

Industrial Design, Safe and Reliable

# EC900 Series

High Performance, Manageable

The EC900 series edge computer(EC900) is a high performance edge computer developed for industrial IoT applications. With powerful edge computing capabilities, comprehensive security protection and wireless services, EC900 can support device networking of up to 10,000 levels, providing high-speed data channels in the true sense of device informatization.

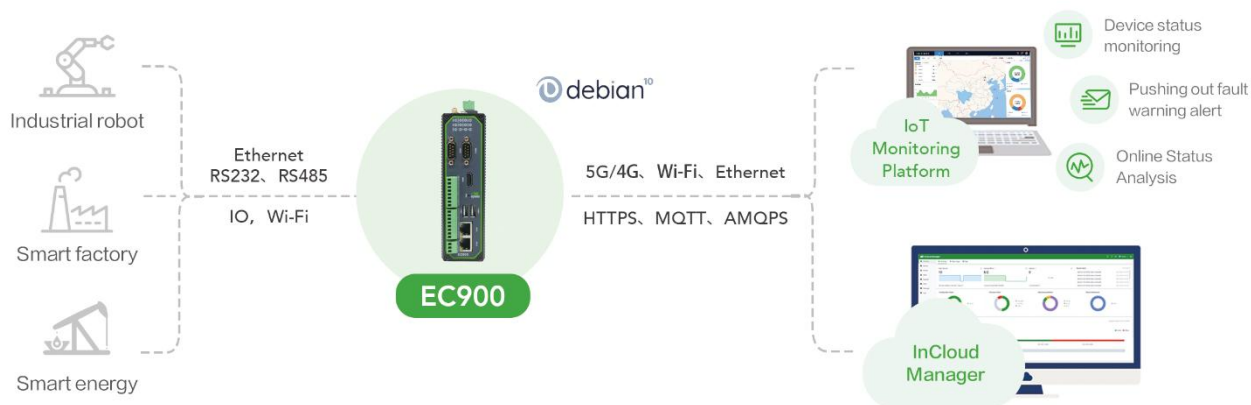
The EC900 series is ideal for data collection and monitoring of equipment on distributed unattended sites for a wide range of industries, e.g.:

- Industrial automation
- Smart grid
- Smart building
- Green energy
- Utilities: heating, water, natural gas
- Environment, etc.

The EC900 is providing a powerful computing platform with an ARM Cortex-A55@2.0 GHz quad-core processor and 4GB RAM and 16GB eMMC FLASH. Based on Debian, the EC900 provides a secondary development platform with support for C/C++/Java/Python/.Net/JavaScript, etc., which is easy for users to develop and port applications. The EC900 supports Secure Boot, TPM, etc., to ensure the security of user software and data. the EC900 provides uninterrupted Internet access for machines over ubiquitous the globally deployed 5G, LTE wireless network and a variety of broadband services. With the use of the built-in DeviceSupervisor™ Agent, data collection, processing, and uploading them to the cloud is easier than ever without any programming.

Excellent performance, ease for deployment and perfect functions for remote management make the EC900 stand out in the information construction of devices.

## Application Case



## Features and Advantages

+ ARM Cortex- A55 @ 2.0 GHz Quad-

Core Processor,powerful algorithm

+ Debian OS, flexible secondary development

+ Supports 4G LTE/5G, Ethernet, Wi-Fi, etc.

+ Supports Secure Boot

+ Supports TPM 2.0

+ Multiple interfaces to meet multiple scenes

+ Linux Patch Management&Vulnerability Remediation

+ Multi-layer link detection mechanism, ensuring high device availability and reliability

+ Multiple management methods, fast, flexible and efficient deployment

+ Easy for management and large-scale deployment for efficient remote central management

### ● Powerful Edge computing capabilities, intelligent data processing

The ARM Cortex-A55@2.0GHz quad-core processor provides a powerful computing platform, Built-in MaliG52-2EE GPU and discrete NPU, up to 1.0 TOPS AI computing power, with 4GB RAM and 16GB eMMC FLASH, and supports Micro SD for storage expansion.

### ● Linux distribution, easy for secondary development

Linux Debian OS provides a flexible and open platform for free programming in a variety of high-level languages such as Java/Python/.Net/JavaScript, etc., you are no longer limited by the challenges of the inability to cross-compile dependent libraries and the lack of root permission in the custom Linux, which will improve your development efficiency and effectiveness.

### ● Built-in DeviceSupervisor™ Agent service for easy data collection, processing and cloud deployment

- Collect data from mainstream industrial equipment and easily upload it to the cloud platform without programming, but simple configuration. Pre-process the data locally to reduce upload data traffic, reduce the pressure on the cloud, and lower operating costs.

