

2MP 3x Starlight Mini PTZ

2MP 3x WDR PTZ Network Camera



- 1/2.8-in. 2 MP STARVIS™ CMOS Sensor
- 3x Optical Zoom
- Starlight Technology for Low Light Sensitivity
- Triple-stream Encoding
- Smart H.265+ and H.264 Dual Codecs
- 1080p at 30 fps Maximum Resolution
- True Wide Dynamic Range (120 dB)
- Built-in Microphone
- Intelligent Video System (IVS)
- IP66 Ingress Protection and IK08 Vandal Resistance
- Five-year Warranty*



System Overview

The 2 MP IR Mini PTZ Dome camera features a 1/2.8-in. STARVIS™ CMOS imager with a 3x optical zoom lens. The camera uses the Smart H.265+ video compression standard to improve encoding efficiency while preserving high-quality video. The PTZ camera uses a day/night mechanical IR cut filter and True WDR to deliver crystal clear images in challenging lighting conditions.

Functions

Starlight Technology

For challenging low-light applications, Dahua's Starlight Ultra-low Light Technology offers best-in-class light sensitivity, capturing details in low light down to 0.005 lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

True Wide Dynamic Range

The camera achieves vivid images, even in the most intense contrast lighting conditions, using industry-leading wide dynamic range (WDR) technology. For applications with both bright and low lighting conditions that change quickly, True WDR (120 dB) optimizes both the bright and dark areas of a scene at the same time to provide usable video.

High Efficiency Video Coding (H.265)

The H.265 (ITU-T VCEG) video compression standard offers double the data compression ratio at the same level of video quality, or substantially improved video quality at the same bit rate, as compared to older video compression technologies. H.265 offers such impressive compression by expanding the pattern comparison and difference-coding, improving motion vector prediction and motion region merging, and incorporating an additional filtering step called sample-adaptive offset filtering.

Intelligent Video System (IVS)

IVS is a built-in video analytic algorithm that delivers intelligent functions to monitor a scene for Tripwire violations, intrusion detection, and abandoned or missing objects. A camera with IVS quickly and accurately responds to monitoring events in a specific area. In addition to scene analytics, the camera offers tamper detection by recognizing a dramatic scene change and generating a warning message to inspect the camera.

Smart H.265+

Smart H.265+ is the optimized implementation of the H.265 codec that uses a scene-adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality video without straining the network. Smart H.265+ technology reduces bit rate and storage requirements by up to 70% when compared to standard H.265 video compression.

Cybersecurity

Dahua network cameras are equipped with a series of key cybersecurity technologies including: security authentication and authorization, access control, trusted protection, encrypted transmission, and encrypted storage. These technologies improve the camera's ability to prevent malicious access and to protect data.

Environmental

Dahua cameras operate in extreme temperature environments, rated for use in temperatures from -30°C to $+60^{\circ}\text{C}$ (-22°F to $+140^{\circ}\text{F}$) with 95% humidity. Subjected to rigorous dust and water immersion tests and certified to the IP66 Ingress Protection rating makes it suitable for demanding outdoor applications.

Protection

The camera carries a 6KV lightning rating that provides effective protection for both the camera and its structure against lightning.

Technical Specification

Camera

| | |
|--------------------------|---|
| Image Sensor | 1/2.8-in. STARVIS™ CMOS |
| Effective Pixels | 1920(H) x 1080(V), 2 MP |
| RAM/ROM | 512 MB/128 MB |
| Scanning System | Progressive |
| Electronic Shutter Speed | 1/1 s to 1/30,000 s |
| Minimum Illumination | Color: 0.005 lux at F1.8 B/W: 0.0005 lux at F1.8 |
| S/N Ratio | More than 50 dB |

Lens

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|----------------------|---|
| Focal Length | 2.7 mm to 8.1 mm |
| Max. Aperture | F1.8 |
| Angle of View | Horizontal: 105.6° to 35.2° |
| Optical Zoom | 3x |
| Focus Control | Auto, Manual |
| Close Focus Distance | 100 mm to 1000 mm (3.94 in. to 39.37 in.) |

DORI Distance¹

| Detect | Observe | Recognize | Identify |
|----------------------|---------------------|--------------------|-------------------|
| 100.40 m (329.40 ft) | 40.20 m (131.90 ft) | 20.10 m (65.90 ft) | 10.0 m (32.80 ft) |

PTZ

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|----------------------|---|
| Pan/Tilt Range | Pan: 0° to 355° Tilt: 5° to 90° |
| Manual Control Speed | Pan: 0.1° to 70° /s; Tilt: 0.1° to 30° /s |
| Preset Speed | Pan: 80° /s; Tilt: 40° /s |
| Presets | 300 |
| PTZ Mode | 8 Tours |
| Speed Setup | Human-oriented focal Length/speed adaptation |
| Power up Action | Auto restore to previous PTZ and lens status after power failure |
| Idle Motion | Activate Preset/Tour if there is no command in the specified period |
| Protocol | DH-SD |

