

Industrial Internet, Comprehensive Control



Your Trustworthy Industrial IoT Partner

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Industrial Switch Full Product Line

Industrial IoT Gateways, Ranked First in China by Online Sales for Seven Consecutive Years*

*Data from China's Industrial IoT Gateways Market Research in 2023 by Frost & Sullivan

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National "little giant" Firms

National High-Tech Enterprise

28M\$ Funding

28 Million Dollars
Series A B C Rounds Total

97⁺ Countries

97+ Countries using our products

25 M⁺

25 M+ Devices deployed
worldwide

3 Business

USR IOT networks,
USR IIOT solutions, PUSR EMS

2 Factories

Jinan/Suzhou

Your Trustworthy Industrial IoT Partner

Leading industrial IoT software and hardware solutions provider

Shandong USR IOT Company Limited

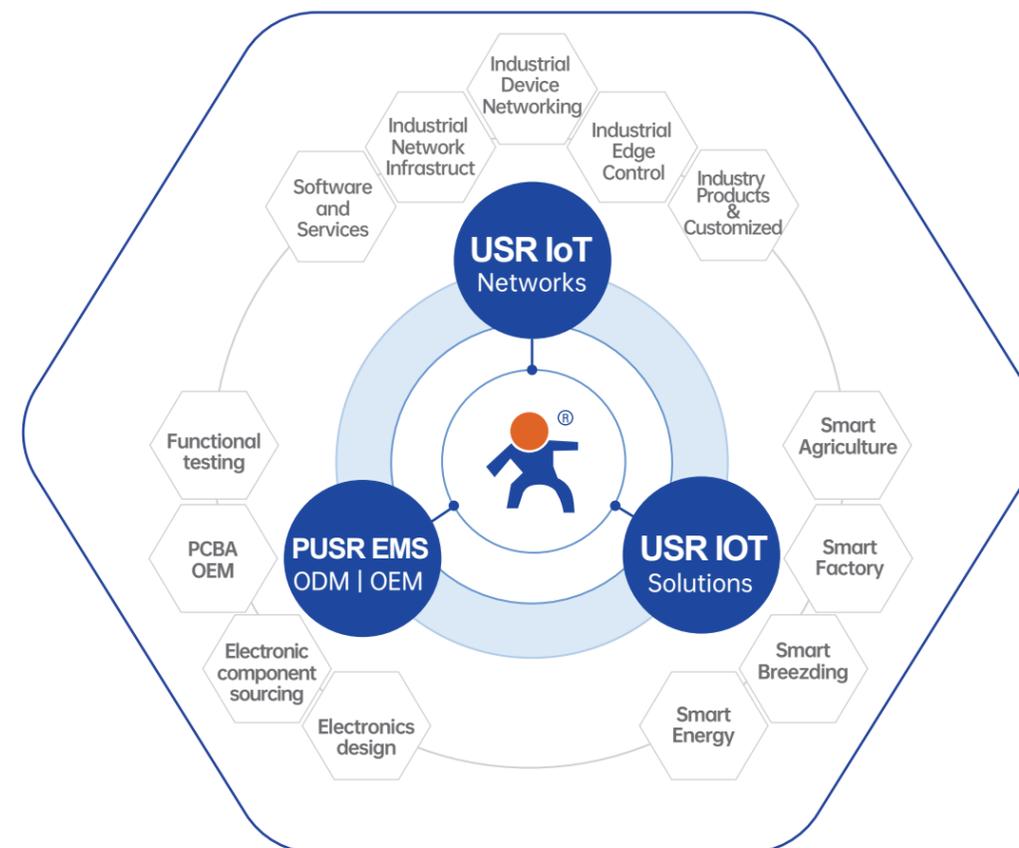
With more than 600 employees and nearly \$28 million in financing

Has own factory with full industry chain service capabilities from chips to cloud.

Provides customers with communication gateways, networking modules, cloud platforms and IoT solutions



Corporate Video



FACTORY OVERVIEW

10000

Suzhou: 7755 Square Meters(m²)
Jinan: 3400 Square Meters(m²)

1000

Component placements per Day:
10 Million pcs
Capacity/Month:
More than hundreds of million

40%

R&D staff

11

SMT lines



Factory Video



Professional

Multi-layer PCB board design and various RF tuning capabilities

Quality

ISO9001:2015 certification
IATF16949:2016 certification

Delivery Time

Two factories, Professional supply chain management.

PUSR CLOUD

PUSR CLOUD-An automated system dedicated to IoT system deployment



IOT platform Network management Gateway management SIM card oplatform

PV Energy Smart Water Utilities AGV Robots
HAVC Data-Driven Retail Ecosystem Digital Farming

IOT GATEWAYS

Industrial Network Infrastruct

- Industrial 4G/5G routers
- Industrial switches
- Wireless AP/clients
- Wireless bridge

Industrial Device Networking

- Seial to 4G
- Serial device server
- Lora networking
- CAN to serial/ethernet
- IOT modules

Intelligent sensing device

Industrial Edge Control

- Edge computing gateway
- Industrial PC
- IPC with HMI
- Remote IO

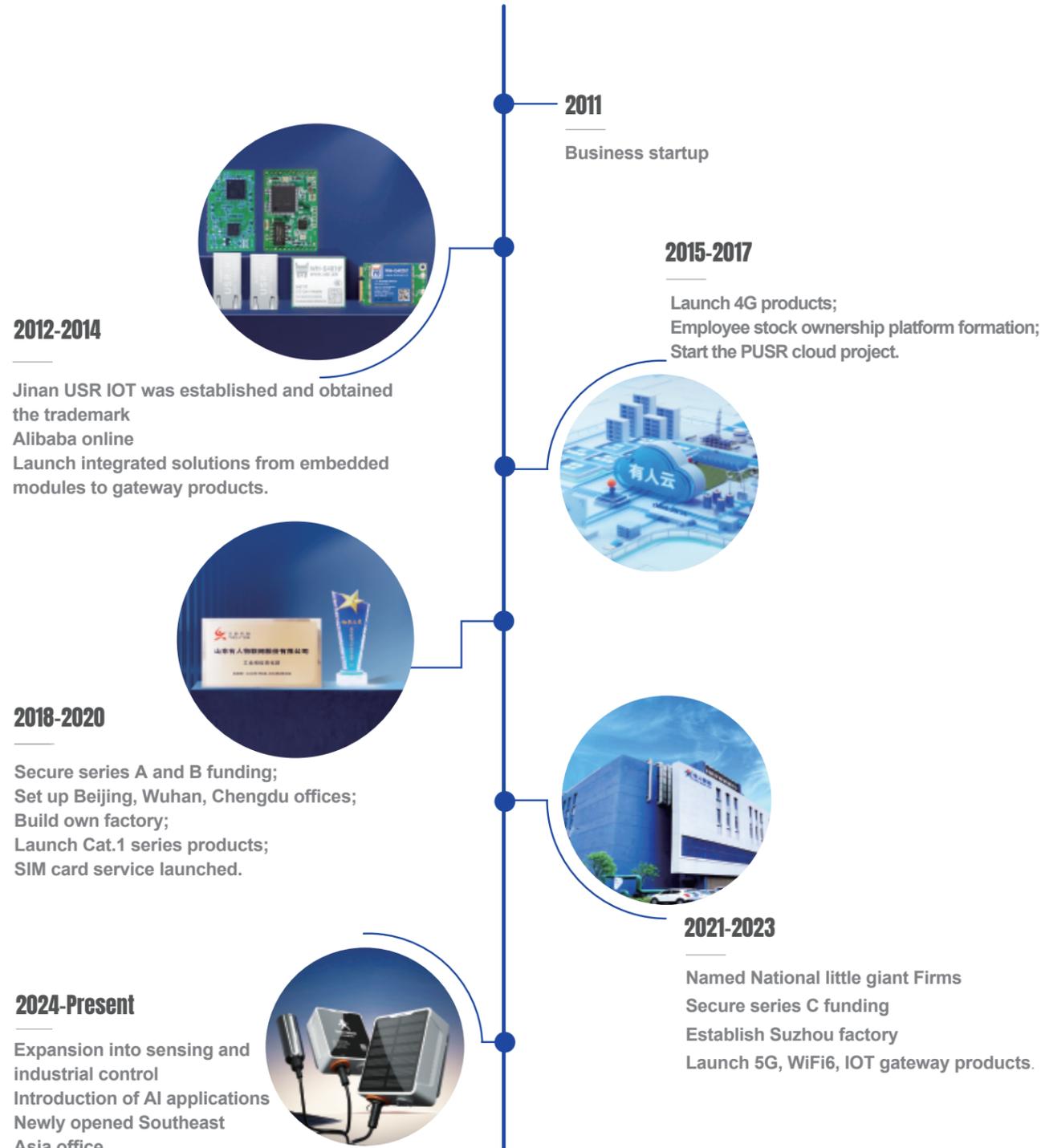
Industrial sensors and meters

- Low-power data logger with built-in battery
- Sensors and meters
- Low-power data logger with sensors

