# DH-XVR5104HS-I3

## 4 Channels Penta-brid 5M-N/1080P Compact 1U 1HDD WizSense Digital Video Recorder

Launched by Dahua Technology, WizSense is a series of AI products and solutions that adopt independent AI chip and deep learning algorithm. It focuses on human and vehicle with high accuracy, enabling users to fast act on defined targets. Based on Dahua's advanced technologies, WizSense provides intelligent, simple and inclusive products and solutions.

### Series Overview

Dahua Technology, a world-leading video-centric smart IoT solution and service provider, debuted its new XVR series, XVR5000-I3 Series featuring max.full-channel SMD Plus to benefit customers from AI upgrade (The number of channels differs depending on the model. Please refer to the specifications below for information on the number of channels.). This series has been developed to reduce false-alarm rates and the cost of human surveillance, thus bringing great value to customers in search of products with accurate human/vehicle alarm to raise the security level of various indoor and outdoor facilities.

### Functions

#### Face Recognition
Dahua Face Recognition technology extracts the features of captured faces and compares them with that in face database to recognize the person identity.

*Face Recognition takes effect when Face is selected in AI Mode.

#### SMD Plus
With intelligent algorithm, Dahua Smart Motion Detection technology can categorize the targets that trigger motion detection and filter the motion detection alarm triggered by non-concerned targets to realize effective and accurate alarm.
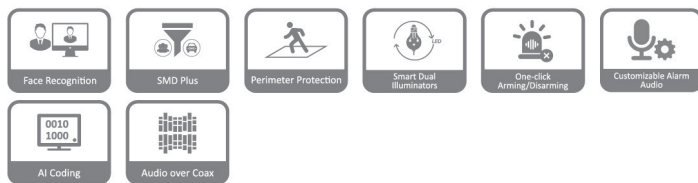
*SMD Plus takes effect when SMD or IVS&SMD is selected in AI Mode.

#### Perimeter Protection
Automatically filters out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improves alarm accuracy.

*Perimeter Protection takes effect when IVS&SMD is selected in AI Mode.

- H.265+/H.265 dual-stream video compression
- Supports Full-channel AI-Coding
- Supports HDCVI/AHD/TVI/CVBS/IP video inputs
- Max 6 channels IP camera inputs, each channel up to 6MP; Max 32 Mbps incoming bandwidth
- Up to 2 channels video stream (analog channel) Perimeter Protection
- Up to 4 channels video stream (analog channel) SMD Plus
- Up to 1 channels video stream (analog channel) human face recognition
- IoT & POS functionalities

| Face Recognition | SMD Plus | Perimeter Protection | Smart Dual Illuminators | One-click Arming/Disarming | Customizable Alarm Audio |
| AI Coding | Audio over Coax | | | | |

#### Smart Dual Illuminators
With Smart Dual Illuminators technology, you can select Smart Illumination Mode for the system to automatically switch between IR mode and white light mode. It allows white light to be turned on when a target is detected by the SMD Plus/Perimeter Protection function of AI-enabled XVR. This significantly reduces light pollution at night. Together with other modes, including IR Mode and White Light Mode, the smart dual illumination technology can meet the requirements of a wide variety of scenes.

#### One-click Arming/Disarming
With just one click, you can enable or disable alarm linkages to show messages, send emails, output audio alarms and more, through the mobile app and platform.

#### Customizable Alarm Audio
Designed for your convenience, the TiOC alarm can be customized to meet your needs. It is flexible, allowing you to directly upload your customized audio through the mobile app and XVR.

#### AI Coding
Compared with H.265/H.264, AI coding can reduce more than 50% bit rate and storage requirements without loss of decoding compatibility, providing clear human and vehicle details.

#### Audio over Coax
The integrated design can reduce wiring troubles which makes it much more cost-effective and convenient for installation.

## Technical Specification

### System

| | |
|---|---|
| Main Processor | Industrial-grade processor |
| Operating System | Embedded Linux |
| Operating Interface | Web; Local GUI |

### Perimeter Protection

| | |
|---|---|
| Perimeter Performance AI by Recorder (Number of Channels) | Advanced Model : 1 channel, 10 IVS for each channel<br>General Model : 2 channels, 10 IVS for each channel |

### Face Detection

| | |
|---|---|
| Face Attributes | Gender; age group; glasses; expressions; face mask; beard |
| Face Detection Performance of AI by Recorder (Number of Channels) | 1 channel, (up to 8 face images/s) |

### Face Recognition

| | |
|---|---|
| Face Database Capacity | Up to 10 face databases and 10,000 images. |
| Face Recognition Performance of AI by Recorder (Number of Channels) | 1 channel |

### SMD Plus

| | |
|---|---|
| SMD Plus by Recorder | 4-channel: Secondary filtering for human and motor vehicle , reducing false alarms caused by leaves, rain and lighting condition change |

