

# PUSR IOT

## Be Honest, Do Best



### PUSR

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# Your Trustworthy Industrial IoT Partner

# Your Trustworthy Industrial IoT Partner

A trusted partner of industrial IoT hardware and software solutions

With 600 employees, owns a self-built factory

High quality with ISO9001:2015, RoHS, CE, FCC certification

11 years expertise in IoT communication devices/modules, cloud and solutions

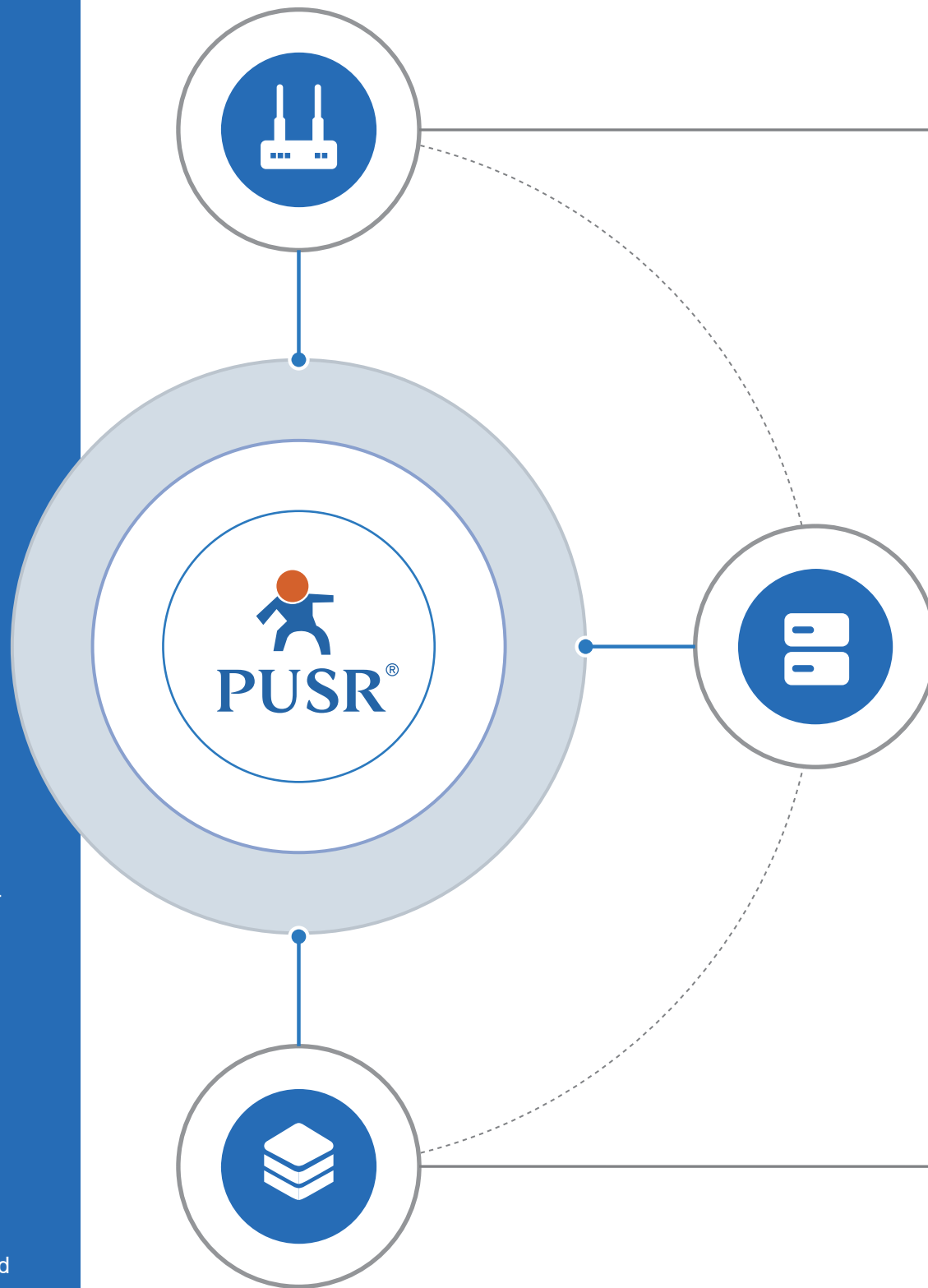
**Corporate culture**  
Be Honest, Do Best

**Vision**  
Ecology-oriented IIoT enterprise

**Positioning**  
Trustworthy smart IIoT partner

**Mission**  
Connecting Value, Valuable Connection

**Value Integrity**  
Customer first, Trust and responsibility, Diligent study and persistent thinking, Earnestness and innovation



## PUSR IoT IoT Networks

Cellular Routers, Gateways, Modems, Serial Connectivity, Modules, Switches, IoT Platform

## PUSR Intelligence Software Solutions

Smart Agriculture, Smart Factory, Smart Water Utilities, Smart Husbandry, Smart Environmental Monitoring

## PUSR EMS Electronics Manufacturing & Product Design Services

Multi-layer Layout & RF Development, Integration Testing, PCBA OEM, Materials Purchasing Agent, Full Product ODM

**Total \$28M USD**

In financing (A+B+C round)

