01 Product Overview

Vibration | Shock | Lightning | Dust/Oil | ESD | Wide Temp. | EMI



The EA-R300 series is a compact fanless industrial edge AI computer based on the Rockchip RK3588 octa-core 64-bit processor, integrating 6 TOPS NPU computing power, suitable for machine vision, industrial gateways, device data acquisition, and edge AI inference scenarios. The product adopts the FlexCore™ modular architecture, supports flexible storage and I/O configurations, and integrates Gigabit Ethernet ports, USB, and various industrial communication interfaces. The entire unit features an aluminum alloy structure, 9-36V wide voltage power supply, and fanless cooling design, providing a flexible and reliable edge computing platform for industrial intelligent applications.

Features

FlexCore | Fanless | 9~36V | Quad LAN | USB 3.0 | USB 2.0 | Type-C | HDMI | RS-232 | RS-485 | CAN BUS

Certifications

CE | FCC | ISO9001

Key Features

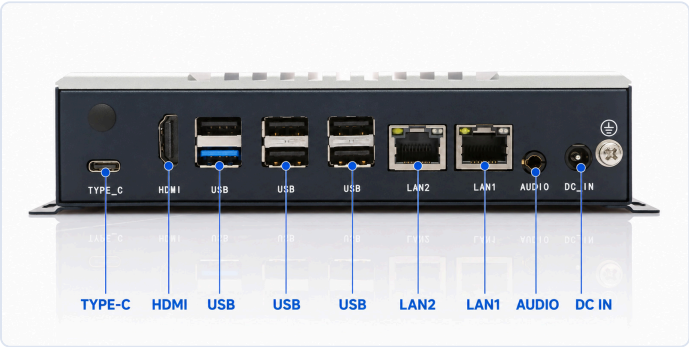
- ★ Modular Architecture: FlexCore™ core module separated from industrial carrier board, supporting flexible configuration and customization.
- ★ High-Performance Computing: RK3588 octa-core processor with integrated Mali-G610 MC4 GPU.
- ★ Edge AI Inference: Integrated 6 TOPS (INT8) NPU, supporting visual recognition and AI inference.
- ★ Flexible Storage: 4GB/8GB/16GB LPDDR4X memory, 128GB to 1TB storage options.
- ★ Rich USB Interfaces: Standard configuration with 6 USB ports, meeting multi-peripheral access requirements.
- ★ Flexible Network Configuration: 2 Gigabit Ethernet ports standard, 4 Gigabit Ethernet ports optional.
- ★ Industrial Communication Interfaces: Integrated RS232/RS485, CAN, and 8-channel DI + 8-channel DO digital I/O, meeting industrial device connection and signal acquisition requirements.
- ★ Multi-OS Support: Android 12 and Linux (Kernel 5.10).
- ★ Industrial-Grade Design: 9-36V wide voltage input, auto power-on, fanless cooling.
- ★ Compact and Easy to Integrate: Aluminum alloy chassis, supporting desktop and wall mounting.

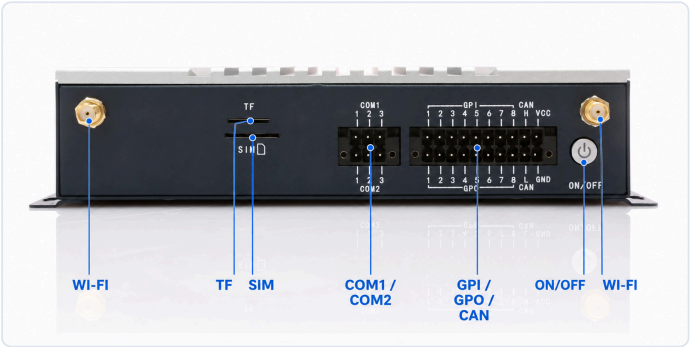
02 Product Images





03 I/O Interface





04 Technical Specifications

- Core Hardware

Parameter	Specification
Processor	Rockchip RK3588, 8-core 64-bit
CPU	4 × Cortex-A76, up to 2.4GHz + 4 × Cortex-A55, up to 1.8GHz
NPU Computing Power	6 TOPS (INT8)
GPU	Arm Mali-G610 MC4
Power Consumption	12W
Video Decoding	H.265/VP9/AVS2: up to 8K@60fps; H.264: up to 8K@30fps; AV1: up to 4K@60fps
Video Encoding	H.264/H.265: up to 8K@30fps
Memory	LPDDR4X, 4GB/8GB/16GB optional
System Storage	128GB/256GB/512GB/1TB optional

