

INDUSTRIAL PRODUCT DATASHEET

reComputer Industrial R2246-12 - The Most Reliable and Powerful Raspberry Pi Edge AI/IOT NVR with 26 TOPS

The reComputer Industrial R2246-12 is a powerful Raspberry Pi CM5 edge AI/IoT NVR with 26 TOPS AI acceleration and industrial-grade connectivity for reliable multi-camera AI analytics and automation.

SKU

100028084

UPDATED

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PRICE

\$925.90(Excl. VAT)



Overview



The reComputer Industrial R2246-12 is a Raspberry Pi CM5-based edge AI/IoT NVR with a Hailo-8 AI accelerator delivering up to 26 TOPS, up to 16GB RAM, and fanless industrial-grade reliability (-20°C to 50°C). It offers rich industrial connectivity including 2x RS485, 1x RS232, 4x DI/4x DO, 1x CAN FD, and 4x PoE PSE Gigabit Ethernet ports, supporting applications in manufacturing, AI-powered video analytics, smart transportation, smart building, and smart retail.

Key Features

Note: Options marked with * require additional purchase according to the bundle.

- For 4G functionality, both a 4G module and a 4G antenna must be selected.
- For GPS functionality, both a 4G module and a GPS antenna must be selected.
- For LoRaWAN® functionality, LoRaWAN® module must be selected.
- **Price Increase Announcement**

Date: March 2, 2026

Due to increased demand for modules and SSDs, reComputer' pricing is expected to rise by approximately \$20-\$80 in the coming weeks. Please confirm your orders and requirements accordingly to help secure availability.

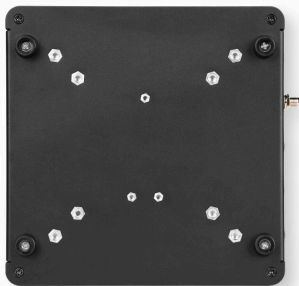
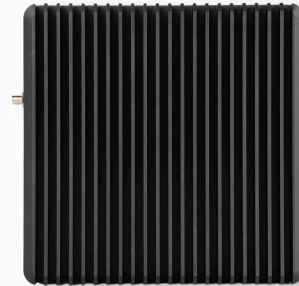
- **Powerful Performance Driven by Raspberry Pi CM5:** Equipped with Broadcom BCM2711 quad-core Cortex-A72 (ARM v8) 64-bit SoC running at 1.5GHz, it supports up to 16GB RAM, ensuring smooth multitasking and efficient data processing for AI and NVR workloads.
- **Robust Heat Dissipation:** High-efficiency fanless cooling design is optimized to dissipate the heat generated by heavy AI computing tasks, enabling stable operation within a wide operating temperature range of -20°C to 50°C.
- **Industrial-Grade Reliability:** Integrated with high-accuracy RTC and hardware watchdog; supports optional UPS supercapacitor, TPM/ATECC608A security module. Boasts an IP40-rated aluminum alloy enclosure for enhanced protection against dust and mechanical damage. Compatible with DIN-rail and wall mounting for flexible installation. Guaranteed production support until at least January 2036.
- **AI-Optimized Computing:** Features a standard Hailo-8 AI accelerator delivering up to 26 TOPS, enabling low-latency, high-performance real-time AI vision processing across multiple camera channels.
- **Rich Industrial Connectivity:** 2x RS485, 1x RS232, 4x DI/4x DO (all isolated), 1x CAN FD; 4x 1000M Ethernet ports (supporting PoE PSE, 12W max per port) + 1x additional 1000M Ethernet port, ideal for multi-camera NVR deployment with direct power supply; 2x HDMI 2.0, 4x Type-A USB3.0, 1x 3.5mm Audio Jack; 1x Nano SIM card slot for cellular network access.
- **Versatile Wireless Connectivity:** On-chip Wi-Fi and BLE for basic wireless communication; Mini-PCIe slot for expansion of LTE, LoRa®, Zigbee modules; M.2 B-Key slot for 4G/5G modules to meet diverse wireless connectivity needs.

Seeed Studio Tutorial of AI Kit with Raspberry Pi: From Zero to Hero

This course is designed to teach you how to harness the power of AI on the Raspberry Pi, with a focus on using an AI kit to perform computer vision tasks. You'll learn how to integrate AI into real-world IoT applications, from object detection and image classification to more complex visual recognition tasks.

