

Panomera® S8 Series

Ultraline

Multifocal Sensor System, 30 fps, H.264, Day/Night (ICR), UWDR, VCA optional,
Box Housing, Models S8 190/30 DN, S8 184/45 DN, S8 78/75 DN



190 MP _e	184 MP _e	78 MP _e								
160 m >125 px/m	104 m >125 px/m	82 m >125 px/m	30 FPS	UWDR	Day-Night	AutoCalib	VCA	EdgeStorage	Privacy	Security
S8 190/30	S8 184/45	S8 78/75								

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The patented **Panomera® Multifocal Sensor System** is a completely new camera technology particularly developed for the extensive **video surveillance of large scale areas**. Enormous expanses and areas are captured in a **completely new resolution quality in real time**. This results in significantly lower infrastructure requirements. Where previously several megapixel cameras would have been necessary, a single Panomera® Multifocal Sensor System is now sufficient.

Panomera® effect

The sophisticated combination of the high-resolution sensors of **Panomera® S8 Ultraline** offers an **excellent dynamic range of 130 dB UWDR effectively** and results in an extreme **Panomera® effect**. It offers a **resolution of more than 125 px/m up to a distance of 160, 104 or 82 m**, which enables the **recognition of persons** over the entire distance. The **identification of persons (250 px/m)** is supported **up to a distance of 46 m** depending on the model, observation (62 px/m) even up to a distance of 322 m. This corresponds to an immense object space of more than 26,000 sqm with consistent depth of field.

Automatic calibration

The innovative lens sensor concept of the **Panomera® S8** is based on motorized varifocal lenses that are optimally matched to the extremely high-resolution image sensors. The individual lens sensor units are **automatically focused and calibrated** over the network using the **Panomera® AutoCalibration** software. It is not necessary to focus and calibrate directly at the Panomera® installation site.

Video Content Analysis

The optional **Video Content Analysis (VCA)** detects **movements and objects** in the uncompressed image and analyzes them in real-time (depending on the analysis resolution) with highly developed analysis functions such as **Intrusion Detection** or **Line Crossing**. The detected **events** can be used to trigger the recording of a **SMAVIA recording system**. Together with the detected objects and the corresponding metadata, they are stored in a database. This allows the targeted search and evaluation of the recordings by **SMAVIA Viewing Client** with the **SmartFinder** function.

Permanent capturing

The **multifocal sensor system** captures and stores **all areas of the object space** in maximum detail resolution. It does not matter whether the operators in live mode concentrate on a certain area (multiple detail zoom) or whether interesting areas are displayed in detail on the basis of video content analysis (multiple auto tracking). The **Panomera® recordings always contain the entire action** and allow for the evaluation of each incident.

Automatic switching

The individual sensors of the **Panomera® S8** are equipped with an **ambient light sensor** and a **removable IR cut filter** and can automatically switch between **day and night mode**. In addition, different day and night presets can be defined and adjusted for the exposure settings.

EdgeStorage

The sensors of the Panomera® S8 are equipped with a **RAM memory** that is used by the **EdgeStorage** function to store the video stream in case of a network failure (e.g. Spanning Tree, Bursts). When the network is restored, the **SmartBackfill** function ensures fast transmission to the **SMAVIA recording system**. This stores the video stream with high speed and then continues to record the live stream seamlessly.

Further features

- Multifocal sensor system with 8 sensors
- Effective resolution 190, 184 or 78 megapixels (MPe)
- Horizontal field of view 30°, 45° or 75°
- Very good light sensitivity <0.05 lux
- 3D Digital Noise Reduction (3D-DNR)
- Functions for data protection and data security (GDPR-compliant)
- Weather-proof (IP66) housing with integrated heater
- Housing coating tested for seawater resistance
- Variants with copper or fiber optic connection

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Variants Panomera® S8 190/30 DN Ultraline		
005055.440		Panomera® S8 190/30 DN C Multifocal sensor system, 190 MPe, 30 fps, H.264, day/night (ICR), UWDR, VCA optional, field of view horizontal 30°, resolution 125 px/m up to 160 m, box housing, 1000BASE-T Ethernet port for copper cabling
005055.441		Panomera® S8 190/30 DN Multimode Multifocal sensor system, 190 MPe, 30 fps, H.264, day/night (ICR), UWDR, VCA optional, field of view horizontal 30°, resolution 125 px/m up to 160 m, box housing, 1000BASE-SX optical port for fibre-optic cabling (850 nm, 550 m)
005055.442		Panomera® S8 190/30 DN Singlemode Multifocal sensor system, 190 MPe, 30 fps, H.264, day/night (ICR), UWDR, VCA optional, field of view horizontal 30°, resolution 125 px/m up to 160 m, box housing, 1000BASE-LX/LH optical port for fibre-optic cabling (1310 nm, 10 km)