I/O Interfaces

Parameter	Specification
USB 3.0	1 × USB 3.0 Type-A
USB 2.0	5 × USB 2.0 Type-A (standard configuration); 1 × USB 2.0 Type-A (four-Ethernet-port configuration)
Type-C	1 × Type-C
Ethernet Port	2 × Gigabit RJ45 Ethernet ports (standard configuration); 4 × Gigabit RJ45 Ethernet ports (optional configuration)
CAN	1 × CAN bus interface
Serial Port	2 × RS485, configurable as RS232
GPIO	8 × digital input + 8 × digital output
HDMI	1 × HDMI, supporting HDMI 2.0/2.1 configuration
Audio	1 × headphone/microphone combo jack
TF	1 × TF
SIM	1 × SIM, supporting 4G full network
Wireless Network	Supports wireless communication expansion

Power Input

Parameter	Specification
Power Connector	DC5521
Input Voltage	DC 9-36V wide voltage input
Auto Power-On	Supports auto power-on

Product Attributes

Parameter	Specification
Dimensions	184.1 (W) × 183.5 (D) × 39.8 (H) mm
Weight	0.5 KG net weight
Chassis Material	6061 high-strength aluminum alloy
Mechanical Structure	Aluminum extrusion + sheet metal structure
Mounting	Desktop, wall mount
Cooling System	Fanless passive cooling
MTBF	60,000 hrs

Operating Environment

Parameter	Specification
Operating Temp.	0~50℃ (wide temp. optional)
Storage Temp.	-10~60℃ (wide temp. optional)
Humidity	10%~95%, non-condensing
EMC	CE, FCC (EN 55032 & EN 55035)
EMC Harmonics	EN IEC 61000-3-2

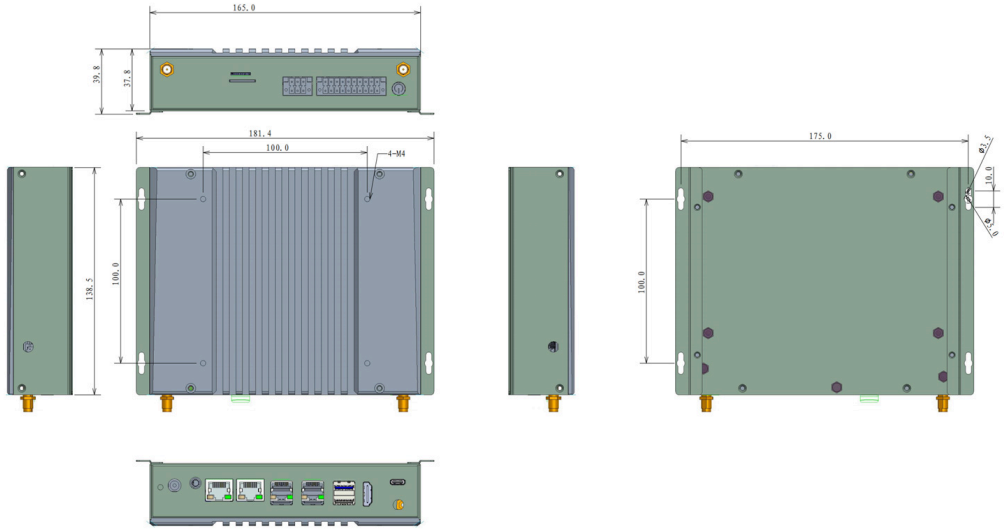
Certifications & Compliance

Parameter	Specification
Factory Cert.	ISO9001: 2015
Product EMC Compliance	CE, FCC
EMC Reference Standards	EN 55032, EN 55035
Boot Logo Customization	Supports boot logo customization

