WidelOT

Product Specifications



WR212

Industrial Router

2* 100 Mbps Ethernet Port | 5G RedCap/4G | WiFi 4 | Dual SIM/eSIM

Product Overview

The WR212 series is a desktop IoT wireless router featuring 2×100 Mbps Ethernet ports, dual SIM(eSIM optional), and integrated 5G RedCap/4G/3G/Wi-Fi networking, virtual VPN private networks, and wireless DTU data transmission capabilities. It is suitable for large-scale device networking and is widely used in the connectivity of manufacturing machinery, self-service vending machines, multimedia advertising equipment, and smart medical devices, as well as in industry-wide IT infrastructure development. Its diverse network connectivity options, ease of deployment, and comprehensive management features support a wide range of industry clients in their IT infrastructure development and industrial modernization efforts.



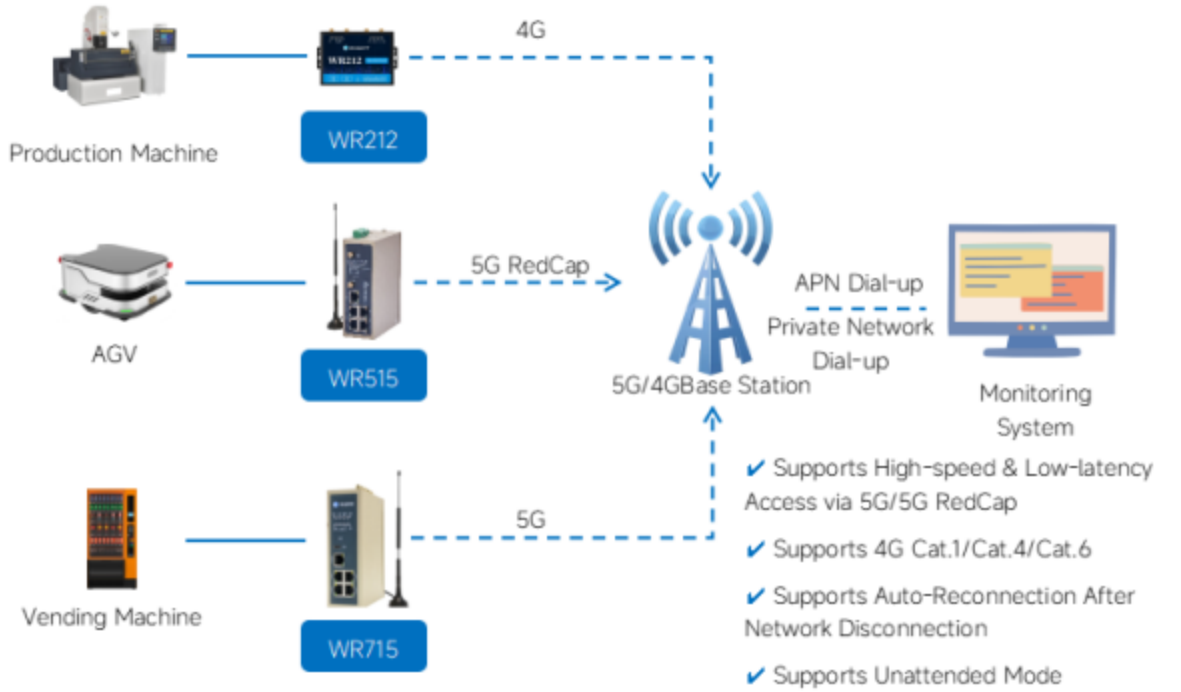
With its rich set of application features and high reliability, the WR212 industrial router is widely used in IoT application scenarios such as smart factories, smart cities, power generation, environmental protection, transportation, retail, agriculture, mining, oil and gas, and industrial automation, providing enterprises with highly reliable networking solutions.

Product Features

- ✓ **Standard and easy to use:** Supports a variety of networks and interfaces, accommodates different scenarios and device configurations, is convenient and flexible to use, and offers a choice of multiple operating modes.
- ✓ **Unattended operation:** Built-in firewall, multi-link backup, and automatic reconnection ensure continuous online operation.
- ✓ **Powerful functions:** Integrated network tools, multiple VPN networking methods, and DTU functions.
- ✓ **Safe and reliable:** Industrial-grade design ensures stable and secure data transmission.
- ✓ **Certifications:** CE, EMC, high and low temperature tests, and industrial safety connection certifications.

