F-G100 Series

Four-Faith

Bringing Intelligence Across All Beings

F-G100 Specifications

| Version	Class
V1.0.1	

The F-G100 is an IoT wireless intelligent gateway that provides users with wireless long-distance big data transmission using a public 3G/4G 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 RS232, 5 RS485, 4 Ethernet LANs, and 1 WAN.

The intelligent gateway can be connected to multiple manufacturers' IoT platform SCADA systems. It can connect intelligent devices such as smart meters and PLCs through RS232/RS485/Ethernet ports. Its main function is to process uplink and downlink information and complete the forwarding and passing of different protocols. The MQTT way connects to the Internet of Things platform.

Topology
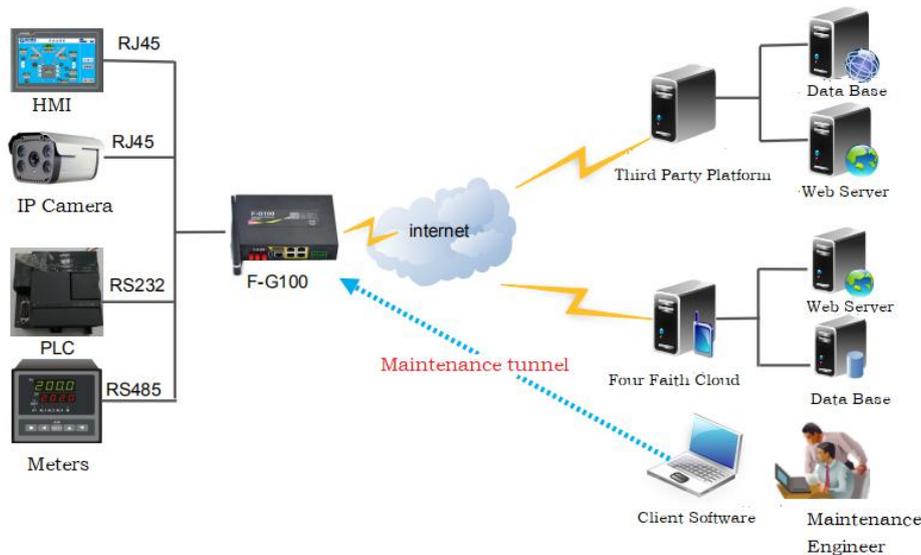
Features

Gateway Features

◆ Supports Four-Faith cloud service, access the cloud platform through the Web, and realize remote management; Convenient and easy to use PC Client software, which can remotely configure, monitor data, and establish maintenance channels for intelligent devices such as PLC, and can maintain field devices directly.

- ◆ Built-in various communication protocols (Modbus RTU / Modbus TCP, Siemens series, Omron series, Mitsubishi series, IEC60870_5_101, IEC60870_5_104, DLT 645--2007, DNP3.0, BACnet and other private protocols, etc.), adapt to a variety of field devices, through MQTT + SSL / TLS, Https, WebScoket and other methods to connect to the IoT platform.
- ◆ High-performance hardware solutions that can connect to third-party platforms, such as Microsoft Azure-iot Cloud, Wisdom Cloud, Ali Cloud (LinkWan platform, edge computing platform, intelligent gateway platform), Baidu IOT platform and other cloud platforms.
- ◆ With a Python development environment, you can implement customized functional applications based on your own business. At the same time, a secondary development kit (SDK) is provided to easily call the system's various interfaces and resources, reflecting the core value of customer solutions.
- ◆ Provides secure and reliable access, supports encryption methods such as DES, 3DES, and can have VRRP hot backup functions. The distributed server deployment in the cloud can support a large number of gateways and terminal devices to access.
- ◆ Support USB3.0, compatible with USB2.0.
- ◆ Local storage supports flash memory and TF card (choose one of TF card and USB application).

Industrial design

- ◆ Using high-performance industrial-grade wireless modules
- ◆ Using high-performance industrial-grade 32-bit communication processor
- ◆ With metal case, protection class IP30. Metal housing and system are safely isolated, especially suitable for industrial control field applications
- ◆ Wide power input (DC 9 ~ 36V)

Stable

- ◆ WDT watchdog design to ensure system stability
- ◆ Adopt a complete anti-dropout 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, in line with CSA, UL and IEC standards
- ◆ SIM / UIM card interface with built-in 15KV ESD protection
- ◆ Built-in reverse phase protection and overvoltage protection
- ◆ Antenna interface lightning protection (optional)

