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INDUSTRIAL PRODUCT DATASHEET

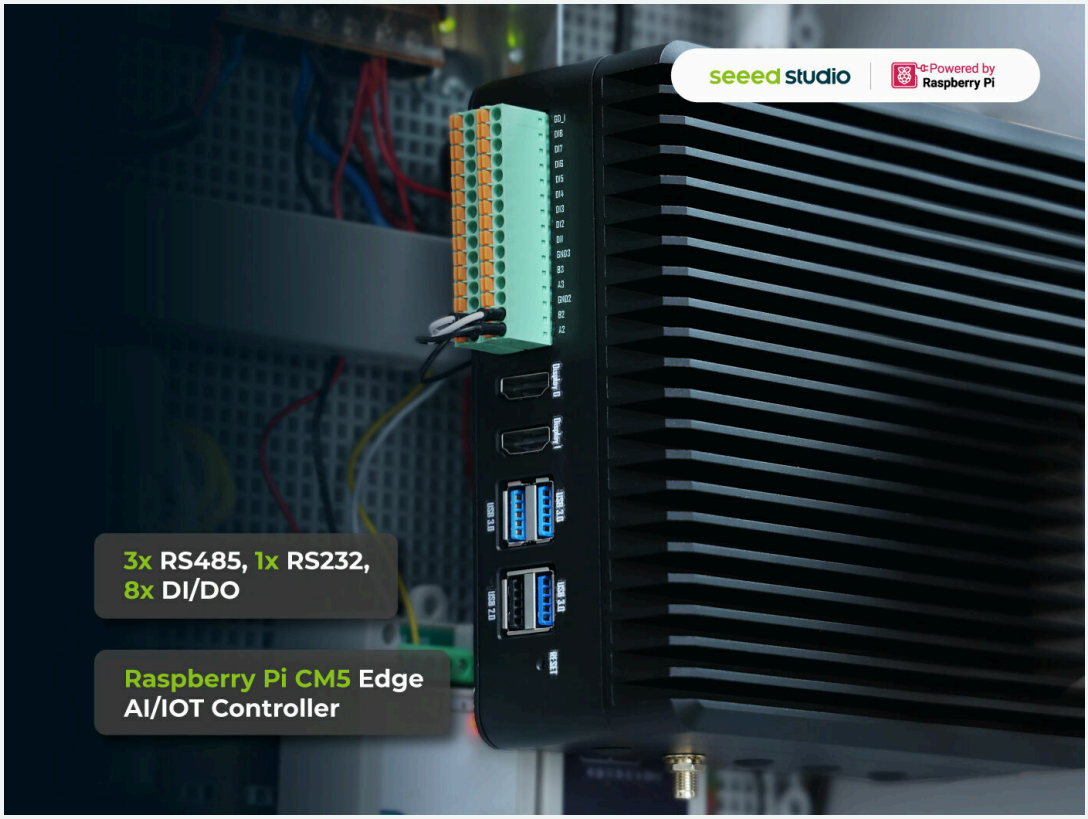
reComputer Industrial R2046-10 - The Most Reliable and Powerful Raspberry Pi Edge AI/IOT Controller

Industrial-grade edge AI/IOT controller powered by Raspberry Pi CM5 with optional Hailo-8 AI acceleration (26 TOPS).

SKU	UPDATED	PRICE
100077422	2026-11-11 09:26:54	$805.86(Excl. VAT)



Overview



Industrial-grade edge AI/IOT controller powered by Raspberry Pi CM5 with optional Hailo-8 AI acceleration (26 TOPS). Features 16GB RAM, 64GB eMMC, extensive industrial interfaces, versatile wireless options, fanless cooling, wide temperature range (-20°C to 65°C), and long-term production support. Engineered for dependable AI performance and seamless connectivity in demanding environments.

Key Features

01 **Powerful Performance with Raspberry Pi CM5**

Broadcom BCM2712 quad-core Arm Cortex-A76 64-bit SoC @ 2.4GHz. Features up to 16GB RAM and 32GB eMMC.

02 **Robust Heat Dissipation**

High-performance fanless cooling, engineered to handle the intense heat of AI workloads and ensure stable operation from -20°C to 65°C.

03 **Industrial-Grade Reliability**

High Accuracy RTC, hardware watchdog and optional UPS supercapacitor. Optional TPM/ATECC608A. IP40, aluminum alloy enclosure provides industrial-grade protection. Supports DIN-rail and wall mounting. Guaranteed production until at least December 2036.

