

# IPEL-P8040X-IRW2-AI

4K 40x Starlight AI PTZ Network Camera



- 1/1.8" STARVIST™ CMOS
- Powerful 40x optical zoom
- Max. 30fps@4K (3840x2160)
- Auto Tracking, IVS and Perimeter Protection
- Starlight support, IR distance up to 1640ft
- Included Mount and 36v power supply, Hi-PoE support, IP67
- Made In South Korea And Conforms To The Trade Agreements Act (TAA)

## System Overview

IC Realtime's premier PTZ, the IPEL-P8040X-IRW2-AI combines a suite of AI features with a 4K, 40X zoom PTZ! The camera supports Face Detection with metadata, IVS, Perimeter Protection and Deep Learning based Auto-Tracking for high flexibility and accuracy when combined with our AI capable Recorders.

The camera features infrared illumination up to 1640 ft and Starlight Technology, which makes it a perfect solution for dark, low light applications. The series combines a day/night mechanical IR cut filter for the highest image quality in variable lighting conditions during the day, and 120dB WDR for applications with direct sunlight or glare. In addition, the PTZ supports Hi-PoE, Smart Wiper and is IP67 rated.

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## Functions

### Auto-tracking

This feature controls the pan/tilt/zoom actions of the camera to automatically track an object in motion and to keep it in the scene. The tracking action can be triggered manually or automatically by defined rules. Once a rule is triggered, the camera can zoom in and track the defined target automatically

### Starlight Technology

For challenging low-light applications, Starlight Ultra-low Light Technology offers best-in-class light sensitivity, capturing color details in low light down to 0.005 lux. The camera uses a set of optical features to balance light throughout the scene, resulting in clear images in dark environments.

### 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.

### Protection

The camera allows for  $\pm 25\%$  input voltage tolerance, suitable for the most unstable conditions for outdoor applications. Its 8KV lightning rating provides effective protection for both the camera and its structure against lightning.

### Interoperability

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

### 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.

### 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

### Environmental

With a temperature range of  $-40^{\circ}\text{F}$  to  $+140^{\circ}\text{F}$  ( $-40^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ ), the camera is designed for extreme temperature environments. 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.

## Technical Specification

### Camera

Image Sensor	1/1.8" CMOS
Effective Pixels	3840(H) x 2160(V), 8 Megapixels
Scanning System	Progressive
Electronic Shutter Speed	1/1s~1/30,000s
Minimum Illumination	Color: 0.005Lux@F1.4 B/W: 0.0005 Lux@F1.4 0 Lux@F1.4 (illuminator on)
RAM/ ROM	8GB/ 2GB
S/N Ratio	More than 55dB
IR Distance	Distance up to 1640ft (500m)
IR On/Off Control	Auto / Manual
IR LEDs	10
Smart Wiper	Support

### Lens

Lens Type	5.6mm~223mm			
Max. Aperture	F1.4~ F4.8			
Angle of View	H: 63.9° ~ 2.0°; V: 37.2° ~ 1.2°			
Optical Zoom	40x			
Focus Control	Auto/Manual			
Close Focus Distance	1.64 ft~3.28 ft (0.5 m~1 m)			
DORI Distance	Detect	Observe	Recognize	Identify
	14435 ft	5708 ft	2887 ft	1443 ft

### PTZ

Pan/Tilt Range	Pan: 0° ~ 360° endless; Tilt: -30° ~+ 90°,auto flip 180°
Manual Control Speed	Pan: 0.1° ~240° /s; Tilt: 0.1° ~100° /s
Preset Speed	Pan: 240° /s; Tilt: 120° /s
Presets	300
PTZ Mode	5 Pattern, 8 Tour(up to 32 preset per tour), Auto Pan, 5 Auto Scan
Speed Setup	Human-oriented focal Length/ speed adaptation
Power-off Memory	Supported
Idle Motion	Preset; Tour; Pattern; Scanning
Protocol	ICR-SD, Pelco-P/D (Auto recognition)

### Intelligence

Auto Tracking	Support
IVS	Tripwire, Intrusion, Object Abandoned/ Missing, Audio Detection, Fast-Moving, Crowd Gathering Estimation, Parking and Loitering Detection
Perimeter Protection	Tripwire, Intrusion (Recognition of vehicle and people)
Metadata	Supports human body, human face, motor vehicle and non-motor vehicle image capture and attributes extraction. Works with AI enabled Recorders.

