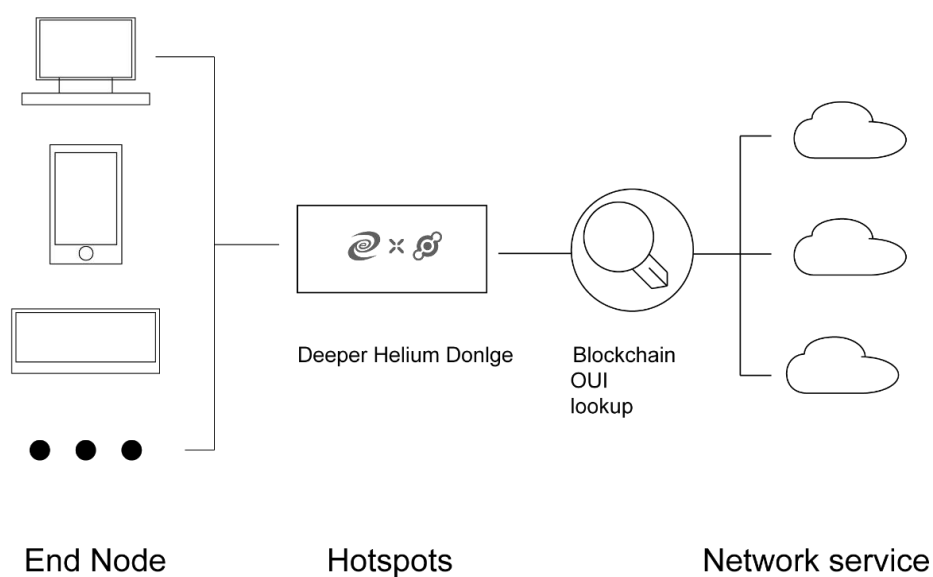# RoLaWAN Dongle

User Manual

Introduction

Deeper helium dongle is a lorawan hotspot device, which is compatible with Helium LongFi, which combines the leading wireless LongFi protocol and helium blockchain technology.
Deeper helium dongle is also compatible with all LongFi devices. The dongle operates with ultra-low power consumption (5W) and its signal range, can cover more than 10 miles, and provide connections to thousands of LongFi end nodes detected within its range.
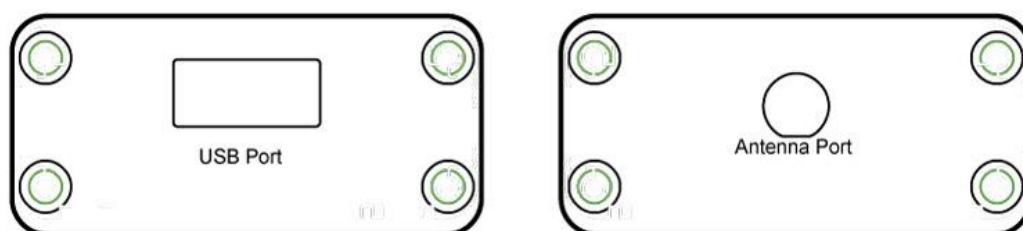
Network Systems

The hotspot of Deeper helium dongle integrates LongFi packet forwarde and Helium Miner. The hotspot does not send the received LongFi terminal data packet to the LongFi Network Server first, but forwards it to Helium Miner, and then forwards it to the Console (Network Server) via the Miner, and then pushes it to the application platform via the API interface.

End Node   Hotspots   Network service

Specifications

Model	HLD01, HLD02, HLD03, HLD04
Lorawan Specifications	
Frequency	902.3MHz-914.9MHz；923MHz-928MHz
Channel Capacity	64channel and 8-channels uplink, 1-channel downlink
Work model	Half duplex
Output Power	≤50mW
Platform Configurations	
CPU	Quad-core A53@1.5GHZ
RAM	2GB DDR4
Storage	8GB EMMC 5.1
Ethernet	Two 1GBps with RJ45
BT	/
Connectors	
Antenna	R-SMA
Power	DC5V/3A
Physical Description	
Dimensions (L*W*H)	Deeper connect mini:130*67*28MM, RoLaWAN dongle: 90*42*20MM
Environmental	
Operating Temperature	0-60°C
Storage Temperature	-40-85°C
Relative Humidity	20%-90%,non-condensing
Heat Dissipation	Radiator Grille

