<b>Day/Night</b>	Auto(ICR)/Day/Night/Timed	Auto(ICR)/Day/Night/Timed	Auto(ICR)/Day/Night/Timed
<b>IR</b>	2 led array / 50m (Smart IR)	2 LED arrays / 50 m (Smart IR)	4 LED arrays / 70m (Smart IR)
<b>WDR</b>	D-WDR, 100dB	D-WDR, 100dB	D-WDR, 100dB
<b>Starlight</b>	/	/	/
<b>White balancing</b>	Auto/Manual/Indoor/Outdoor	Auto/Manual/Indoor/Outdoor	Auto/Manual/Indoor/Outdoor
<b>BLC/DNR/HLC</b>	BLC/3D DNR/HLC	BLC/3D DNR/HLC	BLC/3D DNR/HLC
<b>Video Compression</b>	H.265 / H.264	H.265 / H.264	H.265 / H.264
<b>Frame rate</b>	Main Stream: 8MP/ 6MP/ 5MP (60Hz: 1 ~ 25fps; 50Hz: 1-20fps) Sub Stream: 720P/D1/CIF (60Hz: 1 ~ 25fps; 50Hz: 1-20fps) Third Stream: D1/CIF/480x240 (60Hz: 1 ~ 25fps; 50Hz: 1-20fps)	Main Stream: 8MP/ 6MP/ 5MP (60Hz: 1 ~ 25fps; 50Hz: 1-20fps) Sub Stream: 720P/D1/CIF (60Hz: 1 ~ 25fps; 50Hz: 1-20fps) Third Stream: D1/CIF/480x240 (60Hz: 1 ~ 25fps; 50Hz: 1-20fps)	Main Stream: 8MP/ 6MP/ 5MP (60Hz: 1 ~ 25fps; 50Hz: 1-20fps) Sub Stream: 720P/D1/CIF (60Hz: 1 ~ 25fps; 50Hz: 1-20fps) Third Stream: D1/CIF/480x240 (60Hz: 1 ~ 25fps; 50Hz: 1-20fps)
<b>Multi Streaming</b>	3 Streams	3 Streams	3 Streams
<b>Digital effects</b>	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation)	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation)	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation)
<b>Video Analysis</b>	Line crossing, video tampering, scene change, motion detection	Line crossing, video tampering, scene change, motion detection	Line crossing, video tampering, scene change, motion detection
<b>ROI</b>	8 Areas	8 Areas	8 Areas
<b>Privacy zones</b>	4	4	4
<b>Integration protocols</b>	ONVIF (Profile S, Profile G)	ONVIF (Profile S, Profile G)	ONVIF (Profile S, Profile G)
<b>SD card slot</b>	Built-in SD card slot (supports up to 128GB)	Built-in SD card slot (supports up to 128GB)	Built-in SD card slot (supports up to 128GB)
<b>Alarm Inputs/Outputs</b>	/	/	1 input - 1 output
<b>Audio Inputs/Outputs</b>	1CH audio input	1CH audio input	1CH audio input; 1 audio output
<b>IP rating</b>	IP67	IP67	IP67
<b>IK rating</b>	IK10	IK10	IK10
<b>Power supply</b>	12 Vdc (-9.5W)	12 Vdc (-12W)	12 Vdc (-10W)
<b>POE power supply</b>	Standard IEEE802.3af	Standard IEEE802.3af	Standard IEEE802.3af
<b>Operating temperature</b>	-30°C ~ 60°C < 95% RH	-30°C ~ 60°C < 95% RH	-30°C ~ 60°C < 95% RH
<b>Dimensions (mm)</b>	217.7 x 80.5 x 80.5	217.7 x 80.5 x 80.5	279.5 x 100.3 x 88.9

## PERIMETER PROTECTION 5MP



### ULTRA STARLIGHT

#### IPTCAMA05Z02A

Sensor	1 / 2.7" CMOS	1 / 2.7" CMOS
Resolution	2592 × 1944 (5MP)	2592 × 1944 (5MP)
Lens	2.8-12 mm, Motorised lens with autofocus	2.8-12 mm, Motorised lens with autofocus
Min. Lighting	0.008 lux @ F1.4, AGC ON; 0 lux with IR 0.0045 lux @ F1.2, AGC ON; 0 lux with IR	0.008 lux @ F1.4, AGC ON; 0 lux with IR 0.0045 lux @ F1.2, AGC ON; 0 lux with IR
Day/Night	Auto(ICR)/Day/Night/Timed	Auto(ICR)/Day/Night/Timed
IR	2 LED arrays / 50 m (Smart IR)	3 LED arrays / 50 m (Smart IR)
WDR	WDR, 120dB	WDR, 120dB
Starlight	Ultra starlight	Ultra starlight
White balancing	Auto/Manual/Indoor/Outdoor	Auto/Manual/Indoor/Outdoor
BLC/DNR/HLC	BLC/3D DNR/HLC	BLC/3D DNR/HLC
Video Compression	Smart H265 / H.265+ / H.265 / Smart H264 / H.264+ / H.264 / MJPEG	Smart H265 / H.265+ / H.265 / Smart H264 / H.264+ / H.264 / MJPEG
Frame rate	Main Stream: 60Hz: 5MP/4MP/ 2K/3MP/ 1080P/ 720P (1-30fps) 50Hz: 5MP/ 4MP/ 2K/3MP/ 1080P/ 720P (1-25fps) Sub Stream: 60Hz: 720P/D1/CIF (1-30fps); 50Hz: 720P/D1/CIF (1-25fps) Third Stream: 60Hz: D1/CIF/480 × 240 (1-30fps); 50Hz: D1/CIF/480 × 240 (1-25fps) HFR on: 1080P (1-60fps)	Main Stream: 60Hz: 5MP/4MP/ 2K/3MP/ 1080P/ 720P (1-20fps) 50Hz: 5MP/ 4MP/ 2K/3MP/ 1080P/ 720P (1-20fps) Sub Stream: 60Hz: 720P/D1/CIF (1-20fps); 50Hz: 720P/D1/CIF (1-20fps) Third Stream: 60Hz: D1/CIF/480 × 240 (1-20fps); 50Hz: D1/CIF/480 × 240 (1-20fps) HFR on: 1080P (1-60fps)
Multi Streaming	3 Streams	3 Streams
Digital effects	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation)	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation)
DVA Video Analysis	Area entry/exit/Intrusion (distinction between humans/ vehicles), Line crossing (distinction between humans/vehicles), scene change, motion detection	Area entry/exit/Intrusion (distinction between humans/ vehicles), Line crossing (distinction between humans/vehicles), scene change, motion detection
ROI	8 areas	8 areas
Privacy zones	4	4
Integration protocols	ONVIF (Profile S, Profile G)	ONVIF (Profile S, Profile G)
SD card slot	Built-in SD card slot (supports up to 128GB)	Built-in SD card slot (supports up to 128GB)
Alarm Inputs/Outputs	1 input - 1 output	1 input - 1 output
Audio Inputs/Outputs	1CH audio input; 1CH audio output; 1CH built-in loudspeaker, 1CH built-in microphone	1CH audio input; 1CH audio output; 1CH built-in loudspeaker
IP rating	IP67	IP67
IK rating	IK10	IK10
Power supply (Vdc-Watt)	12, < 11W	12, < 11.5W
POE power supply	Standard IEEE802.3af	Standard IEEE802.3af
Operating temperature	-30°C ~ 60°C < 95% RH	-30°C ~ 60°C < 95% RH
Dimensions (mm)	99.6 × 99.6 × 111.5	80.5 × 80.5 × 217.7



### ULTRA STARLIGHT

#### IPBCAMA05Z02A



The special video analysis algorithm built into the cameras makes it possible to categorise people and vehicles involved in perimeter intrusions, thereby eliminating false alarms generated by animals, rain, leaves or other moving objects. If one or more configured lines are crossed, an alarm is generated, a customised audio message is played through the speaker built into the camera and the WHITE LEDs come on, illuminating the scene for optimal night vision and acting as a deterrent.

## ANPR PLATE READING | High Frame Rate



### ULTRA STARLIGHT

#### IPLPRA02ZA

Sensor	1 / 2.8" CMOS
Resolution	1920 x 1080 (2MP)
Lens	7-22mm, Motorised lens with autofocus
Min. Lighting	0.0026 lux@F1.2, AGC ON 0.005 lux@F1.4, AGC ON; 0 lux with IR
Day/Night	Auto(ICR)/Day/Night/Timed
IR	2 LED arrays / 50 m (Smart IR)
WDR	WDR, 120dB
Starlight	Ultra starlight
White balancing	Auto/Manual/Indoor/Outdoor
BLC/DNR/HLC	BLC/3D DNR/HLC
Video Compression	Smart H265 / H265+ / H265 / Smart H264 / H264+ / H264 / MJPEG
Frame rate	Main Stream: 60Hz: 1080P/720P(1-30fps); 50Hz: 1080P/720P (1-25fps) HFR Mode: 1080P/720P(1-60fps/50fps) Sub Stream: 60Hz: 720P/D1/CIF (1-30fps); 50Hz: 720P/D1/CIF (1-25fps) Third Stream: 60Hz: D1/CIF/480x240 (1-30fps); 50Hz: D1/CIF/480x240 (1-25fps)
Multi Streaming	3 Streams
Digital effects	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation)
Video Analysis	Scene change, ANPR, motion detection
Max speed	70 km/h
White/Black list	10000
Supported states/countries	<b>USA:</b> California, Colorado, Florida, Georgia, Iowa, Illinois, Kentucky, Louisiana, Massachusetts, Michigan, Minnesota, North Carolina, New Jersey, New Mexico, Nevada, New York, Ohio, Oregon, Pennsylvania, Texas, Virginia, Washington, Wisconsin. <b>Europe:</b> Belgium, Bulgaria, Croatia, France, Germany, United Kingdom, Greece, Hungary, Italy, Netherlands, Poland, Romania, Russia, Spain <b>Others:</b> Israel
ROI	8 areas
Privacy zones	4
Integration protocols	ONVIF (Profile S, Profile G)
SD card slot	Built-in SD card slot (supports up to 128GB)
Alarm Inputs/Outputs	1 input - 1 output
Audio Inputs/Outputs	1CH audio input; 1CH audio output
IP rating	IP67
IK rating	IK10
Power supply	12 Vdc (<11W)
POE power supply	Standard IEEE802.3af
Operating temperature	-30°C ~ 60°C < 95% RH
Dimensions (mm)	99.6 x 99.6 x 111.5

Comelit ANPR (Automatic Number Plate Recognition) cameras capture high-quality images in Full HD. Integration with Advance VMS software and a Parking Management function means they can be used to read number plates and to manage access in car parks. The

cameras can also work as stand-alone devices. Weekly schedules and white/black lists can be configured directly via the camera web page.



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## FISHEYE 6MP



### IPFCAMA06FA

<b>Sensor</b>	1 / 2.9" 6MP CMOS
<b>Resolution</b>	2160 × 2160 (6MP)
<b>Lens</b>	1.07mm, Fixed lens
<b>Min. Lighting</b>	0.068lux@F2.0, AGC ON; 0 lux with IR
<b>Day/Night</b>	Auto(ICR)/Day/Night/Timed
<b>IR</b>	3 LED arrays / 20-30 m (Smart IR)
<b>WDR</b>	D-WDR 100dB
<b>Starlight</b>	/
<b>White balancing</b>	Auto/Manual/Indoor/Outdoor
<b>BLC/DNR/HLC</b>	BLC/3D DNR/HLC
<b>Video Compression</b>	H.265 / H.264 / MJPEG
<b>Frame rate</b>	Fisheye+panorama+3 PTZ 50Hz: 25fps@(2160 × 2160/1920×1920/1440×1440), 25fps@(1920 × 1080), 25fps@(960 × 540)*3 60Hz: 30fps@(2160 × 2160/1920×1920/1440×1440), 30fps@(1920 × 1080), 30fps@(960 × 540)*3, Fisheye+ 4 PTZ 50Hz: 25fps@(2160 × 2160/1920×1920/1440×1440), 25fps@(960 × 540)*4 60Hz: 30fps@(2160 × 2160/1920×1920/1440×1440), 30fps@(960 × 540)*4
<b>Multi Streaming</b>	3 Streams
<b>Digital effects</b>	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation)
<b>Video Analysis</b>	Motion detection
<b>ROI</b>	8 areas
<b>Privacy zones</b>	4
<b>Integration protocols</b>	ONVIF (Profile S, Profile G)
<b>SD card slot</b>	Built-in SD card slot (supports up to 128GB)
<b>Alarm Inputs/Outputs</b>	1 input - 1 output
<b>Audio Inputs/Outputs</b>	1CH audio input; 1CH audio output
<b>IP rating</b>	IP67
<b>IK rating</b>	IK10
<b>Power supply</b>	12 Vdc (-12W)
<b>POE power supply</b>	Standard IEEE802.3af
<b>Operating temperature</b>	-30°C ~ 50 °C - 95% RH
<b>Dimensions (mm)</b>	39 x 130 x 130



Offering a 360-degree view is the main advantage of Comelit's fisheye camera. The extended field of vision provided by this device offers the user an excellent panoramic view, preventing the so-called "blind spot". Fisheye cameras are designed to cover a 360° view when mounted on the ceiling and a 180° view when mounted on a wall.

