

Embrace Edge AI, Empower Industrial Digitalization



EC954 Series High-Performance AI Edge Computer

· Scalable AI Power

· High Security

· Rich Interfaces

· Cloud-Managed

1. Product Overview

EC954 is a high-performance multi-interface edge AI computer designed for industrial scenarios requiring edge intelligence, high reliability, and secure cloud integration.

Key features:

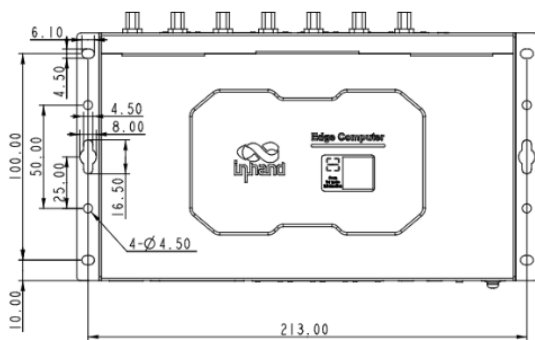
- **Scalable AI performance:** RKNN 1.0 TOPS, expandable up to 26 TOPS with Hailo-8 module
- **Rich industrial interfaces:** 4×GE, 12 serial channels, CAN, DI/DO, HDMI, USB, mSATA
- **Reliable connectivity:** Wired/cellular/Wi-Fi backup with dual SIM failover
- **Security architecture:** Secure Boot, TPM2.0, TrustZone, firewall, VPN
- **Cloud operations:** DeviceLive remote monitoring and edge app/container management

Core Technical Specifications

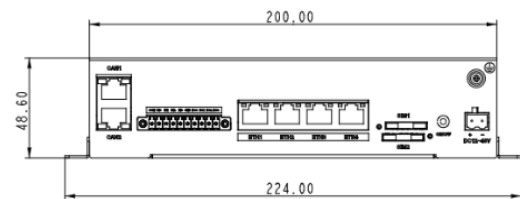
Technical Indicator	Specification
Cellular Network	LTE Cat4 / 5G (model-dependent)
Network Features	APN/VPDN, CHAP/PAP, ARP/Ethernet, static IP/DHCP
Security	Secure Boot, TPM2.0, TrustZone, firewall, VPN
Cloud Management	DeviceLive, HTTP/HTTPS/SSH remote management
Data Acquisition	Modbus RTU/TCP, EtherNet/IP, OPC UA, DNP3.0, BACnet, CNC
Open Platform	Yocto/Linux with Debian 11 core root filesystem
CPU/GPU	Quad-core Cortex-A55 @ 2.0GHz / Mali-G52 2EE
NPU	RKNN 1.0 TOPS (up to 26 TOPS with Hailo-8)

Technical Indicator	Specification
Memory/Storage	4GB / 16GB eMMC
Interfaces	4×GE, 4×RS232/485/422 + 8×RS485, CAN, DI/DO, USB, HDMI, mSATA
Power Input	DC 12~48V (4W typical / 8W max)
Dimensions (W × D × H)	203 × 122 × 49 mm

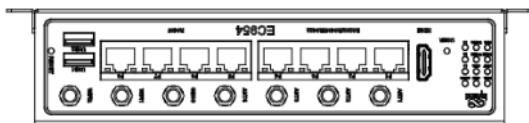
2. Product Dimensions



Front View



Side View



Interface Diagram

Note:

1. All dimensions are in millimeters (mm).
2. All dimensions are approximate and for reference only.
3. Drawings **must not be used for manufacturing**.
4. Dimensions are subject to part and manufacturing tolerances.
5. Specifications may change without prior notice.

3. Hardware Specifications

Category/Parameter	Specification
Hardware Platform	
CPU	Quad-core Cortex-A55 @ 2.0GHz
GPU	Mali-G52 2EE
NPU	RKNN 1.0 TOPS (up to 26 TOPS with Hailo-8 module)
RAM	4GB
FLASH	16GB eMMC
Connectivity & Interfaces	
Ethernet Ports	4×10/100/1000Mbps GE
I/O Ports	4×DI + 4×DO
Serial Ports	4×RS232/485/422 + 8×RS485
CAN	2×CAN2.0A/B
Buttons	Pinhole reset button
SIM Card Holders	Dual SIM
LED Indicators	4G, SignalStrength (L1, L2, L3), SIM1, SIM2, User1, User2, PWR, STATUS, WARN, ERR
USB	USB2.0 (2×Type-A + 1×Type-C)
TF	Supports Micro SD
Expansion Interfaces	1×mSATA, B-Key 3042 (Hailo AI module)
HDMI	HDMI2.0