04 **AI-Optimized Computing**

With the optional Hailo-8 AI accelerator, it delivers up to 26 TOPS, enabling real-time, high-performance AI vision processing across multiple channels.

05 **Rich Industrial Connectivity**

3x RS485, 1x RS232, 8x DI, 8x DO, all isolated. 1x 10M/100M/1000M Ethernet (PoE), 1x 10M/100M Ethernet. 2x HDMI 2.0. 3x Type-A USB3.0, 1x Type-A USB2.0, 1x Type-C USB2.0 (for OS update). 1x Nano SIM card slot.

06 **Versatile Wireless Connectivity**

On chip Wi-Fi and BLE. Flexible expansion via Mini-PCIe for LTE, LoRa®, Zigbee. M.2 B-Key for 4G/5G.

Product Gallery







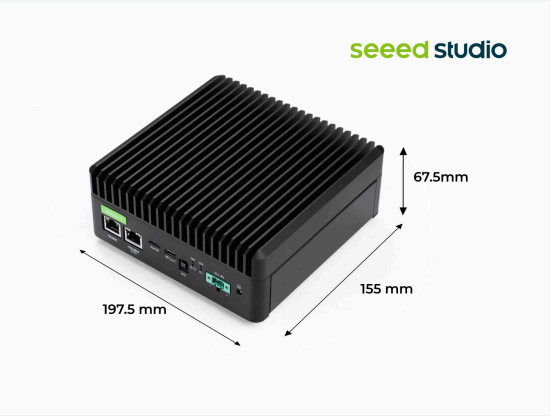




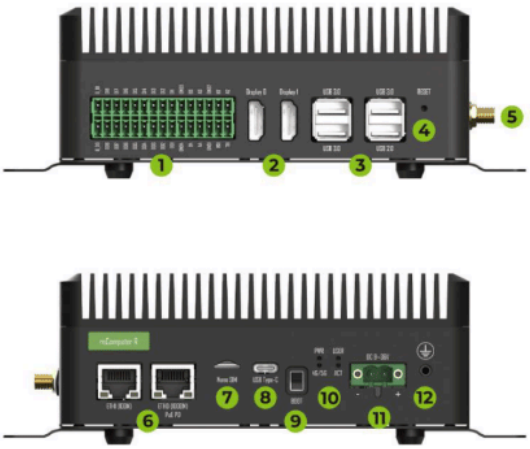






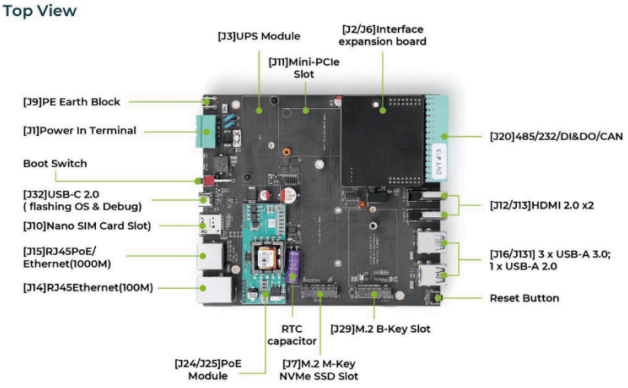

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67.5mm
155 mm
197.5 mm

Hardware Overview

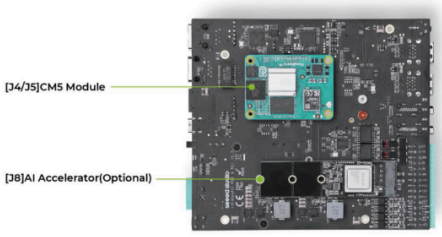


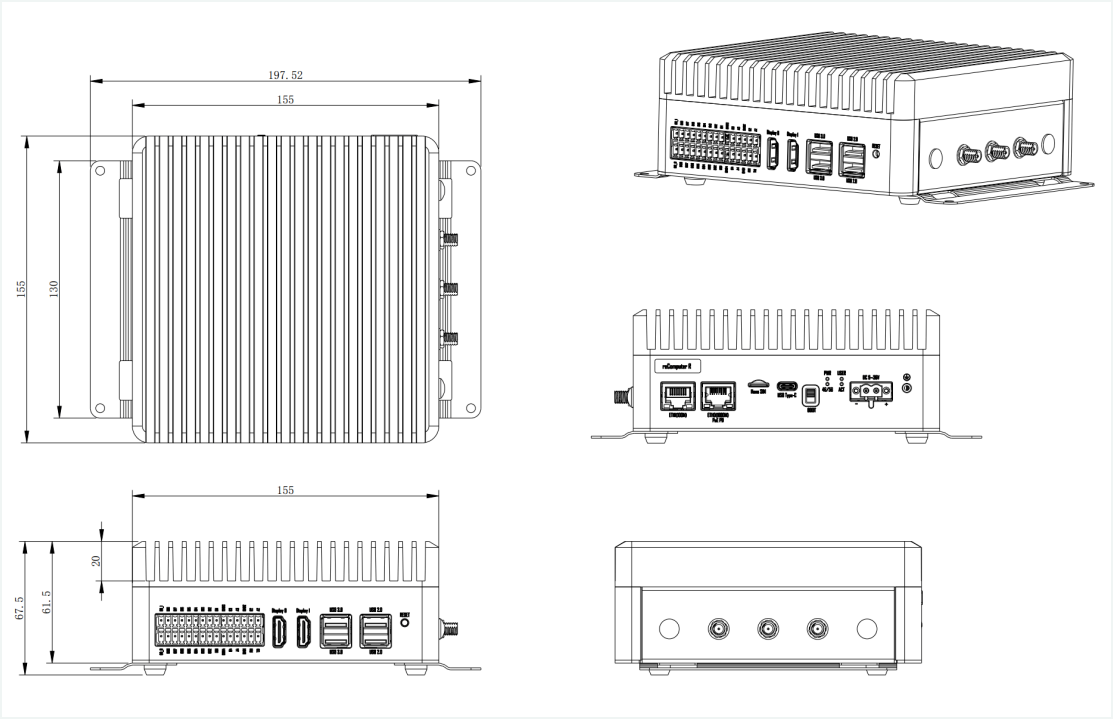
1. 3x RS485(Isolated) 8 x Isolated DI Ports
   1x RS232(Isolated) 8 x Isolated DO Ports
2. 2 x HDMI 2.0
3. 3 x USB-A 3.0 Host 1 x USB-A 2.0 Host
4. Reset Hole
5. 5 x Reserved Antenna Ports for Wireless
6. 1 x 10/100/1000 Mbps(supports PoE PD)
   1 x 10/100 Mbps IEEE 802.3/802.3u
7. Nano SIM Card Slot
8. USB-C 2.0 (For flashing OS & Debug)
9. Reboot Switch
10. 4 x LED indicators
11. DC 9V~36V, 2-pin Terminal Block
12. Grounding point

Top View



Bottom View




197.52
155
155
130
155
20
67.5
61.5

Applications

- **With advanced features like object detection, object recognition, object tracking, OCR, and abnormal event detection with real-time alert triggers, this industrial-grade edge AI/IOT controller is designed to deliver exceptional performance in resource-constrained environments.**
