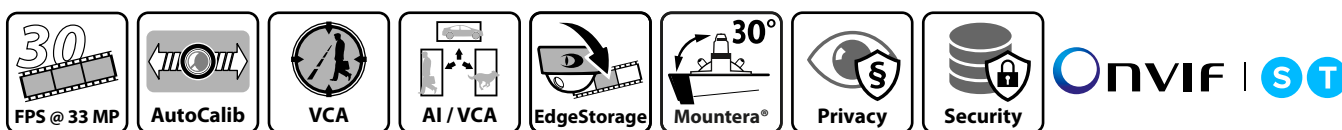# Panomera® S4 Stadium Series

Ultraline

Multifocal Sensor System, 33 MP, 30 fps, H.264, H.265, day/night, UWDR, AI/VCA optional,
box housing, models S4 33/12, S4 33/13 DN, S4 33/19 DN, 4 33/20 DN, S4 33/27 DN, S4 33/29 DN, S4 33/41 DN

30 FPS @ 33 MP | **AutoCalib** | **VCA** | **AI / VCA** | **EdgeStorage** | **30° Mountera®** | **Privacy** | **Security** | **ONVIF | S T**

The various models of the Panomera® Ultraline Stadium series are designed for high-resolution capture of enormous areas that start at a large distance and are spatially rather wide and short. The innovative lens-sensor concept of the Panomera® allows the acquisition of the entire capture area with a consistently high pixel density and depth of field. This makes the models of the Panomera® Ultraline Stadium series ideal for video protection of tribunes or airfields, for example.

Resolution and frame rate

The sophisticated combination of the high-resolution sensors offers an excellent dynamic range of 130 dB UWDR effectively and model-dependent a pixel density of over 125 px/m up to a distance of 325 m. When focusing on more distant areas, a pixel density above 62 px/m can also be realized up to a distance of 656 m. The Panomera® always provides images with a resolution of 33 MP in real time, forensically optimized for each sensor and without distortion in the peripheral areas.

Automatic calibration

The innovative lens sensor concept of the Panomera® is based on precisely measured lenses that are optimally matched to the extremely high-resolution image sensors. The focusing of the individual lens sensor units on the capture area and the subsequent calibration is performed automatically over the network using the Panomera® AutoCalibration software.

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 Dallmeier 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 Dallmeier Client Software with the SmartFinder function.

AI support

The latest variants of the multifocal sensor system are equipped with encoder technology that enables Video Content Analysis supported by AI (Artificial Intelligence) functions based on neural networks in the camera. This provides a significantly more powerful object classification which finally allows an even more targeted evaluation of the recordings.

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.

EdgeStorage

The sensors of the Panomera® 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 Dallmeier 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 4 sensors
- Video compression H.264, H.265, MJPEG
- Ambient light sensor and removable IR cut filter
- Functions for data protection and data security (GDPR-compliant)
- Weather-proof (IP69) housing with integrated heater
- Housing coating tested for seawater resistance
- Mountera® Ball Joint 30° 3D Adjustable included
- Fully compatible with the Mountera® Quick-Lock System

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	Panomera® S4 33/12 Ultraline Stadium

	007840	**Panomera® S4 33/12** Multifocal sensor system, 33 MP, 30 fps, H.264, H.265, day, UWDR, AI/VCA optional, field of view horizontal 12°, resolution 125 px/m up to 325 m, box housing, 1000BASE-T Ethernet port for copper cabling

	Panomera® S4 33/13 DN Ultraline Stadium

	007844	**Panomera® S4 33/13 DN** Multifocal sensor system, 33 MP, 30 fps, H.264, H.265, day/night, UWDR, AI/VCA optional, field of view horizontal 13°, resolution 125 px/m up to 211 m, box housing, 1000BASE-T Ethernet port for copper cabling

	Panomera® S4 33/19 DN Ultraline Stadium

	007845	**Panomera® S4 33/19 DN** Multifocal sensor system, 33 MP, 30 fps, H.264, H.265, day/night, UWDR, AI/VCA optional, field of view horizontal 19°, resolution 125 px/m up to 140 m, box housing, 1000BASE-T Ethernet port for copper cabling

	Panomera® S4 33/20 DN Ultraline Stadium

	007841	**Panomera® S4 33/20 DN** Multifocal sensor system, 33 MP, 30 fps, H.264, H.265, day/night, UWDR, AI/VCA optional, field of view horizontal 20°, resolution 125 px/m up to 211 m, box housing, 1000BASE-T Ethernet port for copper cabling