- Supports mainstream industrial protocols, including Modbus RTU/TCP/ASCII, IEC60870-5-104, IEC60870-5-101, OPC UA, ISO on TCP, Mitsubishi MC 1E/3C/3E/3C Over TCP, etc.

- Supports docking with major public IoT cloud platforms such as Amazon AWS, Microsoft AZURE, Alibaba Cloud, etc., to provide you with best IoT cloud solutions and services.

### ● Multiple interfaces to meet multiple scenes

- 2\*10/100/1000Mbps Ethernet ports

- 2\*RS232/RS485/RS422

- 1\*HDMI 2.0

- Other ports optional: 4\*DI, 4\*DO, I/O, Wi-Fi 5, BLE 4.2, GPS, CAN, etc.

### ● Complete security protection, ensuring privacy of software and data

-Linux Patch Management&Vulnerability Remediation, which helps to keep systems secure, to provide you with peace of mind.

- Supports Secure Boot, to prevent malware attacks.

- Supports TPM 2.0, enables greater encryption flexibility, to improve the security of your data.

### ● Uninterrupted Internet access from anywhere

- Guaranteed device interconnection via globally deployed 5G or 4G LTE, which for our decades of cellular network communication experience enables you to obtain high-availability Internet access even in sites without wired networks.

- Gigabit Ethernet and Wi-Fi to realize reliable and uninterrupted Internet access, and supports the mutual backup of wired network and cellular grid and Wi-Fi grid.

### ● Fully Industrial-grade Design, ready for harsh industrial environments

- Industrial Grade Product & Industrial Grade Modules

- EMC level 3, IP30, with -20℃~70℃ wide operating temperatures, +12~48VDC wide voltage power inputs, to tolerate the extreme conditions and work in the environments with high levels of shock and vibration for industrial sites.

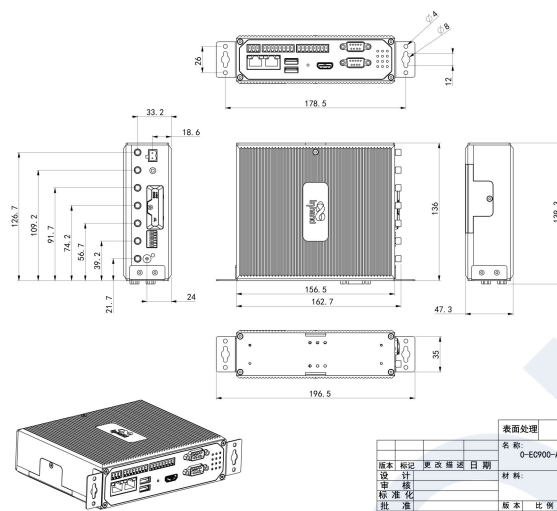
### ● InCloud Manager helps you achieve batch deployment and maintenance with ease (Coming soon)

- Easy deployment, configuration and management in minutes. The configurations are completely based on the cloud, where device status and information can be presented directly

- Centralized monitoring of EC900, graphic display of data for users, applications, devices and networks, ease for device management and troubleshooting.

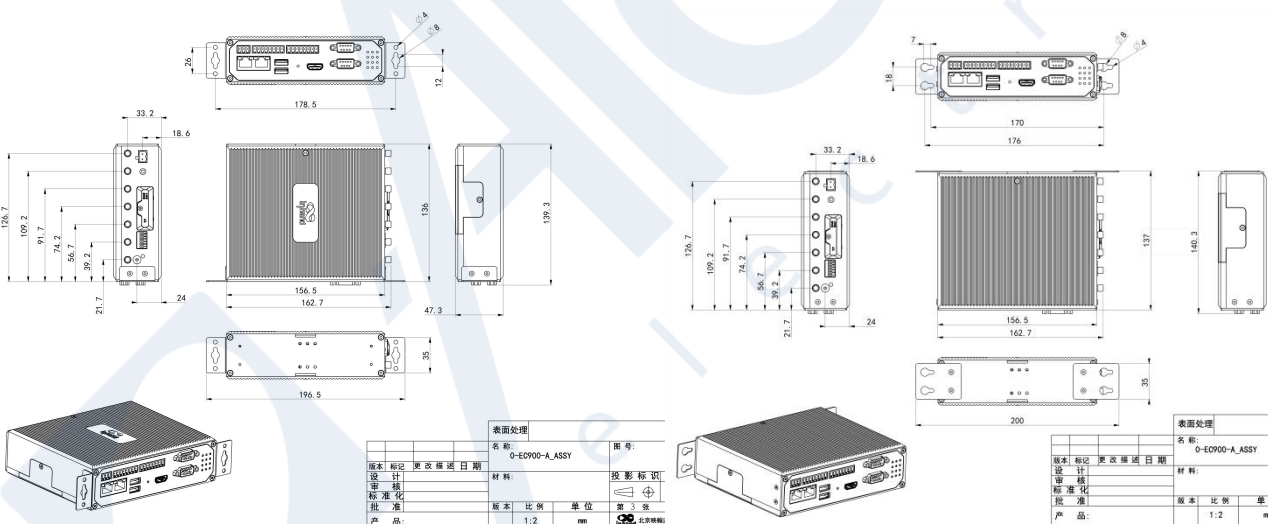
- True"zero touch" and efficient management anytime anywhere, providing a safe and reliable remote access channel for PLCs.

