Nasal Holter User Manual

Firmware version: 1.9.1 (August 2025)

This manual includes information on your newly purchased Nasal Holter. Please take a few minutes to read this manual including the step-by-step instructions to help you get started. Please read and understand all the safety instructions before using your product. If you have any questions about this product or how to use it, visit us at www.snifflogic.com

Overview

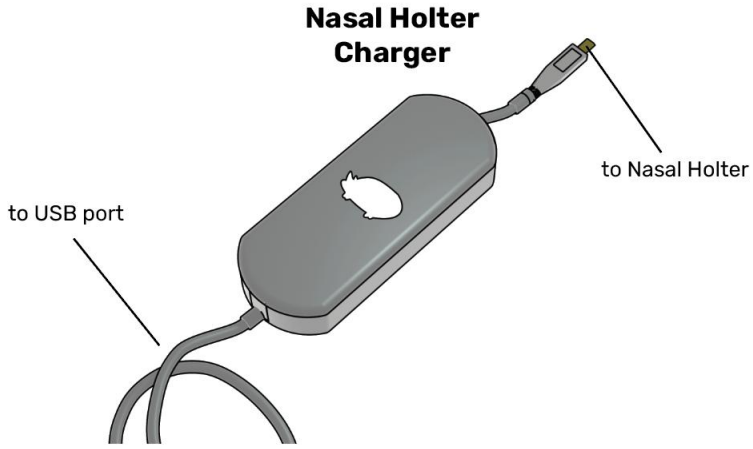
The Nasal Holter converts nasal and oral airflow to electrical signals through a pressure probe placed at the nostrils and mouth. The Nasal Holter is battery-powered and can display data in real time via apps or alternatively, log and store data on its onboard memory for prolonged periods without user interaction.

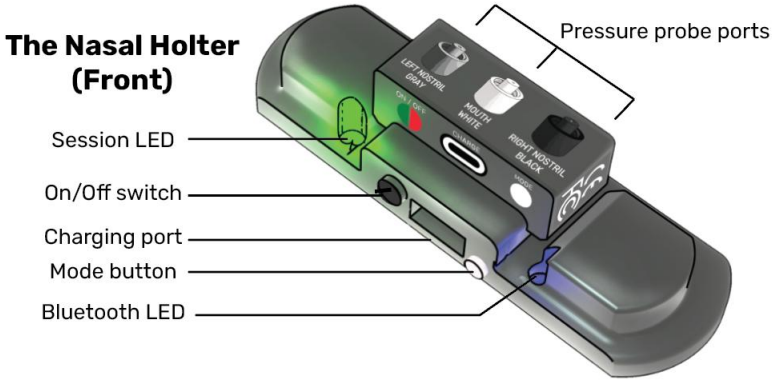
Accelerometry data is obtained in sync with respiration to derive motion, posture and stride.

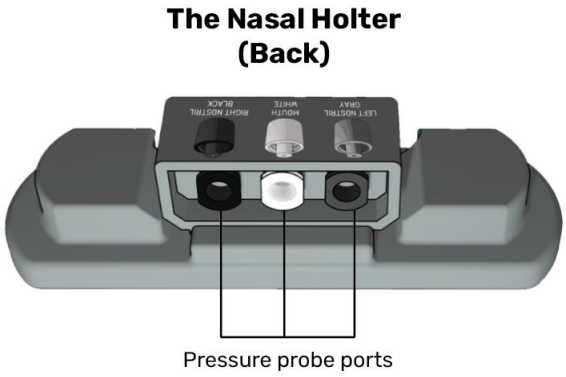
The Nasal Holter is paired with the Sniff Science software (Laptop/Desktop computer running Windows/macOS (Windows 10 and later or macOS 13 or later). **A cross-platform mobile device app is expected to be completed in Q1 2026.**

What's in the box?		
Part	Model	Quantity
Nasal Holter	NH1	1
Charger	HC1	1
Pressure probe extension	PPE1	1
Placement sticker	-	5
Securing sticker	-	5
Carrying bag	-	1

Know the Nasal Holter:







Charging the Nasal Holter:

Note: Charge your device only when it is off and not during a scheduled recording.

