

DH-PFR5QI-E60-PV

60 m Sound & Light Visual Radar



- Radar and video integration.
- 60 GHz high frequency radar is not affected by severe weather. Extremely low rate of false alarms and no missing alarms.
- 4MP 1/1.8" CMOS image sensor, low illuminance, high image definition.
- Easy to calibrate: One-click auto calibration and manual calibration.
- Supports drawing protection zone on live view which can be transformed to radar protection zone automatically; applicable to various scenes.
- Target filtering of human and vehicles.
- Speed filtering of target with a speed of 0–40 km/h, achieving accurate and efficient detection.
- Outputs max. 4MP (2560 × 1440) @30 fps.
- H.265 codec, high compression rate, ultra-low bit rate.
- Built-in IR illuminator, and the max. illumination distance is 35 m.
- Built-in warning white light and speaker links alarm to performs sound and light alarm.

System Overview

Equipped with a 60 GHz radar chip and a 4MP wide-angle lens, the visual radar realizes all-weather and high-precision detection. The visual radar supports speed filtering, automatic calibration, changing live view protection zone into radar protection zone. With the intelligent algorithm, the visual radar achieves extremely low rate of false alarms and no missing alarms, which greatly improves the video quality in severe environment. The visual radar supports alarm linkage with sound and light, and integrates radar detection and video playback.



Functions

60 GHz Radar & 4MP Video Integration

The Self-developed Dahua 60 GHz radar algorithm combines high-quality video display, improving perimeter/area intrusion protection and realizing wide-range, 7/24 all-weather and high-precision detection.

One-click Calibration

Dahua intelligent algorithm realizes one-click auto/manual calibration which is easy to operate and applicable to various scenes.

Multi-level Perimeter Protection

Support region setting with different alarm priority, external alarm linkage, human and vehicle filtering, vehicle detection with low and medium speed, and intrusion/tripwire rules.

Intelligent Algorithm of Radar

Intelligent algorithm is used to identify complex scenes and achieve high accuracy in different scenarios. Support human and vehicle recognition and speed filtering of moving targets.

Smart H.265+ & Smart H.264+

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

Protection and Certifications

Meet IP66 and CE RED standards.

Scene

Applicable to various perimeter intrusion scenes, such as villa, warehouse and parking lot. It provides a safer and more comprehensive solution for protection.

Technical Specification

Radar

| | |
|-----------------------|--------------------------------------|
| Max. Target Number | 64 |
| Distance | 60 m (196.85 ft) |
| Angle | Horizontal: 120° Pitch angle: 26° |
| Distance Accuracy | ±0.5 m (1.64 ft) |
| Angle Accuracy | ±1° |
| Max. Detection Speed | 80 km/h, continuous trace |
| Min. Detection Speed | 0.72 km/h, continuous trace |
| Modulation Method | FMCW |
| Scan Frequency | 20 Hz |
| Working Frequency | 60 GHz–61 GHz |
| Supported Target Type | Human; vehicle |
| Transmission Power | < 20 dBm (100mW) |

Camera

| | |
|--------------------------|--|
| Image Sensor | 1/1.8" CMOS |
| Pixel | 4MP |
| Max. Resolution | 2560 (H) × 1440 (V) |
| Electronic Shutter Speed | 1/3 s–1/100000 s |
| Min. Illumination | 0.0036 Lux @F1.6 (Color); 0.0036 Lux @F1.6 (B/W); 0 Lux (IR on) |
| S/N Ratio | > 56 dB |
| Illumination Distance | 35 m (114.83 ft) (0°, visible human body shape) |
| Illuminator Number | 4 |

Lens

| | |
|----------------------|---|
| Lens Type | Fixed-focal |
| Lens Mount | M16 |
| Focal Length | 2.8 mm (equivalent focal distance of 1/2.7") |
| Max. Aperture | F1.6 |
| Field of View | Horizontal: 104°; Vertical: 55°; Diagonal: 121° |
| Iris Control | Fixed |
| Close Focus Distance | 0.2 m |