### Audio and Video

| | |
|---|---|
| Analog Camera Input | 4 channels, BNC: adaptive access by default; HDCVI, AHD, TVI and CVBS access can be configured. |
| Camera Input | 1. CVI: 5 MP, 4 MP, 1080p@25/30 fps, 720p@50/60 fps, 720p@25/30 fps.<br>2. TVI: 5 MP, 4 MP, 1080p@25/30 fps, 720p@25/30 fps.<br>3. AHD: 5 MP, 4 MP, 1080p@25/30 fps, 720p@25/30 fps.<br>4. CVBS: PAL/NTSC |
| IP Camera Input | Up to 6 channels of IPC access<br>2 IP channels by default + 4 channels (analog channels are converted to IP channels)<br>incoming bandwidth: 32 Mbps, recording bandwidth: 32 Mbps and outgoing bandwidth: 32 Mbps<br>*After IP channels are added beyond the existing channels, the AI Function (IVS, SMD, FACE) will be disabled. |
| Encoding Capacity | Main stream: All channel 5M-N (1 fps–10 fps); 4M-N/1080p (1 fps–15 fps); 1080N/720p/960H/D1/CIF (1 fps–25/30 fps)<br>Sub stream: D1/CIF (1 fps–15fps) |
| Dual-stream | Yes |
| Video Bit Rate | 32 kbps–6144 kbps |
| Audio Sampling | 8 kHz, 16 bit |
| Audio Bit Rate | 64 kbps |
| Video Output | 1 HDMI, 1 VGA<br>HDMI/VGA: 1920 × 1080, 1280 × 1024, 1280 × 720 |
| Multi-screen Display | When IP extension mode not enabled: 1/4<br>When IP extension mode enabled: 1/4/6 |
| Third-party Camera Access | ONVIF; RTSP; Panasonic; Sony; Axis; Arecont; Pelco; Canon; Samsung |

### Compression Standard

| | |
|---|---|
| Video Compression | AI Coding; H.265+; H.265; H.264+; H.264 |
| Audio Compression | G.711a; G.711u; PCM |

### Network

| | |
|---|---|
| Network Protocol | HTTP; HTTPS; TCP/IP; IPv4; RTSP; UDP; SMTP; NTP; DHCP; DNS; DDNS; P2P |
| Mobile Phone Access | iOS;  Android |
| Interoperability | ONVIF 21.06; CGI Conformant |
| Browser | Chrome<br>IE9 or later<br>Firefox |
| Network Mode | Single-address mode |

### Recording Playback

| | |
|---|---|
| Record Mode | General, motion detection; intelligent; alarm; POS |
| Recording Playback | 1/4 |
| Backup Method | USB device and network |
| Playback Mode | Instant playback, general playback, event playback, tag playback, smart playback (face and motion detection) |

### Alarm

| | |
|---|---|
| General Alarm | Motion detection, video loss, tampering |
| Anomaly Alarm | No disk, disk error, low space, offline, ip conflict, MAC conflict |
| Intelligent Alarm | Face detection, face recognition, perimeter protection |
| Alarm Linkage | Record, snapshot (panoramic), IPC external alarm output, access controller, voice prompt, buzzer, log, preset, email |

### Ports

| | |
|---|---|
| Audio Input | 1-channel RCA<br>4-channel BNC (Coaxial Audio) |
| Audio Output | 1-channel RCA |
| Two-way Talk | Yes (share the same audio input with the first channel) |
| HDD Interface | 1 SATA port, up to 16 TB. The maximum HDD capacity varies with environment temperature. |
| RS-485 | 1 port, for PTZ control |
| USB | 2 USB ports (USB 2.0) |
| HDMI | 1 |
| VGA | 1 |
| Network Port | 1 (10/100 Mbps Ethernet port, RJ-45) |

### General

| | |
|---|---|
| Power Supply | 12 VDC, 1.5 A |
| Power Consumption | <4 W |
| Net Weight | 1.0 kg (2.20 lb) |
| Gross Weight | 1.4 kg (3.08 lb) |
| Product Dimensions | 260.0 mm × 237.9 mm × 47.6 mm (10.24'' × 9.37'' × 1.87'') (W × D × H) |

| Packaging Dimensions | 333.0 mm × 315.0 mm × 89.0 mm (13.11" × 12.40 × 3.50") (W× D × H) |
|---|---|
| Operating Temperature | −10 °C to +55 °C (+14 °F to +131 °F) |
| Operating Humidity | 0%–90% (RH) |
| Installation | Desktop |
| Certifications | FCC: Part 15 Subpart B<br>CE: CE-LVD: EN 60950-1/IEC 60950-1<br>CE-EMC: EN 61000-3-2; EN 61000-3-3; EN 55032; EN50130; EN 55024 |

## Ordering Information

| Type | Model | Description |
|---|---|---|
| 4 Channels WizSense XVR | DH-XVR5104HS-I3 | Compact 1U WizSense Digital Video Recorder |

