Industrial 5G Router
NR120

5G | **4G** | Remote Management | 2.4G&5.8G WIFI

VPN | **RS232** | **RS485** | **Din-Rail**
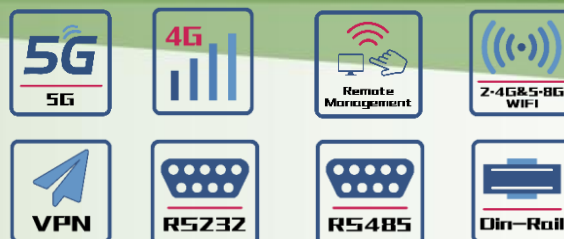
Introduction

NR120 is wireless communication router for the Internet of Things (IoT), it uses a high-performance industrial level 32-bit communication processor and wireless module, embedded with the real-time operating system as the software platform, and using 3G/4G/5G cellular network to provide users with wireless long-distance large data transmission function. With wide operating temperature range and IP30 metal housing, NR120 is a reliable solution for industrial wireless applications.

Industrial-grade Design

- ▶ High-performance industrial-grade CPU
- ▶ High-performance industrial-grade wireless communication module
- ▶ Support low-consumption mode, scheduled power-on/power-off mode (Optional)
- ▶ Metal casing, IP30 protection level, suitable for most industrial control applications.
- ▶ Wide range power input (DC 9~36V)

Stability & Reliability

- ▶ SIM/UIM card slot with built-in 15KV ESD
- ▶ Ethernet interface with built-in 15KV ESD
- ▶ RS232/RS485 with built-in 15KV ESD
- ▶ Multiple protection mechanism to ensure system stability, always keeping online
- ▶ Auto recovery mechanism, including online detect and auto redial
- ▶ WDT Watchdog design to ensure system stability

Standard & Convenience

- ▶ Standard RS232/RS485, Ethernet, Can Port and WIFI
- ▶ Provide standard wired WAN port (support standard PPPOE protocol)
- ▶ Intelligent data terminal, automatically enter transmission status after power-on
- ▶ Powerful central management software for easy device management (optional)
- ▶ Easy to use and flexible, has multiple working modes
- ▶ Convenient system configuration and maintenance interface (including local and remote WEB or CLI access)
- ▶ DIN-Rail mounting, wall mounting or desktop

Industrial 5G Router NR120 Series

- ▶ Support 3G/4G/5G and wired WAN dual link backup（Optional）.
- ▶ Multiple WAN connection methods, include static IP, DHCP, PPPOE, 3G/UMTS/4G/LTE, DHCP-4G/5G
- ▶ Support APN/VPDN
- ▶ Support NTP, RTC embedded.
- ▶ Support multiple DDNS provider service
- ▶ Support multiple online trigger ways,including SMS, ring and data. Support link disconnection when timeout
- ▶ Support remote management, SYSLOG, SNMP, TELNET, SSHD, HTTPS, etc.
- ▶ Support upgrade software from the local and remote maintenance.
- ▶ Support SPI firewall, access control, URL filtering, etc.
- ▶ WIFI 802.11b/g/n/ac. Support AP/AP Client/Bridge mode (Optional).
- ▶ VPN Tunnel: PPTP/L2TP/OPENVPN/IPSEC/GRE
- ▶ Support TCP/IP, UDP, FTP (Optional), HTTP and other network protocols
- ▶ Support DHCP server and DHCP client, NAT, DMZ, QOS.
- ▶ Schedule Reboot, Schedule Online and Offline, etc.
- ▶ Support GPS function (Optional)

High Performance

Product Specification

Cellular Specification	
Items	**Contents**
Standard and Band	5G NR: n1/n3, n5, n7, n8, n20, n28, n38, n41, n77,n78, n79 LTE: B1, B2, B3, B5, B7, B8, B20, B28,B34, B38, B39, B40, B41, B42,B43 WCDMA: B1, B2, B5, B8 Optional: 5G NR: n2, n5, n7, n12, n25,n41, n66, n71, n78 LTE: B2, B4, B5, B7, B12, B13, B14, B17, B25, B26, B29, B30, B66, B71, B41, B42, B48 WCDMA: B1, B2, B5, B8 Optional: 5G NR: n1/n2/n3/n5/n7/n8/n12/n20/n25/n28/n38/n40/n41/n48*/n66/n71/n77/n78/n79 LTE FDD:　B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71 LTE TDD: B34/B38/B39/B40/B41/B42/B43/B48
Bandwidth	5G NR：DL 3.4Gbps， UL 900Mbps LTE Cat20：DL 2.0Gbps，UL 150Mbps HSPA+：DL 42Mpbs，UL 5.76Mbps
Transmit Power	< 23dBm
Sensitivity	< -97dBm