	Panomera® S4 33/27 DN Ultraline Stadium

	007846	**Panomera® S4 33/27 DN** Multifocal sensor system, 33 MP, 30 fps, H.264, H.265, day/night, UWDR, AI/VCA optional, field of view horizontal 27°, resolution 125 px/m up to 102 m, box housing, 1000BASE-T Ethernet port for copper cabling

	Panomera® S4 33/29 DN Ultraline Stadium

	007842	**Panomera® S4 33/29 DN** Multifocal sensor system, 33 MP, 30 fps, H.264, H.265, day/night, UWDR, AI/VCA optional, field of view horizontal 29°, resolution 125 px/m up to 146 m, box housing, 1000BASE-T Ethernet port for copper cabling

	Panomera® S4 33/41 DN Ultraline Stadium

	007843	**Panomera® S4 33/41 DN** Multifocal sensor system, 33 MP, 30 fps, H.264, H.265, day/night, UWDR, AI/VCA optional, field of view horizontal 41°, resolution 125 px/m up to 103 m, box housing, 1000BASE-T Ethernet port for copper cabling

	Licenses

007076	**DLC - AI/VCA for Panomera® S/W 4** Licence to use the Video Content Analysis (VCA) function with AI-supported object classification for a Panomera® S/W 4 system

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box housing, models S4 33/12, S4 33/13 DN, S4 33/19 DN, 4 33/20 DN, S4 33/27 DN, S4 33/29 DN, S4 33/41 DN

Accessories

	007054	**Mountera® Box with PSU** Mountera® Box with power supply unit, 48 V DC, 5.4 A, 260 W, IP69, white
	006978	**Mountera® Box with SRS Edge** Mountera® Box with Dallmeier Appliance for recording up to 16 video streams, license for the recording of a Dallmeier network camera or a Panomera® system included, licenses for access from 2 clients included, power supply unit 48 V DC, 5.4 A, 260 W included, IP69, white, without SSD memory module
	006979	**Mountera® Wall Bracket** Mountera® bracket for the installation of camera systems on walls or on a Mountera® Box, Quick-Lock System included, robust aluminium construction, internal cable routing, vandal-resistant, powder-coated, white
	006980	**Mountera® Ceiling Bracket** Mountera® bracket for installation of camera systems on ceilings, Quick-Lock System included, robust aluminium construction, internal cable routing, vandal-resistant, powder-coated, white

Cable Set

	007428	**Mountera® Cable Set C** Preassembled cable set for the connection of a camera system to a Mountera® Box, 1× cable seal, 1× cable power supply/grounding, 1× cable network (copper RJ45), each with matching plug, UV-resistant and flexible, length 80 cm

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Sensor System	
Number of sensors	4
Number of sensor pixels	48 MP
Light sensitivity	<0,05 lux
Dynamic range (UWDR)	130 dB (effective)

Resolution	S4 33/12	S4 33/13 DN	S4 33/19 DN	S4 33/20 DN	S4 33/27 DN	S4 33/29 DN	S4 33/41 DN
Resolution	33 MP	33 MP	33 MP	33 MP	33 MP	33 MP	33 MP
Identification distance (≥250 px/m)	162 m	105 m	70 m	105 m	51 m	73 m	51 m
Recognition distance (≥125 px/m)	325 m	211 m	140 m	211 m	102 m	146 m	103 m
Observation distance (≥62 px/m)	656 m	426 m	293 m	427 m	206 m	294 m	209 m

Field of View & Aspect Ratio	S4 33/12	S4 33/13 DN	S4 33/19 DN	S4 33/20 DN	S4 33/27 DN	S4 33/29 DN	S4 33/41 DN
Horizontal field of view	13.1°	13.1°	19.7°	20.2°	27.0°	29.3°	41.2°
Vertical field of view	3.5°	7.8°	11.7°	5.4°	16.0°	7.8°	11.0°
Aspect ratio (H:V)	15:4	5:3	5:3	15:4	5:3	15:4	15:4

Format and Encoding	
Video compression	H.264, H.265, MJPEG
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)	64 Mbps[1] 6 Mbps (with Panomera® Streaming Server)
Recommended network bandwidth	1,000 Mbps

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[2]	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 with AI support) Face Detection (detection of faces)[3]

Protocols	
Ethernet protocols	IPv4 (ARP, ICMP, IGMPv2/IGMPv3, UDP, TCP, LLDP, CDP (v1,v2), DSCP (QoS), DNS, DHCP, NTP, HTTP/HTTPS[4], 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, Profile T, SNMP (v1, v2c, v3)
Security	HTTPS[4] encryption, SSL/TLS[4] 1.2 (AES), network access control according to IEEE 802.1X[4]

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1) 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.
2) Depending on the load of the CPU.
3) 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.
4) 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 (eay@cryptsoft.com).

