DF4920HD-DN/IR

HD Camera, 3-Megapixel, Full High-Definition, 1080p/30, H.264, Day/Night (ICR), Integrated IR Illumination, Motor-driven Varifocal Lens, One-Push Autofocus, P-Iris, PoE (Class 0), Weather-proof, incl. Outdoor Wall Mount Bracket

The **DF4920HD-DN/IR** is a **weather-proof 3-megapixel HD network camera** with automatic **Day/Night** switching and integrated **IR (infrared) illumination**.

The camera provides **real-time Full HD video (1080p/30)** using the **H.264** codec, currently, the most advanced standard for **high-efficiency video compression** and supports **resolutions up to 3-megapixel**.

Besides a comprehensive set of automatic and manual image optimization functions and many other setting options, it features automatic **Day/Night** operation supported by integrated **ambient light sensing**, a **removable IR cut filter (ICR[1])** and an integrated **homogeneous IR illumination** provided by **semi-covert 850 nm high power LEDs** in order to meet even the most demanding of surveillance conditions.

In addition, the camera is equipped with a **fast (large maximum aperture)** and **motor-driven P-Iris megapixel varifocal lens** (F1.2 – F2.3 / 3 – 9 mm) which allows for the convenient adjustment/configuration of the focal length (zoom), focus and iris (aperture) via the web browser.
The novel **P-Iris control** technology, designed for a precise and automatic adjustment of the best iris position (optimum aperture), thereby realizes a significantly improved image quality[2] with excellent contrast, brilliant clarity and enhanced detail resolution combined with a greater depth of field, under almost all lighting conditions.

In conjunction with the **Digital Image Shift** function, which provides for a **subsequent digital fine alignment of the image section**, a convenient and straightforward installation process of the camera is guaranteed.

Built into an **IP66-rated weather-proof enclosure**, the camera is designed for both indoor and for outdoor applications. The camera is operated via **Power over Ethernet** (PoE Class 0, IEEE 802.3af) which allows for an easy, quick and cost-effective cabling and commissioning.

Features

- 1/2.5" 5-megapixel CMOS image sensor
- Pure Digital Signal Processing
- Real-time Full HD video (1080p/30)
- Automatic Day/Night switching supported by integrated ambient light sensing and ICR[1] function
- Homogeneous IR (infrared) illumination provided by integrated semi-covert 850 nm high power LEDs
- IR illumination range up to approx. 25 meters with a beam angle up to approx. 50 degrees
- Adjustable intensity of infrared illumination and Day/Night switching threshold level
- Minimum illumination 0 lux (with IR LED On)
- Motor-driven megapixel varifocal lens (F1.2 – F2.3 / 3 – 9 mm)
- Zoom, focus and iris control conveniently adjustable via web browser
- One-Push AF (Autofocus) with manual fine adjustment
- P-Iris control for an optimum image quality and significantly enhanced depth of field[2]
- Resolution: SD (up to D1), HD (720p, 1080p, 2 MP, 3 MP)
- Video compression: H.264, MJPEG
- Frame rate up to 30 fps
- Simultaneous Dual- or Tri-Streaming
- Automatic White Balance (ATW, One-Push AWB)

- Automatic Gain Control (AGC)
- Automatic Electronic Shutter (AES)
- Comprehensive set of image optimization functions like brightness, contrast, saturation and sharpness
- 3D Digital Noise Reduction (3D DNR)
- Privacy Zone Masking (hiding/masking of protected areas)
- Three different exposure metering modes: average metering (light information from entire scene), centre-weighted average metering and spot metering
- Flip function (horizontal, vertical or both)
- Digital Image Shift[3]
- Motion detection[4] with selectable sensitivity
- Alarm notification via DaVid Protocol[4], e-mail and FTP image upload
- Local video memory: SDHC card slot integrated[4]
- Integrated microphone
- Voltage supply via PoE (Class 0, IEEE 802.3af)
- Weather-proof
- Outdoor wall mount bracket (with internal cable routing)
- ONVIF compliant
- DIN EN 50130-4 compliant

1) ICR = IR Cut Filter Removable
2) Compared to conventional DC auto iris lenses
3) Digital Image Shift = Provides digital fine alignment of the image section
4) Function in preparation

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Variants/Options

Variants	
004278.406	**DF4920HD-DN/IR** HD camera, 3-megapixel, Full High-Definition, 1080p/30, H.264, Day/Night (ICR), integrated IR illumination, motor-driven varifocal lens, One-Push AF, P-Iris, PoE (Class 0), weather-proof, incl. outdoor wall mount bracket, F1.2 – F2.3 / 3 – 9 mm