Industrial Accessories

- WiFi Solar Data Logger
- Industrial accessories

COMPANY HISTORY



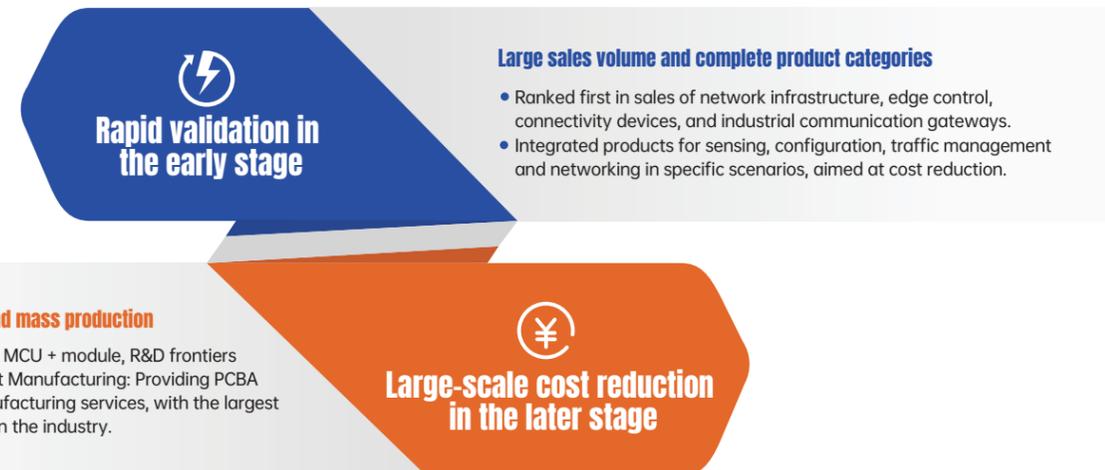
Among the top four RMB funds in China three have become shareholders of USR IOT

TECHNOLOGICAL FRONTIER

Once new technologies are introduced, related products are quickly implemented.



CONTINUOUS COOPERATIONS FROM SMALL QUANTITY TO LARGE QUANTITY



Industrial Network Communication - Full-Domain Mastery

Industrial Switch Full Product Line :

Unmanaged | Layer 2 Managed | Layer 3 Managed | Cloud Managed | PoE Switch | Vehicle-mounted Switch
Fiber Media Converter | Industrial Optical Module | Commercial Switch



PRODUCT LINE Product Series

Best-selling

Industrial grade Switch Platinum Series

-40~85°C
6000V Lightning Protection with PoE Version





Unmanaged: Plug and Play
Simple deployment

P15-P16



PoE Switch: Standard 48V Power Supply
Applied in PTZ
Security and AP network deployment

P17-P18



Layer 2 Managed: Flexible Networking
Basic Management
VLAN, ERPS Ring Network...

P19-P20



Layer 3 Managed: Intelligent Routing
IP Routing, Inter-network Interconnection

P23



Fiber Media Converter: Electro-optical Conversion
Plug and Play, Long-distance Fiber Transmission

P21-P22



SFP Optical Module (Accessory)

P21-P22



Vehicle-mounted: Vibration-resistant and Stable Connection
M12 Interface
Special for Rail Transit / Ship / Vehicle

P24

Industrial Wireless (Used with Switches)

Industrial Router
Wireless AP
Wireless Client
Wireless Bridge



P24-P26

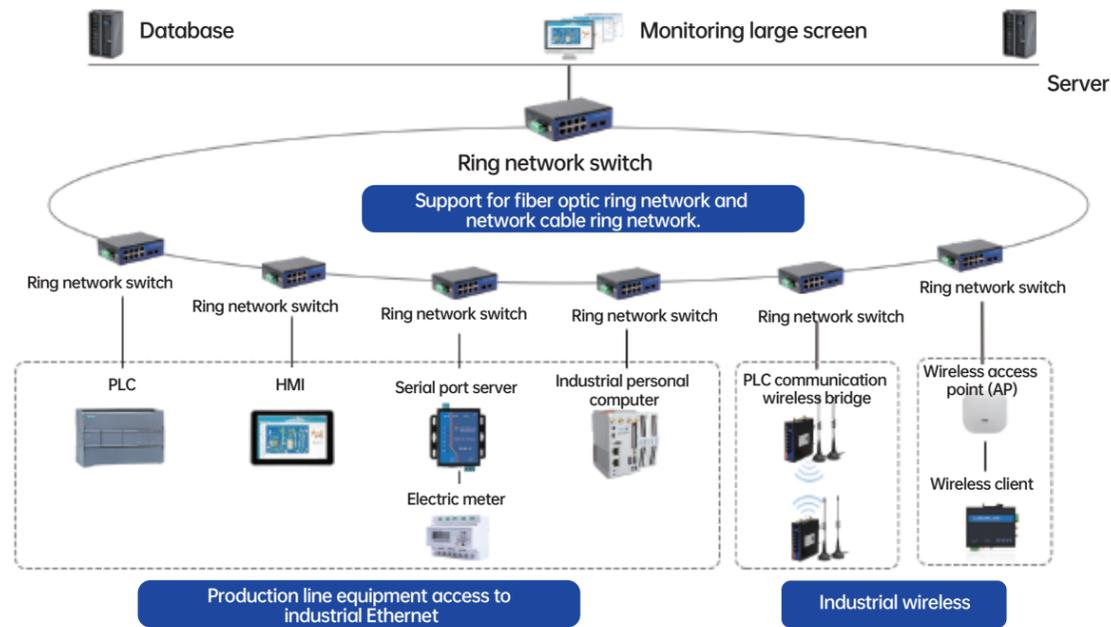
Switch Naming Rules

USR-ISG1208RP-SFP-1U-DS-LS

- 1U: Rack installation; no "1U" : Din-rail installation
- DS: Dual power supply; no "DS" Means regular single power supply
- LS: Special price iron case, no "LS" Means no special feature
- SFP optical port indicator
- "None" for unmanaged, "P" for PoE port, "C" for WEB management, "S" for Layer 2 management, "R" for Layer 3 management
- Electrical Port Count, e.g., 8 electrical ports
- Optical Port Count, e.g., 2 optical ports
- 1 for Platinum Series, 2 for Cost-effective Series, no number for Black Gold Series
- "G" for Gigabit rate; "Fast" for Fast Ethernet, "GX" for 10 Gigabit
- Industrial Switch (distinguishes from commercial switches)
- PUSR

