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RHF2S225 LoRaWAN@ 8channel outdoor gateway Installation

V1.0



Document information

Information	Content
Keywords	*RisingHF, LoRaWAN, IOT, gateway, Installation*
Summary	*This document describes RHF2S225 LoRaWAN 8channel outdoor gateway Installation method, Mainly aimed at on-site installation and engineering maintenance*

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Table 1 Packing list 2

1 Introduction

This document is RHF2S225 LoRaWAN 8channel outdoor gateway Installation manual.

2 Appearance of host equipment



Figure 1 External interface of gateway device

3 RHF2S225 Equipment packaging and accessories

The appearance of the packaging box is as follows:



Figure 2 RHF2S225 Appearance diagram of the package box

Please ensure that the seal is complete and intact when you get the gateway product



Figure 3 RHF2S225 Sealing label

Unpack, and shall include the following equipment and accessories.

Table 1 Packing list

Item Name	Specification	quantity
Item Name	Specification	Quantity
RHF2S225 Main Unit	RHF2S225	1

Industrial Power Supply	XED-RX190150GJ	1
LoRaWAN® Fiberglass Antenna	RXHF-ANTxxx-GF	1
GPS Fiberglass Antenna	V1468-001-A-03	1
Wi-Fi Fiberglass Antenna	V1437-002-A-04	1
LTE 4G Fiberglass Antenna	V1437-002-A-05	1
Lightning Arrester*	N-JK-G（JC3.640.150）	Optional part
Ground Cable*	1.5m	Optional part
Mounting Bracket Kit	Includes bracket, U-bolt, screws	1
Open-End Wrench	10 mm, 70 mm long, zinc-plated steel	1

*Standard gateway products are not equipped with Lightning Arrester and Ground Cable. Lightning Arrester and Ground Cable are optional accessories.

After removing the bracket, the packing of the gateway and its accessories is shown in the figure below:



Figure 4 Packing of RHF2S225 Gateway and accessories

1. RHF2S225 gateway
2. LoRaWAN antenna
3 、4、5 Curved antenna, including Wi-Fi, 4G, GPS
6. power adapter
7. holding hoop
8. grounding cable （Optional part）
9. Bracket
10. Bracket screw
11. Coaxial antenna Lightning Arrester（Optional part）

4 RHF2S225 Installation

4.1 RHF2S225 Mechanical dimensions

Mechanical size is 217 * 217 * 71 mm

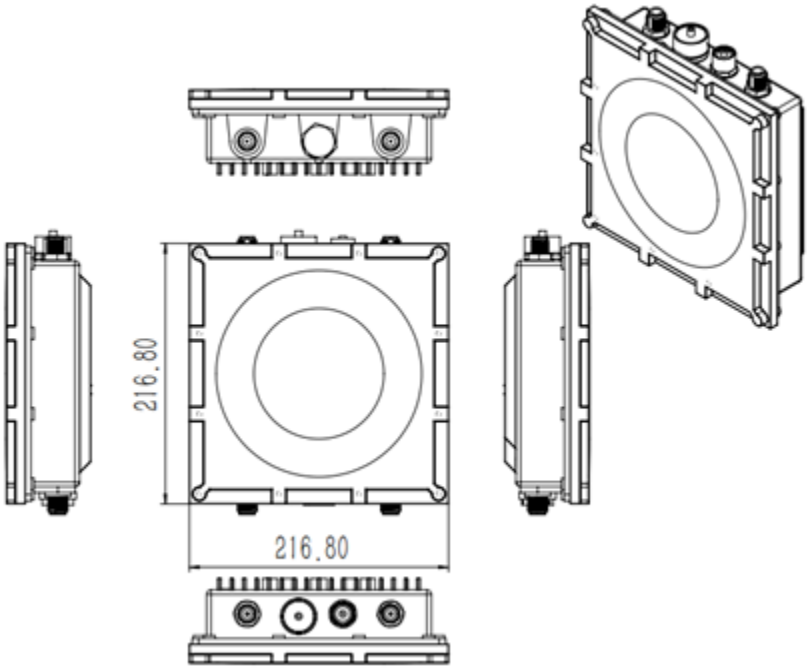


Figure 5 RHF2S225 mechanical dimensions

4.2 RHF2S225 gateway installation

4.2.1 SIM Card installation

If you need to connect with 4G network, install the SIM card inside the device in advance and conduct networking testing. The installation steps are performed as follows:

i) Use the screwdriver to open the gateway equipment;；

ii) Push SIM holder to unlocked state, install SIM card, cover and push to locked state；

iii) The gateway connects the 4G antenna and the power to the test the 4G network；

iv) If the 4G network connection is successful, close the enclosure and tighten the screw with wrench。

