InHand Networks

InHand Networks

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Products & Services

Digitalization of Industry

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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Predictive Maintenance
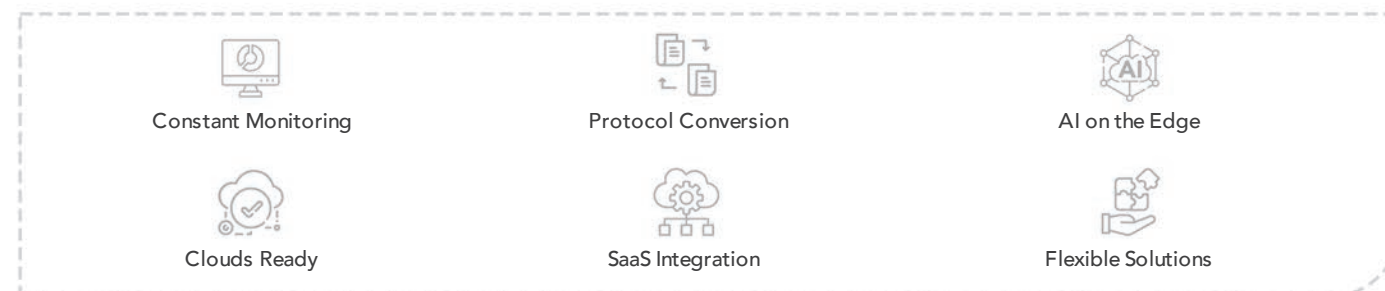
Be Prepared and Win from Afar

Industries are recovering from the global pandemic. As we look forward to accelerated growth, we must also reflect on the insights the pandemic has offered us, i.e. the adoption of remote work through IoT technologies. Predictive maintenance for industrial and electrical equipment is a remote maintenance approach based on data analysis and machine learning. It aims to monitor and maintain equipment before failures occur, reducing downtime and repair costs, and enhancing equipment reliability and production efficiency.

Our Solution

IR Series
Industrial Cellular Routers
IG Series
Edge Gateways
EC Series
Edge Computers

DeviceLive
IoT Device
Management Cloud

InHand Networks offers a "cloud+edge" solution for preventive maintenance. With support for multiple industrial protocols and powerful edge computing capabilities, the IG edge gateways and EC edge computers easily acquire data from various onsite devices, validate data and then upload them to the cloud.

Our Capabilities

Constant Monitoring	Protocol Conversion	AI on the Edge
Clouds Ready	SaaS Integration	Flexible Solutions

Remote Monitoring Solution for Industrial Generators

Customer Requirements

- **Real-time Monitoring:** Real-time monitoring of generator parameters through the sensor network, including temperature, vibration, voltage, current, etc.
- **Local Fault Diagnosis:** Accurate local fault diagnosis for timely response during abnormalities to reduce transmission delay.
- **Predictive Maintenance:** Leverage historical data and machine learning to predict equipment issues, enabling proactive maintenance and reducing downtime and costs.
- **Remote Control:** Ensure safe remote control of generators via the cloud, including start, stop, and power adjustment functions.

InHand Solution

The EC312 edge computer enables advanced remote monitoring of industrial generators. Integrating seamlessly with sensors, generator controllers, a generator monitoring platform and the InHand DeviceLive cloud, it facilitates real-time status tracking and data preprocessing. Via cellular networks, it reports to the monitoring platform for remote parameter adjustments, enhancing generator reliability. The DeviceLive offers remote management, allowing for efficient batch deployment and upgrades, thus optimizing management efficiency and reducing operational costs for distributed generator systems.
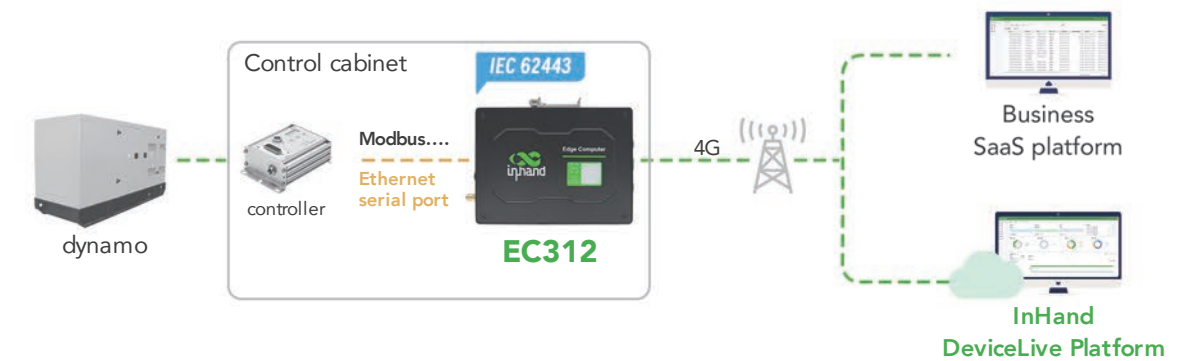
Benefits

Easy for Customization

The EC312, running Debian 11 Linux distribution, supports languages like C/C++, Java, Python, .Net, and JavaScript, enabling customized application development for diverse needs.

Extensive Interfaces for Varying

The EC312, with diverse interfaces including serial, Ethernet, DI/DO, CAN and GPS, meets diverse industrial generator data needs, reducing management costs.

Multiple Connection Options with Reliability

The EC312 offers Ethernet, Wi-Fi, and cellular connections with network backup, ensuring reliable, uninterrupted Internet access for generators in any location.

Remote Management Made Easy

The DeviceLive cloud enables remote edge app management, upgrades, and deployment, significantly reducing project delivery times and operational costs.
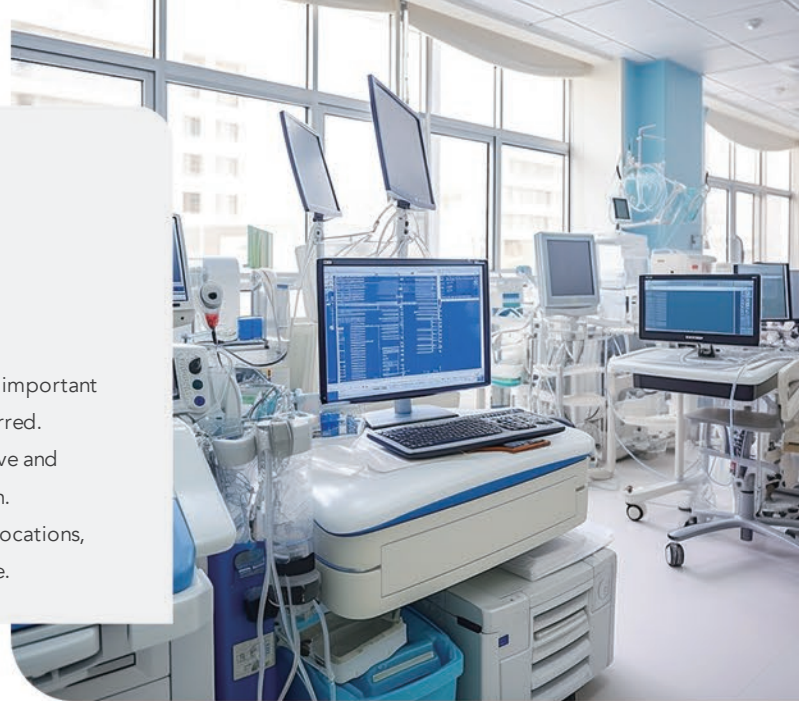
Remote Maintenance of Medical Equipment

Customer Requirements

- **Reliable and Uninterrupted Networking:** Reliable networking is very important for medical equipment with large amounts of data continuously transferred.
- **Comprehensive Data Security Mechanisms:** Medical data are sensitive and require strict protection. Data should be encrypted during transmission.
- **Easy Centralized Management:** With many devices deployed across locations, manufacturers expect easy remote management for better maintenance.

InHand Solution

The IR315 industrial LTE router establishes a high-speed, secure LAN for medical devices via Ethernet or Wi-Fi, transmitting data with robust firewall and VPN encryption for optimal security and integrity. Remote centers gain access to multi-dimensional device status data, facilitating immediate response to any equipment issues and ensuring uninterrupted, stable operation. The Device Manager offers a streamlined interface for easy management of numerous medical devices, enhancing efficiency with comprehensive data insights and effective batch operations for superior network control.

breathing machine

monitor

IEC 62443

IR302

4G/3G

DM

Medical equipment online monitoring center
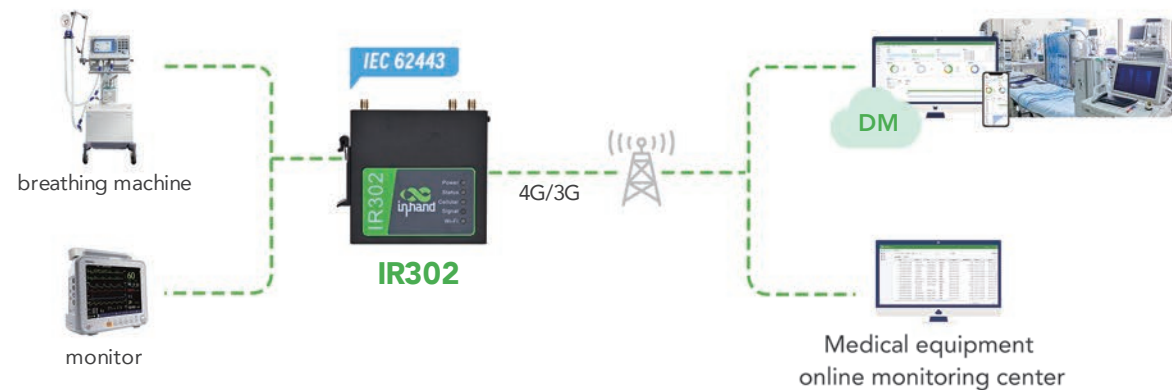
Benefits

New Network Experience	**Comprehensive Security Strategies**	**Comprehensive Network Functions**	**Easy-to-use Cloud Management**
The IR315 offers fast network access with high bandwidth and low latency, supporting both SA and NSA modes, enabling efficient network construction for IoT devices on-site.	Multi-level security strategies, including various VPNs, firewalls, and device permission management, safeguard sensitive data and core service networks against attacks and threats.	With its versatile networking capabilities, the IR315 excels in both simple and complex, large-scale network environments.	The Device Manager's centralized cloud platform allows for simple, efficient, and cost-effective monitoring and management of thousands of devices across distributed sites, accessible anytime and anywhere.

Digital Factory

Empowering Businesses with Competitive Advantage

Leveraging advanced technologies like AI, Big Data, and the Internet of Things (IoT), we empower industrial enterprises to achieve unprecedented levels of productivity, efficiency, and innovation. Our solutions aim to help improve product quality, meet personalized customer demands, and ensure production safety. With the power of digital technology, unlock the full potential of your digital factory and gain a significant competitive edge.

Our Solution

ISE Series
Unmanaged Industrial Ethernet Switches

IG Series
Edge Gateways

EC Series
Edge Computers

DeviceLive
IoT Device Management Cloud

PLC

Robot Arm

Industrial Machine Tool

InHand Networks offers a "cloud+edge" solution for digital factory. With support for multiple industrial protocols and powerful edge computing capabilities, the solution keeps track everything in the factory, enables real-time view of machine status and remote management.

Our Capabilities

Device Interconnectivity

Data Collection and Analysis

Real-time Production Scheduling

Intelligent Logistics Management

Intelligent Quality Management
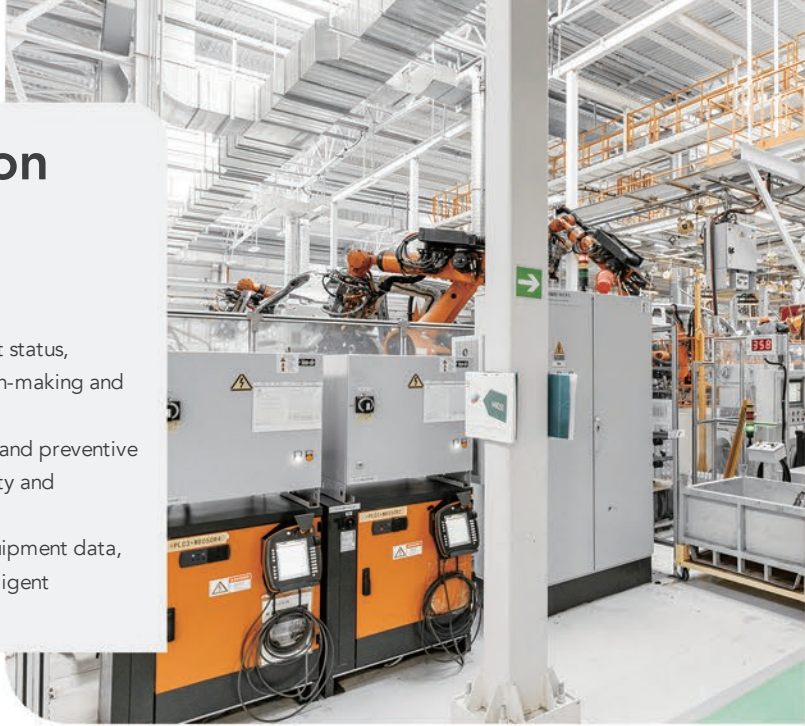
Remote Monitoring Solution for Digital Factory

Customer Requirements

- **Visualizing and Remote Managing in Real Time:** Access to equipment status, production metrics and KPIs anytime anywhere to enable timely decision-making and adjustments.
- **Fault Warning and Predictive Maintenance:** Early detection of issues and preventive maintenance reduce downtime, cut costs, and boost equipment reliability and productivity.
- **Data-driven Decision-making and Optimization:** Capture factory equipment data, enabling queries and exports to optimize resource use and support intelligent decisions with timely insights.

InHand Solution

InHand's remote monitoring solution for digital factories enables seamless IoT transformation, cost-effective maintenance, and improved productivity.

The IG902 edge gateway captures real-time data from the PLCs, filters it, and transmits it over 4G networks with proprietary protocols to the remote management platform for analysis. The InConnect remote access service enables remotely configuration, debugging and upgrading of field PLCs. The Device Manager Cloud ensures unified management and remote maintenance of gateways, optimizing operational efficiency and extending device lifespan.
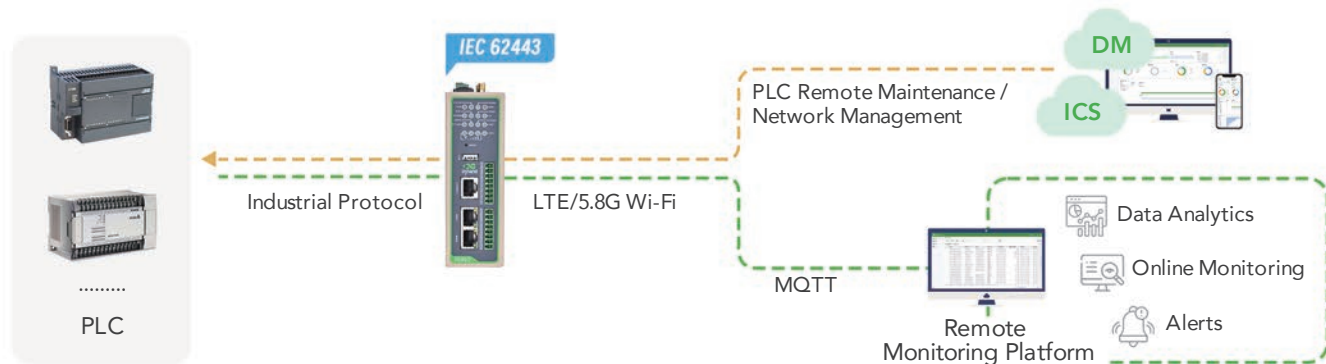
Benefits

High Performance Connectivity

Available with LTE, Wi-Fi, and wired connections, along with various link redundancy technologies, the IG902 ensures continuous and reliable network transmission for uninterrupted device operation.

### Simplified Edge-to-Cloud Integration

The IG902 supports major industrial protocols and IoT clouds, making it easy to send device data to the cloud for remote monitoring and preventive maintenance, reducing operational costs.

Built for Developers

The IG902, with Python programmability and Docker support, empowers developers to easily customize business specific applications and streamline app deployment, enhancing efficiency and scalability.

Easy Remote Management

The IG902 comes with the InConnect remote access service, enabling remote maintenance of PLCs. Device Manager offers efficient centralized management for distributed gateways.
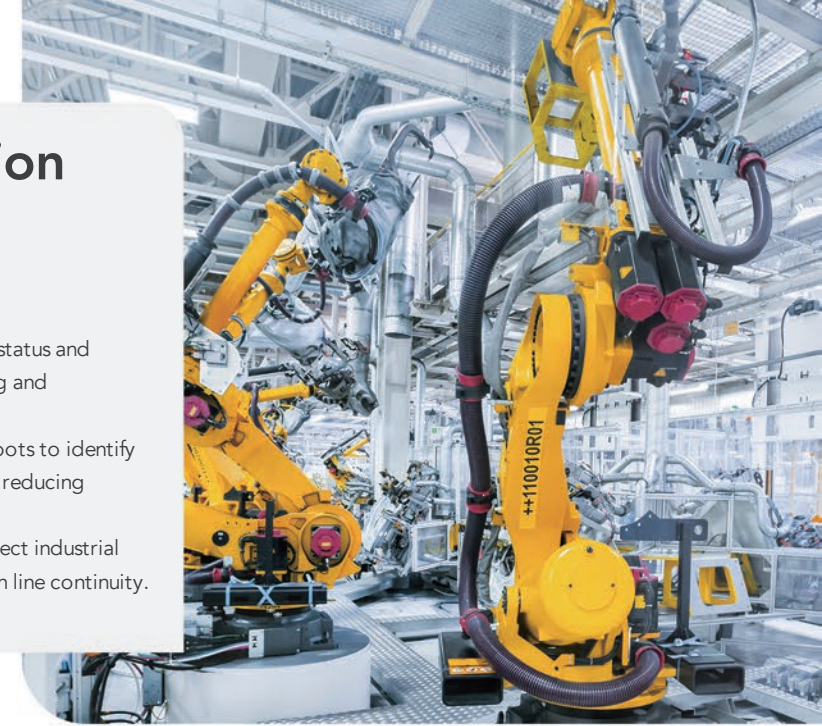
Remote Monitoring Solution for Robots

Customer Requirements

- **Real-time Operational Insights:** Instantly monitor industrial robots' status and manage remotely for real-time production insights, enhancing planning and scheduling efficiency.
- **Fault Prediction and Early Warning:** Collect data from industrial robots to identify fault patterns and anomalies, issuing early warnings for prompt action, reducing downtime, and extending lifespan.
- **Safety and Reliability:** Prioritize system security and integrity to protect industrial robots and data, ensuring confidentiality and uninterrupted production line continuity.

