MATLOG
NEATECH Group.

Compact Industrial LTE Router
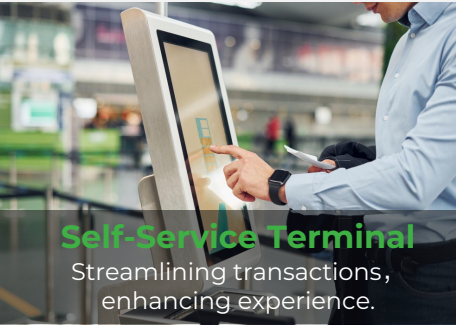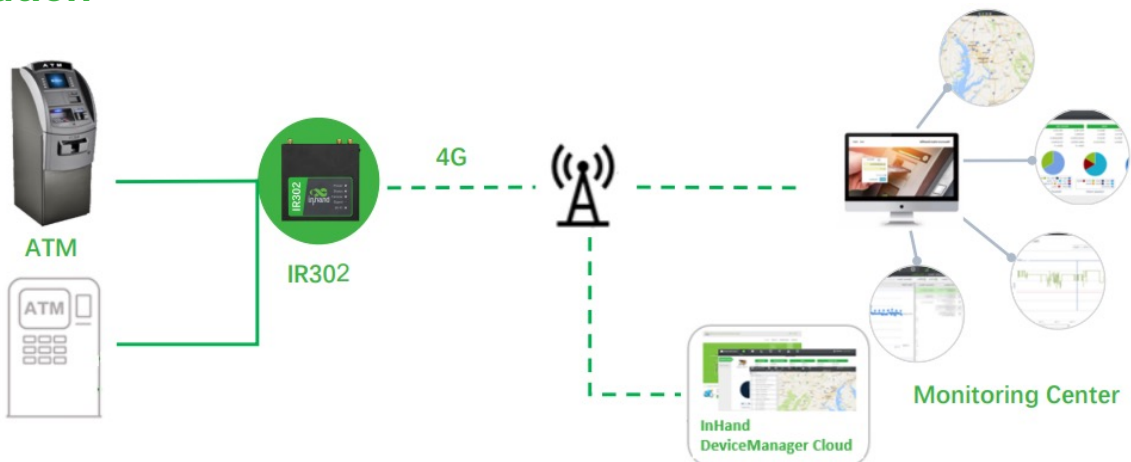
InRouter302

· 4G   · Wi-Fi   · Security

· Cloud-Managed

IR302

The InRouter302 (IR302) is an IoT cellular router that integrates 4G LTE, Wi-Fi, and VPN technologies to provide easy, reliable, and secure internet connectivity. This product is ideal for connecting unattended devices and remote sites. It features a watchdog and multi-layer link detection mechanisms to ensure reliable and stable communication. The router can be easily deployed to create large-scale networks, supporting tens of thousands of devices. Users can efficiently manage their networks using our InHand Device Manager cloud platform. The IR302 is suitable for a wide range of industrial and commercial IoT applications, offering a balanced option between cost and performance.

Elevator Networking
Real-time detection of operational status to ensure operational safety.

Self-Service Terminal
Streamlining transactions, enhancing experience.

Medical Equipment
Remote diagnosis, improving medical efficiency.

Electronic Police
Interating surveillance, reinforcing public safety.

Inspection Robot
Monitoring autonomously, enhancing operational efficiency

Charging Station
Connected Charging for a Sustainable Future!

Solution

ATM

ATM

IR302

4G

InHand DeviceManager Cloud

Monitoring Center

Features and Advantages

● Diverse access methods covering all scenarios

IR302 has the capability to access the Internet through cellular, wired, and Wi-Fi connections, catering to different network environments. It provides differentiated cellular network services based on varying business requirements.

● "Always-on" connectivity

The IR302 comes with 4G/wired/Wi-Fi backup, cellular link failover, dual SIM switching, VRRP, multi-layer detection mechanism, and other features, providing a reliable and robust connection to ensure your network stability and reliability.

