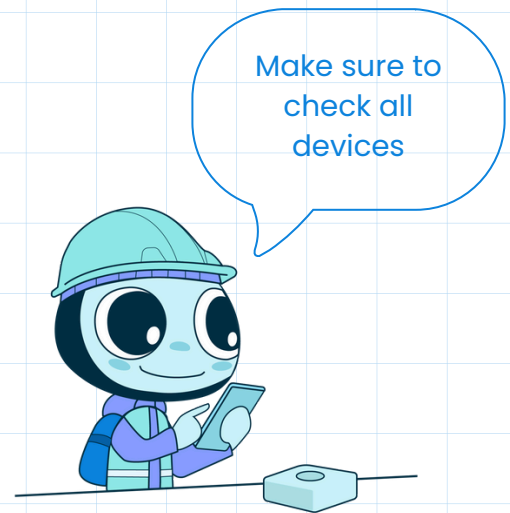




SNOWER

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- 2.1 Snower One - Installation kit
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- 3.1 Snower road (angle) - Installation Kit
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- 4.2 Wind sensor Set-up
- 4.3 Available Snower parts



IMPORTANT

- To start Snower device installation and set up, please download Snower from an app store. Your phone needs a working NFC.
- Make sure you've check the status of all devices before starting installation process by using the **Snower Installation App** !

Download Installation App:



Google play store

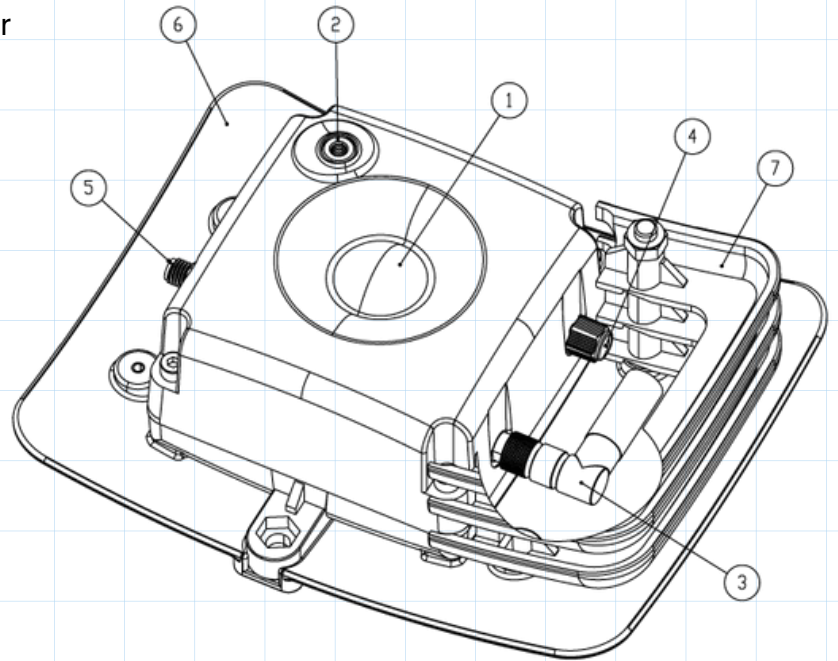


iOS Apple Store

1.1

Snowy One Introduction

1. Radar
2. IR-temperature
3. External probe (humidity, temperature)
4. External thread, wind sensor
5. External thread, external antenna
6. Weather cover / UV cover
7. Weather cover



Tools

Snowy One - Installation kit

- 1x 10mm wrench
- Inclinator

Snowy One - No kit

- 1x 10mm wrench
- Inclinator

Snowy road (angle) - Installation Kit

- 1x 10mm wrench
- Inclinator

Snowy road (angle) - No kit

- 1x 10mm wrench
- Inclinator

Set up with Ext. Antenna

- 1x 10mm socket & ratchet
- Inclinator

Wind sensor set-up

- 1x 10mm socket & ratchet
- Inclinator

1.2

Plan your set-up

Ensure the best possible set-up

Please plan ahead your set-up location and time needed for device installation. If needed, contact support@snower.fi.

Choosing the device mounting location:

The mounting location must reflect the environment of the area as a whole to ensure that the measurement results are interpreted correctly.