Industrial 5G Router NR120 Series

WIFI Specification

Items	Contents
Standard and Band	Support IEEE802.11b/g/n, 2.4G, Support IEEE802.11ac, 5.8G
Bandwidth	IEEE802.11b/g：Maximum speed rate up to 54Mbps IEEE802.11n：Maximum speed rate up to 300Mbps IEEE802.11ac：Maximum speed rate up to 866Mbps
Security	Support WEP, WPA, WPA2 encrypt methods, optional WPS function
Transmit Power	26dBm (11b）, 21dBm (11ac/MCS7/HT40）, 20dBm (11ac/MCS9/HT80)
Sensitivity	< -72dBm @ 54Mbps

Hardware System

Items	Contents
CPU	Industrial-grade Quad-core CPU
Flash	Nor flash 16MB NAND flash 128MB
DDR3	512MB

Interfaces

Items	Contents
WAN/LAN Interface	1 x Gigabit RJ45 ethernet port, adaptive MDI/MDIX, built-in 15KV ESD
LAN Interface	1 x Gigabit RJ45 ethernet port, adaptive MDI/MDIX, built-in 15KV ESD
Serial	1 x RS232/RS485 serial interface with built-in 15KV ESD Data bits:5, 6, 7, 8 bits Stop bits:1, 1.5 (optional), 2 bits Error detection: none, even parity, odd parity, SPACE (optional) and MARK (optional) Serial Port Rate: 2400~115200bits/s
LED Indicators	"WIFI", "Online", "PWR", "SYS"
CAN	1*CAN2.0
Antenna Interface	Cellular: 4 * Standard SMA female antenna interface, characteristic impedance: 50 Ω WIFI: 2 * Standard SMA male antenna interface, characteristic impedance: 50 Ω
SIM/UIM Slot	Standard drawer type user card interface, support 1.8V/3V SIM/UIM card, built-in 15KV ESD, support dual-SIM card
Power Interface	Terminal power socket
Reset Button	Can reset router's configuration to default factory setting by this button

Industrial 5G Router NR120 Series

Power	
Items	**Contents**
Input Voltage	DC 12V/1.5A
Accepted Range	DC 9~36V
Consumption	<1.2A (12V)

Physical Properties	
Items	**Contents**
Casing	Metal casing, IP30 protection level, suitable for most industrial control applications.
Dimensions	135 x 110 x 43mm (excluding antennas and mountings parts)
Weight	500g

Others	
Items	**Contents**
Operating Temperature	-35~+75⁰C（-31~+167℉）
Storage Temperature	-40~+85⁰C（-40~+185℉）
Relative Humidity	95% (non-condensing)

GPS(Optional)	
Items	**Contents**
GPS Module	Industrial GPS module (Optional Beidou module)
Receiver Type	50 channels GPSL1 (1575.42MHz) C/A code Support WAAS and EGNOS, MSAS, GAGAN
Maximum Update Rate	4Hz
Positioning Accuracy	Positioning：2.5m CPE SBAS：2.0m CPE

Industrial 5G Router NR120 Series

Sensitivity	Tracking: -160 dBm Re-capture: -160 dBm Cold start: -146 dBm
Protocol	NMEA-0183 V2.3

Topology
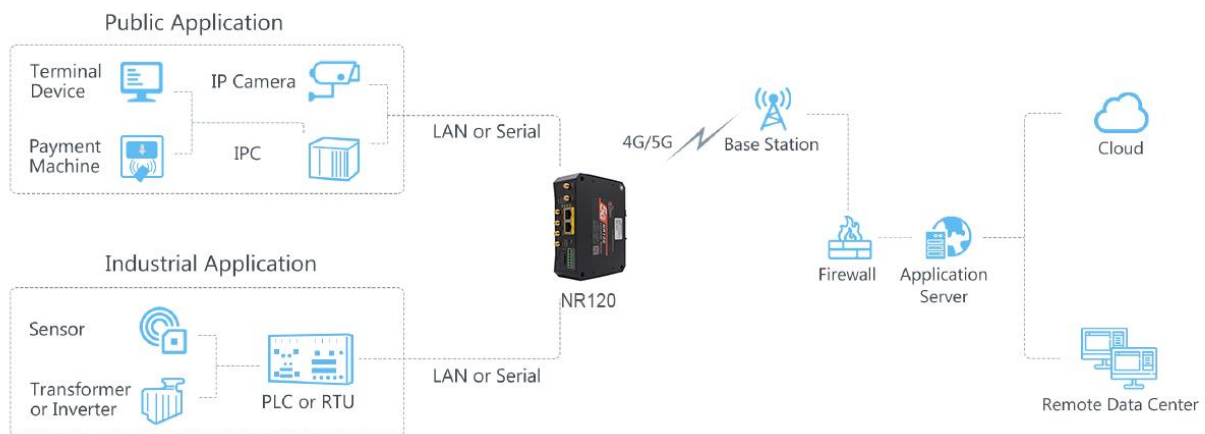
Dimension

Order Information

Models	SIM/UIM	Description
NR120	1	Cellular (5G NR), 2.4G/5G WIFI, SIM*2