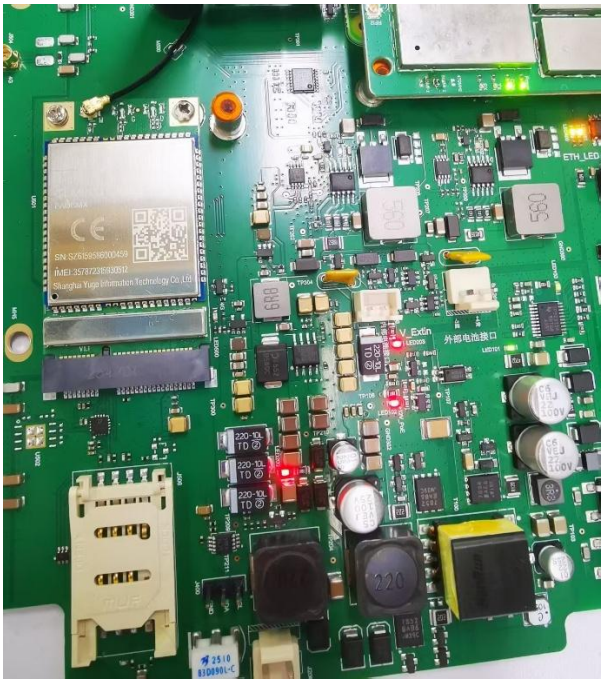


Figure 6 SIM Card installation operation method

4.2.2 Install the gateway

Install the gateway equipment to the bracket, using the mounting holes shown as below,



Figure 7 install the bracket

And then install the power adapter onto the bracket, make sure that the power input/output cable is Downward.

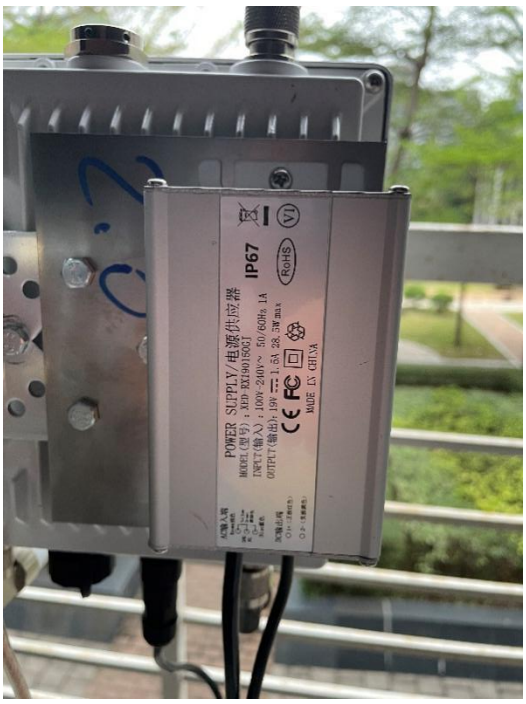


Figure 8 power adapter installation

There are four interface at one side of the gateway, Wi-Fi antenna, power interface, Ethernet interface and GPS antenna；



Figure 9 Gateway interface of one side

Open the protection cap of the power interface, there is a Fool-proofing structure to avoid error plug；

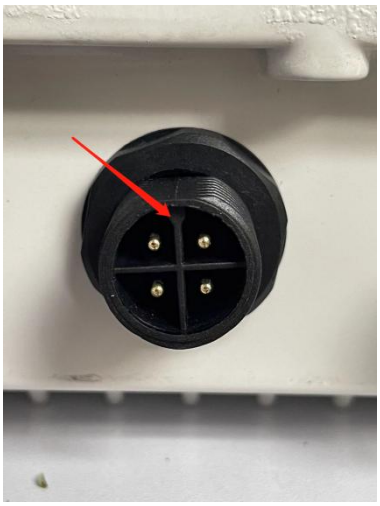


Figure 10 Power interface at the bottom of the gateway

Plug in the power connector of adapter to this power interface, make sure tighten the cap clockwise to lock it. (Tighten cap shown in picture below, when need to plug out the connector, please first loosen the cap anticlockwise to unlock it).

