

PRODUCT DETAILS

EdgeBox-RPi-200 series are all-in-one Raspberry Pi-based industrial edge computing controllers, combining multiple industrial purposes. Designed as high-scalability and rugged industrial hardware, mounted with rich IO resources and supported by the great Raspberry Pi industrial software ecosystem, it is an ideal choice for smart automation and Industrial Internet of Things (IIoT) solutions.

Feature

- **All-in-one Industry Controller:**
 - More than just a PLC, PAC, more can it implement functions of the IIoT Gateway, OPC UA Server and Industry PC.
- **Powerful and Flexible Processors:**
 - Powered by Raspberry Pi Compute Module 4 (CM4), equipped up to 4GB RAM and 16GB eMMC, performing real-time operation and multi-process.
- **Rich IO resources** and Industrial Interfaces Mounted:
 - Support a wide range of industrial bus protocols and standards
- **Multiple Communication Capabilities:**

- Carry full-featured wireless interconnectivity and a RJ45 Gigabit Ethernet, supported by multiple cloud services
- **Rugged Industrial-grade Hardware Design:**
 - Integrated thermal management with full Aluminum heatsink enclosure, supporting 35mm DIN and wall mount
- **Great Raspberry Pi Industrial Software Ecosystem:**
 - Support a variety of industrial software and platforms, including Codesys, Node Red, MQTT, OPC UA, Ignition and etc.

Description

EdgeBox-RPI-200 series controllers represent the conceivable alternatives for increasing edge automation and industrial interconnecting control. Being small and compact, they can perform real-time operation and multi-process controlling for multiple industrial purposes, not only the **PLC & PAC** but also the **IIoT Gateway, OPC UA Server and Industry PC**.

Besides EdgeBox-RPI-200, We also have the other 2 Edge products for different solutions in the Edge family, powered by Raspberry Pi and ESP. To help you understand the differences deeply and choose the most suitable part for your projects, please refer to the Seeed Studio [Edge Series Page](#).



Powerful and Flexible Processors

EdgeBox-RPI-200-CM4104016 leverages the processing power of the AI-enabled **Raspberry Pi Compute Module 4(CM4)**, running up to 1.5GHz, equipped with 4 GB RAM and 16 GB eMMC, compiling in Linux, with Debian Operate System.

Rich IO Industrial Interfaces while Supporting Extensive Bus Protocols and Standards

This high-scalability equipment has been engineered with multiple isolated industrial interfaces, which adhere to various industrial bus protocols and standards to achieve data transmission in a variety of situations. It even offers **extended SSD storage** and **enhanced display output**, for more data acquisition and improved visual presentation.

IO resources

Protocols and standards

- 2x isolated DI; 2x isolated DO
- 1x isolated RS485; 1x RS232
- 2x USB2.0 A1
- M.2 slot support
- 2242 NVME SSD
- 1x HDMI 2.0 up to 4k@60fps

- RS485/RS232
- TCP IP
- Modbus
- OPC UA
- IEC 61131-3 compliant



Multiple Communication Capabilities, Multiple Cloud Services Support

The EdgeBox employs the high integration of communication, where it integrates with wireless capabilities, supported by multiple cloud services. It is greatly qualified for IIoT(Industrial Internet of Things), where you can utilize it to build IoT Gateways.



Communication Capabilities	Cloud Services Support
<ul style="list-style-type: none"> • Build-in WiFi 2.4 GHz, 5.0 GHz IEEE 802.11 b/g/n/ac • Gigabit Ethernet RJ45 Port • Mini PCIe Slot support 4G LTE Module/LoRaWAN® Gateway Module/Zigbee Module 	<ul style="list-style-type: none"> • AWS • Azure

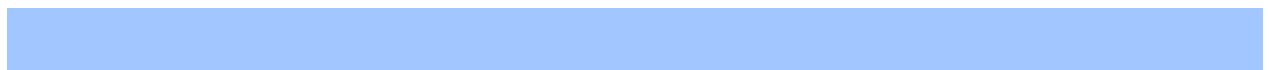
Great Raspberry Pi Industrial Software Ecosystem

With the great Raspberry Pi industrial software ecosystem, you will find that EdgeBox has plentiful software and autonomous platforms supported. With massive documentation and open communities, **troubleshooting can be precise and expeditious.**

- [Codesys](#)
- Node Red
- MQTT
- OPC UA
- [Ignition](#)
- [N3uron](#)
- [balena](#)

Robust Hardware Design

The overall structure of Edge Box is **rugged and maintenance-reducing**, as it integrates thermal management with full Aluminum heatsink enclosure. It is ultra-lightweight and supports 35mm DIN and wall mount, all of which make it suitable for limited space and extreme conditions including in-vehicle applications.



Note

The EdgeBox-RPi-200 can't directly flash the OS. An additional carrier board is required to flash the OS.

Application



Specification

Parameters	Detail
Basic	
CPU Core	4-core Raspberry Pi CM4

Memory	4GB
Storage	16GB
Wireless	
WiFi	2.4 GHz, 5.0 GHz IEEE 802.11 b/g/n/ac equipped
*Maximum transmission power	20 dBm (100 mW)
Bluetooth	Bluetooth 5.0, BLE equipped
Cellular	Mini-PCIe support 4G LTE(Quectel EC20/ EC25 tested)*
LoRa®	Mini-PCIe support LoRaWAN®(Seed WM1302 tested)*
Interface	
Ethernet	1000M RJ45 *1
HDMI	HDMI 2.0 up to 4k@60fps
USB	USB2.0 A*2
RS Serial	RS485 *1 (Isolated)
	RS232 *1
M.2 socket	2242 NVME SSD card

DI	2 (Isolated)
	DC input Voltage - 24V, Current - 1000mA
DO	2 (Isolated)
	Output voltage - under 60 V, current capacity - 500 mA
Extra features	
Power Supply	DC 12V - 36V
RTC	RTC
Watch Dog Timer	Stand alone
Encryption Chip	Atecc608a(optional)
Uninterrupted Power Supply	UPS (optional)
Operation temperature	-20 to +60 °C
Certification	RoHS, CE, FCC, TELEC, UKCA

Note

- If you want to customize features marked as 'Optional', feel free to email us at produce@seeed.cc.
- If there is a need to brush, you need to buy a [debugging board](#)

Note

- **4G and LoRa® cannot be used at the same time**

Note

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