- Straight Installation: Sheltered from wind, flat, 2-3m away from objects, such as trees.
 - The area needs to be clear of any objects near radar
- Road/Angled installation: A flat road or measurement area that does not slope away from the device. Make sure the measurement area reaches the road by installing the device as close to the driving lane as possible. Avoid areas where there is a high likelihood of vehicles stopping within the measurement area, for example in traffic congestion.

Surface material:

Snower One device uses radar to measure distance. To ensure quality of the measurement result, we recommend using a hard and dense surface under radar.

Few options for the best results:

- Concrete (for ex. 40cm x 40cm plate)
- Asphalt
- Metal plate
 - White plate is preferred to minimize heat conduction

Tips for Selecting Mounting Brackets:

The installation guide specifies what is included in the package. Any remaining brackets need to be purchased separately by the customer, as installation locations are unique and may vary significantly.

Below are some examples of possible mounting options for attaching the horizontal installation pole to the vertical poles at the installation site:

- Universal bracket
- Band clamp
- Pole mount

Need help? Contact
support@snower.fi



1.3

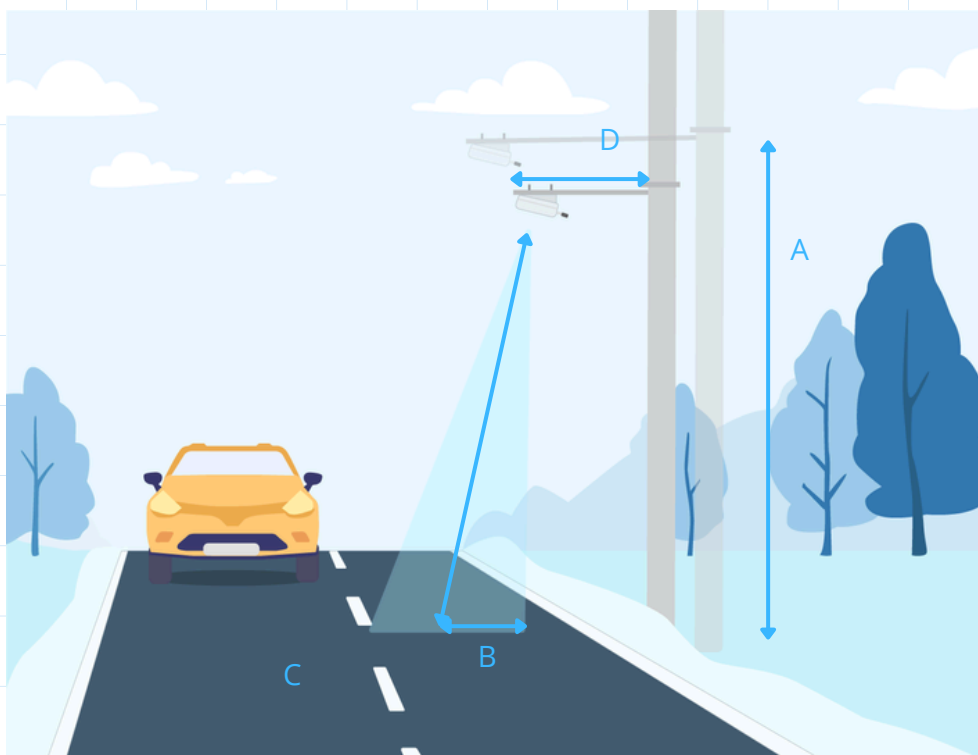
Planning your set-up

Road set-up example table

Total Reach

A	B	C	D	
Height of the device (m)	Measurement Middle point (m)	Size of the measurement area (m)	Arm length (Standard) 0,7m	Arm length (Extended) 1,4m
4.0	1.0	0.8	1.7	2.4
4.5	1.2	0.9	1.9	2.6
5.0	1.3	1.0	<<<<<<	2.7
<u>5.5</u>	<u>1.4</u>	<u>1.1</u>	<u>2.1</u>	<u>2.8</u>
6.0	1.6	1.2	2.3	3.0
6.5	1.7	1.3	2.4	3.1
7.0	1.8	1.4	2.5	3.2
7.5	2.0	1.5	2.7	3.4
8.0	2.1	1.6	2.8	3.5
8.5	2.2	1.6	2.9	3.6
9.0	2.4	1.7	3.1	3.8

Standard

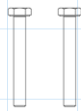


2.1

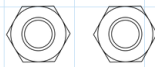
Snower One Mounting Kit

This section is for Snower One installation. Please make sure you have all the parts as well as needed tools and that you have planned your setup beforehand.

