

Product Specifications



WR513

Industrial Router

3* 100 Mbps Ethernet Port

5G RedCap/4G

WiFi 4

Single SIM

Product Overview

The WR513 series is an industrial IoT wireless router featuring three Ethernet ports and integrating 5G RedCap, 4G, 3G, WiFi, PPPoE network access, virtual VPN private networks, and wireless DTU data transmission technologies.

It is designed for large-scale device networking and is widely used in manufacturing equipment networking, vending machines, self-service terminals, multimedia advertising equipment, smart medical devices, and industrial digitalization projects.

Multiple network access methods, easy deployment, and comprehensive management functions help customers achieve digital transformation and industrial upgrading.

The WR513 industrial router provides powerful application functions and high reliability. It is widely used in smart factories, smart cities, power systems, environmental protection, transportation, retail, agriculture, mining, oil and gas, industrial automation, and other IoT scenarios.

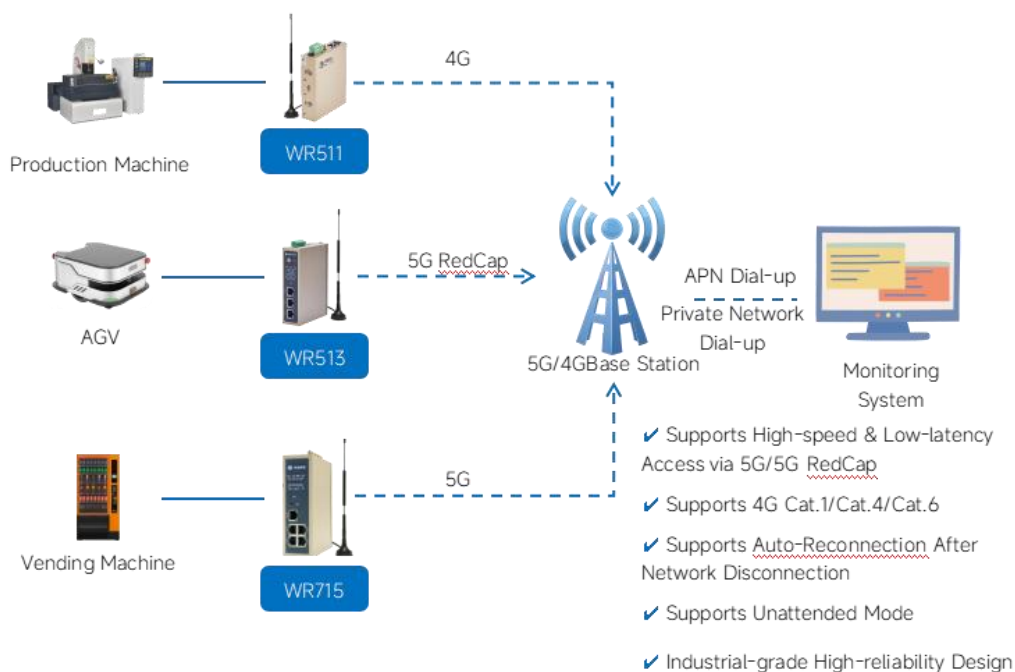


Product Features

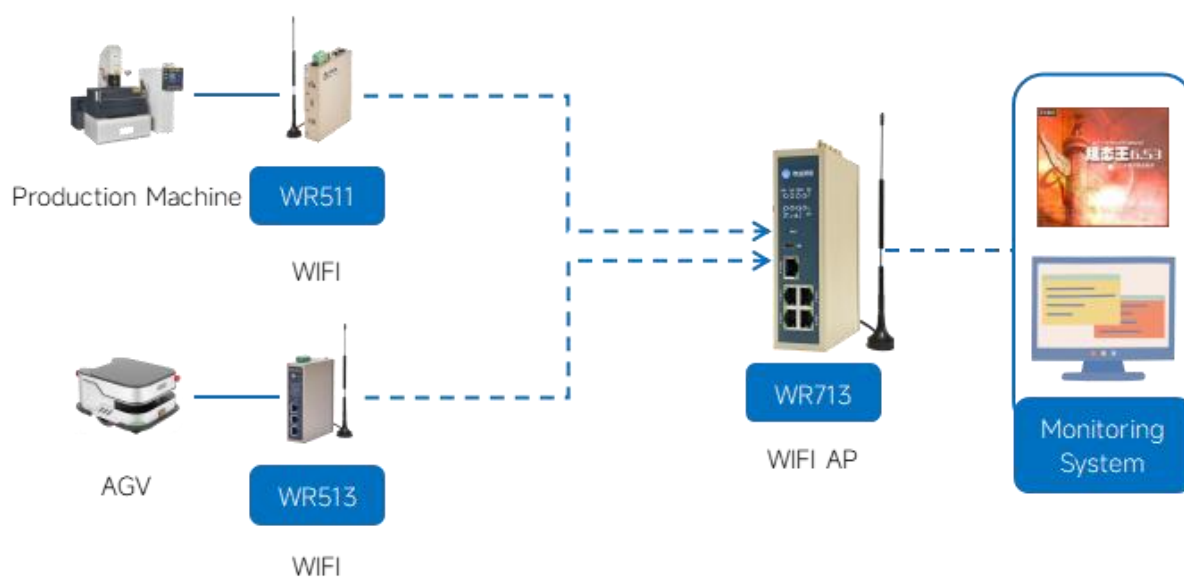
- ✓ **Easy to use:** Supports multiple networks and interfaces for different application scenarios and flexible networking modes.
