

# 2 MP Full Color Bullet Network Camera

## H.265 True WDR Bullet Network Camera



- 1/2.8-in. 2 MP Progressive-scan STARVIS™ CMOS Sensor
- Smart H.265+ and Smart H.264+ Dual Codec
- Triple-stream encoding
- 1080p (1920 x 1080) at 60 fps Maximum Resolution
- 3.6 mm Fixed Lens
- Smart Detection Supported
- True Wide Dynamic Range (120 dB)
- Intelligent Video System
- IP67 Ingress Protection and IK10 Vandal Resistance
- Enhanced Power and Data Transmission Distances (ePoE)
- Five-year Warranty\*



### System Overview

The Dahua Full Color series cameras offers 24-hour color surveillance in applications with at least 1 lux of ambient light. The Full Color series utilizes back-illuminated pixel technology, a large aperture lens, and a STARVIS™ sensor to deliver color details without the need for external IR or white-light illumination. These cameras are ideal for monitoring casino floors, parking lots, building exteriors and interiors, educational facilities, and urban streets. The IP67 and the IK10 ratings ensure continuous operation in the harshest environments.

### Functions

#### Full Color Technology

The Dahua Full Color camera series incorporates a high-performance STARVIS™ sensor and a large aperture lens to produce crisp, clear color images in low light environments. This light-sensitive technology allows the camera to capture more available light and reproduce color images with superior detail and contrast. The Dahua Full Color cameras are ideal for applications with at least 1 lux of ambient or artificial light, including parking lots, schools, urban streets and museums.

#### 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.

#### 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, offers tamper detection by recognizing a dramatic scene change and generating a warning message to inspect the camera.

#### Enhanced Power over Ethernet (ePoE) Technology

Dahua's innovative ePoE technology offers a plug-and-play solution to transmit power and data over long distances via Ethernet or coaxial cables, reducing installation time and saving money. ePoE technology is a viable, cost-effective solution for extending transmission distances and for converting existing, coax-based analog systems into IP systems. For video security and surveillance installers, ePoE technology saves time and money by reducing overall cabling requirements, allowing for existing coax cable to be used, and minimizing the number of peripheral devices needed. For new installations, ePoE offers the ability to design long-distance applications without the need for additional repeaters.

Enhanced PoE encompasses pure IP systems where a single CAT5E cable can carry signals up to 800 m (2624 ft), and IP/Analog hybrid systems where the technology leverages existing analog infrastructure to transmit power and data up to 1000 m (3281 ft) over RG59 coaxial cable. Enhanced PoE is compatible with three connection modes operating over the same network simultaneously: traditional IP networks, long-distance ePoE networks and coaxial networks. ePoE technology seamlessly integrates the latest high-definition IP cameras with a coaxial infrastructure using the Ethernet over Coaxial (EoC) protocol to convert between analog and IP power and data transmissions

#### 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.

#### Protection

The camera allows for  $\pm 30\%$  input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 4KV lightning rating provides effective protection for both the camera and its structure against lightning. Subjected and certified to rigorous dust and immersion tests (IP67) and impact tests (IK10), the camera is the choice for installation in even the most unforgiving environments.



### Technical Specification

#### Camera

|                          |   |
|--------------------------|---|
| Image Sensor             | 1/2.8-in. 2 MP Progressive-scan STARVIS™ CMOS   |
| Effective Pixels         | 1920(H) x 1080(V)   |
| RAM/ROM                  | 256 MB/32 MB  |
| Scanning System          | Progressive   |
| Electronic Shutter Speed | Auto, Manual; 1/3 s to 1/100000 s   |
| Minimum Illumination     | Color: 0.001 lux at F1.0 (1/3 s, 30 IRE)<br>Color: 0.006 lux at F1.0 (1/30 s, 30 IRE) |
| S/N Ratio                | More than 50 dB   |

