

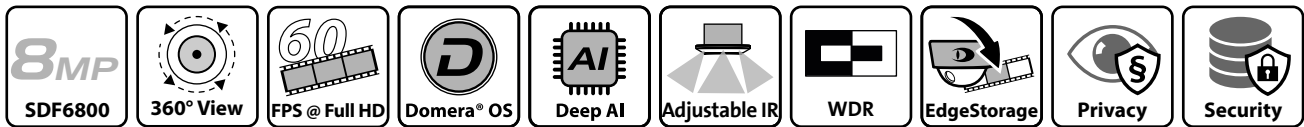
# SDF6800DN

# DOMERA®

Ultra high definition camera, 8 MP, H.265, day/night, WDR, PoE, Deep AI object classification, EdgeAnalytics AI Apps, fisheye lens, 360° panoramic view, motorized fine alignment, variable DOMERA® mounting concept



reddot winner 2022



The SDF6800DN is a network camera with a fisheye lens specifically designed for the image sensor, allowing it to capture a complete half-space with a 360° panoramic view. It is offered with a resolution of 8 MP in a vandal-resistant dome housing.

## DOMERA®OS

The cameras are equipped with the hardened Linux operating system DOMERA® 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 camera 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. On the other hand, the various counting apps cyclically determine the number of persons or vehicles in a defined area and report when a set threshold value is exceeded. 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.

## Motorized Fine Alignment

The camera is equipped with a motor-driven mechanism for precise fine alignment of the image sensor over the network. Remote control is performed via the DOMERA® OS user interface and allows easy adjustment of the horizontal axis to the captured scene. This eliminates the need for subsequent correction while viewing the recordings with Dallmeier client software, thus reducing the workstation load.

## Adjustable IR Illumination

The homogeneous illumination of the IR models is discreetly integrated under the permeable housing cover and can be individually adjusted to the captured scene. The illumination intensity of the five semi-discrete high-power LEDs can be adjusted individually and independently of each other. This means that disruptive side effects, such as reflections from white walls next to the detection area, can be avoided as far as possible. As a result, the camera delivers clear black-and-white images with excellent contrast even in seemingly complete darkness.

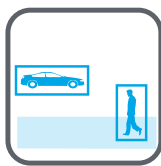
## Dewarped Display

The dewarped display of the live image and recordings of an SDF6800DN is supported by every workstation in the SeMSy® Video Management System with a digital PTZ function. In smaller video security systems, the convenient evaluation with the video management software SeMSy® Compact is the ideal option. In addition to a PTZ function, SeMSy® Compact supports the display of a dewarped 360° panoramic view or two 180° views of the half-space.

## Further features

- Horizontal field of view 360°
- Vertical field of view 90°
- Video compression H.264, H.265, MJPEG
- EdgeStorage and memory expansion with SD card
- Ambient light sensor and removable IR cut filter
- Automatic switching of presets for day and night
- Position sensor for automatic orientation (wall, ceiling)
- GDPR-compliant functions for data protection and security
- In-ceiling housing UL 2043 "plenum rated" compliant
- Network protocol MQTT supported

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The **AI Motion Detection App** analyzes the entire image content and reliably detects all movements triggered by persons or vehicles. The motion events are sent to the recording system with the video stream. Afterwards, they are available with metadata such as object type, time and position for targeted evaluation with Dallmeier client software.



The **AI Tamper Detection App** is classically used for detecting and reporting attempted tampering with the camera. The app detects a general change in the captured scene, such as typically occurs when the camera is manually rotated or tilted, and immediately issues a corresponding message.



The **AI Loitering Detection App** analyzes the movement of persons detected by the neural networks and evaluates their dwell time in a defined sensitive zone. If the set limit value of the dwell time is exceeded, a corresponding message can be displayed to the operator. At the same time, undesired attendants can be requested to leave the area by outputting a stored audio sequence.












The **AI Intrusion Detection App** allows the definition of protected zones and issues a message as soon as an object intrudes into them. The object type relevant for the message can be defined as, for example, person or vehicle. For targeted operator attention, a pre-zone can be defined for each protected zone, which can be used to escalate the messages.



The **AI Line Crossing App** issues a message as soon as a person or vehicle crosses a virtual line drawn in the image. Uninteresting crossings of the virtual lines, for example by animals, can be effectively excluded. An operator is thus less distracted and can concentrate much better on relevant observations.

