



InHand Networks

IoT Cloud+Edge Products & Solutions

www.inhandnetworks.com

About Us

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

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

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



Smart Grid



Smart Manufacturing



Smart Vending



Security & Transportation



Smart Fleet



Smart Oil & Gas



Smart Agriculture



Smart Building



Smart Water



Public Utility

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InGateway902 Series

Industrial Edge Computing Gateway



The IG902 IoT edge computing gateway provides uninterrupted Internet access for machines over ubiquitous 3G/4G wireless networks and multiple broadband services. With powerful edge computing capabilities, comprehensive security protection, and multiple wireless services, the InGateway902 supports networking of up to tens of thousands of devices, providing high-speed data channel in the true sense of IoT.

The InGateway902 features powerful edge computing capabilities to realize data optimization, real-time response, agile connection, and intelligent analysis on the IoT edge, while significantly reducing data flow between field sites and data centers to avoid bottlenecks in cloud-end computing.

The IG902 edge computing gateway will help customers to optimize network structure and enable more secure, responsive, and intelligent on-site services.

PRODUCT ADVANTAGES

Uninterrupted Internet access anywhere

- + Fast Ethernet, multiple Ethernet and Wi-Fi access
- + Worldwide 3G/4G LTE networks
- + LTE CAT1, CAT4 and CAT6 networks

Multiple industrial protocols

- + The edge gateway supports the following industrial protocols: Modbus RTU, Modbus TCP, OPC UA Client, EtherNET/IP, ISO on TCP, etc.

Fully industrial-grade interfaces

- + Supports industrial serial port
- + Supports 8-channel industrial I/O
- + Supports GPS positioning

Powerful edge computing

- + ARM Cortex-A8 processor, 1GHz CPU
- + 8GB Flash, up to 1GB DDR3 RAM
- + SD card memory expansion

Major IoT clouds ready

- + Microsoft Azure IoT Edge certified
- + AWS Greengrass qualified
- + Schneider EcoStruxure
- + Continuous development of the industrial cloud ecosystem

Customizable with Python development platform

- + Python development platform for custom development of applications
- + Software Development Kit (SDK)
- + Provides standardized APP



MODEL SELECTION GUIDE

Model	Model code: IG902-<B/H>-<WMNN>-<IO/NA>(H version only)-<W/NA>-<G/NA>				
	Version: <B/H>	Cellular Type & Module: <WMNN>	I/O Interface: (H version only) <IO/NA>	WLAN: <W/NA>	GPS: <G/NA>
IG902-<B/H>-TL00-<IO/NA>-<W/NA>-<G/NA>	B: Basic H: High-config	China - LTE CAT4: LTE-FDD Band 1/3/8 LTE-TDD Band 38/39/40/41 TD-SCDMA Band 34/39 UMTS (DC-HSPA+) Band 1/5 EDGE/GPRS/GSM 850/900/1800/1900MHz	IO: I/O <NA>: no I/O	W: Wi-Fi <NA>: no Wi-Fi	G: GPS <NA>: no GPS
IG902-<B/H>-FH20-<IO/NA>-<W/NA>-<G/NA>	B: Basic H: High-config	Europe and Asia Pacific - LTE CAT4: LTE-FDD Band 1/2/3/4/5/7/8/20 UMTS(DC-HSPA+) Band1/2/5/8 EDGE/GPRS/GSM 850/900/1800/1900MHz	IO: I/O <NA>: no I/O	W: Wi-Fi <NA>: no Wi-Fi	G: GPS <NA>: no GPS
IG902-<B/H>-FS39-<IO/NA>-<W/NA>-<G/NA>	B: Basic H: High-config	North America: LTE CAT6 LTE-FDD Band 2/4/5/12/17/13/29 UMTS(DC-HSPA+) Band 2/4/5 EDGE/GPRS/GSM 850/900/1800/1900MHz	IO: I/O <NA>: no I/O	W: Wi-Fi <NA>: no Wi-Fi	G: GPS <NA>: no GPS
IG902-<B/H>-FQ88-<IO/NA>-<W/NA>-<G/NA>	B: Basic H: High-config	Japan - LTE CAT4: LTE FDD: Band 1/3/8/18/19/26 LTE TDD: Band 41 WCDMA: Band 1/6/8/19	IO: I/O <NA>: no I/O	W: Wi-Fi <NA>: no Wi-Fi	G: GPS <NA>: no GPS
IG902-<B/H>-EN00-<IO/NA>-<W/NA>-<G/NA>	B: Basic H: High-config	No 3G/4G communication module	IO: I/O <NA>: no I/O	W: Wi-Fi <NA>: no Wi-Fi	G: GPS <NA>: no GPS
Examples:	IG902-H-FH20-IO-W-G:IG902 high-config. version, supports Europe and Asia-Pacific LTE CAT4 networks, supports I/O interface, supports Wi-Fi and GPS				

InGateway500 Series

Industrial Edge Computing Gateway



The InGateway500 is a series of compact edge computing gateway. It provides uninterrupted Internet access for industrial devices over globally ubiquitous 3G/4G wireless networks and broadband services. The small-sized gateway supports networking of up to tens of thousands of devices, providing high-speed communications, powerful edge computing capabilities and comprehensive security protection for the devices, realizing device digitalization in the true sense.

The InGateway500 has open edge computing platform to allow data optimization, real-time response, agile connection and intelligent analysis on the IoT edge, significantly reducing data flows between field sites and data centers, while avoiding bottlenecks in the cloud-end computing.

The product also features ease of deployment and comprehensive remote management functions to enable fast building and easy management of IoT networks.

PRODUCT ADVANTAGES

Highly reliable communications

- + LTE CAT4, LTE CAT1, 3G, 2G and Ethernet network access
- + Multi-layer auto link detection mechanism, ensuring continuous data transmission
- + Embedded watchdog to maintain high device availability

Multiple industrial protocols

- + Transparent transmission of TCP/UDP
- + Electric power 101/104 protocol conversion
- + Modbus RTU / Modbus TCP protocol conversion
- + OPC UA Client

Fully industrial-grade

- + Operating temperatures: -25°C ~ 70 °C
- + 9 ~ 35VDC wide voltage inputs
- + IP40 protection rating

Edge computing capability

- + ARM Cortex-A8 processor, 600MHz, 256MB RAM, for intelligent data processing on edge nodes
- + MicroSD card expansion

Python development platform to set up intelligent edge

- + Python development platform, for customers to set up intelligent edge
- + Integrated SDK and APPs
- + MS Azure, AWS and Ali IoT clouds ready

Easy and flexible to manage

- + Multiple configuration methods, including Web, CLI and SMS
- + Device Manager for efficient large-scale network deployment and management



MODEL SELECTION GUIDE

Model	Model code: IG501-<WMNN>				
	Network Type	Cellular Type & Module: <WMNN>	Ethernet Port	Serial Port	I/O
IG501-LQ20	LTE CAT4	For China LTE-FDD Band 1/3/5/8 LTE-TDD Band 38/39/40/41 TD-SCDMA Band 34/39 UMTS (DC-HSPA+) Band 1/8 EDGE/GPRS/GSM 900/1800MHz	1*10/100Mbps	RS232 * 1 RS485 * 1	4 * DI/DO
IG501-FS58	LTE CAT4	For Europe and Asia Pacific LTE-FDD Band 1/3/8/20/28 UMTS(DC-HSPA+) Band1/8 GPRS 900/1800MHz	1*10/100Mbps	RS232 * 1 RS485 * 1	4 * DI/DO

InRouter900 Series

Industrial LTE Router



Featuring 4G/3G connectivity, intelligent software functions, and a fully industrial-grade design, the InRouter900 is a full-featured LTE router designed for mission critical industrial IoT applications.

With dual SIM, VRRP and VPN, the InRouter900 provides best-in-class reliability and secure communications for remote devices, helping enterprise customers achieve efficient large-scale deployment and management.

The product provides data, voice, and video communications services. Among a wide range of applications, it can be used in smart grid, renewable energy, industrial automation, oil & gas, smart security, smart agriculture, field big data, smart medical service, and more.

The InRouter900 supports Python programming which can greatly facilitate custom IoT development with shorter time to market.

The InRouter900 series is Microsoft Azure IoT Edge certified.

PRODUCT ADVANTAGES

Large-scale deployment

- + Fast configuration methods, multiple debugging tools
- + Efficient remote central network management
- + Supports RIP, OSPF, BGP and DMVPN
- + Supports SNMP v1/v2c/v3

Complete network functions

- + Supports QoS
- + Supports VLAN, virtual IP mapping
- + Supports Sniffer

Comprehensive security protection

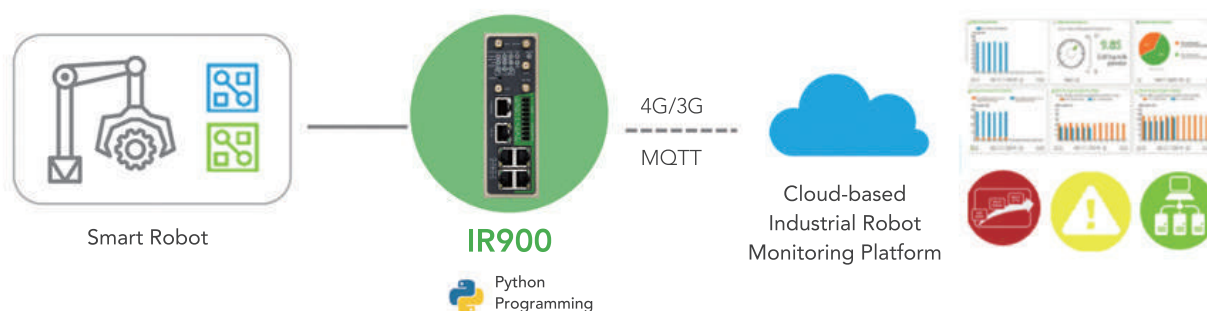
- + Multiple VPN encryption
- + Network firewall
- + Hierarchical user authorization management

Fully industrial-grade design

- + Fully adopts industrial-grade chip and electronic components
- + High EMC rating
- + Wide temperature and voltage tolerance
- + Over-current and reverse-connection protection
- + IP30 protection rating
- + Standard DIN-rail mounting

High reliability design

- + Dual-link backup, dual SIM cards for redundant backup
- + Multi-level link detection and auto-recovery, VRRP hot standby



MODEL SELECTION GUIDE

Part Number	Part Number Code : IR91X-<N1>-<WMNN>-<W>-S-<GPS>				
	<N1>: Module	<WMNN>: Cellular Networks	<W/NA>: WLAN (IR915 only)	S: Serial Port (IR915 only)	<G/NA>: GPS (IR915 only)
IR912L-TL00 IR915L-TL00-<W>-S-<GPS>	L: 4G LTE	(For China, LTE CAT4) LTE-FDD Band 1/3/5/8 LTE-TDD Band 38/39/40/41 HSPA+/UMTS Band 1/5/8/9 EDGE/GPRS/GSM 900/1800MHz	W: Wi-Fi <NA>: No Wi-Fi	S: RS232 RS485	G: GPS <NA>: No GPS
IR912L-FH20 IR915L-FH20-<W>-S-<GPS>	L: 4G LTE	(For Europe & APAC, LTE CAT4) LTE-FDD Band 1/2/3/5/7/8/20 UMTS/HSPA+ Band 1/2/5/8 EDGE/GPRS/GSM 850/900/1800/1900MHz	W: Wi-Fi <NA>: No Wi-Fi	S: RS232 RS485	G: GPS <NA>: No GPS
IR912L-FS18 IR915L-FS18-<W>-S-<GPS>	L: 4G LTE	(For North America, AT&T, LTE CAT3) LTE-FDD Band 2/4/5/17 UMTS(HSPA+) Band 2/4/5 EDGE/GPRS/GSM 850/900/1800/1900MHz	W: Wi-Fi <NA>: No Wi-Fi	S: RS232 RS485	G: GPS <NA>: No GPS
IR915L-FS28-<W>-S-<GPS>	L: 4G LTE	LTE-FDD Band 4/13 (For North America, Verizon Wireless)	W: Wi-Fi <NA>: No Wi-Fi	S: RS232 RS485	G: GPS <NA>: No GPS
IR912L-FQ38 IR915L-FQ38-<W>-S-<GPS>	L: 4G LTE	(For North America, Verizon Wireless, LTE CAT4) LTE-FDD Band 2/4/5/12/13/14/66/71 UMTS(DC-HSPA+) Band 2/5	W: Wi-Fi <NA>: No Wi-Fi	S: RS232 RS485	G: GPS <NA>: No GPS
IR912L-FQ78 IR915L-FQ78-<W>-S-<GPS>	L: 4G LTE	(For Australia & South America, LTE CAT4) LTE-FDD Band 1/2/3/4/5/7/8/28 LTE-TDD Band 40 WCDMA Band 1/2/5/8 GSM Band 2/3/5/8	W: Wi-Fi <NA>: No Wi-Fi	S: RS232 RS485	G: GPS <NA>: No GPS
IR912P-EN00 IR915P-EN00-<W>-S-<GPS>	P: No 3G/4G	No 3G/4G	W: Wi-Fi <NA>: No Wi-Fi	S: RS232 RS485	G: GPS <NA>: No GPS
Example	IR915P-PS08-W-S-GPS: 5x ETH, VPN, HSPA+, WLAN, RS-232&RS-485, I/O IR912L-FS08: 2x ETH, FDD, HSPA+/WCDMA/GPRS				

InRouter600-S Series

Industrial LTE Router



The InRouter600-S (also IR600-S) is a series of IoT router that supports 3G/4G, Wi-Fi and VPN. It provides easy network access for field devices with 3G/4G wireless WAN and Wi-Fi wireless LAN, helps to build device networks scaling up to tens of thousands.

With embedded hardware & software watchdogs and multi-layer link detection mechanism, the router safeguards stable and highly-reliable communications for field sites, especially unattended sites. It also supports InHand Device Manager for efficient remote network management.

Multiple VPN encryption technologies can ensure secure data transmission, preventing malicious data access and tampering. The user-friendly WEB interface will drastically reduce network configuration difficulty.

The IR600-S series is suitable for large-scale device networking, such as EV charging poles, self-service lockers, vending machines, multimedia advertising equipment, smart medical devices, etc.

