

DDF5400HD Camera Series

Ultraline

Models DDF5400HDV-DN IM and DDF5400HDV-DN SM



The **DDF5400HD camera series** has been designed especially for applications requiring **very high resolution images in real time**. The camera is available with an **integrated lens in a vandal-resistant dome housing**. It can be conventionally supplied with an external power supply unit or conveniently with **Power over Ethernet (PoE Class 0, IEEE 802.3af)**.

Ultra HD resolution

The **high resolution** of the sensor and the sophisticated **image processing** enable real-time recordings with **UHD resolution** at a frame rate of **up to 25/30 fps (2160p/30)** with excellent quality. Thus, the camera is ideally suited when capturing the **finest details in real time** is required.

Automatic switching of presets

The camera is equipped with an **ambient light sensor** and a **removable IR cut filter** and can automatically switch between **day and night mode**. In addition, **different day and night presets** for the exposure settings can be defined and adjusted.

Motor-driven varifocal lens

The camera has a **motor-driven megapixel 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.

Precise iris control

The new P-Iris control provides precise and **automatic setting of the optimum aperture**. Thus, the camera achieves a much **better depth of field** than with conventional DC auto iris lenses under almost any lighting conditions.

EdgeStorage

The camera is equipped with a **RAM memory** that is used by the **EdgeStorage** function for storing the video stream in case of a network failure. When the network is restored, the **SmartBackfill** function ensures a fast transmission to the **SMAVIA recording system**. This stores the video stream with high speed and then continues the recording of the live stream seamlessly.

Further Features

- 1/1.7" Ultra HD CMOS image sensor
- Memory expansion with microSDHC card
- Analog video preview output
- High Speed Encoder Board included
- Gigabit Ethernet interface
- Audio Line OUT and Audio Line IN
- Video compression H.264, MJPEG
- Simultaneous Dual-, Tri- or Quad Streaming
- Privacy Zone Masking
- Digital flip function
- Wide Dynamic Range (WDR)
- 3D Digital Noise Reduction (3D DNR)
- Extensive exposure compensation functions
- Extensive image processing functions
- EdgeStorage for Emergency Recording with SmartBackfill
- Dome housing with vandalism protection (IK10)

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In-Ceiling Variants





- 005101.411 DDF5400HDV-DN-IM**
 Ultra High Definition Camera, 2160p/30, 12MP Sensor, 4K, H.264, day/night (ICR), motor-driven varifocal lens, One-Push AF, P-Iris, PoE (Class 0), vandal-resistant (IK10), in-ceiling mount variant, F1.4 / 4–10 mm
- 005101.412 DDF5400HDV-DN-IM**
 Ultra High Definition Camera, 2160p/30, 12MP Sensor, 4K, H.264, day/night (ICR), motor-driven varifocal lens, One-Push AF, P-Iris, PoE (Class 0), vandal-resistant (IK10), in-ceiling mount variant, F1.8 / 12–50 mm



Surface Variants

- 005102.411 DDF5400HDV-DN-SM**
 Ultra High Definition Camera, 2160p/30, 12MP Sensor, 4K, H.264, day/night (ICR), motor-driven varifocal lens, One-Push AF, P-Iris, PoE (Class 0), vandal-resistant (IK10), surface mount variant, F1.4 / 4–10 mm
- 005102.412 DDF5400HDV-DN-SM**
 Ultra High Definition Camera, 2160p/30, 12MP Sensor, 4K, H.264, day/night (ICR), motor-driven varifocal lens, One-Push AF, P-Iris, PoE (Class 0), vandal-resistant (IK10), surface mount variant, F1.8 / 12–50 mm

Accessories

- 006050**

Tinted Bubble
 For in-ceiling and surface mount variant, 4,5"
- 001431**

EvC-1
 High-Speed Ethernet data transmission via coaxial cable
- 004316**

PoE Midspan 30 W
 Midspan power supply unit, 1× Ethernet port, 10/100/1000Base-T, 802.3at, 802.3af, 30 W
- 005017**

Wall Mount Bracket (SM Housing)
 Wall mount bracket with seals and internal cable routing, for vandal-resistant (IK10) surface-mount housing (152 mm)

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Sensor	
Type	1/1.7" 12.4 megapixel Ultra HD CMOS image sensor
Number of sensor pixels	12 MP
Signal processing	Pure Digital Signal Processing
Image capture	Progressive Scan
Sensor sensitivity	<0,05 lux
Dynamic range	92 dB
Signal to noise ration (SNR _{MAX})	> 50 dB

