eneo

Product Overview

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More versatile than ever

When digitalisation finally arrived in the video security industry with the triumphal march of IP cameras, quite a few people predicted the imminent demise of analogue legacy systems. Prematurely, as it turned out. After all, many operators still shy away from IP migration, not least for reasons of cost. Alternatives remain in demand. In fact, HD-SDI, HD analogue and, recently, multi-signal cameras and recorders with their hybrid options (IP included) have made video security technologically more diverse than one might have imagined a few years ago.

eneo has accompanied and shaped this development right from the start, and is driving it forward with the introduction of EPOC (Ethernet and Power Over Coax). The new transmission technology allows for IP video and power supply via coax. You will find out how this works on the following two pages.

The usual tabular overview of the current portfolio can be found on pages 8 to 24, followed by an updated overview of our installation accessories. What an eneo IP video security solution can look like for retailers is shown on pages 28 to 30, in our current project report. And on the last page we present you with some selected references.

EPOC: By plug and play from analogue to digital

With EPOC (Ethernet and Power Over Coax), migrating from analogue to IP becomes child's play. For with EPOC transmission technology, you can use the existing analogue cabling for the data transmission and power supply of IP cameras. Never has the changeover to IP been more installer-friendly, more environmentally friendly and more economical! To date, the transition from analogue to digital has been like this: The existing cabling had to be replaced with network cables and was taken to the recycling centre. This came along with additional acquisition and labour costs. With EPOC, it is a lot more environmentally friendly and economical. Instead of completely replacing the existing system, you can upgrade it with EPOC, saving time and money. And on top of that, EPOC helps reduce the total cost of ownership.
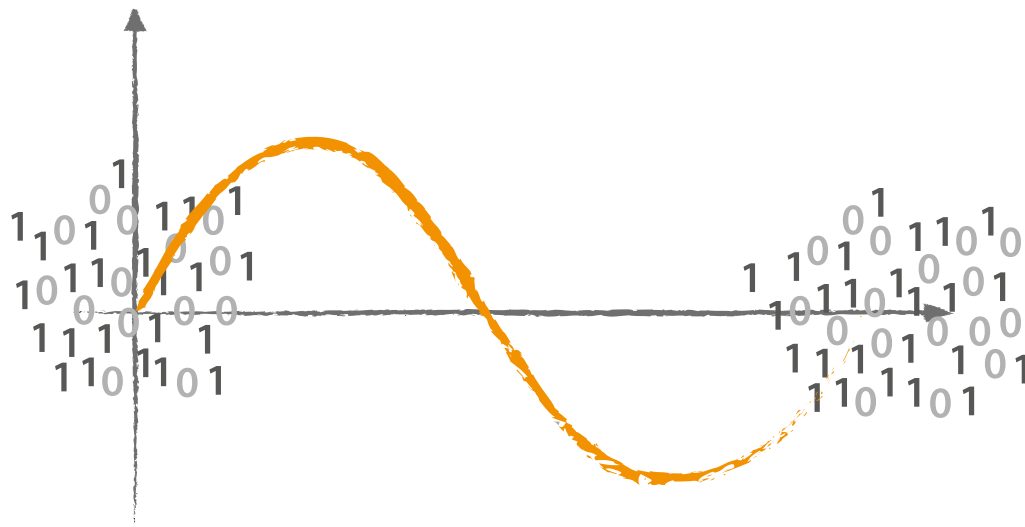
INNOVATIVE AND INSTALLER-FRIENDLY

The big advantage of EPOC is that you can carry out the migration to IP via plug-and-play. To do this, attach an eneo EPOC camera directly to the existing coax cable or connect an eneo IP camera (or that of another manufacturer) to an EPOC transmitter and this to the coax cable.

This cable now transmits not only the IP video signals, but also the operating voltage for the camera. The other end of the cable terminates either in an EPOC transceiver or receiver, which converts the data back to IP and forwards the signal via a switch to a network and its integrated NVR or PC client. IP data can be transmitted up to a distance of 2.4 km, the power supply is possible over up to a distance of 1.2 km. For exact details, please see the technical documentation for each product on our website: eneo-security.com.

SCALABLE, STABLE AND SAFE

Upward scaling is also extremely easy and cost-effective with EPOC. For unlike with IP systems, no additional network hardware is required for this. And with EPOC's different switching options, you can also significantly increase the resilience of your video security system. In addition, all data transferred between EPOC devices is automatically encrypted using an AES 128-bit algorithm, which is relevant not least with regard to GDPR-compliant data management. On our website we provide a free software package with which you can make an individual password adjustment for the encryption.
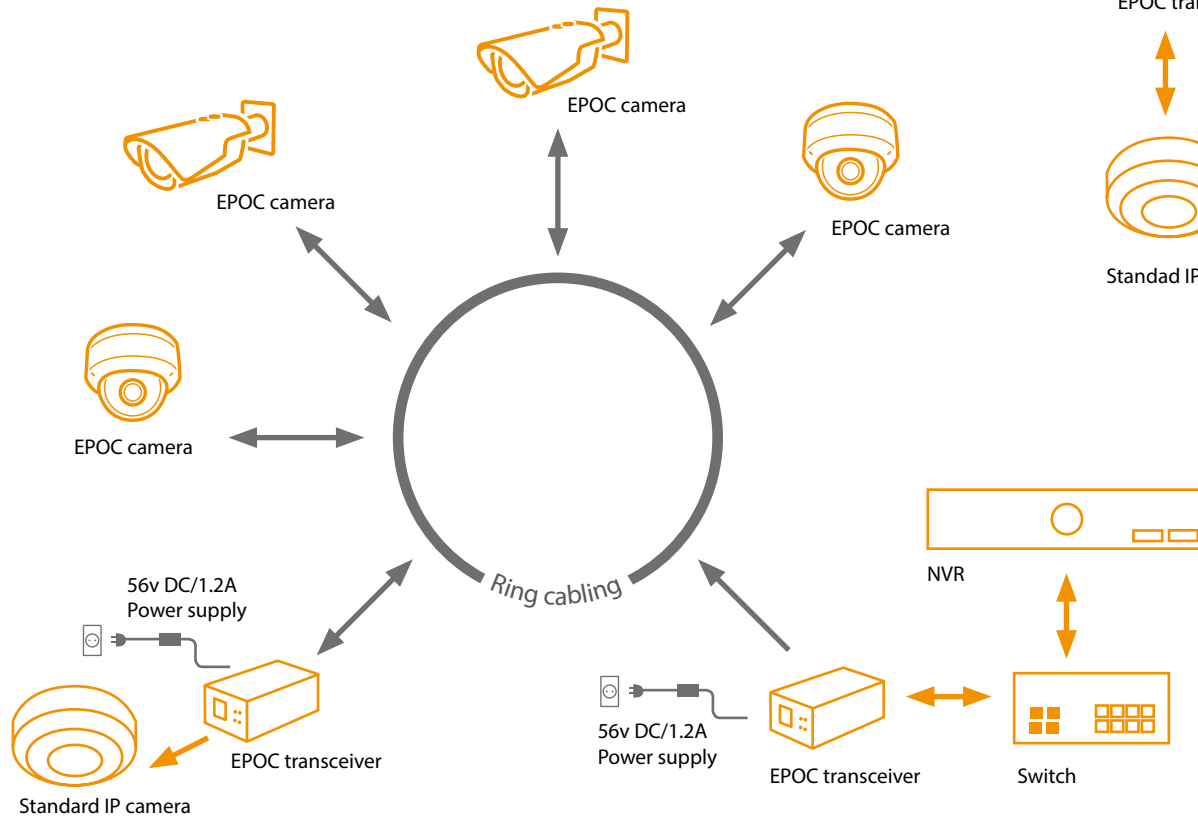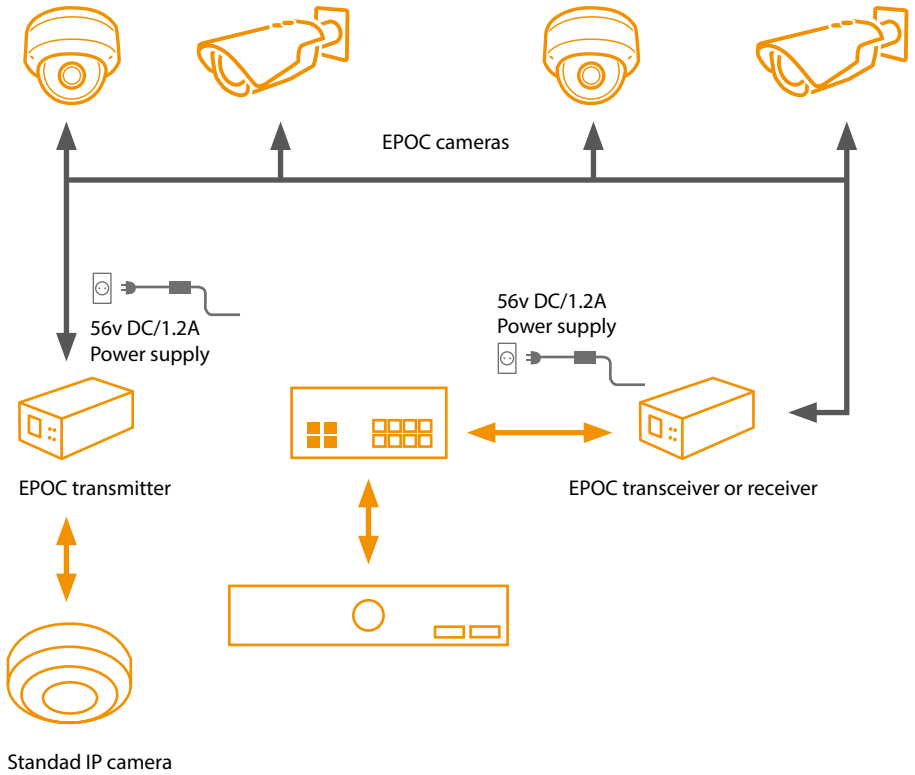
Further information about the technology and eneo EPOC products can also be found on our website:

Various transmission paths

DAISY-CHAIN

A „daisy-chain" or series connection is very simple and takes up only little by way of system resources (keyword: port assignment). A single eneo EPOC transceiver can handle the data transfer and power supply for up to four eneo EPOC cameras in a circuit of this type. Here too, upward scaling using further IP cameras is quite possible. The cameras are integrated into the series connection via one EPOC transmitter or transceiver each.

EPOC cameras

56v DC/1.2A
Power supply

56v DC/1.2A
Power supply

EPOC transmitter

EPOC transceiver or receiver

Standad IP camera

EPOC camera

EPOC camera

EPOC camera

EPOC camera

Ring cabling

NVR

56v DC/1.2A
Power supply

56v DC/1.2A
Power supply

EPOC transceiver

EPOC transceiver

Switch

Standard IP camera

RING CIRCUIT

A ring circuit is very fail-safe and can be extended in a straightforward manner. The EPOC cameras are simply integrated here with coax-T connections in the coax ring. Of course, any other IP devices (i.e. also IP telephones, IP sensors, access systems, etc.) which do not have an integrated EPOC transmitter can be integrated via the EPOC transceiver or transmitter. If the ring is interrupted at one point, the circuit conducts itself like a daisy-chain, so that the trouble-free operation of all components is still guaranteed.

EPOC Converters

Product	IAM-6MC1001M0A	IAM-6MC1001MTA	IAM-6MC1001MRA	IAM-4MU1001M0A
Product number	221273	221576	221577	221334
Device	Media converter	Media converter	Media converter	Media converter
Data transfer rate	270Mbps	95Mbps	95Mbps	
Transmission medium	Coax	Coax	Coax	UTP
Range	2400m max.	2400m max.	2400m max.	–
PoE Budget (gesamt)	–	60W	–	–
External connections	RJ-45, BNC - EPOC, 56VDC input (DC plug), 1x 12VDC / 2A Power out	RJ-45 (max. 60W PoE out), BNC - EPOC, 56VDC input (DC plug)	RJ-45, BNC - EPOC (max. 60W out), 56VDC input (DC plug)	1x UTP 1x BNC
Ports	10Base-T, 100Base-TX, 1000Base-T	10Base-T, 100Base-TX	10Base-T, 100Base-TX	–
Supply voltage	56VDC, Power over Coax (PoC)	56VDC, Power over Coax (PoC)	56VDC, PoE (IEEE-802.3af), PoE+ (IEEE-802.3at)	–
Temperature range (operation)	-20℃ ~ +60℃	-20℃ ~ +60℃	-20℃ ~ +60℃	-20℃ ~ +60℃
Mounting	Desktop	Desktop	Desktop	Desktop
Application	Indoor	Indoor	Indoor	Indoor
Housing	Metal	Metal	Metal	Metal
Color	anthracite	anthracite	anthracite	anthracite
Dimensions	28x83x146mm	24x61,6x82,4mm	24x61,6x82,4mm	24,5x24x60mm
Weight	200g	77g	77g	30g
Functions	EPOC Ethernet and Power over Coax Transmission, Transceiver, RJ45 Ethernet and BNC-Female plug, Supports Multi Connection (Daisy Chain, Star), 128 Bit AES Network Encryption	EPOC Ethernet and Power over Coax Transmission, Transmitter, RJ45 Ethernet and BNC-Female plug, Supports Multi Connection (Daisy Chain, Star), 128 Bit AES Network Encryption PoE Power Supply for Camera	EPOC Ethernet and Power over Coax Transmission, Receiver, RJ45 Ethernet and BNC-Female plug, Supports Multi Connection (Daisy Chain, Star), 128 Bit AES Network Encryption	BNC to 1 pair Terminal Block Exclusively compatible with EPOC Cameras, Transceiver, Receiver, Transmitter
Accessories	Power supply 221276 optional accessory	Power supply 221276 optional accessory	Power supply 221276 optional accessory	–

