

# DHI-HY-FT431LDP-MB

## Flame Detection Network Camera



### System Overview

Together with Visible and Thermal technology, this flame detection network camera provides an all-in-one solution for video surveillance. This camera has the ability to detect flame from long range, supports flame tracking and positioning, and provides intelligent visual and audible warning. Featuring remote intercom and alarm input/output functionality, it realizes convenient linkage.

### Functions

#### Flame Detection

Integrating thermal and video surveillance, detect flame based on abnormal temperature and confirm details through the camera.

#### Smart H.265+ & Smart H.264+

With advanced scene-adaptive rate control algorithm, Dahua smart encoding technology realizes the higher encoding efficiency than H.265 and H.264, provides high-quality video, and reduces the cost of storage and transmission.

#### Visible and Audible Alarm Notification

Supports the light alarm and voice alarm when flame is detected, to realize the deterrence and effective intervention. The camera is built in multiple voices for selection, and supports customized voice importing.

#### Flame Tracking

Identifying and positioning flame.

#### Remote Intercom

Built-in MIC and speaker enable remote intercom between software platform and App.

#### Alarm Output

Built-in alarm input and output port to realize linkage output.

- Industry leading uncooled VOx focal plane detector with high sensitivity
- Supports flame detection alarm, cold and hot spot alarm, and industrial temperature detection alarm functions
- Supports sound and light alarm linkage, and supports binocular fusion
- Visible light adopts a 4MP 1/2.7 inch CMOS image sensor, which has good low illumination effect and high image clarity
- Support multi-level user management, humanized monitoring, confidentiality, and permission management
- Supports H.265 encoding with high compression ratio, achieving ultra-low bitstream transmission
- Supports 1-way alarm input and 1-way alarm output functions, convenient linkage
- Built in MIC and high volume speakers, high decibel alarm sound 70dB  $\geq 1m$  (A-weighted)
- Built in high-efficiency infrared fill light, with a maximum infrared monitoring distance of 15 meters
- Support DC12V/POE power supply mode for easy engineering installation
- Supports IP66 protection level

### Scene

This device is applicable to most places where both fire alarm and video surveillance are needed, such as:

- Community
- Shopping mall
- Warehouse
- Libraries and archive rooms
- Garbage rooms

