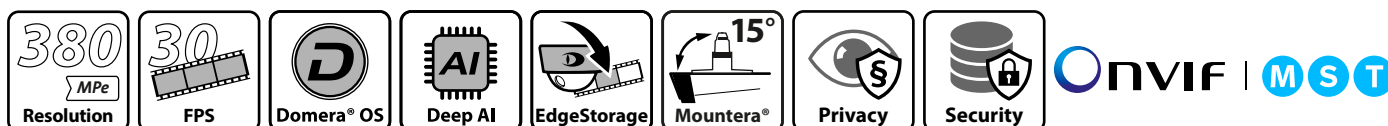


Panomera® S8 Ultraline Runway Series

MK2

Multifocal Sensor System, 30 fps, H.265, day/night, UWDR, combined horizontal field of view 156°
AI/VCA Deep AI object classification, EdgeAnalytics AI Apps, variable Mountera® mounting concept



The Panomera® multifocal sensor systems of the Runway series are designed for the high-resolution capture of very wide areas that start at a medium to larger distance and are spatially rather short. The extreme horizontal field of view results from the combination of two Panomera® systems, making the Runway solution ideal for the protection of takeoff and touchdown fields.

Panomera® effect

The sophisticated combination of the high-resolution sensors of the two Panomera® S8 Ultraline offers an excellent dynamic range of 130dB UWDR effective and results in an outstanding Panomera® effect with an effective resolution of 380 megapixels (MPe). In combination with an extreme horizontal field of view of 156°, this allows very wide areas to be captured with high pixel density and consistent depth of field.

DOMERA® OS

The sensors of the Panomera® are equipped with the hardened Linux operating system DOMERA® OS (D-OS). In addition to a kernel with long-term support, it offers extensive security functions such as the deactivation of unused ports or the enforcement of strict passwords. In addition, DOMERA® OS supports secure network authentication (IEEE 802.1X) and encrypted data transmission (TLS 1.2/AES-256). All software components are subject to permanent monitoring, maintenance and updating, while the effectiveness of all measures is ensured by regular external penetration tests.

AI Analysis - Deep AI Object Classification

The Panomera® is equipped with an intensively trained neural network that analyzes the captured images in high resolution and independent of movements in the background (green spaces, water areas, etc.) and reliably classifies defined objects (persons, vehicles, etc.) in real time. The captured data is sent with the video stream to the Dallmeier recording system for evaluation and storage and is available for further processing with the integrated EdgeAnalytics Apps.

AI Analysis - EdgeAnalytics Apps

The embedded EdgeAnalytics AI apps use the raw data of the Deep AI Object Classification to assess the captured operations according to the specific criteria of various use cases. The Line Crossing App, for example, detects the crossing of a defined line by a relevant object (person, vehicle, etc.) and generates a corresponding message with time and direction of movement. The generated event messages and values complete the raw data already contained in the video stream and can be displayed and evaluated with a Dallmeier client software.

AI Analysis - Configuration

The embedded EdgeAnalytics AI apps are configured directly on the individual modules, with the analysis results being merged on the master module for transmission to the recording system. The master configuration will be integrated with one of the next updates of DOMERA® OS¹⁾. This convenience feature allows cross-module configuration of the analyses on the master module and provides continuous object tracking across module boundaries.

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.

Further features

- GDPR-compliant functions for data protection and security
- Compatible with ONVIF Profile M, Profile S and Profile T
- Weather-proof (IP69) housing with integrated heater
- Housing coating tested for seawater resistance
- Fully compatible with the Mountera® Quick-Lock System
- Network protocol MQTT supported

1) Expected to be available from 03/2023

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Panomera® S8 190/78 DN L Ultraline Runway



008840

Panomera® S8 190/78 DN L

Multifocal sensor system, 30 fps, H.265, day/night, UWDR, Deep AI object classification, EdgeAnalytics AI Apps, field of view horizontal 78°, version for the capture of the left side, Mountera® mounting concept, 1000BASE-T Ethernet port for copper cabling

Panomera® S8 190/78 DN R Ultraline Runway



008841

Panomera® S8 190/78 DN R

Multifocal sensor system, 190 MPe, 30 fps, H.265, day/night, UWDR, Deep AI object classification, EdgeAnalytics AI Apps, field of view horizontal 78°, version for the capture of the right side, Mountera® mounting concept, 1000BASE-T Ethernet port for copper cabling

Accessories



007054

Mountera® Box with PSU

Mountera® Box with power supply unit, 48V 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 48V 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, 1x cable seal, 1x cable power supply/grounding, 1x cable network (copper RJ45), each with matching plug, UV-resistant and flexible, length 80 cm

Panomera® S8 Ultraline Runway Series



Multifocal Sensor System, 30 fps, H.265, day/night, UWDR, combined horizontal field of view 156°
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Included Support and License Interval

