

Compact Industrial Router

4G LTE, Five Ethernet Ports, Dual SIM, Cloud Management, GNSS

InRouter315

Industrial LTE Router

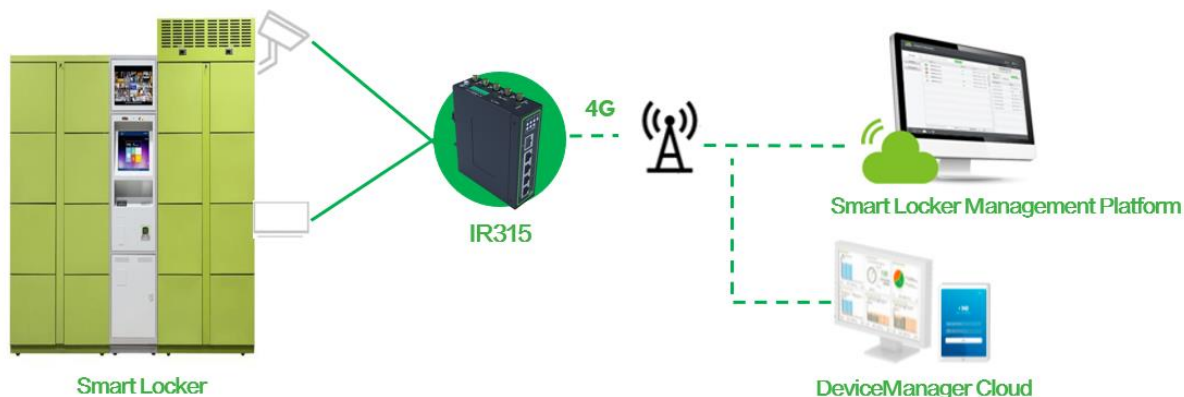


- Facing the ever-increasing digitalization of the Internet of Things, both the application scenarios of the Internet of Things and the terminal equipment of the Internet of Things, there is an urgent need to realize the Internet to promote the digital transformation of enterprise business, and more economical and more efficient Internet solutions are needed. InHand launches InRouter315(IR315) series products combined with DeviceManager cloud management service. It is suitable for various industries of the IoT, making your digital IoT more convenient, more economical and more efficient!
- The IR315 is an IoT cellular router that integrates 4G LTE, Wi-Fi, and VPN technologies to provide an easy, reliable, and secure Internet connectivity. With technologies such as 4G wireless wide area network and Wi-Fi wireless local area network, it provides uninterrupted multiple network access capabilities, and with its comprehensive security and intelligent software services, efficient and secure network can be realized and it can also provide safe and reliable data links for enterprises to realize digital networking.
- This product is suitable for the networking of unattended devices and sites. It is embedded with watchdog and multi-layer link detection mechanisms to ensure reliable and stable communications. Meanwhile, combined with the InHand Device Manager cloud platform, it is easy for enterprise users to conduct unified cloud management centrally, grasp status of devices effortlessly, save deployment costs and improve management efficiency, providing one-stop solutions for your large-scale IoT deployment.

Key industries:

Smart Commerce	<ul style="list-style-type: none"> - ATM, POS - Unattended kiosk - Digital signage - Retail Stand
Smart Energy	<ul style="list-style-type: none"> - EV Charging - Power distribution , Meter reading
Smart City	<ul style="list-style-type: none"> - Heat, Water & air supply - Gas supply security; Traffic management - E-police - Smart parking
Smart Manufacturing	<ul style="list-style-type: none"> - Networking machines robots - Industrial automatic factories & productions lines
Smart medical care	<ul style="list-style-type: none"> - Medical device networking and other applications

Application Case



Features and Advantages

● Uninterrupted network access

IR315 has a variety of network access capabilities (cellular, Wi-Fi and wired), serving for different network environments. It provides network access at different rates for different business demands. Even for on-site IoT devices, convenient and efficient network access services are provided.

- Supports 4G cellular access, LTE CAT1/CAT4/CAT6 standard, compatible with 2G/3G network.
- Supports Wi-Fi, both AP & STA modes, for users to easily set up secure wireless networks. Supports 802.11b/g/n, transmission rate up to 300Mbps; WEP/WPA/WPA2 encryption. Failover between 4G and Wi-Fi, effectively ensuring uninterrupted data transmission.