Category/Parameter	Specification
WiFi	STA, 802.11ac/a/b/g/n, 2.4G/5G dual band
Bluetooth	BLE 5.0
GPS	GPS/Beidou/GLONASS
Power & Power Consumption	
Input Voltage	DC 12~48V
Power Interface	DC terminal input
Typical Value (OS Idle State)	4W
Maximum Value (Full Load)	8W
Mechanical Specifications	
Product Dimensions	203×122×49mm
Mounting Method	DIN-rail / wall mounting
Protection Rating	IP30
Enclosure & Heat Dissipation	Metal housing, fanless design
TPM	TPM 2.0
Environment & Certifications	
Storage Temperature	-40~85°C
Operating Temperature	-20~70°C

Category/Parameter	Specification
Environmental Humidity	5~95% RH (non-condensing)
Physical Characteristics	IEC60068-2-27 shock resistance IEC60068-2-6 vibration resistance IEC60068-2-32 drop resistance
EMC Standard	EN61000-4-2, level 3, Static EN61000-4-3, level 3, Radiation Electric Field EN61000-4-4, level 3, Pulsed Electric Field EN61000-4-5, level 3, Surge EN61000-4-6, level 3, Conducted Disturbance Immunity EN61000-4-12, level 3, Shock Wave Resistance
Certifications	CE, FCC, PTCRB, Verizon, AT&T

4. Software Specifications

Category/Parameter	Specification
Operating System	
Operating System	Yocto/Linux (Debian 11, Kernel 5.10)
File System	Debian core root filesystem
Package Manager	Debian package manager
Network Features	
Network Type	LTE Cat4 (5G by model)
Network Access	APN, VPDN
Access Authentication	CHAP/PAP

Category/Parameter	Specification
WAN Protocols	Static IP, DHCP
LAN Protocols	ARP, Ethernet
Security	
Secure Boot	Supported
Trust Zone	Supported
Network Security	Firewall
Data Security	VPN
Reliability	
Link Detection	Multi-level link detection, auto-redial
Built-in Watchdog	Device self-diagnosing, auto-recovers from operation faults
Backup Mechanism	Dual SIM backup
Dual SIM Switchover	Supported
Data Acquisition Protocols (DSA)	
Industrial Protocols	Modbus RTU Master/Slave, Modbus TCP Master/Slave, EtherNet/IP, ISO on TCP, OPC UA Client/Server, Mitsubishi MC 3C/3E/3C OverTCP, Mitsubishi CPU Port, FINSUDP, HostLink, PPI
Electricity Protocols	DLT645-2007, IEC101/104, DNP3.0
Other Protocols	BACnet, CNC
Network Management	

Category/Parameter	Specification
Upgrade Method	Supports patent upgrade mechanism, local or remote firmware upgrade
Configuration Method	WEB configuration
Log Functions	Support local system logs, remote logs, and important log power-off preservation
Remote Management	DeviceLive / HTTP / HTTPS / SSH remote access
DeviceLive Cloud	Supports cloud-based parameter configuration, container management, application and firmware management

5. Ordering Information

Model Rule

Model code: EC954-<WMNN>-B-[XY]-[Z]

<WMNN>: Cellular Type & Frequency Band (mandatory)

Standard configuration (all models): Memory/Storage 4GB/16GB · Ethernet/Serial 4×1000Mbps; 4×RS232/485/422 + 4×RS485 · Wi-Fi/BT/GPS/CAN/TPM & I/O included

[XY] (Optional): AI Expansion Module

[Z] (Optional): OS option

Model List

Model	Region	Cellular Type & Frequency Band
EC954-LQA8-B	China	LTE CAT4 LTE-FDD B1/B3/B5/B8; LTE-TDD B34/B38/B39/B40/B41; WCDMA B1/B8; TD-SCDMA B34/B39; CDMA BC0; GSM 900/1800MHz
EC954-NRQ1-B	China	5G NR NSA n78/n79; SA n1/n3/n5/n8/n28/n41/n77/n78/n79; LTE- FDD B1/B3/B5/B8; LTE-TDD B34/B38/B39/B40/B41; WCDMA B1/B8
EC954-FQ58-B	EMEA	LTE CAT4 LTE-FDD B1/B3/B7/B8/B20/B28A; LTE- TDD B38/B40/B41; WCDMA B1/B8; GSM B3/B8
EC954-FQ38-B	North America	LTE CAT4 LTE-FDD B2/B4/B5/B12/B13/B14/B66/B71; WCDMA B2/B4/B5
EC954-EN00-B	Global	No Cellular

AI Expansion Module (Optional)

[XY] P/N Code	Feature
—	None
H8	Hailo-8, M.2 Key B+M 2280

OS Option (Optional)

[Z] P/N Code	Feature
—	IEOS (default)
D	Debian Linux OS