inhand InHand Networks

Embrace edge computing, Empower Industrial Digitalization.

EC312 Series Secure Edge Computer

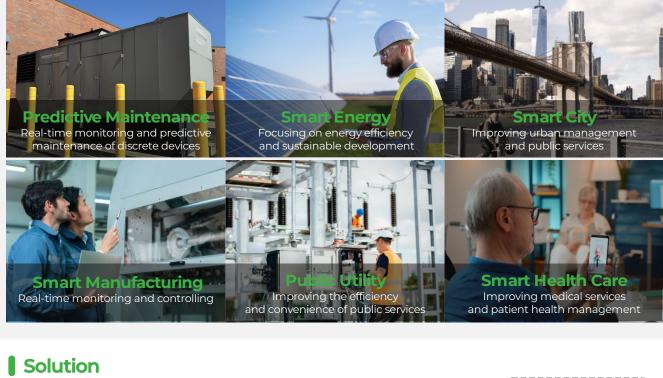


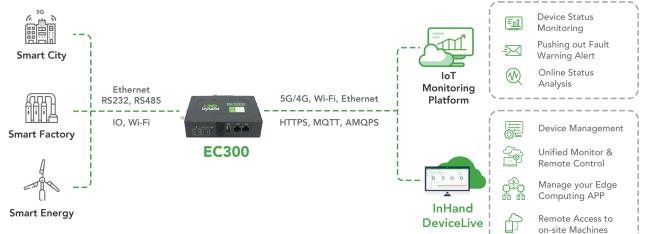
IEC62443 Certified

Cloud Management

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The EC312 series edge computer is designed for users developing lightweight edge applications. It adopts standard Linux OS, such as Debian, making software development more convenient for users. The EC312 has been certified to IEC62443, effectively ensuring software and data security. The EC312 provides multiple interfaces, including Ethernet, Serial, and USB, and can be flexibly expanded with additional interfaces such as extra serial ports, CAN, and analog inputs. The EC312 supports InHand DeviceLive cloud, facilitating remote device monitoring and user app management.





Feature and Advantage

System

- CPU: ARM Cortex-A53@1.4GHz
- 1G SDRAM + 8G eMMC
- Standard Linux OS Debian 11, Yocto(Coming soon)

• High-level security

- IEC62443 Certified
- Secure Boot
- TPM 2.0
- TrustZone
- Linux system security patches and vulnerability remediation services
- Firewall, VPN

- Rich interfaces
- 2x10/100Mbps ethernet interface
- 1x RS-232/RS-485 + 1x RS-485
- 1x USB2.0
 - 1x MicroSD
 - Supports expansion CAN/DIO/Analog Input/RS-232/485
 - GPS, WIFI and Bluetooth optional



• Stable communication

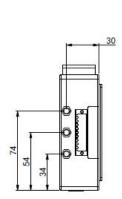
- 4G/Wi-Fi/FE,etc
- Ethernet, cellular, Wi-Fi mutual backup, dual SIM failover
- Multilevel link detection, communication self-healing
- Supercapacitor design, support power off
 protection
- Device Supervisor™ Agent Service
- "Zero code/Low code" easy to achieve data acquisition on the cloud
- Integrate 80+ mainstream data acquisition protocols
- Support data preprocessing
- Integrated data publishing services, public cloud, private cloud, local SCADA and other seamless access

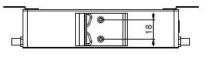
• InHand DeviceLive Cloud Service

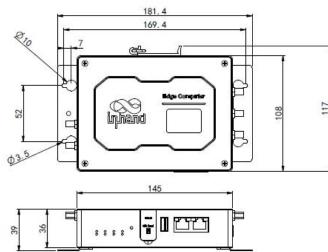
- Remote device access
- Remote device batch management
- Remote batch management of edge
 applications
- Remote container management



Dimensions (mm)