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Connections	
Ethernet 1	Telegärtner STX V4 socket with STX RJ45 coupling Cat.6 for 1000BASE-T (1,000 Mbps)
Ethernet 2	Telegärtner STX V4 socket with STX RJ45 coupling Cat.6 for 1000BASE-T, PoE+ Out, 30 W, IEEE 802.at (100 Mbps, service port)
Power IN	HARTING connector (5-pole)

Electrical Data	
Voltage supply	Camera: 48 V DC ±5% Heater: 48 V DC ±5%
Power consumption	Camera: Max. 70 W[5] Heater: Max. 60 W

Mechanical Data	
Dimensions (W × H × D)	Approx. 348 × 183 × 441 mm (13.7" × 7.2" × 17.4")
Weight	Approx. 16 kg (35.3 lb)
Material	Aluminium
Processing	Chromated
Finish	Powder coating, tested for seawater resistance according to DIN EN 60068-2
Color	Signal white (RAL 9003[6]), housing Signal black (RAL 9004[5]), front frame
Adjustment	Stepless alignment on 3-axes, vertical up to ±30°, horizontal up to ±15°
IP rating	IP69

Environmental Conditions	
Installation sites	Indoor and outdoor
Operating temperature	−40 °C to +60 °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), PService3 (with Panomera® AutoCalibration add-on)
Languages	German, English,
Programming interface	Open platform for integration into 3rd party systems using API
ONVIF compliance	Profile S, Profile T
GDPR compliance	Supported

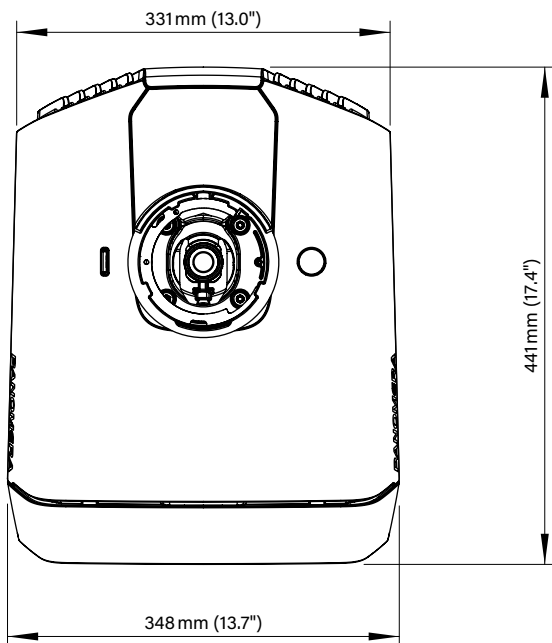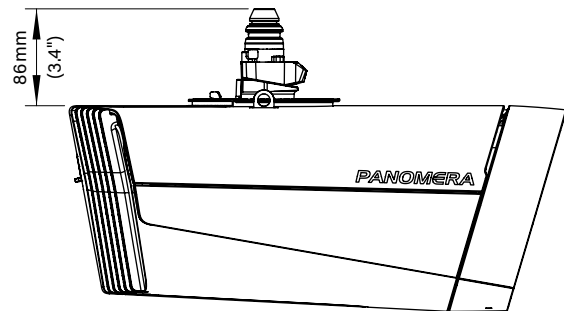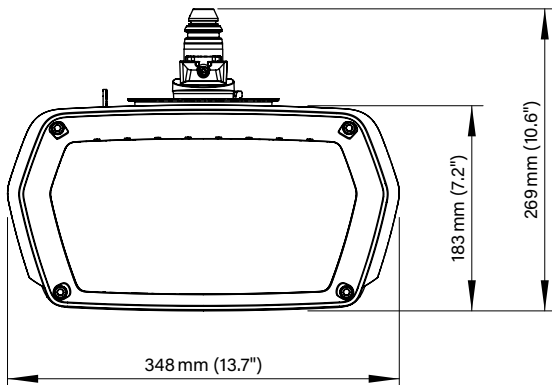| Approvals/Certifications	
Type	CE, FCC, RCM, UL, EN 60950-22 compliant (outdoor parts)

5) Maximum power consumption camera 40 W, in connection with PoE+ Out (Ethernet 2) maximum 70 W.
6) The color of the powder coating may differ slightly from the RAL color indicated. This is due to production and does not constitute a defect.

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269 mm (10.6")
183 mm (7.2")
348 mm (13.7")

86 mm (3.4")

331 mm (13.0")
441 mm (17.4")
348 mm (13.7")

See more.

Dallmeier

MADE IN GERMANY