1. Connect the charger to a USB power source (5V). The LED will turn solid blue.
2. When connected, the LED on the charger will immediately turn red.
3. As the device charges, the LED will increasingly flash blue.
4. When charging is complete, the LED will return to solid blue.

The order of actions for starting a recording involves the following steps:
Charging → Set up → Pressure probe fit to participant's nose → Placing the Nasal Holter on the participant's nape of the neck → Control Nasal Holter via software/app

Setting up the Nasal Holter:

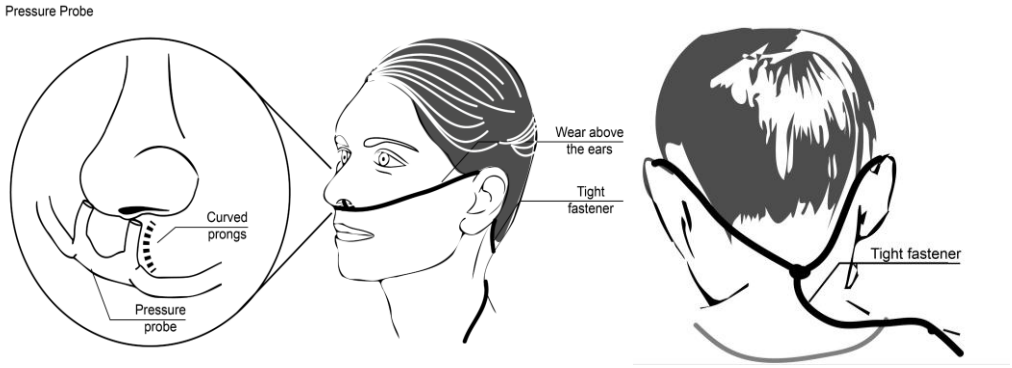
1. Depending on your pressure probe type (e.g., PP1, PP2) connect the pressure probe to the relevant ports on the Nasal Holter. Pay attention to the color guide and text on stickers and match the Luer locks to the ports on the device.
   Note: PP1 pressure probes record nasal respiration from each nostril separately. PP2 pressure probes have the added ability to record signals from the mouth.
2. Turn on your device by flicking the protected on/off switch.

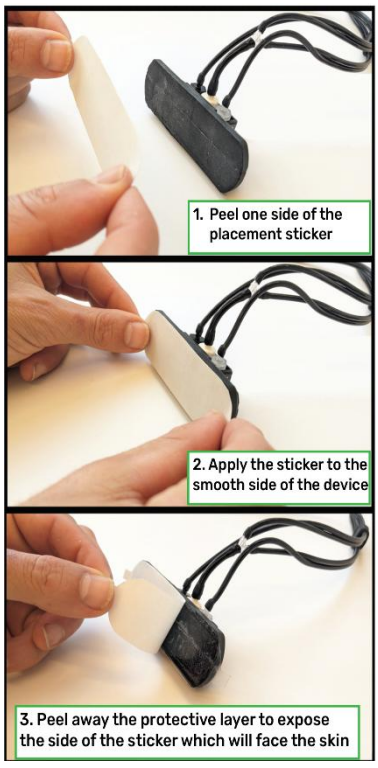
Wearing the pressure probe:

Note: Short experimental sessions do not require placing the Nasal Holter on the participant. You may choose to place the Nasal Holter near your participant similar to other non-wearable scientific instruments. Use an extension cord to add length to the pressure probe's tubing.

Please refer to the short video clip in the QR code for instructions (the video is also at: https://www.snifflogic.com/usermanual-1).

i. Open the pressure probe bag.
ii. Firmly attach the pressure probe to the Nasal Holter's airflow ports.
iii. Loosen the fastener to widen the pressure probe.
iv. Hold the pressure probe such that the nosepiece is facing the participant and the prongs' curves are facing their nostrils. Place the nosepiece under the nose, as close as possible to the nostrils. Note that the prongs are curved to fit the shape of the nostrils
v. Still holding the nose piece, move your fingers along the tubes to place both sides of the tubes above the participant's ears, the same way you would wear glasses. The tubes should then extend behind the ears to the back of the head.
vi. Use both hands to tighten the fastener behind the participant's head: One hand should draw the probe tube back while the other hand will move the fastener closer to the head.





