Camera Series 5050

Picoline

High Definition Camera, 5 MP, H.265, VCA, WDR/HDR, PoE, compact in-ceiling mount, surface mount or box housing

ONVIF | S T

| 5MP Resolution | 60 FPS @ Full HD | WDR/HDR | Image Shift | VCA | H265 Encoding | EdgeStorage | Privacy | Security | NDAA Compliant |

The cameras of the 5050 series have a high-resolution image sensor with a very good light sensitivity and deliver detailed color images even in poor lighting conditions. In combination with the most modern encoder technology and sophisticated image processing, real-time recordings with high resolution are achieved with excellent contrast, brilliant clarity and the highest level of color fidelity.

Discreet Installation

The cameras of the 5050 series are offered in three compact and robust housing variants. The in-ceiling variant is especially designed for discreet installation in suspended ceilings. In addition, the surface-mounted variant can be mounted unobtrusively and in confined spaces on ceilings or walls. The box variant is ideally suited for installation in ATMs, gaming tables and display boards. It can also be easily integrated into a weatherproof housing for outdoor use.

Resolution and Frame Rate

The high resolution of the sensor and the sophisticated image processing allow real-time recordings at a frame rate of 60 fps (1080p/60 @ 16:9) or up to 30 fps at a resolution of 4 MP. This makes the camera ideal for all applications that require the capture of very fast movements in high resolution.

Wide Dynamic Range

The camera offers a WDR function (also known as High Dynamic Range (HDR)) for optimal recording of scenes with very bright and dark areas. Each image is captured with two special settings that are combined in real time to create a balanced result. The resulting video stream offers much more detail in both light and dark areas and is visually very close to the human eye's perception.

H.265 Support

The camera is 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.

Digital Image Shift

The Digital Image Shift allows a digital fine adjustment of the image section for all resolutions comfortably via a web browser. This guarantees a quick and uncomplicated installation of the camera.

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 Dallmeier 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 Dallmeier Client Software 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 temporary network failure (e. g. spanning tree, bursts). When the network is restored, the SmartBackfill function ensures fast transmission to the Dallmeier recording system. This stores the video stream with high speed and then continues to record the live stream seamlessly.

Features

- High light sensitivity 0.03 lux
- Video compression H.264, H.265, MJPEG
- Wide Dynamic Range (WDR/HDR) supported
- Automatic corridor mode supported
- Compatible with ONVIF Profile S and Profile T
- Functions for data protection and data security (GDPR-compliant)
- Power supply via PoE (Class 0)

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In-Ceiling Variant

008044.401   **DDF5050HDV-IM**
High Definition Camera, 5 MP, H.265, day, VCA, WDR/HDR, PoE,
compact dome housing, in-ceiling variant, fixed focus lens F2.0 / 2.5 mm

Surface Variant

008045.401   **DDF5050HDV-SM**
High Definition Camera, 5 MP, H.265, day, VCA, WDR/HDR, PoE,
compact dome housing, surface mount variant, fixed focus lens F2.0 / 2.5 mm

Box Variants

008046.414   **DF5050HD-DN**
High Definition Camera, 5 MP, H.265, day/night, VCA, WDR/HDR, PoE,
compact box housing, motor-driven varifocal lens F1.4 / 3 – 10 mm

008046.415   **DF5050HD-DN**
High Definition Camera, 5 MP, H.265, day/night, VCA, WDR/HDR, PoE,
compact box housing, motor-driven varifocal lens F1.8 / 12 – 40 mm

Accessories

004316   **PoE Midspan 30 W**
Midspan power supply unit, 1× Ethernet port, 10/100/1000Base-T, 802.3at, 802.3af, 30 W

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Sensor	
Type	1/2.8" CMOS
Number of sensor pixels	5 MP (2592 × 1944)
Light sensitivity	<0.03 lux
High Dynamic Range	> 100 dB WDR
Signal to noise ration	> 50 dB