Variants Panomera® S8 184/45 DN Ultraline		
005055.443		Panomera® S8 184/45 DN C Multifocal sensor system, 184 MPe, 30 fps, H.264, day/night (ICR), UWDR, VCA optional, field of view horizontal 45°, resolution 125 px/m up to 104 m, box housing, 1000BASE-T Ethernet port for copper cabling
005055.444		Panomera® S8 184/45 DN Multimode Multifocal sensor system, 184 MPe, 30 fps, H.264, day/night (ICR), UWDR, VCA optional, field of view horizontal 45°, resolution 125 px/m up to 104 m, box housing, 1000BASE-SX optical port for fibre-optic cabling (850 nm, 550 m)
005055.445		Panomera® S8 184/45 DN Singlemode Multifocal sensor system, 184 MPe, 30 fps, H.264, day/night (ICR), UWDR, VCA optional, field of view horizontal 45°, resolution 125 px/m up to 104 m, box housing, 1000BASE-LX/LH optical port for fibre-optic cabling (1310 nm, 10 km)

Variants Panomera® S8 78/75 DN Ultraline		
005055.464		Panomera® S8 78/75 DN C Multifocal sensor system, 78 MPe, 30 fps, H.264, day/night (ICR), UWDR, VCA optional, field of view horizontal 75°, resolution 125 px/m up to 82 m, box housing, 1000BASE-T Ethernet port for copper cabling
005055.465		Panomera® S8 78/75 DN Multimode Multifocal sensor system, 78 MPe, 30 fps, H.264, day/night (ICR), UWDR, VCA optional, field of view horizontal 75°, resolution 125 px/m up to 82 m, box housing, 1000BASE-SX optical port for fibre-optic cabling (850 nm, 550 m)
005055.466		Panomera® S8 78/75 DN Singlemode Multifocal sensor system, 78 MPe, 30 fps, H.264, day/night (ICR), UWDR, VCA optional, field of view horizontal 75°, resolution 125 px/m up to 82 m, box housing, 1000BASE-LX/LH optical port for fibre-optic cabling (1310 nm, 10 km)

Licenses	
007077	DLC - VCA for Panomera® S/W 8 Licence to use the Video Content Analysis (VCA) function for a Panomera® S/W 8 system

Accessories	
003965	 Power Supply Unit 48 V DC, 5 A (for EN 50022 DIN-Rails)¹⁾ Power supply for Panomera®, 48 V DC, 5 A, suitable for DIN rails according to EN 50022

1) The Power Supply Unit 48 V DC (003965) is suitable for parallel power supply of camera and heater. A 4-wire cable routing is recommended for the power supply.

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Panomera® S4 – S8 Wall Mount Set

005084



WBOVA2 – Wall Mount Bracket

Wall mount bracket WBOVA2 with integrated joint,
compatible with Panomera® S4 – S8



WCPA – Support Plate Adapter

Reinforcing support plate WCPA
for adapting the wall brackets WBMA and WBOVA2

Panomera® S4 – S8 Corner Mount Set

005085



WBOVA2 – Wall Mount Bracket

Wall mount bracket WBOVA2 with integrated joint,
compatible with Panomera® S4 – S8



WCWA – Corner Mount Adapter

Corner mount adapter WCWA for corner mounting

Panomera® S4 – S8 Ceiling Mount Set

005086



WFWCA – Ceiling Mount Bracket

Ceiling mount bracket WFWCA with integrated joint,
compatible with Panomera® S4 – S8

Panomera® S4 – S8 Pole Mount Set (65 – 110 mm)

005087



WBOVA2 – Wall Mount Bracket

Wall mount bracket WBOVA2 with integrated joint,
compatible with Panomera® S4 – S8



WSFPA – Pole Mount Adapter

Pole mount adapter WSPFA for pole diameters 65 – 110 mm (2.6 – 4.3")

Panomera® S4 – S8 Pole Mount Set (210 – 225 mm)

005088



WBOVA2 – Wall Mount Bracket

Wall mount bracket WBOVA2 with integrated joint,
compatible with Panomera® S4 – S8