EPOC Cameras

Product	IEB-72M2812MCA	IED-62M2812MCA
Product number	220932	220931
System	True Day&Night	True Day&Night
Sensor	1/2,8" CMOS, Sony STARVIS, IMX290	1/2,8" CMOS, Sony STARVIS, IMX290
Resolution max.	1920x1080	1920x1080
Video compression	H.264, H.265, H.264+, H.265+, M-JPEG	H.264, H.265, H.264+, H.265+, M-JPEG
Image transmission rate max.	30fps	30fps
Sensitivity	0,03 Lux at F1,6, 40 IRE	0,03 Lux at F1,6, 40 IRE
Illumination	Infrared, approx. 30m	Infrared, approx. 30m
Analysis functions	Motion detection, motion analysis, tampering protection	Motion detection, motion analysis, tampering protection
Backlight compensation	BLC	BLC
Wide Dynamic Range (WDR)	WDR 120dB	WDR 120dB
Lens type	Varifocal (motorized)	Varifocal (motorized)
Focal length	2,8 - 12mm	2,8 - 12mm
Horizontal angle of view	100° - 33°	100° - 33°
Vertical angle of view	56° - 18°	56° - 18°
Audio support	G.711	G.711
Internal storage	microSDHC-Card, microSDXC-Card	microSDHC-Card, microSDXC-Card
ONVIF	ONVIF Profile S & T	ONVIF Profile S & T
Temperature range (operation)	-20℃ ~ +50℃	-20℃ ~ +50℃
Alarm inputs / outputs	1/1	1/1
Supply voltage	12VDC, Power over Coax (PoC)	12VDC, Power over Coax (PoC)
Use	Indoor / outdoor	Indoor / outdoor
Colour	White	White
Protection rating	IP66	IP66, IK10
Features	EPOC Ethernet and Power over Coax transmission, H.265, Smart Codec, STARVIS, P-Iris	EPOC Ethernet and Power over Coax transmission, H.265, Smart Codec, STARVIS, P-Iris
Special features	EPOC Ethernet and Power over Coax Transmission, H.265, Smart Codec, STARVIS, P-Iris, enhanced VCA features	EPOC Ethernet and Power over Coax Transmission, H.265, Smart Codec, STARVIS, P-Iris, enhanced VCA features

Cameras

eneo cameras impress due to their cost effectiveness and their excellent quality. The types and designs range from the distinctive candid bullet cameras to box cameras, fixed and PTZ domes to panomorph cameras and models for special applications.

ENEO IP

The cameras in the eneo IP programme consistently support the ONVIF standard. Accordingly they provide operators and installers with a high level of manufacturer-independent compatibility, while integrating video management software and recording solutions from leading vendors for added flexibility. In order to facilitate the orientation for you, we have revised the series designations: our IP cameras are now split into the SN, KN and EN series. The SN series offers resolutions of up to 8 megapixels as well as intelligent video analysis and p-iris aperture control. The KN series achieves equally high resolutions with up to 8 megapixels, and is equipped with elementary video analysis functions. Price-sensitive market environments are addressed by the EN series, whose cameras offer resolutions of up to 5 megapixels.

ENEO COAXIZE

For applications which require real-time HD or higher recording, the HD analogue and multi-signal cameras in the eneo COAXIZE programme are recommended. For example for casinos or banks, where a lot of cash changes hands - with the corresponding risk of fraud.
But those who also wish, for example, to modernise an aging video security system in an economical and resource-efficient manner, eneo COAXIZE is well-advised. The SX series cameras offer resolutions of up to 8 megapixels, the KX series up to 4 megapixels. The EX series is the equivalent of the EN series in the IP portfolio, as it addresses price sensitive market environments.

Sleek IP integration: read here how Synology's eneo IP cameras enhance security and perfect service with a recording solution from Synology at the twin Holiday Inn Munich City East hotels:

IP Cameras

Product	IEB-54F0036M0A	IEB-64M2812M0A	IEB-72M2812MAA	IEB-74M2812MAA	IEB-78M3611MAA	IPB-72A0010M0A	IPB-73M2812MWA
Product number	217365	218032	220082	219588	220148	213011	216603
Series	EN Series	SN Series	SN Series	SN Series	SN Series	KN Series	KN Series
System	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day&Night
Sensor	1/3" CMOS, OmniVision, 4689	1/3" CMOS, OmniVision, 4689	1/2,8" CMOS, Sony STARVIS, IMX290	1/3" CMOS, OmniVision, 4689	1/2,5" CMOS, Sony STARVIS, IMX274	1/3" CMOS, Panasonic, MN34229PLI	1/2,8" CMOS, Sony STARVIS, IMX124
Resolution max.	2592x1520	2592x1520	1920x1080	2592x1520	3840x2160	1920x1080	2048x1536
Video compression	H.264, H.265, H.264+, H.265+, M-JPEG	H.264, H.265, H.264 +, H.265+, M-JPEG	H.264, H.265, H.264+, H.265+, M-JPEG	H.264, H.265, H.264+, H.265+, M-JPEG	H.264, H.265, H.264+, H.265+, M-JPEG	H.264, M-JPEG	H.264, M-JPEG
Image transmission rate max.	30fps	30fps	30fps	30fps	30fps	30fps	30fps
Sensitivity	0.1 Lux at F2.1, 50 IRE	0.1 Lux at F2.1, 50 IRE	0.03 Lux at F1.6, 40 IRE	0.14 Lux at F1.6, 40 IRE	0.03 Lux at F1.5, 40 IRE	0.5 Lux at F1.6, 50 IRE	0.15 Lux at F1.4, 40 IRE
Illumination	Infrared, approx. 25m	Infrared, approx. 30m	Infrared, approx. 30m	Infrared, approx. 30m	Infrared, approx. 30m	Infrared, approx. 50m	Infrared, approx. 50m
Analysis functions	Motion detection, tampering protection, field detection	Motion detection, tampering protection, field detection	Motion detection, motion analysis, tampering protection, object counter with direction detection, loitering detection, intrusion, people detection	Motion detection, motion analysis, tampering protection, object counter with direction detection, loitering detection, intrusion, people detection	Motion detection, motion analysis, tampering protection, object counter with direction detection, loitering detection, intrusion, people detection	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection, defog	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection, defog
Backlight compensation	–	–	BLC	BLC	BLC	BLC, HLC	BLC, HLC
Wide Dynamic Range (WDR)	D-WDR	D-WDR	WDR 120dB	WDR 120dB	WDR 120dB	WDR 113dB	D-WDR
Lens type	Fixed	Varifocal (motorized)	Varifocal (motorized)	Varifocal (motorized)	Varifocal (motorized)	Auto focus zoom	Varifocal (motorized)
Focal length	3,6mm	2,8 – 12mm	2,8 – 12mm	2,8 – 12mm	3,6 – 11mm	5,1 – 50mm	2,8 – 12mm
Horizontal angle of view	83°	94° – 34°	100° – 33°	97° – 31°	87° – 38°	53° – 7°	88° – 31°
Vertical angle of view	45°	52° – 20°	56° – 18°	55° – 18°	49° – 21°	31° – 4°	64° – 23°
Audio support	–	–	G.711	G.711	G.711	G.711	G.711
Internal storage	–	–	microSDHC card, microSDXC card	microSDHC card, microSDXC card	microSDHC card, microSDXC card	microSDHC card, microSDXC card	microSDHC card, microSDXC card
ONVIF	ONVIF Profile S	ONVIF Profile S	ONVIF Profile S & T	ONVIF Profile S & T	ONVIF Profile S & T	ONVIF Profile S	ONVIF Profile S
Temperature range (operation)	-20℃ ~ +50℃	-20℃ ~ +50℃	-20℃ ~ +50℃	-20℃ ~ +50℃	-20℃ ~ +50℃	-50℃ ~ +50℃	-50℃ ~ +50℃
Alarm inputs / outputs	–	–	1/1	1/1	1/1	1/1	1/1
Supply voltage	12VDC, PoE	12VDC, PoE	12VDC, PoE	12VDC, PoE	12VDC, PoE	12VDC, 24VAC, PoE	12VDC, 24VAC, PoE
Use	Indoor / outdoor	Indoor / outdoor	Indoor / outdoor	Indoor / outdoor	Indoor / outdoor	Indoor / outdoor	Indoor / outdoor
Colour	White	White	White	White	White	Pantone Cool Gray 1C	Pantone Cool Gray 1C
Protection rating	IP66	IP66	IP66	IP66	IP66	IP67	IP67
Special features	H.265, Smart Codec	H.265, Smart Codec	P-Iris, intelligent motion, enhanced VCA features, H.265, Smart Codec, STARVIS	P-Iris, intelligent motion, enhanced VCA features, H.265, Smart Codec	P-Iris, intelligent motion, enhanced VCA features, H.265, Smart Codec, STARVIS	–	Initial configuration via WLAN, STARVIS

IP Cameras

Product	ICB-62M2712M0A	ICB-72A0003M0A	ICB-73M2712MWA	IED-62V2812P0B	IED-54F0036MBA	IED-64M2812MBA	IED-62M2812MAA
Product number	218305	218306	218304	219549	217364	218033	220083
Series	KN Series	KN Series	KN Series	KN Series	KN Series	KN Series	KN Series
System	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day&Night
Sensor	1/2,8" CMOS, Sony STARVIS, IMX291	1/2,8" CMOS, Sony STARVIS, IMX290	1/2,8" CMOS, Sony STARVIS, IMX124	1/2,8" CMOS, Sony, IMX322	1/3" CMOS, OmniVision, 4689	1/3" CMOS, OmniVision, 4689	1/2,8" CMOS, Sony STARVIS, IMX290
Resolution max.	1920x1080	1920x1080	2048x1536	1920x1080	2592x1520	2592x1520	1920x1080
Video compression	H.264, M-JPEG	H.264, M-JPEG	H.264, M-JPEG	H.264, M-JPEG	H.264, H.265, H.264+, H.265+, M-JPEG	H.264, H.265, H.264+, H.265+, M-JPEG	H.264, H.265, H.264+, H.265+, M-JPEG
Image transmission rate max.	30fps	30fps	30fps	30fps	30fps	30fps	30fps
Sensitivity	0.15 Lux at F1.4, 40 IRE	0.1 Lux at F1.6, 40 IRE	0.15 Lux at F1.4, 40 IRE	at F1.3, 40 IRE	0.1 Lux at F2.1, 50 IRE	at F2.1, 50 IRE	0.03 Lux at F1.6, 40 IRE
Illumination	Infrared, approx. 50m	Infrared, approx. 50m	Infrared, approx. 50m	Infrared, approx. 30m	Infrared, approx. 30m	Infrared, approx. 30m	Infrared, approx. 30m
Analysis functions	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection, defog	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection, defog	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection, defog	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection, defog	Motion detection, tampering protection, field detection	Motion detection, tampering protection, field detection	Motion detection, motion analysis, tampering protection, object counter with direction detection, loitering detection, intrusion, people detection
Backlight compensation	BLC, HLC	BLC, HLC	BLC, HLC	BLC, HLC	–	–	BLC
Wide Dynamic Range (WDR)	D-WDR	DOL-WDR 120dB	D-WDR	D-WDR	D-WDR	D-WDR	WDR 120dB
Lens type	Varifocal (motorized)	Auto focus zoom	Varifocal (motorized)	Varifocal	Fixed	Varifocal (motorized)	Varifocal (motorized)
Focal length	2,7 – 12mm	3,2 – 9mm	2,7 – 12mm	2,8 – 12mm	3,6mm	2,8 – 12mm	2,8 – 12mm
Horizontal angle of view	114° – 33°	102° – 8°	99° – 33°	93° – 35°	83°	94° – 34°	100° – 33°
Vertical angle of view	56° – 18°	54° – 4°	73° – 24°	51° – 18°	45°	52° – 20°	56° – 18°
Audio support	–	G.711	G.711	–	–	–	G.711
Internal storage	microSDHC card, microSDXC card	microSDHC card, microSDXC card	microSDHC card, microSDXC card	–	–	–	microSDHC card, microSDXC card
ONVIF	ONVIF Profile S	ONVIF Profile S	ONVIF Profile S	ONVIF Profile S	ONVIF Profile S	ONVIF Profile S	ONVIF Profile S
Temperature range (operation)	-50℃ ~ +50℃	-50℃ ~ +50℃	-50℃ ~ +50℃	-10℃ ~ +50℃	-20℃ ~ +50℃	-20℃ ~ +50℃	-20℃ ~ +50℃
Alarm inputs / outputs	–	1/1	1/1	–	–	–	1/1
Supply voltage	PoE	12VDC, 24VAC, PoE	12VDC, 24VAC, PoE	12VDC, PoE	12VDC, PoE	12VDC, PoE	12VDC, PoE
Use	Indoor / outdoor	Indoor / outdoor	Indoor / outdoor	Indoor	Indoor / outdoor	Indoor / outdoor	Indoor / outdoor
Colour	Pantone Cool Gray 1C	Pantone Cool Gray 1C	Pantone Cool Gray 1C	White	White	White	White
Protection rating	IP67	IP67	IP67	IP67	IP66	IP66	IP66
Special features	Integrated junction box, STARVIS	Integrated junction box, preset, auto focus zoom, STARVIS	Integrated junction box, initial configuration via WLAN, STARVIS	–	H.265, Smart Codec	H.265, Smart Codec	P-Iris, intelligent motion, advanced VCA features, H.265, Smart Codec, STARVIS

