InHand Networks

Embrace Edge AI, Empower Industrial Digitalization



EC942 Lite AI Edge Computer

· Strong Computing

· High Security

· High Reliability

· Cloud-Managed

1. Product Overview

EC942 is a lightweight AI-accelerated industrial edge computer for data acquisition, edge processing, and cloud operations in IIoT scenarios.

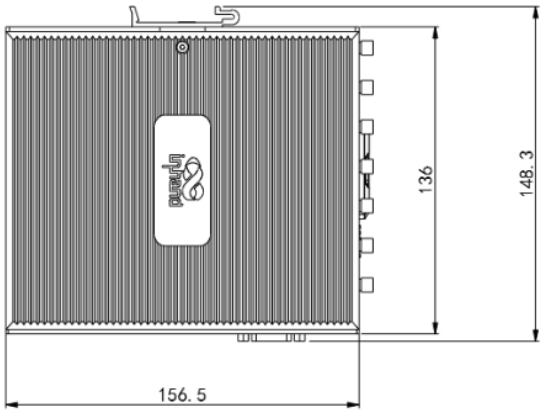
Key features:

- **Performance platform:** Quad-core Cortex-A55@2.0GHz with Mali-G52 and RKNN
- **Industrial security:** Secure Boot, TPM2.0, TrustZone, firewall and VPN
- **Rich interfaces:** Gigabit Ethernet, serial, CAN, USB, HDMI, mSATA, DI/DO
- **Reliable networking:** 5G/4G/Wi-Fi/GbE backup, dual SIM failover, watchdog
- **Cloud operations:** DeviceLive remote monitoring and edge app/container management

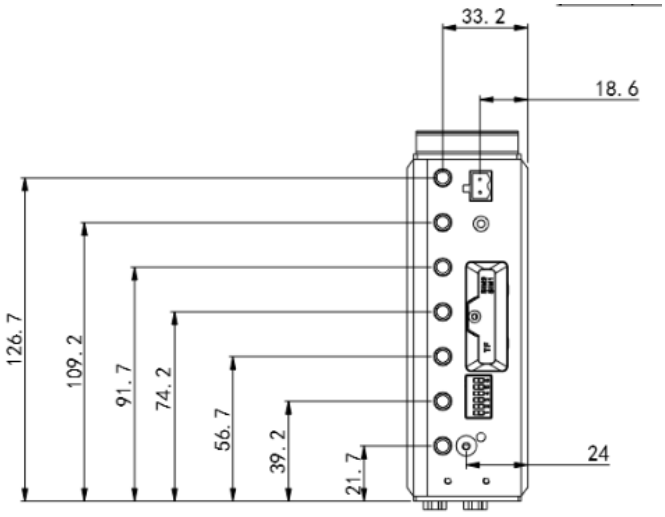
Core Technical Specifications

Technical Indicator	Specification
Cellular Network	5G SA/NSA or LTE Cat4/Cat6 (model-dependent)
Network Features	APN/VPDN, CHAP/PAP, ARP/Ethernet, static IP/DHCP
Security (TPM2.0 Optional)	Secure Boot, TPM2.0, 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 and Debian 10, Debian package manager
CPU/GPU	Quad-core Cortex-A55@2.0GHz / Mali-G52 2EE
RAM/Storage	4GB / 16GB eMMC
Interfaces	2×GE, 2×RS-232/485/422, USB2.0, HDMI2.0, mSATA, MicroSD
Power Input	DC 12~48V (8W)
Dimensions (W × D × H)	47.3 × 162.7 × 148.3 mm
Protection Rating	IP30

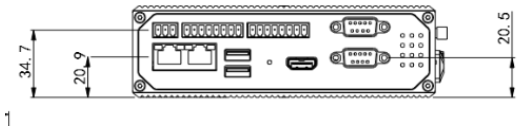
2. Product Dimensions



Front View



Side View



Interface Diagram

Note:

1. All dimensions are in millimeters (mm).
2. All dimensions are approximate and for reference only.
3. Dimensioned drawings are not intended for machining.
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 AI acceleration engine
RAM	4GB
FLASH	16GB eMMC
Connectivity & Interfaces	
Ethernet Ports	2×10/100/1000Mbps GE
I/O Ports (Optional)	4×DI + 4×DO

Category/Parameter	Specification
Serial Ports	2×RS-232/485/422 (DB9)
CAN (Optional)	CAN2.0A/B
Buttons	Pinhole reset button
SIM Card Holders	2×MicroSIM
LED Indicators	4G/5G, Signal Strength (L1, L2, L3), SIM1, SIM2, User1, User2, PWR, STATUS, WARN, ERR
USB	USB2.0 (2×Type-A + 1×Type-C)
TF	Supports MicroSD cards up to 32GB (recommended maximum
capacity)	
Expansion Interfaces	1x mSATA, supports mSATA SSD
HDMI	HDMI2.0
WiFi (Optional)	STA, 802.11ac/a/b/g/n, 2.4G/5G dual band
Bluetooth (Optional)	BLE4.2
GPS (Optional)	GPS/Beidou/GLONASS
Power & Power Consumption	
Input Voltage	DC 12~48V
Power Interface	DC terminal input
Maximum Value (Full Load)	8W
Mechanical Specifications	
Product Dimensions	47.3×162.7×148.3mm
Product Weight	810g
Mounting Method	DIN-rail / wall mounting
Protection Rating	IP30
Enclosure & Heat Dissipation	Metal housing, fanless design
TPM (Optional)	TPM2.0