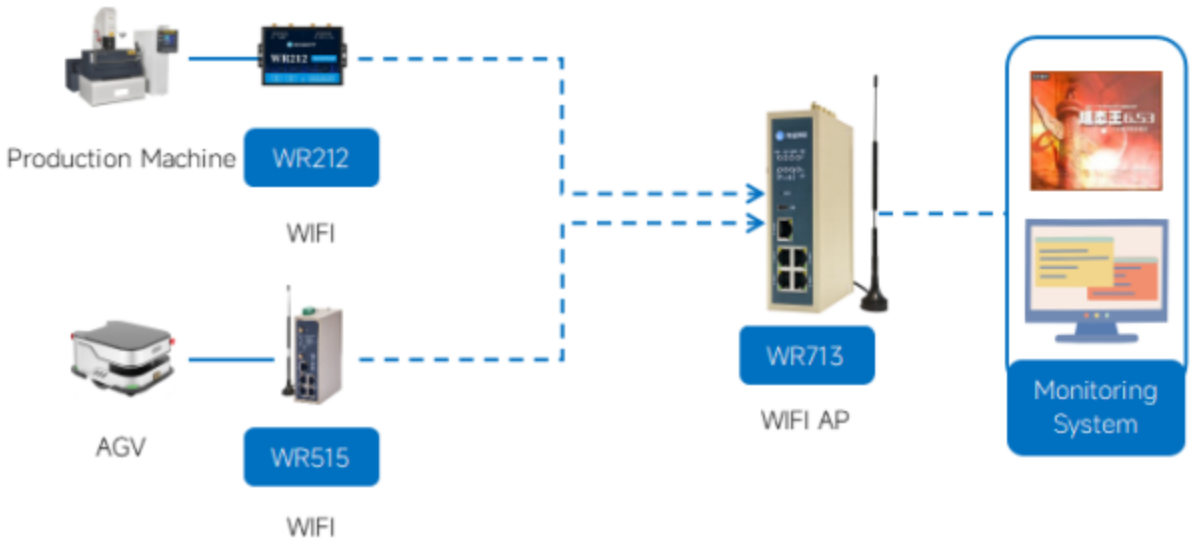
Application Methods

➢ 5G/4G Networking



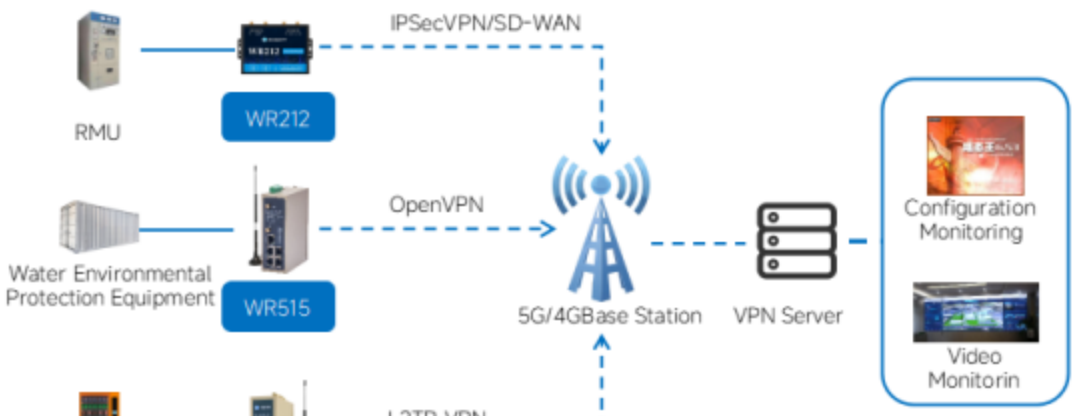
- ✔ Supports High-speed & Low-latency Access via 5G/5G RedCap
- ✔ Supports 4G Cat.1/Cat.4/Cat.6
- ✔ Supports Auto-Reconnection After Network Disconnection
- ✔ Supports Unattended Mode
- ✔ Industrial-grade High-reliability Design

➢ WiFi Networking



- ✔ 2.4 GHz/5.8 GHz Dual-band Optional
- ✔ Supports WiFi4/ WiFi5/ WiFi6
- ✔ Supports STA, AP (Fat AP/Fit AP) and Relay Modes
- ✔ Industrial-grade Stability and Reliability

