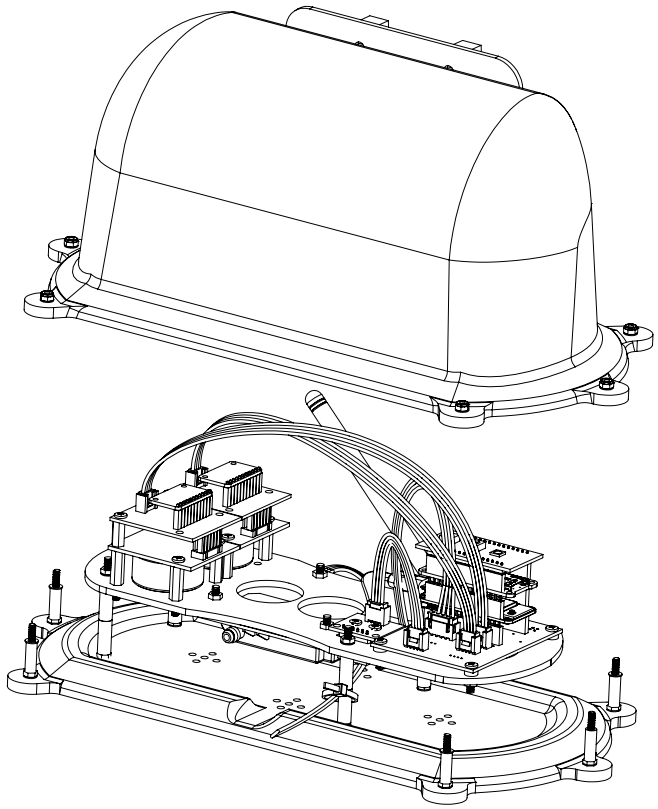
# HOLUkit

BASIC

EXTENDED

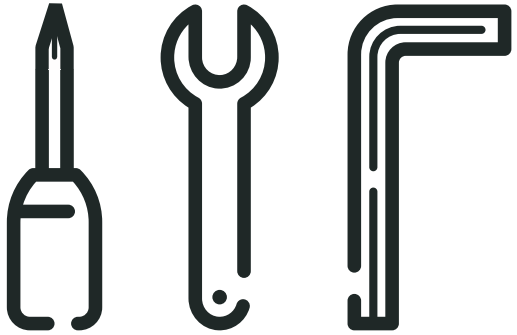
## Assembly and Installation Manual



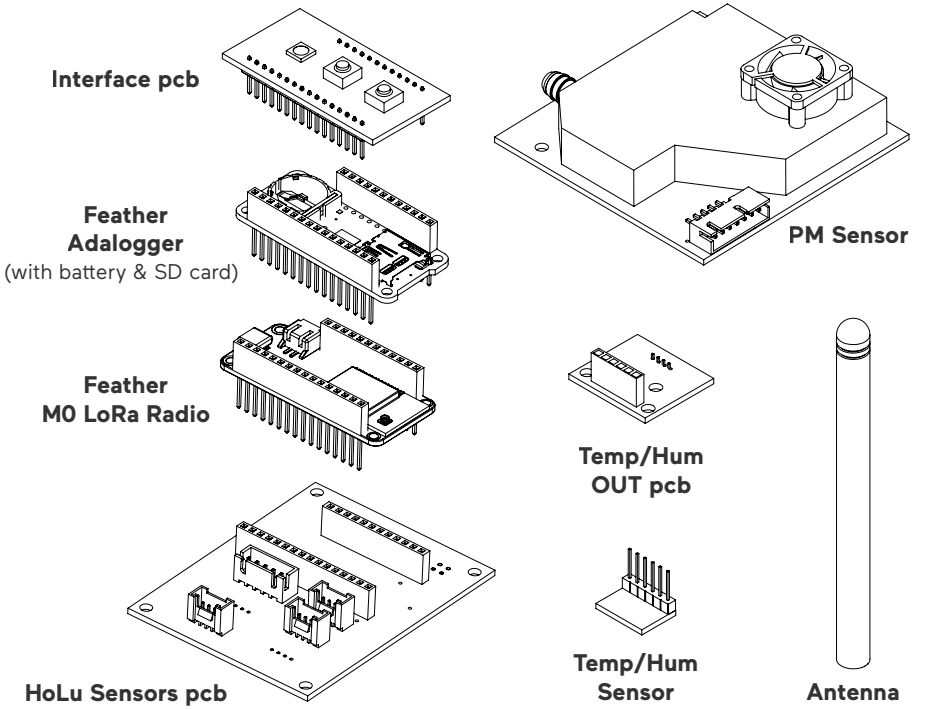
Provincie Noord-Holland

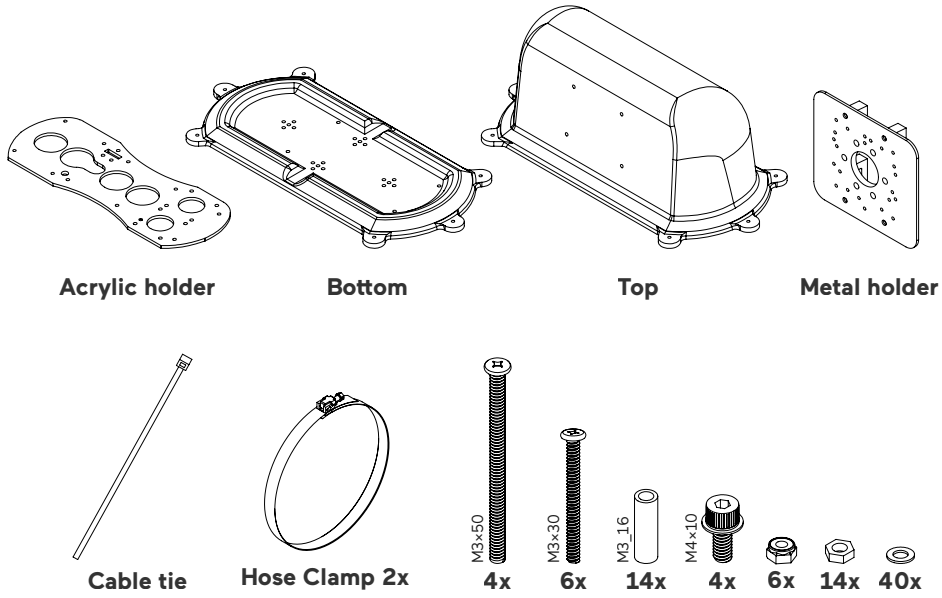
waag

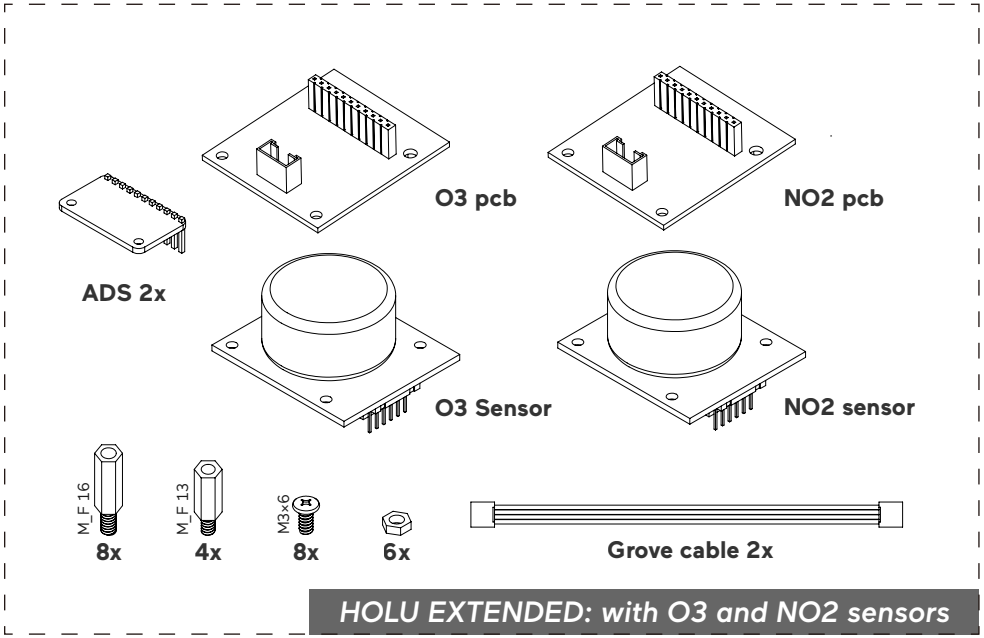
hollandse luchten



# PART LIST

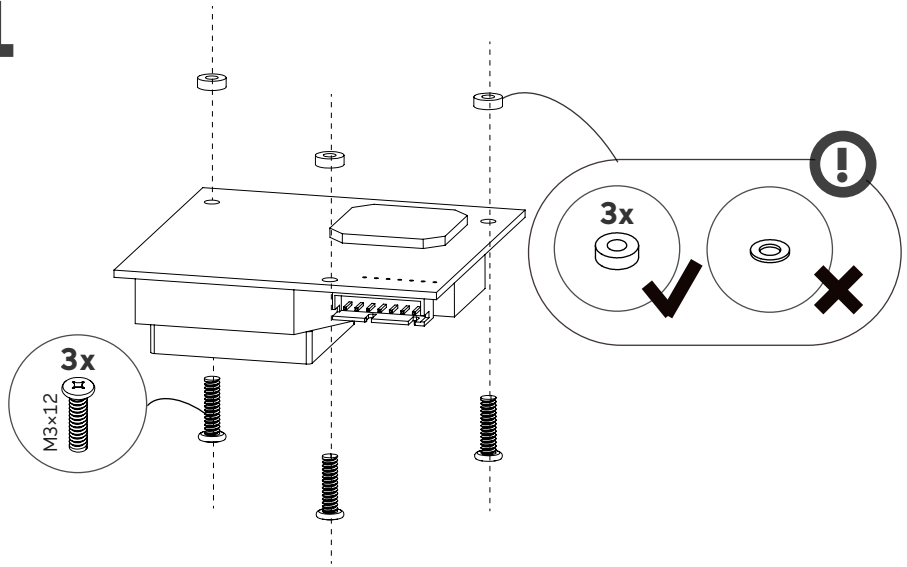

Interface pcb
Feather
Adalogger
(with battery & SD card)
Feather
M0 LoRa Radio
HoLu Sensors pcb
PM Sensor
Temp/Hum
OUT pcb
Temp/Hum
Sensor
Antenna
USB cable
USB Adapter
SD card
Adapter
led
covering
sticker
PM cable
M3×12
9x
9x
9x
Grove cable


Acrylic holder
Bottom
Top
Metal holder
Cable tie
Hose Clamp 2x
M3×50
4x
M3×30
6x
M3_16
14x
M4×10
4x
6x
14x
40x


ADS 2x
O3 pcb
NO2 pcb
O3 Sensor
NO2 sensor
M_F 16
8x
M_F 13
4x
M3×6
8x
6x
Grove cable 2x
HOLU EXTENDED: with O3 and NO2 sensors

