



EC-R3588SPC

Octa-core AI Industrial Computer

V1.2 2025-3-10

T-CHIP INTELLIGENCE TECHNOLOGY

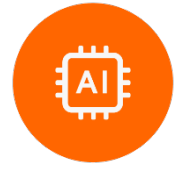


Product features



A new generation of high-end processor

RK3588S is Rockchip's new-gen flagship AIoT SoC with the 8nm lithography process. Equipped with an octa-core 64-bit CPU, its frequency is up to 2.4GHz.



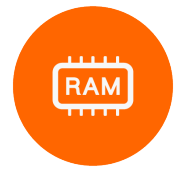
Built-in 6TOPS powerful computing power NPU

Supports mixed operations such as INT4/INT8/INT16, and can achieve network model transformation based on TensorFlow/MXNet/PyTorch and other frameworks.



8K video encoding and decoding

The computer supports 8K@60fps H.265/VP9 video decoding and 8K@30fps H.265/H.264 video encoding. It also supports encoding and decoding simultaneously – up to 32-channel 1080P@30fps decoding and 16-channel 1080P@30fps encoding can be achieved.



Super-large 32GB RAM

Up to 32GB of super-large RAM can be configured, exceeding the limit of the previous RAM and delivering a faster response time. It is able to meet the product requirements for large RAM and high storage capacity.

Product features



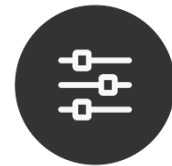
Strong network communication capability

It has 1 × 1000Mbps and 1 × 100Mbps Ethernet, supports 2.4GHz/5GHz dual-band WiFi, Bluetooth 4.2, and can expand 4G LTE.



Supporting various operating systems

Android 12.0 and Ubuntu (Desktop Version and Server Version) are supported. The reliable operation provides a safe and stable system environment for product research and production.



A variety of interfaces

It has rich expansion interfaces such as HDMI2.1, Gigabit Ethernet (1000Mbps), USB3.0, USB2.0, USB-C (OTG/DP1.4), RS232, RS485, CAN, relay.



A wide range of applications

The computer can be widely used in edge computing, Artificial Intelligence, cloud computing, VR/AR, blockchain, smart security, smart home, intelligent retail and smart industry.