Fisheye cameras can offer different views: panoramic 180°, 360° and the view of several digital PTZ cameras. These manipulations can take place during live streams or playback, without affecting the video recording.

### Digital PTZ

Shows the image as PTZ in full screen mode. The position of the image can be adjusted and enlarged as a result.

### Cylinder

Shows the 360° view as a 3D cylinder that can be rotated and enlarged with a finger.

### Virtual Reality

Shows the image as if it was directly underneath the video camera. If the viewing device is moved, the camera image also moves.

### 360°/180° Stretched View

Offers a full 360° fisheye image

### Panoramic View

Shows the image in 2 sections of 180° (front and back), which can be made to scroll to the left/right.

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## MULTI-SENSOR 8MP

Panoramic 180°



### ULTRA STARLIGHT

#### IPSCAMA08F04A

<b>Sensor</b>	4x 2.8" Progressive Scan CMOS
<b>Resolution</b>	4096 × 1800 (8MP)
<b>Lens</b>	4x 3.3 mm, Fixed lens
<b>Min. Lighting</b>	Colour: 0.03 lux@F2.0, AGC ON; 0 lux with IR B&W: 0.001 lux@F2.0, AGC ON; 0 lux with IR
<b>Day/Night</b>	Auto(ICR)/Day/Night/Timed
<b>IR</b>	8 LED arrays / 20-30 m (Smart IR)
<b>WDR</b>	D-WDR 100dB
<b>Starlight</b>	Ultra starlight
<b>White balancing</b>	Auto/Manual/Indoor/Outdoor
<b>BLC/DNR/HLC</b>	BLC/3D DNR/HLC
<b>Video Compression</b>	H.265 / H.264 / MJPEG
<b>Frame rate</b>	Main Stream: Max 4096x1800 (60Hz: 1 ~ 30fps; 50Hz: 1-25fps) Sub Stream: Max 1024x452 (60Hz: 1 ~ 30fps; 50Hz: 1-25fps) Third Stream: Max 1920x832 (60Hz: 1 ~ 30fps; 50Hz: 1-25fps)
<b>Multi Streaming</b>	1 Streaming
<b>Digital effects</b>	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation)
<b>Video Analysis</b>	Motion detection
<b>ROI</b>	8 areas
<b>Privacy zones</b>	4
<b>Integration protocols</b>	ONVIF (Profile S, Profile G)
<b>SD card slot</b>	Built-in SD card slot (supports up to 128GB)
<b>Alarm Inputs/Outputs</b>	1 input - 1 output
<b>Audio Inputs/Outputs</b>	1CH audio input; 1CH audio output
<b>IP rating</b>	IK10
<b>IK rating</b>	IP67
<b>Power supply</b>	12 Vdc (-12W)
<b>POE power supply</b>	Standard IEEE802.3af
<b>Operating temperature</b>	-30°C ~ 50 °C < 95% RH
<b>Dimensions (mm)</b>	96 x 159.7 x 288.4

The Comelit multi-sensor camera offers an extraordinary viewing experience. The 8MP ultra-high resolution 180° image is the result of the powerful software inside the camera, which combines the video streams originating from the four 2MP camera modules. The multi-sensor camera offers a large coverage area and

is an effective alternative to installing several cameras, with a significantly lower cost and shorter installation time. Starlight technology always offers a sharp and detailed image, even in low lighting conditions.



## WIFI 2MP



### WICAMA02FA

<b>Sensor</b>	1 / 2.7" CMOS
<b>Resolution</b>	1920 x 1080 (2MP)
<b>Lens</b>	2.8 mm, Fixed lens
<b>Min. Lighting</b>	0.03 lux@F2.5,AGC ON; 0 lux with IR 0.007 lux@F1.2,AGC ON; 0 lux with IR
<b>Day/Night</b>	Auto(ICR)/Day/Night/Timed
<b>IR</b>	1 led array / 10m (Smart IR)
<b>WDR</b>	D-WDR 100dB
<b>Starlight</b>	/
<b>White balancing</b>	Auto/Manual/Indoor/Outdoor
<b>BLC/DNR/HLC</b>	BLC/3D DNR/ HLC
<b>Video Compression</b>	H.265 / H.264 / MJPEG
<b>Frame rate</b>	Main Stream: 60Hz: 1080P / 720P(1~30fps); 50Hz: 1080P/720P(1~25fps) Sub Stream: 60Hz: 720P/D1/CIF(1~30fps); 50Hz: 720P/D1/CIF(1~25fps) Third Stream: 60Hz: D1/CIF/480x240(1~30fps); 50Hz: D1/CIF/480x240(1~25fps)
<b>Multi Streaming</b>	3 Streams
<b>Digital effects</b>	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation)
<b>Video analysis</b>	Line crossing, scene change, intrusion, motion detection
<b>PIR range</b>	Horizontal angle: 100°, Range 7 m
<b>ROI</b>	8 Areas
<b>Privacy zones</b>	4
<b>Integration protocols</b>	ONVIF (Profile S, Profile G)
<b>Wireless standards</b>	IEEE802.11b/g/n
<b>Frequency range</b>	2.4 GHz ~ 2.4835 GHz
<b>Safety</b>	WEP, WPA-PSK/WPA2-PSK
<b>Wireless range</b>	50 m
<b>SD card slot</b>	Built-in SD card slot (supports up to 128GB)
<b>Alarm Inputs/Outputs</b>	1 input - 1 output
<b>Audio Inputs/Outputs</b>	1CH built-in microphone; 1CH built-in loudspeaker
<b>IP rating</b>	Indoor use
<b>IK rating</b>	/
<b>Power supply</b>	12 Vdc (<math>\pm 4.5W</math>)
<b>POE power supply</b>	Standard IEEE802.3af
<b>Operating temperature</b>	-10 °C ~ 45 °C <math>< 95% RH</math>
<b>Dimensions (mm)</b>	130 x 71.7 x 71.7

### Full remote control

Thanks to the Comelit Advance App, you can view live images on your smartphone, perform a detailed event search and view the corresponding video recording.

In addition to the motion detection function for detecting movement within the captured image, which can be configured directly from the camera web page, the infrared motion sensor (PIR) guarantees high quality detection and reliability in all conditions. In complete darkness the infrared LED starts working, with a range of 10 metres. The microphone and built-in loudspeaker allow two-way communication.



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## 2MP (5~50 mm lens)



### ULTRA STARLIGHT

#### IPBCAMA02Z03A

Sensor	1/3" CMOS
Resolution	1920 x 1080 (2MP)
Lens	5-50 mm Motorised lens with autofocus
Min. Lighting	0.018 lux@F1.2, AGC ON; 0 lux with IR 0.045 lux@F1.8, AGC ON; 0 lux with IR
Day/Night	Auto(ICR)/Day/Night/Timed
IR	5 LED arrays / 100m (Smart IR)
WDR	WDR, 120dB
Starlight	Ultra starlight
White balancing	Auto/Manual/Indoor/Outdoor
BLC/DNR/HLC	BLC/3D DNR/HLC
Video Compression	H.265 / H.264 / MJPEG
Frame rate	Main Stream: 60Hz: 1080P (1~30fps) / 720P (1~30fps); 50Hz: 1080P (1~25fps) / 720P (1~25fps) Sub Stream: 60Hz: 720P/D1/CIF (1~30fps); 50Hz: 720P/D1/CIF (1~25fps) Third Stream: 60Hz: D1/CIF/480x240 (1~30fps); 50Hz: D1/CIF/480x240 (1~25fps)
Multi Streaming	3 Streams
Digital effects	Corridor mode (90°/180°/270° rotation), defog, mirror mode (horizontal, vertical, 180° rotation)
Video Analysis	Line crossing, scene change, intrusion, face detection, motion detection
ROI	8 areas
Privacy zones	4
Integration protocols	ONVIF (Profile S, Profile G)
SD card slot	Built-in SD card slot (supports up to 128GB)
Alarm Inputs/Outputs	1 input - 1 output
Audio Inputs/Outputs	1CH audio input; 1CH audio output
IP rating	IP66
IK rating	IK10
Power supply	12 Vdc (-13W)
POE power supply	Standard IEEE802.3af
Operating temperature	-30°C ~ 60°C < 95% RH
Dimensions (mm)	109 x 109 x 360



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**IP PTZ**

01

**Anti-glare glass**

02

**Smart IR****EFFICIENT H265 COMPRESSION CODEC****PRECISE PAN/TILT MOTION CONTROL****QUICK ZOOM AND AUTOMATIC FOCUS****ULTRASTARLIGHT TECHNOLOGY FOR SUPERIOR IMAGE QUALITY**

5 Watt high-power heater, controlled in real time via CPU and temperature sensor.

At low temperatures, a stream of hot air is channelled directly to the glass on the front cover to remove frost.

In the event of very high environmental temperatures, the meticulous internal design of the camera allows air circulation for cooling.

High-efficiency turbofan with long lifespan (100,000 hours).

Meticulous SOC design and low absorption hardware means the camera can be powered with class 1 POE and is compatible with most NVRs.

PTZ motor control board with temperature sensor and real-time monitoring.





20x

**ULTRA STARLIGHT****IPPTZA02Z20A**

<b>Sensor</b>	1/2.8" CMOS
<b>Resolution</b>	1920 x 1080 (2MP)
<b>Lens</b>	5.5-110 mm, Motorised lens with autofocus (20X optical zoom)
<b>Min. Lighting</b>	Colour: 0.005 lux @F1.6, AGC ON 0 lux with IR
<b>Day/Night</b>	Auto(ICR)/Day/Night/Timed
<b>IR</b>	7 LED arrays / 150m (Smart IR)
<b>WDR</b>	WDR, 120dB
<b>Starlight</b>	Ultra starlight
<b>White balancing</b>	Auto/Manual/ATW (Auto-tracking WB)/Indoor/Outdoor/Fluorescent Lamp/Sodium Lamp
<b>BLC/DNR/HLC</b>	BLC/3D DNR/HLC
<b>Video Compression</b>	H.265 / H.264 / MJPEG
<b>Frame rate</b>	Main Stream: 50Hz: 25fps (1920 1080, 1280 720); 60Hz: 30fps (1920x1080, 1280x720) Sub Stream: 50Hz: 25fps (1280x720, D1, CIF); 60Hz: 30fps (1280x720, D1, CIF) Third Stream: 50Hz: 25fps (D1, 480x240, CIF); 60Hz: 30fps (D1, 480x240, CIF)
<b>Multi Streaming</b>	3 Streams
<b>Digital effects</b>	Defog, mirror mode (horizontal, vertical, 180° rotation)
<b>Video Analysis</b>	Line crossing, scene change, intrusion, target counting, motion detection, object abandoned/ removed, crowd density
<b>Privacy zones</b>	4
<b>Pan</b>	360° endless, Speed Configurable, from 0.5°/s to 80°/s; Preset speed: 80°/s
<b>Tilt</b>	From -5° to 90° (auto-flip), Speed Configurable, from 0.5°/s to 80°/s; Preset speed: 80°/s
<b>Preset/Cruise/Trace</b>	360 Preset/ 8 cruises, up to 16 presets for each cruise/ 4 tracks, record time over 3 minutes for each trace
<b>Schedule Task</b>	Preset/Cruise/Trace/Random Scan/Boundary Scanning/Dome Reboot
<b>Integration protocols</b>	ONVIF (Profile S, Profile G)
<b>SD card slot</b>	Built-in SD card slot (supports up to 128GB)
<b>Alarm Inputs/Outputs</b>	/
<b>Audio Inputs/Outputs</b>	/
<b>IP rating</b>	IP66
<b>IK rating</b>	IK10
<b>Power supply</b>	12 Vdc (<20W) (Power supply included)
<b>POE power supply</b>	Standard IEEE 802.3at (class 4)
<b>Operating temperature</b>	-30°C ~ 60°C < 95% RH
<b>Dimensions (mm)</b>	268 x 173 x 173