Category/Parameter	Specification
Environment & Certifications	
Storage Temperature	-40~85℃
Operating Temperature	-20~70℃
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 EN61000-4-8, Power Frequency Field Resistance, horizontal / vertical 400A/m (>level 2) EN61000-4-12, level 3, Shock Wave Resistance
Certifications	CE, FCC, PTCRB, Verizon, AT&T, T-Mobile

4. Software Specifications

Category/Parameter	Specification
Operating System	
Operating System	Yocto/Linux, Debian 10 (Kernel 4.19)
File System	Debian core root filesystem
Package Manager	Debian package manager
Network Features	
Network Access	5G / LTE Cat4 / LTE Cat6 (model-dependent), Ethernet
Access Authentication	APN, VPDN, CHAP/PAP
WAN Protocols	static IP, DHCP
LAN Protocols	ARP, Ethernet

Category/Parameter	Specification
Security	
Secure Boot	Supported
Trust Zone	Supported
Reliability	
Link Detection	Multi-level link detection and auto-redial
Built-in Watchdog	Embedded watchdog
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, Mitsubishi family, FINSUDP, HostLink, PPI
Electricity Protocols	DLT645-2007, IEC101/104, DNP3.0
Other Protocols	BACnet, CNC
Network Management	
Upgrade Method	Local/remote firmware upgrade
Log Functions	Local/remote logs with power-off persistence
Remote Management	DeviceLive / HTTP / HTTPS / SSH remote management
DeviceLive Cloud	Supports cloud-based parameter configuration, container management, application and firmware management

5. Ordering Information

Model Rule

Model code: EC942-<B/H>-<WMNN>-B-[X]

<B/H>: WiFi/GPS/CAN/TPM & I/O capability (B=NO, H=YES)
<WMNN>: Cellular Type & Frequency Band
[X]: OS option (Optional)

Model List

Model	Region	<B/H>	<WMNN>: Cellular Type & Frequency Band	WiFi/GPS/CAN/TPM	I/O
EC942-B-LQA8-B	China	NO	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	NO	NO
EC942-H-LQA8-B	China	YES	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	YES	YES
EC942-B-NRQ1-B	China	NO	5G NR NSA n78/n79; 5G NR 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	NO	NO
EC942-H-NRQ1-B	China	YES	5G NR NSA n78/n79; 5G NR 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	YES	YES
EC942-B-NRQ3-B	Global (excluding China)	NO	5G NR NSA/SA n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48/n66/n71/n77/n78/n79; LTE FDD B1/B2/B3/B5/B7/B8/B12(B17)/B13/B14/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71; LTE TDD B34/B38/B39/B40/B41/B42/B48; LAA B46; WCDMA B1/B2/B3/B4/B5/B6/B8/B19	NO	NO
EC942-H-NRQ3-B	Global (excluding China)	YES	5G NR NSA/SA n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48/n66/n71/n77/n78/n79; LTE FDD B1/B2/B3/B5/B7/B8/B12(B17)/B13/B14/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71; LTE TDD B34/B38/B39/B40/B41/B42/B48; LAA B46; WCDMA B1/B2/B3/B4/B5/B6/B8/B19	YES	YES
EC942-B-FQ58-B	EMEA	NO	LTE CAT4: LTE-FDD B1/B3/B7/B8/B20/B28A; LTE-TDD B38/B40/B41; WCDMA B1/B8; GSM B3/B8	NO	NO

Model	Region	<B/H>	<WMNN>: Cellular Type & Frequency Band	WiFi/GPS/CAN/TPM	I/O
EC942-H-FQ58-B	EMEA	YES	LTE CAT4: LTE-FDD B1/B3/B7/B8/B20/B28A; LTE-TDD B38/B40/B41; WCDMA B1/B8; GSM B3/B8	YES	YES
EC942-B-FQ38-B	North America	NO	LTE CAT4: LTE-FDD B2/B4/B5/B12/B13/B14/B66/B71; WCDMA B2/B4/B5	NO	NO
EC942-H-FQ38-B	North America	YES	LTE CAT4: LTE-FDD B2/B4/B5/B12/B13/B14/B66/B71; WCDMA B2/B4/B5	YES	YES
EC942-B-FQ78-B	Australia & Latin America	NO	CAT4: LTE-FDD B1/B2/B3/B4/B5/B7/B8/B28; LTE-TDD B40; UMTS B1/B2/B5/B8; EDGE/GPRS/GSM 850/900/1800/1900MHz	NO	NO
EC942-H-FQ78-B	Australia & Latin America	YES	CAT4: LTE-FDD B1/B2/B3/B4/B5/B7/B8/B28; LTE-TDD B40; UMTS B1/B2/B5/B8; EDGE/GPRS/GSM 850/900/1800/1900MHz	YES	YES
EC942-B-EN00-B	Global	NO	No Cellular	NO	NO
EC942-H-EN00-B	Global	YES	No Cellular	YES	YES

OS Option (Optional)

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

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