- ✓ **Unattended operation:** Built-in firewall, multi-link backup, and automatic reconnection ensure continuous online operation.
- ✓ **Powerful functions:** Integrated network 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



➤ WiFi Networking



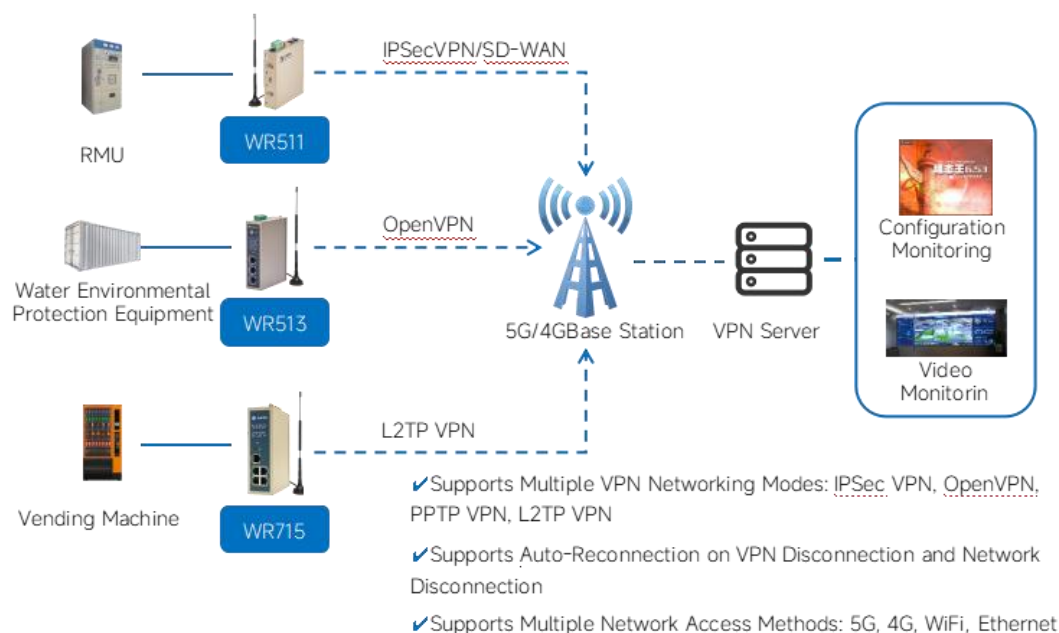
✓ 2.4 GHz/5.8 GHz Dual-band Optional

✓ Supports STA, AP (Fat AP/Fit AP) and Relay Modes

✓ Supports WiFi4/ WiFi5/ WiFi6

✓ Industrial-grade Stability and Reliability

➤ VPN Networking



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

Product specifications

Hardware Parameters	
Hardware platform	
CPU Core	580MHZ single-core
Operating Memory	128MB DDR2
Program Memory	16MB 32MB SPI-FLASH
Interface specifications	
Power socket	DC 9V-35V (terminal block)
Ethernet port	3*10/100Mbps Ethernet ports , 1.5KV 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	Drawer-type SIM card slot*1 (standard SIM card)
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	135x106.5x35(mm)
Installation method	Rail-mounted
Equipment housing	Metal casing
Protection rating	IP30
Heat dissipation	Fanless heat dissipation
Weight	500g
Equipment operating environment	
Ambient humidity	5% ~ 95% (Non-condensing)
Storage temperature	-40 °C~ 85°C
Operating temperature	-20°C ~ 70°C (Expandable temperature: -35°C ~ 75°C)