Product Specifications

Hardware Specifications			
Item	EC312		
Hardware Platform	n		
CPU	ARM Cortex-A53@1.4GHz		
RAM	1GB DDR4		
FLASH	8GB eMMC		
Interfaces			
Ethernet Port	2x 10/100Mbps Ethernet por	t	
Serial Port	1x RS-232/485+1x RS-485, isol	ation	
USB	USB 2.0,1x Type A		
SIM Card	Nano SIM x2		
Antenna Connector	LTE: SMA xì, Wi-Fi: SMA xì, Note: North America models		
Wi-Fi(Optional)	STA/AP, 802.11ac/a/b/g/n, 2	.4GHz/5GHz	
Bluetooth (Optional)	BLE 42		
GPS(Optional)	Satellite location GPS, SMA x	a	
Button	Pinhole reset button x1; Pro	grammable button x1	
TF card	MicroSD support, up to 32GB expansion		
Interface extension	Up to 2x RS-232/RS-485/analog input/CAN FD, isolation		
(Optional, See order list)	Up to 4x DI+4 x DO, isolation		
Security			
TPM(Optional)	Integrated TPM chip, TPM2.0		
Others			
RTC	Support (button battery backup)		
Hardware watchdog	Support		
Power			
Power input	9-48V DC		
Power consumption	6W(MAX)		
Power failure protection	Hold for 20 seconds after po	wer failure (safe shutdown)	
Power failure alarm	Power failure		
Mechanical charac	cteristics		
Installation	Panel,Rail	Weight	339g
Dimensions	145x106x36mm	Protection Rating	IP30
Housing	Metal + Plastic	Cooling	Fanless
Ambient Tempera	ture And Humidity		
Storage Temperature	-40 ~ 85°C	Ambient humidity	5~ 95% (non- condensing)
Operation temperature	-20~ 70'C		
Indicator			
LED	PWR, STATUS, WARN, NET,	USER*4	

Item EC32 Operating System EC32 OS Debian 11, Kernel SJ0168; Yocto Internet APN, VPDN Access authentication APN, VPDN Internet CHAP, PAP Network Type LTE CAT1 LAN protocol Static IP, DHCP Network Protocol Static IP, DHCP IP Application ICMP, DNS, TCP/UDP, TCP Server, DHCP IP Apolication ICMP, DNS, TCP/UDP, TCP Server, DHCP IP Apolication ICMP, DNS, TCP/UDP, TCP Server, DHCP IP Application If revail Secure Boot, TrustZone Secure Boot, TrustZone Reliability Firewall Link Detection Sends heartbeat packets to detect, auto redials when disconnected Data Security Supports dual SIM failover Pableded Device runs self-detection, auto recovers from malfunctions Vertocol Supports dual SIM failover Cloud platform MUti-programming language development platform Protocol Modbus RTU Master/Slave, Modbus TCP Master/Slave, Ethernet/PiNSUD PLOS CLIENCKOV Cloud platform Suport Scal aysten Not Securet	Software Specifica		
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Log Support local system logs, remote logs, and important log power-off preservation Configuration backup Import and export configuration files Remote management InHand DeviceLive or HTTP, HTTPS, SSH, etc DeviceLive Cloud Supports cloud-based parameter configuration, container	Configuration	Web, SSH	
Log preservation Configuration Import and export configuration files Bernote InHand DeviceLive or HTTP, HTTPS, SSH, etc DeviceLive Cloud Supports cloud-based parameter configuration, container	Upgrade	Web, FOTA, DFOTA	
backup Import and export configuration lifes Remote management InHand DeviceLive or HTTP, HTTPS, SSH, etc DeviceLive Cloud Supports cloud-based parameter configuration, container	Log		
Remote management InHand DeviceLive or HTTP, HTTPS, SSH, etc DeviceLive Cloud Supports cloud-based parameter configuration, container			
	DeviceLive Cloud		

*DSA: The DeviceSupervisor Agent (DSA), developed by InHand Networks, is a cutting-edge intelligence software designed to operate on Edge Computer products. It enables clients to quickly implement data collection, processing, protocol conversion, and cloud connectivity through a "zero code/low code" approach. If you need the DSA application on the EdgeComputer product, please contact us to obtain the DSA software package.



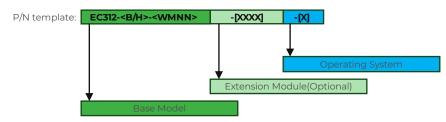
Product Specifications

Hardware Specifications			
ltem	EC312		
EMC			
Static	EN61000-4-2, level 3		
Radiation Electric Field	EN61000-4-3, level 3		
Pulsed Electric Field	EN61000-4-4, level 3		
Surge	EN61000-4-5, level 3		
Conducted Disturbance Immunity	EN61000-4-6 ,level 3		
Shock Wave Resistance	EN61000-4-12,level 3		
Power Frequency Magnetic Field Resistance	EN61000-4-8, horizontal / vertical 400A/m (>level 2)		
Physical Specs			
Shockproof	IEC60068-2-27	Vibration Resistance	IEC60068-2-6
Free Fall	IEC60068-2-32		
Certification			
CE, FCC, IC, PTCRB, UL, Verizon, AT&T, T-Mobile, IEC62443-4-2			