Video

| | |
|-------------------|--|
| Video Compression | H.265; H.264; H.264H; H.264B |
| Smart Codec | H.264/H.265 |
| Video Frame Rate | Main stream: 50 Hz: 25 fps (2560 × 1440); 25 fps (2048 × 1536); 25 fps (1920 × 1080); 25 fps (1280 × 960); 25 fps (1280 × 720) 60 Hz: 30 fps (2560 × 1440); 30 fps (2048 × 1536); 30 fps (1920 × 1080); 30 fps (1280 × 960); 30 fps (1280 × 720) |

| | |
|--|---|
| | 50 Hz: 25 fps (704 × 576); 25 fps (352 × 288) 60 Hz: 30 fps (704 × 480); 30 fps (352 × 240) Third stream: 50 Hz: 25 fps (1920 × 1080); 25 fps (1280 × 960); 25 fps (1280 × 720) 60 Hz: 30 fps (1920 × 1080); 30 fps (1280 × 960); 30 fps (1280 × 720) |
| Video Bit Rate | H.264: 3 Kbps–8192 Kbps; H.265: 3 Kbps–8192 Kbps |
| Day/Night | Color/B/W |
| BLC | Yes |
| HLC | Yes |
| WDR | 102 dB |
| White Balance | Auto/manual/natural/street lamp/outdoor |
| Gain Control | Auto/manual |
| Noise Reduction | 2D NR/3D NR |
| Default Bit Rate with Default Resolution | 6144 Kbps (2560 × 1440) |
| Defog | Yes |
| Image Stabilization | Yes |
| LDC | Yes |

Alarm

| | |
|---------------|--|
| Alarm Event | Network disconnection; IP conflict; illegal access; intrusion; tripwire |
| Alarm Input | 3 |
| Alarm Output | 2, support alarm linkage |
| Alarm Linkage | Snapshot/SD card recording/email |

Network

| | |
|---------------------|---|
| Network Port | 1 (RJ-45; support 10 M/100 M network data) |
| Network 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 (Profile S); CGI; Imou |
| Storage | NAS; FTP; Micro SD card (128 G) |
| Browser | IE 7 and later Chrome 45 and earlier Firefox 46 and earlier |
| User/Host | 20 (total bandwidth: 64 M) |
| SDK and API | Yes |
| Management Software | DSS |

Sound and Light Alarm

| | |
|----------------------------------|---|
| Number of Warning Light | 2 |
| Warning Light Mode | Yes, flashing mode, solid on mode |
| Warning Light Delay | Yes, 5 s–30 s |
| Max. Distance of Warning Speaker | 10 m (32.81 ft) (outdoor open space, 60 dB) |

| | |
|-----------------------------|----------------------|
| Warning Speaker Mode | 1–3 times |
| Alarm Audio Upload & Record | Yes, up to 10 audios |
| Alarm Audio Import & Output | Yes |

Function

| | |
|-----------------------------|--|
| Image Setting | Brightness; Contrast; Sharpness; Saturation; Gamma |
| OSD Overlay | Time; channel; location; custom |
| Record Mode | Manual record; scheduled record; alarm record; Record priority: Manual > external > schedule |
| Default | Support one-click restoring |
| User Management | Up to 20 |
| Security | Username and password; MAC address; HTTPS; IEEE 802.1x ; network access control |
| Region Management | Pre-warning zone; alarm zone; shield zone |
| Target Filtering | Yes, human/vehicle |
| Speed Filtering | Yes, 1–80 km/h (Objects whose speeds are not within the target speed range will not trigger alarms) |
| Recognition Sensitivity | Yes, human, vehicle recognition sensitivity configurable |
| Radar Structuring | Yes, target track displayed on live view, including distance, angle, speed and type |
| Radar OSD Detection Overlay | Yes, 8 positions |
| Device Attitude | Yes, display pitch angle and roll angle |
| Protection Zone Mapping | Yes, draw on live view to define actual radar protection zone |
| Auto Calibration | Yes, automatically calibrate radar and image |
| Manual Calibration | Yes, manually calibrate radar and image |
| Sound and Light Linkage | Yes |

Power

| | |
|-------------------|---|
| Operating Voltage | 12V DC (±30%); PoE (802.3at) |
| Power Supply | 12V DC/POE |
| Power Consumption | Basic power consumption: 10W; Max. power consumption: 22W |
| Port | Terminal block |

Port

| | |
|-----------------|---|
| SD Card | Yes |
| Indicator Light | Yes. Network indicator (yellow); operation indicator (red and green); power indicator (green) |
| Audio Input | 1 × 3.5 mm port |
| Audio Output | 1 × 3.5 mm port |
| RS-485 | 1 (baud rate range: 1200 bps–115200 bps) |

