GLOBEL SENSOR MANUAL

Model：BROADBAND

1. Electrical Ratings and Requirements

Product Supply Ratings

Battery: version 1 3V Primary Cell, version 2 3.7V Lithium Polymer cell, version 3 3.0v MnO2 printed battery

WARNING

These procedures should only be performed by trained installation technicians.

Installer must conform to local standards and ordinances as required.

1. **The Manual includes the use of the following Hardware**

- Neosen Gateway *1
- Antenna *1
- 5V Adapter *1
- USB cable *1
- Globetracker Sensor/Tag *6

How to operate the Globetracker tags

For Globetracker sensors <u>(complete samples, 1min interval)</u>:
Press the button

When the tags are powered on there is a buzz for 3s and LED will blink for 10s.

2. Setting up the GW

1 Connect the antenna to the Gateway
2 Place the sniffer in the area to be monitored
3 Power on the sniffer
4 Connect the sniffer to your WIFI. See instructions
5 Locate and check the sniffer log files. See instructions

- **Step 4 Config the WIFI network on the Gateway:**

1) Power on the Gateway and wait for one minute, you will see a WIFI hotspot "NeosmartAP" on your computer.

    Connect to this hotspot with password: **neosmart**

    **The WIFI hotspot has a timeout for about 2 minutes once it shows up. After the timeout LoRa stack will come up. The WIFI config will be dismissed and the hotspot will disappear.

    **You only need to set up WIFI once for the Gateway
    **WIFI names with single ('), double (") and French (<>) quotes are not supported, please change the WIFI name first

2) Open the browser, go to

Wi-Fi Settings

Line 1
Neosmart Cloud

Network List

WIFI name ⇨   Line 2
The Stage Door

Password ⇨   Line 3
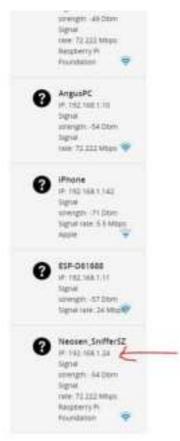Enter Network SSID

submit

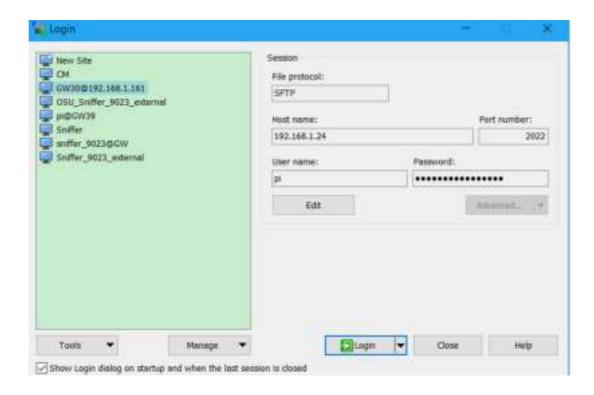[192.168.1.10](192.168.1.10) for WIFI setup.
There are 3 lines in the page:
- Remain default in Line 1 (Showing 'Neosmart Cloud' in the picture)
- Select the WIFI for the sniffer in Line 2 (Showing 'The Stage Door' in the picture)
- Enter WIFI password in Line 3 (Showing 'Enter Network SSID' in the picture)
- Click 'submit'
- (Click 'Refresh List' if the list of WIFI hotspots don't show up)

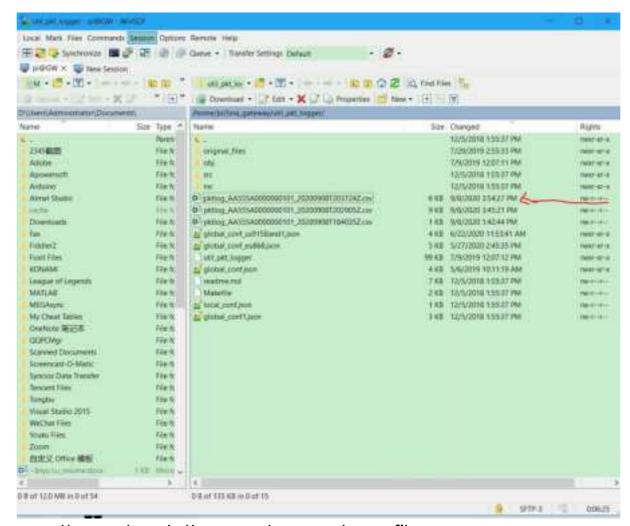## • Step 5 locate and check the Gateway log:

1) Once NeosmartAP disappears the sniffer connects to the wifi assigned. Go to the local router and check the ip address of the sniffer. The name of the sniffer is "Neosen_SnifferSZ"

2) Use any terminal emulator that supports SSH to log into the sniffer. The example below uses **WinSCP**.
- Username: pi
- Password: raspberry
- Port#: 2022

3) Go to
/home/pi/lora_gateway/util_pkt_logger,

then check the most recent csv file
You can check via the last changed time of
the file or the time (UTC) on the file name.
(…20200908T203742Z.csv)

Find the LoRa packet from the Gateway log

Due to the noise, there may be a lot of lines of
data in the log csv file. Below are some tips of
how to keep track of the data.

- Filter out all CRC bad packets
- Check the lines with dev_addr:
  27005C24(US915_#1) 27005C08(US915_#2)

2. Sensor Specifications

NEO
SMART

Radio	LoRa Class A
Battery	45mA/Hr Thin Film Zn-MnO2
Antennae	Wideband 0.75-1Ghz 0dB min
Power	+14dBm
IP Rating	IP67
Activation	Button

Battery Option 1

Shelf life	6 months
Cycle life 1 Month Storage 25C	15000 transmissions
Cycle life 3 Month Storage 25C	14000 transmissions
Cycle life 6 Month Storage 25C	13000 transmissions
Cycle life 1 Month Storage 10C	15000 transmissions
Cycle life 3 Month Storage 10C	14500 transmissions
Cycle life 6 Month Storage 10C	14000 transmissions

Battery Option 2

Shelf life	6 months
Cycle life 1 Month Storage 25C	5000 transmissions
Cycle life 3 Month Storage 25C	4000 transmissions
Cycle life 6 Month Storage 25C	3000 transmissions
Cycle life 1 Month Storage 10C	5000 transmissions
Cycle life 3 Month Storage 10C	4500 transmissions
Cycle life 6 Month Storage 10C	4000 transmissions

Shelf life   6 months
Cycle life 1 Month Storage 25C   15000 transmissions
Cycle life 3 Month Storage 25C   14000 transmissions
Cycle life 6 Month Storage 25C   13000 transmissions
Cycle life 1 Month Storage 10C   15000 transmissions
Cycle life 3 Month Storage 10C   14500 transmissions

90 day cycle use case
1. Log 15 minutes, Transmit 1 hour interval
   a. 2160 transmissions

Compliance

FCC Warning

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

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:
(1) This device may not cause interference.
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(1) L' appareil ne doit pas produire de brouillage;
(2) L' appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d' en compromettre le fonctionnement.

CE Warning

This device was tested for typical body-worn operations. To comply with RF exposure requirements, a minimum separation distance of 0mm must be maintained between the user's body and the handset, including the antenna. Third-party belt-clips, holsters, and similar accessories used by this device should not contain any metallic components. Body-worn accessories that do not meet these requirements may not comply with RF exposure requirements and should be avoided. Use only the supplied or an approved antenna.

This device in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. All essential radio test suites have been carried out.

1. CAUTION : RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.
2. The device complies with RF specifications when the device used at 20mm form your body.