● Secure Network Connection

The IR302 is equipped with firewall policies, access control, built-in VPN, data encryption, enhanced Wi-Fi security, and other features, effectively ensuring the security of the network.
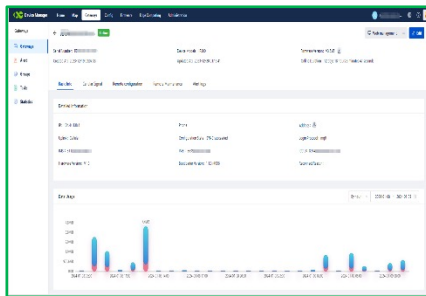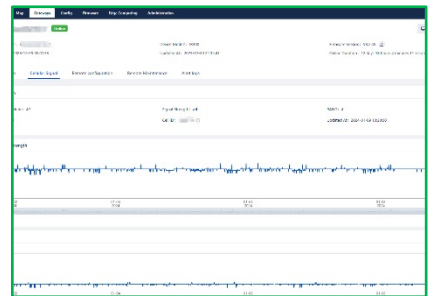
● Device Manager – cloud management

The IR302 connects to the InHand Device Manager 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!
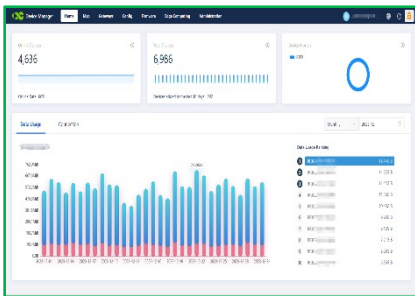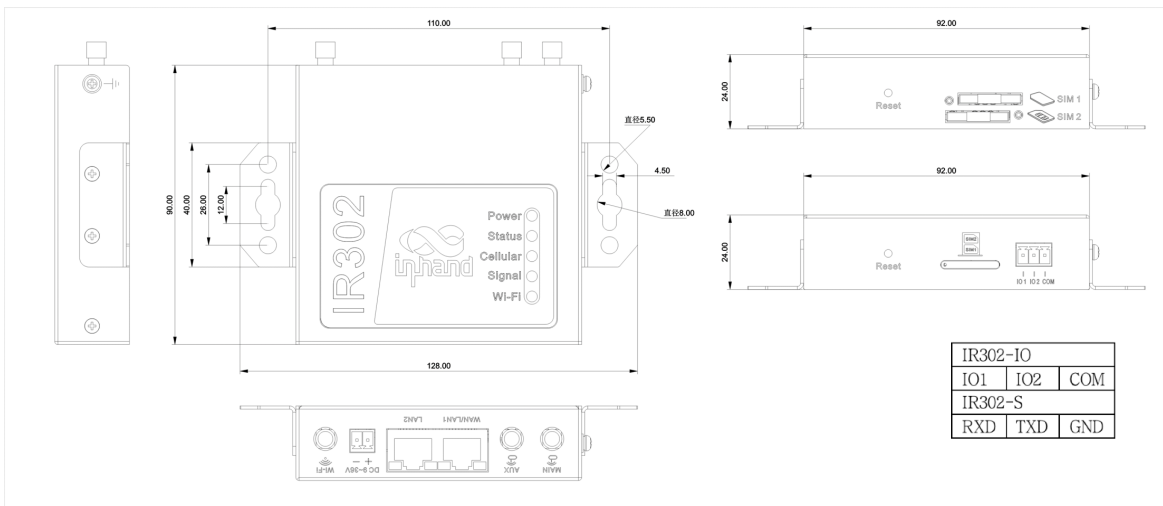
Take control

Real-time monitoring

Critical Status

Dimensions (mm)

IR302-IO		
IO1	IO2	COM
IR302-S		
RXD	TXD	GND

Dimensions: 90*90*25 (mm)

