

# IPFX-E20V-IRW1

2MP Starlight Eyeball Network Camera



- 2MP, 1/2.8" CMOS image sensor, low illuminance, high image definition
- H.265 & H.264 triple-stream encoding
- Outputs max. 2MP (1920 × 1080)@30 fps
- Intelligent Motion Detect and Perimeter Protection
- WDR(120dB), Day/Night(ICR), 3DNR,AWB,AGC,BLC, Starlight, Max. IR LEDs Length 131 ft, Built-in Mic
- 256GB Micro SD memory, IP67, PoE

## System Overview

The IPFX-E20V-IRW1 is a 2MP varifocal eyeball style camera featuring a 2MP,1/2.8" low illuminance, high image definition CMOS image sensor on top a 2.7 mm–13.5 mm motorized varifocal lens. The camera excels in low light environments thanks to Starlight support and a maximum IR distance of 131 feet. A built-in microphone is available for audio recordings and it is weatherproof with IP67 protection.

This camera also utilizes IC Realtime's advanced AI capabilities with Intelligent Motion Detect and Perimeter Protection. This technology utilizes a deep learning algorithm that recognizes people and vehicles, which drastically reduces false positives, enabling a more optimized search function.

## Functions

### Starlight Technology

Featuring Starlight Technology, this camera is ideal for applications with challenging lighting conditions. Its low-light performance delivers usable video with minimal ambient light. Even in extreme low-light conditions, Starlight Technology is capable of delivering color images in near complete darkness (0.005 lux).

### Perimeter Protection

IC Realtime's Perimeter Protection features significantly improve detection accuracy. The benefits of Perimeter Protection include up to a 90% reduction in false alarms. Other advantages include a decrease in pixel count requirement for object detection, which translates into more efficiency with less strain on the system. Perimeter Protection options let you customize tripwires based on the object type and allow intelligent automation within a limited area of access such as pedestrian or vehicle-only zones. The combination of advanced AI analytics and real-time alerts maximizes efficiency & balance of the total systems capacity and resources resulting in greater surveillance system efficiency.

### iMD (Intelligent motion Detect)

This is an upgraded version of motion detection currently known as Intelligent Motion Detection (iMD). The upgraded Plus version greatly improves alarm accuracy by pre-loading a deep learning algorithm that recognizes people and vehicles. Motion detection alerts containing a human and/or vehicle intrusion event are now possible with up to 95% accuracy. Eliminate false alarms, save time and keep stress levels low knowing you're protected.

### Protection (IP67, wide voltage)

Subjected and certified to rigorous dust and water immersion tests, the IP67 rating makes it suitable for demanding outdoor applications. For environments with rain, sleet, snow and fog, an integrated wiper provides users with clear visibility at all times. Wide voltage: The camera allows  $\pm 30\%$  input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with unstable voltage.

### Smart H.265+

Deliver high quality video without straining the network, Smart H.265+ is the optimized implementation of H.265. The Smart H.265+ encoding technology includes a scene adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction, providing saving of up to 70% of bandwidth and storage when compared with standard H.265.

### 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. 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.

## Technical Specification

### Camera

|                          |                                     |
|--------------------------|-------------------------------------|
| Image Sensor             | 1/2.8" 2 Megapixel progressive CMOS |
| Effective Pixels         | 1920 (H) × 1080 (V)                 |
| RAM/ROM                  | 256MB/128MB                         |
| Scanning System          | Progressive                         |
| Electronic Shutter Speed | Auto/Manual 1/3 s–1/100000 s        |
| Minimum Illumination     | 0.002 Lux@F1.5                      |
| S/N Ratio                | > 56 dB                             |
| IR Distance              | 40 m (131.2 ft)                     |
| IR On/Off Control        | Auto / Manual                       |
| IR LEDs                  | 2                                   |

