

5G Industrial Router

F-NR120

GPS | Dual-SIM | VPN | 5G | RS232 | RS485 | 2.4G&5.8G WIFI | Din-Rail

Introduction

F-NR120 is a wireless communication router for the Internet of Things, which uses public 3G/4G/5G networks to provide users with wireless long-distance big data transmission functions. The product has been widely used in the M2M industry in the IoT industry chain, such as smart grid, smart transportation, smart home, supply chain automation, industrial automation and other fields.

Industrial-grade Design

- High-performance industrial-grade wireless module
- High-performance industrial-grade 32-bit communication processor
- Using metal shell, protection grade IP30.
- Wide power input range 9~36V

Stability & Reliability

- WDT Watchdog design
- Anti-dropping mechanism to ensure that the data terminal is always online
- Built-in 1.5KV electromagnetic isolation protection for Ethernet interface
- RS232/RS485 interface, power and data isolation with CSA, UL and IEC standards
- SIM/UIM card interface built-in 15KV ESD protection
- Built-in reverse phase protection and over voltage protection for power interface

Standard & Convenience

- Standard RS232, RS485, CAN port Ethernet and WIFI Interface
- Provide standard wired WAN port (support standard PPPOE protocol)
- Plug and Play
- Multiple working mode options
- Configuration and maintenance interface
- Support DIN rail
- Support local and remote WEB mode or CLI mode

5G Industrial Router F-NR120



High Performance

- Multiple WAN connection methods, include Static IP/DHCP/PPPOE/DHCP-4G/5G
- Support 3G/4G/5G and wired WAN dual link backup（Optional）
- VPN Tunnel: PPTP/L2TP/IPSEC/OPENVPN/GRE
- Remote management SYSLOG/SNMP/TELNET/SSH/HTTPS
- Support local upgrade and remote upgrade
- Import and export configuration files
- NTP / Build-in RTC
- Support DDNS
- Support VLAN，MAC address clone
- WIFI Support 802.11b/g/n/ac. Support AP/AP Client/Bridge mode
- WIFI Support WEP, WPA, WPA2 and other encryption methods
- Support Private APN SIM card
- Support APN/VPDN
- Support DHCP server and DHCP client, NAT, DMZ, QOS
- Support TCP/IP, UDP, FTP (Optional), HTTP and other network protocols
- Support SPI firewall，VPN pass through, ACL, URL filter
- Support hardware encryption (Optional)
- Traffic statistics, real-time display of data transmission rate

Product Specification

Cellular Specification	
Items	**Contents**
Module	Industrial grade wireless module
Frequency	5G NR: n1/n2/n3/n5/n7/n8/n20/n28/n41/n66/n71/n77/n78/n79 LTE:B1/B2/B3/B4(66)/B5(18/19/26)/B7/B8/B12(17)/B13/B14/B20/B25/B26/B28/B29/B30/B38/B39/B40/B41/B42/B43/ B46/ B48/B71 Remarks: Different modules support different network standards
Bandwidth	5G NR：DL 3.4Gbps， UL 350Mbps LTE Cat20：DL 2.0Gbps，UL 150Mbps HSPA+：DL 42Mbps，UL 5.76Mbps
Power	< 23dBm
Sensitivity	<-97dBm

5G Industrial Router F-NR120



WIFI Specification	
Items	**Contents**
Frequency	IEEE802.11b/g/n, 2.4G, AP mode, Station mode (Optional) IEEE802.11ac, 5.8G, AP mode, Station mode (Optional)
Bandwidth	IEEE802.11b/g：54Mbps IEEE802.11n：300Mbps IEEE802.11ac：866Mbps
Security	WEP, WPA, WPA2
Power	26dBm (11b), 21dBm (11ac/MCS7/HT40), 20dBm (11ac/MCS9/HT80)
Sensitive	<-72dBm @ 54Mbps
Hardware System	
Items	**Contents**
CPU	Industrial-grade 32-bit communication processor
FLASH	Nor flash 16MB, NAND flash 128MB
DDR3	512MB
Interfaces	
Items	**Contents**
WAN	1 x 10/100/1000M Ethernet (RJ45), Auto MDI/MDIX, Built-in 1.5KV electromagnetic isolation protection Remarks: Can be used as LAN port
LAN	1*10/100/1000M Ethernet (RJ45), Auto MDI/MDIX, Built-in 1.5KV electromagnetic isolation protection
Serial	1 x RS232/RS485, Built-in 1.5KV electromagnetic isolation protection Data bit：5, 6, 7, 8 Stop bit：1, 1.5 (Optional), 2 Check：NONE, EVEN, ODD, SPACE (Optional) Baud rate：2400~115200bits/s
CAN	1*CAN2.0
Indicators	"WIFI", "Online", "PWR", "SYS"
Antenna	Cellular：4 standard SMA female antenna interfaces, characteristic impedance 50 ohms WIFI：2 standard SMA male antenna interfaces, characteristic impedance 50 ohms GPS: 1 calibrated SMA female antenna interface, characteristic impedance 50 ohms (optional)
SIM/UIM	Standard drawer type user card interface, support 1.8V/3V SIM/UIM card, built-in 15KV ESD protection Support dual SIM card
Power	Terminal power socket
Reset button	Through this button, the parameter configuration can be restored to the factory

5G Industrial Router F-NR120



Power Supply	
Items	Contents
Standard	DC 12V/1.5A
Range	DC 9 ~36V
Consumption	<1.2A (12V)
Physical Properties	
Items	Contents
Shell	Metal shell, protection grade IP30
Size	135 x 110 x 43mm (Does not include antenna and mounting parts)
Weight	500g
Others	
Items	Contents
Operating Temperature	-35~+75ºC（-31~+167℉）
Storage Temperature	-40~+85ºC（-40~+185℉）
Relative Humidity	95% (No condensation)
GPS (Optional)	
Items	Contents
GPS Module	Industrial GPS module
Receiver Type	50 channels, GPS L1 (1575.42MHz) C/A code Support WAAS, EGNOS, MSAS, GAGAN, compatible with GALILEO
Maximum Update Rate	4Hz
Accuracy	Locate：2.5mCPE　SBAS：2.0mCPE
Capture	Cold start: 29S Warm start: 29S Auxiliary start: <1S Hot start: <1S
Sensitive	Tracking: -160dBm Recapture: -160dBm Cold start: -144dBm
Timing Accuracy	RMS：30ns 99%：<60ns Graininess：21ns
Time Pulse	0.25~1000Hz
PPS	Support, the rising edge of the pulse is aligned with UTC time

5G Industrial Router F-NR120



Topology



Dimension (mm)



Order Information

Models	Description
F-NR120	Cellular (5G NR), 2.4G/5G WIFI, SIM*2, GPS (Optional)