The installation effect of the power supply is shown below：



Figure 11 Power supply plug

Install the antenna Lightning Arrester (Optional part) and LoRa antenna



Figure 12 Install surge protector and LoRa antenna

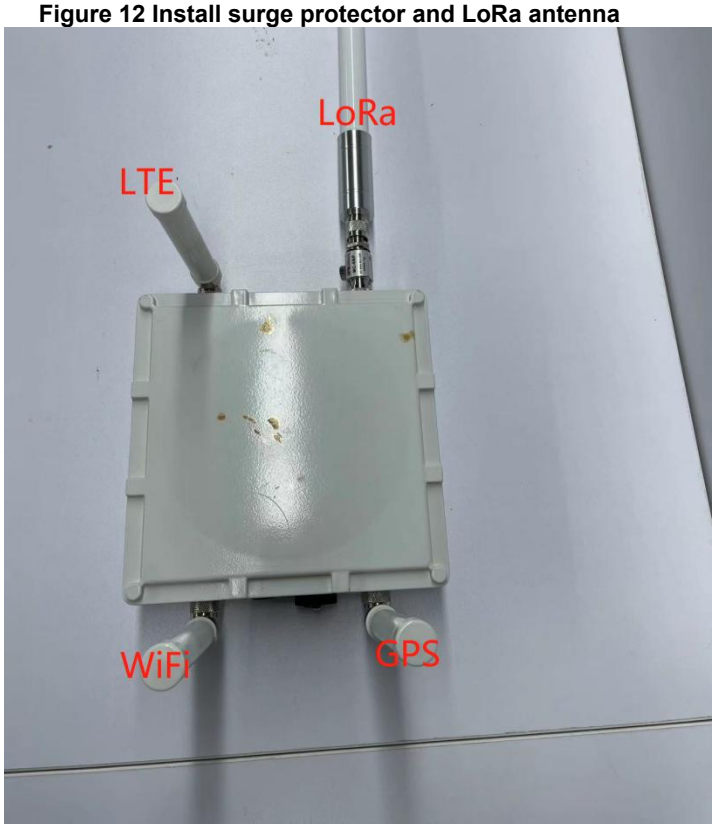


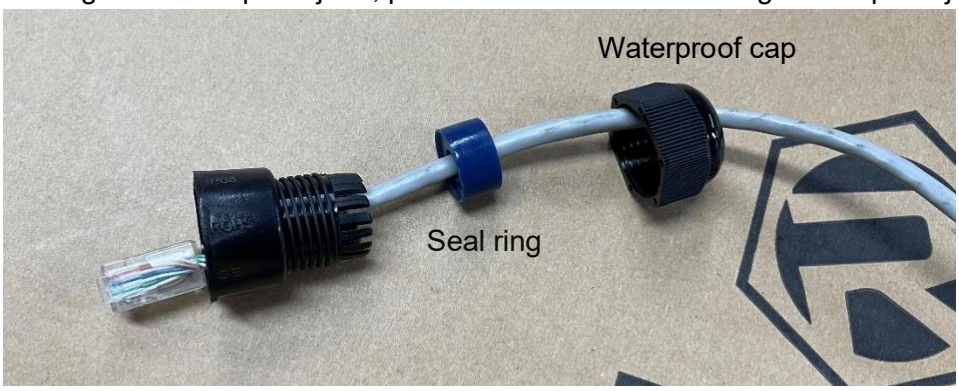
Figure 13 install all the antenna

Install the waterproof joints for the Ethernet cable

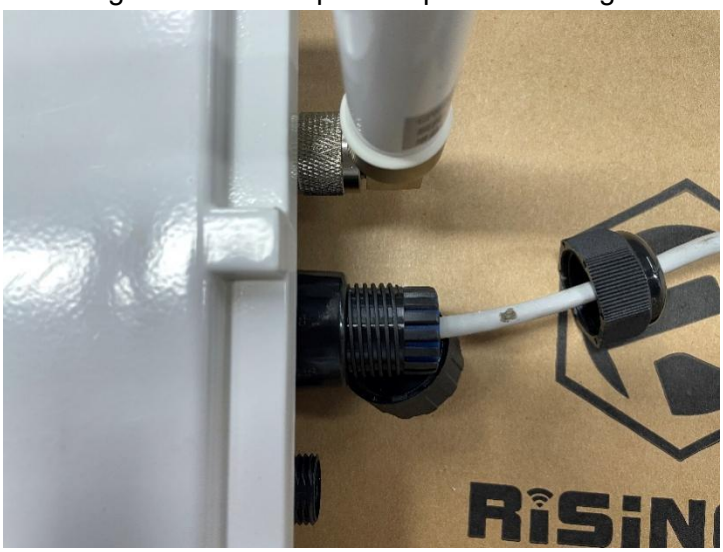
（a） Open the waterproof joint



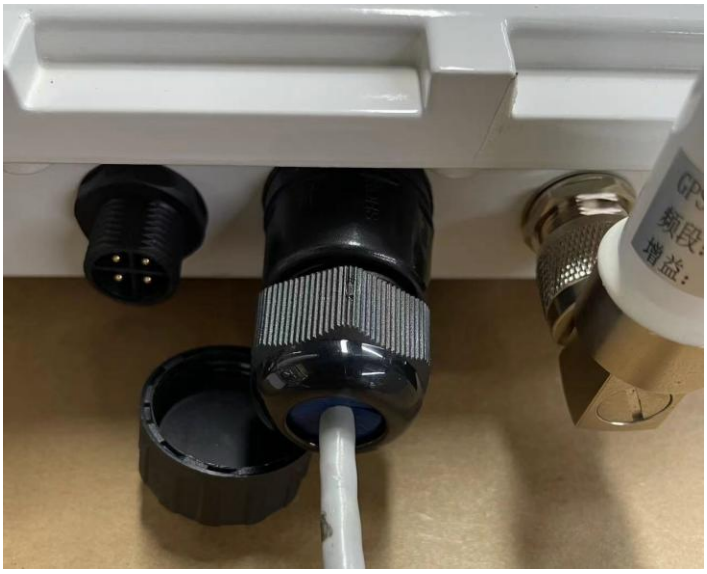
（b） Pass the cable through the waterproof joint. (there will be no RJ45 terminal before the cable pass through the waterproof joint, please do it after cable through waterproof joint)



（c） Tighten the Waterproof cap and seal ring



（d） Finish install the Ethernet cable



4.2.3 Install the holding hoop

RHF2S225 Support wall-mount or holding poles installation.

When using the wall-mount installation, Please direct use the four installation holes at the bottom of the gateway with screws.

If user want to do holding poles installation, there are holding hoops and its accessories in the package, the diameter of poles that can be installed is less than 60mm.



Figure 14 holding hoop and its accessories



Figure 15 Effect of holding poles installation

4.2.4 Install antenna Lightning Arrester（Optional part）

There is a surge protector in the packing box (surge protector is optional, it is offered according to your order). Unscrew the small screw on the side of the surge protector (Note that there is a wash under the screw), connect a suitable grounding cable with it, and the other end connecting to the earth or the grounding point of lightning bar.



Figure 16 Surge protector



