

With 3G/4G, Wi-Fi and Link Backup

# InRouter615-S Series

## Enhanced Industrial LTE Router

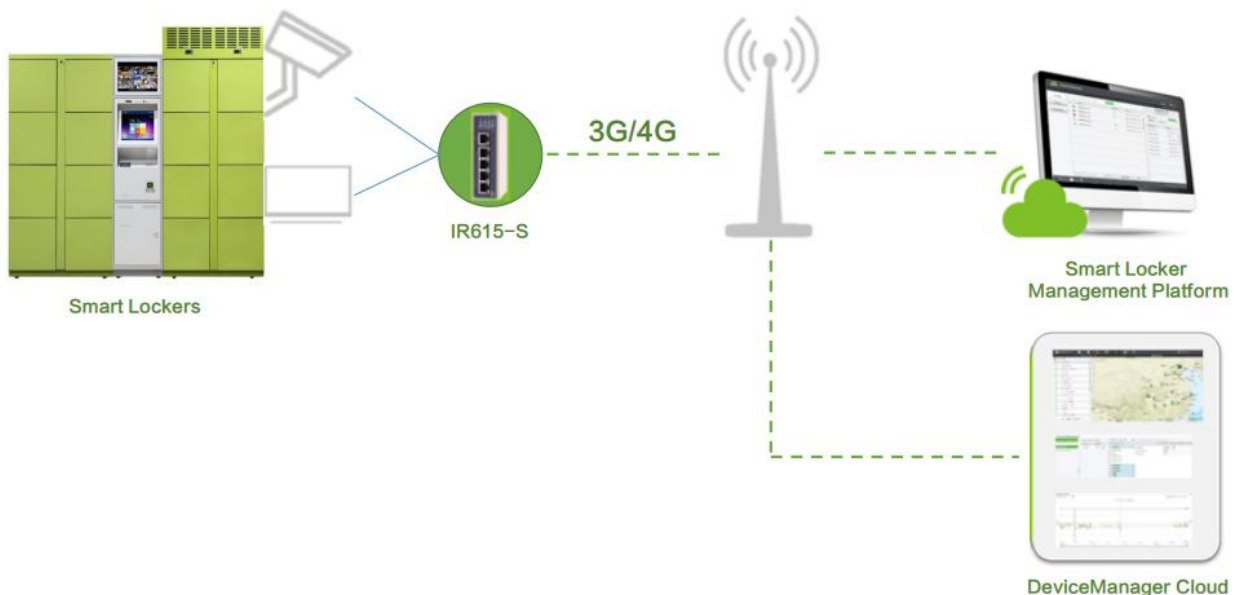


- The InRouter615-S (also IR615-S) is a series of IoT router that supports 3G/4G, Wi-Fi and VPN. It provides easy network access for field devices with 3G/4G wireless WAN and Wi-Fi wireless LAN support, helps to build device networks scaling from tens up to tens of thousands.
- With embedded hardware & 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 to facilitate remote network management.
- Multiple VPN encryption technologies can ensure secure data transmission, preventing malicious data access and tampering. The user-friendly WEB interface drastically reduces the difficulty of network configuration.
- With easy network access, ease of use, and remote management functions, the router provides reliable high-speed data channel for things in the true sense of IoT

Applicable to a wide range of applications, including largescale networkin:

- Express parcel cabinet
- Branch networking, Commercial networking
- Public utility: heating station, gas valve room, water treatment
- Security surveillance and criminal investigation
- Smart transportation
- Smart grid
- Smart manufacturing, Photovoltaic energy
- Industrial automation, etc

### Application Case



## Features and Advantages

- + Supports 4G LTE CAT4 high-speed network, as well LTE CAT1 and CAT-M low-rate networks
- + Supports WLAN
- + 5 Ethernet ports, WAN/LAN/VLAN
- + Multiple VPN functions
- + Multiple built-in link redundancies ensure uninterrupted communications
- + Load balancing, effectively increases bandwidth
- + Supports SNMP and InHand Device Manager cloud platform, for efficient central network management
- + User experience plan, enjoy efficient and convenient service
- + Supports high-efficiency deployment of large-scale device networks
- + Compact sized, easy to fit
- + Industrial-grade, ready for challenging conditions

### ● Uninterrupted Internet Access

Supports multiple fast LTE WAN networks. Gets device connected through the global covering 3G/4G network regardless of where the device is located. Three LTE network types to choose: LTE CAT4 (150/50Mbps down/ uplink), CAT1 (10/5Mbps down/uplink), and CAT-M (375/300Kbps down/uplink).