IP Cameras

Product	IED-64M2812MAA	IED-68M3611MAA	ISD-55P0010P0A	ISD-58P0010P0A	IPD-62M2812P0A	IPD-72A0003M0B	IPD-73M2812MWA
Product number	219808	220149	217871	220196	213021	219026	216602
Series	SN Series	SN Series	SN Series	SN Series	KN Series	KN Series	KN Series
System	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day&Night
Sensor	1/3" CMOS, OmniVision, 4689	1/2,5" CMOS, Sony STARVIS, IMX274	1/1,8" CMOS, Sony STARVIS	1/1,7" CMOS, Sony STARVIS	1/2,8" CMOS, Sony STARVIS, IMX322	1/2,8" CMOS, Sony STARVIS, IMX290	1/2,8" CMOS, Sony STARVIS, IMX124
Resolution max.	2592x1520	3840x2160	2592x1944	3840x2160	1920x1080	1920x1080	2048x1536
Video compression	H.264, H.265, H.264+, H.265+, M-JPEG	H.264, H.265, H.264+, H.265+, M-JPEG	H.264, M-JPEG	H.264, H.265, H.264+, H.265+, M-JPEG	H.264, M-JPEG	H.264, M-JPEG	H.264, M-JPEG
Image transmission rate max.	30fps	30fps	15fps	30fps	30fps	30fps	30fps
Sensitivity	0.14 Lux at F1.6, 40 IRE	0.03 Lux at F1.5, 40 IRE	0.3 Lux at F2.8	–	0.15 Lux at F1.4, 40 IRE	0.1 Lux at F1.6, 40 IRE	0.15 Lux at F1.4, 40 IRE
Illumination	Infrared, approx. 30m	Infrared, approx. 30m	–	–	Infrared, approx. 30m	Infrared, approx. 40m	Infrared, approx. 40m
Analysis functions	Motion detection, motion analysis, tampering protection, object counter with direction detection, loitering detection, intrusion, people detection	Motion detection, motion analysis, tampering protection, object counter with direction detection, loitering detection, intrusion, people detection	Tampering protection, defog	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection, defog	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection, defog	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection, defog	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection, defog
Backlight compensation	BLC	BLC	BLC, HLC	BLC	BLC, HLC	BLC, HLC	BLC, HLC
Wide Dynamic Range (WDR)	WDR 120dB	WDR 120dB	D-WDR	WDR	D-WDR	DOL-WDR 120dB	D-WDR
Lens type	Varifocal (motorized)	Varifocal (motorized)	Fixed	Fixed	Varifocal (motorized)	Auto focus zoom	Varifocal (motorized)
Focal length	2,8 – 12mm	3,6 – 11mm	1,05mm	1,29mm	2,8 – 12mm	3,2 – 9mm	2,8 – 12mm
Horizontal angle of view	97° – 31°	87° – 38°	360°	360°	112° – 32°	102° – 8°	88° – 31°
Vertical angle of view	55° – 18°	49° – 21°	360°	360°	51° – 18°	54° – 4°	64° – 23°
Audio support	G.711	G.711	G.711	G.711	–	G.711	G.711
Internal storage	microSDHC card, microSDXC card	microSDHC card, microSDXC card	microSDHC card, microSDXC card	microSDHC card, microSDXC card	microSDHC card, microSDXC card	microSDHC card, microSDXC card	microSDHC card, microSDXC card
ONVIF	ONVIF Profile S	ONVIF Profile S	ONVIF Profile S	–	ONVIF Profile S	ONVIF Profile S	ONVIF Profile S
Temperature range (operation)	-20℃ ~ +50℃	-20℃ ~ +50℃	-10℃ ~ +50℃	-20℃ ~ +50℃	-10℃ ~ +50℃	-50℃ ~ +50℃	-50℃ ~ +50℃
Alarm inputs / outputs	1/1	1/1	1/1	1/1	–	1/1	1/1
Supply voltage	12VDC, PoE	12VDC, PoE	12VDC, PoE	12VDC, PoE	12VDC, PoE	12VDC, 24VAC, PoE	12VDC, 24VAC, PoE
Use	Indoor / outdoor	Indoor / outdoor	Indoor	Indoor / outdoor	Indoor	Indoor / outdoor	Indoor / outdoor
Colour	White	White	White	White	White	Pantone Cool Gray 1C	Pantone Cool Gray 1C
Protection rating	IP66	IP66	–	IP66	–	IP67, IK10	IP67, IK10
Special features	P-Iris, intelligent motion, advanced VCA features, H.265, Smart Codec	4K, P-Iris, intelligent motion, advanced VCA features, H.265, Smart Codec, STARVIS	STARVIS, Panomorph, ImmerVision certified	4K, H.265, Smart Codec, STARVIS	STARVIS	Preset, auto focus zoom, STARVIS, IK10	Initial configuration via WLAN, STARVIS, IK10

IP Cameras

EPOC
IP
MULTI-SIGNAL
THERMAL
NVR / DVR
SWITCHES
EN-/DECODER

Product	IPC-52A0003M0B	IPC-52A0030P0A	IPC-55C0000M0A	IPP-62A0023MIA	IPP-83A0036MIA	IPP-88A0030MIA	IPP-62A0020M0B
Product number	219027	212716	213022	220201	220202	220203	222184
Series	KN Series	SN Series	KN Series	SN Series	SN Series	SN Series	SN Series
System	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day&Night
Sensor	1/2,8" CMOS, Sony STARVIS, IMX290	1/2,8" CMOS, Sony STARVIS, IMX291	1/1,8", CMOS, Sony STARVIS, IMX178	1/2,8" CMOS, Sony STARVIS, IMX290	1/2.8" CMOS, Sony STARVIS, IMX226	1/1,7" CMOS, Sony STARVIS, IMX226	1/2,8" CMOS, Sony STARVIS, IMX291
Resolution max.	1920x1080	1920x1080	2592x1944	1920x1080	2048x1536	3840x2160	1920x1080
Video compression	H.264, M-JPEG	H.264, M-JPEG	H.264, M-JPEG	H.264, H.265, H.264+, H.265+, M-JPEG	H.264, H.265, H.264+, H.265+, M-JPEG	H.264, H.265, H.264+, H.265+, M-JPEG	H.264, H.265, H.264+, H.265+, M-JPEG
Image transmission rate max.	30fps	60fps	30fps	30fps	30fps	30fps	30fps
Sensitivity	0.1 Lux at F1.6, 40 IRE	0.35 Lux at F1.6, 50 IRE	0.07 Lux at F1.5, 40 IRE	0.35 Lux at F1.6, 50 IRE	0.35 Lux at F1.6, 50 IRE	0.1 Lux at F1.6, 50 IRE	0.2 Lux at F1,6, 50 IRE
Illumination	–	–	–	Infrared, approx. 60m	Infrared, approx. 200m	Infrared, approx. 200m	–
Analysis functions	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection, defog	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection, defog	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection, defog	Motion detection, motion analysis, tampering protection, object counter with direction detection, loitering detection, intrusion, people detection	Motion detection, motion analysis, tampering protection, object counter with direction detection, loitering detection, intrusion, people detection	Motion detection, motion analysis, tampering protection, object counter with direction detection, loitering detection, intrusion, people detection	Motion analysis, intrusion, tampering protection
Backlight compensation	BLC, HLC	BLC, HLC	BLC, HLC	BLC	BLC	BLC	BLC
Wide Dynamic Range (WDR)	DOL-WDR 120dB	WDR 120dB	D-WDR	WDR 120dB	WDR 120dB	WDR 120dB	WDR 120dB
Lens type	Auto focus zoom	Auto focus zoom	C/CS mount	Auto focus zoom	Auto focus zoom	Auto focus zoom	Auto focus zoom
Focal length	3,2 – 9mm	4,3 – 129mm	–	5 – 117mm	4,6 – 165,6mm	6 – 180mm	4,7 - 94mm
Horizontal angle of view	102° – 8°	61,8° – 2,11°	–	56,6° – 3°	58,1° – 1,9°	55,4° – 2,7°	55,5° - 3°
Vertical angle of view	54° – 4°	36,4° – 1,29°	–	31,8° – 1,6°	43,5° -1,4°	31,1° – 1,5°	32,4° - 1,7°
Audio support	G.711	G.711	G.711	G.711	G.711	G.711	G.711
Internal storage	microSDHC card, microSDXC card	microSDHC card, microSDXC card	microSDHC card, microSDXC card	microSDHC card, microSDXC card	microSDHC card, microSDXC card	microSDHC card, microSDXC card	microSDHC-Card, microSDXC-Card
ONVIF	ONVIF Profile S	ONVIF Profile S	ONVIF Profile S	ONVIF Profile S & T	ONVIF Profile S & T	ONVIF Profile S & T	ONVIF Profile S & T
Temperature range (operation)	-10°C ~ +50°C	0°C ~ +50°C	-10°C ~ +50°C	-20°C ~ +50°C	-30° ~ +55°C	-30° ~ +55°C	-20°C ~ +50°C
Alarm inputs / outputs	1/1	1/1	1/1	4/1	4/1	4/1	4/1
Supply voltage	12VDC, 24VAC, PoE	12VDC, PoE, 24VAC	24VAC, 12VDC, PoE	12VDC, HiPoE	HiPoE+, 12VDC	HiPoE+, 12VDC	12VDC, 24VAC, PoE
Use	Indoor	Indoor	Indoor	Outdoor / PTZ	Outdoor / PTZ	Outdoor / PTZ	Outdoor / PTZ
Colour	Pantone Cool Gray 1C	White	Pantone Cool Gray 1C	White	White	White	White
Protection rating	–	–	–	IP66	IP66	IP66	IP66, IK10
Special features	DOL-WDR, STARVIS	30x zoom, 60fps, STARVIS	C/CS mount, STARVIS	H.265, Smart Codec, IR illumination, STARVIS	H.265, Smart Codec, zoom synchronized IR illumination, intelligent motion, advanced VCA features, STARVIS	H.265, Smart Codec, zoom synchronized IR illumination, intelligent motion, advanced VCA features, STARVIS, 4K	H.265, Smart Codec, STARVIS, IK10

IP Cameras

Product	NXP-880F26	ISM-53M2812W0A	ISM-54F0023W0A	ISM-52F0043MPA
Product number	212447	217636	221437	216711
System	True Day&Night	True Day&Night	True Day&Night	Colour
Sensor	1/2,8" CMOS, Sony Exmor	1/2,8" CMOS, Sony STARVIS, IMX124	CMOS OmniVision Sensor 4689	1/2,8" CMOS, Sony Exmor
Resolution max.	1920x1080	1920x1080	2592x1520	1920x1080
Video compression	H.264, M-JPEG	H.264, H.265, H.264+, H.265+, M-JPEG	H.264, H.265, H.264+, H.265+, M-JPEG	H.264, M-JPEG
Image transmission rate max.	25fps	30fps	30fps	60fps
Sensitivity	0.1 Lux at F2.0, 50 IRE	0.08 Lux at F2.2,40 IRE	0.25 Lux at F2.2, 40 IRE	0.1 Lux at F2.0, 50 IRE
Illumination	–	–	–	–
Analysis functions	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection, defog	Motion analysis, intrusion, tampering protection,	Motion analysis, intrusion, tampering protection,	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection, defog
Backlight compensation	BLC, HLC	Smart BLC	Smart BLC	BLC, HLC
Wide Dynamic Range (WDR)	D-WDR	WDR 120dB	WDR 120dB	WDR 120dB
Lens type	Fixed	Fixed	Fixed	Fixed
Focal length	2,6mm	2,3mm	2,3mm	4,3mm
Horizontal angle of view	110°	135°	130°	75°
Vertical angle of view	60°	75°	75°	40°
Audio support	G.711	G.711	G.711	G.711
Internal storage	microSDHC card, microSDXC card	microSDHC card, microSDXC card	microSDHC card, microSDXC card	microSDHC card, microSDXC card
ONVIF	ONVIF Profile S	ONVIF Profile S & T	ONVIF Profile S & T	ONVIF Profile S
Temperature range (operation)	-10°C ~ +50°C	0°C ~ +40°C	0°C ~ +40°C	-10°C ~ +50°C
Alarm inputs / outputs	1/1	1/1	1/1	1/1
Supply voltage	12VDC, PoE	12VDC, PoE	12VDC, PoE	12VDC, PoE
Housing	Indoor / Flush	Indoor / Flush	Indoor / Flush	Indoor / Flush
Colour	–	–	–	Black
Protection rating	–	–	–	–
Special features	Versatile, compact design	versatile, compact design	versatile, compact design	Versatile, compact design, STARVIS, 60fps, pinhole

Technology partnerships

Flexibly deployable video security products and strong technology partnerships for efficient video management are the prerequisites for systems which meet customer requirements in the best possible way. That's why eneo works alongside leading system solution providers and is constantly expanding its partner network.