Product Specifications

InRouter302 Hardware Specifications	
Hardware Platform	
CPU	580MHz
RAM	128MB DDR2
FLASH	32MB SPI
Interfaces	
Ethernet Port	2*10/100Mbps RJ45, WAN/LAN switchable
Power Supply	DC 9-36V, over-current protection, anti-reverse connection, 2PIN industrial terminal
I/O(Optional)	Support 2*I/O(DI or DO can be configured)
Serial port (Optional)	1*RS232
Reset	Pinhole reset button
SIM Card	Drawer-type SIM card slot, support dual SIM
Antenna Connector	4G: 1* SMA; Wi-Fi: 1* RP-SMA Note: North America models: 2* 4G antenna connnectors
Wi-Fi	
Radio Frequency	2.4GHz
Max Transmission Bandwidth	150Mbps
Transfer Protocol	802.11 b/g/n
Transmit Power	802.11b:16dBm +/-2dBm(11Mbps) 802.11g:16dBm +/-2dBm(54Mbps) 802.11n@2.4GHz:16dBm +/-2dBm(HT20 MCS7) 802.11n@2.4GHz:16dBm +/-2dBm(HT40 MCS7)
Transmission Distance	50 meters by line of sight (Actual transmission distance depends on environment of the site.)
Power Rate	
Standby Power	80mA-90mA@12V
Working Power	100mA-120mA@12V
Peak Power	190mA@12V
Mechanical Features	
Installation	Panel mounting; Rail mounting
Dimensions & Weight	90*90*25 (mm) & 259g
IP	IP30
Environment	
Working Temp.	-20°C to 70°C
Storage Temp.	-40°C to 85°C
Humidity	5% to 95% (non-condensing)
Physical Specs	
Shockproof	IEC60068-2-27
Vibration Resistance	IEC60068-2-6
Free Fall	IEC60068-2-32
EMC	
Static	EN61000-4-2, level 2
Radiation Electric Field	EN61000-4-3, level 2
Pulsed Electric Field	EN61000-4-4, level 2
Surge	EN61000-4-5, level 2
Conducted Disturbance Immunity	EN61000-4-6 ,level 2
Shock Wave Resistance	EN61000-4-12,level 2
Power Frequency Magnetic Field Resistance	EN61000-4-8, horizontal / vertical 400A/m (>level 2)
Certification	
Certification	CE, CB, UKCA, E-MARK, FCC, IC, PTCRB, AT&T, Verizon, RCM, CCC, EAC&FAC, UL, ANATEL

InRouter302 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
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, 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
Security	Open system, shared key, WPA/WPA2 certification WEP/TKIP/AES encryption
Transmission Distance	50 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
Network Management	
QoS Management	Bandwidth limit, IP speed limit
Configuration	Telnet, web, ssh and console
Update	Web, Device Manager
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 Device Manager, 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

Note: The functions marked with * are not available yet.