**Hundreds of millions USD**

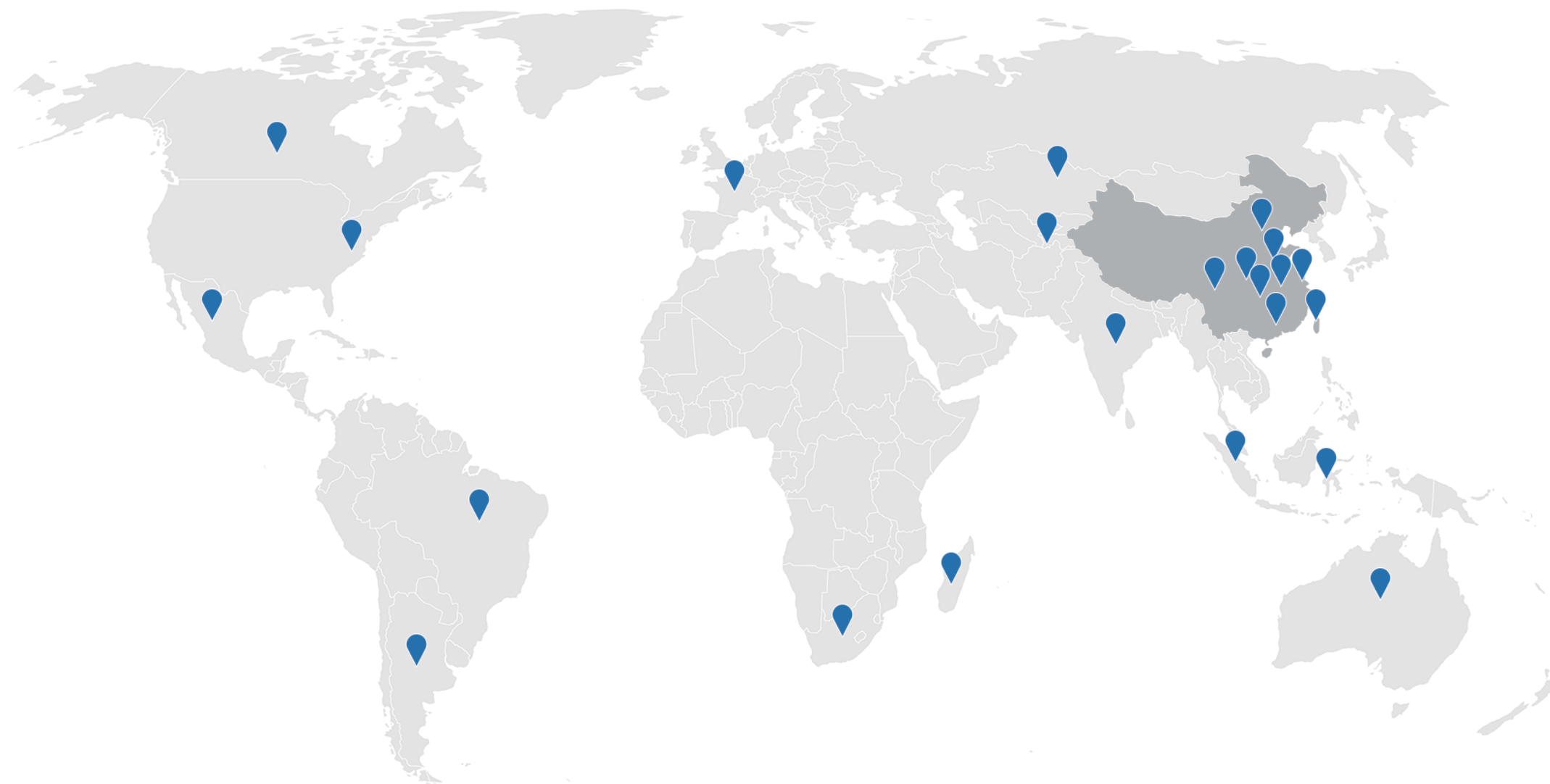
For annual turnover of our company

**More than 150,000**

Customers we have serviced

**More than 15 million**

Cumulative global shipments



Data as of November 2022

**5 offices**

Shanghai, Beijing, Wuhan  
Shenzhen and Chengdu

**Over 600<sup>+</sup> staffs**

More than 40% of R&D personnel  
More than 20% of employees with shareholding

**3 main services**

PUSR IoT  
PUSR Intelligence  
PUSR Intelligent Manufacturing












**2 self-built factory**

Jinan / Suzhou



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# DIN Rail Series—Serial Converter

Bi-directional transmission between RS232 or RS485 and Ethernet / WiFi

- **USR-DR404**  
RS485 to Wi-Fi/Ethernet
- **USR-DR302**  
RS485 to Ethernet
- **USR-DR301**  
RS232 to Ethernet

DIN-Rail Mounting

PC+ABS Shell, V0 Flame-retarded

Industrial Grade & Small Volume

Modbus Gateway

# DIN Rail Series

## DIN-Rail Mounting — Compact Size

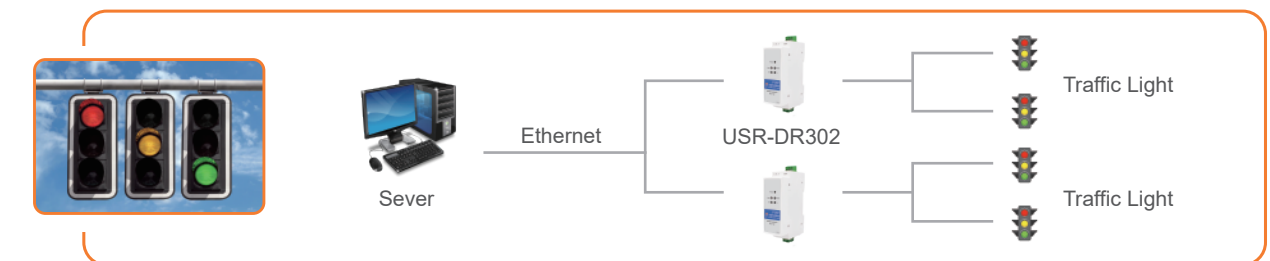
The Din Rail Series is based on the PUSR accumulation of networking communication technology for many years, combined with customer project implementation scenarios, and creatively redefines the specifications of networking equipment.

The products include different types such as Serial Converter/Industrial Cellular Modems/Industrial 4G Routers. One same shape can be multiple communication methods. Din Rail series support Ethernet, Wi-Fi, 4G networking. It comes with standard 35mm rail buckle, which is suitable for all rail-type scenarios.

## Application

Traffic light data acquisition and transmission

DIN-rail serial converters connect to the traffic lights, and then transfer the traffic conditions to control center by Internet. It helps staff to deal with the situation quickly.




## Specifications

Model	USR-DR302	USR-DR301	USR-DR404
Serial Port	RS485*1	RS232*1	RS485*1
Network Spec	RJ45*1, 10/100Mbps, Cross-direct Adaptation		RJ45*1, 10/100Mbps, WiFi AP+STA Mode
Network Protocol	IP、TCP、UDP、ARP、ICMP、IPV4		
IP Address Mode	Static IP or DHCP		
Working Mode	TCP Sever / TCP Client / UDP Sever / UDP Client / HTTP Client		
Modbus Gateway Function	Supported		
Dimensions (mm)	64.67mm*28mm*109.66mm(L*W*H), Standard DIN Rail		

## DIN Rail Series—LTE CAT4 IP Modem

Two-way transparent transmission between RS485 and 4G LTE network.



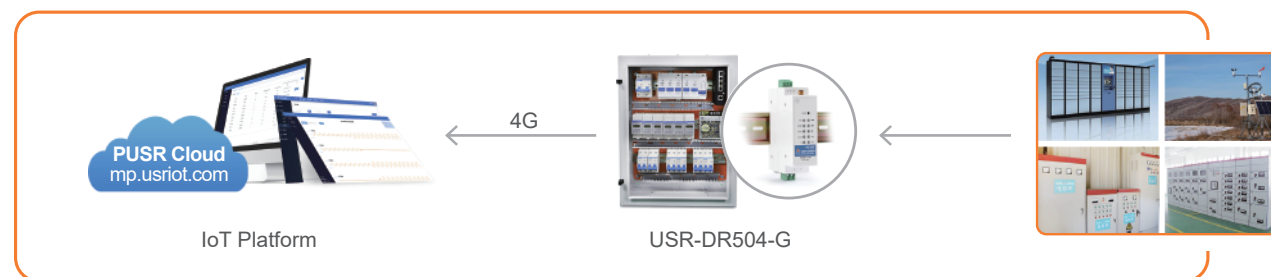
### USR-DR504-G

- RS485 to 4G CAT4 Modem
- Global frequency band
- TCP Client/Server,UDP, SMS
- Modbus RTU to TCP, Polling

### Application

#### Distribution box data acquisition network transmission

It convenient to use in narrow spaces as compact-size. It can quickly convert the electricity consumption data to control room in real time, and effectively reduce costs.