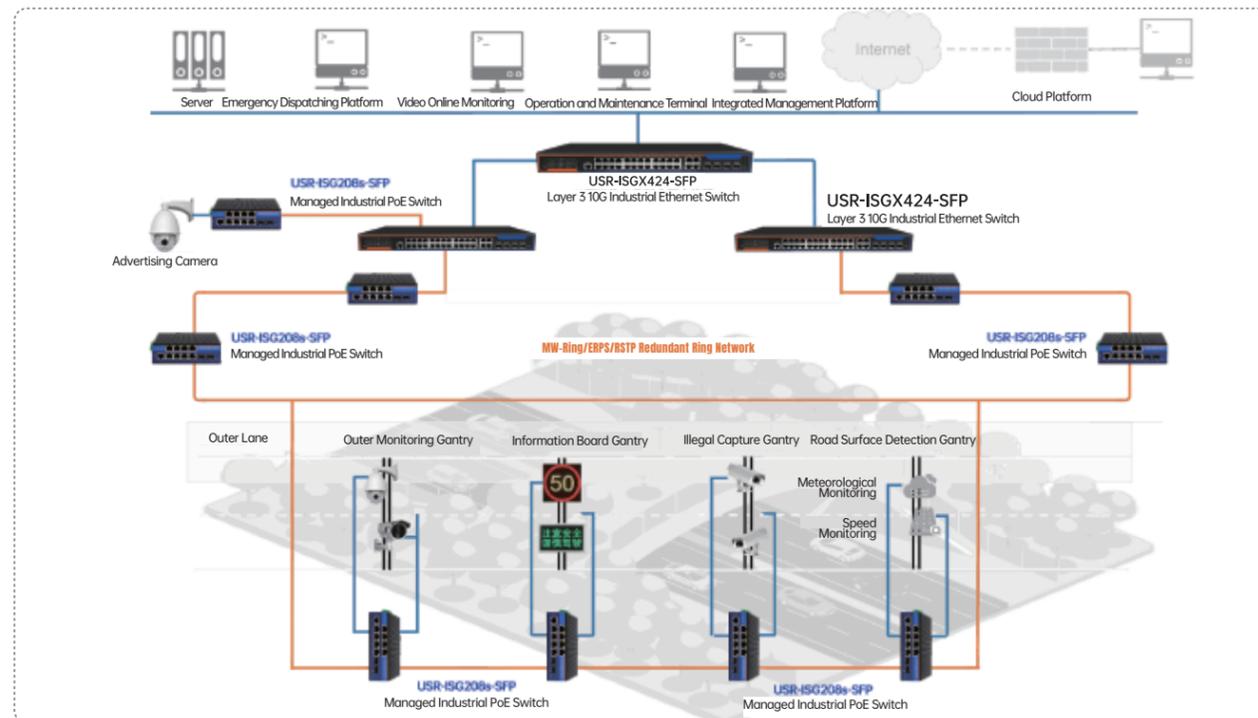
Application in Factory Automation

Based on the ERPS protocol, it enables carrier-class rapid self-healing in case of link failures, meeting the requirements for service redundancy protection.



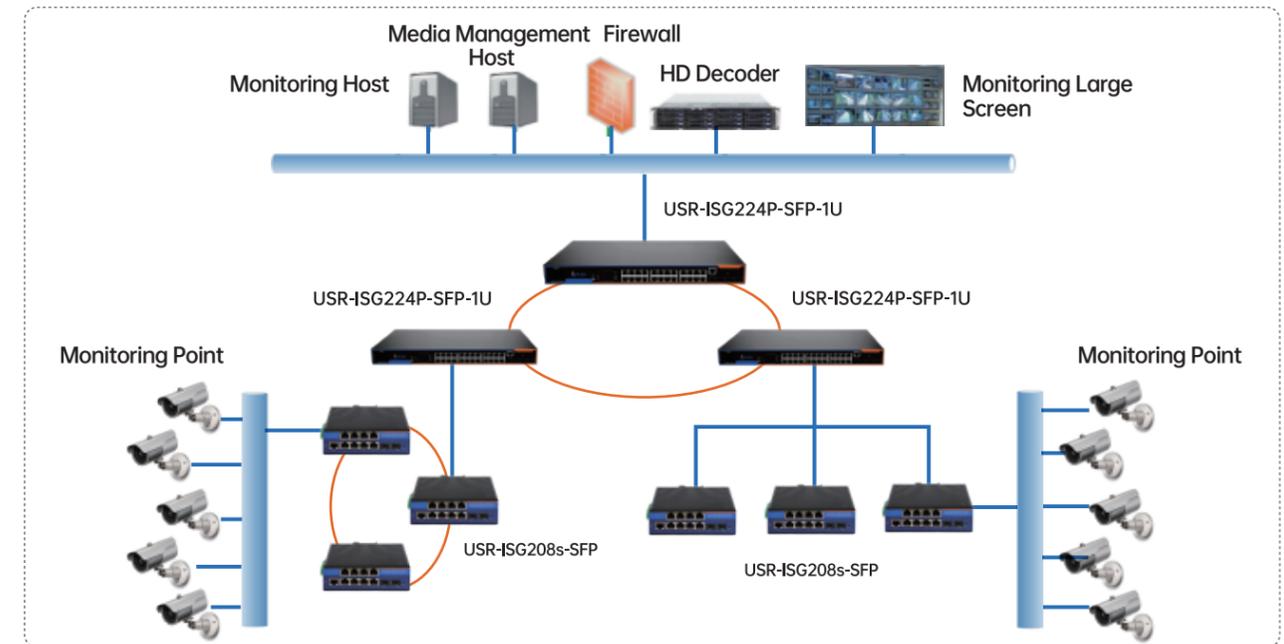
Application in Smart Transportation

The expressway monitoring system, covering traffic monitoring and signal light control, uses 10G + 1G industrial ring network switches. With 50ms self-healing and redundant service links, it ensures stable operation.



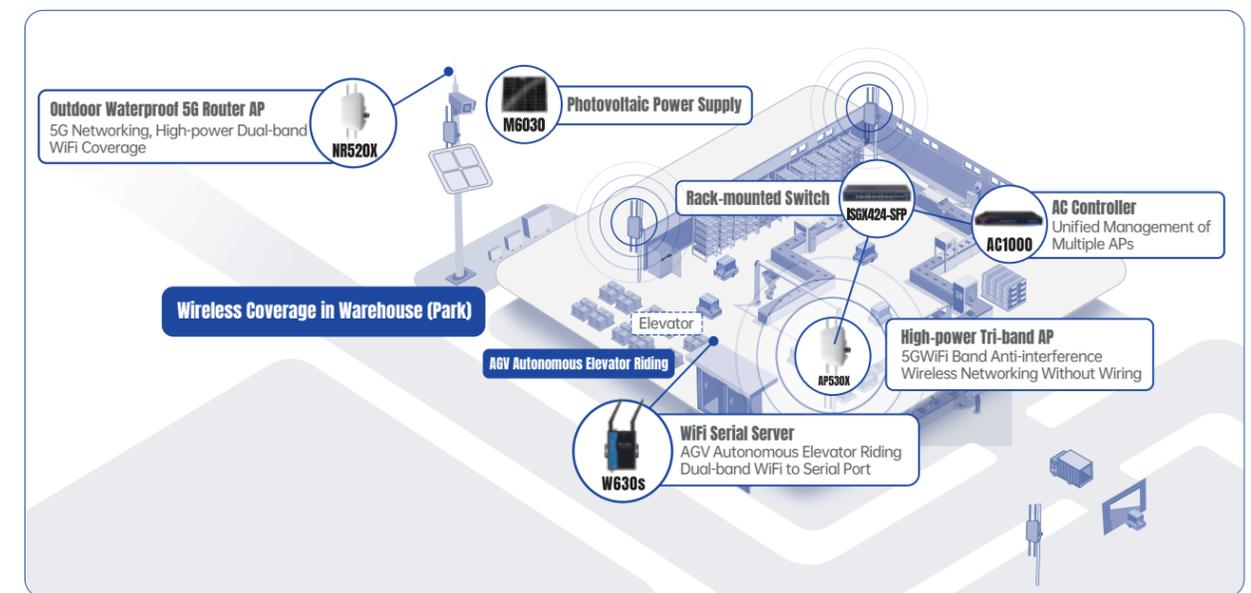
Smart City Application

A smart city needs to meet the demands for image monitoring in public security management, urban management, and traffic. It uses 10G + Gigabit industrial ring network switches for networking, and relies on the 50ms self-healing ring network based on ERPS to perform service access and protection for terminal devices such as security cameras.



Wireless Coverage in Warehouse (Park)

Industrial switches + AC1000 + AP520X/AP530X realize WLAN coverage in the factory. W660/W630S achieve seamless roaming on AGV trolleys, with switching between different APs < 100ms.



