

MDF5450HD-DN

Fisheye

Ultra High Definition Camera, Fisheye, 360° Panoramic View, 12 MP Sensor, 8 MP/30, H.265, AI/VCA, Day/Night, PoE, Compact Sensor Housing, Separate Encoder Housing



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The MDF5450HD-DN Fisheye is a network camera with fisheye lens specially designed for the image sensor. It offers a **vertical 90° field of view** and thus allows for the acquisition of a **complete half-space** with a **360° panoramic view**.

Discrete installation

The MDF5450HD-DN Fisheye consists of an ultra-compact **sensor housing** designed for **discrete installation in suspended ceilings**. In combination with the **separate encoder housing**, it can be **installed even in confined spaces** and operated with an external power supply or with **PoE Class 0**.

8 megapixel resolution

The high resolution of the sensor in combination with state-of-the-art encoder technology and sophisticated image processing enable the **recording of a complete half-space** (half sphere) in excellent quality and with an **8 megapixel resolution** at a **frame rate of up to 25/30 fps**. This makes the camera ideal for applications where detailed **capturing of an entire room** is required, **without blind spots and in real time**.

H.265 Support

The cameras are equipped with encoder technology that supports encoding of the video stream according to the H.265 standard. This allows the **data rate** to be **reduced by up to 50%** compared to H.264 with the same resolution and image quality. In conjunction with the latest Dallmeier recording systems, a **significant reduction in network and storage utilization** can be achieved.

Dewarped display

The **dewarped display of the live image and recordings** of an MDF5450HD-DN 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 **SMAVIA Viewing Client** is the ideal option. In addition to a PTZ function, SMAVIA Viewing client supports the **display of a dewarped 360° panoramic view** or **two 180° views of the half-space**.

Video Content Analysis

The integrated **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.

AI support

The cameras 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**. After a short training phase, the system finally allows an even **more targeted evaluation** of the recordings and a **more effective use** of automatic functions such as **lossless and multiple auto tracking**.

EdgeStorage

The camera is 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

- Horizontal field of view 360°
- Vertical field of view 90°
- Panoramic view 360°
- Ambient light sensor and removable IR cut filter
- Automatic switching of presets for day and night
- Video compression H.264, H.265, MJPEG
- Functions for data protection and data security (GDPR-compliant)
- Dewarped display with SMAVIA Viewing Client and SeMSy®
- Power supply over PoE (Class 0)
- Compact sensor housing with separate encoder housing

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Camera		
007439		MDF5450HD-DN Ultra High Definition Camera, Fisheye, 360° Panoramic View, 12 MP Sensor, 8 MP/30, H.265, AI/VCA, Day/Night, PoE, Compact Sensor Housing, Separate Encoder Housing
Power Supply		
004316		PoE Midspan 30 W Midspan power supply unit, 1x Ethernet port, 10/100/1000Base-T, 802.3at, 802.3af, 30 W

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Sensor	
Type	1/1.7" CMOS
Number of sensor pixels	12MP
Light sensitivity	< 0,05lux
Dynamic range	92 dB
Signal to noise ration	> 50 dB

Lens	
Type	Fisheye
Format	1/1.7"
Mount	Board Lens
Focal length	1.6 mm
Iris range	F2.8
Minimum object distance	0.5 mm
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) @ 25/30fps, 6 MP (2448 × 2448) @ 25/30fps, 4 MP (1984 × 1984) @ 25/30fps
Video compression	H.264, H.265, MJPEG
Frame rate	Up to 30 fps
Video bit rate	1–50 Mbps, CBR (constant bit rate), VBR (variable bit rate), with priority setting for image quality ¹⁾
Video streaming	Up to 3 streams with different settings simultaneously
Audio compression	G.711
Audio bit rate	64 kbps
Live streaming transmission method	Unicast, Multicast
Number of live streams / clients	Up to 5 streams with up to 16 Mbps simultaneously

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, Outdoor, 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
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⁾

1) If the total available bit rate is not sufficient, not the image quality but the number of frames is adjusted.

2) Depending on the CPU load. Video content analysis is not available if more than 2 streams or bit rates > 16 Mbps are configured.

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.

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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, RDNS), UDPv6, TCPv6, DNSv6, DHCPv6, LDAP
Communication protocols	DaVid, DaVidS, ONVIF Profile S, SNMP (v1, v2c, v3)
Security	HTTPS ⁴⁾ encryption, SSL/TLS ⁴⁾ 1.2 (AES), network access control according to IEEE 802.1X ⁴⁾
Connections	
Video preview output	1x HDMI micro connector (type D), 1080p (1920 x 1080) @ 25/30 fps (16:9) ⁵⁾
Audio Line IN	1x 3.5 mm phone jack for stereo plug Input level: max. 2.83 V _{p-p} Input impedance: 29 kΩ
Audio Line OUT	1x 3.5 mm phone jack for stereo plug Output level at 10 kΩ load: max. 3.11 V _{p-p} Output impedance: 320 Ω
Ethernet	1x RJ45, 10BASE-T-/100BASE-TX PoE
Power IN	1x Weidmüller male connector SL 3.50/02/90G (mating connector Weidmüller BL 3.50/02/180 SN)
Electrical Data	
Voltage supply	24 V DC PoE (Class 0)
PoE standard	IEEE 802.3af
Power consumption	Max. 12 W (8 W typically)
Mechanical Data	
Dimensions	Approx. Ø 95 x H 49 mm (sensor housing) Approx. W 62 x H 42 x D 121 mm (encoder housing)
Cable length	Approx. 160 mm (between sensor housing and encoder housing)
Weight	Approx. 270 g (sensor housing) Approx. 400 g (encoder housing with cable)
Color	Black with white housing ring
Environmental Conditions	
Operating temperature	–20°C to +50°C (–4°F to 122°F)
Relative humidity	0% – 90% RH, non-condensing
Miscellaneous	
Ambient light sensor	Integrated
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 and ActiveX ⁶⁾
ONVIF compliance	Profile S
GDPR compliance	Supported
Approvals/Certifications	
Type	CE, FCC, UL, DIN EN 50130-4 compliant