Supports Wi-Fi, both AP & STA modes, to set up secure wireless networks easily. Support 3G/4G and Wi-Fi mutual-backup, further ensuring uninterrupted transmission by providing redundant communication links.

### ● Strong Security Protection

Transmission security: supports IPsec VPN, L2TP, PPTP, OPEN VPN, DMVPN, GRE, and CA certificate.

Network protection: supports SPI stateful detection, Secure Shell (SSH), intrusion protection (forbidden ping), DDoS defense, attack defense, IP-MAC binding, etc. to protect against external attacks.

Access security: supports user hierarchical authorization, implements secure access management by giving different roles different permissions.

### ● High Reliability and Stability

Link layer detection: detects link conditions, auto redial when dropped off to maintain link connection.

PPP layer detection: maintains connection to carrier network side, prevents forced hibernation, and keep network link smooth.

VPN tunnel detection: maintains stable connection of VPN tunnels and continuous data transmission.

Device fault self-recovery: embedded hardware watchdog, self-recovers from malfunctions, maintaining high device availability.

### ● Link Redundancy

A variety of link redundancy designs ensure uninterrupted field communications.

Supports load balancing, making better use of bandwidth.

Failover between 3G/4G, Wi-Fi and wired connection.

Dual SIM card design can support network switching between different carriers.

VRRP hot backup function to realize link backup between multiple routers.

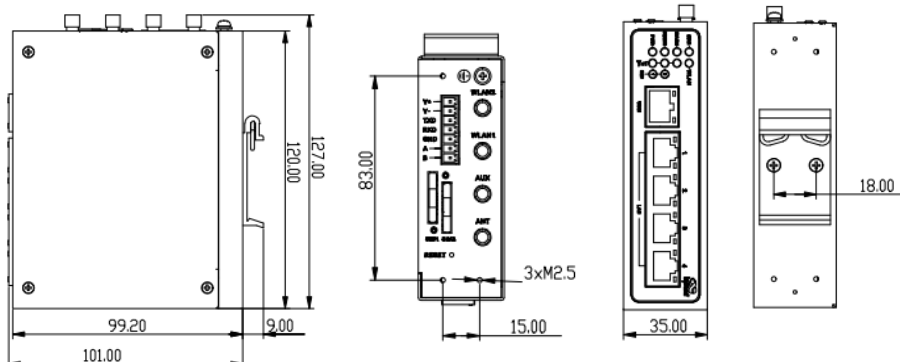
### ● Network Management Cloud Platform for Centralized Management and Deployment

Supports InHand Device Manager (DM) cloud platform to facilitate remote monitoring and central management of large-scale device networks. Batch configures large numbers of devices, improve network deployment and maintenance efficiency. Add user experience plan, enjoy efficient and convenient service

### ● Industrial-grade Design

Metal housing, IP30 protection rating. Reach level 3 on EMC indexes. Ethernet port supports 1.5KV isolation protection. Wide operating temperature: -20°C~70°C. Wide voltage input: DC9-36V.

## Dimensions(mm)



7-PIN Industrial Terminal Interface Definition

No.	Definition	Description
1	V+	Positive electrode
2	V-	Negative electrode
3	TXD	Serial RS232 sending
4	RXD	Serial RS232 receiving
5	GND	Serial RS232 signal ground
6	A	Serial RS485 +
7	B	Serial RS485-

# Production Specifications

## InRouter615-S Hardware Specifications

Hardware Platform			
CPU	580MHz		
RAM	128MB		
FLASH	64MB SPI		
Interface			
Ethernet Port	1*10/100Mbps fast Ethernet WAN port 4*10/100Mbps fast Ethernet LAN port 1.5KV network isolation protection		
Power Supply	DC9-26V, 36V expandable		
Industrial Serial port	RS232/485*1 Support baud rates of 1200/2400/4800/9600/19200/38400/57600/115200/230400 ESD Protection 15KV		
Reset	Pinhole reset button		
SIM Card	1* Drawer-type slot Part of the models support 2*drawer-type slots		
Wi-Fi (Optional)	IEEE 802.11b/g/n, 300Mbps		
Antenna Connector	3G/4G: SMA*2 WLAN: RP-SMA*2		
Ground Terminal	HAS Ground Terminal		
Mechanical Specs			
Dimensions	127x 108.2x 35mm	Weight	440g
Installation	Din-rail Optional: Lugs/Wall mounting	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, STATUS, WARN, ERROR, WLAN, LINK, signal indicator		
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, UKCA, E-MARK, FCC, IC, PTCRB, AT&T, Verizon, RCM, CCC, SRRC, SDPPI, IMDA, UL, C1D2, MIC&JATE			