➢ VPN Networking



✔Supports Multiple VPN Networking Modes: IPSec VPN, OpenVPN, PPTP VPN, L2TP VPN

✔Supports Auto-Reconnection on VPN Disconnection and Network Disconnection

✔Supports Multiple Network Access Methods: 5G, 4G, WiFi, Ethernet

Application Scenarios


Smart Manufacturing


Smart retail


Smart grid


Smart City


Intelligent Transport


Renewable energy


Utilities


Smart Healthcare


Industrial Internet of Things


Water Resources and Environmental Protection


Smart Agriculture


Mines and oilfields

Production specifications

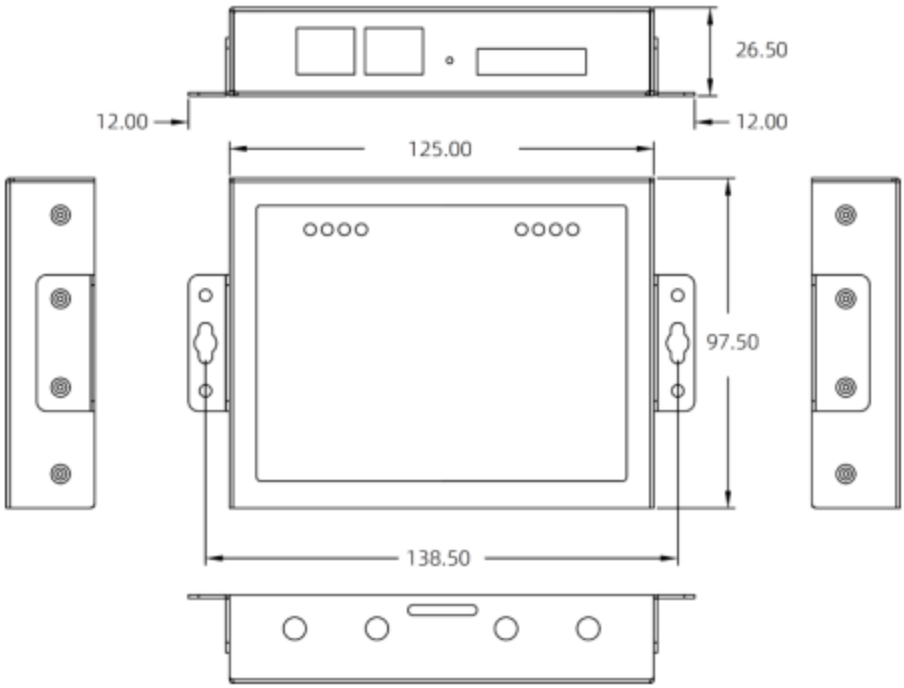
Hardware Parameters	
Haredware platform	
CPU core	580MHZ single-core
Operating Memory	128MB DDR2
Program Memory	32MB SPI-FLASH
Interface specifications	
Power socket	DC 9V-35V (terminal block)
Ethernet port	2*10/100 Mbps Fast Ethernet ports, 1.5 kV network isolation and transformer protection
Serial port	2 RS485 serial ports(RS232 optional), 15 kV ESD protection
5G network	5G Redcap ,Maximum downlink speed 226 Mbps, Maximum uplink speed 120 Mbps (optional)
4G network	LTE Cat4 ,Maximum downlink speed 150Mbps,Maximum uplink speed 50Mbps LTE Cat1 ,Maximum downlink speed 10Mbps,Maximum uplink speed 5Mbps
WIFI network	2.4GHZ, Maximum speed 300Mbps, 802.11b/g/n (optional)
GNSS network	Supports Beidou, GPS ,etc. positioning systems (optional)
SIM card slot	Nano-SIM * 2 (eSIM optional)
Reset button	Pinhole reset button
Antenna connector	5G RedCap:SMA x 2/4G LTE:SMA x 1/WLAN: RP-SMA x 2/GNSS:SMA x 1
Mechanical properties	
Dimensions	125*97.5*26.5(mm)
Installation method	Rail-mounted
Equipment housing	Metal Housing
Protection rating	IP30
Heat dissipation	Fanless heat dissipation
Weight	380g (Weights vary depending on the configuration)
Equipment operating environment	
Ambient humidity	5% ~ 95% (Non-condensing)
Storage temperature	-40 °C~ 85°C
Operating temperature	-30°C ~ 70°C

Indicator light	
2*4 Indicator light	PWR Power Indicator, LIVE Status Indicator, WARN Warning Indicator, ERR Error Indicator, Cellular Signal Strength Indicators*3, NET Network Indicator
EMC Standards	
Electrostatic discharge immunity	GB/T17626.2-2018,level4
Electrical Fast Transient Pulse Immunity	GB/T17626.4-2018,level4
Oscillating magnetic field Immunity to interference	GB/T17626.18-2016,level4
Radio-frequency electromagnetic fields Radiated immunity	GB/T17626.3-2016,level4
Surge (Impact) Immunity	GB/T17626.5-2019,level4
Power-frequency magnetic field Immunity	GB/T17626.8-2006,level4
Physical properties	
Vibration	GB/T2423.10-2008
Impact	GB/T2423.5-2019
Fall	GB/T2423.8-1995