InHand Solution

InHand's Smart Robot Remote Monitoring Solution boosts efficiency with networking and intelligent management for industrial robots. It integrates the IG502 edge computing gateway with robot controllers and a monitoring platform, facilitating data collection and transmission. The IG502's edge computing prowess, supporting numerous industrial protocols and IoT clouds, accelerates project delivery while cutting costs. It pre-processes data to lighten cloud burden and enable swift onsite responses. The platform offers real-time analytics, fault prediction, and remote maintenance, ensuring robust, efficient robot operations.
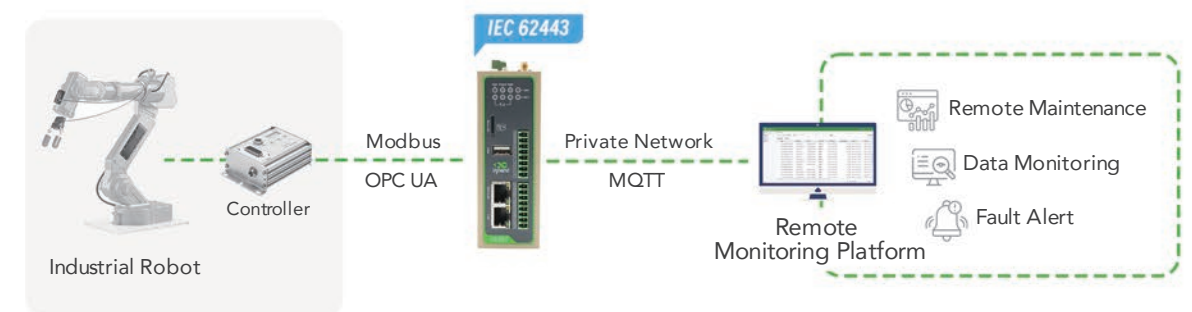
Benefits

Uninterrupted Connectivity

The IG902 ensures always-online devices via 4G LTE, Wi-Fi, and wired connections with redundancy for continuous, reliable network transmission.

Streamlined Integration

With support for major industrial protocols, the IG902 facilitates easy cloud data transmission and remote monitoring, reducing operational costs.

Advanced Computing & Customization

The IG902 features powerful ARM Cortex-A8 processor and Python programming, enabling intelligent data processing and tailored functionalities.

Efficient Management at Scale

With the Device Manager, the solution simplifies large-scale device deployment and monitoring with web interface configuration and centralized management for system integrity.

Digitalization of Utilities

Injecting "Digital Intelligence" into Public Utilities

The future of utilities is inextricably linked to digitalization. We harness the power of IoT and cloud computing to empower power, natural gas, water, and heating companies to achieve greater efficiency and service quality, unlocking a path for sustainable growth.

Our Solution

ISE Series
Unmanaged Industrial Ethernet Switches

IR Series
Industrial Cellular Routers

IG Series
Edge Gateways

EC Series
Edge Computers

DeviceLive
IoT Device Management Cloud

HMI · Camera · PLC

Through monitoring, control and diagnostics using IoT technologies and devices, we can achieve intelligent management and operation of public utility facilities, making them more reliable and secure with greater service quality. These improvements contribute to better user experience, greater satisfaction and loyalty, and ultimately facilitate sustainability of public utility service providers.

Our Capabilities

- Improving Efficiency and Stability
- Better Supporting for Data Analysis and Decision-making
- Enhanced Security and Risk Management
- Clouds Ready
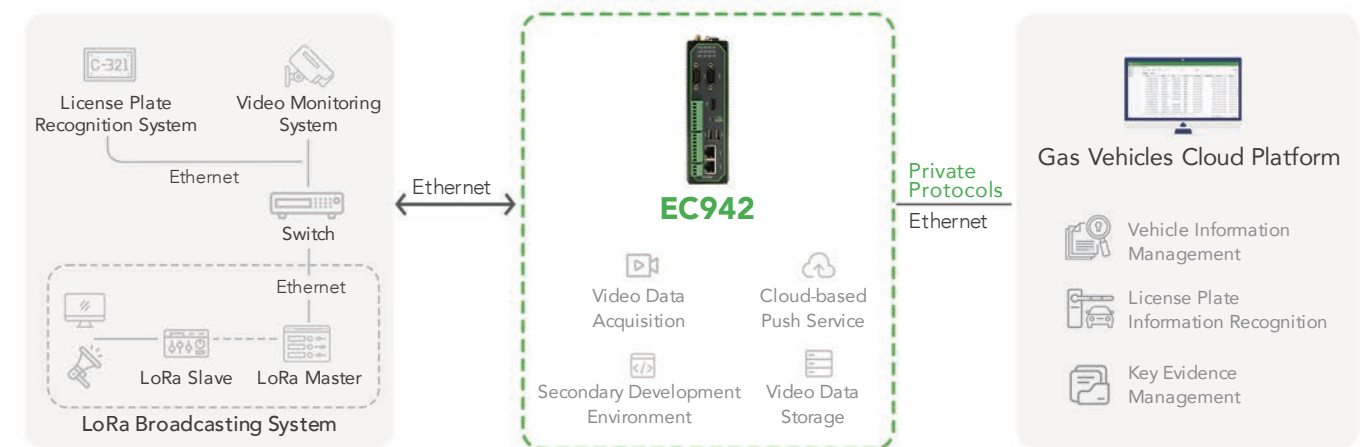- SaaS Integration
- Flexible Solutions

Safety Monitoring Solution for Vehicle Gas Cylinders

Customer Requirements

- **Reliable and Uninterrupted Networking:** Stable and reliable LTE network, with multiple interfaces to connect to different field devices.
- **AI Computing Power:** Recognition of license plate information of gas cylinder vehicles.
- **Support for Guest Applications:** A Linux distribution designed to facilitate the running of guest applications
- **Cloud Integration:** An API interface for seamless data exchange with the cloud.

InHand Solution

The EC942 edge computer automates vehicle gas cylinder safety monitoring at charging stations, reducing labor costs. This integrated system combines license plate recognition, video surveillance, and voice broadcasting of cylinder data, connected via a field switch to a cloud big data platform. The EC942 processes and uploads vehicle information, ensuring compliance and safety in gas refills. If issues arise, it captures and stores video evidence, supported by expandable mSATA storage, streamlining safety operations efficiently.

License Plate Recognition System · Video Monitoring System · Ethernet · Switch · Ethernet · LoRa Slave · LoRa Master · LoRa Broadcasting System

EC942 · Ethernet · Video Data Acquisition · Cloud-based Push Service · Secondary Development Environment · Video Data Storage

Private Protocols · Ethernet · Gas Vehicles Cloud Platform · Vehicle Information Management · License Plate Information Recognition · Key Evidence Management

Benefits

Easy for Customization

The EC942, with Debian Linux 10, supports languages such as C/C++, Java, Python, .Net, and JavaScript, enabling tailored application development for various needs.

Large Capacity for Data Storage & Transmission

The EC942, featuring 16GB eMMC FLASH and an mSATA extension interface, is ideal for the substantial video data storage and transmission needs of charging stations.

Powerful AI Computing Capabilities

The EC942 offers 1 TOPS AI computing, allowing edge-based AI algorithm execution for license plate extraction from video, reducing the need for AI cameras and cutting project costs.

Reliable & Uninterrupted Internet Connectivity

The EC942 offers Gigabit Ethernet, Wi-Fi, and cellular connectivity with redundancy, ensuring continuous Internet access at remote charging stations.

Remote Metering of Water Utilities

Customer Requirements

- **Real-time Meter Reading:** On-time and accurate water meters reading in various regions of the city, closely tracking and optimizing water usage, to improve water resource management efficiency.
- **Secure and reliable communication between meters and monitoring center:** Robust communication with redundancy mechanisms ensures uninterrupted data transmission to the central monitoring center.
- **Reliable operation for long periods of unattended environments:** Design durable hardware resistant to environmental factors, coupled with energy-efficient components, for consistent, long-term operation in unattended or challenging settings.

InHand Solution

The water company provides water supply for both downtown and suburban areas. In the downtown area, water meters were installed in every resident's house; in suburban areas, meters were installed separately at each villa, and usually, the distance between two villas was 500m to 5km.

Based on the requirements of water meter automatic reading, we provided GPRS based solution. For the downtown areas, we used InDTU324 industrial GPRS modem to connected with the concentrator by RS485 bus in each apartment; for suburban areas, we used InDTU324 to connect directly to the meter of each villa. In each GPRS modem, embedded a SIM card provided by local mobile operator. These SIM cards could provide private APN (Private Access Point Network) service which prevented access from public internet and also enabled the access from the water company's data center to a certain remote meter. (You can consult your local mobile operator about private APN and SIM card).
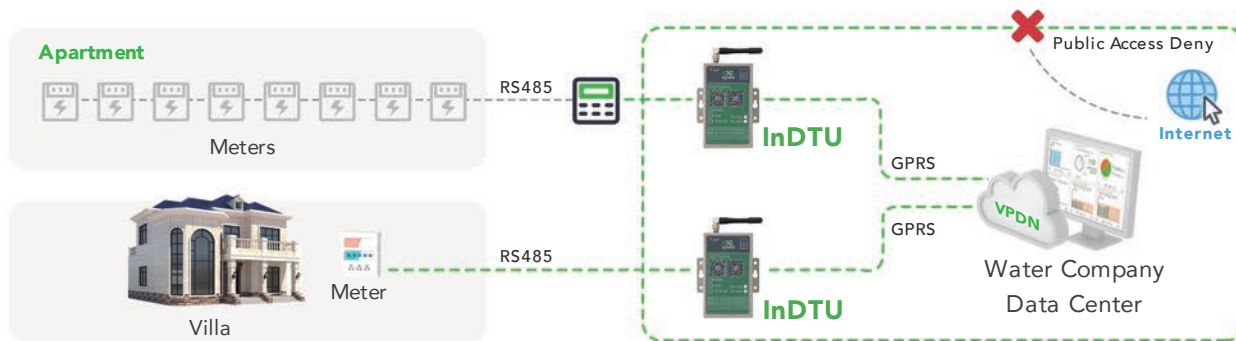
Benefits

Easy Deployment	Secure and reliable data transmission	Robust design for long-time reliable operation in various environments	Built for the multiple scenarios
Wireless service makes it easy to build up network and can ensure the network cover all the meters in the specific area.	The reliable network guarantees data to be transmitted safely from meters to monitoring center.	The InDTU324 features industrial-grade design, with a temperature range of -40~70°C (-40~158°F), proving quite resilient in harsh unattended sites. Compact size makes installation easy.	The InDTU324 supports several industrial data protocols including Modbus RTU/Modbus TCP, Transparent TCP, IEC 101 to 104, etc., and also supports customization for customers'requirements.

IoT Connectivity of Clean Energy

Driving Energy Transformation

It is our commitment to help customers meet globally growing demand for energy while transitioning to a more sustainable world. We are driving this transformation by leveraging technologies like IoT, big data analytics, and artificial intelligence. From solar power generation to energy storage, from wind turbines to EV charging, digitalization is pervasive.

Our Solution
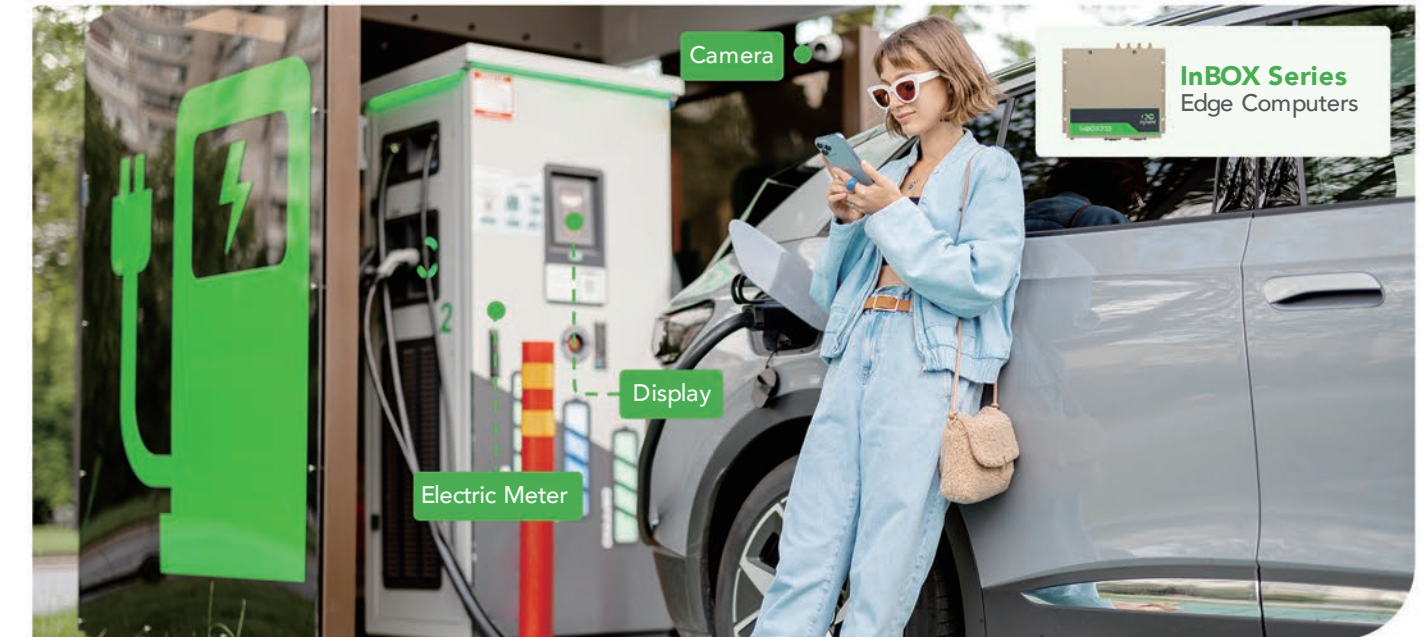
We offer a wide range of digital solutions for clean energy, including:

- Interconnection solution for urban microgrids, including PV power generation, smart PV grid-connected circuit breaker solution;
- Solutions of interconnectivity and data collection for battery energy storage cabinets, connecting PCS with control and operation platforms for charging and discharging management;
- Networking, billing, and control solution for EV charging stations;
- Predictive maintenance for wind power generation equipment.

Our Capabilities

Data Acquisition

Remote Maintenance

Powerful Computing

Cellular Networks

Extensive Interfaces

Extensive Experience in the Power Industry

Cloud Integration
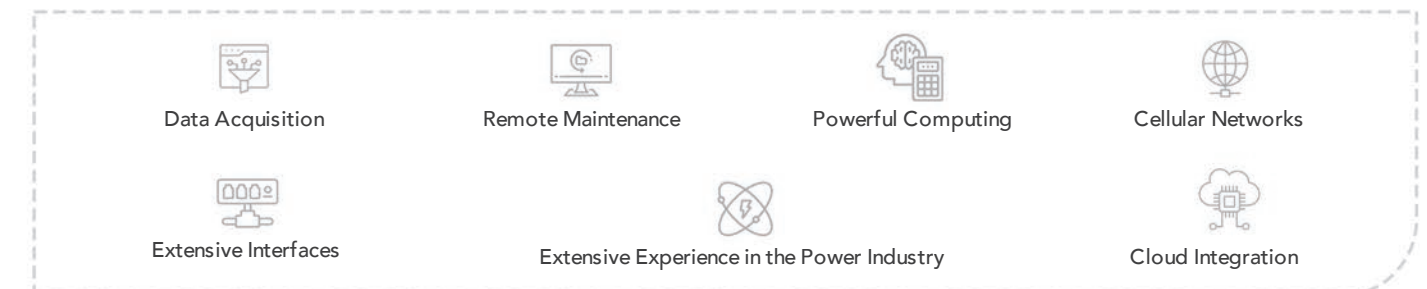
Smart EV Charging Kiosk

Customer Requirements

- **Multiple Networks and Stable Transmission:** Supports 4G, Wi-Fi, wired networks for charging piles across areas, offering real-time status and fault data for prompt maintenance response.
- **System and Cost Optimization:** High-capacity, low-cost equipment with strong compatibility, minimal software adaptation, system-level support, and replaces traditional X86+router solutions.
- **Robust Industrial Design:** Engineered for charging piles, it endures harsh EMC and extreme temperatures, ensuring reliability, minimizing downtime, and enhancing user experience.
- **Rich Interfaces:** A robust data system with multiple interfaces for peripherals like screens and cameras, aiding in custom solution development.

InHand Solution

InHand Networks offers cost-optimizing hardware and network solutions with efficient management. Our devices, compatible with Android and Linux, feature user-friendly interaction and industrial-grade design for EMC protection and wide temperature ranges, ensuring durability in harsh environments. With HDMI, USB, RS485/232, CAN, GPIO, SPK, and MIC interfaces, they meet diverse on-site requirements.

Benefits

Stable Connection Ensures Cloud Integration

The InBOX and InPAD devices support 4G/5G, Wi-Fi and wired connections, excelling in tough environments with seamless network connectivity.