We will guide you step-by-step through setting up your Raspberry Pi, using AI frameworks, and deploying these models in various practical scenarios.

Product Gallery





Specification

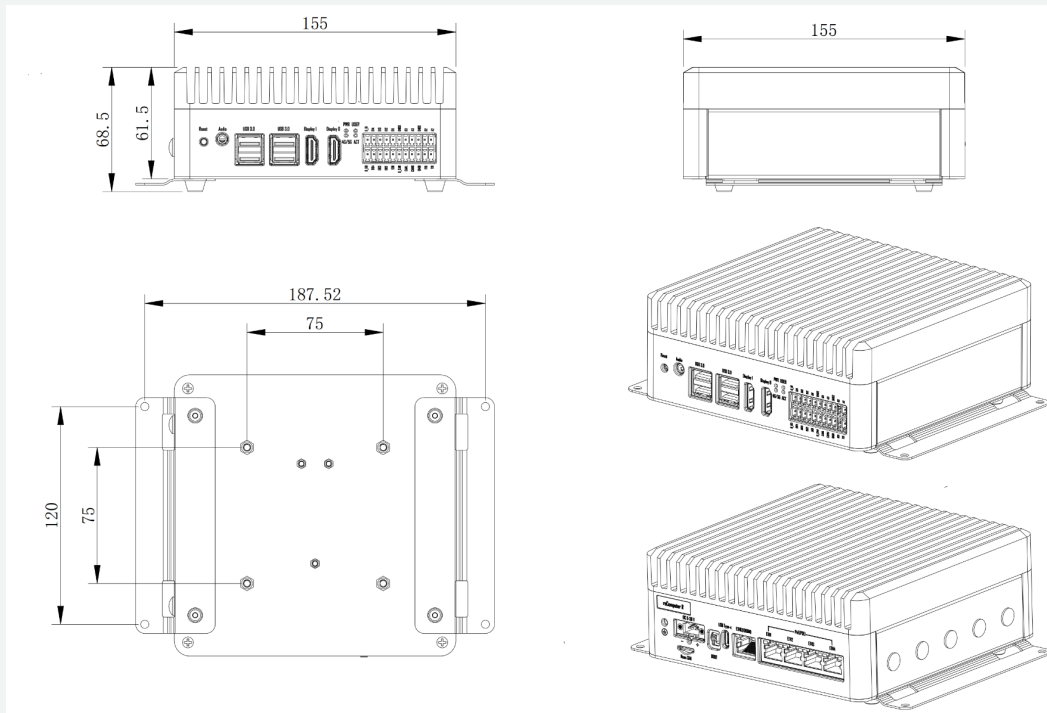
Parameter	Description
Hardware Specification	
Product Series	R22xx-12
CPU	Raspberry Pi Compute Module 5, 2.4GHz quad-core 64-bit Arm Cortex-A76
AI Processor	Pre-installed 1x Hailo-8 M.2 AI Acceleration 26TOPS
Operating System	Raspbian, Debian
RAM	8GB/16GB
eMMC	32GB/64GB
System Specification	
Power Input	DC 9V~36V, 2-pin Terminal Block
PoE	4 x PoE PSE
Power Switch	No
Reboot Switch	Yes
Interface	
Ethernet	4 x 10/100/1000 Mbps(supports PoE PSE)
	1 x 10/100/1000 Mbps IEEE 802.3/802.3u
USB	4 x USB-A 3.0 Host
	1 x USB-C 2.0 (For flashing OS & Debug)
RS485	2x RS485 (Isolated)
RS232	1x RS232 (Isolated)
CAN	1x CAN FD (Isolated)
DI	4 x Isolated DI Ports
	Input Voltage: 5~24V DC
DO	4 x Isolated DO Ports
	Output Voltage: <60V DC
SIM Card	1x Nano SIM Card Slot
M.2 Slot	2x M.2 M-key 2280 Slot for NVMe SSD ; 1x M.2 M-key 2280 Slot for AI Accelerator (Pre-installed 1x Hailo-8 M.2 AI Acceleration 26TOPS); 1x M.2 B-key 3042/3052 Slot for 5G/4G LTE
Mini-PCle	1x Mini-PCle for LoRa module
LED	4 x LED indicators