### Specifications

Model	USR-DR504-G
Serial Port	RS485*1
Network Spec	FDD-LTE, TDD-LTE, GSM/GPRS/EDGE, WCDMA, TD-SCDMA
Work Mode	Transparent Mode, HTTPD Client Mode, SMS Mode
Modbus Gateway Function	Supported
Power Supply	DC: 9-36V
EMC Performance	ESD IEC 61000-4-2 Level 3 / Surge IEC 61000-4-5 Level 3 / EFT IEC 61000-4-4 Level 3
Dimensions	64.67mm*28mm*109.66mm(L*W*H), Standard DIN Rail

## DIN Rail Series—LTE CAT1 IP Modem

Cost-effective RS485 to 4G solution. Fastly realize two-way transparent transmission of data.



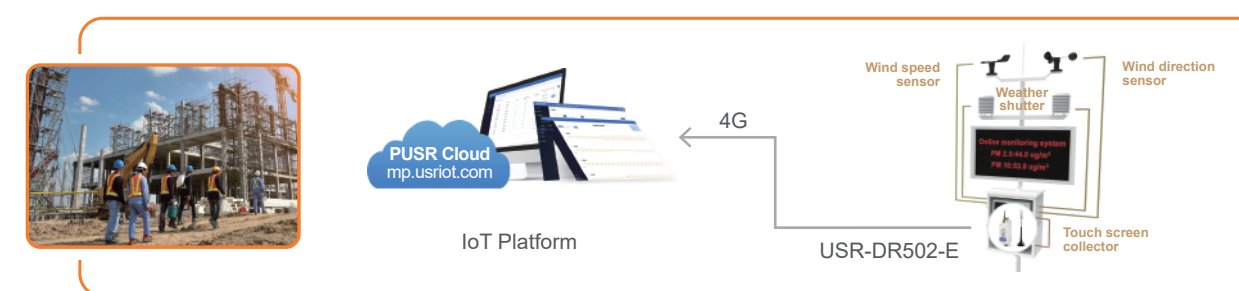
### USR-DR502-E

- LET CAT-1 Cost-effective Modem
- Hardware Watchdog
- TCP /UDP/IPV4/HTTP//DNS/
- MQTT/SSL/TLS

### Application

#### Dust and noise online monitoring network transmission

It can upload the particulate matter and noise generated by construction activities to the comprehensive management platform in real time by 4G network, helping managers understand site dynamics and formulate production plans.



### Specifications

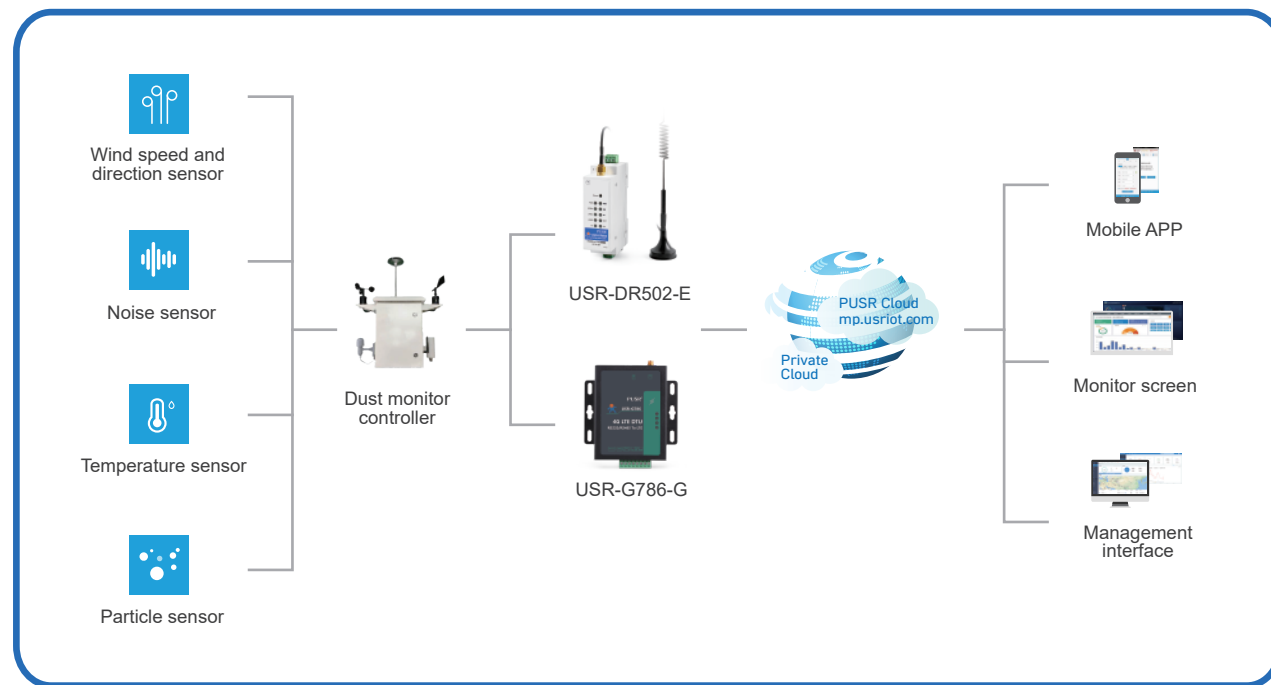
Model	USR-DR502-E
Serial Port	RS485*1
Network Spec	FDD-LTE, TDD-LTE, GSM/GPRS/EDGE, WCDMA, TD-SCDMA
Work Mode	Transparent Mode, HTTPD Client Mode, SMS Mode
Modbus Gateway Function	Supported
Power Supply	DC: 9-36V
EMC Performance	ESD IEC 61000-4-2 Level 3 / Surge IEC 61000-4-5 Level 3 / EFT IEC 61000-4-4 Level 3
Dimensions	64.67mm*28mm*109.66mm(L*W*H), Standard DIN Rail



# Industrial Cellular Modems

## Environmental Monitoring Solution

PUSR IOT uses wireless communication technology to build a new online air quality monitoring system. It allow staff to monitor the air quality in real time.



PUSR IOT Industrial Cellular Modems is a device to collect data from PLC, sensors, meters, etc. and transfer the data over 2G/3G/4G/LTE-CAT1/ CAT M/CAT 4 to the remote server.

## Difficulties You May Encounter & Our Advantages

Difficulties: The external environment is changeable- unstable signal transmission, ineffective remote monitoring, delayed data collection

- Wireless transmission eliminates wiring troubles
- 4G high-speed networking
- Watchdog protection avoid downtime.