Non-managed industrial Ethernet switch

Platinum Series



Platinum Series								
Model	USR-ISF1005	USR-ISF1008	USR-ISG1005	USR-ISG1008	USR-ISG1208-SFP	USR-ISG1408-SFP	USR-ISF1216-SFP	USR-ISG1224-SFP-1U
Number of Ports	5	8	5	8	10	12	18	26
10/100M Adaptive	5	8	/	/	/	/	16	/
10/100/1000M Adaptive	/	/	5	8	8	8	/	24
100M Optical Port	/	/	/	/	/	/	/	/
1000M SFP Optical Port	/	/	/	/	2	4	2	2
1G/10G SFP+ Optical Port	/	/	/	/	/	/	/	/
Protection Level	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40
Power Characteristics								
Power Input	9.6-60VDC	9.6-60VDC	9.6-60VDC	9.6-60VDC	9.6-60VDC and	9.6-60VDC and	9.6-60VDC	100~240VAC
Total Power Consumption	<3W	<3W	<3W	<3W	<5W	<5W	<5W	≤25W
Operating Temperature								
Operating Temperature	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40~85°C	-40~85°C	-40~85°C	-40~85°C
Relative Humidity	5%~95%(No Condensation)							
Physical Characteristics								
Installation Method	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	Rack-mounted
Dimensions (L×W×H)mm	118*96*47.5mm	118*96*47.5mm	118*96*47.5mm	118*96*47.5mm	140×110×50mm	140×110×50mm	140x110x60mm	440×200×43.8mm
Exchange Performance								
Exchange Bandwidth	1G	1.6G	10G	16G	20G	52G	8.8G	52G
MAC Address Table	2K	2K	2K	4K	4K	8K	8K	8K

Economical



Commercial Switch - Economical					
Model	USR-SF1005	USR-SG1005	USR-SF1008	USR-SG1008	USR-S1210P (POE)
Number of Ports	5	5	8	8	10
10/100M Adaptive Electrical Port	5	/	8	/	/
10/100/1000M Adaptive Electrical Port	/	5	/	8	9
100M Optical Port (SC/ST/FC Optional)	/	/	/	/	/
1000M SFP Optical Port	/	/	/	/	1
1G/10G SFP+ Optical Port	/	/	/	/	/
POE characteristics					
Supported protocols	/	/	/	/	IEEE802.3af/at
Single port power	/	/	/	/	Single - port PoE output ≤ 30W
Protection level					
Power characteristics					
Power input	DC 12V/1A	DC 12V/1A	DC 12V/1A	DC 12V/1A	DC 54V/1.2A
Total Power	< 3W	< 4W	< 3W	< 4W	< 5W
Operating temperature					
Operating Temperature	-5°C~+45°C	-5°C~+45°C	-5°C~+45°C	-5°C~+45°C	-5°C~+45°C
Relative Humidity	10%~90% (No Condensation)	10%~90% (No Condensation)	10%~90% (No Condensation)	10%~90% (No Condensation)	5%~95% (No Condensation)
Physical Characteristics					
Installation Method	Desktop/Wall - mounted/Rail - mounted				Desktop/Wall - mounted
Dimensions (mm)	100*77*26mm	100*77*26mm	140*90*26mm	140*90*26mm	200 *100* 26mm
Switching Performance					
Switching Bandwidth	1G	10G	1.6G	16G	20G
MAC Address Table	2K	2K	2K	2K	4K
Packet Forwarding Rate	0.1488 Mpps	1.488 Mpps	0.1488 Mpps	1.488 Mpps	14.88Mpps

Black Gold Series



Black Gold Series(excluding PoE and Managed Types)															Small - sized		
Model	USR-SDR050-L	USR-ISG005	USR-ISG008	USR-ISF016	USR-ISG016	USR-ISF024	USR-ISG024	USR-ISG104-SFP	USR-ISG105-SFP	USR-ISG108-SFP	USR-ISG216-SFP	USR-ISG406-SFP	USR-ISG408-SFP	USR-ISG802-SFP	USR-ISF2005	USR-ISF2008	
Number of Ports	5	5	8	16	16	24	24	5	6	9	18	10	12	10	5	8	
10/100M Adaptive Electrical Port	5	/	/	16	/	24	/	/	/	/	/	/	/	/	5	8	
10/100/1000M Adaptive Electrical Port	/	5	8	/	16	/	24	4	5	8	16	6	8	2	/	/	
100M Optical Port (SC/ST/FC Optional)	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	
1000M SFP Optical Port	/	/	/	/	/	/	/	1	1	1	2	4	4	8	/	/	
1G/10G SFP+ Optical Port	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	
Protection Level	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	
Power Characteristics																	
Power Input	DC 9-36V	DC 12-52V	DC 12-52V	DC 12-52V	DC 12-52V	DC 12-52V	DC 12-52V	DC 12-52V	12-58VDC	DC 12-52V	DC 12-52V	DC 12-52V	DC 12-52V	DC 12-52V	DC12~48V	DC 12-48V	
Total Power Consumption	<3W	<3W	<3W	<10W	<15W	<15W	<15W	<3W	≤5W	<3W	<15W	< 10W	<12W	<12W	<3W	< 5W	
Operating Temperature																	
Operating Temperature	-40~85°C	-40~85°C	-40~85°C	-40~85°C	-40~85°C	-40~80°C	-40~80°C	-40~85°C	-40°C-75°C	-40~85°C	-40~85°C	-40°C-75°C	-40°C-75°C	-40~80°C	-40°C~75°C	-40°C~75°C	
Relative Humidity	10%~90%(No Condensation)										10%~90%(No Condensation)			5%~95%(No Condensation)			
Physical Characteristics																	
Installation Method	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	
Dimensions (L × W×H)mm	120X90X35.5mm	130x95x33.5mm	156x113x48mm	175.6x135x45.5mm	191x144x46mm	166x137x68.5mm	166x137x83.5mm	118x86x39mm	130x98x30mm	143x101x44mm	176x136x46.5mm	143.7x103.8x47.7mm	143.7x125x47.7mm	175.6×135×45.5mm	93x74x24.9mm	110x91x40 mm	
Exchange Performance																	
Exchange Bandwidth	1G	10G	20G	3.2G	56G	4.8G	56G	10G	14G	20G	56G	20G	58G	56G	1G	1.6G	
MAC Address Table	1K	1K	2K	8K	8K	8K	8K	8K	2K	16K	8K	4K	8K	8K	2K	2K	

