

# DDF4220HDV

Picodome®

Hybrid High Definition Camera, 1.3 MP, 720p/30, H.264, Wide Dynamic Range, PoE, Compact Dome Housing



The DDF4220HDV Picodome® is a hybrid Wide Dynamic Range (WDR) dome camera. The camera provides **real-time HD video** (720p/30) in **H.264 format** and supports **resolutions up to 1.3 megapixels**.

## Hybrid operation

In addition to **HD video over IP**, the DDF4220HDV Picodome® offers **simultaneous analog SD video output** (PAL/NTSC) over BNC (CVBS).

## Wide Dynamic Range

The DDF4220HDV Picodome® is attractive for its **wide dynamic range** (WDR), enabling images with highest color fidelity and excellent detail reproduction even in scenes with a wide contrast range and strong backlighting. The excellent low-light performance also ensures clear and low-noise images even in low light conditions.

## Digital Image Shift

The **Digital Image Shift** function enables convenient **fine alignment of the captured image section** (120 px vertical at 720p resolutions) via a **web browser**. Depending on the selected resolution, the used area on the image sensor can be moved and adapted to the local conditions.

## Voltage supply

Depending on requirements, the camera can be operated conventionally with 12V DC or conveniently with Power over Ethernet (PoE Class 0, IEEE 802.3af), which enables fast, simple and cost-effective cabling and commissioning.

## Variants

The vandal-resistant (IK10) DDF4220HDV Picodome® is available as an in-ceiling or surface mount version in an IP66 housing. Both housing variants are characterized by their ultra-compact design.

## Additional features

- 1/3" 1.3 megapixels CMOS image sensor
- HD video over Ethernet
- HD video in real-time (720p/30)
- Analog SD video output via BNC
- Wide Dynamic Range (WDR)
- High low-light sensitivity
- Video compression H.264, MJPEG
- Frame rate up to 30 fps
- Manual White Balance (MWB)
- Automatic White Balance (ATW, One-Push AWB)
- Automatic Gain Control (AGC)
- Automatic Electronic Shutter (AES)
- Comprehensive image optimization functions
- Digital Noise Reduction (DNR)
- Privacy Zone Masking (Hiding of protected areas)
- Flip function (horizontal, vertical or both)
- Voltage supply with 12V DC or via PoE
- Low power consumption (2.9W typical)
- Mounting variants in-ceiling (IM) or surface mount (SM)
- Compact vandal-resistant (IK10) housing
- Surface mount variant with IP66
- PPL ball joint (Push, Point & Lock)
- DIN EN 50130-4 compliant
- ONVIF compliant

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## In-Ceiling Variant

004419.407



### DDF4220HDV-IM

Hybrid High Definition Camera, 1.3 MP, 720p/30, H.264,  
Wide Dynamic Range, PoE, compact dome housing,  
in-ceiling variant, F2.0 / 2.4 mm

## Surface Variant

004420.407



### DDF4220HDV-SM

Hybrid High Definition Camera, 1.3 MP, 720p/30, H.264,  
Wide Dynamic Range, PoE, compact dome housing,  
surface mount variant, F2.0 / 2.4 mm

## Accessories

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 (for HDV variants)

004316



### PoE Midspan 30 W

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

## License

004717

### DLC - Casino Preset and Frame Rate 50/60 fps at 720p

License for the use of the Automatic Exposure (AE) preset Casino  
and the frame rate of 50/60 fps at 720p

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| Sensor                  |                       |
|-------------------------|-----------------------|
| Type                    | 1/3" CMOS             |
| Number of sensor pixels | 1.3MP                 |
| Light sensitivity       | 0.3lux (F2.0, 50 IRE) |
| Dynamic range           | > 115 dB              |
| Signal to noise ration  | 43.9 dB               |

| Lens   |  |
|--|--|
| Type   | Monofocal lens   |
| Format / Mount                                 | 1/3" Board Lens  |
| Focal length                                   | 2.4 mm   |
| Iris   | F2.0   |
| Iris control                                   | Fixed iris   |
| Zoom / Focus control                           | Fixed focus  |
| Minimum object distance                        | 0.3 m  |
| Available angles of view <sup>1)</sup> (H × V) | Approx. 106° × 80° (4CIF, SXGA-),<br>Approx. 106° × 60° (720p) |

| Format and Encoding                |   |
|------------------------------------|---|
| Video standard                     | SDTV (PAL/NTSC)<br>HDTV (SMPTE 296M)  |
| Resolution video over IP           | SXGA- (1280 × 960),<br>720p (1280 × 720),<br>4CIF (PAL: 704 × 576, NTSC: 704 × 480),<br>VGA (640 × 352 / 640 × 480)   |
| Resolution SD video analog         | 4CIF (PAL: 704 × 576, NTSC: 704 × 480)  |
| Aspect ratio video over IP         | 4:3 (4CIF, SXGA-),<br>16:9 (720p)   |
| Aspect ratio SD video analog       | Scale Analog Output -> On: 4:3 (if Encoder 1 resolution: 4CIF, SXGA-),<br>16:9 Letterbox (if Encoder 1 resolution: 720p)<br>Scale Analog Output -> Off: 4:3 (cropped from center sensor area) |
| Video compression                  | H.264, MJPEG  |
| Frame rate                         | See tables "Maximum Frame Rates"  |
| Video bit rate                     | 0.25–10 Mbps, CBR (constant bit rate), VBR (variable bit rate)  |
| Video streaming                    | Up to 3 streams with different settings simultaneously,<br>note the tables "Available Encoder Combinations"   |
| Live streaming transmission method | Unicast, Multicast  |

