



## Industrial Router Series Catalog

Build a Smarter IOT world, Your Trustworthy Partner

# ENTERPRISE PROFILE



Jinan USR IOT Technology Ltd., a leading industrial Internet of Things software and hardware solution service provider, has more than 500 employees, has a manufacturing plant, provides customers with IoT modules, communication terminals, smart gateways, cloud platforms and IoT solutions.



USR IOT has more than 500 employees now, nearly half of them are research and development staff. USR IOT has won many honors such as "National High-tech Enterprise, software enterprise, gazelle enterprise, invisible champion cultivation enterprise, national excellent enterprise in electronic information industry, most valuable and influential IOT communication enterprise".



# Cloud

Remote monitor

Remote access

**PUSR Cloud**  
account.usriot.com

Device management

Data acquisition

## Communication layer



### 3G/4G Industrial router

5G Industrial cellular router  
4G Industrial cellular router



### Serial to Ethernet converter

Industrial Serial to Ethernet Converters  
Cost-effective Serial to Ethernet Converters  
WiFi Serial to WiFi Converters  
CAN/CAN to Ethernet Converter  
Industrial Network Switches



### IoT terminal

PLC gateway  
PLC Ethernet  
Ethernet PLC  
Remote I/O controller



### 2G/4G Modem

4G Modem  
2G Modem



### Cat-1 series

Cat-1 DTU  
LTE Cat-1 modem



### Din-Rail Terminal

Din-Rail 4G modem  
Din-Rail serial device server



### LoRa | NB-IoT

LoRa Modem  
LoRa DTU  
NB-IoT module



### Embedded IoT modules

4G module  
WiFi module  
Ethernet module  
IP/RTT module  
Bluetooth module

## sensors and actuators



## Perception layer





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## 4G industrial router ordering guide

Model	USR-G809	USR-G808	USR-G802	USR-G807	USR-G781	USR-G806	USR-G805
Ethernet	1*WAN+4*LAN	1*WAN+4*LAN	1*WAN+4*LAN	1*WAN/LAN+1*LAN	1*WAN/LAN+1*LAN	1*WAN/LAN+1*LAN	1*LAN
Cellular module	LTE CAT4*1	LTE CAT4*2	LTE CAT4*1	LTE CAT4*1	LTE CAT4*1	LTE CAT4*1	LTE CAT4*1
Serial port	RS232/485	---	---	RS485	RS232/485	---	---
DIDO	DI*2, DO*2	---	---	---	---	---	---
VPN	PPTP,L2TP, OpenVPN, IPSec,GRE	PPTP,L2TP, OpenVPN, IPSec,GRE	PPTP,L2TP, IPSec	PPTP,L2TP, OpenVPN, IPSec,GRE	PPTP,L2TP, OpenVPN, IPSec,GRE	PPTP,L2TP, OpenVPN, IPSec,GRE	PPTP,L2TP,
Wi-Fi	2.4 GHz default 5.8 GHz optional	2.4 GHz	2.4 GHz	2.4 GHz	---	2.4 GHz	
VLAN	Support	---	---	---	---	---	---
Cloud platform	PUSR cloud	remote management platform	PUSR cloud	PUSR cloud	remote management platform	PUSR cloud	PUSR cloud
SMS	Status query, configuration, restart	---	---	Status query, configuration, restart	---	Status query, configuration, restart	---
Alarm method	SMS,email	---	---	SMS,email	---	SMS,email	---
Installation method	wall mounting, DIN-Rail mounting	wall mounting, DIN-Rail mounting	Desktop, wall mounting DIN-Rail mounting	Desktop,wall mounting, DIN-Rail mounting	Desktop, wall mounting	Desktop,wall mounting, DIN-Rail mounting	Desktop,wall mounting, DIN-Rail mounting
Dimensions (mm)	125.0*103.0*45.0	160.0*121.0*45.0	116.0*84*25	90.0*84.0*25.0	123.0*112.0*28.0	99.1*93.8*29.0	86.0*70.0*25.0

# USR-G809

## High performance 4G industrial VPN router



The USR-G809 is an industrial cellular VPN router that integrates 4G LTE, Wi-Fi, DIO, serial port, Ethernet ports (4 LAN and 1 WAN) and VLAN, VPN technologies to provide state-of-the-art Internet connectivity and high-speed data access for equipment networking.

The product also supports PUSR cloud platform, you can easily track your devices, enjoy better efficiency for massive deployment and preventive maintenance, reduce operational costs.



DI/DO



RS232/485



Dual Wi-Fi  
(5.8G optional)



PUSR Cloud  
management



GPS



VLAN



VPN



SMS,  
email alarm



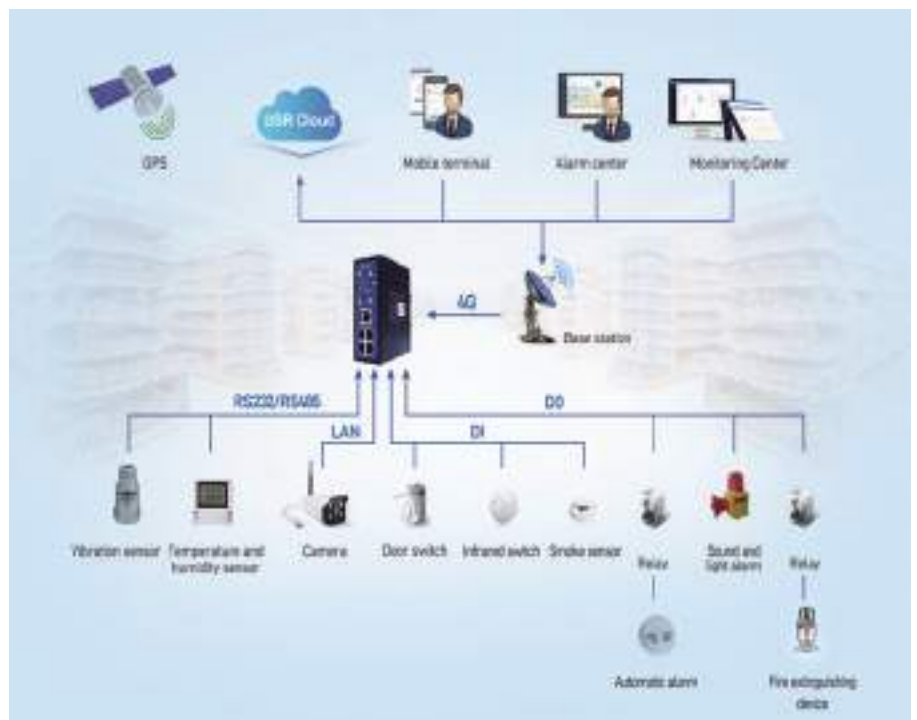
Failover  
and back



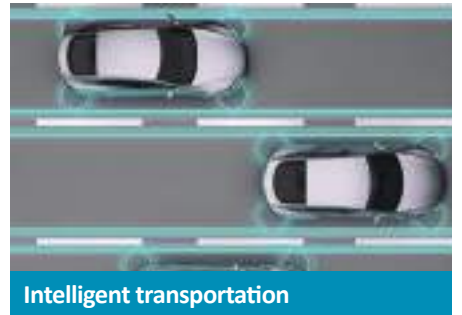
Industrial  
grade design

## USR-G809 Application Diagram

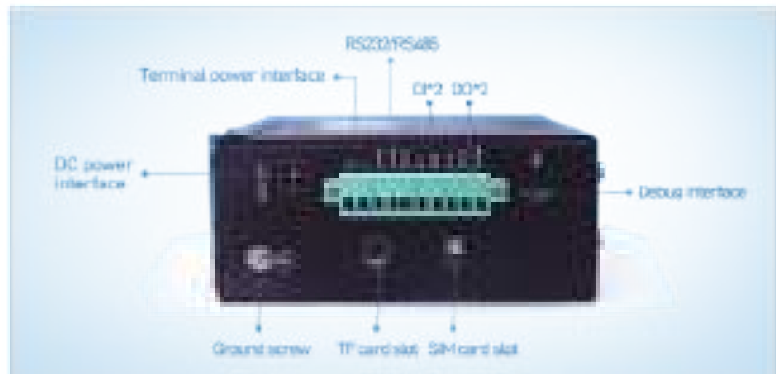
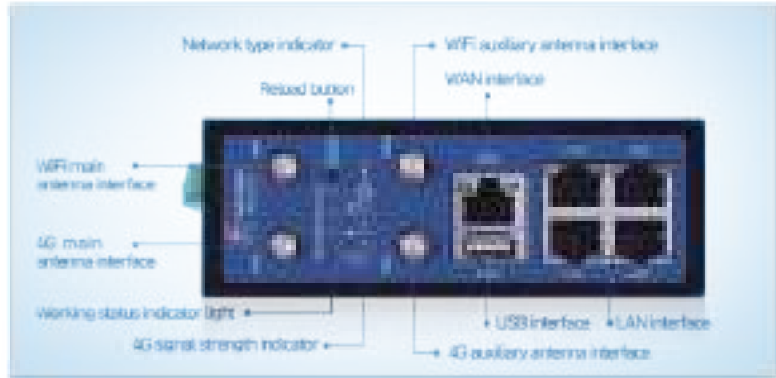
USR-G809 integrates 4G router, serial modem, and IO control, and is easy to use in automatic control, serial data collection and industrial networking scenarios. Such as: smart grid, automation, transportation, self-service industry, ATM, smart factory, solar power, wind power, remote monitoring, smart agriculture, weather monitoring, water pollution source monitoring, mine data monitoring, urban smart light poles, smart medical care, etc.



