seeed studio

INDUSTRIAL PRODUCT DATASHEET

EdgeBox-ESP-100-Industrial Edge Controller, WiFi, BLE, 4G LTE, DIO, AIO, Ethernet, CAN, RS485

EdgeBox-ESP-100 Industrial Edge Controller for SCADA, PID control loops, logic sequencing control, and industrial gateway applications with WiFi, BLE, 4G LTE, CAN, RS485, and Ethernet connectivity.

SKU	UPDATED	PRICE
102991735	2026-09-24 02:54:42	$153.00(Excl. VAT)



Overview



The EdgeBox-ESP-100 Industrial Edge Controller integrates CAN, RS485, and Ethernet multi-fieldbus support with on-chip WiFi, BLE, and a built-in cellular 4G LTE module. It provides rugged, maintenance-reduced hardware with high isolation, surge, and short circuit protection, and is programmable with ESP-IDF, with IEC 61131-3 compliant program support under development.

Key Features

Note:

❗ **Important Notice: USB Programming/Debug Function Availability**
Please note that the USB Programming/Debug function is only available on the latest version of the EdgeBox-ESP-100. The previous version of the device only supports power supply through the USB-A port and does not support programming/debugging.

⚠️ **Do Not Connect the USB-A Port of Older Versions to a PC USB Port**
Connecting the USB-A port of the old version to a PC may result in improper behavior. Please use only the new version if you intend to use the USB port for programming or debugging purposes.

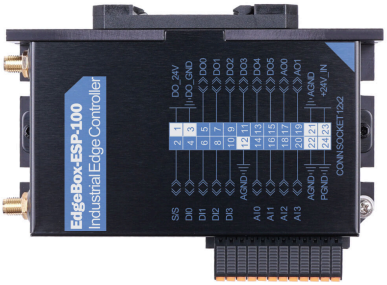
How to Identify the New Version
The easiest way to distinguish between the old and new versions is by checking the SN (Serial Number) label on the device enclosure.

Old Version SNs:
All serial numbers with 2437 or earlier (e.g 102991735**2437**00001, 102991735**2437**00093)
2437 indicates production in Week 37 of 2024

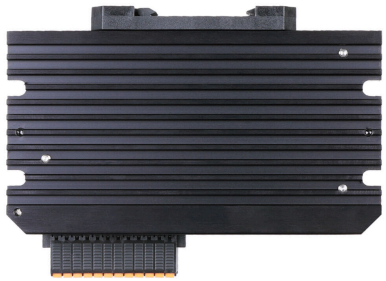
New Version SNs:
All serial numbers with 2438 or later (e.g 102991735**2438**00001, 102991735**2438**00093)
2438 indicates production from Week 38 of 2024 onwards

- **Multi-Fieldbus Support:** CAN, RS485, Ethernet
- **Multi-wireless Capability:** On-chip Wifi, BLE connectivity; built-in Cellular 4G LTE module
- **Reliable Hardware Design:** Rugged, maintenance-reduced structure
- **Reliable Electrical Design:** High isolation, High surge, and short circuit protection
- **IEC 61131-3 compliant programs support (under development)**
- **Programmable with ESP-IDF**

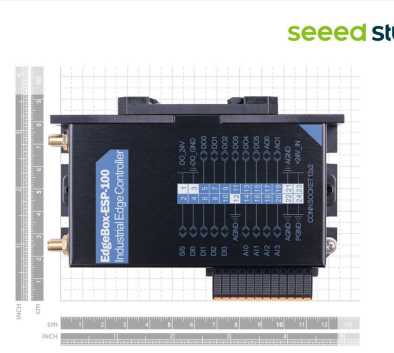
Product Gallery











Specification

Parameters	Detail
Basic	
CPU	ESP32S3

Memory	512KB + 8MB RAM
Storage	16MB Flash
Wireless	
WiFi	on-chip 2.4 GHz
Bluetooth	on-chip Bluetooth 5.0, BLE
Cellular	4G - A7670G SIMCom LTE Cat 1 module
LoRa®	Supported*
Interface	
Ethernet	100M RJ45 *1
USB	USB2.0 A*1
CAN BUS	CAN BUS *1 (Isolated)
RS Serial	RS485 *1 (Isolated)
Digital Input	4 (Isolated) onboard
	DC input Voltage - 24V
Digital Output	6 (isolated)
	Recommended Voltage - 24V
Analog Input	4 (Isolated)
	Input: 0 ~ 20 mA default, 0-10V optional
Analog Output	2 (Isolated)
	Output: 0 ~ 5 V
Power Supply	10.8 ~ 36 V
Extra features	
RTC	RTC
Encryption Chip	Atecc608a(optional)
Operation temperature	-20 to +60 °C
Certification	RoHS, CE, FCC, UKCA
Warranty	2 Years

Applications

- **SCADA**
- **Industrial Controller**
- **Proportional, Integral, and Derivative (PID) control loops**
- **Logic Sequencing Control**
- **Industrial Gateway**

Part List

EdgeBox-ESP-100	x1

Compliance & Logistics



HSCODE	8471419000
USHSCODE	8517180050
UPC	841454123569
EUHSCODE	8471707000
COO	CHINA

Resource Links

- https://www.seeedstudio.com/EdgeBox-ESP-100-p-5490.html
- EdgeBox ESP 4G Module doc
- Edge Series Warranty Regulations
- Edgebox-ESP-100-User Manual V1.1
- EdgeBox-ESP-100 Product Datasheet
- EdgeBox ESP 3D File
- EdgeBox-ESP-100 Schematic

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