PRODUCT ADVANTAGES

Uninterrupted Internet access

- + 3G/4G networks of major telecom operators worldwide
- + Fast Ethernet and multiple DSLs
- + Wi-Fi 802.11b/g/n, transmission rate up to 300Mbps, AP/STA mode

High reliability design

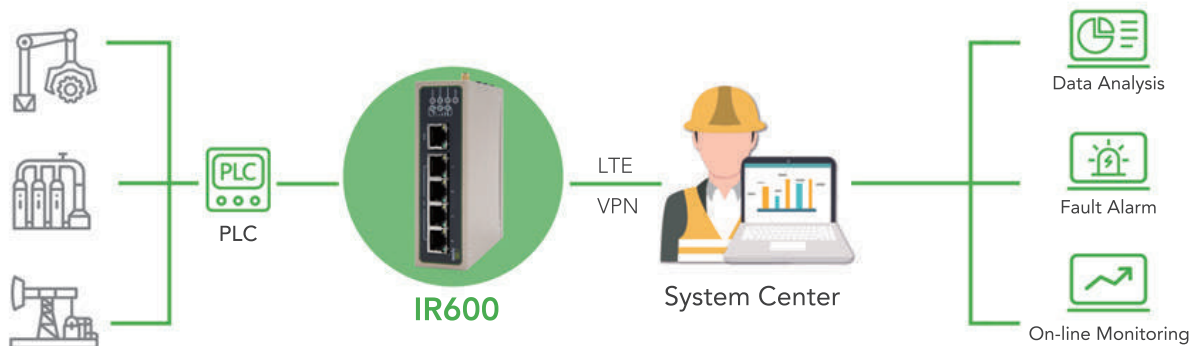
- + Industrial-grade design, wide temperature and voltage tolerance, high EMC rating (IR611-S: EMC Class II, IR615-S: EMC Class III), IP30
- + Hardware and software watchdog
- + Multi-layer link detection mechanism auto recovers from faults, requiring no human intervention
- + Multiple link backups to ensure devices are persistently online

Easy to deploy and manage

- + A variety of installation methods offered, including DIN-rail, lug mounting, and wall mounting, to suit various installation sites
- + Support APN auto-adapting, requiring zero user configuration on simple public network connection
- + Supports WEB, CLI configuration
- + Supports InHand Device Manager for efficient remote central network management

Comprehensive security protection

- + Multiple VPN encryption
- + Network firewall
- + Secure access management targeting at network administrators



MODEL SELECTION GUIDE

Model	Model code: IR611-S-<WMNN>-<WLAN/NA>-<S>		
	<WMNN>: Cellular Type & Module	<WLAN/NA>: WLAN	<S>: Serial Port
IR611-S-PS08-<WLAN/NA>	(For Global) UMTS(HSPA+) Band 1/2/5/8 (850/900/1900/2100MHz) EDGE/GPRS/GSM 850/900/1800/1900	WLAN: Wi-Fi <NA>: no Wi-Fi	<NA>: RS232
IR611-S-TL00-<WLAN/NA>	(For China, LTE CAT4) LTE-FDD Band 1/3/5/8 LTE-TDD Band 38/39/40/41 HSPA+/UMTS: Band 1/5/8/9 EDGE/GPRS/GSM: 900/1800MHz	WLAN: Wi-Fi <NA>: no Wi-Fi	<NA>: RS232
IR611-S-TL01-<WLAN/NA>	(For China, LTE CAT4) LTE-FDD Band 1/3/5/8 LTE-TDD Band 34/38/39/40/41 WCDMA Band 1/8 TD-SCDMA Band 34/39 CDMA/EVDO BCO GSM/EDGE Band 3/8	WLAN: Wi-Fi <NA>: no Wi-Fi	<NA>: RS232
IR611-S-FH20-<WLAN/NA>	(For Europe, Asia & Pacific area, LTE CAT4) LTE-FDD Band 1/2/3/5/7/8/20 UMTS(DC-HSPA+) Band 1/2/5/8 EDGE/GPRS/GSM 850/900/1800/1900MHz	WLAN: Wi-Fi <NA>: no Wi-Fi	<NA>: RS232
IR611-S-FQ38-<WLAN/NA>	(For North America, Verizon Wireless, LTE CAT4) LTE-FDD Band 2/4/5/12/13/14/66/71 UMTS(DC-HSPA+) Band 2/4/5	WLAN: Wi-Fi <NA>: no Wi-Fi	<NA>: RS232
IR611-S-FQ78-<WLAN/NA>	(For Australia & South America, LTE CAT4) LTE-FDD Band 1/2/3/4/5/7/8/28 LTE-TDD Band 40 WCDMA Band 1/2/5/8 GSM Band 2/3/5/8	WLAN: Wi-Fi <NA>: no Wi-Fi	<NA>: RS232
IR611-S-FQ88-<WLAN/NA>	(For Japan, LTE CAT4) LTE FDD Band 1/3/8/18/19/26 LTE TDD Band 41 WCDMA Band 1/6/8/19	WLAN: Wi-Fi <NA>: no Wi-Fi	<NA>: RS232
IR611-S-FS18-<WLAN/NA>	(For North America, AT&T, LTE CAT3) LTE-FDD Band 2/4/5/17 UMTS(HSPA+) Band 2/4/5 EDGE/GPRS/GSM 850/900/1800/1900MHz	WLAN: Wi-Fi <NA>: no Wi-Fi	<NA>: RS232
IR611-S-FS39-<WLAN/NA>	(For North America, T-Mobile, Verizon Wireless, AT&T, LTE CAT6) LTE-FDD Band 2/4/5/12/13/29 UMTS(HSPA+) Band 2/4/5 EDGE/GPRS/GSM 850/900/1800/1900MHz	WLAN: Wi-Fi <NA>: no Wi-Fi	<NA>: RS232
IR611-S-FB02-<WLAN/NA>	(For Global) LTE CATM/NB Band 1/2/3/4/5/8/12/13/17/18/19/20/25/26/28 (and band 39 in M1-only)	WLAN: Wi-Fi <NA>: no Wi-Fi	<NA>: RS232
IR611-S-FB13-<WLAN/NA>	(For North America, AT&T, T-Mobile, LTE CAT1) LTE-FDD CAT1 Band 2/4/12	WLAN: Wi-Fi <NA>: no Wi-Fi	<NA>: RS232
IR611-S-FB23-<WLAN/NA>	(For North America, Verizon Wireless, LTE CAT1) LTE-FDD CAT1 Band 4/13	WLAN: Wi-Fi <NA>: no Wi-Fi	<NA>: RS232
IR611-S-FB53-<WLAN/NA>	(For Europe, LTE CAT1) LTE-FDD Band 3/7/20 EDGE/GPRS/GSM 900/1800MHz	WLAN: Wi-Fi <NA>: no Wi-Fi	<NA>: RS232
IR611-S-FB63-<WLAN/NA>	(For APAC, LTE CAT1) LTE-FDD Band 3/8/28 UMTS(DC-HSPA+) 2100	WLAN: Wi-Fi <NA>: no Wi-Fi	<NA>: RS232
IR611-S-EN00-<WLAN/NA>	No cellular module	WLAN: Wi-Fi <NA>: no Wi-Fi	<NA>: RS232
Example:	IR611-S-PS08-WLAN: one Ethernet port IR611-S series cellular router, support IPSec/PPTP/L2TP/OPEN VPN, support HSPA+ network, support Wi-Fi AP&STA modes, RS232 serial port		

MODEL SELECTION GUIDE

Model	Model code: IR615-S-<WMNN>-<W/NA>-<DS/NA>		
	<WMNN>: Cellular Type & Module U-UMTS(HSPA), L-LTE single mode, L3-LTE triple-mode, L5-LTE 5-mode, L7-LTE 7-mode	<WLAN/NA>: WLAN	<DS/NA>: Dual SIM
IR615-S-U/(PS08/30108)-<WLAN/NA>-<DS/NA>	(Global) UMTS(HSPA+) Band 1/2/5/8 (850/900/1900/2100MHz) EDGE/GPRS/GSM 850/900/1800/1900	WLAN: Wi-Fi <NA>: no Wi-Fi	<DS>: dual SIM <NA>: single SIM
IR615-S-L5/(TH09/60218)-<WLAN/NA>-<DS/NA>	(For China, LTE CAT4) LTE-FDD Band 1/3/5/8 LTE-TDD Band 38/39/40/41 HSPA+/UMTS 1/5/8/9 EDGE/GPRS/GSM 900/1800MHz	WLAN: Wi-Fi <NA>: no Wi-Fi	<DS>: dual SIM <NA>: single SIM
IR615-S-L7/(TL01/60522)-<WLAN/NA>-<DS/NA>	(For China, LTE CAT4) LTE-FDD Band 1/3/5/8 LTE-TDD Band 34/38/39/40/41 TD-SCDMA Band 34/39 WCDMA Band 1/8 CDMA/EVDO BC0 GSM Band 3/8	WLAN: Wi-Fi <NA>: no Wi-Fi	<DS>: dual SIM <NA>: single SIM
IR615-S-L3/(FH20/60220)-<WLAN/NA>-<DS/NA>	(For Europe, Asia & Pacific area, LTE CAT4) LTE-FDD Band 1/2/3/5/7/8/20 UMTS(DC-HSPA+) Band 1/2/5/8 EDGE/GPRS/GSM 850/900/1800/1900MHz	WLAN: Wi-Fi <NA>: no Wi-Fi	<DS>: dual SIM <NA>: single SIM
IR615-S-FQ38-<WLAN/NA>	(For North America, Verizon Wireless, LTE CAT4) LTE-FDD Band 2/4/5/12/13/14/66/71 UMTS(HSPA+) Band 2/4/5	WLAN: Wi-Fi <NA>: no Wi-Fi	Single SIM
IR615-S-FQ78-<WLAN/NA>	(For Australia & South America, LTE CAT4) LTE-FDD CAT4 Band 1/2/3/4/5/7/8/28 LTE-TDD Band 40 WCDMA Band 1/2/5/8 GSM Band 2/3/5/8	WLAN: Wi-Fi <NA>: no Wi-Fi	Dual SIM in default
IR615-S-FQ88-<WLAN/NA>	(For Japan, LTE CAT4) LTE FDD Band 1/3/8/18/19/26 LTE TDD Band 41 WCDMA Band 1/6/8/19	WLAN: Wi-Fi <NA>: no Wi-Fi	Dual SIM in default
IR615-S-FB02-<WLAN/NA>	(Global) LTE CATM/NB Band 1/2/3/4/5/8/12/13/ 17/18/19/20/25/26/28 (and band 39 in M1-only)	WLAN: Wi-Fi <NA>: no Wi-Fi	Single SIM
IR615-S-FB13-<WLAN/NA>	(For North America, AT&T, T-Mobile, LTE CAT1) LTE-FDD CAT1 Band 2/4/12	WLAN: Wi-Fi <NA>: no Wi-Fi	Dual SIM in default
IR615-S-FB23-<WLAN/NA>	(For North America, Verizon Wireless, LTE CAT1) LTE-FDD CAT1 Band 4/13	WLAN: Wi-Fi <NA>: no Wi-Fi	Dual SIM in default
IR615-S-FB53-<WLAN/NA>-<DS/NA>	(For Europe, LTE CAT1) LTE-FDD CAT1 Band 3/7/20 EDGE/GPRS/GSM 900/1800MHz	WLAN: Wi-Fi <NA>: no Wi-Fi	<DS>: dual SIM <NA>: single SIM
IR615-S-FB63-<WLAN/NA>	(For APAC, LTE CAT1) LTE-FDD CAT1 Band 3/8/28 UMTS(DC-HSPA+) 2100	WLAN: Wi-Fi <NA>: no Wi-Fi	Single SIM
IR615-S-FS18-<WLAN/NA>	(For North America, AT&T, LTE CAT3) LTE-FDD Band 2/4/5/17 UMTS(HSPA+) Band 2/4/5 EDGE/GPRS/GSM 850/900/1800/1900MHz	WLAN: Wi-Fi <NA>: no Wi-Fi	Single SIM
IR615-S-FS39-<WLAN/NA>	(For North America, Verizon Wireless, AT&T, T-Mobile, LTE CAT6) LTE-FDD Band 2/4/5/12/13/29 UMTS(HSPA+) Band 2/4/5 EDGE/GPRS/GSM 850/900/1800/1900MHz	WLAN: Wi-Fi <NA>: no Wi-Fi	Dual SIM in default
IR615-S-EN00-<WLAN/NA>	No cellular module	WLAN: Wi-Fi <NA>: no Wi-Fi	Single SIM
Example:	IR615-S-FS39-WLAN: Five Ethernet ports IR615-S series cellular router, supports IPSec/PPTP/L2TP/OPEN VPN, 4G LTE CAT 6, supports Wi-Fi AP&STA modes, one serial port with RS232 and RS485 mode		

InRouter300 Series

Industrial LTE Router



The InRouter300 (IR300) is a compact IoT cellular router that can provide reliable and secure Internet connectivity for a wide range of IoT applications.

The product is suitable for the networking of unattended devices and sites. It is embedded with watchdog and multi-layer link detection mechanisms to ensure highly reliable and stable communications. The compact router can be deployed easily to build large scale networks scaling up to tens of thousands of devices. Using with InHand Device Manager cloud platform, customers can manage the network efficiently.

The IR300 can be used in various industrial and commercial IoT applications, providing an IoT networking solution of good balance between cost and performance.

PRODUCT ADVANTAGES

Fast Internet access

- + High and low speed LTE network types optional:
LTE CAT 4, CAT 1, CAT M1 and NB IoT/
- + Wi-Fi 802.11b/g/n, up to 150Mbps, AP/STA mode
- + Failover between wired Ethernet, Wi-Fi and 4G LTE
- + Dual SIM failover

High reliability and stability

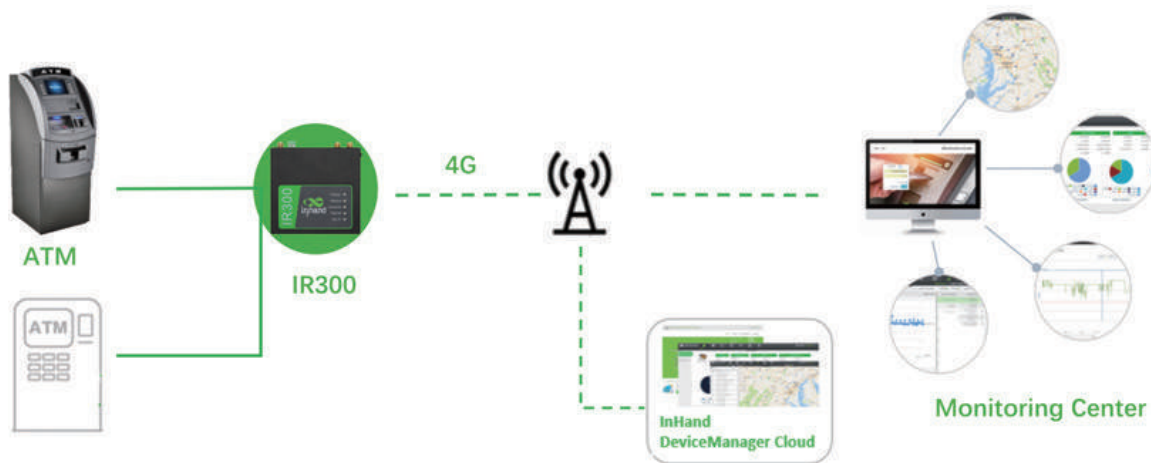
- + Dual SIM failover
- + Multi-layer link detection auto recovers from disconnections, requiring no human intervention
- + Hardware watchdog, self-recovers from malfunctions
- + Industrial-grade design, wide temperature and voltage tolerance, EMC Class II, IP30

Strong security protection

- + Data transmission: IPsec VPN, L2TP, PPTP, OPEN VPN, GRE and CA certificate.
- + Network protection: SPI, SSH, forbidden ping, DDoS defense, attack defense, IP-MAC binding
- + Device access: multi-level user authorization

Easy to install and manage

- + Compact sized, easy to install
- + Multiple management methods: CLI, WEB, and network management platforms
- + InHand DeviceManager Cloud for efficient management of large-scale networks



MODEL SELECTION GUIDE

Model	Model code: IR302-<WMNN>-<WLAN/NA>	
	<WMNN>: Cellular Type & Module	<WLAN/NA>: Wi-Fi
IR302-LQ20-<WLAN/NA>	(For China, LTE CAT 4) FDD: B1/B3/B5/B8 TDD: B34/B38/B39/B40/B41 WADMA: B1/B5/B8 GSM: B3/B8MHz	WLAN: Wi-Fi <NA>: no Wi-Fi
IR302-FQ58-<WLAN/NA>	(For Europe & APAC, LTE CAT 4) FDD: B1/B3/B5/B7/B8/B20 TDD: B38/B40/B41 WADMA: B1/B5/B8 GSM: B3/B8	WLAN: Wi-Fi <NA>: no Wi-Fi
IR302-FQ38-<WLAN/NA>	(For North America, AT&T, VzW, LTE CAT 4) FDD: B2/B4/B5/B12/B13/B14/B66/B71 WCDMA: B2/B4/B5	WLAN: Wi-Fi <NA>: no Wi-Fi
IR302-FQ33-<WLAN/NA>	(For North America, AT&T, VzW, LTE CAT 1) FDD: B2/B4/ B5/B12/B13/B25/B26 WCDMA: B2/B4/B5	WLAN: Wi-Fi <NA>: no Wi-Fi
IR302-FQ53-<WLAN/NA>	(For EMEA, CAT1) FDD: B1/B3/B7/B8/B20/B28 WCDMA: B1/B8 GSM/EDGE: B3/B8	WLAN: Wi-Fi <NA>: no Wi-Fi
IR302-LQ00-<WLAN/NA>	(For China, CAT1) FDD: B1/B3/B5/B8 TDD: B34/B38/B39/B40/B41 GSM: 900/1800MHz	WLAN: Wi-Fi <NA>: no Wi-Fi
IR302-FQ02-<WLAN/NA>	(Global, LTE CAT M/NB) CAT M1: B1/2/3/4/5/8/12/13/14/18/19/20/25/26/27/28/66/85 CAT NB2: B1/2/3/4/5/8/12/13/18/19/20/25/26/28/66/71/85 GSM/EDGE: 850/900/1800/1900	WLAN: Wi-Fi <NA>: no Wi-Fi
IR302-EN00-<WLAN>	NO	WLAN: Wi-Fi
Example:	IR302-LQ20-WLAN: dual Ethernet port IR300 series cellular router, support IPSec / PPTP / L2TP / OPEN VPN, supports FDD, TDD, WCDMA and GSM networks, supports Wi-Fi AP & Client mode	
Note:	Standard accessories of the IR302 are 4G and Wi-Fi magnetic antennas. If you need paddle antennas, please place your orders with the material codes: 4G paddle antenna - AANT090004, Wi-Fi paddle antenna - AANT060011. Installation parts for panel mounting are supplied as standard accessories. If you need installation parts for DIN-rail mounting, please order AFIX000125.	