# Typical Applications



# Hardware & Dimensions





## USR-G809 Ordering Guide

Model	Region	Frequency bands	
USR-G809-E	EMEA& APAC	TDD-LTE	B38/B40/B41
		FDD-LTE	B1/B3/B5/B7/B8/B20
		WCDMA	B1/B5/B8
		GSM/GPRS/EDGE	B3/B8
USR-G809-G (coming soon)	Global	TDD-LTE	B38/B39/B40/B41
		FDD-LTE	B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28
		WCDMA	B1/B2/B4/B5/B6/B8/B19
		GSM	B2/B3/B5/B8
USR-G809-EAU (coming soon)	Europe& Australia	TDD-LTE	B38/B40/B41
		FDD-LTE	B1/B3/B5/B7/B8/B20/B28
		WCDMA/HSPA+	B1/B5/B8
		GSM/EDGE/GPRS	850/900/1800MHz
USR-G809-NLCN02 (coming soon)	China	TDD-LTE	B38/39/40/41
		FDD-LTE	B1/B3/B5/B8
		WCDMA	B1/B8
		TD-SCDMA	B34/B39
		EVDO/CDMA1X	CDMA1X/ 1xEV-DO rev.0/ 1xEV-DO rev. A: 800 MHz
		GSM/CPRS/EDGE	900/1800MHz

### ✧ SOFTWARE

- WAN protocol**  
 PPP,PPPoE,static IP, DHCP Client
- Cellular network**  
 Auto APN,VPDN  
 Link layer Detection, PPP layer detection
- VLAN division**  
 Support
- Serial modem**  
 Mode: Data passthrough, Modbus RTU to Modbus TCP, HTTPD  
 SOCKET protocol:TCP Server (only SocketA supports)/ Client, UDP Server/Client
- VPN**  
 PPTP Client  
 L2TP Client,L2TP Over IPsec  
 OpenVPN Client  
 IPsec  
 GRE
- Firewall**  
 NAT  
 DDoS attack defense  
 IP filter,Port filter,MAC filter, URL filter  
 Port forward,DMZ  
 VPN pass through
- LAN protocol**  
 DHCP Server,static IP,ICMP, telnet,ARP
- Wi-Fi**  
 Mode: AP mode  
 Security: WPA-PSK,WPA2-PSK, Open,TKIP/AES encryption
- Alarm**  
 Sent by SMS,email,DO
- Network management**  
 Web,Telnet,SSH and console
- PUSR cloud service**  
 Remote monitoring,remote upgrade,alariming,base station location,remote access to web pages of the router
- AT command configuration**  
 Support SMS,serial,network, PUSR AT command configuration

### ✧ HARDWARE

- Cellular interface**  
 SIM holder: push push type card connector\* 1  
 SIM: 1.8V/3V mini 2FF SIM card  
 Antennas: SMA-K \* 2  
 Data rate:  
 LTE:up to 50Mbps uplink,up to 150Mbps downlink  
 HSPA+:up to 5.76Mbp uplink,up to 42Mbps uplink
- Ethernet**  
 Number of ports: WAN \* 1 ,LAN \* 4  
 Data rate: 10/100 self-adaptive  
 Standards: compliance with IEEE 802.3,auto MDI/MDIX  
 Connector: RJ45
- Wi-Fi**  
 Antennas: RP-SMA-K \* 2  
 Standards:IEEE 802.11b/g/n, Access point(AP)  
 Frequency bands: 2.4GHz ,5.8GHz(optional)  
 Data speed:2.4G:up to 150Mbps  
 Transmission distance: 100 meters by line of sight
- Indicators**  
 PWR,WORK,WLAN,USR,NET,SIG
- Power**  
 Connector: 5.5\*2.1 barrel type socket, terminal block
- Terminal**  
 V+,V-: 2P power supply  
 GND:ground  
 Tx/B: RS232/RS485 (defined by software)  
 Rx/A: RS232/RS485 (defined by software)  
 DI: 2 \* digital input,passive switch  
 DO: 2\* digital output,active open collector output

### ✧ ELECTRICAL

- Power supply**  
 Adaptor: DC 12V/1A  
 Input range: DC 9 - 36V  
 Operating current: 522mA/12V
- EMC**  
 IEC 61000-4-2 Level 3  
 IEC 61000-4-5 Level 3  
 IEC 61000-4-4 Level 3
- Interface protection**  
 Ethernet: 1.5KV magnet isolation protection  
 SIM slot: 15KV ESD protection  
 Power : reverse polarity protection  
 DO protection: Maximum withstand voltage 36V, overcurrent 300mA

### ✧ PHYSICAL

- Housing**  
 Material:metal  
 Ingress protection: IP30
- Installation method**  
 DIN rail mounting, ear mounting
- Dimensions**  
 125.0\*103.0\*45.0mm(L\*W\*H)

### ✧ ENVIRONMENTAL

- Ambient environment**  
 Operating temperature: -20°C ~+70°C s  
 Storage temperature: -40°C ~+125°C  
 Humidity: 5%~95%RH ( non-condensing)

### ✧ CERTIFICATIONS

- Regulatory** CCC,CE,RoHS

# USR-G808 Dual module 4G cellular router



USR-G808 is a dual sim dual module 4G wireless industrial router. It integrates 4G LTE CAT4, Wi-Fi, and VPN technologies to provide reliable, secure connectivity and high-speed data access for device networking.

G808 is suitable for the networking of unattended devices and sites. It is embedded with watchdog, multilayer link detection mechanisms and failover with dual sim and WAN to ensure reliable and stable communications. Using our remote management platform, users can manage their network efficiently.



Dual sim  
Dual module



Failover  
and back



Multiple VPN  
protocol



APN/VPDN



Cloud management



Industrial  
grade design

## USR-G808 Application Diagram

USR-G808 is ideal for M2M and industrial IoT applications, such as intelligent express cabinet, automatic vending machine, ATM, smart grid, substation monitoring, remote control of water conservancy, intelligent transportation, environmental protection industry, intelligent agriculture, industrial automation, logistics, etc.



# Typical Applications



Coal mine



Transportation



Smart Energy Grid



Digital Oil Field



Industrial Automation

# Hardware & Dimensions



# USR-G808 Ordering Guide

Model	Region	Frequency bands	
USR-G808-EE	EMEA & South Africa & APAC	TDD-LTE	B38/B40/B41
		FDD-LTE	B1/B3/B5/B7/B8/B20
		WCDMA	B1/B5/B8
		GSM/GPRS/EDGE	B3/B8
USR-G808-AA	North America	FDD-LTE	B2/B4/B12
		WCDMA	B2/B4/B5
USR-G808-AU	Australia & Latin America & New Zealand & Taiwan	TDD-LTE	B40
		FDD-LTE	B1/B2/B3/B4/B5/B7/B8/B28
		WCDMA/HSPA+	B1/B2/B5/B8
		GSM/EDGE/GPRS	B2/B3/B5/B8
USR-G808-33	China	TDD-LTE	B38/39/40/41
		FDD-LTE	B1/B3/B5/B8
		WCDMA	B1/B8
		TD-SCDMA	B34/B39
		EVDO/CDMA1X	CDMA1X/ 1xEV-DO rev.0/ 1xEV-DO rev. A: 800 MHz
		GSM/CPRS/EDGE	900/1800MHz

## ※ HARDWARE

### • Cellular interface

SIM holder: standard draw type SIM slot \* 2  
 SIM : support 1.8V/3V mini 2FF SIM card  
 Antennas: SMA-K \* 2  
 Data rate:  
 LTE: up to 50Mbps uplink, up to 150Mbps downlink  
 HSPA+: up to 5.76Mbps uplink, up to 42Mbps uplink

### • Ethernet

Number of ports: WAN \* 1, LAN \* 4  
 Data rate: 10/100M self-adaptive  
 Standards: compliant with IEEE 802.3, auto MDI/MDIX  
 Connector: RJ45

### • Wi-Fi

Antennas: SMA-K \* 2  
 Standards: IEEE 802.11b/g/n, Access point (AP)  
 Frequency bands: 2.4GHz  
 Data speed: 2.4G: up to 150Mbps  
 Transmission distance: 100 meters by line of sight

### • Power

Connector: 5.5\*2.1 barrel type socket, terminal block

### • Indicators

PWR, WORK, WLAN, LAN1~4, WAN, SIG1, SIG2, SIM1, SIM2

## ※ SOFTWARE

### • WAN protocol

PPP, PPPoE, static IP, DHCP Client

### • Cellular network

Auto APN, VPDN  
 Dual sim standby  
 Link layer Detection, PPP layer detection  
 SIM card information display

### • IP Routing

WAN, VPN static routes  
 Routing table, dynamic routes

### • IP application

Ping, route trace, DNS, DDNS

### • Network backup

Failover between 4G1, 4G2 and WAN, ensures automatic switch to alternative backup connection

### • Firewall

NAT  
 DDoS attack defense  
 IP filter, Port filter, MAC filter, URL filter  
 Port forward, DMZ  
 VPN pass through

### • LAN protocol

DHCP Server, static IP, ICMP, telnet, ARP

### • Wi-Fi

Mode: AP mode  
 Security: WPA-PSK, WPA2-PSK, Open, TKIP/AES encryption

### • VPN

PPTP Client  
 L2TP Client  
 L2TP Over IPSec  
 OpenVPN Client  
 IPSec  
 GRE

### • Others

Schedule reboot  
 Support local configuration import and export  
 Support NTP, network clock automatic calibration

## ※ ENVIRONMENTAL

### • Ambient environment

Operating temperature: -20°C ~ +70°C  
 Storage temperature: -40°C ~ +125°C  
 Humidity: 5% ~ 95%RH (non-condensing)

## ※ PHYSICAL

### • Housing

Material: metal  
 Ingress protection: IP30

### • Installation method

DIN rail mounting, ear mounting

## ※ CERTIFICATIONS

### • Regulatory

CCC, CE, RoHS, Anatel

### • Dimensions

160.0\*121.0\*45.0mm (L\*W\*H)

## ※ ELECTRICAL

### • Power supply

Adaptor: DC 12V/2A  
 Input range: DC 9 - 36V  
 Operating current: 391mA/12V

### • EMC

IEC 61000-4-2 Level 2  
 IEC 61000-4-5 Level 2  
 IEC 61000-4-4 Level 2

### • Interface protection

Ethernet: 1.5KV magnet isolation protection  
 SIM slot: 15KV ESD protection  
 Power: reverse polarity protection

# USR-G802 Enterprise 4G industrial router



USR-G802 is an economical multi-port industrial cellular router. It integrates 4GLTE, Wi-Fi, Ethernet ports (4LAN and 1WAN) and VPN technologies. This product uses Qualcomm solution modules which has working frequency up to 580MHz to provide state-of-the-art Internet connection and high-speed data access for device networking.