Unmanaged Industrial Ethernet POE Switch



Unmanaged Industrial Ethernet POE Switch								Unmanaged POE Switch (Platinum Series)			Layer 2 Managed Industrial Ethernet POE Switch		
Model	USR-ISG1208P-SFP	USR-ISF005P	USR-ISG005P	USR-ISG008P	USR-ISF016P	USR-ISG016P	USR-ISG108P-SFP	USR-ISF1005P	USR-ISG1005P	USR-ISG1008P	USR-ISG216P-SFP	USR-ISG224P-SFP-1U	USR-ISG416P-SFP
Number of ports	10	5	5	8	16	16	9	5	5	8	18	26	20
10/100M adaptive electrical port	/	5	/	/	16	/	/	5	/	/	/	/	/
10/100/1000M adaptive electrical port	8	/	5	8	/	16	8	/	5	8	16	24	16
100M optical port (SC/ST/FC optional)	/	/	/	/	/	/	/	/	/	/	/	/	/
1000M SFP optical port	2	/	/	/	/	/	1	/	/	/	2	2	4
1G/10G SFP+ optical port	/	/	/	/	/	/	/	/	/	/	/	/	/
Protection level	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40
POE characteristics													
Supported protocols	IEEE802.3af/at	IEEE802.3af/at	IEEE802.3af/at	IEEE802.3af/at	IEEE802.3af/at	IEEE802.3af/at	IEEE802.3af/at	IEEE802.3af/at	IEEE802.3af/at	IEEE802.3af/at	IEEE802.3af/at	IEEE802.3af/at	IEEE802.3af/at
Single port power	Single - port PoE output ≤ 30W	Single - port PoE output ≤ 30W	Single - port PoE output ≤ 30W	Single - port PoE output ≤ 30W	Single - port PoE output ≤ 30W	Single - port PoE output ≤ 30W	Single - port PoE output ≤ 30W	Single-port PoE output ≤ 30W	Single-port PoE output ≤ 30W	Single-port PoE output ≤ 30W	Single-port PoE output ≤ 30W	Single-port PoE output ≤ 30W	Single-port PoE output ≤ 30W
Power characteristics													
Power input	DC 48~54V (Dual Power Supply Backup)	DC48-57V (Dual Power Supply Backup)	DC12-52V (Dual Power Supply Backup)	DC48-57V DC/terminal power supply (Dual Power Supply Backup)	DC48-57V DC/terminal power supply (Dual Power Supply Backup)	DC48-57V DC/terminal power supply (Dual Power Supply Backup)	DC48-57V (Dual Power Supply Backup)	AC/DC 100-240V	DC48-57V (Dual Power Supply Backup)				
Total Power Consumption	< 15W	< 3W	<3W	<3W	<3W	<400W	<450W	<400W					
Operating temperature	-40°C~+85°C												
Operating Temperature	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C
Relative humidity	5%~95%(No Condensation)	5%~95%(No Condensation)	5%~95%(No Condensation)	5%~95%(No Condensation)	5%~95%(No Condensation)	5%~95%(No Condensation)	10%~90%(No Condensation)	5%~95%(No Condensation)	5%~95%(No Condensation)	5%~95%(No Condensation)	5%~95% (No Condensation)	5%~95% (No Condensation)	5%~95% (No Condensation)
Physical characteristics													
Installation method	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	Rack-mounted	DIN Rail Type
Dimensions (LxWxH) mm	140x110 x50mm	118x85.7x33.5mm	118x85.7x33.5mm	156x113x48mm	175.6x135x45.5mm	175.6x135x45.5mm	143x101x44mm	105*69*29.5mm	118*96*47.5mm	118*96*47.5mm	175.6*135*45.5mm	442*195*44mm	166*137*68.5mm
Switching performance													
Exchange capacity	20G	1.6G	14G	20G	3.2G	3.2G	20G	1G	10G	16G	56Gbps	56Gbps	56Gbps
MAC address table	4K	1K	1K	1K	8K	8K	16K	1K	1K	1K	8K	8K	8K
Packet forwarding rate	/	/	/	/	/	/	/	/	/	/	41.7Mpps	41.7Mpps	41.7Mpps
Common functions													
QoS and VLAN	/	/	/	/	/	/	/	/	/	/	√	√	√
Port Static Aggregation/LACP	/	/	/	/	/	/	/	/	/	/	√	√	√
IGMP v1/v2/v3 Multicast	/	/	/	/	/	/	/	/	/	/	√	√	√
Broadcast Storm Suppression	/	/	/	/	/	/	/	/	/	/	√	√	√
Redundancy Protocol													
MW-Ring	/	/	/	/	/	/	/	/	/	/	/	/	/
ERPS	/	/	/	/	/	/	/	/	/	/	√	√	√
RSTP/STP	/	/	/	/	/	/	/	/	/	/	√	√	√
Data Interface													
RS232	/	/	/	/	/	/	/	/	/	/	/	/	/
RS485	/	/	/	/	/	/	/	/	/	/	/	/	/
CAN	/	/	/	/	/	/	/	/	/	/	/	/	/
Management Function													
SNMPv1/v2/v3	/	/	/	/	/	/	/	/	/	/	√	√	√
LLDP	/	/	/	/	/	/	/	/	/	/	√	√	√
DHCP	/	/	/	/	/	/	/	/	/	/	/	/	/
RMON	/	/	/	/	/	/	/	/	/	/	√	√	√
Clock Service	/	/	/	/	/	/	/	/	/	/	√	√	√
Device Management	/	/	/	/	/	/	/	/	/	/	√	√	√
Security Function													
802.1X	/	/	/	/	/	/	/	/	/	/	√	√	√
HTTPS/SSL	/	/	/	/	/	/	/	/	/	/	√	√	√
Port Security Binding	/	/	/	/	/	/	/	/	/	/	√	√	√
ACL Access Control List	/	/	/	/	/	/	/	/	/	/	√	√	√
RADIUS	/	/	/	/	/	/	/	/	/	/	/	/	/

Layer 2 Managed Industrial Ethernet Switch



Layer 2 Managed Industrial Ethernet Switch

Model	USR-ISF206-SFP	USR-ISG208S-SFP	USR-ISG208ST-SFP	USR-ISF216-SFP	USR-ISG216S-SFP	USR-ISG408S-SFP	USR-ISG412S-SFP	USR-ISG416-SFP	USR-ISG2224S-SFP-1U	USR-ISG808S-SFP	USR-ISG816S-SFP	
Number of Ports	8	10	10	18	18	12	16	20	26	16	24	
10/100M RJ45 Electrical Port	6	/	/	16	/	/	/	/	/	/	/	
10/100/1000M RJ45 Electrical Port	/	8	8	/	16	8	12	16	24	8	16	
100M Optical Port (SC/ST/FC Optional)	/	/	/	/	/	/	/	/	/	/	/	
1000M SFP Optical Port	2	2	2	2	2	4	4	4	2	8	8	
1G/10G SFP+ Optical Port	/	/	/	/	/	/	/	/	/	/	/	
Gigabit Combo (Electrical/Optical) Interface	/	/	/	/	/	/	/	/	/	/	/	
Protection Class	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	
POE Characteristics												
Supported Protocols	/	/	/	/	/	/	/	/	/	/	/	
Single-port Power	/	/	/	/	/	/	/	/	/	/	/	
Power Supply Characteristics												
Power Input	DC12-52V (Dual Power Supply Redundancy)								AC/DC 100-240V		DC12-52V (Dual Power Supply Redundancy)	
Total Power Consumption	<6W	<8W	<10W	<12W	<15W	<10W	<15W	<15W	<20W	<15W	<20W	
Operating Temperature												
Operating Temperature	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-30°C~+70°C	-40°C~+85°C	-40°C~+85°C	
Relative Humidity	5% ~ 95% (No condensation)	5% ~ 95% (No condensation)	5% ~ 95% (No condensation)	5% ~ 95% (No condensation)	5% ~ 95% (No condensation)	5% ~ 95% (No condensation)	5% ~ 95% (No condensation)	5% ~ 95% (No condensation)	5% ~ 95% (No condensation)	5% ~ 95% (No condensation)	5% ~ 95% (No condensation)	
Physical Characteristics												
Installation Method	DIN Rail	DIN Rail	DIN Rail	DIN Rail	DIN Rail	DIN Rail	DIN Rail	DIN Rail	DIN Rail	DIN Rail	DIN Rail	
Dimensions (L×W×H) mm	143.7*104*47.7mm	143.7*104*47.7mm	175.6*135*45.5mm	175.6*135*45.5mm	175.6*135*45.5mm	143.7*125*47.7mm	175.6*135*45.5mm	166*137*68.5mm	440x190x44 mm	175.6*135*45.5mm	166*137*68.5	
Switching Performance												
Switching Bandwidth	12.8Gbps	20Gbps	76Gbps	12.8Gbps	56Gbps	56Gbps	36Gbps	56Gbps	52G	56Gbps	56Gbps	
MAC Address Table	8K	8K	8K	8K	8K	8K	8K	8K	8K	8K	8K	
Packet Forwarding Rate	9.5Mpps	14.9Mpps	14.9Mpps	9.5Mpps	41.7Mpps	41.7Mpps	26.8Mpps	41.7Mpps	38.7Mpps	41.7Mpps	41.7Mpps	
General Functions												
QoS and VLAN	√	√	√	√	√	√	√	√	√	√	√	
Port Static Aggregation/LACP	√	√	√	√	√	√	√	√	√	√	√	
IGMP v1/v2/v3 Multicast Management	√	√	√	√	√	√	√	√	√	√	√	
Broadcast Storm Suppression	√	√	√	√	√	√	√	√	√	√	√	
Redundancy Protocols												
MW-Ring	/	/	/	/	/	/	/	/	/	/	/	
ERPS	√	√	√	√	√	√	√	√	√	√	√	
RSTP/STP	√	√	√	√	√	√	√	√	√	√	√	
Data Interfaces												
RS232	/	/	/	/	/	/	/	/	/	/	/	
RS485	/	/	/	/	/	/	/	/	/	/	/	
CAN	/	/	/	/	/	/	/	/	/	/	/	
Management Functions												
SNMPv1/v2/v3	√	√	√	√	√	√	√	√	√	√	√	
LLDP	√	√	√	√	√	√	√	√	√	√	√	
DHCP	/	/	/	/	/	/	/	/	√	/	/	
RMON	√	√	√	√	√	√	√	√	√	√	√	
Clock Service	√	√	1588 V2 (PTP)	√	√	√	√	√	√	√	√	
Device Management	√	√	√	√	√	√	√	√	√	√	√	
Security Functions												
802.1X	√	√	√	√	√	√	√	√	√	√	√	
HTTPS/SSL	√	√	√	√	√	√	√	√	√	√	√	
Port Security Binding	√	√	√	√	√	√	√	√	√	√	√	
ACL (Access Control List)	√	√	√	√	√	√	√	√	√	√	√	
RADIUS	/	/	/	/	/	/	/	/	/	/	/	