Compatibility with Multiple Operating Systems

The InBOX computers and InPAD tablets run on optimized Android/Linux for app stability, offering a flexible platform for versatile application development.
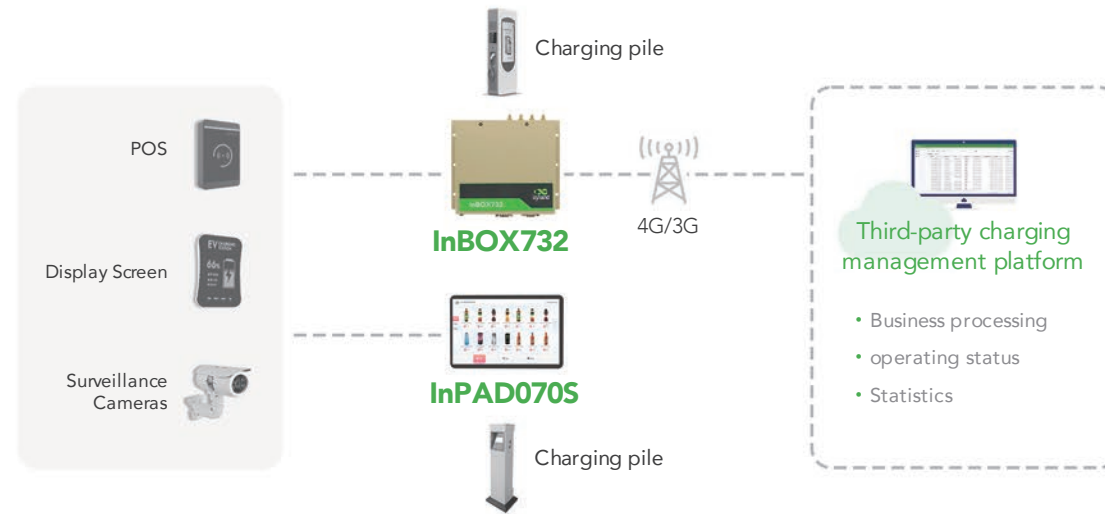
Resilience in Harsh Environments

The InBOX and InPAD provide Level 4 EMC protection, ensuring prolonged and steady operation of charging piles even in harsh environments, delivering consistent value to customers.

High Performance for Complex Tasks

The InBOX and InPAD boast high-performance processors for complex computations and offer numerous interfaces for expansion, unlocking limitless possibilities.

Photovoltaic Cleaning Robots

Customer Requirements

- **Remote Operation and Control:** Remotely start, stop, and direct robot cleaning paths with centralized management and multi-robot control.
- **Fault Monitoring and Remote Diagnostics:** Monitor robots' status and performance in real time, with instant alerts for malfunctions, enabling prompt diagnostics and repairs.
- **Data driven Learning and Analysis:** Collect and analyze robot data, e.g. working hours, cleaning efficiency, energy use, etc. to optimize cleaning strategies and enhance support services.
- **Remote Upgrades and Maintenance:** Remotely upgrade firmware, configure robots, and adjust parameters to boost maintenance efficiency, reduce staff workload, and cut costs.
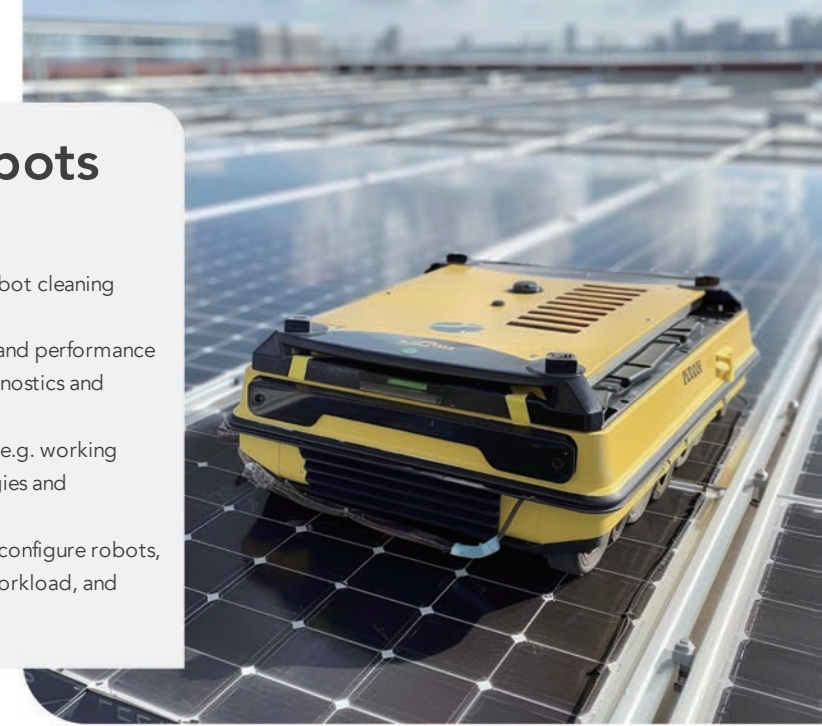
InHand Solution

InHand Networks offers an integrated solution featuring the IG502 IoT edge gateway and Device Manager cloud, seamlessly integrated with existing robot management platforms for centralized robot monitoring and management. This enables access to real-time operational data, performance metrics, and cleaning progress. By analyzing this data, customers can quickly address malfunctions, refine cleaning tactics, and streamline maintenance schedules, boosting overall efficiency. The Device Manager allows for unified IG502 management, supporting remote batch upgrades and diagnostics, thus minimizing maintenance efforts post-deployment.
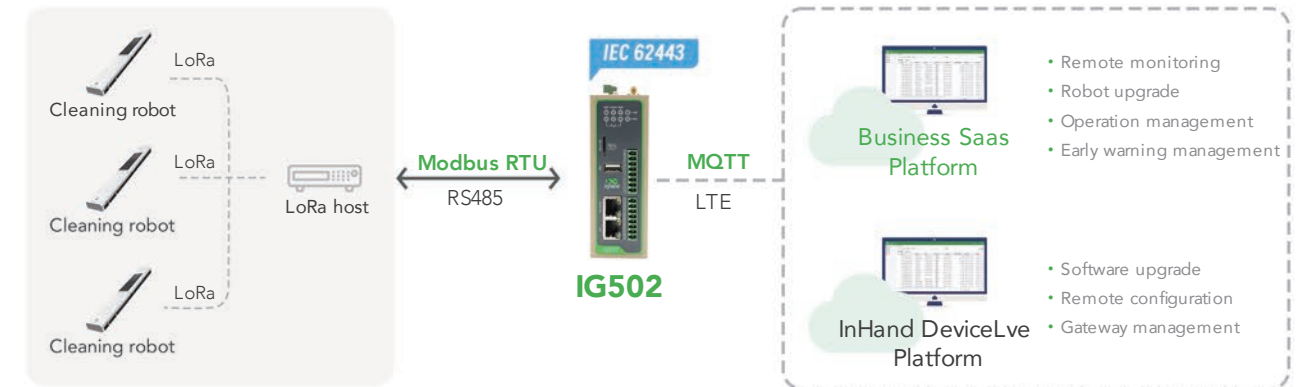
Benefits

Cost-effective Communication Solution

The IG502 delivers powerful processing and cost-effective performance, connecting to multiple robots for efficient data management and monitoring.

Flexible Edge Data Processing

The IG502 offers adaptable edge data processing, with customizable functionalities tailored to specific needs and diverse application scenarios.

Efficient Integration with Devices and Clouds

The IG502 supports multiple industrial protocols and major IoT clouds like AWS and Microsoft, addressing diverse data acquisition needs.

Ensured Data Reliability and Integrity

8GB eMMC storage and expandable Micro SD card offer ample data storage. Offline data caching helps ensure data integrity and continuity.

InHand Edge Intelligence Solution

InHand Edge Intelligence Solution

Designed for industrial IoT, the InHand Edge Intelligent Solution empowers industrial enterprises to rapidly establish an intelligent edge network tailored to their business needs, enabling more flexible, efficient, and secure data processing and transmission.

Trends and Challenges of Industrial Digitalization

Industrial digitization is the process of transforming traditional industrial production and operations through the adoption of digital technologies and information and communication technologies (ICTs). Industrial digitalization can not only improve the efficiency and quality of the manufacturing industry, but also create more business opportunities for enterprises, bring higher competitiveness and sustainability. Hence, it is an inevitable choice for the current development of industrial enterprises.

Trends of Industrial Digitalization

Penetration of the Internet of Things
The widespread application of Internet of Things (IoT) technology enables industrial equipment and sensors to be connected to each other, enabling real-time monitoring and data exchange, improving production efficiency and quality.

Rise of Edge Computing
Edge computing enables data processing capabilities to be closer to the data source, reduces latency, adapts to real-time requirements, and plays a positive role in industrial digitalization.

Application of Artificial Intelligence and Machine Learning
Artificial intelligence (AI) and machine learning (ML) algorithms are increasingly used in industrial digitalization for predictive maintenance, quality control, production optimization, etc., improving the intelligence and efficiency of the system. Adaptability.

Application of 5G Technology
5G technology provides higher bandwidth and lower latency, enabling industrial equipment to better communicate in real time, supporting large-scale device connections and high-speed data transmission.

Challenges Facing Industrial Digitalization

Security and Privacy Issues

As digitization expands, industrial systems face more cybersecurity threats. In addition, the collection and sharing of large amounts of data also raises concerns about privacy protection

Talent Shortage

Implementing industrial digitalization requires professional technical talents, including Internet of Things experts, data analysts, artificial intelligence engineers, etc. The talent shortage in this area is a challenge

Technical Standards and Interoperability

Industrial digitalization involves multiple technical fields. Different equipment and systems use different standards and protocols, and interoperability issues have become a constraint

Data Governance

Processing and managing large-scale data, including storage, cleaning, and analysis, requires effective data governance strategies to ensure data quality and consistency

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InHand Edge Intelligence Solution

In order to better meet the requirements of real-time, privacy and reliability, artificial intelligence applications can be closer to data sources, so as to better adapt to various actual scenarios.InHand edge intelligent solution is designed for the field of industrial Internet of things. InHand edge intelligent hardware and innovative IoT cloud management platform help industrial enterprises to quickly build an intelligent edge network and achieve more flexible, efficient and secure data processing and transmission.

Solution Architecture
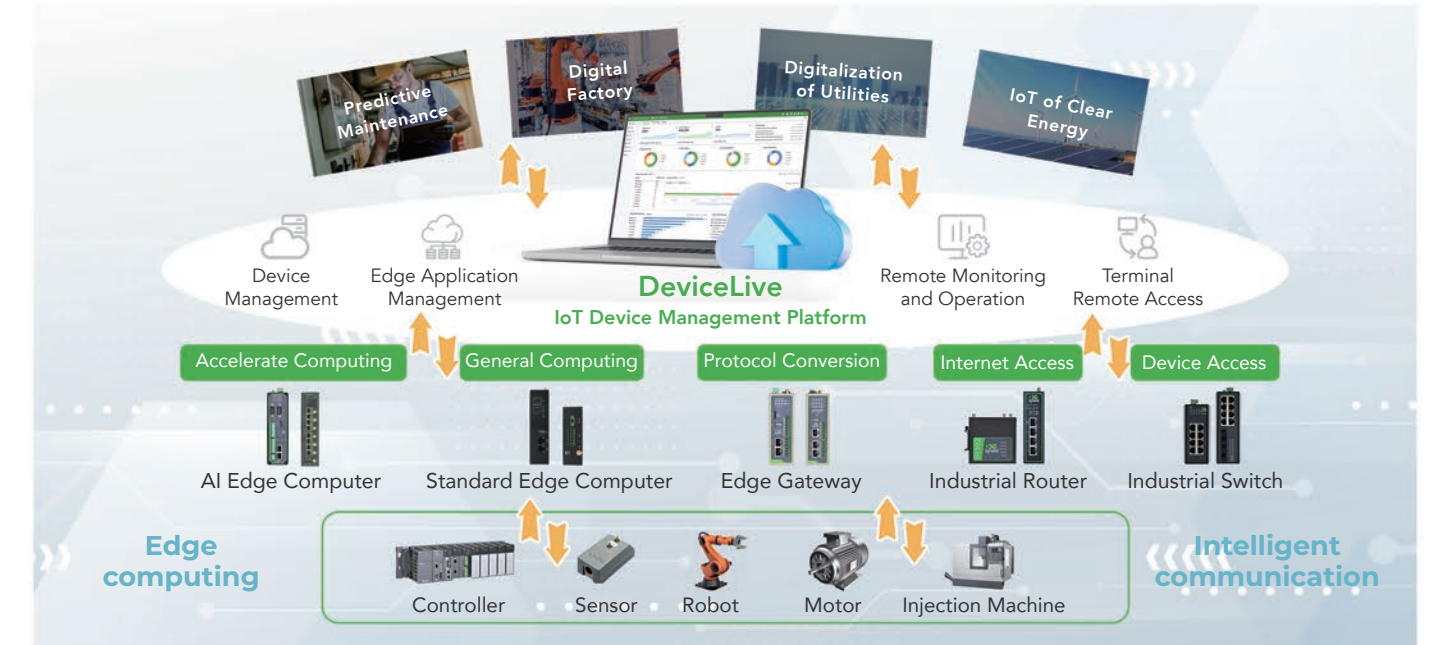
Why InHand Networks?

Optimized Network Bandwidth
By processing data at the edge, you can reduce the need for network bandwidth and improve data transmission efficiency and cost-effectiveness

Real-time Decision-making
By moving computing tasks to the edge of the network, data transmission latency can be reduced to millisecond level for critical services, such as fault detection and predictive maintenance.

Enhanced Privacy and Security
Data localization preprocessing reduces the risk of transferring sensitive data to the cloud and improves data security.

Flexible and Scalable
The solution provides a more flexible and scalable computing mode, and can perform customized computing tasks on different devices according to specific requirements.

Features of the Solution

1. With InHand DeviceLive Platform, Remote Management is Really Worry-free

Zero-Touch Deployment

With plug-and-play devices, you can implement remote deployment with DeviceLive

Easy Configuration

WEB GUI configuration Intuitive and simple

Unified Management

Batch device configuration Scheduled firmware upgrade

Alert & Remote Diagnosis

Multiple alarm rules to monitor business, Remote diagnosis to save effort

Multiple Security Strategy

Data security encryption Multi-role access control and multi-factor identity authentication

Visual Monitoring

Comprehensive insight into device running status, network quality

DeviceLive Cloud Service

Edge Computing APP Management
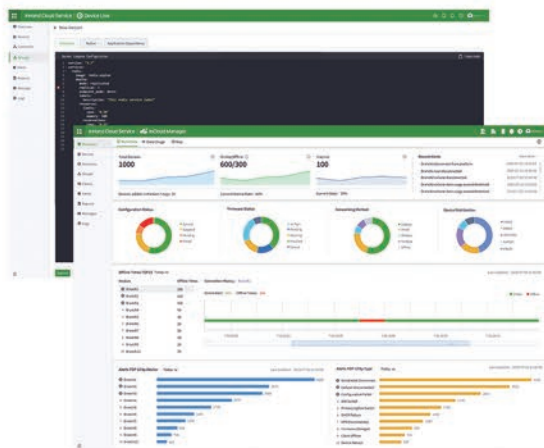
For edge intelligent hardware products,DeviceLive provides management and deployment of edge computing container applications, native applications,etc., without the need for users to build OTA services, providing a one-stop solution.

DeviceLive can centrally configure parameters of edge intelligent hardware, manage containers, upgrade edge computing apps, and support unified deployment package policy setting, define deployment rules, and realize centralized upgrade and control of distributed intelligent onsite.

Remote Control Over Remote Machines

DeviceLive can enable engineers to remotely access the terminal equipment connected to the gateway, achieve remote terminal maintenance,program download, and establish a transmission channel for the terminal data to be continuously reported to the data service center. It is suitable for distributed terminal access in various iot scenarios, and supports the access of industrial computers, servers, cameras, PLCs, HMIs, controllers and other Ethernet terminal devices.

Engineer

Office

Home

On the way

Maintenance Anywhere Anytime

DeviceLive

Edge Gateways — New Energy

Edge Gateways — CT ECG Scanner — Hospital Branch

Edge Gateways — Factory Distributed Site
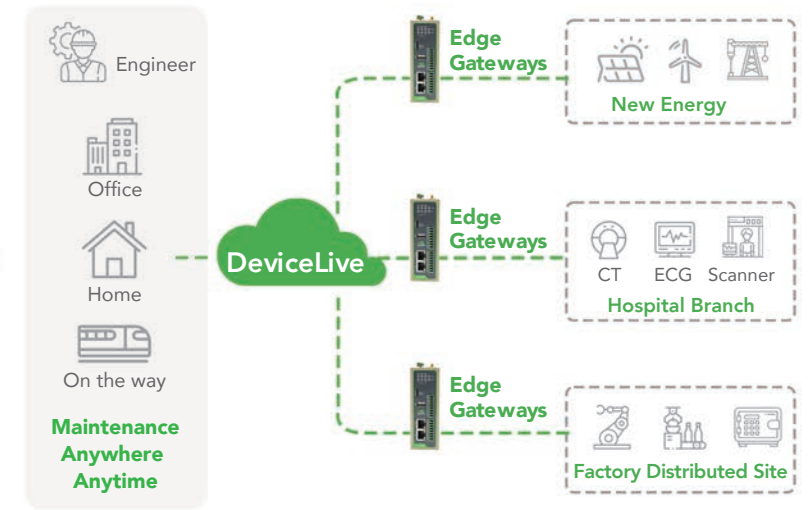
2. Multifunctional Edge Intelligence Hardware, Adaptable to Various IIoT Application Scenarios

Accelerate Computing | General Computing | Protocol Conversion | Internet Access | Device Access

Edge Computing

AI Edge Computer | Standard Edge Computer | Edge Gateway | Industrial Router | Industrial Switch

Intelligent Communication
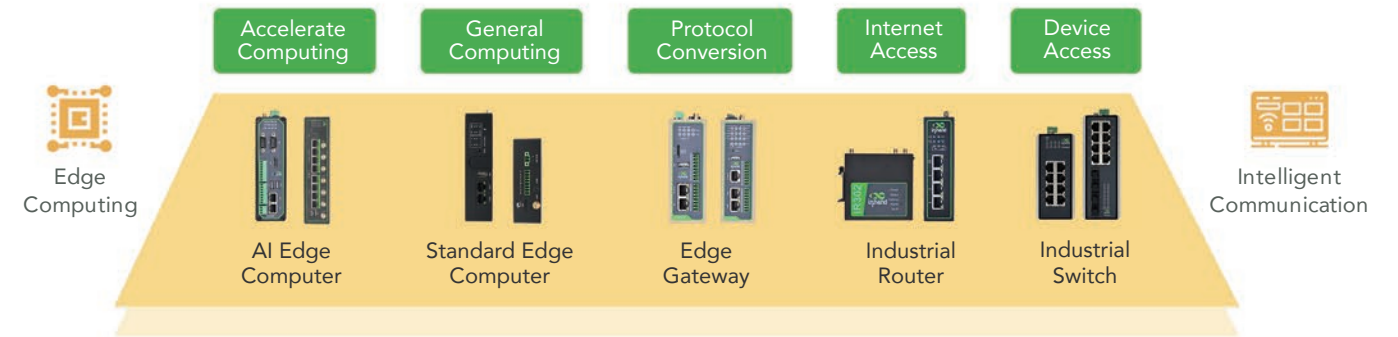
Multiple CPU Options

from single-core to multi-core ARM processors

Multiple Protocols

from simple transparent transmission to industrial protocols to various industry protocols

Multiple AI Performance

from 1 to 100 TOPS, suitable for various edge AI scenarios, such as facial recognition, speech recognition, image recognition, etc.

