

Product Name	GAO Tek Embedded Industrial Edge Computing AI Box
Product SKU	GAOTek-ECP-103
Product URL	https://gaotek.com/product/gaotek-embedded-industrial-edge-computing-ai-box/



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Based in New York City & Toronto, GAO Tek Inc. is ranked as one of the top 10 global B2B technology suppliers. GAO ships overnight within the U.S. & Canada & provides top-notch support thanks to its 4 decades of experience.

Introduction:

GAO Tek ECP - 103 is a high-performance, low-power edge computing device designed based on RK3588, with built-in NPU computing power up to 6.0TOPS@INT8 and powerful video encoding and decoding capabilities. It supports up to 32 1080P@30fps H.265 decoding and 16 1080P@30fps encoding. It supports 4K@120fps or 8K@30fps HDMI image output and has the features of lightweight and strong flexibility in appearance. It can be widely used in intelligent transportation, intelligent parks, intelligent gas stations, intelligent construction sites and other fields, bringing more optimized performance for various AI application scenarios.

Product characteristic

Powerful processor

Big-Little size core architecture is adopted, equipped with quad-core A76 and quad-core A55.

The main CPU frequency is up to 2.4GHz, providing 1MB L2 provides stronger CPU computing power. Cache and 3MB L3, and Cache

High-performance quad-core Mali-G610 GPU complex graphics processing. sat /east 2 supports 4K UI and can smoothly run.

Computing power can be flexibly adapted to

It can expand 1 to 2 AI acceleration modules, with the maximum expandable computing power 32TOPS@INT8 and the iteration Maximum combined computing power up to 38TOPS@INT8,

Support TensorFlow, Caffe, Pytorch, Tflite, ONNX and other mainstream deep learning frameworks, support face detection, tracking, recognition, posture recognition, helmet detection and other network models.

Enrich peripheral interface resources.

Wireless communication modules such as 4G/WIFI6/BT.

Application Field:

Smart Factory: Testing of manufacturing practices on/off duty identification Dress code testing Product defect detection and many other subdivision scenarios.



Smart Construction Sites:

Bare mound identification Pyrotechnic/smoke detection

Reflective coat detection

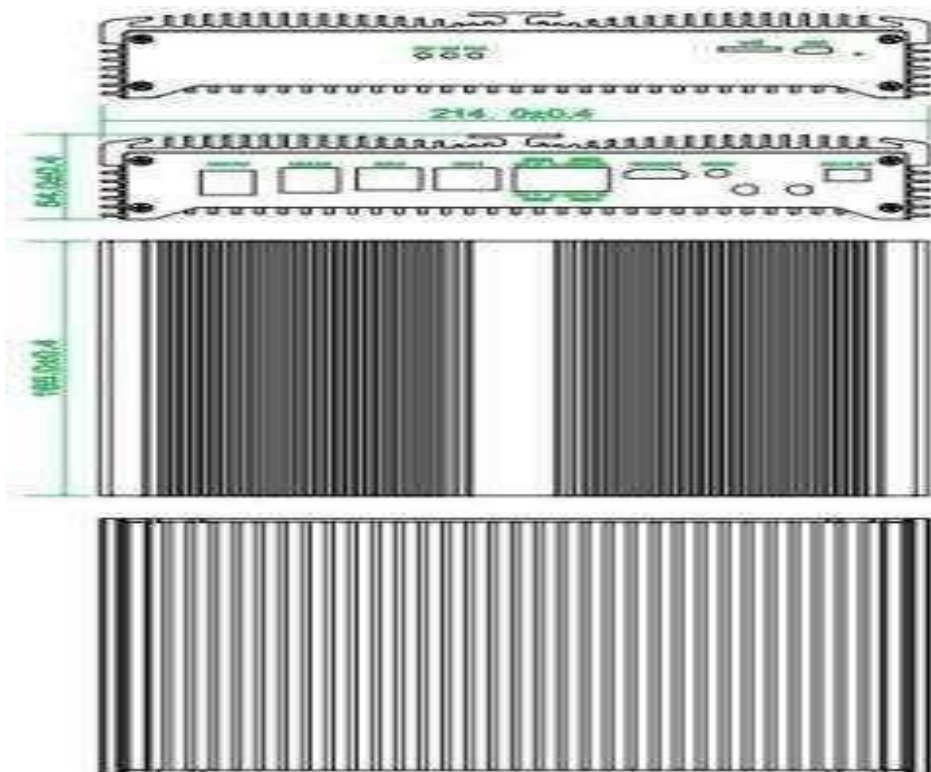
Safety helmet detection and many other subdivision scenarios



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Product Specification:

Mechanical Size

**Resource Diagram:**

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Product Specification Parameter:

			Descriptions	
Core Configuration	Processor	CPU	Quad-core ARM Quad-core ARM 8GHz	
		GPU	ARM Mali-G610 MP4	
		NPU	6 Tops@INT8	
	Internal Storage	LPDR4		Default 8 GB
				Se 4 GB / GB
	Flash Memory	eMMC		Default 32 GB
				64 GB
				1080P@30fps H.264 AVC/MVC

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	Encoding	Video	32 x 1080P@30fps
	Decoding	Video Coding	16 x 1080P@30fps H.264/H.265
	Performance	Image coding and decoding	Supports JPEG cod
	Ethernet	x2	Support access to 10/100/1000M internet
	RS232	x2	It can be connected to smoke detector, infrared detector, access control, input device, or output device

			such as alarm bell (Note: RS232 cable length is recommended not to exceed 10m)
	RS485	x2	It can access smoke detector, infrared detector, access control, alarm input device, or alarm bell and other alarm output device
	HDMI OUT	x1	It can output 4k@120fps/8k@30fps video source to the

			display terminal, which is compatible with audio output
	AUD OUT	x1	Headphones can be connected to play audio files
	USB3 . 0	x2	Can be connected to USB discs, USB mice, USB keyboards and other devices
	USB2 . 0	x2	Can be connected to USB discs, USB mice, USB keyboards and other devices
	DEBUG	x1	System debugging port (Type-C)
	TF card slot	x1	Accessible TF card to expand storage space
	Power supply interface	x1	DC 12V
	Reserve two AI module expansion	NPU	16TOPS@INT8
		Video decoding	16 x 1080P@30fps H.264/H.265 video decoding

Expanded function	interfaces	Video coding	8 x 1080P@30fps H.264/H.265 video coding
	(Single Module Specification)	Image coding and decoding	1080P@800fps JPEG
	WiFi+BT	1x	WiFi6+BT 1x 2.4GHz/5GHz dual frequency WiFi6, blue tooth 5.0 , It is necessary to match the housing and antenna with an expandable external antenna
	4G/5G	x1	Expandable 4G/5G wireless communication module to support wireless upload of edge data
	mSATA	x1	Expandable mSATA high-capacity SSDS
	SIM Card slot	x1	Use with 4G/5G wireless communication module
Linux	File System	ext4	Debian11 、 Ubuntu20.04
Software Developm	Media Processing	Gstreamer	Compatible with RKMPP plug-ins, including video decoding, video encoding, image encoding, picture decoding, display,

ent			RGA and other interface plugging
	AI Development	rknp	Support deep learning frameworks such as TensorFlow, Caffe, Pytorch, Tflite, ONNX, etc., and provide yolov5 and
			resnet50 development cases
Basic Module	Network settings	Command execution	Support static and DHCP network parameter settings
	Running status		CPU, Memory, disk
	Device information		Hardware operating frequency, device junction temperature
	Log management		Running status, running errors, etc
	Time		NTP, Ma

	Upgrade management	Burning upgrade	Support TF card upgrade
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