Figure 17 Grounding cable for the Surge protector

5 Warning and attention for installation

5.1 Lightning protection

Lightning protection is generally classified as direct lightning protection and induction lightning protection. Please consider appropriate protection to ensure the safety and normal operation of the gateway.

Items listed below are helpful for Lightning protection, good grounding is very important and should consider as first priority, make full use of the lightning bar and other grounding network of the building.

1. The safety of the residents should be considered when install equipment on civil buildings.
2. Lightning-rod shall be installed above the tower, building top or other platform where device is installed, the device and antenna shall be within the protection coverage of the lightning rod.
3. If no extra protection coverage by a lightning rod of a building or platform, a surge protector shall be installed on the antenna and the surge protector shall be grounded.
4. Small lightning rod suggest use round steel or steel pipe, round steel diameter should be not less than 16mm; steel pipe diameter should be not less than 25mm and thickness not less than 2.5mm. The lightning rod height should be 1m above the top of the device and antenna.
5. The grounding cable of the lightning rod suggest use galvanized round steel with diameter not less than 8mm, or use Stranded copper wire with cross-sectional area not less than 48mm^2 .
6. When gateway device is close to the lightning bar, the gateway should be installed under the lightning bar.
7. Any cable shall not be hung on the lightning bar or lightning protection network.
8. The mounting bracket must be grounded.