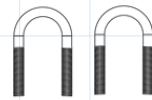
Included:



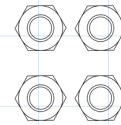
2X M6x45



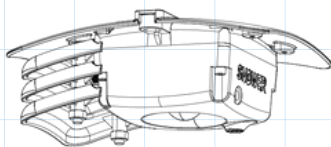
2x M6 Lock nut



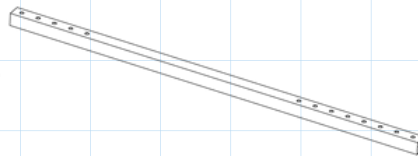
U-bolt 32mm



4x M6 Lock nut



Snower One



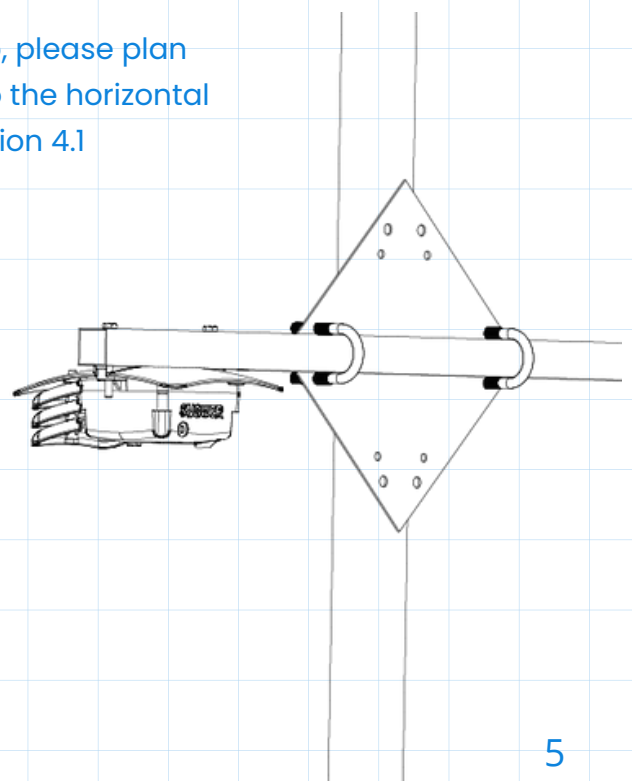
Horizontal
pole



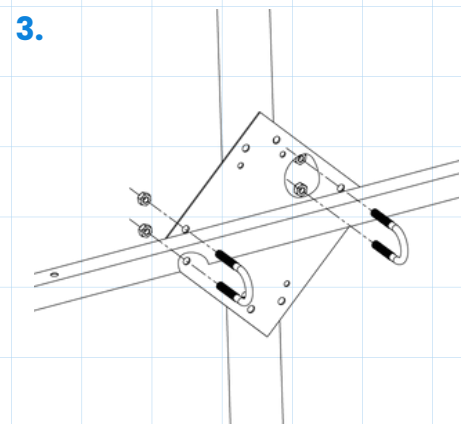
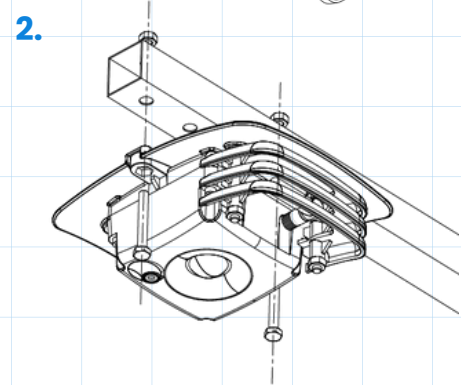
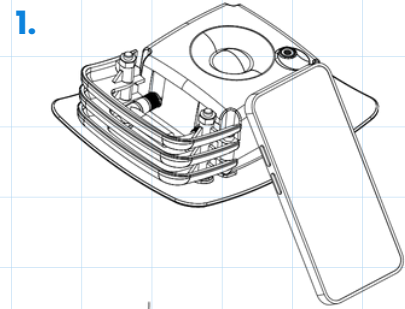
Mounting plate