**BASIC**

## 1

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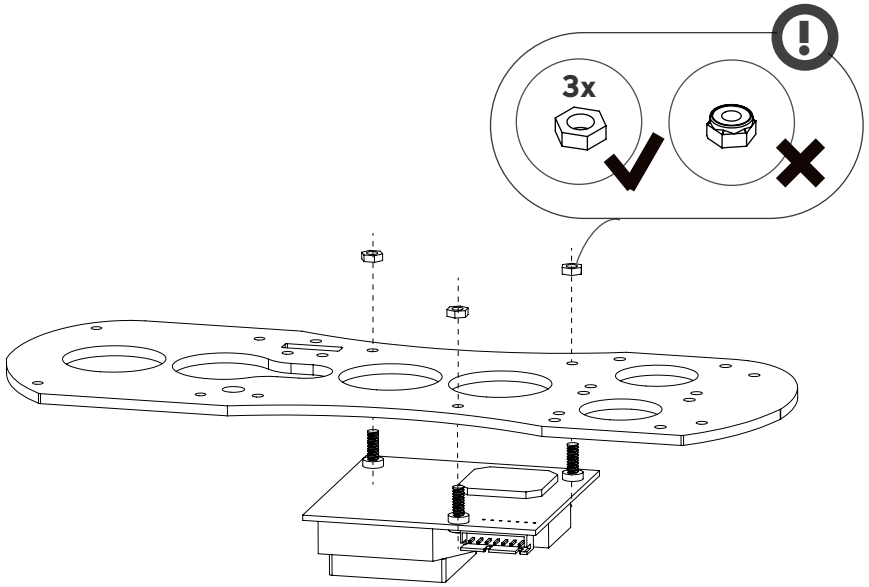
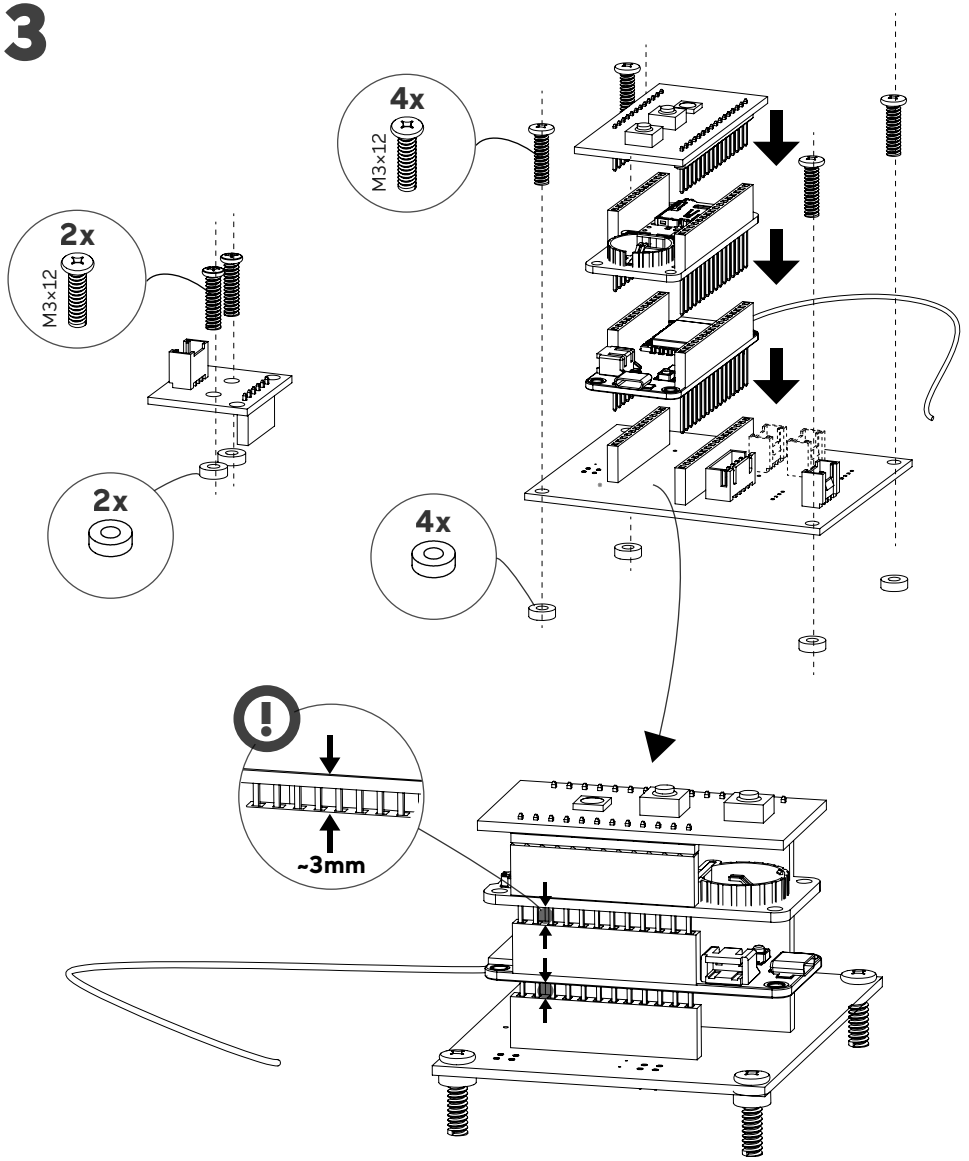
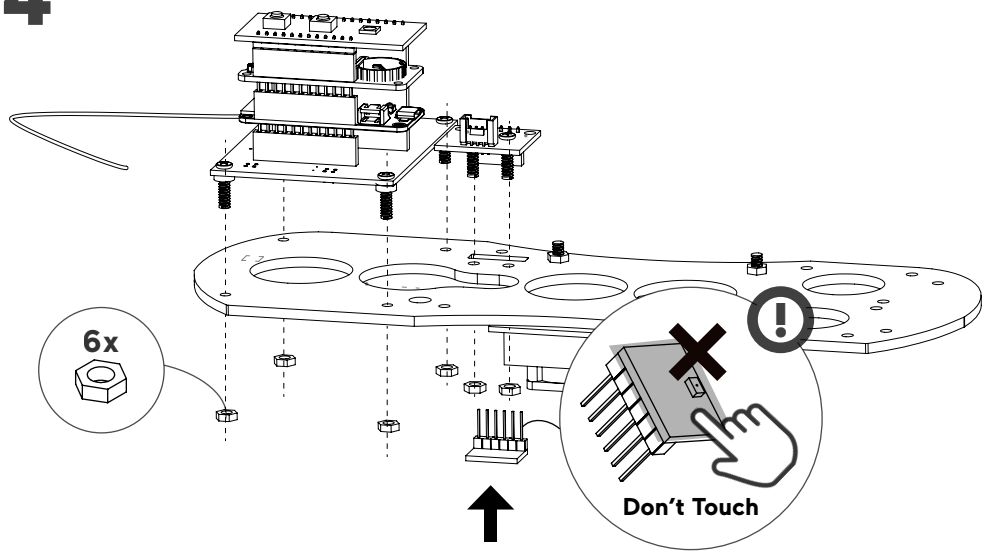


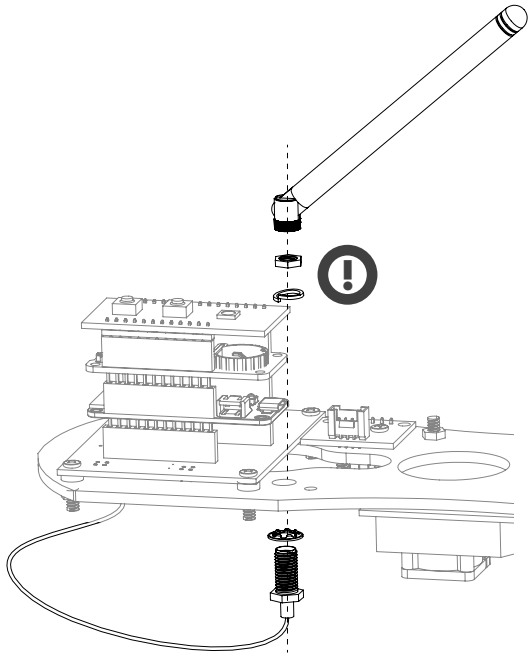

## 3



## 4




## 5



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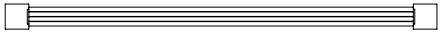
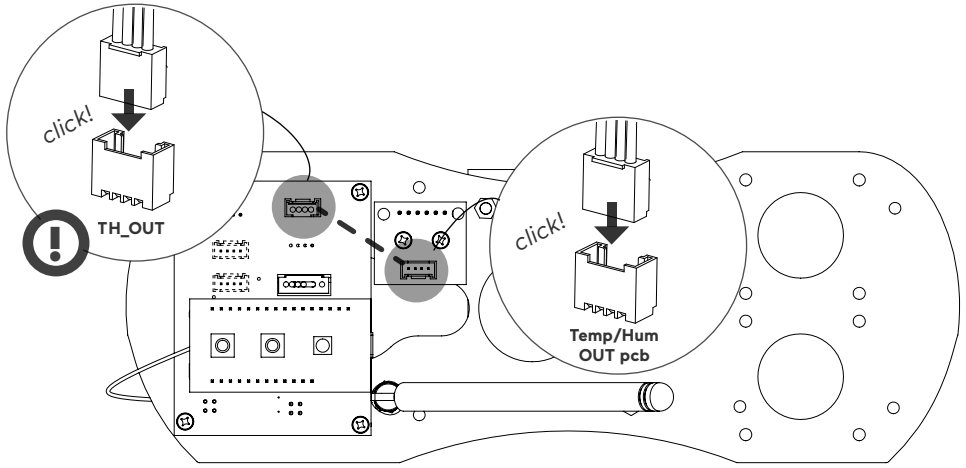
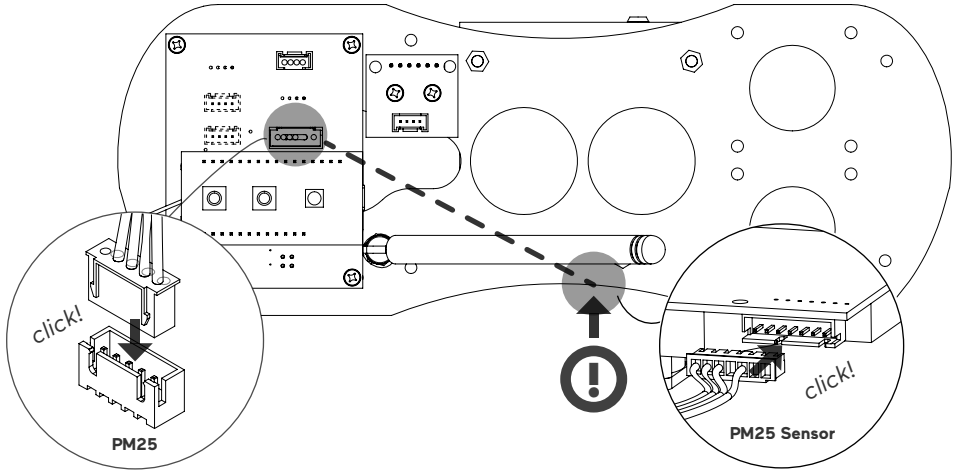


