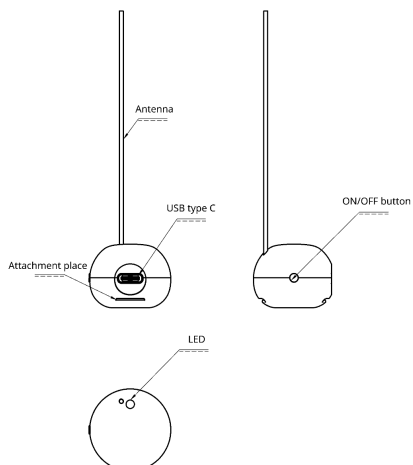


LOKO USER MANUAL



Loko consists of 2 units: ground and air units. Loko Air serves as the transmitter, transmitting GPS data, battery status, and a unique ID to the Loko ground unit. The ground unit then transmits the received data to a mobile phone via Bluetooth and displays the data on a map.

1. HOW TO CONFIGURE LOKO AIR UNIT

1.1 Download, and install the Loko mobile app, and the Loko configuration tool which is for Mac and Windows. Follow this link for the downloads: <https://noilab.com/software/>

1.2 Connect the Loko Air unit to the computer via type-C cable, in order to configure it. Open the Loko Configuration tool, then press the button on the Loko air unit and wait 3 seconds for the red blink.

1.3 On the configuration tool press the refresh button, and from the dropdown select the connected USB port. If you don't see the available ports, try to reverse the type-C cable (pin configuration inside type-C port makes a difference).

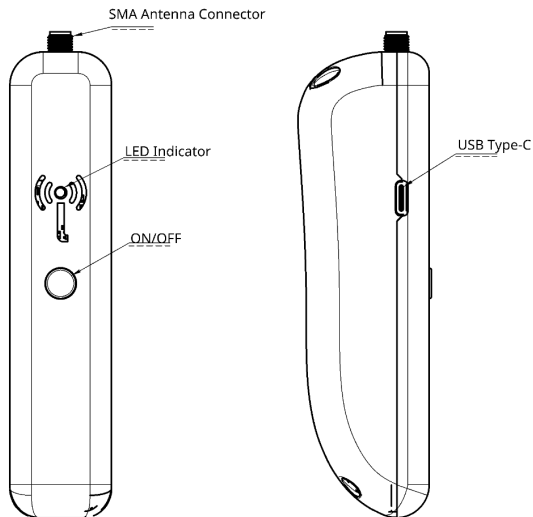
1.4 Set the configuration parameters (ID1, ID2, Frequency, and Time Interval). Save settings, and unplug the cable.

ID1	Is the pairing code between the Loko Air unit and Ground unit. It should be the same in both of them. Must be 2 digits.
ID2	Is the unique id of the Loko Ground unit. Must be 3 digits.
Frequency	Is the frequency of the radio signal between the Loko Air unit and Ground unit. Both of them must be the same frequency. Frequency range 866 - 920 MHz (866.000.000 - 920.000.000 Hz)
Time Interval	How often the Loko Air unit should send the data to the Loko Ground unit. It can be set to a minimum of 1 seconds. Battery life depends on the frequency. If too often, battery life will drain quickly.

1.5 Press and hold the power button on the Loko Air until the red light blinks, that means it is on. If the light is solid, it means it is in sleep mode.

2. HOW TO CONFIGURE LOKO GROUND UNIT

The Loko ground unit communicates data it receives to a mobile phone using Bluetooth and visually presents this information on a map. It does not include an internal battery. To power the unit, the user is required to unscrew the four fasteners located on the rear of the case. Afterward, they can insert a Li-ion 18650 battery into the designated battery holder and subsequently reassemble the case with care.



2.1 Download and install Thonny IDE from the following site : <https://thonny.org/>

2.2 Open the installed Thonny app.

2.3 Connect the Loko Ground unit to the computer via usb cable.

2.4 On the left side of the Thonny, you will see the Files section, if you don't see it, you can activate it from the menu bar > View > Files.

2.5 In the Files view section, you will see the files inside the Loko Ground unit. There will be a file named settings.json.

2.6 If you don't see it, then in the Files view section there is Hamburger button (three vertical dashes) on the top right corner of the Files View. Click there and choose the MicroPython device, then files will be visible.

2.7 Open the settings.json file. In that file, there are 2 parameters, ID2 and Frequency (in MHz).

2.8 ID2 is the id of the Loko Ground unit and frequency is the radio frequency Loko units use to communicate with each other. So both of them should match with the Loko Air Unit configuration which we have set on Loko Air unit configuration.

2.9 Now set the ID2 and Frequency, then save the file.

2.10 Unplug the Loko Ground unit.

2.11 On the Loko Ground unit, press and hold the power button until you see the blue light. It means it is ready to connect to the mobile device via bluetooth.

2.12 On the mobile device, open the Loko app, and allow it to enable the bluetooth, and give the necessary permissions. Tap on the settings button, then you should see the Loko Ground Unit from on the device list. Tap on it in order to connect the device. Go back to the main page on the app, wait a little bit, it might take some time for the GPS to find the location on the initial connection. Once it finds it, your location will be shown on the map. You can connect as many devices as you want.

2.13 If you tap on the location icon on the map, device information will pop up.

WARNING

1. Waterproofing: This device is not waterproof. Avoid exposing it to moisture or liquids, as this may damage the internal components and void the warranty.
Always cover the USB port on the Loko Air unit with the USB cap, in order to protect from potential water damage.
2. Fire Hazard: Do not expose this device to open flames or extreme heat sources.
3. Operating Temperature: The recommended operating temperature range for this device is 0°C to 40°C. Operating outside of this range may affect performance and longevity.
4. Charging Voltage: Use only a 5V power source for charging. Using a higher voltage may damage the device
5. Metal Interference: Ensure that both units are not covered with metal or placed near strong sources of electromagnetic interference. Metal objects can obstruct signals and affect functionality.
6. Antenna Placement: Pay careful attention to the placement of the Loko Air unit's antenna. Proper positioning is crucial for optimal signal reception and device performance. It should be positioned maximum upward relative to ground.
7. **Make sure that the Loko Air unit antenna tip is away from children or animals eyes.**