### Video

Compression	Smart H.265+/H.265/H.264+/H.264/MJPEG (Sub Stream1)
Streaming Capability	3 Streams
Resolution	4K(3840x2160)/1080P(1920x1080)/1.3M(1280x960)/720P(1280x720)/D1(704x576/ 704x480)/CIF(352x288/352x240)
Frame Rate	Main stream: 4K/1080P/1.3M/720P (1~25/30 fps)
	Sub stream1: D1/CIF(1 ~ 25/30fps) Sub stream2: 1080P/1.3M/720P/D1/CIF (1~25/30fps)

Bit Rate Control	CBR/VBR
Bit Rate	H264: 512 Kbps~16384 Kbps H265: 256 Kbps~10240 Kbps
Day/Night	Auto(ICR) / Color / B/W
Backlight Compensation	BLC / HLC / WDR(140dB)
White Balance	Auto; Indoor; Outdoor; Tracking; Manual; Sodium Lamp; Natural; Street Lamp
Gain Control	Auto / Manual
Noise Reduction	2D; 3D
Motion Detection	Support
Region of Interest	Support
Electronic Image Stabilization	N/A
Defog	Optical
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas

### Audio

Compression	G.711a; G.711mu; G.726; AAC; G722.1; G.729; MPEG2-Layer 2; G723
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### Network

Ethernet	RJ-45 (10Base-T/100Base-TX)
Protocol	IPv4; IPv6; HTTP; HTTPS; 802.1x; QoS; FTP; SMTP; UPnP; SNMP v1/v2c/v3 (MIB-2); DNS; DDNS; NTP; RTSP; RTP; TCP; UDP; IGMP; ICMP; DHCP; PPPoE; ARP; RTCP; RTMP
Interoperability	ONVIF Profile S&G&T; CGI
Streaming Method	Unicast / Multicast
Max. User Access	20 users
Edge Storage	NAS (Network Attached Storage),Local PC for instant recording, 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
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### Interface

Video Interface	1 port (BNC)
Audio Interface	1/1 channel In/Out
RS485	1 (baud rate range:1200 bps~9600 bps)
Alarm I/O	7/2

### Electrical

Power Supply	DC 36V/2.23A (±25%), Hi-PoE
Power Consumption	30W, 48W (IR on)

### Environmental

Operating Conditions	-40° F ~ +140° F (-40° C ~ +60° C) / Less than 95% RH
Operating Humidity	≤ 95%RH
Ingress Protection	IP67
Lightning Protection	TVS 6000V lightning protection; surge protection; voltage transient protection

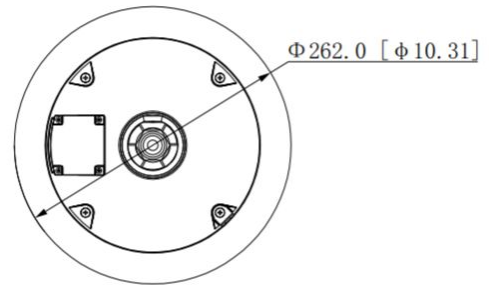
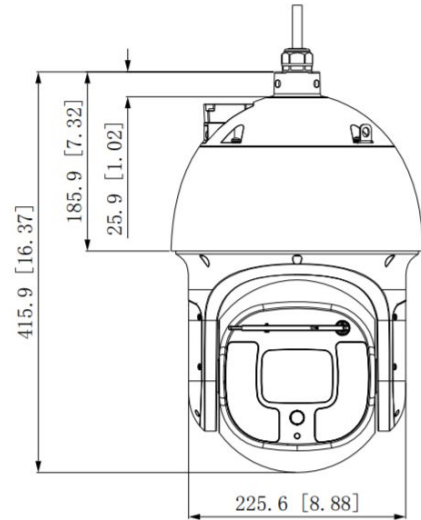
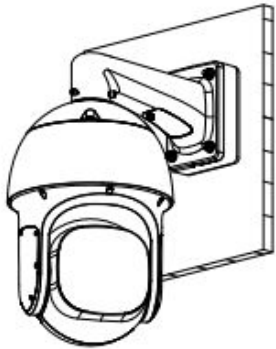
### Construction

Casing	Metal
Dimensions	16.36" × 10.31" (415.6 mm × 262 mm)
Net Weight	22.05 lb(10kg)
Gross Weight	26.46lb (12kg)

Accessories

Dimensions (mm/in)

Included Mount with  
MNT-BOX-MPA120



Included Mount with  
MNT-PCNRIP