Industrial-grade Fiber Transceiver



Industrial-grade Fiber Transceiver										
Model	USR-LINKRS485/232/422-A	USR-LINKRS485/232/422-B	USR-6311G-SC20	USR-6311G-SC20/A	USR-6311G-SC20/B	USR-6211GP-SFP (POE)	USR-6311G-SFP	USR-6312G-SFP	USR-6312G-SC20/A	USR-6312G-SC20/B
Number of Ports	3	3	2	2	2	2	2	3	3	3
10/100M RJ45 Electrical Port	/	/	1	1	1	/	/	/	/	/
10/100/1000M RJ45 Electrical Port	2	2	/	/	/	1	1	2	2	2
1000M Optical Port (SC/ST/FC Optional)	1	1	1	1	1	/	/	/	1	1
1000M SFP Optical Port	Optional	Optional	/	/	/	1	1	1	/	/
Protection Class	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40
POE Characteristics						EEE802.3af/at				
Supported Protocols	/	/	/	/	/	Single Port PoE Output ≤ 30W				
Single-port Power	/	/	/	/	/					
Power Supply Characteristics										
Power Input	DC12-52V	DC12-52V	DC12-52V	DC12-52V	DC12-52V	DC48-57V	DC12-52V	DC12-52V	DC12-52V	DC12-52V
Total Power Consumption	<2W	<2W	<2W	<2W	<2W	<35W	<2W	<2W	<2W	<2W
Operating Temperature										
Operating Temperature	-30°C~+75°C	-30°C~+75°C	-30°C~+75°C	-30°C~+75°C	-30°C~+75°C	-30°C~+75°C	-30°C~+75°C	-30°C~+75°C	-30°C~+75°C	-30°C~+75°C
Relative Humidity	5% ~ 95% (No Condensation)									
Physical Characteristics										
Installation Method	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type	DIN Rail Type
Dimensions (L×W×H) mm	118*97*33mm	118*97*33mm	105*74*30mm	105*74*30mm	105*74*30mm	118*85*33.5mm	105*74*30mm	118*86*33mm	118*86*33mm	118*86*33mm
Optical Port Type										
Fiber Wavelength	Single-mode 1310/1550nm Multi-mode 850/1310		Single-mode 1310nm	Single-mode 1310/1550nm	Single-mode 1550/1310nm	Single-mode 1310/1550nm Multi-mode 850/1310			Single-mode 1550/1310nm	
Transmission Distance	Single-mode >20km Multi-mode 2 - 5km		Single-mode >20km	Single-mode >20km	Single-mode >20km	Single-mode >20km Multi-mode 2~5km			Single-mode >20km	Single-mode >20km
Transmitting Optical Power	≥ -8dBm	≥ -8dBm	≥ -8dBm	≥ -8dBm	≥ -8dBm	≥ -8dBm	≥ -8dBm	≥ -8dBm	≥ -8dBm	≥ -8dBm
Receiver Sensitivity	≤ -24dBm	≤ -20dBm	≤ -20dBm	≤ -20dBm	≤ -20dBm	≤ -20dBm	≤ -20dBm	≤ -20dBm	≤ -20dBm	≤ -20dBm
Bit Error Rate	<10 ⁻⁹	<10 ⁻⁹	<10 ⁻⁹	<10 ⁻⁹	<10 ⁻⁹	<10 ⁻⁹	<10 ⁻⁹	<10 ⁻⁹	<10 ⁻⁹	<10 ⁻⁹
Serial Port Type										
Serial Port Type	Interface signals RS232/422/485 optional		/	/	/	/	/	/	/	/
Without 2 Gigabit Ethernet Ports	1 bidirectional RS232 channel + 1 bidirectional RS422 channel (2 bidirectional RS485 channels)		/	/	/	/	/	/	/	/
With 2 Gigabit Ethernet Ports	2 Gigabit network channels + 1 bidirectional RS232 channel + 1 bidirectional RS485 channel		/	/	/	/	/	/	/	/
With 2 Gigabit Ethernet Ports	2 Gigabit network channels + 1 bidirectional RS485 channel + 1 forward switching value (dry contact)		/	/	/	/	/	/	/	/
With 2 Gigabit Ethernet Ports	2 Gigabit network channels + 1 bidirectional RS232 channel + 1 forward switching value (dry contact)		/	/	/	/	/	/	/	/

Industrial-grade SFP Optical Module



Industrial-grade SFP Optical Module										
Model	SFP-GE-SX-MM850-500M	SFP-GE-LX-SM1310-20KM	SFP-GE-LX-SM1310-20KM-LC	SFP-GE-LX-SM1310-20KM-SC	SFP-GE-LX-SM1550-20KM-LC	SFP-GE-LX-SM1550-20KM-SC	SFP-10G-LR-SM1310-20KM	SFP-GE-LX-SM1310-40KM	SFP-GE-T	
Power Supply Characteristics										
Power Input	3.3V	3.3V	3.3V	3.3V	3.3V	3.3V	3.3V	3.3V	3.3V	
Power Protection	Supports built-in overcurrent protection									
Photoelectric Port Type										
Interface Rate	1.25G	1.25G	1.25G	1.25G	1.25G	1.25G	1.25G	10G	1.25G (100M/1000M) Electrical Port	
Optical Interface Type	LC	LC	LC	SC	LC	SC	LC	LC	/	
Fiber Wavelength	Multi-mode 850nm	Single-mode 1310nm	Single-mode 1310/1550nm	Single-mode 1310/1550nm	Single-mode 1550/1310nm	Single-mode 1550/1310nm	Single-mode 1310nm	Single-mode 1310nm	/	
Transmission Distance	Multi-mode 2~5km	Single-mode >20km	Single-mode >20km	Single-mode >20km	Single-mode >20km	Single-mode >20km	Single-mode >20km	Single-mode >40km	<100m	
Transmit Optical Power	≥ -8dBm	≥ -8dBm	≥ -8dBm	≥ -8dBm	≥ -8dBm	≥ -8dBm	≥ -8dBm	≥ -3dBm	/	
Optical Receiver Sensitivity	≤ -18dBm	≤ -20dBm	≤ -20dBm	≤ -20dBm	≤ -20dBm	≤ -20dBm	≤ -20dBm	≤ -15dBm	/	
Bit Error Rate	<10 ⁻⁹	<10 ⁻⁹	<10 ⁻⁹	<10 ⁻⁹	<10 ⁻⁹	<10 ⁻⁹	<10 ⁻⁹	<10 ⁻⁹	<10 ⁻⁹	
Protection Level	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	IP40	
Weight and Power Consumption										
Weight	< 30g	< 30g	< 30g	< 30g	< 30g	< 30g	< 30g	< 30g	< 30g	
Total Power Consumption	<1W	<1W	<1W	<1W	<1W	<1W	<1W	<3W	<1W	
Operating Temperature										
Operating Temperature	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-40°C~+80°C	-40°C~+85°C	
Relative Humidity	5% ~ 95% (No Condensation)									
Physical Characteristics										
Packaging Method	Hot-swappable SFP package, compliant with SFP MSA and IEEE 802.3 standard protocols									
Dimensions (L×W×H) mm	65.1*13.7*8.5mm	55.5*13.7*8.5mm	57.1*13.7*8.5mm	65.1*13.7*8.5mm	57.1*13.7*8.5mm	65.1*13.7*8.5mm	58.4*13.7*8.5mm	55.5*13.7*8.5mm	68.3*13.7*8.5mm	