## Dimensions (mm[inch])
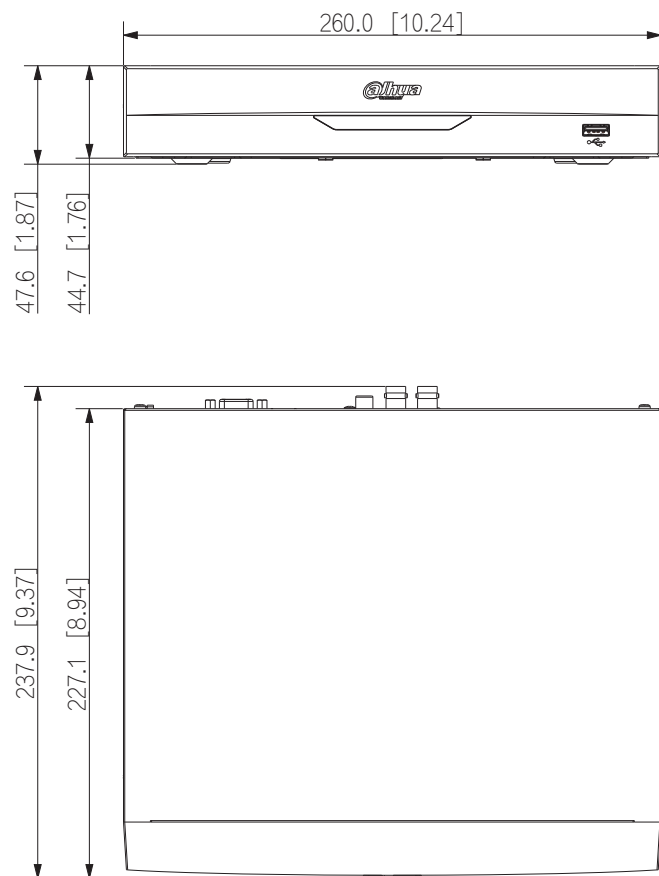


## Panels
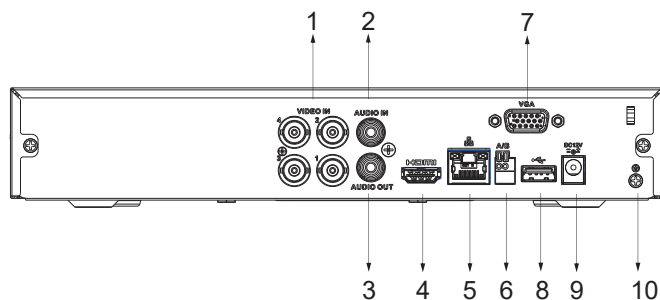


| | | | |
|---|---|---|---|
| 1 | VIDEO IN | 2 | AUDIO IN, RCA Connector |
| 3 | AUDIO OUT, RCA Connector | 4 | HDMI Port |
| 5 | Network Port | 6 | RS-485 Port |
| 7 | VGA Port | 8 | USB Port |
| 9 | Power Input | 10 | Ground |

# DH-HAC-HFW1200TLM-IL-A

## 2MP Smart Dual Light HDCVI Fixed-focal Bullet Camera

* The parameters and datasheets below can only be applied to1200-S6-IL series.
* In order to use the Smart Dual Light HDCVI camera, the firmware of XVR must be upgraded to V4.001.0000004.1.R.220323 or later version.

· Max. 30 fps@1080p.

· 3D NR.

· Smart Dual Light.

· 40 m illumination distance.

· Super Adapt.

· Built-in mic.

· 3.6 mm fixed lens (2.8 mm optional).

· CVI/CVBS/AHD/TVI switchable.

· IP67, 12 V DC.

## System Overview

The Lite Series is a great choice for consumers looking for high quality monitoring products at a reasonable price. Its low cost and high performance make it ideal for residential areas and SMB solutions. This series is equipped with a wide range of technologies, such as full-color and starlight, providing various solutions for different scenarios.

## Functions

### Smart Dual Light

With its smart dual light mechanism, the camera automatically turns on the white light when Perimeter Protection/SMD Plus function of AI XVR detects a target in the rule area to capture clear, vivid images. When the target leaves the rule area, the camera automatically switches over from the white light to the IR light to significantly reduce light pollution.

### Broadcast-quality Audio

Audio signal transmission over coaxial cables is supported by the HDCVI camera. It adopts a unique audio processing and transmission technology that restores source audio and eliminates noise, ensuring the quality and reliability of the audio information that is collected. This becomes important for video surveillance applications that use audio information as a type of supplementary evidence.

### Super Adapt

With its intelligent algorithm, the camera automatically adjusts its parameters to provide optimal performance and vivid images.

### Advanced 3DNR

Dahua's advanced 3DNR technology reduces image noise with little to no impact on image sharpness, especially in poor lighting conditions. It detects the noise, and compares the sequential frames to effectively reduce the noise. It also makes efficient use of bandwidth, saving on storage space.

### Protection (IP67, Wide Voltage)

IP67: The camera passed a series of rigorous dust and immersion tests. Its enclosure is both dust-proof and waterproof, and can function normally while being immersed in 1 m deep water for up to 30 minutes. Wide voltage: The camera has ±30% input voltage tolerance (for some power supplies) and a wide voltage range, making it suitable for a variety of outdoor scenarios.

### 4 Signals over 1 Coaxial Cable

HDCVI technology supports 4 signals (video, audio*, data and power) which are simultaneously transmitted over a coaxial cable. Dual-way data transmission allows the HDCVI camera to interact with the XVR to perform various actions such as sending control signals and triggering alarms. HDCVI technology also supports PoC, which makes the camera easy and quick to install.

* Audio input is available for select HDCVI camera models.

### Long Distance Transmission

HDCVI technology provides long distance transmission in real time without transmission loss. It supports transmission distances up to 700 m for 2-MP/5-MP/8-MP HD videos through coaxial cables, and up to 300 m through UTP cables. The results were obtained and verified through rigorous testing in Dahua's test laboratory.

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 2 MP CMOS |
| Max. Resolution | 1920 (H) × 1080 (V) |
| Scanning System | Progressive |
| Electronic Shutter Speed | PAL: 1/25 s–1/100000 s<br>NTSC: 1/30 s–1/100000 s |
| Min. Illumination | 0.01 lux@F2.0 (Color, 30 IRE)<br>0.001 lux@F2.0 (B/W, 30 IRE)<br>0 lux (Illuminator on) |
| S/N Ratio | >65 dB |
| Illumination Distance | IR: 40 m (131.23 ft)<br>Warm light: 40 m (131.23 ft) |
| Illuminator On/Off Control | Auto |
| Illuminator Number | 2 (Warm light);2 (IR light) |
| Angle Adjustment | Pan: 0°–360°<br>Tilt: 0°–90°<br>Rotation: 0°–360° |

### Lens

| | |
|---|---|
| Lens Type | Fixed-focal |
| Auto Focus | No |
| Lens Mount | M12 |
| Focal Length | 2.8 mm;3.6 mm |
| Max. Aperture | F2.0 |
| Field of View | 2.8 mm: H: 102°; V: 60°; D: 129°<br>3.6 mm: H: 83°; V: 48°; D: 105° |
| Iris Control | Fixed |
| Close Focus Distance | 2.8 mm: 0.5 m (1.64 ft)<br>3.6 mm: 0.7 m (2.30 ft) |

| DORI Distance | Lens | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| | 2.8 mm | 41.1 m (135.83 ft) | 16.5 m (42.13 ft) | 8.3 m (27.23 ft) | 4.1 m (13.45 ft) |
| | 3.6 mm | 50.9 m (166.99 ft) | 20.3 m (66.60 ft) | 10.2 m (33.46 ft) | 5.1 m (16.73 ft) |