Buzzer	1
Reset Button	1
Audio	1x 3.5mm Audio
HDMI	2 x HDMI 2.0
Wireless Communication	
Wi-Fi 2.4/5.0 GHz	On-chip Wi-Fi
BLE 5.0	On-chip BLE
LoRa®	USB LoRa®*/SPI LoRa®*
4G/5G Cellular	4G LTE/5G*
Zigbee	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
Ambient Conditions	
Ingress Protection	IP40
Operating Temperature	-20~50 °C
Operating Humidity	10~95% RH
Storage Temperature	-40~85 °C
Others	
Supercapacitor UPS	SuperCAP UPS LTC3350 Module*
Hardware Watchdog	1~255s
RTC	High Accuracy RTC
Security	Encryption Chip TPM 2.0*
	ATECC608A
Heat Dissipation	Fanless
Warranty	2 years
Production Lifetime	Until January 2036
Statement	Options marked with * require additional purchase according to the accessories list.

Hardware Overview



- ❶ Reset Hole
- ❷ 1x 3.5mm Audio
- ❸ 4x Type-A USB3.0
- ❹ 2x HDMI2.0
- ❺ 1x RS232(Isolated)
2x RS485(Isolated)
1x CAN FD(Isolated)
4 x Isolated DI Ports
4 x Isolated DO Ports
- ❻ Grounding point
- ❼ DC 9V~36V, 2-pin Terminal Block
- ❽ Nano SIM Card Slot
- ❾ Reboot Switch
- ❿ USB-C 2.0 (For flashing OS & Debug)
- ⓫ 1 x 10/100/1000 Mbps IEEE 802.3/802.3u
- ⓫ 4 x 10/100/1000 Mbps(supports PoE PSE)
- ⓫ 5 x Reserved Antenna Ports for Wireless



Applications

- **Manufacturing & Industrial Automation:** Leveraging rich industrial interfaces (2x RS485, 1x RS232, 4x DI/4x DO, 1x CAN FD), it seamlessly integrates with various sensors, PLCs, and industrial machinery, enabling efficient process monitoring and automated control. Supporting multiple industrial communication protocols, it facilitates real-time data acquisition and remote equipment management, paving the way for smarter, more efficient factory operations.
- **AI-Powered Video Analytics & Surveillance:** As a dedicated AI-NVR, it excels in real-time multi-channel video analytics—covering anomaly detection, object identification, crowd density monitoring, and behavior analysis. With 4x PoE PSE Gigabit Ethernet ports (12W max per port), it directly powers and connects IP cameras, delivering instant alerts for security incidents and significantly improving situational awareness and response efficiency.
- **Smart Transportation:** Serves as an edge AI gateway to process visual data from multi-channel cameras and sensors in real time. Enables intelligent traffic flow analysis, vehicle identification, and smart parking management. Its industrial-grade stability (-20°C to 50°C operating temperature) and rich connectivity ensure reliable operation in outdoor and roadside environments, enhancing overall transportation monitoring capabilities.
- **Smart Building:** Integrates with building sensors and IoT devices to monitor and optimize core systems such as lighting, HVAC, and access control. Utilizes AI algorithms for energy consumption optimization, predictive maintenance of equipment, and occupant comfort adjustment. The DIN-rail and wall-mounting design supports flexible deployment in building control cabinets, streamlining building management workflows.
- **Smart Retail:** Powers innovative retail solutions with AI-driven visual analytics: real-time product recognition, customer flow statistics, and shopper behavior analysis. Enables personalized in-store promotions and optimized shelf layout planning. Its multi-interface expansion capability supports seamless integration with POS systems and digital signage, boosting overall store operational efficiency.

Part List

reComputer Industrial R22xx	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
19V/4.7A Power Adapter (with 1x US AC plugs + 1x EU plugs) x1	x 1
11*2-pin Terminal Block Connector (Male) x1	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	

Resource Links

- <https://www.seeedstudio.com/reComputer-Industrial-R2246-12-p-6974.html>
- [Seeed Raspberry Pi Flyer](#)
- [reComputer Industrial R20/R21/R22 Flyer](#)
- [reComputer Industrial R22XX 3D File](#)
- [reComputer Industrial R22XX Schematic](#)

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