Multiple Interface Options

Ethernet, serial port, USB, IO, CAN, HDMI, LVDS, GMSL, etc.

3. DevicesSupervisor™ Agent service

DeviceSupervisor Agent is self-developed by InHand and runs in IG&EC to help customers "zero code" to achieve data acquisition, processing and cloud edge intelligence software.

+ "Zero code/low code" easily realizes data collection on the cloud
+ Integrate 100+ mainstream data collection protocols
+ Support data preprocessing
+ Integrated data publishing service, seamless access to public cloud, private cloud, local SCADA, etc.

Data Acquisition

- 80+ mainstream protocol driver
- Convenient collection configuration
- Concurrent collection from multiple devices
- Massive collection points
- Multiple polling cycles are set

Edge Computing

- Data visualization preprocessing
- Python data preprocessing
- Data edge storage analysis

Protocol Conversion

- More than 10 protocol conversions
- Support concurrent conversion

Data Cloud

- Customize MQTT themes and payloads
- Connect to multiple MQTT pl atforms simultaneously

Data Collection

DSA supports more than 80 mainstream protocol drivers

- **Standard industrial protocols**: Modbus , OPC UA , BACnet , etc.
- **Industrial equipment**: PLC , smart instruments, sensors
- **Energy equipment**: power regulations, meters, inverters, building agreements

DSA supports custom collection cycles

- Can Set different polling cycles for different controllers
- Can set different polling periods for the various data in controller
- Support millisecond collection of key data, with collection frequency up to 100ms
- Properly utilize the performance resources of gateways and controllers

DSA supports editing and configuring collection strategies

- Support Excel import / export
- Support device template function to quickly add devices

Standard industrial protocols
Modbus OPC UA BACnet EUROMAP

Industrial equipment
SIEMENS Rockwell Automation MITSUBISHI ELECTRIC Schneider Electric
DELTA INOVANCE FATEK ABB
OMRON KEYENCE BECKHOFF GE
YASKAWA Panasonic Honeywell

Energy equipment
IEC 60870-5-101 IEC 60870-5-104 IEC 61850 DNP3 DLT

Application scenarios

InHand's edge intelligence solution integrates a variety of advanced technologies such as 5G , AI , and the Internet of Things, and can be widely used in multiple fields. The following are some application scenarios for the edge intelligence solution .

Smart Manufacturing: In industrial production, edge intelligence solutions can be used to monitor and optimize manufacturing processes in real time, perform equipment health monitoring and predictive maintenance to improve production efficiency and reduce downtime.

Smart Retail: Edge intelligence can be used in the retail industry, such as using cameras and sensors in stores for real-time monitoring, customer analytics, and inventory management to provide a smarter shopping experience.

Public Utilities: Edge intelligence can be used in public utilities , such as water affairs. Edge intelligence can be used to monitor water quality, water level and pipeline status in real time, improve water resource management efficiency, prevent water quality problems, and reduce water leakage rates.

Energy Management: In the energy field, edge intelligence can be used to monitor and optimize energy consumption in real time, such as environmental control in smart buildings, equipment energy efficiency analysis, etc.

Industrial Robot   Air Compressor   Smart Water   HVAC   Digital Factory   Renewables

DeviceLive

IoT Device Management Platform
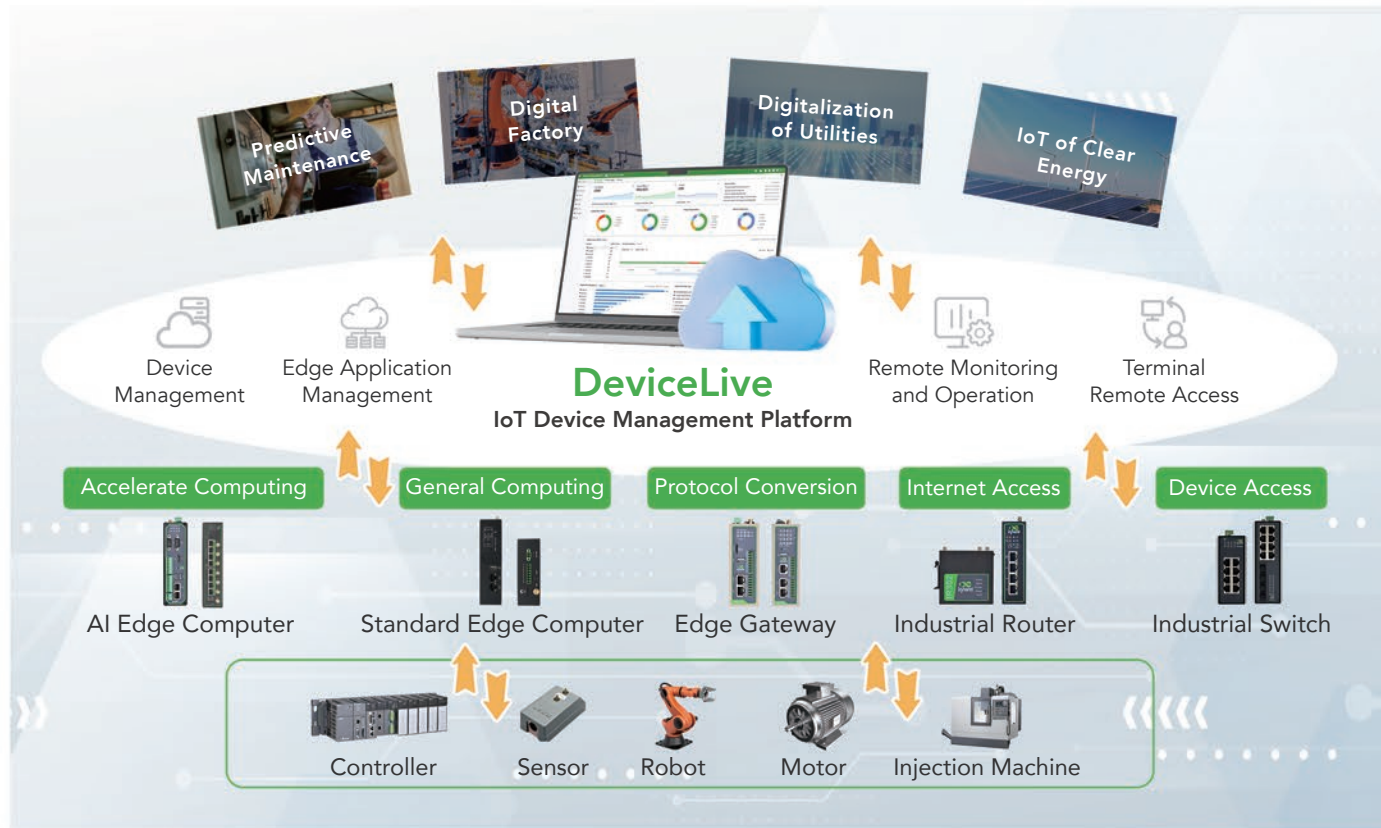
- **Device Centralized Management**

  Zero-touch deployment, remote configuration, predictive alert. Visual monitoring enhances management efficiency

- **Edge Computing Management**

  DSA, container management, edge computing app upgrade. Centralized upgrade and control of distributed edge sites

- **Remote Access to On-site Machines**

  Remote maintenance, program downloading, parameter adjustment. Establish transmission channels for continuous reporting of terminal data to the business server

Features and Advantages

Designed for industrial IoT, the DeviceLive enables quick building of intelligent edge networks. Collaborating with edge hardware, DeviceLive helps you deploy and upgrade edge APPs, implement edge data collection and pre-processing, and enable status visual monitoring.

Features	Description
Bulk Devices Configuration	Remotely configure devices through GUI
Bulk Devices Upgrade	Remotely upgrade device firmware, support setting upgrade schedule flexibly
Device Management by Group	Support device classification according to business needs, making the management more flexible
Remote Control Command	Remote reboot device, factory reset
Connection Status Statistics	Monitor device connection status, network type, etc.
Network Status Analysis	Monitor device interface connection status, link status, and traffic consumption
Network Quality Monitoring	Monitor cellular network signals, monitor network delay, jitter, packet loss, and throughput
DSA Management	DSA remote configuration, upgrade, status overview
Remote Diagnostic Tool	Diagnostic logs, Ping, Traceroute, packet capture, event analysis
Geolocation Management	Support GPS/base station positioning/manual positioning, overview device distribution on the map
Alert Policy	Support a variety of alarm strategies, such as CPU utilization, link status, and cellular traffic monitoring; support SMS, email, and APP notifications
Connector	Quickly establish a remote channel to support engineers to remotely access and control terminal equipment
Edge Computing Management	Container and Native Application Management, Edge Computing App Upgrade and Deployment
MFA	Account multi-factor authentication, comprehensive security

Portal Address: **device.inhandcloud.com**

Standard
Edge Computers

EC312 / InBOX732

Using the ARM architecture, our Standard Edge Computer provides you with a wide range of interface, network, performance and edge application options for seamless edge-to-cloud integration, suitable for today's IoT and edge computing applications.

Hardware

CPU	ARM Cortex-A53@1.4GHz		TPM(Optional)	TPM2.0
RAM	1GB DDR4		Power input	DC9-48V
FLASH	8GB eMMC		Power failure	Hold for 20 seconds after power
Ethernet Port	2*10/100Mbps Ethernet port		protection	failure (safe shutdown)
Serial Port	1*RS-232/485, 1*RS-485, expandable up to 4 serial ports , isolation		Installation	Panel, Rail
			Protection Rating	IP30
Wi-Fi(Optional)	STA, 802.11ac/a/b/g/n, 2.4G/5G		Housing	Metal + Plastic
Bluetooth(Optional)	BLE 4.2		Storage Temperature	-40℃ ~ 85℃
GPS(Optional)	Satellite location GPS, 1*SMA		Operation temperature	-20℃ ~ 70℃
USB	1*USB 2.0		Ambient humidity	5~ 95% (non-condensing)
SIM Card	Nano SIM*2		EMC	level 3
TF card	MicroSD support, up to 32GB expansion		Certification	CE、FCC、PTCRB、IC、
Interface extension (Optional)	Up to 2*RS232/RS485/4-20mA/CAN FD, isolation Up to 4*DI+4*DO, isolation			Verizon Wireless、AT&T、UL、 IEC62443-4-2

EC312

Compact Edge Computer

Basic Computility, Open Platform

CPU：TI AM6231, single-core, Cortex-A53@1.4GHz 1G SDRAM+8G eMMC Linux distribution (based on Debian 11)

High-Security Protection

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

High Reliability

4G/Wi-Fi/FE,etc. Independent hardware and software watchdog. Multilevel link detection, communication self-healing. Fanless design. Supercapacitor design, support power off protection

InHand DeviceLive Cloud Manager

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

The EC300 series industrial edge computer is a highly integrated Arm-based Linux platform. It is a compact edge computer, specificallyfor users who need lightweight application design.The EC300 has a built-in Linux distribution and provides long-term support for the Linux kernel, including security patches and troubleshooting, to meet the needs of computing systems in industrial automation applications to extend the life cycle and ensure industrial projects be safe and sustainable.

Software

Network format	LTE CAT1, CAT6
Access authentication	CHAP, PAP
Secondary development environment	Multi-programming language development platform
Access cloud platform	AWS, Azure, Ali and other cloud platforms
Industrial Protocol	Modbus RTU/TCP, EtherNet/IP, ISO on TCP, OPC UA, DLT645-2007, IEC101/104.etc
LAN protocol	ARP, Ethernet
Network Protocol	ICMP, DNS, TCP/UDP, TCPServer, DHCP, Static routing
Network security	VPN, Firewall
Reliability	Link Detection, Dual SIM Failover, Embedded Watchdog
Data security	Secure Boot, TrustZone
Configuration	Web, SSH
Upgrade	Web, FOTA, DFOTA
Log	Support local system log, remote log export and important log power-off autosave
Remote management	InHandDeviceLiveor HTTP, HTTPS, SSH, etc
DeviceLive Cloud	Supports cloud-based parameter configuration, container management, application and firmware management
OS	IEOS pre-installed (InHand Edge linux system: Debian11, Kernel 5.10.168)

Hardware

CPU	Rockchip six-core processor, maximum frequency 1.8GHz		GPS (optional)	GPS:1*SMA
RAM	2GB		USB	4*USB 2.0; 1*USB3.0
FLASH	16GB eMMC		Power	DC9-24V
Ethernet Port	2*10/100/1000Mbps, WAN/LAN		Installation	Wall mounting
Serial Port	4*RS232, DB9 male connector, 2*RS485 (3pin terminal, with flange)		Protection Rating	IP40
			Housing	Metal
HDMI	1*HDMI2.0		Storage Temperature	-40°C ~ 85°C
Wi-Fi	2*RP-SMA, Support, 802.11a/b/g/n, support Client/AP mode		Operating Temperature	-20°C ~ 70°C
GPIO	10-pin green terminal*1 (plug-in, screw-free spring type) Definition: IN1~4, GND, OUT1~4, GND		Ambient Humidity	5 ~ 95% (no condensation)
CAN	1*CAN		EMC	Level 3
MIC&SPK	1*MIC interface, 3.5 mm standard socket 1*SPK interface, two-channel, 4 ohm 3W		Certification	-

Software

Network Type	LTE-TDD/LTE-FDD/WCDMA/CDMA/TD-SCDMA/ UMTS/EDGE/GPRS/GSM
Graphic Processing	Dual ISP pixel processing capacity is up to 800MPix/s, supports dual camera data input at the same time, and supports high-end
Video Codec	H.265/H.264/VP9 4K@60fps HD video decoding
OS	Linux (Debian10)/Android10
Timed Switch	Support
Upgrade	Local USB upgrade
Bluetooth	Bluetooth5.0
Remote Management	-
Reliability	Support hardware and software watchdog

InBOX732

High Performance Edge Computer

Hardware and Operating System

Six-core high-performance CPU maximum frequency 1.8GHz supports Android/Linux

High-security Protection

3G/4G high-speed connection Gigabit wired network Wi-Fi, Bluetooth

Rich Peripheral Interfaces

USB2.0/3.0, RS-232/485, HDMI2.0, GPIO, CAN, SPK, MIC

Industrial Grade Product Quality

Wide temperature operating range IP40 EMC protection level level3

The InBOX730 series is a high-performance industrial edge computer with a rich variety and quantity of serial ports to meet various peripheral needs. The entire series adopts industrial-grade design and supports 3G/4G, Wil-Fi, and dual Gigabit Ethernet network access., supports wide temperature characteristics, high EMC level and IP40, meets the needs of more scenarios and brings more expansion possibilities

Selection Guide

	Model	EC312	InBOX732
Processor	CPU	ARM Cortex-A53, single-core 1.4GHz	RK3399, ARM dual Cortex-A72 and quad Cortex-A53 1.8 GHz
Memory	RAM	1GB on board	2GB on board
	FLASH	8GB eMMC	16GB eMMC
Graphics	HDMI	/	1*HDMI2.0, up to 4096*2160
Cellular	Cellular	4G	4G
Interface	Ethernet	2*100Mbps Ethernet port, RJ45 connector	2*10/100/1000Mbps, RJ45 connector
	Serial	1*RS-232/485+1*RS-485, isolated, terminal-block connector	4*RS-232 (DB9)+2*RS-485 (terminal-block connector)
	USB	1*USB 2.0	4*USB 2.0, 1*USB3.0
	CAN	2*CAN FD (optional)	1*CAN
	I/O	4*DI+4*DO, isolated, optional	4*DI+4*DO
	Wi-Fi	STA, 802.11ac/a/b/g/n, 2.4G/5G	STA, 802.11ac/a/b/g/n, 2.4G/5G
	Bluetooth	BT 4.2 On board	BT 4.2 On board
	GPS	YES	YES
	MIC	/	YES
	SPK	/	YES
	LoRa	YES (optional)	/
	Button	1*Reset, 1*USER	1*Mode, 1*Power
Power	Power Supply Voltage	DC input: unregulated 9V to 48V,Reverse voltage protection	DC input: unregulated 9V to 24V, Reverse voltage protection
Environment	Operating Temperature	-20°C~70°C	-20°C~70°C
Operating System	Operating System	Linux	Linux
Mechanical	Installation	Panel, DIN-Rail	Panel
	Dimensions	145*106*36 mm	190.2*160.2*4.36 mm (Includes mounting parts)
	Housing	Metal + Plastic	Metal

AI Edge Computers

EC942 / EC954 / EC3320 / EC5000

Our AI Edge Computer portfolio provides the best configuration for your application. AI Edge Computer supports mainstream AI applications, including machine vision, video analysis, automatic inspection, and more. We deliver uncompromising performance under the most demanding operating conditions (temperature, shock and vibration, etc.).

