

INDUSTRIAL PRODUCT DATASHEET

reComputer Industrial R2145-10 - The Most Reliable and Powerful Raspberry Pi Edge AI/IOT Controller

Industrial-grade edge AI/IOT controller powered by Raspberry Pi CM 5 with optional Hailo-8 AI acceleration (26 TOPS). Features 16 GB RAM, 32 GB e MMC, 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

SKU

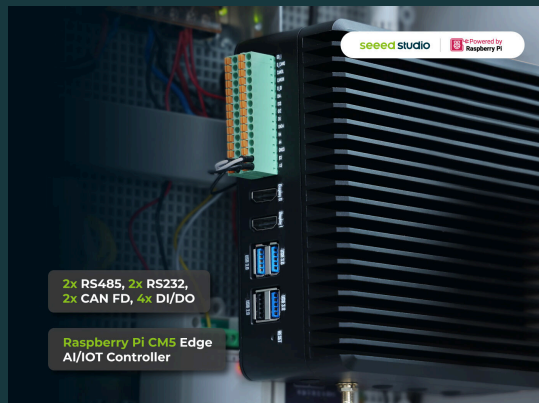
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PRICE

\$595.00(Excl. VAT)



Overview



Figure 1. ReComputer Industrail R2000 6

Industrial-grade edge AI/IOT controller powered by Raspberry Pi CM 5 with optional Hailo-8 AI acceleration (26 TOPS). Features 16 GB RAM, 32 GB 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

2x RS485, 2x RS232, 2xCANFD, 4x DI, 4x 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



Figure 1. Recomputer Industrail R2100 3



Figure 2. Recomputer Industrail R2100 3



Figure 3. Recomputer Industrail R2100 3



Figure 4. Recomputer Industrail R2100 3



Figure 5. Recomputer Industrail R2100 3



Figure 6. Recomputer Industrail R2100 3



Figure 7. ReComputer Industrail R2100 3



Figure 8. ReComputer Industrail R2100 3



Figure 9. ReComputer Industrail R2100 3

Specification

Hardware Specification		
Product Series	R21xx-12	R21xx-10
CPU	Raspberry Pi Compute Module 5, 2.4GHz quad-core 64-bit Arm Cortex-A76	
AI Processor	1x Pre-installed Hailo-8 M.2 AI Acceleration, 26TOPS	*
Operating System	Raspbian, Debian	
Memory & Storage	2GB/4GB/8GB/16GB RAM, 16GB/32GB/64GB eMMC	
System Specification		
Power Input	DC 9V~36V, 2-pin Terminal Block	
PoE(as powered device)	IEEE 802.3 at Standard 25.5W PoE	
Power Switch	No	
Reboot Switch	Yes	
Interface		

Ethernet & USB	1x 10/100/1000 Mbps(supports PoE PD); 1x 10/100 Mbps IEEE 802.3/802.3u	
3x USB-A 3.0 Host; 1x USB-A 2.0 Host; 1x USB-C 2.0 (For flashing OS & Debug)		
COM and I/O	2x RS485(Isolated); 2x RS232(Isolated); 2x CAN FD(Isolated)	
4x DI Ports(Isolated), input Voltage: 5~24V DC; 4x DO Ports(Isolated), output Voltage: <60V DC		
SIM Card	1x Nano SIM Card Slot	
M.2 Slot	1x M.2 M-key 2280 Slot for NVMe SSD; 1x M.2 M-key 2280 Slot for AI Accelerator(pre-installed Hailo-8 M.2 AI Acceleration 26TOPS); 1x M.2 B-key 3042/3052 Slot for 5G/4G LTE	1x M.2 M-key 2280 Slot for NVMe SSD ; 1x M.2 M-key 2280 Slot for AI Accelerator; 1x M.2 B-key 3042/3052 Slot for 5G/4G LTE
Mini-PCIe	1x Mini-PCIe for LoRa module	
Control & Indication	4x LEDs; 1x Buzzer; 1x Reset Button	
HDMI	2 x HDMI 2.0	
Wireless Communication	Wi-Fi 2.4/5.0 GHz(On-chip); BLE 5.0(On-chip);	
USB LoRa®*/SPI LoRa®*		
4G LTE/5G*		
USB Zigbee*		
Standards		
EMC	ESD: EN61000-4-2, Level 3; EFT: EN61000-4-4, Level 2; Surge: EN61000-4-5, Level 2	
Certification	CE, FCC, TELEC, RoHS, REACH	
Device Specification		
Ingress Protection	IP40	
Temperature	Operating Temperature -20~65°C Storage Temperature -40~85°C	
Operating Humidity	10~95% RH	
Reliability	SuperCAP UPS LTC3350 Module*	
Hardware Watchdog: 1~255s		
High Accuracy RTC		
Security	Encryption Chip TPM 2.0*	
ATECC608A*		
Heat Dissipation	Fanless	
Warranty	2 years	
Production Lifetime	Until December 2036	
Dimension(W x H x D) & Weight(Net)	197.5 mm x 155 mm x 67.5 mm, 1280g	
Enclosure	6063 aluminum alloy heat sink, 5052 aluminum alloy enclosure	
Mounting	DIN-rail/Wall	
Statement	Options marked with * require additional purchase according to the bundle.	

