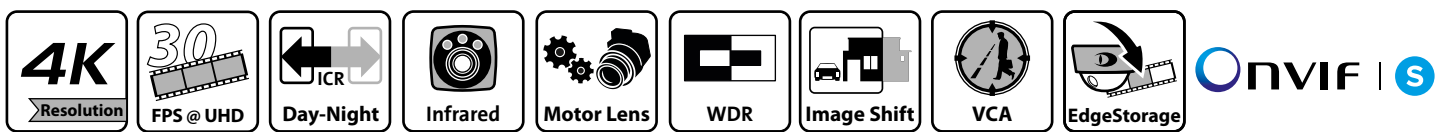


DF5400HD-DN/IR

Ultraline

Ultra High Definition Camera, 4K, 2160p/30, H.264, Day/Night (ICR), WDR, Integrated IR Illumination, Motor-driven Varifocal Lens, PoE, Box Housing With Wall Mount Bracket



The DF5400HD-DN/IR has been designed especially for applications requiring **images with highest resolution in real-time** at day and in the IR mode at night. Built into an **IP66-rated weather-proof enclosure**, the camera is designed for both indoor and for outdoor applications. The camera is operated with **Power over Ethernet** which allows for an easy, quick and cost-effective cabling and commissioning.

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 up to 25/30 fps** (2160p/30) with excellent quality. Thus, the camera is ideally suited when capturing the **finest detail** is required **in real time**.

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.

Integrated homogeneous IR illumination

The automatic Day/Night operation is supported by a **uniform IR illumination** with semi-covert **850 nm high power LEDs**. In IR mode at night, the camera provides excellent results due to its **high infrared sensitivity**, thus meeting even the highest demands in 24-hour operation.

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 **digital fine alignment of the image section** conveniently **using a web browser**. This ensures a quick and easy installation of the camera. 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
- Adjustable IR intensity and Day/Night switching threshold level
- Minimum illumination 0 lux (with IR LED On)
- Memory expansion with microSDXC card
- 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)
- Outdoor wall mount bracket with internal cable routing

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Camera	
005947	 <p>DF5400HD-DN/IR Ultra High Definition Camera, 4K, 2160p/30, H.264, day/night (ICR), WDR integrated IR illumination, motor-driven varifocal lens, PoE, box housing with wall mount bracket, F1.4 / 4 – 10 mm</p>
Power Supply	
004316	 <p>PoE Midspan 30 W Midspan power supply unit, 1x Ethernet port, 10/100/1000Base-T, 802.3at, 802.3af, 30 W</p>
Wall Mount	
004386	 <p>WCPA - Support Plate Adapter¹⁾ Reinforcing support plate WCPA for adapting the wall brackets WBMA, WBOVA2 and IR housing wall mount bracket</p>
Corner Mount	
004390	 <p>WCWA - Corner Mount Adapter¹⁾ Corner mount adapter WCWA for corner mounting</p>
Pole Mount 65 - 110 mm	
004387	 <p>WSFPA - Pole Mount Adapter¹⁾ Pole mount adapter WSFPA for pole diameters 65 – 110 mm (2.6 – 4.3")</p>
Pole Mount 210 - 225 mm	
004386	 <p>WCPA - Support Plate Adapter¹⁾ Reinforcing support plate WCPA for adapting the wall brackets WBMA, WBOVA2 and IR housing wall mount bracket</p>
004388	 <p>DBHWGC - Pole Mount Adapter¹⁾ Pole mount adapter DBHWGC for pole diameters 210 – 225 mm (8.3 – 8.6")</p>

¹⁾ Note: The color of this mounting accessories (gray-white) differs from that of the IR camera / wall mount bracket (white).

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Sensor	
Type	1/1.7" CMOS
Number of sensor pixels	12 MP
Light sensitivity	IR LED OFF: <0.05 lux (F1.4, AGC ON) IR LED On: 0 lux
Dynamic range	92 dB
Signal to noise ration	> 50 dB

Lens	
Type	Motor-driven varifocal lens
Format / Mount	1/1.7" Board Lens
Focal length	4 – 10 mm
Iris range	F1.4 – Closed
Iris control	P-Iris (motor-driven)
Zoom / Focus control	Motor-driven
Minimum object distance	0.5 m
IR corrected	Yes
Available angles of view ²⁾ (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 ²⁾ (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)

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 ³⁾
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 4 streams with up to 16 Mbps simultaneously

2) All specifications ±5%. Minor shadowing (vignetting) may occur at extreme wide end due to the construction 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
Digital Noise Reduction	3D-DNR (adjustable by 10 levels)
Exposure presets	Universal, Indoor, Fluorescent, 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 ⁴⁾	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) ⁵⁾
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	
Ethernet	1x RJ45, 10BASE-T/100BASE-TX PoE/1000BASE-T PoE
IR Illumination	
Type	Semi-covert 850 nm high power LEDs
IR intensity	Adjustable
Photocell	Adjustable Day/Night switching threshold level
Range	Up to approx. 30 m
Beam angle	Up to approx. 90°
Electrical Data	
Voltage supply	PoE (Class 0)
PoE standard	IEEE 802.3af
Power consumption	Max. 12.95 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.