## InRouter615-S Software Specifications

Network Connection	
Network Access	APN, VPDN, Support dual-APN access
Access Authentication	CHAP/PAP
Network Type	GSM/GPRS/EDGE, UMTS/HSPA+/EVDO/TD-SCDMA, TDD LTE/FDD LTE
LAN protocol	ARP, Ethernet
WAN protocol	Static IP, DHCP, PPPoE, PPP
Network Protocol	
IP Application	Ping, Trace, DHCP Server, DHCP Relay, DHCP Client, DNS relay, DDNS, Telnet, IPPT
IP Routing	Static routing, OSPF
NAT	Supports network address translation
Network Security	
Firewall	Stateful Packet Inspection (SPI), DoS attack defense Multicast filter/Ping packet, Access Control List (ACL) Content URL filter, port mapping, virtual IP mapping, IP/MAC binding
Data Security	IPsec (IKEv1/IKEv2)/L2TP/PPTP/GRE/OPEN VPN/DMVPN/CA digital certificate
Reliability	
Backup	Dual-SIM mutual backup, VRRP hot backup, link backup
Link Detection	Send heartbeat packets, auto redial when disconnected
Embedded Watchdog	Device operation self-detection, auto recover from malfunctions
WLAN (Optional)	
Protocol	IEEE 802.11b/g/n
Rate	Up to 300Mbps
Working Mode	AP and STA Mode
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 Supports for up to 15 data centers
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, Configuration, restart
Dial-on-demand	Dial-on-demand, data / SMS activation
Network management	Supports InHand DeviceManager, batch management Add user experience plan, enjoy efficient and convenient service.
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: IR615-S-<WMNN>-<WLAN/NA>			
Model	<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>: Wi-Fi	Dual SIM
IR615-S-L7-<WLAN/NA>	(For China CAT4) 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 EVDO 800MHz CDMA-1x800MHz EDGE/GPRS/GSM 850/900/1800/1900MHz	WLAN: Wi-Fi <NA>: no Wi-Fi	Dual SIM
IR615-S-L3-<WLAN/NA>	(For Europe & APAC CAT4) LTE-FDD Band 1/3/7/8/20/28A TDD: B38/B40/B41 WCDMA: B1/B8 GSM: B3/8	WLAN: Wi-Fi <NA>: no Wi-Fi	Dual SIM
IR615-S-FQ53-<WLAN/NA>	(For EMEA, CAT 1) FDD: B1/B3/B5/B7/B8/B20/B28 TDD: B38/B40/B41 GSM: B2/B3/B5/B8	WLAN: Wi-Fi <NA>: no Wi-Fi	Dual SIM
IR615-S-FQ78-<WLAN/NA>	(Australia & South America, CAT 1) 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	Dual SIM
IR615-S-FQ88-<WLAN/NA>	(Japan, CAT 4) FDD: B1/B3/B8/B19/B26 TDD: B41 WCDMA: B1/B6/B8/B19 GSM: B2/B3/B5/B8	WLAN: Wi-Fi <NA>: no Wi-Fi	Dual SIM
IR615-EN00-<WLAN/NA>-S	Global	WLAN: Wi-Fi <NA>: no Wi-Fi	N/A
<b>Example:</b> IR615-S-L3-WLAN: Five Ethernet ports IR615-S series cellular router, supports IPSec/PPTP/L2TP/OPEN VPN, 4G LTE CAT4, supports Wi-Fi AP&STA modes, one serial port with RS232 or RS485 mode.			

## 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.



3650 Concorde Pkwy, Suite 200,  
Chantilly, VA 20151, USA  
T: +1 (703) 348-2988  
E: [info@inhand.com](mailto:info@inhand.com)  
[www.inhand.com](http://www.inhand.com)