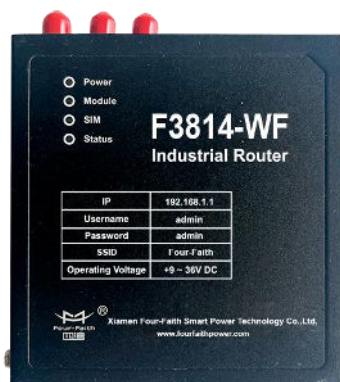


F3X14-WF Industrial Router Technical Specification

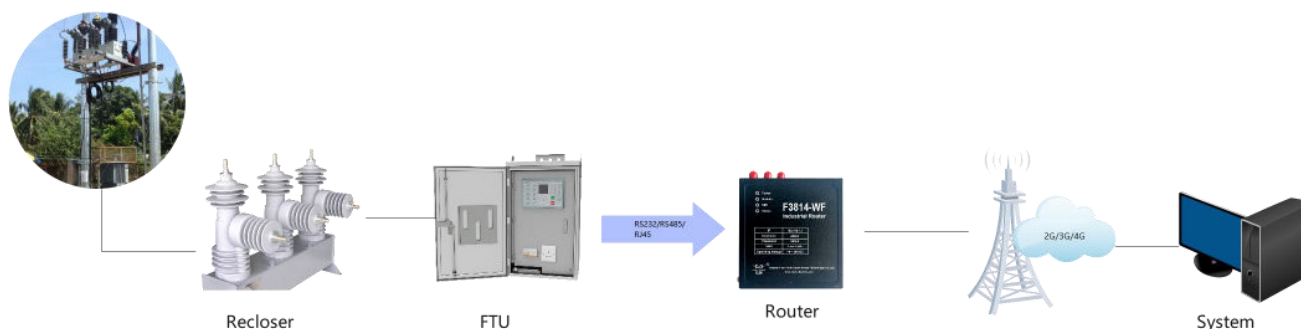


F3X14-WF series router is an IoT wireless communication router, which utilizes public 2G/3G/4G cellular network to provide users with wireless long-distance data transmission function.

This product adopts high-performance industrial-grade 32-bit communication processor and industrial-grade wireless module, uses embedded real-time operating system as the software support platform, and provides 1 RS232, 1 RS232/RS485, 1 Ethernet LAN port, 1 One Ethernet WAN port, which can be connected to serial devices or Ethernet devices and WiFi to achieve transparent data transmission and routing functions. Optional support GPS function.

This product has been widely used in the M2M industry in the IoT industry chain, such as self-service terminals, smart grids, smart transportation, smart homes, finance, mobile POS terminals, supply chain automation, industrial automation, smart buildings, fire protection, public safety, environment Conservation, meteorology, digital medicine, telemetry, military, space exploration, agriculture, forestry, water affairs, coal mining, petrochemical and other fields.

Application Topology



Product Features

Design for Industrial Application

- ◆ Using high-performance devices
- ◆ Using an industrial-grade 32-bit processor
- ◆ Adopt anti-interference technology, with strong EMC characteristics
- ◆ Adopt metal shell, protection grade IP30, metal shell and system safety isolation, especially suitable for industrial control field applications
- ◆ Wide power input (DC 9~36V)

Standard and Convenience

- ◆ Provide standard RS232, RS485, Ethernet, can directly connect serial devices, Ethernet devices, WiFi devices
- ◆ Provides standard wired WAN port (supports PPPOE protocol), which can be directly connected to ADSL equipment
- ◆ Intelligent data terminal, it can enter the data transmission state after power-on
- ◆ Provide powerful central management software to facilitate device management (optional)
- ◆ Easy to use, flexible, multiple working mode options
- ◆ Convenient system configuration and maintenance interface (including local and remote WEB and CLI methods)

Stability and Reliability

- ◆ WDT watchdog design to ensure system stability
- ◆ Adopt a complete anti-drop mechanism to ensure that the data terminal is always online
- ◆ Ethernet interface built-in 1.5KV electromagnetic isolation protection
- ◆ RS232/RS485 interface built-in 15KV ESD protection
- ◆ SIM/UIM card interface built-in 15KV ESD protection
- ◆ Power interface built-in reverse phase protection and over-voltage protection

High-performance

- ◆ Support multiple WAN connection methods, including static IP, DHCP, PPPOE, 2G/3G/4G
- ◆ Support wireless cellular and wired WAN dual-link intelligent switching backup function (optional)
- ◆ Support VPN client (PPTP, L2TP, IPSEC, OPENVPN, GRE)
- ◆ Support VPN sever (PPTP, L2TP, IPSEC, OPENVPN, GRE)
- ◆ Support remote management, SYSLOG, SNMP, TELNET, SSHD, HTTPS and other functions
- ◆ Support local and remote online upgrade, import and export configuration files
- ◆ Support NTP, built-in RTC
- ◆ Support a variety of DDNS at home and abroad
- ◆ Support a variety of online and offline trigger modes, including SMS, phone ringing, serial port data, network data trigger online and offline modes (optional)
- ◆ Support APN/VPDN
- ◆ Support multi-channel DHCP server and DHCP client, DHCP binding MAC address, DDNS, firewall, NAT, DMZ host, QOS, traffic statistics, real-time display of data transmission rate and other functions
- ◆ Support TCP/IP, UDP, FTP (optional), HTTP and other network protocols
- ◆ Support SPI firewall, VPN traversal, access control, URL filtering, etc.