Model	Model code: IR301-<WMNN>-<WLAN/NA>-<S>		
	<WMNN>: Cellular Type & Module	<WLAN/NA>: Wi-Fi	S: Serial (DB9)
IR301-FQ02-<WLAN/NA>-<S>	(Global LTE CATM/NB) CAT M B1/2/3/4/5/8/12/13/14/18/19/20/25/26/27/28/66/85 CAT NB B1/2/3/4/5/8/12/13/18/19/20/25/26/28/66/71/85 GSM/EDGE: 850/900/1800/1900	WLAN: Wi-Fi <NA>: no Wi-Fi	RS232/RS485
Example:	IR301-FQ02-WLAN-S: IR300 series cellular router with one Ethernet port, supports IPSec/PPTP/L2TP/OPEN VPN, supports FDD, TDD, WCDMA and GSM networks, supports Wi-Fi AP & Client modes, 1*DB9 industrial serial port: RS232/RS485		
Note:	For the first login the device may ask if the customer would like to join the User Experience Plan; if the customer chooses yes, the device is then connected to InHand's cloud platform by default. Users can edit the setting in Device Service > User Experience Plan.		

InDTU Series

Industrial Cellular Modem



The InDTU series industrial cellular modem are wireless data communication terminals that meet the requirements for both industrial and electric power applications. The modem uses 2G/3G/4G/eMTC/NB-IoT networks to provide wireless data transmission channels over TCP/IP. It functionally completes wireless data communications between remote control station serial devices and central control systems, enabling remote control of industrial field sites. The product performance and its technical indexes meet industrial automation standards.

Adopting a new low-power industrial-grade chip in hardware, the modem has a wide voltage and temperature tolerance. With the high-reliability communication module, complete and robust PPP, TCP/IP and application layer protocol stack in software, and optimized network performance (especially link-layer performance), the modem sports excellent performance on wireless communications and can be used for various applications.

PRODUCT ADVANTAGES

Industrial-grade design, ready for challenging conditions

- + Industrial-grade chip, operating temperature ranging from -40°C to +70°C, voltage inputs 5 to 35V, protection rating IP30, can provide stable network communications under the harsh conditions of unattended electric power sites
- + Ultra-low power consumption, adaptable to different field power supply modes
- + Complies with the electric power DL/T721-2013 distribution automation system remote terminal standard

Efficient, flexible, and easy to manage

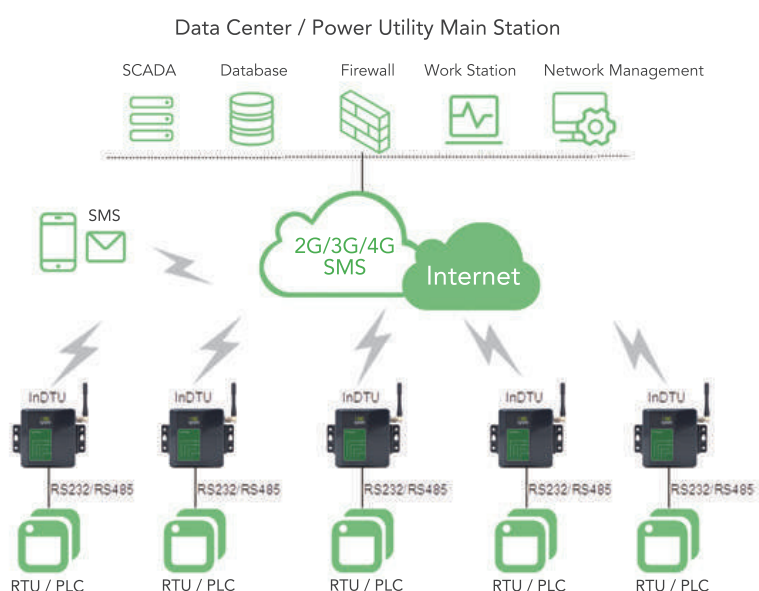
- + Supports configuration software to login and configure via local serial port
- + SMS configuration
- + Remote TCP/IP configuration
- + InHand Device Manager cloud platform for remote centralized management

High-reliability design for continuous data transmission

- + Device auto-recovery: embedded watchdog to ensure normal operation of the device
- + Multi-layer link detection: link layer, IP layer, and TCP layer auto link detection, safeguard link stability
- + Link redundancy: mutual-backup between SMS and IP data links, ensures data continuity

Feature-rich, enabling smart customer solutions

- + Modbus RTU/Modbus TCP protocol conversion
- + Transmission optimization (DC protocol)
- + Multi-center, 1-5 centers



MODEL SELECTION GUIDE

Model	Model code: InDTU332<WMNN>-<232/485>-<DS/NA>		
	<WMNN>: Cellular Type & Module	<232/485>: Serial port type	<DS/NA>: dual SIM
InDTU332GS55-232	GSM 850/900/1800/1900MHz	RS-232	Single SIM
InDTU332GS55-485	GSM 850/900/1800/1900MHz	RS-485	Single SIM
InDTU332NB02-232	eMTC/NB-IoT (LTE Cat M1/NB1) Band 1,2,3,4,5,8,12,13,17,18,19,20, 25,26,28 (band 39 in M1-only)	RS-232	Single SIM
InDTU332NB02-485	eMTC/NB-IoT (LTE Cat M1/NB1) Band 1,2,3,4,5,8,12,13,17,18,19,20, 25,26,28 (band 39 in M1-only)	RS-485	Single SIM
InDTU332NB02-232-DS	eMTC/NB-IoT (LTE Cat M1/NB1) Band 1,2,3,4,5,8,12,13,17,18,19,20, 25,26,28 (band 39 in M1-only)	RS-232	Dual SIM
InDTU332NB02-485-DS	eMTC/NB-IoT (LTE Cat M1/NB1) Band 1,2,3,4,5,8,12,13,17,18,19,20, 25,26,28 (band 39 in M1-only)	RS-485	Dual SIM

Model	Model code: InDTU324<WMNN>-<232/485>-<A/NA>		
	<WMNN>: Cellular Type & Module	<232/485>: Serial Port Type	<A/NA>:AT/DATA MODE
InDTU324LQ25-232	Europe and Asia Pacific - LTE CAT4: LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8	RS232	DATA MODE
InDTU324LQ25-232-A	Europe and Asia Pacific - LTE CAT4: LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8	RS232	AT MODE
InDTU324LQ25-485	Europe and Asia Pacific - LTE CAT4: LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8	RS485	DATA MODE
InDTU324LQ25-485-A	Europe and Asia Pacific - LTE CAT4: LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8	RS485	AT MODE
InDTU324NQ96-232	Europe and Asia Pacific - Cat M1/Cat NB1/EGPRS: LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28 LTE TDD: B39 (for Cat M1 only) EGPRS:850/900/1800/1900MHz	RS232	DATA MODE
InDTU324NQ96-232-A	Europe and Asia Pacific - Cat M1/Cat NB1/EGPRS: LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28 LTE TDD: B39 (for Cat M1 only) EGPRS:850/900/1800/1900MHz	RS232	AT MODE
InDTU324NQ96-485	Europe and Asia Pacific - Cat M1/Cat NB1/EGPRS: LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28 LTE TDD: B39 (for Cat M1 only) EGPRS:850/900/1800/1900MHz	RS485	DATA MODE
InDTU324NQ96-485-A	Europe and Asia Pacific - Cat M1/Cat NB1/EGPRS: LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28 LTE TDD: B39 (for Cat M1 only) EGPRS:850/900/1800/1900MHz	RS485	AT MODE

InVehicle G710 Series

Smart Vehicle Gateway



The image shows a black, ruggedized InVehicle G710 Smart Vehicle Gateway. It has a rectangular shape with a textured front panel. The top edge features several gold-colored connectors. The front panel has a series of vertical slots, likely for ventilation or component access. The InHand logo and 'InVehicle G710' text are visible on the top part of the device.

-  LTE CAT6 high speed cellular network
-  Dual-concurrent Gigabit Wi-Fi, Gigabit Ethernet
-  Extensive interfaces including CAN bus, OBD-II and I/O
-  GNSS & base station positioning, inertial navigation
-  IOT edge computing
-  Programmable vehicle gateway
-  Large fleet management
-  MS Azure IoT cloud ready
-  Cloud-end VPN
-  Fine industrial design, IP64 protection

CE FCC IC E PTCRB ECE-R118

The InVehicle G710 is a series of high-performance vehicle gateways that provides high-speed and highly-reliable network access for data demanding mobile scenarios, such as first responder operations, school buses, special-purpose vehicles, engineering vehicles, logistics and hazardous materials transport. Working with a cloud-based management platform, it allows efficient operations including logistics management, asset tracking, mobile officing and safety surveillance.

The transport grade gateway provides in-vehicle network access, including high-speed LTE CAT6 to allow fast and secure communications for vehicles and vehicle-mounted devices. It supports CANBus for real-time collection of vehicle diagnostic data, and advanced satellite navigation for accurate vehicle positioning. Through a remote analysis platform, it supports driving behaviors monitoring to enforce safety on the road .

The open development platform simplifies secondary development and enables flexible customization of applications. Powerful edge computing facilitates quick implementation of custom applications. The product supports Azure IoT edge, InHand Smart Fleet and FlexAPI that works for third-party platforms, embracing the open IoT ecosystem with more choices for application developers.

PRODUCT ADVANTAGES

Purposely built for vehicles

- + Transport grade chip, communication module, and electronic components
- + Complies with standards for vehicle-mounted electronic devices on resistance to shock and vibration, high temperatures and humidity
- + IP64 protection

Global satellite positioning (GNSS)

- + Supports GPS, GLONASS, GALILEO and BeiDou satellite systems
- + Real-time satellite clock synchronization, inertial navigation
- + Built-in 3D accelerometer and gyroscope

High-speed network on-the-go

- + High-speed 4G LTE, compatible with 5G
- + Dual-concurrent Gigabit Wi-Fi, Gigabit Ethernet
- + Supports secure VPN encrypted transmission
- + Supports security management protocols incl. HTTPS, SSL and TLS

Rich expansion interfaces

- + Rich AI/DI/DO interfaces to connect a wide range of sensors
- + Industrial-grade RS232/RS485 serial port, built-in USB Type B port
- + Integrated OBD-II/J1939/J1708 vehicle diagnostic interface

In-vehicle OTA upgrade service

- + Quickly repair system defects
- + Quick and easy product upgrade
- + Push application services according to driving strategies

Developer features

- + ARM Cortex A processor, for enhanced AI computing capability
- + Python based secondary development platform, quickly deploy service applications
- + Standard App Lib and other support, providing an application ecosystem for developers



MODEL SELECTION GUIDE

Model	Cellular Type	CANBUS	GNSS	Wi-Fi	Bluetooth	Region
VG710-FS39	GSM/GPRS/EDGE 850/900/1800/1900MHz UMTS/HSPA+ 850/1700/1900MHz, Band 2/4/5 LTE-FDD 700/850/1700/1900MHz, Band 2/4/5/12/13/17/29	√	√	√	√	North America, Latin America, Caribbean Coast
VG710-FS59	GSM/GPRS/EDGE 900/1800MHz UMTS/HSPA+ 850/900/1800/2100MHz, Band 1/3/5/6/8 LTE-FDD 700/800/850/900/1800/2100/2600MHz, Band 1/3/5/7/8/18/19/20/26/28A/28B LTE-TDD 1900/2300/2600MHz, Band 38/39/40/41 TD-SCDMA 1900/2000MHz, Band 34/39	√	√	√	√	Europe, Africa, Asia, Oceania
VG710-TL00	LTE-FDD Band 1/3/8 LTE-TDD Band 38/39/40/41 UMTS (DC-HSPA+) Band 1/5/8/9 TD-SCDMA Band 34/39 EDGE/GPRS/GSM 900/1800MHz	√	√	√	√	China
Example:	VG710-FS59 vehicle-mounted gateway, 4 Ethernet interfaces, one DB-9 RS232 serial port, RS485 serial port, MicroUSB2.0 serial port, supports DC-HSPA+ networks, supports CANBUS, GNSS global satellite positioning, WLAN dual-band Gigabit wireless LAN, and bluetooth, can be used in Europe, Asia Pacific, and China.					

Antenna	Order Code	Specifications
LTE 4G Antenna	AANT090025	LTE/GSM/CDMA/DCS/PCS/WCDMA/UMTS/HSDPA/GPRS/EDGE 824-960MHz, 1710-2700MHz 1M RG-174 cable with SMA-J1.5 connector, dimensions: 2000±20mm
GNSS Antenna	AANT040005	GPS/GALILEO: 27±2 dB@1575.42MHz GLONASS: 27±2 dB@1602MHz, dimensions: 55.6x50.5mm
GNSS Antenna	AANT040006	GPS/GALILEO: 27±2 dB@1575.42MHz GLONASS: 27±2 dB@1602MHz, dimensions: 50x38.5mm
Wi-Fi Antenna (Rubber Ducky)	AANT060016	2400~2500MHz / 4900~5850MHz, peak gain 5±0.5dBi,
Wi-Fi Antenna (Antenna Adhesive)	AANT060018	2400~2500MHz / 4900~5850MHz, peak gain ≤ 3dBi, dimensions: 2000±20mm
Bluetooth Antenna (Rubber Ducky)	AANT060017	2.4GHz, peak gain ≤ 2dBi

Cable	Order Code	Specifications
Power Cable	SCAB000216	The cable has A and B ends: A is 4PIN end to connect to VG710; B is open end, suitable for field engineering projects. To perform indoor testing, a power adapter needs to be prepared separately.
20 PIN Extension Cord	SCAB000219	The cable has A and B ends: A is 20PIN end to connect to VG710; B is open end, suitable for field engineering projects and testing.
OBD-II Power Cable	SCAB000235	P1 is 20PIN; P2 is 4PIN power terminal; P3 is OBD-II male; P4 is I/O open end, suitable for engineering projects; P5 is ignition signal cable, please connect to the ignition signal of the vehicle before use. Suitable for field engineering projects.
J1939 9PIN Power Cable	SCAB000234	P1 is 20PIN; P2 is 4PIN power terminal; P3 is J1939 9PIN female; P4 is I/O open end, suitable for engineering projects; P5 is ignition signal cable, please connect to the ignition signal of the vehicle before use. Suitable for field engineering projects.
J1939 6PIN Power Cable	SCAB000233	P1 is 20PIN; P2 is 4PIN power terminal; P3 is J1939 6PIN female; P4 is I/O open ed, suitable for engineering projects; P5 is ignition signal cable, please connect to the ignition signal of the vehicle before use. Suitable for field engineering projects.
20 PIN to OBD-II	SCAB000215	This cable has A, B, C and D ends: A is 20PIN female; B is OBD female; C is A duplicate but male; D is OBD male, suitable for field engineering projects and testing.