# Dimensions(mm)



表面处理		图号:	
名称:	O-EC900-A_ASSY	材料:	投影形式:
版本:		比例:	1:2
设计:		单位:	mm
审核:		张数:	第 3 张
标准化:		比例:	1:2
批准:		单位:	mm
产品:		比例:	1:2
		单位:	mm

EC900 DIN Rail Mounting



表面处理		图号:	
名称:	O-EC900-A_ASSY	材料:	投影形式:
版本:		比例:	1:2
设计:		单位:	mm
审核:		张数:	第 3 张
标准化:		比例:	1:2
批准:		单位:	mm
产品:		比例:	1:2
		单位:	mm

表面处理		图号:	
名称:	O-EC900-A_ASSY	材料:	投影形式:
版本:		比例:	1:2
设计:		单位:	mm
审核:		张数:	第 3 张
标准化:		比例:	1:2
批准:		单位:	mm
产品:		比例:	1:2
		单位:	mm

EC900 Wall Mounting A\*

EC900 Wall Mounting B\*

\*Wall Mounting (A) - accessory code: AFIX000091\*2

\*Wall Mounting (B) - accessory code: AFIX000088, AFIX000089

## Product Specifications

Hardware Specifications			
Item	EC942		
Hardware Platform			
CPU	Quad-core Cortex-A55@2.0GHz		
RAM	4GB		
FLASH	16GB eMMC		
Interfaces			
Ethernet Port	2*10/100/1000Mbps Ethernet port		
Serial Port	2*RS-232/485/422, DB9		
I/O (Optional)	4*DI, 4*DO		
CAN(Optional)	CAN 2.0A/B		
Wi-Fi (Optional)	STA, 802.11 ac/a/b/g/n, 2.4G/5G dual band		
Bluetooth (Optional)	BLE 4.2		
GPS (Optional)	Satellite location GPS, SMA x 1		
USB	USB 2.0, 2*Type A, 1*Type C		
HDMI	HDMI 2.0*1		
Expansion	1*mSATA		
Reset Button	Pinhole reset button		
SIM Card	Micro SIM x 2		
TF Card	Supports Micro SD		
Security			
TPM (Optional)	Integrated TPM chip, TPM v2.0		
Mechanical Feature			
Installation	DIN-rail, wall mounting	Protection Rating	IP30
Housing	Metal housing	Weights	810g
Dimensions	47.3*162.7*148.3mm		
Power Supply			
Power Input	DC 12-48V, polarity reverse protection		
Power Interface	Industrial terminal block		
Ambient Temperature and Humidity			
Working Temperature	-20 ~ 70℃	Storage Temperature	-40 ~ 85℃
Ambient Humidity	5 ~ 95% (non-condensing)		
Indicator			
LED	4G/5G,Signal strength(L1,L2,L3),SIM1,SIM2,User1,User2, PWR,STATUS,WARN,ERROR.		
EMC Index			
Static	EN61000-4-2, level 3		
Radiation Electric Field	EN61000-4-3, level 3		
Pulse Electric Field	EN61000-4-4, level 3		
Surge	EN61000-4-5, level 3		
Conducted Disturbance	EN61000-4-6, level 3		
Power Frequency Magnetic Field	EN61000-4-8, horizontal/vertical 400A/m (>level 3)		
Shockwave Immunity	EN61000-4-12, level 3		
Physical Features			
Shock	IEC60068-2-27	Vibration	IEC60068-2-6
Free Fall	IEC60068-2-32		
Certification			
CE, FCC, IC, PTCRB, Verizon Wireless, AT&T			