Notice! Before starting installation and set-up, please plan ahead how you will attach the vertical pole to the horizontal pole. Some examples can be found from section 4.1

Make sure
to check all
devices



1. Activate device using NFC with the Snower Installation app (this can be done before heading to the field).
 - NFC-chip is located as in the picture.
2. Insert M6x45mm screws through the shade and horizontal pole. Tighten lock nuts above the pole (picture 2.)
 - If your set-up includes an external antenna and/or wind sensor, see sections 3.1, 3.2 and/or 3.3 before you continue.
 - It's recommended to have the device at the end of the pole, with the external antenna more inside. The wind sensor can be set up at the other end of the pole.
3. Set pole between U-bolts and plate (picture 3.), and tighten with lock nuts on the other side.
 - You can find [Best practices page](#) (section 1.2) for horizontal set up.
4. Follow instructions given in the installation app and calibrate device.
 - The app informs when the calibration is ready. If there is an error with calibration, fix the set-up with given information and re-calibrate.
5. Calibration is successful, and the device is ready to use.

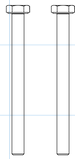


2.2

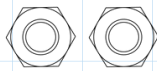
Snower One No Mounting Kit

This section is for Snower One installation without a mounting kit. Please make sure you have all the parts and that you have planned your setup beforehand.

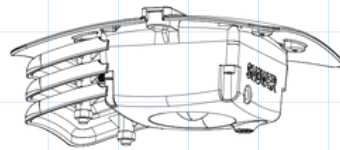
Included:



2x M6x45



2x M6

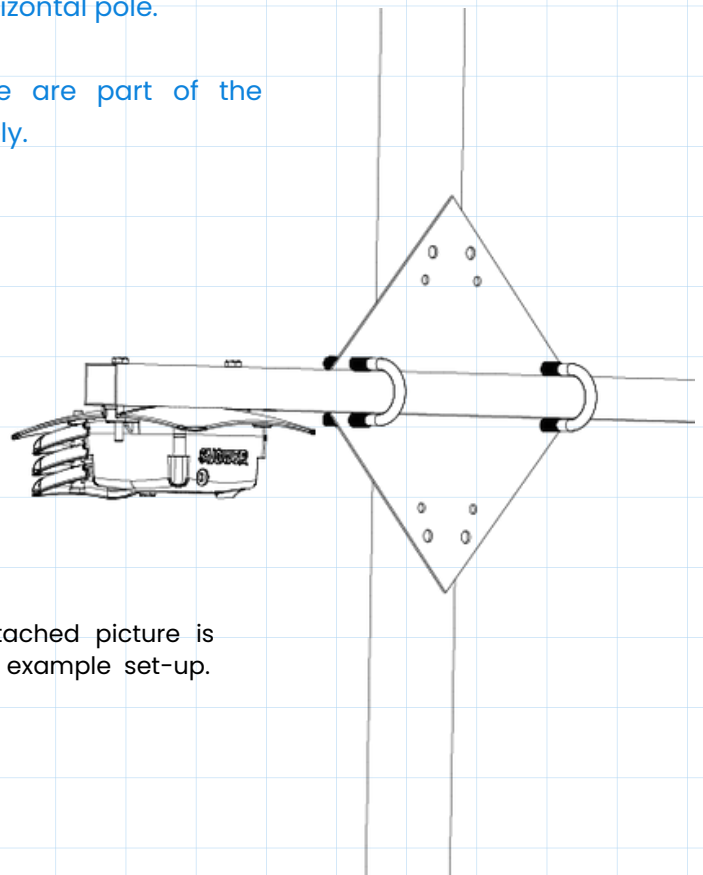


Snower One

Notice! Before starting installation and set-up, please plan ahead how you will attach device above the measurement area. The device can be attached to a horizontal pole.

*All the parts including horizontal pole are part of the mounting kit. Mounting kit is sold separately.