### Video

| | |
|---|---|
| Video Frame Rate | CVI:<br>PAL: 1080p@25 fps;<br>NTSC: 1080p@30 fps;<br>AHD:<br>PAL: 1080p@25 fps;<br>NTSC: 1080p@30 fps;<br>TVI:<br>PAL: 1080p@25 fps;<br>NTSC: 1080p@30 fps;<br>CVBS:<br>PAL: 960H;<br>NTSC: 960H |
| Resolution | 1080p (1920 × 1080); 960H (960 × 576/960 × 480) |
| Day/Night | Auto(ICR)/Color/B/W |
| BLC | BLC; HLC; DWDR |
| WDR | DWDR |

| | |
|---|---|
| White Balance | Auto;Area white balance |
| Gain Control | Auto |
| Noise Reduction | 3D NR |
| Illumination Mode | Smart IR&WL; WL Mode; IR Mode |
| Mirror | Yes |
| Privacy Masking | Off/On (8 areas, rectangle) |

### Certification

| | |
|---|---|
| Certifications | CE-LVD: EN 62368-1;<br>CE-EMC: EN 55032; EN 55035;<br>FCC: 47 CFR FCC Part 15, Subpart B;<br>UL: UL62368-1 + CAN/CSA C22.2 No. 62368-1-14 |

### Port

| | |
|---|---|
| Video Output | Video output choices of CVI/TVI/AHD/CVBS by one BNC port |
| Audio Input | 1 channel |

### Power

| | |
|---|---|
| Power Supply | 12 VDC ± 30% |
| Power Consumption | Max 4.1W (12 VDC, IR on) |

### Environment

| | |
|---|---|
| Operating Temperature | −40 °C to +60 °C (−40 °F to +140 °F) |
| Operating Humidity | <95% (RH), non-condensing |
| Storage Temperature | −40 °C to +60 °C (−40 °F to +140 °F) |
| Storage Humidity | <95% (RH), non-condensing |
| Protection | IP67 |

### Structure

| | |
|---|---|
| Casing Material | Metal front cover + plastic rear barrel + metal bracket |
| Product Dimensions | 198.4 mm × 80.2 mm × 76.2 mm (7.81" × 3.16" × 3") |
| Net Weight | 0.29 kg (0.64 lb) |
| Gross Weight | 0.41 kg (0.90 lb) |
| Installation | Wall mount; ceiling mount; vertical pole mount |

# Lite Series | DH-HAC-HFW1200TLM-IL-A

## Ordering Information

| Type | Model | Description |
|------|-------|-------------|
| 2MP Camera | DH-HAC-HFW1200TLMP-IL-A | 2MP HDCVI Smart Dual Light Bullet Camera, PAL |
| | DH-HAC-HFW1200TLMN-IL-A | 2MP HDCVI Smart Dual Light Bullet Camera, NTSC |
| Accessories (Optional) | PFA130-E | Water-proof Junction Box |
| | PFA134 | Junction Box |
| | PFA152-E | Pole Mount Bracket |
| | PFM800-E | Passive HDCVI Balun |
| | FM321D | 12V 1A Power Adapter |
| | PFM904 | Integrated Mount Tester |

## Accessories

Optional:



PFA130-E
Water-proof
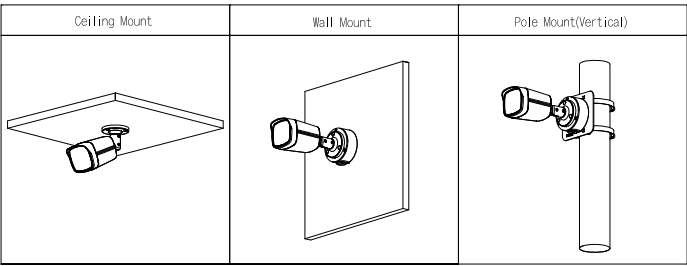Junction Box

PFA134
Junction
Box
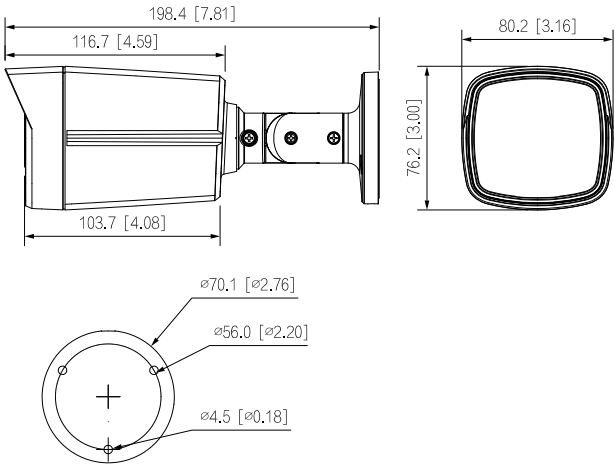
PFA152-E
Pole Mount
Bracket

PFM800-E
Passive HDCVI Balun

PFM321D
12V 1A Power
Adapter

PFM904
Integrated Mount
Tester



Ceiling Mount    Wall Mount    Pole Mount(Vertical)

## Dimensions (mm [inch])



198.4 [7.81]
116.7 [4.59]
80.2 [3.16]
76.2 [3.00]
103.7 [4.08]

⌀70.1 [⌀2.76]
⌀56.0 [⌀2.20]
⌀4.5 [⌀0.18]