Lens	DDF5050HDV-IM / DDF5050HDV-SM	DF5050HD-DN Variant 414	DF5050HD-DN Variant 415
Type	Fixed focus lens	Motor-driven varifocal lens	Motor-driven varifocal lens
Format / Mount	1/3" board lens	1/3" board lens	1/3" board lens
Focal length	2,5 mm	3 – 10 mm	12 – 40 mm
Iris range	F2.0	F1.4 – Closed	F1.8 – Closed
Iris control	Fixed aperture	P-Iris (motor-driven)	P-Iris (motor-driven)
Zoom / Focus control	Fixed focus	Motor-driven	Motor-driven
Minimum object distance	0.3 m	0.5 m	2.5 m
IR corrected	No	Yes	Yes
Available angles of view (H × V)[1]	Option wide end activated: 130° × 90° @ all 4:3 resolutions 130° × 70° @ all 16:9 resolutions Option wide end deactivated: 91° × 50° @ 1080p (1920 × 1080) 59° × 33° @ 720p (1280 × 720)	Wide end: 111,0° × 79,0° @ all 4:3 resolutions 111,0° × 59,2° @ all 16:9 resolutions Tele end: 31,9° × 23,9° @ all 4:3 resolutions 31,9° × 17,8° @ all 16:9 resolutions	Wide end: 23,8° × 17,7° @ all 4:3 resolutions 23,8° × 13,2° @ all 16:9 resolutions Tele end: 8,3° × 6,2° @ all 4:3 resolutions 8,3° × 4,7° @ all 16:9 resolutions

Format and Encoding	
Video standard	SDTV (PAL/NTSC) HDTV (SMPTE 296M, SMPTE 274M)
Resolution 4:3[3]	5 MP (2592 × 1944) @ 15 fps[2] 3 MP (2016 × 1504) @ 25/30 fps 1.5 MP (1440 × 1080) @ 25/30 fps 1.2 MP (1280 × 960) @ 25/30 fps 640 × 480, 320 × 240 @ 50/60 fps
Resolution 16:9[3]	4 MP (2592 × 1456) @ 25/30 fps 1080p (1920 × 1080) @ 50/60 fps 720p (1280 × 720) @ 50/60 fps 640 × 480, 640 × 368, 480 × 272, 320 × 240 @ 50/60 fps
Video compression	H.264, H.265, MJPEG
Frame rate[3]	Up to 60 fps
Video bit rate	1 – 12 Mbps, CBR (constant bit rate), VBR (variable bit rate), with priority setting for image quality[4]
Video streaming	Up to 4 streams with different settings simultaneously
Live streaming transmission method	Unicast, multicast
Number of live streams / clients	Up to 4 Streams with up to 12 Mbps simultaneously

[1] All specifications ±5%. Minor deviations with lenses may be a result of manufacturing tolerances and do not constitute a defect.
[2] With the DDF5050HDV models, minor shadowing (vignetting) may occur at extreme wide end due to the construction. These do not constitute a defect.
[3] If the HDR function is activated, a frame rate of maximum 25 fps can be used at all resolutions.
[4] 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[5]	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[5]	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
Corridor mode	Automatic (activation via user interface)
Digital Image Shift	Horizontal and vertical at all resolutions
Digital Noise Reduction	3D-DNR (adjustable by 10 levels)
Digital image optimization[6]	Wide Dynamic Range (WDR), also known as High Dynamic Range (HDR)
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[7]	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)[8]

Protocols	
Ethernet protocols	IPv4 (ARP, ICMP, IGMPv2/IGMPv3), UDP, TCP, LLDP, CDP (v1,v2), DSCP (QoS), DNS, DHCP, NTP, HTTP/HTTPS[9], 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, Profile T, SNMP (v1, v2c, v3)
Security	HTTPS[9] encryption, SSL/TLS[9] 1.2 (AES), network access control according to IEEE 802.1X[9]

Connections (on breakout cable 40 - 50 cm)	
Video preview output	1× BNC (CVBS, 1,0 V_{p-p}, 75 Ω), 704 × 576 @50 Hz, 704 × 480 @60 Hz (4:3)
Ethernet	1× RJ45, 10BASE-T/100BASE-TX PoE
Power IN	1× Connection terminal 2 poles

Electrical Data	
Voltage supply	12 V DC ±5% PoE (Class 0)
PoE standard	IEEE 802.3af
Power consumption	Max. 6 W

5) Available only with the box versions of the 5050 series camera (DF5050HD-DN).
6) Function in preparation. If the WDR/HDR function is activated, a frame rate of maximum 25 fps can be used at all resolutions.
7) Depending on the CPU load.
8) 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.
9) 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 (eay@cryptsoft.com).