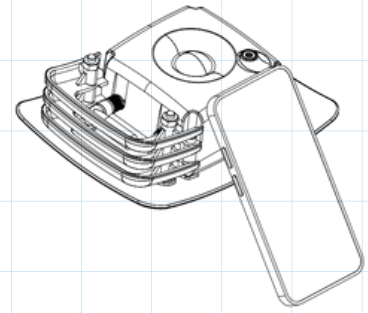
Make sure to
check all
devices



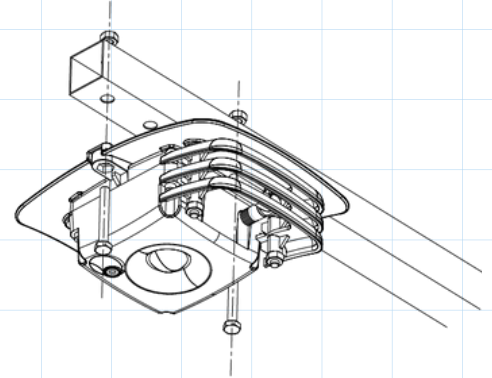
Attached picture is
an example set-up.

1. Activate device using NFC with the Snower Installation app (this can be done before heading to the field).
 - NFC-chip is located as in the picture.
2. Insert M6x45mm screws through the shade and horizontal pole. Tighten lock nuts above the pole (picture 2.)
3. Follow instructions given in the installation app and calibrate device.
 - The app informs when the calibration is ready. If there is an error with calibration, fix the set-up with given information and re-calibrate.
4. Calibration is successful, and the device is ready to use.

1.



2.

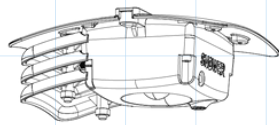


3.1

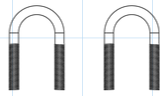
Snower Road (Angle) Mounting kit

This section is for Snower road (angle) installation with a mounting kit. Please make sure you have all the parts and that you have planned your setup beforehand.

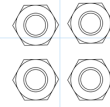
Included:



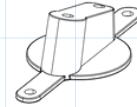
Snower One



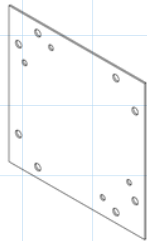
2x U-bolts 32mm



4x M6 Lock Nut



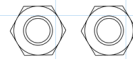
Angle bracket



Mountin plate

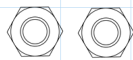


2x M6x20mm



2x M6 Lock Nut

Screws for vertical pole set up



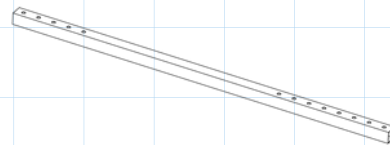
2x M6 Lock Nut



1x M6x70

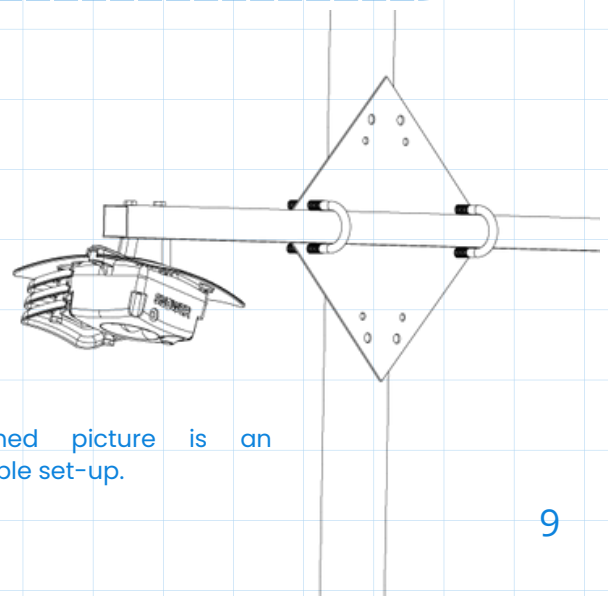


1x M6x60



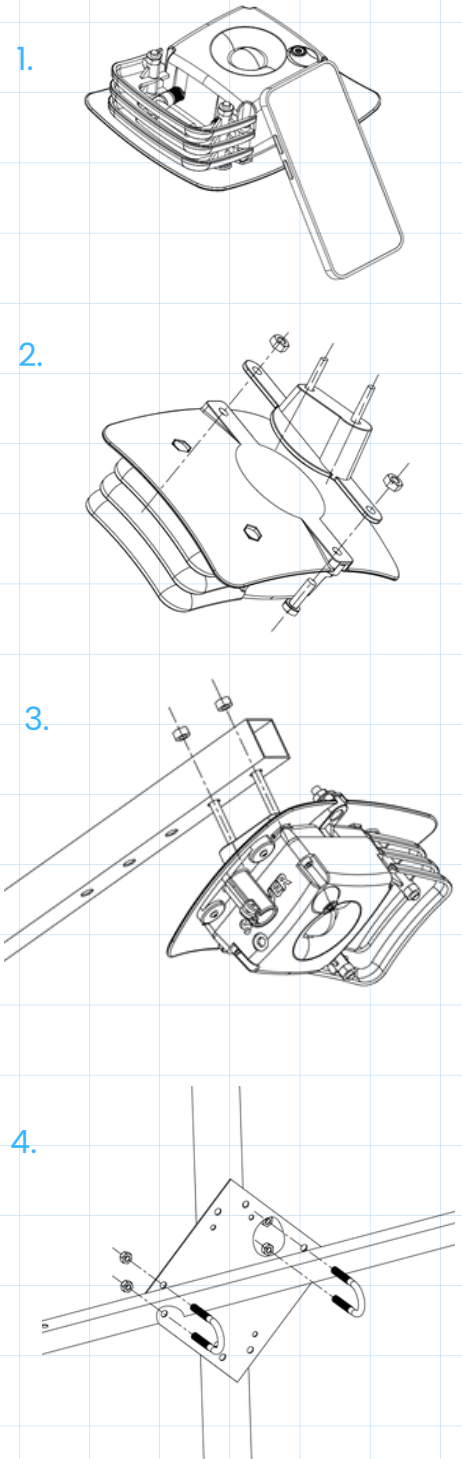
1x Vertical pole

Make sure
to check all
devices



Attached picture is an
example set-up.

1. Activate device using NFC with the Snower Installation app (this can be done before heading to the field).
 - NFC-chip is located as in the picture.
2. Insert 60mm and 70mm screws through the angle piece and pole (picture 2.).
3. Tighten lock nuts above the horizontal pole (picture 3.)
 - In case you also set up a wind sensor and external antenna, please take note of the space they need.
4. Set pole between U-bolts and plate (picture 6.), and tighten with lock nuts on the other side.
 - Horizontal pole and set-up plate are ready to install above the measurement area. Use inclinometer if necessary.
 - You can find Best practices page (section 1.2)
5. Follow instructions given in the installation app and calibrate device.
 - The app informs when the calibration is ready. If there is an error with calibration, fix the set-up with given information and re-calibrate.
6. Calibration is successful, and the device is ready to use.



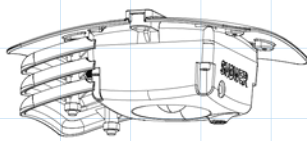
3.2

Snower Road (Angle)

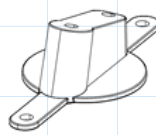
No Mounting Kit

This section is for Snower Road (angle) installation. Please make sure you have all the parts and tools before you start and that you have planned your setup beforehand.

Included:



Snower One device



Angle bracket



2x M6x20mm



2x M6 Lock Nut

Screws for vertical pole set up



1x M6x70



1x M6x60

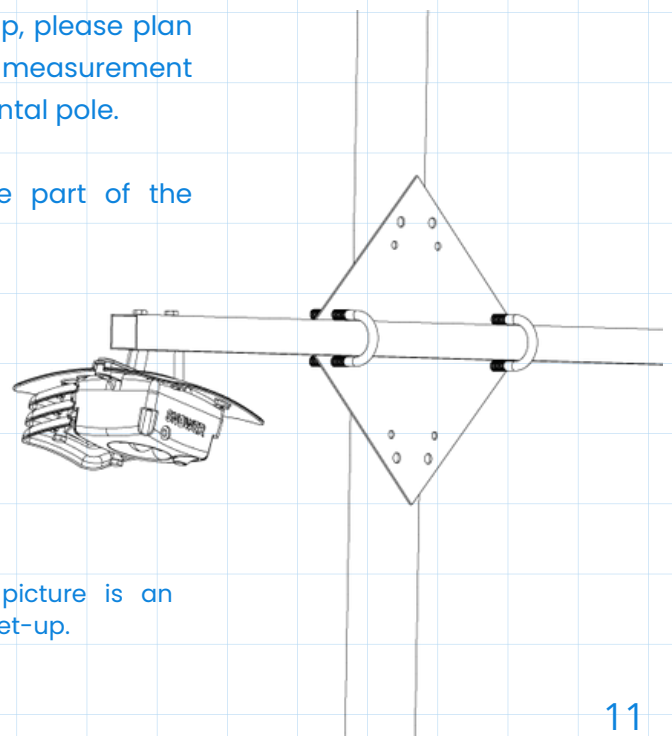
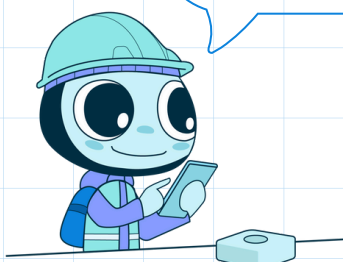


2x M6 Lock Nut

Notice! Before starting installation and set-up, please plan ahead how you will attach device above the measurement area. The device can be attached to a horizontal pole.

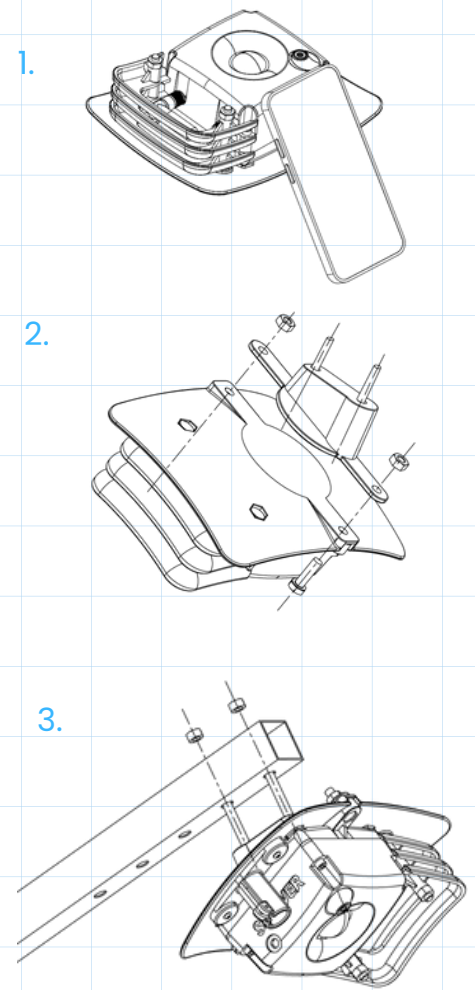
All the parts including horizontal pole are part of the mounting kit. Mounting kit is sold separately.

Make sure
to check
all devices



Attached picture is an
example set-up.

1. Activate device using NFC with the Snower Installation app (this can be done before heading to the field).
 - NFC-chip is located as in the picture.
2. Insert 60mm and 70mm screws through the angle piece and pole (picture 2.).
3. Tighten the lock nuts into your mounting pole/system.
 - In case you also set up a wind sensor and external antenna, please take note of the space they need.
4. Follow instructions given in the installation app and calibrate device.
 - The app informs when the calibration is ready. If there is an error with calibration, fix the set-up with given information and re-calibrate.
5. Calibration is successful, and the device is ready to use.



4.1

External Antenna Set-up Mounting kit

This guide is for the external antenna which enhances the connection if needed.