● Concise and convenient cloud management

IR315 connects to the InHand DeviceManager remote device management cloud platform to manage tens of thousands of distributed site devices in real time and grasp device status anytime and anywhere, making management more economical and more efficient! Build remote connections for efficient operation and maintenance.

● “Always online”, ensuring uninterrupted network

Provides high quality network services that are always online, ensuring the stability of business network, reducing the risk of network malfunction, saving network investment cost.

- Link-backup : enabling wired, cellular and Wi-Fi to make backup mutually;
- Dual SIM failover, automatically switches to the more stable carrier networks;
- VRRP hot backup mechanism : redundant backups.
- Multi-layer detection mechanism : detects link status , realizing automatic re-pull and fault self-recovery

● Strong security protection

Security protection is critical in a complex network environment. Multi-level security policies protect sensitive data and key service networks from attacks and threats, providing a secure network to protect digital assets while business advances rapidly.

- Data transmission: IPsec VPN, L2TP, PPTP, OPEN VPN, WireGuard, ZeroTier, DMVPN, GRE and CA certificate.
- Network protection: supports SPI (Stateful Packet Inspection), SSH (Secure Shell), intrusion protection (forbidden ping), DDoS defense, attack defense, IP-MAC binding, etc., protecting the network against external attacks.
- Device access: supports user hierarchical authorization (CLI only), implementing secure access management by providing different roles and different permissions.

● Build remote connections for efficient operation and maintenance

IR315 with InHand InConnect cloud connection service, users can quickly and conveniently realize remote maintenance and remote monitoring onsite devices. Diagnose, debug, program and respond to on-site faults and locate problems for distributed devices through remote connections to reduce loss.

● Abundant industrial ports, covering IoT scenarios

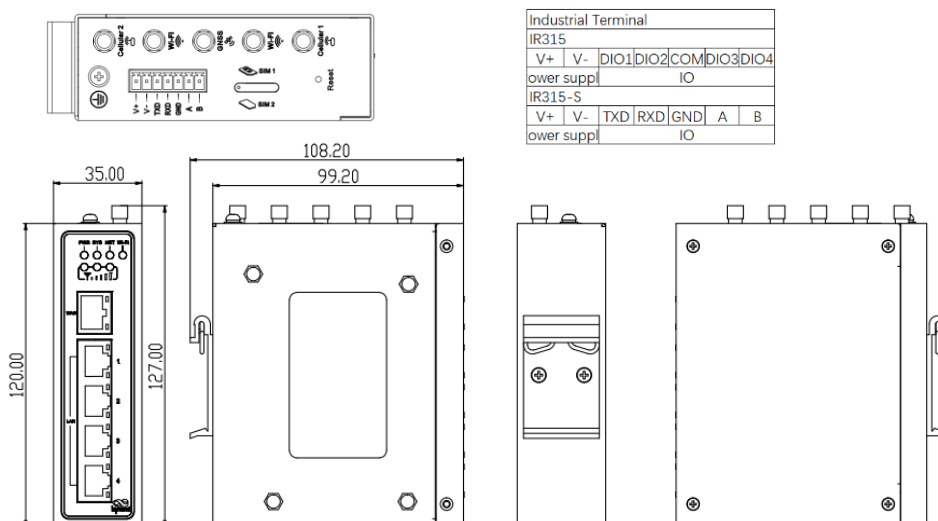
With rich industrial interfaces, the IR315 can be widely used in highly integrated and diversified IoT scenarios to provide cost effective networking deployment solutions.

- 5* 100Mbit/s network port: WAN/LAN/VLAN
- Wireless Wi-Fi: supports AP and STA modes with a maximum bandwidth of 300Mbps
- Industrial serial ports: RS232 & RS485
- Industrial IO: 4-channel digital IO (DI and DO can be configured).
- GNSS: support GPS/ GLONASS /BeiDou /Galileo/ QZSS (positioning accuracy is 2.5 meter)

● Industrial-grade design

Metal shell, IP30 protection. EMC level 3. Wide operating temperature: -20°C~70°C. IR315 is compact, which effectively reduces the space of installation and deployment. It supports DIN rail mounting, lug mounting and wall mounting, which is suitable for a variety of IoT deployment sites.