USR-G771-E	USR-G786-G
 <ul style="list-style-type: none"> <li>• CAT-1 Serial Modem</li> <li>• MQTT/SSL</li> <li>• TCP Client/UDP</li> </ul>	 <ul style="list-style-type: none"> <li>• CAT-4 Serial Modem</li> <li>• TCP Server/Client, UDP</li> <li>• Modbus RTU to TCP,polling</li> </ul>

**Smart Grid**  
Power Conservation  
Management

**Charging Pile**  
FTP function facilitates equip-  
ment upgrade

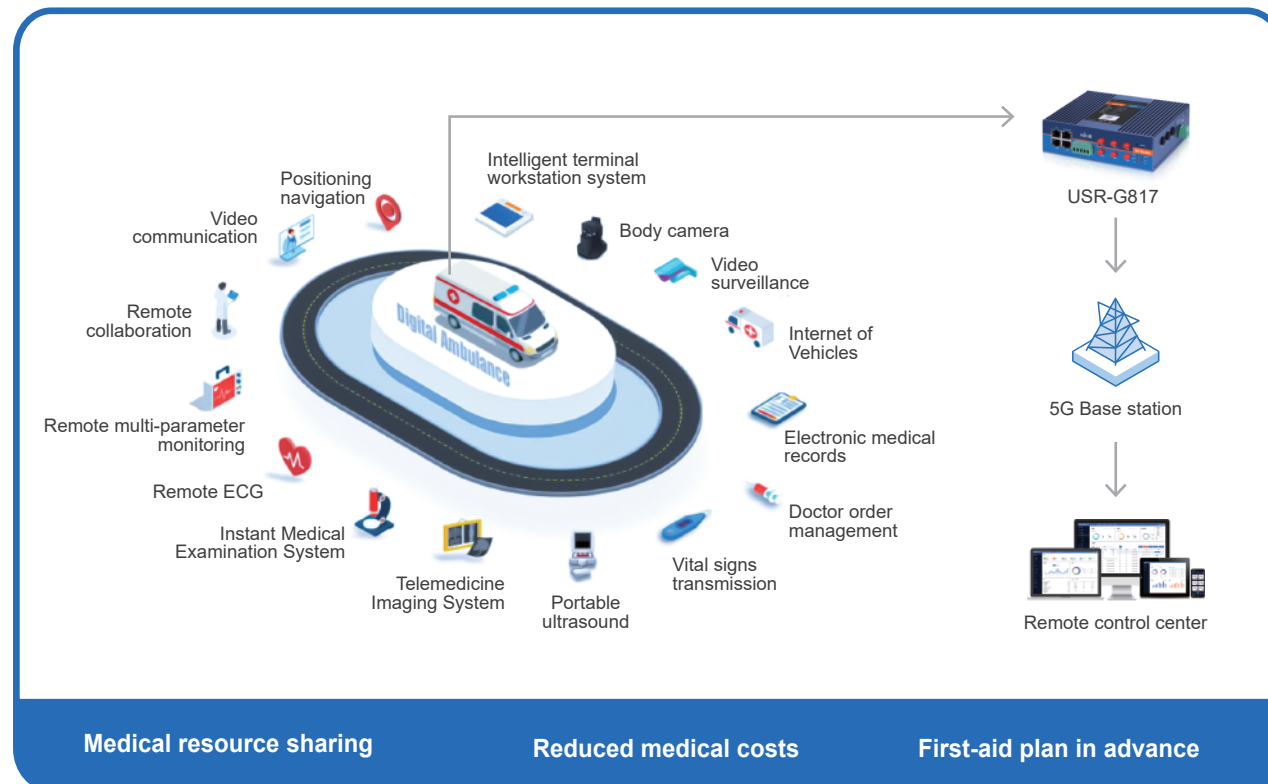
**Agricultural Monitoring**  
Remote monitoring in real-time  
Data remote transmission quickly

**Intelligent transportation**  
Real-time transmission of bus  
information

# 5G / WiFi6 Wireless Router

## 5G Smart Medical Emergency Solution

"5G Smart Medical Emergency Solution" is based on emergency vehicles, combined with 5G communication technology, equipped with artificial intelligence, AR, VR to create a comprehensive medical emergency system. It can greatly shorten the rescue response time and provide patients with more chances of survival.



## Difficulties You May Encounter & Our Advantages

Difficulties:Featuring complex and professional devices, high maintenance costs and time constraint on medical treatment.

- Improve the accuracy of diagnosis and guidance efficiency
- Remotely monitor equipment and respond more promptly to existing device problems.



PUSR 5G industrial router supports SA and NSA networking. The measured 5G speed and WiFi6 speed reached 700Mbps. Routers are widely used in various scenarios that require high speed, low latency or wide connection, such as AGV cars, inspection robots, automatic driving, smart transportation, drones, etc.

USR-G817	U200
<ul style="list-style-type: none"> <li>• 5G SA/NSA</li> <li>• Dual SIM, eSIM optional</li> <li>• MQTT &amp; VLAN supported</li> <li>• Qualcomm dual-band WiFi6</li> <li>• 4* Gigabit Ethernet port + Serial port</li> </ul>	<ul style="list-style-type: none"> <li>• 1*LAN</li> <li>• 5G Full netcom, SA+NSA</li> <li>• Wirelessly access up to 32 devices</li> <li>• Dual-band WiFi6, Gigabit Ethernet port</li> </ul>



### Factory AGV transportation

Low latency, instant perception



### Automated Factory

VPN private network protocol  
A variety of networking



### Emergency Rescue

High-speed network access to improve rescue efficiency



### Intelligent Port Gantry Crane

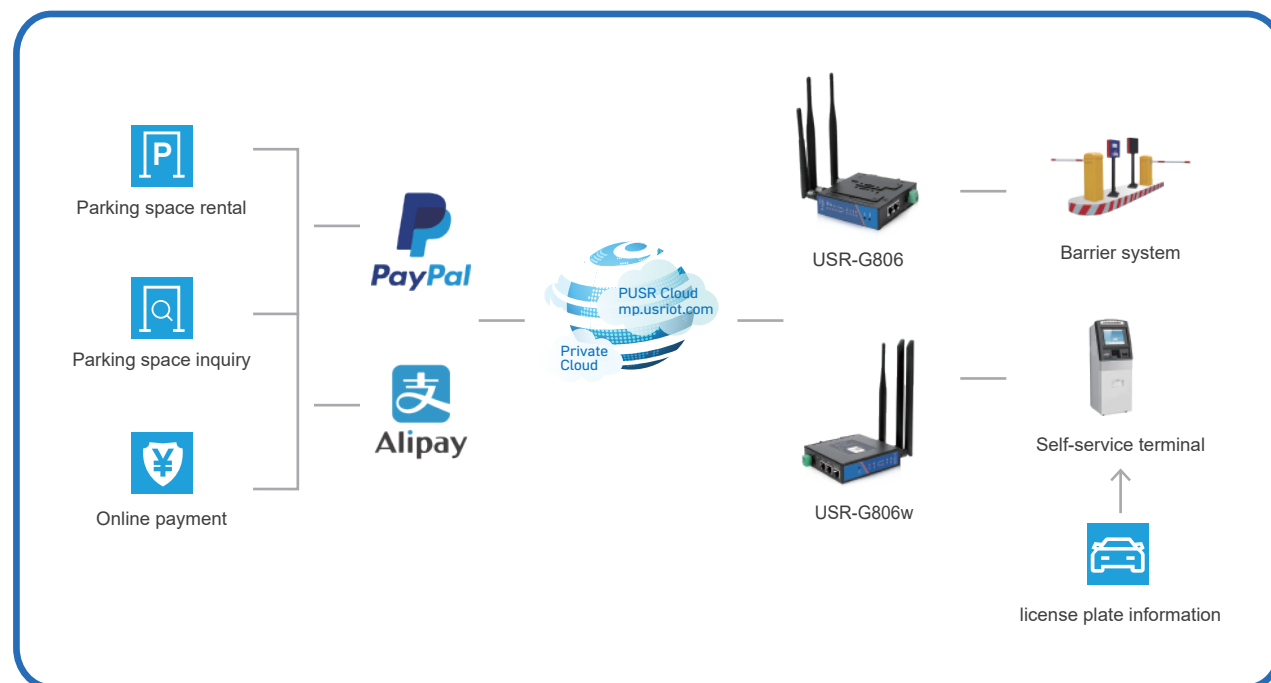
7\*24 hours stable networking  
Improve port operation efficiency



# Industrial 4G Routers

## Smart Parking Solution

USR-G806 series 4G router to provide 4G networking of the barrier gate system to keep a reliable connectivity in places where it is inconvenient to lay network cables, so as to realize the vehicle guidance, parking space inquiry and help the construction of the smart city.