The product also supports remote management cloud platform services, enabling you to easily track your devices and facilitate large-scale deployment and preventive maintenance, improving operation and maintenance efficiency and reducing operating costs.



Failover and back



Secure VPN transmission



APN/VPDN



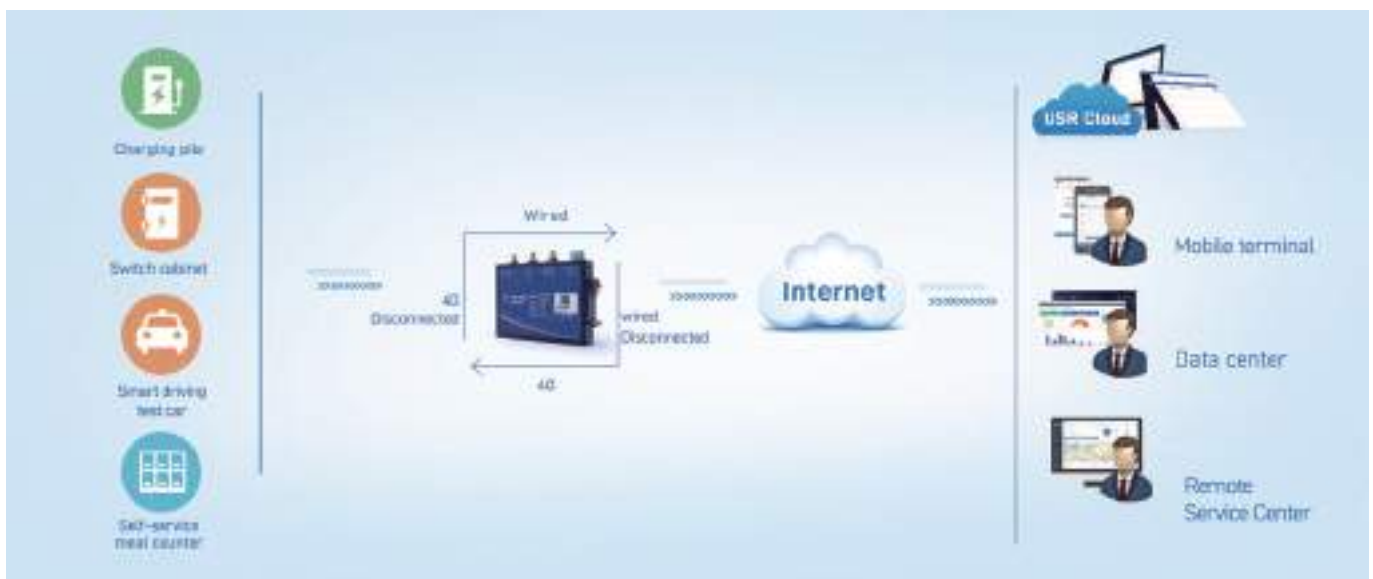
cloud management



industrial grade design

## USR-G802 Application Diagram

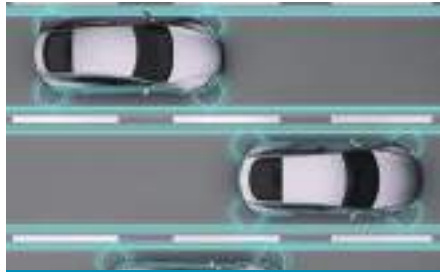
G802 can be widely used in Internet of Things applications, providing a good balance between cost and performance. The router occupies a small area and is suitable for charging piles, power exchange cabinets, smart meal fetching cabinets, bank ATM machines, centralized lighting control, and smart Traffic, tower monitoring, smart city, oil field, smart construction site, factory automation, electric power, water conservancy, environmental protection, etc.



# Typical Applications



Charging piles



Transportation



Smart construction site



Water conservancy project



Energy



Remote Monitoring of Air Compressors

# Hardware & Dimensions



# USR-G802 Ordering Guide

Model	Region	Frequency bands	
USR-G802-EAU (coming soon)	Europe & Australia	TDD-LTE	B38/B40/B41
		FDD-LTE	B1/B3/B5/B7/B8/B20/B28
		WCDMA/HSPA+	B1/B5/B8
		GSM/EDGE/GPRS	850/900/1800MHz
USR-G802-NLCN02	China/South East Asia	TDD-LTE	B38/39/40/41
		FDD-LTE	B1/B3/B5/B8
		WCDMA	B1/B8
		TD-SCDMA	B34/B39
		EVDO/CDMA1X	CDMA1X/ 1xEV-DO rel.0/ 1xEV-DO rev. A: 800 MHz
		GSM/CPRS/EDGE	900/1800MHz

## ※ HARDWARE

### Cellular interface

SIM holder: standard draw type SIM slot \* 1  
 SIM : support 1.8V/3V mini 2FF SIM card  
 Antennas: SMA-K \* 2  
 Data rate:  
 LTE: up to 50Mbps uplink, up to 150Mbps downlink  
 HSPA+: up to 5.76Mbps uplink, up to 42Mbps uplink

### Ethernet

Number of ports: WAN \* 1 , LAN \* 4  
 Data rate: 10/100M self-adaptive  
 Standards: compliant with IEEE 802.3, auto MDI/MDIX  
 Connector: RJ45

### Wi-Fi

Antennas: SMA-K \* 1  
 Standards: IEEE 802.11b/g/n, Access point(AP)  
 Frequency bands: 2.4GHz  
 Data speed: 2.4G: up to 150Mbps  
 Transmission distance: 100 meters by line of sight

### Power

Connector: 5.5\*2.1 barrel type socket, terminal block

### Indicators

PWR, Work, WLAN, SIG, NET

### Reload

Factory reset button

### TBD

Debug interface

## ※ SOFTWARE

### WAN protocol

PPP, PPPoE, static IP, DHCP Client

### Cellular network

Auto APN, VPDN  
 Link layer Detection, PPP layer detection  
 SIM card information display

### IP Routing

WAN, VPN static routes  
 Routing table, dynamic routes

### IP application

Ping, route trace, DNS, DDNS

### Network backup

Failover between 4G and WAN, ensures automatic switch to alternative backup connection

### Firewall

NAT  
 DDoS attack defense  
 IP filter, Port filter, MAC filter, URL filter  
 Port forward, DMZ  
 VPN pass through

### LAN protocol

DHCP Server, static IP, ICMP, telnet, ARP

### Wi-Fi

Mode: AP mode  
 Security: WPA-PSK, WPA2-PSK, Open, TKIP/AES encryption

### VPN

PPTP Client  
 L2TP Client  
 L2TP Over IPSec  
 IPSec

### Network management

Web, Telnet, SSH

### PUSR cloud service

Remote monitoring, remote upgrade, abnormal alarming push, remote configuration

### Others

Schedule reboot  
 Support local configuration import and export  
 Support NTP, network clock automatic calibration

## ※ ENVIRONMENTAL

### Ambient environment

Operating temperature: -20°C ~ +70°C  
 Storage temperature: -40°C ~ +125°C  
 Humidity: 5% ~ 95%RH (non-condensing)

## ※ PHYSICAL

### Housing

Material: metal  
 Ingress protection: IP30

### Installation method

Panel mounting, Desktop, Din-rail mounting

## ※ CERTIFICATIONS

### Regulatory

CE, CCC, RoHS

### Dimensions

116.0\*84.0\*25.0mm(L\*W\*H)

## ※ ELECTRICAL

### Power supply

Adaptor: DC 12V/1A  
 Input range: DC 9 - 36V  
 Operating current: 189mA/12V

### EMC

IEC 61000-4-2 Level 3  
 IEC 61000-4-5 Level 3  
 IEC 61000-4-4 Level 3

### Interface protection

Ethernet: 1.5KV magnet isolation protection  
 SIM slot: 15KV ESD protection  
 Power: reverse polarity protection

# USR-G807 Dual Ethernet with serial port 4G router



The USR-G807 is an IoT cellular router that integrates 4G LTE, Wi-Fi, serial modem and VPN technologies to provide an easy, reliable, secure Internet connectivity and high-speed data access for equipment networking.

G807 provides an RS485 serial port, which means that serial devices such as electricity meters, programmable logic controllers including Modbus RTU equipment can connect to the internet directly through the router.



Failover and back



Secure VPN transmission



SMS, Email alarm



PUSR cloud



Industrial grade design



Serial modem



Management compact size

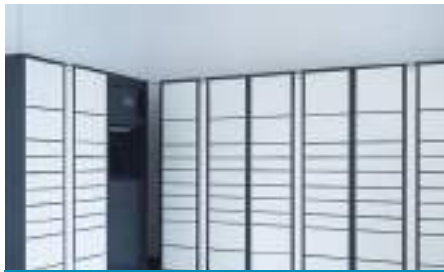
## USR-G807 Application Diagram

The G807 can be widely used in industrial and commercial IoT applications, providing an option of good balance between cost and performance. The router occupies a very small footprint which is suitable for large-scale distributed industrial applications, such as smart express cabinets, charging piles, battery cabinets, ATM machines, ticket vending machines, traffic management, vending machines, medical equipment networking, tower monitoring, digital signage, greenhouse remote control, electricity, water conservancy, environmental protection, etc.