Software specifications	
Network functions	
Network Access	Supports 5G RedCap / 4G Cat1 / 4G Cat4, WiFi (AP/STA/Relay), and Ethernet access.
Network certification	Supports CHAP/PAP authentication,Supports APN and VPDN access
CAT1 network	TDD-LTE/FDD LTE **For specific frequency band information, please refer to the ordering information sheet.**
CAT4 network	GSM/GPRS/EDGEUMTS/HSPA+/CDMA2000-EVDO/TD-SCDMA/ TDD-LTE/FDD LTE **For specific frequency band information, please refer to the ordering information sheet.**
5G RedCap	5G Redcap, maximum download speed of 226 Mbps / maximum upload speed of 120 Mbps (optional)
LAN protocol	Supports ARP、Ethernet
WAN protocol	Supports PPP、PPPOE、DHCP、StaticIP
IP Application	Supports Ping、Trace、DHCP Server 、DHCP Relay、 DHCP Client、DNS relay
IP routing	Supports static routing
NAT	Source NAT, Destination NAT, DMZ
WLAN	
Protocol Standards	Support IEEE 802.11b/g/n
Operating Modes	Supports AP, Client, and WDS modes
Rate	Supports 300Mbps
Security Features	Supports open systems, shared keys, and WPA/WPA2 authentication Supports WEP/TKIP/AES encryption
Transmission Distance	100m （ The actual transmission distance depends on the on-site conditions.）
Security	
Safety and Security	Built-in firewall functionality, providing comprehensive network isolation and protection: supports stateful packet inspection (SPI), protection against denial-of-service (DoS) attacks, Ping probe packets, source port mapping, destination port mapping, DMZ, access control lists (ACLs) and IP-MAC binding
Data security	Supports L2TP VPN,PPTP VPN,Open VPN,IPSec VPN,ZeroTier VPN,etc.
Security certification	TLS encryption, with access via username and password or certificate authentication
Reliability	
Link detection	Supports sending ping packets for network monitoring and automatically reconnects if the connection is lost
Multi-network	Supports automatic switching between multiple networks, including Ethernet,

redundancy	Wi-Fi, 4G and 5G Redcap
Watchdog protection	Software and hardware watchdogs support the device's self-test technology and enable self-repair in the event of operational faults
Application care	Monitor all application modules in real time, anticipate and handle potential errors, and perform self-healing
Intelligent	
Integrated DTU	Supports various protocol transmissions, including WDTCP, WDUDP, transparent TCP, and transparent UDP
Management and maintenance	
Traffic Management	Supports bandwidth statistics, control, and IP speed limiting
Configuration Methods	Supports Telnet, web, and SSH configuration methods
Upgrade Method	Supports web-based firmware upgrades
Log Function	Supports local system logging. Critical logs are retained in the event of a power failure.
Network Management Features	Supports cloud-based network management platforms for batch management
Maintenance Tools	Ping, DNS resolution, route tracing, network interface status display, AT command testing, etc.
Status Query	System status, module status, network connection status, routing status, etc.

Product dimensions



Order details

Hardware Selection	
Order number	WR212-<N>-<M>
N(Network Type)	LL07: 4G CAT4, 7-mode (TDD-LTE, FDD-LTE, etc.), China version; LL02: 4G CAT1, all-network compatible (supports TDD-LTE and FDD-LTE only), China version; NF02:5G RedCap
M (Module)	W: WiFi G: GNSS
Example	WR212-LL07-W (2 Ethernet ports, 4G CAT4 universal connectivity, WiFi) WR212-LL07-WG (2 Ethernet ports, 4G CAT4 universal connectivity,WiFi , GNSS) .....

*This table is for selection reference only; the exact model will be determined by the engineer's selection.

For further information, please visit the WideIOT website: https://www.wideiot.com.

Alternatively, please contact us via the following methods:

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About WideIOT

Founded in 2011 and headquartered in Xiamen, China, WideIOT is a specialist provider of industrial IoT products and digital solutions, focusing on sectors such as smart factories, smart equipment, energy management, hydrology and water resources, smart water management, and smart cities; The company offers a comprehensive range of products, including industrial wireless routers, industrial switches, industrial smart gateways, industrial data terminals, smart I/O modules, industrial converters, AI edge computers and IoT data cloud platforms. It is a high-tech enterprise integrating R&D, production, sales and service.



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