InVehicle T310 Series

Vehicle Tracker



The InVehicle T310 (also VT310) is a series of reliable, durable and functionally capable vehicle tracker. It continues InHand Network's decades long commitment to delivering reliable IoT connectivity in some of the most challenging industrial environments while being simultaneously cost effective.

Fleet managers can rely on the VT310 to track and manage fleet vehicles with accuracy and efficiency.

PRODUCT ADVANTAGES

Reliable Communications with Low Power Consumption

- + Available with LTE CAT M1, CAT 1 and CAT 4, continuously delivers reliable connectivity while being power-saving

High Precision Location

- + Embedded high-precision GNSS, locates your vehicles and tracks mileage with high accuracy

Purpose Designed for Vehicles

- + Wide voltage range of 9~48V covers all types of vehicle power supplies
- + Powered by 1200mAh battery, able to continue working when the machine is turned off
- + Support for sleep mode

Extensive Interfaces

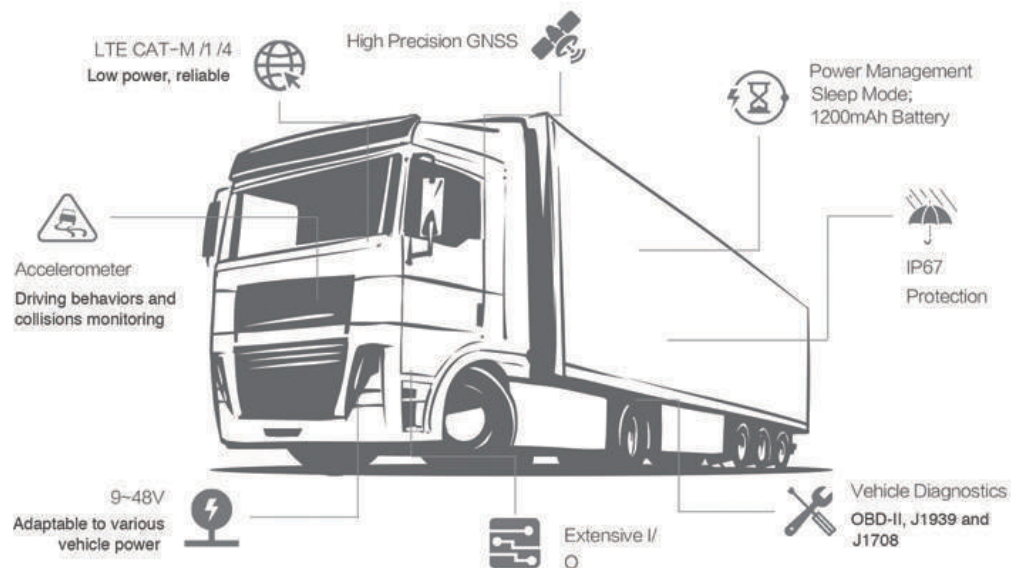
- + Connects a rich variety of peripherals, including alarms, sensors, switches and controllers
- + Integration to the most common diagnostic protocols including OBD-II, J1939 and J1708

Constant and Real-time Monitoring

- + Built-in inertial sensor, constantly monitors driving behavior, detects hard braking, acceleration, collision, etc.
- + Support for geofencing, restricts travel scope, ensuring vehicle security

Easy for Installation

- + Built-in cellular and GPS antennas, easy for installation and deployment on the road



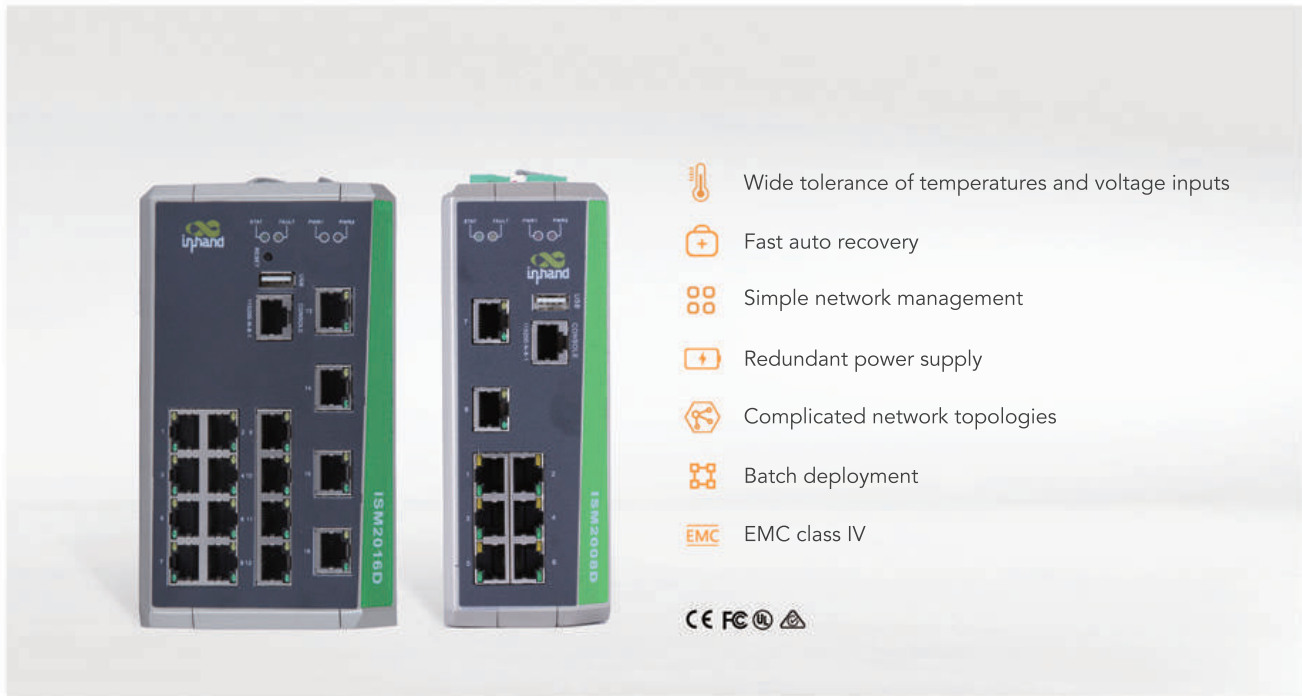
MODEL SELECTION GUIDE

Model	Cellular Type	Region
VT310-FS31	LTE CAT-M: B2/B4/B12/B13	North America
VT310-FS52	GSM/GPRS/EDGE: 900/1800MHz UMTS/HSPA+: B8/B1 LTE: B28/B20/B8/B3/B1	Europe, Middle East and Africa, Asia Pacific
VT310-FQ58	LTE FDD: B1/B3/B5/B8 LTE TDD: B34/B38/B39/B40/B41 WCDMA: B1/B81 GSM: 900/1800MHz	China, India
Example	V310-FS52: supports LTE CAT 1, can be used in Europe, Middle East, Africa and Asia Pacific.	

Cable	Picture	Order Code	Specifications
26 PIN All-in-one Test Cable		SCAB000229	The cable has P1 and P2 ends: P1 is 26PIN female, connected to VT310; P2 is open end, which requires a 9-48V adaptor. Suitable for engineering environments and indoor tests.
OBD-II 7 PIN All-in-one Cable		SCAB000231	The cable has P1, P2 and P3 ends: P1 is 26PIN female connected to VT310; P2 is OBD-II male connected to the vehicle; P3 is ignition signal terminal connected to the ignition on/off. Suitable for heavy trucks with OBD-II vehicle diagnostic interfaces, and powers VT310 through interfaces.
OBD-II 26 PIN All-in-one Cable		SCAB000232	This cable has P1, P2, P3 and P4 ends: P1 is 26PIN female connected to VT310; P2 is OBD-II male connected to the vehicle; P3 is open end that includes I/O, RS232-1 and 1-Wire; P4 is ignition signal terminal connected to the ignition on/off. Suitable for heavy trucks with OBD-II vehicle diagnostic interfaces, and powers VT310 through interfaces. Recommended for customers who need DI, DO, AI, 1-Wire devices or vehicle-mounted controllers.

ISM Series

Managed Industrial Ethernet Switch



Network availability is a key consideration in network designing. The ISM managed industrial Ethernet switch has the ability to withstand challenging operating conditions, featuring EMC class IV, -40°C ~ +85°C operating temperature, redundant power supply, etc. The redundant networks built with ISM switches have excellent network fault tolerance. Moreover, the ISM series has incorporated many efforts and innovations in network robustness, ease of use, ease of maintenance and security. These advancements ensure that the networks built are stable and reliable, allowing customers to use their networks with confidence and stay focused in their own business areas.

PRODUCT ADVANTAGES

Reliable industrial quality

- + EMC class IV, zero packet loss under strong EMI
- + -40°C ~ +85°C operating temperature range
- + Embedded industrial-grade redundant power supply
- + Solid metal housing, IP40 dust-proof protection

Security and performance

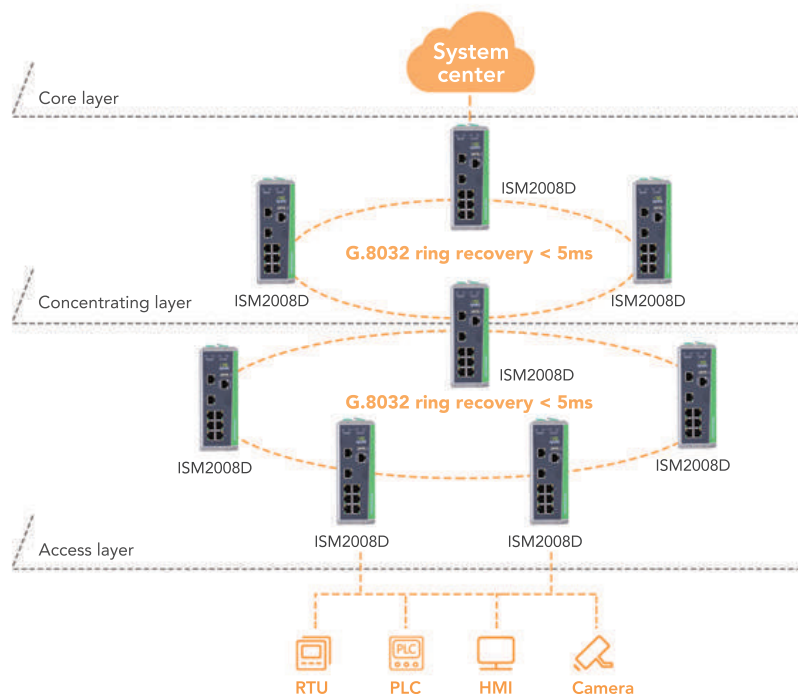
- + ACL (Access Control List), specifies login devices by IP addresses
- + Port isolation, restricts communications between ports without configuring VLAN
- + Supports port outbound and inbound rate limits to avoid impact to terminal devices of limited processing capacity

Advanced network redundancy

- + Supports ITU-T G. 8032v2 ring protocol (self-recovery < 5ms); also supports STP/RSTP, and iRing to meet different networking requirements

Easy to deploy and use

- + RSTP enabled by default, plug and play on ring network
- + Auto batch deployment helps to obtain IP addresses and configuration files of each node in a very short time and quickly complete the deployment
- + Store configurations on USB media, achieving fast and easy device replacement



MODEL SELECTION GUIDE

ISM Sub-series Selection



ISM3019D



ISM3018D



ISM3010D



ISM2016D



ISM2009D



ISM2008D



ISM2005D



ISM3028U

ISM Sub-series Nomenclature

Example: ISM2008D

ISM	2	0	08	D
ISM-Managed	2 - Layer-2 100Mb/s 3 - Layer-2 1000Mb/s	0 - Common model	Total no. of ports	U - Standard rack mounting D - DIN-rail mounting

MODEL SELECTION GUIDE

Model code: ISM2008D-<N1>T-<N2><F><L><W>-FC/SC-24/48w

Nomenclature	Code Description	ISM2008D	N1	N2	F	L	W	FC/SC	24/48w
		Subseries	No. of T(X) ports	No. of FX ports	Optical fibre type: M: Multi-mode dual-fibre S: Single-mode dual-fibre B: Single-mode single-fibre	Transmission distance: 20/40/60/80/120 KM (Multimode distance is 2KM, default as omitted.)	Transmit/receive wavelength: 3:Tx1310/Rx1310nm 5:Tx1550/Rx1550nm 53:Tx1550/Rx1310nm 35:Tx1310/Rx1550nm	Connector type: FC, SC optional	Power supply voltage: 24VDC (18~36VDC) / 48VDC (36~72VDC) optional
	Example	ISM2008D-6T-2M3-FC-24, ISM2008D-6T-2B2053-SC-24, ISM2008D-8T-24							
Optional port combinations (i.e. <N1>T-<N2><F><L><W>- section)			T(X) port		6T		8T		
			FX port		No. of FX port: 2		No. of FX port: 0		
					2M3		-		
					2S203		-		
					2S205		-		
					2S403		-		
					2S405		-		
					2S603		-		
					2S605		-		
					2S803		-		
					2S805		-		
					2B2053		-		
					2B2035		-		
					2B4053		-		
					2B4035		-		
					2B6053		-		
					2B6035		-		



For model selection guide of other sub-series, please scan the QR code to visit inhandnetworks.com

ISF Series

Ring-type Industrial Ethernet Switch



In network planning, network reliability, ease of management and cost-efficiency are essential considerations. In-Hand's ISF ring-type Ethernet switch can meet these requirements with a value-for-money simple ring networking solution. The product is of high industrial grade (-40°C~+85°C (ISF2005E: -40°C ~ +75°C), EMC class III), supports redundant ring networking (auto ring recovery time <30ms@100 units), requires no configuration, plug and play, and supports fast deployment and real-time monitoring of ring nodes. The ISF ring-type industrial Ethernet switch affords a best value-for-money solution for customers who need to build simple ring networks.

