

# IPFX-P4004-IRW1

4MP 4x Starlight IR PTZ Network Camera



- 1/2.8" 4 Megapixel CMOS, Starlight technology
- Max. 25/30fps@4MP, 4x Optical zoom
- H.265 & H.264 triple-stream encoding
- IVS, Intelligent Motion Detect, Face Detection
- 2.8 mm–12 mm, IR distance up to 65 feet
- 120 dB WDR, Day/Night(ICR), 3D NR
- 512GB Micro SD memory, IP66, IK08, PoE

## System Overview

IC Realtime's IPFX-P4004-IRW1 features a 4x optical zoom, IR Illumination and accurate pan/tilt/zoom performance packed in a small dome form factor. This compact PTZ delivers 4MP resolution at 25/30fps. The camera is equipped with smooth control, high quality image, and good protection, meeting minimal footprint demands of video surveillance applications.

Furthermore, this PTZ is equipped with a suite of Advanced features with Face Detection, Perimeter Protection and Intelligent Motion Detect as well as IVS with Tripwire and Intrusion support. Other features include 512GB SD Card support, True 120dB WDR for applications with direct sunlight or glare as well as IP66 and IK08 protection and PoE support.

## Functions

### 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.

### Starlight

For challenging low-light applications, Starlight Ultra-low Light Technology offers best-in-class light sensitivity, capturing color details in low light. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

### 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

### Intelligent Video Analysis (IVS)

With built-in intelligent video analytics, the camera has the ability to detect and analyze moving objects for improved video surveillance. The camera provides optional standard intelligence at the edge allowing detection of multiple object behaviors such as Tripwire analytics, allowing the camera to detect when a predetermined line has been crossed, ideal for business intelligence, workforce optimization, and actionable intelligence.

### Interoperability

The camera conforms to the ONVIF (Open Network Video Interface Forum) specifications, ensuring interoperability between network video products regardless of manufacturer.

### 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.

## Technical Specification

### Camera

Image Sensor	1/2.8" CMOS
Effective Pixels	2560 (H) × 1440 (V), 4 Megapixels
RAM/ROM	512MB/256MB
Scanning System	Progressive
Electronic Shutter Speed	1 s–1/30,000 s
Minimum Illumination	0.005 lux@F1.8 (Color, 30 IRE); 0.0005 lux@F1.8 (B/W, 30 IRE); 0 lux (illuminator on)
IR Distance	65.62 ft (20m)
IR On/Off Control	Manual; SmartIR; Off
IR LEDs	3

### Lens

Lens Type	2.8 mm–12 mm			
Max. Aperture	F1.8–F2.7			
Angle of View	H: 96.9°–31.6°; V: 51.4°–17.8°			
Optical Zoom	4x			
Focus Control	Auto; semi-auto; manual			
Close Focus Distance	0.66 ft– 1.64 ft (0.2 m–0.5 m)			
DORI Distance	Detect	Observe	Recognize	Identify
	787 ft	311 ft	157 ft	78 ft

### PTZ

Pan/Tilt Range	Pan: 0° to 355°; Tilt: 5° to 90°
Manual Control Speed	Pan: 0.1%–70%/s; Tilt: 0.1%–30%/s
Preset Speed	Pan: 0.1%–80%/s; Tilt: 0.1%–40%/s
Presets	300
Tour	8 (up to 32 presets per tour)
Speed Setup	Human-oriented focal Length/ speed adaptation
Power-off Memory	Supported
Idle Motion	Preset; Tour
Protocol	ICR-SD

### Video

Compression	H.264H; H.264B; Smart H.265+; H.264; H.265; MJPEG(Sub Stream); Smart H.264+
Streaming Capability	3 Streams
Resolution	4M (2560 × 1440); 3M (2304 × 1296); 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: 4M/3M/1080P/1.3M/720P @(1–25/30 fps)
	Sub stream1: D1/VGA/CIF@(1–25/30 fps)
	Sub stream 2: 720p@(1–25/30 fps)
Bit Rate Control	CBR/VBR
Bit Rate	H264: 96 Kbps–14,848 Kbps H265: 38 Kbps–8,960 Kbps
Day/Night	ICR: Color; B/W; Auto; Electronic: Color; B/W; Auto
Backlight Compensation	BLC / HLC / 120dB WDR
White Balance	Auto; indoor; outdoor; ATW; manual; sodium lamp; natural light; street lamp

Gain Control	Auto; manual; gain prio
Noise Reduction	2D NR; 3D NR
Motion Detection	Supported
Region of Interest	Supported
Electronic Image Stabilization	Supported
Defog	Electronic defog
Flip	180°
S/N Ratio	≥55 dB

### Audio

Compression	PCM; G.711A; G.711MU; G.726; MPEG2-Layer2; G.722.1
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### Network

Ethernet	RJ-45 (10/100 Base-T)
Protocol	FTP; RTMP; IPv6; Bonjour; IPv4; DNS; RTCP; PPPoE; NTP; RTP; 802.1x; HTTPS; SNMP; TCP/IP; DDNS; UPnP; NFS; ICMP; UDP; IGMP; HTTP; SSL; DHCP; SMTP; Qos; RTSP; ARP
Interoperability	ONVIF (Profile S & Profile G & Profile T); CGI; SDK
Streaming Method	Unicast / Multicast
Max. User Access	20 (total bandwidth: 64 M)
Edge Storage	Micro SD card (512 GB); FTP/ SFTP; NAS
Web Viewer	IE, Chrome, Firefox, Safari
Management Software	IC Now, IC Now Pro
Smart Phone	IOS, Android

### Certifications

Certifications	FCC: Part 15 subpart B
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### Interface

Video Interface	N/A
Audio Interface	Built-in Microphone; 1 channel Input (bare wire)/ 1 channel Output (bare wire)
Alarm I/O	N/A

### Electrical

Power Supply	12 VDC, 2 A ± 10%; PoE (802.3af)
Power Consumption	Basic: 4 W; Max: 13 W (illuminator on)

### Environmental

Operating Conditions	-22°F ~ +140°F (-30°C ~ 60°C) / Less than 95% RH
Ingress Protection	IP66
Vandal Resistance	IK08
Lightning Protection	TVS 6000 V lightning proof; surge protection

### Construction

Casing	Metal
Dimensions	2.59" × Ø5.04" (65.7 mm × Ø128.0 mm)
Net Weight	1.10lb (0.5kg)
Gross Weight	1.54lb ( 0.7kg)

## AI Functions

### IVS

Basic IVS	Tripwire; intrusion; crossing fence detection; loitering detection; abandoned/missing object; fast moving
Advanced IVS	Parking detection; people gathering;

### Perimeter Protection

Capabilities	Tripwire; Intrusion (Supports target filtering of vehicle and human objects)
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### Intelligent Motion Detect

Capabilities	Advanced secondary filtering for human and motor vehicle, reducing false alarms caused by leaves, rain and lighting condition changes.
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### Face Detection

Capabilities	Face detection; track; snapshot; snapshot optimization; optimal face snapshot upload; face enhancement; face exposure; face attributes extraction including 6 attributes and 8 expressions; face snapshot set as face or one-inch photo; snapshot strategies (real-time snapshot, quality priority and optimization snapshot); face angle filter; optimization time setting
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### People Counting

Capabilities	Tripwire: people counting and people counting in area, generating and exporting report (day/month/year); queue management, generating and exporting report (day/month); 4 rules can be set for tripwire, people counting in area and queue management
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## Accessories



## Dimensions (mm/in)