WCPA – Support Plate Adapter

Reinforcing support plate WCPA
for adapting the wall brackets WBMA and WBOVA2



DBHWGC – Pole Mount Adapter

Pole mount adapter DBHWGC for pole diameters 210 – 225 mm (8.3 – 8.6")

Spare Parts

007620



Panomera® S4 / S8 Front Glass Set

Front glass glued in the frame for a Panomera® S4 / S8
(front glass, frame, 4x plastic sleeves, seal)

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Sensor System	
Number of sensors	8
Number of sensor pixels	96 MP
Light sensitivity	<0,05lux
Dynamic range (UWDR)	130 dB (effective)

Resolution	Panomera® S8 190/30	Panomera® S8 184/45	Panomera® S8 78/75
Effective resolution (MPE) ²⁾	190 MP	184 MP	78 MP
Identification distance (≥250 px/m)	Up to 46 m	Up to 30 m	Up to 28 m
Recognition distance (≥125 px/m)	Up to 160 m (6,600 sqm)	Up to 104 m (4,300 sqm)	Up to 82 m (4,430 sqm)
Observation distance (≥62 px/m)	Up to 322 m (26,900 sqm)	Up to 210 m (17,500 sqm)	Up to 166 m (18,230 sqm)

Field of View & Aspect Ratio	Panomera® S8 190/30	Panomera® S8 184/45	Panomera® S8 78/75
Horizontal field of view	30°	45°	75°
Vertical field of view	52°	77°	30°
Aspect ratio (H:V)	3:5	3:5	5:2

Format and Encoding	
Video compression	H.264
Frame rate	Up to 30 fps at full resolution
Live streaming	Multicast or Unicast (for Viewing Client) Unicast (for recording)

Network and Recording	
Required network bandwidth (nominal, for recording)	128 Mbps ³⁾ 6 Mbps (with Panomera® Streaming Server)
Recommended network bandwidth	1000 Mbps (Gigabit network)

Functions	
Day/Night switching	Ambient light sensing and removable IR cut filter (ICR)
Black-and-white mode	Automatic (at low light or in night mode)
Digital noise reduction	3D-DNR
Brightness control	Automatic (ALC)
Gain control	Automatic (AGC)
White balance	Automatic (AWB)
Privacy Zone Masking	Hiding/masking of up to 16 protected areas per sensor (up to 100% of the entire image)
Video Content Analysis ⁴⁾	Intrusion Detection (detection of access to a defined area) Line Crossing (detection of a virtual line crossing) Tamper Detection (detection of manipulations on the camera) Object Classification (classification of objects) Face Detection (detection of faces) ⁵⁾

Protocols	
Ethernet protocols	IPv4 (ARP, ICMP, IGMPv2/IGMPv3), UDP, TCP, LLDP, CDP (v1,v2), DSCP (QoS), DNS, DHCP, NTP, HTTP/HTTPS ⁶⁾ , RTSP/RTP/RTCP, SNMP (v1, v2c, v3)
Ethernet protocols in preparation	IPv6 (NDP, ICMPv6, MLDv1/MLDv2, SLAAC, RDNSS), UDPv6, TCPv6, DNSv6, DHCPv6, LDAP
Communication protocols	DaVid, DaVidS, ONVIF Profile S, SNMP (v1, v2c, v3)
Security	HTTPS ⁶⁾ encryption, SSL/TLS ⁶⁾ 1.2 (AES), network access control according to IEEE 802.1X ⁶⁾

2) Effective resolution MPE: A conventional single sensor camera would have to be equipped with a 190, 184 or 78 megapixels image sensor in order to provide the same resolution across the entire object space as these Panomera® systems.

3) This value is based on the encoding of each sensor with 16 Mbps and the use of the recording system as a proxy for the live view.

4) Depending on the load of the CPU.

5) The function detects the presence of a face (Face Detection). The analysis of visible features and the link to person data (Face Recognition) are not supported.

6) This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org>) and cryptographic software written by Eric Young (ey@cryptsoft.com).