For an overview of the current status of the integration of eneo IP products, please visit our website:

Multi-signal Cameras

EPOC
IP
MULTI-SIGNAL
THERMAL
NVR / DVR
SWITCHES
EN-/DECODER

Product	MEB-64V2812M0A	MEB-62V2812P0B	MPB-72M2812M0A	MPB-72M0550M0A	MCB-64A0003M0A	MCB-72M2712M0A	MED-54F0036MBA	MED-64V2812MBA
Product number	218355	219548	217277	217718	218572	218307	218356	218357
System	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day&Night
Sensor	1/2,7" CMOS, ST, SC5035	1/2,8" CMOS, Sony, IMX322	1/2,8" CMOS, Sony STARVIS, IMX291	1/2,8" CMOS, Sony STARVIS, IMX291	1/2,9" CMOS, Sony STARVIS, IMX326	1/2,8" CMOS, Sony STARVIS, IMX291	1/2,7" CMOS, ST, SC5035	1/2,7" CMOS, ST, SC5035
Resolution max.	2560x1440 720x576	1920x1080	1920x1080 1280x720 720x576	1920x1080 1280x720 720x576	2560x1440 1920x1080 1280x720	1920x1080 1280x720 720x576	2560x1440 720x576	2560x1440 720x576
Sensitivity	0.5 Lux at F1.6, 50 IRE	0.3 Lux at F1.3, 40 IRE	0.08 Lux at F1.4, 40 IRE	0.08 Lux at F1.4, 40 IRE	0.1 Lux at F1.6, 40 IRE	0.08 Lux at F1.4, 40 IRE	0.5 Lux at F2.0, 50 IRE	0.5 Lux at F1.6, 50 IRE
Digital Noise Reduction (DNR)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Backlight compensation	–	BLC, HLC	BLC, HLC	BLC, HLC	BLC, HLC	BLC, HLC	–	–
Wide Dynamic Range (WDR)	D-WDR	D-WDR	WDR 113dB	WDR 113dB	DOL-WDR 120dB, D-WDR, WDR 113dB	WDR 113dB	D-WDR	D-WDR
Signal format	HD-TVI @ 4MP AHD @ 4Mp	Composite (CVBS) HD-TVI @ 2MP AHD @ 2MP	Composite (CVBS) HD-TVI @ 2MP AHD @ 2MP CVI @ 2MP EX-SDI @ 2MP HD-SDI @ 2MP	Composite (CVBS) HD-TVI @ 2MP AHD @ 2MP CVI @ 2MP EX-SDI @ 2MP HD-SDI @ 2MP	HD-TVI @ 4MP AHD @ 4Mp EX-SDI @ 4MP HD-SDI @ 2MP	Composite (CVBS) HD-TVI @ 2MP AHD @ 2MP CVI @ 2MP EX-SDI @ 2MP HD-SDI @ 2MP	HD-TVI @ 4MP AHD @ 4Mp	HD-TVI @ 4MP AHD @ 4Mp
Frame rate	25/30fps @ 1440p	25/30fps @ 1080p	25/30fps @ 1080p 50/60fps @ 720p	25/30fps @ 1080p 50/60fps @ 720p	25/30fps @ 1440p 25/30fps @ 1080p 50/60fps @ 720p	25/30fps @ 1080p 50/60fps @ 720p	25/30fps @ 1440p	25/30fps @ 1440p
Lens type	Varifocal	Varifocal	Varifocal (motorized)	Varifocal (motorized)	Auto focus zoom	Varifocal (motorized)	Fixed	Varifocal
Focal length	2,8 - 12mm	2,8 - 12mm	2,8 -12mm	5 - 50mm	3,2 - 9mm	2,7 - 12mm	3,6mm	2,8 – 12mm
Horizontal angle of view	94° - 53°	98° - 31°	100° - 38°	45° - 7°	78° - 6°	99° - 35°	76°	94° – 53°
Vertical angle of view	26,5° - 13°	53° - 17°	53° - 19°	25° - 4°	42° - 3°	55° - 20°	41°	26,5° – 13°
Temperature range (operation)	-20℃ ~ +50℃	-20℃ ~ +50℃	-30℃ ~ +50℃	-30℃ ~ +50℃	-20℃ ~ +50℃	-30℃ ~ +50℃	-20℃ ~ +50℃	-20℃ ~ +50℃
Illumination	Infrared, approx. 20m	Infrared, approx. 30m	Infrared, approx. 60m	Infrared, approx. 60m	Infrared, approx. 40m	Infrared, approx. 60m	Infrared, approx. 20m	Infrared, approx. 20m
Serial interfaces	Pelco C (UTC / HD-TVI)	Pelco C (UTC / HD-TVI)	Pelco C (UTC / HD-TVI)	Pelco C (UTC / HD-TVI)	Pelco C (UTC / HD-TVI)	Pelco C (UTC / HD-TVI)	Pelco C (UTC / HD-TVI)	Pelco C (UTC / HD-TVI)
Alarm inputs / outputs	–	–	–	–	–	–	–	–
Supply voltage	12VDC	12VDC	12VDC, 24VAC	12VDC, 24VAC	12VDC, 24VAC	12VDC, 24VAC	12VDC	12VDC
Colour (Housing)	White	Pantone Cool Gray 1C	Pantone Cool Gray 1C	Pantone Cool Gray 1C	Pantone Cool Gray 1C	Pantone Cool Gray 1C	White	White
Housing	Indoor / outdoor	Indoor / outdoor	Indoor / outdoor	Indoor / outdoor	Indoor / outdoor	Indoor / outdoor	Indoor / outdoor	Indoor / outdoor
Protection rating	IP65	IP66	IP67	IP67	IP67	IP67	IP65	IP65
Special features	4MP	–	STARVIS	STARVIS	STARVIS, DOL-WDR, integrated junction box, 4MP	STARVIS, integrated junction box	4MP	4MP

Multi-signal Cameras

Product	MPD-62V2812P0B	MPD-62M2812P0A	MPD-64A0003P0A	MPD-72M2812M0A	MPD-74A0003M0A	AES-5SF0036M1A	AES-5SF0036M0A	MSM-42F0043M0A
Product number	219546	217279	218771	217278	218772	223916	221517	221441
System	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day&Night	Electronic Day&Night	Electronic Day&Night	Electronic Day&Night
Sensor	1/2,8" CMOS, Sony, IMX322	1/2,8" CMOS, Sony STARVIS, IMX291	1/2,9" CMOS, Sony STARVIS, IMX326	1/2,8" CMOS, Sony STARVIS, IMX291	1/2,9" CMOS, Sony STARVIS, IMX326	CCD, Sony Super HAD II Interline Transfer	CCD, Sony Super HAD II Interline Transfer	CMOS
Resolution max.	1920x1080	1920x1080 1280x720 720x576	2560x1440 1920x1080 1280x720	1920x1080 1280x720 720x576	2560x1440 1920x1080 1280x720	976x582	976x583	1920x1080 1280x720 960x576
Sensitivity	0.3 Lux at F1.3, 40 IRE	0.08 Lux at F1.4, 40 IRE	0.1 Lux at F1.6, 40 IRE	0.08 Lux at F1.4, 40 IRE	0.1 Lux at F1.6, 40 IRE	0.1 Lux, at F1,2, 50 IRE	0.1 Lux, at F1,2, 50 IRE	0.1 Lux at F2.0
Digital Noise Reduction (DNR)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Backlight compensation	BLC, HLC	BLC, HLC	BLC, HLC	BLC, HLC	BLC, HLC	BLC	BLC	BLC, HLC
Wide Dynamic Range (WDR)	D-WDR	WDR 113dB	DOL-WDR 120dB, D-WDR, WDR 113dB	WDR 113dB	DOL-WDR 120dB, D-WDR, WDR 113dB	–	–	WDR 120dB
Signal format	Composite (CVBS) HD-TVI @ 2MP AHD @ 2MP CVI @ 2MP	Composite (CVBS) HD-TVI @ 2MP AHD @ 2MP CVI @ 2MP EX-SDI @ 2MP HD-SDI @ 2MP	HD-TVI @ 4MP AHD @ 4Mp EX-SDI @ 4MP HD-SDI @ 2MP	Composite (CVBS) HD-TVI @ 2MP AHD @ 2MP CVI @ 2MP EX-SDI @ 2MP HD-SDI @ 2MP	HD-TVI @ 4MP AHD @ 4Mp EX-SDI @ 4MP HD-SDI @ 2MP	Composite (FBAS)	Composite (FBAS)	Composite (FBAS) HD-TVI @ 2MP AHD @ 2MP CVI @ 2MP
Frame rate	25/30fps @ 1080p	25/30fps @ 1080p 50/60fps @ 720p	25/30fps @ 1440p 25/30fps @ 1080p 50/60fps @ 720p	25/30fps @ 1080p 50/60fps @ 720p	25/30fps @ 1440p 25/30fps @ 1080p 50/60fps @ 720p	30fps	30fps	25/30fps @ 1080p 50/60fps @ 720p
Lens type	Varifocal	Varifocal (motorized)	Auto focus zoom	Varifocal (motorized)	Auto focus zoom	Fixed	Fixed	Fixed
Focal length	2,8 – 12mm	2,8 – 12mm	3,2 – 9mm	2,8 – 12mm	3,2 – 9mm	3,6mm	3,6mm	4,3mm
Horizontal angle of view	98° – 31°	100° – 38°	78° – 6°	100° – 38°	78° – 6°	68°	68°	71,5°
Vertical angle of view	53° – 17°	53° – 19°	42° – 3°	53° – 19°	42° – 3°	-	-	38,4°
Temperature range (operation)	-10°C ~ +50°C	-10°C ~ +50°C	-10°C ~ +50°C	-30°C ~ +50°C	-20°C ~ +50°C	-10°C ~ +50°C	-10°C ~ +50°C	-10°C ~ +50°C
Illumination	Infrared, approx. 30 m	Infrared, approx. 30 m	Infrared, approx. 30 m	Infrared, approx. 50 m	Infrared, ca. 40 m	-	–	–
Serial interfaces	Pelco C (UTC / HD-TVI)	Pelco C (UTC / HD-TVI)	Pelco C (UTC / HD-TVI)	Pelco C (UTC / HD-TVI)	Pelco C (UTC / HD-TVI)	-	Pelco C (UTC / HD-TVI)	RS-485, Pelco C (UTC / HD-TVI)
Alarm inputs / outputs	–	–	–	–	–	-	12VDC	12VDC, 24VAC
Supply voltage	12VDC	12VDC	12VDC	12VDC, 24VAC	12VDC, 24VAC	12VDC	White	White
Colour (Housing)	White	White	White	Pantone Cool Gray 1C	Pantone Cool Gray 1C	White	Indoor	Outdoor
Housing	Indoor	Indoor	Indoor	Indoor / outdoor	Indoor / outdoor	Outdoor	–	IP66, IK10
Protection rating	–	–	–	IP67 / IK10	IP67 / IK10	IP66, IK10	Fisheye	STARVIS, 20x zoom
Special features	–	STARVIS	STARVIS, DOL-WDR, 4MP	STARVIS	STARVIS, IK10, DOL-WDR, 4MP	–	–	–

EPOC

IP

MULTI-SIGNAL

THERMAL

NVR / DVR

SWITCHES

EN-/DECODER

Multi-signal Cameras

Product	TSD-52F0013P0A	MPC-52A0030P0A	MPC-52C0000M0A	MPC-54A0003M0A	TPP-72A0030P0A	MPP-62A0020M0A	MPP-72A0020MIA	TPP-82A0030MIA
Product number	221916	218072	217280	218643	213271	221240	219809	213857
System	True Day&Night	True Day&Night	True Day&Night	True Day&Night	True Day & Night	True Day&Night	True Day&Night	True Day&Night
Sensor	Progressive Scan CMOS	1/2,8" CMOS, Sony STARVIS, IMX291	1/2,8" CMOS, Sony STARVIS, IMX291	1/2,9" CMOS, Sony STARVIS, IMX326	1/2,8" CMOS, Sony STARVIS, IMX291	1/2,8" CMOS, Sony STARVIS, IMX291	1/2,8" CMOS, Sony STARVIS, IMX291	1/2,8" CMOS, Sony STARVIS, IMX291
Resolution max.	1920x1080	1920x1080 1280x720 720x576	1920x1080 1280x720 720x576	2560x1440 1920x1080 1280x720	1920x1080 1280x720 960x576	1920x1080 1280x720 720x575	1920x1080 1280x720 960x576	1920x1080 1280x720 960x576
Sensitivity	0.5 Lux at 30 IRE, F2.0	0.35 Lux at F1.6, 50 IRE	0.08 Lux at F1.4, 40 IRE	0.1 Lux at F1.6, 40 IRE	0.35 Lux at F1.6, 50 IRE	0.35 at F1.6, 50 IRE	0.35 Lux at F1,6, 50 IRE	0.35 Lux at F1.6, 50 IRE
Digital Noise Reduction	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Backlight compensation	BLC	BLC, HLC	BLC, HLC	BLC, HLC	BLC, HLC	BLC, HLC	BLC, HLC	BLC, HLC
Wide Dynamic Range (WDR)	D-WDR	WDR 120dB	WDR 113dB	DOL-WDR 120dB, D-WDR, WDR 113dB	WDR 120dB	WDR 120dB	WDR 120dB	WDR 120dB
Signal format	HD-TVI @ 2MP	Composite (CVBS) HD-TVI @ 2MP AHD @ 2MP	Composite (CVBS) HD-TVI @ 2MP AHD @ 2MP CVI @ 2MP EX-SDI @ 2MP HD-SDI @ 2MP	HD-TVI @ 4MP AHD @ 4Mp EX-SDI @ 4MP HD-SDI @ 2MP	Composite (CVBS) HD-TVI @2MP AHD @2MP	Composite (FBAS) HD-TVI @ 2MP AHD @ 2MP	Composite (FBAS) HD-TVI @2MP AHD @2MP	Composite (CVBS) HD-TVI @2MP AHD @2MP
Frame rate	25/30fps @ 1080p	25/30fps @ 1080p 50/60fps @ 720p	25/30fps @ 1080p 50/60fps @ 720p	25/30fps @ 1440p 25/30fps @ 1080p 50/60fps @ 720p	25/30fps @ 1080p 50/60fps @ 720p	25/30fps @ 1080p 50/60fps @ 720p	25/30fps @ 1080p 50/60fps @ 720p	25/30fps @ 1080p 50/60fps @ 720p
Lens type	Fixed	Auto focus zoom	C/CS Mount	Auto focus zoom	Auto focus zoom	Auto focus zoom	Auto focus zoom	Auto focus zoom
Focal length	1,34mm	30x	–	3,2–9mm	4,3 – 129mm	4,7 - 94mm	4,7 – 94mm	4,3 – 129mm
Horizontal angle of view	360°	4,3 – 129mm	–	78° – 6°	61,8° – 2,11°	55,5° - 3°	55,5° – 3°	61,8° – 2,11°
Vertical angle of view	–	61,8° – 2,11°	–	42° – 3°	36,4° – 1,29 °	32,4° - 1,7	34° – 1,7°	36,4° – 1,29 °
Temperature range (operation)	0°C ~ +40°C	36,4° – 1,29°	–	-10°C ~ +50°C	0°C ~ +50°C	-20°C ~ +50°C	-20°C ~ +50°C	-30°C ~ 65°C
Illumination	Infrarot, ca.8 m	0°C ~ +50°C	-10°C ~ +50°C	–	–	–	Infrarot, ca. 60m	Infrared, approx. 300m
Serial interfaces	Pelco C (UTC / HD-TVI)	Pelco C (UTC / HD-TVI), RS-422, RS-485	Pelco C (UTC / HD-TVI)	Pelco C (UTC / HD-TVI)	RS-485, Pelco C (UTC / HD-TVI)	RS-485, Pelco C (UTC / HD-TVI)	RS-485, Pelco C (UTC / HD-TVI)	RS-485, Pelco C (UTC / HD-TVI)
Alarm inputs / outputs	–	1/1	–	–	4/2	4/2	4/2	4/2
Supply voltage	12VDC	12VDC, 24VAC	12VDC, 24VAC	12VDC, 24VAC	12VDC, 24VAC	12VDC, 24VAC	12VDC	24VAC, 24VDC
Colour	White	White	Pantone Cool Gray 1C	Pantone Cool Gray 1C	Black	White	White	Pantone Cool Gray 1C
Use	Indoor	Indoor	Indoor	Indoor	Indoor	Outdoor	Outdoor	Outdoor
Protection rating	–	–	–	–	–	IP66, IK10	IP66	IP66
Features	Fisheye	STARVIS, auto focus zoom	STARVIS, C/CS	STARVIS, 3x zoom	STARVIS	STARVIS, 20x zoom	IR illumination, STARVIS	Zoom synchronized & fixed IR LEDs, STARVIS