## Difficulties You May Encounter & Our Advantages

Difficulties: Low efficiency of manual charging, unclear records, and lack of remote monitoring in real time which lead to ineffective guidance and management.

- Wiring-free, achieving the parking space timely and accurate release
- Remote control in real time, reducing labor and management costs.

1. USR-G806w  
Qualcomm WiFi Industrial 4G Router
2. USR-G805  
Single Ethernet Port Industrial 4G Router
3. USR-G806  
Dual Ethernet Port 4G Router
4. USR-G808  
Dual SIM Industrial 4G Router
5. USR-G809  
I/O 4G Router Gateway
6. USR-G806s  
Serial Port Wi-Fi 4G Router
7. USR-G781  
RS232/485 4G Router



PUSR industrial 4G wireless router adopts high-performance industrial-grade processor, offers features such as Ethernet, Wi-Fi, serial ports, VPN client and failover, providing reliable connectivity for complex and harsh working environments. Pusr routers are suitable for projects of energy, industrial control, oil&water, retail, smart grid, etc.

USR-G806w	USR-G806s
 <ul style="list-style-type: none"> <li>• CPU: Qualcomm chipset</li> <li>• 1WAN/LAN+2LAN</li> <li>• VLAN/SNMP</li> <li>• Wi-Fi: 802.11b/g/n, AP/STA/Relay</li> </ul>	 <ul style="list-style-type: none"> <li>• Dual Ethernet port</li> <li>• 1WAN/LAN+1LAN</li> <li>• RS485 supports Modbus RTU to TCP</li> <li>• 802.11b/g/n WiFi</li> <li>• VPN Client: Ipsec, Openvpn, L2TP, PPTP, GRE</li> </ul>

**Self-service terminal**  
Video monitoring in real time

**Intelligent industrial control**  
Remote management to reduce downtime

**Smart transportation**  
Remote traffic monitoring and efficiency on the road

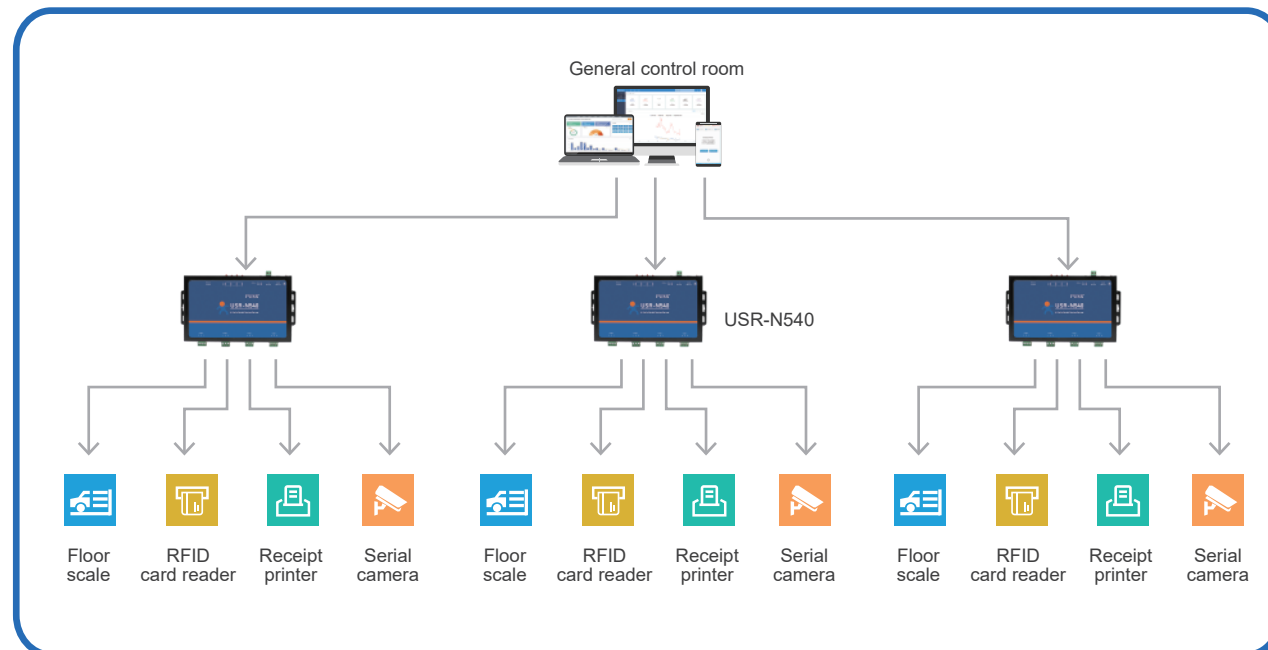
**Smart Energy**  
Capture real-time data to manage energy usage

# Serial Converter

## Industrial Weighing Solutions

In the industrial weighing system, in addition to reading the obtained weight through the display instrument on site, the electronic scale also needs transmit the data to the server center through its own serial port.

So the solution is composed of Serial Converters, which is convenient for the remote management host to directly read the on-site electronic scale data through the TCP/IP protocol, and manage the production status in real time.



## Difficulties You May Encounter & Our Advantages

Difficulties: The on-site data of industrial projects cannot be centrally and effectively managed, and the traditional networking method is clumsy and single, and the wiring is cumbersome.

- Avoid wiring to realize the fast connection of devices to Ethernet/Wi-Fi
- Reduce user development cycle and management costs.



### Medical Health

Reduce operating cost pressure  
Improve the efficiency of medical staff



### Industrial automation

Quick connection to factory equipment  
Automatic collection of industrial data



### Security Monitoring

Monitor for security breaches  
Reduce enterprise management costs



### Energy Data Collection

Reduce costs and save resources  
Control your device remotely

1. **USR-TCP232-410s**  
RS232/RS485 Serial Converter
2. **USR-TCP232-302**  
RS232 Serial Converter
3. **USR-TCP232-304**  
RS485 Serial Converter
4. **USR-CANET200**  
CAN to Ethernet Converter
5. **USR-W610**  
Single Ethernet Port WiFi Serial Converter
6. **USR-W630**  
Dual Ethernet Port WiFi Serial Converter
7. **USR-N668**  
8 Serial Port Converter
8. **USR-N510**  
Single Serial Port Converter (Edge Acquisition)
9. **USR-N520**  
Dual Serial Port Converter (Edge Acquisition)
10. **USR-N540**  
4 Serial Port Converter (Edge Acquisition)



PUSR Serial Ethernet converters can easily realize data transparent transmission between serial port (RS-232/485/422) and Ethernet without development.