#### Lens

|                            |                                  |                |                  |                    |                   |
|----------------------------|----------------------------------|----------------|------------------|--------------------|-------------------|
| Lens Type                  | Fixed                            |                |                  |                    |                   |
| Mount Type                 | Board-in                         |                |                  |                    |                   |
| Focal Length               | 3.6 mm                           |                |                  |                    |                   |
| Maximum Aperture           | F1.0                             |                |                  |                    |                   |
| Angle of View              | Horizontal: 87°<br>Vertical: 47° |                |                  |                    |                   |
| Focus Control              | Fixed                            |                |                  |                    |                   |
| Close Focus Distance       | 1.60 m (5.30 ft)                 |                |                  |                    |                   |
| DORI <sup>1</sup> Distance | Lens                             | Detect (8 ppf) | Observe (19 ppf) | Recognize (38 ppf) | Identify (76 ppf) |
|                            | 3.6 mm                           | 53 m (174 ft)  | 21 m (69 ft)     | 11 m (36 ft)       | 5 m (16 ft)       |

#### Installation Angle

|       |  |
|-------|--|
| Range | Pan: 0° to 360°<br>Tilt: 0° to 80°<br>Rotation: 0° to 360° |
|-------|--|

#### Video

|                      |   |
|----------------------|---|
| Compression          | H.265, H.264, H.264B, H.264H, MJPEG (Sub Stream)  |
| Smart Codec          | Smart H.265+, Smart H.264+  |
| Streaming Capability | Three (3) Streams   |
| Resolution           | 1080p (1920 x 1080), 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: 1080 at 60 fps   |
|                      | Sub Stream 1: D1 at 60 fps  |
|                      | Sub Stream 2: 1080p at 30 fps   |
| Bit Rate Control     | CBR/VBR   |
| Bit Rate             | H.264: 24 K to 10240 Kbps<br>H.265: 14 K to 9984 Kbps   |

|                    |   |
|--------------------|---|
| Day/Night          | Color (default), Auto (Electronic), B/W     |
| BLC Mode           | BLC, HLC, True WDR (120 dB)                 |
| White Balance      | Auto, Natural, Street Lamp, Outdoor, Manual |
| Gain Control       | Auto, Manual                                |
| Noise Reduction    | 3D DNR                                      |
| Motion Detection   | Off, On (4 Zones, Rectangular)              |
| Region of Interest | Off, On (4 Zones)                           |
| Digital Zoom       | 16x   |
| Flip               | 0°, 90°, 180°, 270°                         |
| Mirror             | Off, On                                     |
| Privacy Masking    | Off, On (4 Areas, Rectangular)              |

#### Audio

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

#### Network

|                         |   |
|-------------------------|---|
| Ethernet                | RJ-45 (10/100 Base-T)   |
| Protocol                | HTTP, HTTPS, TCP, ARP, RTSP, RTP, RTCP, UDP, PPPOE, IEEE802.1X, SMTP, SNMP, FTP, DHCP, DNS, DDNS, PPPoE, IPV4/V6, QoS, UPnP, NTP, Bonjour, IEEE 802.1, Multicast, ICMP, IGMP, TLS, SSH, NFS |
| Interoperability        | ONVIF Profile S&G, API  |
| Streaming Method        | Unicast, Multicast  |
| Maximum User Access     | 10 Users /20 Users  |
| Edge Storage            | Network Attached Storage (NAS)<br>Local PC for Instant Recording<br>Micro SD Card Slot, 128 GB maximum  |
| Web Viewer              | IE, Chrome, Firefox, Safari   |
| Management Software     | Smart PSS, DSS, DMSS  |
| Mobile Operating System | IOS, Android  |

#### Certifications

|                                     |                              |
|-------------------------------------|------------------------------|
| Safety                              | UL 60950                     |
| Electromagnetic Compatibility (EMC) | FCC CFR 47 Part 15 Subpart B |