Operating System

Parameter	Specification
Operating System	Android 12 / Linux (Kernel 5.10)

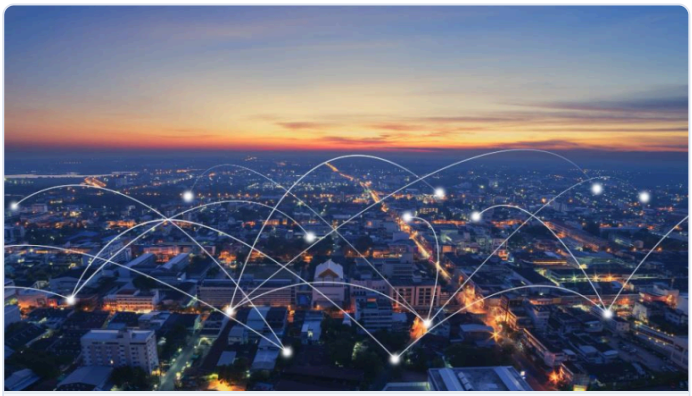
05 Mechanical Dimensions



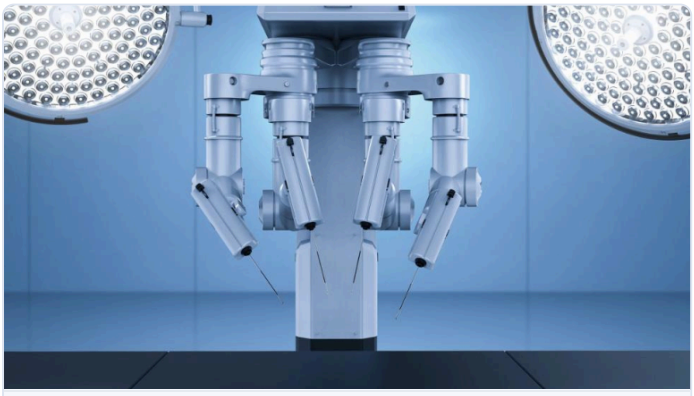
06 Applications



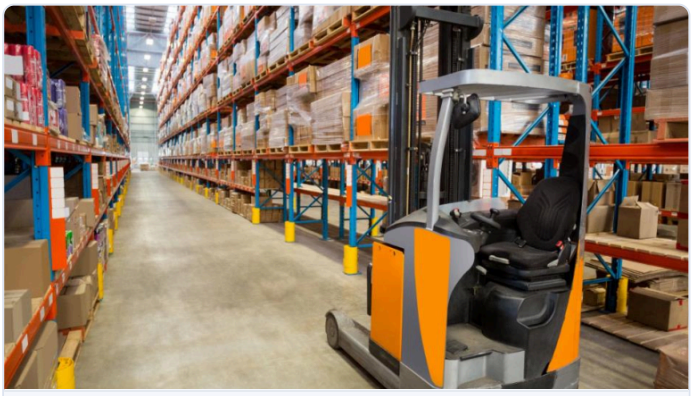
Edge AI



Industrial Gateway



Machine Vision



Computing & Control Integrated

07 Ordering Information

NO.	Model	Part No.	Processor	Memory	Storage
1	EA–R300	C12.01.02.00	Rockchip RK3588	4GB / 8GB / 16GB	128GB / 256GB / 512GB / 1TB

※ Note: Flexible I/O configuration, standard with 6 USB ports and 2 Gigabit Ethernet ports; 4 USB 2.0 ports can be replaced with 2 Gigabit Ethernet ports to achieve a 4–port configuration. Specific specifications are subject to actual delivery; please consult our sales team for details.

※ Specifications subject to change without notice. Data measured under standard test conditions.
For customization or support, contact CESIPC: 0755–85286060 · sales10@cesipc.com · www.cesipc.com
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