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Camera		
	<b>008355</b>	<b>SDF6800DN</b> Ultra high definition camera, 8 MP, H.265, day/night, Deep AI/VCA, WDR, PoE, DOMERA® in-ceiling housing, design cover black IR translucent <sup>1)</sup> , fisheye lens F2.8 / 1.6 mm
Illumination		
	<b>008406</b>	<b>DOMERA® Dual Matrix LED Ring</b> Illumination for DOMERA® in-ceiling housing, five IR LEDs and five white light LEDs, event-controlled switching between IR and white light illumination, individual control of the intensity of individual LEDs or automatic adjustment to the captured scene, recommended for models with 4.5 - 9.7 mm lens (only ex factory)
Housing cover		
	<b>008529</b>	<b>DOMERA® Housing Cover Aluminium Black</b> Aluminium housing cover for DOMERA® in-ceiling housing, can be combined with DOMERA® Surface Mount Adapter and DOMERA® Wall Bracket, black, cannot be combined with cameras with DOMERA® Dual Matrix LED Ring
	<b>008410</b>	<b>DOMERA® Housing Cover Aluminium White</b> Aluminium housing cover for DOMERA® in-ceiling housing, can be combined with DOMERA® Surface Mount Adapter and DOMERA® Wall Bracket, white, cannot be combined with cameras with DOMERA® Dual Matrix LED Ring
Adapter		
	<b>008407</b>	<b>DOMERA® Surface Mount Adapter</b> Adapter for surface mounting a DOMERA® in-ceiling housing, polycarbonate, white
	<b>008209</b>	<b>DOMERA® Wall Bracket</b> Multifunctional bracket for mounting a DOMERA® in-ceiling housing on a wall or pole, compatible with the Mountera® Vandalproof Pole Adapter and the Mountera® Box, aluminum, white
Extensions		
	<b>008421</b>	<b>DOMERA® Breakout Cable</b> Breakout cable with 1x Audio IN, 1x Audio OUT, 1x RS485 (full duplex, half duplex), 2x Contact IN, 2x Contact OUT, 1x power supply (expected to be available as of Q4/2022)
	<b>008670</b>	<b>DOMERA® SDF Internal Audio Upgrade Kit</b> Upgrade kit for extension of a DOMERA® SDF series camera, internal speaker for use as intercom system and event-controlled audio output, NF amplifier 1.4 W included, license DLC - Audio IN/OUT and Intercom (008419) required (ex factory only, expected to be available in 2023)
Power supply		
	<b>004316</b>	<b>PoE Midspan 30 W</b> Midspan power supply unit, 1x Ethernet port, 10/100/1000Base-T, 802.3at, 802.3af, 30 W

1) Installation without tool, IR transmission 70%, white light transmission 10%

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## Included Support and License Interval

### Camera 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 updates<sup>2)</sup> 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

### 008414 AI Camera 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 updates<sup>2)</sup> 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

### 008416 Camera Software Maintenance (Plus 12 Months)

License for the update of Domera® OS with updates, upgrades and security updates<sup>2)</sup> for 12 months,  
license for the update of neural networks for object classification for 12 months.

## Optional Warranty

### 008417 Camera Hardware Warranty (Total of 60 Months)

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

## Optional Licenses (Functions)

### 008418 DLC - 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)

### 008419 DLC - Audio IN/OUT and Intercom

License for the use of the Audio Line IN/OUT Interface in connection with the DOMERA® Breakout Cable,  
license for the use of the microphone in connection with the DOMERA® Dual Matrix LED Ring,  
audio compression G.711 or AAC, recommended for use as intercom system

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.

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Sensor	
Type	1/1.7" CMOS
Number of sensor pixels	12 MP
Light sensitivity	Models with IR illumination: 0 lux (IR LED ON)  Models without IR illumination: < 0.05 lux (F1.4, AGC ON)
Dynamic range	92 dB
Signal to noise ration	> 50 dB

Lenses	
Type	Fisheye
Format / Mount	1/1.7" Board Lens
Focal length	1.6 mm
Iris range	F2.8
Minimum object distance	0,5 m
IR corrected	Yes
Horizontal field of view	360°
Vertical field of view	90°
Panoramic view	360°

Format and Encoding	
Video standard	SDTV (PAL/NTSC), HDTV (SMPTE 296M, SMPTE 274M)
Resolution 1:1	8 MP (2880 × 2880) @ 25/30 fps 6 MP (2448 × 2448) @ 25/30 fps 4 MP (1984 × 1984) @ 25/30 fps
Video compression	H.264, H.265, MJPEG
Frame rate	Up to 30 fps
Video bit rate	1 – 50 Mbps, constant or variable bit rate with priority setting for image quality <sup>3)</sup>
Video streaming	Up to 3 streams with different settings simultaneously
Audio compression <sup>4)</sup>	G.711 (A-LAW, μ-LAW), AAC
Audio bit rate <sup>4)</sup>	64 kbps (G.711), 48 – 96 kbps (AAC)
Live streaming transmission method	Unicast, Multicast
Number of live streams / clients	Up to 5 streams with up to 16 Mbps simultaneously

3) Limited to 12 Mbps with EdgeAnalytics active. If the total available bit rate is not sufficient, not the image quality but the number of frames is adjusted.