# DH-HAC-HDW1200TLMQ(-A)

## 2MP HDCVI Quick-to-install IR Eyeball Camera

· Max 30fps@1080P

· Quick-to-install eyeball saves installation time

· CVI/CVBS/AHD/TVI switchable

· 3.6mm fixed lens (2.8mm optional)

· Built-in mic(-A)

· Max. IR length 30m, Smart IR

· IP67, DC12V

| Lite Series | 1080p FULL HD | 30m IR | IP67 | Audio | DC 12V |

## System Overview

Experience 1080P full HD video and the simplicity of using existing cabling infrastructure with HDCVI. The Lite series 1080P HDCVI camera features a compact design and offers a high quality image at a friendly price. It offers various motorized/fixed lens models with a multi-language OSD and HD/SD switchable output. Its structural flexibility and high cost-performance makes the camera an ideal choice for SMB solutions.

## Functions

### 4 Signals over 1 Coaxial Cable

HDCVI technology supports 4 signals to be transmitted over 1 coaxial cable simultaneously, i.e. video, audio*, data and power. Dual-way data transmission allows the HDCVI camera to interact with the XVR, such as sending control signal or triggering alarm. Moreover, HDCVI technology supports PoC for construction flexibility.

* Audio input is available for some models of HDCVI cameras.

### Easy Installation

HDCVI Quick-to-install eyeball adopts quick-to-install pedestal, which can achieve easier installation than conventional eyeball. Quick-to-install camera reduces time and labor costs.

### Long Distance Transmission

HDCVI technology guarantees real-time transmission at long distance without any loss. It supports up to 800m(1080p)/1200m(720P) transmission via coaxial cable, and up to 300m(1080P)/450m(720P) via UTP cable.*

 *Actual results verified by real-scene testing in Dahua's test laboratory.

### Simplicity

HDCVI technology inherits the born feature of simplicity from traditional analog surveillance system, making itself a best choice for investment protection. HDCVI system can seamlessly upgrade the traditional analog system without replacing existing coaxial cabling. The plug and play approach enables full HD video surveillance without the hassle of configuring a network.

### Smart IR

The camera is designed with IR LED illumination for best lowlight performance. Smart IR is a technology to ensure brightness uniformity in B/W image under low illumination. Dahua's unique Smart IR adjusts to the intensity of camera's infrared LEDs to compensate for the distance of an object, and prevents IR LEDs from overexposing images as the object come closer to the camera.

### Multi-formats

The camera supports multiple video formats including HDCVI, CVBS and other two common HD analog formats in the market. The four formats can be switched over through OSD menu or by PFM820(UTC controller). This feature makes the camera to be compatible with most end users' existing HD/SD DVRs.

### Multi-language OSD

OSD menu provides multiple image adjustments and function settings to meet the requirements of different monitoring scenes. The OSD menu includes configurations such as backlight mode, day/night, white balance, privacy mask and motion detect. The camera supports 11 languages for OSD menu, namely, Chinese, English, French, German, Spanish, Portuguese, Italian, Japanese, Korean, Russian and Polish.

### Protection

The camera's outstanding reliability is unsurpassed due to its rugged design. The camera is protected against water and dust with IP67 ranking, making it suitable for indoor or outdoor environments.
With working temperature range of-40 °C to +60 °C (-40 °F to +140 °F), the camera is designed for extreme temperature environments. Supporting ±30% input voltage tolerance, this camera suits even the most unstable power supply conditions. Its 4KV lightning rating provides protection against the camera and its structure from the effects of lightning.

## Technical Specification

### Camera

| | |
|---|---|
| Image Sensor | 1/2.7 inch CMOS |
| Max. Resolution | 1920(H)×1080(V) |
| Pixel | 2MP |
| Scanning System | Progressive |
| Electronic Shutter Speed | PAL: 1/25s–1/100000s<br>NTSC: 1/30s–1/100000s |
| S/N Ratio | >65dB |
| Min. Illumination | 0.02Lux/F1.9, 30IRE, 0Lux IR on |
| Illumination Distance | 30 m (98.4 ft) |
| Illuminator On/Off Control | Auto; manual |
| Illuminator Number | 1 |
| Pan/Tilt/Rotation Range | Pan: 0°–360°<br>Tilt: 0°–78°<br>Rotation: 0°–360° |

### Lens

| | |
|---|---|
| Lens Type | Fixed-focal |
| Mount Type | M12 |
| Focal Length | 2.8 mm; 3.6 mm |
| Max. Aperture | F1.9 |
| Field of View | 2.8 mm: 119° x 101° x 54°<br>(diagonal x horizontal x vertical)<br>3.6 mm: 100° x 84° x 45°<br>(diagonal x horizontal x vertical) |
| Iris Type | Fixed iris |
| Close Focus Distance | 2.8 mm: 0.5 m (1.7 ft)<br>3.6 mm: 0.8 m (2.6 ft) |

| DORI Distance | Lens | Detect | Observe | Recognize | Identify |
|---|---|---|---|---|---|
| | 2.8 mm | 38.6 m (126.6 ft) | 15.4 m (50.5 ft) | 7.7 m (25.3 ft) | 3.9 m (12.8 ft) |
| | 3.6 mm | 49.7 m (163.1 ft) | 19.9 m (65.3 ft) | 9.9 m (32.5 ft) | 5 m (16.4 ft) |