Hardware

CPU	Arm Quad-core Cortex-A55@2.0GHz		TF Card	Supports Micro SD
GPU	Mali G52 2EE		I/O (Optional)	4*DI, 4*DO
NPU	1.0 TOPS		Expansion Interface	1*mSATA
RAM	4GB DDR4		TPM (Optional)	TPM2.0
FLASH	16GB eMMC		Power input	DC12-48V
Ethernet Port	2*10/100/1000Mbps Ethernet port		Installation	Panel, Rail
Serial Port	2*RS-232/485/422, terminal-block		Protection Rating	IP30
CAN (Optional)	1*CAN 2.0A/B		Housing	Metal
HDMI	1*HDMI 2.0		Storage Temperature	-40℃ ~ 85℃
Wi-Fi (Optional)	STA, 802.11ac/a/b/g/n, 2.4G/5G		Operation temperature	-20℃ ~ 70℃
Bluetooth (Optional)	BLE 5.0		Ambient humidity	5~ 95% (non-condensing)
GPS (Optional)	Supports GPS, Beidou, and GLONASS positioning		EMC	level 3
USB	USB 2.0, 2*TypeA, 1*TypeC		Certification	CE, FCC, IC, PTCRB,
SIM Card	1.8V/3V, 2*Micro SIM			Verizon Wireless, AT&T

Software

Network format	5G SA/NSA, LTE CAT4
Access authentication	CHAP, PAP
Secondary development environment	Multi-programming language development platform
Access cloud platform	AWS, Azure, Ali and other cloud platforms
Industrial Protocol	Modbus RTU/TCP, EtherNet/IP, ISO on TCP, OPC UA, DLT645-2007, IEC101/104.etc
LAN protocol	ARP, Ethernet
Network Protocol	ICMP, DNS, TCP/UDP, TCPServer, DHCP, Static routing
Network security	Open VPN, Firewall
Reliability	Link Detection, Dual SIM Failover, Embedded Watchdog
Data security	Secure Boot, TrustZone
Configuration	Web, SSH
Upgrade	Web, FOTA, DFOTA
Log	Support local system log, remote log export and important log power-off autosave
Remote management	InHandDeviceLiveor HTTP, HTTPS, SSH, etc
DeviceLive Cloud	Supports cloud-based parameter configuration, container management, application and firmware management
OS	IEOS pre-installed (InHand Edge linux system: Debian10, Kernel 4.19)

EC942
Lightweight AI Edge Computer

Strong Performance Open Platform

CPU：ARM Quad Cortex-A55@2.0GHz
GPU：Mail-G52 2EE
NPU：RKNN, 1TOPS
Linux distribution
(based on Debian 10)

High-security Protection

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

High Reliability

5G/4G/Wi-Fi/FE,etc.
Independent hardware and software watchdog
Multilevel link detection communication self-healing
Fanless design

InHand DeviceLive Cloud Manager

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

The EC942 series edge computer is a lightweight AI accelerated edge computer developed for industrial IoT applications.With its powerful edge computing capability, 1.0 TOPS AI computing power, comprehensive security, wireless access services and other characteristics, the EC942 can support device networking of up to 10,000 units, providing high-speed data channels for TRUE device informatization.

Hardware

CPU	Arm Quad-core Cortex-A55@2.0GHz	TF Card	Supports Micro SD
GPU	Mali G52 2EE	I/O	4*DI, 4*DO
NPU	1.0 TOPS, extend 8-26 TOPS AI card	Expansion Interface	1*mSATA
RAM	4GB DDR4	TPM	TPM2.0
FLASH	16GB eMMC	Power input	DC12-48V
Ethernet Port	4*10/100/1000Mbps Ethernet port	Installation	Panel, Rail
Serial Port	4*RS-232/485/422+4*RS485, RJ45	Protection Rating	IP30
CAN (Optional)	2*CAN 2.0A/B	Housing	Metal
HDMI	1*HDMI 2.0	Storage Temperature	-40°C ~ 85°C
Wi-Fi	STA, 802.11ac/a/b/g/n, 2.4G/5G	Operation temperature	-20°C ~ 70°C
Bluetooth	BLE 5.0	Ambient humidity	5~ 95% (non-condensing)
GPS	Supports GPS, Beidou, and GLONASS positioning	EMC	level 3
USB	USB 2.0, 2*TypeA, 1*TypeC	Certification	CE, FCC, IC, PTCRB
SIM Card	2*Standard SIM		

Software

Network format	5G SA/NSA, LTE CAT4
Access authentication	CHAP, PAP
Secondary development environment	Multi-programming language development platform
Access cloud platform	AWS, Azure, Ali and other cloud platforms
Industrial Protocol	Modbus RTU/TCP, EtherNet/IP, ISO on TCP, OPC UA, DLT645-2007, IEC101/104.etc
LAN protocol	ARP, Ethernet
Network Protocol	ICMP, DNS, TCP/UDP, TCPServer, DHCP, Static routing
Network security	Open VPN, Firewall
Reliability	Link Detection, Dual SIM Failover, Embedded Watchdog
Data security	Secure Boot, TrustZone
Configuration	Web, Telnet, SSH
Upgrade	Web, FOTA, DFOTA
Log	Support local system log, remote log export and important log power-off autosave
Remote management	InHandDeviceLiveor HTTP, HTTPS, SSH, etc
DeviceLive	Supports cloud-based parameter configuration, container management,
Cloud	application and firmware management
OS	IEOS pre-installed (InHand Edge linux system: Debian11, Kernel 5.10)

EC954

Basic AI Edge Computer

Strong Performance Open Platform

CPU：ARM Quad Cortex-A55@2.0GHz
GPU：Mail-G52 2EE
NPU：RKNN, 0.8 Tops, Integrated 1.0 TOPS computing power, expansion up to 26TOPS TensorRT/cuDNN/ VisionWorks/OpenCV AI framework supported

High-Security Protection

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

High Reliability

5G/4G/Wi-Fi/FE,etc.
Independent hardware and software watchdog
Multilevel link detection communication self-healing
Fanless design

InHand DeviceLive Cloud Manager

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

The EC954 series edge computer is a High-performance multi-interface edge computer with AI extensions developed for industrial IoT applications. With its powerful edge computing capability, 1.0 TOPS AI computing power(Expandable up to 26TOPS), comprehensive security, wireless access services and other characteristics, the EC954 can support device networking of up to 10,000 units, providing high-speed data channels for TRUE device informatization.

Hardware

CPU	Quad Cortex-A76 + Quad Cortex-A55@ up to2.4GHz		SIM Card	2*Nano SIM
GPU	Quad-core Mali-G610 MC4 high-performance GPU		TF Card	Supports Micro SD
NPU	6.0 TOPS, extend 26 TOPS AI card		I/O	4*DI, 4*DO
RAM	8GB DDR4		TPM	TPM2.0
FLASH	64GB eMMC		Power input	DC12-48V
Ethernet Port	3*10/100/1000Mbps Ethernet port		Installation	Panel, Rail
Serial Port	2*RS-232+2*RS485, industrial terminal		Protection Rating	IP30
CAN (Optional)	1*CAN 2.0A/B		Housing	Metal
HDMI	2*HDMI 2.0		Storage Temperature	-40℃～85℃
Wi-Fi	STA, 802.11ac/a/b/g/n, 2.4G/5G		Operation temperature	-20℃ ～ 70℃
Bluetooth	BLE 5.0		Ambient humidity	5~ 95% (non-condensing)
GPS	GPS (cellular module support required)		EMC	level 3
USB	USB 3.0, 4*TypeA, 1*TypeC		Certification	CE、FCC、IC、PTCRB
Expansion Interface	1*M.2(Supports SATA3.0 SSD, supports 2242 size)			
	1*M.2(Supports Hailo-8 M.2 module, up to 26TOPs computing power)			

Software

Network format	5G SA/NSA, LTE CAT6
Access authentication	CHAP, PAP
Secondary development environment	Multi-programming language development platform
Network Protocol	ICMP, DNS, TCP/UDP, TCPServer, DHCP, Static routing
Network security	VPN, Firewall
Reliability	Link Detection, Dual SIM Failover, Embedded Watchdog
Data security	Secure Boot, TrustZone
Configuration	Web, SSH
Upgrade	Web, FOTA, DFOTA
Log	Support local system log, remote log export and important log power-off autosave
Remote management	InHandDeviceLiveor HTTP, HTTPS, SSH, etc
DeviceLive Cloud	Supports cloud-based parameter configuration, container management, application and firmware management
OS	IEOS pre-installed (InHand Edge linux system)

EC3320

High Performance AI Edge Computer

Strong Performance Open Platform

CPU:ARM 4*Cortex-A76 + 4*Cortex-A55, up to2.4GHz
GPU:Mali-G610 MC4
NPU:6TOPS
Compatible with various AI frameworks
Support Hailo-8 M.2 module, up to 26TOPS computing power

High-Security Protection

Linux system security patches and vulnerability remediation services
Secure Boot
TPM 2.0

High Reliability

5G/4G/Wi-Fi/FE,etc.
Independent hardware and software watchdog
Multilevel link detection communication self-healing
Fanless design

InHand DeviceLive Cloud Manager

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

With technology advancements, demand for local computing is on the rise, especially in manufacturing, security, and healthcare. Traditional cloud solutions may not meet the need for fast processing and data security. InHand Networks offers the EC3320 AI edge computer, delivering high performance, real-time decision-making, and enhanced data privacy for improved efficiency in manufacturing, security, and healthcare.

Hardware

Model	EC5350	EC5550
Module Compatibility	NVIDIA Jetson Orin Nano 8G	NVIDIA Jetson Orin NX 16GB
CPU	ARM Cortex-A78AE CPU, 6 cores, TDP up to 15 W, 1.5 GHz	ARM Cortex-A78AE CPU, 8 cores, TDP up to 25 W, 2 GHz
GPU	1024-core NVIDIA Ampere GPU with 32 Tensor Cores	
AI Performance	40 TOPS	100 TOPS
RAM	8GB	16GB
Storage	1*M.2 NVMe M-Key 2242 (128GB built-in)	
Ethernet Port	2*10/100/1000Mbps Ethernet port	
Serial Port	2*RS-232/485/422, DB9	
CAN	1*CAN FD	
HDMI	1*HDMI 2.0	
Wi-Fi	RTL8822CE-CG, 802.11b/g/n/ac	
Bluetooth	BLE 5.0	
GPS	GPS (cellular module support required)	
Expansion Interface	1*M.2 B-Key 3042/3052 (LTE/5G) 1*M.2 E-Key 2230 (Wifi/BT) 1*M.2 M-Key 2242 (NVMe 128GB built-in)	

USB	6*USB 3.2 Gen 2, 1*OTG Type-C
SIM Card	2*Standard SIM
TF Card	Supports Micro SD
I/O (Optional)	4*DI, 4*DO
Button	1*Recovery, 1*Reset
GMSL	2-ch GMSL2.0 with FAKRA
MIC	3.5 mm microphone audio jack
Audio	3.5 mm type line-out
TPM	TPM2.0
Power input	DC9-36V
Installation	Panel, Rail
Protection Rating	IP30
Housing	Metal
Storage Temperature	-40℃ ~ 85℃
Operation temperature	-20℃ ~ 60℃
Ambient humidity	5~ 95% (non-condensing)
EMC	level 3
Certification	CE、FCC、IC、PTCRB

Software

Network format	5G SA/NSA, LTE CAT6
Access authentication	CHAP, PAP
Secondary development environment	Multi-programming language development platform
Network Protocol	ICMP, DNS, TCP/UDP, TCPServer, DHCP, Static routing
Network security	VPN, Firewall
Reliability	Link Detection, Dual SIM Failover, Embedded Watchdog
Data security	Secure Boot, TrustZone
Configuration	Web, SSH
Upgrade	Web, FOTA, DFOTA
Log	Support local system log, remote log export and important log power-off autosave
Remote management	InHandDeviceLiveor HTTP, HTTPS, SSH, etc
DeviceLive Cloud	Supports cloud-based parameter configuration, container management, application and firmware management
OS	Linux (Support Jetpack 5.0 above)

EC5000

High Performance AI Edge Computer

Strong Performance Open Platform

Supports NVIDIA Jetson Orin Nano/NX Series
Support customers to develop and install edge applications
Docker
Jetpack: Above 5.1

High-Security Protection

Linux system security patches and vulnerability remediation services
Secure Boot
TPM 2.0

High Reliability

5G/4G/Wi-Fi/FE,etc.
Independent hardware and software watchdog
Multilevel link detection communication self-healing
Fanless design

InHand DeviceLive Cloud Manager

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

The EC5000 comes pre-integrated with NVIDIA® Jetson Orin NX™ or Orin Nano™, making it ideal for industrial AI applications.The EC5000 design includes 2 Gigabit LAN ports, 1 HDMI video display, 4 DI, 4 DO, 2xRS-232/RS-422/RS-485, 6 external USB 3.2 ports, 1 internal Micro USB for system recovery, and 1 CAN FD port.EC5000 is highly scalable, with built-in support for LTE/5G through an M.2 B-Key slot, support for Wi-Fi/Bluetooth through an M.2 E-Key slot, support for storage expansion through an M.2 M-Key slot, and 1 Micro SD card slot for storage devices. It also supports DeviceLive Cloud Management.

Selection Guide

	Model	EC942	EC954	EC3320	EC5350	EC5550
Processor	CPU	RK3568, Quad Cortex-A55@2.0GHz	RK3568, Quad Cortex-A55@2.0GHz	RK3588, octa-core processor, maximum frequency 2.4GHz	NVIDIA Jetson Orin Nano 8G ARM Cortex-A78AE CPU, 6 cores, TDP up to 15 W, 1.5 GHz	NVIDIA Jetson Orin NX 16GB ARM Cortex-A78AE CPU, 8 cores, TDP up to 25 W, 2 GHz
	GPU	Mali G52 2EE	Mali G52 2EE	Mali-G610 MC4	1024 Core NVIDIA Ampere, with 32 Tensor Cores	1024 Core NVIDIA Ampere, with 32 Tensor Cores
	NPU	1.0 TOPS	1.0 TOPS, extend 8-26 TOPS AI card	6.0 TOPS	40 TOPS	100 TOPS
Memory	RAM	4GB on board	4GB on board	8GB on board	8GB on board	16GB on board
	FLASH	16/32GB eMMC	16/32GB eMMC	32GB eMMC	128GB SSD	128GB SSD
Graphics	HDMI	1*HDMI2.0	1*HDMI2.0	2*HDMI2.0	1*HDMI2.0	1*HDMI2.0
Cellular	Celullar	5G/4G	5G/4G	5G/4G	5G/4G	5G/4G
Expansion	mSATA	YES	YES	-	-	-
	M.2	YES	YES	YES	YES	YES
Interface	Ethernet	2*10/100/1000Mbps	4*10/100/1000Mbps	3*10/100/1000Mbps	2*10/100/1000Mbps	2*10/100/1000Mbps
	Serial	2*RS-232/485/422, DB9	4*RS-232/485/422+4*RS-485, RJ45	2*RS232+2*RS485, terminal-block	2*RS-232/485/422, DB9	2*RS-232/485/422, DB9
	USB	USB 2.0, 2*TypeA, 1*OTG TypeC	USB 2.0, 2*TypeA, 1*OTG TypeC	USB3.0, 4*TypeA, 1*OTG TypeC	6*USB 3.2, 1*OTG TypeC	6*USB 3.2, 1*OTG TypeC
	CAN	1*CAN FD	2*CAN FD	1*CAN 2.0A/B	1*CAN FD	1*CAN FD
	I/O	4DI+4DO	4DI+4DO	4DI+4DO	4DI+4DO	4DI+4DO
	Wi-Fi	STA, 802.11ac/a/b/g/n, 2.4G/5G	STA, 802.11ac/a/b/g/n, 2.4G/5G	STA, 802.11ac/a/b/g/n, 2.4G/5G	STA, 802.11ac/a/b/g/n, 2.4G/5G	STA, 802.11ac/a/b/g/n, 2.4G/5G
	Bluetooth	BT 4.2 On board	BT 4.2 On board	BT 5.0 On board	BT 5.0	BT 5.0
	GPS	YES	YES	YES	YES (cellular module support required)	YES (cellular module support required)
	Button	1*Reset, 1*USER,1*Power	1*Reset, 1*USER, 1*Power	1*Power, 1*Reset	1*Recovery, 1*Reset	1*Recovery, 1*Reset
Power	Power Supply	DC input: unregulated	DC input: unregulated	DC input: unregulated	DC input: unregulated	DC input: unregulated
	Voltage	12V to 48V Reverse voltage protection	12V to 48V Reverse voltage protection	9V to 36V Reverse voltage protection	9V to 36V Reverse voltage protection	9V to 36V Reverse voltage protection
Environment	Operating temperature	-20°C~70°C	-20°C~70°C	-20°C~60°C	-20°C~60°C	-20°C~60°C
Operating System	Operating System	Linux	Linux	Linux	Linux	Linux
Mechanical	Installation	Panel,Rail	Panel, Rail	Panel, Rail	Panel, Rail	Panel, Rail
	Dimensions	47.3*162.7*148.3mm	200*120*48.6 mm	180*136*54 mm	180*160*60 mm	180*160*60 mm
	Housing	Metal	Metal	Metal	Metal	Metal

ARM Edge Tablets

InPAD070S / InPAD3101

The InPAD series is a reliable intelligent industrial and commercial IoT solution with stable network connection, sufficient interfaces, and good structural design, and can be applied to various application scenarios such as HMI, remote monitoring, and data acquisition, bringing you a more flexible and stable user experience.

