

# IPEL-F12F-IRW2

12MP Panoramic Network IR Fisheye Camera



- 1/1.7" 12MP progressive scan STARVISTM CMOS
- H.265/H.264 triple-stream encoding
- Max 25fps@12M(4000x3000), 8M(3280 x 2480)@25/30 fps
- Multiple dewarped Modes
- Day/Night(ICR), 3DNR, AWB, AGC, BLC
- Perimeter Protection, People Counting, Heat Map
- Max. IR LEDs length 33ft
- Built-in dual array Microphone and speaker, Micro SD memory, IP67, IK10, PoE

## System Overview

IC Realtime's premier 360° situational awareness camera, the IPEL-F12-IRW2 features a full 12MP (4000x3000) fisheye image for wide area coverage. This allows for dewarping to a native fisheye view in order to deliver a crisp stream that is undistorted to the human eye. It is equipped with a 1/1.7" Progressive scan Starvis CMOS image sensor and capable of 25fps @12MP or 30fps @8MP.

This camera offers a suite of AI support and IVS rules such as Intrusion, Tripwire and Heat mapping, It is equipped with Smart IR support with a max distance of 33 feet and a built-in mic and speaker. It is also well suited to outdoor environments thanks to its IP67 and IK10 rated protection.

## Functions

### True Day/Night

A day/night mechanical IR cut filter makes this camera ideal for applications with fluctuating lighting conditions, delivering color images during the day and automatically switching to monochrome as the scene darkens.

### Dewarping Mode

Fisheye dewarping solves the problem of distortion in the circular panoramic view. The camera offers multiple dewarping modes for different installations and configurations, either with an AVR, NVR or, via the Web interface. Each dewarping mode offers options to adjust each scene.

### Advanced Intelligence (Heatmap)

In addition to the basic IVS functions, such as Tripwires and Intrusion Zones, this camera also supports more advanced IVS solutions. Heat Maps will overlay different 'thermographic' colors depending on activity levels in a region ranging from blue to red. Heat Mapping provides essential analytic data for a variety of business applications by keeping track of key crowd density statistics.

### Smart IR

With IR illumination, detailed images can be captured in low light or total darkness. The camera's Smart IR technology adjusts the intensity of camera's infrared LEDs to compensate 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 10m (33ft).

### HEVC(H.265)

H.265 ITU-T VCEG is a new video coding standard. H.265 Following standard developed around the existing video coding standard H.264, some retain the original technology, while some of the relevant technology to improve the new technology uses advanced technology to improve the relationship between the code stream, encoding quality, and the delay between algorithm complexity, optimize settings specific contents include: Improve compression efficiency, improve the robustness and error recovery capabilities, real-time to reduce the delay, reduce channel acquisition time and a random access delay, reduce complexity, etc

### Protection (IP67, IK10, wide voltage)

Supporting  $\pm 25\%$  input voltage tolerance, this camera suits even the most unstable conditions for outdoor applications. Its 6KV lightning rating provides effective protection for both the camera and its structure against lightning. IP67 is supported by the camera, which makes it suitable for both indoor and outdoor environments. IK10 compliance enables the camera to sustain the equivalent of 5kg (11.02lbs) force.

## Technical Specification

### Camera

|                          |                                                                                         |
|--------------------------|-----------------------------------------------------------------------------------------|
| Image Sensor             | 1/1.7" 12 Megapixel CMOS                                                                |
| Effective Pixels         | 4000(H)x3000(V)                                                                         |
| RAM/ROM                  | 4GB/ 2GB                                                                                |
| Scanning System          | Progressive                                                                             |
| Electronic Shutter Speed | Auto/Manual, 1/3~1/100000s                                                              |
| Minimum Illumination     | 0.01 Lux@F2.0 (Color, 30 IRE)<br>0.001 Lux@F2.0 (B/W, 30 IRE)<br>0 Lux (Illuminator on) |
| S/N Ratio                | More than 50dB                                                                          |
| IR Distance              | Distance up to 33ft (10m)                                                               |
| IR On/Off Control        | Auto / Manual                                                                           |
| IR LEDs                  | 3                                                                                       |

