

## IP-4BL-F28-EA

4MP WDR Bullet AI Network Camera



Launched by Empower Technology, Empower AI is a full portfolio of solutions composed of project-oriented products including IPC, NVR, PTZ, XVR, Thermal and software platform which adopts industry-leading deep learning algorithms. Focusing on customer's requirements, AI provides precise, reliable and comprehensive AI solutions for verticals.

### Series Overview

With starlight solution and deep learning algorithm, Empower AI 5 Series network camera has various intelligent functions, including face capture, perimeter protection and people counting, which greatly improve the accuracy of video analysis. The series camera supports dust-proof function, waterproof function and vandal-proof function, complying with the standards of IP67 and IK10 (Supported by some select models).

### Functions

#### Face Detection

Empower Face Detection technology can detect the face in the image. With deep learning algorithm, the technology supports detecting, tracking, capturing and selecting the best face image, and then outputs face snapshot.

#### Perimeter Protection

With deep learning algorithm, Empower Perimeter Protection technology can recognize human and vehicle accurately. In restricted area (such as pedestrian area and vehicle area), the false alarms of intelligent detection based on target type (such as tripwire, intrusion, fast moving, parking detection, loitering detection and gathering detection) are largely reduced.

#### People Counting

With deep learning algorithm, Empower People Counting technology can track and process moving human body targets to realize the accurate statistics of enter No., leave No., and In Area No. Working with management platform, it outputs yearly/monthly/daily reports to meet your requirements.

- 1/1.8" 4Megapixel progressive scan CMOS
- ROI, SMART H.264+/H.265+, flexible coding, applicable to various bandwidth and storage environments
- 25/30 fps@2688 × 1520, 50/60 fps@1080P (1920 × 1080)
- WDR (140 dB), Day/Night (Electronic), 3D DNR, AWB, AGC, BLC
- Multiple network monitoring: Web viewer, CMS, VMS
- 2.8 mm fixed lens (3.6 mm, 6.0 mm optional)
- 1/1 Alarm in/out, 1/1 audio in/out
- Max. LEDs Length 20 m
- Micro SD memory, IP67,IK10



### Night-color Starlight

The camera adopts F1.6 large aperture lens and 1/1.8" high performance sensor. With higher amount of absorbed light and advanced image processing algorithm, the camera presents an impressive lowlight performance with an exceptional balance between noise reduction and the blur of moving object.

### Warm Supplemental lights

With two warm supplemental LED lights, the camera is able to provide a colorful and vivid image even in total darkness. It also provides visible By default, the camera is set to smart light mode, in which the camera can automatically adjust the exposure time and light sensitivity simultaneously to avoid overexposure of the objects in the image center. Also, the sensitivity and intensity of the LED lights can be remotely controlled by OSD menu.

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

IP67: The camera passes a series of strict test on dust and soak. It has dust-proof function, and the enclosure can work normal after soaking in 1 m deep water for 30 minutes.  
IK10: The enclosure can stand the punch more than 5 times from a 5 kg hammer falling from a height of 40 cm (Impact energy is 20J).  
Wide voltage: The camera allows ±30% (for some power supplies) input voltage tolerance (wide voltage range), and it is widely applied to outdoor environment with instable voltage.

## Technical Specification

### Camera

Image Sensor	1/1.8" 4Megapixel progressive scan CMOS
Max. Resolution	2688 (H) × 1520 (V)
RAM/ROM	512 MB/128 MB
Scanning System	Progressive
Electronic Shutter Speed	Auto/Manual, 1/3 s–1/100000 s
S/N Ratio	> 56 dB
Minimum Illumination	0.002 Lux@F1.6
Illumination Distance	Distance up to 20 m (66 ft)
Illuminator On/Off Control	Auto/Manual
Illuminator Number	2 (LED)

### Lens

Lens Type	Fixed-focal				
Mount Type	Board-in				
Focal Length	2.8 mm, 3.6 mm, 6.0 mm				
Max. Aperture	F1.6				
Angle of View	H: 113°, V: 60°/H: 89°, V: 48°/H: 56°, V: 31°				
Aperture Type	Fixed				
Close Focus Distance	1.3 m (4.27 ft)/1.9 m (6.23 ft)/3.8 m (12.47 ft)				
DORI Distance	Lens	Detect	Observe	Recognize	Identify
	2.8mm	58m(190ft)	23m(75ft)	12m(39ft)	6m(20ft)
	3.6mm	72m(236ft)	29m(95ft)	14m(46ft)	7m(23ft)
	6mm	113m(371ft)	45m(148ft)	23m(75ft)	11m(36ft)

### Pan/Tilt/Rotation

Pan/Tilt/Rotation Range	Pan: 0°–360°; Tilt: 0°–90°; Rotation: 0°–360°
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### Artificial Intelligence

Face Detection	Face detection; track; optimization; snapshot; face enhancement; face exposure; face matting setting; face, single inch photo; three snapshot methods: real-time snapshot, optimization snapshot, quality priority; face angle filter; optimization time setting
Perimeter Protection	Tripwire; intrusion; fast moving (the three functions support the classification and accurate detection of vehicle and human); loitering detection; people gathering; parking detection
People Counting	Support the counting of enter number, leave number, and pass number, and displaying and outputting yearly/monthly/daily reports. Support the counting of number in area, and 4 rules configuration. Count number of people or stay time and link alarm. Support queue management, and 4 rules configuration. Count number of people or stay time and link alarm