Hardware

CPU	RK3288 quad-core processor, maximum frequency 1.6GHz
RAM	2GB
FLASH	8GB eMMC
Screen	Size: 7'' display ,Resolution; 1024x600, Brightness: 450cd/m² (typ.) ,Contrast: 800:1 Viewing angle: full viewing angle
Ethernet Port	1*10/100Mbps， WAN/LAN
Serial Port	2*RS232, 3pin industrial terminal 2*RS485, 5pin terminal, with flange
Wi-Fi	1*RP-SMA, 802.11b/g/n, Client/AP mode
USB	4*USB 2.0

SIM	1.8V/3V, 1*drawer type card holder
Power	DC12V
Installation	Wall mounting
Protection Rating	IP65 (screen side)
Housing	Metal
Storage Temperature	-40℃ ~ 85℃
Operating Temperature	-10℃ ~ 60℃
Ambient Humidity	5 ~ 95% (no condensation)
EMC	Level 2
Certification	CE

Software

Network Type	LTE-TDD/LTE-FDD/WCDMA/CDMA/TD-SCDMA/ UMTS/EDGE/GPRS/GSM
Graphic Processing	Dual ISP pixel processing capacity is up to 800MPix/s, supports dual camera data input at the same time, and supports high-end processing such as 3D and depth information extraction
Video Codec	Support 4K 10bits H265/H264 video decoding
OS	Android7.1/Android12
Timed Switch	Supported
Upgrade	Local USB upgrade
Bluetooth	Bluetooth4.2
Remote Management	-
Reliability	Support hardware and software watchdog

InPAD070S

7-inch All-in-one Android Tablet

Hardware and Operating System

Quad-core RK3288 processor, deeply optimized Android/Linux system

Stable and High-speed Connection

3G/4G high-speed connection, Wi-Fi 100M wired network, Bluetooth

Peripheral Interface and Structural Design

USB2.0, RS-232/485-friendly structural design meets any installation scenario

Industrial Grade Product Quality

Wide temperature operating range,IP65 (screen side), EMC protection design

The InPAD070S series is a new generation of 4G smart terminals, equipped with RK3288 processor, providing higher performance, lower power consumption and more stable hardware and software configurations. It supports 3G/4G, Wi-Fi, and wired networking methods, and is available everywhere Uninterrupted Internet access, the whole machine has wide temperature characteristics, and IP65 protection level on one side of the screen, all designed for industrial applications

Hardware

CPU	RK3288 quad-core processor, maximum frequency 1.6GHz		USB	4*USB 2.0
RAM	2GB		SIM	1.8V/3V, 1*drawer type card holder
FLASH	8GB eMMC		Power	DC12V
Screen	Size: 10.1'' display ,Resolution; 1280x800		Installation	Wall mounting
	Brightness: 450cd/m² (typ.)		Protection Rating	IP65 (screen side)
	Contrast: 800:1, Viewing angle: full viewing angle		Housing	Metal
Ethernet Port	1*10/100Mbps, WAN/LAN		Storage Temperature	-40℃ ~ 85℃
Serial port	2*RS232, 3pin industrial terminal		Operating temperature	-10℃ ~ 60℃
	2*RS485, 5pin terminal, with flange		Ambient Humidity	5 ~ 95% (no condensation)
Wi-Fi	1*RP-SMA, support 802.11b/g/n, support Client/AP mode		EMC	Level 2
			Certification	CE

Software

Network Standard	LTE-TDD/LTE-FDD/WCDMA/CDMA/TD-SCDMA/ UMTS/EDGE/GPRS/GSM
Graphics processing	Dual ISP pixel processing capacity is up to 800MPix/s, supports dual camera data input at the same time, and supports high-end processing such as 3D and depth information extraction
Video codec	Support 4K 10bits H265/H264 video decoding
OS	Android7.1/Android12
Timer switch	Support
Upgrade	Local USB upgrade
Bluetooth	Bluetooth4.2
Remote management	-
reliability	Support hardware and software watchdog

InPAD3101

10-inch All-in-one Android Tablet

Hardware and Operating System

Quad-core RK3288 processor, deeply optimized Android/Linux system

Stable and High-speed Connection

3G/4G high-speed connection, Wi-Fi 100M wired network, Bluetooth

Peripheral Interface and Structural Design

USB2.0, RS-232/485-friendly structural design meets any installation scenario

Industrial Grade Product Quality

Wide temperature operating range,IP65 (screen side), EMC protection design

The InPAD3101 series is a new generation of 4G smart terminals, equipped with RK3288 processor, providing higher performance, lower power consumption and more stable hardware and software configurations. It supports 3G/4G, Wi-Fi, and wired networking methods, and is available everywhere Uninterrupted Internet access, the whole machine has wide temperature characteristics, and IP65 protection level on one side of the screen, all designed for industrial applications.

Selection Guide

	Model	InPAD070S	InPAD3101
Hardware performance	CPU	RK3288 quad-core processor, maximum frequency 1.6GHz	
	RAM	2GB	
	FLASH	8GB eMMC	
Screen	Screen	Size: 7'' display, Resolution; 1024x600, Brightness: 450cd/m² (typ.) Contrast: 800:1, Viewing angle: full viewing angle	Size: 10.1'' display, Resolution; 1280x800, Brightness: 450cd/m² (typ.) , Contrast: 800:1, Viewing angle: full viewing angle
Hardware interface	Ethernet Port	1*10/100Mbps，WAN/LAN	
	Serial port	2*RS-232, 3pin industrial terminal, 2*RS-485, 5pin terminal, with flange	
	IO	-	
	Cellular	1*SMA	
	Wi-Fi	1*RP-SMA, support 802.11b/g/n, support Client/AP mode	
	GPS	-	
	USB	4*USB 2.0	
	Bluetooth5	Bluetooth4.2	
	LoRa	-	
	HDMI	-	
	TF Card	1*TF Card	
	SIM Card	1.8V/3V, 1*drawer type card holder	
Working environment	Operating temperature	-10°C ~ 60°C	
	Storage Temperature	-40°C ~ 85°C	
	Operating humidity	5 ~ 95% (no condensation)	
Power supply environment	Power	DC12V	
	Reverse polarity protection	support	
	Overcurrent protection	support	
Mechanical characteristic	Mounting	Wall mount	
	Dimensions	19.5 * 12.88 * 3.6 cm	19.5 * 12.88 * 3.6 cm
	Housing	Metal	
	Protection Rating	IP65 (screen side)	
EMC index	EMC	level 2	

Edge Gateways

IG101 / IG502 / IG504 / IG532

The InHand Edge Gateway can break the data barrier of industrial field, quickly establish the connection between industrial field equipment and the cloud, and help you achieve more efficient operation, which is widely used in various fields such as manufacturing, energy, agriculture and healthcare.

Hardware

CPU	ARM Cortex-A5		Protection Rating	IP30
RAM	4MB		Housing	Plastic
FLASH	2MB		Storage Temperature	-40°C ~ 85°C
Serial Port	1*RS232+1*RS485, industrial terminal block		Operation Temperature	-20°C ~ 70°C
TF Card	MicroSD supported, up to 32GB expansion		Ambient Humidity	5 ~ 95% (non-condensing)
SIM Card	1*Standard SIM		EMC	level 3
Power Input	DC7-38V		Certification	CE
Installation	Panel, DIN-Rail			

Software

Network Type	LTE CAT1
Access Authentication	CHAP/PAP
Access Cloud Platform	Support standard MQTT protocol cloud platform
Industrial Protocol	Modbus RTU
LAN Protocol	ARP, Ethernet
Network Protocol	ICMP, DNS, TCP/UDP, TCP Server
Reliability	Multi-level link detection, watchdog
Configuration Method	Configuring tools
Upgrade Method	local or remote firmware upgrade
Device Management	InHand Device Manager
Network Diagnostics	Ping

IG101

Entry-level Edge Gateway

Convenient Cellular Network

LTE CAT1

Connection to Multiple Cloud Platforms

Standard modbus RTU to MQTT gateway Support for transparent transfer

Industrial Interfaces

1*RS232+1*RS485/*RS485

Cloud Management

InHand Device Manager

InGateway101 (IG101) is a small, compact edge gateway. The product leverages 4G wireless networks deployed by mobile operators to provide uninterrupted Internet access anywhere. With its flexible and simple edge computing capabilities, comprehensive security and wireless access services, it realizes data optimization, real-time response, agile connection and intelligent analysis in the edge nodes of the Internet of Things.

IEC 62443

Hardware

CPU	ARM Cortex-A8 600MHz	Power Input	DC12-48V
RAM	512MB DDR3	Installation	Panel, Rail
FLASH	8GB eMMC	Protection Rating	IP30
Ethernet Port	2*10/100Mbps, 1WAN/LAN+1*LAN	Housing	Metal
Serial Port	1*RS232+1*RS485, industrial terminal block	Storage Temperature	-40℃ ~ 85℃
Wi-Fi (Optional)	STA, 802.11ac/a/b/g/n, 2.4G/5G	Operation Temperature	-20℃ ~ 70℃
GPS (Optional)	Support GPS and BeiDou	Ambient Humidity	5 ~ 95% (non-condensing)
SIM Card	2*Micro SIM	EMC	level 3
I/O (Optional)	4*Digital/pulse input DI, 3*Digital/pulse output DO, 1*Digital output	Certification	CE, UKCA, FCC, PTCRB, UL, UL C1D2, Verizon Wireless, AT&T, IC, RCM, NBTC, ANATEL
USB	1*USB 2.0		

Software

Network Type	LTE-TDD/LTE-FDD/WCDMA/CDMA/TD-SCDMA/, UMTS/EDGE/GPRS/GSM
Access Authentication	CHAP/PAP
Secondary Development Environment	Python
Access Cloud Platform	AWS, Azure and other cloud platforms
Industrial Protocol	Modbus RTU/TCP, EtherNet/IP, ISO on TCP, OPC UA, DLT645-2007, IEC101/104, etc.
LAN Protocol	ARP, Ethernet
Network Protocol	Ping, Traceroute, DHCP Server/Relay/Client, DNS Relay, DDNS, Telnet, SSH, HTTP, HTTPS, TFTP, FTP, SFTP, Static Routing
Network Security	IPSecVPN, GRE, L2TP, OPENVPN, CA (may auto apply), Firewalls
Reliability	Backup, Link Detection, Embedded Watchdog
Configuration Method	Local or remote HTTP, HTTPS, SSH
Upgrade Method	Local or remote WEB, DM, TFTP, FTP, SFTP server
Log	Local or remote log export, power-down log saving
Device Management	InHandDevice Manager network management platform, batch management gateway InConnectcloud connection platform for remote access to on-site PLC and other devices
Network Diagnostics	Ping, Traceroute, Sniffer (network packet capture tool)

IG502

Cost-effective Edge Gateway

Multiple Means of Internet Access

4G/Ethernet/Wi-Fi

Strong Computing Capabilities

ETH, RS232/485, Wi-Fi, DI/DO, GPS, USB, Bluetooth

Edge-to-cloud Data Acquisition

"Zero code/Low code" easy to achieve data acquisition on the cloud
Integrate 80+ mainstream data acquisition protocols

Built for Developers

Python

InGateway502 (IG502) is a cost-effective edge computing gateway for the industrial Internet of Things (iot). IG502 supports Modbus TCP/RTU and other mainstream industrial protocols. It can connect to AWS, Azure, Aliyun and other mainstream IoT cloud platforms. It has an open edge computing platform, supports user secondary development, and easily realizes enterprise equipment informatization.

Hardware

CPU	ARM Cortex-A8 600MHz	Power Input	DC12-48V
RAM	512MB DDR3	Installation	Panel, DIN-Rail
FLASH	8GB eMMC	Protection Rating	IP30
Ethernet Port	2*10/100Mbps, 1WAN/LAN+3*LAN	Housing	Metal
Serial Port	1*RS232+1*RS485, industrial terminal block	Storage Temperature	-40℃ ~ 85℃
Wi-Fi (Optional)	STA, 802.11ac/a/b/g/n, 2.4G/5G	Operation Temperature	-20℃ ~ 70℃
GPS (Optional)	Support GPS and BeiDou	Ambient Humidity	5 ~ 95% (non-condensing)
SIM Card	2*Standard SIM	EMC	level 3
I/O (Optional)	4*Digital/pulse input DI, 3*Digital/pulse output DO, 1*Digital output	Certification	CE, UKCA, FCC, PTCRB, UL, UL C1D2, Verizon Wireless, AT&T, IC, RCM, NBTC, ANATEL
USB	1*USB 2.0		

Software

Network Type	LTE-TDD/LTE-FDD/WCDMA/CDMA/TD-SCDMA/UMTS/EDGE/GPRS/GSM
Access Authentication	CHAP/PAP
Secondary Development Environment	Python
Access Cloud Platform	AWS, Azure, Ali and other cloud platforms
Industrial Protocol	Modbus RTU/TCP, EtherNet/IP, ISO on TCP, OPC UA, DLT645-2007, IEC101/104.etc
LAN Protocol	ARP, Ethernet
Network Protocol	Ping, Traceroute, DHCP Server/Relay/Client, DNS Relay, DDNS, Telnet, SSH, HTTP, HTTPS, TFTP, FTP, SFTP, Static Routing
Network Security	IPSecVPN, GRE, L2TP, OPENVPN, CA (may auto apply), Firewalls
Reliability	Backup, Link Detection, Embedded Watchdog
Configuration Method	Local or remote HTTP, HTTPS, SSH
Upgrade Method	Local or remote WEB, DM, TFTP, FTP, SFTP server
Log	Local or remote log export, power-down log saving
Device Management	InHandDevice Manager network management platform, batch management gateway InConnectcloud connection platform for remote access to on-site PLC and other devices
Network Diagnostics	Ping, Traceroute, Sniffer (network packet capture tool)

IG504
Multi-port Edge Gateway

Multiple Means of Internet Access	Strong Computing Capabilities	Edge-to-cloud Data Acquisition	Built for Developers
4G/Ethernet/Wi-Fi	4*ETH, RS232/485, Wi-Fi, DI/DO, GPS, USB, Bluetooth	"Zero code/Low code" easy to achieve data acquisition on the cloud Integrate 80+ mainstream data acquisition protocols Integrated data publishing services, public cloud, private cloud, local SCADA and other seamless access	Python

InGateway504 (IG504) is a Multi-port edge computing gateway for the industrial Internet of Things (iot). IG504 supports Modbus TCP/RTU and other mainstream industrial protocols.It can connect to AWS, Azure, Aliyun and other mainstream IoT cloud platforms. It has an open edge computing platform, supports user secondary development, and easily realizes enterprise equipment informatization.

IEC 62443

Hardware

CPU	ARM Cortex-A8 1GHz		Power Input	DC12-48V
RAM	512MB/1GB DDR3		Installation	Panel, DIN-Rail
FLASH	8GB eMMC		Protection Rating	IP30
Ethernet Port	2*10/100/1000Mbps, 1*WAN/LAN+1*LAN		Housing	Metal
Serial Port	1*RS232+1*RS485, industrial terminal block		Storage Temperature	-40℃ ~ 85℃
Wi-Fi (Optional)	STA, 802.11ac/a/b/g/n, 2.4G/5G		Operation Temperature	-20℃ ~ 70℃
GPS (Optional)	Support GPS and BeiDou		Ambient Humidity	5 ~ 95% (non-condensing)
SIM Card	2*Standard SIM		EMC	Level 3
I/O (Optional)	4*Digital/pulse input DI,3*Digital/pulse output DO, 1*Digital output		Certification	CE, FCC, PTCRB, RCM, IC, IMDA, AT&T, MIC&JATE, MSIP, EAC, ANATEL, UKCA
USB	1*USB 2.0			

Software

Network Type	LTE-TDD/LTE-FDD/WCDMA/CDMA/TD-SCDMA/UMTS/EDGE/GPRS/GSM
Access Authentication	CHAP/PAP
Secondary Development Environment	Python, Docker
Access Cloud Platform	AWS, Azure and other cloud platforms
Industrial Protocol	Modbus RTU/TCP,EtherNet/IP,ISO on TCP,OPC UA,DLT645-2007,IEC101/104.etc
LAN Protocol	ARP,Ethernet
Network Protocol	Ping, Traceroute, DHCP Server/Relay/Client, DNS Relay, DDNS, Telnet, SSH, HTTP, HTTPS, TFTP, FTP, SFTP, Static Routing
Network Security	IPSecVPN, GRE, L2TP, OPENVPN, CA (may auto apply), Firewalls
Reliability	Backup, Link Detection, Embedded Watchdog
Configuration Method	Local or remote HTTP, HTTPS, Telnet, SSH
Upgrade Method	Local or remote WEB, DM, TFTP, FTP, SFTP server
Log	Local or remote log export, power-down log saving
Device Management	InHandDevice Manager network management platform, batch management gateway InConnectcloud connection platform for remote access to on-site PLC and other devices
Network Diagnostics	Ping, Traceroute, Sniffer (network packet capture tool)

IG902

High Performance Edge Gateway

Multiple Means of Internet Access

Cellular/Ethernet/2.4G & 5G dual concurrency Wi-Fi Global cellular network access

Strong Computing Capabilities

ARM Cortex-A8 1GHz
512MB/1GB DDR3
8GB eMMC

Edge-to-cloud Data Acquisition

Zero code/Low code" easy to achieve data acquisition on the cloud Integrate 80+ mainstream data acquisition protocols Integrated data publishing services, public cloud, private cloud, local SCADA and other seamless access

Built for Developers

Python
Docker

InGateway902 (IG902) is a high-performance edge computing gateway for the IoT. IG902 provides a network with global coverage and supports the parsing of industrial protocols such as Modbus,It also connects to mainstream cloud platforms such as AWS. It supports secondary development and Azure IoT Edge and AWS IoT Greengrass, which is safer and faster to respond to field business at the edge of the Internet of things.