Hardware Overview

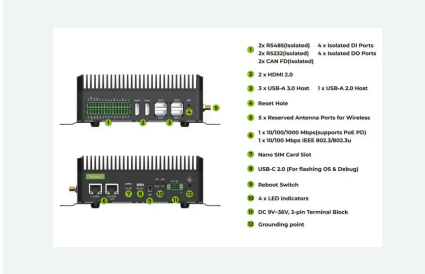


Figure 1. Image 1911

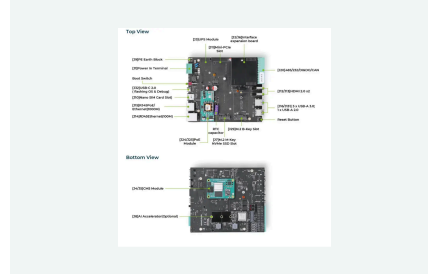


Figure 2. Image 181

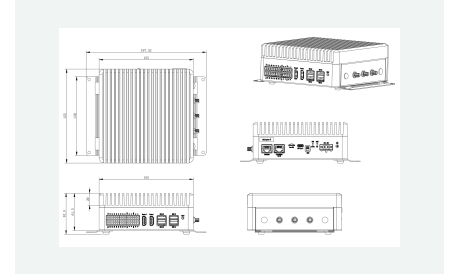


Figure 3. MTY4ODg1NTkyNTI4NT10NA 92739 2E I0nQQCI OzkOS I755483830

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.

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.

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.

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.

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 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.

Part List

reComputer Industrial R2145-10	x 1
Mounting Bracket	x 2
Bracket Screw	x 4
DIN-rail Clip	x 1

DC Power Female Jack to Screw Terminal Adapter	x 1
12V/3A Power Adapter (with 4 interchangeable adapter plugs)	x 1
15*2-pin Terminal Block Connector (Male)	x 1
120Ω Resistor	x 5
Wi-Fi/BLE Antenna	x 1
User Manual	x 1

Compliance & Logistics

HSCODE	8471504090
USHSCODE	8517180050
UPC	
EUHSCODE	8471707000
COO	CHINA

Logistics	Value
ECCN	EAR99
HSCODE	8471504090
USHSCODE	8517180050
EUHSCODE	8471707000
COO	CHINA

Resource Links

- <https://www.seeedstudio.com/reComputer-Industrial-R2145-10-p-6548.html>
- [Seeed Raspberry Pi Flyer](#)
- [reComputer_Industrial_R2100_User_Mannual](#)
- [reComputer_Industrial_R2100_Schematic](#)
- [reComputer_Industrial_R2000/2100_3D_File](#)
- [Seeed Raspberry Pi Flyer-CN](#)
- [Seeed reComputer Industrial R Series Flyer](#)

Seeed Technology Co.,Ltd.

9F, Building G3, International E City,
Zhongshanyuan Road, Nanshan, Shenzhen, China

Tel: +86 0755-80695676

Web: www.seeed.cc

Shop: www.seeedstudio.com