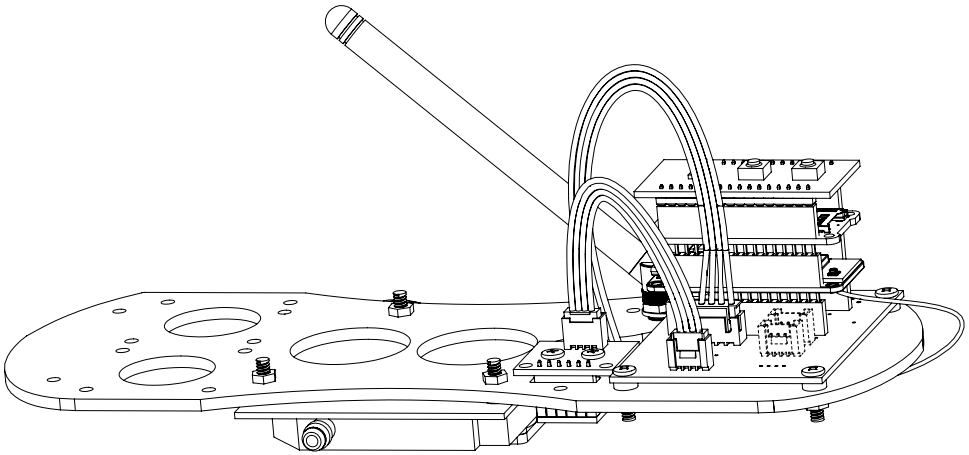
Grove cable 1x




## 7

PM cable 1x





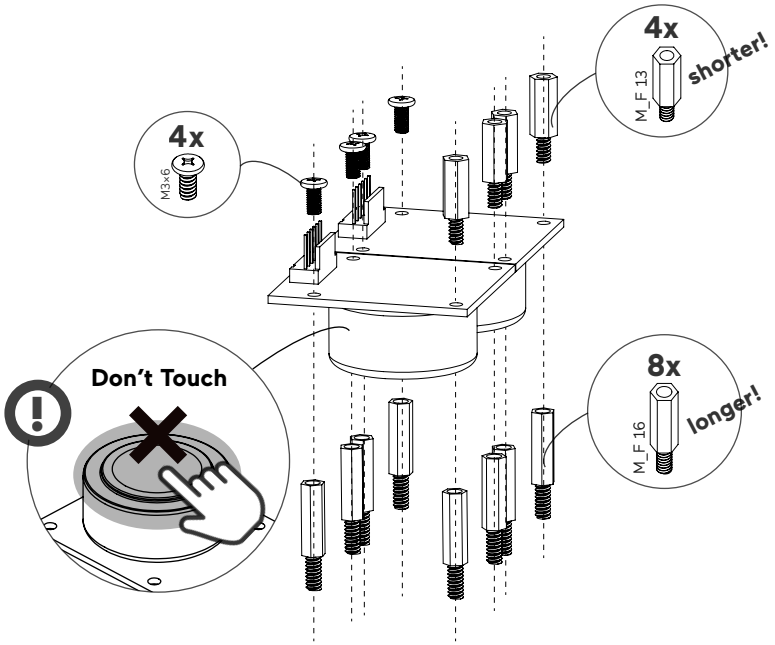
**- HOLU BASIC -**

**Have HOLU BASIC? Go to** ENCLOSURE

**Have HOLU EXTENDED? Continue with** EXTENDED

## EXTENDED

**1**

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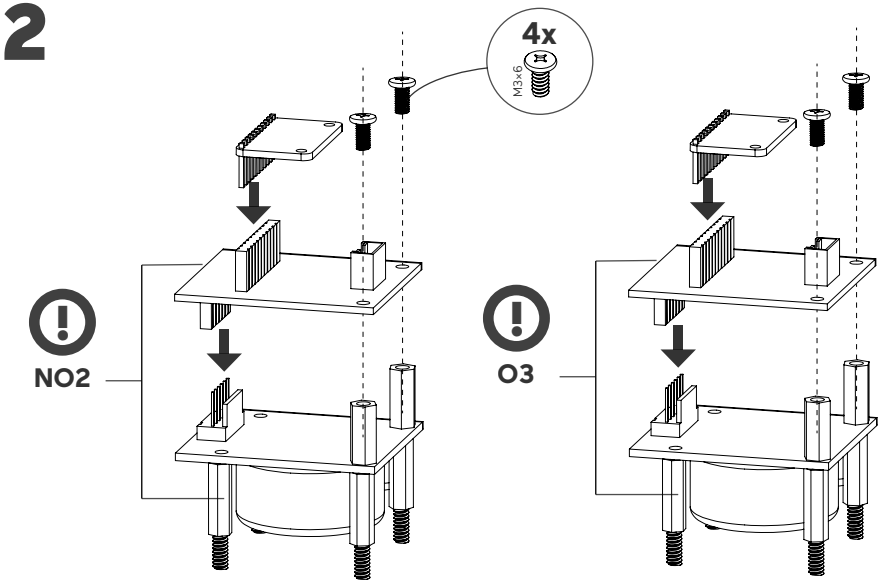