### Video

| | |
|---|---|
| Frame Rate | CVI: 1080P@25/30fps; 720P@25/30fps;<br>720P@50/60fps;<br>AHD: 1080P@25/30fps; 720P@25/30fps;<br>TVI: 1080P@25/30fps; 720P@25/30fps;<br>720P@50/60fps;<br>CVBS: 960H |
| Resolution | 1080P (1920×1080); 720P (1280×720); 960H (960×576/960×480) |
| Day/Night | Auto switch by ICR |
| BLC | BLC/HLC/DWDR |
| WDR | DWDR |
| White Balance | Auto; manual |

| | |
|---|---|
| Gain Control | Auto; manual |
| Noise Reduction | 2D NR |
| Smart IR | Yes |
| Electronic Defog | Yes |
| Mirror | Off/On |
| Privacy Masking | Off/On (8 area, rectangle) |

### Certifications

| | |
|---|---|
| Certifications | CE (EN55032:2015, EN 61000-3-2:2014, EN 61000-3-3:2013, EN55024:2010+A1:2015, EN 55035:2017, EN50130-4:2011+A1:2014)<br>FCC (CFR 47 FCC Part 15 subpartB, ANSI C63.4-2014)<br>UL (UL60950-1+CAN/CSA C22.2 No.60950-1) |

### Port

| | |
|---|---|
| Audio Output | One channel built-in mic (-A) |
| Video Output | Video output choices of CVI/TVI/AHD/CVBS by one BNC port |

### Power

| | |
|---|---|
| Power Supply | 12V ±30% DC |
| Power Consumption | Max 2.9W (12V DC, IR on) |

### Environment

| | |
|---|---|
| Operating Temperature | -40°C to +60°C (-40°F to 140°F); <95% (non-condensation) |
| Storage Temperature | -40°C to +60°C (-40°F to 140°F); <95% (non-condensation) |
| Protection Grade | IP67 |

### Structure

| | |
|---|---|
| Casing | Metal dome+metal cover+plastic decorative ring |
| Camera Dimensions | φ109.9 mm × 88.1 mm ( φ4.33" × 3.47" ) |
| Net Weight | 0.33 Kg (0.73 lb) |
| Gross Weight | 0.44 Kg (0.97 lb) |

## Ordering Information

| Type | Part Number | Description |
|------|-------------|-------------|
| 2MP Camera | DH-HAC-HDW1200TLMQP-A 2.8mm | 2MP HDCVI IR Eyeball Camera |
| | DH-HAC-HDW1200TLMQN-A 2.8mm | |
| | DH-HAC-HDW1200TLMQP 2.8mm | |
| | DH-HAC-HDW1200TLMQN 2.8mm | |
| | DH-HAC-HDW1200TLMQP-A 3.6mm | |
| | DH-HAC-HDW1200TLMQN-A 3.6mm | |
| | DH-HAC-HDW1200TLMQP 3.6mm | |
| | DH-HAC-HDW1200TLMQN 3.6mm | |
| Accessories | PFA13G | Junction Box |
| | PFB205W | Wall Mount Bracket (For use alone or with PFA152-E) |
| | PFA152-E | Pole Mount Bracket (For use with PFB205W) |
| | PFA130-E | IP66 Junction Box |
| | PFM800-E | Passive HDCVI Balun |
| | PFM321D | 12V 1A Power Adapter |
| | PFM820 | UTC Controller |
| | PFM904 | Integrated Mount Tester |

## Accessories

**Optional:**

PFA13G Junction Box
PFB205W Wall Mount Bracket (For use alone or with PFA152-E)
PFA152-E Pole Mount Bracket (For use with PFB204W)
PFA130-E IP66 Junction Box
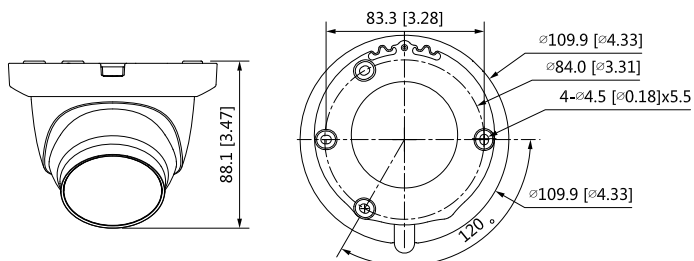PFM800-E Passive HDCVI Balun
PFM321D 12V 1A Power Adapter
PFM820 UTC Controller
PFM904 Integrated Mount Tester

## Dimensions (mm[inch])

83.3 [3.28], ∅109.9 [∅4.33], ∅84.0 [∅3.31], 4-∅4.5 [∅0.18]x5.5, ∅109.9 [∅4.33], 88.1 [3.47], 120°

![WD]

# WD Purple™
## Surveillance Hard Drives

WD Purple™ drives are built for 24/7, always-on, high-definition security systems. With a supported workload rate* of up to 180 TB/yr and support for up to 64 cameras, WD Purple™ drives are optimized for surveillance systems. WD Purple™ surveillance storage also comes with WD's exclusive AllFrame 4K™ technology, so you can confidently create a security system tailored to the needs of your business. Using AllFrame 4K™ technology, WD Purple™ drives improve ATA streaming to help reduce errors, pixelation, and video interruptions that could happen in a video recorder system.

| INTERFACE | FORM FACTOR | PERFORMANCE CLASS | CAPACITIES |
|---|---|---|---|
| SATA 6 Gb/s | 3.5-inch | 5400 RPM Class | 500GB to 10TB |

### MODEL NUMBERS

| | |
|---|---|
| WD100PURZ | WD30PURX |
| WD80PUZX | WD20PURX |
| WD60PURX | WD10PURX |
| WD50PURX | WD05PURX |
| WD40PURX | |

## Product Features

### The right drive for the right job

WD Purple™ drives have been engineered specifically for surveillance, so they're able to withstand the extreme heat fluctuations and equipment vibrations within a NVR environment. An average desktop drive is built to run for only short intervals, not the harsh 24/7 always-on environment of a high-definition surveillance system. A disruption to a drive could result in a failure that impacts multiple users, your security archive, or even the entire system. With WD Purple™, you get reliable, surveillance-class storage that's tested for compatibility in a wide-range of security systems.