Selection Guide

	Model	IG101	IG502	IG504	IG902
Hardware Platform	CPU	ARM Cortex-A5	ARM Cortex-A8	ARM Cortex-A8	ARM Cortex-A8 1GHz
	RAM	4MB	512MB	512MB	512MB/1GB DDR3
	FLASH	2MB	8GB eMMC	8GB eMMC	8GB eMMC
Interfaces	Ethernet Port	/	2*10/100Mbps,(1*WAN/LAN + 1*LAN)	4*10/100Mbps, (1*WAN/LAN + 3*LAN)	2*10/100/1000Mbps (1*WAN/LAN + 1*LAN)
	Serial Port	1*RS-232, 1*RS-485	1*RS-232, 1*RS-485 or 2*RS-485	1*RS-232, 1*RS-485 or 2*RS-485	1*RS-232 , 1*RS-485
	IO	/	4*Digital/pulse input DI, 3*Digital/pulse output DO, 1*Digital output	4*Digital/pulse input DI, 3*Digital/pulse output DO, 1*Digital output	4*Digital/pulse input DI, 3*Digital/pulse output DO, 1*Digital output
	Cellular	CAT1	CAT1, CAT4	CAT1, CAT4	CAT4, CAT6
	Wi-Fi	/	STA/AP, 2.4G (802.11 b/g/n)	STA/AP, 2.4G (802.11 b/g/n)	STA/AP, 2.4G&5G (802.11 ac/a/b/g/n)
	GPS	/	GPS, 1*SMA	GPS, 1*SMA	GPS, 1*SMA
	USB	/	1*USB 2.0	1*USB 2.0	1*USB 2.0
	Bluetooth	/	BLE4.0	BLE4.0	/
	TF Card	MicroSD	MicroSD	Micro SD	MicroSD
	SIM Card	2*Standard SIM	2*Micro SIM	2*Standard SIM	2*Micro SIM
	Button	1*Pinhole reset button	1*Pinhole reset button	1*Pinhole reset button	1*Pinhole reset button
Environment	Operation Temperature	-20~70°C	-20~70°C	-20~70°C	-20~70°C
	Storage Temperature	-40~85°C	-40~85°C	-40~85°C	-40~85°C
	Ambient Humidity	5~ 95% (non-condensing)	5~ 95% (non-condensing)	5~ 95% (non-condensing)	5~ 95% (non-condensing)
Power	Power Input	DC 7~38V	DC 12~48V	DC 12~48V	DC 12~48V
	Power Interface	Industrial terminal block	Industrial terminal block	Industrial terminal block	Industrial terminal block
Mechanical	Installation	Panel, DIN-Rail	Panel, DIN-Rail	Panel, DIN-Rail	Panel, DIN-Rail
	Dimensions	76*108*37.5mm	35*127*109.7mm	113*133*45mm	45*140.6*122.6mm
	Housing	Plastic	Metal	Metal	Metal
	Protection Rating	IP30	IP30	IP30	IP30
EMC	Static	EN61000-4-2, level 3	EN61000-4-2, level 3	EN61000-4-2, level 3	EN61000-4-2, level 3
	Radiation Electric Field	EN61000-4-3, level 3	EN61000-4-3, level 3	EN61000-4-3, level 3	EN61000-4-3, level 3
	Pulsed Electric Field	EN61000-4-4, level 3	EN61000-4-4, level 3	EN61000-4-4, level 3	EN61000-4-4, level 3
	Surge	EN61000-4-5, level 3	EN61000-4-5, level 3	EN61000-4-5, level 3	EN61000-4-5, level 3
	Conducted Disturbance Immunity	EN61000-4-6, level 3	EN61000-4-6, level 3	EN61000-4-6, level 3	EN61000-4-6, level 3
	Power Frequency Magnetic Field Resistance	EN61000-4-8, horizontal / vertical 400A/m (>level 2)	EN61000-4-8, horizontal / vertical 400A/m (>level 2)	EN61000-4-8, horizontal / vertical 400A/m (>level 2)	EN61000-4-8, horizontal / vertical 400A/m (>level 2)
	Shock Wave Resistance	EN61000-4-12, level 3	EN61000-4-12, level 3	EN61000-4-12, level 3	EN61000-4-12, level 3
Physical Specs	Shockproof	IEC60068-2-27	IEC60068-2-27	IEC60068-2-27	IEC60068-2-27
	Free Fall	IEC60068-2-32	IEC60068-2-32	IEC60068-2-32	IEC60068-2-32
	Vibration Resistance	IEC60068-2-6	IEC60068-2-6	IEC60068-2-6	IEC60068-2-6
Certification	Certification	/	CE, UKCA, FCC, PTCRB, UL, C1D2 (Class1 Division 2), Verizon Wireless, AT&T, IC, RCM, NBTC, ANATEL	CE, UKCA, FCC, PTCRB, UL, C1D2 (Class1 Division 2), Verizon Wireless, AT&T, IC, RCM, NBTC, ANATEL	CE, FCC, PTCRB, RCM, IC, IMDA, AT&T, MIC&JATE, MSIP, EAC, ANATEL, UKCA
Industrial Protocol	Industrial Protocol	Modbus RTU	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, IEC 104 Server	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, IEC 104 Server	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, IEC 104 Server
Operating System	OS	FreeRTOS	Custom Linux	Custom Linux	Custom Linux
Secondary Development Environment	Secondary Development Environment	/	Python	Python	Python, Docker, Azure IoT Edge, AWS IoT Greengrass
IoT Cloud Platform	IoT Cloud Platform	MQTT	DeviceLive, AWS, Azure and other cloud platforms	DeviceLive, AWS, Azure and other cloud platforms	DeviceLive, AWS, Azure and other cloud platforms

Industrial Routers

IR302 / IR315 / IR624 / IR915

Equipped with comprehensive and intelligent software functions and all industrial-grade hardware, InHand industrial routers are suitable for various IoT scenarios and capable of providing highly reliable, high-speed and secure networking services to help enterprises improve operational efficiency.

Hardware

CPU	580MHz		Weight	240g
RAM	128MB		Mounting Options	DIN rail, Wall Mount
FLASH	32MB		Protection Rating	IP30
Ethernet Port	2*10/100Mbps, WAN/LAN		Housing	Metal, Fanless
Serial Port (Optional)	1*RS232, industrial terminal		Storage Temperature	-40℃ ~ 85℃
IO (Optional)	2*IO, DI and DO Configurable		Operating Temperature	-20℃ ~ 70℃
SIM	2*NANO-SIM (4FF)		Operating Humidity	5 ~ 95% (non-condensing)
Antenna Interface	4G: 2*SMA, WLAN: 1*RP-SMA		EMC Rating	2
Wi-Fi (Optional)	IEEE 802.11b/g/n, Access Point (AP), Station (STA)		Certification	CE, CB, UKCA, E-MARK, FCC, IC, PTCRB, AT&T,
	Maximum transmission speed of 150Mbps			Verizon, RCM, CCC, EAC&FAC,
Power	9-36 VDC, industrial terminal			UL, Anatel
Dimensions	90*90*25 mm			

Software

Network Standard	TDD LTE/FDD LTE/HSPA+/UMTS/GSM
Network Access	APN, VPDN, dual APN
Access Authentication	CHAP/PAP
LAN Protocol	ARP, Ethernet
WAN Protocol	Static IP, DHCP, PPPoE
Network Protocol	IPv4, TCP, UDP, Static routing, Ping, Traceroute, DHCP Server, DHCP Relay, DHCP Client, DNS relay, Telnet, SSH, HTTP, HTTPS
Firewall	Stateful Packet Inspection (SPI), DoS attack defense, Multicast filter, Access Control List (ACL), Content URL filter, Port mapping, virtual IP mapping, NAT, IP-MAC binding
Data Security	IPSec (IKEv1/IKEv2), L2TP, PPTP, GRE, OPEN VPN, CA digital certificate, WireGuard, ZeroTier
Reliability	Link Backup, Link Detection, VRRP, Dual SIM Failover, Embedded Watchdog
Configuration	HTTPS, Telnet, SSH
Update	Web, DeviceManager cloud
Log	Local system log, remote log, and serial export of log
Network Management	SNMP, DeviceManager cloud
Remote Maintenance	InConnect Services
Traffic Management	Traffic threshold, traffic statistics and traffic alarm
Alarm	System restart alarm, LAN port online/offline alarm, data traffic alarm, SIM card failure alarm, etc.
Maintenance Tools	Ping, route tracking, tcpdump

IR302

Economical Industrial Router

4G
LTE CAT4,
compatible with 3G/2G

Security
VPN
Firewall

Reliable
Link Backup, Link Detection,
VRRP, Dual SIM Failover, Embedded Watchdog

Cloud Management
DeviceManager Cloud

InRouter302, industrial router, supports 4G, dual Ethernet ports (WAN/LAN), Wi-Fi (AP, STA modes), serial port, and IO, effectively reducing deployment costs with a cost-effective design.

IEC 62443

IR315

Economical Multi-port Industrial Router

4G	Rich industrial interfaces	Reliable	Cloud Management
LTE CAT4/6, compatible with 3G/2G	5 Ethernet ports, Wi-Fi, serial ports, IO, GNSS	Link Backup, Link Detection, VRRP, Dual SIM Failover, Embedded Watchdog	DeviceManager Cloud

InRouter315, industrial router, supports 4G, 5 Ethernet ports, Wi-Fi (AP, STA modes), serial port and IO, providing an economical and efficient networking solution.

Hardware

CPU	580MHz		Dimensions	127*108.2*35 mm
RAM	128MB		Weight	454g
FLASH	64MB		Mounting Options	DIN rail
Ethernet Port	5*10/100Mbps,1WAN, 4LAN		Protection Rating	IP30
Serial Port (optional)	1*RS232 and 1*RS485, industrial terminal		Housing	Metal, Fanless
IO (optional)	4*IO, DI and DO Configurable		Storage Temperature	-40°C ~ 85°C
SIM	2*NANO-SIM (4FF)		Operating Temperature	-20°C ~ 70°C
Antenna Interface	4G: 2*SMA,WLAN: 2*RP-SMA,GPS: 1* SMA		Operating Humidity	5 ~ 95%(non-condensing)
Wi-Fi (optional)	IEEE 802.11b/g/n, Access Point (AP), Station (STA)		EMC Rating	3
	Maximum transmission speed of 300Mbps		Certification	CE, E-MARK, FCC, IC, PTCRB,
Power	9-36 VDC, industrial terminal			AT&T, Verizon

Software

Network Standard	NR NSA/NR SA/TDD LTE/FDD LTE/HSPA+/UMTS/GSM
Network Access	APN, VPDN, dual APN
Access Authentication	CHAP/PAP
LAN Protocol	ARP, Ethernet, VLAN
WAN Protocol	Static IP, DHCP, PPPoE
Network Protocol	IPv4, TCP, UDP, Static routing, OSPF, Ping, Traceroute, DHCP Server, DHCP Relay, DHCP Client, DNS relay, Telnet, SSH, HTTP, HTTPS
Firewall	Stateful Packet Inspection (SPI), DoS attack defense, Multicast filter, Access Control List (ACL), Content URL filter, Port mapping, virtual IP mapping, NAT, IP-MAC binding
Data Security	IPSec (IKEv1/IKEv2), L2TP, PPTP, GRE, OPEN VPN, DMVPN, CA digital certificate, WireGuard, ZeroTier
Reliability	Link Backup, Link Detection, VRRP, Dual SIM Failover, Embedded Watchdog
Configuration	HTTPS, Telnet, SSH
Update	Web, DeviceManager cloud
Log	Local system log, remote log, and serial export of log
Network Management	SNMP, DeviceManager cloud
Remote Maintenance	InConnect Services
Traffic Management	Traffic threshold, traffic statistics and traffic alarm
Alarm	System restart alarm, LAN port online/offline alarm, data traffic alarm, SIM card failure alarm, etc.
Maintenance Tools	Ping, route tracking,tcpdump

Hardware

CPU	880MHz		Dimensions	127*108.2*35 mm
RAM	256MB		Weight	544g
FLASH	128MB		Mounting options	DIN rail
Ethernet Port	4*10/100/1000Mbps, WAN/LAN		Protection Rating	IP30
Serial port	1*RS232 and 1*RS485, industrial terminal		Housing	Metal, Fanless
SIM	2*NANO-SIM (4FF), eSIM (Optional)		Storage Temperature	-40°C ~ 85°C
Antenna Interface	5G: 4*SMA, 4G: 2*SMA, WLAN: 2*RP-SMA		Operating temperature	-20°C ~ 70°C
Wi-Fi (Optional)	IEEE 802.11ac/a/b/g/n, 2.4GHz and 5GHz dual-band, Access Point (AP), Station (STA) Maximum transmission speed of 300Mbps		Operating humidity	5 ~ 95% (non-condensing)
			EMC Rating	3
			Certification	CE, E-MARK
Power	9-36 VDC, industrial terminal			

Software

Network Standard	NR NSA/NR SA/TDD LTE/FDD LTE/HSPA+/UMTS/GSM
Network Access	APN, VPDN, dual APN
Access Authentication	CHAP/PAP
LAN Protocol	ARP, Ethernet, VLAN
WAN Protocol	Static IP, DHCP, PPPoE
WLAN	Wi-Fi Portal
Network Protocol	IPv4, IPv6, TCP, UDP, Static routing, Ping, Traceroute, DHCP Server, DHCP Relay, DHCP Client, DNS relay, Telnet, SSH, HTTP, HTTPS
Firewall	MAC address filtering, domain filtering, NAT, port mapping, access control
Network Security	Policy-Based Routing
Data Security	IPSec VPN、L2TP
Reliability	Link Backup, Link Detection, Dual SIM Failover, Embedded Watchdog
Configuration	HTTPS, Telnet, SSH
Update	Web, DeviceLive Cloud
Log	Local system log, remote log
Network Management	DeviceLive Cloud
Remote Maintenance	DeviceLive Cloud
Traffic Management	Traffic threshold, traffic statistics and traffic alarm
Alarm	User login, configuration changes, high CPU utilization, detection state changes, VPN state changes, client state changes, upstream link switching, device restart, device upgrade, etc.
Maintenance Tools	Ping, route tracking, Iperf, tcpdump

IR624

Multi-port 5G Industrial Router

5G	Wi-Fi 5	Reliable	Cloud Management
5G NR	Dual-band, 2.4GHz and 5GHz, with a maximum speed of 1200Mbps	Link Backup, Link Detection, Dual SIM Failover, Embedded Watchdog	DeviceLive Cloud

InRouter624, industrial router, supports 5G/4G, 4 Ethernet ports(LAN/WAN), Wi-Fi (AP, STA modes), and serial ports, providing an efficient networking solution.

Hardware

CPU	600MHz		Power	12-48 VDC, industrial terminal
RAM	128MB		Dimensions	132.6*112.8*45 mm
FLASH	128MB		Weight	590g
Ethernet Port	5*10/100Mbps,1WAN, 4LAN		Mounting options	DIN rail, Wall Mount
Serial port	1*RS232 and 1*RS485, industrial terminal		Protection Rating	IP30
I/O	1*DI, 1*relay output		Housing	Metal, Fanless
GPS (optional)	GPS:1*SMA		Storage Temperature	-40°C ~ 85°C
Console	1*RS-232, RJ-45		Operating temperature	-25°C ~ 70°C
SIM	2*Mini-SIM(2FF) SIM slot		Operating humidity	5 ~ 95%(non-condensing)
Antenna Interface	4G: 2*SMA,WLAN: 2*RP-SMA,GPS: 1*SMA		EMC Rating	4
Wi-Fi (optional)	IEEE 802.11b/g/n, Access Point (AP), Station (STA)		Certification	CE, E-MARK, FCC, IC, PTCRB,
	Maximum transmission speed of 300Mbps			AT&T, Verizon, RCM, CCC,
				IMDA, EAC&FAC

Software

Network Standard	TDD LTE/FDD LTE/HSPA+/EDGE/GPRS
Network Access	APN, VPDN, dual APN
Access Authentication	CHAP/PAP/MS-CHAP/MS-CHAPV2
LAN Protocol	ARP, Ethernet, VLAN
WAN Protocol	Static IP, DHCP, PPPoE
Network Protocol	IPv4, TCP, UDP, Static routing, RIP, OSPF, IGMP Proxy, BGPV4, Ping, Traceroute, DHCP Server, DHCP Relay, DHCP Client, DNS relay, Telnet, SSH, HTTP, HTTPS
AAA	Local Authentication, Radius, TACACS+, LDAP
Firewall	Stateful Packet Inspection (SPI), DoS attack defense, Multicast filter, Access Control List (ACL), Content URL filter, Port mapping, virtual IP mapping, NAT, IP-MAC binding
Data Security	IPsec, L2TP, PPTP, GRE, OPEN VPN, DMVPN, CA digital certificate
Reliability	Link Backup, Link Detection, VRRP, Dual SIM Failover, Embedded Watchdog
Configuration	HTTPS, Telnet, SSH
Update	Web, Device Manager cloud
Log	Local system log, remote log, and serial export of log
Network Management	SNMP, DeviceManager cloud
Remote Maintenance	InConnect Services
Traffic Management	Traffic threshold, traffic statistics and traffic alarm
Alarm	System restart alarm, LAN port online/offline alarm, data traffic alarm, SIM card failure alarm, etc.
Maintenance Tools	Ping, route tracking, network speed test, tcpdump

IR915

High-Performance Multi-port Industrial Router

4G
LTE CAT4,
compatible with 3G/2G

Large-scale deployment
Multiple dynamic
routing protocols

Security
VPN
Firewall

Cloud Management
DeviceManager
Cloud

InRouter915, industrial router, supports 4G, 5 Ethernet ports (LAN/WAN), Wi-Fi (AP, STA modes), serial ports, and IO. It provides reliable and secure network connectivity services, facilitating the easy deployment and management of large-scale device networks.