### Lens

|                      |   |        |         |           |          |
|----------------------|---|--------|---------|-----------|----------|
| Lens Type            | Motorized vari-focal                      |        |         |           |          |
| Mount Type           | φ14                                       |        |         |           |          |
| Focal Length         | 2.7 mm–13.5 mm                            |        |         |           |          |
| Max. Aperture        | F1.5                                      |        |         |           |          |
| Angle of View        | Horizontal: 108°–28°<br>Vertical: 57°–16° |        |         |           |          |
| Iris Type            | Fixed                                     |        |         |           |          |
| Close Focus Distance | 0.8 m (2.6 ft)                            |        |         |           |          |
| DORI Distance        | Lens                                      | Detect | Observe | Recognize | Identify |
|                      | W   | 144 ft | 57 ft   | 28 ft     | 14 ft    |
|                      | T   | 502 ft | 200 ft  | 82 ft     | 50 ft    |

### Pan/Tilt/Rotation

|                         |  |
|-------------------------|--|
| Pan/Tilt/Rotation Range | Horizontal: 0°–360°; vertical: 0°–78°; rotation: 0°–360° |
|-------------------------|--|

### Intelligence

|                                 |   |
|---------------------------------|---|
| Perimeter Protection            | Tripwire; intrusion (support the classification and accurate detection of vehicle and human)                          |
| Intelligent Motion Detect (iMD) | Motion detection alarm for human and vehicle. Filters misinformation such as leaves and light.                        |
| Intelligent Search              | Works together with AI-enabled NVR to perform refine intelligent search, event extraction and merging to event videos |

### Video

|                      |   |
|----------------------|---|
| Compression          | H.265; H.264; H.264H; H.264B; MJPEG (sub stream only)   |
| Streaming Capability | 3 Streams   |
| Resolution           | 1080p (1920 × 1080); 1.3M (1280 × 960); 720p (1280 × 720); D1 (704 × 576/704 × 480); VGA (640 × 480); CIF (352 × 288/352 × 240) |
| Frame Rate           | Main stream (1920 × 1080@1–25/30 fps)   |
|                      | Sub stream: (704 × 576@1–25 fps/<br>704 × 480@1–30 fps)   |
|                      | Third Stream: 1280 × 720@1–25/30 fps)   |
| Bit Rate Control     | CBR/VBR   |
| Bit Rate             | H.264: 3 Kbps–8192 Kbps<br>H.265: 3 Kbps–8192 Kbps  |
| Day/Night            | Auto(ICR) / Color / B/W   |
| BLC Mode             | BLC / HLC / WDR(120dB)  |

|                    |   |
|--------------------|---|
| 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)                       |
| Smart IR           | Support                                 |
| Starlight          | Support                                 |
| Digital Zoom       | 16x                                     |
| Flip               | 0°/90°/180°/270°                        |
| Mirror             | Off / On                                |
| Privacy Masking    | Off / On (4 Area, Rectangle)            |

### Audio

|             |                            |
|-------------|----------------------------|
| Compression | G.711a; G.711Mu; G726; AAC |
|-------------|----------------------------|

### Network

|                     |   |
|---------------------|---|
| Ethernet            | RJ-45 (10/100Base-T)  |
| Protocol            | HTTP; HTTPS; TCP; ARP; RTSP; RTP; UDP; SMTP; FTP; DHCP; DNS; DDNS; PPPOE; IPv4/v6; QoS; UPnP; NTP; Bonjour; 802.1x; Multicast; ICMP; IGMP; SNMP |
| Interoperability    | ONVIF (Profile S/Profile G/Profile T); CGI  |
| Streaming Method    | Unicast / Multicast   |
| Max. User Access    | 20 (Total bandwidth: 64 M)  |
| Edge Storage        | NAS, SFTP, Micro SD Card (support max. 256 GB)<br>Local PC for instant recording  |
| Web Viewer          | IE, Chrome, Firefox, Safari   |
| Management Software | SmartICRSS, DSS   |