### Industry-leading storage. Surveillance you can trust.

WD is a worldwide leader in the hard drive industry. With WD Purple™ surveillance storage, you have a drive engineered for high temperature, always-on surveillance systems so you can rely on quality video playback when you need it most. Whether you're protecting loved ones or monitoring your business, WD Purple™ offers performance you can trust.

### Wide compatibility. Seamless integration.

WD Purple™ hard drives are built with compatibility in mind, so you can quickly and seamlessly add capacity to your surveillance system. With a wide range of industry-leading enclosures and chipsets supported, you're sure to find the DVR configuration that's right for you.**

**Not sure what drive is best for your system? Use our compatibility tool to find the perfect storage for your DVR or NVR.

### Expand your view to 64

Each WD Purple™ drive is optimized to support up to 64 cameras. With so many options, you have the flexibility to upgrade or expand your security system in the future

### Trust your view with AllFrame 4K™

Missed frames and lost footage could be a serious problem when video surveillance needs to be retrieved. All WD Purple™ drives are equipped with AllFrame 4K™ technology, which improves ATA streaming to help reduce frame loss, improve overall video playback, and increase the number of hard drive bays supported within a NVR.

Features:
• Engineered specifically for surveillance security systems.
• Three times the workload rating of our desktop hard drives*.
• Tuned for write-intensive, low bit-rate, high stream-count applications typical to most surveillance applications.
• Prioritized write-operations for maximized surveillance performance.
• TLER & ATA streaming support.
• Support for more than eight bays.***

*Workload Rate is defined as the amount of user data transferred to or from the hard drive. Workload Rate is annualized (TB transferred X(8760 / recorded power-on hours)). Workload Rate will vary depending on your hardware and software components and configurations.

***For capacities 4TB and higher.

### Less power. More efficient.

Low power consumption is a necessity in a high-temperature, always-on surveillance environment. With our exclusive IntelliSeek™ technology, WD Purple™ drives are able to calculate optimum seek speeds. This keeps power consumption low so ambient noise and vibrations are at a minimum.

### Three year limited-warranty

As an industry-leading hard drive manufacturer, WD stands behind their surveillance storage solutions. With a 3-year limited warranty included with every WD Purple™ drive, you can rely on your surveillance system's data storage capabilities.

## The WD Advantage

At WD, we put our products through extensive Functional Integrity Testing (F.I.T.™) prior to any product launch. This testing ensures our products consistently meet the high quality and reliability standards of the WD brand. WD also has a detailed Knowledge Base with more than 1,000 helpful articles as well as helpful software and utilities. Our customer support lines have long operational hours to ensure you get the help you need when you need it. Our toll-free customer support lines are here to help or you can access our WD Support site for additional details.

| Specifications | 10TB | 8TB | 6TB | 5TB | 4TB | 3TB | 2TB |
|---|---|---|---|---|---|---|---|
| Model number[1] | WD100PURZ | WD80PUZX | WD60PURX | WD50PURX | WD40PURX | WD30PURX | WD20PURX |
| Formatted capacity[2] | 10TB | 8TB | 6TB | 5TB | 4TB | 3TB | 2TB |
| Form factor | 3.5-inch | 3.5-inch | 3.5-inch | 3.5-inch | 3.5-inch | 3.5-inch | 3.5-inch |
| Advanced Format (AF) | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| RoHS compliant[3] | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| **Performance** | | | | | | | |
| Interface transfer rate (max)[2]<br>    Buffer to host<br>    Host to/from drive (sustained) | 6 Gb/s<br>210 MB/s | 6 Gb/s<br>178 MB/s | 6 Gb/s<br>175 MB/s | 6 Gb/s<br>170 MB/s | 6 Gb/s<br>150 MB/s | 6 Gb/s<br>145 MB/s | 6 Gb/s<br>145 MB/s |
| Cache (MB) [2] | 256 | 128 | 64 | 64 | 64 | 64 | 64 |
| Performance Class | 5400 RPM Class | 5400 RPM Class | 5400 RPM Class | 5400 RPM Class | 5400 RPM Class | 5400 RPM Class | 5400 RPM Class |
| **Reliability/Data Integrity** | | | | | | | |
| Load/unload cycles[4] | 300,000 | 300,000 | 300,000 | 300,000 | 300,000 | 300,000 | 300,000 |
| Non-recoverable read errors per bits read | $<1$ in $10^{14}$ | $<1$ in $10^{14}$ | $<1$ in $10^{14}$ | $<1$ in $10^{14}$ | $<1$ in $10^{14}$ | $<1$ in $10^{14}$ | $<1$ in $10^{14}$ |
| Limited warranty (years)[5] | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| **Power Management** | | | | | | | |
| Average power requirements (W)<br>    Read/Write<br>    Idle<br>    Standby and Sleep | 6.2<br>5.0<br>0.5 | 6.4<br>5.7<br>0.7 | 5.3<br>4.9<br>0.4 | 5.3<br>4.9<br>0.4 | 5.1<br>4.5<br>0.4 | 4.4<br>4.1<br>0.4 | 4.4<br>4.1<br>0.4 |
| **Environmental Specifications**[6] | | | | | | | |
| Temperature (°C, on the base casting)<br>    Operating<br>    Non-operating | <br>0 to 65<br>-40 to 70 | <br>0 to 65<br>-40 to 70 | <br>0 to 65<br>-40 to 70 | <br>0 to 65<br>-40 to 70 | <br>0 to 65<br>-40 to 70 | <br>0 to 65<br>-40 to 70 | <br>0 to 65<br>-40 to 70 |
| Shock (Gs)<br>    Operating (2 ms, read/write)<br>    Operating (2 ms, read)<br>    Non-operating (2 ms) | 30<br>65<br>250 | 30<br>65<br>250 | 30<br>65<br>250 | 30<br>65<br>250 | 30<br>65<br>250 | 30<br>65<br>250 | 30<br>65<br>250 |
| Acoustics (dBA)[7]<br>    Idle<br>    Seek (average) | 20<br>29 | 20<br>29 | 25<br>26 | 25<br>26 | 25<br>26 | 23<br>24 | 23<br>24 |
| **Physical Dimensions** | | | | | | | |
| Height (in./mm, max) | 1.028/26.1 | 1.028/26.1 | 1.028/26.1 | 1.028/26.1 | 1.028/26.1 | 1.028/26.1 | 1.028/26.1 |
| Length (in./mm, max) | 5.787/147 | 5.787/147 | 5.787/147 | 5.787/147 | 5.787/147 | 5.787/147 | 5.787/147 |
| Width (in./mm, ± .01 in.) | 4/101.6 | 4/101.6 | 4/101.6 | 4/101.6 | 4/101.6 | 4/101.6 | 4/101.6 |
| Weight (lb/kg, ± 10%) | 1.43/0.65 | 1.43/0.65 | 1.65/0.75 | 1.65/0.75 | 1.50/0.68 | 1.40/0.64 | 1.40/0.64 |