Layer 3 Managed Industrial Ethernet Switch



(POE)

Layer 3 Managed Industrial Ethernet Switch						
Model	ISGX404-SFP	ISGX408-SFP	ISGX424-SFP	ISGX2448R-SFP-1U	ISGX2448R-SFP-1U-DS	ISGX2424RP-SFP-1U (POE)
Number of Ports	8	12	26	52	52	28
10/100M RJ45 Electrical Port	/	/	/	/	/	/
10/100/1000M RJ45 Electrical Port	4	8	24	48	48	24
100M Optical Port (SC/ST/FC Optional)	/	/	/	/	/	/
1000M SFP Optical Port	/	/	/	/	/	/
1G/10G SFP+ Optical Port	4	4	4	4	4	4
Gigabit Combo (Electrical/Optical) Interface	/	/	/	/	/	/
Protection Class	IP40	IP40	IP40	IP40	IP40	IP40
POE Characteristics						
Supported Protocols	/	/	/	/	/	IEEE802.3af/at
Single-port Power	/	/	/	/	/	Single-port PoE output ≤ 30W
Power Supply Characteristics						
Power Input	DC12-52V (Dual Power Supply Redundancy)	DC12-52V (Dual Power Supply Redundancy)	AC/DC 100-240V	AC/DC 100-240V	AC/DC 100-240V (Dual Power Supply)	AC/DC 100-240V
Total Power Consumption	<12W	<15W	<30W	<40W	<60W	<450W
Operating Temperature						
Operating Temperature	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C	-30°C~+70°C	-40°C~+85°C	-30°C~+70°C
Relative Humidity	5% ~ 95% (No condensation)	5% ~ 95% (No condensation)	5% ~ 95% (No condensation)	5% ~ 95% (No condensation)	5% ~ 95% (No condensation)	5% ~ 95% (No condensation)
Physical Characteristics						
Installation Method	DIN Rail	DIN Rail	Rack-mounted	Rack-mounted	Rack-mounted	Rack-mounted
Dimensions (L×W×H) mm	143.7*125*47.7	175.6*135*45.5	328*172*44MM	440x290x44 mm	442x325x44 mm	440x290x44 mm
Switching Performance						
Switching Bandwidth	1.2Tbps	1.2Tbps	1.2Tbps	1.2Tbps	4.8Tbps	1.2Tbps
MAC Address Table	32K	32K	32K	32K	64K	32K
Packet Forwarding Rate	406Mpps	406Mpps	406Mpps	406Mpps	1624Mpps	406Mpps
Routing Entries	512	512	512	8000	8000	512
General Functions						
QoS and VLAN	√	√	√	√	√	√
Port Static Aggregation/LACP	√	√	√	√	√	√
IGMP v1/v2/v3 Multicast Management	√	√	√	√	√	√
Broadcast Storm Suppression	√	√	√	√	√	√
Redundancy Protocols						
MW-Ring	/	/	/	/	/	/
ERPS	√	√	√	√	√	√
RSTP/STP	√	√	√	√	√	√
Layer 3 Software Features						
Layer 3 Routing	√	√	√	√	√	√
Multicast Routing	/	/	/	√	√	√
VRRP	√	√	√	√	√	√
Management Functions						
SNMPv1/v2	√	√	√	√	√	√
LLDP	√	√	√	√	√	√
DHCP	√	√	√	√	√	√
RMON	√	√	√	√	√	√
GVRP Dynamic VLAN Management	√	√	√	√	√	√
GMRP Multicast Management	/	/	/	√	√	√
Clock Service	√	√	√	√	√	√
Device Management	√	√	√	√	√	√
Security Functions						
802.1X	√	√	√	√	√	√
HTTPS/SSL	√	√	√	√	√	√
Port Security Binding	√	√	√	√	√	√
ACL (Access Control List)	√	√	√	√	√	√
RADIUS	/	/	/	√	√	√

Vehicle-mounted Switch Series



Vehicle-mounted Switch Series					
Model	USR-ISF005-M12-BG	USR-ISG005-M12-BG	USR-ISF008-M12-BG	USR-ISG008-M12-BG	USR-ISF005-M12-CZ
Number of ports	5	5	8	8	5
10/100M M12 A-code	5	/	8	/	5
10/100/1000M M12 X-code	/	5	/	8	/
10/100M POE接口	/	/	/	/	/
100/1000M POE接口	/	/	/	/	/
Power supply characteristics	DC 12V~52V (Dual Power Supply Redundancy)				
Power input	DC 12V~52V (Dual Power Supply Redundancy)				
Total Power MAX	< 3W	< 3W	< 3W	< 3W	< 3W
Operating temperature	-40~75°C				
Operating temperature	-40~75°C	-40~75°C	-40~75°C	-40~75°C	-40~75°C
Relative humidity	10%~90%RH (No Condensation)				
Physical characteristics					
Installation method	Wall - mounted installation (Front direct plug and outlet)	Wall - mounted installation (Front direct plug and outlet)	Wall - mounted installation (Front direct plug and outlet)	Wall - mounted installation (Front direct plug and outlet)	Wall-mounted installation (Side bend pin outlet)
Dimensions (mm)	170x108x41.2	170x108x41.2	170x132x41.2	170x132x41.2	170x108x41.2
Switching performance					
Switching bandwidth	2k	2k	2k	4k	2k
MAC address table	2k	2k	2k	4k	2k
Packet forwarding rate	1.19Mpps	7.44Mpps	1.19Mpps	11.9Mpps	1.19Mpps

Industrial Wireless

Wireless Bridge



Product Model	2.4GHZ PLC Communication Bridge: ST208S	5.8GHZ PLC Communication Bridge: ST508S	5.8GHZ Outdoor Wireless Bridge ST508E
Installation Method / Mounting	DIN Rail / Wall Mount	DIN Rail / Wall Mount	Wall Mount / Pole Mount
Port	1×10/100Mbps Auto-MDI/MDIX RJ45 Port (LAN1) 1×10/100Mbps Auto-MDI/MDIX RJ45 Port (LAN2, PoE IN) 1×DC Power Socket Port	1×10/100Mbps Auto-MDI/MDIX RJ45 Port (PoE IN)	1×WAN Port, 10/100 Base-T RJ45 (PoE IN)
Wireless Standard	IEEE 802.11 b/g/n	IEEE802.11n/a, iPoll (TDMA-based Private Protocol)	IEEE802.11n/a, iPoll (TDMA-based Private Protocol)
Theoretical Wireless Rate	300Mbps Note: Wireless performance is affected by environment, subject to actual measurement		
Transmit Power	20dBm	29dBm (Subject to Country Regulations)	
Antenna Coverage Angle, Antenna Gain	Omnidirectional Suction Antenna 5+/-0.5dBi	Omnidirectional Rod Antenna 3dBi	Built-in Directional Antenna (60° Sector) 8dBi
Measured Wireless Transmission Distance	500m Note: Affected by environment, subject to actual measurement	500m Note: Affected by environment, subject to actual measurement	2KM Note: Affected by environment, subject to actual measurement
Measured Wired Transmission	100m Note: The transmission distance is related to the quality of the network cable, subject to actual measurement		
Power Supply	Dual Power Support: Voltage Range: 9-24V, Power Supply: DC or PoE IN	Voltage Range: 12-24V, Power Supply: POE IN	
Indicator Light	POW, WORK, LAN1, LAN2, SIG	PWR, LAN, SIG1, SIG2, SIG3	
Dimensions	85*76*25mm	85*76*25mm	141*77.5*53mm
Housing	Sheet Metal Housing IP30 Protection	Sheet Metal Housing IP30 Protection	Waterproof Housing IP64 Protection
Operating Environment	-40°C ~ +70°C		
Power Consumption	Maximum Power Consumption: 4.5W		
Buttons	1×Reload Button: Press and hold for 5~15 seconds, then release to restore factory settings.		
Weight	< 230g	350g	300g
Shipment	2 units, pre-paired	2 units, pre-paired	2 units