4) Optional license for the use of the Audio Line IN and OUT interface required (DLC - Audio Line IN/OUT).

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Functions	
Day/Night switching	Ambient light sensing and removable IR cut filter (ICR), switching threshold level adjustable
Black-and-white mode	Automatic (at low light or in night mode), On, Off
Automatic Electronic Shutter	1/1 – 1/8000 s
Slow Shutter Limit	1/1 – 1/1000 s
Digital flip function	Horizontal, vertical or both axes
Digital Noise Reduction	3D-DNR (adjustable by 10 levels)
Exposure presets	Universal, Indoor, Fluorescent, Casino, Low-Light, User-Defined (with automatic day/night switching)
Exposure compensation	-2 EV (Exposure Value) to + 2 EV (adjustable by 200 levels)
Exposure metering	Average metering (light information from entire scene), center-weighted average metering, spot metering
Brightness adjustment	Automatic (ALC), Manual
Gain control	Automatic (AGC) with adjustable Gain Limit
White balance	Auto: ATW (Auto Tracking White Balance), One-Push AWB (Automatic White Balance) Fixed: 2800K, 4000K, 5000K, 6500K and 7500K
Privacy Zone Masking	Hiding/masking of up to 16 protected areas (up to 100% of the entire image)
Alarm notification	Via DaVid protocol to PGuard advance, via E-Mail and FTP image upload in preparation
Alarm trigger	Application restart, EdgeStorage status, contact input, certificate expiration, service interval
Video Content Analysis (VCA)	VCA Motion Detection, VCA Tamper Detection, VCA Intrusion Detection, VCA Line Crossing
EdgeAnalytics AI Apps (Essentials) <sup>5)</sup>	AI Motion Detection, AI Tamper Detection, AI Loitering Detection, AI Intrusion Detection, AI Line Crossing
EdgeAnalytics actions	Notification via DaVid/PGuard, switching of relays and LEDs, audio output, 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, RTSP/RTP/RTCP, SNMP (v1, v2c, v3), MQTT
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 encryption, SSL/TLS 1.2 (AES), network access control according to IEEE 802.1X

Connections	
Ethernet	1x RJ45, 10BASE-T/100BASE-TX PoE
Audio Line IN <sup>6) 7)</sup>	1x 3.5 mm phone jack for stereo plug Input level: max. 2.83 V <sub>p-p</sub> Input impedance: 29 kΩ
Audio Line OUT <sup>6) 7)</sup>	1x 3.5 mm phone jack for stereo plug Output level at 10 kΩ load: max. 3.11 V <sub>p-p</sub> Output impedance: 320 Ω
Serial interface <sup>6)</sup>	1x RS485 (half duplex and full duplex)
Contact I/O interface <sup>6)</sup>	2x Contact IN / 2x Contact OUT
Power IN <sup>6)</sup>	1x Connection terminal 2 poles

LED Illumination (optional)	
Type	Five semi-covert 850 nm IR LEDs Five white light LEDs
Intensity	Individually adjustable per LED
IR Range	Up to approx. 30 m
IR Beam angle	Up to approx. 90° per LED, adaptively controlled according to focal length
Day/Night switching threshold	Adjustable

5) Optional license DLC - EdgeAnalytics AI Apps (Essentials) or AI Camera Support and License Interval Premium required.

6) Available only in connection with the optional DOMERA® Breakout Cable.

7) Optional license for the use of the Audio Line IN and OUT interface required (DLC - Audio Line IN/OUT).