USR-N5X0 series offers features of modbus rtu to tcp/json, MQTT/SSL, edge acquisition etc, providing solution for PLCs, meters, and sensors to the network, avoiding the hassle of running a cables.

### USR-TCP232-410s

- Bi-directional transmission between RS232/RS485 and Ethernet
- Industrial grade, Cortex-M7 core
- Modbus RTU to TCP, Modbus Polling
- Dual watchdog, keep-alive mechanisms, virtual com

### USR-W630

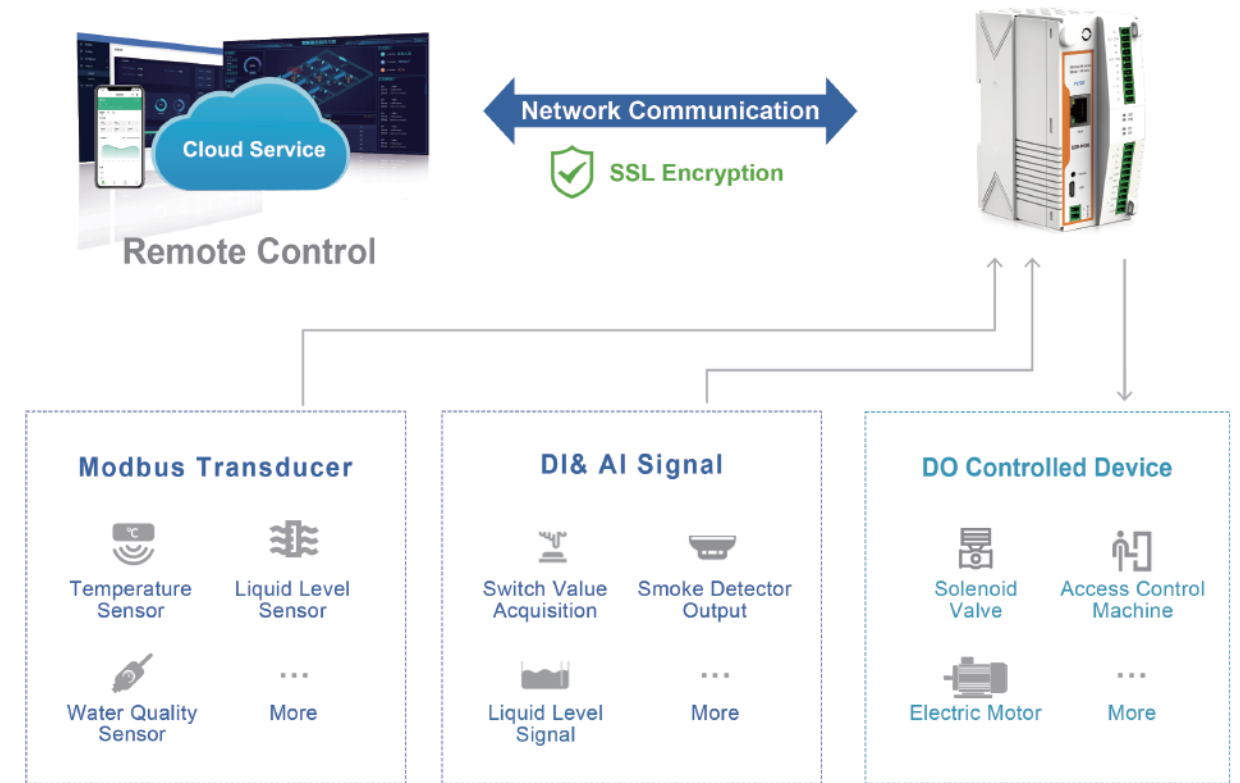
- Dual-port network port + Wi-Fi application
- Multiple bridging methods, wireless + wired
- Built-in routing function, firewall, QOS
- Anti-surge, anti-static, watchdog



# Remote I/O Edge Gateway



## Data & Signal Linkage Control



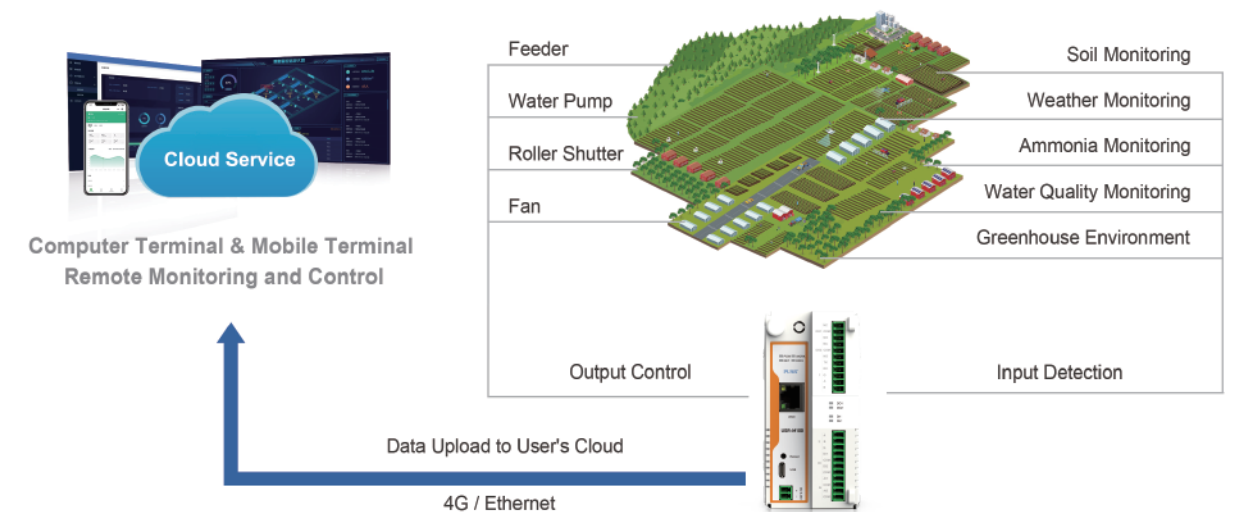
## Key Features

- Edge Computing**  
Edge acquisition, computing, control  
Change reporting & Regular reporting
- Linkage Control**  
Value trigger & IO trigger  
Linkage DO output
- Transparent Transmission**  
TCP, UDP, HTTP, MQTT  
Heartbeat pack, SSL
- 4G+Ethernet Port**  
CAT4 LTE Network  
Wired & Wireless

- MQTT**  
Custom topic  
Custom Json
- Modbus Gateway**  
Modbus RTU to TCP  
Modbus RTU to Json
- IO Controller**  
2DO, 2DI, 2AI  
Extensible.
- IoT Platform**  
AWS, MQTT private server  
PUSR Cloud, AliCloud

