

Four-Faith

Intelligent Gateway

F-G100

I/O | VPN | Din-Rail | Relay | RS232 | RS485 | 2.4G&5.8G WiFi | Dual-SIM

Introduction

The F-G100 is a 5G IoT wireless intelligent gateway that provides users with wireless long-distance big data transmission using a public 3G/4G/ 5G network. The product uses a high-performance industrial-grade 32-bit communication processor and industrial-grade wireless modules, with an embedded real-time operating system as a software platform, and provides 1 x RS232, 5 x RS485, 4 x Ethernet LANs, and 1 x WAN.

Industrial-grade Design

- High-performance industrial-grade wireless module
- High-performance industrial-grade 32-bit communication processor
- Metal casing, protection level is IP30
- Wide power input DC 9~36V

Stability & Reliability

- WDT Watchdog design to ensure system stability
- Adopt a complete anti-drop 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
- Antenna interface lightning protection (Optional)
- Reserve eSIM

Standard & Convenience

- Provide standard RS232, RS485, Ethernet and WIFI interfaces
- Provide standard WAN port (Support standard PPPOE protocol)
- Intelligent data terminal, can enter data transmission state after power on
- Easy to use, flexible, multiple working mode options
- Convenient system configuration and maintenance interface (local, WEB or CLI)
- Supports DIN rail and wall mounted installation

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High Performance

- Support multiple WAN connection methods (static IP, DHCP, PPPOE, etc.)
- Support 3G/4G/5G and wired WAN dual link intelligent switch backup function (optional)
- Support VPN client (PPTP, L2TP, IPSEC)
- Support VPN sever (PPTP, L2TP, IPSEC)
- Support remote management, SYSLOG, SNMP, TELNET, SSHD, HTTPS
- Support local and remote online upgrade, import and export configuration files
- Support NTP, built-in RTC
- Support various of DDNS
- Support VLAN, MAC address clone
- Support WIFI AP mode, client mode, bridge mode (Optional)
- WIFI supports 802.11b/g/n/ac, support WIFI AP, AP Client, and other working modes (Optional)
- WIFI supports multiple encryption methods (WEP, WPA, WPA2, MAC address filtering)
- Support APN/VPDN
- Support multiple DHCP server and DHCP client
- Support DHCP binding MAC address/DDNS/NAT/DMZ/QOS, traffic statistics, etc.
- Support TCP/IP/UDP/FTP/HTTP and other network protocols
- Connect to the Four-Faith cloud platform to achieve remote management
- Support PC Client software to achieve remote configuration, data monitoring, and other features
- Can access to the Ali could, Huawei Could and other third-party could platforms
- With Python, C secondary development, applications can be customized
- Built-in various communication protocols (Modbus RTU/Modbus TCP/IEC60870_5_104, and etc.)
- Supports encryption modes such as DES and 3DES, and supports VRRP hot backup
- Local storage supports flash memory, TF card (or built-in eMMC)
- Provide secondary development kit (SDK), easy to use various system interfaces and resources
- Use MQTT+SSL/TLS Https WebSocket to connect to the IoT platform

Product Specification

Cellular Specification	
Items	**Contents**
Module	Industrial wireless module
Standard and 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
Theoretical Bandwidth	5G NR: downlink 3.4Gbps, uplink 350Mbps LTE Cat20: downlink 2.0Gbps, uplink 150Mbps HSPA+: downlink 42Mbps, uplink 5.76 Mbps
Transmit Power	<23dBm
Receiving Sensitivity	<-97dBm

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WIFI Specification

Items	Contents
Frequency	Support IEEE802.11b/g/n, 2.4G, 2*2 MIMO, AP mode, Station mode (Optional) Support IEEE802.11ac, 5.8G, 2*2 MIMO, AP mode, Station mode (Optional)
Bandwidth	IEEE802.11b/g：108Mbps IEEE802.11n：300Mbps IEEE802.11ac：780Mbps
Security	Support WEP, WPA, WPA2, WPS (Optional)
Power	26dBm (11b), 21.5dBm (11g), 20dBm (11n), 16dBm (11ac)
Sensitive	<-72dBm@54Mbps

Hardware System

Items	Contents
CPU	Industrial-grade 32-bit communication processor
FLASH	32MB
DDR3	512MB
TF	8GB/32GB (Optional) or embedded with 8G eMMc

Interfaces

Items	Contents
WAN	1 x 10/100/1000M Ethernet (RJ45), Adaptive MDI/MDIX, Built-in 1.5KV ESD Protection
LAN	4 x 10/100/1000M Ethernet (RJ45), Adaptive MDI/MDIX, Built-in 1.5KV ESD Protection
Serial	1 x RS232, 5 x RS485 (One shared with RS232 interface) Built-in 1.5KV ESD Protection The serial port parameters are as follows: Data bits: 5, 6, 7, 8 Stop bits: 1, 1.5 (Optional), 2 bits Check: no check, even check, odd check, SPACE (Optional) and MARK check (Optional) Serial port speed: 2400 ~ 115200bits/s
Indicators	"PWR", "SYS", "WIFI", "SIM", "Online", "Signal Strength"
I/O Interface	6-pin 3.5mm terminal block 2xDI, 1xDO, 1xrelay Input high level: 5 to 30 VDC Input low level: 0 to 3 VDC Load current <50mA @ 30VDC Relay load: 1A 250VAC / 30VDC
Antenna	Cellular: 2 standard SMA female antenna interfaces, characteristic impedance 50 ohms (4G version) 4 standard SMA female antenna interfaces, characteristic impedance 50 ohms (5G version) WIFI: 2 standard SMA male antenna interfaces, characteristic impedance 50 ohms
SIM/UIM	Standard drawer-type user card interface (2 SIM card), support 1.8V/3V SIM/UIM card, built-in 15KV ESD protection

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TF card	Standard bullet TF card interface, support various TF cards (TF card or eMMC)
Power Interface	2-core terminal power socket, built-in power reverse phase protection
Reset Button	Use this button to reset the parameter to the factory setting
Power Supply	
Items	**Contents**
Standard	DC 12V/1.5A
Range	DC 9~36V
Consumption	<1.2A (12V)
Standby Current	<800mA (12V)
Physical Properties	
Items	**Contents**
Shell	Metal shell, protection level IP30
Size	172x122x38 mm (Excluding antennas and mounts)
Weight	700g
Others	
Items	**Contents**
Operating Temperature	-35~+75ºC（-31~+167℉）
Storage Temperature	-40~+85ºC（-40~+185℉）
Relative Humidity	95% (No condensation)

Topology



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Product Pictures



F-G100-4G



F-G100-5G



F-G100-4G-GPS



F-G100-5G-GPS

Order Information

Models	Description
F-G100-5G	Cellular (5G-NR), WIFI, SIM*2
F-G100-4G	Cellular (4G), WIFI, SIM*2
F-G100-5G-GPS	Cellular (5G-NR), WIFI, SIM*2
F-G100-4G-GPS	Cellular (4G), WIFI, SIM*2
F-G100-MZZ	WIFI