PRODUCT ADVANTAGES

Reliable industrial quality

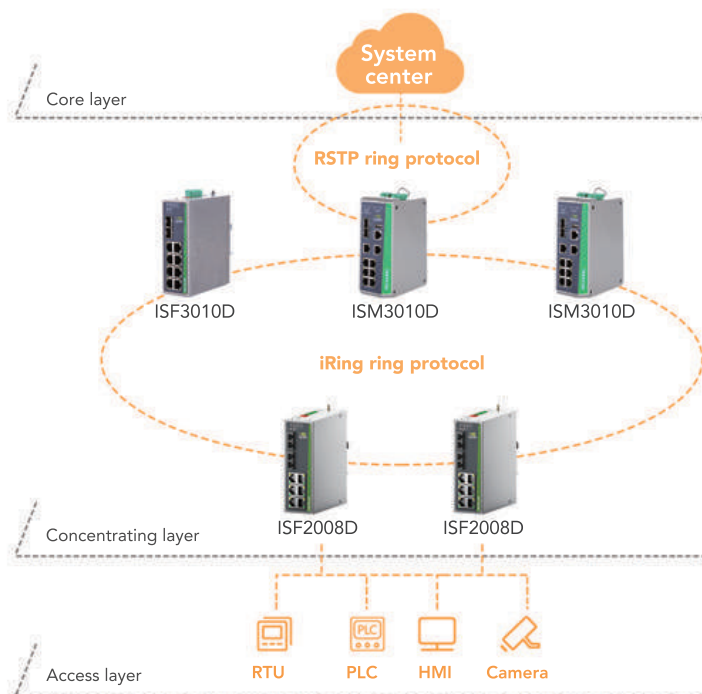
- + Passes EMC industrial class III standards (except ISF2005E)
- + Operating temperature range:
-40°C~+85°C (ISF2005E: -40°C~+75°C)
- + Embedded industrial grade redundant power supply
- + Solid metal housing, IP40 dustproof protection

Easy to deploy and maintain

- + Supports DIN rail and wall mounting, compact sized, fit different installation environments
- + Rich LED indicators, help with quick judgements of faults
- + Supports relay alarm output, to facilitate timely detection of hidden problems
- + Replace the switch directly when needed with no configuration required

Reliable network redundancy

- + Ring network self-recovery time <30ms @100 units, ensuring stable operation
- + Plug and play, directly forming ring in network deployment,
- + Real-time monitoring of the operation status of each node on iRing network
- + Supports VLAN partitioning



MODEL SELECTION GUIDE

ISF Sub-series Selection



ISF3018D



ISF3010D



ISF2016D



ISF2008D



ISF2005E

ISF Sub-series Nomenclature

Example: ISF2008D

ISF	2	0	08	D
ISF-Ring-type	2 - Layer-2 100Mb/s 3 - Layer-2 1000Mb/s	0 - Common model	Total no. of ports	E - Embedded D - DIN rail mounting

Model code: ISF2008D-<N1>T-<N2><F><L><W>-<N3><F><L><W>-FC/SC-24

Nomenclature	Code Description	ISF2008D	N1	N2	N3	F	L	W	FC/SC	24
	Subseries		No. of T(X) ports	No. of type-I FX ports	No. of type-II FX ports	Optical fibre type: M: Multi-mode dual-fibre S: Single-mode dual-fibre B: Single-mode single-fibre	Transmission distance: 20/40/60/80/120KM (Multimode distance is 2KM, default as omitted.)	Transmit/receive wavelength: 3:Tx1310/Rx1310nm 5:Tx1550/Rx1550nm 53:Tx1550/Rx1310nm 35:Tx1310/Rx1550nm	Connector type: FC, SC optional	Power supply voltage: 24VDC (12~48VDC)
Example	ISF2008D-4T-4B6035-FC-24, ISF2008D-4T-2S203-2M3-SC-24, ISF2008D-5T-2B6035-M3-FC-24, ISF2008D-5T-3M3-SC-24, ISF2008D-6T-2M3-FC-24									

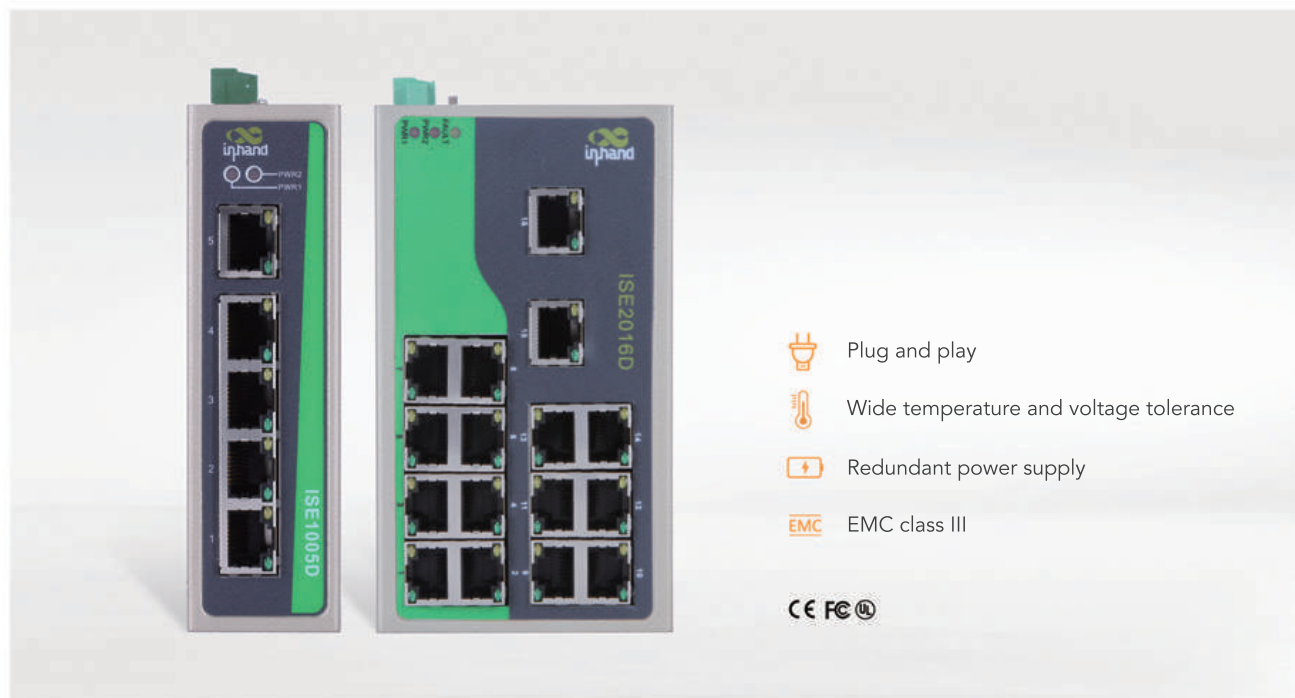
Optional port combinations (i.e. <N1> T-<N2><F><L><W>- <N3><F><L><W>section)	T(X) port	4T		5T		6T
	FX port	Type-I FX port: 4 Type-II FX port: 0	Type-I FX port: 2 Type-II FX port: 2	Type-I FX port: 3 Type-II FX port: 0	Type-I FX port: 2 Type-II FX port: 1	Type-I FX port: 2 Type-II FX port: 0
		4M3	2S203-2M3	3M3	2S203-M3	2M3
		4S203	2S205-2M3	3S203	2S205-M3	2S203
		4S205	2S403-2M3	3S205	2S403-M3	2S205
		4S403	2S405-2M3	3S403	2S405-M3	2S403
		4S405	2S603-2M3	3S405	2S603-M3	2S405
		4S603	2S605-2M3	3S603	2S605-M3	2S603
		4S605	2S803-2M3	3S605	2S803-M3	2S605
		4S803	2S805-2M3	3S803	2S805-M3	2S803
		4S805	2B2053-2M3	3S805	2B2053-M3	2S805
		4B2053	2B2035-2M3	3B2053	2B2035-M3	2B2053
		4B2035	2B4053-2M3	3B2035	2B4053-M3	2B2035
		4B4053	2B4035-2M3	3B4053	2B4035-M3	2B4053
		4B4035	2B6053-2M3	3B4035	2B6053-M3	2B4035
		4B6053	2B6035-2M3	3B6053	2B6035-M3	2B6053
		4B6035		3B6035		2B6035



For model selection guide of other sub-series, please scan the QR code to visit
inhandnetworks.com

ISE Series

Unmanaged Industrial Ethernet Switch



The ISE Unmanaged Industrial Ethernet Switch helps customers of electric power, transportation, industrial automation and other demanding industries to build simple, rugged and highly reliable communication systems. Built to be rugged and simple, the ISE switch features a durable aluminum alloy shell with protected industrial circuit, wide temperature and voltage tolerance, enterprise-class wire-speed forwarding, and plug and play.

Consisting of ISE1000-100MB, ISE2000-100MB, ISE3000-Gigabit, and ISE5000-Full Gigabit sub-series, the series offers a rich selection of models with different port combinations, connector types and transmission distances.

PRODUCT ADVANTAGES

Ease of use

- + 5-18 ports, 100MB/1000MB industrial Ethernet switch
- + Rich optical fiber connector types
- + DIN rail and wall mounting
- + Rich LED fault indicators for quick judgements of faults
- + Enable/disable broadcast storm protection, flow control, and abnormal interruption alarming* with DIP switch
- + Supports relay alarm output, facilitating timely detection of hidden problems*

Note: *Applicable to part of the ISE models. Please refer to the product specifications or contact a local sales for details.

Reliable industrial quality

- + Metal housing with protective coating, compression and corrosion resistant
- + IP40 protection, dust, dirt, and debris proof
- + Operating temperature range: -40°C~+85°C (ISE1008D and ISE5008D: -40°C~+75°C)
- + EMC industrial class III
- + Industrial-grade redundant power supply, DC12-48V stable input*
- + Fanless cooling, MTBF of whole device >35 years

MODEL SELECTION GUIDE

ISE Sub-series Selection



ISE5008D



ISE5005D



ISE3018D



ISE3010D



ISE3009D



ISE3008D



ISE2016D



ISE2008D



ISE2005D



ISE1008D



ISE1005D

MODEL SELECTION GUIDE

ISE Sub-series Nomenclature

Example: ISE2008D

ISE	2	0	08	D
ISE-Unmanaged	1 - Entry-level layer-2 100Mb/s	0 - Common model	Total no. of ports	D - DIN rail mounting
	2 - Layer-2 100Mb/s			
	3 - Layer-2 1000Mb/s			
	5 - Layer-2 Full 1000Mb/s			

Model code: ISE2008D-<N1>T-<N2><F><L><W>.<N3><F><L><W>-FC/SC-24

Nomenclature	Code Description	ISE 2008D	N1	N2	N3	F	L	W	FC/SC	24
		Subseries	No. of T(X) ports	No. of type-I FX ports	No. of type-II FX ports	Optical fibre type: M: Multi-mode dual-fibre S: Single-mode dual-fibre B: Single-mode single-fibre	Transmission distance: 20/40/60/80/120 KM (Multimode distance is 2KM, default as omitted.)	Transmit/receive wavelength: 3:Tx1310/R x1310nm 5:Tx1550/R x1550nm 53:Tx1550/R x1310nm 35:Tx1310/R x1550nm	Connector type: FC, SC optional	Power supply voltage: 24VDC (12~48VDC)
	Example	ISE2008D-4T-2B6035-2M3-FC-24, ISE2008D-5T-3M3-SC-24, ISE2008D-6T-2B6035-FC-24, ISE2008D-7T-M3-SC-24, ISE2008D-8T-24								
Optional port combinations (i.e.<N1>T-<N2><F><L><W>-<N3><F><L><W>-section)			T(X) port	4T		5T		6T	7T	8T
			FX port	Type-I FX port: 4 Type-II FX port: 0	Type-I FX port: 2 Type-II FX port: 2	Type-I FX port: 3 Type-II FX port: 0	Type-I FX port: 2 Type-II FX port: 1	Type-I FX port: 2 Type-II FX port: 0	Type-I FX port: 1 Type-II FX port: 0	Type-I FX port: 0 Type-II FX port: 0
				4M3	2S203-2M3	3M3	2S203-M3	2M3	M3	-
				4S203	2S205-2M3	3S203	2S205-M3	2S203	S203	-
				4S205	2S403-2M3	3S205	2S403-M3	2S205	S205	-
				4S403	2S405-2M3	3S403	2S405-M3	2S403	S403	-
				4S405	2S603-2M3	3S405	2S603-M3	2S405	S405	-
				4S603	2S605-2M3	3S603	2S605-M3	2S603	S603	-
				4S605	2S803-2M3	3S605	2S803-M3	2S605	S605	-
				4S803	2S805-2M3	3S803	2S805-M3	2S803	S803	-
				4S805	2B2053-2M3	3S805	2B2053-M3	2S805	S805	-
				4B2053	2B2035-2M3	3B2053	2B2035-M3	2B2053	B2053	-
				4B2035	2B4053-2M3	3B2035	2B4053-M3	2B2035	B2035	-
				4B4053	2B4035-2M3	3B4053	2B4035-M3	2B4053	B4053	-
				4B4035	2B6053-2M3	3B4035	2B6053-M3	2B4035	B4035	-
				4B6053	2B6035-2M3	3B6053	2B6035-M3	2B6053	B6053	-
				4B6035		3B6035		2B6035	B6035	-



For model selection guide of other sub-series, please scan the QR code to visit inhandnetworks.com

IMC Series

Industrial Fiber Media Converter



The InHand's IMC series industrial-grade fiber media converter is developed with complete independent intellectual property rights. The series is designed for electric power, transportation, manufacturing plants, and other industries with challenging operating environments. It combines high-standard power supply designs with a rugged metal housing and protected industrial circuits. The converter is solid, durable, and plug-and-play, meeting the reliability requirements of industrial sites to provide long hours of trouble-free operations under harsh operating conditions.

PRODUCT ADVANTAGES

Reliable industrial quality

- + Solid metal shell, resistant to corrosion, weathering and oxidation; strong resistance to vibration and shock
- + Industrial-grade redundant power supply, DC12-48V wide range voltage input; can withstand +/-20% voltage fluctuations to maintain stable operation under extreme voltage input conditions
- + Operating temperatures: -40°C~+85°C (wide temperature-range models)
- + Passes EMC class III industrial standards, class IV on power frequency magnetic field
- + IP40 protection rating, dust-proof, anti fouling and debris

Ease of use

- + Provides 1 FX and 1 T(X), or 1 FX and 2 T(X) ports, meeting media conversion requirements for 1-2 ports
- + Rich optical connector types to meet different fiber transmission distance requirements
- + Compact housing, dimensions are 30x70x100mm, easy to integrate with small footprint
- + Supports DIN rail and wall mounting, small in size, fit different installation environments

MODEL SELECTION GUIDE

Model code: IMC101B-<N>T-<F><L><W>-FC/SC-24										
Nomen- clature	Code Description	IMC101B Sub-series	N No. of T(X) ports	T T(X) port	F Optical fibre type: M: Multi-mode dual-fibre S: Single-mode dual-fibre B: Single-mode single-fibre	L Transmission distance: 20/40/60/80/120KM (Multimode distance is 2KM, default as omitted.)	W Transmit/receive wavelength: 3:Tx1310/Rx1310nm 5:Tx1550/Rx1550nm 53:Tx1550/Rx1310nm 35:Tx1310/Rx1550nm	FC/SC Connector type; FC, SC optional	24 Power supply voltage: 24VDC (12~48VDC)	
Example	IMC101B-1T-M3-FC-24		IMC101B-1T-S203-SC-24							
Optional port combinations (i.e. <F><L><W> section)				T(X) port	1T					
				FX port	No. of FX port: 1					
					M3					
					S203					
					S205					
					S403					
					S405					
					S603					
					S605					
					S803					
					S805					
					B2053					
					B2035					
					B4053					
					B4035					
					B6053					
					B6035					

MODEL SELECTION GUIDE

Model code: IMC102-<N>T-<F><L><W>-FC/SC-24

Nomen- clature	Code Description	IMC102	N	T	F	L	W	FC/SC	24
		Sub-series	No. of T(X) ports	T(X) port	Optical fibre type: M: Multi-mode dual-fibre S: Single-mode dual-fibre B: Single-mode single-fibre	Transmission distance: 20/40/60/80/120KM (Multimode distance is 2KM, default as omitted.)	Transmit/receive wavelength: 3:Tx1310/Rx1310nm 5:Tx1550/Rx1550nm 53:Tx1550/Rx1310nm 35:Tx1310/Rx1550nm	Connector type: FC, SC optional	Power supply voltage: 24VDC (12~48VDC)
Example	IMC102-2T-M3-FC-24	IMC102-2T-S203-SC-24							
Optional port combinations (i.e. <F><L><W> section)				T(X) port	2T				
				FX port	No. of FX port: 1				
					M3				
					S203				
					S205				
					S403				
					S405				
					S603				
					S605				
					S803				
					S805				
					B2053				
					B2035				
					B4053				
					B4035				
					B6053				
					B6035				



For model selection guide of other sub-series, please scan the QR code to visit inhandnetworks.com

InBOX700 Industrial Computer



The InBOX700 series is an industrial-grade edge computer powered by a high-performance CPU, which enables artificial intelligence at the edge. Featuring 4K Ultra HD on HDMI (dual HDMI for InBOX712), touch screen interface, advanced peripherals on USB & serial ports, and high-speed LTE connectivity, the InBOX700 is the engine of unattended retail solutions including Digital Signage, Self-service Kiosks, Mirco Market, and Smart Vending.