| Functions                     |   |
|-------------------------------|---|
| Hybrid Video                  | On, Off   |
| WDR (Wide Dynamic Range) mode | Automatic, On, Off  |
| Black-and-white mode          | Automatic (at low light), On, Off   |
| Automatic Electronic Shutter  | 1/4(3) – 1/10000 s  |
| Slow Shutter Limit            | 1/4(3) – 1/30(25) s   |
| Digital flip function         | Horizontal, vertical or both axes   |
| Digital Image Shift           | 120 px vertical at 720p resolutions   |
| Digital Noise Reduction (DNR) | Yes   |
| Exposure presets              | Universal, Indoor, Fluorescent, Casino (optional)   |
| Exposure metering             | Average metering (light information from entire scene), center-weighted average metering, spot metering     |
| Brightness adjustment         | Automatic (ALC), manual   |
| Gain control                  | Automatic (AGC)   |
| White balance                 | MWB (manual): 2500 K – 6500 K,<br>ATW (Auto Tracking White Balance), One-Push AWB (Automatic White Balance) |
| Privacy Zone Masking          | Yes (max. 40% 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   |

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

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

| Connections  |  |
|--------------|--|
| Video output | 1x BNC (CVBS, 1.0 V <sub>p-p</sub> , 75 Ω) |
| Ethernet     | 1x RJ45, 10BASE-T/100BASE-TX PoE           |
| Power IN     | 1x Weidmüller male connector               |

| Electrical Data   |                               |
|-------------------|-------------------------------|
| Voltage supply    | 12 V DC ±10%<br>PoE (Class 0) |
| PoE standard      | IEEE 802.3af                  |
| Power consumption | 2.9 W typical (max. 4.0 W)    |

| Mechanical Data  | In-ceiling Variant                                     | Surface Variant                                 |
|------------------|--|---|
| Dimensions       | Approx. Ø 95 × H 72 mm (Ø 3.72 × H 2.82 inches)        | Approx. Ø 93 × H 66 mm (Ø 3.64 × H 2.58 inches) |
| Weight           | Approx. 450 g (0.99 lb)                                | Approx. 740 g (1.63 lb)                         |
| Adjustment       | PPL ball joint (Push, Point & Lock for easy alignment) |   |
| Bubble           | Clear  |   |
| Vandal-resistant | Yes  |   |
| IK protection    | IK10 (up to 20 joules)                                 |   |
| IP rating        | --   | IP66  |
| Color            | Black with white housing ring                          | White   |

| Environmental Conditions | In-Ceiling Variant (Indoor) | Surface Variant (Indoor and Outdoor): |
|--------------------------|-----------------------------|---------------------------------------|
| Operating temperature    | -20°C to +40°C              | -20°C to +50°C                        |
| Relative humidity        | 0% - 90% RH, non-condensing |                                       |

| Miscellaneous                |  |
|------------------------------|--|
| 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 <sup>2)</sup> |
| ONVIF compliance             | Core Specifications 1.01 & 1.02  |

| Approvals and Certifications |  |
|------------------------------|--|
| Type                         | CE, FCC, RCM, UL, DIN EN 50130-4 compliant |

2) ActiveX is a trademark or registered trademark of Microsoft Corporation headquartered in Redmond, Washington, USA

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## Available Encoder Combinations

| Encoder 1 (H.264)        | Encoder 2 (H.264, MJPEG) | Encoder 2 (H.264)                                    |
|--------------------------|--------------------------|--|
| SXGA- / 30 fps           | VGA (640 × 480) / 15 fps | --   |
| 720p / 60 fps (optional) | --                       | --   |
| 720p / 30 fps            | VGA (640 × 352) / 30 fps | --   |
| 720p / 30 fps            | VGA (640 × 352) / 15 fps | QCIF (192 × 128) / 15 fps, only if Encoder 2 = MJPEG |
| 4CIF / 30 fps            | 4CIF / 30 fps            | --   |

| Encoder 1 (MJPEG)        | Encoder 2 (H.264, MJPEG) | Encoder 2 (H.264) |
|--------------------------|--------------------------|-------------------|
| SXGA- / 30 fps           | --                       | --                |
| 720p / 60 fps (optional) | --                       | --                |
| 720p / 30 fps            | --                       | --                |
| 4CIF / 30 fps            | --                       | --                |