Selection Guide

	Model	IR302	IR315	IR624	IR915
Hardware platform	CPU	580MHz	580MHz	880MHz	600MHz
	RAM	128MB	128MB	256MB	128MB
	FLASH	32MB	64MB	128MB	128MB
Interface	Ethernet Port	2*10/100Mbps (WAN/LAN) RJ45 interface, network status indicator light,1.5KV network isolation transformer protection	5*10/100Mbps (WAN/LAN) RJ45 interface, network status indicator light,1.5KV network isolation transformer protection	4*10/100/1000Mbps (WAN/LAN) RJ45 interface, network status indicator light 1.5KV network isolation transformer protection	5*10/100Mbps (WAN/LAN) RJ45 interface, network status indicator light 1.5KV network isolation transformer protection
	Serial port	Supported only in the -S model, 1*RS232, 3PIN industrial terminal	Supported only in the -S model, 1*RS232+1*RS485,5PIN industrial terminal	1*RS232+1*RS485 5PIN industrial terminal	1*RS232+1*RS485 5PIN industrial terminal
	IO	2*IO, DI and DO Configurable 3PIN industrial terminal	4*IO, DI and DO Configurable 5PIN industrial terminal	NO	1*DI and 1*relay output 4PIN industrial terminal
	Cellular	LTE CAT1/LTE CAT4/LTE CAT M/NB	LTE CAT4/LTE CAT6	5G NR	LTE CAT4
	Wi-Fi	IEEE 802.11b/g/n, 2.4G, Access Point (AP), Station (STA) Maximum transmission speed of 150Mbps	IEEE 802.11b/g/n, 2.4G, Access Point (AP), Station (STA) Maximum transmission speed of 300Mbps	IEEE 802.11ac/a/b/g/n, 2.4GHz and 5GHz dual-band, Access Point (AP), Station (STA) Maximum transmission speed of 1200Mbps	IEEE 802.11b/g/n, 2.4G, Access Point (AP), Station (STA) Maximum transmission speed of 300Mbps
	Console	NO	NO	NO	1*RS232, RJ45 interface, baud rate 115200
	GPS	NO	Optional	NO	Optional
	USB	NO	NO	NO	NO
	Bluetooth	NO	NO	NO	NO
	LoRa	NO	NO	NO	NO
	HDMI	NO	NO	NO	NO
	TF Card	NO	NO	NO	NO
	SIM Card	2*NANO-SIM (4FF)	2*NANO-SIM (4FF)	2*NANO-SIM (4FF), eSIM (optional)	2*Mini-SIM (2FF)
	Reset	YES	YES	YES	YES
	Grounding	YES	YES	YES	YES
Ambient Environment	Operating temperature	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C	-25°C ~ 70°C
	Storage Temperature	-40°C ~ 85°C	-40°C ~ 85°C	-40°C ~ 85°C	-40°C ~ 85°C
	Operating humidity	5 ~ 95% (non-condensing)	5 ~ 95% (non-condensing)	5 ~ 95% (non-condensing)	5 ~ 95% (non-condensing)
Power	Power Input	DC9-36V	DC9-36V	DC9-36V	DC12-48V
	Reverse Polarity Protection	YES	YES	YES	YES
	Overcurrent Protection	NO	YES	YES	YES
Mechanical Specs	Mounting options	DIN rail, Wall Mount	DIN rail	DIN rail	DIN rail, Wall Mount
	Dimensions	90*90*25 mm	127*108.2*35 mm	127*108.2*35 mm	132.6*112.8*45 mm
	Housing	Metal	Metal	Metal	Metal
	Protection Rating	IP30	IP30	IP30	IP30
EMC	EMC Rating	2	3	3	4
Physical Specs	Shockproof	IEC60068-2-27	IEC60068-2-27	IEC60068-2-27	IEC60068-2-27
	Free Fall	IEC60068-2-32	IEC60068-2-32	IEC60068-2-32	IEC60068-2-32
	Vibration Resistance	IEC60068-2-6	IEC60068-2-6	IEC60068-2-6	IEC60068-2-6
Certification		CE, CB, UKCA, E-MARK, FCC, IC, PTCRB, AT&T, Verizon, RCM, CCC, EAC&FAC, UL, Anatel	CE, E-MARK, FCC, IC, PTCRB, AT&T, Verizon	CE, E-MARK	CE, E-MARK, FCC, IC, PTCRB, AT&T, Verizon, RCM, CCC, IMDA, EAC&FAC

Industrial Ethernet Switches

ISE / ISM

InHand Networks' industrial Ethernet switch series boasts outstanding features, including high protection ratings, electromagnetic compatibility, and industrial-grade design, ensuring the construction of highly reliable communication systems in demanding industrial environments.

Model Selection

	ISE2003D	ISE2005D	ISE5005D	ISE2008D	ISE5008D	ISE3018D	ISE2016D	ISE5010D	ISE5306D	ISE5310D
Ethernet Interface										
Max. Number of Ports	3	5	5	8	8	18	16	10	6	10
100BaseFX Ports	1									
100/1000BaseSFP Slots								2	2	2
10/100BaseT(X) Ports	2	5		8		16	16			
10/100/1000BaseT(X) Ports			5		8			8		
Combo Ports (10/100/1000BaseT(X) or 100/1000BaseSFP)						2				
PoE Ports 10/100/1000BaseT(X)									4	8
PoE Standards								IEEE802.3af , IEEE802.3at		
Switch Properties										
Backplane Bandwidth	16 Gbps	16 Gbps	16 Gbps	16 Gbps	16 Gbps	8.8 Gbps	8.8 Gbps	20 Gbps	20 Gbps	20 Gbps
MAC Table Size	4 K	4 K	4 K	4 K	4 K	8 K	8 K	4 K	4 K	4 K
Packet Buffer Size	1.5 Mbits	1.5 Mbits	1.5 Mbits	1.5 Mbits	1.5 Mbits	4 Mbits	4 Mbits	1.5 Mbits	1.5 Mbits	1.5 Mbits
Others										
Dimensions		24*100*61.8mm		40*100*61.8mm		72*140*110mm		52*140*110mm		
Operating Voltage		9.6~60 VDC & 18~30 VAC						18-60VDC	48-57VDC	
Storage Temperature		-40 ~ +75°C								
Installation		DIN-rail mounting								
Certifications		CE, FCC, UL						CE, FCC		

ISE

Unmanaged Industrial Ethernet Switches

High Protection Rating

EMC level 3, IP40
Redundant dual power inputs
Wide temperature and voltage ranges

A Diverse and Flexible Port Combination

5-18 Ports.10/ 100/ 1000BaseT(X) (RJ45 connector)
100/ 1000BaseSFP Ports
100BaseFX/1000BaseFX ports

Easy to Use Quick Deployment

Plug and play,
quick deployment
Supports relay alarms

InHand Networks' industrial Ethernet switch series boasts outstanding features, including high protection ratings, electromagnetic compatibility, and industrial-grade design, ensuring the construction of highly reliable communication systems in demanding industrial environments.

ISM

Managed Industrial Ethernet Switches

Stable and Reliable

EMC level 4, IP40
Redundant dual power inputs
Wide temperature and voltage ranges

Advanced Ring Network Technology

Supports STP, RSTP, and MSTP protocols some models also support
ERPS networking protocol

Comprehensive Network Security Performance

ACL policies, MAC address binding VLAN
Supports QoS
IGMP Snooping, GMRP

The ISM series supports various network redundancy protocols, offering users a flexible choice for building complex industrial Ethernet communication systems. Whether in harsh production environments or industrial applications with strict requirements for reliability and availability, InHand Networks' industrial Ethernet switches can meet your needs.

Model Selection

	ISM5006D	ISM5010D	ISM5012D	ISM5020D	ISM5026U	ISM7028U	ISM5310D
Ethernet Interface							
Max. Number of Ports	6	10	12	20	26	28	10
100BaseFX Ports							
100/1000BaseSFP Slots	2	2	4	4	2	4	2
10/100BaseT(X) Ports							
10/100/1000BaseT(X) Ports	4	8	8	16	20	16	
Combo Ports (10/100/1000BaseT(X) or 100/1000BaseSFP)					4	8	
PoE Ports 10/100/1000BaseT(X)							8
PoE Standards							IEEE802.3af , IEEE802.3at
Switch Properties							
Backplane Bandwidth	44 Gbps	44 Gbps	56 Gbps	68 Gbps	56 Gbps	144 Gbps	44 Gbps
MAC Table Size	8 K	8 K	8 K	16 K	8 K	16 K	8 K
Packet Buffer Size	4 Mbits	4 Mbits	4 Mbits	4 Mbit	4 Mbits	1.5 Mbits	4 Mbits
Redundancy Protocols							
STP/RSTP/MSTP	√	√	√	√	√	√	√
Management							
Web	√	√	√	√	√	√	√
RMON	√	√	√	√	√	√	√
SNMPv1/v2c/v3	√	√	√	√	√	√	√
Port Mirror	√	√	√	√	√	√	√
Syslog	√	√	√	√	√	√	√
Telnet/SSH	√	√	√	√	√	√	√
Console Port	√	√	√	√	√	√	√
Filter							
802.1p Priority Queuing	√	√	√	√	√	√	√
802.1Q VLAN	√	√	√	√	√	√	√
IGMP v1/v2/v3	√	√	√	√	√	√	√
Security							
HTTPS/SSL	√	√	√	√	√	√	√
TACACS+	√	√	√	√	√	√	√
MAC Sticky	√	√	√	√	√	√	√
RADIUS	√	√	√	√	√	√	√
SSH	√	√	√	√	√	√	√
Access Control List	√	√	√	√	√	√	√
Layer 3 Switching	/	/	/	√	√	√	√
Others							
Dimensions	52*140*10mm	72*140*110mm	130*140*110mm	442*43.8*335mm	440*44.4*321mm		52*140*110mm
Operating Voltage	18-60VDC	18-60VDC	18-60VDC	100-240VAC	100-240VAC		48~57VDC
Storage Temperature	-40 ~ +75°C	-40 ~ +85°C	-40 ~ +85°C	-40 ~ +85°C	-40 ~ +85°C		-40 ~ +75°C
Installation	DIN-rail mounting	DIN-rail mounting	DIN-rail mounting	Rack mounting	Rack mounting		DIN-rail mounting
Certification	CE, FCC	CE, FCC, UL, IEC61850-3	CE, FCC, IEC61850-3	UL, CE, FCC	UL, IEC61850-3		CE, FCC, IEC61850-3

Industrial
Cellular Modems

InDTU324

The InDTU series industrial cellular modem features fast networking, flexible scalability, quick construction and low costs. It provides industrial users with wireless data transmission channels over TCP/IP on 4G/3G/2G/NB-IoT/Cat1 networks, enabling communications between on-site serial devices and central control systems, facilitating remote data acquisition and equipment control. It is widely applied in power, industrial automation, transportation, water management, agriculture, environmental protection, and meteorology.

Hardware

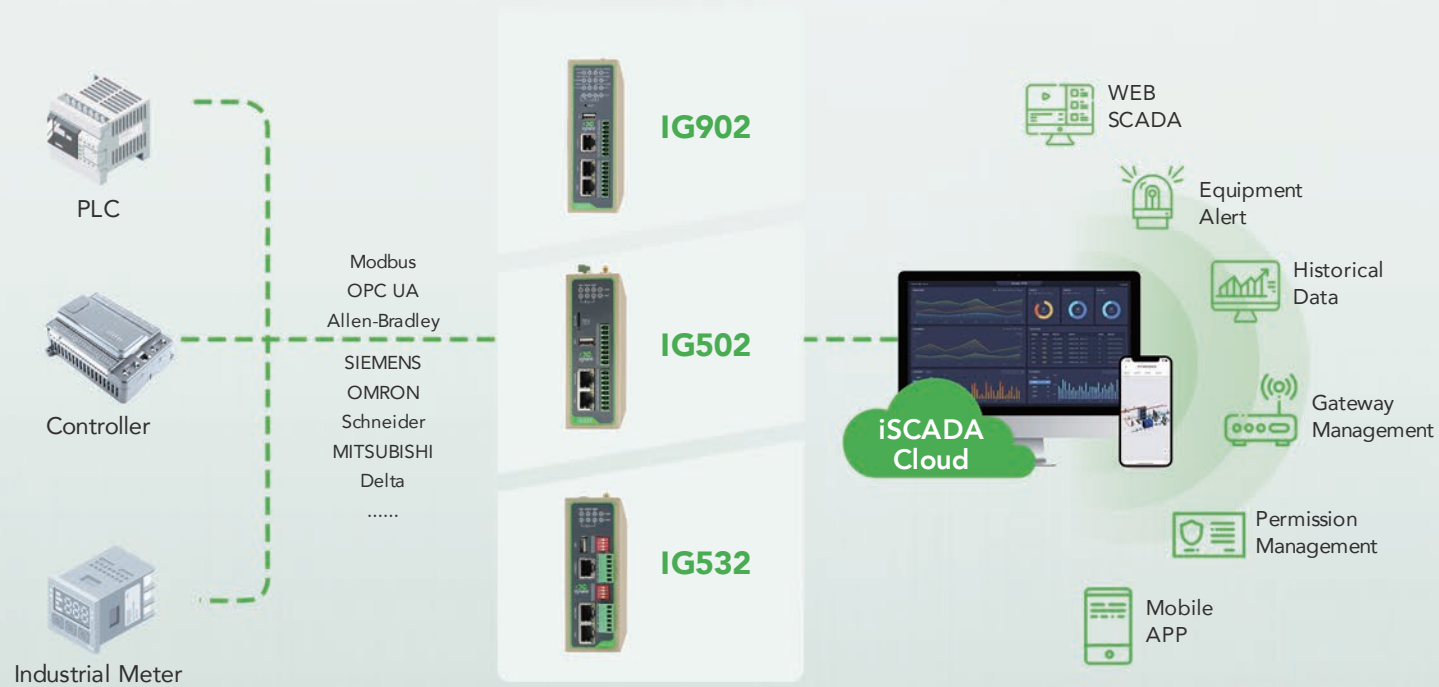|				
CPU	ARM Cortex-M3 108MHz		Consumption	47mA@12V
RAM	96KB		Installation	Wall mounting
ROM	1024KB		Protection Rating	IP30
Serial	2*Logic serial ports: Serial port 1: RS-232/RS-485 (Optional) Serial port 2: RS-232		Housing	Metal
			Storage Temperature	-40°C ~ 85°C
			Operation Temperature	-40°C ~ 70°C
SIM Card	1*SIM, Mini-SIM(2FF)		Ambient Humidity	5 ~ 95% (non- condensing)
Antenna Interface	1*LTE		EMC	Level 2
Power Input	DC5-35V, pluggable industrial terminal connection		Certification	CE

Software

Network Type	LTE-TDD/LTE-FDD/WCDMA/CDMA/GSM/EGPRS
Access Authentication	CHAP/PAP
Industrial Protocol	Modbus RTU/TCP protocol conversion
Network Protocol	Ping, DNS, transparent TCP/UDP, InHand DC TCP/DC UDP, user-defined login/heartbeat data packet
Reliability	Backup, Link Detection, Embedded Watchdog
Configuration Method	Local serial port, RTool, InHand Device Manager, SMS
Upgrade Method	Upgrade firmware through local serial port or remotely
Log	Supports local and online viewing of logs, facilitates checking device operating status
Device Management	Supports InHand Device Manager remote central management

InDTU324

Industrial Cellular Modem

Multiple Network Access
4G/3G/2G/CAT M1 /NB cellular networks

High Reliability
Self-recovery
Link redundancy, Link detection

Ultra-low Power Consumption
Adaptable to various field power supply modes

Fully Industrial Grade
-40°C ~ 70°C
+5 ~ 35VDC, IP30

The InDTU324 series industrial grade wireless data terminal uses cellular network as the bearer network to provide wireless data transmission channel over TCP/ IP. It functionally completes wireless data communications between remote control station serial devices and the central control system, to enable remote control of industrial field sites.

iSCADA

The iSCADA Cloud provides web-based SCADA, equipment alert, and remote control for customers. Data acquisition and cloud integration are made effortless, allowing real-time monitoring of equipment status and swift response to operational alarms, enhancing operational efficiency, and minimizing equipment downtime.

PLC

Controller

Industrial Meter

Modbus
OPC UA
Allen-Bradley
SIEMENS
OMRON
Schneider
MITSUBISHI
Delta
......

IG902

IG502

IG532

iSCADA Cloud

WEB SCADA

Equipment Alert

Historical Data

Gateway Management

Permission Management

Mobile APP

iSCADA

Simple and Efficient Equipment Visualization Platform

Rapid Deployment
One configuration, batch deployment

Remote Monitoring
Multiple real-time monitoring methods for remote equipments

Alert Notification
Supports various alert notification methods

Data Security
Security mechanism based on AWS IoT

The iSCADA Cloud provides web-based SCADA, equipment alarms, and remote control for customers. Data acquisition and cloud integration are made effortless, allowing real-time monitoring of equipment status and swift response to operational alarms, enhancing operational efficiency, and minimizing equipment downtime.

Remote Monitoring

WEB SCADA	Supports custom WEB SCADA, providing common SCADA components and functions. Through WEB SCADA, intuitively and efficiently view equipment operating status and modify equipment operation parameters.
Equipment Alert	Customize alert notification strategies, with the ability to push alerts through various channels such as WEB, SMS, email, etc., enabling proactive fault warnings.
Historical Data	Supports storing critical data, analyzing historical device performance through charts, and exporting data.
Dashboard	Analyze enterprise operations from multiple dimensions, including online/offline status, alerts, and traffic.
Mobile APP	Stay informed about equipment operations and receive alerts on anomalies anytime, anywhere with mobile app.
Rapid Deployment	Configure data collection strategies and other settings through device model features. Once configured, deploy the settings in bulk to multiple gateways.

Permission Management

Organization	Customize the organization tree structure to flexibly assign permissions for equipments, gateways, and models under each organization.
Role	Customize role-based functional permissions.
User	Customize user data and functional permissions.
API Token	Customize API token permissions and expiration time.

Gateway Management

Gateway Status Monitoring	Monitor gateway cellular signal, IMSI, online/offline status, and other information.
Software Upgrade	Remotely batch upgrade firmware, Python SDK, and DeviceSupervisor Agent versions for gateways.
Remote WEB Access	Remote access to the gateway's WEB page for modifying runtime configurations.

Complementary Hardware Products

Product	InGateway902, InGateway532, InGateway502

Cloud address: iscada.inhandcloud.com

Quick Response to Market Demands

5 R&D Centers

Beijing
Chengdu · Jiaxing
Toronto — Coming soon
Virginia

3 Manufacturing Centers

Supply Chain: Self-owned Factory with Ensured Capacity and Quality

3 — Manufacturing centers: Jiaxing (China), Bangkok (Thailand), Toronto (Canada)

8 — Production lines with a high level of flexibility

3,000 — Units produced per day

17,898 — Square meters

Multi-location Inventory & Tech Support

3 Storage and Technical Support Centers

Toronto Canada
Düsseldorf Germany
Virginia US

Used worldwide. Proven worldwide.

Canada
Management of Hydropower Station

Germany
Smart EV Charging Kiosks

China
Predictive Maintenance of Air Compressors

US
Predictive Maintenance of Generators

Switzerland
Predictive Maintenance of Textile Machines

Thailand
Flood Early Warning

Australia
Wireless Water Metering