[1] Not all products may be available in all regions of the world.

[2] As used for storage capacity, one megabyte (MB) = one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, and gigabit per second (Gb/s) = one billion bits per second. Effective maximum SATA 6 Gb/s transfer rate calculated according to the Serial ATA specification published by the SATA-IO organization as of the date of this specification sheet. Visit www.sata-io.org for details.

[3] WD hard drive products manufactured and sold worldwide after June 8, 2011, meet or exceed Restriction of Hazardous Substances (RoHS) compliance requirements as mandated by the RoHS Directive 2011/65/EU.

[4] Controlled unload at ambient condition.

[5] See http://support.wd.com/warranty for regional specific warranty details.

[6] No non-recoverable errors during operating tests or after non-operating tests.

[7] Sound power level.

| Specifications | 1TB | 500GB |
|---|---|---|
| Model number[1] | WD10PURX | WD05PURX |
| Formatted capacity[2] | 1TB | 500GB |
| Form factor | 3.5-inch | 3.5-inch |
| Advanced Format (AF) | Yes | Yes |
| RoHS compliant[3] | Yes | Yes |
| **Performance** | | |
| Interface transfer rate (max)[2] Buffer to host Host to/from drive (sustained) | 6 Gb/s 110 MB/s | 6 Gb/s 110 MB/s |
| Cache (MB) [2] | 64 | 64 |
| Performance Class | 5400 RPM Class | 5400 RPM Class |
| **Reliability/Data Integrity** | | |
| Load/unload cycles[4] | 300,000 | 300,000 |
| Non-recoverable read errors per bits read | <1 in $10^{14}$ | <1 in $10^{14}$ |
| Limited warranty (years)[5] | 3 | 3 |
| **Power Management** | | |
| Average power requirements (W) Read/Write Idle Standby and Sleep | 3.3 2.9 0.4 | 3.3 2.9 0.4 |
| **Environmental Specifications**[6] | | |
| Temperature (°C, on the base casting) Operating Non-operating | 0 to 65 -40 to 70 | 0 to 65 -40 to 70 |
| Shock (Gs) Operating (2 ms, read/write) Operating (2 ms, read) Non-operating (2 ms) | 30 65 350 | 30 65 350 |
| Acoustics (dBA)[7] Idle Seek (average) | 21 22 | 21 22 |
| **Physical Dimensions** | | |
| Height (in./mm, max) | 1.028/26.1 | 1.028/26.1 |
| Length (in./mm, max) | 5.787/147 | 5.787/147 |
| Width (in./mm, ± .01 in.) | 4/101.6 | 4/101.6 |
| Weight (lb/kg, ± 10%) | 0.99/0.45 | 0.99/0.45 |

[1] Not all products may be available in all regions of the world.

[2] As used for storage capacity, one megabyte (MB) = one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, and gigabit per second (Gb/s) = one billion bits per second. Effective maximum SATA 6 Gb/s transfer rate calculated according to the Serial ATA specification published by the SATA-IO organization as of the date of this specification sheet. Visit www.sata-io.org for details.

[3] WD hard drive products manufactured and sold worldwide after June 8, 2011, meet or exceed Restriction of Hazardous Substances (RoHS) compliance requirements as mandated by the RoHS Directive 2011/65/EU.

[4] Controlled unload at ambient condition.

[5] See http://support.wd.com/warranty for regional specific warranty details.

[6] No non-recoverable errors during operating tests or after non-operating tests.

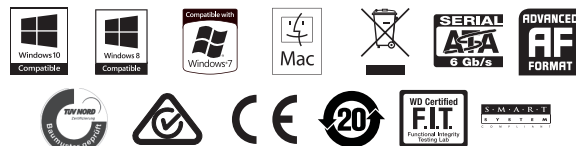[7] Sound power level.

Western Digital
3355 Michelson Drive, Suite 100
Irvine, California 92612
U.S.A.

**For service and literature:**

http://support.wd.com
www.wd.com

| | |
|---|---|
| 800.ASK.4WDC (800.275.4932) | North America |
| 800.832.4778 | Spanish |
| +86.21.2603.7560 | Asia Pacific |
| 00800.27549338 | Europe (toll free where available) |
| +31.880062100 | Europe/Middle East/ Africa |

**CAN ICES-3 (B) / NMB-3 (B)**

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