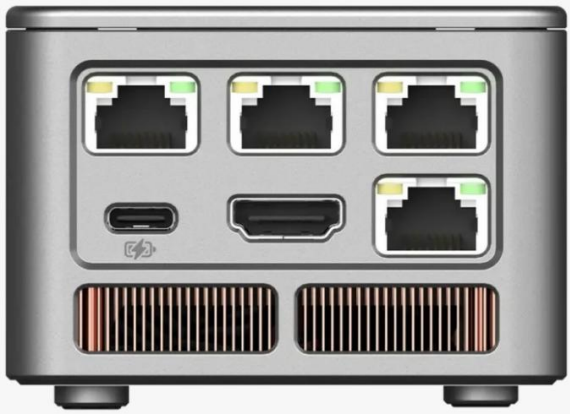
Ultra-Compact 4-Port 2.5G Industrial Embedded PC Product Brochure





Model: C-BOX-M3 (R100)

Product Overview

The C-BOX-M3 (R100) is an ultra-small form factor industrial embedded PC built on the Intel Wildcat Lake low-power platform. Featuring a palm-sized 75×75mm chassis, four 2.5G industrial-grade Ethernet ports, and wide temperature/voltage tolerance, it delivers highly reliable edge computing and network access for space-constrained industrial automation, IoT, and network communication scenarios.

Balancing compact design, industrial reliability and flexible expandability, it can be directly embedded inside equipment, control cabinets or tight rack spaces, making it a cost-effective choice for lightweight edge computing, network segmentation and terminal control applications.

Key Advantages

1. Palm-Size Form Factor for Flexible Embedded Deployment

Measuring only **75×75×52mm** (roughly palm-sized), the unit features a metal chassis with plastic top cover for robust structure and vibration resistance. It requires no dedicated mounting space and can be embedded directly inside end devices, industrial control cabinets or tight rack interlayers, greatly reducing deployment footprint for compact integration scenarios.

2. 4× 2.5G Industrial-Grade Ethernet for Flexible Network Segmentation

Equipped with **4 ports of 2.5 Gigabit Ethernet**, including 3 ports powered by **Intel i226-V industrial-grade NICs** for low CPU overhead and superior long-term stability. It natively supports Wake-on-LAN, PXE boot and hardware checksum, enabling physical network segmentation, link aggregation and multi-WAN access to meet the core requirements of industrial OT/IT network security isolation and multi-device connectivity.

3. Industrial-Grade Wide Temp & Voltage for 24/7 Reliable Operation

It supports **-20°C to +60°C operating temperature** and **-40°C to +85°C storage temperature**, with 5%~90% non-condensing humidity tolerance. The DC 12-20V wide voltage input with Type-C PD power support features over-voltage and reverse polarity protection, adapting to harsh environments such as industrial sites, in-vehicle and outdoor semi-outdoor installations, and enabling round-the-clock uninterrupted operation.

4. Flexible Configuration & Customization for Targeted Scenarios

Onboard LPDDR5 memory is configurable from 8GB to 64GB, and the M.2 storage slot auto-adapts to NVMe or SATA protocols. A reserved M.2 E-Key slot allows optional expansion with WiFi/Bluetooth or 4G/5G cellular modules. We also offer BIOS/firmware customization, OS pre-loading and logo silk-screen services to precisely match requirements across different industry scenarios.

Detailed Technical Specifications

Category	Item	Specification
Processor System	CPU	Onboard Intel Wildcat Lake Series Processor (N304)

