

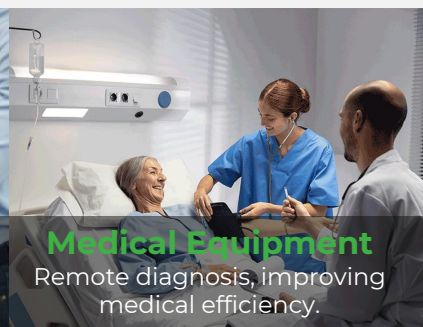
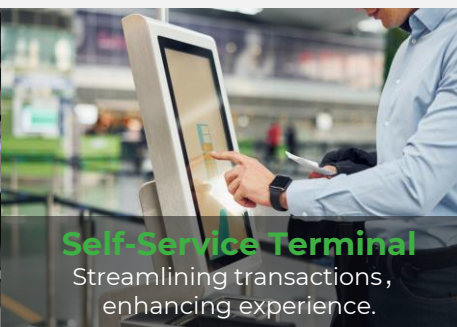
## Compact Industrial LTE Router

# InRouter302

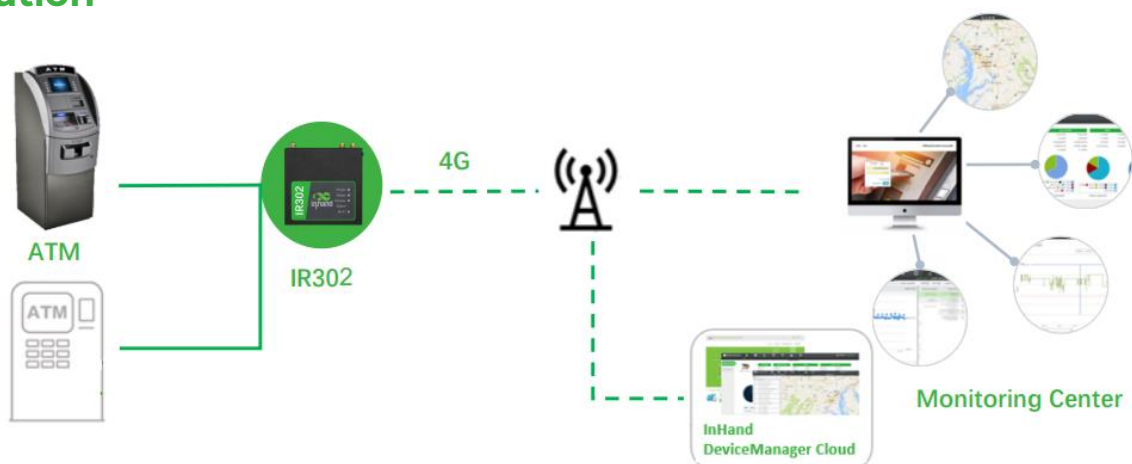
- 4G
- Wi-Fi
- Security
- Cloud-Managed



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.



## Solution



## Features and Advantages

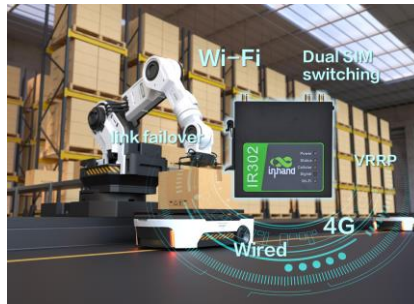
### • Diverse access methods covering all scenarios

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.



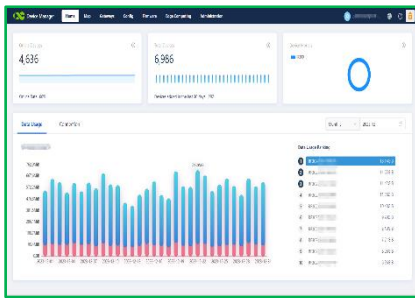
### • Secure Network Connection

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.

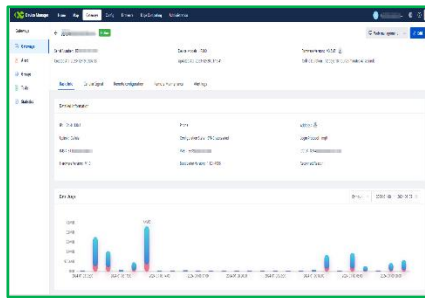


### • Device Manager-Cloud management

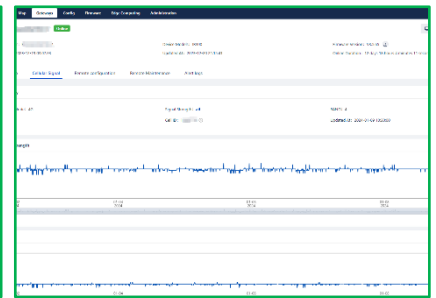
The IR302 connects to the InHand Device Manager remote device management cloud platform to manage tens of thousands of distributed site devices in real time and grasp device status anytime and anywhere, making management more economical and more efficient!



