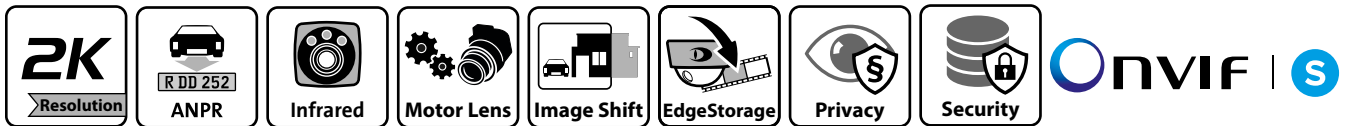


DF5200HD-IR ANPR

High Definition Camera for SEDOR® ANPR Server, 2 MP, 1080p/30, H.264, Integrated IR Illumination, Motor-driven Varifocal Lens, PoE, Box Housing With Wall Mount Bracket



The DF5200HD-IR-ANPR is a special camera with integrated IR illumination. The images provided by the camera are optimized for the automatic recognition of vehicle number plates¹⁾ on a SEDOR® ANPR Server²⁾ appliance.

Number plate recognition

Equipped with the **most advanced sensor and encoder technology**, a powerful **IR illumination** and a **special optical filter**, the camera provides high-resolution and monochrome video footage. This is the ideal base for a precise and fast **24-hour number plate recognition**, regardless of environmental conditions or changing lighting at day and night.

Infrared range

The camera features an **outstanding infrared sensitivity** and permanently supplies infrared images with excellent contrast. The restriction on the infrared range allows for the elimination of disturbing **daylight and ambient conditions**. In addition, the intense **IR reflection of modern number plates is optimally utilized**. This enables recordings with brilliant clarity and highest detail resolution, ideal for a precise number plate recognition in a 24/7 operation.

Integrated homogeneous IR illumination

The outstanding infrared sensitivity of the camera is supported by the **integrated homogeneous IR illumination**. It is based on semi-covert 850 nm **high power LEDs** and permits an illumination range of up to 18 m.

ANPR presets

The camera is equipped with **special presets** in order to provide optimum recordings for the number plate recognition with SEDOR® ANPR Server.²⁾ This allows the **quick and easy adjustment of the settings** to different capture ranges. Individual adjustments of the camera settings are usually 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.

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

- Independent of daylight and ambient conditions
- Capture at day and night
- Variants with capture ranges of up to 8 m, 12 m and 18 m
- Optimum presets for SEDOR® ANPR Server
- ONVIF interface for the integration in 3rd party systems
- 3D Digital Noise Reduction (3D DNR)
- Functions for data protection and data security (GDPR-compliant)
- Outdoor wall mount bracket (with internal cable routing)
- Power over Ethernet (PoE Class 0, IEEE 802.3af)

Areas of application

- Capture of number plates in stationary traffic
- Capture of number plates in flowing traffic at speeds of up to 60 km/h

1) Note the list of supported vehicle number plates in different countries.

2) Note the required system components SEDOR® ANPR Server Software (005049) and Server Rack-Mount 1RU (004847).