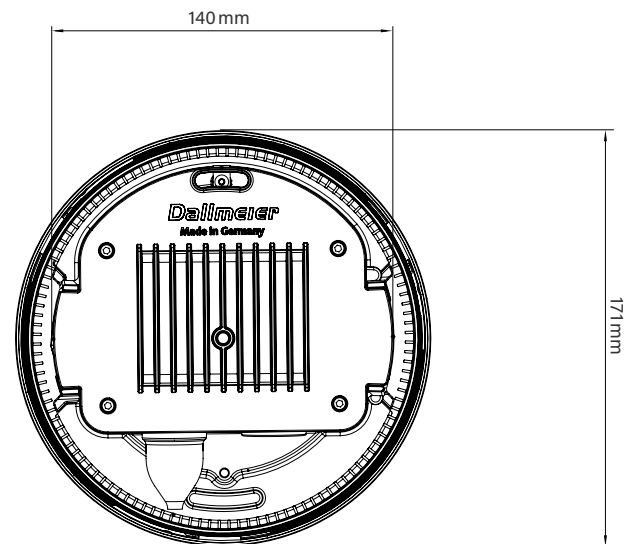
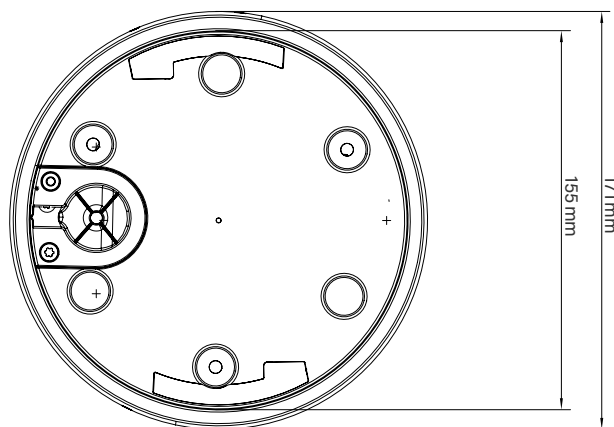
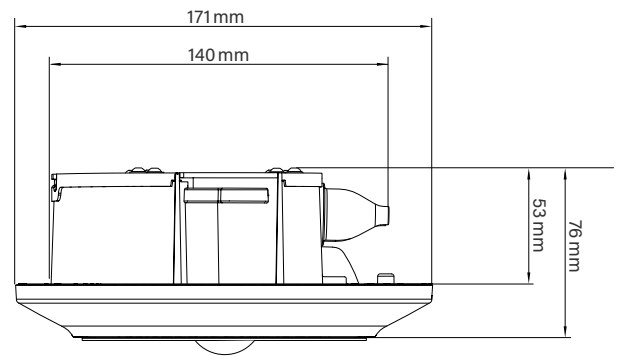
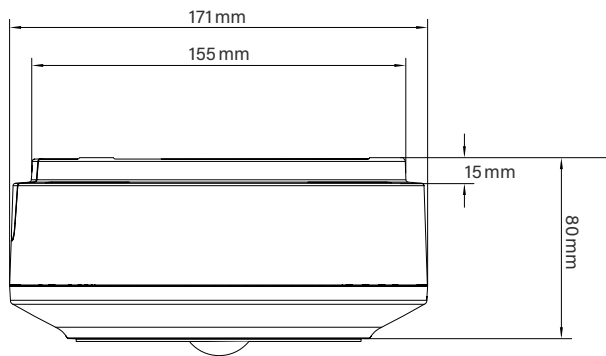
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Electrical Data	
Voltage supply	PoE (Class 0) 24 V DC - 48 V DC ±5% (with DOMERA® Breakout Cable)
PoE standard	IEEE 802.3af
Power consumption	Max. 12 W
Mechanical Data	
Dimensions	Approx. Ø 171 × H 76 mm (H 80 with surface mount adapter) Ø 6.7 × H 3.0 inches (H 3.1 with surface mount adapter)
Weight	Approx. 1.2 kg (1.4 kg with surface mount adapter) 2.6 kg (3.0 kg with surface mount adapter)
Adjustment	Motorized fine alignment via the network
Vandal-resistant	Yes
IK protection	IK10
IP rating	IP66
Color	In-ceiling housing black Housing cover black
Environmental Conditions	
Operating temperature	-40°C to +50°C (-40°F to +122°F) (peak up to +65°C (+149°F), not permanent)
Start-up temperature	-25°C to +50°C (-13°F to +122°F)
Relative humidity	0% - 90% RH, non-condensing
Compatibility	
Recording	SMAVIA Recording Server V8.x.x SMAVIA Recording Server V9.x.x SeMSy® Recording Server V10.x.x
Evaluation	SMAVIA Viewing Client SeMSy® Workstation Software SeMSy® Compact
Miscellaneous	
Ambient light sensor	Integrated
Position sensor	Integrated
Microphone	Integrated in DOMERA® Dual Matrix LED Ring
Local memory	50 MB RAM memory
Memory extension	microSDXC 32/64 GB, Class 10, UHS-I (optional)
Configuration and live video	Via web browser (all major platforms)
Languages	German, English
Programming interface	Open platform for integration into 3rd party systems using API
ONVIF compliance	Profile S
GDPR compliance	Supported
Approvals/Certifications	
Type	CE, FCC, RCM, EAC, IEC/EN 62471 and UL2043 compliant

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