30x

**ULTRA STARLIGHT****IPPTZA04Z30A**

<b>Sensor</b>	1/2.5" CMOS
<b>Resolution</b>	2560 x 1440 (4MP)
<b>Lens</b>	4.7-141mm, Motorised lens with autofocus (30X optical zoom)
<b>Min. Lighting</b>	Colour: 0.01 lux @F1.6, AGC ON 0 lux with IR
<b>Day/Night</b>	Auto(ICR)/Day/Night/Timed
<b>IR</b>	8 LED arrays / 100m (Smart IR)
<b>WDR</b>	D-WDR, 100dB
<b>Starlight</b>	Ultra starlight
<b>White balancing</b>	Auto/Manual/Indoor/Outdoor
<b>BLC/DNR/HLC</b>	BLC/3D DNR/HLC
<b>Video Compression</b>	H.265 / H.264 / MJPEG
<b>Frame rate</b>	Main Stream: 50Hz: 25fps (2560x1440, 2304x1296, 1920x1080, 1280x720); 60Hz: 30fps (2560x1440, 2304x1296, 1920x1080, 1280x720) Sub Stream: 50Hz: 25fps (1280x720, D1, CIF); 60Hz: 30fps (1280x720, D1, CIF) Third Stream: 50Hz: 25fps (D1, 480x240, CIF); 60Hz: 30fps (D1, 480x240, CIF)
<b>Multi Streaming</b>	3 Streams
<b>Digital effects</b>	Defog, mirror mode (horizontal, vertical, 180° rotation)
<b>Video Analysis</b>	Motion Detection, fault indication (SD card error, IP conflict, no network), Autotracking available from fw 5.0.1
<b>Privacy zones</b>	/
<b>Pan</b>	360° endless, Speed Configurable, from 0.5°/s to 150°/s; Preset speed: 150°/s
<b>Tilt</b>	From -5° to 93° (auto-flip), Speed Configurable, from 0.5°/s to 70°/s; Preset speed: 120°/s
<b>Preset/Cruise/Trace</b>	360 Preset/ 8 cruises, up to 16 presets for each cruise/ 4 tracks, record time over 3 minutes for each trace
<b>Schedule Task</b>	Preset/Cruise/Trace/Random Scan/Boundary Scanning/Dome Reboot
<b>Integration protocols</b>	ONVIF (Profile S, Profile G)
<b>SD card slot</b>	Built-in SD card slot (supports up to 128GB)
<b>Alarm Inputs/Outputs</b>	1 input - 1 output
<b>Audio Inputs/Outputs</b>	1CH audio input; 1CH audio output
<b>IP rating</b>	IP66
<b>IK rating</b>	IK10
<b>Power supply</b>	24 Vdc (<30W) (Power supply included)
<b>POE power supply</b>	Standard IEEE 802.3at (class 4)
<b>Operating temperature</b>	-30°C ~ 60°C < 95% RH
<b>Dimensions (mm)</b>	328 x 208.4 x 208.4

## THERMAL DEVICES

01

**Take a quick and accurate measurement of body temperature**

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02

**Avoid long waiting queues and people gatherings**

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03

**Avoid unnecessary contact with staff**

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04

**Eliminate the need of support staff**

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**SOLUTIONS FOR MEASURING BODY TEMPERATURE, THE FIRST DEFENSE AGAINST THE SPREAD OF COVID-19.**

The verification of the body temperature is crucial to counteract the transmission of the COVID-19 virus. As stated by the experts, the main weapon we have available to combat the infection is the limitation of contact with infected people.

Radiometric technology is the only tool that allows us to effectively monitor visitors from a safe distance.

IP cameras | ADVANCE Series

**THERMAL LCD PANEL****IPTHPAN02FA**

<b>Sensor</b>	1/2.7" CMOS
<b>Resolution</b>	1920 x 1080 (Full-HD 1080p)
<b>Lens</b>	3.97 mm, binocular
<b>Lighting</b>	Soft white light / 3m
<b>WDR</b>	WDR (120dB)
<b>Video Analysis</b>	Face recognition with integrated database of up to 20,000 faces
<b>Temperature measuring</b>	From 32 to 43 °C ±0.3°C (Reading distance 5-10 cm)
<b>SD card slot</b>	Micro-SD (128GB max, card not included)
<b>Alarm Inputs/Outputs</b>	2 inputs - 2 outputs - 1 relay
<b>Audio Inputs/Outputs</b>	1 microphone - 1 speaker, bidirectional audio
<b>Wiegand Inputs/Outputs</b>	26-34 Bit
<b>IP rating</b>	IP63
<b>Power supply (Vdc)</b>	12 Vdc (max 1A, power supply not included)
<b>Operating temperature</b>	-20 °C ~ 60 °C < 95 % RH
<b>Dimensions (mm)</b>	170 x 270 x 34

**Tablet style Panel with face recognition, temperature measurement and mask worn detection.**

Tablet style panel with an 8-inch LCD touch screen equipped with high precision body temperature detector.

The temperature is measured on the wrist, with no physical contact, via an infrared sensor that ensures maximum precision and decreases the impact of external factors that can impair detection on the forehead. The panel features a front camera that detects the presence or absence of a mask and, through facial recognition, also allows access control management with a recognition percentage of 99.2% even with a mask worn. Allows the detection/ measurement of 30 people per minute.

High precision contactless body temperature measurement up to 30 people per minute.

Real-time alarms (Audio message/remote notifications) and integrated facial recognition.

**For more information, contact COMELIT directly.**

## BI-SPECTRUM THERMAL CAMERAS



### IPTHBCAMA05F01A

<b>Sensor</b>	Optical: 1/2.7" CMOS; Thermal: 17um vanadium oxide uncooled plane detector
<b>Thermal sensitivity of detector (NETD)</b>	<35mK@25°C
<b>Resolution</b>	Optical: 2592x1944 (5MP); Thermal: 384x288
<b>Lens</b>	Optical: 8mm; Thermal: 12.3mm
<b>Min. Lighting</b>	0.01 (colour), 0 (B/W, led IR ON)
<b>Day/Night</b>	Auto(ICR)/Day/Night/Timed
<b>IR</b>	3 led arrays / 30m (Smart IR)
<b>WDR</b>	WDR (120dB)
<b>Starlight</b>	/
<b>White balancing</b>	Auto/Manual/Indoor/Outdoor
<b>BLC/DNR/HLC</b>	BLC/2D DNR/3D DNR/HLC
<b>Video Compression</b>	Smart H.265 / H.265+ / H.265 / Smart H.264 / H.264+ / H.264 / MJPEG
<b>Frame rate</b>	30fps
<b>Multi Streaming</b>	3 Streams
<b>Digital effects</b>	Defog, ROI zones
<b>ROI</b>	8 areas
<b>Integration protocols</b>	DDNS, DHCP, FTP, HTTP, HTTPS, IPv4, IPv6, NTP, PPPoE, QoS, RTSP, SMTP, SNMP, UDP, UPnP, ONVIF, IEEE 802.1x
<b>SD card slot</b>	Micro-SD (128GB max) (card not included)
<b>Alarm Inputs/Outputs</b>	1 input - 1 output
<b>Audio Inputs/Outputs</b>	/
<b>IP rating</b>	IP67
<b>Power supply (Vdc-Watt)</b>	12, -9
<b>Power supply</b>	External power supply, PoE
<b>POE power supply</b>	Standard IEEE802.3af (class 0)
<b>Operating temperature</b>	-20 °C ~ 50 °C < 95 % RH
<b>Dimensions (mm)</b>	278,3 x 100,2 x 88,7



**Thermographic cameras for detecting the temperature of up to 600 people per minute. The cameras can read up to 30 faces simultaneously and record all the movement to know the exact number of people entering / leaving a certain area and thus avoid gatherings.**

High precision contactless body temperature measurement up to 600 people per minute .

5 MP resolution, 2592x1944 @ 30fps, 8mm lens (visible) and up to 384x288 resolution, 12.3mm lens (thermal) and a temperature detection accuracy of  $\pm 0.5^{\circ}\text{C}$  ( $\pm 0.3^{\circ}\text{C}$  with use of the Black Body).

Bi-directional audio with voice alarm when an abnormal body temperature is recorded.

Real-time alarms and Deep Video Analysis functions.

Equipped with a 120 dB True WDR sensor to better counteract the backlight effect.

Fully integrated into Comelit Advance NVR and Comelit Advance VMS software.

**Also available with 160x120 thermal resolution (art. IPTHACAMA05F02A). For more information, contact COMELIT directly.**

IP cameras | ADVANCE Series

## ACCESSORIES

### ACCESSORIES CAMERAS THERMAL BI-SPECTRUM

#### BBTHA

Adjustable temperature measurement range between 5 and 50°C, temperature resolution of 0.1°C, measurement accuracy  $\pm 0.1^\circ\text{C}@40^\circ\text{C}$ , measurement stability  $\pm (0.1-0.2)^\circ\text{C}/30$  minutes, effective Radiation Area 70x70 mm, effective emission  $0.97\pm 0.02$ .



#### THNVR008A08PA - THNVR008A08PASL

8-port POE NVR complete with "temperature screening management" functions. It also supports the acquisition, preview, search and reproduction of faces and temperature measurements, alarm management, reports and statistics. Maximum supported video input resolution 8MP @ 25FPS. Available in version with 1TB HDD (THNVR008A08PA) or without HDD (THNVR008A08PASL).



#### BRKTHCAMA

Floor-standing tripod, for use in conjunction with fixing plate art. BRKTHCAMA01, for thermal cameras art. IPHBCAMA05F01A and IPHBCAMA05F02A.



### LCD PANEL ACCESSORIES



#### BRKPAN-WM

**WALL BACKPLATE FOR IPTHPAN02FA**  
Wall mounting backplate for panel art. IPTHPAN02FA.



#### BRKPAN-SA

**DESK BACKPLATE FOR IPTHPAN02FA**  
Desk base for panel art. IPTHPAN02FA.



#### BRKPAN

**SWIVEL BACKPLATE FOR IPTHPAN02FA**  
Swivel backplate for panel art. IPTHPAN02FA.



#### BRKPAN-LA







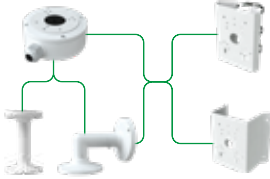







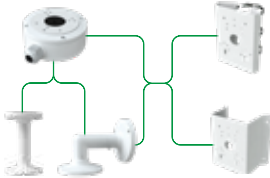







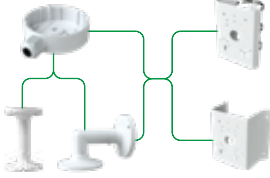

**FLOOR BACKPLATE FOR IPTHPAN02FA**  
Floor mounting backplate for panel art. IPTHPAN02FA.







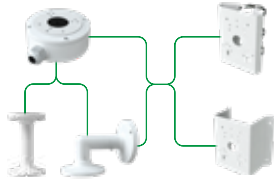






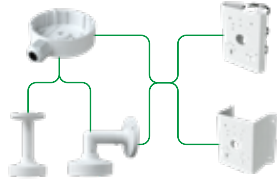




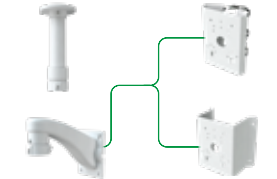


#### 43082TH 43082UK

**POWER SUPPLY FOR IPTHPAN02FA**  
Power supply for panel art. IPTHPAN02FA. (Art. 43082UK UK plug).

## ACCESSORIES

	JUNCTION BOX	CEILING-MOUNTED	WALL-MOUNTED	POLE-MOUNTED	CORNER-MOUNTED	CONFIGURATION
 <p>IPTCAMA02ZA IPTCAMA04ZA IPTCAMA08ZA</p>	 <p><b>JBA-TVA</b></p>	 <p><b>CMA-TVA</b></p>	 <p><b>WMA-TVA</b></p>	 <p><b>PMA-A</b></p>	 <p><b>AMA-A</b></p>	
 <p>IPTCAMA02FA IPTCAMA04FA IPTCAMA08FA</p>						
 <p>IPTCAMA05Z02A</p>	 <p><b>JBA-TBBA</b></p>	 <p><b>CMA-KTBBA</b></p>	 <p><b>WMA-KTBBA</b></p>	 <p><b>PMA-A</b></p>	 <p><b>AMA-A</b></p>	
 <p>IPBCAMA02Z01A IPBCAMA04Z01A IPBCAMA08Z01A IPBCAMA02Z03A IPLPRA02ZA IPTHBCAMA05F01A IPTHBCAMA05F02A</p>						
 <p>IPSCAMA08F04A</p>	 <p><b>JBA-KA</b></p>	 <p><b>CMA-KTBBA</b></p>	 <p><b>WMA-KTBBA</b></p>	 <p><b>PMA-A</b></p>	 <p><b>AMA-A</b></p>	
 <p>IPKCAMA02ZA IPKCAMA04ZA IPKCAMA08ZA</p>						

	JUNCTION BOX	CEILING-MOUNTED	WALL-MOUNTED	POLE-MOUNTED	CORNER-MOUNTED	CONFIGURATION
 <p>IPBCAMA02FA IPBCAMA02ZA IPBCAMA04FA IPBCAMA04ZA IPBCAMA08FA IPBCAMA08ZA IPBCAMA05Z02A</p>	 <p><b>JBA-BA</b></p>	 <p><b>CMA-BA</b></p>	 <p><b>WMA-BA</b></p>	 <p><b>PMA-A</b></p>	 <p><b>AMA-A</b></p>	
 <p>IPFCAMA06FA</p>	 <p><b>JBA-FA</b></p>	 <p><b>CMA-FA</b></p>	 <p><b>WMA-FA</b></p>	 <p><b>PMA-A</b></p>	 <p><b>AMA-A</b></p>	
 <p>IPPTZA02Z20A IPPTZA04Z30A</p>		 <p><b>CMA-PTZA</b></p>	<p>Included</p>	 <p><b>PMA-A</b></p>	 <p><b>AMA-A</b></p>	



# NVRs and XVRs

**ADVANCE** Series





## MAIN FUNCTIONS

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### 8MP

NVRs can record video in real time with a maximum resolution of up to 8MP.

### Dual LAN

The dual network card can be used to balance band saturation.

### Dual Video Output

NVRs support the HDMI and VGA dual video output. Some models also have an independent dual HDMI output (HDMI1@1080P e HDMI2@4K) as well as the VGA output.

