

DF4920HD-DN

HD Camera, 5-Megapixel, Full High-Definition, 1080p/30, H.264, Day/Night (ICR), Remote Back Focus Control with One-Push Autofocus, PoE (Class 0)



The **DF4920HD-DN** is a **5-megapixel HD network camera** built into a compact and lightweight box housing.

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 5-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** and a **removable IR cut filter (ICR¹⁾**.

The built-in **Remote Back Focus Control** technology allows for a **precise and easy remote focusing over the network**. With just one click, first the almost ideal focus range is recognized automatically (**One-Push Autofocus**), which then can be precisely adjusted by using manual fine-tuning, if needed, in order to always get perfect images with excellent sharpness.

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.

Depending on the requirements, the camera can be conventionally supplied with 12V DC or conveniently 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 using ambient light sensing and ICR¹⁾ function (switching threshold level adjustable)
- High light sensitivity (0,3 lux at F1.0, 50 IRE)
- Remote Back Focus Control with One-Push AF (Autofocus) and manual fine-tuning via web browser
- Resolution: SD (up to D1), HD (720p, 1080p, 2MP, 3MP, 4MP, 5MP)
- 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)
- Three different exposure metering modes: average metering (light information from entire scene), centre-weighted average metering and spot metering
- Privacy Zone Masking (hiding/masking of protected areas)
- Flip function (horizontal, vertical or both)
- Digital Image Shift²⁾
- Motion detection³⁾ with selectable sensitivity
- Alarm notification via DaVid Protocol³⁾, e-mail and FTP image upload
- Local video memory: SDHC card slot integrated³⁾
- Analogue video preview output (CVBS)
- Audio OUT⁴⁾ / Microphone IN⁴⁾
- Voltage supply with 12V DC or via PoE (Class 0, IEEE 802.3af)
- Low power consumption (max. 4.5W)
- Different lens types optionally available
- Compact and lightweight housing
- ONVIF compliant
- DIN EN 50130-4 compliant

1) ICR = IR Cut Filter Removable

2) Provides digital fine alignment of the image section (only applicable at resolutions less than 5MP)

3) Function in preparation

4) Audio IN/OUT Y-Cable Connector FGA-30 required (optionally available)

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Variants/Options

Variants	
004646	DF4920HD-DN HD camera, 5-megapixel, Full High-Definition, 1080p/30, H.264, Day/Night (ICR), Remote Back Focus Control with One-Push AF, PoE (Class 0), grey, w/o lens
Options	
002946	Lens F1.8 / 3.9–10 mm 1/2", 5-megapixel, varifocal, Day/Night, DC auto iris, CS-mount
001602	Lens F1.8 / 1.8–3 mm Ultra wide-angle, 1/2.5", 5-megapixel, varifocal, Day/Night, DC auto iris, CS-mount
002907	Lens F1.5 / 9–40 mm Telephoto, 1/2.5", 5-megapixel, varifocal, Day/Night, DC auto iris, CS-mount
001431	EvC-1 High-Speed Ethernet data transmission via coaxial cable
001678	Power Supply Unit (110–240 V AC -> 12 V DC) Universal power supply, 110–240 V AC to 12 V DC, 850 mA, plug adapter EU/UK/US/AUS
003694	Audio IN/OUT Y-Cable Connector FGA-30 3.5 mm stereo plug to 2× RCA jack incl. galvanic isolation
Mounting Appliances	
003952	Wall Mount Bracket Indoor (HD Box) Grey, 1/4" tripod screw, for HD box cameras

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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	0,3 lux (F1.0, 50 IRE)
Dynamic range	Max. 70 dB ⁶⁾

Functions

Day/Night switching	Yes, using ambient light sensing and ICR ⁵⁾ 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 (Auto Slow Shutter extends maximum exposure time to 1/4(5)s with AE Preset "Low light")
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
Remote Back Focus Control	Yes, One-Push AF (Autofocus) and manual fine-tuning via web browser
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

Mount	CS-mount
Auto iris control	Compatible with DC drive auto iris lenses
Type	<i>For specifications and available angles of view see "Lens Types" on page 5.</i>

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) 2MP (1600 × 1200) 3MP (2048 × 1536) 4MP (2336 × 1744) 5MP (2592 × 1920) Encoder 2: Wide-CIF (480 × 288 / 384 × 288) VGA (640 × 352 / 640 × 480) 4MP (2336 × 1744) Encoder 3: 192 × 128
Video compression	H.264, MJPEG
Audio compression	G.711
Frame rate	Up to 30fps with 4SIF Up to 30fps with D1 Up to 30fps with 720p Up to 30fps with 1080p Up to 30fps with 2MP Up to 15fps with 3MP Up to 12.5fps with 4MP Up to 10fps with 5MP
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

5) ICR = IR Cut Filter Removable

6) According to the sensor manufacturer's specifications

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) Provides digital fine alignment of the image section (only applicable at resolutions less than 5MP)

9) Function in preparation

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Specifications (Continuation)

Protocols

Ethernet protocols
SNMP support

IPv4, TCP, UDP, ARP, ICMP, DHCP, NTP, HTTP, RTSP, IGMP V2, FTP, SMTP, RTP, RTCP
Yes

Connections

Analogue video preview output
Audio OUT (Mono) / Microphone IN (Mono)