## Digital Agriculture/Livestock Solutions

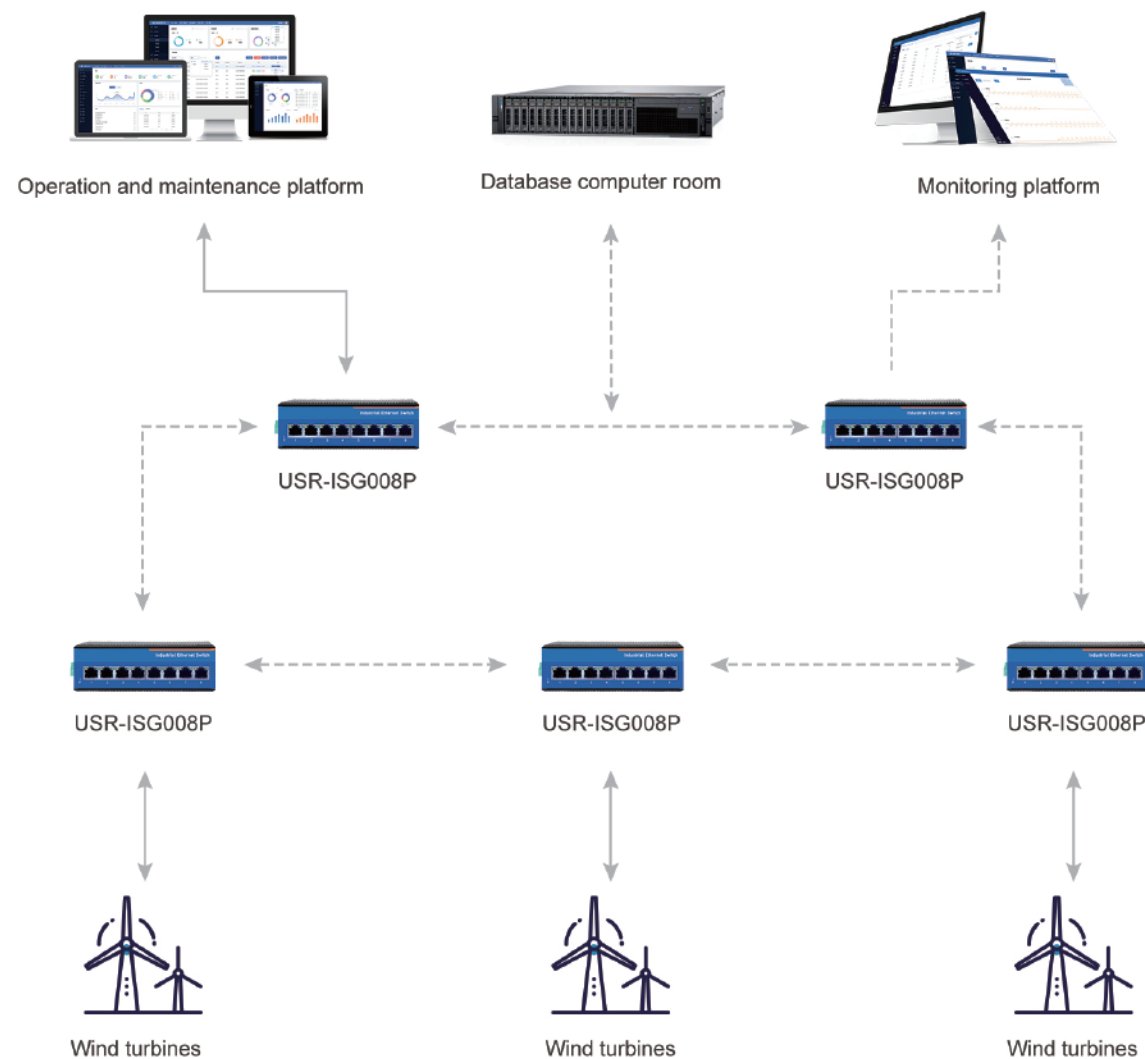
USR-M100 is connected to sensors such as temperature and humidity, water quality to monitor environmental data in real time. Meanwhile, it can automatically control irrigation equipment, blowers, etc based on these data, and can also be viewed and controlled on a PC and mobile phone




# Industrial Gigabit Ethernet Switch

## New Energy Power Networking Transmission Solution

Industrial Ethernet switches that feature enhanced security, industrial-grade reliability, easy management and network redundancy. Energy project construction and maintenance require industrial switches to realize network interoperability and signal transmission to meet the needs of uninterrupted production.



**Industrial Gigabit Ethernet Switch    USR-ISG Series**



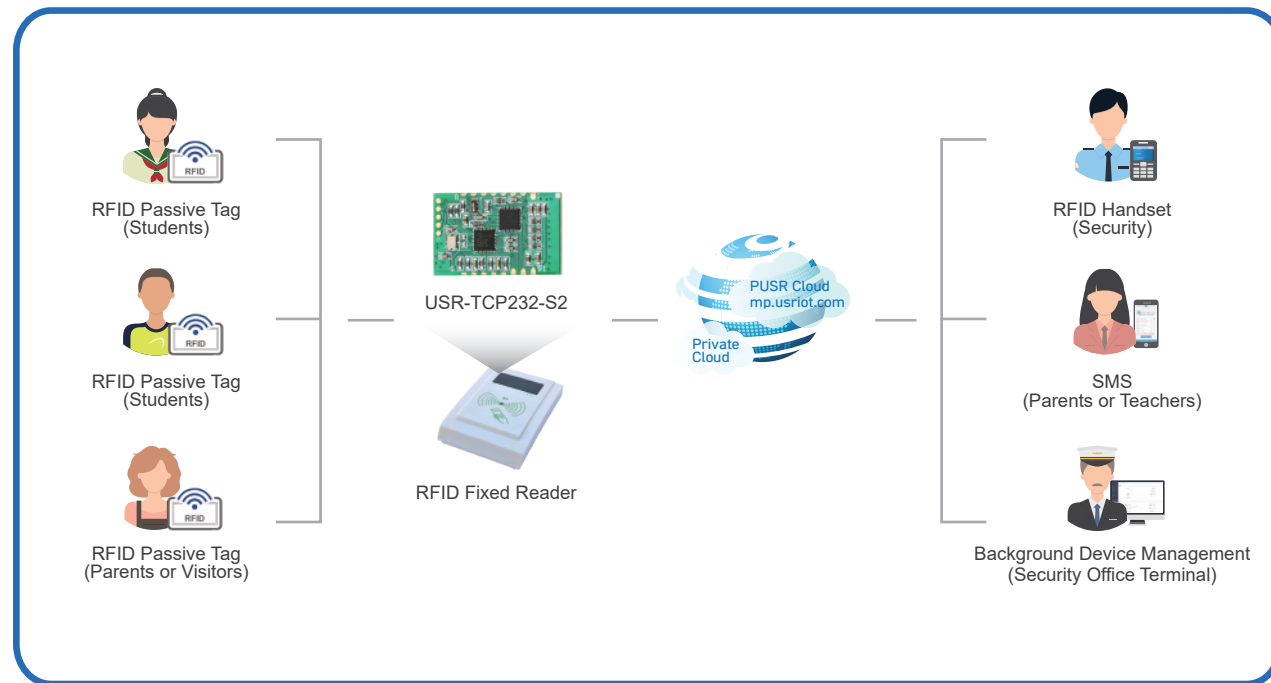
- Plug and play, multi-protocol support
- Full gigabit interface, large bandwidth
- 5 ports, 8 ports, 16 ports optional
- IP40 protection, FCC, CE, ROHS multiple certifications
- DC12~52V wide voltage (PoE optional, voltage DC48~57V)
- Ultra-low delay, up to 3us
- Optical port optional (SPF socket reserved)



# Ethernet Module

## RFID Reader Solutions

PUSR IOT provides Ethernet modules and embeds them into RFID solutions, which can help schools and parents know the time of arrival and departure of each student. The intelligent RFID system has not only strengthened internal security management, but also provided guarantee for education work.