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Network Connections (depending on the variant)			
Copper cabling	Cat.6 patch/network cable with RJ45 (8P8C) modular connector for 1000BASE-T (1000 Mbps)		
Multimode fibre-optic cabling	LC-Duplex connector Multimode for 1000BASE-SX (850 nm, 550 m)		
Singlemode fibre-optic cabling	LC-Duplex connector Singlemode for 1000BASE-LX/LH (1310 nm, 10 km)		

Electrical Data	
Voltage supply	Camera: 48 V DC $\pm 5\%$ Heater: 48 V DC $\pm 5\%$
Power consumption	Camera: Max. 80 W Heater: Max. 60 W

Mechanical Data	
Dimensions (W x H x D)	Approx. 305 x 185 x 370 mm
Weight (with sun shield)	Approx. 12,5 kg
Material	Aluminium
Processing	Chromated
Finish	Powder coating, tested for seawater resistance according to DIN EN 60068-2
Color	Grey white (RAL 9002)
IP rating	IP66

Environmental Conditions	Panomera® S8 190/30	Panomera® S8 184/45	Panomera® S8 78/75
Recommended installation height	5 m	5 m	5 m
Permissible installation height	4.5 - 9 m	4.5 - 9 m	4.5 - 10 m
Tilt toward the ground	8°	12°	3°
Transition distance ⁷⁾	72 m	47 m	44 m
Installation sites	Indoor and outdoor		
Operating temperature	-40 °C to +50 °C (minimum start-up temperature: -30 °C) Heater On: < +10 °C Heater Off: > +10 °C		
Relative humidity	0% - 90% RH, non-condensing		

Miscellaneous	
Ambient light sensor	Integrated
Removable IR-cut filter	Integrated
Local memory	50 MB RAM memory per sensor
Configuration and live video	Via web browser (all major platforms), SMAVIA Recording Server Software and PService3 (with Panomera® AutoCalibration add-on)
Languages	German, English,
Programming interface	Open platform for integration into 3rd party systems using API and ActiveX ⁸⁾
ONVIF compliance	Profile S
GDPR compliance	Supported

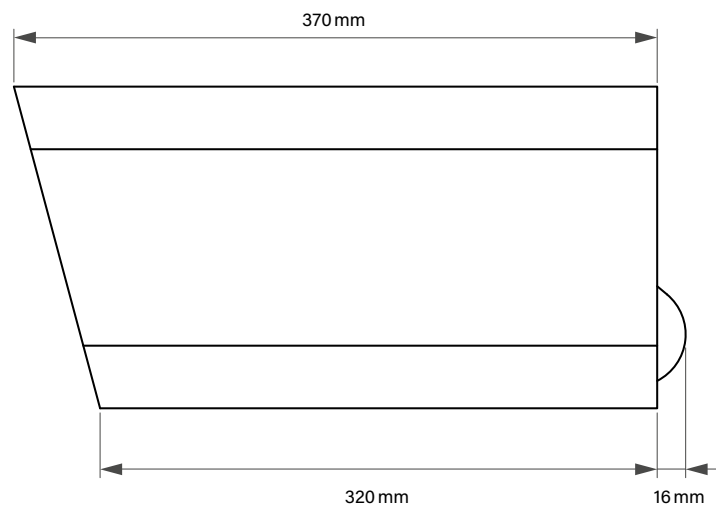
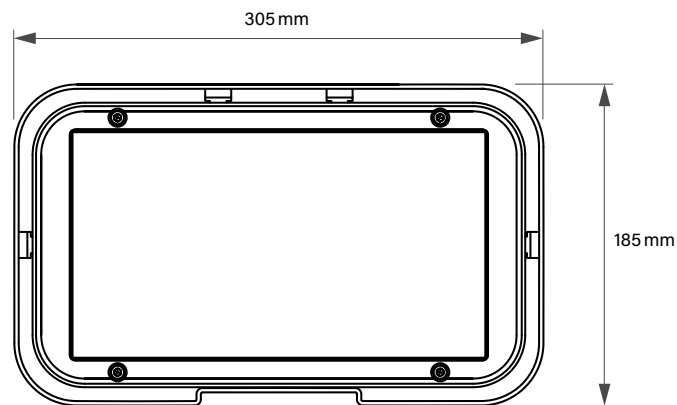
Approvals/Certifications	
Type	CE, FCC, RCM, DIN EN 50130-4 compliant

7) Transition distance: Orientation point on the floor as a setting aid for optimum camera inclination. See the document Installation Requirements.
8) ActiveX is a trademark or registered trademark of Microsoft Corporation headquartered in Redmond, Washington, USA

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Dallmeier electronic GmbH & Co.KG | Bahnhofstr. 16, 93047 Regensburg, Germany | +49 941 8700-0 | dallmeier.com

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