#### Interface

|       |  |
|-------|--|
| Audio | Input: One (1) Channel<br>Output: One (1) channel                                |
| Alarm | Input: One (1) Channel (5 mA, 5 VDC)<br>Output: One (1) Channel (300 mA, 12 VDC) |

#### Electrical

|                   |  |
|-------------------|--|
| Power Supply      | 12 VDC, 1 A (±30%); PoE (802.3af, Class 0) |
| Power Consumption | < 4 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 | -30° C to +60° C (-22° F to +140° F)<br>Less than 95% RH |
| Storage Temperature   | -30° C to +60° C (-22° F to +140° F)<br>Less than 95% RH |
| Ingress Protection    | IP67   |
| Vandal Resistance     | IK10   |

Construction

|              |  |
|--------------|--|
| Casing       | Metal  |
| Dimensions   | 244.10 mm x 79.0 mm x 75.90 mm<br>(9.61 in. x 3.11 in. x 2.99 in.) |
| Net Weight   | 0.82 kg (1.80 lb)  |
| Gross Weight | 1.08 kg (2.38 lb)  |

Intelligence

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

|                          |   |
|--------------------------|---|
| Standard Features        | <ul style="list-style-type: none"> <li>• Tampering with the camera.</li> <li>• Error writing to an onboard Micro SD card.</li> <li>• Error sending or receiving data over the network.</li> <li>• Unauthorized access to the camera.</li> </ul> |
| 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.  |

ePoE Transmission Distances

Via CAT5E/CAT6 Ethernet Cable

ePoE supply voltage 48 V  
Maximum DC resistance < 10 Ω/100 m

| Cable Length, m (ft) | Bandwidth, Mbps | PoE Load Capacity, W | Hi-PoE Load Capacity, W | Working Mode |
|----------------------|-----------------|----------------------|-------------------------|--------------|
| 100 (328)            | 100             | 25.5                 | 53                      | IEEE/E100    |
| 200 (656)            | 100             | 25.5                 | 33                      | E100         |
| 300 (984)            | 100             | 19                   | 19                      | E100         |
| 400 (1312)           | 10              | 17                   | 17                      | E10          |
| 500 (1640)           | 10              | 13                   | 13                      | E10          |
| 800 (2625)           | 10              | 7                    | 7                       | E10          |

Via CAT5E/CAT6 Ethernet Cable

ePoE supply voltage 53 V  
Maximum DC resistance < 10 Ω/100 m

| Cable Length, m (ft) | Bandwidth, Mbps | PoE Load Capacity, W | Hi-PoE Load Capacity, W | Working Mode |
|----------------------|-----------------|----------------------|-------------------------|--------------|
| 100 (328)            | 100             | 25.5                 | 53                      | IEEE/E100    |
| 200 (656)            | 100             | 25.5                 | 47                      | E100         |
| 300 (984)            | 100             | 25.5                 | 32                      | E100         |
| 400 (1312)           | 10              | 23                   | 26                      | E10          |
| 500 (1640)           | 10              | 20                   | 20                      | E10          |
| 800 (2625)           | 10              | 13                   | 13                      | E10          |

Via RG-59 Coaxial Cable

ePoE supply voltage 48 V  
Maximum DC resistance < 5 Ω/100 m

| Cable Length, m (ft) | Bandwidth, Mbps | PoE Load Capacity, W | Hi-PoE Load Capacity, W | Working Mode |
|----------------------|-----------------|----------------------|-------------------------|--------------|
| 100 (328)            | 100             | 25.5                 | 50                      | IEEE/E100    |
| 200 (656)            | 100             | 25.5                 | 30                      | E100         |
| 300 (984)            | 100             | 18                   | 18                      | E100         |
| 400 (1312)           | 100             | 15                   | 15                      | E100         |
| 500 (1640)           | 10              | 12                   | 12                      | E10          |
| 800 (2625)           | 10              | 6                    | 6                       | E10          |
| 1000 (3281)          | 10              | 5                    | 5                       | E10          |