| Technical Specification                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                        |                            |                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                        | Scanning System            | Progressive                                                                                                                                                                                             |
| Appearance                                                                                                                                                                                                            | Eyeball                                                                                                                                                                                                                                                                                | Min. Illumination          | Color: 0.0052 lux<br>B/W: 0.0028 lux<br>0 lux (IR on)                                                                                                                                                   |
| Type                                                                                                                                                                                                                  | Radiometry                                                                                                                                                                                                                                                                             | Visible AGC                | Auto; Manual                                                                                                                                                                                            |
| Thermal                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                        | Visible Noise Reduction    | 2D NR; 3D NR                                                                                                                                                                                            |
| Detector Type                                                                                                                                                                                                         | Vanadium oxide uncooled focal plane detector                                                                                                                                                                                                                                           | S/N Ratio                  | ≥ 55 dB                                                                                                                                                                                                 |
| Effective Pixels                                                                                                                                                                                                      | 120 (H) × 90 (V)                                                                                                                                                                                                                                                                       | White Balance              | Auto/indoor/outdoor/track/manual/natural/street lamp                                                                                                                                                    |
| Pixel Pitch                                                                                                                                                                                                           | 17 μm                                                                                                                                                                                                                                                                                  | Electronic Shutter Speed   | 1/3 s–1/100000 s (manual/auto)                                                                                                                                                                          |
| Spectral Range                                                                                                                                                                                                        | 8 μm–14 μm                                                                                                                                                                                                                                                                             | BLC                        | Yes                                                                                                                                                                                                     |
| Sensitivity (NETD)                                                                                                                                                                                                    | < 60mK (@f/1.0, 300K)                                                                                                                                                                                                                                                                  | WDR                        | DWDR                                                                                                                                                                                                    |
| Focal Length                                                                                                                                                                                                          | 1.2 mm                                                                                                                                                                                                                                                                                 | HLC                        | Yes                                                                                                                                                                                                     |
| Field of View                                                                                                                                                                                                         | Horizontal: 90°<br>Vertical: 67.5°                                                                                                                                                                                                                                                     | Day/Night                  | Auto (ICR); Color and B/W                                                                                                                                                                               |
| Thermal Focus Control                                                                                                                                                                                                 | Fixed-focal                                                                                                                                                                                                                                                                            | Iris Control               | Fixed                                                                                                                                                                                                   |
| Close Focus Distance                                                                                                                                                                                                  | 0.5 m (1.65 ft)                                                                                                                                                                                                                                                                        | Image Flip                 | Normal (0 °), corridor mode (90 °/270 °), Mirror/Flip (180 °)                                                                                                                                           |
| Aperture                                                                                                                                                                                                              | F1.1                                                                                                                                                                                                                                                                                   | Exposure Compensation      | Yes                                                                                                                                                                                                     |
| Thermal Noise Reduction                                                                                                                                                                                               | 3D NR                                                                                                                                                                                                                                                                                  | Visible Focus Control      | Fixed-focal                                                                                                                                                                                             |
| Image Flip                                                                                                                                                                                                            | Normal, corridor mode, reflection                                                                                                                                                                                                                                                      | Focal Length               | 4 mm                                                                                                                                                                                                    |
| Color Palettes                                                                                                                                                                                                        | Supports 12 adjustable pseudo colors including White Heat, Lava, Iron Red, Hot Iron, Medical, Arctic, Rainbow, Black Heat, Human Screening, Red Paint, Blue Heat, and Green Heat                                                                                                       | Field of View              | H: 85°<br>V: 44°<br>D: 99°                                                                                                                                                                              |
| Temperature Detection Range                                                                                                                                                                                           | -10°C to +200°C (+14°F to 392°F)                                                                                                                                                                                                                                                       | Close Focus Distance       | 1 m (3.28 ft)                                                                                                                                                                                           |
| Temperature Detection Accuracy                                                                                                                                                                                        | MAX (±5°C, ±5%)                                                                                                                                                                                                                                                                        | Aperture                   | F1.6                                                                                                                                                                                                    |
| Temperature Detection Mode                                                                                                                                                                                            | 1. Support real-time point temperature detection function<br>2. There are three rules for detecting temperature simultaneously: points, lines, and polygons<br>3. Supports temperature alarm function<br>4. The temperature detection unit is Fahrenheit and Celsius, which can be set | Illuminator Type           | 1 (IR LED)                                                                                                                                                                                              |
|                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                        | Illuminator On/Off Control | Auto; Manual                                                                                                                                                                                            |
|                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                        | Illumination Distance      | 15 m (49.21 ft)                                                                                                                                                                                         |
|                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                        | Audio and Video            |                                                                                                                                                                                                         |
|                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                        | Video Compression          | H.265; H.264; H.264H; H.264B; MJPEG                                                                                                                                                                     |
|                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                        | Resolution                 | Visible:<br>Main stream: (4M (2688×1520))/1080P (1920 × 1080)/1.3M (1280 × 960)/720P (1280 × 720), default (1920 × 1080)<br>Sub stream: (D1 (704 × 576)/VGA (640x480)/CIF (352x288)), default (704x576) |
|                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                        | Video Frame Rate           | Visible:<br>Main stream: 1 fps–25 fps adjustable, 25 fps by default<br>Sub stream: 1 fps–25 fps adjustable, 25 fps by default                                                                           |
|                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                        | Audio Compression          | MPEG2-Layer2; G.711a; G.711mu; AAC; PCM; G.722.1; G.726                                                                                                                                                 |
|                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                        | Image Encoding Format      | JPEG                                                                                                                                                                                                    |
|                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                        | Audio Sampling             | 8K; 16K                                                                                                                                                                                                 |
|                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                        | Function                   |                                                                                                                                                                                                         |
|                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                        | Built-in MIC               | Yes                                                                                                                                                                                                     |
|                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                        | Built-in Speaker           | Yes                                                                                                                                                                                                     |
|                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                        | Sound and Light Alarm      | Yes                                                                                                                                                                                                     |
| Flame Detection Distance                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                        |                            |                                                                                                                                                                                                         |
| Focal Length                                                                                                                                                                                                          | 1.2 mm                                                                                                                                                                                                                                                                                 |                            |                                                                                                                                                                                                         |
| Distance                                                                                                                                                                                                              | 10 m (32.81 ft)                                                                                                                                                                                                                                                                        |                            |                                                                                                                                                                                                         |
| Note: The table displays the measured distances obtained from using the target size 10 cm x 10 cm (3.94" × 3.94") for testing in an environment where the temperature is 23 °C and the relative humidity is below 60% |                                                                                                                                                                                                                                                                                        |                            |                                                                                                                                                                                                         |
| Temperature Detection Range                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                        |                            |                                                                                                                                                                                                         |
| Distance                                                                                                                                                                                                              | Min. Distance: 0.5m(1.64ft)<br>Max.Distance:2m(6.56ft)                                                                                                                                                                                                                                 |                            |                                                                                                                                                                                                         |
| Note: The table displays the measured distances obtained from using the target size 10 cm x 10 cm (3.94" × 3.94") for testing in an environment where the temperature is 23 °C and the relative humidity is below 60% |                                                                                                                                                                                                                                                                                        |                            |                                                                                                                                                                                                         |
| Visible                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                        |                            |                                                                                                                                                                                                         |
| Image Sensor                                                                                                                                                                                                          | 1/2.7" CMOS                                                                                                                                                                                                                                                                            |                            |                                                                                                                                                                                                         |
| Max. Resolution                                                                                                                                                                                                       | 2688(H)×1520(V)                                                                                                                                                                                                                                                                        |                            |                                                                                                                                                                                                         |
| Pixel                                                                                                                                                                                                                 | 4 MP                                                                                                                                                                                                                                                                                   |                            |                                                                                                                                                                                                         |

