Outdoor Helium Hotspot Overview

The Nebra Outdoor Helium Hotspot is an ideal solution for providing great Helium LongFi coverage and suitable for use outside in most envrionments.

Specifications

Specification	Nebra Outdoor Hotspot
RRP	£350 ex VAT
Case	
Ingress Protection	IP67
Dimensions	300x200x100 mm (Excluding Antenna)
Weight	1.25 Kg
Power Requirement	802.3AF 48V POE *OR* 9-16V DC @ 15W
Average Power Consumption	~12-15W*
Annual Power Consumption	~105-130kWh
Maximum TX Power	24-27dBm**
Network Connectivity	10/100 Ethernet, 2.4Ghz 802.11N Wi-Fi, Optional 4G Module available separately.
Antenna Connection	N Type Female
Base SOM	Raspberry Pi CM3+
CPU Specification	Broadcom BCM2837B0, Quad Core Cortex-A53 (ARMv8) 64-bit SoC @ 1.2GHz
High Endurance Storage	32GB
RAM	1GB LPDDR2 SDRAM

* Average Power Consumption Measured At Mains, higher average consumption when the optional 4G Module is used.

** Maximum TX Power may be capped to a lower amount in some regions.

Package Contents

- 1 X Nebra Outdoor Hotspot
- 1 X 3 dBi LoRa Antenna

Block Diagram

Supported Regions

The Nebra Outdoor Hotspot comes in three hardware versions:

Frequency	Supported Regions
470 Mhz	CN470
868 Mhz	EU868, IN865, RU864

Frequency	Supported Regions
915 Mhz	US915, AU915, AS923, KR920

The frequency is set upon initialisation by the Helium Network.

Antenna Specifications

Specification	470Mhz Model	868 & 915Mhz Models
Frequency Range	420-480	860-930 Mhz
Peak Gain		3 dBi
VSWR		≤1.5
Input Impediance	50 Ohms	50 Ohms
Length		30CM

Dimensions

The Nebra Outdoor Hotspot is approximately 300x200x100 mm In size when nothing is connected.

Interfaces

Connectors

From the outside

1. CAT 5e Gland / Passthrough Gland
2. N-Type Female LoRa Antenna Connector

On the inside

1. 9-16V @ 15W DC 6.5MMx2.0MM Barrel Jack
2. Ethernet Connector
3. LED Indicator.
4. Interface Button
5. 4G / LTE Module Connector
6. Sim Card Slot

Status Indicator

The Nebra Outdoor Hotspot has a status indicator as shown above.

The Top LED will act accordingly:

- Off - Software has not started yet.
- On - Operating as normal

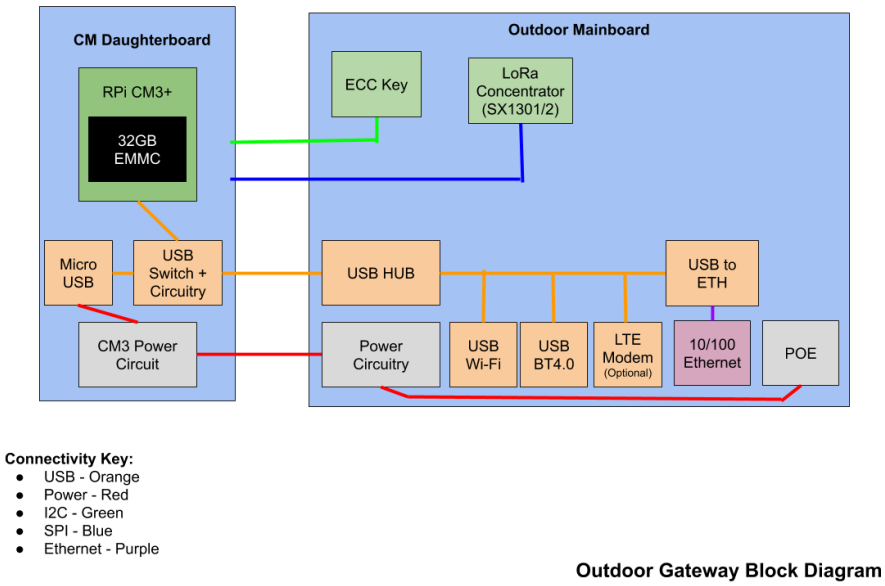

Figure 1: Outdoor Hotspot Block Diagram

- Slow Blinking - Bluetooth Pairing is enabled
- Fast Blinking - There is potentially a fault. Please check diagnostics page.

Button

The Nebra Indoor Hotspot has a button on the smaller board inside the unit.

This is used to re-enable bluetooth pairing on the hotspot, hold the button in for approximately 15 seconds then release to start pairing. The status light should start blinking slowly if successful.

Firmware

The Nebra Hotspots run a customised software to provide high reliability and ensure your units are as up to date as they can be.

Approximately your hotspot will update once a week in an automatic process, we will announce updates via various social media platforms when they happen.

The software is open source at https://github.com/nebraltd/helium-miner-software

Certifications

We are working on getting the Nebra Outdoor Hotspot certified in multiple regions. As we have results from the certification process we will post them here.