### E-SATA

The E-Sata port can be used to connect, if necessary, additional storage devices.

### HDD

NVRs support up to 16 HDDs. The maximum capacity for each HDD is 8TB. The status of each HDD can be monitored using the S.M.A.R.T. function. RAID support (0-1-5-6-10).

### Hot Swap

For simple management and maintenance, HDDs can be replaced or added in 16 HDD models without requiring a system restart or power-down.

### DVA

The NVR supports all DVA functions.

### Storage Group

In XVR/NVR models with more than one HDD, the user can pair cameras/HDDs to achieve improved service continuity.

### Recording duration on a single channel

The recording duration before overwriting can be set on each camera connected to the NVR.

### 5 in 1

XVRs support various technologies: AHD, TVI, CVI, analogue and IP.

### From analogue to IP

The analogue channel can be flexibly switched to the IP channel.

### USB Alarm

XVRs/NVRs support the expansion module with 16 inputs and 6 alarm outputs.

### Smart search

Used to quickly search for events. DVA technology also makes it possible to perform specific searches, by filtering people and vehicles.

### PoE Long range

PoE NVRs, thanks to the LONG RANGE function, support PoE transmission up to 250 metres.

## POE NVRs



4 POE

### IPNVR004A08PA - IPNVR004A08PASL



8 POE

### IPNVR008A08PA - IPNVR008A08PASL



16 POE

### IPNVR016A08PA - IPNVR016A08PASL

<b>IP Cameras</b>	4ch	16ch	16ch
<b>Max. Recording resolution</b>	4CH @8MP/6MP/5MP/4MP/3MP /1080P/960P/720P/960H/D1/CIF	16CH @8MP/6MP/5MP/4MP/3MP /1080P/960P/720P/960H/D1/CIF	16CH @8MP/6MP/5MP/4MP/3MP /1080P/960P/720P/960H/D1/CIF
<b>POE ports</b>	4 x Ethernet (10/100/1000Mbps) PoE (IEEE802.3af), up to 250 m (Long Range ON)	8 x Ethernet (10/100/1000Mbps) PoE (IEEE802.3af), up to 250 m (Long Range ON)	16 x Ethernet (10/100/1000Mbps) PoE (IEEE802.3af), up to 250 m (Long Range ON)
<b>Video outputs</b>	1 (VGA) - 1920 x 1080; 1280 x 1024; 1024 x 768; 1 (HDMI) 4K (3840 x 2160); 1920 x 1080; 1280 x 1024; 1024 x 768	1 (VGA) - 1920 x 1080; 1280 x 1024; 1024 x 768; 1 (HDMI) 4K (3840 x 2160); 1920 x 1080; 1280 x 1024; 1024 x 768	1 (VGA) - 1920 x 1080; 1280 x 1024; 1024 x 768; 1 (HDMI) 4K (3840x2160); 1920 x 1080; 1280 x 1024; 1024 x 768
<b>Audio Inputs/Outputs</b>	1CH input; 1CH output, RCA	1CH input; 1CH output, RCA	1CH input; 1CH output, RCA
<b>Recording type</b>	Dual Streaming	Dual Streaming	Dual Streaming
<b>Video Compression</b>	H264-H265	H264-H265	H264-H265
<b>Audio Compression</b>	G.711 (U/A)	G.711 (U/A)	G.711 (U/A)
<b>Recording Rate</b>	Main stream: 8MP/6MP/5MP/4MP/3MP/1080P/960P/720P/960H/D1/CIF (1-25/30fps) Sub stream: 960H (1-25/30fps); D1/CIF/QCIF (1-25/30fps)	Main stream: 8MP/6MP/5MP/4MP/3MP/1080P/960P/720P/960H/D1/CIF (1-25/30fps) Sub stream: 960H (1-25/30fps); D1/CIF/QCIF (1-25/30fps)	Main stream: 8MP/6MP/5MP/4MP/3MP/1080P/960P/720P/960H/D1/CIF (1-25/30fps) Sub stream: 960H (1-25/30fps); D1/CIF/QCIF (1-25/30fps)
<b>Synchronised playback</b>	1CH@4K, 4CH@1080P	1CH@4K, 4CH@1080P, 9CH@D1, 16CH@D1	1CH@4K, 4CH@1080P, 9CH@720P, 16CH@720P
<b>Video Analysis</b>	Object abandoned/removed, scene change, line crossing, intrusion, target counting, crowd density, face detection	Object abandoned/removed, scene change, line crossing, intrusion, target counting, crowd density, face detection, face match, face check In, face attendance	Object abandoned/removed, scene change, line crossing, intrusion, target counting, crowd density, face detection, face match, face check In, face attendance
<b>HDD interface</b>	1 SATA, (Maximum Hard Disk capacity 8TB)	2 SATA, (Maximum Hard Disk capacity 8TB)	4 SATA, (Maximum Hard Disk capacity 8TB)
<b>HDD included</b>	IPNVR004A08PA: 1TB - IPNVR004A08PASL: No HDD	IPNVR008A08PA: 1TB - IPNVR008A08PASL: No HDD	IPNVR016A08PA: 2TB - IPNVR016A08PASL: No HDD
<b>eSATA</b>	/	/	/
<b>Bandwidth</b>	Incoming 40Mbps, outgoing 40Mbps	Incoming 160Mbps, outgoing 160Mbps	Incoming 160Mbps, outgoing 160Mbps
<b>Integration protocols</b>	ONVIF (Profile S, Profile G)	ONVIF (Profile S, Profile G)	ONVIF (Profile S, Profile G)
<b>Max simultaneous connections</b>	14	38	38
<b>Alarm Inputs/Outputs</b>	/	8/4	8/4
<b>Network interface</b>	RJ 45 x 1 (10/100/1000Mbps)	RJ 45 x 1 (10/100/1000Mbps)	RJ 45 x 1 (10/100/1000Mbps)
<b>Serial ports</b>	RS-485 / 2 x USB 2.0	RS-485 / 1x USB 2.0 / 1x USB 3.0	RS-485 / 1x USB 2.0 / 1x USB 3.0
<b>Power supply</b>	DC 48V/1.25A	DC48V/2.5A	100-240V, 50-60 Hz
<b>Operating temperature</b>	-10 °C ~ 50 °C < 90 % RH	-10 °C ~ 50 °C < 90 % RH	-10 °C ~ 50 °C < 90 % RH
<b>Dimensions (mm) HxWxD</b>	52 x 300 x 248	45 x 380 x 268	70 x 440 x 390

## NVRs



	IPNVR032A08NASL	IPNVR064A08NASL	IPNVR128A08NASL
<b>IP Cameras</b>	32ch	64ch	128ch
<b>Max. Recording resolution</b>	32Ch@8MP/6MP/5MP/4MP/3MP/1080P/960P/720P/960H/ D1/CIF	64Ch@8MP/6MP/5MP/4MP/3MP/1080P/960P/720P/960H/ D1/CIF	128Ch@8MP/6MP/5MP/4MP/3MP/1080P/960P/720P/960H/ D1/CIF
<b>POE ports</b>	/	/	/
<b>Video outputs</b>	HDMI1: 4K × 2K / 1920 × 1080 / 1280 × 1024 / 1024 × 768 HDMI2: 1920 × 1080 / 1280 × 1024 / 1024 × 768 VGA: 1920 × 1080 / 1280 × 1024 / 1024 × 768	HDMI1: 4K × 2K / 1920 × 1080 / 1280 × 1024 / 1024 × 768 HDMI2: 1920 × 1080 / 1280 × 1024 / 1024 × 768 VGA: 1920 × 1080 / 1280 × 1024 / 1024 × 768	HDMI1: 4K × 2K / 1920 × 1080 / 1280 × 1024 / 1024 × 768 HDMI2: 1920 × 1080 / 1280 × 1024 / 1024 × 768 VGA: 1920 × 1080 / 1280 × 1024 / 1024 × 768
<b>Audio Inputs/Outputs</b>	1CH input; 1CH output, RCA	1CH input; 1CH output, RCA	1CH input; 1CH output, RCA
<b>Recording type</b>	Dual Streaming	Dual Streaming	Dual Streaming
<b>Video Compression</b>	264-H265	264-H265	264-H265
<b>Audio Compression</b>	G.711 (U/A)	G.711 (U/A)	G.711 (U/A)
<b>Recording Rate</b>	Main stream: 8MP/6MP/5MP/4MP/3MP/1080P/960P/720P/960H/D1/CIF (1-25/30fps) Sub stream: 960H 1-25/30fps; D1/CIF/QCIF (1-25/30fps)	Main stream: 8MP/6MP/5MP/4MP/3MP/1080P/960P/720P/960H/D1/CIF (1-25/30fps) Sub stream: 960H 1-25/30fps; D1/CIF/QCIF (1-25/30fps)	Main stream: 8MP/6MP/5MP/4MP/3MP/1080P/960P/720P/960H/D1/CIF (1-25/30fps) Sub stream: 960H 1-25/30fps; D1/CIF/QCIF (1-25/30fps)
<b>Synchronised playback</b>	1CH@4K, 4CH@5MP, 9CH@720P, 16CH@D1	1CH@4K, 4CH@5MP, 9CH@720P, 16CH@D1	1CH@4K, 4CH@5MP, 9CH@720P, 16CH@D1
<b>Video Analysis</b>	Object abandoned/removed, scene change, line crossing, intrusion, target counting, crowd density, face detection, face match, face check In, face attendance	Object abandoned/removed, scene change, line crossing, intrusion, target counting, crowd density, face detection	Object abandoned/removed, scene change, line crossing, intrusion, target counting, crowd density, face detection
<b>HDD interface</b>	8 SATA, (Maximum Hard Disk capacity 8TB) Supports RAID function 1,5,6,10	16 SATA, (Maximum Hard Disk capacity 8TB) Supports RAID function 0,1,5,6,10	16 SATA, (Maximum Hard Disk capacity 8TB) Supports RAID function 0,1,5,6,10
<b>HDD included</b>	/	/	/
<b>eSATA</b>	E-SATA × 2	E-SATA × 1	E-SATA × 1
<b>Bandwidth</b>	Incoming 256Mbps, outgoing 256Mbps	Incoming 320Mbps, outgoing 320Mbps	Incoming 384Mbps, outgoing 384Mbps
<b>Integration protocols</b>	ONVIF (Profile S, Profile G)	ONVIF (Profile S, Profile G)	ONVIF (Profile S, Profile G)
<b>Max simultaneous connections</b>	70	102	166
<b>Alarm Inputs/Outputs</b>	8/4	8/4	8/4
<b>Network interface</b>	RJ45 × 2 (10 / 100 / 1000 Mbps)	RJ45 × 2 (10 / 100 / 1000 Mbps)	RJ45 × 2 (10 / 100 / 1000 Mbps)
<b>Serial ports</b>	RS-485 / 2 × USB2.0 / 1 × USB3.0	RS-485 / 2 × USB2.0 / 1 × USB3.0	RS-485 / 2 × USB2.0 / 1 × USB3.0
<b>Power supply</b>	100-240V, 50-60 Hz	100-240V, 50-60 Hz	100-240V, 50-60 Hz
<b>Operating temperature</b>	-10 °C ~ 50 °C < 90 % RH	-10 °C ~ 50 °C < 90 % RH	-10 °C ~ 50 °C < 90 % RH
<b>Dimensions (mm) HxWxD</b>	90 × 436 × 445	143 × 437 × 483	143 × 437 × 483