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Mechanical Data	DDF5050HDV-IM	DDF5050HDV-SM	DF5050HD-DN
Dimensions	Approx. Ø 95 × H 63 mm Ø 3.7 × H 2.5 inches	Approx. Ø 93 × H 66 mm Ø 3.7 × H 2.6 inches	Lens 3 – 10 mm: Approx. W 59 × H 59 × D 92 mm W 2.3 × H 2.3 × D 3.6 inches Lens 12 – 40 mm: Approx. W 59 × H 59 × D 108 mm W 2.3 × H 2.3 × D 4.3 inches
Weight	Approx. 450 g (1.0 lb)	Approx. 740 g (1.6 lb)	Approx. 300 g (0.7 lb)
Adjustment	3-axes	3-axes	--
Bubble	Clear	Clear	--
Construction material	Aluminum	Aluminum	Aluminum
Vandal-resistant	Yes	Yes	--
IK protection	IK10	IK10	--
IP rating	--	IP66	--
Color	Black with white housing ring	White	White with black housing covers

Environmental Conditions	DDF5050HDV-IM	DDF5050HDV-SM	DF5050HD-DN
Operating temperature	−20°C to +40°C (−4°F to 104°F)	−20°C to +50°C (−4°F to 122°F)	−20°C to +50°C (−4°F to 122°F)
Relative humidity	0% – 90% RH, non-condensing	0% – 90% RH, non-condensing	0% – 90% RH, non-condensing

Compatibility	
Recording	SMAVIA Recording Server V8.x.x SMAVIA Recording Server V9.x.x SeMSy® Recording Server V10.x.x
Evaluation	SMAVIA Viewing Client SeMSy® Workstation Software SeMSy® Compact

Miscellaneous	
Ambient light sensor[10]	Integrated
Local memory	50 MB RAM memory
Configuration and live video	Via web browser (all major platforms)
Languages	German, English (others on request)
Programming interface	Open platform for integration into 3rd party systems using API
ONVIF compliance	Profile S, Profile T
GDPR compliance	Supported
NDAA compliance	Supported

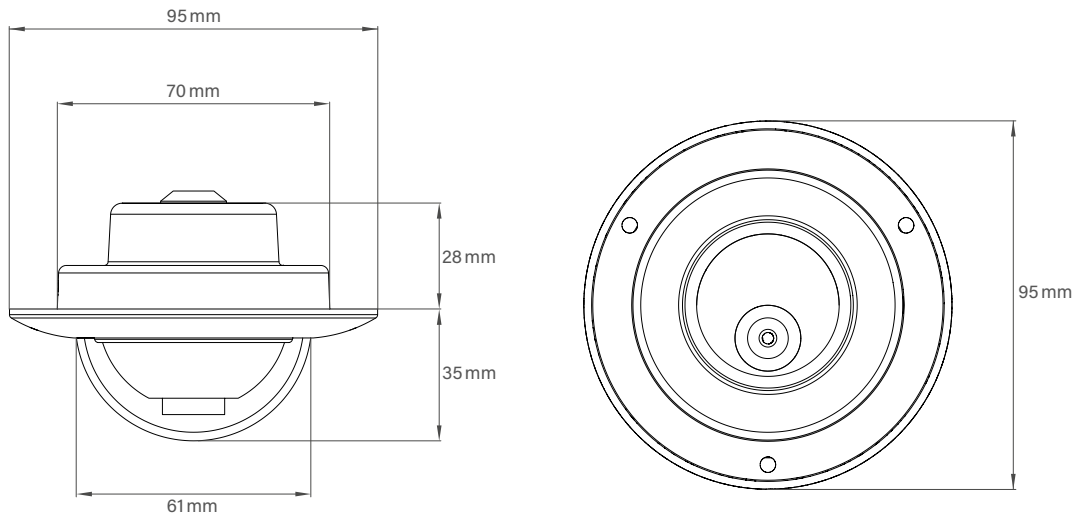| Approvals and Certifications	
Type	CE, FCC, RCM, EAC