### Lens

|                      |                 |         |           |          |
|----------------------|-----------------|---------|-----------|----------|
| Lens Type            | Fixed           |         |           |          |
| Mount Type           | M12             |         |           |          |
| Focal Length         | 1.85mm          |         |           |          |
| Max. Aperture        | F2.0            |         |           |          |
| Angle of View        | H: 185°, V:180° |         |           |          |
| Optical Zoom         | N/A             |         |           |          |
| Focus Control        | Fixed           |         |           |          |
| Close Focus Distance | 1.31 ft (0.4 m) |         |           |          |
| DORI Distance        | Detect          | Observe | Recognize | Identify |
|                      | 131 f t         | 52 ft   | 26 ft     | 13 ft    |

### Pan/Tilt/Rotation

|                         |     |
|-------------------------|-----|
| Pan/Tilt/Rotation Range | N/A |
|-------------------------|-----|

### Intelligence

|                                |                                              |
|--------------------------------|----------------------------------------------|
| IVS                            | Tripwire, Intrusion                          |
| Perimeter Protection           | Support                                      |
| Advanced Intelligent Functions | Heat Map, People Counting (Supports 4 rules) |

### Video

|                      |                                                                                                                                           |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Compression          | H.265; H.264; H.264H; MJPEG (Sub stream only)                                                                                             |
| Streaming Capability | 3 Streams                                                                                                                                 |
| Resolution           | 12M(4000×3000)/ 8M(2880×2880)/ 6M(2880×2160)/<br>3M(2048×1536)/ 1.3M(1280×960)/<br>D1(704×576/704×480)/ CIF(352×288/352×240)              |
| Dewarp Modes:        | 10:(4000 x 3000), 1P:(4096 x 1024),<br>2P:(2432 x 2432), 1R:(1216 x 1216),<br>2R:(2432 x2432), 4R:(2432 x 2432),<br>10 + 3R:(2432 x 2432) |
| Frame Rate           | Main Stream: 12MP (1~25fps)/ 8MP(1~25/30fps)<br>Sub Stream: D1(1 ~ 25/30fps)<br>Third Stream: 1280 × 960@(1~17 fps)                       |
| Bit Rate Control     | CBR/VBR                                                                                                                                   |
| Bit Rate             | H264: 8 kbps~16384 kbps<br>H265: 3 kbps~16384 kbps                                                                                        |
| Day/Night            | Auto(ICR) / Color / B/W                                                                                                                   |
| 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                      |
| Privacy Masking    | 4 Areas                      |

### Audio

|             |                                    |
|-------------|------------------------------------|
| Compression | PCM; G.711A; G.711Mu; G.726; G.723 |
|-------------|------------------------------------|

### Network

|                     |                                                                                                                                                                                                                                                                       |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ethernet            | RJ-45 (10/100Base-T)                                                                                                                                                                                                                                                  |
| Protocol            | HTTP;HTTPS;TCP;ARP;RTSP;RTP;UDP;SMTP;FTP;DHC<br>P;DNS;DDNS;PPPOE;IPv4/v6;QoS;UPnP;NTP;Bonjour<br>;802.1x;Multicast;ICMP;IGMP;SNMP                                                                                                                                     |
| Cyber Security      | Video encryption; firmware encryption; configuration<br>encryption; Digest; WSSE; account lockout; security<br>logs; IP/MAC filtering; generation and importing of<br>X.509 certification; syslog; HTTPS; 802.1x; trusted boot;<br>trusted execution; trusted upgrade |
| Interoperability    | ONVIF (Profile S/Profile G/Profile T); CGI                                                                                                                                                                                                                            |
| Streaming Method    | Unicast / Multicast                                                                                                                                                                                                                                                   |
| Max. User Access    | 20                                                                                                                                                                                                                                                                    |
| Edge Storage        | FTP<br>Micro SD card 256GB                                                                                                                                                                                                                                            |
| Web Viewer          | IE, Chrome, Firefox, Safari                                                                                                                                                                                                                                           |
| Management Software | SmartICRSS, DSS                                                                                                                                                                                                                                                       |
| Smart Phone         | IOS, Android                                                                                                                                                                                                                                                          |

