

4G Industrial Router

F-R100



Introduction

F-R100 is an intelligent cellular router designed for industrial applications requiring faultless connectivity. It provides a secure, reliable, real-time, remote connectivity for SCADA, distribution management systems, metering, etc. Software-defined, multi-carrier networking, dual SIM models, 802.11n and global 2.5G/3G/HSPA+/LTE options make it easy to get connected. With DIN-rail mounting, wide operating temperature range, and IP30 metal housing, the F-R100 is a convenient yet reliable solution for any industrial wireless application.



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 5~36V



Stability & Reliability

- ▶ WDT Watchdog design
- ▶ Complete 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 or RS485/RS422 (Optional), 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

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- ▶ Multiple WAN connection methods, include Static IP/DHCP/PPPOE/DHCP-4G
- ▶ Support 3G/4G 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 multiple SSID
- ▶ 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	Support for FDD LTE: Band 1/3, Band 2/4/5/13/17/25 (Optional) Support CDMA 1XRTT/EVDO 800/1900MHz Support the whole network (Optional) : TDD-LTE, FDD-LTE, EVDO, WCDMA, TD-SCDMA, CDMA1X, GPRS/EDGE
Bandwidth	FDD LTE (Downlink 100Mbps, Uplink 50Mbps) TDD LTE (Downlink 61Mbps, Uplink 18Mbps) CDMA2000 1X EVDO Rev A (Downlink 3.1Mbps, Uplink 1.8Mbps) WCDMA (Downlink 42Mbps, Uplink 5.76Mbps) TD-SCDMA (Downlink 4.2Mbps, Uplink 2.2Mbps)
Power	< 23dBm
Sensitivity	<-93.3dBm

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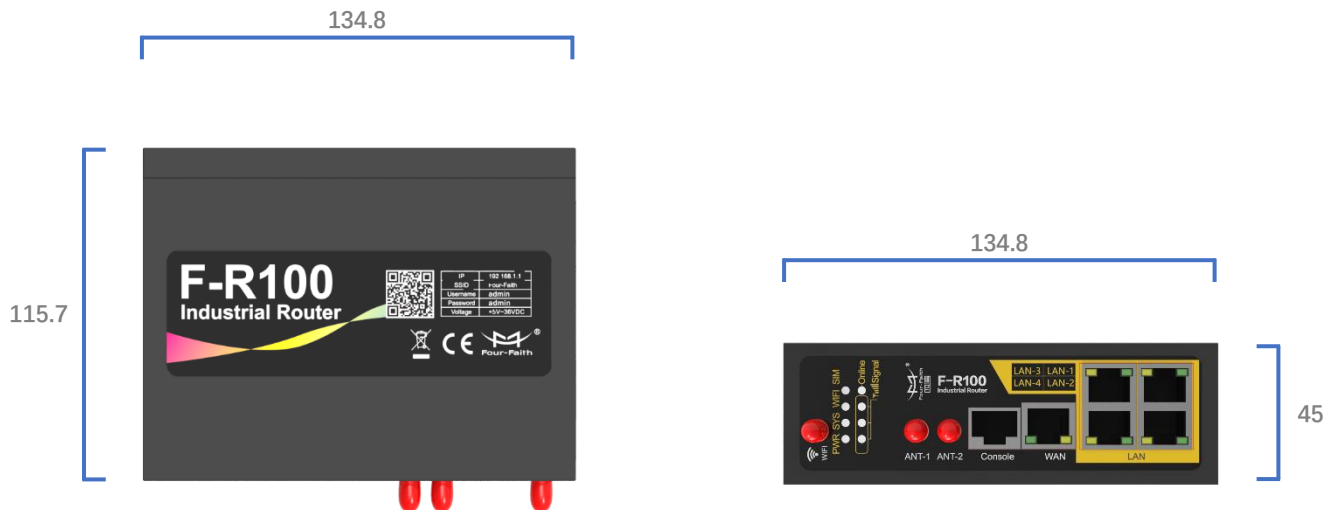
WIFI Specification	
Items	Contents
Frequency	Support IEEE802.11b/g/n
Bandwidth	IEEE802.11b/g: 54Mbps IEEE802.11n: 150Mbps
Security	Support WEP, WPA, WPA2 and other encryption methods, WPS (Optional)
Power	20dBm (11n) , 24dBm (11g) , 26dBm (11b)
Sensitive	<-72dBm @ 54Mbps
Hardware System	
Items	Contents
CPU	Industrial-grade 32-bit communication processor
FLASH	16MB, Extensible to 32MB
DDR3	128MB
Interfaces	
Items	Contents
WAN	1 x 10/100M Ethernet (RJ45) Auto MDI/MDIX, Built-in 1.5KV electromagnetic isolation protection
LAN	4 x 10/100M Ethernet (RJ45) Auto MDI/MDIX, Built-in 1.5KV electromagnetic isolation protection
Serial	1 x RS232(RS422/RS485), Built-in 1.5KV electromagnetic isolation protection Data bit: 5, 6, 7, 8 Stop bit: 1, 1.5(Optional), 2 Calibration: null, even, odd, SPACE(Optional) and MARK (Optional) Baud rate: 2400~115200bits/s
Indicators	"PWR", "SYS", "WIFI", "SIM", "Online", "Signal Strength"
I/O Port	6-pin 3.5mm wiring terminal, 2 inputs, 1 output, 1 relay; Controlled by Modbus protocol Input high level: 5 to 30 VDC Input low level: 0 to 3 VDC Load current: 50mA @ 30VDC Relay load 1A 250V AC/ 30V DC
Antenna	Cellular: 2 standard SMA female antenna interfaces, characteristic impedance 50 ohms WIFI: 1 standard SMA male antenna interfaces, characteristic impedance 50 ohms GPS: 1 calibrated SMA male antenna interface, characteristic impedance 50 ohms
SIM/UIM	Standard drawer type user card interface Support 1.8V/3V SIM/UIM card, built-in 15KV ESD protection
Power	Terminal power socket
Reset button	2 bins terminal power socket, built-in power reverse protection and overvoltage protection

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Power Supply	
Items	Contents
Standard	DC 12V/1.5A
Range	DC 5 ~36V
Consumption	<500mA (12V)
Physical Properties	
Items	Contents
Shell	Metal shell, protection grade IP30
Size	134.8 x 115.7 x 45mm (Does not include antenna and mounting parts)
Weight	520g
Others	
Items	Contents
Operating Temperature	-35~+75°C (-31~+167°F)
Storage Temperature	-40~+85°C (-40~+185°F)
Relative Humidity	95% (No condensation)

Dimension (mm)



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Order Information

Models	Description
F-R100-FL	Cellular (LTE/WCDMA), WIFI, SIM*1, I/O (2*DI, 1*DO, 1*Relay), GPS(Optional)
F-R100-FL/FL	Cellular (LTE/WCDMA, Dual-Module), WIFI, SIM*2, I/O (2*DI, 1*DO, 1*Relay), GPS(Optional)
F-R100-FL SIM*2	Cellular (LTE/WCDMA), WIFI, SIM*2, I/O (2*DI, 1*DO, 1*Relay), GPS(Optional)