

# 4MP VU-MORE Color Network Eyeball Camera

Fixed-focal Network Camera with Basic Night Color Technology and Analytics+



**WizSense**

**VU-MORE**

WizSense Series devices combine Dahua's powerful Analytics+ with an intuitive and easy to use interface. WizSense devices offer Smart Motion Detection and Perimeter Protection functions that focus on human and vehicular images and ignore irrelevant images to capture important video while reducing false alarms. WizSense Series devices provide powerful general security for small to medium size businesses at a sensible price.

## System Overview

The Dahua Basic Night Color (VU-MORE Color) camera offers multiple features such as motion detection and Smart Dual Illumination to provide deterrence, overttness, and full-color video. The camera provides increased color viewing at night for a variety of small to mid-size applications at an affordable price.

## Functions

### Perimeter Protection

Dahua Analytics+ includes Tripwire and Intrusion functions that offer custom tripwires based on object type for automation in limited access areas. Perimeter Protection requires less pixels to detect an object to deliver improved accuracy and decreased false alarms due to lights, weather, trees, or animals.

### Smart Motion Detection+

Smart Motion Detection, a component of Dahua's Analytics+ technology, improves alarm accuracy and decreases the number of false alarms. The advanced SMD algorithm analyzes a scene for human or vehicle motion, while filtering out other motion due to trees, leaves, animals, weather, and triggers an alarm when detected.

### 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.

### Wide Dynamic Range (WDR)

The camera achieves vivid images, even in the most intense contrast lighting conditions, using industry-leading wide dynamic range (WDR) technology.

- 1/3-in. 4MP Progressive-scan CMOS Sensor
- 4MP at 20 fps Maximum Resolution, 2.8 mm Fixed Lens
- Analytics+ Function – Perimeter Protection and Smart Motion Detection+
- Dual Stream Encoding
- Smart Dual Illumination — IR and White Light
- Basic Night Color Technology for Color Images in Near-dark Applications
- Smart H.265+ and Smart H.264+ Dual Codecs
- True WDR (120 dB) and Day/Night (ICR)
- Maximum IR LED Length 30 m (98.43 ft) with Smart IR
- Intelligent Video System
- IP67 Ingress Protection
- Five-year Warranty\*



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.

### Smart Dual Illuminators

The camera offers both IR and white-light illuminators and intelligently employs each depending on the situation. Typically, the camera enters the IR mode as ambient light decreases. When the camera detects a person entering the monitoring area, it activates the white-light illuminator to capture full-color details. Once the person leaves the area, the camera switches back to IR illumination.

### Intelligent Video System

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

### Smart IR Technology

With IR illumination, detailed images can be captured in low light or total darkness. The camera's Smart IR technology adjusts the intensity of the camera's infrared LEDs to compensate for the distance of an object. Smart IR technology prevents IR LEDs from whitening out images as they come closer to the camera. The camera's integrated infrared illumination provides high-performance in extreme low-light environments up to 30 m (98.43 ft).

### 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 IP67

Subjected to rigorous dust and water immersion tests the camera suitable for the most demanding outdoor applications. The camera carries an IP67 rating that ensures protection from total dust ingress and protection from water immersion between 15 centimeters and 1 meter in depth.

## Technical Specification

### Camera

|                          |   |
|--------------------------|---|
| Image Sensor             | 1/3-in. CMOS  |
| Effective Pixels         | 2688 (H) × 1520 (V), 4MP  |
| Scanning System          | Progressive   |
| RAM/ROM                  | 128 MB/128 MB   |
| Electronic Shutter Speed | Auto, Manual, 1/3 s to 1/100,000 s  |
| Minimum Illumination     | 0.008 lux at F1.6 (Color, 30 IRE)<br>0.0008 lux at F1.6 (B/W, 30 IRE)<br>0 lux (Illuminator on) |
| S/N Ratio                | > 56 dB   |
| IR Distance              | 30 m (98.43 ft) (IR), 15 m (49.21 ft) (Warm light)  |
| IR On/Off Control        | Auto; Manual  |
| Illuminators             | One (1) IR LED<br>One (1) Warm Light  |

### Lens

|                            |                    |                   |                   |                  |
|----------------------------|--------------------|-------------------|-------------------|------------------|
| Lens Type                  | Fixed-focal        |                   |                   |                  |
| Iris Type                  | Fixed              |                   |                   |                  |
| Mount Type                 | M12                |                   |                   |                  |
| Focal Length               | 2.8 mm             |                   |                   |                  |
| Maximum Aperture           | F1.6               |                   |                   |                  |
| Angle of View              | Horizontal         | 95°               |                   |                  |
|                            | Vertical           | 52°               |                   |                  |
|                            | Diagonal           | 114°              |                   |                  |
| Close Focus Distance       | 0.9 m (2.95 ft)    |                   |                   |                  |
| DORI <sup>1</sup> Distance | Detect             | Observe           | Recognize         | Identify         |
|                            | 63.6 m (208.66 ft) | 25.4 m (83.33 ft) | 12.7 m (41.67 ft) | 6.4 m (20.99 ft) |

