



AI Smart Camera

- | CQ38W-3576(Commercial)
- | CQ38W-3576J(Industrial)
- | CQ38W-3576M(Automotive)



V1.0 2026-4-16

FIREFLY TECHNOLOGY

Product features



Octa-core 64-bit AIOT processor RK3576

It adopts Rockchip's new generation of high-performance AIoT chip RK3576 series, octa-core 64-bit, large and small core architecture (4×A72 +4×A53), advanced process, and the main frequency is up to 2.2GHz.



Built-in 6TOPS computing power NPU

NPU computing power up to 6TOPS, support INT4/INT8 and other operations, support dual-core collaborative or independent work, support multi-tasking, multi-scenario parallelism; Support the privatization and deployment of YOLO and large language models.



4K@120fps high frame rate video decoding

Support 8K@30fps/4K@120fps decode (H.265/HEVC, VP9, AVS2, AV1) , 4K@60fps encode (H.265/HEVC, H.264/AVC).



Powerful ISP image processing capabilities

Built-in 16 million pixel ISP, support low-light noise reduction, support RGB-IR sensor, support up to 120dB HDR, AI-ISP to improve low-noise image effect.

Product features



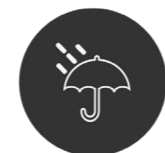
5MP/3MP HD Camera

5/3 Megapixel lens is optional. The camera has high sensitivity, high signal-to-noise ratio and low-light imaging capability, outputs high-definition image quality and accurately captures the details of highlights and shadows in dynamic scenes.



Self-adaptive 100M Ethernet port

Equipped with a self-adaptive 100M Ethernet port, it intelligently adapts network speed for stable and smooth transmission, featuring excellent anti-interference and link reliability, easily adapting to complex network environments such as security monitoring.



IP67 Waterproof Aluminum Alloy Housing

IP67 waterproof housing with built-in heat sink, weight $\leq 350g$, compatible with wall mounting, ceiling mounting and other installation methods.



A wide range of applications

Facial recognition, gesture recognition, gate access control, smart security, IP cameras, self-service terminals, smart finance, smart construction sites, smart transportation, and more.

Specifications



		CQ38W-3576(Commercial)	CQ38W-3576J(Industrial)	CQ38W-3576M(Automotive)
Basic Specifications	SoC	RK3576	RK3576J	RK3576M
	CPU	Octa-core 64-bit processor (4xA72 + 4xA53) with a maximum frequency of 2.2GHz	Octa-core 64-bit processor (4xA72 + 4xA53) with a maximum frequency of 1.6GHz	
	GPU	G52 MC3@1GHz, support OpenGL ES 1.1/2.0/3.2, OpenCL 2.0, Vulkan 1.1, embedded with high-performance 2D acceleration hardware		
	NPU	6 TOPS NPU, It supports INT4/INT8/INT16/FP16/BF16/TF32 operations, supports dual-core collaborative or independent work, and supports multi-task and multi-scene parallelism		
	ISP	Built-in 16 million pixel ISP, support low-light noise reduction, support RGB-IR sensor, support up to 120dB HDR, AI-ISP to improve low-noise image effect		
	Decoding/Encoding	Decoding: 8K@30fps/4K@120fps (H.265/HEVC, VP9, AVS2, AV1), 4K@60fps (H.264/AVC) Encoding: 4K@60fps (H.265/HEVC, H.264/AVC) Image codec: 4K@60fps MJPG		
	RAM	LPDDR4/LPDDR4x (4GB/8GB/16GB optional)		
	Storage	eMMC (16GB/32GB/64GB/128GB/256GB optional)		
	OS	Linux		
	Size	69.72mm × 69.72mm × 174.21mm		
	Power	DC 12V (5.5mm × 2.1mm)		
	Protection rating	IP67 waterproof and dustproof design		
	Size	69.72mm × 69.72mm × 174.21mm		
	Weight	≈336g		
	Environment	Operating temperature: -20°C ~ 50°C, Operating humidity: 15% ~ 90%RH (non-condensing)		
Camera	Image sensor	SONY SC3336	SONY IMX335	
	CMOS size	1/2.8"		
	Pixel	3-megapixel (2304×1296)	5-megapixel (2592×1944)	
	Aperture	F2.0	F2.56	
	Field of view	98.3°	95°	
	Focal length	3.95mm	4mm	
	Distortion	< 33%	≤ -9.5%	
	Maximum frame rate	2304×1296@30fps	2592×1944@30fps	
	Focusing method	Manual focus	Fixed focal length	
	Camera type	Color		
Network	Ethernet	One 10/100M Ethernet (RJ45)		
Serial Port	RS485	1 × RS485 (Led out via 2Pin-3.5mm Phoenix terminal block)		