Take control

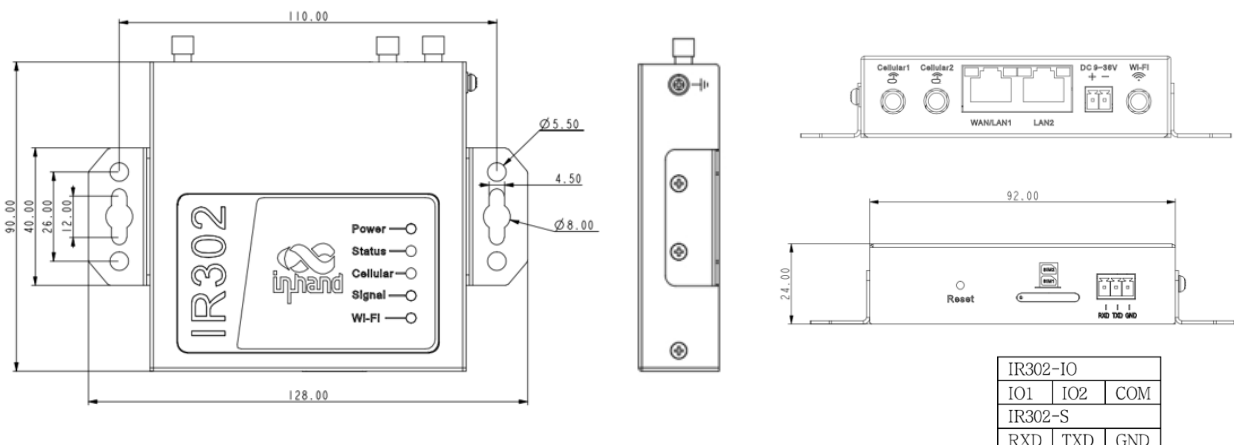


Real-time monitoring



Critical Status

## Dimensions (mm)



Dimensions: 98.3\*92\*24 (mm)(Installation components not included)

# Product Specifications

## InRouter 302 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<br>Note: North America models: 2* 4G antenna connectors |

### Wi-Fi

|                            |                                                                                                                                                      |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Radio Frequency            | 2.4GHz                                                                                                                                               |
| Max Transmission Bandwidth | 150Mbps                                                                                                                                              |
| Transfer Protocol          | 802.11 b/g/n                                                                                                                                         |
| Transmit Power             | 802.11b:16dBm +/-2dBm(11Mbps)<br>802.11g:16dBm +/-2dBm(54Mbps)<br>802.11n@2.4GHz:16dBm +/-2dBm(HT20 MCS7)<br>802.11n@2.4GHz:16dBm +/-2dBm(HT40 MCS7) |
| Transmission Distance      | 50 meters by line of sight<br>(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 | 98.3*92*24 (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, T-Mobile, RCM, CCC, EAC&FAC, UL, ANATEL, MIC&JATE, IEC 62443, NOM, IFETEL |
|---------------|--------------------------------------------------------------------------------------------------------------------------------|

## InRouter 302 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;<br>Multicast filter/Ping probe packet, Access Control List (ACL);<br>Content URL filter, port mapping, virtual IP mapping, IP-MAC binding |
| Data Security    | Supports PPTP, L2TP, GRE, IPSEC VPN (IKEv1, IKEv2), OPENVPN, WireGuard, ZeroTier<br>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<br>WEP/TKIP/AES encryption                       |
| Transmission Distance | 50 meters by line of sight<br>(Actual transmission distance depends on environment of the site.) |

### Intelligence

|                          |                                                                                                                                          |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Integrated DTU Functions | TCP, UDP transparent transmission mode, TCP Server mode<br>Supports conversion of Modbus RTU to Modbus TCP bridge<br>Supports AT command |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------|