|                       |                                                                                                                 |
|-----------------------|-----------------------------------------------------------------------------------------------------------------|
| Network Protocol      | HTTPS; HTTP; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; DDNS; PPPOE; IPv4/v6; SNMP; QoS; UPnP; NTP   |
| Privacy Masking       | Yes (4 areas)                                                                                                   |
| Storage               | FTP; NAS; SFTP                                                                                                  |
| Interoperability      | ONVIF; GB/T28181; CGI; Imou                                                                                     |
| Browser               | IE: IE 9 and later (Edge is not supported)<br>Chrome: 42 and earlier<br>Firefox: 42 and earlier                 |
| User/Host             | Up to 10 (total bandwidth: 100 MB)                                                                              |
| Default               | Support one-click restore                                                                                       |
| Security              | Authorized username and password; attached MAC address; encrypted HTTPS; IEEE 802.1x; controlled network access |
| User Management       | Up to 10 users                                                                                                  |
| Malfunction Detection | ICON network disconnection detection; IP conflict detection                                                     |

### Port

|               |                                      |
|---------------|--------------------------------------|
| Network Port  | 1 RJ-45 PoE 10M/100M Ethernet ports  |
| Alarm Input   | 1 channel in: 5mA 3V–5V DC           |
| Alarm Output  | 1 channel out: 300mA 12V DC          |
| Alarm Linkage | Trigger switch output/email/snapshot |

### Power

|                   |                           |
|-------------------|---------------------------|
| Power Supply      | DC12V(±30%)/POE           |
| Power Consumption | Basic: 1.8 W<br>Max.: 3 W |

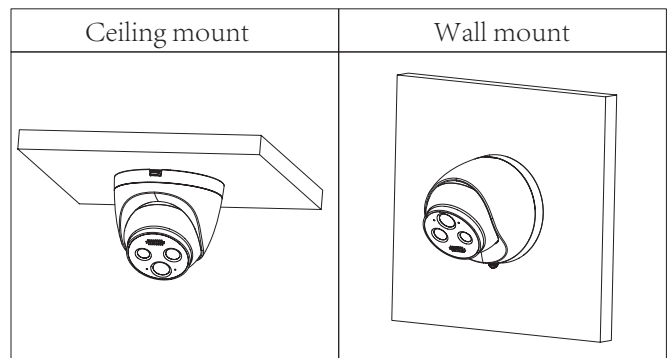
### Environment

|                       |                                  |
|-----------------------|----------------------------------|
| Operating Temperature | –10°C to +55°C (+14°F to +131°F) |
| Operating Humidity    | ≤ 95%                            |
| Storage Temperature   | –20°C to +70°C (–4°F to +158°F)  |

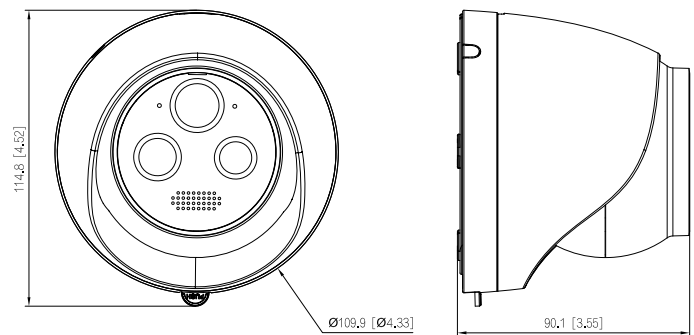
### Construction

|                      |                                                         |
|----------------------|---------------------------------------------------------|
| Protection           | IP66                                                    |
| Product Dimensions   | φ109.9 mm × 90.1 mm (φ4.32" × 3.54")                    |
| Packaging Dimensions | 157 mm*157 mm*138 mm (6.17" × 6.17" × 5.43")(L × W × H) |
| Net Weight           | 0.35 kg (0.78 lb)                                       |
| Gross Weight         | 0.5 kg (1.12 lb)                                        |
| Installation         | Wall mount; Ceiling mount; Vertical pole mount          |
| Power Adapter        | Optional                                                |
| Lens                 | Standard                                                |
| Certifications       | CE                                                      |

### Installation



### Dimensions (mm[inch])



### Ordering Information

| Type                           | Model              | Description                    |
|--------------------------------|--------------------|--------------------------------|
| Flame Detection Network Camera | DHI-HY-FT431LDP-MB | Flame Detection Network Camera |
| Accessories (optional)         | PFM300-E           | DC Adapter                     |
|                                | PFM301-E           | Power                          |
|                                | DH-PFB205W-E       | Wall mounted bracket           |

### Accessories

Optional:



PFM300-E  
DC Adapter



PFM301-E  
Power