### Certifications

|                |   |
|----------------|---|
| Smart Phone    | IOS, Android  |
| Certifications | CE-LVD: EN62368-1<br>CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU<br>FCC: 47 CFR FCC Part 15, Subpart<br>BUL/CUL: UL60950-1 CAN/CSA C22.2 No.60950-1-07 |

### Interface

|                 |                     |
|-----------------|---------------------|
| Video Interface | N/A                 |
| Audio Interface | Built-in Microphone |
| Alarm           | N/A                 |

### Electrical

|                   |                      |
|-------------------|----------------------|
| Power Supply      | DC12V, PoE (802.3af) |
| Power Consumption | <7.8W                |

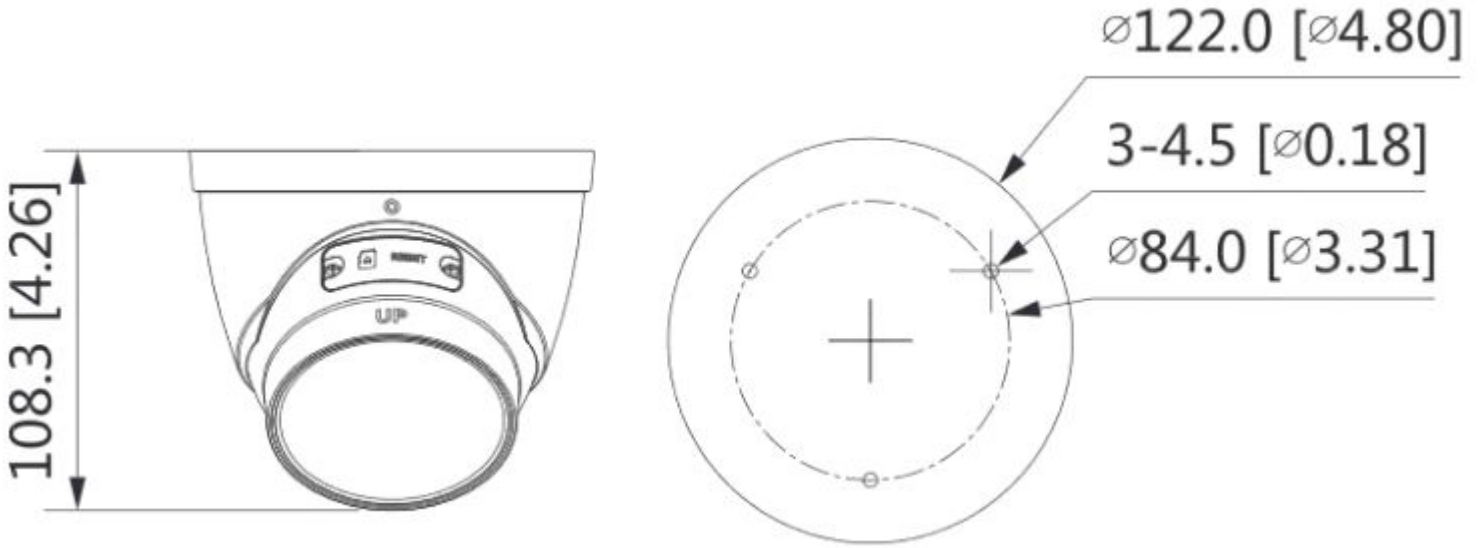
### Environmental

|                      |   |
|----------------------|---|
| Operating Conditions | -30°C to +60°C (-22°F to +140°F)/Less than 95% RH |
| Storage Conditions   | -40°C to +60°C (-40°F to +140°F)                  |
| Ingress Protection   | IP67  |

### Construction

|              |                                    |
|--------------|------------------------------------|
| Casing       | Metal                              |
| Dimensions   | 108.3 mm × 122 mm<br>(4.3" × 4.8") |
| Net Weight   | 685g (1.5 lb)                      |
| Gross Weight | 828 g (1.8 lb)                     |

Dimensions (mm/in)



Accessories