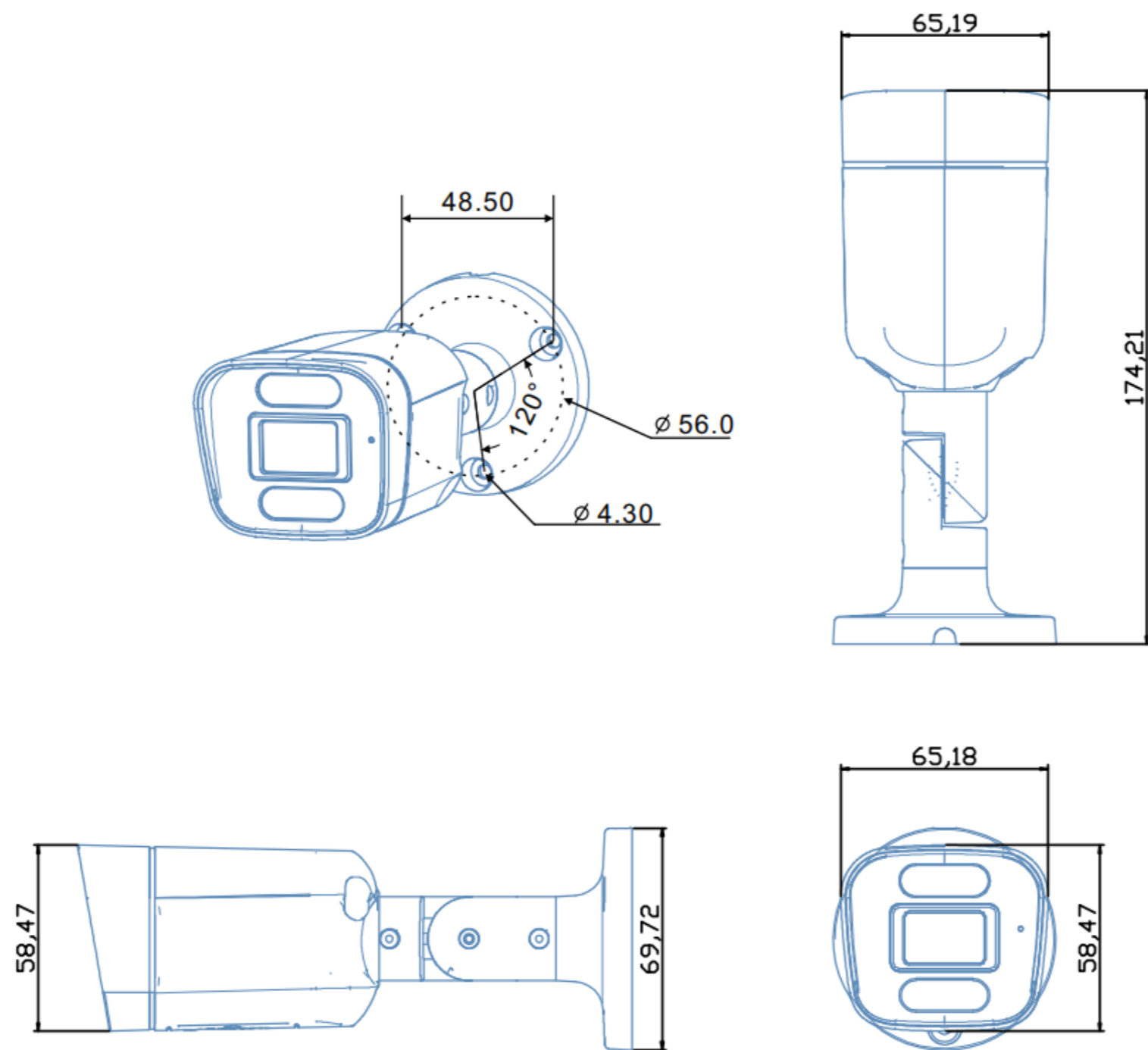
Interface description



Interface	PIN	Definition	Attribute	Description
100M Ethernet	1	DC 12V	Power	DC power supply positive input
	2	DC GND	GND	DC power supply negative input
	3	No signal input		
	4	No signal input		
	5	RJ45_RX-	Input	Network signal input (RJ45_6, green)
	6	RJ45_RX+	Input	Network signal input (RJ45_3, white-green)
	7	RJ45_TX-	Output	Network Signal Input (RJ45_2, orange)
	8	RJ45_TX+	Output	Network signal input (RJ45_1, white orange)


Interface	PIN	Definition	Attribute	Description
RS485	1	485_A	Differential	RS485-A
	2	485_B	Differential	RS485-B


Dimension







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