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 (ey@cryptsoft.com).

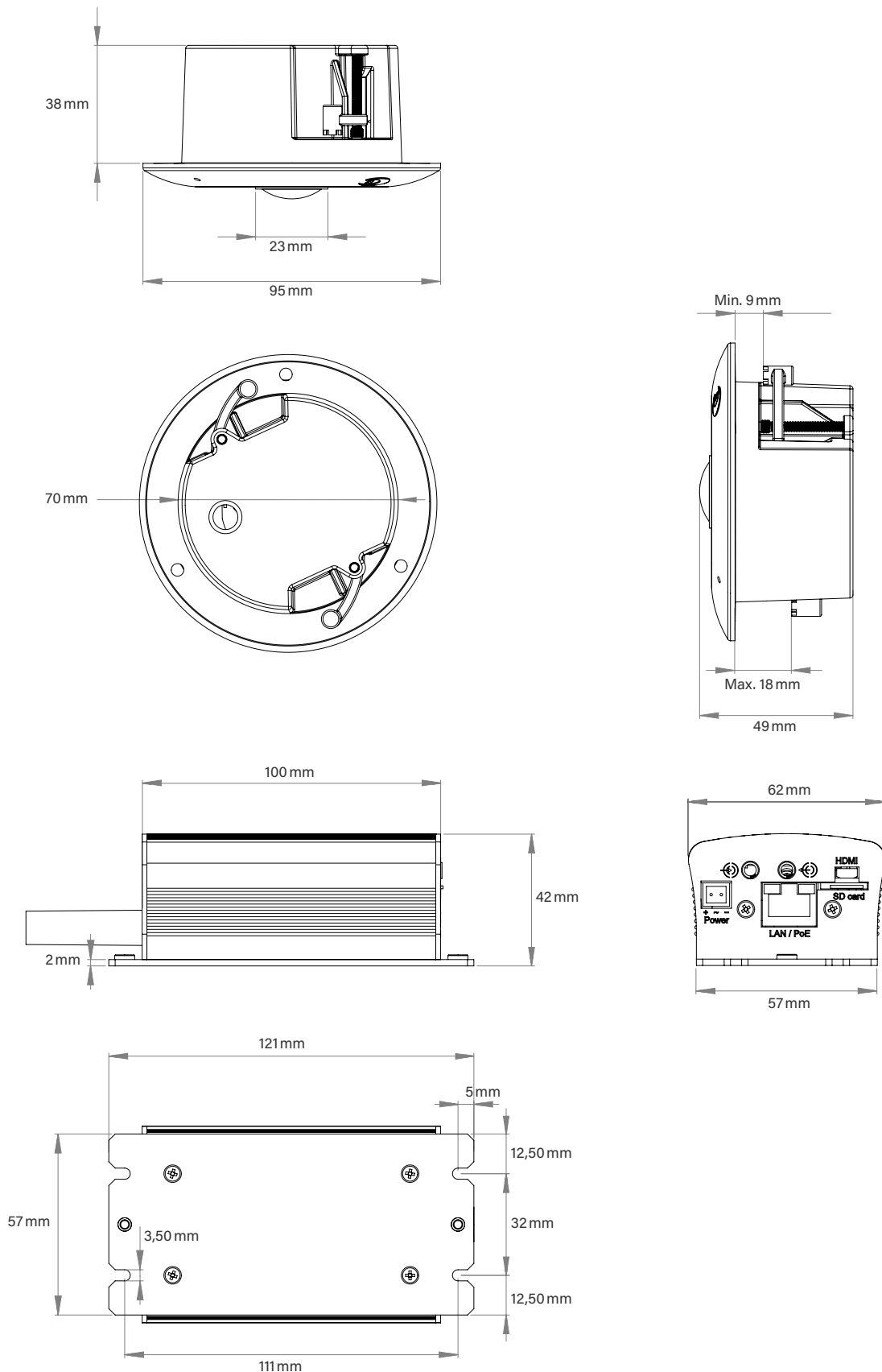
5) When using an HDMI cable longer than 50 cm, the use of a signal amplifier is recommended.

6) ActiveX is a trademark or registered trademark of Microsoft Corporation headquartered in Redmond, Washington, USA

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Dallmeier

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