### General Intelligence

Event Trigger	Motion detection, Video tampering, Scene changing, Network disconnection, IP address conflict, Illegal Access, Storage anomaly
General Intelligence	Object Abandoned/Missing
Heat Map	Yes

### Video

Compression	H.265,H.264,H.264B,H.264H, MJPEG (only supported by sub stream)
Smart Codec	Smart H.265+/ Smart H.264+
Resolution	2688 × 1520/2560 × 1440/2304 × 1296/1080P (1920 × 1080)/1.3M (1280 × 960)/720P (1280 × 720)/D1 (704 × 576/704 × 480)/VGA (640 × 480)/CIF (352 × 288/352 × 240)
Streaming Capability	3 Streams
Frame Rate	Main Stream: 2688 × 1520 (1 fps–25/30 fps) 2560 × 1440 (1 fps–25/30 fps) 1920 × 1080 (1 fps–50/60 fps)
	Sub Stream: D1 (1 fps–25/30 fps) D1 (1 fps–50/60 fps)
	Third Stream: 1080P (1 fps–16 fps)
Bit Rate Control	CBR/VBR
Bit Rate	H.264: 32 Kbps–8192 Kbps H.265: 19 Kbps–8192 Kbps
Day/Night	Day/Night: Electronic Auto/Color/B/W
BLC Mode	BLC/HLC/WDR (140 dB)
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 Illumination	Yes
Defog	Yes
Flip	0°/90°/180°/270°
Mirror	Off/On
Privacy Masking	Off/On (4 Area, Rectangle)

### Audio

Compression	G.711a, G.711Mu, G.726, AAC, G.723
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### Alarm

Alarm Event	No SD card;SD card full;SD card error;network disconnection;IP conflict;illegal access;motion detection;video tampering;Defocus Detection;scene changing;intrusion;tripwire;abandoned object;missing object;fast moving;parking detection;loitering detection;people gathering;audio detection;people counting;face detection;People counting in area;Stayalarm;People No. exception detection;Queue Management
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## Network

Network	RJ-45 (10/100 Base-T)
SDK and API	Yes
Protocol	IPv4;IPv6;HTTP;HTTPS;TCP;UDP;ARP;RTP;RTSP;RTCP;RTMP;SMTP;FTP;SFTP;DHCP;DNS;DDNS;QoS;UPnP;NTP;Multicast;ICMP;IGMP;NFS;PPPoE;802.1x;SNMP
Interoperability	ONVIF (Profile S/Profile G/Profile T), CGI, Milstone, Genetec, P2P
User/Host	20 Users
Storage	NAS;FTP;SFTP;Empower Cloud;Micro SD card 256 GB
Browser	IE (versions newer than IE8), Chrome, Firefox, Safari (versions newer than Safari 12)
Management Software	WEB, CMS, P2P
Mobile Phone	iOS, Android

## Certifications

Certifications	CE-LVD: EN62368-1 CE-EMC: Electromagnetic Compatibility Directive 2014/30/EU FCC: 47 CFR FCC Part 15, Subpart B UL/CUL: UL60950-1 CAN/CSA C22.2 No.60950-1-07
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## Interface

Audio Interface	1/1 channel In/Out
Alarm	1 channel In: 5mA 5V DC 1 channel Out: 300mA 12V DC

## Electrical

Power Supply	DC 12V (±30%), PoE (802.3af)
Power Consumption	<7.4W

## Environmental

Operating Conditions	-40°C to +60°C (-40°F to +140°F)/Less than 95% RH
Storage Conditions	-40°C to +60°C (-40°F to +140°F)
Protection Grade	IP67,IK10

## Construction

Casing	Metal
Dimensions	244.1 mm × 79.0 mm × 75.9 mm (9.61" × 3.11" × 2.99")
Net Weight	0.815 kg (1.80 lb)
Gross Weight	1.08 kg (2.38 lb)

## Ordering Information

Type	Part Number	Description
4MP camera	PAL	4MP WDR Bullet AI Network Camera,WDR, PAL
	NTSC	4MP WDR Bullet AI Network Camera,WDR, NTSC
Accessories (optional)	PFA130-E	Junction box
	PFA152-E	Pole Mount
	PFA151	Corner Mount

## Accessories

### Optional:



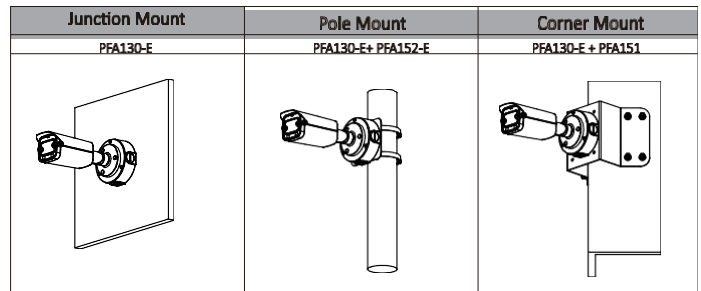
PFA130-E  
Junction box



PFA152-E  
Pole Mount



PFA151  
Corner Mount



## Dimensions (mm[inch])