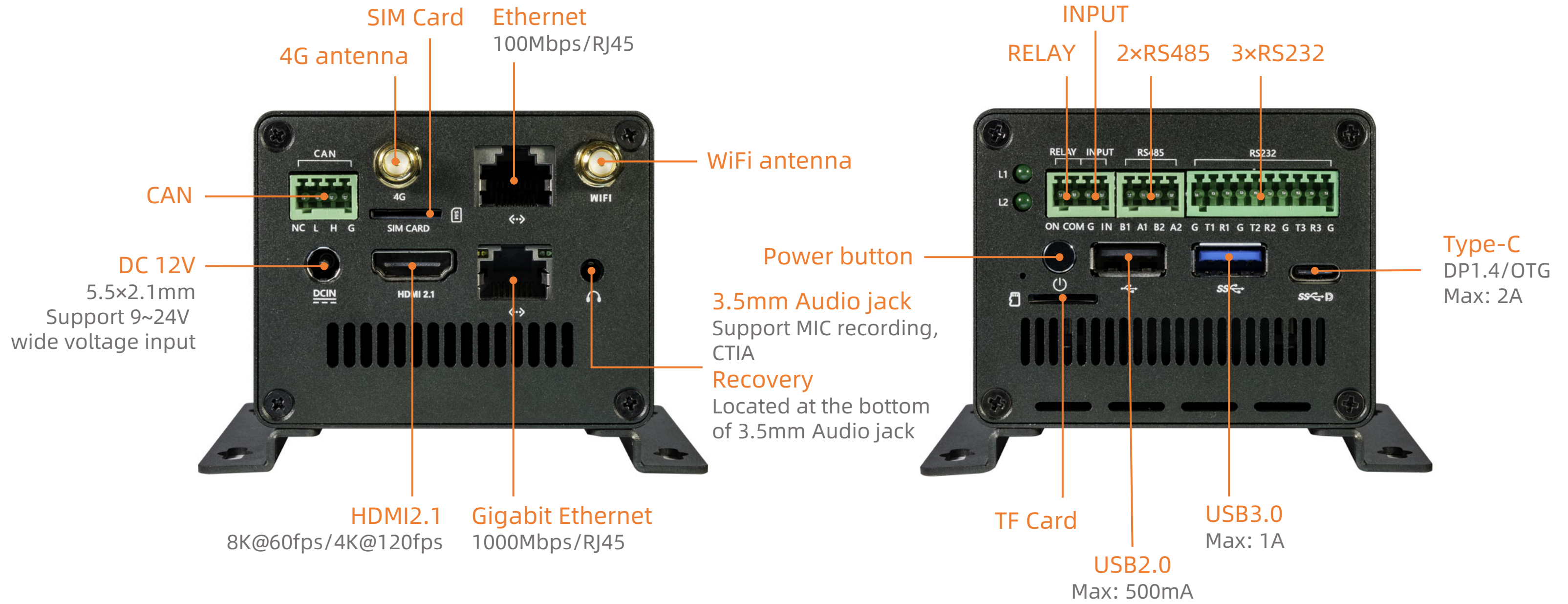
Specifications



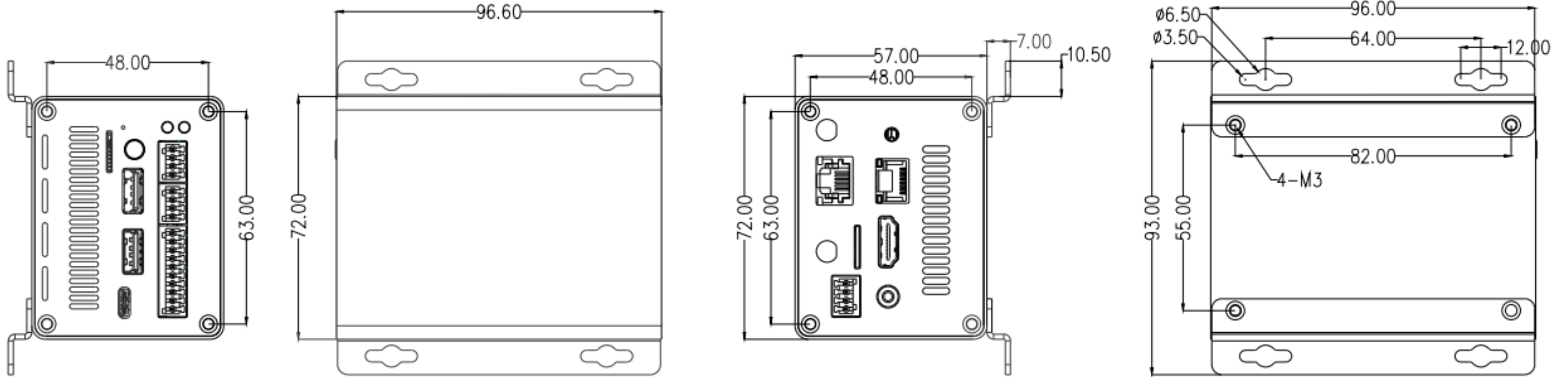
Specifications

Specifications		
Basic Specifications	SOC	RK3588S
	CPU	Octa-core 64-bit(4×Cortex-A76+4×Cortex-A55), 8nm lithography process, up to 2.4GHz
	GPU	ARM Mali-G610 MP4 GPU, support OpenGL ES3.2/OpenCL 2.2/Vulkan1.1, 450 GFLOPS
	NPU	6 TOPS, support INT4/INT8/INT16 mixed operation, support framework switching of TensorFlow/MXNet/PyTorch/Caffe
	Codecs	Decoding: 8K@60fps H.265/VP9/AVS2, 8K@30fps H.264 AVC/MVC, 4K@60fps AV1, 1080P@60fps MPEG-2/-1/VC-1/VP8 Encoding: 8K@30fps H.265/H.264
	RAM	4GB/8GB/16GB/32GB 64-bit LPDDR4/LPDDR4x/LPDDR5
	Storage	16GB/32GB/64GB/128GB eMMC
	Storage Expansion	1 × M.2(Scalable 2242 SATA3.0 SSD(default), compatible with 2242 PCIe 2.0 NVMe SSD), 1 × TF Card
	Power	DC 12V(5.5×2.1mm, support 9V~24V wide voltage input)
	Power Consumption	Min: ≈0.42W(12V/35mA), Normal: ≈2.25W(12V/190mA), Max: ≈12W(12V/1000mA)
	OS	Android 12.0, Ubuntu desktop and Server
	Dimension	96.6mm × 93.0mm × 64.0mm
	Weight	≈0.45kg
	Environment	Operating Temperature: -20°C ~ 60°C, Storage Temperature: -20°C ~ 70°C, Operating Humidity: 10% ~ 90%RH(non-condensing)
Interface Specifications	Ethernet	1 × Gigabit Ethernet(RJ45), 1 × 100Mbps Ethernet(RJ45)
	Wireless	2.4GHz/5GHz dual-band WiFi(802.11 a/b/g/n/ac), Bluetooth 4.2, extended to 4G network
	Video output	1 × HDMI2.1(8K@60fps/4K@120fps), 1 × DP1.4(8K@30fps), support dual screen output with different displays
	Audio	1 × 3.5mm Audio jack(Support Mic), 1 × HDMI2.1 Audio output, 1 × DP1.4 Audio output
	USB	1 × USB3.0(Max: 1A), 1 × USB2.0(Max: 500mA), 1 × USB-C(USB3.0 OTG/DP1.4, Max: 2A)
	Other Interfaces	RS232, RS485, CAN, Relay, Input, 1 × SIM Card, 1 × Recovery

Interface description



Dimension





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Contact Us
(+86)18688117175



E-mail
global@t-firefly.com



Website
<https://en.t-firefly.com/>



Address
Room 2101, Hongyu Building, #57 Zhongshan 4Rd, East District,
Zhongshan, Guangdong, China.