- **Manufacturing & Industrial Automation:** With rich industrial interfaces, the controller integrates seamlessly with different sensors, PLCs, and machinery, enabling efficient process monitoring and control. It supports multiple communication protocols for real-time data acquisition and remote equipment management, fostering a smarter and more efficient factory.
- **AI-Powered Video Analytics & Surveillance:** Integrated into NVR systems for real-time video analytics, including anomaly detection, object detection, crowd monitoring and behavior analysis, enhancing situational awareness and security efficiency.
- **Smart Transportation:** Acts as an AI/IoT gateway for real-time processing of visual data from multiple sensors and camera feeds at the edge, enabling intelligent traffic flow analysis and smart parking management to enhance transportation monitoring management capabilities.
- **Smart Building:** Integrates sensors and IoT devices to monitor and optimize building systems such as lighting, HVAC, and security. Uses AI for energy efficiency, predictive maintenance, and occupant comfort, enhancing building management.
- **Smart Retail:** Create innovative smart retail solutions using AI-driven features like real-time visual product recognition, personalized shopping experiences, and advanced customer behavior analytics for optimized store operations.

Resource Links

- https://www.seeedstudio.com/reComputer-Industrial-R2046-10-p-6971.html
- Seeed Raspberry Pi Flyer
- reComputer_Industrial_R2000_User_Mannual
- reComputer_industrial_R2000_Schematic
- reComputer_Industrial_R2000/2100_3D_File
- Seeed Raspberry Pi Flyer-CN
- Seeed reComputer Industrial R Series Flyer

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