

2MP Motorized Network Dome Camera

2MP Starlight IR Network Dome Camera



System Overview

The Dahua 2 MP Ultra Series cameras offer high-resolution video and cutting-edge technology in a compact and accessible package. The cameras feature Smart H.265+ video compression, reducing bandwidth and storage requirements without sacrificing video quality. For challenging low-light applications, Dahua's Starlight Ultra-low Light Technology offers best-in-class light sensitivity, capturing color details in low-light environments. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

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 0.002 lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

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.

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.

- 1/1.9-in. 2MP STARVIS™ CMOS Sensor
- Triple-stream Encoding
- Smart H.265+ and H.264 Dual Codec
- Starlight Technology for Ultra-low Light Sensitivity
- 1080p at 60 fps Maximum Resolution
- 4.1 mm to 16.4 mm Motorized Optical Zoom Lens
- True Wide Dynamic Range (120 dB) and True Day/Night (ICR)
- Maximum IR LED Distance 50 m (164 ft)
- IP67 Ingress Protection and IK10 Vandal Resistance
- Intelligent Video System
- Five-year Warranty*



Intelligent Business Analysis

The built-in IVS features people counting and heat map functionality, advanced features that add business intelligence to your security system. Intelligent Analysis tracks and stores daily, weekly, monthly, and yearly people flow through a defined scene and produces a configurable report. The system uses this data to produce a Heat Map, a two-dimensional representation of data that provides an immediate visual summary of activity. People Counting and Heat Maps can identify the most active areas of a retail space providing valuable data analysis for commercial applications.

Smart Scene Adaptive (SSA) Technology

Smart Scene Adaptive (SSA) is an intelligent image technology, developed by Dahua that automatically evaluates and compensates for changes in the luminance of a scene. SSA automatically regulates the exposure parameters to improve image quality in a backlit scene, especially in scenes with traffic lights or headlights.

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.

Environmental

With a built-in heater and a temperature range of -40 °C to +60 °C (-40 °F to +140 °F), the camera is designed for extreme temperature environments. The camera complies with an IK10 vandal resistance rating making it capable of withstanding the equivalent of 5 kg (11.02 lbs) of force dropped from a height of 40 cm (15.75 in.). 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 | 1/1.9-in. 2 MP STARVIS™ CMOS |
| Effective Pixels | 1920(H) x 1080(V), 2 MP |
| RAM/ROM | 1024 MB / 128 MB |
| Scanning System | Progressive |
| Electronic Shutter Speed | Auto, Manual; 1/3 s to 1/100,000 s |
| Minimum Illumination | Color: 0.002 lux at F1.53 (1/3 s, 30 IRE) Color: 0.01 lux at F1.53 (1/30 s, 30 IRE) 0 lux at F1.53 (with IR on) |
| S/N Ratio | More than 50 dB |
| IR Distance | Distance up to 50.0 m (164.04 ft) |
| IR On/Off Control | Auto, Manual |
| IR LEDs | Four (4) |

Lens

| | | | | | |
|----------------------------|--|----------------|------------------|--------------------|-------------------|
| Lens Type | Motorized, Auto Iris (HALL) | | | | |
| Mount Type | Board-in | | | | |
| Focal Length | 4.1 mm to 16.4 mm | | | | |
| Max. Aperture | F1.53 | | | | |
| Angle of View | Horizontal: 92° to 32° Vertical: 53° to 18° | | | | |
| Optical Zoom | 4x | | | | |
| Focus Control | Motorized Auto-focus | | | | |
| Close Focus Distance | 1.0 m (3.28 ft) | | | | |
| DORI Distance ¹ | Lens | Detect (8 ppf) | Observe (19 ppf) | Recognize (38 ppf) | Identify (76 ppf) |
| | Wide | 57 m (187 ft) | 23 m (75 ft) | 11 m (36 ft) | 6 m (20 ft) |
| | Telephoto | 137 m (449 ft) | 55 m (180 ft) | 27 m (89 ft) | 14 m (49 ft) |

Pan/Tilt/Rotation

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|-------|--|
| Range | Pan: 0° to 355°; Tilt: 0° to 65°; Rotation: 0° to 355° |
|-------|--|