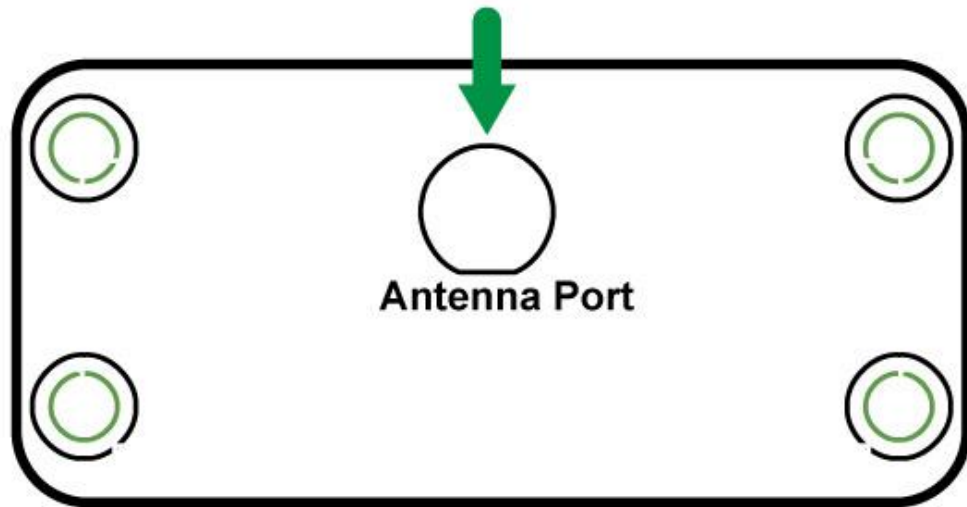## Interface description

Use guide

1. **Download the mobile App**

   Android phone users log in to the Google Play store, and iPhone phone users log in to the App Store to find Helium to download and install.
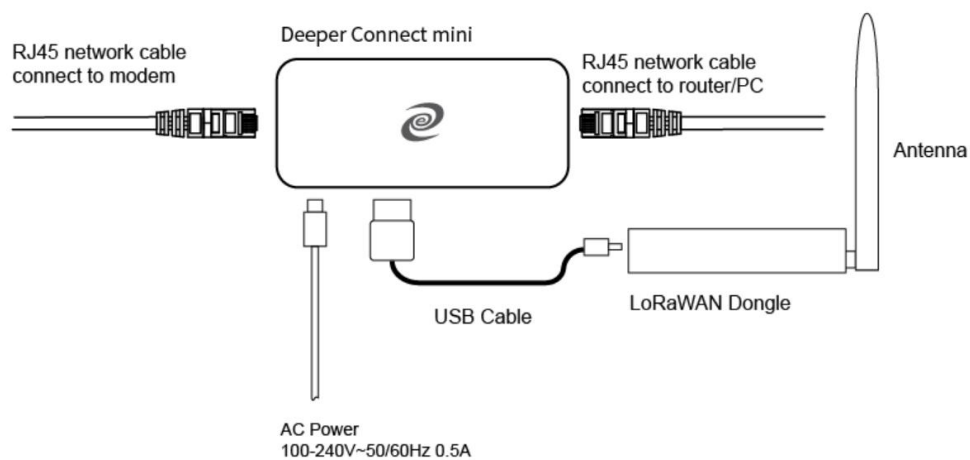
Helium

★★★★★

开发者: Helium Systems Inc

查看更多

2. Configure network connection

2.1 Equipment assembly

Open the package, take out the device, USB cable and antenna, insert the SMA female connector of the antenna feeder into the LongFi antenna port of the device and tighten it.
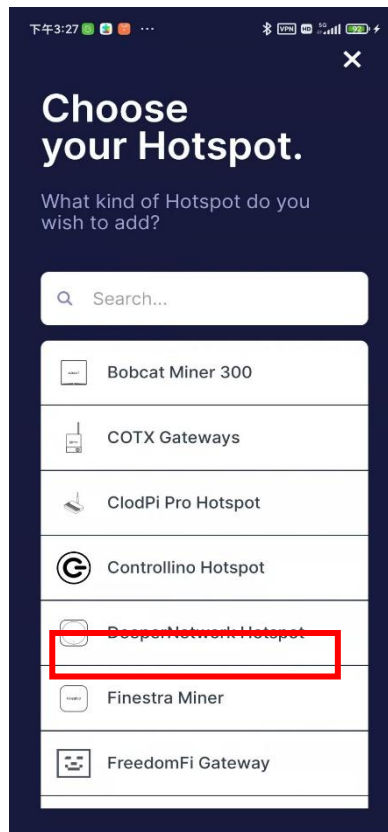

Antenna Port

2.2 Connect the MINI module and the RoLaWAN dongle module using a USB cable

RJ45 network cable connect to modem

Deeper Connect mini

RJ45 network cable connect to router/PC

Antenna

USB Cable

LoRaWAN Dongle

AC Power
100-240V~50/60Hz 0.5A

2.3 Set up distribution network

Open the Helium App in your phone, register to enter, and select "Set up Hotspot". Then select Deeper helium dongle equipment to enter, you can read the network configuration instructions first, or select "Skip" to operate step by step according to the prompts on the page. Insert the AC plug end of the power adapter into the 220VAC mains socket, and the other end of the DC5V output plug into the power jack of the MINI module, as shown in the figure below. After plugging in the power, the LED of the gateway turns red and flashing.

1) Scan the device, click to enter the next step;

2) Use Ethernet connection, select "Use Ethernet Instead" at the bottom of the page and insert the network cable. Please note that the Ethernet connection currently only supports automatic IP acquisition.

   At this step, the distribution network is completed.

Precautions:

※ The product installation process must be handled with care, and there

should be no violent collisions and drops;

※ The installation location of the product is on a flat wall with less dust and dryness and ventilation, and a location with rain, water seepage, and humidity cannot be selected.

FCC Caution.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

*RF warning for Mobile device:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated wi th minimum distance 20cm between the radiator & your body.