Functions	
Hybrid video	On, Off
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) ¹⁾ , 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 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 und 7500K
Privacy Zone Masking	Hiding/masking of any number of protected areas (up to 100% of the entire image)
Alarm notification ²⁾	Via DaVid-Protokoll (Dallmeier Video Protocol) to PGuard advance, E-Mail, FTP image upload
Alarm trigger ²⁾	Application restart
Configuration and live video	Via web browser (all major platforms)
Languages	German, English

1) Without color information, or rather in black-and-white mode, the image quality in low light conditions will be much clearer (e.g. less color noise).
2) Function in preparation

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Format and Encoding	
Video standard	SDTV (PAL/NTSC) HDTV (SMPTE 296M, SMPTE 274M)
Resolution 4:3	12 MP (4000 × 3000) @ 12,5/15 fps 5 MP (2592 × 1920) @ 25/30 fps 4 MP (2336 × 1744) @ 25/30 fps 3 MP (2048 × 1536) @ 25/30 fps 1,5 MP (1440 × 1080) @ 25/30 fps 1,2 MP (1280 × 960) @ 25/30 fps 704 × 576 @ 25/30 fps 704 × 480 @ 25/30 fps 640 × 480 @ 25/30 fps
Resolution 16:9	8 MP (3840 × 2160, 2160p) @ 25/30 fps (Ultra High Definition) 5,3 MP (3072 × 1728) @ 25/30 fps 1080p (1920 × 1080) @ 25/30 fps 720p (1280 × 720) @ 25/30 fps
Resolution preview output in mode CVBS (4:3)	704 × 576 (4CIF PAL) @50 Hz 704 × 480 (4SIF NTSC) @60 Hz
Resolution preview output in mode HDMI (16:9)	1080p (1920 × 1080) @ 25/30 fps
Video compression	H.264, MJPEG
Frame rate	Up to 30 fps
Video bit rate	1 – 50 Mbit/s, CBR (constant bit rate), VBR (variable bit rate), each with priority setting for image quality ³⁾
Video streaming	Simultaneous Dual-, Tri- or Quad-Streaming
Transfer format	Progressive (full image)
Audio compression	G.711
Audio bit rate	64 kbit/s
Live streaming transmission method	Unicast, Multicast
Number of live streams	Up to 5 streams with up to 16 Mbit/s simultaneously

Protocols	
Ethernet protocols	IPv4, TCP, UDP, HTTP, RTP, RTCP, IGMP V2/V3, ICMP, ICMP V6, RTSP, ARP, NTP, DHCP
Ethernet protocols in preparation	HTTPS, SMTP, SOAP, LDAP, IPv6, FTP, 802.1x, DNS, DNS V6, DDNS (DynDNS.org, selfHOST.de, no-ip.com), UPnP (SSDP), DiffServ (QoS), LLDP
SNMP support in preparation	SNMP v1

Connections	
Video preview output	1× BNC (CVBS, 1.0 V _{p-p} , 75 Ω) 1× HDMI micro connector (type D)
Audio Line IN	1× 3.5 mm phone jack for stereo plug Input level: max. 2.83 V _{p-p} Input impedance: 29 kΩ
Audio Line OUT	1× 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	1× RJ45-Buchse, 10BASE-T/100BASE-TX PoE/1000BASE-TX PoE
Power IN	1× Weidmüller male connector SL 3.50/02/90G (mating connector Weidmüller BL 3.50/02/180 SN)

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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Miscellaneous	
Ambient light sensor	Integrated
Local memory	50 MB RAM memory
Memory extension	microSDHC 32 GB, Class 10, UHS-I (optional)
Programming interface	Open platform for integration into 3rd party systems using API and ActiveX ⁴⁾
ONVIF compliance	Profile S ⁵⁾

Electrical Data	
Voltage supply	24 V DC PoE (Class 0)
PoE standard	IEEE 802.3af
Power consumption	Max. 12 W

Mechanical Data	DDF5400HDV-DN IM	DDF5400HDV-DN SM
Dimensions	Approx. Ø 170 × H 135 mm Ø 6.7 × H 5.3 inches	Approx. Ø 153 × H 135 mm Ø 6.0 × H 5.3 inches
Weight	Approx. 1200 g 2.6 lb	Approx. 1100 g 2.6 lb
Color	White	White
Adjustment	3-axes	3-axes
Bubble	Clear (with black inner liner)	Clear (with black inner liner)
Vandal-resistant	Yes	Yes
IK protection	IK10 (up to 20 Joule)	IK10 (up to 20 Joule)
IP rating	--	IP67