## XVRs 5 IN 1



	AHDVR004A08A - AHDVR004A08ASL	AHDVR008A08A - AHDVR008A08ASL	AHDVR016A08A - AHDVR016A08ASL
<b>Analogue inputs</b>	4 CH	8 CH	16 CH
<b>IP Cameras</b>	2CH; 8MP@25/30fps (up to 6CH)	8CH; 8MP@25/30fps (up to 16CH)	8CH; 8MP@25/30fps (up to 16CH)
<b>Recording resolution</b>	8MP/5MP/4MP/3MP/1080P/720P/WDI	8MP/5MP/4MP/3MP/1080P/720P/WDI	8MP/5MP/4MP/3MP/1080P/720P/WDI
<b>Analogue technologies supported</b>	AHD/TVI/CVI/CVBS	AHD/TVI/CVI/CVBS	AHD/TVI/CVI/CVBS
<b>Hybrid mode</b>	Analogue+Network: 4CH Analogue (MAX 8MP) +2 IPC (MAX 8MP)	Analogue+Network: 8CH Analogue (MAX 8MP) +8 IPC (MAX 8MP)	Analogue+Network: 16CH Analogue (MAX 8MP) +8 IPC (MAX 8MP)
<b>Video outputs</b>	HDMI x1: 3840 x 2160 / 1920 x 1080 / 1280 x 1024 / 1024 x 768 VGA x1: 1920 x 1080 / 1280 x 1024 / 1024 x 768 SPOT CVBS x1	HDMI x1: 3840 x 2160 / 1920 x 1080 / 1280 x 1024 / 1024 x 768 VGA x1: 1920 x 1080 / 1280 x 1024 / 1024 x 768 SPOT CVBS x1	HDMI x1: 3840 x 2160 / 1920 x 1080 / 1280 x 1024 / 1024 x 768 VGA x1: 1920 x 1080 / 1280 x 1024 / 1024 x 768 SPOT CVBS x1
<b>Audio Inputs/Outputs</b>	4CH input; 1CH output, RCA	8CH input; 1CH output, RCA	8CH input; 1CH output, RCA
<b>Recording type</b>	Dual Streaming	Dual Streaming	Dual Streaming
<b>Video Compression</b>	H.264/H.265	H.264/H.265	H.264/H.265
<b>Recording Rate</b>	Analogue CH: 4K@7fps (only available on CH1) 5MP/4MP/3MP@12fps 1080P/720P/WDI/D1@25fps IP cameras: 8MP/5MP/4MP/3MP/2MP@25fps	Analogue CH: 8MP@7fps 5MP/4MP/3MP@12fps 1080P/720P/ WDI/D1@25fps IP cameras: 8MP/5MP/4MP/3MP/2MP@25fps	Analogue CH: 8MP@7fps 5MP/4MP/3MP@12fps 1080P/720P/ WDI/D1@25fps IP cameras: 8MP/5MP/4MP/3MP/2MP@25fps
<b>Synchronised playback</b>	1@8MP/5MP/4MP/3MP/2MP, 4@sub stream	4@4K/5MP/4MP/3MP/2MP, 8@sub stream	4@4K/5MP/4MP/3MP/2MP, 8@sub stream
<b>Video Analysis</b>	Object abandoned/removed (only with IP cameras that support the function), scene change (only with IP cameras that support the function), line crossing, intrusion	Object abandoned/removed (only with IP cameras that support the function), scene change (only with IP cameras that support the function), line crossing, intrusion	Object abandoned/removed (only with IP cameras that support the function), scene change (only with IP cameras that support the function), line crossing, intrusion
<b>HDD interface</b>	1 SATA, (Maximum Hard Disk capacity 8TB)	2 SATA, (Maximum Hard Disk capacity 8TB)	2 SATA, (Maximum Hard Disk capacity 8TB)
<b>HDD included</b>	AHDVR004A08A: 1TB - AHDVR004A08ASL: No HDD	AHDVR008A08A: 1TB - AHDVR008A08ASL: No HDD	AHDVR016A08A: 1TB - AHDVR016A08ASL: No HDD
<b>eSATA</b>	E-SATA x1	E-SATA x1	E-SATA x1
<b>Bandwidth</b>	Incoming 40Mbps, outgoing 40Mbps	Incoming 64Mbps, outgoing 96Mbps	Incoming 64Mbps, outgoing 96Mbps
<b>Max simultaneous connections</b>	5	6	10
<b>Alarm Inputs/Outputs</b>	4/1	8/2	16/4
<b>Network interface</b>	RJ45 x1 (10 / 100 / 1000 Mbps)	RJ45 x1 (10 / 100 / 1000 Mbps)	RJ45 x1 (10 / 100 / 1000 Mbps)
<b>Serial interface</b>	RS-485 / 2x USB 2.0	RS-485 / 1x USB 2.0 / 1x USB 3.0	RS-485 / 1x USB 2.0 / 1x USB 3.0
<b>Power supply</b>	12VDC	100-240V, 50-60 Hz	100-240V, 50-60 Hz
<b>Operating temperature</b>	-10 °C ~ 50 °C < 90 % RH	-10 °C ~ 50 °C < 90 % RH	-10 °C ~ 50 °C < 90 % RH
<b>Dimensions (mm) HxWxD</b>	52 x 300 x 249	45 x 380 x 268	45 x 380 x 268

## ACCESSORIES

### USB ALARM BOX

#### USBOX01A

Compatible with all NVRs and XVRs, this can be used to expand alarm inputs and outputs (16 inputs and 6 outputs). The Plug & Play system is easy to install; when connected to the USB port with 5V power supply it is recognised immediately by the module.

- Alarm module with 16 inputs and 6 outputs
- Supports USB connection with 5V power supply
- Easy Plug & Play installation with XVR and NVR



### HARD DISKS



#### WDSK324A

HARD DISK WD PURPLE, CAPACITY 1TB FOR CCTV



#### WDSK325A

HARD DISK WD PURPLE, CAPACITY 2TB FOR CCTV

#### WDSK327A

HARD DISK WD PURPLE, CAPACITY 4TB FOR CCTV

#### WDSK328A

HARD DISK WD PURPLE, CAPACITY 6TB FOR CCTV

#### WDSK329A

HARD DISK WD PURPLE, CAPACITY 8TB FOR CCTV

# Advance VMS Software

## ADVANCE Series



## FEATURES

Advance VMS is the new integrated security management platform released by Comelit. The new platform combines interaction between devices capturing and managing videos (XVR, NVR, IP Cam), alarm devices, servers, IP-SAN, clients, monitors and TV WALLS. Suitable for all installations, it can connect different network devices and bring service to over 30,000 connected cameras. The software has: a powerful capacity for managing video surveillance, displaying cameras in real time, storing records, replaying recordings, downloading and backing up recordings, managing alarms, decoding on TV Walls, controlling the keypad, managing the entry and exit of vehicles and all Deep Video Analysis (DVA) functions.

Supported OS: Windows, Linux (\*1), MAC (\*2)  
 MySQL database  
 Client: web browser, IOS Android App  
 Supports Virtual machine  
 Supported protocols: ONVIF, RTSP  
 TV Wall management  
 Supports Deep Video Analysis  
 Parking management  
 Face Recognition  
 ANPR cameras  
 Online graphic maps (Google Maps)  
 Live streaming, playback, backup  
 Up to 30000 cameras  
 Unlimited clients

<b>Max. number of channel accesses</b>	30000 CH
<b>Max. number of NVR accesses</b>	1024 NVRs
<b>Max. decoding capability</b>	256 CH
<b>Max. number of transfer server accesses</b>	128 servers
<b>Max. number of storage screen displays</b>	128 servers (storage servers with transfer function)
<b>Max. number of screen displays</b>	100 CH, auto-switch supported
<b>Max. number of plan views</b>	20
<b>Max. number of users</b>	256 users

Network Storage  
Server  
Decoding Matrix TV Wall



IPC/XVR/NVR



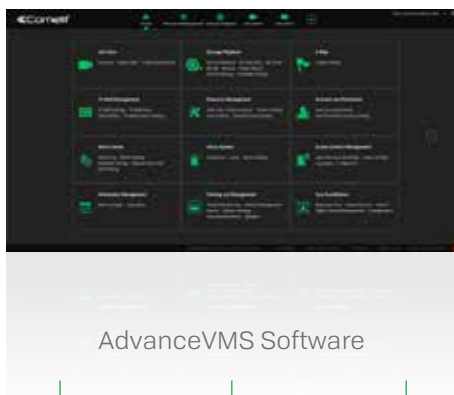
PC Client  
Web Browser  
Mobile



Face Surveillance  
Face Tracking



Behaviour  
Deep Video Analysis



AdvanceVMS Software



People Counting



Parking Management



Thermal Solutions



# Platform Product

**ADVANCE** Series





## FEATURES

### Server

- Authentication Server
- All-in-one Management Server
- Transfer Server

### Network Storage up to 64 HDD

Devices with X86 architecture, these are capable of easily managing large volumes of recordings. High performance, high reliability, redundant power supply and RAID Hardware are just a few of the main features of this equipment. The servers are Dual Giga Ethernet: the two LAN ports can work separately or together, supporting live streaming, so as to avoid the use of specific additional hardware. They also support RAID 0, 1, 5, 6 redundancy.

### High Definition Decoding Matrix

Supports an unlimited number of display layouts with 24 monitors at once. The matrices can be configured in master / slave mode: the design is engineered to make operation, expansion and maintenance as easy as possible.

**For more information,  
contact COMELIT directly.**



# Comelit Advance APP

## ADVANCE Series



Comelit Advance



**Comelit Advance is a free application for iOS and Android devices. It is compatible with all NVRs, XVRs and IP cameras in the Advance series. It offers users full control of the devices, allowing access to live view, playback and settings.**

### Ultimate customisation

Comelit Advance allows you to choose:

- the view you get on opening the APP (one specific device only, a favourite group of channels, the last layout shown)
- what happens when you open a push notification (live view of the channel, point of event playback, etc.)
- what type of playback events will be shown (all, motion, sensors, analysis)
- the desired viewing layout (choose between 8 different viewing modes)
- the video stream based on the network speed.



## Optimum control

Devices can be set directly via the app with full configuration functions, as if you were actually at the installation site:

- adding faces to the face database
- backing up the recorded files
- speaking and listening via the supported devices
- activating alarms
- performing P2P connection

Plus:

- password gesture login
- playback bar with different colours according to the 'event'
- PTZ and motorised lens control
- fisheye view

## Content for sharing

Comelit Advance can be used to share snapshots or video clips, either live or in playback mode, via:

- applications installed on the smartphone such as WhatsApp, Facebook, WeChat, LinkedIn, Dropbox
- email
- QR code

## Fisheye camera control

- Virtual PTZ: zoom forwards/backwards and move within the image for a 360° view
- Cylinder mode: 3D image that can be rotated and enlarged with a finger.



## Add faces

The Smartphone camera can be used to take a photo and save the face in the NVR database.

## Search by name

Faces can be searched by name. After entering a name, the corresponding face is selected and the terms for searching images and videos are set.

## Search by image

You can take a photo and set the similarity and end/start time to search for a face and the corresponding videos.

## MONITORS



	<b>SMON185B</b>	<b>MMON185A</b>	<b>MMON024A</b>
Type of display	18.5" LED	18.5" LED	23.8" LCD
Video inputs	1 DVI (with DVI to VGA adapter cable included)	1 VGA, 1 BNC, 1 HDMI	1 VGA, 1 HDMI
Resolution	HD	HD	FullHD
Framing ratio	16:9	16:9	16:9
Displayable colours (million)	16.7 (24 Bit)	16.7 (24 Bit)	16.7 (24 Bit)
Display brightness (cd/(m2))	250	250	250
Response time Tr/Td (ms) (msec)	3	3	8
Audio inputs/outputs	1/2 (Speakers, 2W)	1/2 (Speakers, 2W)	1/2 (Speakers, 2W)
Power supply	100-240V, 50-60 Hz, <20W	100-240V, 50-60 Hz, <30W	100-240V, 50-60 Hz, <30W
Operating temperature	0 °C ~ 40 °C < 85 % RH	0 °C ~ 40 °C < 85 % RH	0 °C ~ 40 °C < 85 % RH
Fixing type	VESA standard 100/100	VESA standard 100/100	VESA standard 75/75
Dimensions (mm) HxWxD	334 x 445 x 60	341 x 452 x 60	396 x 553 x 161



	<b>HMON032B</b>	<b>HMON043B</b>	<b>HMON055B</b>
Type of display	32" LCD	43" LED	55" LED
Video inputs	1 VGA, 1 HDMI	2 HDMI, 1 VGA, 1 BNC	1 VGA, 1 HDMI
Resolution	Full HD	Full HD	Full HD
Framing ratio	16:9	16:9	16:9
Displayable colours (million)	16.7 (24 Bit)	16.7 (24 Bit)	16.7 (24 Bit)
Display brightness (cd/(m2))	250	300	300
Response time Tr/Td (ms) (msec)	8	8	8
Audio inputs/outputs	1/1 (Speakers, 6W)	1/0 (Speakers, 5W)	1/1 (Speakers, 6W)
Power supply	100-240V, 50-60 Hz	100-240V, 50-60 Hz	100-240V, 50-60 Hz
Operating temperature	0 °C ~ 40 °C < 90 % RH	0 °C ~ 40 °C < 90 % RH	0 °C ~ 40 °C < 90 % RH
Fixing type	VESA standard 200/200	VESA standard 400/200	VESA standard
Dimensions (mm) HxWxD	737 x 446 x 55	979 x 581 x 63	1249 x 735 x 60