Via RG-59 Coaxial Cable

ePoE supply voltage 53 V  
Maximum DC resistance < 5 Ω/100 m

| Cable Length, m (ft) | Bandwidth, Mbps | PoE Load Capacity, W | Hi-PoE Load Capacity, W | Working Mode |
|----------------------|-----------------|----------------------|-------------------------|--------------|
| 100 (328)            | 100             | 25.5                 | 52                      | IEEE/E100    |
| 200 (656)            | 100             | 25.5                 | 48                      | E100         |
| 300 (984)            | 100             | 25.5                 | 30                      | E100         |
| 400 (1312)           | 100             | 20                   | 23                      | E100         |
| 500 (1640)           | 10              | 16                   | 16                      | E10          |
| 800 (2625)           | 10              | 10                   | 10                      | E10          |
| 1000 (3281)          | 10              | 8                    | 8                       | E10          |



| Ordering Information       |                      |   |
|----------------------------|----------------------|---|
| Type                       | Part Number          | Description   |
| 2 MP Camera                | DH-IPC-HFW4239TN-ASE | 2 MP Full Color Bullet Network Camera, 3.6 mm, WDR, IVS |
| Accessories, optional      | PFA135               | Junction Box  |
|                            | PFA152-E             | Pole Mount  |
|                            | DH-PFM321D-US        | 12 VDC, 1 A Power Adapter                               |
| ePoE Accessories, optional | LR1002               | EoC Passive Converter                                   |
|                            | LR1002-1EC           | Single-port EoC Receiver                                |

**Accessories**

Optional:



PFA135  
Junction Box



PFA152-E  
Pole Mount



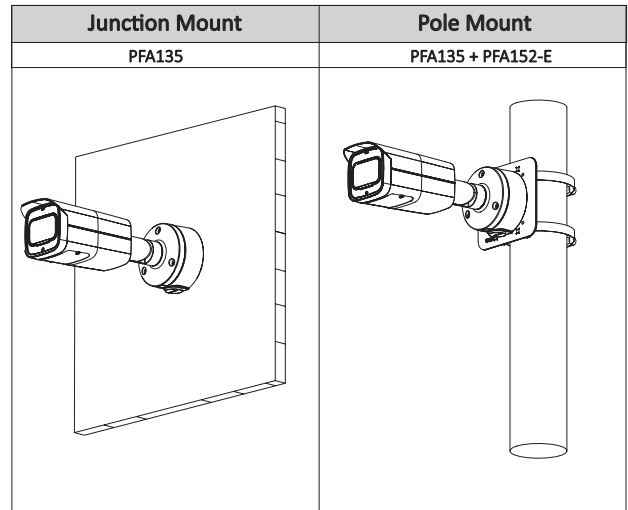
DH-PFM321D-US  
Power Adapter



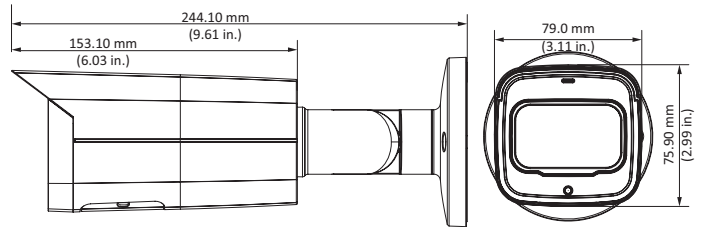
LR1002  
EoC Passive Converter



LR1002-1EC  
Single-port EoC Receiver

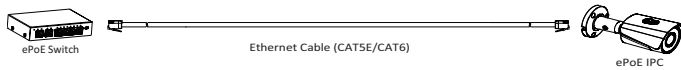


**Dimensions (mm/inch)**



**ePoE Applications**

Pure Ethernet



Passive EoC



EoC with Single-port EoC Receiver