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), SXGA (1280 x 1024), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), VGA (640 x 480), CIF (352 x 240) |
| Frame Rate | Main Stream: 1080p at 60 fps |
| | Sub Stream: D1 at 60 fps |
| | Sub Stream 2: 1080p at 60 fps |
| Bit Rate Control | CBR/VBR |
| Bit Rate | H.264: 24 Kbps to 10240 Kbps H.265: 14 Kbps to 6144 Kbps |

| | |
|--------------------|---|
| Day/Night | Auto (ICR), Color, B/W |
| BLC Mode | BLC, HLC, True WDR (120 dB), SSA |
| White Balance | Auto, Natural, Street Lamp, Outdoor, Manual |
| Gain Control | Auto, Manual |
| Noise Reduction | 3D DNR |
| Motion Detection | Off, On (4 Zone, Rectangle) |
| Region of Interest | Off, On (4 Zone) |
| Advanced Features | Electronic Image Stabilization (EIS), Smart IR, Defog |
| Digital Zoom | 16x |
| Flip | 0°, 90°, 180°, 270° |
| Mirror | Off, On |
| Privacy Masking | Off, On (4 Area, Rectangle) |

Audio

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|-------------|-----------------------------|
| Compression | G.711a, G.711Mu, AAC, G.726 |
|-------------|-----------------------------|

Network

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|-------------------------|--|
| 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 |
| Max. User Access | 10 Users / 20 Users |
| Edge Storage | NAS (Network Attached Storage) Local PC for Instant Recording Micro SD Card, maximum 128 GB |
| Web Viewer | IE, Chrome, Firefox, Safari |
| Management Software | Smart PSS, DSS |
| Mobile Operating System | iOS, Android |

Certifications

| | |
|-------------------------------------|-----------------------|
| Safety | UL60950-1 |
| Electromagnetic Compatibility (EMC) | FCC Part 15 Subpart B |

Interface

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|-------|---|
| Video | One (1) CVBS Output Port (for installation adjustment only) |
| Audio | Input: One (1) Channel Output: One (1) Channel |
| Alarm | Input: Two (2) Channels (5 mA, 5 VDC) Output: One (1) Channel (1 A, 30 VDC; 0.5 A, 50 VAC) |

Electrical

| | |
|-------------------|---|
| Power Supply | 12 VDC, 24 VAC or PoE+ (802.3at, Class 4) |
| Power Consumption | <18 W |

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.

Environmental

| | |
|-----------------------|---|
| Operating Temperature | -40° C to +60° C (-40° F to +140° F), Less than 95% RH |
| Storage Temperature | -40° C to +60° C (-40° F to +140° F), Less than 95% RH |
| Ingress Protection | IP67 |
| Vandal Resistance | IK10 |

Construction

| | |
|--------------|--|
| Casing | Metal |
| Dimensions | ø159.10 mm x 117.90 mm (ø6.26 in. x 4.64 in.) |
| Net Weight | 0.96 kg (2.12 lb) |
| Gross Weight | 1.75 kg (3.56 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. |
| People Counting | Measure the number of customers, visitors or passengers in a surveillance scene. |
| Heat Map | Generates a visual representation of activity. |

Ordering Information

| Type | Part Number | Description |
|-----------------------|-------------|---|
| 2 MP Camera | N28BL7Z | 2 MP Starlight IR Dome Network Camera, Built-in Heater, IVS |
| Accessories, included | PFA138 | Junction Box |
| Accessories, optional | PFA101 | Mount Adapter |
| | PFA152-E | Pole Mount |
| | PFB201C | In-ceiling Mount |
| | PFB300C | Ceiling Mount |
| | PFB302S | Wall Mount |
| | PFM320 | 12 VDC, 2 A Power Adapter |

Accessories

Included:



Optional:



| In-ceiling Mount | Junction Mount | Pole Mount |
|------------------|------------------|-----------------------------|
| PFB201C | PFA138 | PFA101 + PFB302S + PFA152-E |
| | | |
| Ceiling Mount | Wall Mount | |
| PFA101 + PFB300C | PFA101 + PFB302S | |
| | | |

Dimensions (mm/in.)