## Maximum Frame Rates with Hybrid Video = OFF

| Resolution | Encoder 1            | Analog Output |
|------------|----------------------|---------------|
| SXGA-      | 25/30 fps            | 12.5/15 fps   |
| 720p       | 25/30 fps            | 25/30 fps     |
| 720p       | 50/60 fps (optional) | --            |
| 4CIF       | 25/30 fps            | 25/30 fps     |

## Maximum Frame Rates with Hybrid Video = ON

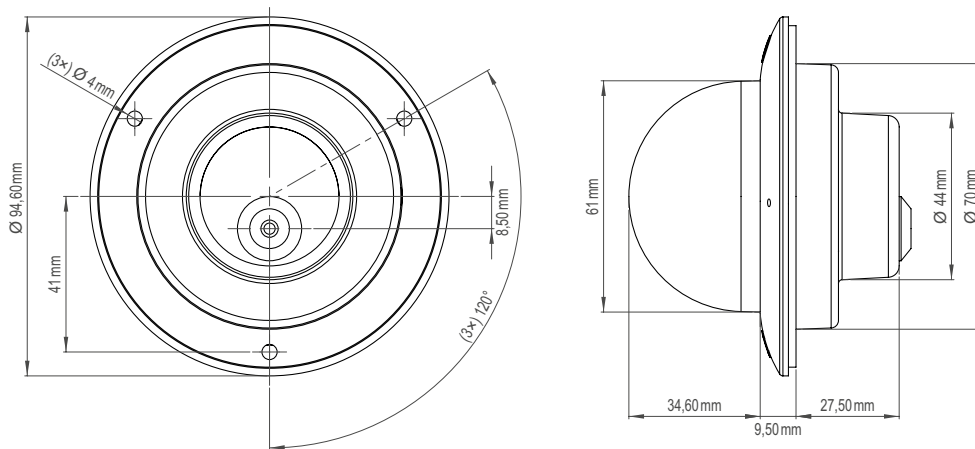
| Resolution | Encoder 1            | Analog Output |
|------------|----------------------|---------------|
| SXGA-      | 12.5/15 fps          | 25/30 fps     |
| 720p       | 25/30 fps            | 25/30 fps     |
| 720p       | 50/60 fps (optional) | --            |
| 4CIF       | 25/30 fps            | 25/30 fps     |

# DDF4220HDV

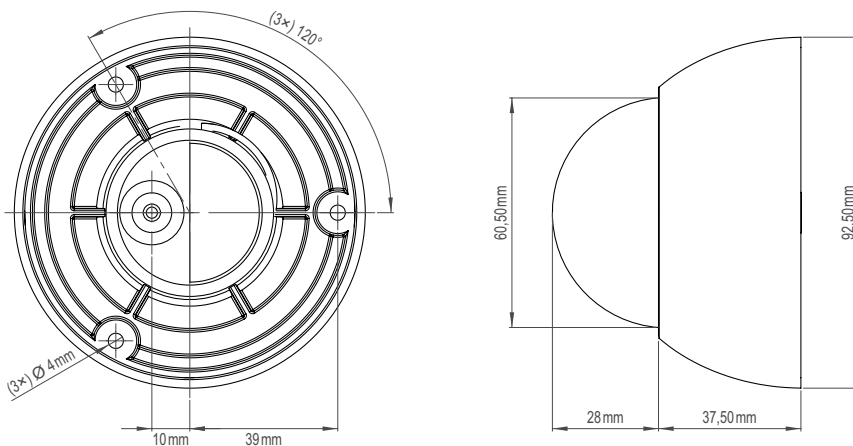
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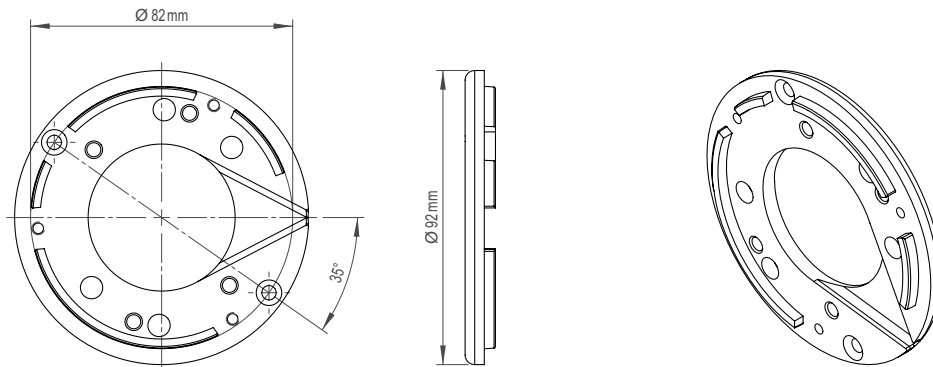
## DDF4220HDV-IM



## DDF4220HDV-SM



## Mounting ring for DDF4220HDV-SM (compatible with flush-mounted sockets according to DIN 49073)



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