

# MDF5250HD-DN

Nightline

High Definition Module Camera, 2 MP, 1080p/120, H.265, AI/VCA  
Day/Night, PoE, Separate Housing for Sensor and Encoder



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The MDF5250HD-DN is a HD network camera, built into a compact **sensor housing** and a separate **encoder housing**. By combining the **latest sensor and encoder technology**, the images have excellent contrast, brilliant clarity, as well as the **highest detail resolution and color fidelity**, even in low light conditions.

## Excellent Low-Light characteristics

The **extremely high light sensitivity** of the sensor and the sophisticated **image processing** ensure crisp **color images** even in the dark. In night mode, the camera also provides outstanding results due to the **excellent infrared sensitivity**.

## 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.

## Motor-driven varifocal lens with P-Iris

The camera has a **motor-driven varifocal lens** that is perfectly tuned to the image sensor. The adjustment of **zoom, focus and iris** is made conveniently using a **web browser**. The manual lens setting directly at the installation site of the camera is not required.

## Digital Image Shift

The **Digital Image Shift** function allows a comfortable **fine adjustment of the captured image section** (horizontal and vertical at 16:9 resolutions, horizontal at 4:3 resolutions) via a **web browser**. Depending on the selected resolution, the used area on the image sensor can be moved and adapted to the local conditions. The **manual fine alignment** of the camera directly at the installation site is **not necessary**.

## 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 is 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.

## 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.

## Mounting

Due to its **extremely compact design** and the **included mounting brackets**, the camera is ideally suited for installation in **ATMs, gambling tables and display panels**.

## Further features

- Extremely high light sensitivity 0.002 lux
- Memory expansion with optional microSDXC card
- Frame rate of 120 fps at 720p and 1080p
- Video compression H.264, H.265, MJPEG
- Functions for data protection and data security (GDPR-compliant)
- Separate housing for sensor and encoder

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## Variants

007739.409



### MDF5250HD-DN

High Definition Module Camera, 2 MP, 1080p/120, H.265, AI/VCA, day/night, PoE, separate housing for sensor and encoder, F1.6 / 4.5 - 10 mm

007739.410



### MDF5250HD-DN

High Definition Module Camera, 2 MP, 1080p/120, H.265, AI/VCA, day/night, PoE, separate housing for sensor and encoder, F1.6 / 12 - 40 mm

## Accessories

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	1/1.9" CMOS	
Number of sensor pixels	2MP	
Light sensitivity	0,002lux (F1.6, AGC ON)	
Dynamic range	120 dB @ HDR ON <sup>1)</sup> (94 dB without HDR)	
Signal to noise ration	> 50 dB	

Lens	F1.6 / 4.5 – 10 mm	F1.6 / 12 – 40 mm
Type	Motor-driven varifocal lens	
Format / Mount	1/1.8" Board Lens	
Focal length	4.5 – 10 mm	12 – 40 mm
Iris range	F1.6 – Closed	
Iris control	P-Iris (motor-driven)	
Zoom / Focus control	Motor-driven	
Minimum object distance	0.3 m	0.6 m
IR corrected	Yes	
Available angles of view <sup>2)</sup> (H × V) at wide end	Approx. 87° × 50° at 1080p	Approx. 35° × 19° at 1080p
Available angles of view <sup>2)</sup> (H × V) at tele end	Approx. 40° × 23° at 1080p	Approx. 11° × 6° at 1080p

Format and Encoding	
Video standard	SDTV (PAL/NTSC) HDTV (SMPTE 296M, SMPTE 274M)
Resolution in mode 1080p (16:9)	1920 × 1080 (1080p) @ 100/120 fps 1280 × 720 (720p) @ 100/120 fps 640 × 480 (480p) @ 100/120 fps 320 × 240 @ 100/120 fps
Resolution in mode 1080p (4:3)	1440 × 1080 @ 100/120 fps 1280 × 960 @ 100/120 fps
Resolution in mode 720p (16:9)	1280 × 720 (720p) @ 100/120 fps 640 × 480 (480p) @ 100/120 fps 320 × 240 @ 100/120 fps
Video compression	H.264, H.265, MJPEG
Frame rate	Up to 120 fps
Video bit rate	1 – 12 Mbps, CBR (constant bit rate), VBR (variable bit rate), with priority setting for image quality <sup>3)</sup>
Video streaming	Up to 4 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 12 Mbps simultaneously

1) Function in preparation

2) All specifications ±5%. Minor deviations with lenses may be a result of manufacturing tolerances and do not constitute a defect.

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

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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
Lens control	Zoom control (Tele – Wide), Focus control (Far – Near, One-Push AF), Iris control (P-Iris) via web browser
Digital flip function	Horizontal, vertical or both axes
Digital Image Shift	Horizontal and vertical at 16:9 resolutions, horizontal at 4:3 resolutions
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 any number of 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 <sup>4)</sup>	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) <sup>5)</sup>

Protocols	
Ethernet protocols	IPv4 (ARP, ICMP, IGMPv2/IGMPv3), UDP, TCP, LLDP, CDP (v1,v2), DSCP (QoS), DNS, DHCP, NTP, HTTP/HTTPS <sup>6)</sup> , 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 <sup>6)</sup> encryption, SSL/TLS <sup>6)</sup> 1.2 (AES), network access control according to IEEE 802.1X <sup>6)</sup>

Connections	
Video preview output	1x HDMI micro connector (type D), 1080p (1920 x 1080) @ 25/30 fps (16:9) <sup>7)</sup>
Audio Line IN	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	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
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	Approx. 8 W

4) Depending on the CPU load.