5.2 Waterproof treatment (for outdoor installation only)

For device installed outdoors, waterproof treatment is required for all the interface connectors. The suggest follow waterproof treatment step as below:

（1） First, connect the connector and clean up the surface;

（2） Tie 1 layer of PVC insulation tape around the connector;

（3） And then wrap up 1 layer of 3M waterproof cement;

（4） Then wrap up 1 layer of PVC insulation tape;

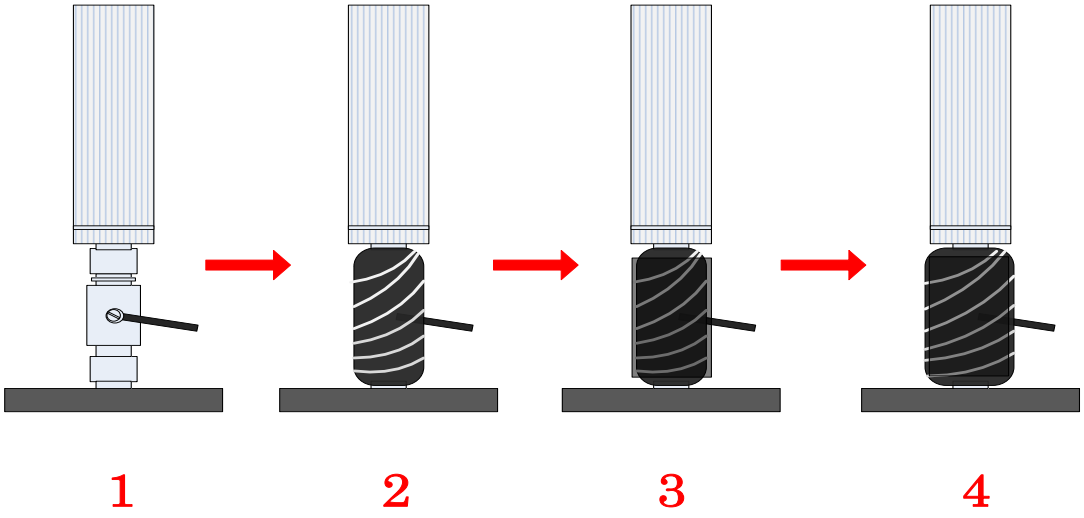


Figure 18 antenna interface waterproof treatment

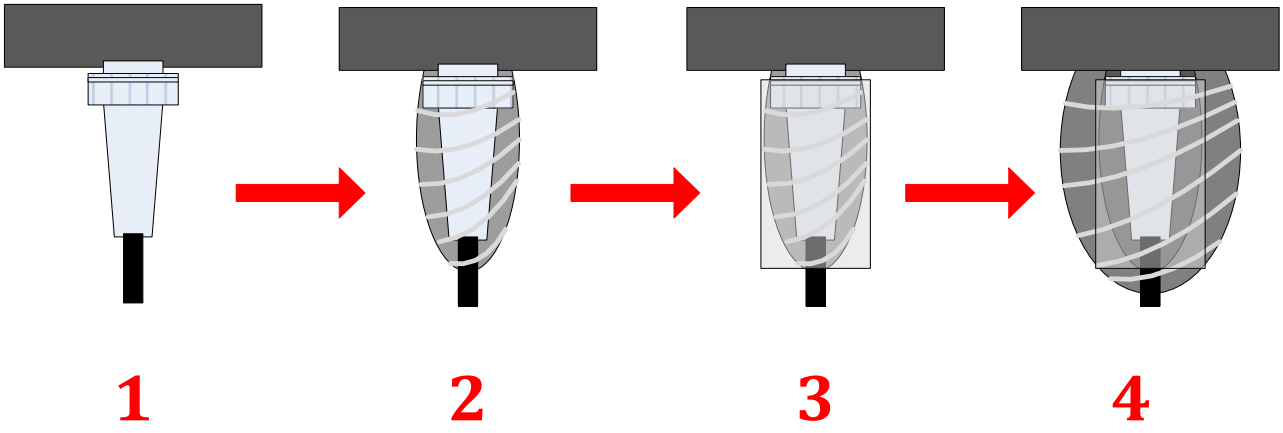


Figure 19 Power supply interface waterproof treatment

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