# Typical Applications



Express cabinets



Charging pile



Vending machines



ATM machines



CCTV



HVAC Remote Monitoring

# Hardware & Dimensions



# USR-G807 Ordering Guide

Model	Region	Frequency bands	
USR-G807-EAU (coming soon)	Europe & Australia	TDD-LTE	B38/B40/B41
		FDD-LTE	B1/B3/B5/B7/B8/B20/B28
		WCDMA/HSPA+	B1/B5/B8
		GSM/EDGE/GPRS	850/900/1800MHz
USR-G807-NLCN02	China	TDD-LTE	B38/39/40/41
		FDD-LTE	B1/B3/B5/B8
		WCDMA	B1/B8
		TD-SCDMA	B34/B39
		EVD0/CDMA1X	CDMA1X/ 1xEV-DO reL0/ 1xEV-DO rev. A: 800 MHz
		GSM/CPRS/EDGE	900/1800MHz

## ※ HARDWARE

### • Cellular interface

SIM holder: standard draw type SIM slot \* 1  
 SIM : support 1.8V/3V mini 2FF SIM card  
 Antennas: SMA-K \* 1. North America models:  
 2 x SMA 4G antenna connectors  
 Data rate:  
 LTE: up to 50Mbps uplink, up to 150Mbps downlink  
 HSPA+: up to 5.76Mbps uplink, up to 42Mbps uplink

### • Ethernet

Number of ports: WAN/LAN \* 1 , LAN \* 1  
 Data rate: 10/100M self-adaptive  
 Standards: compliant with IEEE 802.3, auto MDI/MDIX  
 Connector: RJ45

### • Wi-Fi

Antennas: SMA-K \* 1  
 Standards: IEEE 802.11b/g/n, Access point(AP)  
 Frequency bands: 2.4GHz  
 Data speed: 2.4G: up to 150Mbps  
 Transmission distance: 100 meters by line of sight

### • Power

Connector: 5.5\*2.1 barrel type socket, terminal block

### • Indicators

PWR, WAN, LAN, WLAN, SIG, NET

### • Watchdog

Built-in

### • RS485

3-pin industrial terminal (A,B,G)

## ※ SOFTWARE

### • WAN protocol

PPP, PPPoE, static IP,  
 DHCP Client

### • Cellular network

Auto APN, VPDN  
 Link layer Detection,  
 PPP layer detection

### • Network management

Web, Telnet, SSH and SNMP

### • Firewall

DDoS attack defense  
 NAT, IP filter, Port filter,  
 MAC filter, URL filter  
 Port forward, DMZ  
 VPN pass through

### • AT command configuration & query

Support SMS, serial, network, PUSR  
 AT command configuration

### • Serial modem

Mode: Data passthrough, Modbus RTU to Modbus TCP, HTTPD  
 SOCKET protocol: TCP Server (only SocketA supports) / Client, UDP Server/Client

### • LAN protocol

DHCP Server, static IP, ICMP,  
 telnet, ARP

### • Wi-Fi

Mode: AP mode  
 Security: WPA-PSK,  
 WPA2-PSK, Open,  
 TKIP/AES encryption

### • PUSR cloud service

Remote monitoring, remote  
 upgrade, abnormal alarming push,  
 remote configuration

### • Alarm

Support SMS, Email alarm

### • VPN

PPTP /L2TP/L2TP Over  
 IPSec/OpenVPN/IPSec /  
 GRE

## ※ ENVIRONMENTAL

### • Ambient environment

Operating temperature: -20°C ~ +70°C  
 Storage temperature: -40°C ~ +125°C  
 Humidity : 5% ~ 95%RH (non-condensing)

## ※ ELECTRICAL

### • Power supply

Adaptor : DC 12V/1A  
 Input range : DC 9 - 36V  
 Operating current: 270mA/12V

### • EMC

IEC 61000-4-2 Level 2  
 IEC 61000-4-5 Level 2  
 IEC 61000-4-4 Level 2

## ※ PHYSICAL

### • Housing

Material: metal  
 Ingress protection: IP30

### • Installation method

DIN rail mounting, Panel mounting, Desktop

## ※ CERTIFICATIONS

### • Regulatory

CE, CCC, RoHS

### • Dimensions

90.0\*84.0\*25.0mm(L\*W\*H)

# USR-G781 Dual Ethernet with serial port 4G router



USR-G781 is an IoT cellular router that integrates 4G LTE, serial modem, and VPN technologies to provide an easy, reliable, secure Internet connectivity and high-speed data access for equipment networking.

G781 has RS232/RS485 interface, which delivers reliable connectivity via serial port to PLCs, Meters, Modbus RTU equipment and sensor equipment. They help transporting data from any industrial device to data control servers, allowing businesses to benefit from real-time data collection, management and control.

- Failover and back
- VPN/VPDN
- PUSR cloud
- Industrial grade design
- Serial modem
- Management compact size

## USR-G781 Application Diagram

USR-G781 has RS232/RS485 interface, suitable for large-scale distributed industrial applications, such as: smart express cabinets, charging piles, ATM machines, automatic ticket vending machines, substation monitoring, urban street lamp remote monitoring system, urban energy consumption monitoring ,greenhouse remote control, aquaculture monitoring, agricultural irrigation, etc.



# Typical Applications



Vending machines



Charging piles



Remote meter reading

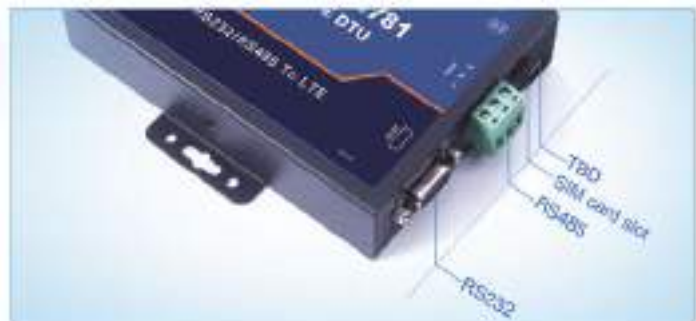


Agricultural irrigation



Greenhouse remote control

# Hardware & Dimensions



# USR-G781 Ordering Guide

Model	Region	Frequency bands	
USR-G781-E	EMEA/South Africa/ Thailand/India	TDD-LTE	B38/B40/B41
		FDD-LTE	B1/B3/B5/B7/B8/B20
		WCDMA	B1/B5/B8
		GSM/GPRS/EDGE	B3/B8
USR-G781-A	North America	FDD-LTE	B2/B4/B12
		WCDMA	B2/B4/B5
USR-G781-AU	Latin America/ Australia/ New Zealand	TDD-LTE	B40
		FDD-LTE	B1/B2/B3/B4/B5/B7/B8/B28
		WCDMA/HSPA+	B1/B2/B5/B8
		GSM/EDGE/GPRS	B2/B3/B5/B8
USR-G781-43	China/South East Asia	TDD-LTE	B38/39/40/41
		FDD-LTE	B1/B3/B5/B8
		WCDMA	B1/B8
		TD-SCDMA	B34/B39
		EVDO/CDMA1X	CDMA1X/ 1xEV-DO rev.0/ 1xEV-DO rev. A: 800 MHz
		GSM/GPRS/EDGE	900/1800MHz

## ※ HARDWARE

### Cellular interface

SIM holder: standard draw type SIM slot \* 1  
 SIM : support 1.8V/3V mini 2FF SIM card  
 Antennas: SMA-K \* 2  
 Data rate:  
 LTE: up to 50Mbps uplink, up to 150Mbps downlink  
 HSPA+: up to 5.76Mbps uplink, up to 42Mbps uplink

### Ethernet

Number of ports: WAN/LAN \* 1 , LAN \* 1  
 Data rate: 10/100M self-adaptive  
 Standards: compliant with IEEE 802.3, auto MDI/MDIX  
 Connector: RJ45

### Power

Connector: 5.5\*2.1 barrel type socket, terminal block

### Indicators

POWER, WORK, NET, SIM, LINKA, LINKB, TXD, RXD

### RS485

3-pin industrial terminal (A,B,G)

### RS232

Standard DB9 interface

## ※ SOFTWARE

### WAN protocol

PPP, PPPoE, static IP, DHCP Client

### Cellular network

Auto APN, VPDN  
 Link layer Detection, PPP layer detection  
 SIM card information display

### IP Routing

WAN, VPN static routes  
 Routing table, dynamic routes

### IP application

Ping, route trace, DNS, DDNS

### Network backup

Failover between 4G and WAN, ensures automatic switch to alternative backup connection

### Firewall

NAT  
 DDoS attack defense  
 IP filter, Port filter, MAC filter, URL filter  
 Port forward, DMZ  
 VPN pass through

### LAN protocol

DHCP Server, static IP, ICMP, telnet, ARP

### Wi-Fi

Mode: AP mode  
 Security: WPA-PSK, WPA2-PSK, Open, TKIP/AES encryption

### VPN

PPTP Client  
 L2TP Client  
 L2TP Over IPSec  
 IPSec

### Network management

Web, Telnet, SSH

### PUSR cloud service

Remote monitoring, remote upgrade, abnormal alarming push, remote configuration

### Others

Schedule reboot  
 Support local configuration import and export  
 Support NTP, network clock automatic calibration

## ※ ENVIRONMENTAL

### Ambient environment

Operating temperature: -35°C ~ +75°C  
 Storage temperature: -40°C ~ +125°C  
 Humidity: 5% ~ 95%RH (non-condensing)

## ※ PHYSICAL

### Housing

Material: metal  
 Ingress protection: IP30

### Installation method

Panel mounting, Desktop

## ※ CERTIFICATIONS

### Regulatory

CE, CCC, RoHS

### Dimensions

123.0\*112.0\*28.0mm(L\*W\*H)

## ※ ELECTRICAL

### Power supply

Adaptor: DC 12V/1A  
 Input range: DC 9 - 36V  
 Operating current: 180mA/12V

### EMC

IEC 61000-4-2 Level 2  
 IEC 61000-4-5 Level 2  
 IEC 61000-4-4 Level 2

### Interface protection

Ethernet: 1.5KV magnet isolation protection  
 SIM slot: 15KV ESD protection  
 Power: reverse polarity protection

# USR-G806 Dual Ethernet 4G industrial router



The USR-G806 is an IoT cellular router that integrates 4G LTE, Wi-Fi, and VPN technologies to provide an easy, reliable, secure Internet connectivity and high-speed data access for equipment networking. With technologies such as 4G wireless wide area network, Dual Ethernet ports (LAN + WAN), Wi-Fi wireless local area network it provides uninterrupted multiple network access capabilities.