Applying the placement sticker:
Placing the Nasal Holter on the skin:
Ideally, the device should be placed on the nape of the neck. You should verify that the device was not placed in an area subject to movement (head turns etc.). Generally, this area is somewhat below the collar of a typical T-shirt.
Next, use the securing sticker to cover the Nasal Holter.

Understanding the Nasal Holter's LED behavior:
Waiting for pairing:
Bluetooth LED flashes every 2 seconds (device is visible for Bluetooth pairing).
Note: If not paired, the device will stop this after 3 minutes and will enter sleep mode. This will be indicated by 2 brief red flashes on the Bluetooth LED. To wake up the device, press the 'wake' button
Paired, waiting to begin recording: Bluetooth LED is solid blue.
Paired and recording: Bluetooth LED is solid blue, session LED (green) flashes every 2 seconds.
Performing a scheduled recording ('on device'): Session LED (green) flashes every 2 seconds. The Bluetooth LED will remain on for some time and then automatically turn off. This is normal.
Firmware update: Bluetooth LED is solid red.

Shutting down up the Nasal Holter:
To shut down the device, simply flick the on/off switch back to the ‘off’ location. The device will immediately turn off.
Note: Data is being accumulated and saved to on-board memory every 1 minute. Accidentally turning off the device mid-experiment will **not** erase all data, but **you will lose** the last minute of recording.

Product Specifications:
- Product name: Nasal Holter
- Model: NH1
- Dimensions: 95 X 30 X 25 mm
- Weight: 42 gr
- Input Ratings: external power 5Vdc 15W Max
- Operating temperature: 0℃ (32℉) - 40℃ (104℉)
- Connectivity: mini HDMI for charging, Bluetooth BLE for data transmission.

Safety:
General:
- The Nasal Holter is not a medical device and is not designed or intended to be used for monitoring, diagnosis or treatment of any disease.
- Use only safety approved AC/DC adapter or other DC source which is certified to IEC/EN/UL 62368-1 or IEC/EN/UL 60950-1.
- Keep the device out of reach of children and pets.
- Dispose of the device properly according to local regulations.
- If you experience any discomfort or irritation while using the device, stop using it immediately.
- Do not attempt to disassemble or repair the device.
- The Nasal Holter is not water-proof.

Pressure probe:
- The pressure probe is not a medical nasal cannula.
- The pressure probe is not intended for the delivery of gasses.
- No unsupervised use under the age of 14 - risk of strangulation.
- For individual use only, do not share.

Troubleshooting:
If you experience issues with your device, check these points before contacting us:

Q: Do I need to charge the Nasal Holter?
A: Yes. The Nasal Holter is battery-powered, it needs to be recharged periodically using its dedicated charger.

Q: My device does not turn on.
A: Make sure the on/off switch is flicked, if needed use a tipped-edge tool such as a pencil.

Q: My device is on but cannot connect to other devices
A: Make sure Bluetooth is enabled on your computer / phone. Note: Do not attempt to pair the Nasal Holter via the device's general Bluetooth connectivity menu (like you would normally do for earphones etc.). It will show up, but will not work. It must be paired through its dedicated app.

Q: I don't see the respiratory signal I wanted to record/ signal is very low
A: Make sure you tighten the Luer locks and match the correct pressure probe ports to their corresponding sensors on the Nasal Holter.

Maintenance:
Q: How do I store my Nasal Holter for a long-term storage?
A: Before long-time storage, fully charge the device. During storage, the device must be periodically charged every three months in order to preserve battery health.

Q: How can I clean my Pressure Probe?
A: If you have access to pressurized air or oxygen, you can place your pressure probe in boiling water, and then dry it thoroughly by blowing air or oxygen through it for several minutes. If you do not have access to pressurized air or oxygen, do not place your pressure probe in water, as it will be very hard to dry it afterwards. Instead, use an alcohol swab to clean the nasal prongs, and then let dry. Always store your pressure probes in a clean and dry place, and not in a plastic bag.

Q: My clear pressure probe turned yellowish, is that normal?
A: Yes, clear medical-grade silicone can obtain a yellowish tint when left in the sun. This is not a cause for concern