Environmental Conditions	
Operating temperature	-20°C to +50°C -4°F to 122°F
Relative humidity	0% – 90% RH, non-condensing

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

4) ActiveX is a trademark or registered trademark of Microsoft Corporation headquartered in Redmond, Washington, USA
 5) Function in preparation

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Lens F1.4 / 4 – 10 mm	
Type	Motor-driven varifocal lens
Format	1/1.7"
Mount	Board Lens
Focal length	4 – 10 mm
Iris range	F1.4 – Closed
Iris control	P-Iris (motor-driven)
Zoom control	Motor-driven
Focus control	Motor-driven
MOD (Minimum Object Distance)	0.5 m
IR corrected	Yes
Available angles of view ⁶⁾ (H × V) at wide end	Approx. 110° × 80° @ 12 MP (4000 × 3000) @ 5 MP (2592 × 1920) @ 4 MP (2336 × 1744) @ 3 MP (2048 × 1536) Approx. 105° × 56° @ 8 MP (3840 × 2160) @ 5.3 MP (3072 × 1728) @ 1080p (1920 × 1080) @ 720p (1280 × 720)
Available angles of view ⁶⁾ (H × V) at tele end	Approx. 44° × 33° @ 12 MP (4000 × 3000) @ 5 MP (2592 × 1920) @ 4 MP (2336 × 1744) @ 3 MP (2048 × 1536) Approx. 42° × 23° @ 8 MP (3840 × 2160) @ 5.3 MP (3072 × 1728) @ 1080p (1920 × 1080) @ 720p (1280 × 720)

Lens F1.8 / 12 – 50 mm	
Type	Motor-driven varifocal lens
Format	1/1.7"
Mount	Board Lens
Focal length	12 – 50 mm
Iris range	F1.8 – Closed
Iris control	P-Iris (motor-driven)
Zoom control	Motor-driven
Focus control	Motor-driven
MOD (Minimum Object Distance)	2.5 m
IR corrected	Yes
Available angles of view ⁶⁾ (H × V) at wide end	Approx. 36° × 26° @ 12 MP (4000 × 3000) @ 5 MP (2592 × 1920) @ 4 MP (2336 × 1744) @ 3 MP (2048 × 1536) Approx. 34° × 19° @ 8 MP (3840 × 2160) @ 5.3 MP (3072 × 1728) @ 1080p (1920 × 1080) @ 720p (1280 × 720)
Available angles of view ⁶⁾ (H × V) at tele end	Approx. 9.2° × 6.8° @ 12 MP (4000 × 3000) @ 5 MP (2592 × 1920) @ 4 MP (2336 × 1744) @ 3 MP (2048 × 1536) Approx. 8.8° × 4.9° @ 8 MP (3840 × 2160) @ 5.3 MP (3072 × 1728) @ 1080p (1920 × 1080) @ 720p (1280 × 720)

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

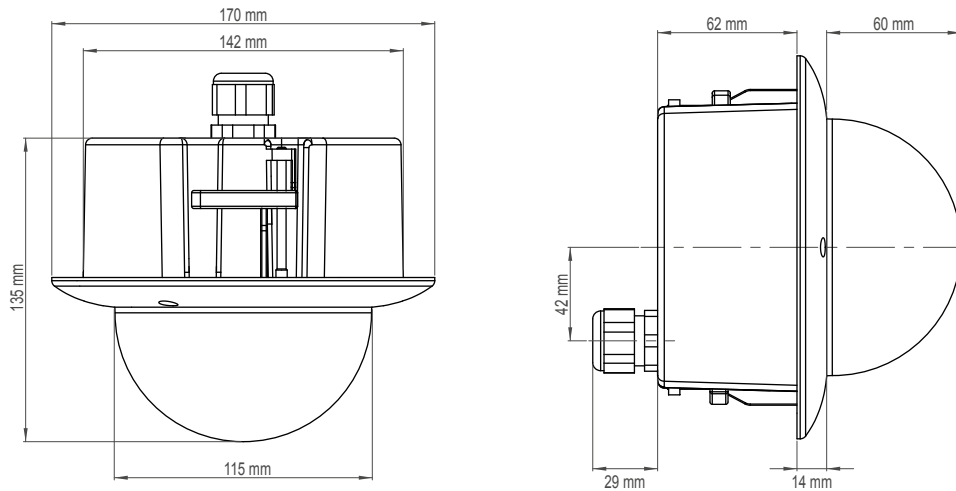
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Dimensions

DDF5400HDV-DN IM



DDF5400HDV-DN SM