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Variants		
005546.401		DF5200HD-IR-ANPR High Definition Camera for ANPR systems, 2 MP, 1080p/30, H.264, integrated IR Illumination with 3× 40°, motor-driven varifocal lens, PoE, box housing with wall mount bracket, capture range 3 – 8 m
005546.402		DF5200HD-IR-ANPR High Definition Camera for ANPR systems, 2 MP, 1080p/30, H.264, integrated IR Illumination with 3× 25°, motor-driven varifocal lens, PoE, box housing with wall mount bracket, capture range 6 – 12 m
005546.403		DF5200HD-IR-ANPR High Definition Camera for ANPR systems, 2 MP, 1080p/30, H.264, integrated IR Illumination with 3× 10°, motor-driven varifocal lens, PoE, box housing with wall mount bracket, capture range 10 – 18 m
Power Supply		
004316		PoE Midspan 30 W Midspan power supply unit, 1x Ethernet port, 10/100/1000Base-T, 802.3at, 802.3af, 30 W
Wall Mount		
004386		WCPA - Support Plate Adapter³⁾ Reinforcing support plate WCPA for adapting the wall brackets WBMA, WBOVA2 and IR housing wall mount bracket
Corner Mount		
004390		WCWA - Corner Mount Adapter³⁾ Corner mount adapter WCWA for corner mounting
Pole Mount 65 - 110 mm		
004387		WSFPA - Pole Mount Adapter³⁾ Pole mount adapter WSPFA for pole diameters 65 – 110 mm (2.6 – 4.3")
Pole Mount 210 - 225 mm		
004386		WCPA - Support Plate Adapter³⁾ Reinforcing support plate WCPA for adapting the wall brackets WBMA, WBOVA2 and IR housing wall mount bracket
004388		DBHWGC - Pole Mount Adapter³⁾ Pole mount adapter DBHWGC for pole diameters 210 – 225 mm (8.3 – 8.6")

3) 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	1/1.9" CMOS
Number of sensor pixels	2 MP
Light sensitivity	IR LED On: 0 lux
Dynamic range	94 dB
Signal to noise ration	> 50 dB

Lens	
Type	Motor-driven varifocal lens
Format / Mount	1/1.8" Board Lens
Iris range	F1.6 – Closed
Iris control	P-Iris (motor-driven)
Zoom / Focus control	Motor-driven
Minimum object distance	0.6 m

Format and Encoding	
Video standard	SDTV (PAL/NTSC) HDTV (SMPTE 296M, SMPTE 274M)
Resolution (16:9)	1920 × 1080 (1080p) @ 25/30 fps 1280 × 720 (720p) @ 25/30 fps
Resolution (4:3)	640 × 480 (480p) @ 25/30 fps 320 × 240 @ 25/30 fps
Video compression	H.264, MJPEG
Frame rate	Up to 30 fps
Video bit rate	1 – 8 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
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 8 Mbps simultaneously

Functions	
Day/Night switching	IR pass filter always active
Black-and-white mode	On (color display does not make sense with IR pass filter)
Automatic Electronic Shutter	1/1 – 1/8000 s
Slow Shutter Limit	1/1 – 1/1000 s
Lens control	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 at 16:9 resolutions, horizontal at 4:3 resolutions
Digital Noise Reduction	3D-DNR (adjustable by 10 levels)
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
Privacy Zone Masking	Hiding/masking of any number of protected areas (up to 100% of the entire image)

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⁾

4) If the total available bit rate is not sufficient, not the image quality but the number of frames is adjusted.

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 (eyay@cryptsoft.com).

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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
Electrical Data	
Voltage supply	PoE (Class 0)
PoE standard	IEEE 802.3af
Power consumption	Max. 12.95 W
Mechanical Data	
Dimensions	See technical drawings
Weight	Approx. 2.2 kg (4.9 lb) with wall mount bracket
Adjustment	2-axes
IP rating	P66
Color	White
Environmental Conditions	
Operating temperature	−40°C to +50°C (−40°F to 122°F), minimum start-up temperature: −30°C (−22°F)
Relative humidity	0% – 90% RH, non-condensing
Miscellaneous	
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 ⁷⁾
GDPR compliance	Supported
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