### Certifications

|                |                        |
|----------------|------------------------|
| Certifications | FCC Part 15, Subpart B |
|----------------|------------------------|

### Interface

|                 |                                             |
|-----------------|---------------------------------------------|
| Video Interface | N/A                                         |
| Audio Interface | Built-in Mic, 1 input, 1 Output (RCA)       |
| RS485           | N/A                                         |
| Alarm Input     | 2 channel in: 5mA 3V~5V DC                  |
| Alarm Output    | 2 channels out: 1,000mA 30V DC/500mA 50V DC |

### Electrical

|                   |                                                                                                                                  |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Power Supply      | 12V DC/PoE                                                                                                                       |
| Power Consumption | Basic: 6.5 W (12V DC); 6.1 W (PoE)<br>Max. (ICR + IR intensity): 13 W (12V DC); 13.9 W (PoE)<br>Heating: 3 W (12V DC); 3 W (PoE) |

### Environmental

|                      |                                                       |
|----------------------|-------------------------------------------------------|
| Operating Conditions | -22° F ~ +140° F (-30° C ~ +60° C) / Less than 95% RH |
| Storage Conditions   | -22° F ~ +140° F (-30° C ~ +60° C) / Less than 95% RH |
| Ingress Protection   | IP67                                                  |
| Vandal Resistance    | IK10                                                  |

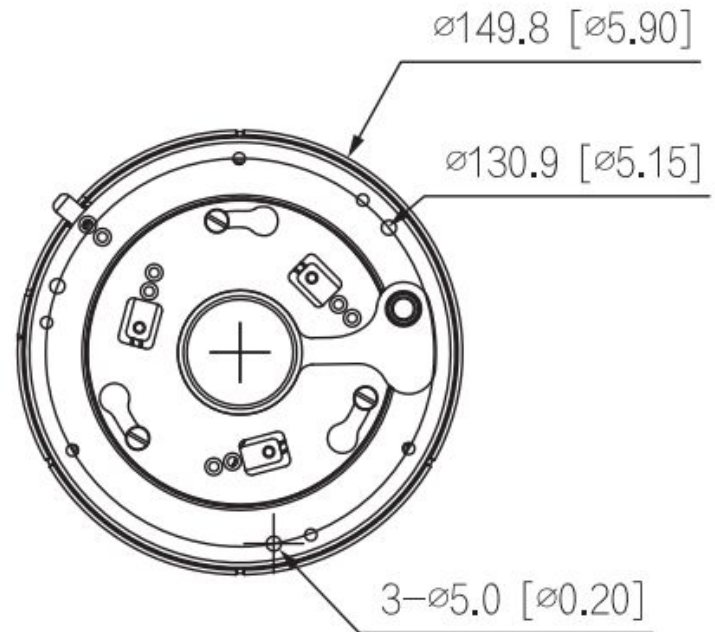
### Construction

|              |                                    |
|--------------|------------------------------------|
| Casing       | Metal                              |
| Dimensions   | 2.35" × 5.90" (59.8 mm × 149.8 mm) |
| Net Weight   | 1.74 lb (0.79 kg)                  |
| Gross Weight | 2.67 lb (1.21 kg)                  |

## Accessories

## Dimensions (mm/in)

## MNT-JUNCTIONBOX-5

MNT-DVIR-MPA100 +  
MNT-CEILING-MPA