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Specifications

Sensor

Type	1/2.5" 5-megapixel CMOS image sensor
Signal processing	Pure Digital Signal Processing
Image capture	Progressive Scan
Minimum illumination	IR LED Off: 0.59 lux (F0.95, 50 IRE)
	IR LED On: 0 lux
Dynamic Range	Max. 70 dB[5]

Functions

Day/Night switching	Yes, using ambient light sensing and ICR[6] function (switching threshold level adjustable)
B/W (black-and-white) mode	Automatic[7] (in Night mode)
Automatic Electronic Shutter (AES)	1/25(30) – 1/2500 s
3D Digital Noise Reduction (3D DNR)	On / Off
Automatic Exposure (AE) Presets	Outdoor, Indoor, Low light
Exposure metering mode	Average metering (light information from entire scene), centre-weighted average metering, spot metering
Brightness adjustment	Automatic (ALC) / Manual
Gain control	Automatic (AGC)
White balance	ATW (Auto Tracking White Balance)
	One-Push AWB (Automatic White Balance)
	MWB (Manual White Balance)
Privacy Zone Masking	Yes (max. 20% of the entire image)
Flip function	Horizontal, vertical or both
Digital Image Shift[8]	Yes
Motion detection[9] (VMD)	With selectable sensitivity (5 levels)
Alarm notification	Via DaVid Protocol (Dallmeier Video Protocol) to PGuard advance[9], e-mail, FTP image upload
Configuration	Via web browser
Languages	German, English, Spanish, French, Italian

Lens

Type	*For specifications and available angles of view see "Lens Specifications" on page 5.*
Zoom control (Tele – Wide)	Motor-driven (controllable via web browser)
Focus control (Far – Near)	Motor-driven (controllable via web browser: One-Push AF with manual fine adjustment)
Iris control	P-Iris (motor-driven, controllable via web browser

Format and Encoding

Video standard	SDTV (PAL/NTSC), HDTV (SMPTE 296M, SMPTE 274M)
Resolution	Encoder 1: 4CIF (704 × 576) / 4SIF (704 × 480)
	D1 PAL (720 × 576) / D1 NTSC (720 × 480)
	720p (1280 × 720)
	1080p (1920 × 1080)
	2 MP (1600 × 1200)
	3 MP (2048 × 1536)
	Encoder 2: Wide-CIF (480 × 288 / 384 × 288)
	VGA (640 × 352 / 640 × 480)
	Encoder 3: 192 × 128
Video compression	H.264, MJPEG
Audio compression	G.711
Frame rate	Up to 30 fps with 4SIF
	Up to 30 fps with D1
	Up to 30 fps with 720p
	Up to 30 fps with 1080p
	Up to 30 fps with 2 MP
	Up to 15 fps with 3 MP
Video bit rate	0.25 – 10 Mbps, CBR (constant bit rate) or VBR (variable bit rate)
Audio bit rate	64 kbps
Video streaming	Simultaneous Dual- or Tri-Streaming
	(number of simultaneous streams depends on compression method, resolution and bit rate)
Transfer format	Progressive (full image)
Live streaming transmission method	Unicast, Multicast

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5) According to the sensor manufacturer's specifications
6) ICR = IR Cut Filter Removable
7) Without colour information, or rather in black-and-white mode, the image quality in low light conditions will be much clearer (e.g. less colour noise).
8) Digital Image Shift = Provides digital fine alignment of the image section
9) Function in preparation

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Specifications (Continuation)

Protocols
Ethernet protocols	IPv4, TCP, UDP, ARP, ICMP, DHCP, NTP, HTTP, RTSP, IGMP V2, FTP, SMTP, RTP, RTCP
SNMP support	Yes

Connections
Power & Ethernet	1× RJ45 plug (10BASE-T-/100BASE-TX-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. 25 m
Beam angle	Homogeneous illumination up to approx. 50°

Miscellaneous
Ambient light sensor	Integrated
Microphone	Integrated
Local video memory	SDHC card slot integrated[10]
Programming interface	Open platform for integration into third-party systems using API and ActiveX*
ONVIF compliance	Core Specifications 1.01 & 1.02

Electrical Data
Voltage supply	Power over Ethernet (PoE Class 0)
PoE standard	IEEE 802.3af
Power consumption	Max. 12.95 W

Mechanical Data
Dimensions	See technical drawings
Weight	Approx. 2 kg (4.41 lb)
Colour	White

Environmental Conditions
Operating temperature	−30°C to +50°C (−22°F to 122°F)
Relative humidity	0% – 90% RH, non-condensing
IP rating	IP66