Panomera® S/W 8 Support and License Interval Basic

License for the use of the support services of the Support Level Basic for 60 months,
license for the update of Domera® OS with updates, upgrades and security updates²⁾ for 12 months,
license for the update of neural networks for object classification for 12 months,
test function of the EdgeAnalytics AI Apps (Essentials) with object classification with a runtime of 30 days,
unlimited license for the use of the VCA function,
bring-in warranty for 24 months

Optional Support and License Interval

008789 AI Panomera® S/W 8 Support and License Interval Premium and Warranty (Total of 60 Months)

License for the use of the support services of the Support Level Premium for 60 months,
license for the update of Domera® OS with updates, upgrades and security updates²⁾ for 60 months,
license for the update of neural networks for object classification for 60 months,
unlimited license for the use of EdgeAnalytics AI Apps (Essentials) with object classification,
extension of bring-in warranty to a total of 60 months
(ex factory only)

Optional Maintenance

008790 Panomera® S/W 8 Software Maintenance (Plus 12 Months)

License for the update of Domera® OS with updates, upgrades and security updates²⁾ for 12 months,
license for the update of neural networks for object classification for 12 months.

Optional Warranty

008791 Panomera® S/W 8 Hardware Warranty (Total of 60 Months)

Extension of bring-in warranty to a total of 60 months

Optional Analytic

008792 DLC - S/W 8 Panomera® EdgeAnalytics AI Apps (Essentials)

Perpetual license for the use of EdgeAnalytics AI Apps (Essentials) with object classification
(AI Motion Detection, AI Tamper Detection, AI Loitering Detection, AI Intrusion Detection, AI Line Crossing)

2) Security updates for relevant CVE vulnerabilities that become known will be provided (subject to technical feasibility) for the entire runtime of the software maintenance.

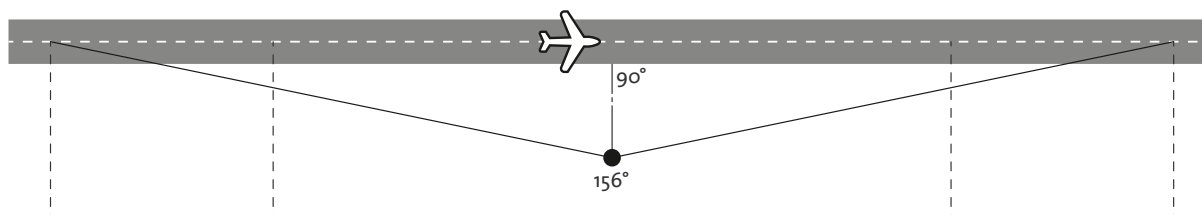
Panorama® S8 Ultraline Runway Series

MK2

Multifocal Sensor System, 30 fps, H.265, day/night, UWDR, combined horizontal field of view 156°
AI/VCA Deep AI object classification, EdgeAnalytics AI Apps, variable Mountera® mounting concept

Sensor System	
Number of sensors	16 (combined)
Number of sensor pixels	132 MP (combined)
Light sensitivity	<0.05lux
Dynamic range (UWDR)	130 dB (effective)

Resolution	
Effective resolution	380 (MPe) ³⁾



Pixel density	Distance Panamera® to horizontal center line	Pixel density on horizontal center line left	Pixel density on horizontal center line middle	Pixel density on horizontal center line right	Total covered width
90m	59px/m / 173m	≥95px/m / 525m (∅ 126px/m)	59px/m / 173m	871m	
100m	53px/m / 192m	≥86px/m / 584m (∅ 113px/m)	53px/m / 192m	968m	
110m	48px/m / 211.5m	≥78px/m / 642m (∅ 103px/m)	48px/m / 211.5m	1,065m	
120m	44px/m / 230.5m	≥72px/m / 701m (∅ 94px/m)	44px/m / 230.5m	1,162m	
130m	41px/m / 250m	≥66px/m / 759m (∅ 87px/m)	41px/m / 250m	1,259m	
140m	38px/m / 269m	≥61px/m / 817m (∅ 81px/m)	38px/m / 269m	1,355m	
150m	35px/m / 288.5m	≥57px/m / 876m (∅ 76px/m)	35px/m / 288.5m	1,453m	
200m	27px/m / 384.5m	≥43px/m / 1,168m (∅ 57px/m)	27px/m / 384.5m	1,937m	
300m	18px/m / 576.5m	≥29px/m / 1,752m (∅ 38px/m)	18px/m / 576.5m	2,905m	
400m	13px/m / 769m	≥21px/m / 2,335m (∅ 28px/m)	13px/m / 769m	3,873m	
500m	11px/m / 961m	≥17px/m / 2,919m (∅ 23px/m)	11px/m / 961m	4,841m	
600m	9px/m / 1,153.5m	≥14px/m / 3,503m (∅ 19px/m)	9px/m / 1,153.5m	5,810m	
700m	8px/m / 1,345.5m	≥12px/m / 4,087m (∅ 16px/m)	8px/m / 1,345.5m	6,778m	

Field of View and Aspect Ratio	
Horizontal field of view	156.6° (combined)
Vertical field of view	10.9°
Aspect ratio (H:V)	14:1

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	192 Mbps ⁴⁾ (H.265, nominal, for recording)
Recommended network bandwidth	1,000 Mbps

3) Effective resolution MPe: A conventional single sensor camera would have to be equipped with a 380 megapixels image sensor in order to provide the same resolution across the entire object space as these Panamera® systems.