Standard

- ◆ Provide standard RS232, RS485, Ethernet and WIFI interfaces, can directly connect serial devices, Ethernet devices and WIFI devices
- ◆ Provide standard WAN port (support standard PPPOE protocol), which can directly connect ADSL equipment
- ◆ Intelligent data terminal, you can enter data transmission state after power on
- ◆ Easy to use, flexible, multiple working mode selection
- ◆ Convenient system configuration and maintenance interface (including local and remote WEB mode or CLI mode)
- ◆ Supports rail or wall mounting

- ◆ Support multiple WAN connection methods, including static IP, DHCP, PPPOE, 3G / UMTS / 4G / LTE, dhcp-4G
- ◆ Support 3G / 4G and wired WAN dual link intelligent switch backup function (optional)
- ◆ Support VPN client (PPTP, L2TP, IPSEC) (Note: Only supported by VPN version)
- ◆ Support VPN sever (PPTP, L2TP, IPSEC) (Note: Only supported by VPN version)
- ◆ 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 a variety of DDNS
- ◆ Support VLAN, MAC address clone
- ◆ WIFI supports 802.11b / g / n / ac, multiple working modes such as WIFI AP, AP Client, repeater, repeater bridge, etc. (optional)
- ◆ WIFI supports multiple encryption methods such as WEP, WPA, WPA2, MAC address filtering
- ◆ Support multiple online/offline trigger modes, including SMS, telephone ring trigger online and offline modes
- ◆ Support APN/VPDN
- ◆ Support DHCP server and DHCP client, DHCP bundled MAC address, DDNS, firewall, NAT, DMZ host, QoS, traffic statistics, real-time display data transmission rate
- ◆ Support TCP / IP, UDP, FTP (optional), HTTP and other network protocols
- ◆ Support SPI firewall, access control, URL filtering

Specification

● **Wireless Specification**

Project	Content
Module	Industrial wireless module
Standard and Frequency	Support FDD LTE：Band 1/3/5/8 ，Band 2/4/5/13/17/25（optional） Support CDMA 1XRTT/EVDO 800/1900MHz
Theoretical bandwidth	FDD LTE： Cat-12(DownLink 600Mbps，UpLink 150Mbps) 　　　　　Cat-6(DownLink 300Mbps，UpLink 50Mbps) 　　　　　Cat-4(DownLink 150Mbps，UpLink 50Mbps) 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)
Transmit power	<23dBm
Receiving sensitivity	<-93.3dBm

● **WIFI Specification**

Project	Content
Standard and 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）

Theoretical bandwidth	IEEE802.11b/g：Max Speed 108Mbps IEEE802.11n：Max Speed 300Mbps IEEE802.11ac：Max Speed 780Mbps
Security	Support WEP、WPA、WPA2，WPS Optional
Transmit power	26dBm（11b），21.5dBm（11g），20dBm（11n），16dBm（11ac）
Receiving sensitivity	<-72dBm@54Mpbs

● **Hardware System**

Project	Content
CPU	Industrial 32-bit communication processor
FLASH	32MB
DDR3	512MB
TF	8GB/32GB，optional

● **Interface**

Project	Content
WAN Interface	1 * 10/100/1000M Ethernet（RJ45），Adaptive MDI/MDIX，Built-in 1.5KV ESD Protection
LAN Interface	4 * 10/100/1000M Ethernet（RJ45），Adaptive MDI/MDIX，Built-in 1.5KV ESD Protection
Serial	1 * RS232，5 * 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; 2 DI, 1 DO, 1 relay 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 WIFI: 2 standard SMA male antenna interfaces, 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	2-pin terminal power socket with built-in reverse power protection
USB	Standard USB3.0 interface, support various USB storage
TF card	Standard bullet TF card interface, support various TF cards
Reset Button	Through this button, the parameter configuration of the smart gateway can be restored to the factory value.

● Power Supply

Project	Content
Standard	DC 12V/1.5A
Range	DC 9~36V
Working current	3G：<640mA（12V）　　　4G：<720mA（12V）
Standby current	3G：<530mA（12V）　　　4G：<600mA（12V）

● Physical properties

Project	Content
shell	Metal case, protection class IP30
Size	172x122x38 mm (Excluding antennas and mounts)
Weight	700g

● Others

Project	Content
Operating temperature	-35~+75ºC（-31~+167℉）
Storage temperature	-40~+85ºC（-40~+185℉）
Relative humidity	95%(No condensation)

● Order Infomation

Model	Content
F-G100-FL	Cellular (LTE/WCDMA)，WIFI，SIM*1，I/O(2*DI, 1*DO, 1*Relay.)