Ordering Guide

Description of selection



Base Model

Base Model	<b h="">: GPS&Wi-Fi &BT&TPM	<wmnn>: Cellular Type & Module</wmnn>	Memory	FLASH	Ethernet Port	Serial Port
EC312-B-LQA3	NO	China Cat1 FDD:B1/B3/B5/B8 TDD:B34/B38/B39/B40/B41	1GB	8GB	2*10/100M	1*RS232/485 +1*RS485
EC312-H-LQA3	YES	China Cat1 FDD:B1/B3/B5/B8 TDD:B34/B38/B39/B40/B41	1GB	8GB	2*10/100M	1*RS232/485 +1*RS485
EC312-B-FQ53	NO	EMEA&APAC Cat1 FDD:81/B3/B7/B8/B20/B28 TDD:B38/B40/B41 CSM:B2/B3/B5/B8	1GB	8GB	2*10/100M	1*RS232/485 +1*RS485
EC312-H-FQ53	YES	EMEA&APAC Cat1 FDD:81/B3/B7/B8/B20/B28 TDD:B38/B40/B41 GSM:B2/B3/B5/B8	1GB	8GB	2*10/100M	1*RS232/485 +1*RS485
EC312-B-FQ33	NO	North America Catl FDD:B2/B4/B5/B12/B13/B25/B26 WCDMA:B2/B4/B5	1GB	8GB	2*10/100M	1*RS232/485 +1*RS485
EC312-H-FQ33	YES	North America Catl FDD:B2/B4/B5/B12/B13/B25/B26 WCDMA:B2/B4/B5	IGB	8CB	2*10/100M	1*RS232/485 +1*RS485
EC312-B-FQ39	NO	North America CAT6 FDD:82/84/85/87/812/813/814/817 /825/826/829/830/866/871 TDD:841/848	IGB	8GB	2*10/100M	1*RS232/485 +1*RS485
EC312-H-FQ39	YES	North America CAT6 FDD:82/84/85/87/812/813/814/817 /825/826/829/830/866/871 TDD:841/848	IGB	8CB	2*10/100M	1*RS232/485 +1*RS485
EC312-B-FQ73	NO	Australia & Latin America Cat1 FDD: B1/B2/B3/B4/B5/B7/B8/B28/B66 TDD: B38/B40/B41 CSM: B2/B3/B5/B8	1GB	8CB	2*10/100M	1*RS232/485 +1*RS485
EC312-H-FQ73	YES	Australia & Latin America Cat1 FDD: B1/B2/B3/B4/B5/B7/B8/B28/B66 TDD: B38/B40/B41 CSM: B2/B3/B5/B8	1GB	8GB	2*10/100M	1*RS232/485 +1*RS485



Extension Module(Optional)

[XXXX]		
P/N Code	Feature	
NAAD	2x 4-20mA analog input+4x DI+4x DO	
N44C	2x RS-485+1x CAN FD	
N4CC	1x RS-485+2x CAN FD	
N44D	2x RS-485+4x DI+4x DO	
-	NONE	

• The Optional Module interface definition is given in the user manual.

Operating System (Optional)

[X]		
P/N Code	Feature	
-	*IEOS	
D	*Debian Linux OS	

- IEOS(InHand Edge Operating System) is InHand Networks' operating system based on standard Linux OS for IoT ARM platform edge computers, helping customers achieve safe and stable industrial edge intelligent applications. IEOS contains InHand applications such as web configuration, Cellular dialing, routing, firewall, VPN, cloud management, etc.
- Debian Linux OS: Debian OS without InHand applications.

Example

Model:EC312-B-LQA3-N44D

"EC312-B-LQA3" means Base Model.

"-N44D" means a optional module includes 2xRS-485, 4x DI and 4x DO.

Factory pre-installed IEOS.

For more information, please visit https://www.inhand.com

About Us

InHand Networks is a leading IoT solutions provider founded in 2001, dedicated to driving digital transformation across industries and empowering customers to unlock their full potential and achieve accelerated growth.

We specialize in delivering industrial-grade connectivity solutions for diverse sectors, such as enterprise networks, industrial and building IoT, digital energy, smart commerce, and mobility. Our comprehensive product portfolio and services cater to various applications worldwide, including smart manufacturing, smart grid, intelligent transportation, smart retail, etc. With a global footprint spanning over 60 countries, we serve customers in China, the United States, France, Germany, the United Kingdom, Italy, and beyond.



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