

# WR310

High Performance and Secure Dual-SIM 5G & WiFi Router with GNSS, RS232 and RS485 for Various Industrial Applications



- 5G SA/NSA
- Reliable Connectivity with Dual SIM
- IEEE 802.11 a/b/g/n/ac/ax (WiFi 6)
- 4 GE Interfaces (1 WAN, 3 LAN)
- BLE 5.2
- VPN Secure Connection
- RS232 and RS485 Serial Port
- GNSS Location

## 5G SA/NSA

## Wi-Fi 6

## Multiple Interfaces

The WR310 is a premier solution for industrial connectivity, offering cutting-edge 5G technology for high-speed and reliable data transfer. With Dual SIM functionality, it provides continuous communication and network redundancy. The device features RS232/RS485 serial ports, accommodating diverse industrial requirements. Powered by OpenWRT, the WR310 provides customizable and advanced networking features, enhanced security, and an intuitive web interface for easy management, making it perfectly suited for complex industrial environments and applications.

Intelligent Industry



Edge Computing



Smart Energy





<b>Casing Material</b>	Aluminium housing
<b>Dimensions</b>	130(W) x 100(D) x 45(H) mm 5.1" x 3.9" x 1.8" (Exclude antenna connectors and mounting bracket)
<b>Weight</b>	552g
<b>Mounting Options</b>	Flat surface placement and DIN Rail
<b>Operating Voltage</b>	8 ~ 32V DC
<b>Operating Temperature</b>	- 30°C ~ 70°C - 22°F ~ 167°F
<b>Storage Temperature</b>	- 40°C ~ 85°C - 40°F ~ 185°F
<b>Operating Humidity</b>	10% ~ 90% non-condensing
<b>Region</b>	EMEA/LATAM/NA

## Connectivity

<b>Mobile</b>	3GPP protocol: R15			
		<b>WR310 FEU</b>	<b>WR310 FAU</b>	<b>WR310 FNA</b>
	<b>5G NR</b>	3GPP Rel-16 NSA/SA operation, Sub-6 GHz	3GPP Rel-16 NSA/SA operation, Sub-6 GHz	3GPP Rel-16 NSA/SA operation, Sub-6 GHz
		5G NR NSA: n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n75/n76/n77/n78	5G NR NSA: n2/n5/n7/n8/n28/n38/n40/n66/n71/n78	5G NR NSA: n2/n5/n7/n12/n13/n14/n25/n26/n29/n30/n38/n41/n48/n66/n70/n71/n77/n78
		5G NR SA: n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n75/n76/n77/n78	5G NR SA: n2/n5/n7/n8/n28/n38/n40/n66/n71/n78	5G NR SA: n2/n5/n7/n12/n13/n14/n25/n26/n29/n30/n38/n41/n48/n66/n70/n71/n77/n78
	<b>LTE</b>	Cat 19 (Downlink) / Cat 18 (Uplink)	Cat 19 (Downlink) / Cat 18 (Uplink)	Cat 19 (Downlink) / Cat 18 (Uplink)
		LTE-FDD: B1/B3/B5/B7/B8/B20/B28/B32	LTE-FDD: B2/B4/B5/B7/B8/B26/B28/B66	LTE-FDD: B2/B4/B5/B7/B12/B13/B14/B17/B25/B26/B29/B30/B66/B71
		LTE-TDD: B38/B40/B41/B42/B43	LTE-TDD: /B38/B40/B42/B43	LTE-TDD: B38/B41/B42/B43/B48
	<b>WCDMA</b>	B1/B5/B8	B2/B4/B5	-
	<b>Network Features</b>	2 x SIM cards, auto-switch cases: weak signal, no network, network denied, data connection fail		
APN: Auto APN				
Bridge: Direct connection (bridge) between mobile ISP and device on LAN				
Static/Dynamic routing (RIP Protocol v1/v2)				

