DDF4820HDV-DN

HD Dome Camera, 3-Megapixel, Full High-Definition, 1080p/30, H.264, Day/Night (ICR),
Motor-driven Varifocal Lens, One-Push Autofocus, P-Iris, PoE (Class 0), Vandal-resistant (IK10)

The **DDF4820HDV-DN** is a **3-megapixel HD network camera** built into a **vandal-resistant (IK10) dome enclosure**.

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** and a **removable IR cut filter (ICR**[1]**)**.

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.

Depending on the requirements, the camera can be conventionally supplied with 12 V 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 ICR[1] function (switching threshold level adjustable)
- High light sensitivity of 0.45 lux (at F0.95, 50 IRE, ICR[1] 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)

- 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 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]
- Analogue video preview output (CVBS)
- Audio OUT[5] / Microphone IN[5]
- Voltage supply with 12 V DC or via PoE (Class 0, IEEE 802.3af)
- Low power consumption (max. 4.5 W)
- 3-axis adjustment
- Two available mounting variants:
  in-ceiling mount (IM) or surface mount (SM)
- Compact vandal-resistant (IK10) housing
- IP67 (surface mount variant)
- 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
5) Audio IN/OUT Y-Cable Connector FGA-30 required (optionally available)

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Variants/Options

Variants	
004276.406	**DDF4820HDV-DN-IM** HD dome camera, 3-megapixel, Full High-Definition, 1080p/30, H.264, Day/Night (ICR), motor-driven varifocal lens, One-Push AF, P-Iris, PoE (Class 0), vandal-resistant (IK10), in-ceiling mount variant, F1.2–F2.3 / 3–9 mm
004277.406	**DDF4820HDV-DN-SM** HD dome camera, 3-megapixel, Full High-Definition, 1080p/30, H.264, Day/Night (ICR), motor-driven varifocal lens, One-Push AF, P-Iris, PoE (Class 0), vandal-resistant (IK10), surface mount variant, F1.2–F2.3 / 3–9 mm

Options	
000428	**Design Colours IM Cover Ring** Cover ring for in-ceiling mount variant according to RAL or Pantone colour chart
001044	**Tinted Bubble** For in-ceiling and surface mount variant, 4.5"
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

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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	ICR[6] Off: 0.59 lux (F0.95, 50 IRE)
	ICR[6] On: 0.45 lux (F0.95, 50 IRE)
Dynamic range	Max. 70 dB[7]

Functions

Day/Night switching	Yes, using ambient light sensing and ICR[6] function (switching threshold level adjustable)
B/W (black-and-white) mode	Automatic[8] (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
Digital Image Shift[9]	Yes
Motion detection[10] (VMD)	With selectable sensitivity (5 levels)
Alarm notification	Via DaVid Protocol (Dallmeier Video Protocol) to PGuard advance[10], 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, configurable 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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6) ICR = IR Cut Filter Removable
7) According to the sensor manufacturer's specifications
8) 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).
9) Digital Image Shift = Provides digital fine alignment of the image section
10) 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

Analogue video preview output	1× BNC (CVBS) – for local installation only, e.g. for adjusting the focal length and image section
Audio OUT (Mono) / Microphone IN (Mono)	1× 3.5 mm phone jack (for stereo plug)[11]
	Mic IN: max. 63 mV (RMS), input resistance 10 kOhm, internal gain 20 dB
Ethernet	1× RJ45, 10BASE-T-/100BASE-TX-PoE
Power IN	12 V DC (Weidmüller male connector SL 3.50/02/90G)

Miscellaneous

Ambient light sensor	Integrated
Local video memory	SDHC card slot integrated[12]
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	12 V DC ±10% or PoE (Class 0)
PoE standard	IEEE 802.3af
Power consumption	Max. 4.5 W

Mechanical Data

Dimensions	In-ceiling mount variant: approx. Ø 170 × H 135 mm (Ø 6.7 × H 5.3 inches)
	Surface mount variant: approx. Ø 153 × H 135 mm (Ø 6.0 × H 5.3 inches)
Weight	In-ceiling mount variant: approx. 1200 g (2.6 lb)
	Surface mount variant: approx. 1100 g (2.4 lb)
Adjustment	3-axis
Colour	White (standard variant)
Bubble	Clear (with black inner liner for discrete surveillance)
Vandal-resistant	Yes
IK protection	IK10 protection against external mechanical impacts (up to 20 joules)
IP rating	IP67 (surface mount variant only)

Environmental Conditions

Operating temperature	In-ceiling mount variant (indoor): 0°C to +35°C (32°F to 95°F)
	Surface mount variant (in- and outdoor): −10°C to +40°C (14°F to 104°F)
Relative humidity	0% − 90% RH, non-condensing