Multi-signal Cameras

Product	TEM-42F0025M0A	MEM-42F0036MPA	MSM-42F0037MPA	MSM-42F0028M0A
Product number	215596	215597	217646	217647
System	Electronic Day&Night	Electronic Day&Night	Colour	Colour
Sensor	1/2,8" CMOS, Sony Exmor	1/2,8" CMOS, Sony Exmor	1/2,8" CMOS, Sony STARVIS, IMX291	1/2,8" CMOS, Sony STARVIS, IMX291
Resolution max.	1920x1080	1920x1080	1920x1080 1280x720 720x576	1920x1080 1280x720 720x576
Sensitivity	0.01 Lux at F1.2, 50 IRE	0.01 at F1.2, 50 IRE	0.08 Lux at F1.4, 40 IRE	0.08 Lux at F1.4, 40 IRE
Digital Noise Reduction (DNR)	Yes	Yes	Yes	Yes
Backlight compensation	BLC, HLC	BLC, HS BLC (Eclipser)	BLC, HLC	BLC, HLC
Wide Dynamic Range (WDR)	WDR 99dB	D-WDR	WDR 113dB	WDR 113dB
Signal format	Composite (CVBS), HD-TVI	Composite (CVBS) HD-TVI @ 2MP AHD @ 2MP	Composite (CVBS) HD-TVI @ 2MP AHD @ 2MP CVI @ 2MP EX-SDI @ 2MP HD-SDI @ 2MP	Composite (CVBS) HD-TVI @ 2MP AHD @ 2MP CVI @ 2MP EX-SDI @ 2MP HD-SDI @ 2MP
Frame rate	25/30fps @ 1080p 50/60fps @ 720p	25/30fps @ 1080p 50/60fps @ 720p	25/30fps @ 1080p 50/60fps @ 720p	25/30fps @ 1080p 50/60fps @ 720p
Lens type	Fixed	Fixed	Fixed	Fixed
Focal length	2,5mm	3,6mm	3,7mm	2,8mm
Horizontal angle of view	136,5°	92,6°	82°	112°
Vertical angle of view	73,2°	54,6°	42°	59°
Temperature range (operation)	-10°C ~ +50°C	-10°C ~ +50°C	-10°C ~ +50°C	-10°C ~ +50°C
Illumination	–	–	–	–
Serial interface	Pelco-C (Coaxitron)	Pelco-C (Coaxitron)	Pelco-C (Coaxitron)	Pelco-C (Coaxitron)
Alarm Inputs/Outputs	–	–	–	–
Supply Voltage	12VDC	12VDC	12VDC	12VDC
Colour (Housing)	Black	Black	Black	Black
Housing	Indoor / Flush	Outdoor / Indoor / Flush	Indoor / Flush	Indoor / Flush
Protection Rating	–	IP66	–	–
Special features	Versatile, compact design	Versatile, compact design	Versatile, compact design, STARVIS	Versatile, compact design, STARVIS

Thermal Cameras

Product	ITB-7SF0075M0A	ITB-7SF0013M0A	ITB-7SF0019M0A
Product number	219420	219421	219422
Resolution (module)	336x256	336x256	336x256
Video compression	H.264, M-JPEG	H.264, M-JPEG	H.264, M-JPEG
Image transmission rate max.	25fps	25fps	25fps
Spectral area	7,5 – 13,5 µm	7,5 – 13,5 µm	7,5 – 13,5 µm
Pixel pitch	17 µm	17 µm	17 µm
Vertical angle of view	35°	19°	13°
Horizontal angle of view	45°	25°	17°
Geometrical resolution (IFOV)	2267 mrad	1308 mrad	895 mrad
Thermal sensitivity at 25°C	50 mk	50 mk	50 mk
Lens type	Fixed	Fixed	Fixed
Analysis functions	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection	Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection
Focal length	7,5mm	13mm	19mm
Detection range	235m man, 730m vehicle	440m man, 1340m vehicle	640m man, 1950m vehicle
Video outputs	Composite (CVBS)	Composite (CVBS)	Composite (CVBS)
Serial interfaces	USB, Ethernet	USB, Ethernet	USB, Ethernet
Alarm inputs / outputs	1/1	1/1	1/1
Audio support	Yes	Yes	Yes
Housing	Indoor / outdoor	Indoor / outdoor	Indoor / outdoor
Colour	Pantone Cool Gray 1C	Pantone Cool Gray 1C	Pantone Cool Gray 1C
Supply voltage	12VDC, 24VAC, PoE (IEEE-802.3af)	12VDC, 24VAC, PoE (IEEE-802.3af)	12VDC, 24VAC, PoE (IEEE-802.3af)
Temperature range (operation)	-35°C ~ +50°C	-35°C ~ +50°C	-35°C ~ +50°C
Protection rating	IP67	IP67	IP67
ONVIF	ONVIF Profile S	ONVIF Profile S	ONVIF Profile S
Special features	Temperature measurement with alarm functions, HTML5	Temperature measurement with alarm functions, HTML5	Temperature measurement with alarm functions, HTML5

Perimeter protection: effective & efficient

Thermal cameras from the eneo Candid series enable comprehensive situation awareness at distances of up to 3,850 m. At any time of the day. Whatever the season. And under the most difficult lighting conditions. With full eneo Easy Installation comfort and years of maintenance-free operation.

ITB-7SF0035M0A
219423
336x256
H.264, M-JPEG
25fps
7,5 – 13,5 µm
17 µm
7,1°
9,3°
488 mrad
50 mk
Fixed
Motion detection, tampering protection, trip wire detection with counting and direction detection, field detection
35mm
1280m man, 3850m vehicle
Composite (CVBS)
USB, Ethernet
1/1
Yes
Indoor / outdoor
Pantone Cool Gray 1C
12VDC, 24VAC, PoE (IEEE-802.3af)
-35°C ~ +50°C
IP67
ONVIF Profile S
Temperature measurement with alarm functions, HTML5

Recording solutions

Network video recorders

Virtual matrix IEM-38R640005A

Cost effectiveness defines the network recorders in the eneo IER series. Whether with 4, 8, 16 or 32 channels, in each version the recorders produce displays with a maximum resolution of 8 megapixels at full refresh rate. Additional network storage can be integrated via the iSCSI protocol. Accordingly the storage capacity can be increased up to 96TB. Multiple IP recorders can be connected to the network using the IEM-38R640005A virtual matrix. This allows up to 64 video sources to be managed on one common interface. The configuration and control of network recorders and access to the integrated cameras and decoders are possible using the remote access function. There is one HDMI and one VGA output each for connecting a 4K or Full HD monitor. Its compact design makes the virtual matrix suitable for the desktop as well as the racking system.

Digital video recorders

The MER, MSR and MPR series recorders are designed for video recording in multi-signal and hybrid systems. The MER series recorders support video resolutions of up to 8 megapixels. In addition, they are compatible with composite (CVBS), AHD, HD-TVI, CVI, HD-SDI, EX-SDI and IP signal formats. The MSR series delivers resolutions of up to 4 megapixels and supports composite (CVBS), AHD, HD-TVI and IP signal formats, while the MPR recorders support Full HD and composite (CVBS), AHD and HD-TVI signal formats. 4, 8 and 16-channel models are available for each of the three series.

New at the MSR-series:
16-channel DVR MSR-24N160004A

Video management

eneo Center mobile

With the eneo Center mobile app for Android and iOS, author-ised users can access eneo video security systems. Anytime, anywhere and comfortably.

eneo Site Manager

eneo Site Manager is a service software for eneo IP cameras and network recorders and enables automatic scanning, configuration and manage-ment of eneo IP cameras. The eneo Site Manager provides quick access to the web interface and supports among other things the multi-display of different IP cameras, parallel mass updates and the storage and restitution of camera settings.

Click here for the
download options for
eneo Site Manager

eneo Center

The eneo Center management platform integrates eneo IP and multi-signal recorders, thus enabling the centralised control of eneo video security systems. In addition to standard features, the software provides advanced system status information. The event monitor with a site plan and an integrated live view gives users a comprehensive picture of the situation at all times. The user interface design is tailored to the specific operational needs of video security applications and combines strong functionality with intuitive operation. eneo Center is compatible with Windows and Mac based systems.

Conveniently down-load here eneo Center and eneo Center mobile:

NVR

Product	IER-28R040005A	IER-28R080005A	IER-28R160005A	IER-38R160005A	IER-38R320005A	IEM-38R640005A
Product number	220198	220199	220200	217348	217349	217651
IP channels	4	8	16	16	32	0
Compression standard	H.264, H.265	H.264, H.265	H.264, H.265	H.264, H.265	H.264, H.265	H.264, H.265
Max. recording resolution	3840x2160	3840x2160	3840x2160	3840x2160	3840x2160	3840x2160
Max. recording rate	120fps @ 3840x2160	240fps @ 3840x2160	480fps @ 3840x2160	480fps @ 3840x2160	960fps @ 3840x2160	960fps @ 3840x2160
Data transfer rate maximum	104 Mbps	208 Mbps	416 Mbps	736 Mbps	896 Mbps	1216 Mbps
Data transfer rate incoming	32 Mbps	64 Mbps	128 Mbps	160 Mbps	320 Mbps	640 Mbps
Data transfer outgoing	72 Mbps	144 Mbps	288 Mbps	576 Mbps	576 Mbps	576 Mbps
Hard disk capacity (internal / max. internal / external)	0/20/96 TB	0/20/96 TB	0/20/96 TB	0/40/96 TB	0/40/96 TB	0/40/96 TB
Live view	3840x2160 1920x1080 1280x720 1024x768 max. 120fps	3840x2160 1920x1080 1280x720 1024x768 max. 240fps	3840x2160 1920x1080 1280x720 1024x768 max. 480fps	3840x2160 1280x720 1920x1080 1024x768, max. 480fps	3840x2160 1280x720 1920x1080 1024x768 max. 960fps	3840x2160 1280x720 1920x1080 1024x768 max. 960fps
Monitor outputs	HDMI, VGA	HDMI, VGA	HDMI, VGA	HDMI, VGA	HDMI, VGA	HDMI
Interfaces external storage	eSATA, iSCSI	eSATA, iSCSI	eSATA, iSCSI	eSATA, iSCSI	eSATA, iSCSI	–
Alarm inputs / outputs	4/1	8/1	16/1	16/1	16/1	4/2
Export of images or clips	USB port, via client software, clip player, AVI, H4V, MP4 via eneo Center	USB port, via client software, clip player, AVI, H4V, MP4 via eneo Center	USB port, via client software, clip player, AVI, H4V, MP4 via eneo Center	USB port, via client software, clip player, AVI, H4V, MP4 via eneo Center	USB port, via client software, clip player, AVI, H4V, MP4 via eneo Center	USB port, via client software, clip player, AVI, H4V, MP4 via eneo Center
USB ports	2x USB 2.0, 1x USB 3.0	2x USB 2.0, 1x USB 3.0	2x USB 2.0, 1x USB 3.0	2x USB 2.0, 1x USB 3.0	2x USB 2.0, 1x USB 3.0	2x USB 2.0, 1x USB 3.0
Network protocols	TCP/IP, DHCP, Zeroconf, IPv4, IPv6, HTTP, UPnP, ARP, SMTP, RTSP, RTP, FTP, NTP	TCP/IP, DHCP, Zeroconf, IPv4, IPv6, HTTP, UPnP, ARP, SMTP, RTSP, RTP, FTP, NTP	TCP/IP, DHCP, Zeroconf, IPv4, IPv6, HTTP, UPnP, ARP, SMTP, RTSP, RTP, FTP, NTP	TCP/IP, DHCP, Zeroconf, IPv4, IPv6, HTTP, UPnP, ARP, SMTP, RTSP, RTP, FTP, NTP	TCP/IP, DHCP, Zeroconf, IPv4, IPv6, HTTP, UPnP, ARP, SMTP, RTSP, RTP, FTP, NTP	TCP/IP, DHCP, Zeroconf, IPv4, IPv6, HTTP, UPnP, ARP, SMTP, RTSP, RTP, FTP, NTP
Network	1x 10/100/1000 Base-T RJ45	1x 10/100/1000 Base-T RJ45	1x 10/100/1000 Base-T RJ45	1x 10/100/1000 Base-T RJ45	1x 10/100/1000 Base-T RJ45	2x 10/100/1000Base-TX RJ45
PoE budget (total)	38W	73W	130W	130W	130W	–
Alarm notification	E-mail notification, alarm output, remote software, live popup, buzzer, mobile push	E-mail notification, alarm output, remote software, live popup, buzzer, mobile push	E-mail notification, alarm output, remote software, live popup, buzzer, mobile push	E-mail notification, alarm output, remote software, live popup, buzzer, mobile push	E-mail notification, alarm output, remote software, live popup, buzzer, mobile push	E-mail notification, alarm output, remote software, live popup, buzzer
Remote configuration	eneo Center (Windows, MAC), eneo Center mobile (iOS, Android), web browser (Java)	eneo Center (Windows, MAC), eneo Center mobile (iOS, Android), web browser (Java)	eneo Center (Windows, MAC), eneo Center mobile (iOS, Android), web browser (Java)	eneo Center (Windows, MAC), eneo Center mobile (iOS, Android), web browser (Java)	eneo Center (Windows, MAC), eneo Center mobile (iOS, Android), web browser (Java)	eneo Center (Windows, MAC), eneo Center mobile (iOS, Android), web browser (Java)
Supply voltage	48VDC (Power supply 100-240VAC included)	48VDC (Power supply 100-240VAC included)	100~240VAC	100~240VAC	100~240VAC	100~240VAC
Special features	Remote access, IEM compatible, four-eyes principle	Remote access, IEM compatible, four-eyes principle	Remote access, IEM compatible, four-eyes principle	Remote access, dewarping for ISD 360° series, 4K HDMI, four-eyes principle	Remote access, dewarping for ISD 360° series, 4K HDMI, four-eyes principle	4K HDMI, four-eyes principle

Product	MSR-24N040004A	MSR-24N080004A	MSR-24N160004A	MER-28N040000A	MER-28N080000A	MER-28N160000A	MER-38N160000A	MPR-22R040200A
Product number	218168	218169	223984	221346	221261	221348	221349	216284
Video inputs	4	8	16	4	8	16	16	4
IP channels	1	2	4	4	8	16	16	–
Signal format	Composite (CVBS) HD-TVI @ 4MP AHD @ 4MP IP @ 3MP	Composite (CVBS) HD-TVI @ 4MP AHD @ 4MP IP @ 3MP	Composite (FBAS) HD-TVI @ 5MP AHD @ 5MP IP @ 5MP	Composite (FBAS) HD-TVI @ 8MP AHD @ 8MP CVI @ 8MP EX-SDI @ 4MP HD-SDI @ 4MP IP @ 8MP	Composite (FBAS) HD-TVI @ 8MP AHD @ 8MP CVI @ 8MP EX-SDI @ 4MP HD-SDI @ 4MP IP @ 8MP	Composite (FBAS) HD-TVI @ 8MP AHD @ 8MP CVI @ 8MP EX-SDI @ 4MP HD-SDI @ 4MP IP @ 8MP	Composite (FBAS) HD-TVI @ 8MP AHD @ 8MP CVI @ 8MP EX-SDI @ 4MP HD-SDI @ 4MP IP @ 8MP	Composite (FBAS) HD-TVI @ 2MP AHD @ 2MP
Max. recording resolution	2560x1440	2560x1440	2560x1920	3840x2160	3840x2160	3840x2160	3840x2160	1920x1080
Max. recording rate	100fps @ 1920x1080	200fps @ 1920x1080	160fps @ 2560x1920	100fps @ 1920x1080	200fps @ 1920x1080	400fps @ 1920x1080	400fps @ 1920x1080	100fps @ 1920x1080
Recording rate	50 fps @ 2560x1440 100 fps @ 1920x1080 100 fps @ 1280x720 100 fps @ 960 x 540 100 fps @ 704 x 576	100 fps @ 2560x1440 200 fps @ 1920x1080 200 fps @ 1280 x 720 200 fps @ 960 x 540 200 fps @ 704 x 576	160fps @ 2560x1920 200fps @ 2560x1440 400fps @ 1920x1080 400fps @ 1280 x 720 400fps @ 960 x 540 400fps @ 704 x 577	25fps @ 3840x2160 50fps @ 2560x1440 100fps @ 1920x1080 100fps @ 1280x720 100fps @ 960 x 540 100fps @ 704 x 576	50fps @ 3840x2160 100fps @ 2560x1440 200fps @ 1920x1080 200fps @ 1280 x 720 200fps @ 960 x 540 200fps @ 704 x 576	100fps @ 3840x2160 200fps @ 2560x1440 400fps @ 1920x1080 400fps @ 1280 x 720 400fps @ 960 x 540 400fps @ 704 x 576	100fps @ 3840x2160 200fps @ 2560x1440 400fps @ 1920x1080 400fps @ 1280 x 720 400fps @ 960 x 540 400fps @ 704 x 576	100 fps @ 1920x1080 100 fps @ 1280x720 100 fps @ 960x480 100 fps @ 720x480 100 fps @ 480x240 100 fps @ 360x240
Hard disk capacity (internal / max. internal / external)	0/16/96 TB	0/16/96 TB	0/16/96 TB	0/20/120 TB	0/20/120 TB	0/20/120 TB	0/80/120 TB	2/12 TB
Compression standard	H.264	H.264	H.264, H265	H.264, H265	H.264, H265	H.264, H265	H.264, H265	H.264
Interfaces external storage	USB, eSATA, iSCSI	USB, eSATA, iSCSI	USB, eSATA, iSCSI	USB, eSATA	USB, eSATA	USB, eSATA	USB, eSATA	USB
Main video outputs	HDMI (4K), VGA	HDMI (4K), VGA	HDMI (4K), VGA	HDMI (4K), VGA	HDMI (4K), VGA	HDMI (4K), VGA	HDMI (4K), VGA	HDMI, VGA
Spot monitor	Composite (CVBS)	Composite (CVBS)	Composite (FBAS)	HDMI, VGA, Composite (FBAS)	HDMI, VGA, Composite (FBAS)	HDMI, VGA, Composite (FBAS)	HDMI, VGA, Composite (FBAS)	–
Recording	Permanent, timer, movement, contact, panic, PoS-text, event	Permanent, timer, movement, contact, panic, PoS-text, event	Permanent, timer, movement, contact, panic, PoS-text, event	Permanent, timer, movement, contact, panic, PoS-text, event	Permanent, timer, movement, contact, panic, PoS-text, event	Permanent, timer, movement, contact, panic, PoS-text, event	Permanent, timer, movement, contact, panic, PoS-text, event	Permanent, timer, movement, contact, panic, PoS-text, event
Alarm inputs / outputs	4/1	4/1	4/1	4/4	8/4	16/4	16/16	4/1
Alarm notification	E-mail notification, alarm output, remote software, live popup, buzzer, mobile push	E-mail notification, alarm output, remote software, live popup, buzzer, mobile push	E-mail notification, alarm output, remote software, live popup, buzzer, mobile push	E-mail notification, alarm output, remote software, live popup, buzzer, mobile push	E-mail notification, alarm output, remote software, live popup, spot popup, buzzer, PTZ preset	E-mail notification, alarm output, remote software, live popup, spot popup, buzzer, PTZ preset	E-mail notification, alarm output, remote software, live popup, spot popup, buzzer, PTZ preset	E-mail notification, alarm output, remote software, live popup, spot popup, buzzer, PTZ preset
Serial interfaces	RS-485	RS-485	RS-486	RS-485	RS-486	RS-487	RS-232, RS-486	RS-232, RS-485
Remote configuration	E-mail notification, alarm output, remote software, live popup, buzzer, mobile push	E-mail notification, alarm output, remote software, live popup, buzzer, mobile push	eneo Center mobile (iOS, Android), eneo Center (Windows, MAC), WEB Browser (Java)	HDR_MER_CMS Windows, Mr.Patrol-mobile (iOS, Android) Microsoft Internet Explorer, Mozilla Firefox (live image), Safari (live image)	HDR_MER_CMS Windows, Mr.Patrol-mobile (iOS, Android) Microsoft Internet Explorer, Mozilla Firefox (live image), Safari (live image)	HDR_MER_CMS Windows, Mr.Patrol-mobile (iOS, Android) Microsoft Internet Explorer, Mozilla Firefox (live image), Safari (live image)	HDR_MER_CMS Windows, Mr. Patrol-mobile (iOS, Android) Microsoft Internet Explorer, Mozilla Firefox (live image), Safari (live image)	iRAS Windows, RAS MOBILE (iOS, Android). Microsoft Internet Explorer
Supply voltage	12VDC (Power supply 100-240VAC included)	12VDC (Power supply 100-240VAC included)	12VDC (Power supply 100-240VAC included)	12VDC (Power supply 100-240VAC included)	12VDC (Power supply 100-240VAC included)	12VDC (Power supply 100-240VAC included)	12VDC (Power supply 100-240VAC included)	12VDC (Power supply 100-240VAC included)
Special features	iSCSI, channels can be assigned with IP and/or various HD and SD signal formats, intelligent recording rate control, remote access, GDPR functions	iSCSI, channels can be assigned with IP and/or various HD and SD signal formats, intelligent recording rate control, remote access, GDPR functions	iSCSI, channels can be assigned with IP and/or various HD and SD signal formats, intelligent recording rate control, remote access, GDPR functions	Channels can be assigned with IP and/or various HD and SD signal formats, intelligent recording rate control, 4K HDMI, GDPR functions	Channels can be assigned with IP and/or various HD and SD signal formats, intelligent recording rate control, 4K HDMI, GDPR functions	Channels can be assigned with IP and/or various HD and SD signal formats, intelligent recording rate control, 4K HDMI, GDPR functions	Channels can be assigned with IP and/or various HD and SD signal formats, intelligent recording rate control, 4K HDMI, GDPR functions	–

MPR-32R080200A	MPR-32R160200A
216286	216287
8	16
–	–
Composite (FBAS) HD-TVI @ 2MP AHD @ 2MP	Composite (FBAS) HD-TVI @ 2MP AHD @ 2MP
1920x1080	1920x1080
200fps @ 1920x1080	400fps @ 1920x1080
200 fps @ 1920x1080 200 fps @ 1280 x 720 200 fps @ 960x480 200 fps @ 720x480 200 fps @ 480x288 200 fps @ 360x240	400fps @ 1920x1080 400 fps @ 1280 x 720 400 fps @ 960x480 400 fps @ 720x480 400 fps @ 480x288 400 fps @ 360x240
2/24 TB	2/24 TB
H.264	H.264
USB, eSATA	USB, eSATA
HDMI (4K), VGA	HDMI (4K), VGA
Composite (FBAS)	Composite (FB AS)
permanent, timer, movement, contact, panic, PoS-text, event	permanent, timer, movement, contact, panic, PoS-text, event
8/4	16/4
e-mail notification, alarm output, remote software, FTP, live popup, spot popup, buzzer, PTZ preset, SNS (Twitter)	e-mail notification, alarm output, remote software, FTP, live popup, spot popup, buzzer, PTZ preset, SNS (Twitter)
RS-232, RS-485	RS-232, RS-485
iRAS Windows, RAS MOBILE (iOS, Android). Microsoft Internet Explorer	iRAS Windows, RAS MOBILE (iOS, Android). Microsoft Internet Explorer
100~240VAC	100~240VAC
–	–

Network accessories

SWITCHES

In the eneo portfolio you will find the network accessories necessary for IP based solutions. Our range of network switches includes not only desktop variants but also models for harsh industrial environments that are suitable for both, DIN rail and wall mounting, and which are valued by our customers for their attractive cost effectiveness. Managed Layer 2 Gigabit switches are recommended for integrating IP video surveillance cameras into networks or network segments where traffic and bandwidth need to be controlled, while unmanaged switches are designed for rather small networks with a manageable number of components.

ENCODERS / DECODERS

Encoders digitalise and compress the video signals of analogue cameras and thus offer the possibility of combining analogue or multi-signal cameras with IP cameras and network recorders in one system. Decoders receive the compressed streams and play them back on the monitor after decompression and digital-to -analogue conversion.