### Pan / Tilt / Rotation

|                   |  |
|-------------------|--|
| Pan/Tilt/Rotation | Pan: 0° to 360°<br>Tilt: 0° to 78°<br>Rotation: 0° to 360° |
|-------------------|--|

### Video

|                      |   |                       |
|----------------------|---|-----------------------|
| Compression          | Smart H.265+, Smart H.264+, H.264H, H.265, H.264, H.264B, MJPEG (Only supported by the sub stream)  |                       |
| Streaming Capability | Two (2) Streams   |                       |
| Resolution           | 4MP (2688 × 1520), 3.6MP (2560 × 1440), 3MP (2304 × 1296), 1080p (1920 × 1080), 1.3MP (1280 × 960), 720p (1280 × 720), D1 (704 × 480), VGA (640 × 480), CIF (352 × 240) |                       |
| Frame Rate           | Main Stream   | 2688 × 1520 at 20 fps |
|                      | Sub Stream  | 704 × 480 at 20 fps   |
| Bit Rate             | H.264: 32 kbps to 6144 kbps<br>H.265: 12 kbps to 6144 kbps  |                       |
| Bit Rate Control     | CBR, VBR  |                       |
| Day/Night            | Auto (ICR); Manual  |                       |
| BLC Mode             | BLC, HLC, WDR (120 dB)  |                       |
| White Balance        | Auto, natural, street lamp, outdoor, manual, regional custom  |                       |
| Gain Control         | Auto, Gain Priority, Shutter Priority, Manual   |                       |
| Noise Reduction      | 3DNR  |                       |
| Motion Detection     | Off, On (4 Zones, Rectangle)  |                       |
| Region of Interest   | Off, On (4 Zones)   |                       |

|                 |                              |
|-----------------|------------------------------|
| Smart IR        | Supported                    |
| Image Rotation  | 0°, 90°, 180°, 270°          |
| Mirror          | Off, On                      |
| Privacy Masking | Off, On (4 Areas, Rectangle) |

### Audio

|                   |                             |
|-------------------|-----------------------------|
| Built-in MIC      | Yes                         |
| Audio Compression | G.711a, G.711Mu, PCM, G.726 |

### Network

|                         |  |
|-------------------------|--|
| Ethernet                | RJ-45 (10/100 Base-T)  |
| Protocol                | IPv4, IPv6, HTTP, TCP, UDP, ARP, RTP, RTSP, RTCP, RTMP, SMTP, FTP, SFTP, DHCP, DNS, DDNS, NTP, Multicast, ICMP, IGMP   |
| Interoperability        | ONVIF (Profile S, Profile T), CGI, P2P, SDK, API   |
| Maximum User Access     | 6 (Total bandwidth: 36 M)  |
| Edge Storage            | FTP, SFTP<br>Micro SD Card Slot (Maximum 256 GB)   |
| Web Viewer              | IE, Chrome, Firefox  |
| Management Software     | DSS, DMSS  |
| Mobile Operating System | iOS, Android   |
| Cyber Security          | Configuraton Encrypton, Trusted Executon, Digest, Security Logs, WSSE, Account Lockout, Syslog, Video Encrypton, 802.1x, IP/MAC Filtering, HTTPS, Trusted Upgrade, Trusted Boot, Firmware Encrypton, Generating and Importing X.509 Certificaton |

### Certifications

|                                     |  |
|-------------------------------------|--|
| Safety                              | EN 62368-1   |
| Electromagnetic Compatibility (EMC) | FCC CFR 47 Part 15 Subpart B<br>Electromagnetic Compatibility Directive 2014/30/EU |

### Electrical

|                   |  |
|-------------------|--|
| Power Supply      | 12 VDC or PoE (802.3af)  |
| Power Consumption | Basic: 1.9 W (12 VDC), 2.4 W (PoE);<br>Maximum: 5.2 W (12 VDC), 5.9 W (PoE)<br>(H.265 + Intelligence + WDR + Warm Light) |

### Environmental

|                      |   |
|----------------------|---|
| Operating Conditions | -40°C to +60°C (-40°F to +140°F),<br>Less than 95% RH |
| Storage Conditions   | -40°C to +60°C (-40°F to +140°F)                      |
| Ingress Protection   | IP67  |

### Construction

|              |   |
|--------------|---|
| Casing       | Metal                                       |
| Dimensions   | 100.9 mm × Φ109.9 mm (3.97 in. × Φ4.33 in.) |
| Net Weight   | 0.37 kg (0.82 lb)                           |
| Gross Weight | 0.51 kg (1.12 lb)                           |