PRODUCT ADVANTAGES

- + Powerful computing capabilities with high-performance ARM processor
- + Dual HDMI interfaces support dual-window display with different contents
- + 4K video coding engine, enabling superior video experience
- + 4G/3G cellular and Wi-Fi ensure reliable connectivity
- + Driving 3D cameras and other peripherals to enable facial/voice recognition powered by AI
- + Available with Android 7.1 and Linux(ubuntu)

MODEL SELECTION GUIDE

Model	Model code: : InBOX710-<WMNN><STD><S>		
	<WMNN>: Cellular Type & Module	<STD/L>: OS	<S>: Serial Port Type
InBOX710-FS39-STD	North America, Verizon Wireless LTE-FDD CAT 6 Band 2/4/5/12/13/17/29 UMTS(HSPA+) Band 2/4/5 EDGE/GPRS/GSM 850/900/1800/1900MHz	STD: standard Android version	<NA>: RS232 x 3 -485: RS485 x 1, RS232 x 2
InBOX710-FS39-L	North America, Verizon Wireless LTE-FDD CAT 6 Band 2/4/5/12/13/17/29 UMTS(HSPA+) Band 2/4/5 EDGE/GPRS/GSM 850/900/1800/1900MHz	L: Linux	<NA>: RS232 x 3 -485: RS485 x 1, RS232 x 2

Model	Model code: : InBOX712-<WMNN><STD><S>	
	<WMNN>: Cellular Type & Module	<STD/L>: Version
InBOX712-DQ25-PLAT	EMEA/South Korea/Thailand/India LTE-FDD B1/B3/B7/B8/B20/B28A WCDMA B1/B8 GSM/EDGE B3/B8	PLAT: supports InVending Cloud, ready-to-use Android APP pre-installed
InBOX712-DQ25-STD	EMEA/South Korea/Thailand/India LTE-FDD B1/B3/B7/B8/B20/B28A WCDMA B1/B8 GSM/EDGE B3/B8	STD: standard version, supports 3rd party Android APP

InBOX330

Intelligent Vending Gateway



The InBOX330 vending gateway is able to collect and transmit data from your machine via LTE/3G (and the platform version can be connected to the InVending Cloud), allowing operators to view real-time inventory, cash/cashless reports, conduct route planning, receive machine alerts, etc.

With the powerful processor, the InBOX330 supports 1080P HD video display, which enables smooth video experience and interactive marketing on touchscreen machines.

From reliable telemetry connectivity and remote management to multi-media services, the InBOX330 is the ideal device for operators to optimize vending operations and increase revenues.

PRODUCT ADVANTAGES

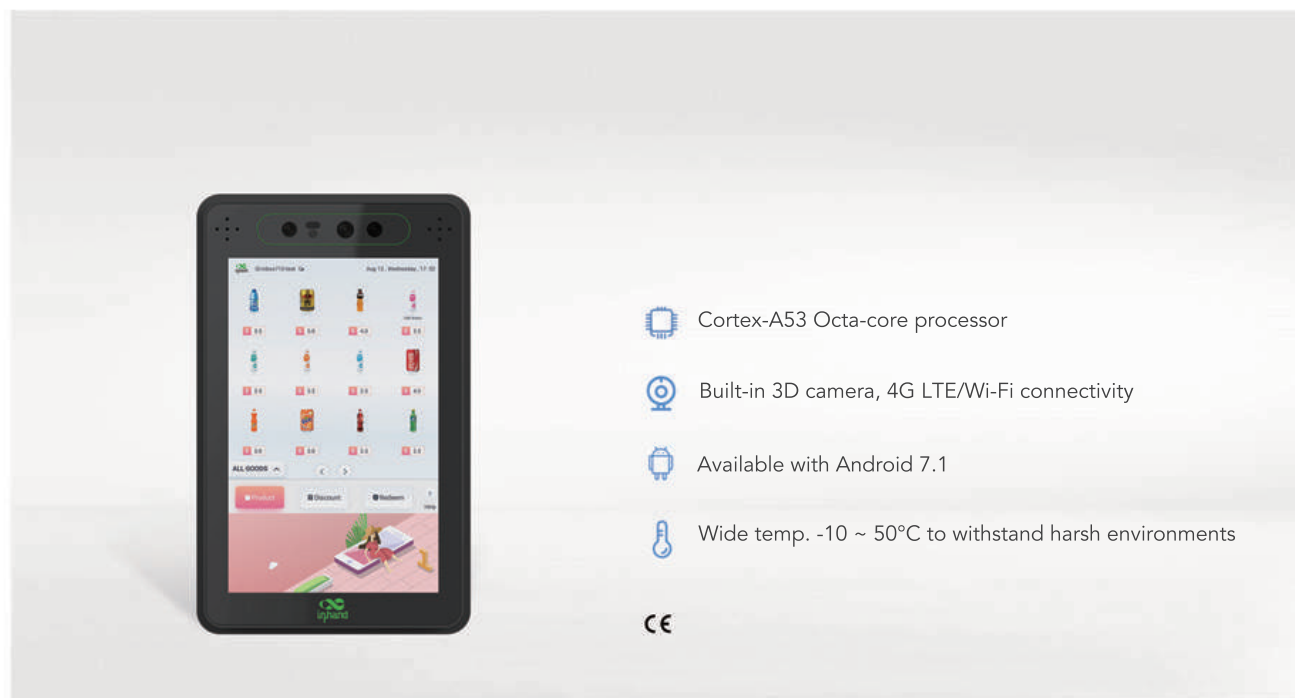
- + Powerful Freescale i.MX6 Cortex-A9 processor
- + Full HD 1080P coding engine, enabling superior video experience
- + OpenGL ES2.0 and OpenVG™1.1 hardware accelerators, supporting 2D and 3D graphics acceleration
- + 4G/3G cellular and Wi-Fi ensure reliable connectivity
- + Android OS, with open development resources and abundant applications available
- + Easy remote management via InVending Cloud

MODEL SELECTION GUIDE

Model	Model No.: InBox330 - <WMNN> - <STD/PLAT>	
	<WMNN>: cellular type & module	<STD/PLAT>: version
InBox330-DQ25-PLAT	EMEA/South Korea/Thailand/India LTE-FDD B1/B3/B7/B8/B20/B28A WCDMA B1/B8 GSM/EDGE B3/B8	PLAT: supports InVending Cloud, ready-to-use Android APP pre-installed
InBox330-DQ25-STD	EMEA/South Korea/Thailand/India LTE-FDD B1/B3/B7/B8/B20/B28A WCDMA B1/B8 GSM/EDGE B3/B8	STD: standard version, supports 3rd party Android APP

InPAD101S

10.1" Industrial Tablet PC



The InPAD101S is a rugged and compact 10.1-inch tablet computer with Android. Featuring powerful Cortex-A53 Octa-core processor, built-in 3D camera, 4G LTE/Wi-Fi connectivity and multiple peripheral interfaces, the InPAD101S is ideal for Digital Signage, Self-service Kiosks, Retail applications.

PRODUCT ADVANTAGES

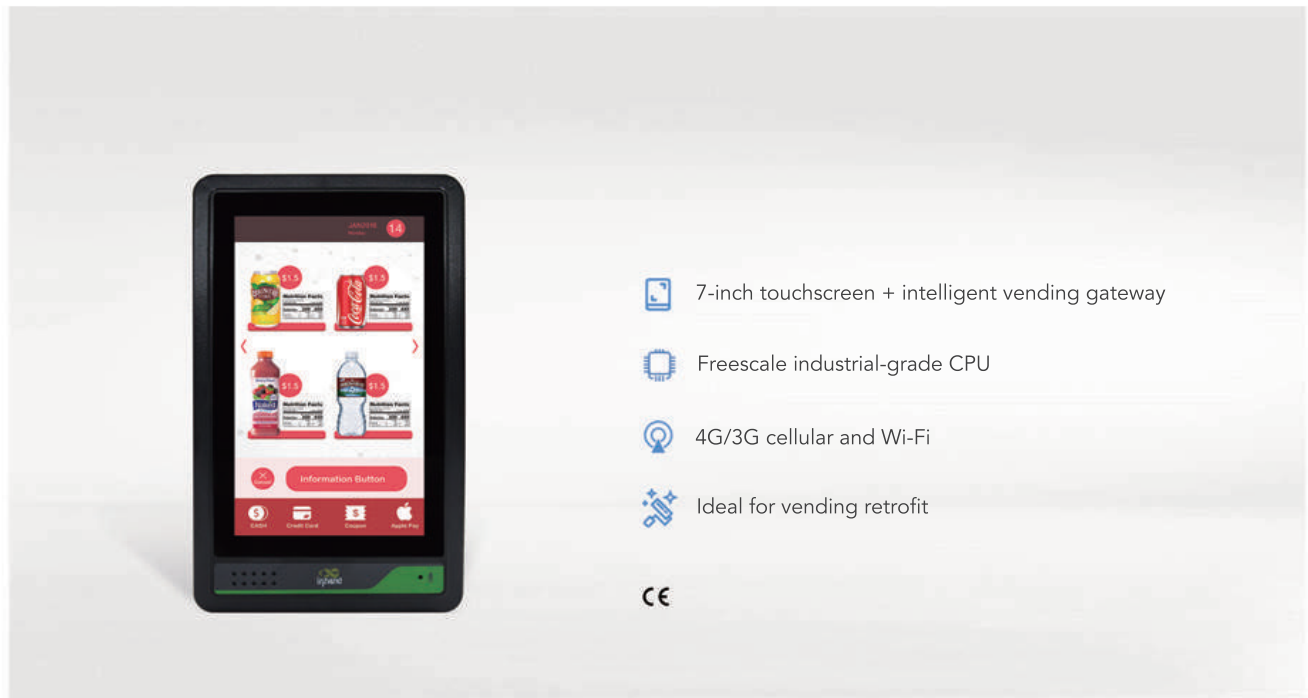
- + 10.1" touchscreen, HD 1280x800
- + ARM Cortex-A53 Octa-core 1.8GHz processor
- + Built-in 3D camera
- + Built-in 4G/3G, Wi-Fi
- + Serial and USB ports to connect a wide range of peripherals including scanner, printer, card reader and etc.
- + Available with Android 7.1
- + IP55 protection for front surface

MODEL SELECTION GUIDE

Model	Model code: InPAD101S-<WMNN><STD/PLAT>	
	<WMNN>: Cellular Type & Module	<STD/PLAT>: Software
InPAD101S-FQ39-STD	(North America) LTE FDD: B2/B4/B5/B7/B12/B13/B14/B17/B25/B26/B66/B71 LTE TDD: B41 WCDMA: B2/B4/B5	STD: Standard software
InPAD101S-DQ60-STD	(China, India) LTE-FDD: B1/B3/B5/B8 LTE-TDD: B34/B38/B39/B40/B41 WCDMA: B1/B8 TD-SCDMA: B34/B39 CDMA: BC0 GSM: 900/1800MHz	STD: Standard software
InPAD101S-DQ60-PLAT	(China, India) LTE-FDD: B1/B3/B5/B8 LTE-TDD: B34/B38/B39/B40/B41 WCDMA: B1/B8 TD-SCDMA: B34/B39 CDMA: BC0 GSM: 900/1800MHz	PLAT: supports InVending Cloud, ready-to-use Android APP pre-installed

InPAD070WP

7-inch Touchscreen & Vending Gateway All-in-one



The InPAD070WP is designed specifically for the retrofit of traditional vending machines without touchscreens. With a 7-inch touchscreen, a powerful CPU, reliable vending telemetry and HD video streaming, it provides an easy and effective solution for upgrading traditional VMs to the next generation vending.

Working with the InVending Cloud, the InPAD070WP helps operators to centrally monitor and manage distributed vending machines, greatly increasing the efficiency and profitability of vending operations. Also, with new VM interfaces like touchscreens, cameras and sensors, more interactive and informative customer engagement programs are made possible to drive new profits for the vending business.

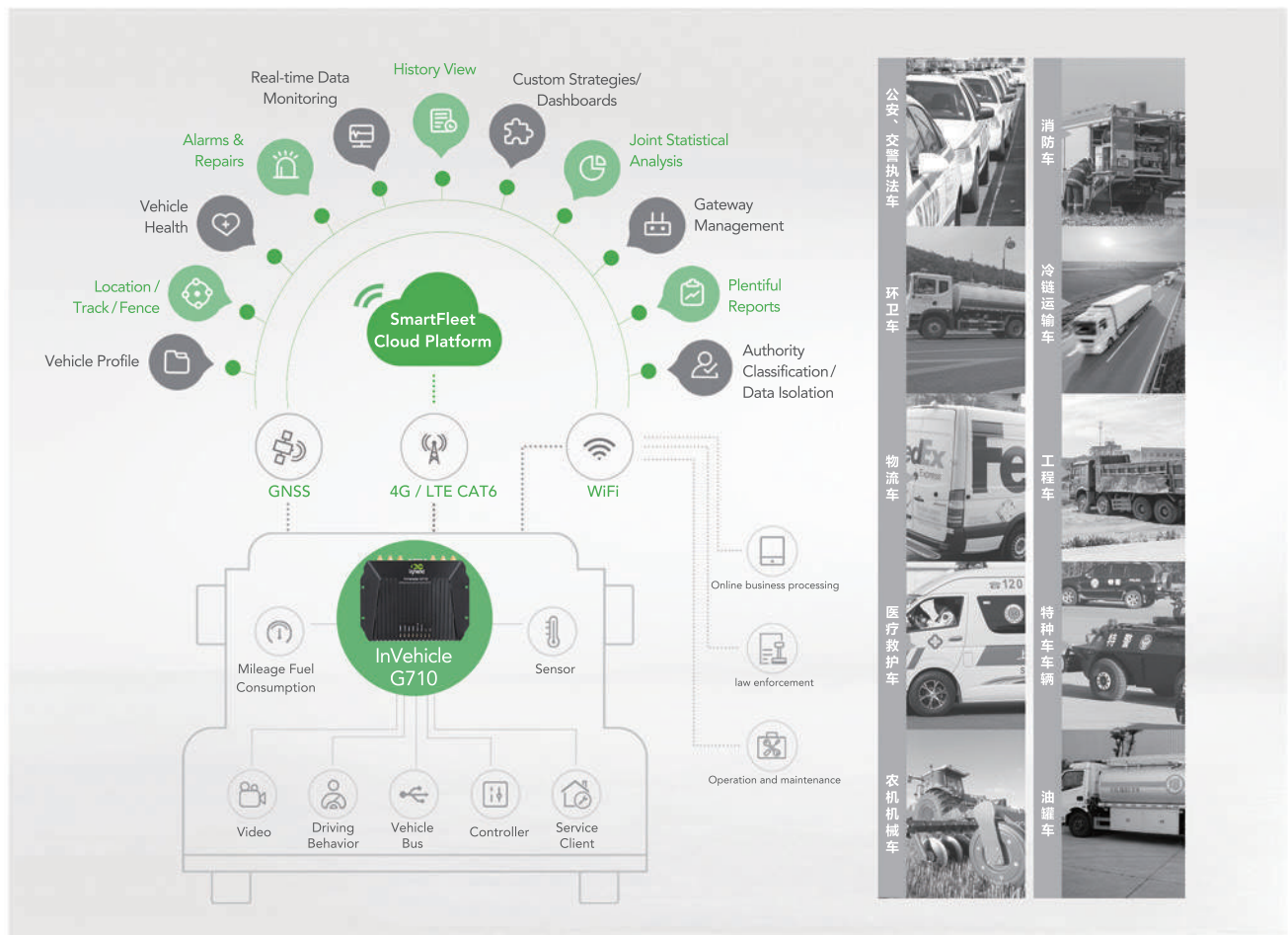
PRODUCT ADVANTAGES

- + 7-inch touchscreen, 1280x800 display
- + Powerful Freescale i.MX6S Cortex-A9 processor
- + 4G/3G cellular and Wi-Fi ensure reliable connectivity
- + Android OS, with open development resources and abundant applications available
- + RS-232 serial, USB and HDMI ports to connect a wide range of peripherals: scanner, printer, card reader, video camera, mouse, LED screen, etc.
- + Easy remote management via InVending Cloud