## POE SWITCHES



	IPSWP06N01A	IPSWP10N01A	IPSWP22N01A
Web Managed	-	-	-
LAN ports	6x10/100/1000Mbps RJ45 port	10x10/100/1000Mbps RJ45 port	16x10/100/1000Mbps RJ45 Port 2x10/100/1000Mbps Combo port 2x 10/100/1000Mbps RJ45 Port
Supported standards/protocols	IEEE802.3u/ab/az, IEEE802.3x (full-duplex)/back pressure (half-duplex)	IEEE802.3u/ab/az, IEEE802.3x (full-duplex)/back pressure (half-duplex)	IEEE802.3u/ab/az, IEEE802.3x (full-duplex)/back pressure (half-duplex)
PoE LAN ports	1- 4	1- 8	1- 16
Standard PoE	IEEE802.3af/at	IEEE802.3af/at	IEEE802.3af/at
Budget PoE	Total 65W, Max 32W for PoE port	Total 120W, Max 32W for PoE port	Total 250W, Max 32W for PoE port
SFP Slots	-	-	2x 1000Mbps SFP module
Switching capacity	12Gbps	20Gbps	40Gbps
Packet buffers	1.5 M bit	2M bit	4.1M bit
Forwarding Rate	8.9Mpps	13.4Mpps	29.8Mpps
MAC address table	4K, Automatic study, automatic updates	8K, Automatic study, automatic updates	8K, Automatic study, automatic updates
Maximum PoE transmission distance	Up to 250 m	Up to 250 m	Up to 250 m
Main functions	VLAN and CCTV Mode	VLAN and CCTV Mode	VLAN and CCTV Mode
Jumbo management	9216 Byte	9216 Byte	9216 Byte
Fan	FANLESS	1 FANS	2 FANS
LED indicators	PWR (Green), LNK/ACT (Green) PoE (Orange)	PWR (Green), LNK/ACT (Green) PoE (Orange)	PWR (Green), LNK/ACT (Green) PoE (Orange)
Power supply	DC 54.5V/1.32A	100-240V AC, 50/60Hz	100-240V AC, 50/60Hz
Operating temperature	0°C ~ +40°C	0°C ~ +40°C	0°C ~ +40°C
Storage temperature	-40°C ~ +70°C	-40°C ~ +70°C	-40°C ~ +70°C
Operating humidity	10%~90% RH without condensation	10%~90% RH without condensation	10%~90% RH without condensation
Storage humidity	5%~90% RH without condensation	5%~90% RH without condensation	5%~90% RH without condensation
Dimensions (mm) HxWxD	168 x 93 x 32	220 x 150 x 44	440 x 207 x 44
Weight	<1 kg	>1 kg	<5 kg
Type of finish	Metal	Metal	Metal
Colour	Black	Black	Black
Surge protection	Differential mode ±4KV, Common mode ±6KV	Differential mode ±4KV, Common mode ±6KV	Differential mode ±4KV, Common mode ±6KV
MTBF	>50000 hours	>50000 hours	>50000 hours
Electrostatic standard	Contact 4KV, air 6KV	Contact 4KV, air 6KV	Contact 6KV, air 8KV
Accessories	Power supply unit included	-	Rack fixing brackets



	<b>IPSWP06N02A</b>	<b>IPSWR030A</b>
<b>Web Managed</b>	-	-
<b>LAN ports</b>	4x10/100/1000Mbps RJ45 port	3x10/100/1000Mbps RJ45 Port
<b>Supported standards/protocols</b>	IEEE802.3u/ab/az, IEEE802.3x (full-duplex)/back pressure (half-duplex)	IEEE802.3af/at/ab/az, IEEE802.3x (full-duplex)/back pressure (half-duplex)
<b>PoE LAN ports</b>	1- 4	1- 2
<b>Standard PoE</b>	IEEE802.3af/at	IEEE802.3af/at
<b>Budget PoE</b>	Total 65W, Max 32W for PoE port	Power supply for 2 PoE devices (2 PSE ports - 30W max)
<b>SFP Slots</b>	2x 1000Mbps SFP module	-
<b>Switching capacity</b>	12Gbps	6Gbps
<b>Packet buffers</b>	1.5 M bit	-
<b>Forwarding Rate</b>	8.9Mpps	-
<b>MAC address table</b>	4K, Automatic study, automatic updates	Automatic learning, automatic update
<b>Maximum PoE transmission distance</b>	-	-
<b>Main functions</b>	-	-
<b>Jumbo management</b>	9216 Byte	-
<b>Fan</b>	FANLESS	FANLESS
<b>LED indicators</b>	PWR (Green), LNK/ACT (Green) PoE (Orange)	PWR, LNK/ACT
<b>Power supply</b>	DC: 48-57V	PoE
<b>Operating temperature</b>	-40°C ~ +75°C	-10°C ~ +40°C
<b>Storage temperature</b>	-40°C ~ +80°C	-
<b>Operating humidity</b>	10%-90% RH without condensation	<90%
<b>Storage humidity</b>	5%-90% RH without condensation	-
<b>Dimensions (mm) HxWxD</b>	165 x 147 x 54	134 x 77 x 27
<b>Weight</b>	<2 kg	<1 kg
<b>Type of finish</b>	Metal	-
<b>Colour</b>	Black	White
<b>Surge protection</b>	Differential mode ±4KV, Common mode ±6KV	-
<b>MTBF</b>	>100000 hours	-
<b>Electrostatic standard</b>	Contact 8KV, air 10KV	-
<b>Accessories</b>	-	-

## SWITCHES



	IPSWN08N01A	IPSWC160A	IPSWC242A
Web Managed	-	-	Yes
LAN ports	8 x10/100/1000Mbps RJ45 Port	16x10/100/1000Mbps RJ45 Port	24x10/100/1000Mbps RJ45 2SFP ports
Supported standards/protocols	IEEE802.3u/ab/az, IEEE802.3x (full-duplex)/back pressure (half-duplex)	IEEE802.3ab, IEEE802.3x (full-duplex)/back pressure (half-duplex), IEEE802.3az	IEEE802.3u/ab/az, IEEE802.3x (full-duplex)/back pressure (half-duplex)
PoE LAN ports	-	-	-
Standard PoE	-	-	-
Budget PoE	-	-	-
SFP Slots	-	-	2x 1000Mbps SFP module
Switching capacity	16Gbps	32Gbps	52Gbps
Packet buffers	1.5 M bit	-	-
Forwarding Rate	11.9Mpps	1.4Mpps	1.4Mpps
MAC address table	4K	8K, Automatic study, automatic updates	Automatic learning, automatic update
Maximum PoE transmission distance	-	-	-
Main functions	VLAN	-	-
Jumbo management	9216 Byte	9216 Byte	9216 Byte
Fan	FANLESS	1 FANS	2 FANS
LED indicators	PWR, LNK/ACT	PWR, LNK/ACT	PWR, LNK/ACT
Power supply	DC: 12V/0.5A	100 - 240 V / 50-60 Hz	100 - 240 V / 50-60 Hz
Operating temperature	0°C ~ +40°C	0°C ~ +40°C	0°C ~ +40°C
Storage temperature	-40°C ~ +70°C	-40°C ~ +70°C	-40°C ~ +70°C
Operating humidity	10%~90% RH without condensation	10%~90% RH without condensation	10%~90% RH without condensation
Storage humidity	5%~90% RH without condensation	5%~90% RH without condensation	5%~90% RH without condensation
Dimensions (mm) HxWxD	140 x 76.7 x 28	280 x 180 x 44	280 x 180 x 44
Weight	<1 kg	<2 kg	<2 kg
Type of finish	Metal	Metal	Metal
Colour	Black	Black	Black
Surge protection	Difference module ±1KV, Common mode ±2KV	-	-
MTBF	>50000 hours	-	-
Electrostatic standard	Contact 6KV, air 8KV	-	-
Accessories	Power supply unit included	-	Rack fixing brackets



## BUILT-IN ANTENNAS



	CPE115A	CPE135A	CPE155A
<b>Type</b>	CPE 5 GHz Hyperlan, standard IEEE802.11a/n SISO - TDMA	CPE 5 GHz Hyperlan, standard IEEE802.11a/n MIMO - TDMA	CPE 5 GHz Hyperlan, standard IEEE802.11a/n/ac MIMO - TDMA
<b>Transmission distance</b>	Up to 3 km	Up to 3 km	Up to 3 km
<b>Network interface</b>	Gigabit LAN	Gigabit LAN	10/100 Mb/s LAN
<b>Antenna</b>	OFDM or DSSS with NLOS capacity	OFDM or DSSS with NLOS capacity	OFDM or DSSS with NLOS capacity
<b>Operating modes</b>	Bridging/routing, firewall, QoS	Bridging/routing, firewall, QoS	Bridging/routing, firewall, QoS
<b>IP rating</b>	IP68	IP69	IP68
<b>Absorption</b>	4.5W	4.5W	4.5W
<b>Type of power supply</b>	poE 12-24vdc (External power supply 110/230Vac)	poE 12-24vdc (External power supply 110/230Vac)	poE 12-24vdc (External power supply 110/230Vac)
<b>Wireless security</b>	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP
<b>Operating frequency (GHz)</b>	4.9 - 5.85	4.9 - 5.85	4.9 - 5.85
<b>Available band (Mbit/s)</b>	15	40	50
<b>DSSS modulation</b>	DBPSK, DQPSK, CCK TDMA	DBPSK, DQPSK, CCK TDMA	DBPSK, DQPSK, CCK TDMA
<b>OFDM modulation</b>	BPSK, QPSK, 16 QAM, 64 QAM, TDMA	BPSK, QPSK, 16 QAM, 64 QAM, TDMA	BPSK, QPSK, 16 QAM, 64 QAM, TDMA
<b>Maximum transmission power (dBm)</b>	23	30	30
<b>Sensitivity@data rate</b>	-93dBm @ 20MHz-MCS0, -68dBm @ 20MHz-MCS7	-96dBm@20MHz-MCS0, -78dBm@20MHz-MCS7	-96dBm@20MHz-MCS0, -72dBm@20MHz-MCS7
<b>Coverage angle</b>	11°	11°	11°
<b>Transmission power management</b>	TPC ERC/DEC(99)23 function	TPC ERC/DEC(99)23 function	TPC ERC/DEC(99)23 function
<b>Channel management</b>	DFS (Dynamic Frequency Selection), auto channel, selection, radar free, CEPT ERC 70-03	DFS, Auto, Selection, Radar free, CEPT ERC 70-03	DFS, Auto, Selection, Radar free, CEPT ERC 70-03
<b>Management mode</b>	Telnet client, SSH, Telnet server	Telnet client, SSH, Telnet server	Telnet client, SSH, Telnet server
<b>Bridge</b>	Multiple bridge, RSTP/STP, Bridge firewall	Multiple bridge, RSTP/STP, Bridge firewall	Multiple bridge, RSTP/STP, Bridge firewall
<b>Routing</b>	RIP, OSPF, BGP, MPLS, mmE, HWMP+	RIP, OSPF, BGP, MPLS, mmE, HWMP+	RIP, OSPF, BGP, MPLS, mmE, HWMP+
<b>VLAN</b>	802.1q, multiple VLAN interface, inter VLAN routing, QinQ, VLAN	802.1q, multiple VLAN interface, inter VLAN routing, QinQ, VLAN	802.1q, multiple VLAN interface, inter VLAN routing, QinQ, VLAN
<b>VPN</b>	IPSEC, EoIP, PPTp, VLAN, L2TP, PPPoE, IPIP, oVPN, SSTP	IPSEC, EoIP, PPTp, VLAN, L2TP, PPPoE, IPIP, oVPN, SSTP	IPSEC, EoIP, PPTp, VLAN, L2TP, PPPoE, IPIP, oVPN, SSTP
<b>SNMP</b>	SNMP V1 client, MIB II, Bridge MIB	SNMP V1 client, MIB II, Bridge MIB	SNMP V1 client, MIB II, Bridge MIB
<b>QoS (p.1)</b>	WMM, 802.1p, IP ToS RFC791, CBQ; L7; HTB; PCQ, RED, SFQ, FIFO	WMM, 802.1p, IP ToS RFC791, CBQ; L7; HTB; PCQ, RED, SFQ, FIFO	WMM, 802.1p, IP ToS RFC791, CBQ; L7; HTB; PCQ, RED, SFQ, FIFO
<b>Safety</b>	Firewall limiting P2P, L7 mac-address filter, radius server	Firewall limiting P2P, L7 mac-address filter, radius server	Firewall limiting P2P, L7 mac-address filter, radius server

