

2 MP PTZ Network Camera

40x Starlight IR PTZ Network Camera



- 1/2.8-in. 2 MP STARVIS™ CMOS Sensor
- Powerful 40x Optical Zoom
- Starlight Technology for Ultra-low Light Sensitivity
- Triple-stream Encoding
- H.265 and H.264 Dual Codec
- 1080p at 60 fps Maximum Resolution
- Simultaneous SD Analog Video Output
- Ultra Wide Dynamic Range (140 dB)
- Maximum IR Distance up to 200 m (656 ft)
- Intelligent Video System (IVS) Analytics with Auto-tracking
- IP67 Ingress Protection and IK10 Vandal Resistance
- Designed for Extreme Temperature Environments
- Five-year Warranty*



System Overview

The 2 MP IR PTZ Dome camera features a 1/2.8-in. CMOS imager with a 40x optical zoom lens, and provides an all in one solution for capturing long-distance video surveillance for outdoor applications. The camera uses the Smart H.265+ video compression standard to improve encoding efficiency while preserving high-quality video. The PTZ camera a day/night mechanical IR cut filter and ultra-wide dynamic range 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 color 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.

Ultra-Wide Dynamic Range

For applications with both bright and low lighting conditions that change quickly, Ultra WDR (140 dB) optimizes both the bright and dark areas of a scene at the same time to provide usable video.

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 detects and captures a snapshot of human face in a defined area within a scene, and offers tamper detection by recognizing a dramatic scene change and generating a warning message to inspect the camera.

Auto-tracking

This feature controls the pan/tilt/zoom actions of the camera to automatically track an object in motion and to keep it in the scene. The tracking action can be triggered manually or automatically by defined rules. Once a rule is triggered, the camera can zoom in and track the defined target automatically.

PFA Technology

The camera uses innovative PFA Technology to improve zoom accuracy and to decrease focus time. A series of advanced algorithms more accurately judge the direction and the distance to a subject, improving picture clarity throughout the zooming process.

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.

Interoperability

The camera conforms to the ONVIF (Open Network Video Interface Forum) and to the PSIA (Physical Security Interoperability Alliance) specifications, ensuring interoperability between network video products regardless of manufacturer.

Environmental

With a built-in heater and a temperature range of -40°C to $+70^{\circ}\text{C}$ (-40°F to 158°F), the camera is designed for extreme temperature environments. Subjected and certified to rigorous dust and water immersion tests, the IP67 rating makes it suitable for demanding outdoor applications.



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 1/30,00 s |
| Minimum Illumination | Color: 0.005 lux at F1.2 0 lux at F1.2 (IR on) |
| S/N Ratio | More than 56 dB |
| IR Distance | Distance up to 200 m (656.17 ft) |
| IR On/Off Control | Auto, Manual |
| IR LEDs | Ten (10) |

Lens

| | |
|----------------------|---------------------------|
| Focal Length | 4.5 mm to 180 mm |
| Max. Aperture | F1.2 to F3.5 |
| Angle of View | Horizontal: 67.5° to 1.7° |
| Optical Zoom | 40x |
| Focus Control | Auto, Manual |
| Close Focus Distance | 100 mm to 1000 mm |

DORI Distance¹

| Detect (8 ppf) | Observe (19 ppf) | Recognize (38 ppf) | Identify (76 ppf) |
|------------------|------------------|--------------------|-------------------|
| 2469 m (8100 ft) | 988 m (3241 ft) | 494 m (1621 ft) | 247 m (810 ft) |

PTZ

| | |
|----------------------|--|
| Pan/Tilt Range | Pan: 0° to 360° endless Tilt: -20° to 90°, Auto Flip 180° |
| Manual Control Speed | Pan: 0.1° to 200° /s Tilt: 0.1° to 120° /s |
| Preset Speed | Pan: 240° /s Tilt: 200° /s |
| Presets | 300 |
| PTZ Mode | 5 Pattern, 8 Tour, Auto Pan, Auto Scan |
| 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, Scan, Tour, or Pattern if there is no command in the specified period |
| Protocol | DH-SD, Pelco-P/D (auto recognition) |

Video

| | | |
|----------------------|---|--|
| Compression | Smart H.265+, H.265, Smart H.264+, H.264, MJPEG | |
| 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 at 60 fps, or 1.3 MP or 720p at 30 fps |
| | Sub Stream 1 | D1 or CIF at 30 fps |
| | Sub Stream 2 | 1080p, 720p, or D1 at 30 fps |

