LoRaWAN® Gateway

F8L10GW-02
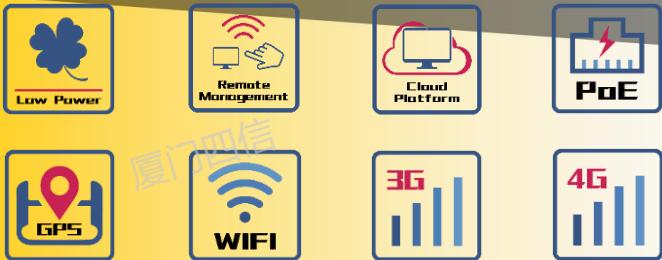
Low Power | Remote Management | Cloud Platform | PoE

GPS | WIFI | 3G | 4G

Introduction

F8L10GW-02 is a wireless data transmission gateway based on standard LoRaWAN® protocol. It can be connected to LoRaWAN® terminals in various application nodes, collects useful information, and sends the data to cloud server through wireless 3G/4G cellular network or wired ethernet. The product has been widely used in the M2M industry of the IoT industrial chain, such as smart meter, smart disaster, smart sensing, smart photovoltaic, smart grid, smart transportation, industrial automation and, etc.

Industrial-grade Design

▶ High-performance industrial-grade CPU and wireless module
▶ High-performance industrial-grade multi-channel LoRaWAN® gateway RF chip
▶ Aluminum shell, IP65 protection
▶ Support POE+ (802.3af/at) input (Optional)
▶ Support wide power range (AC 85-264V)

Stability & Reliability

▶ WDT watchdog timer to ensure system stability
▶ Anti-drop mechanism to ensure device always online
▶ Ethernet interface with built-in 15KV ESD
▶ Power interface with built-in phase-reversal, overvoltage, and lightning protection
▶ Antenna interface with lightning protection

Standard & Convenience

▶ Provide standard Ethernet, 4G, and WIFI interface
▶ Provide standard wired WAN interface (support standard PPPOE protocol)
▶ Provide powerful central management software to facilitate equipment
▶ Convenient system configuration and maintenance interface
▶ Intelligent data terminal, automatically enter transmission status after power on.

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High Performance

▶ Provide wired Ethernet and DHCP-4G (default) connection modes
▶ Support LoRaWAN® protocol: Class A, Class C
▶ Support 802.11 b/g/n WIFI network
▶ WIFI support variety types of encryption such as WEP, WPA and WPA2. Support MAC address filtering
▶ Support LoRaWAN® wireless data transmission protocol

Product Specification

Characteristics	
Items	**Contents**
Network Structure	Simple Star Network Topology
LoRaWAN® Protocol	Class A, Class C
Urban Communication Distance	9km@SF12
Floor Penetration Reference Distance	18 floors@SF12
Output Power	26±1dBm
Operating Frequency	EU433, CN470-510, CN779-787, EU863-870, US902-928, AU915-928, AS923, KR920-923
Antenna Max Sensitivity	-142dBm@LoRa
Bandwidth	125kHz / 250kHz / 500kHz
Communication Channel	Uplink：8 Downlink:1
Communication Rate	Adaptive link rate
Communication Mode	Half-duplex
Working Mode	Supports sending and receiving different frequencies and the same frequency
Reporting Server Mode	Ethernet, 4G
Wireless Management	WiFi wireless management and upgrade

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Cellular

Items	Contents
Standard	LTE FDD, LTE TDD, EVDO, WCDMA, TD-SCDMA, CDMA1X, GPRS/EDGE
Theoretical Bandwidth	LTE FDD：DL: 100 Mbps，UL: 50 Mbps LTE TDD：DL: 61 Mbps，UL: 18 Mbps DC-HSPA+：DL: 42 Mbps，UL: 5.76 Mbps TD-HSPA+：DL: 4.2 Mbps，UL: 2.2 Mbps EVDO Rev. A：DL: 3.1 Mbps，UL: 1.8 Mbps
Transmit Power	< 23dBm
Receive Sensitivity	< -97dBm

WIFI

Items	Contents
Standard & Frequency Band	IEEE802.11b/g/n standard
Theoretical Bandwidth	IEEE802.11b/g：Max speed rate 54Mbps IEEE802.11n：Max speed rate 150Mbps
Security Encryption	Supports multiple encryption modes, such as WEP, WPA, and WPA2. WPS is optional
Transmitting Power	20dBm(11n), 24dBm(11g), 26dBm (11b)
Receive Sensitivity	< -72dBm@54Mbps

Hardware

Items	Contents
CPU	Industrial 32-bit Communication Processor
Flash	32MB
DRR2	128MB

Interfaces

Items	Contents
Power Supply	Standard AC power cable with built-in power reverse protection and overvoltage protection
WAN (POE+)	WAN/LAN configurable, one 10/100M Ethernet port (RJ45 socket), adaptive MDI/MDIX, built-in 1.5KV electromagnetic isolation protection
Console	Serial Port
Reset	Use this button to restore the parameters of a Gateway to factory defaults
TF Card	8GB/32GB (Optional)
SIM Card	1
Antenna	LoRa, WIFI, 4G, GPS 4 antenna interfaces
LED Indicators	"PWR", "SYS", "WiFi", "NC","Sig","LoRa ","Online ","NC"

Note: Different models of accessories and interfaces may be different, the specific object prevail.

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Power Supply	
Items	**Contents**
Standard	AC 220V
POE	POE+（802.3af/at），25W Max

Power Consumption	
Items	**Contents**
Stand By	Average Current ≤ 120mA@12V
Communication	Transmitting current ≤460mA@12V (with 4G)
	Transmitting current ≤243mA@12V (without 4G)
	Receiving current ≤120mA@12V

Physical Properties	
Items	**Contents**
Installation	Wall mounting or pole mounting
Dimensions	289.4x217.5x115.0mm
Weight	2700g
	(Excluding antennas and accessories, POE+ power supply)
Shell	Aluminum, IP65

Others	
Items	**Contents**
Operating Temperature	-35~+75ºC (-40~+185ºF)
Storage Temperature	-40~+85ºC (-40~+257ºF)
Relative Humidity	95% (non-condensing)

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Dimensions (mm)

217.5 mm

289.4 mm

115.0 mm

Note: There may be differences between models of accessories and interfaces, actual products shall prevail.

Order Information

Products	Description	4G Antenna	WIFI Antenna	LoRa Antenna	GPS Antenna
F8L10GW-02433-XXX	LoRa+LTE WIFI Gateway	1	1	1	1
F8L10GW-02470-XXX	LoRa+LTE WIFI Gateway	1	1	1	1
F8L10GW-02868-XXX	LoRa+LTE WIFI Gateway	1	1	1	1
F8L10GW-02915-XXX	LoRa+LTE WIFI Gateway	1	1	1	1
F8L10GW-02433-MZZ	LoRa+ WIFI Gateway	0	1	1	1
F8L10GW-02470-MZZ	LoRa+ WIFI Gateway	0	1	1	1
F8L10GW-02868-MZZ	LoRa+ WIFI Gateway	0	1	1	1
F8L10GW-02915-MZZ	LoRa+ WIFI Gateway	0	1	1	1

Note: XXX indicates the 4G version, and MZZ indicates that the 4G module version is not included