7) Function in preparation

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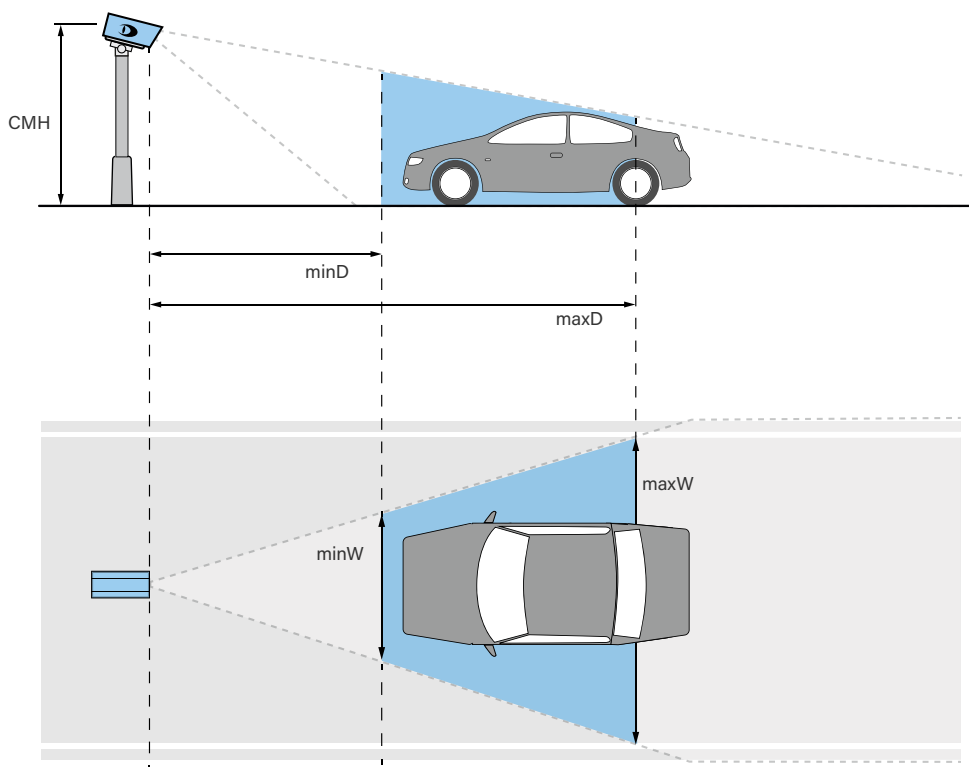
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Presets for the operation with SEDOR® ANPR Server⁸⁾

Preset for variant 401 (3 - 8 m)	Camera installation height (CMH)	Minimum distance (minD)	Capture width at minD (minW)	Maximum distance (maxD)	Capture width at maxD (maxW)
ANPR.3-6m	0.8 - 1.5 m	2 m	2.2 m	6 m	2.5 m
ANPR.4-7m	1 - 2 m	2.5 m	1.8 m	7 m	4 m
ANPR.5-8m	1 - 2 m	3 m	2.2 m	8 m	5 m

Preset for variant 402 (6 - 12 m)	Camera installation height (CMH)	Minimum distance (minD)	Capture width at minD (minW)	Maximum distance (maxD)	Capture width at maxD (maxW)
ANPR.6-10m	1 - 2.5 m	6 m	2 m	10 m	3.5 m
ANPR.7-11m	1 - 3 m	7 m	3 m	11 m	4 m
ANPR.8-12m	1 - 3 m	8 m	3 m	12 m	4.5 m

Preset for variant 403 (10 - 18 m)	Camera installation height (CMH)	Minimum distance (minD)	Capture width at minD (minW)	Maximum distance (maxD)	Capture width at maxD (maxW)
ANPR.10-14m	1 - 4 m	10 m	3 m	14 m	3 m
ANPR.12-16m	1 - 5 m	12 m	3.5 m	16 m	4 m
ANPR.14-18m	1 - 6 m	14 m	4 m	18 m	4.5 m