Failover and back



Secure VPN transmission



PUSR cloud



Industrial grade design



VPN/VPDN



SMS, Email alarm

## USR-G806 Application Diagram

G806 can be widely used in various industrial and commercial IoT applications, providing a good balance between cost and performance. The router occupies a very small footprint and is suitable for large-scale distributed industrial applications, such as smart express cabinets, battery swapping cabinets, CCTV, bank ATM machine, vending machine, tower monitoring, digital signage, electricity, water conservancy, environmental protection, etc.



# Typical Applications



Factory IoT



Retail



Cold chain monitoring



Digital signage



Construction Site



Elevators Preventive Maintenance

# Hardware & Dimensions



# USR-G806 Ordering Guide

Model	Region	Frequency bands	
USR-G806-E	EMEA/South Africa/ Thailand/India	TDD-LTE	B38/B40/B41
		FDD-LTE	B1/B3/B5/B7/B8/B20
		WCDMA	B1/B5/B8
		GSM/GPRS/EDGE	B3/B8
USR-G806-A	North America	FDD-LTE	B2/B4/B12
		WCDMA	B2/B4/B5
USR-G806-AU	Latin America/ Australia/ New Zealand	TDD-LTE	B40
		FDD-LTE	B1/B2/B3/B4/B5/B7/B8/B28
		WCDMA/HSPA+	B1/B2/B5/B8
		GSM/EDGE/GPRS	B2/B3/B5/B8
USR-G806-G	Global	TDD-LTE	B38/B39/B40/B41
		FDD-LTE	B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28
		WCDMA	B1/B2/B4/B5/B6/B8/B19
		GSM	B2/B3/B5/B8
USR-G806-EAU	Latin America/ Australia/New Zealand	TDD-LTE	B38/B40/B41
		FDD-LTE	B1/B3/B5/B7/B8/B20/B28
		WCDMA/HSPA+	B1/B5/B8
		GSM/EDGE/GPRS	850/900/1800MHz
USR-G806-43	China/South East Asia	TDD-LTE	B38/39/40/41
		FDD-LTE	B1/B3/B5/B8
		WCDMA	B1/B8
		TD-SCDMA	B34/B39
		EVDO/CDMA1X	CDMA1X/ 1xEV-DO rel.0/ 1xEV-DO rev. A: 800 MHz
		GSM/CPRS/EDGE	900/1800MHz

## ※ HARDWARE

### • Cellular interface

SIM holder: standard draw type SIM slot \* 1  
SIM : support 1.8V/3V mini 2FF SIM card  
Antennas: SMA-K \* 2  
Data rate:  
LTE:up to 50Mbps uplink,up to 150Mbps downlink  
HSPA+:up to 5.76Mbp uplink,up to 42Mbps uplink

### • Ethernet

Number of ports: WAN/LAN \* 1 ,LAN \* 1  
Data rate: 10/100M self-adaptive  
Standards: compliant with IEEE 802.3,auto MDI/MDIX  
Connector: RJ45

### • Wi-Fi

Antennas: SMA-K \* 1  
Standards:IEEE 802.11b/g/n, Access point(AP)  
Frequency bands: 2.4GHz  
Data speed:2.4G:up to 150Mbps  
Transmission distance: 100 meters by line of sight

### • Power

Connector: 5.5\*2.1 barrel type socket, terminal block

### • Indicators

PWR,WAN,LAN,WLAN,SIG,NET

### • Reload

Factory reset button

## ※ SOFTWARE

### • WAN protocol

PPP,PPPoE,static IP,  
DHCP Client

### • Cellular network

Auto APN,VPDN  
Link layer Detection, PPP  
layer detection

### • Firewall

NAT  
DDoS attack defense  
IP filter,Port filter,MAC filter,  
URL filter  
Port forward,DMZ  
VPN pass through

### • Network management

Web,Telnet,SSH and SNMP

### • Housing

Material:metal  
Ingress protection: IP30

### • Installation method

DIN rail mounting,Panel mounting,  
Desktop

### • LAN protocol

DHCP Server,static IP,ICMP,  
telnet,ARP

### • Wi-Fi

Mode: AP mode  
Security: WPA-PSK,WPA2-PSK,  
Open,TKIP/AES encryption

### • VPN

PPTP /L2TP/L2TP Over  
IPSec/OpenVPN/IPSec /GRE

### • PUSR cloud service

Remote monitoring,remote upgrade,  
abnormal alarming push,remote  
configuration

### • AT command configuration & query

Support SMS,serial,network,  
PUSR AT command configuration

### • Dimensions

99.1\*93.8\*29.0mm(L\*W\*H)

## ※ ENVIRONMENTAL

### • Ambient environment

Operating temperature: -20°C~+70°C  
Storage temperature: -40°C~+125°C  
Humidity : 5%~95%RH (non-condensing)

## ※ ELECTRICAL

### • Power supply

Adaptor : DC 12V/1A  
Input range : DC 9 - 36V  
Operating current: 175mA/12V

### • EMC

ESD EFT Surge protection

### • Interface protection

Ethernet: 1.5KV magnet isolation protection  
SIM slot: 15KV ESD protection  
Power : reverse polarity protection

## ※ CERTIFICATION

### • Regulatory

CE,CCC,FCC,RoHS,PTCRB,AT&T,RCM



# USR-G805 Small business 4G industrial router



USR-G805 is an IoT cellular router, which integrates 4G LTE, Ethernet ports and VPN technologies. It provides convenient, stable, reliable, and secure Internet connection services and high-speed data access for device networking.

This product is suitable for the networking of unattended devices and sites. It is embedded with watchdog and multilayer link detection mechanisms to ensure reliable and stable communications. Using our remote management platform, users can manage their network efficiently.

- 4G**  
4G High Speed secure
- VPN**  
VPN transmission
- PUSRC cloud**
- VPN/VPDN**
- Compact size**

## USR-G805 Application Diagram

USR-G805 can be used in self-service terminal equipment (vending machines, express cabinets, lottery machines, charging piles, Kiosks, etc.), video security monitoring industry (video monitoring, tower monitoring, water conservancy monitoring, earthquake monitoring, etc.), smart cities (advertising, parking, access control, etc.).



# Typical Applications



Self-service terminal



Security monitoring



Smart city



Intelligent transportation system



Medical Equipment Monitoring

# Hardware & Dimensions



# USR-G805 Ordering Guide

Model	Region	Frequency bands	
USR-G805-ECAUX	Australia & Latin America & New Zealand & Taiwan	TDD-LTE	B40
		FDD-LTE	B1/B2/B3/B4/B5/B7/B8/B28
		WCDMA	B1/B2/B4/B5/B8
		GSM/GPRS/EDGE	B2/B3/B5/B8
USR-G805-ECEUX	EMEA	TDD-LTE	B38/B40/B41
		FDD-LTE	B1/B3/B7/B8/B20/B28A
		WCDMA	B1/B8
		GSM/EDGE	B3/B8

## ※ HARDWARE

### • Cellular interface

SIM holder: standard draw type SIM slot \* 1  
 SIM : support 1.8V/3V mini 2FF SIM card  
 Antennas: SMA-K \* 1.  
 Data rate:  
 LTE: up to 50Mbps uplink, up to 150Mbps downlink  
 HSPA+: up to 5.76Mbps uplink, up to 42Mbps uplink

### • Ethernet

Number of ports: LAN \* 1  
 Data rate: 10/100M self-adaptive  
 Standards: compliant with IEEE 802.3, auto MDI/MDIX  
 Connector: RJ45

### • Power

Connector: 5.5\*2.1 barrel type socket, terminal block

### • Indicators

POWER, WORK, NET, SIG

## ※ SOFTWARE

### • LAN protocol

DHCP Server, static IP, ICMP, telnet, ARP

### • Cellular network

Auto APN, VPDN  
 Link layer Detection, PPP layer detection  
 Support network mode lock

### • IP Routing

WAN, VPN static routes  
 Routing table, dynamic routes

### • IP application

Ping, route trace, DNS, DDNS

### • Network backup

Failover between 4G and WAN, ensures automatic switch to alternative backup connection

### • Firewall

DDoS attack defense  
 NAT, IP filter, Port filter,  
 MAC filter, URL filter  
 Port forward, DMZ  
 VPN pass through

### • VPN

PPTP Client  
 L2TP Client

### • Network management

Web, Telnet, SSH

### • PUSR cloud service

Remote monitoring, remote upgrade,  
 abnormal alarming push, remote configuration

## ※ ENVIRONMENTAL

### • Ambient environment

Operating temperature: -20°C ~ +70°C  
 Storage temperature: -40°C ~ +125°C  
 Humidity: 5% ~ 95%RH (non-condensing)

