

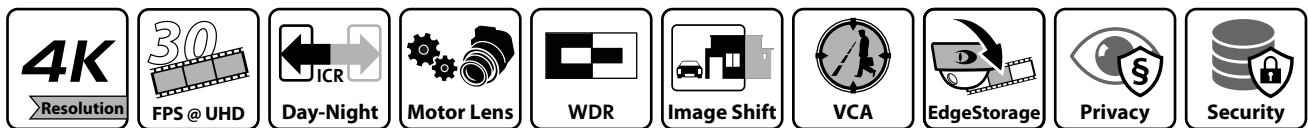
DDF5400HDV-DN

Ultraline

Ultra High Definition Camera, 4K, 2160p/30, H.264, Day/Night (ICR), WDR, Motor-driven Varifocal Lens, PoE, Dome Housing



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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**.

Ultra HD resolution

The **high resolution** of the sensor and the sophisticated **image processing** enable real-time recordings with **UHD resolution** and 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** can be defined and adjusted for the exposure settings.

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** via a **web browser** ensuring a quick and easy installation of the camera. 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.

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

- 1/1.7" Ultra HD CMOS image sensor
- High light sensitivity 0.05 lux
- Memory expansion with microSDXC card
- Frame rate of 30 fps at 2160p
- Analog video preview output
- Video compression H.264, MJPEG
- Wide Dynamic Range (WDR)
- 3D Digital Noise Reduction (3D-DNR)
- Functions for data protection and data security (GDPR-compliant)
- Voltage supply with PoE (Class 0)
- Dome housing with vandalism protection (IK10)
- In-ceiling or surface mount version

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In-Ceiling Variants

005101.411



DDF5400HDV-DN-IM

Ultra High Definition Camera, 4K, 2160p/30, H.264, day/night (ICR), WDR, motor-driven varifocal lens, PoE, dome housing, in-ceiling mount variant, F1.4 / 4–10 mm

005101.412



DDF5400HDV-DN-IM

Ultra High Definition Camera, 4K, 2160p/30, H.264, day/night (ICR), WDR, motor-driven varifocal lens, PoE, dome housing, in-ceiling mount variant, F1.8 / 12–50 mm

Surface Variants

005102.411



DDF5400HDV-DN-SM

Ultra High Definition Camera, 4K, 2160p/30, H.264, day/night (ICR), WDR, motor-driven varifocal lens, PoE, dome housing, surface mount variant, F1.4 / 4–10 mm

005102.412



DDF5400HDV-DN-SM

Ultra High Definition Camera, 4K, 2160p/30, H.264, day/night (ICR), WDR, motor-driven varifocal lens, PoE, dome housing, surface mount variant, F1.8 / 12–50 mm

Accessories

006050



Tinted Bubble 4.5"

For in-ceiling and surface mount variant, 4.5"

004316



PoE Midspan 30 W

Midspan power supply unit, 1x 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" CMOS
Number of sensor pixels	12MP
Light sensitivity	<0.05lux
Dynamic range	92 dB
Signal to noise ration	> 50 dB

Lens	F1.4 / 4 – 10 mm	F1.8 / 12 – 50 mm
Type	Motor-driven varifocal lens	
Format / Mount	1/1.7" Board Lens	
Focal length	4 – 10 mm	12 – 50 mm
Iris range	F1.4 – Closed	F1.8 – Closed
Iris control	P-Iris (motor-driven)	
Zoom / Focus control	Motor-driven	
Minimum object distance	0.5 m	2.5 m
IR corrected	Yes	
Available angles of view ¹⁾ (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. 36° × 26° @ 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)	Approx. 34° × 19° @ 8 MP (3840 × 2160) @ 5.3 MP (3072 × 1728) @ 1080p (1920 × 1080) @ 720p (1280 × 720)
Available angles of view ¹⁾ (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. 9.2° × 6.8° @ 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)	Approx. 8.8° × 4.9° @ 8 MP (3840 × 2160) @ 5.3 MP (3072 × 1728) @ 1080p (1920 × 1080) @ 720p (1280 × 720)

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, 704 × 480, 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
Video compression	H.264, 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 ²⁾
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

1) All specifications ±5%. Minor deviations with lenses may be a result of manufacturing tolerances and do not constitute a defect.
2) 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
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 ³⁾	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) Face Detection (detection of faces) ⁴⁾

Protocols	
Ethernet protocols	IPv4 (ARP, ICMP, IGMPv2/IGMPv3), UDP, TCP, LLDP, CDP (v1,v2), DSCP (QoS), DNS, DHCP, NTP, HTTP/HTTPS ⁵⁾ , 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 ⁵⁾ encryption, SSL/TLS ⁵⁾ 1.2 (AES), network access control according to IEEE 802.1X ⁵⁾

Connections	
Video preview output	1x BNC (CVBS, 1.0 V _{p-p} , 75 Ω), 704 × 576 @50 Hz, 704 × 480 @60 Hz (4:3) 1x HDMI micro (D), 1080p (1920 × 1080) @ 25/30 fps (16:9)
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/1000BASE-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

3) Depending on the CPU load.

4) 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.

5) 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).

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Mechanical Data	DDF5400HDV-DN-IM	DDF5400HDV-DN-SM
Dimensions	Approx. Ø 170 × H 135 mm Ø 6.7 × H 5.3 inches	Approx. Ø 152 × H 136 mm Ø 6.0 × H 5.3 inches
Weight	Approx. 1200 g 2.6 lb	Approx. 1100 g 2.4 lb
Adjustment	3-axes	
Bubble	Clear (with black inner liner)	
Vandal-resistant	Yes	
IK protection	IK10 (up to 20 joules)	IK10 (up to 20 joules)
IP rating	--	IP67
Color	Black with white housing ring	White

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 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, RCM, UL, DIN EN 50130-4 compliant

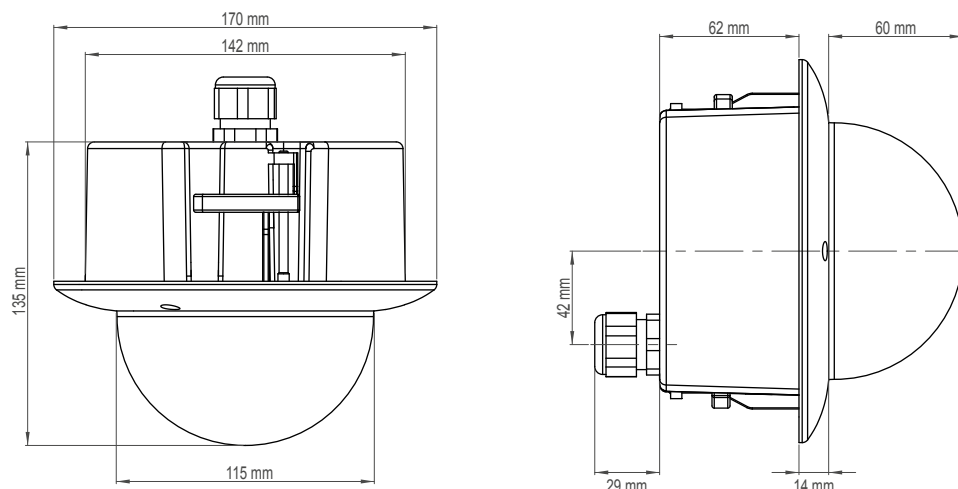
6) ActiveX is a trademark or registered trademark of Microsoft Corporation headquartered in Redmond, Washington, USA

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