

IPEL-P8040X-IRW1-AI

4K 40x Starlight AI PTZ Network Camera



- 1/1.8" STARVIST™ CMOS
- Powerful 40x optical zoom
- Max. 30fps@4K (3840x2160)
- AI Enhanced Auto Tracking and IVS
- Face Recognition and Perimeter Protection
- Starlight support, IR distance up to 1640ft
- Smart Wiper, Hi-PoE support, IP67

System Overview

IC Realtime's IPEL-P8040X-IRW1-AI combines a suite of features with a 4K, 40X zoom PTZ! The camera AI supports Face Recognition with metadata, IVS, Perimeter Protection and Deep Learning based Auto-Tracking for high flexibility and accuracy when combined with our AI capable Recorders.

Together with infrared illumination up to 1640 ft and Starlight Technology, the camera is the 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 True WDR for applications with direct sunlight or glare. In addition, the PTZ supports Hi-PoE, Smart Wiper and is IP67 rated.

Functions

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.

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

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 °C to +60 °C (-40 °F to +140 °F), 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.

Protection

The camera allows for ±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.

Technical Specification

Camera

Image Sensor	1/1.8" STARVIS™ CMOS
Effective Pixels	3840(H) x 2160(V), 8 Megapixels
Scanning System	Progressive
Electronic Shutter Speed	1/1s~1/30,000s
Minimum Illumination	Color: 0.002Lux@F1.4; B/W: 0.0002Lux@F1.4; 0Lux@F1.4 (IR on)
S/N Ratio	More than 56dB
IR Distance	Distance up to 1640ft (500m)
IR On/Off Control	Auto / Manual
IR LEDs	10
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	100mm~ 1000mm			
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 up Action	Auto restore to previous PTZ and lens status after power failure
Idle Motion	Activate Preset/ Scan/ Tour/ Pattern if there is no command in the specified period
Protocol	ICR-SD, Pelco-P/D (Auto recognition)

Intelligence

Auto Tracking	Support
IVS	Object Abandoned/Missing
Face Recognition	Support
Perimeter Protection	Tripwire, Intrusion (Supports 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	H.265+/H.265/H.264+/H.264/MJPEG(Sub Stream)
Streaming Capability	3 Streams
Resolution	4K(3840x2160)/1080P(1920x1080)/1.3M(1280x960)/720P(1280x720)/D1(704x576/ 704x480)/CIF(352x288/352x240)
Frame Rate	Main stream: 1080P/1.3M/720P(1~50/60fps) 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	H.265/H.264: 512K ~ 8192Kbps
Day/Night	Auto(ICR) / Color / B/W
Backlight Compensation	BLC / HLC / WDR(120dB)
White Balance	Auto, ATW, Indoor, Outdoor, Manual
Gain Control	Auto / Manual
Noise Reduction	Ultra DNR (2D/3D)
Motion Detection	Support
Region of Interest	Support
Electronic Image Stabilization (EIS)	Support
Defog	Support
Digital Zoom	16x
Flip	180°
Privacy Masking	Up to 24 areas

Audio

Compression	G.711a/G.711mu/PCM/G.726/AAC/G722.1/G.729/MPEG2-Layer2
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Network

Ethernet	RJ-45 (10Base-T/100Base-TX)
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&G, 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	CE: EN55032/EN55024/EN50130-4 FCC: Part15 subpart B, ANSI C63.4- 2014
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Interface

Video Interface	1 port(BNC, 1.0V[p-p], 75Ω)
Audio Interface	1/1 channel In/Out
RS485	1
Alarm I/O	7/2

Electrical

Power Supply	DC 36V/2.23A (±25%), Hi-PoE
Power Consumption	26W, 42W (IR on, Heater on)

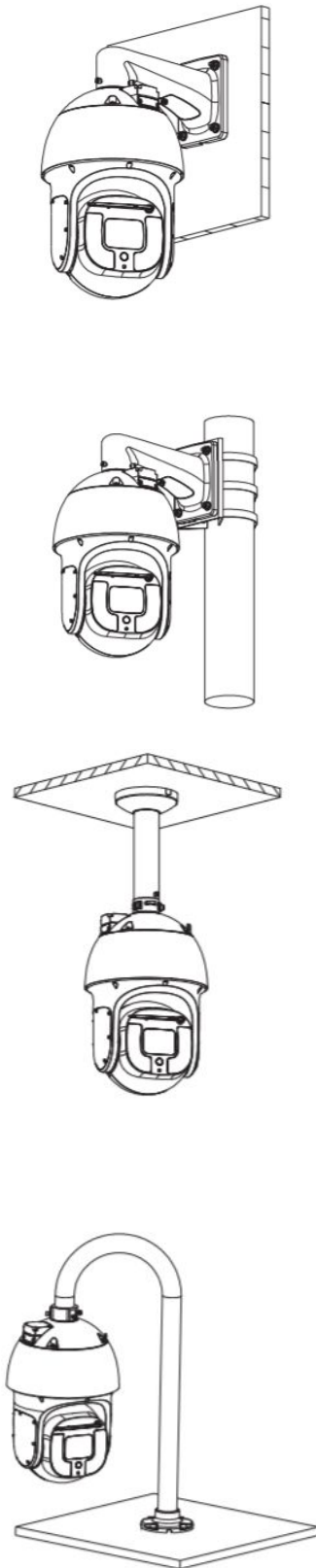
Environmental

Operating Conditions	-40° C ~ +60° C (-40° F ~ +140° F) / Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	N/A

Construction

Casing	Metal
Dimensions	10.3" x 16.3" (262mm x 415.6 mm)
Net Weight	8.5kg (18.74lb)
Gross Weight	13.5kg (29.76lb)

Accessories



Dimensions (mm/in)