## ※ PHYSICAL

### • Housing

Material: metal  
 Ingress protection: IP30

### • Installation method

Panel mounting, Desktop,  
 Din-rail mounting

### • Dimensions

86.0\*70.0\*25.0mm (L\*W\*H)

## ※ ELECTRICAL

### • Power supply

Adaptor : DC 12V/1A  
 Input range : DC 9 - 36V  
 Rated power consumption: 3.5W  
 Peak power consumption: 10W

### • EMC

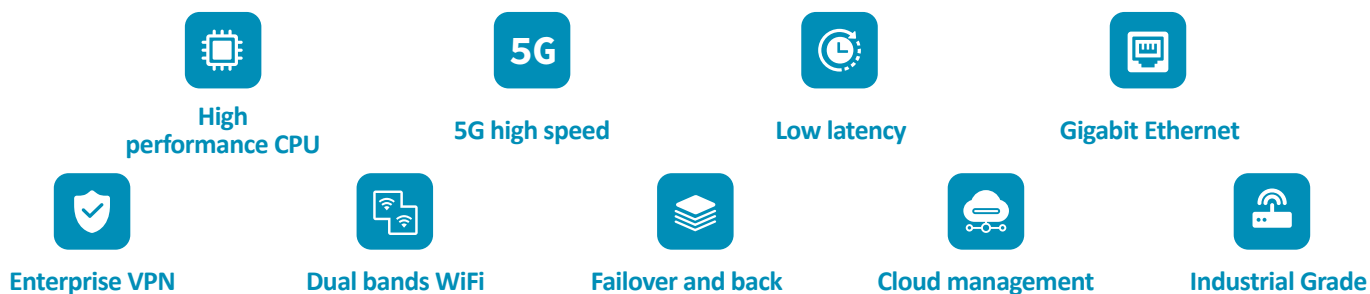
ESD EFT Surge protection

## ※ CERTIFICATION

### • Regulatory

CE, RoHS

# | USR-G810 5G Gigabit industrial cellular router

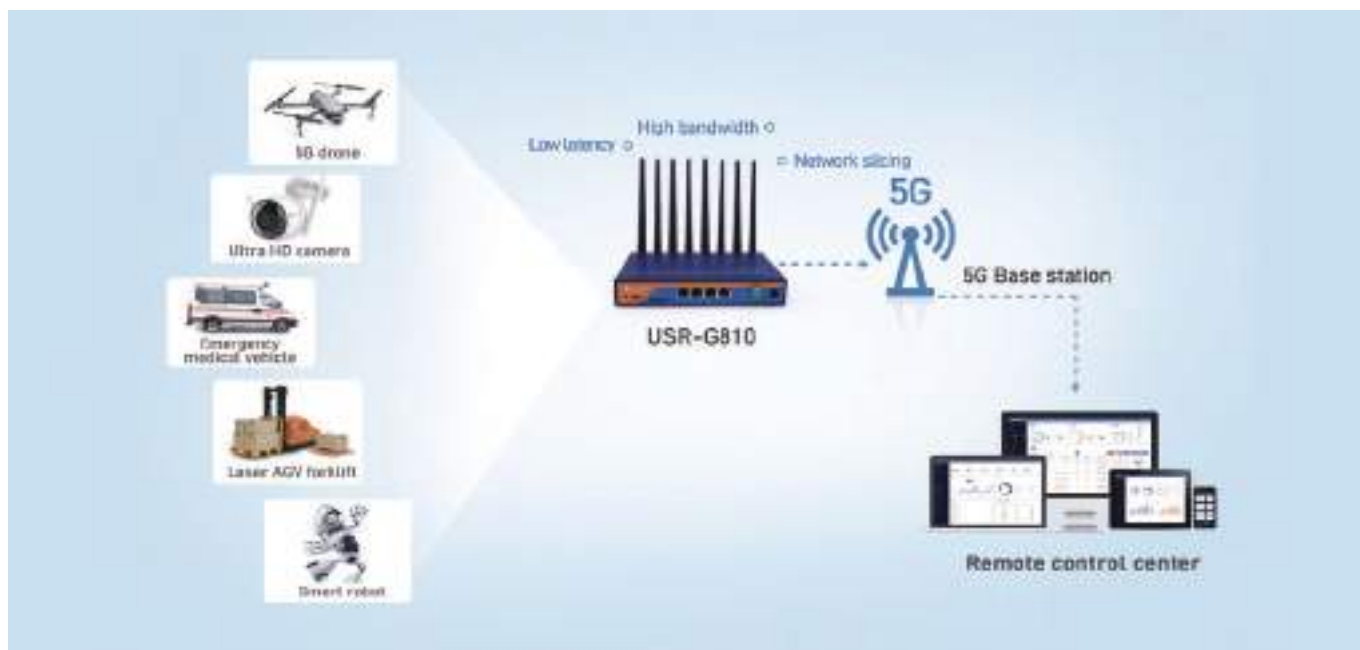


USR-G810 5G NSA/SA industrial cellular router also called CPE is designed to be a high speed, wide coverage, and low latency router which offers multiple internet access with 5G/4G/3G, Ethernet, and 2.4GHz WiFi4, 5.8GHz WiFi5 standards, and provides users with strong, reliable performance and diverse networking solutions.

The product adopts high-performance dual-core processor, operating frequency up to 880MHz, features industrial grade design, high protection level and wide temperature and voltage ranges make it enduring in challenging environments. It is embedded with watchdog and multilayer link detection mechanisms to ensure reliable and stable communications.

# 5G Application Diagram

USR-G810 is a boost for "5G + Industrial Internet of Things". The product can be applied to multiple application scenarios. It can show its talents in scenarios with large data volume and high data real-time requirements, such as industrial monitoring, operation of mining forklifts, automatic AGV transportation, and telemedicine, drone, unmanned aerial vehicles and so on.



## Typical Applications



Smart Factory



Smart harbour



Smart Medical

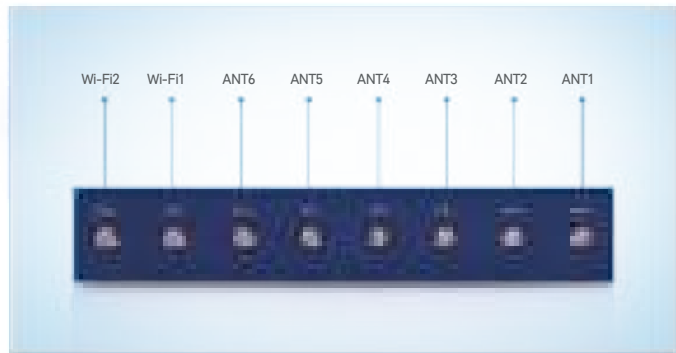
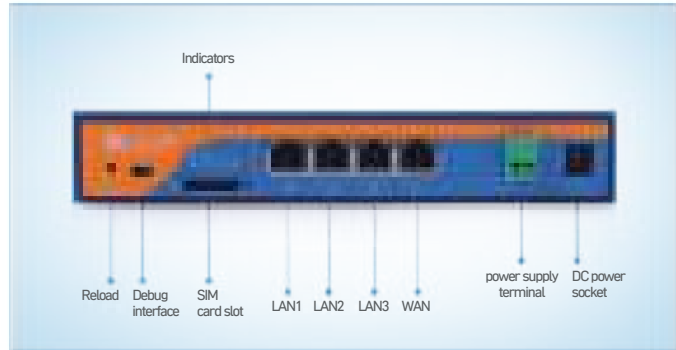


Smart mining



AGV intelligent logistics

# Hardware & Dimensions



USR-G810 Ordering Guide		
Model	Region	Frequency bands
USR-G810	China	5G Sub-6: n1, n28, n41, n77, n78, n79 LTE FDD: B1, B2, B3, B5, B7, B8 LTE TDD: B34, B39, B40, B41 WCDMA: B1, B2, B5, B8
USR-G810-E (coming soon)	Europe, Australia, Asia	5G Sub-6: n1, n3, n5, n7, n8, n20, n28, n38, n40, n41, n77, n78, n79 LTE FDD: B1, B3, B5, B7, B8, B18, B19, B20, B28, B32 LTE TDD: B38, B40, B41, B42, B43 WCDMA: B1, B2, B5, B8, B19

## ※ HARDWARE

### • Cellular interface

SIM slot: 6 PIN drawer type slot \* 1  
SIM: 1.8V/3V mini 2FF SIM card  
Antennas: SMA-K \* 6  
Data rate:  
NSA:up to 900Mbps uplink,up to 2.1Gbps downlink  
LTE:up to 150Mbps uplink,up to 1Gbps downlink  
HSPA+:up to 5.76Mbp uplink,up to 42Mbps uplink

### • Ethernet

Number of ports: WAN \* 1 ,LAN \* 3  
Data rate: 10/100/1000M self-adaptive  
Standards: compliance with IEEE 802.3,auto MDI/MDIX

### • Wi-Fi

Antennas: SMA-K \* 2  
Standards:IEEE 802.11b/g/n,IEEE802.11ac, Access point(AP)  
Frequency bands: 2.4GHz ,5.8GHz  
Data speed:2.4G:up to 300Mbps,5.8G:up to 867Mbps  
Transmission distance: 200 meters by line of sight

### • Power

Connector: 5.5\*2.1 barrel type socket,2PIN terminal block

### • Indicators

PWR,WLAN,NET,SIG

### • Reload

Factory reset button

## ※ SOFTWARE

### • WAN protocol

PPP,PPPoE,static IP,DHCP Client

### • LAN protocol

DHCP Server,static IP,ICMP,telnet,ARP

### • Cellular network

Auto APN,VPDN  
Link layer Detection, PPP layer detection  
SIM card information display

