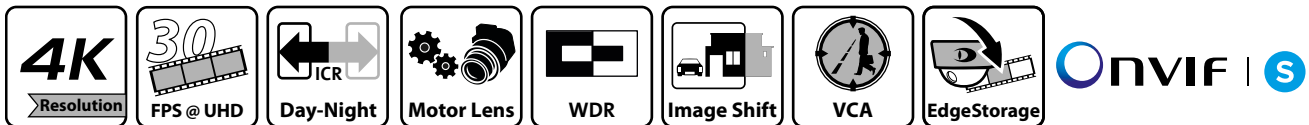


DDF5400HDV-DN

Ultraline

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



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
- Privacy Zone Masking
- Digital flip function
- Wide Dynamic Range (WDR)
- 3D Digital Noise Reduction (3D-DNR)
- 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

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.

Ultra High Definition Camera, 4K, 2160p/30, H.264, Day/Night (ICR), WDR,
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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, RTSP/RTP/RTCP, SNMP (v1, v2c, v3)
Ethernet protocols in preparation	IPv6 (NDP, ICMPv6, MLDv1/MLDv2, SLAAC, RDNSS), UDPv6, TCPv6, DNSv6, DHCPv6, LDAP, IEEE 802.1X

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.

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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 ⁵⁾
ONVIF compliance	Profile S

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

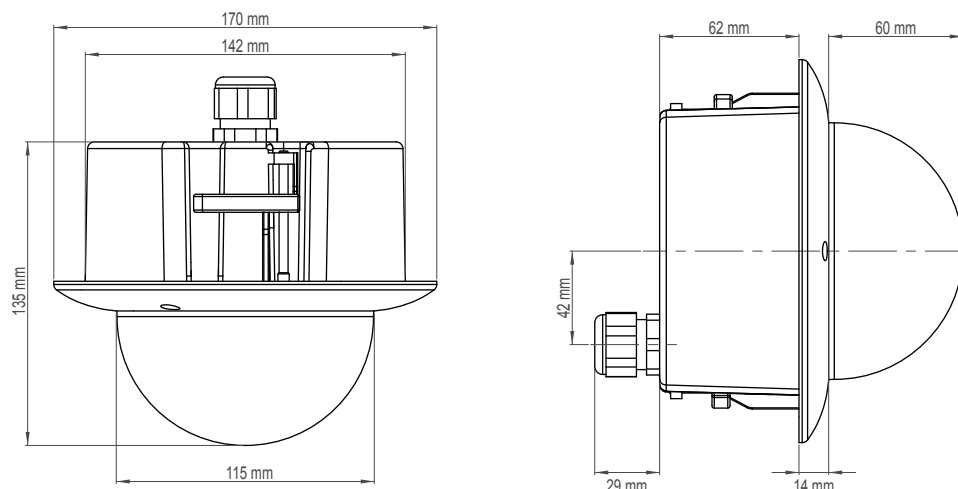
5) ActiveX is a trademark or registered trademark of Microsoft Corporation headquartered in Redmond, Washington, USA

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