Switches

Product	IAM-5SE1004MUB	IAM-5SE1004MUC	IAM-5SG1004MMA	IAM-5SE1008MUA	IAM-5SG1008MMA	IAR-7SH1024MMF	IAR-7SG1008MMA	IAR-7SG1016MMA
Product number	219379	220212	219526	214459	216129	220211	216473	216474
Device type	Layer2Switch	Layer2Switch	Layer2Switch	Layer2Switch	Layer2Switch	Layer2Switch	Layer2Switch	Layer2Switch
Management	–	–	Yes	–	Yes	Yes	Yes	Yes
Ports	4x10/100 Base-TX 1x100 SFP 1x10/100 Base-TX	4x 10/100/1000Base-T, 2x 10/100/1000T SFP, 2x 10/100/1000Base-TX	4x10/100/1000 Base-T 2x1000 Base-X SFP	8x10/100 Base-TX 1x10/100/1000T SFP 1x10/100/1000 Base-TX	8x10/100/1000 Base-T 4x100/1000 Base-X SFP	24x 10/100/1000Base-T, 4x 1000Mbps SFP	8x10/100/1000 Base-T 2x1000 Base-T SFP 2x10/100/1000 Base-TX	16x10/100/1000 Base-T 4x1000Mbps SFP
number PoE ports	4	4	4	8	8	24	8	16
PoE budget (total)	120W	120W	120W	120W	240W	350W	135W	270W
VLAN	Yes	–	Yes	Yes	Yes	Yes	Yes	Yes
Internal switching capacity	0,9 Mpps / 1,5 Gbps	10,4 Mpps / 14 Gbps	8,9 Mpps / 24 Gbps	4,2 Mpps / 5,6 Gbps	17,9 Mpps / 24 Gbps	41,7 Mpps / 56Gbps	17,9 Mpps / 24 Gbps	41,7 Mpps / 56 Gbps
Multicast compliant	–	–	Yes	–	Yes	Yes	Yes	Yes
SNMP	–	–	Yes	–	Yes	Yes	Yes	Yes
Port mirror	–	–	Yes	–	Yes	Yes	Yes	Yes
Supported standards	IEEE802.310 BaseT IEEE802.3u100 BaseTX IEEE802.3at (PoE+) IEEE802.3af (PoE)	IEEE 802.3 10BaseT IEEE 802.3u 100BaseTX IEEE 802.ab 1000BaseT IEEE 802.3z 1000BaseSX/LX, IEEE 802.3at, IEEE 802.3af	IEEE802.310 BaseT IEEE802.3u100 BaseTX IEEE802.ab1000 BaseT IEEE802.3z1000 BaseSX/LX IEEE802.3X IEEE802.3at (PoE+) IEEE802.3af (PoE) IEEE802.1 IEEE802.1D IEEE802.1p IEEEE802.1X IEC61000-4-2 IEC61000-4-5	IEEE802.310 BaseT IEEE802.3u100 BaseTX IEEE802.ab1000 BaseT IEEE802.3z1000 BaseSX/LX IEEE802.3at (PoE+) IEEE802.3af (PoE)	IEEE802.310 BaseT IEEE802.3u100 BaseTX IEEE802.ab1000 BaseT IEEE802.3z1000 BaseSX/LX IEEE802.3X IEEE802.3at (PoE+) IEEE802.3af (PoE) IEEE802.1 IEEE802.1D IEEE802.1p IEEEE802.1X IEC61000-4-2 IEC61000-4-5	IEEE802.310 BaseT IEEE802.3u100 BaseTX IEEE802.ab1000 BaseT IEEE802.3z1000 BaseSX/LX IEEE802.3X IEEE 802.1Q IEEE 802.1p IEEE 802.3ad EEE 802.1D IEEE 802.1X IEEE802.3at (PoE+) IEEE802.3af (PoE) IEC61000-4-2 IEC61000-4-5	IEEE802.310 BaseT IEEE802.3u100 BaseTX IEEE802.ab1000 BaseT IEEE802.3z1000 BaseSX/LX IEEE802.3X IEEE802.3at (PoE+) IEEE802.3af (PoE) IEEE802.1 IEEE802.1D IEEE802.1p IEEEE802.1X IEC61000-4-5	IEEE802.310 BaseT IEEE802.3u100 BaseTX IEEE802.ab1000 BaseT IEEE802.3ad IEEE802.3z1000 BaseSX/LX IEEE802.3X IEEE802.3at (PoE+) IEEE802.3af (PoE) IEEE802.1 IEEE802.1D IEEE802.1p IEEEE802.1X IEC61000-4-2 IEC61000-4-5
Supply voltage	48-57VDC	48-57VDC	48-57VDC	48-57VDC	48-57VDC	100~240VAC	100~240VAC	100~240VAC
Fan	–	–	–	–	–	–	Yes	Yes
Mounting	DIN rail, wall mount	DIN rail, wall mount	DIN rail, wall mount	DIN rail, wall mount	DIN rail, wall mount	19" rack	19" rack	19" rack
Temperature range (operation)	-40℃~+75℃	-40℃~+75℃	-40℃~+75℃	-40℃~+75℃	-40℃~+75℃	-10℃~+50℃	-10℃~+45℃	-10℃~+50℃
Special features	CCTV mode, redundant power supply	Redundant power supply	Fast Ring, CCTV mode, console port, OOB port	CCTV mode, redundant power supply	Fast Ring, redundant power supply, error relay out	Fast Ring, fanless, OOB console port	CCTV mode, console port, PoE budget indication, OOB console port	Fast Ring, OOB console port

Switches

Product	IAR-7SG1024MMA	IAR-7SE1024MMA	IAR-7SM1024MMA	IAR-7SH1024MMA	IAD-5SG1004MUA	IAD-5SG1008MUA
Product number	216682	214460	218190	218734	216469	216472
Device type	Layer2Switch	Layer2Switch	Layer2Switch	Layer3Switch	Layer2Switch	Layer2Switch
Management	Yes	Yes	Yes	Yes	–	–
Ports	24x10/100/1000 Base-T 4x1000Mbps SFP	24x10/100 Base-TX 2x10/100/1000T SFP 2x10/100/1000 Base-TX	24xRJ45Gigabit (optional) 24x SFPGigabit (optional) 2x10/100/1000 Base-T 2x1000Mbps SFP	24x10/100/1000 Base-T 4x1000/10GBit SFP	4x10/100/1000 Base-T 2x10/100/1000 Base-TX	8x10/100/1000 Base-T 1x1000 Base-X SFP 1x10/100/1000 Base-TX
number PoE ports	24	24	–	24	4	8
PoE budget (total)	390W	390W	–	390W	60W	120W
VLAN	Yes	Yes	Yes	Yes	Yes	Yes
Internal switching capacity	41,7 Mpps / 56 Gbps	9,5 Mpps / 12,8 Gbps	42 Mpps / 56 Gbps	96 Mpps	8,9 Mpps / 12 Gbps	14,9 Mpps / 20 Gbps
Multicast compliant	Yes	Yes	Yes	Yes	–	–
SNMP	Yes	Yes	Yes	Yes	–	–
Port mirror	Yes	Yes	Yes	Yes	–	–
Supported standards	IEEE802.310 BaseT IEEE802.3u100 BaseTX IEEE802.ab1000 BaseT IEEE802.3ad IEEE802.3z1000 BaseSX/LX IEEE802.3X IEEE802.3at (PoE+) IEEE802.3af (PoE) IEEE802.1 IEEE802.1D IEEE802.1p IEEEE802.1X IEC61000-4-2 IEC61000-4-5	IEEE802.310 BaseT IEEE802.3u100 BaseTX IEEE802.ab1000 BaseT IEEE802.3z1000 BaseSX/LX IEEE802.3X IEEE802.3at (PoE+) IEEE802.3af (PoE) IEEE802.1 IEEE802.1D IEEE802.1p IEC61000-4-2 IEC61000-4-5	IEEE802.310 BaseT IEEE802.3u100 BaseTX IEEE802.ab1000 BaseT IEEE802.3z1000 BaseSX/LX IEEE802.3X IEEE802.1 IEEE802.1p IEEE802.3ad IEEE802.1D IEEEE802.1X	IEEE802.310 BaseT IEEE802.3u100 BaseTX IEEE802.ab1000 BaseT IEEE802.3ad IEEE802.3z1000 BaseSX /LX IEEE802.3X IEEE802.3at (PoE+) IEEE802.3af (PoE) IEEE802.1 IEEE802.1D IEEE802.1p IEEEE802.1X IEC61000-4-2 IEC61000-4-5 IEEE 802.1Q IEEE 802.3ae 10G BaseX	IEEE802.310 BaseT IEEE802.3u100 BaseTX IEEE802.ab1000 BaseT IEEE802.3X IEEE802.3at (PoE+) IEEE802.3af (PoE) IEC61000-4-2 IEC61000-4-5	IEEE802.310 BaseT IEEE802.3u100 BaseTX IEEE802.ab1000 BaseT IEEE802.3z1000 BaseSX/LX IEEE802.3X IEEE802.3at (PoE+) IEEE802.3af (PoE) IEC61000-4-2 IEC61000-4-5
Supply voltage	100~240VAC	100~240VAC	100~240VAC	100~240VAC	48-57VDC PoE+	48-57 VDC
Fan	Yes	Yes	–	Yes	–	–
Mounting	19" rack	19" rack	19" rack	19" rack	Desktop	Desktop
Temperature range (operation)	-10℃~+50℃	-10℃~+50℃	-10℃~+50℃	-10℃~+50℃	-10℃~+45℃	-10℃~+45℃
Special features	Fast Ring	–	Redundant power supply, modular switch	Fast Ring, 10 Gigabit uplink ports: 4x SFP, console port, OOB port, Layer 3	CCTV mode, PD device	CCTV mode

Encoders / decoders

Product	MAM-5ME1001MTA	MAM-6ME1012MTA	IAD-5DE1016MRA
Product number	217344	219643	220197
Video inputs	1	12	–
Signal format	Composite (CVBS) HD-TVI @ 2MP AHD @ 2MP	Composite (CVBS) HD-TVI @ 2MP AHD @ 2MP	H.264, H.265
Video outputs	–	HDMI, VGA, composite (CVBS)	HDMI, Composite (CVBS)
Data transfer outgoing	–	288 Mbps	600 Mbps
Live view	1920x1080 1280x720 1024x768 max. 30fps	1920x1080 1280x720 1024x768 max. 360fps	3840x2160 1920x1080 max. 480fps
Resolution max.	1920x1080	1920x1080 1280x720 1024x768 max. 360fps	3840x2160
Compression standard	H.264, M-JPEG	H.264, M-JPEG	H.264, H.265
Alarm inputs / outputs	–	12/1	0/1
Audio support	–	G.711	G.711
Analysis functions	Motion Detection	Motion Detection	–
Internal storage	–	–	microSDHC card, microSDXC card
Serial interfaces	RS-485	RS-485	RS-485
Power over Ethernet	–	–	–
Supply voltage	12VDC	12VDC	12VDC
Serial interfaces protocols	Pelco C (UTC / HD-TVI), Pelco D, Pelco P, FastraxIIIE	Pelco C (UTC / HD-TVI), Pelco D, Pelco P, FastraxIIIE	Pelco D, Pelco P, FastraxIIIE
19" rack mountable	–	Yes	–
ONVIF	ONVIF Profile S	ONVIF Profile S	ONVIF Profile S
Special features	1-channel HD analouge to IP encoder	12-channel HD analouge to IP encoder	16-channel IP decoder

Candid

AK-4
Art.-No.: 202888

Junction box for eneo Candid S, Candid M, Candid L

VerticalView Adaptor
Art.-No.: 214174

Designed for Candid M IP cameras using the VerticalView mode

PM-42A
Art.-No.: 202641

Pole mount adaptor for eneo Candid, Candid S, Candid M, Candid L, W3, WB1, AK-5, AK-4

Installation accessories

PRACTICAL, FUNCTIONAL, ROBUST

Video security professionals and operators know how useful the eneo installation accessories are. Meanwhile, the range of accessories for our cameras has developed a sizeable bandwidth. After all, the demand is great and, as with our other product groups, the diverse practical suggestions and specific desires of our customers are continuously incorporated into our product development. The result is solid and cost-effective solutions for installer-friendly, time-saving indoor and outdoor installations which simply look good. The range extends from cameras which are already equipped ex factory with functional connection solutions to wall brackets, pole mounting adapters and terminal boxes which are highly suited and have proven themselves in countless projects. The following pages offer you in a practical overview our various accessories including their various combination options.