Approvals/Certifications
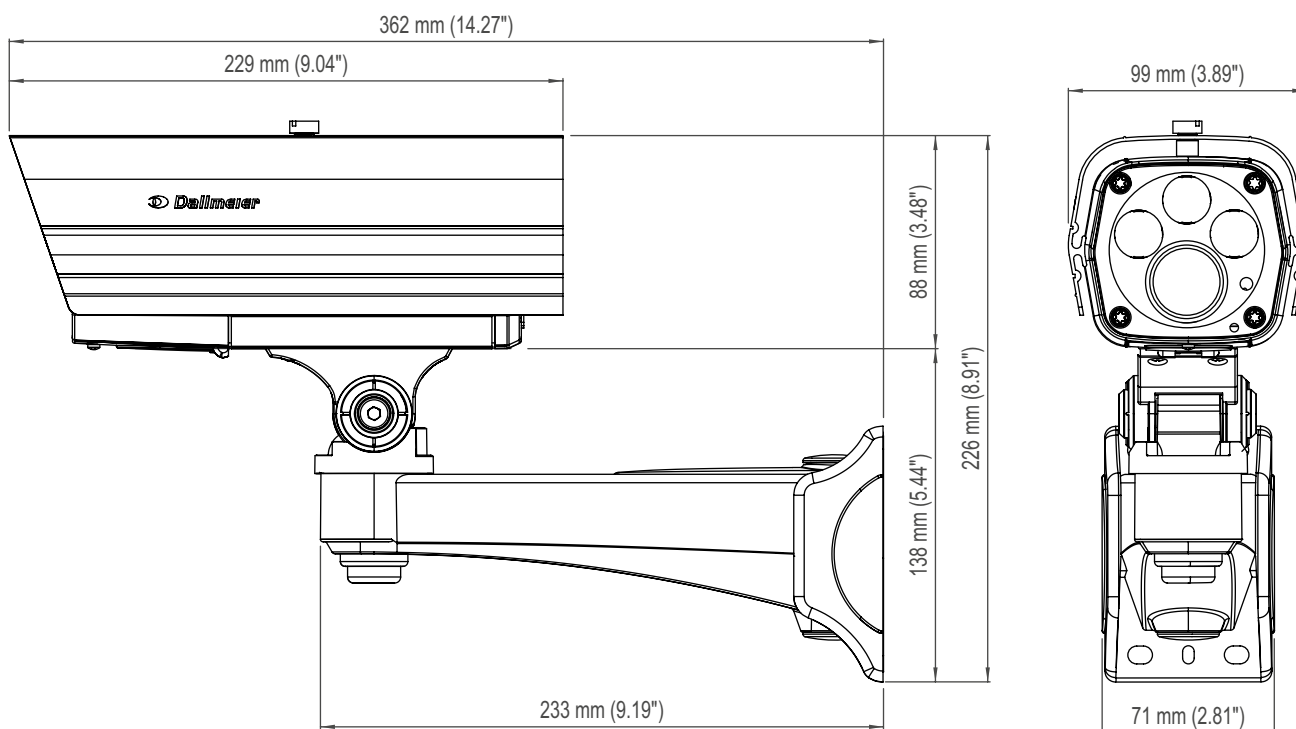|	
Type	CE, FCC, ACA, UVV "Kassen" (DGUV Test), UL, DIN EN 50130-4 compliant

10) Function in preparation

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Lens Specifications

Lens F1.2−F2.3 / 3−9 mm	
Type	Motor-driven megapixel varifocal lens
Format	1/2.7"
Mount	Board lens
Focal length	3−9 mm
Iris range (at wide end)	F1.2−360 (Closed)
Iris range (at tele end)	F2.3−360 (Closed)
Iris control	P-Iris (motor-driven)
Zoom	Motor-driven
Focus	Motor-driven
MOD (Minimum Object Distance)	0.5 m
IR corrected	Yes
Available angles of view[11] (H × V) at wide end	approx. 57° × 37° with D1 NTSC approx. 57° × 45° with D1 PAL approx. 62° × 47° with 4SIF approx. 62° × 47° with 4CIF approx. 80° × 42° with 720p approx. 80° × 42° with 1080p approx. 65° × 47° with 2 MP approx. 84° × 61° with 3 MP
Available angles of view[11] (H × V) at tele end	approx. 20° × 14° with D1 NTSC approx. 20° × 16° with D1 PAL approx. 21° × 17° with 4SIF approx. 21° × 17° with 4CIF approx. 27° × 15° with 720p approx. 27° × 15° with 1080p approx. 22° × 17° with 2 MP approx. 29° × 21° with 3 MP

Dimensions

11) The specifications (±5%) are based on a field of view without vignetting. Minor deviations with lenses may be a result of manufacturing tolerances and do not constitute a defect.