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Mechanical Data	
Dimensions	See technical drawings
Weight	Approx. 2.2 kg (4.9 lb) with wall mount bracket
Adjustment	2-axes
IP rating	IP66
Color	White

Environmental Conditions	
Operating temperature	-40°C to +50°C (-4°F to 122°F), minimum start-up temperature: -30°C (-22°F)
Relative humidity	0% - 90% RH, non-condensing

Miscellaneous	
Ambient light sensor	Integrated
Microphone	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

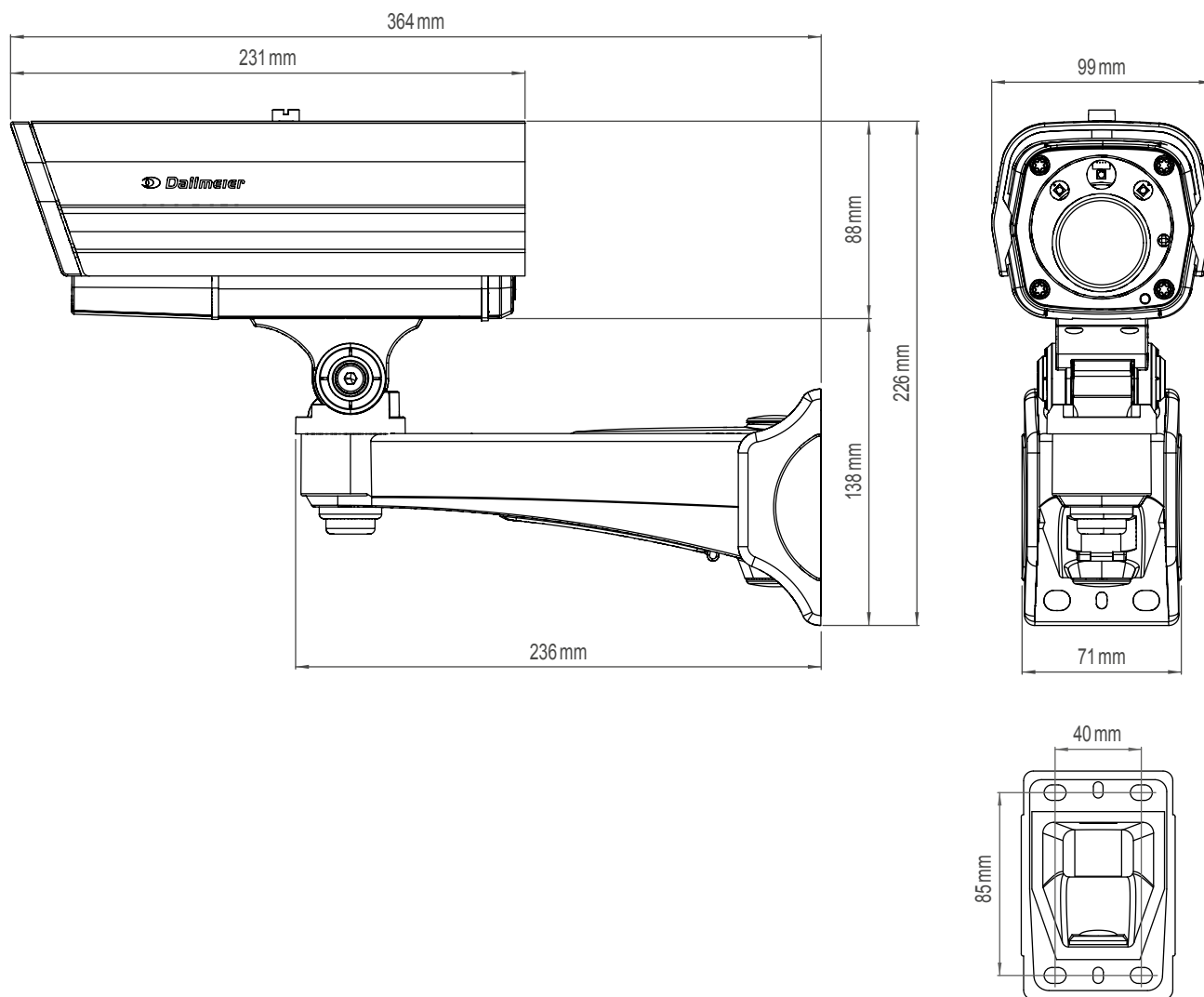
Approvals/Certifications	
Type	CE, FCC, RCM, UL, DIN EN 50130-4 compliant, IEC/EN 62471 compliant

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

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