Positioning of the camera relative to the vehicle / number plate⁹⁾

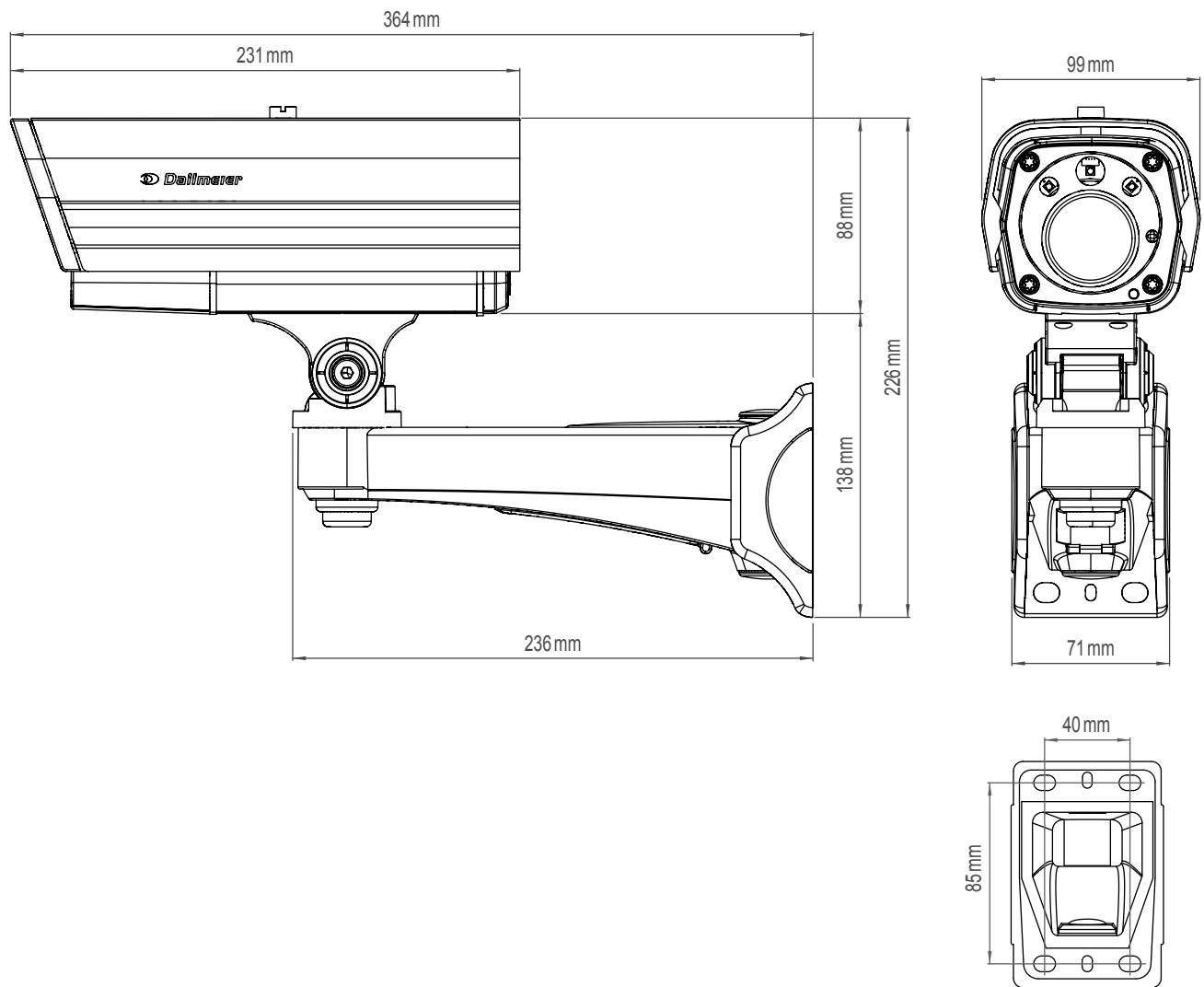
Position	
Vertical angle	Max. 30°
Horizontal angle	Max. 30°
Lateral tilt	Max. 15°

⁸⁾ The specifications apply to number plates with a character height of 7.5 cm. For smaller characters, a reduction of the specified distances may be required.

⁹⁾ Please observe the detailed explanations in the corresponding document **Commissioning**.

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