1× BNC (CVBS) – for local installation only, e.g. for adjusting the focal length and image section
1× 3.5 mm phone jack (for stereo plug)¹⁰⁾

Mic IN: max. 63 mV (RMS), input resistance 10 kOhm, internal gain 20 dB

Ethernet
Power IN

1× RJ45, 10BASE-T-/100BASE-TX-PoE
12V DC (Weidmüller male connector SL 3.50/02/90G)

Miscellaneous

Ambient light sensor
Local video memory
Programming interface
ONVIF compliance

Integrated
SDHC card slot integrated¹¹⁾
Open platform for integration into 3rd party systems using API and ActiveX*
Core Specifications 1.01 & 1.02

Electrical Data

Voltage supply
PoE standard
Power consumption

12V DC ±10% or PoE (Class 0)
IEEE 802.3af
Max. 4.5 W

Mechanical Data

Dimensions
Weight
Colour

Approx. W71 × H66 × L 118 mm (W2.8 × H2.6 × L4.6 inches) w/o lens
Approx. 300 g (0.7 lb)
Grey

Environmental Conditions

Operating temperature
Relative humidity

–10°C to +45°C (14°F to 113°F)
0% – 90% RH, non-condensing

Approvals/Certifications

Type
CE, FCC, ACA, UVV “Kassen” (DGUV Test), UL, DIN EN 50130-4 compliant

10) Audio IN/OUT Y-Cable Connector FGA-30 required (optionally available)
11) Function in preparation

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Lens Types

Lens F1.8 / 3.9–10 mm	
Type	5-Megapixel varifocal lens
Format	1/2"
Mount	CS-mount
Focal length	3.9–10 mm
Iris range	F1.8–360
Iris control	DC auto iris
Zoom	Manual
Focus	Manual
MOD (Minimum Object Distance)	0.3 m
IR corrected	Yes
Available angles of view ¹²⁾ (H×V) at wide end	approx. 48°×37° with 4SIF approx. 48°×37° with 4CIF approx. 40°×31° with D1 NTSC approx. 40°×31° with D1 PAL approx. 54°×29° with 720p approx. 54°×29° with 1080p approx. 44°×33° with 2 MP approx. 57°×43° with 3 MP approx. 66°×48° with 4 MP approx. 73°×53° with 5 MP
Available angles of view ¹²⁾ (H×V) at tele end	approx. 20°×15° with 4SIF approx. 20°×15° with 4CIF approx. 18°×14° with D1 NTSC approx. 18°×14° with D1 PAL approx. 23°×13° with 720p approx. 23°×13° with 1080p approx. 20°×15° with 2 MP approx. 25°×19° with 3 MP approx. 28°×21° with 4 MP approx. 31°×23° with 5 MP

Ultra Wide-Angle Lens F1.8 / 1.8–3 mm	
Type	5-Megapixel varifocal lens
Format	1/2.5"
Mount	CS-mount
Focal length	1.8–3 mm
Iris range	F1.8–Closed
Iris control	DC auto iris
Zoom	Manual
Focus	Manual
MOD (Minimum Object Distance)	0.5 m
IR corrected	Yes
Available angles of view ¹²⁾ (H×V) at wide end	approx. 88°×72° with 4SIF approx. 88°×72° with 4CIF approx. 74°×62° with D1 NTSC approx. 74°×62° with D1 PAL approx. 91°×59° with 720p approx. 91°×59° with 1080p approx. 84°×64° with 2 MP approx. 94°×78° with 3 MP approx. 102°×85° with 4 MP approx. 107°×90° with 5 MP
Available angles of view ¹²⁾ (H×V) at tele end	approx. 60°×47° with 4SIF approx. 60°×47° with 4CIF approx. 58°×44° with D1 NTSC approx. 58°×44° with D1 PAL approx. 67°×41° with 720p approx. 67°×41° with 1080p approx. 58°×45° with 2 MP approx. 71°×56° with 3 MP approx. 78°×62° with 4 MP approx. 84°×67° with 5 MP

Telephoto Lens F1.5 / 9–40 mm	
Type	5-Megapixel varifocal lens
Format	1/2.5"
Mount	CS-mount
Focal length	9–40 mm
Iris range	F1.5–Closed
Iris control	DC auto iris
Zoom	Manual
Focus	Manual
MOD (Minimum Object Distance)	2.0 m
IR corrected	Yes
Available angles of view ¹²⁾ (H×V) at wide end	approx. 22°×16° with 4SIF approx. 22°×16° with 4CIF approx. 18°×14° with D1 NTSC approx. 18°×14° with D1 PAL approx. 24°×13° with 720p approx. 24°×13° with 1080p approx. 20°×15° with 2 MP approx. 26°×19° with 3 MP approx. 29°×22° with 4 MP approx. 33°×24° with 5 MP
Available angles of view ¹²⁾ (H×V) at tele end	approx. 5°×3° with 4SIF approx. 5°×3° with 4CIF approx. 5°×4° with D1 NTSC approx. 5°×4° with D1 PAL approx. 6°×3° with 720p approx. 6°×3° with 1080p approx. 5°×4° with 2 MP approx. 7°×5° with 3 MP approx. 8°×6° with 4 MP approx. 9°×6° with 5 MP

12) All specifications ±5%. Minor deviations with lenses may be a result of manufacturing tolerances and do not constitute a defect.

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Dimensions