## Connectivity

<b>Wi-Fi</b>	IEEE 802.11 a/b/g/n/ac/ax
	2475 Mbps (5 GHz) and 591 Mbps (2.4 GHz) (MU-MIMO), Access Point (AP), Station (STA)
<b>Wi-Fi Security</b>	WPA-PSK, WPA2-PSK, AES
<b>Wi-Fi Users</b>	Up to 100 simultaneous connections
<b>Ethernet</b>	4 x RJ45 ports: 1 x WAN, 3 x LAN ports, 10/100/1000 Mbps, comply IEEE 802.3, IEEE 802.3u standards, supports auto MDI/MDIX
<b>Network Protocol</b>	TCP, UDP, IPv4, ICMP, NTP, DNS, HTTP, HTTPS, FTP, SSL v3, TLS, ARP, PPP, PPPoE, SSH, DHCP, Telnet, Modbus

## Interfaces

<b>Ethernet Ports</b>	1 for WAN (10/100/1000Mbps) 3 for LAN (10/100/1000Mbps) Comply to IEEE 802.3, IEEE 802.3u standards, support auto MDI/MDIX
<b>RS232 Serial Port</b>	1 x RS232 (without RTS, CTS), 300-115200 baud rate
<b>RS485 Serial Port</b>	1 x RS485 half duplex (2 wires), 300-115200 baud rate
<b>USB</b>	1
<b>SIM Slot</b>	2
<b>eSIM (Reserved)</b>	2.5 mm x 2.3 mm 0.1" x 0.09"
<b>Mobile Antennas</b>	4 x SMA for 5G
<b>WiFi Antennas</b>	3 x RP-SMA, WiFi 2.4G/5.G antenna
<b>GNSS Antenna</b>	1 x SMA
<b>Power Sockets</b>	4-pin industrial DC power connector
<b>Inputs/Outputs</b>	1 x digital input, 1 x digital output in power connector
<b>LED Indicators</b>	Power, Net, WiFi, GNSS, mobile status, mobile signal strength 2 x WAN, 6 x LAN
<b>USB</b>	USB for external devices
<b>BLE (Reserved)</b>	BLE 5.2
<b>RTC (Reserved)</b>	RTC to keep track of time
<b>GNSS</b>	Built-in 5G module
<b>Grounding Point</b>	1 x grounding point for enclosure grounding
<b>Reset Button</b>	1

## GNSS

<b>GNSS type</b>	All-in-One GNSS receiver
<b>Sensitivity</b>	Cold start : -146 dBm Reacquisition: -156 dBm Tracking: -147 dBm
<b>Position Accuracy (CEP)</b>	Autonomous: <4m
<b>TTFF (Open Sky)</b>	Cold start: 35s average Warm start: 28s average Hot start: 2s average

## Power

<b>Connection</b>	4-pin industrial DC power connector
<b>Operating Voltage</b>	8 ~ 32V DC (4-pin industrial socket), reverse polarity protection
<b>Power Consumption</b>	18W (average)

## Network

<b>Connection Monitoring</b>	Ping Reboot, LCP and ICMP for link inspection, Timing Task
<b>DHCP</b>	Static and dynamic IP allocation
<b>Alternative Link</b>	Mobile, Wire, WiFi. Primary and backup link configured as requirement, auto load balance
<b>VPN</b>	PPTP, L2TP, IPsec, GRE, OpenVPN
<b>Firewall</b>	Web Filter, IP/Domain Filter, MAC Filter, NAT, DDOS Prevention on voltage and accelerometer
<b>Diagnostic</b>	Tcpdump, Ping, Tracert

## Software

<b>Operating System</b>	OpenWrt based Linux OS
<b>Alternative Link</b>	Mobile, Wire, WiFi. Primary and backup link configured as requirement, auto load balance
<b>WEB UI</b>	HTTP, status, configuration, FW update, update FW from file, configuration load, configuration backup, FOTA, Update FW without losing current configuration
<b>Connection Monitoring</b>	Ping Reboot, LCP and ICMP for link inspection, Timing Task
<b>SMS</b>	Reboot, switch SIM, get status, restore factory setting

## System Characteristics

CPU	Dual-core ARM 64bit A53@1.0GHz
RAM	256MB, DDR4
Flash Memory	256MB Flash

## CUSTOMIZATION

### Deploy the RMS on your own servers

Queclink's RMS (Remote Management System) is an all-in-one centralized control cloud platform. It offers clear device status visibility and capabilities for alert, task management, and data analytics, all without on-site visits.