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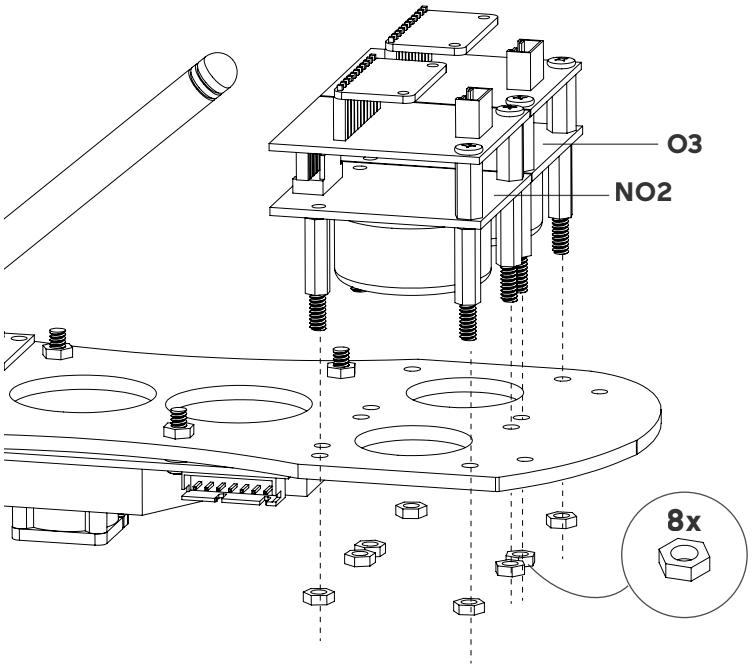
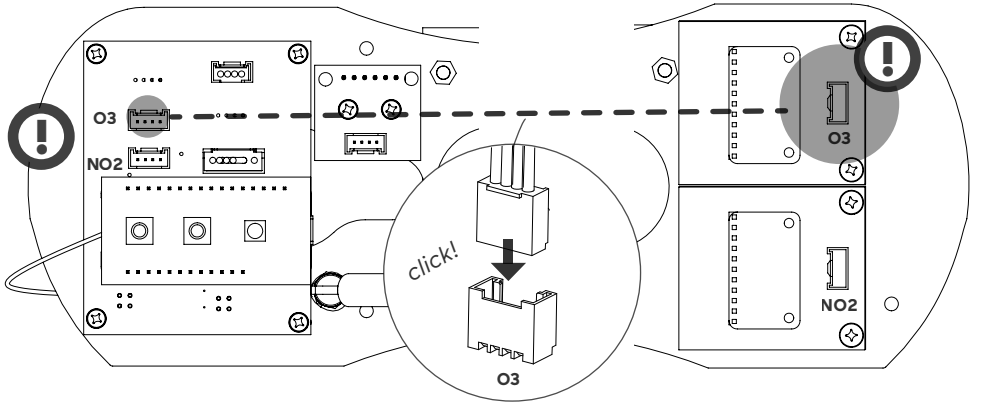