Video

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|------------------------|---|
| Compression | Smart H.265+, H.265, Smart H.264+, H.264 |
| Streaming Capability | Three (3) Streams |
| Resolution | 1080p (1920 x 1080), 720p (1280 x 720), D1 (704 x 480), CIF (352 x 240) |
| Frame Rate | Main Stream: 1080p or 720p at 30 fps Sub Stream 1: D1 or CIF at 30 fps Sub Stream 2: 720p, D1, or CIF at 30 fps |
| Bit Rate Control | CBR, VBR |
| Bit Rate | H.265/H.264: 448 K to 8192 Kbps |
| Day/Night | Auto (ICR), Color, B/W |
| Backlight Compensation | BLC, HLC, True WDR (120 dB) |
| White Balance | Auto, ATW, Indoor, Outdoor, Manual |
| Gain Control | Auto, Manual |
| Noise Reduction | Ultra DNR (2D/3D) |
| Advanced Features | Motion Detection, Region of Interest, Defog, |
| Digital Zoom | 16x |
| Flip | 180° |
| Privacy Masking | Up to 24 areas |

Audio

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|-------------|------------------------|
| Compression | G.711a, G.711mu, G.726 |
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Network

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|-------------------------|--|
| Ethernet | RJ45 (10/100 Base-T) |
| Protocol | IPv4/IPv6, HTTP, HTTPS, SSL, TCP/IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPoE, DDNS, FTP, IP Filter, QoS, Bonjour, 802.1x |
| Interoperability | ONVIF, PSIA, CGI |
| Streaming Method | Unicast, Multicast |
| Max. User Access | 20 Users |
| Edge Storage | Network Attached Storage (NAS), Local PC for Instant Recording, Micro SD Card Slot, maximum 256 GB |
| Web Viewer | IE, Chrome, Firefox, Safari |
| Management Software | SmartPSS, DSS |
| Mobile Operating System | iOS, Android |
| Cybersecurity | Video Encryption, Firmware Encryption, Configuration Encryption, Digest, WSSE, Account Lockout, Security Logs, IP/MAC Filtering, Generating and Importing X.509 Certification, Syslog, HTTPS, 802.1x, Trusted Boot, Trusted Execution, Trusted Upgrade |

Certifications

| | |
|-------------------------------------|--|
| Safety | UL60950-1+CAN/CSA C22.2, No.60950-1 |
| Electromagnetic Compatibility (EMC) | EN55032, EN55024, EN50130-4 FCC Part 15 Subpart B ANSI C63.4- 2014 |

1. The DORI distance is a measure of the general proximity for a specific classification to help pinpoint the right camera for your needs. The DORI distance is calculated based on sensor specifications and lab test results according to EN 62676-4, the standard that defines the criteria for the Detect, Observe, Recognize and Identify classifications.

Interface

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| Audio | Input: One (1) Channel plus a Built-in Microphone Output: One (1) Channel |
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Electrical

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|-------------------|-------------------------------------|
| Power Supply | 12 VDC, 1.5 A or PoE (IEEE 802.3af) |
| Power Consumption | 6 W |

Environmental

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|-----------------------|--|
| Operating Temperature | -30° C to 60° C (-22° F to +140° F), Less than 95% RH |
| Ingress Protection | IP66 |
| Vandal Resistance | IK08 |

Construction

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|--------------|--|
| Casing | Metal |
| Dimensions | ∅128.0 mm x 63.0 mm (∅5.04 in. x 2.48 in.) |
| Net Weight | 0.49 kg (1.08 lb) |
| Gross Weight | 0.70 kg (1.54 lb) |

Intelligence

IVS triggers an alarm and takes a defined action for the following events:

| | |
|--------------------------|---|
| Standard Features | <ul style="list-style-type: none"> Tampering with the camera. Error writing to an onboard Micro SD card. Error sending or receiving data over the network. Unauthorized access to the camera. |
| Premium Features | |
| Motion | An object moves through any part of the scene. |
| Tripwire | A target crosses a user-defined line. |
| Intrusion | A target enters or exits a defined perimeter. |
| Scene Change | A person or object moves the camera to change the scene or covers the camera to obscure the scene. |
| Abandoned/Missing Object | A target leaves an object in designated area, or a target removes an object from the same designated area. |

Ordering Information

| Type | Part Number | Description |
|-----------------------|---------------|--|
| 2 MP PTZ Camera | 12203TNI | 2 MP 3x Starlight Mini PTZ Network Camera, True WDR, IVS |
| Accessories, optional | PFA107 | Mount Adapter |
| | PFB220C | Ceiling Mount (requires PFA107 Mount Adapter) |
| | DH-PFM320D-US | 12 VDC, 2 A Power Adapter |
| | PFB305W | Wall Mount (requires PFA107 Mount Adapter) |

Accessories

Optional:



PFA107 Mount Adapter



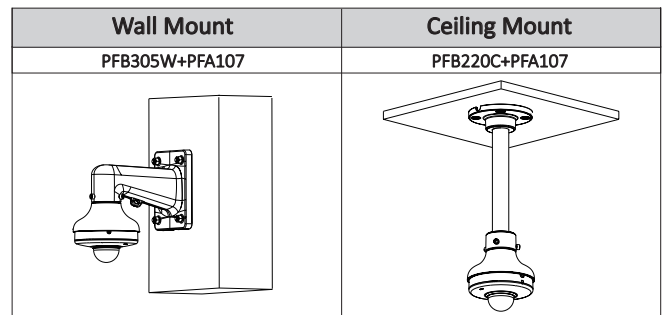
PFB305W Wall Mount



PFB220C Ceiling Mount



DH-PFM320D-US Power Adapter



Dimensions (mm/in.)