Software Specifications	
Item	EC942
Operation System	
Operation System	Debian, Bootloader, Linux Kernel, Hardware Drivers
File System	Debian Core root filesystem
Package Manager	Debian Package Manager
Network Interconnection	
Network Type	5G SA/NSA, LTE Cat4, LTE Cat6 (Different models for different networks)
Network Access	APN, VPDN
Access Authentication	CHAP/PAP/MS-CHAP/MS-CHAPV2
LAN Protocol	ARP, Ethernet
WAN Protocol	Static IP, DHCP
Network Security	
Secure Boot	Support
Reliability	
Backup	Dual SIM
Link Detection	Multi-Level link detection, auto-redials once disconnected
Embedded Watchdog	Device self-diagnosing, auto-recovers from operation faults
Protocol Type	
Protocol Type	Modbus RTU Master/Slave, Modbus TCP Master/Slave, EtherNet/IP, ISO on TCP, OPC UA Client/Server, Mitsubishi MC 3C/3E/3C Over TCP, Mitsubishi CPU Port, FINS UDP, HostLink, PPI, DLT645-2007, IEC104Server, etc.
Maintenance and Management	
Upgrade Method	Supports patent upgrade mechanism, local or remote firmware upgrade
Log	Local system logs, remote logs, serial port log output, power-down saving of important logs
Remote Management	InHand InCloud Manager, HTTP, HTTPS, Telnet, SSH,etc.

# Ordering Guide

Model code: EC942-B/H-<WMNN>									
Model	Network Type	Cellular Type & Frequency Band: <WMNN>	Ethernet Port	Serial Port	I/O	CAN	WLAN&BLE	GPS	
EC942-LQA8	LTE CAT4	China: LTE- FDD Band 1/3/5/8 LTE- TDD Band34/38/39/40/41 TD-SCDMA Band 34 / 39 WCDMA Band 1 / 8 CDMA BC0 GSM 900/1800 MHz	2*10/100/1000Mbps	2*RS232/485/422	No	No	No	No	
EC942-LQA8-IO-W-G	LTE CAT4	China: LTE- FDD Band 1/3/5/8 LTE-TDD Band34/38/39/40/41 TD-SCDMA Band 34/39 WCDMA Band 1/8 CDMA BC0 GSM 900/1800 MHz	2*10/100/1000Mbps	2*RS232/485/422	4*DI, 4*DO	Supported	Supported	Supported	
EC942-FQ38	LTE CAT4	North America: LTE-FDD: B2/B4/B5/B12/B13/B14/B66/B71 WCDMA: B2/B4/B5	2*10/100/1000Mbps	2*RS232/485/422	No	No	No	No	
EC942-FQ38-IO-W-G	LTE CAT4	North America: LTE-FDD: B2/B4/B5/B12/B13/B14/B66/B71 WCDMA: B2/B4/B5	2*10/100/1000Mbps	2*RS232/485/422	4*DI, 4*DO	Supported	Supported	Supported	
EC942-FQ39	LTE CAT6	North America: LTE- FDD: Band2/4/5/7/13/25/26/29/30/66 WCDMA: B2 / B4 / B5	2*10/100/1000Mbps	2*RS232/485/422	No	No	No	No	
EC942-FQ39-IO-W-G	LTE CAT6	North America: LTE-FDD Band2/4/5/7/13/25/26/29/30/66 WCDMA Band2/4/5	2*10/100/1000Mbps	2*RS232/485/422	4*DI, 4*DO	Supported	Supported	Supported	
EC942-FQ58	LTE CAT4	Europe/APAC: LTE-FDD Band1/3/7/8/20/28A LTE-TDD Band38/40/41 WCDMA Band1/8 GSM Band3/8	2*10/100/1000Mbps	2*RS232/485/422	No	No	No	No	
EC942-FQ58-IO-W-G	LTE CAT4	Europe/APAC: LTE-FDD Band1/3/7/8/20/28A LTE-TDD Band38/40/41 WCDMA Band1/8 GSM Band3/8	2*10/100/1000Mbps	2*RS232/485/422	4*DI, 4*DO	Supported	Supported	Supported	

## About Us

InHand Networks is a global leader of Industrial IoT, with a record of tremendous success following groundbreaking innovation since our inception in 2001.

InHand serves world-class partners and customers with industrial M2M routers, gateways, industrial Ethernet switches, rugged computers and IoT management platforms. We provide IoT solutions for various vertical markets including Smart Grid, Industrial Automation, Remote Machine Monitoring, Smart Vending, Smart City, Retail and more.

Proudly bearing the marks of both Rockwell Automation Technology Partner in Asia-Pacific and Schneider Electric Technology Partner, InHand Networks defines industrial innovation and reliability.



43671 Trade Center Place, Suite 100, Dulles, VA 20166 USA  
 T: +1 (703) 348-2988  
 E: info@inhandnetworks.com  
 www.inhandnetworks.com