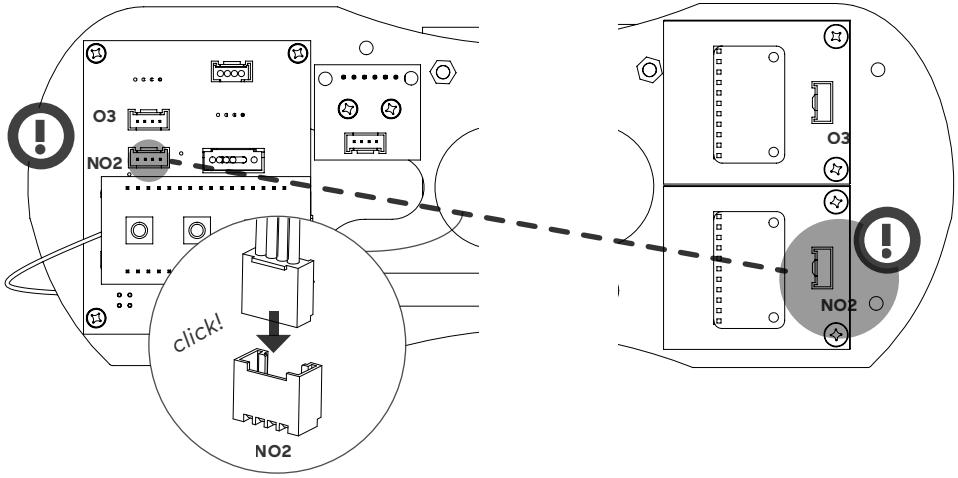

## 5

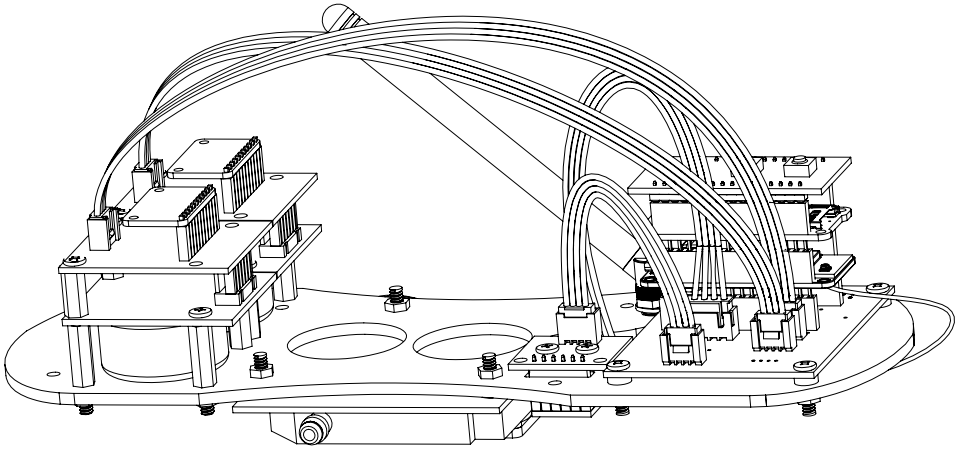
Grove cable 1x




## 4

Grove cable 1x

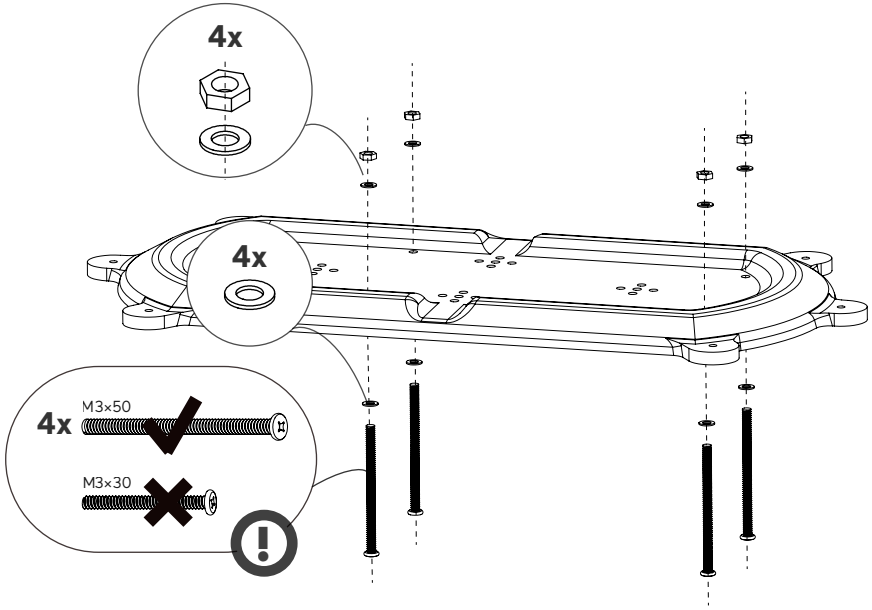


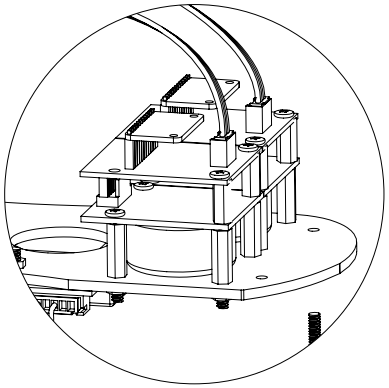



**- HOLU EXTENDED-**

## ENCLOSURE

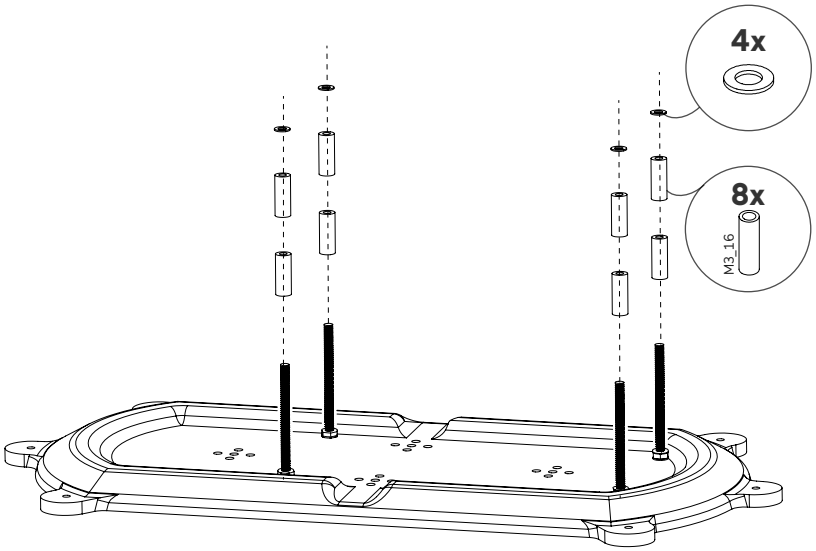