10) Available only with the box versions of the 5050 series camera (DF5050HD-DN).
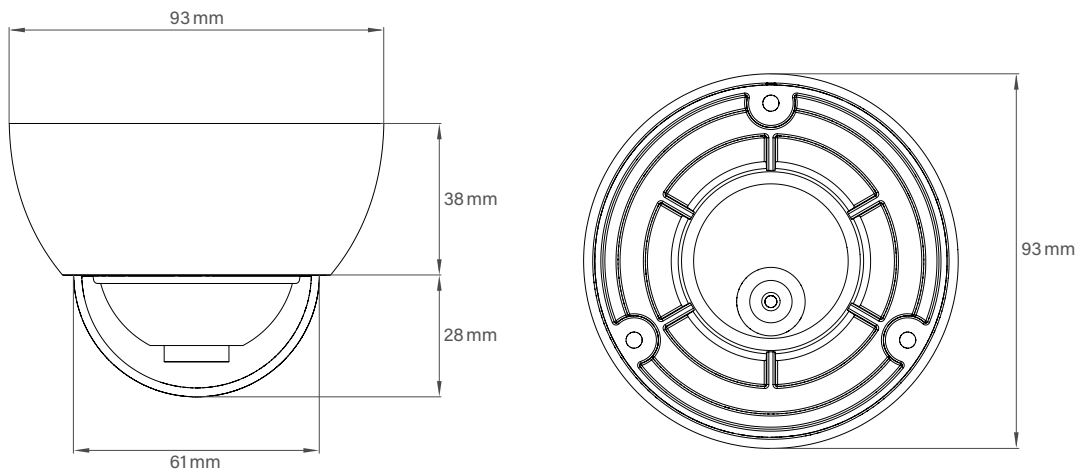
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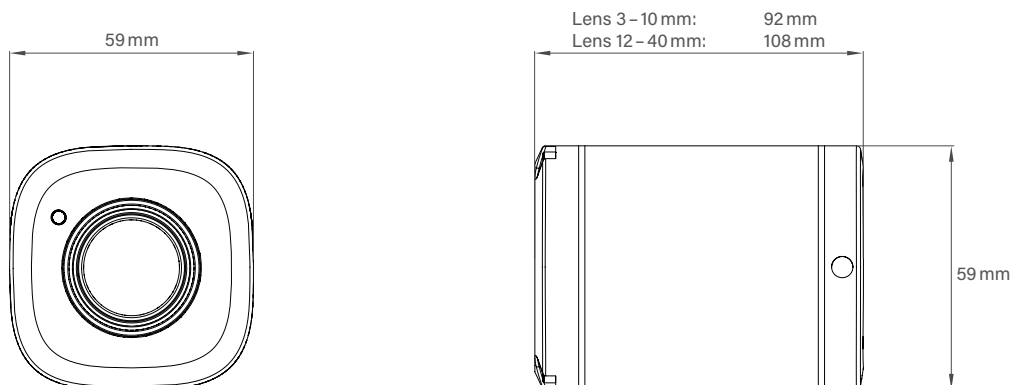compact in-ceiling mount, surface mount or box housing

In-Ceiling Variant

95 mm
70 mm
28 mm
35 mm
61 mm
95 mm

Surface Variant

93 mm
38 mm
28 mm
61 mm
93 mm

Box Variants

59 mm

Lens 3 – 10 mm: 92 mm
Lens 12 – 40 mm: 108 mm
59 mm

See more.

Dallmeier

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