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](mailto:ey@cryptsoft.com)).

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

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Mechanical Data	
Dimensions	Approx. W 59 × H 59 × D 80 mm (sensor housing) Approx. W 62 × H 42 × D 121 mm (encoder housing)
Cable length	Approx. 175 mm (between sensor housing and encoder housing)
Weight	Approx. 300 g
Color	Black anodized

Environmental Conditions	
Operating temperature	−20°C to +45°C (−4°F to 113°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 <sup>8)</sup>
ONVIF compliance	Profile S
GDPR compliance	Supported

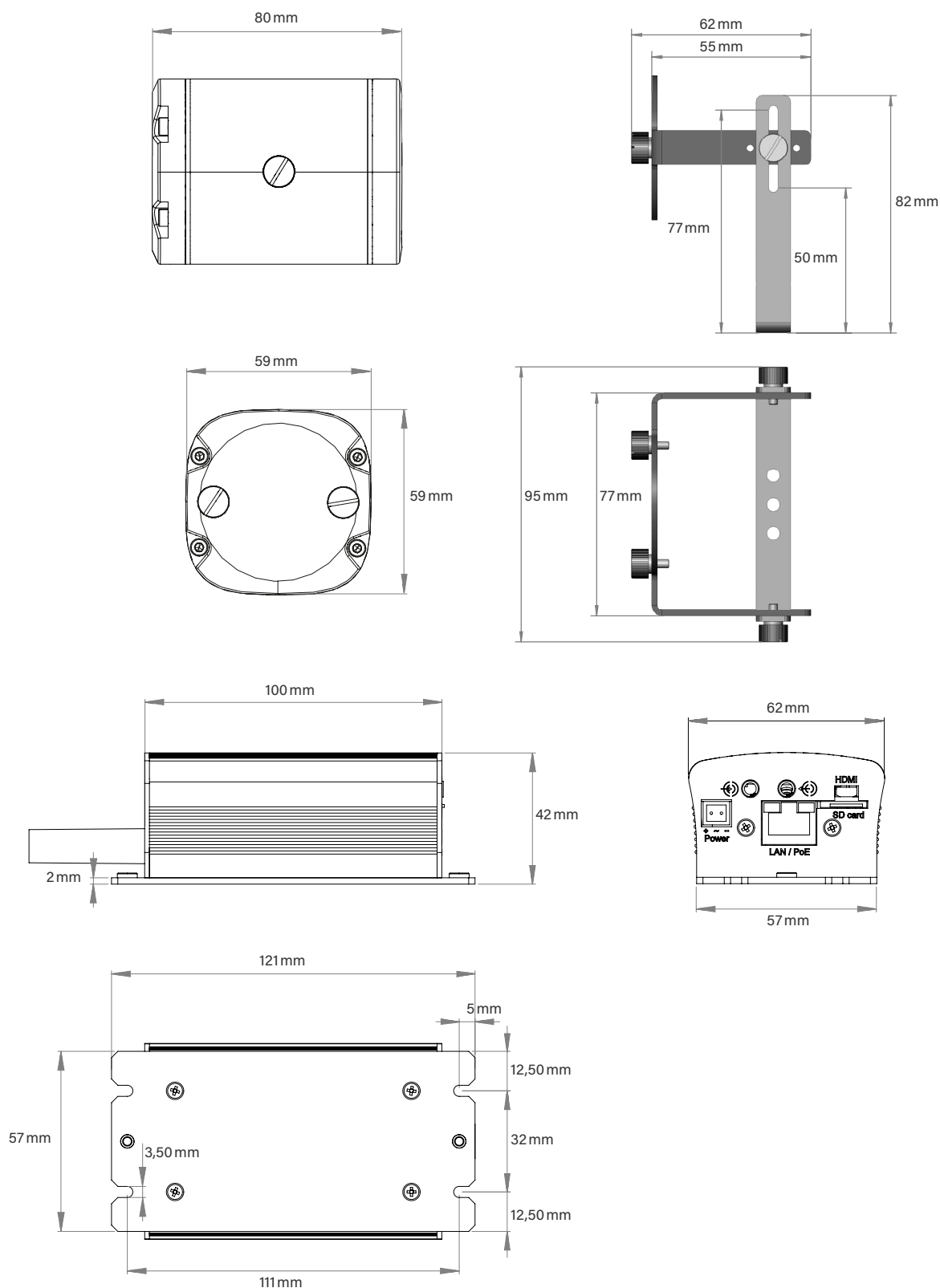
Approvals/Certifications	
Type	CE, DIN EN 50130-4 compliant

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

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