### Analytics+ Functions

|                      |   |
|----------------------|---|
| Perimeter Protection | <ul style="list-style-type: none"> <li>Detects human or vehicle violations using the following methods:                             <ul style="list-style-type: none"> <li><b>Tripwire:</b> a target crosses a defined line.</li> <li><b>Intrusion:</b> a target enters or exits a defined perimeter.</li> </ul> </li> <li>Monitors a combination of detection methods.</li> <li>Search and retrieve video based on target type.</li> </ul> |
| Intelligent Search   | Works with a Smart NVR to perform and refine intelligent searches, event extraction and merging to event videos   |

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..

|                          |   |
|--------------------------|---|
| Smart Motion Detection+2 | <ul style="list-style-type: none"> <li>• Differentiates between and classifies human and vehicle objects.</li> <li>• Filters false alarms due to leaves, lights, animals, and other inconsequential objects.</li> <li>• Extracts human or vehicle objects from recorded video for quick target search and retrieval.</li> </ul> |
|--------------------------|---|

Intelligent Video System Functions

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> <li>• IP Address Conflict</li> </ul> |
|-------------------|--|

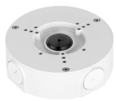
Ordering Information

| Type                   | Part Number        | Description   |
|------------------------|--------------------|---|
| 4MP Camera             | N42DDS2            | 4MP VU-MORE COLOR Fixed-focal Eyeball WizSense Network Camera |
| Accessories (Optional) | PFA106             | Mount Adapter   |
|                        | PFA130-E           | Waterproof Junction Box                                       |
|                        | PFA151             | Corner Mount  |
|                        | PFA152-E           | Pole Mount  |
|                        | PFB220C            | Ceiling Mount   |
|                        | PFB305W            | Wall Mount  |
|                        | DH-PFB205W-E       | Wall Mount Bracket  |
|                        | DH-PFA200G         | Gang Box Adapter  |
|                        | DH-PFM321D-US      | 12 VDC, 1 A Power Adapter                                     |
|                        | DHI-TF-P100 Series | Micro SDXC Cards (64 GB, 128 GB, or 256 GB)                   |
|                        | DH-PFM920I-5EU-U   | 305 m (1000 ft) CAT5e UTP Cable                               |
|                        | DH-PFM900-E        | Integrated Mount Tester                                       |

Accessories (Optional)



PFA106  
Mount Adapter



PFA130-E  
Waterproof Junction  
Box



PFA151  
Corner Mount



PFA152-E  
Pole Mount



PFB220C  
Ceiling Mount



PFB305W  
Wall Mount



DH-PFB205W-E  
Wall Mount  
Bracket



DH-PFA200G  
Gang Box  
Adapter



DH-PFM321D-US  
12 VDC, 1 A  
Power Adapter



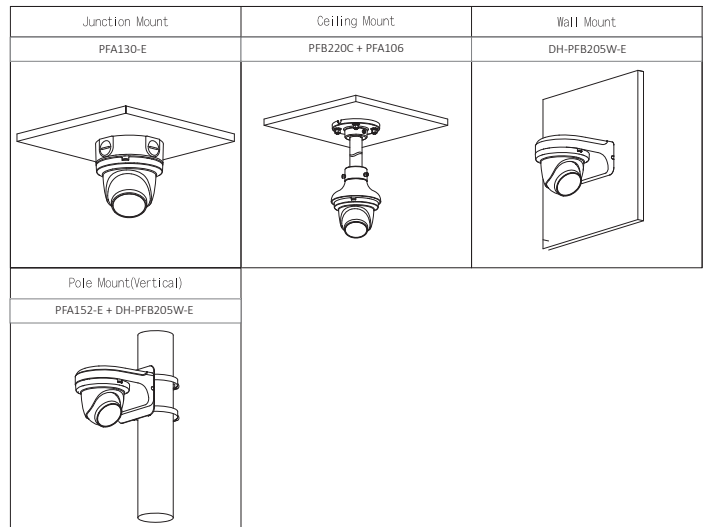
DHI-TF-P100 Series  
Micro SDXC Cards  
(64 GB, 128 GB, or  
256 GB)



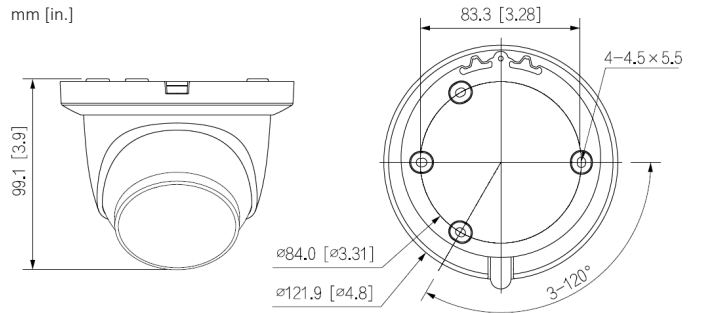
DH-PFM920I-5EU-U  
305 m (1000 ft)  
CAT5e UTP Cable



DH-PFM900-E  
Integrated Mount  
Tester



Dimensions



2. Pair a Smart Motion Detection camera with a Dahua recording device that also offers SMD functionality to take advantage of SMD alarm filtering and object classification when searching and playing back recorded video.