MODEL SELECTION GUIDE

Model	Model code: InPAD070WP-<WMNN>-<STD/PLAT>-<NA/M>		
	<WMNN>: Cellular Type & Module	<STD/PLAT>: Version	<NA/M>
InPAD070WP-FH09-STD	For APAC & Europe: LTE-FDD Band 1/2/3/4/5/7/8/20 UMTS(DC-HSPA+) Band1/2/5/8 EDGE/GPRS/GSM 850/900/1800/1900MHz	STD: Standard Android version	
InPAD070WP-FH09-PLAT	For APAC & Europe: LTE-FDD Band 1/2/3/4/5/7/8/20 UMTS(DC-HSPA+) Band1/2/5/8 EDGE/GPRS/GSM 850/900/1800/1900MHz	PLAT: Supports the InVending Cloud and vending software	
InPAD070WP-FH09-STD-M	For APAC & Europe: LTE-FDD Band 1/2/3/4/5/7/8/20 UMTS(DC-HSPA+) Band1/2/5/8 EDGE/GPRS/GSM 850/900/1800/1900MHz	STD: Standard Android version	M: Standard Android 6.0

Smart Fleet Cloud Management



InHand Smart Fleet cloud platform, or the Smart Fleet, is a business platform that offers vehicle monitoring and management services. Featuring friendly user interfaces and easy operations, and accompanied by globally recognized InHand vehicle-mounted terminals, the Smart Fleet helps enterprises manage their vehicles in a smart and efficient manner. Through breaking down the data barriers between vehicles, it enables joint data analysis, vehicle lifecycle management and control, smart operation and maintenance, assisting in digital transformation of engineering vehicles.

PRODUCT ADVANTAGES

+ One-stop service

Eight modules provide life cycle monitoring of vehicles.



Multi-dimensional data collection:

Vehicle profiles, real-time status data, vehicle location tracking.



Joint analysis of massive data:

Breaks down data barriers of vehicles, greater accuracy of analysis.



Life cycle management:

Control of vehicle assets, life cycle monitoring and management of vehicles.



Smart operation and maintenance:

Smart warning, lower risks, fault location, reduced loss.



Centralized management:

Centralized management of gateways, batch allocation of configuration, mass upgrading of firmware.



Authority classification:

Multiple accounts and roles supported, authority classification, ensures data security.



Flexible custom strategies:

Meets users' individual demands, custom monitoring strategies.



Multi-layered development system:

Provides data communication and platform connection via Open API.



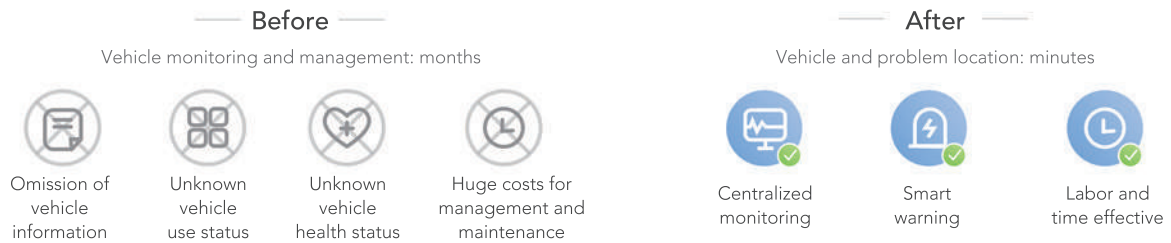
+ Efficiency

With years of accumulation in the field of IoT, InHand responds to customer needs efficiently while ensures the reliability and safety of services.

- Fast large-scale deployment
- Fast service docking, and short deployment cycle
- Multiple access methods
- Supports secondary development by customers

+ Intelligence

Smart and efficient analytics, fast location of abnormal nodes, changes monitoring and management from passive coping to active prevention, avoiding hidden risks and reducing users' losses.



+ Developer features

- Provides standard API message interface docking
- Adopts the same access system as MS Azure and AWS, seamlessly accesses the two major clouds' PaaS layer system
- Integrates big data cloud computing and machine learning technologies to create a comprehensive, decentralized cloud ecosystem that deploys AI computing to the edges

Device Manager

Remote Management & Maintenance Platform



With a visualization user interface and simple operation steps, the Device Manager platform enables you to manage and monitor InHand's hardware devices, such as routers and gateways with convenience. It can quickly integrate devices and manage them with just a few clicks. The cloud deployment delivers easy-to-use experience, allowing you to focus on your core business and empowering your growth.

PRODUCT ADVANTAGES

- + Online rate and data flow statistics reports, analyzes and diagnoses device faults
- + Remote maintenance, reducing costs and improving maintenance efficiency
- + Supports access and management of tens of thousands of sites, as well as secondary development customization
- + Scalable horizontally according to performance requirements, with low upgrade and expansion costs
- + HTML5 interface design, contents are easily readable
- + Devices can be connected to the system simply and quickly, for centralized monitoring and management, reducing the difficulty of project implementation
- + Supports all series of InHand IoT products, including IR300, IR600, IR900, IG900, VG710, DTU300, etc.
- + Provides Restful API for secondary development, access third-party system services quickly with it

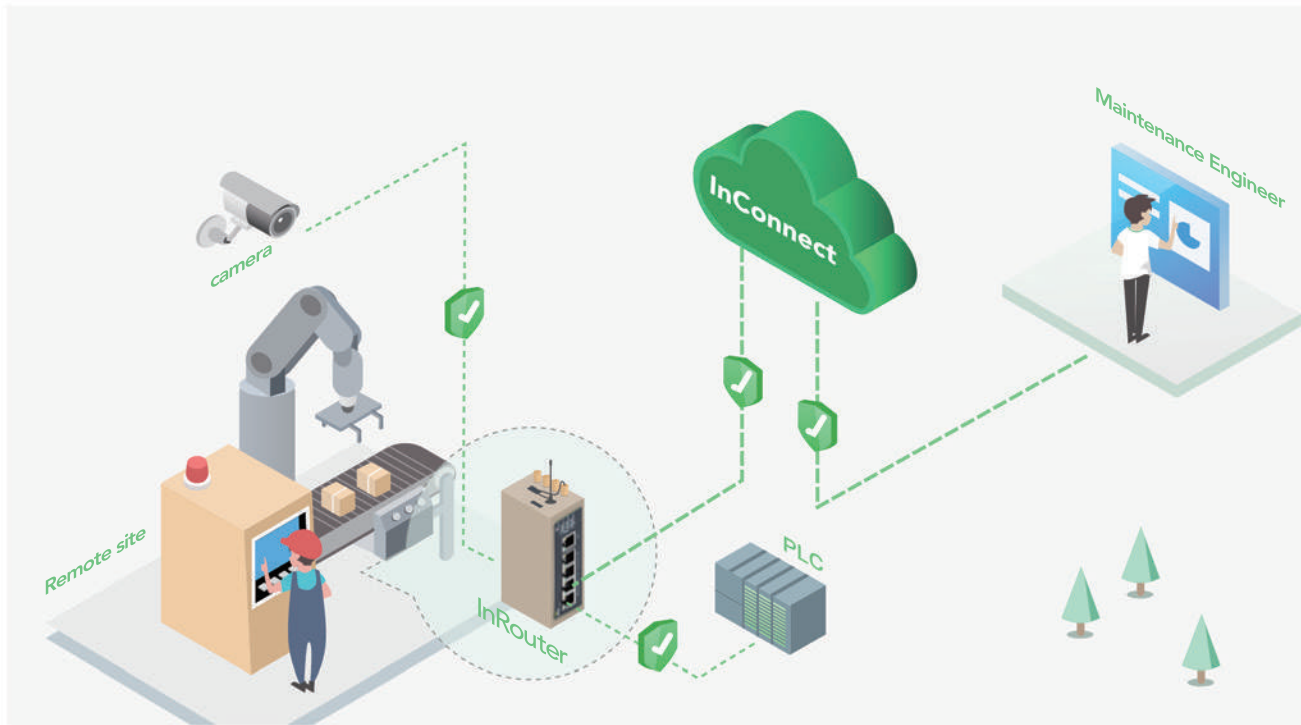
SYSTEM ARCHITECTURE

Device Manager

Device Management	
Information Management	Device serial number, model, firmware version, configuration time, signal value, IMSI, IMEI, ICCID
Configuration Update	Batch configuration dispatch, dispatch task management
Firmware Upgrade	Batch firmware upgrade, upgrade task management
Web Management	Remote access to devices, remote modification of local configuration
Edge Computing	SDK and APP management in the cloud
View Logs	View device logs
Device Monitoring	
GIS Map	Manage and track device locations
Dashboards	View device data usage amount and online status
Task Tracking	Manage tasks of all devices, track task status and progress online
Grouping	Manage devices in groups
System Management	
User	Manage system user accounts, multi-user device management
Authorization	Customize user permissions, securely manage devices
System Information	Maintain account information
System Setting	Personal information setting
Log	Track system logs online
Supported InHand Products	
Products	InHand's InGateway900, InRouter900, InRouter600-S, InVehicle G710, InDTU300 series
AWS Cloud Deployment	

InConnect

Cloud Connection Service



InHand Connect Service, referred to as InConnect, quickly builds network connections for distributed IoT sites to make your device networking much easier. InConnect features easy deployment, easy connection, easy expansion, and secure transmission.

The InConnect helps users quickly build IoT networks to enable remote maintenance and remote monitoring of field devices through the cloud service. Customers can remotely locate faults through the network connection and reduce losses caused by equipment failures. At the same time, it can also provide reliable, convenient, and secure data connection service for IoT big data collection, transmission, and product lifecycle management.

PRODUCT ADVANTAGES

Fast building of connections

Customers don't need to construct their own central networks. The InConnect provides a one-click connection service enabling customers to access field devices at anytime, anywhere.

Secure data transmission

User clients and InRouters need to access InConnect through CA digital certificate authentication, and data transmission processes are protected by encryption algorithms.

End-to-end access

Through the InConnect cloud service, users can access devices on distributed sites remotely; it also supports access between devices on different sites.

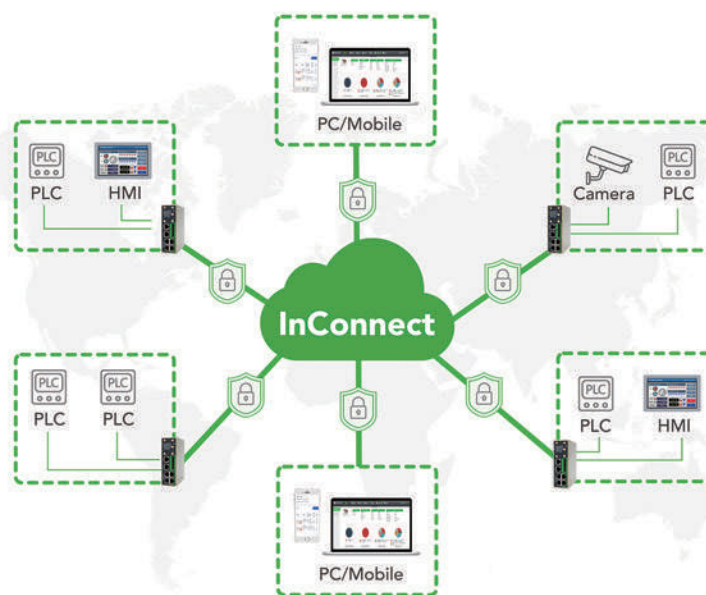
Easy to manage

Users can log in InConnect with a web browser to manage data traffic, online status of gateways, batch upgrade, task logs, etc.

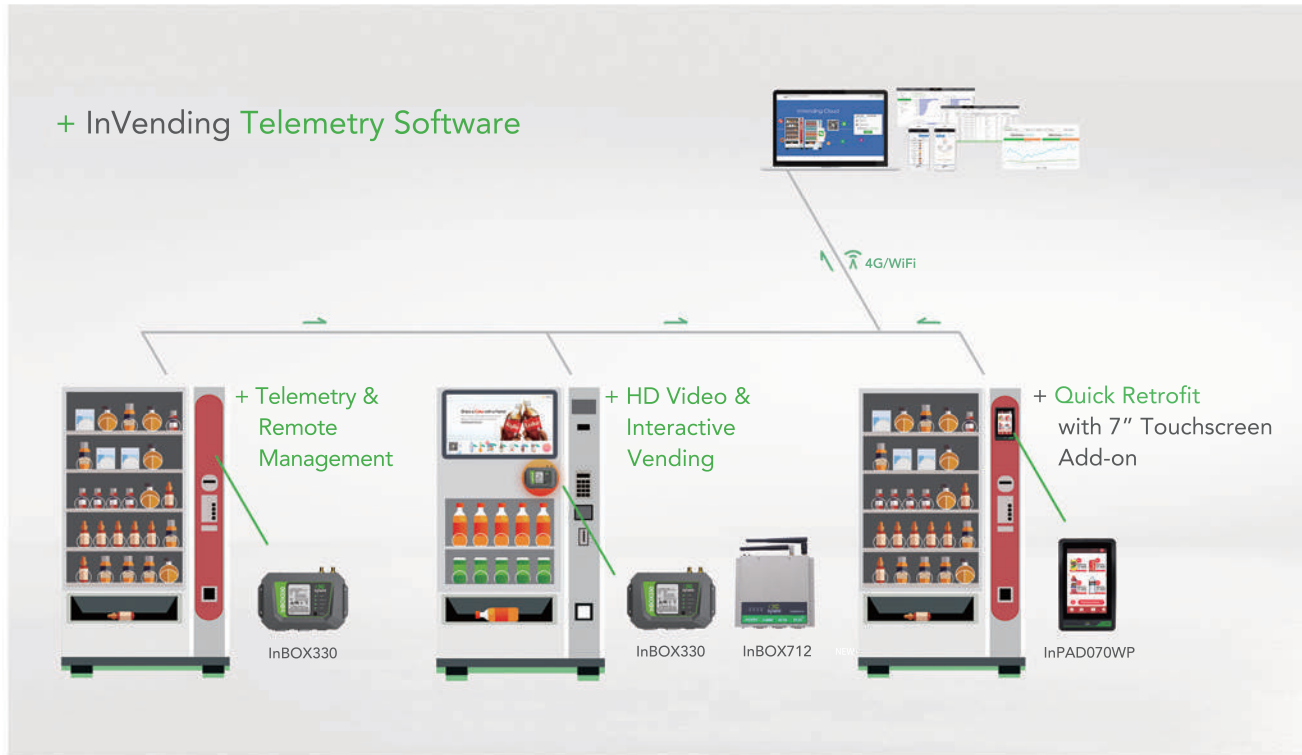
Automatic configuration

The InConnect provides automatic configuration, completing configuration in one click on the cloud, with InRouters automatically registered to the cloud platform.