## Difficulties You May Encounter & Our Advantages

RFID chips generally only have a UART serial port, which is not convenient for long-distance data transmission. Information feedback is not timely.

- Cost-effective, to meet the needs of most families
- Keep-alive mechanism, and the abnormal disconnection of the network can be detected in real time

### PLC Control and Management

Various ways of networking  
Remote transparent transmission, high stability

### Building Automation

Improve operational efficiency  
Save energy and manpower

### Medical Health

Higher safety performance  
Convenient data collection and transmission

### Smart Home

Ultra-low power consumption  
Strong anti-interference

**USR-TCP232-T2**  
Single UART  
PIN Ethernet Module



**USR-TCP232-ED2**  
Triple UART  
PIN Ethernet Module



**USR-TCP232-E2**  
Dual UART  
PIN Ethernet Module



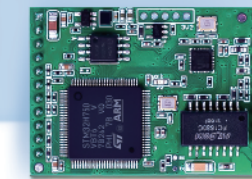
**USR-K7**  
Industrial Type Kport



**USR-K6**  
Cost-effective Kport



**USR-TCP232-S2**  
Single UART SMT  
Ethernet Module



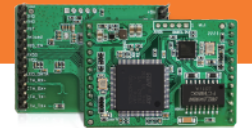
Ethernet module can easily realize data transparent transmission between TTL and Ethernet to save manpower, material resources and development time. Modules are widely used for computer room monitoring, medical equipment, instruments and meters, and PLC industrial equipment

### USR-K7



- Bi-directional data transparent transmission
- Industrial design, TI, M4 processor
- Optimized TCP/IP protocol stack
- Modbus RTU to TCP, Modbus Polling

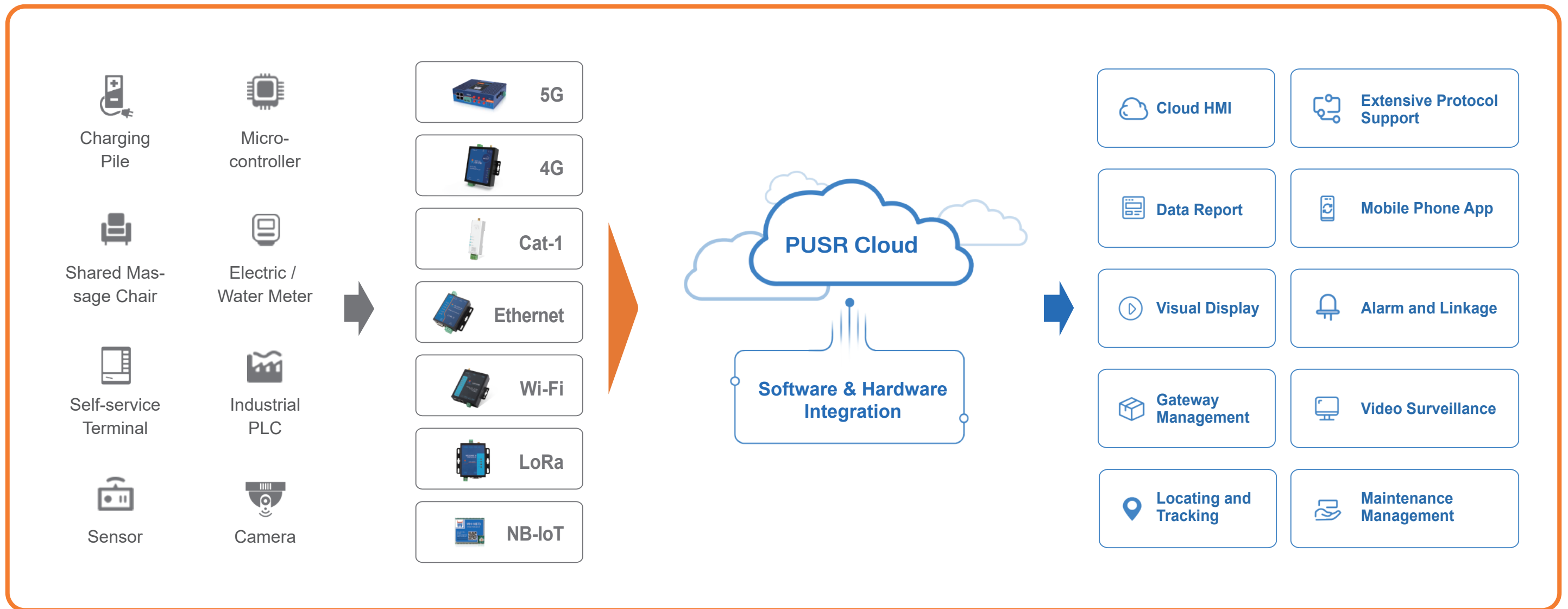
### USR-TCP232-ED2



- Websocket web page
- Hardware watchdog design
- Flow control, modbus rtu to tcp
- Two-way data transparent transmission
- Three serial ports work independently

# IoT Platform (Software & Hardware Integration Service)

mp.usriot.com



## Core Advantages



### Software & Hardware Integration

PUSR covers integrated services from hardware to software.



### Full Device Connected

All PUSR Devices can access to PUSR Cloud.



### Public Cloud Already 500+VIP Users

80% of the functions are free  
VIP can enjoy the service of custom brand



### Private Cloud 600+ Private Cloud Projects

- Device data localization
- Personalized Customization

## Cooperation Method

# Production Strength



- **Professional**

Multi-layer board hardware and various RF development capabilities.  
Equipped with a professional SMT production chain.

- **Quality**

ISO9001:2015 certification. Upervising and controlling the process to ensure the quality of products.

- **Delivery Time**

Dual factory supporting, efficient supply chain.

**10<sup>+</sup> Thousand  
Square Meter**

Suzhou Factory: 7755 m<sup>2</sup>  
Jinan Factory: 3400 m<sup>2</sup>



**10<sup>+</sup> Million  
Pcs Materials**

Daily SMT over 10 million pcs materials  
Monthly SMT over 100 million pcs materials



# Qualification & Certification

## R & D Strength

200<sup>+</sup>

R & D personnel accounted for more than 40%

15<sup>+</sup>

Authorized Invention Patents

61

Valid Authorized Patents

67

Software Copyrights

125

Domestic Registered Trademarks

2

International Registered Trademarks