Ordering Guide

Model code: IR302-<WMNN>-<WLAN/NA>-<IO/S/NA>					
Model	Region (Operator)	Network Type	<WMNN>: Cellular Type & Module	<WLAN/NA>: Wi-Fi	<IO/S/NA>: Serial/IO
IR302-LQ28-<WLAN/NA>-<IO/S/NA>	China	LTE CAT4	FDD: B1/B3/B5/B8 TDD: B34/B38/B39/B40/B41 WCDMA: B1/B8 TD-SCDMA: B34/B39 EVDO/CDMA: BC0 GSM: B3/B8	WLAN: Wi-Fi <NA>: no Wi-Fi	IO: 2*IO S: 1*RS232 <NA>: no interface
IR302-LQ28-<WLAN/NA>-<IO/S/NA>-L	China	LTE CAT4	FDD: B1/B3/B5/B8 TDD: B34/B38/B39/B40/B41 WCDMA: B1/B5/B8 GSM/EDGE: B3/B8	WLAN: Wi-Fi <NA>: no Wi-Fi	IO: 2*IO S: 1*RS232 <NA>: no interface
IR302-FQ58-<WLAN /NA>-<IO/S/NA>	Europe & APAC	LTE CAT4	FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8	WLAN: Wi-Fi <NA>: no Wi-Fi	IO: 2*IO S: 1*RS232 <NA>: no interface
IR302-FQ58-<WLAN/NA>-<IO/S/NA>-L	Europe & APAC	LTE CAT4	FDD: B1/B3/B5/B7/B8/B20/B28 TDD: B38/B40/B41 WCDMA: B1/B5/B8 GSM/EDGE: B3/B8	WLAN: Wi-Fi <NA>: no Wi-Fi	IO: 2*IO S: 1*RS232 <NA>: no interface
IR302-FQ53-<WLAN /NA>-<IO/S/NA>	EMEA	LTE CAT1	FDD: B1/B3/B7/B8/B20/B28 WCDMA: B1/B8 GSM/EDGE: B3/B8	WLAN: Wi-Fi <NA>: no Wi-Fi	IO: 2*IO S: 1*RS232 <NA>: no interface
IR302-FQ38-<WLAN/NA>-<IO/S/NA>	North America AT&T, Verizon	LTE CAT4	FDD: B2/B4/B5/B12/B13/B14/B66/B71 WCDMA: B2/B4/B5	WLAN: Wi-Fi <NA>: no Wi-Fi	IO: 2*IO S: 1*RS232 <NA>: no interface
IR302-FQ33-<WLAN/NA>-<IO/S/NA>	North America AT&T, Verizon	LTE CAT1	FDD: B2/B4/ B5/B12/B13/B25/B26 WCDMA: B2/B4/B5	WLAN: Wi-Fi <NA>: no Wi-Fi	IO: 2*IO S: 1*RS232 <NA>: no interface
IR302-FQ78-<WLAN/NA>-<IO/S/NA>	Australia, Latin America	LTE CAT4	FDD: B1/B2/B3/B4/B5/B7/B8/B28 TDD: B40 WCDMA: B1/B2/B5/B88 GSM: B2/B3/B5/B8	WLAN: Wi-Fi <NA>: no Wi-Fi	IO: 2*IO S: 1*RS232 <NA>: no interface
IR302-LQ00-<WLAN/NA>-<IO/S/NA>	China	LTE CAT1	FDD: B1/B3/B5/B8 TDD: B34/B38/B39/B40/B41 GSM: 900/1800MHz	WLAN: Wi-Fi <NA>: no Wi-Fi	IO: 2*IO S: 1*RS232 <NA>: no interface
IR302-FQ02-<WLAN/NA>-<IO/S/NA>	Global	LTE CATM/NB	CAT M: B1/B2/B3/B4/B5/B8/B12/B13/B14/B18/B19/B20/B25/B26/B27/ B28/B66/B85 CAT NB: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/ B26/B28/B66/ B71/B85 GSM/EDGE: 850/900/1800/1900 MHz	WLAN: Wi-Fi <NA>: no Wi-Fi	IO: 2*IO S: 1*RS232 <NA>: no interface
IR302-EN00-<WLAN/NA>-<IO/S/NA>	Global	NA	No cellular module	WLAN: Wi-Fi <NA>: no Wi-Fi	IO: 2*IO S: 1*RS232 <NA>: no interface
IR302-EN00-WLAN-S-485	Global	NA	No cellular module	WLAN: Wi-Fi	S: 1*RS485
IR302-FQ58-S-485	Europe & APAC	LTE CAT4	FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8	<NA>: no Wi-Fi	S: 1*RS485

Example: IR302-FQ38-WLAN: CAT 4, AT&T, VzW, Dual Ethernet port IR302 series cellular router, support IPSec / PPTP / L2TP / OPEN VPN, supports FDD, and WCDMA networks, supports Wi-Fi AP & Client mode.

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.

▌ InHand Remote Operation and Maintenance Solution

InConnect is a simple "plug & play" service that builds secure remote networks for your machines (IPCs, IP cameras, PLCs, HMIs, RTUs, controllers, etc.). Engineers can use InConnect to realize remote maintenance, program downloads, and log diagnostics. InConnect helps enterprises quickly connect to globally distributed business locations, empowering enterprises in their IT infrastructure and digital transformation initiatives.

InConnect Service

- Centralized management
- Efficient zero touch deployment
- Simplified network configuration
- Multi-dimensional security

4G Industrial Router

- Multilink Backup & Dual SIM failover
- VLAN, VPN networking
- Serial Port，I/O
- GNSS
- EMC Level 3
- IP30，-20~70℃, DC 9~36V