### • Wi-Fi

Mode: AP mode  
Security: WPA-PSK,WPA2-PSK,Open,TKIP/AES encryption

### • VPN

PPTP Client  
L2TP Client  
L2TP Over IPSec  
OpenVPN Client  
IPSec  
GRE

### • IP Routing

WAN,VPN static routes  
Routing table,dynamic routes

### • Firewall

NAT  
DDoS attack defense  
IP filter,MAC filter,URL filter  
Port forward,DMZ  
VPN pass through

### • IP application

Ping,route trace,DNS,DDNS

### • Network management

Web,Telnet,SSH and console  
Remote configuration, remote  
upgrade,PUSR cloud

### • Network backup

Failover between 4G and WAN,  
ensures automatic switch to  
alternative backup connection

### • Others

Schedule reboot  
Support local configuration import  
and export. Support NTP, network  
clock automatic calibration

## ※ ELECTRICAL

### • Power supply

Adaptor: DC 12V/2A  
Input range: DC 9 - 36V  
Working power: 524mA/12V

### • EMC

IEC 61000-4-2 Level 3  
IEC 61000-4-5 Level 3  
IEC 61000-4-4 Level 3

### • Interface protection

Ethernet: 1.5KV magnet isolation protection  
SIM slot: 15KV ESD protection  
Power : reverse polarity protection

## ※ ENVIRONMENTAL

### • Ambient environment

Operating temperature: -20°C~+70°Cs  
Storage temperature: -40°C~+125°C  
Humidity: 5%~95%RH (non-condensing)

## ※ CERTIFICATION

### • Regulatory

CCC,CE,ROHS

## ※ PHYSICAL

### • Housing

Material: metal  
Ingress Protection: IP30

### • Installation method

Wall mounting,desktop

### • Dimensions

200.0\*139.0\*35.0mm(L\*W\*H)

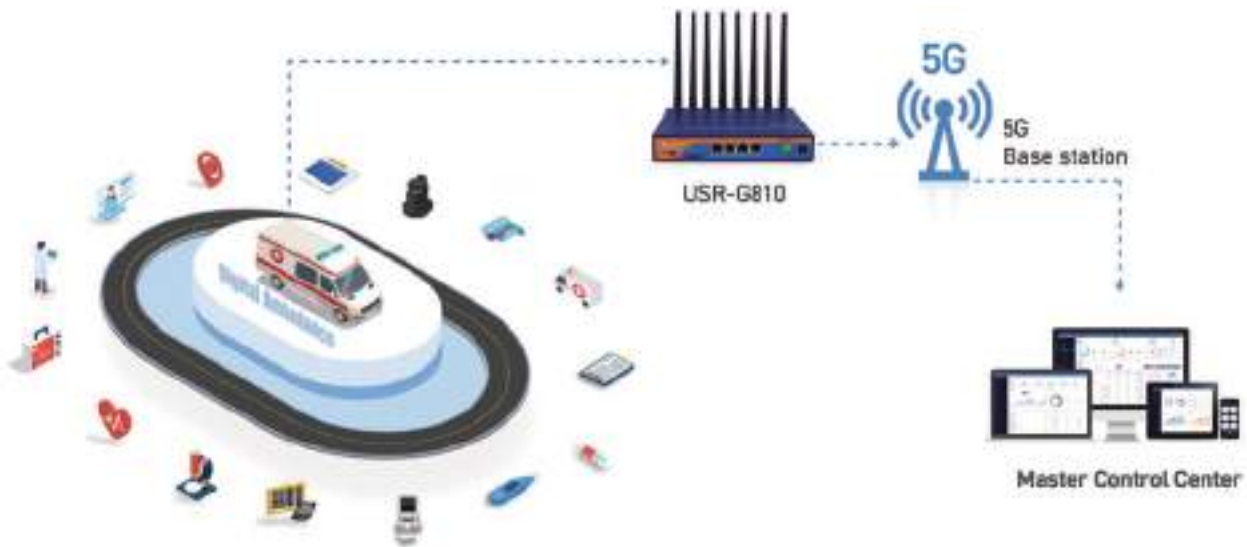


*Industry Case >*



## 5G Smart Medical

The 5G industrial router USR-G810 has the features of ultra-high network speed, low latency, and high stability. Real-time transmission of medical equipment monitoring information, real-time vehicle positioning information, and video images inside and outside the vehicle through the 5G network provided by 5G Industrial router/CPE, which is not only convenient for remote consultation and guidance but also highly efficient for collection, process, storage, and transmits of pre-hospital emergency information. G810 builds a stable and reliable 5G network for medical treatment, helping remote consultation and mobile medical care.



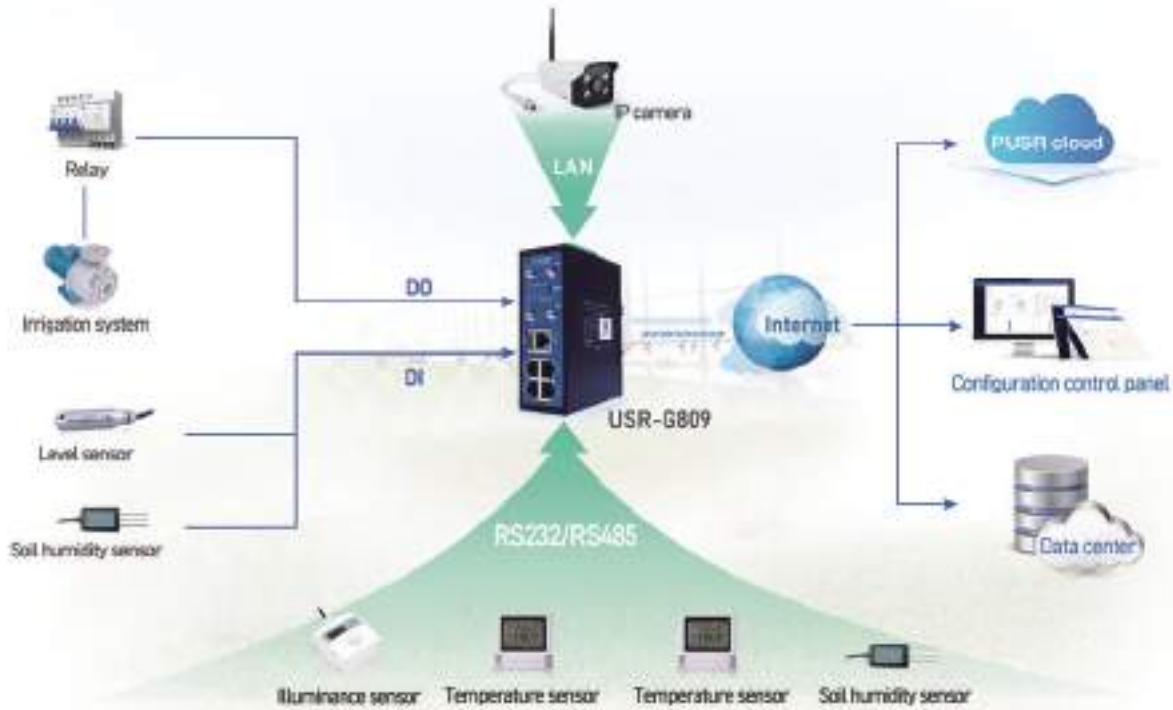
## Oilfield Monitoring System

After the oil well RTU equipment collects the current status of the oil well, it is transmitted to the cloud data server through the G807 router. Various departments understand the current status of the on-site oil well through the monitoring platform, improve the efficiency of oil production, shorten the troubleshooting time, and provide effective solutions for the digitalization and systematic management of the oilfield.



## Intelligent agricultural automatic irrigation system

Smart agricultural irrigation system combines 4G/3G/2G network and automatic control technology to implement precision irrigation, based on actual water requirement of crops and information technology to improve irrigation accuracy. The system can automatically sense when and how long the irrigation is needed. In the smart agriculture solution based on G809, the environmental information collected by sensors is reported to the irrigation system server through the DTU function, and the site location is reported via the GPS data. The liquid level and soil moisture are used to determine whether to drive the irrigation system to achieve precise irrigation.