Environment

| | |
|-----------------------|----------------------------------|
| Operating Temperature | –40°C to +70°C (–40°F to +158°F) |
| Operating Humidity | ≤ 95% |
| Protection | IP66 |

Structure

| | |
|----------------------|---|
| Casing | Metal + plastic |
| Product Dimensions | 160.0 mm × 194.4 mm × 160.0 mm (6.30" × 7.65" × 6.30") (L × W × H) |
| Packaging Dimensions | 277.0 mm × 274.0 mm × 224.0 mm (10.91" × 10.79" × 8.82") (L × W × H) |
| Packaging Method | 4 in one package |
| Net Weight | 2.51 kg (5.53 lb) |
| Gross Weight | 2.80 kg (6.17 lb) |
| Installation | Pole mount; wall mount |
| Bracket | PFA154 |
| Power Adapter | Optional |

Certifications

| | |
|----------------|--|
| Certifications | CE: EN 50385; EN 55032; EN 55024; EN 55035; EN 50130-4; ETSI EN 301 489-1; ETSI EN 301 489-3; EN 62368-1 |
|----------------|--|

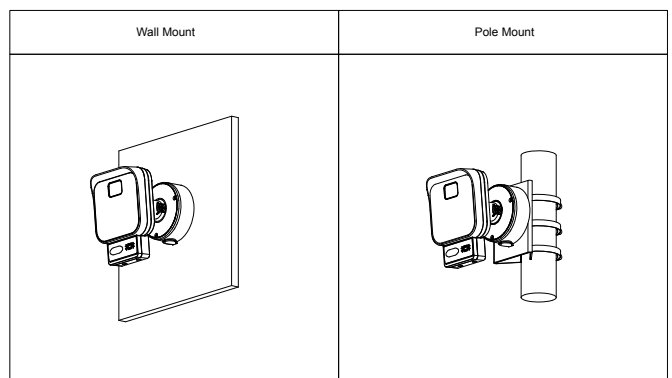
Ordering Information

| Type | Model | Description |
|--------------|------------------|--|
| Visual Radar | DH-PFR5QI-E60-PV | 4MP IR 60 m Sound & Light Visual Radar |
| Accessory | PFA154 | Pole mount bracket |

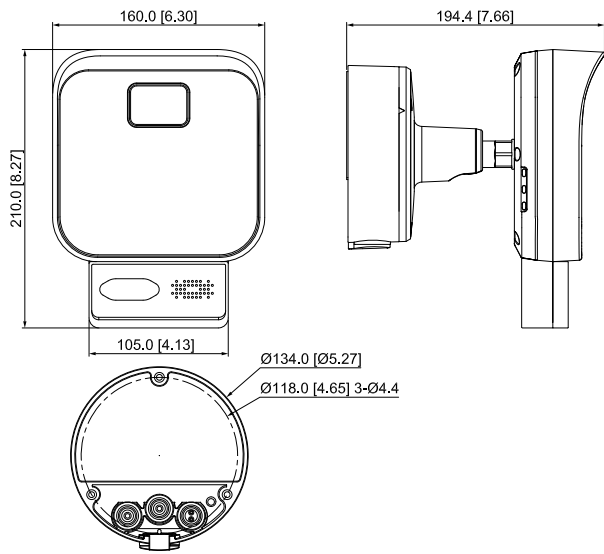
Accessory



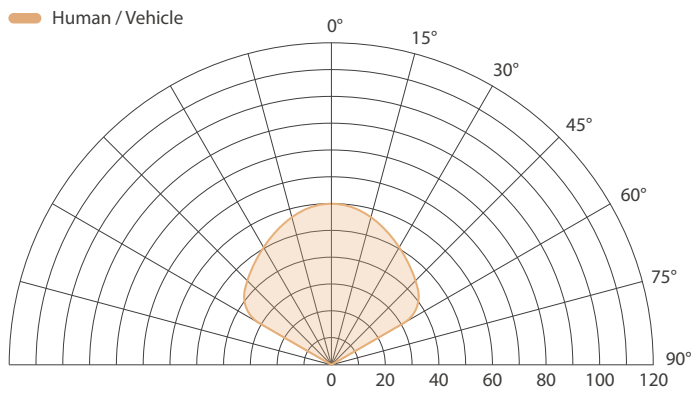
PFA154 Pole mount bracket



Dimensions (mm [inch])



Range Coverage Diagram



* This diagram is for reference only, the detection distance depends on the actual environment.