Dimensions(mm)



Production Specifications

InRouter315 Hardware Specifications			
Hardware Platform			
CPU	580MHz		
RAM	128MB		
FLASH	64MB SPI		
Interface			
Ethernet Port	5*10/100Mbps fast Ethernet port, RJ45, WAN/LAN/VLAN port, 1.5KV network isolation transformer protection		
Power Supply	DC9-36V, over-current protection, anti-reverse connection, 2 PIN industrial terminal		
IO (Optional)	Support 4 x IO (DO or IO can be configured)		
Serial port (Optional)	1 x RS232 + 1 x RS485		
*Alternatives for I/O or Serial port			
Reset	Pinhole reset button		
SIM Card	1 x Drawer-type slot, support dual-NANO SIM		
Wi-Fi (Optional)	IEEE 802.11b/g/n, 300Mbps		
GNSS (Optional)	Support GPS/ GLONASS /BeiDou /Galileo/ QZSS Positioning accuracy is 2.5 meter		
Antenna Connector	1 x SMA for LTE, 2 x RP-SMA for Wi-Fi, 1 x SMA for GNSS		
Ground Terminal	Supports		
Mechanical Specs			
Dimensions	127x 108.2x 35mm	Weight	454g
Installation	Din-rail	Protection Rating	IP30
Housing	Metal	Cooling	Fanless
Power rate			
Standby power	120mA-200mA@12V		
Working power	150mA-320mA@12V		
Peak power	320mA@12V		
Wi-Fi Transmit Power			
Transmit Power	802.11b:16dBm +/-2dBm(11Mbps) 802.11g:16dBm +/-2dBm(54Mbps) 802.11n@2.4GHz:16dBm +/-2dBm(HT20MCS7) 802.11n@2.4GHz:16dBm +/-2dBm(HT40MCS7)		
Ambient Environment			
Storage Temperature	-40 ~ 85°C	Operating Temperature	-20~ 70°C
Ambient Humidity	5-95% (no condensing)		
Indicator			
LED	Power, System, Cellular, Wi-Fi Signal		
EMC			
Static	EN61000-4-2, level 3		
Radiation Electric Field	EN61000-4-3, level 3		
Pulsed Electric Field	EN61000-4-4, level 3		
Surge	EN61000-4-5, level 3		
Conducted Disturbance Immunity	EN61000-4-6, level 3		
Shock Wave Resistance	EN61000-4-12, level 3		
Power Frequency Magnetic Field Resistance	EN61000-4-8, horizontal / vertical 400A/m (>level 2)		
Physical Specs			
Shockproof	IEC60068-2-27	Vibration Resistance	IEC60068-2-6
Free Fall	IEC60068-2-32		
Certificate			
CE, CB, UKCA, E-MARK			

InRouter315 Software Specifications	
Network Connection	
Network Access	APN, VPDN
Access Authentication	CHAP/PAP
Network Type	GSM/GPRS/EDGE, UMTS/HSPA+/EVDO/TD-SCDMA, TDD LTE/FDD LTE (Please refer to the Ordering Guide for frequencies)
LAN protocol	ARP, Ethernet
WAN protocol	Static IP, DHCP, PPPoE
Network Protocol	
IP Application	IPv4, Ping, Trace, DHCP Server, DHCP Relay, DHCP Client, DNS relay, DDNS, Telnet, IP Passthrough
IP Routing	Static routing, OSPF dynamic routing
NAT	Supports network address translation
Security	
Network Security	Stateful Packet Inspection (SPI), DoS attack defense; Multicast filter/Ping probe packet, Access Control List (ACL); Content URL filter, port mapping, virtual IP mapping, IP-MAC binding
Data Security	Supports PPTP, L2TP, GRE, IPSEC VPN (IKEv1, IKEv2), OPENVPN, DMVPN, WireGuard, ZeroTier Supports CA digital certificate
Reliability	
Hot Backup	VRRP hot backup
Link Detection	Sends heartbeat packets to detect, auto redials when disconnected
Dual SIM Failover	Supports dual SIM failover
Embedded Watchdog	Device runs self-detection, auto recovers from malfunctions
WLAN (Optional)	
Protocol	IEEE 802.11b/g/n
Rate	Up to 300Mbps
Security	Open system, shared key, WPA/WPA2 certification WEP/TKIP/AES encryption
Transmission Distance	80 meters by line of sight (Actual transmission distance depends on environment of the site.)
Intelligence	
Integrated DTU Functions	TCP, UDP transparent transmission mode, TCP Server mode Supports conversion of Modbus RTU to Modbus TCP bridge Supports DCUDP, DCTCP mode
Network Management	
QoS Management	Bandwidth limit, IP speed limit
Configuration	Telnet, Web, SSH and console
Update	Web, DeviceManager
Log	Local system log, remote log, and serial export of log. Power down saving of important logs.
SMS Functions	Status query, restart
Dial-on-demand	Dial-on-demand, data / SMS activation
Network management	Supports InHand DeviceManager, batch management Add the user experience plan to access The InHand Networks cloud platform to enjoy efficient and convenient services
SNMP	SNMP v1/v2c/v3, supports SNMP TRAP
Traffic Management	Supports data 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
Status Query	System status, modem status, network connection status, and routing status