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.

| | |
|------------------------|---|
| Bit Rate Control | CBR, VBR |
| Bit Rate | H.265/H.264: 256 K to 8192 Kbps MJPEG: 4096 K to 20480 Kbps |
| Day/Night | Auto (ICR), Color, B/W |
| Backlight Compensation | BLC, HLC, Ultra WDR (140 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, Electronic Image Stabilization (EIS), Defog |
| Digital Zoom | 16x |
| Flip | 180° |
| Privacy Masking | Up to 24 areas |

Audio

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|-------------|---|
| Compression | G.711a, G.711Mu, PCM, AAC, G.722.1, G.729, MPEG2-L2 |
|-------------|---|

Network

| | |
|-------------------------|--|
| Ethernet | RJ-45 (100/1000 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 |
| Maximum User Access | 20 users |
| Edge Storage | NAS (Network Attached Storage) Local PC for Instant Recording Micro SD Card, maximum 128 GB |
| Web Viewer | IE 10, Firefox, Safari |
| Management Software | Smart PSS, DSS |
| Mobile Operating System | IOS, Android |

Certifications

| | |
|-------------------------------------|---|
| CE | EN 55032 EN 55024 EN 50130-4 |
| UL | UL: UL60950-1 + CAN/CSA C22.2, No.60950-1 |
| Electromagnetic Compatibility (EMC) | FCC Part 15 Subpart B ANSI C63.4-2014 |

Interface

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|-----------------|---|
| Video Interface | One (1) BNC (1.0 Vp-p, 75 Ω) |
| Audio Interface | Input: One (1) Channel Output: One (1) Channel |
| RS485 | One (1) |
| Alarm | Input: Seven (7) Channels Output: Two (2) Channels |

Electrical

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|-------------------|-----------------------------|
| Power Supply | 24 VAC, 3 A (± 25%), Hi-PoE |
| Power Consumption | 24 W, 38 W with IR on |

Environmental

| | |
|-----------------------------|---|
| Operating Conditions | -40° C to 70° C (-40° F to +158° F), with built-in heater Less than 90% RH |
| Ingress Protection | IP67 |
| Vandal Resistance | IK10 |
| Lightning Protection Rating | 8 kV |

Construction

| | |
|--------------|---|
| Casing | Metal |
| Dimensions | ∅239.80 mm x 382.0 mm (∅9.44 in. x 15.04 in.) |
| Net Weight | 6.75 kg (14.88 lb) |
| Gross Weight | 10.10 kg (22.27 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. |
| Advanced Features | |
| Facial Detection | Detects and captures a snapshot of a human face in a defined area within a scene. |
| Heat Map | Generates a visual representation of data. |
| Auto-tracking | Controls the pan/tilt/zoom actions of the camera to automatically track an object in motion and to keep it in the scene. |

Ordering Information

| Type | Part Number | Description |
|-----------------------|-------------|---|
| 2 MP PTZ Camera | 6AE240VNI | 2 MP 40x Starlight PTZ Network Camera, Built-in Heater WDR, IVS |
| Accessories, included | PFA111 | Mount Adapter |
| | PFB303W | Wall Mount |
| | AC24V/3A | Power Adapter |
| Accessories, optional | PFA120 | Junction Box |
| | PFA140 | Power Box |
| | PFA150 | Pole Mount |
| | PFA151 | Corner Mount |
| | PFB300C | Ceiling Mount |
| | PFB303S | Parapet mount |

Accessories

Included:



PFB303W
Wall Mount



PFA111
Mount Adapter



AC24V/3A
Power Adapter

Optional:



PFA140
Power Box



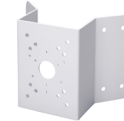
PFB300C
Ceiling Mount



PFA120
Junction Box



PFA150
Pole Mount



PFA151
Corner Mount



PFB303S
Parapet Mount

| Ceiling Mount | Junction Mount |
|---------------------------|---------------------------|
| PFA111 + PFB300C | PFA111 + PFB303W + PFA120 |
| | |
| Power Box Mount | Pole Mount |
| PFA111 + PFB303W + PFA140 | PFA111 + PFB303W + PFA150 |
| | |
| Corner Mount | Parapet Mount |
| PFA111 + PFB303W + PFA151 | PFA111 + PFB303S |
| | |

Dimensions (mm/in.)