Approvals/Certifications

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

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11) Audio IN/OUT Y-Cable Connector FGA-30 required (optionally available)
12) 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[13] (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[13] (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

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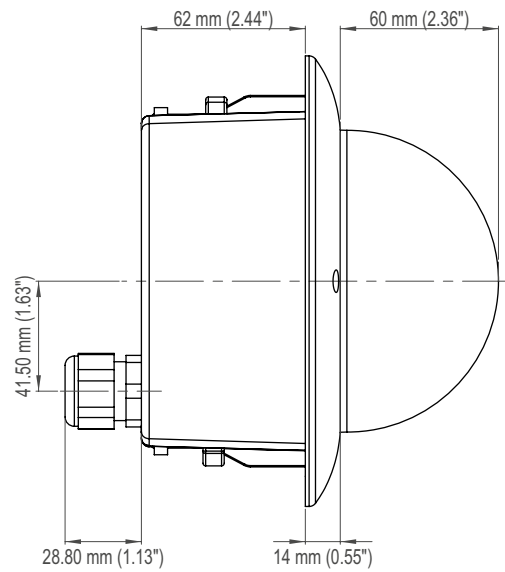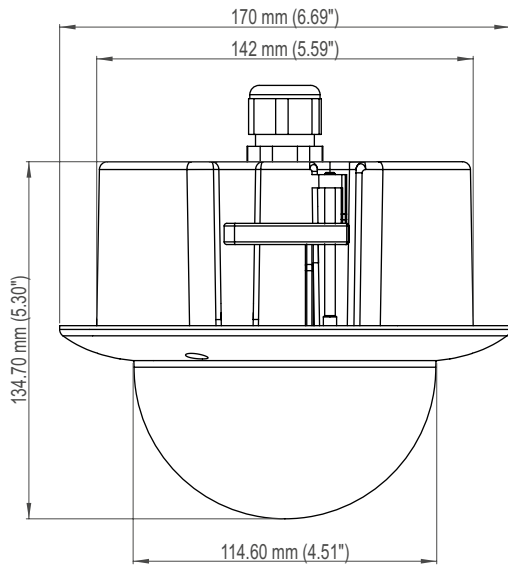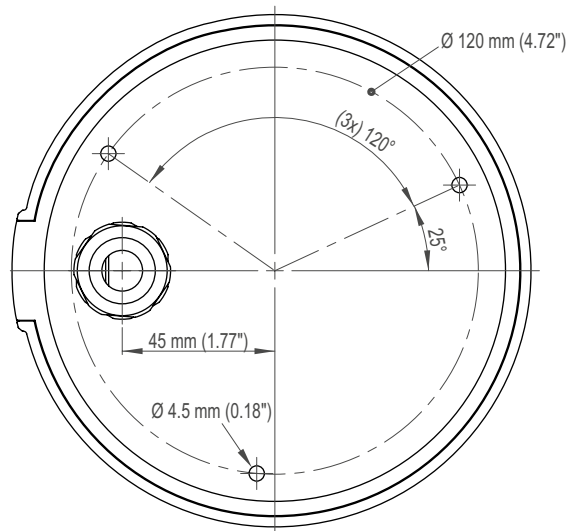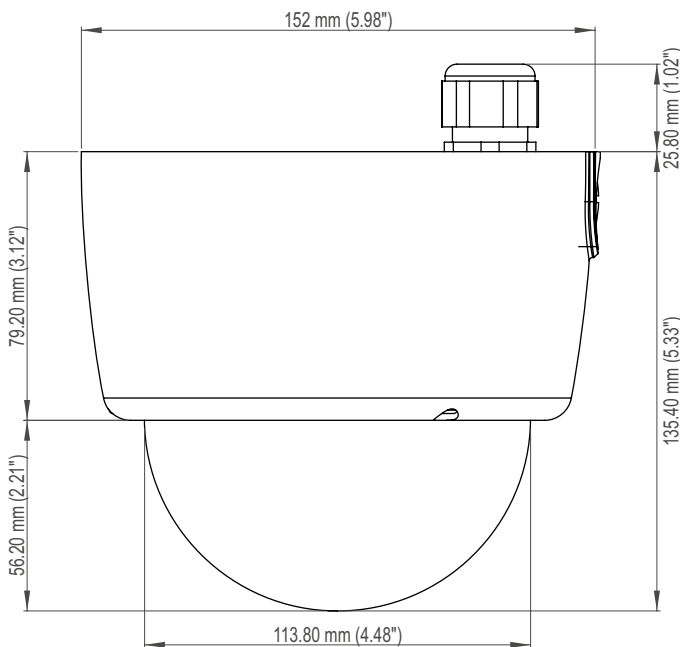
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Dimensions

In-ceiling mount variant

Surface mount variant

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