Ordering Guide

Model code: IR315-<WMNN>-<WLAN/NA>-<S/NA>-<G/NA>

Model	<WMNN>: Cellular Type & Module	<WLAN/NA>: Wi-Fi	<S/NA>: Serial/IO	G: GNSS
IR315-NRQ2-<WLAN/NA>-<S/NA>	(For China 5G) 5G NR NSA n41/n77/n78/n79 5G NR SA n1/n3/n5/n8/n28/n41/n77/n78/n79 LTE-FDD B1/B3/B5/B8 LTE-TDD B34/B38/B39/B40/B41 WCDMA B1/B5/B8	WLAN: Wi-Fi <NA>: no Wi-Fi	S: 1*RS232+1*RS485 <NA>: 4*IO	NA
IR315-LQ20-<WLAN/NA>-<S/NA>	(For China CAT4) FDD: B1/B3/B5/B8 TDD: B34/B38/B39/B40/B41 WCDMA: B1/B5/B8 GSM: B3/B8	WLAN: Wi-Fi <NA>: no Wi-Fi	S: 1*RS232+1*RS485 <NA>: 4*IO	NA
IR315-FQ58-<WLAN/NA>-<S/NA>	(For Europe & APAC, CAT 4) FDD: B1/B3/B5/B7/B8/B20/B28 TDD: B38/B40/B41 WCDMA: B1/B5/B8 GSM: B3/B8	WLAN: Wi-Fi <NA>: no Wi-Fi	S: 1*RS232+1*RS485 <NA>: 4*IO	NA
IR315-FQ58-<WLAN/NA>-<S/NA>-G	(For Europe & APAC, CAT 4) FDD: B1/B3/B7/B8/B20/B28A TDD: B38/B40/B41 WCDMA: B1/B8 GSM: B3/B8	WLAN: Wi-Fi <NA>: no Wi-Fi	S: 1*RS232+1*RS485 <NA>: 4*IO	G: GNSS
IR315-FQ53-<WLAN/NA>-<S/NA>	(For Europe & APAC, CAT 1) FDD: B1/B3/B7/B8/B20/B28 TDD: B38/B40/B41 GSM: B2/B3/B5/B8	WLAN: Wi-Fi <NA>: no Wi-Fi	S: 1*RS232+1*RS485 <NA>: 4*IO	NA
IR315-FQ78-<WLAN/NA>-<S/NA>	(For Australia, Latin America) FDD: B1/B2/B3/B4/B5/B7/B8/B28 TDD: B40 WCDMA: B1/B2/B5/B8 GSM: B2/B3/B5/B8	WLAN: Wi-Fi <NA>: no Wi-Fi	S: 1*RS232+1*RS485 <NA>: 4*IO	NA
IR315-EN00-<WLAN/NA>-<S/NA>	NA	WLAN: Wi-Fi <NA>: no Wi-Fi	S: 1*RS232+1*RS485 <NA>: 4*IO	NA

Example: IR315-LQ20-WLAN: Five Ethernet ports IR315 series cellular router with Wi-Fi, support IPSec / PPTP / L2TP / OPEN VPN.

Note: Users are asked to join InHand User Experience Plan at first time login. If user agreed to join, the router will connect to InHand DeviceManager portal. If users want to disable it, please go to Services->User Experience Plan to change the setting.



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About Us

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

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

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



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