Secure remote access to field devices is key to IoT applications. However, building a secure remote network can be complicated and requires a large amount of complex configurations. To facilitate device access for IoT systems of various industries, InHand Networks launched the InConnect service, which helps customers to connect to distributed sites easily and securely from any location at any time.



Smart Vending System



Consisting of InBOX/InPAD hardware and InVending Cloud software, the InHand Smart Vending System is able to meet the specific requirements for your vending business.

APPLICATIONS:

Vending Telemetry

The InBOX330 vending gateway connects the scattered machines (MDB/DEX/VTs) to the InVending Cloud, allowing operators to monitor machines remotely, view real-time inventory & cash/cashless reports, conduct route planning and receive alerts.

Multimedia Services

With the powerful processor, the InBOX330 supports HD video display on touchscreen machines. The multimedia contents including videos and images can be easily updated remotely via the InVending Cloud. It helps operators to deliver the interactive vending experience to engage consumers, and increase sales.

Quick Retrofit

The InPAD070WP is ideal for the retrofit of traditional machines without screens or multimedia capabilities. Combining an easy-to-install 7" touchscreen and a telemetry gateway, the InPAD070WP all-in-one provides an easy and cost-effective solution for operators and machine makers to upgrade their existing machines for new features.

PRODUCT ADVANTAGES

Hardware

Powerful CPU
Industrial-grade design
Easy installation
Reliable communications via 4G/3G/Wi-Fi



InBOX330



InBOX712



InPAD070WP

Software (InVending Telemetry Software & Mobile APP)



Optimize Vending Operations

- + Real-time inventory status and dynamic refill alerts
- + Route planning and optimization
- + Machines, products, and price management

Multimedia Contents Management

- + Remotely update videos and images without onsite visits required
- + Sets up interactive games, promotions and loyalty programs

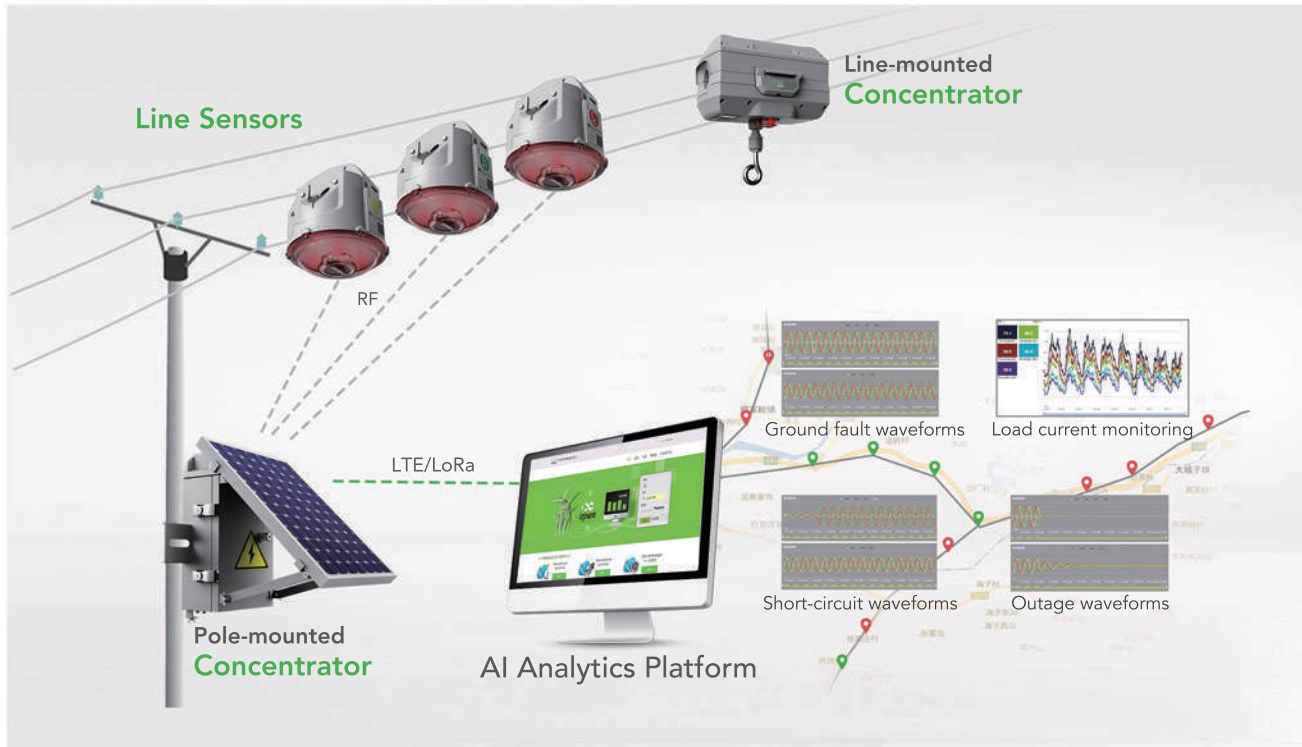
Detailed Reports

- + Sales report by machine, time and payment methods
- + Analysis of popular products and locations

Big Data Analytics

- + Advanced vending data analytics powered by AI
- + Recommends better planograms, product assortment and price

InHand Wireless Overhead-lines System (IWOS)



WORLD LEADING INNOVATIVE TECHNOLOGY IN LOW CURRENT GROUND FAULT MONITORING



Precision
Measurement
of Line Current

Precise current
measurement

±0.5%



Synchronized Synthesis
of Zero-sequence
Current

Precision three-phase
synchronization

<20μs



Real-time Online
Efficient and
Long-lasting

Low current sensing
power-harvesting

1A
(basic version is 3A)



Precise Capturing
of Faults
Waveforms

High-frequency current/electric
field wave recording

12.8KHz



Local
Faults
Determination

Edge intelligence

**Ground &
Short-circuit**

SYSTEM DESCRIPTION AND COMPONENTS

With strong R&D capabilities and years of experience serving the electric power industry, InHand Networks launched IWOS, a smart distribution lines monitoring system. The system integrates intelligent sensing, signal processing, artificial intelligence, and information communication technologies to achieve high precision and real-time monitoring of line currents and line-to-ground electric fields of medium voltage distribution networks. The IWOS auto triggers high sample rate wave-recordings when abnormal changes of line status occur. Based on the recorded wave data, the system can provide accurate location of ground faults of low-current grounding systems, backtrack and retrace complex fault processes, and give advanced warnings of abnormal line status to effectively shorten fault recovery periods, and change from "passive repairing" to "active monitoring". The IWOS system will help utilities effectively improve the operation and maintenance level of distribution networks, and upgrade cost-efficiency!

The IWOS system consists of transient wave-recording fault indicators at the field end and a big data intelligent analysis platform at the center end. Each set of transient wave-recording fault indicators contain 3 line sensors and 1 concentrator.

Line Sensors and Concentrator:



Line Sensors:

- + **Advanced electronic current transformer, line current measurement accuracy reaching $\pm 0.5\%$**
- + Intelligently trigger **12.8kHz high rate wave-recording** of line current and line-to-ground electric field, capture the momentary transient waveforms of ground faults
- + **1A** (3A for basic version) low current power harvesting, **IP67** protection, live installation and removal, remote upgrade and maintenance



Concentrator (solar powered):

- + **Main and backup** power supply by solar panel and accumulator, **hybrid networking** of short-range and long-distance wireless communications
- + **High precision ($< 20\mu s$)** three-phase synchronization, real-time synthesis of **zero-sequence current**, supports local fault determination
- + Precise **GPS** timing, providing accurate absolute timescale
- + **4G LTE/LoRa** remote transmission, for remote upgrade and maintenance
- + Maintenance free design, **IP55** protection, live installation and removal

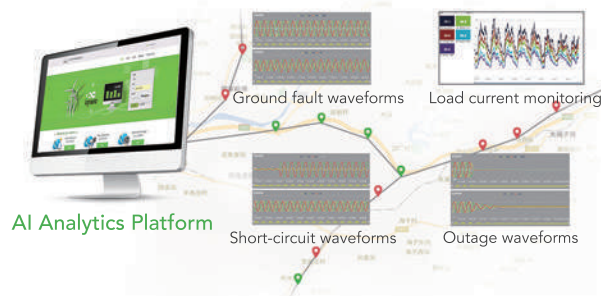


Concentrator (Line mounted):

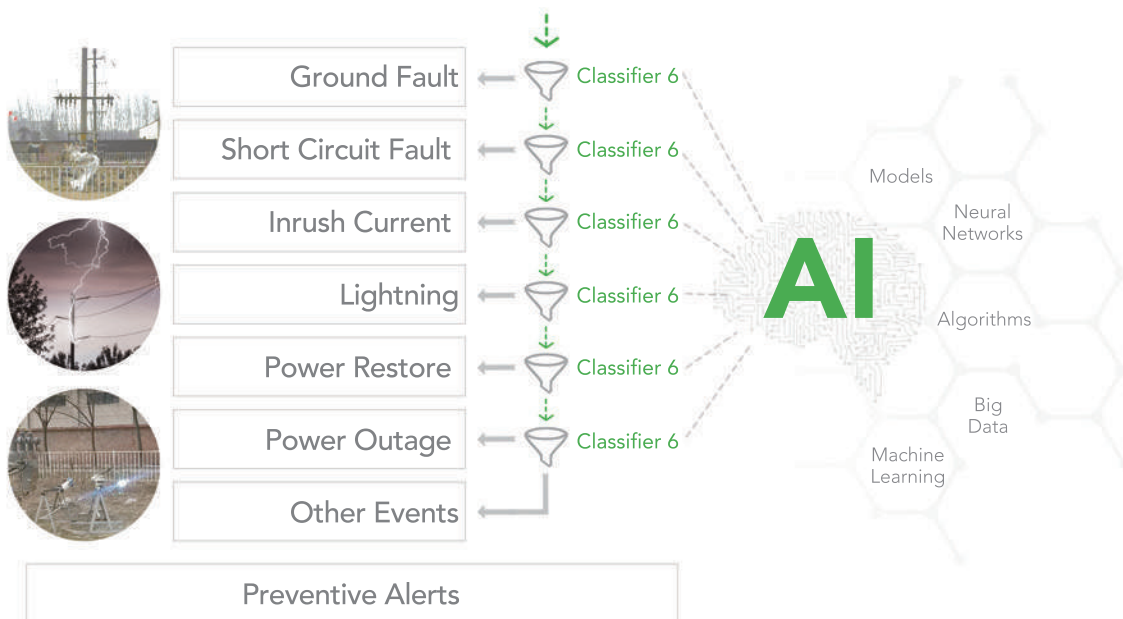
- + **Main and backup** power supply by CT on-line power harvesting and super capacitor
- + **High precision ($< 20\mu s$)** three-phase synchronization, real-time synthesis of **zero-sequence current**, supports local fault determination
- + Precise **GPS** timing, providing accurate absolute timescale
- + **4G LTE/LoRa** remote transmission, for remote upgrade and maintenance
- + Maintenance free design, **IP67** protection, live installation and removal

Big-data Analytics Platform:

- + Real-time display of line status
- + Fault alarms with locations
- + Real-time display of power quality
- + Line health status evaluation
- + Query and deduction of historical faults
- + Query of historical line status
- + Query of statistic analysis reports
- + Alert of line fault risks

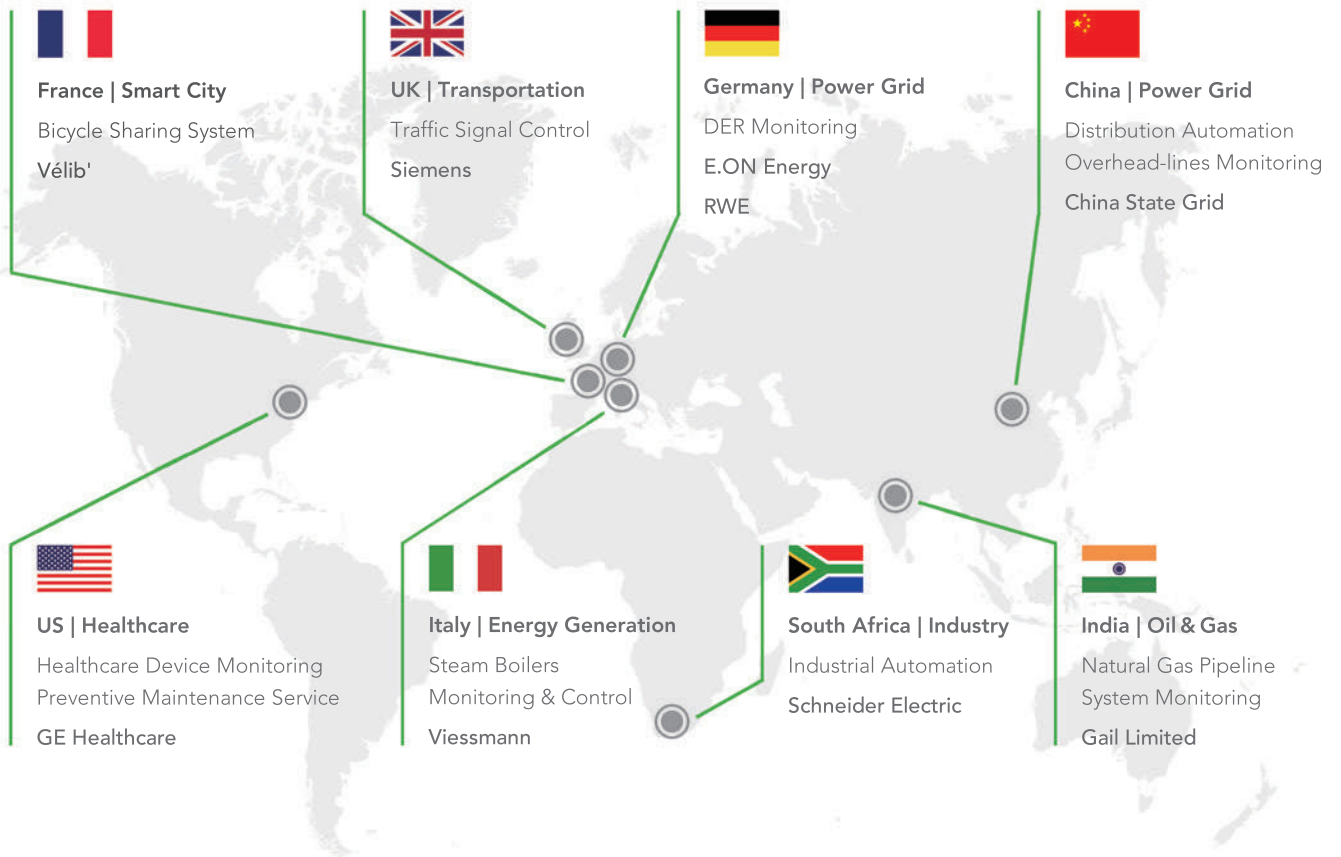


INNOVATION + AI: PREVENTIVE MAINTENANCE



- + Big data comprehensive analysis model based on neural network
- + Condition recognition based on artificial intelligence algorithm
- + Accurately identify line faults, locate faulty sections
- + Preventive maintenance of grid lines, and advanced warnings of faults

Used worldwide. Proven worldwide.



Our customers include:

Smart Grid:



Industrial Automation:



Mobility & City:



Healthcare:



Commercial & Retail:



InHand Networks

Your IIoT Connectivity Expert



3900 Jermantown Rd., Suite 150

Fairfax, VA 22030

USA

T: +1 (703) 348-2988

info@inhandnetworks.com

www.inhandnetworks.com

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