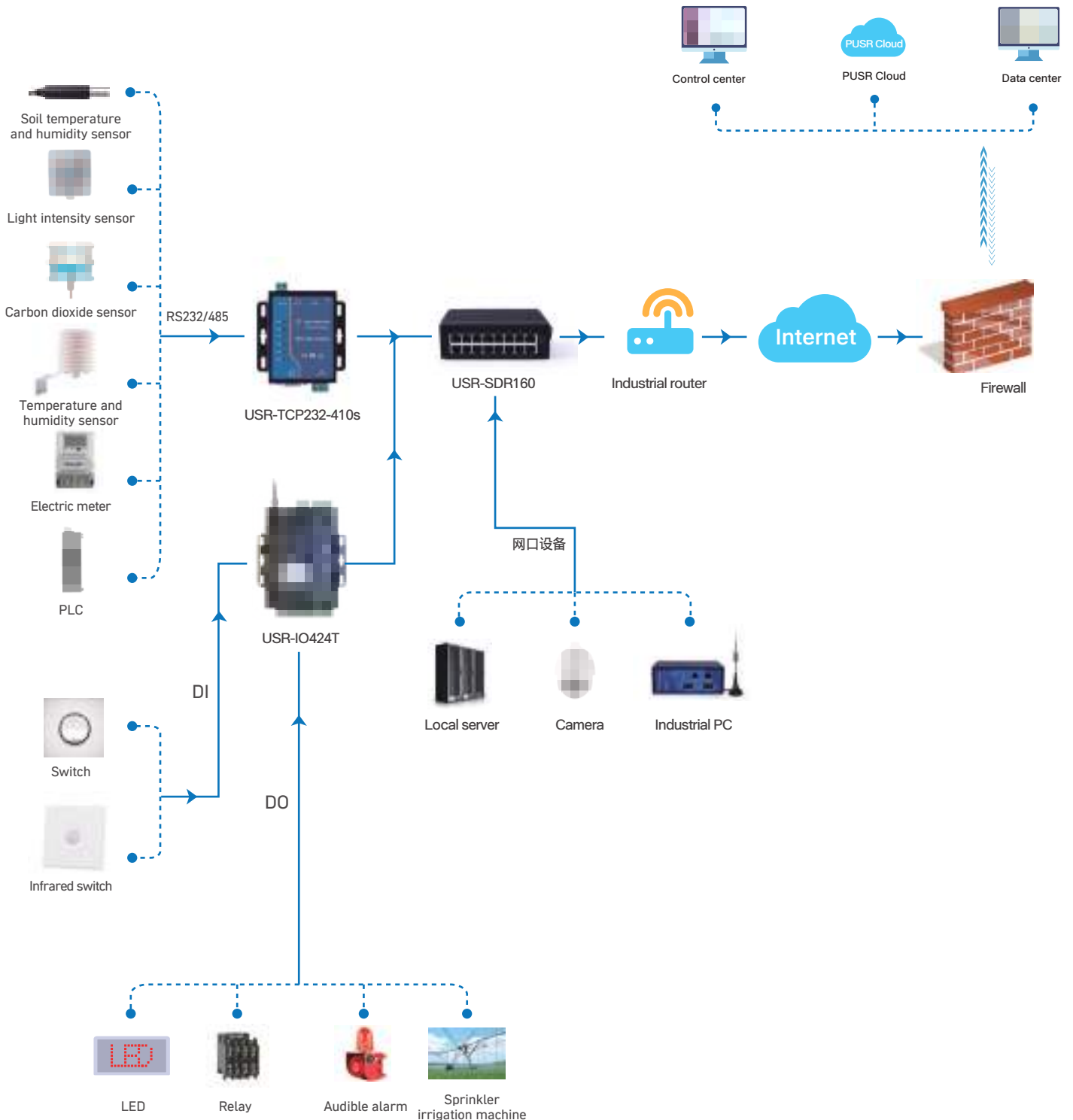
## Banking business networking solutions

The USR-G808 router has dual cards and dual modules, and multiple VPN encryption methods. It also has a network failover function. When a network failure occurs, it will automatically connect to the VPN through other links in time to ensure the normal progress of the business. It can provide a safe, reliable and stable network environment for banking business.



# More applications

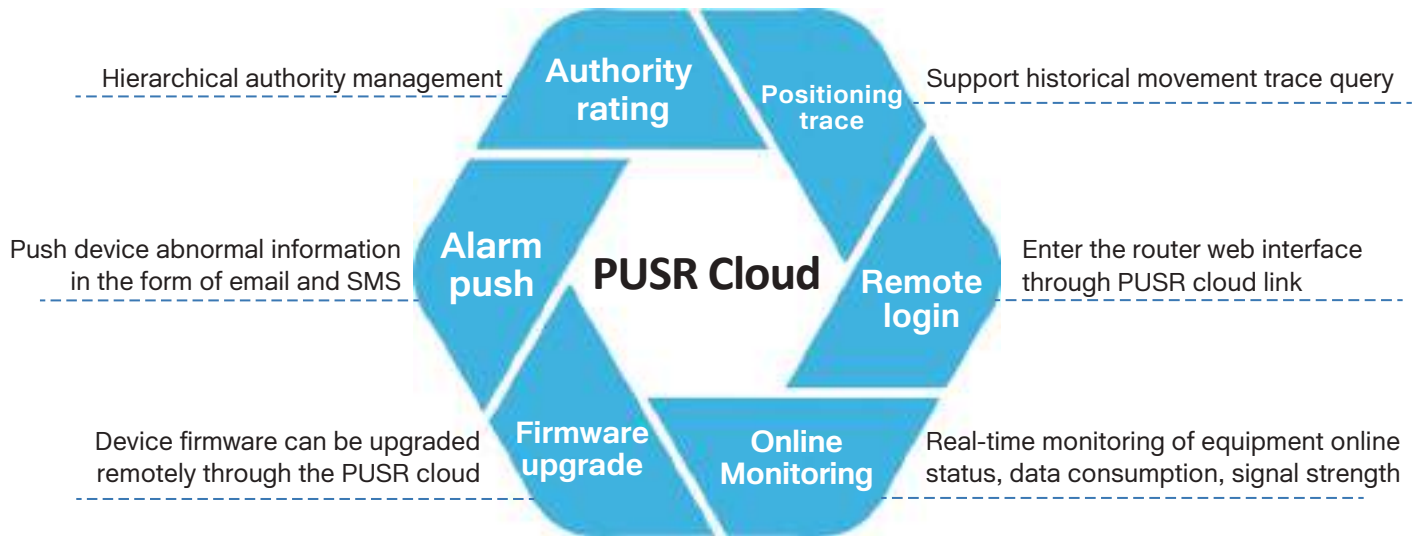
Industrial routers can combine serial device server and remote IO controller to provide more solutions, which are suitable for industrial acquisition and control sites, and can also realize data encryption transmission through the router's VPN, providing customers with more secure and stable networking solutions.



# PUSR Cloud

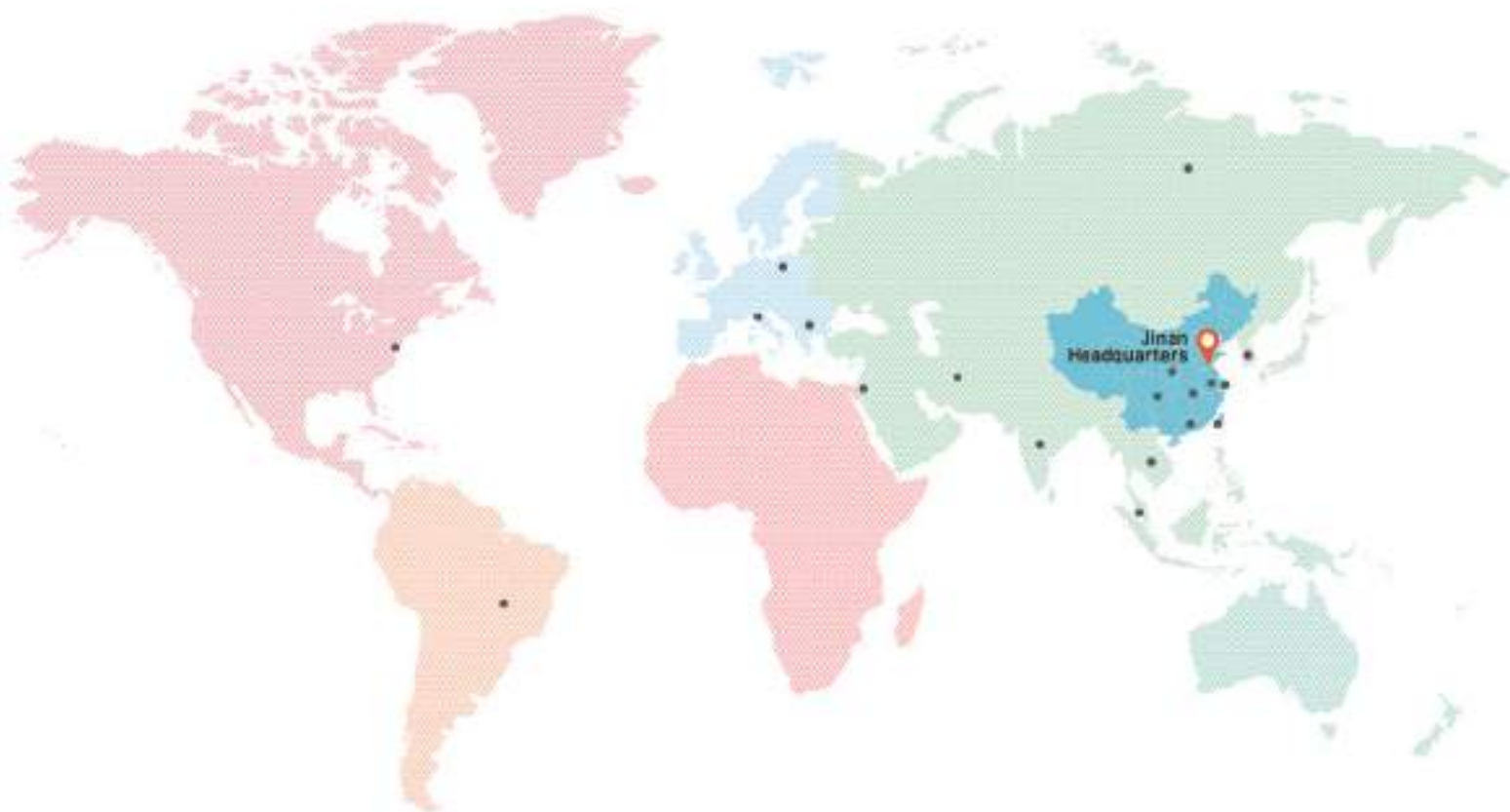
PUSR cloud provides enterprises with a one-stop solution for software and hardware, empowering many industries, providing safe and reliable equipment access, data display, configuration services, operation and maintenance management, data statistics and analysis and other core functions, helping enterprises to reduce costs , build your own IoT system efficiently.

Many routers support "cloud" service: USR-G805, USR-G806, USR-G807, USR-G802, USR-G809, G810. You can easily track your equipment, enjoy higher scale deployment and preventive maintenance, improve operation and maintenance efficiency, and reduce operating costs.



# Monitor Screen





Official website: <https://pusr.com>

Official shop: <https://shop.usriot.com>

Technical support: <http://h.usriot.com/>



**PUSR**<sup>®</sup>  
[www.pusr.com](http://www.pusr.com)

Communication Expert  
of Industrial IOT

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