Callisto

DOME-S1
Art. No.: 216923

Sun shield for
Callisto domes

Dome/Wedge2
Art.-No.: 207192

Wedge adaptor
for Callisto domes

AK-5
Art.-No.: 209832

Junction box
for Callisto domes, IP66

Dome/Basis1
Art.-No.: 209831

Surface mount base
for Callisto domes

DOME-WB1+
DOME/ Basis1
Art.-No.: 209880

Wall bracket & surface
mount base for Callisto
domes
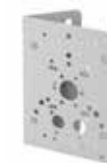
PM-42A
Art.-No.: 202641

Pole mount adaptor for eneo
Candid, Candid S, Candid M,
Candid L, W3, WB1, AK-5, AK-4

ACCESSORIES

IPP-83A0036MIA

IPP-82A0030MIA

also:
IPP-88A0036MIA
TPP-82A0030MIA

IPP-62A0012M0A

also:
IPP-62A0020M0B
MPP-62A0020M0A

MPP-72A0020MIAT

also:
TPP-62A0012M0A
MPP-72A0020MIA
IPP-72A0023MIA

AKM-1
Art.-Nr.: 222024

Wall mount tube

EDC-CMT1 / EDC-CMT1-W
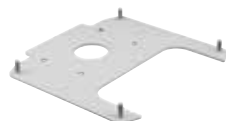Art.-No.: 74128 / Art.-Nr.: 220313

Ceiling mount tube

EDC-WMB1 / EDC-WMB1-W
Art.-No.: 74128 / Art.-Nr.: 220314

Ceiling mount tube

DOME-WB2 / DOME-WB2-W
Art.-No.: 203696 / Art.-Nr.: 216209

Wall bracket for eneo Minitrax PTZ dome cameras

EDMC/CWB-1
Art.-No.: 74155

Wall or pendant mount kit

EDC-AKS1/MP
Art.-Nr.: 74138

Pole mount kit

EDC-PM7 / EDC-PM7-W
Art.-Nr.: 74055 / Art.-Nr.: 220492

Pole mount adaptor

EDC-CMA2 / EDC-CMA2-W
Art.-Nr.: 74054 / Art.-Nr.: 220504

Corner mount adaptor

IEB-54F0036M0A

IED-54F0036MBA
MED-54F0036MBA

IEB-78M3611MAA
IEB-74M2812MAA
IEB-72M2812MAA
IEB-63M2812M0A
IEB-72M2812MCA

IED-64M2812MBA
MED-64V2812MBA

IEB-64M2812M0A

IED-63M2812M0A
also:

IED-63F0037M0A
IED-62M2812MAA
IED-64M2812MAA
IED-68M3611MAA
IED-62M2812MCA

ISD-55P0010P0A

MEB-64V2812M0A

IEP-63M2812M0A
MEP-62M2812M0A

AK-8
Art. No.: 219057

Camera junction box,
wall and ceiling mounting

AK-9
Art.-No.: 219058

Junction box for DH-6,
Dome-WB4

Dome-WB4
Art.-No.: 219060

Wall mount kit
for AK-9

DH-6
Art.-No.: 219059

Ceiling mount tube
with flange for AK-9

The aluminium housings in
the eneo VHM product line
have proven themselves
in countless video security
projects:

PM-9
Art.-No.: 219780

Pole mount plus corner
mount adaptor

A solution for professionals

The hawo GmbH in southwest Germany is the leading address for craftsmen from the areas of interior design and facade work. Delivering the right products to the right place at the right time is the company's declared performance promise. The prerequisite for this is excellent service and a large amount of warehouse storage. In order to be able to watch over the events in the sales and storage areas, the specialist retailer increasingly relies upon video security technology from eneo. We met for the on-site visit at hawo Pforzheim with Jens Buchmann, the Head of Information Technology at hawo, the Branch Manager, Giuseppe Sirone, and Tim Stürmer, the Managing Director of the Christ & Rosenberg Sicherheitssysteme GmbH.

The hawo range impresses professionals and end customers alike.

Visit to the hawo branch in Pforzheim.

Anyone in Hesse, Rhineland-Palatinate or Baden-Württemberg who needs high-quality products for the design of facades, interiors or floors will find what they are looking for at hawo. For almost one hundred years, the family-run manufacturer and wholesaler with its head office in Heppenheim in Hesse has offered everything that painters, plasterers, floor layers, interior designers and other skilled tradesmen need. For hawo offers its customers a considerable variety of products. In addition to the proven hawo materials and systems, the more than 12,000 items in the range also include the products of many well-known manufacturers. Add to that a professional colour mixing service, offered by all thirteen branches, and a range of additional services tailored to meet the needs of specialised tradespeople. The spectrum ranges from planning to sales, the rental or repair of machinery, and, last but not least, seminars and workshops that take place in the training rooms in Heppenheim.

PREVENTION OF INVENTORY DIFFERENCES WITH VIDEO SECURITY

Even in the retail trade, inventory differences are unfortunately a constant theme. For this reason, in 2016 a video security solution was installed for the first time in a hawo market in the specialist store at the Heppenheim head office, which also includes a warehouse with a surface area of more than 6,000 m². The Aschaffenburg-based company, Christ & Rosenberg Sicherheitssysteme GmbH, which offers its customers a comprehensive service package for burglar and fire alarm systems, smoke and heat exhaust systems, and time recording and access control systems, was responsible for the consultation, planning and execution. The range of services of the VdS-certified company includes professional advice, planning and installation as well as expert maintenance and customer service. In the case of hawo Heppenheim, the Aschaffenburg security professionals recommended an HD-TVI-based video security solution. With good reason, as explained by Tim Stürmer, Managing Director of Christ & Rosenberg Sicherheitssysteme GmbH: "As everywhere, the key

Everything in view with IP cameras from the eneo EN series.

question at the start was: what do I do with the camera specifically at this point and what resolution do I need for this? In Heppenheim we have a storage area with relatively large parts. Therefore the full HD resolution to which HD-TVI was still limited at the time of installation was absolutely sufficient for the position detection. Coax-based systems also offer a clear advantage in terms of latency, price and reliability: unlike an analogue camera, an IP camera is and always will be a computer. And computers have a higher failure rate than analogue devices. Therefore, coax-based video security is still of interest. Even more so, since HD analogue has caught up in terms of resolution. Today cameras are available which achieve much higher image resolutions than Full HD". And since Christ & Rosenberg had already had good experiences with eneo in the past, HD-TVI cameras and a hybrid recorder from the eneo COAXIZE line were installed at the hawo head office.

HIGH RESOLUTION SITUATIONAL AWARENESS, UNEQUIVOCAL IDENTIFICATION

A promising start was made with the eneo HD-TVI system. The next eneo system was then installed at the hawo specialist store in Pforzheim. Here, Christ & Rosenberg implemented an eneo networked video security solution in 2019. The system comprises IP cameras from the eneo EN and Candid series in conjunction with a network video recorder. Tim Stürmer: "In Pforzheim

we had a different starting point - relatively long aisles and at the same time a very large number of small-scale articles in the sales area. The point here is to combine the maximum overview with the highest possible image quality in the detail enlargement. That's why we've consistently deployed high-resolution IP cameras positioned to provide a complete overview of the critical areas. Specifically, we installed several IED-64M2812MBA type eneo domes and IEB-64M2812M0A type bullet cameras, which each provide four megapixel resolution video images. When attaching the domes we were pleased that we could use the eneo AK-8 connection box, because it allows a clean surface mounting and allows the cables in the box to be connected quickly and easily". An unmissable monitor in the entrance area acts as a so-called "confrontation screen". Tim Stürmer explains: "The screen serves as a deterrent to potential shoplifters. Anyone who enters the store sees immediately that they are being monitored here". But sometimes temptation gains the upper hand, as Branch Manager Giuseppe Sirone knows only too well. " Just one day after the cameras were installed in the market here", the store manager explains, "the first shoplifter was convicted". Based upon the high-quality video material, which is produced by the powerful lenses and camera sensors, the identity of the

Without any friction and completely satisfactory: video management with eneo Center.
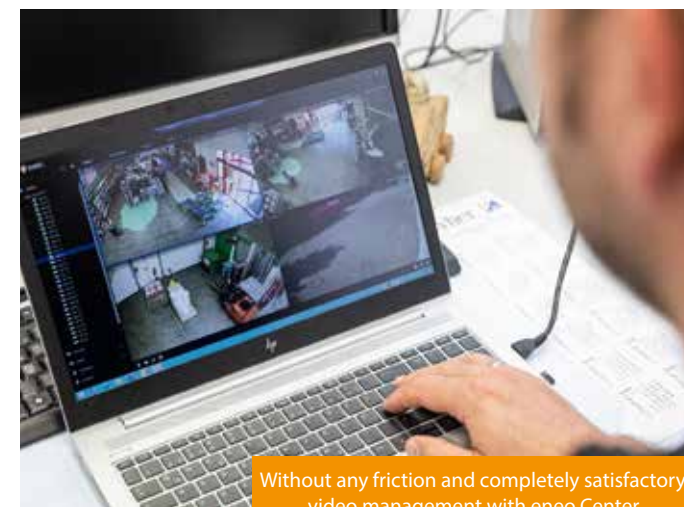
Giuseppe Sirone & Tim Stürmer

perpetrator could be determined beyond doubt. And also the type and amount of the stolen articles were clearly visible due to the detail magnification using zoom. "Without the video images we would not have been able to prove that", Giuseppe Sirone is convinced.

MORE OVERSIGHT AND TRANSPARENCY

However, the benefits of the video security system are not limited to pure theft prevention, as Jens Buchmann, the Head of the hawo IT department, explains: "With the cameras, even errors and incorrect data can be easily resolved. For instance, thanks to the video images you can clearly determine which articles were present when loading them onto the pallets". Giuseppe Sirone agrees and adds: "The system brings more transparency into our internal processes. The high-resolution camera directly in our goods reception area" – this involves an IEB-64M2812M0A type bullet camera – "oversees exactly the area where the pallets are unpacked. As a result we can also understand in any case of doubt, based upon the video evidence, what exactly was delivered".
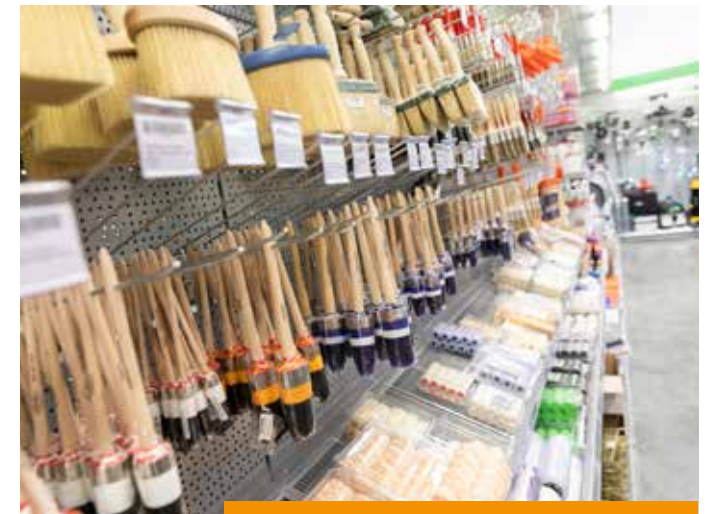
NO MORE RANDOM PARKING AND ILLEGAL GARBAGE DISPOSAL

The outdoor area is monitored by robust bullet IPB-75M3610M0A type cameras from the eneo Candid series. The IP cameras in solid aluminium casing are equipped with a sunroof, a movable wall arm and a motorised varifocal lens, and offer a resolution of five megapixels. If necessary, relevant image details can be enlarged with the triple optical or sixteen times digital zoom. An IED-63M2812M0A network dome with a 360-degree rotation

range and a maximum resolution of three megapixels overlooks the events occurring directly on and around the pallet area near the delivery zone. Like all the EN series cameras, it has basic video analysis features such as motion detection, tamper protection, virtual tripwire with counting and direction detection, range monitoring and defog. The technical features of the outdoor cameras

No chance for any illegal garbage disposal: IED-63M2812M0A.

also include the D-WDR image enhancement function, which compensates for differences in brightness in the surveillance area and thus ensures meaningful images. The Branch Manager, Giuseppe Sirone, explains what the high-resolution surveillance of the parking lot and the delivery zone is all about: "We take back from our customers what remains of the composite thermal insulation systems which we supply and deliver in our bags, and send them to our head office in Heppenheim for final disposal. In the past, it has often happened that private individuals and competitors have dumped leftover waste and other garbage in bags and without sorting it – garbage which the colleagues in Heppenheim then had to spend valuable time sorting for disposal. Not to mention the cost. Since the installation of the outdoor cameras, we have seen a huge reduction in this

Deterrence by monitor.

area. And even with the random parkers, who use our customer and staff car park as the starting point for their private shopping expedition, we have no more problems. People come in now and ask, which then usually is fine. But just like that, no cars are parked here anymore".

CONVENIENT: VIDEO MANAGEMENT WITH ENEO CENTER

The video data is recorded locally on an eneo network recorder of the IER-38N320005A type equipped with two hard disks with a capacity of four terabytes each. The entire system is managed via a server with the eneo Center software. In addition to standard features, the video management application provides an event monitor with a site map and built-in live view. The images received from the cameras in Pforzheim can be viewed both directly on site and remotely from the head office in Heppenheim by the employees authorised to do so. Giuseppe Sirone about his experience with eneo Center: "For me, the software is extremely easy to use. Once the system was set up, we went through this together once, then I clarified in a phone call with Mr Buchmann the one or two minor questions which we had. Since then, everything has been running smoothly and completely satisfactorily". Which summarises what has happened to date at hawo with video security technology from eneo, and which can also be transferred to the entire experience. Jens Buchmann sums up, "In view of the noticeable improvements and the clear benefits, we will in the future equip other branches with video security".

Powerful cameras have the area in view.

Selected references

Video security solutions from eneo are used in the branches of numerous renowned companies. Whether in banks, schools, retail outlets, amusement parks, sports facilities or in the hotel industry: thanks to their subtle and elegant design the cameras fit seamlessly and unobtrusively into sophisticated room concepts. Even the smallest models impress with their excellent video quality, their simple and fast installation, and their very good price-performance ratio. And with a wide range of mounting accessories, even installations in difficult environments can be implemented in such a way that they meet the highest standards.

CleanCar
Everything in view: eneo IP cameras in the CleanCar branch at Treptow-Köpenick, Berlin.

Holiday Inn
Increase security and improve service with eneo: Holiday Inn & Holiday Inn Express Munich – City East.

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PASSION FOR SECURITY