	BIOS	EFI BIOS
Memory & Storage	Memory	Onboard LPDDR5, 8GB / 16GB / 32GB / 64GB configurable
	Storage	1× M.2 M-Key 2242 slot, NVMe PCIe3.0×2 / SATA3.0 auto-adaptive
	Expansion Slot	1× M.2 E-Key slot, supports WiFi/BT, 4G/5G module expansion
Network	Ethernet	4× 2.5G RJ45 ports 3× Intel i226-V industrial NIC, 1× RTL8156B Supports Wake-on-LAN, PXE boot, link aggregation
Display	Video Output	1× HDMI 2.0, 1× Type-C (supports DP Alt Mode) Supports dual independent display
I/O Interface	USB	2× USB 3.0
	Audio	1× 3.5mm combo audio jack (input/output)
	Controls	1× Power button, 1× Reset button
Power	Input	Type-C power input, supports PD power supply DC 12-20V wide voltage input, 3A
Environmental	Operating	Temperature: -20°C ~ +60°C Humidity: 5% ~ 90% (non-condensing)
	Storage	Temperature: -40°C ~ +85°C Humidity: 5% ~ 90% (non-condensing)
Mechanical	Dimensions	75×75×52mm (W×D×H)
	Construction	Metal chassis + plastic top cover
	Weight	Approx. 400g (excluding adapter / packaging)

Software	OS Support	Windows 10 / Windows 11 / Linux (Ubuntu, etc.)

Typical Application Scenarios

1. Industrial Network Gateway / Soft Router / Firewall

Compatible with mainstream network systems including pfSense, OPNsense and OpenWrt. Four 2.5G ports enable multi-WAN access, physical network segmentation and VPN networking. The ultra-compact size allows deployment directly inside industrial control cabinets or branch sites, delivering secure and stable network forwarding and isolation for industrial OT/IT networks.

2. Machine Vision / Industrial Inspection Edge Node

Multi-port 2.5G Ethernet can connect directly to multiple industrial cameras. The low-power processor handles image pre-processing, defect detection and logic control at the edge. Its compact size allows embedding inside inspection equipment or production line stations, and the wide temperature rating adapts to harsh production environments — a cost-effective solution for lightweight vision inspection.

3. AGV/AMR Mobile Robot On-Board Controller

12-20V wide voltage input adapts to on-board battery power, and the metal chassis withstands vibration and shock. Multiple network ports connect separately to LiDAR, motion controllers, sensors and scheduling systems for physical network isolation. The low-power design supports long-term stable operation for mobile robots.

4. Self-Service Kiosk / Digital Signage Control Unit

Dual independent display output supports interactive screen + advertising screen deployment. WiFi/4G expansion enables wireless connectivity. Wide temperature and voltage ratings adapt to semi-outdoor and outdoor terminal environments with low-power silent operation. The compact form factor hides inside the terminal without occupying external space, ideal for self-service vending machines, government kiosks and outdoor displays.

5. Industrial IoT Data Acquisition Gateway

Multi-port networking enables secure isolation between field devices and cloud networks. It connects to PLCs, sensors and instruments for data acquisition, protocol conversion and edge data cleansing before cloud upload. 4G cellular expansion supports outdoor stations and pipeline monitoring scenarios without wired network infrastructure.

6. SME / Branch Office Network Appliance

Serves as a soft router, firewall or lightweight virtualization host for small offices, retail stores and branch sites, combining network management with basic office computing. The compact design fits on desktops or in racks, significantly reducing branch IT deployment costs.

Ordering Information

Standard SKUs

Model	CPU	Memory	Storage	Network
C-BOX-M3-R100-8G128G	N304	8GB LPDDR5	128GB M.2 SATA	4× 2.5G
C-BOX-M3-R100-16G256G	N304	16GB LPDDR5	256GB M.2 NVMe	4× 2.5G
Custom Config	N304	8~64GB LPDDR5	128GB~1TB SATA/NVMe	Function customizable

Customization Services

- Custom memory and storage configurations
- Optional WiFi/Bluetooth, 4G/5G cellular modules
- BIOS/firmware customization and operating system pre-loading
- Custom logo printing, packaging and mechanical modification

Warranty & Support

- 1-year standard warranty for the complete unit, extended warranty available on request
- Full technical support including parameter consultation, driver adaptation and product selection guidance
- Fast response for small-batch customization, prototype delivery in 7 days