Product Specification

Wireless parameters	
Item	Content
Standards and frequency bands	LTE-TDD B38/B40/B41 LTE-FDD B1/B2/B3/B4/B5/B7/B8/B20/B28 WCDMA/HSPA+ B1//B3/B5/B8 GSM/GPRS/EDGE 850/900/1800MHz
Theoretical bandwidth	FDD: downlink rate 100Mbps, uplink rate 40Mbps DC-HSPA+: Downlink rate 42Mbps, uplink rate 5.76Mbps HSPA+: Downlink rate 21Mbps, uplink rate 5.76 Mbps HSDPA: Downlink rate 7.2Mbps, HSUPA: Uplink rate 5.76Mbps UMTS: 384Kbps
Transmit power	<23dBm
Receive sensitivity	>-97dBm

GPS Parameters (optional)	
Item	Content
Receiver type	32 channel GPS L1, 1575.42MHz;
Data update rate	1Hz
Accuracy	GPS<2.5m CPE50% (open field) GPS ONLY 3m CPE50% (open field)
Capture	Cold start: 32S Warm start: 1S Restart: 1S
Sensitivity	Tracking: -160dBm Cold start: -148dBm
Timing accuracy	20ns

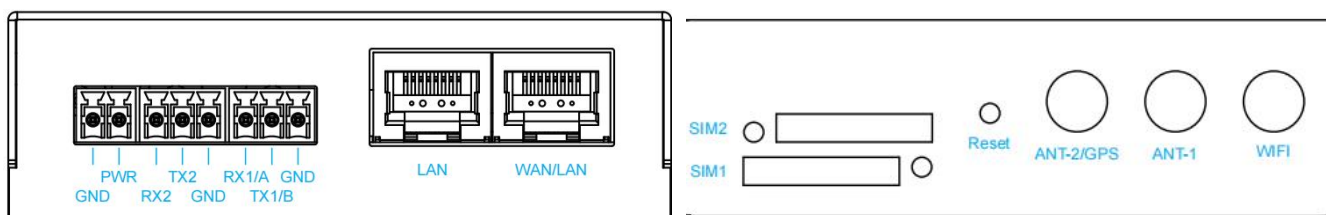
WiFi Parameters	
Item	Content
Standards and frequency bands	Supports IEEE802.11b/g/n standard
Theoretical bandwidth	IEEE802.11b/g: Up to 54Mbps IEEE802.11n: Up to 150Mbps
Secure encryption	Supports WEP, WPA, WPA2 and other encryption modes
Transmit power	20dBm(11n), 24dBm(11g), 26dBm(11b)
Receive sensitivity	<-72dBm@54Mbps

Hardware System

Item	Content
CPU	Industrial-grade 32-bit communications processor
FLASH	16MB (expandable to 64MB)
DDR2	64MB

Interface Type

Item	Content
Power supply	DC 9~36V
Button	Reset button
SIM/UIM	2 Standard SIM card interfaces, support 1.8V/3V SIM/UIM card, built-in 15KV ESD protection
Indicator light	1 Power light (red), 1 network light (green), 1 SIM card light (green), 1 online light (green)
Serial port	1 Channel RS232 serial port , 1 channel RS485 (optional with RS232) serial port. Parameters are as follows: Data bits: 5, 6, 7, 8 bits Stop bits: 1, 1.5 (optional), 2 bits Parity: no parity, even parity, odd parity Serial port rate: 4800~115200bits/s
WAN/LAN	WAN/LAN optional, 1 x 10/100M RJ45 ethernet port, adaptive MDI/MDIX, built-in 15KV ESD
LAN	1 x 10/100M RJ45 Ethernet port, adaptive MDI/MDIX, built-in 15KV ESD



Pin No.	Pin Name	Description	Explanation
1	GND	Power -	Power input power 9-36V, rated voltage 12V/1.5A
2	PWR	Power+	
3	RX2	RS232_2 Rxd	Serial port 2 data port, port is unavailable with the GPS module
4	TX2	RS232_2 Txd	
5	GND		
6	RX1/A	A	Serial port 1 data port, can support 232 port customized
7	TX1/B	B	
8	GND		

Seq	Power	Module	SIM	Status	GPS (Option)	Descriptions
1	On	X	Alternate quick blink		X	Module is opened in AT mode
2	On	Quick Blink	Off	slow blink	X	system is dialing
3	On	On	Alternate slow blink		X	Dial succeed, module is in data mode but Center is not connected
4	On	On	Synchronous slow blink		X	Normal
5	On	X	X	X	blink	Get GPS signal (Option)

Note:

1. On: keep steady for at least 3 seconds.
2. Off: keep steady for at least 3 seconds;
3. Slow Blink: the blinking frequency is about 1 time /S.

Power consumption	
Working status	Power consumption
Standby	95 ~ 220mA@12VDC
Communication	150 ~ 300mA@12VDC

Physical properties	
Item	Content
Dimensions	94x89x28 mm (not including antenna and mounting hardware)
Weight	About 330g

Other parameters	
Item	Content
Operating temperature	-35 ~ +75°C (-31 ~ +167°F)
Storage temperature	-40 ~ +85°C (-40 ~ +185°F)
Relative humidity	95%RH (non-condensing)

Ordering Information

Product number	Describe	WAN/LAN	LAN	Serial port	Cellular antenna	WiFi antenna	GPS antenna	SIM/UIM
F3814-WF	4G	1	1	2	2	1	0	Support dual SIM
F3814-WFG	4G+GPS	1	1	1	1	1	1	Support dual SIM