**1**



**The NO2 and O3 sensors are for extended kits.**

**2**

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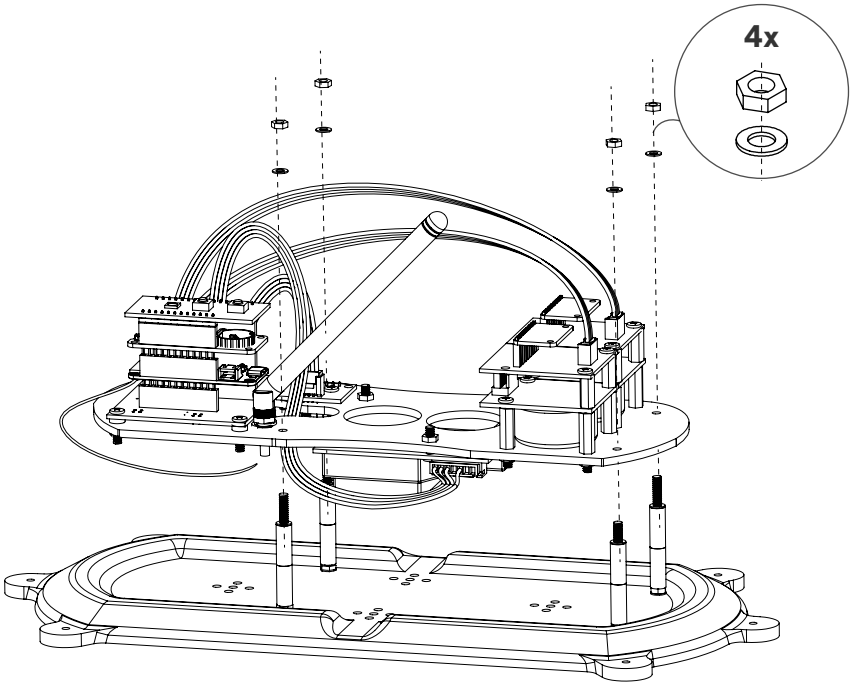

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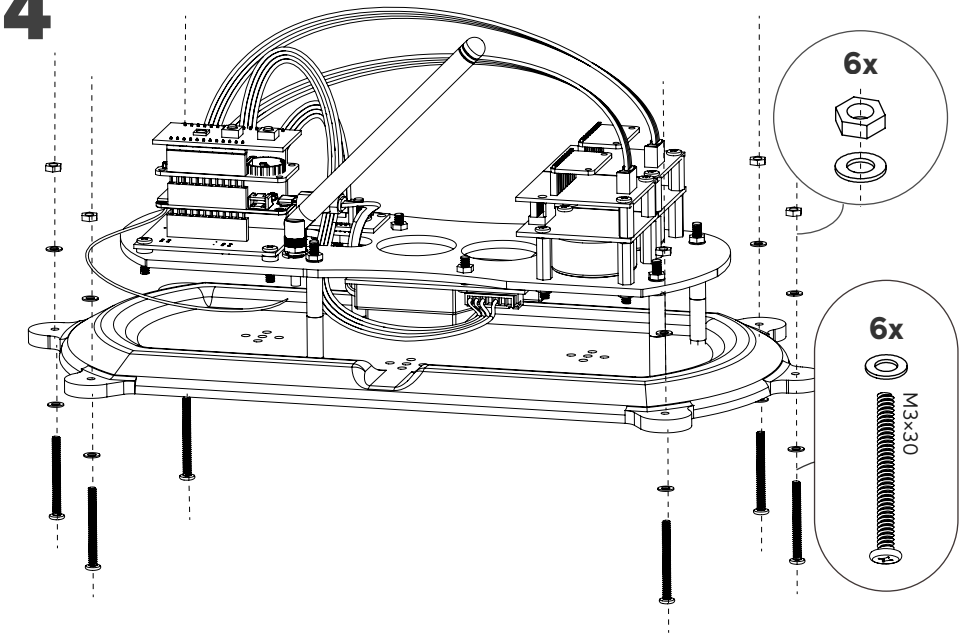
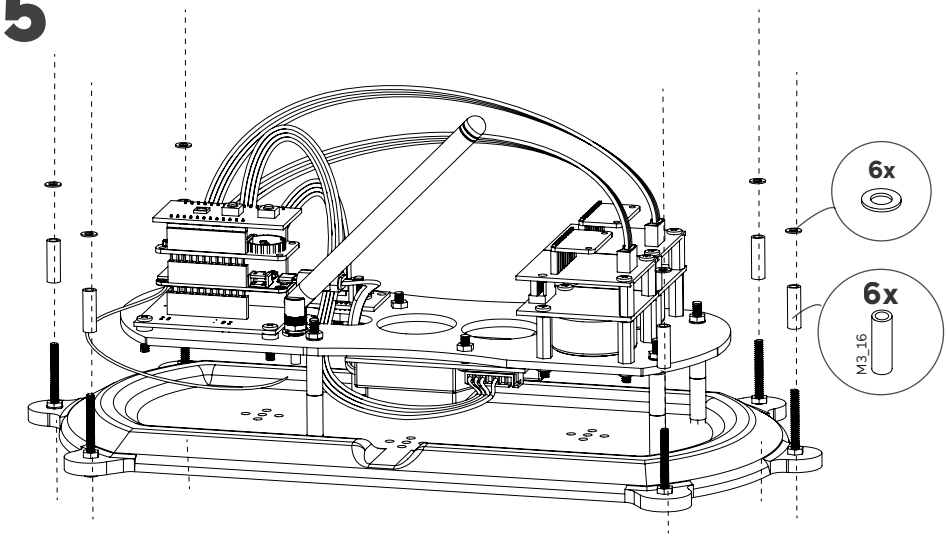
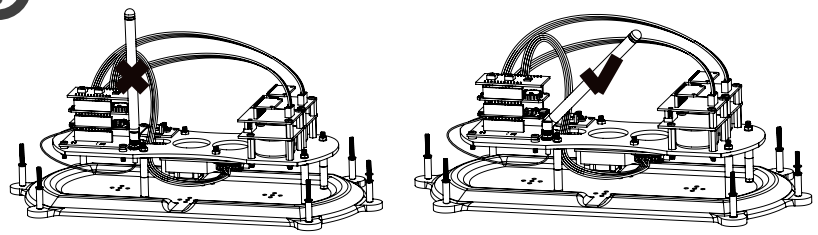
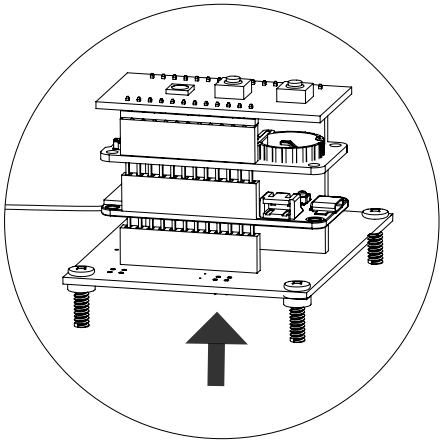