## BUILT-IN ANTENNAS



	PTP125A	PTP135A	PTP155A
<b>Wi-Fi type</b>	5 GHz Hyperlan point-to-point system, standard IEEE802.11a/n SISO -TDMA	5 GHz Hyperlan point-to-point system, standard IEEE802.11a/n MIMO -TDMA	5 GHz Hyperlan point-to-point system, standard IEEE802.11a/n/ac MIMO -TDMA
<b>Transmission distance</b>	Up to 8 km	Up to 8 km	Up to 8 km
<b>Network interface</b>	10/100 Mb/s LAN	Gigabit LAN	/
<b>Antenna</b>	OFDM or DSSS with NLOS capacity	OFDM or DSSS with NLOS capacity	OFDM or DSSS with NLOS capacity
<b>Operating modes</b>	Dynamic Mesh, static WDS Mesh, bridging, routing, firewall, QoS	Dynamic Mesh, static WDS Mesh, bridging, routing, firewall, QoS	Dynamic Mesh, static WDS Mesh, bridging, routing, firewall, QoS
<b>IP rating</b>	IP68	IP68	IP68
<b>Absorption</b>	11W	11W	11W
<b>Type of power supply</b>	POE802.3 af/at 48Vdc (External power supply 110/230Vac)	POE802.3 af/at 48Vdc (External power supply 110/230Vac)	POE802.3 af/at 48Vdc (External power supply 110/230Vac)
<b>Wireless security</b>	Mac filtering, WPA2 (EAP, AES, TKIP), DFS, TPC	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP
<b>Operating frequency (GHz)</b>	4.90-5.85 GHz	4.9 - 5.85	4.9 - 5.85
<b>Available band (Mbit/s)</b>	70	190	500
<b>DSSS modulation</b>	DBPSK, DQPSK, CCK TDMA	DBPSK, DQPSK, CCK TDMA	DBPSK, DQPSK, CCK TDMA
<b>OFDM modulation</b>	BPSK, QPSK, 16 QAM, 64 QAM, TDMA	BPSK, QPSK, 16 QAM, 64 QA, TDMA	BPSK, QPSK, 16 QAM, 64 QA, TDMA
<b>Maximum transmission power (dBm)</b>	25	25	30
<b>Sensitivity@data rate</b>	-97dBm@20MHz-MCS0, -77dBm@20MHz MCS7	-97dBm@20MHz-MCS0, -77dBm@20MHz MCS7	-96dBm@20MHz-MCS0, -72dBm@20MHz-MCS7
<b>Coverage angle</b>	11°	11°	11°
<b>Transmission power management</b>	TPC function	TPC function	TPC function
<b>Channel management</b>	DFS, Auto, Selection, Radar free	DFS, Auto, Selection, Radar free	DFS, Auto, Selection, Radar free
<b>Management mode</b>	Telnet client, SSH, Telnet server	Telnet client, SSH, Telnet server	Telnet client, SSH, Telnet server
<b>Bridge</b>	Multiple bridge interfaces, MAC monitored in real time; RSTP	Multiple bridge interfaces, MAC monitored in real time; RSTP	Multiple bridge interfaces, MAC monitored in real time; RSTP
<b>Routing</b>	/	/	/
<b>VLAN</b>	802.1q, multiple VLAN interface, inter VLAN routing	802.1q, multiple VLAN interface, inter VLAN routing	802.1q, multiple VLAN interface, inter VLAN routing
<b>VPN</b>	IPSEC, EoIP, PPTP, VLAN, L2TP, PPPoE, IPIP	IPSEC, EoIP, PPTP, VLAN, L2TP, PPPoE, IPIP	IPSEC, EoIP, PPTP, VLAN, L2TP, PPPoE, IPIP
<b>SNMP</b>	SNMP V1 client, MIB II, Bridge MIB	SNMP V1 client, MIB II, Bridge MIB	SNMP V1 client, MIB II, Bridge MIB
<b>QoS (p.1)</b>	802.1p, IPToS, CBQ, layer 4-7 traffic shaping, HTB QoS system	802.1p, IPToS, CBQ, layer 4-7 traffic shaping, HTB QoS system	802.1p, IPToS, CBQ, layer 4-7 traffic shaping, HTB QoS system
<b>Safety</b>	Firewall limit, P2P, IP mac-address, protocol, radius server	Firewall limiting P2P, L7 mac-address filter, radius server	Firewall limiting P2P, L7 mac-address filter, radius server

## 2 RADIO REPEATER



### RPT125A

Wi-Fi type	5 GHz Hyperlan Bridge Repeater, standard IEEE802.11a/n SISO -TDMA
Transmission distance	Up to 8 km
Network interface	Gigabit LAN
Antenna	OFDM or DSSS with NLOS capacity
Operating modes	Pure bridge, Mesh (static or dynamic), routing, firewall, QoS
IP rating	anti-vandal IP68
Absorption	11W
Type of power supply	
Wireless security	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP
Operating frequency (GHz)	4.9 - 5.85
Available band (Mbit/s)	/
DSSS modulation	DBPSK, DQPSK, CCK TDMA
OFDM modulation	BPSK, QPSK, 16 QAM, 64 QAM, TDMA
Maximum transmission power (dBm)	25
Sensitivity@data rate	-97dBm@20MHz-MCS0, -77dBm@20MHz MCS7
Coverage angle	9°
Transmission power management	TPC function
Channel management	DFS, Auto, Selection, Radar free
Management mode	Telnet client, SSH, Telnet server
Bridge	Multiple bridge interfaces, Layer 2 Filtering and QoS, RSTP/STP
Routing	/
VLAN	802.1q, multiple VLAN interface, inter VLAN routing
VPN	IPSEC, EoIP, PPTP, VLAN, L2TP, PPPoE, IPIP
SNMP	SNMP V1 client, MIB II, Bridge MIB
QoS (p.1)	802.1p, IPToS, CBQ queuing, layer 4-7 traffic shaping, HTB
Safety	Firewall limiting P2P, L7 mac-address filter, radius server
Accessories	<b>SETM090A - SETM120A - CAN001A - CAN002A - CAN003A - SAN001A</b>

# 1 RADIO



	<b>BASE105A</b>	<b>BASE105EA</b>	<b>BASE135A</b>
<b>Wi-Fi type</b>	5 GHz Hyperlan point-to-point/point-to-multipoint base station, standard IEEE802.11a/n SISO - TDMA	5 GHz Hyperlan point-to-point/point-to-multipoint base station, standard IEEE802.11a/n SISO - TDMA	5 GHz Hyperlan point-to-point/point-to-multipoint base station, standard IEEE802.11a/n MIMO - TDMA
<b>Transmission distance</b>	Up to 25 km	Up to 25 km	Up to 25 km
<b>Network interface</b>	10/100 Mb/s LAN	10/100 Mb/s LAN	Gigabit LAN
<b>Antenna</b>	OFDM or DSSS with NLOS capacity	OFDM or DSSS with NLOS capacity	OFDM or DSSS with NLOS capacity
<b>Operating modes</b>	Dynamic Mesh, Static WDS Mesh, Bridging, Routing, firewall, QoS	Dynamic Mesh, Static WDS Mesh, Bridging, Routing, firewall, QoS	Dynamic Mesh, Static WDS Mesh, Bridging, Routing, firewall, QoS
<b>IP rating</b>	anti-vandal IP68	IP67	anti-vandal IP68
<b>Absorption</b>	11W	11W	11W
<b>Type of power supply</b>	POE802.3af/at 48Vdc (External power supply 110/230Vac)	POE 12-24Vdc (External power supply 110/230Vac)	POE802.3af/at 48Vdc (External power supply 110/230Vac)
<b>Wireless security</b>	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP
<b>Operating frequency (GHz)</b>	4.9 - 5.85	4.9 - 5.85	4.9 - 5.85
<b>Available band (Mbit/s)</b>	70	70	190
<b>DSSS modulation</b>	DBPSK, DQPSK, CCK TDMA	DBPSK, DQPSK, CCK TDMA	DBPSK, DQPSK, CCK - TDMA
<b>OFDM modulation</b>	BPSK, QPSK,16 QAM, 64 QA, TDMA	BPSK, QPSK,16 QAM, 64 QA, TDMA	BPSK, QPSK,16 QAM, 64 QA, TDMA
<b>Maximum transmission power (dBm)</b>	25	21	25
<b>Sensitivity@data rate</b>	-97dBm@20MHz-MCS0, -77dBm@20MHz MCS7	-95dBm @ 20MHz-MCS0, -77dBm @ 20MHz-	-97dBm@20MHz-MCS0, -77dBm@20MHz MCS7
<b>Coverage angle</b>	/	/	/
<b>Transmission power management</b>	TPC function	TPC function	TPC function
<b>Channel management</b>	DFS, Auto, Selection, Radar free	DFS, Auto, Selection, Radar free	DFS, Auto, Selection, Radar free
<b>Management mode</b>	Telnet client, SSH, Telnet server	Telnet client, SSH, Telnet server	Telnet client, SSH, Telnet server
<b>Bridge</b>	Multiple bridge interfaces, MAC monitored in real time; RSTP	Multiple bridge interfaces, MAC monitored in real time; RSTP	Multiple bridge interfaces, MAC monitored in real time; RSTP
<b>Routing</b>	/	/	/
<b>VLAN</b>	802.1q, multiple VLAN interface, inter VLAN routing	802.1q, multiple VLAN interface, inter VLAN routing	802.1q, multiple VLAN interface, inter VLAN routing
<b>VPN</b>	IPSEC, EoIP, PPTp, VLAN, L2TP, PPPoE, IPIP	IPSEC, EoIP, PPTp, VLAN, L2TP, PPPoE, IPIP	IPSEC, EoIP, PPTp, VLAN, L2TP, PPPoE, IPIP
<b>SNMP</b>	SNMP V1 client, MIB II, Bridge MIB	SNMP V1 client, MIB II, Bridge MIB	SNMP V1 client, MIB II, Bridge MIB
<b>QoS (p.1)</b>	802.1p, IPToS RFC791, CBQ queuing Layer 4-7 traffic shaping, HTB	802.1p, IPToS RFC791, CBQ queuing Layer 4-7 traffic shaping, HTB	802.1p, IPToS RFC791, CBQ queuing Layer 4-7 traffic shaping, HTB
<b>Safety</b>	Firewall limiting P2P, L7 mac-address filter, radius server	Firewall limiting P2P, L7 mac-address filter, radius server	Firewall limiting P2P, L7 mac-address filter, radius server
<b>Accessories</b>	<b>SET090A - SET120A - OMNI360A - CAN001A - CAN002A - CAN003A - SAN001A</b>	<b>SET090A - SET120A - OMNI360A - CAN001A - CAN002A - CAN003A - SAN001A</b>	<b>SETM090A - SETM120A - CAN001A - CAN002A - CAN003A - SAN001A</b>



	<b>BASE135EA</b>	<b>BASE155A</b>	<b>BASE155EA</b>
<b>Wi-Fi type</b>	5 GHz Hyperlan point-to-point/point-to-multipoint base station, standard IEEE802.11a/n MIMO - TDMA	5 GHz Hyperlan point-to-point/point-to-multipoint base station, standard IEEE802.11a/n/ac MIMO - TDMA	5 GHz Hyperlan point-to-point/point-to-multipoint base station, standard IEEE802.11a/n/ac MIMO - TDMA
<b>Transmission distance</b>	Up to 25 km	Up to 25 km	Up to 25 km
<b>Network interface</b>	10/100 Mb/s LAN	Gigabit LAN	10/100 Mb/s LAN
<b>Antenna</b>	OFDM or DSSS with NLOS capacity	OFDM or DSSS with NLOS capacity	OFDM or DSSS with NLOS capacity
<b>Operating modes</b>	Dynamic Mesh, Static WDS Mesh, Bridging, Routing, firewall, QoS	Dynamic Mesh, Static WDS Mesh, Bridging, Routing, firewall, QoS	Dynamic Mesh, Static WDS Mesh, Bridging, Routing, firewall, QoS
<b>IP rating</b>	IP67	anti-vandal IP68	IP67
<b>Absorption</b>	11W	11W	11W
<b>Type of power supply</b>	POE 12-24Vdc (External power supply 110/230Vac)	POE802.3af/at 48Vdc (External power supply 110/230Vac)	POE 12-24Vdc (External power supply 110/230Vac)
<b>Wireless security</b>	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP
<b>Operating frequency (GHz)</b>	4.9 - 5.85	4.9 - 5.85	4.9 - 5.85
<b>Available band (Mbit/s)</b>	100	500	100
<b>DSSS modulation</b>	DBPSK, DQPSK, CCK TDMA	DBPSK, DQPSK, CCK TDMA	DBPSK, DQPSK, CCK TDMA
<b>OFDM modulation</b>	BPSK, QPSK, 16 QAM, 64 QAM, TDMA	BPSK, QPSK, 256 QAM, TDMA	BPSK, QPSK, 256 QAM, TDMA
<b>Maximum transmission power (dBm)</b>	25	30	30
<b>Sensitivity@data rate</b>	-97dBm@20MHz-MCS0, -77dBm@20MHz-MCS7	-92dBm @ 20MHz-MCS0, -72dBm @ 20MHz-MCS9	-92dBm @ 20MHz-MCS0, -72dBm @ 20MHz-MCS9
<b>Coverage angle</b>	/	/	/
<b>Transmission power management</b>	TPC function	TPC function	TPC function
<b>Channel management</b>	DFS, Auto, Selection, Radar free	DFS, Auto, Selection, Radar free	DFS, Auto, Selection, Radar free
<b>Management mode</b>	Telnet client, SSH, Telnet server	Telnet client, SSH, Telnet server	Telnet client, SSH, Telnet server
<b>Bridge</b>	Multiple bridge interfaces, MAC monitored in real time; RSTP	Multiple bridge interfaces, MAC monitored in real time; RSTP	Multiple bridge interfaces, MAC monitored in real time; RSTP
<b>Routing</b>	/	/	/
<b>VLAN</b>	802.1q, multiple VLAN interface, inter VLAN routing	802.1q, multiple VLAN interface, inter VLAN routing	802.1q, multiple VLAN interface, inter VLAN routing
<b>VPN</b>	IPSEC, EoIP, PPTP, VLAN, L2TP, PPPoE, IPIP	IPSEC, EoIP, PPTP, VLAN, L2TP, PPPoE, IPIP	IPSEC, EoIP, PPTP, VLAN, L2TP, PPPoE, IPIP
<b>SNMP</b>	SNMP V1 client, MIB II, Bridge MIB	SNMP V1 client, MIB II, Bridge MIB	SNMP V1 client, MIB II, Bridge MIB
<b>QoS (p.1)</b>	802.1p, IPToS RFC791, CBQ queuing Layer 4-7 traffic shaping, HTB	802.1p, IPToS RFC791, CBQ queuing Layer 4-7 traffic shaping, HTB	802.1p, IPToS RFC791, CBQ queuing Layer 4-7 traffic shaping, HTB
<b>Safety</b>	Firewall limiting P2P, L7 mac-address filter, radius server	Firewall limiting P2P, L7 mac-address filter, radius server	Firewall limiting P2P, L7 mac-address filter, radius server
<b>Accessories</b>	<b>SETM090A - SETM120A - CAN001A - CAN002A - CAN003A - SAN001A</b>	<b>SETM090A - SETM120A - CAN001A - CAN002A - CAN003A - SAN001A</b>	<b>SETM090A - SETM120A - CAN001A - CAN002A - CAN003A - SAN001A</b>

