



# LoRaWAN<sup>®</sup> Module

## F8L10A-E/N



### Introduction

F8L10A-N and F8L10A-E LoRa modules are embedded wireless data transmission modules based on LoRa spread spectrum technology. They support Four-Faith Proprietary Protocol, LoRaWAN, CLAA, LinkWAN and other protocols, and use LoRa network to provide users with wireless data transmission functions. This product has been widely used in the M2M industry in the Internet of Things industry chain, such as smart grid, smart transportation, wireless water and gas heat meter reading, wireless automatic data collection, petrochemical and other fields.



Industrial-grade Design

- ▶ High-performance industrial-grade CPU and wireless module
- ▶ Low power consumption
- ▶ Sensitive: -140dBm
- ▶ DC: 3.3 ~ 5V
- ▶ Support 150MHz – 960MHz



High Performance

- ▶ Support OTA upgrade
- ▶ Support air wake-up function
- ▶ Support multiple baud rates, multiple radio frequency rates
- ▶ Flexible transmit power setting (5~20dBm, with PA model module supports 30dBm)

# LoRaWAN<sup>®</sup> Module F8L10A-E/N



## Product Specification

Characteristics		
Model	F8L10A-N	F8L10A-E
Items	Contents	
Frequency	433/470/868/915 MHz	433/470 MHz
Protocol	Private, LoraWAN, CLAA, LinkWAN	Private
Indoor Distance	1km	2km
Outdoor Distance	3.5km	11.5km
Power	20dBm(100mW)	30dBm(1W)
Sensitive	-140dBm@SF12	
Bandwidth	6 level (0.3, 0.6, 1.0, 1.8, 3.1, 5.5Kbps)	
Serial Buffer	1K Bytes	
Interfaces		
Model	F8L10A-N	F8L10A-E
Items	Contents	
Serial	Standard TTL Data bit: 8 Stop bit: 1, 2 Check: None, ODD, EVEN Baud rate: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200bps	
Antenna	SMA/Antenna pad/U.FL	
Encapsulation	Support double row 2.0mm pin/single row 2.54mm pin/SMT half hole	
<b>Note</b>	There may be differences in accessories and interfaces of different models, and the actual product shall prevail.	
Power Supply		
Model	F8L10A-N	F8L10A-E
Items	Contents	
Recommend Voltage	DC 3.3V/0.5A	DC 5V/500mA
Operation Voltage	DC 3.3~5 V	

# LoRaWAN<sup>®</sup> Module F8L10A-E/N



Power Consumption		
Model	F8L10A-N	F8L10A-E
Items	Contents	
Receiving	<12mA@3.3V DC	<12mA@5V DC
Sending	<120mA@3.3V DC	<330mA@5V DC
Timing Wake up	<4.0uA@3.3V DC	<4.0uA@5V DC
Sleep	<4.0uA@3.3V DC	<4.0uA@5V DC
Physical Properties		
Model	F8L10A-N	F8L10A-E
Items	Contents	
Dimension	24.4x37.5x4.2 mm	24.4x45.0x4.2 mm
Weight	5.0g	8.0g
Others		
Model	F8L10A-N	F8L10A-E
Items	Contents	
Operating Temperature	-40~+85°C (-40~+185°F)	
Storage Temperature	-40~+125°C (-40~+257°F)	
Relative Humidity	95% (non-condensing)	

## Order Information

Model	PA	Frequency	Encapsulation	Antenna
F8L10A-N-L-MS-N	No PA	410-510 MHz	SMT	No
F8L10A-N-L-MS-U	No PA	410-510 MHz	SMT	U.FL
F8L10A-N-L-NS-S	No PA	410-510 MHz	Pin	SMA
F8L10A-N-L-NS-U	No PA	410-510 MHz	Pin	U.FL
F8L10A-N-H-MS-N	No PA	850-935 MHz	SMT	No
F8L10A-N-H-MS-U	No PA	850-935 MHz	SMT	U.FL
F8L10A-N-H-NS-S	No PA	850-935 MHz	Pin	SMA
F8L10A-N-H-NS-U	No PA	850-935 MHz	Pin	U.FL
F8L10A-E-L-MS-N	PA	410-510 MHz	SMT	No
F8L10A-E-L-MS-U	PA	410-510 MHz	SMT	U.FL
F8L10A-E-L-NS-S	PA	410-510 MHz	Pin	SMA
F8L10A-E-L-NS-U	PA	410-510 MHz	Pin	U.FL