# 5



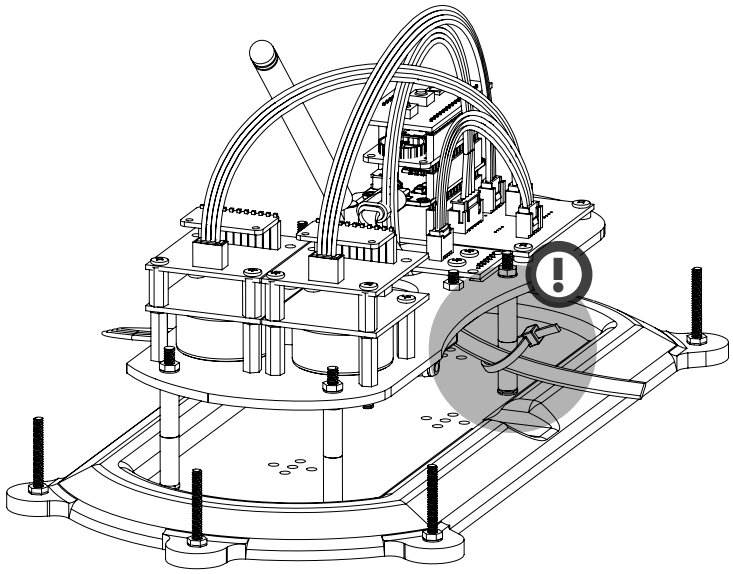


**Find the ID (1-250) of your HOLU kit at the bottom side of the HOLU Sensors pcb and write it down on the page NOTE at the end of this manual.**

**Please check OPERATION in the last folding page before closing the kit.**

## 6

Cable tie



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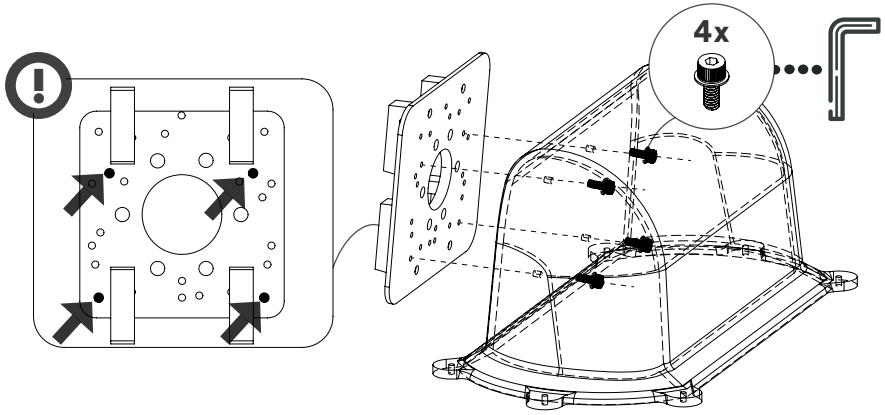
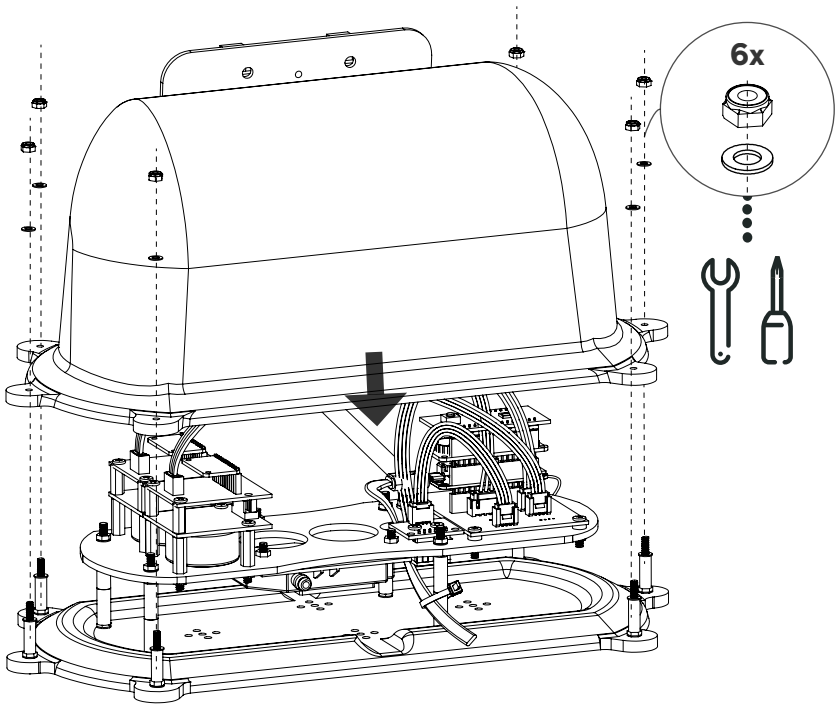
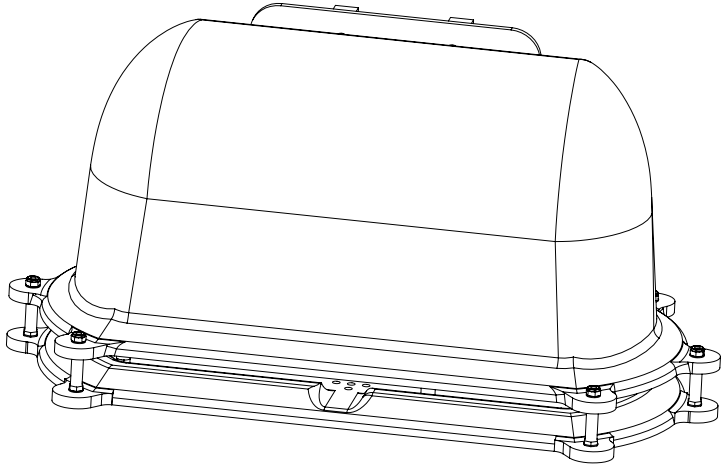