## 2 RADIO



	<b>BASE205A</b>	<b>BASE205EA</b>	<b>BASE235A</b>
<b>Wi-Fi type</b>	5 GHz Hyperlan point-to-point/point-to-multipoint base station, standard IEEE802.11a/n SISO - TDMA	5 GHz Hyperlan point-to-point/point-to-multipoint base station, standard IEEE802.11a/n SISO - TDMA	5 GHz Hyperlan point-to-point/point-to-multipoint base station, standard IEEE802.11a/n MIMO - TDMA
<b>Transmission distance</b>	/	/	/
<b>Network interface</b>	Gigabit LAN	10/100 Mb/s LAN	Gigabit LAN
<b>Antenna</b>	OFDM or DSSS with NLOS capacity	OFDM or DSSS with NLOS capacity	OFDM or DSSS with NLOS capacity
<b>Operating modes</b>	Dynamic Mesh, Static WDS Mesh, Bridging, Routing, firewall, QoS	Dynamic Mesh, Static WDS Mesh, Bridging, Routing, firewall, QoS	Dynamic Mesh, Static WDS Mesh, Bridging, Routing, firewall, QoS
<b>IP rating</b>	anti-vandal IP68	IP67	anti-vandal IP68
<b>Absorption</b>	11W	11W	11W
<b>Type of power supply</b>	POE802.3af/at 48Vdc (External power supply 110/230Vac)	POE 12-24Vdc (External power supply 110/230Vac)	POE802.3af/at 48Vdc (External power supply 110/230Vac)
<b>Wireless security</b>	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP
<b>Operating frequency (GHz)</b>	4.9 - 5.85	4.9 - 5.85	4.9 - 5.85
<b>Available band (Mbit/s)</b>	140	100	350
<b>DSSS modulation</b>	DBPSK, DQPSK, CCK TDMA	DBPSK, DQPSK, CCK TDMA	DBPSK, DQPSK, CCK TDMA
<b>OFDM modulation</b>	BPSK, QPSK, 16 QAM, 64 QAM, TDMA	BPSK, QPSK, 16 QAM, 64 QAM, TDMA	BPSK, QPSK, 16 QAM, 64 QAM, TDMA
<b>Maximum transmission power (dBm)</b>	25	21	25
<b>Sensitivity@data rate</b>	-97dBm@20MHz-MCS0, -77dBm@20MHz MCS7	-95dBm @ 20MHz-MCS0, -77dBm @ 20MHz-MCS7	-97dBm@20MHz-MCS0, -77dBm@20MHz MCS7
<b>Coverage angle</b>	/	/	/
<b>Transmission power management</b>	TPC function	TPC function	TPC function
<b>Channel management</b>	DFS, Auto, Selection, Radar free	DFS, Auto, Selection, Radar free	DFS, Auto, Selection, Radar free
<b>Management mode</b>	Telnet client, SSH, Telnet server	Telnet client, SSH, Telnet server	Telnet client, SSH, Telnet server
<b>Bridge</b>	Multiple bridge interfaces, MAC monitored in real time; RSTP	Multiple bridge interfaces, MAC monitored in real time; RSTP	Multiple bridge interfaces, MAC monitored in real time; RSTP
<b>Routing</b>	/	/	/
<b>VLAN</b>	802.1q, multiple VLAN interface, inter VLAN routing	802.1q, multiple VLAN interface, inter VLAN routing	802.1q, multiple VLAN interface, inter VLAN routing
<b>VPN</b>	IPSEC, EoIP, PPTP, VLAN, L2TP, PPPoE, IPIP	IPSEC, EoIP, PPTP, VLAN, L2TP, PPPoE, IPIP	IPSEC, EoIP, PPTP, VLAN, L2TP, PPPoE, IPIP
<b>SNMP</b>	SNMP V1 client, MIB II, Bridge MIB	SNMP V1 client, MIB II, Bridge MIB	SNMP V1 client, MIB II, Bridge MIB
<b>QoS (p.1)</b>	802.1p, IPToS RFC791, CBQ queuing Layer 4-7 traffic shaping, HTB	802.1p, IPToS RFC791, CBQ queuing Layer 4-7 traffic shaping, HTB	802.1p, IPToS RFC791, CBQ queuing Layer 4-7 traffic shaping, HTB
<b>Safety</b>	Firewall limiting P2P, L7 mac-address filter, radius server	Firewall limiting P2P, L7 mac-address filter, radius server	Firewall limiting P2P, L7 mac-address filter, radius server
<b>Accessories</b>	<b>SET090A - SET120A - OMNI360A - CAN001A - CAN002A - CAN003A - SAN001A</b>	<b>SET090A - SET120A - OMNI360A - CAN001A - CAN002A - CAN003A - SAN001A</b>	<b>SETM090A - SETM120A - CAN001A - CAN002A - CAN003A - SAN001A</b>

## 2 RADIO



### BASE235EA

Wi-Fi type	5 GHz Hyperlan point-to-point/point-to-multipoint base station, standard IEEE802.11a/n MIMO - TDMA
Transmission distance	/
Network interface	10/100 Mb/s LAN
Antenna	OFDM or DSSS with NLOS capacity
Operating modes	Dynamic Mesh, Static WDS Mesh, Bridging, Routing, firewall, QoS
IP rating	IP67
Absorption	11W
Type of power supply	POE 12-24Vdc (External power supply 110/230Vac)
Wireless security	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP
Operating frequency (GHz)	4.9 - 5.85
Available band (Mbit/s)	100
DSSS modulation	DBPSK, DQPSK, CCK TDMA
OFDM modulation	BPSK, QPSK, 16 QAM, 64 QAM, TDMA
Maximum transmission power (dBm)	25
Sensitivity@data rate	-97dBm@20MHz-MCS0, -77dBm@20MHz MCS7
Coverage angle	/
Transmission power management	TPC function
Channel management	DFS, Auto, Selection, Radar free
Management mode	Telnet client, SSH, Telnet server
Bridge	Multiple bridge interfaces, MAC monitored in real time; RSTP
Routing	/
VLAN	802.1q, multiple VLAN interface, inter VLAN routing
VPN	IPSEC, EoIP, PPTP, VLAN, L2TP, PPPoE, IPIP
SNMP	SNMP V1 client, MIB II, Bridge MIB
QoS (p.i)	802.1p, IPToS RFC791, CBQ queuing Layer 4-7 traffic shaping, HTB
Safety	Firewall limiting P2P, L7 mac-address filter, radius server
Accessories	<b>SETM090A - SETM120A - CAN001A - CAN002A - CAN003A - SAN001A</b>

## 3 RADIO



### BASE305A

Wi-Fi type	5 GHz Hyperlan point-to-point/point-to-multipoint base station, standard IEEE802.11a/n SISO - TDMA
Transmission distance	/
Network interface	Gigabit LAN interface
Antenna	Radio type OFDM or DSSS with NLOS capacity
Operating modes	Operating modes: Dynamic Mesh, Static WDS Mesh, Bridging, Routing, firewall, QoS
IP rating	anti-vandal IP68
Absorption	11W
Type of power supply	POE 802.3af/at 48Vdc (External power supply 110/230Vac)
Wireless security	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP
Operating frequency (GHz)	4.9 - 5.85
Available band (Mbit/s)	140
DSSS modulation	DBPSK, DQPSK, CCK TDMA
OFDM modulation	BPSK, QPSK, 16 QAM, 64 QAM, TDMA
Maximum transmission power (dBm)	25
Sensitivity@data rate	-97dBm@20MHz-MCS0, -77dBm@20MHz MCS7
Coverage angle	/
Transmission power management	TPC function
Channel management	DFS, Auto, Selection, Radar free
Management mode	Telnet client, SSH, Telnet server
Bridge	Multiple bridge interfaces, MAC monitored in real time; RSTP
Routing	/
VLAN	802.1q, multiple VLAN interface, inter VLAN routing
VPN	IPSEC, EoIP, PPTP, VLAN, L2TP, PPPoE, IPIP
SNMP	SNMP V1 client, MIB II, Bridge MIB
QoS (p.i)	802.1p, IPToS RFC791, CBQ queuing Layer 4-7 traffic shaping, HTB
Safety	Firewall limiting P2P, L7 mac-address filter, radius server
Accessories	<b>SET090A - SET120A - OMNI360A - CAN001A - CAN002A - CAN003A - SAN001A</b>

### BASE305EA

Wi-Fi type	5 GHz Hyperlan point-to-point/point-to-multipoint base station, standard IEEE802.11a/n SISO - TDMA
Transmission distance	/
Network interface	10/100 Mb/s LAN interface
Antenna	Radio type OFDM or DSSS with NLOS capacity
Operating modes	Operating modes: Dynamic Mesh, Static WDS Mesh, Bridging, Routing, firewall, QoS
IP rating	IP67
Absorption	11W
Type of power supply	POE 12-24Vdc (External power supply 110/230Vac)
Wireless security	Mac filtering, WEP 64/128bit, WPA/WPA2 aes-ccm/tkip PSK/EAP
Operating frequency (GHz)	4.9 - 5.85
Available band (Mbit/s)	100
DSSS modulation	DBPSK, DQPSK, CCK TDMA
OFDM modulation	BPSK, QPSK, 16 QAM, 64 QAM, TDMA
Maximum transmission power (dBm)	25
Sensitivity@data rate	-97dBm@20MHz-MCS0, -77dBm@20MHz MCS7
Coverage angle	/
Transmission power management	TPC function
Channel management	DFS, Auto, Selection, Radar free
Management mode	Telnet client, SSH, Telnet server
Bridge	Multiple bridge interfaces, MAC monitored in real time; RSTP
Routing	/
VLAN	802.1q, multiple VLAN interface, inter VLAN routing
VPN	IPSEC, EoIP, PPTP, VLAN, L2TP, PPPoE, IPIP
SNMP	SNMP V1 client, MIB II, Bridge MIB
QoS (p.i)	802.1p, IPToS RFC791, CBQ queuing Layer 4-7 traffic shaping, HTB
Safety	Firewall limiting P2P, L7 mac-address filter, radius server
Accessories	<b>SET090A - SET120A - OMNI360A - CAN001A - CAN002A - CAN003A - SAN001A</b>

## ACCESSORIES



### SET090A

#### 90° SECTORIAL ANTENNA, VERTICAL POLARIS., 5 GHZ

5 GHz sectorial antenna, 90° horizontal opening, 7° vertical opening, gain 17 dBi, maximum power 100W, vertical linear polarisation, impedance 50 Ohm, wind resistant up to 160 km/h, female type N connector, operating temperature -45°C/+65°C, dimensions (L x H x D) 175 x 470 x 60 mm.



### SET120A

#### 120° SECTORIAL ANTENNA, VERTICAL POLARIS., 5 GHZ

5 GHz sectorial antenna, 120° horizontal opening, 7° vertical opening, gain 16 dBi, maximum power 100W, vertical linear polarisation, impedance 50 Ohm, wind resistant up to 160 km/h, female type N connector, operating temperature from -45°C to +65°C, dimensions (L x H x D) 175 x 470 x 60 mm.



### OMNI360A

#### 360° OMNIDIRECTIONAL ANTENNA, VERTICAL POLARIS., 5 GHZ

5 GHz omnidirectional antenna, 360° horizontal opening, 7° vertical opening, gain 12 dBi, maximum power 100W, vertical linear polarisation, impedance 50 Ohm, wind resistant up to 160 km/h, female type N connector, operating temperature from -45°C to +65°C, dimensions (ø x H) 20 x 700 mm.



### SETM090A

#### 90° SECTORIAL MIMO ANTENNA, DUAL POLARIS., 5 GHZ

5 GHz sectorial MIMO antenna, 90° horizontal opening, 7° vertical opening, gain 17 dBi, maximum power 100W, vertical and horizontal linear polarisation, impedance 50 Ohm, wind resistant up to 160 km/h, 2 female type N connectors, operating temperature from -45°C/+65°C, dimensions (L x H x D) 175 x 470 x 60 mm.



**SETM120A****120° SECTORIAL MIMO ANTENNA, DUAL POLARIS., 5 GHZ**

5 GHz sectorial MIMO antenna, 120° horizontal opening, 7° vertical opening, gain 16 dBi, maximum power 100W, vertical and horizontal linear polarisation, impedance 50 Ohm, wind resistant up to 160 km/h, 2 female type N connectors, operating temperature from -45°C to +65°C, dimensions (L x H x D) 175 x 470 x 60 mm.

**CAN001A****ANTENNA CABLE, LENGTH 1M**

RF cable with N-type connectors, length 1m.

**CAN002A****ANTENNA CABLE, LENGTH 2M**

RF cable with N-type connectors, length 2m.

**CAN003A****ANTENNA CABLE, LENGTH 3M**

RF cable with N-type connectors, length 3m.

**SAN001A****SPARK GAP**

Gas discharge tube surge arrester, N-type connectors, frequency 0-6 GHz.

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