Indicator light	
3*3 indicator light	LIVE Status indicator (green,WARN Warning indicator (yellow),ERR Fault indicator (red),3*4G network signal strength indicators (green),PWR power indicator (red),WiFi indicator(blue),LTE indicator (blue)
Device Power	
Standby	80mA-120mA@12V
Operating	200mA-220mA@12V
Peak	240mA@12.0V
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 NR Bands N1/N3/N5/N8/N28/N41/N78/N79 LTE-FDD Bands B1/B3/B5/B8 LTE-TDD Bands B34/B38/B39/B40/B41 Transmission Rate: Downlink 226Mbps / Uplink 120Mbps
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

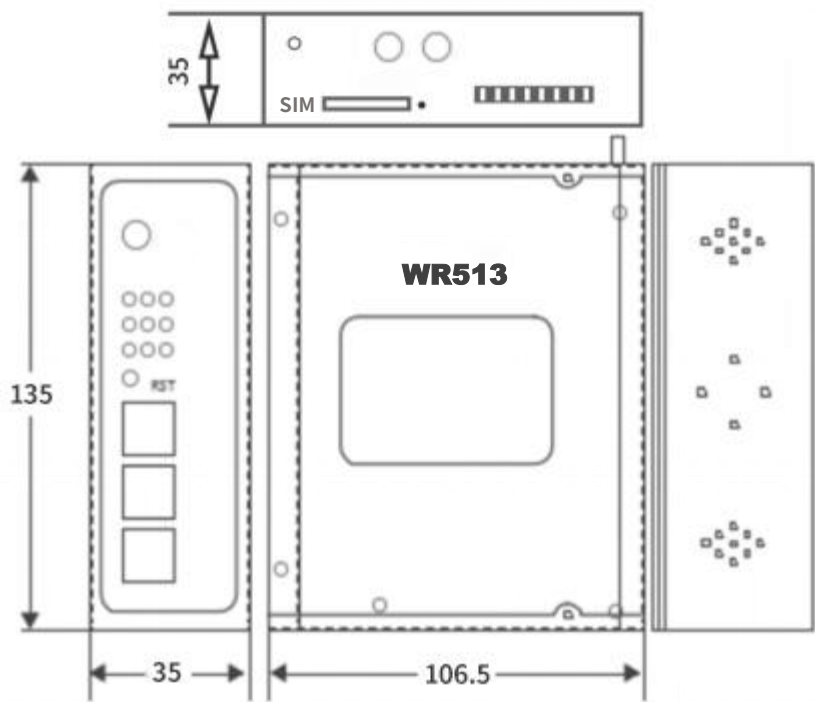
Protocol Standards	Supports IEEE 802.11b/g/n
Operating Modes	Supports AP, Client, and WDS modes.
Rate	Supports 300Mbps
Security Features	Supports open systems, shared keys, and WPA/WPA2 authentication Supports WEP/TKIP/AES encryption
Transmission Distance	100m (The actual transmission distance depends 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 redundancy	Supports automatic switching between multiple networks, including Ethernet, 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, WDUUDP, 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	WR513-<N>-<S>
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 W: Wi-Fi
S (Serial Port)	485: 485 serial port, 232: 232 serial port
Example	WR513-LL07-232 (3 Ethernet ports, 4G CAT4 universal connectivity, 232 serial port) WR513-LQ2S-485 (3 Ethernet ports, 4G CAT1 universal connectivity, 485 serial port) WR513-LL07-W-485 (3 Ethernet ports, 4G CAT4 universal connectivity, 2.4 GHz Wi-Fi, 485 serial port)

*This table is for reference only. The exact model selection shall be determined by the engineering team

For further information, please visit the WideIoT website: <https://www.wideiot.com>.

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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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