### 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.<br>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<br>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-FQ58-<WLAN/NA>-<IO/S/NA>                                                                                                                                                                                                                                 | Europe & APAC                  | LTE CAT4     | FDD: B1/B3/B7/B8/B20/B28A<br>WCDMA: B1/B8<br>GSM: B3/B8                                                           | WLAN: Wi-Fi<br><NA>: no Wi-Fi | IO: 2*IO<br>S: 1*RS232<br><NA>: no interface |
| IR302-FQ58-<WLAN/NA>-<IO/S/NA>-L                                                                                                                                                                                                                               | Europe, APAC, Australia        | LTE CAT4     | FDD: B1/B3/B5/B7/B8/B20/B28<br>TDD: B38/B40/B41<br>WCDMA: B1/B5/B8<br>GSM/EDGE: B3/B8                             | WLAN: Wi-Fi<br><NA>: no Wi-Fi | IO: 2*IO<br>S: 1*RS232<br><NA>: no interface |
| IR302-FQ53-<WLAN/NA>-<IO/S/NA>                                                                                                                                                                                                                                 | EMEA                           | LTE CAT1     | FDD: B1/B3/B7/B8/B20/B28<br>WCDMA: B1/B8<br>GSM/EDGE: B3/B8                                                       | WLAN: Wi-Fi<br><NA>: no Wi-Fi | IO: 2*IO<br>S: 1*RS232<br><NA>: no interface |
| IR302-FQ38-<WLAN/NA>-<IO/S>                                                                                                                                                                                                                                    | North America<br>AT&T, Verizon | LTE CAT4     | FDD: B2/B4/B5/B12/B13/B14/B66/B71<br>WCDMA: B2/B4/B5                                                              | WLAN: Wi-Fi<br><NA>: no Wi-Fi | IO: 2*IO<br>S: 1*RS232                       |
| IR302-FQ33-<WLAN/NA>-<IO/S>                                                                                                                                                                                                                                    | North America<br>AT&T, Verizon | LTE CAT1     | FDD: B2/B4/B5/B12/B13/B25/B26<br>WCDMA: B2/B4/B5                                                                  | WLAN: Wi-Fi<br><NA>: no Wi-Fi | IO: 2*IO<br>S: 1*RS232                       |
| IR302-FQ68-<WLAN/NA>-<IO/S>                                                                                                                                                                                                                                    | Latin America                  | LTE CAT4     | FDD: B1/B3/B4/B5/B7/B8/B28/B66<br>TDD: B40<br>WCDMA: B1/B2/B4/B5/B8<br>GSM: B2/B3/B5/B8                           | WLAN: Wi-Fi<br><NA>: no Wi-Fi | IO: 2*IO<br>S: 1*RS232                       |
| IR302-FQ88-<WLAN/NA>-S                                                                                                                                                                                                                                         | Japan                          | LTE CAT4     | FDD: B1/B3/B8/B18/B19/B26<br>TDD: B41<br>WCDMA: B1/B6/B8/B19                                                      | WLAN: Wi-Fi<br><NA>:no Wi-Fi  | S: 1*RS232                                   |
| IR302-EN00-WLAN                                                                                                                                                                                                                                                | Global                         | NA           | No cellular module                                                                                                | WLAN: Wi-Fi                   | NA                                           |
| IR302-LQ28-<WLAN/NA>-<S/NA>                                                                                                                                                                                                                                    | China                          | LTE CAT4     | FDD: B1/B3/B5/B8<br>TDD: B34/B38/B39/B40/B41<br>WCDMA: B1/B8<br>TD-SCDMA: B34/B39<br>EVDO/CDMA: BCO<br>GSM: B3/B8 | WLAN: Wi-Fi<br><NA>: no Wi-Fi | S: 1*RS232<br><NA>: no interface             |
| IR302-LQ28-<WLAN/NA>-<S/NA>-L                                                                                                                                                                                                                                  | China                          | LTE CAT4     | FDD: B1/B3/B5/B8<br>TDD: B34/B38/B39/B40/B41<br>WCDMA: B1/B5/B8<br>GSM/EDGE: B3/B8                                | WLAN: Wi-Fi<br><NA>: no Wi-Fi | S: 1*RS232<br><NA>: no interface             |
| Example: IR302-FQ38-WLAN-IO: CAT 4, AT&T, Verizon, T-Mobile, dual Ethernet port IR302 series cellular router, with 2*DIO, 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. |                                |              |                                                                                                                   |                               |                                              |

## About Us

InHand Networks is a leading IoT solutions provider founded in 2001, dedicated to driving digital transformation across industries and empowering customers to unlock their full potential and achieve accelerated growth.

We specialize in delivering industrial-grade connectivity solutions for diverse sectors, such as enterprise networks, industrial and building IoT, digital energy, smart commerce, and mobility. Our comprehensive product portfolio and services cater to various applications worldwide, including smart manufacturing, smart grid, intelligent transportation, smart retail, etc. With a global footprint spanning over 60 countries, we serve customers in China, the United States, France, Germany, the United Kingdom, Italy, and beyond.



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