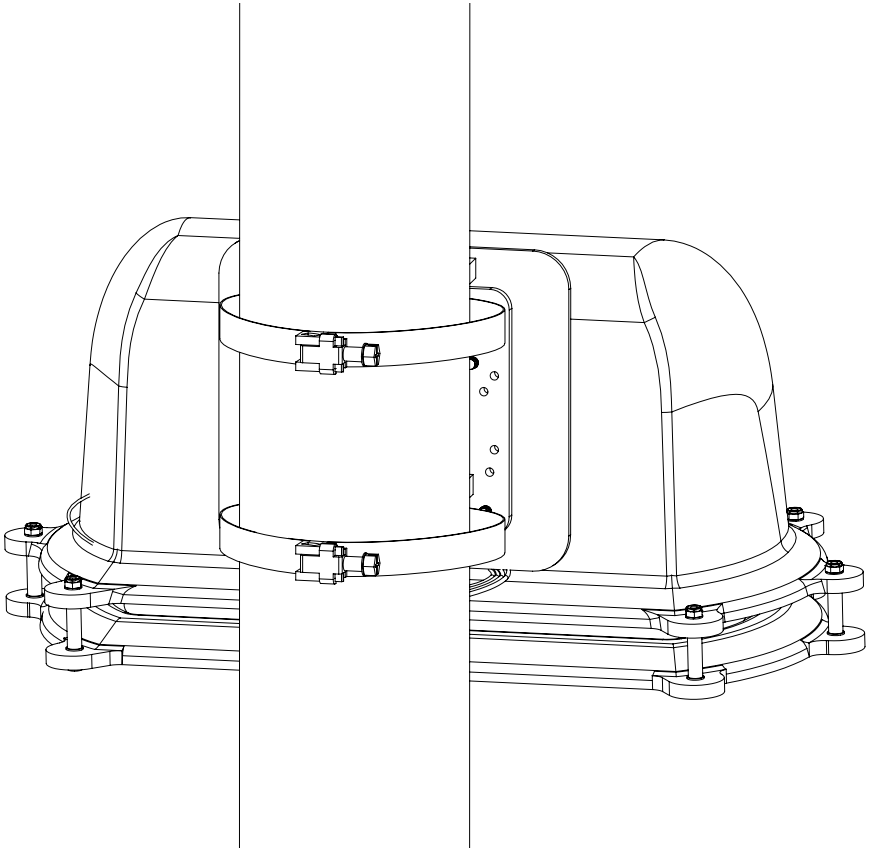

## 8



**- YOUR HOLU KIT-**

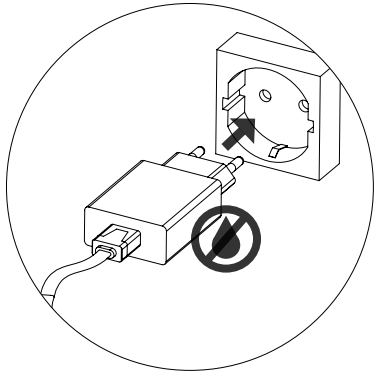
## INSTALLATION



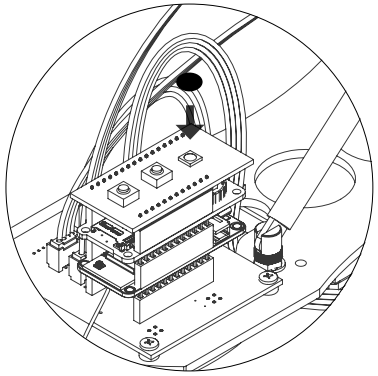
**Suggestion: To instal HOLU kit on the pipe outdoor with provided hose clamps.**

**Do not install in direct sunlight and above water.**

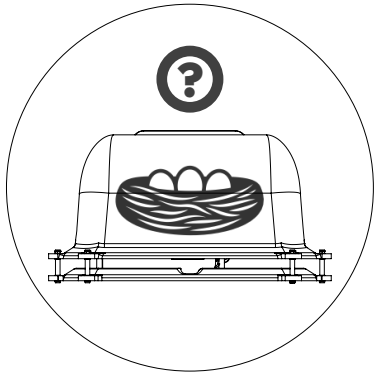
**Install at least 2 meter above ground.**



The USB adapter is not waterproof so it can't be placed outdoor without protection. The easier solution is to plug in the adapter indoor.



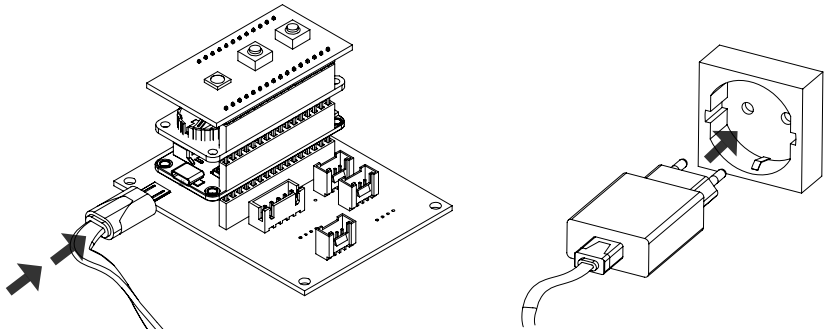
If you would like to hide the light generated by the kit, you can use the black sticker provided with the kit and place it on top of the light.



Every three months you should check if any animals found shelter inside the HoLu kit, clean potential dirt from the enclosure using a dry cloth.

# OPERATION

## 1. Attach the USB cable



## 2. What does the light mean?

### Power ON sequence

○ ***1. White***
HoLu kit is powered and starts to run.

◑ ***2. Blinking blue***
SD card detected

● ***3. Red***
HoLu kit is in registration mode, trying to access the network, and it starts to measure. This can take a few minutes, be patient.

● ***4. Green***
HoLu kit has joined the network and is ready to send the data to the cloud.

### Operation routine

● ***Green***
Holu kit joined the network and is measuring.

◑ ***Blinking blue***
Happens every 3 minutes and it means that the data is saved in the SD card.

◑ ***Blinking Green***
Happens every 3 minutes and it means that the data is sent to the cloud.

**Download the data form our website**
Your HoLu kit is identified by a unique ID, a number between 1 and 250. You can find the ID of your HoLu kit on the bottom side of the green board and on the sticker provided with the kit. To donwload the data from the HOLU kit, follow these steps:

1. Visit the website https://hollandseluchten.waag.org/
2. find your HOLU kit on the map, and click on it
3. In the detailview (graph) click on the button "Download data" and apply the settings you prefer.
4. At this point a file with your data will be downloaded.

**Download the data from the SD card**
You can also get the data of your HoLu kit from the SD Card of your kit. Turn OFF the kit and remove the card from Feather Adalogger module. Using the card adapter in the kit, you can read and download the data on your computer.

# TROUBLE SHOOTING

→ If the registration takes more than 6 minutes, you can unplug and plug in again the kit (disconnect and reconnect the USB cable). If the kit keeps staying in registration mode, with the RED light on, for more than 10 minutes, it means there is no network and you need to contact the support.

→ If the data of your kit is abnormal, for example the temperature shows 0 degrees when it is August, or when the values(temperature, humidity and PM 2.5) stay the same for a few minutes, most probably the kit needs to be reset: unplug and plug again the kit (disconnect and reconnect the USB cable). If still the data of the sensor is abnormal, you need to check the connection, open the enclosure and disconnect the sensors. Be sure it is well plugged in to its connector.

For more information, please visit
https://hollandseluchten.waag.org/data-downloaden/

## NOTE

**The ID of my HOLU kit: _____**

| Date | Event /Air Quality Data |
|---|---|
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| Date | Event /Air Quality Data |
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