4) This value is based on the encoding of each sensor with 12 Mbps and the use of the recording system as a proxy for the live view.

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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 (VCA)	VCA Motion Detection, VCA Tamper Detection, VCA Intrusion Detection, VCA Line Crossing
EdgeAnalytics AI Apps (Essentials) ⁵⁾	AI Motion Detection, AI Tamper Detection, AI Loitering Detection, AI Intrusion Detection, AI Line Crossing
EdgeAnalytics Object Classes ⁵⁾	Person, animal, car, large vehicle, two-wheeler
EdgeAnalytics Actions	Notification via DaVid/PGuard, switching of network relays, message via MQTT/HTTP

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 M, ONVIF Profile S, ONVIF Profile T, SNMP (v1, v2c, v3)
Security	HTTPS ⁶⁾ encryption, SSL/TLS ⁶⁾ 1.2 (AES), network access control according to IEEE 802.1X ⁶⁾

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 802.3at (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. 100 W ⁷⁾ Heater: Max. 60 W

Mechanical Data	
Dimensions (W × H × D)	Approx. 348 × 183 × 441 mm (13.7" × 7.2" × 17.4")
Weight	Approx. 17,5 kg (38.6 lb)
Material	Aluminium
Processing	Chromated
Finish	Powder coating, tested for seawater resistance according to DIN EN 60068-2
Color	Signal white (RAL 9003 ⁸⁾), housing Signal black (RAL 9004 ⁸⁾), front frame
Adjustment	Stepless alignment on 3-axes, vertical up to ±15°, horizontal up to ±7°
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

5) Optional license DLC - Panomera® S/W 8 EdgeAnalytics AI Apps (Essentials) or AI Panomera® S/W 8 Support and License Interval Premium required.

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).

7) Maximum power consumption camera 70 W, in connection with PoE+ Out (Ethernet 2) maximum 100 W.

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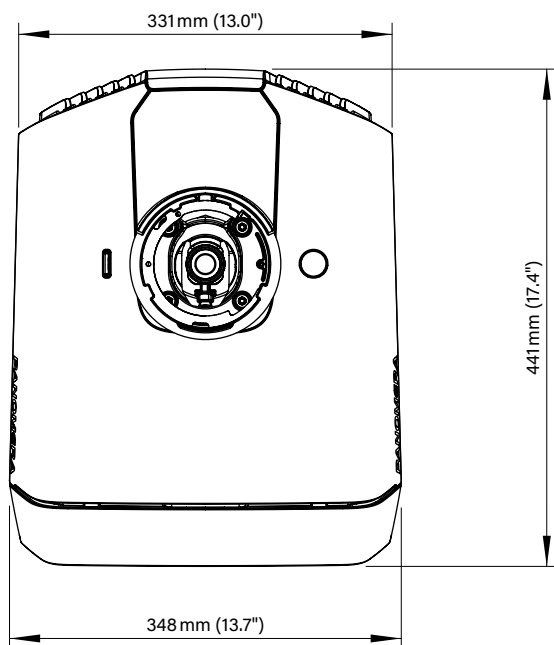
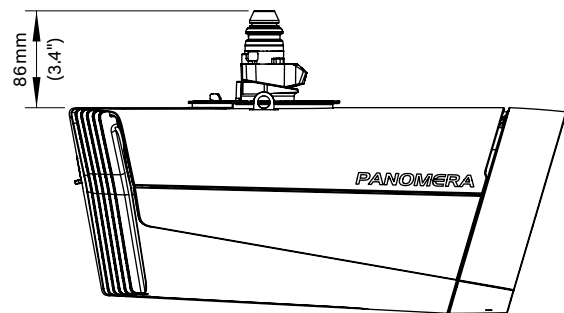
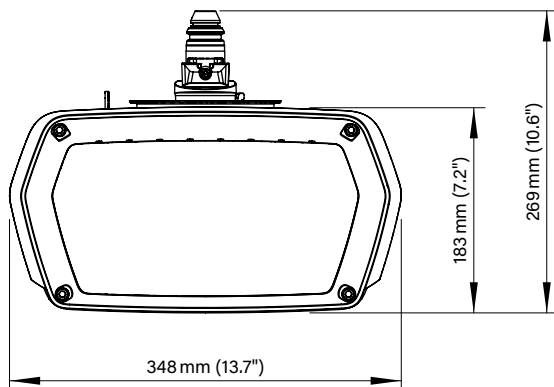
Miscellaneous	
Ambient light sensor	Integrated
Removable IR-cut filter	Integrated
Local memory	50 MB RAM memory per sensor
Configuration and live video	Via web browser (all major platforms), Dallmeier Device Manager (with Panomera® AutoCalibration add-on)
Languages	German, English,
Programming interface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

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

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