Industrial Wireless

Industrial Wireless Router



Industrial Wireless Router		
Model	USR-G806w	USR-G816w
Network Specification		
Network Standard	4G	4G/5G
Frequency	USR-G806w-E : TDD-LTE:B38/40/41 FDD-LTE : B1/3/7/8/20/28A WCDMA : B1/8 GSM/EDGE:B3/8 USR-G806w-AU : TDD-LTE:B40 FDD-LTE : B1/2/3/5/7/8/28 WCDMA : B1/2/4/5/8 GSM/EDGE:B2/3/5/8 USR-G806w-G : TDD-LTE:B34/38/39/40/41 FDD-LTE:B1/2/3/4/5/7/8/12/13/18/19/20/25/26/28/66 WCDMA : B1/2/4/5/6/8/19 GSM/EDGE:B2/3/5/8	5G NR sub-6 GHz (3GPP Rel-16) Band(NA/NSA): n1/2/3/5/7/8/12/13/14/18/20/25/26/28/29/30/38/40/41/48 /66/70/71/75/76/77/78/79; 4G LTE (CAT 19 DL / CAT 18 UL): LTE-FDD: B1/2/3/4/5/7/8/12/13/14/17/18/19/20/25/26/28/29/30/32/66/71; LTE-TDD: B34/38/39/40/41/42/43/48; LAA: B46;
Antenna	1 x SMA-K	4 x SMA-K Connectors (Center PIN: SMA Female)
SIM card	1 x (3 V & 1.8 V) Standard 4FF SIM	2 x (3 V/1.8 V) mini-SIM(2FF) Push-push type slot
WiFi Specification		
Wireless Standard	IEEE802.11b/g/n , 2.4GHz	IEEE802.11b/g/n , 2.4GHz/IEEE802.11ac , 5.8GHz
Number of Antennas	2	2
Working Mode	AP/STA/Repeater mode	AP/AP+STA/AP+ Repeater
Network Port Specification		
Electromagnetic Isolation	1.5KV	1.5KV
Network Ports	1*WAN/LAN+2LAN, 10/100 Mbps	1 x WAN/LAN +3 x RJ45 port, 10/100/1000 Mbps
Serial Port Specification		
Number of Serial Ports	/	1*RS232/RS485
Power Parameters		
Power Input	DC 9-36V	DC 9-36V
Working Current	260mA@12V	630mA@12V
Power Interface	DC Power Jack Barrel Type Female 5.5*2.1mm Round socket or 2 PIN industrial terminal block, reverse polarity protection	DC Power Jack Barrel Type Female 5.5*2.1mm Round socket or industrial terminal block(V+,V-), reverse polarity protection
Working Environment		
Operating Temperature	-20°C~70°C	-35°C~75°C
Relative Humidity	5%~95% RH (No Condensation)	5%~95% RH (No Condensation)
Physical Characteristics		
Installation Method	Panel mounting, DIN-Rail mounting	Desktop, wall mounting and DIN-rail mounting
Dimensions(LxWxH) mm	102*104*28mm	125.0*103.0*45.0mm
Basic Functions		
DDNS	√	√
VLAN	√	x
VPN	PPTP/L2TP/IPSec/OpenVPN/GRE	PPTP/L2TP/IPSec/OpenVPN/GRE/VXLAN
Port Mapping	√	√
DHCP	√	√
Static Routing	√	√
PPPOE	√	√
Port/MAC/IP Data Filtering	√	√
Network Diagnosis	√	√
System Log	√	√
Web Upgrade	√	√
Network Backup	√	√
Watchdog	√	√
Scheduled Restart	√	√
SNMP	√	√

Industrial Wireless Client



Industrial Wireless Client			
Model	USR-W660		
Number of Serial Ports	2	Relative Humidity	5%~95% RH (No Condensation)
Serial Port Mode	1*RS232/1*RS485	Physical Characteristics	
Serial Port Baud Rate	1200-230400	Installation Method	Wall mounting/Din rail mounting/Desktop placement
WiFi Type	WiFi6	Dimensions(LxWxH) mm	115*94*29mm
Wireless Mode	AP/AP+STA/Bridge	Basic Functions	
Wireless Roaming	5.8G Fast Roaming within 100ms	Working Mode	TCP/UDP/MODBUS/HTTP/MQTT/SNMP
Spatial Stream	MU-MIMO:2x2	Number of Sockets	6
WiFi Client Capacity	8+	NTP Client	√
Number of Network Ports	1*WAN/LAN + 1*LAN	Heartbeat Packet Detection	√
Network Port Specification	10/100 /1000Mbps Auto-negotiation, Compliant with IEEE	AT Command Configuration/Query	√
Network Port Isolation	1.5KV	SSL Encryption	√
Power Parameters		MQTT	√
Power Input	DC 9-36V	Modbus	√
Power Interface	2-pin terminal blocks	Port Forwarding	√
Working Current	700mA@12V	Access Restriction	√
Working Environment		DHCP	√
Operating Temperature	-25°C ~ +70°C	PPPOE	√

Industrial Wireless AP



Industrial Wireless AP		
Model	AP310i	AP520X
Core Solution	Qualcomm	Qualcomm
RAM	RAM:512MB DDR3L SDRAM	RAM:512MB DDR3L SDRAM
FLASH	Flash:SPI NAND 128MB + SPI NOR 8MB	Flash:SPI NAND 128MB + SPI NOR 8MB
Network Interface	1x2.5Gbps WAN (PoE in) +1x1Gbps LAN, RJ45 ; 48V PoE input over WAN ;	1xWAN/LAN 10/100/1000 Base-T, RJ45 ; 48V PoE input over WAN ;
Antenna	4xBuilt-in high-gain omnidirectional antenna (5dBi)	4x N type Connectors ; Omnidirectional Antenna (6dBi)
Power Supply	48V PoE(802.3at) Or 48V DC	48V PoE(802.3at)
Power Consumption	15W (MAX)	15W (MAX)
Protection	/	IP67
Operating Frequency Band	5G SA/5G NSA/LTE-FDD/LTE-TDD/WCDMA	5G SA/5G NSA/LTE-FDD/LTE-TDD/WCDMA
Wireless Standard	WiFi6 AX3000	WiFi6 AX3000
Wireless Speed	2.4GHz: 573.5Mbps/5GHz: 2474Mbps	2.4GHz: 573.5Mbps/5GHz: 2474Mbps
Bandwidth	160/80/40/20 MHz	160/80/40/20 MHz
Spatial Stream	MU-MIMO:2x2+2x2	MU-MIMO:2x2+2x2
WiFi Client Capacity	128 (2.4G) +128 (5G)	128 (2.4G) +128 (5G)
Wireless Transmit Power	24dBm	27dBm
Installation Method	Ceiling-Mounted	Pole-Mounted
Indicator Light	WAN, LAN, Internet	Power, Wi-Fi, Network Port, 5G Signal
Weight	500g	1.8KG
Software Function	Routing Mode, AP Mode, Wireless Repeater, VPN	Routing Mode, AP Mode, Wireless Repeater, VPN
Wireless Management	Fat-Thin Integrated, Supports Self-Management or Centralized Management by AC Controller	
System Management	Firmware Upgrade, Backup and Restore, Date and Time, Restart, Factory Reset, System Log	
Operating Temperature	0°C ~ +40°C	--40°C ~ +70°C
Operating Humidity	5%~90%RH (No Condensation)	0%~90%RH (No Condensation)
Dimensions(LxWxH) mm	190*190*42mm	263.6*198.46*82mm