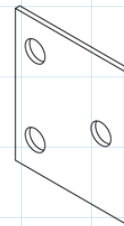
Included:



2x M6x45



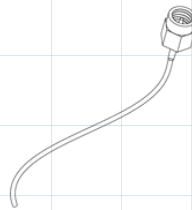
2x Lock Nut M6



1x ext. antenna bracket



1x ext. antenna

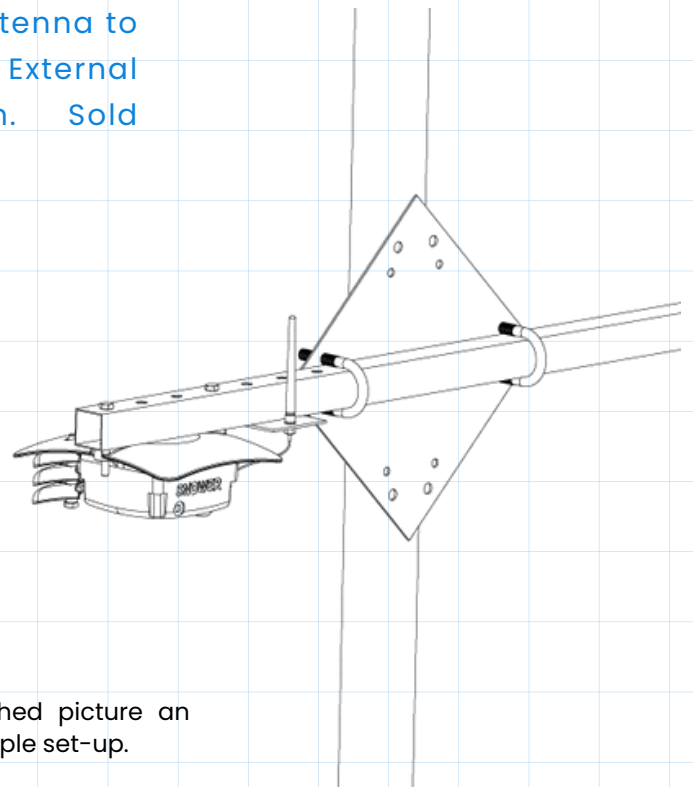


1x cable

If needed, utilize zipties to secure cable so it's not loose.

Some set-ups need an external antenna to access network connection. External antenna enhances connection. Sold separately.

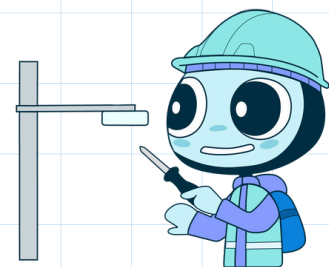
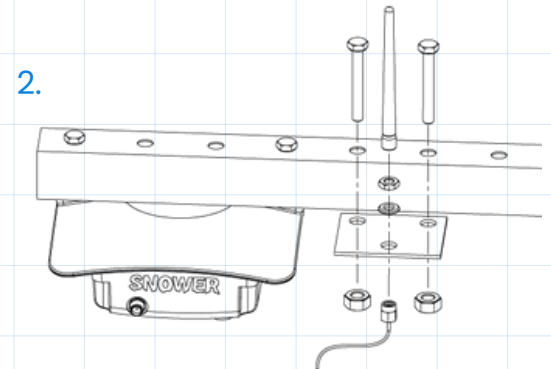
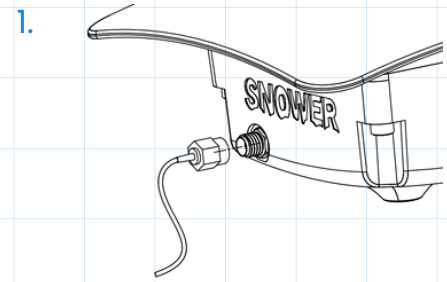
Make sure you have all listed parts



Attached picture an example set-up.

1. Before device set-up, insert the antenna's cable to the device.
2. Set plate on top or under of the pole and screw 45mm screws in.
3. Thread the antenna's cable through the plate, and set up on the other side of the plate bracket and tighten with wrench.
 - Utilize zipties etc. to secure cable

After installation, please provide the device ID and coordinates to support@snower.fi.

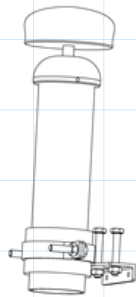


4.2

Wind sensor Set-up Mounting kit

This guide is for the Calypso wind sensor that Snower provides as a added feature.

Included:



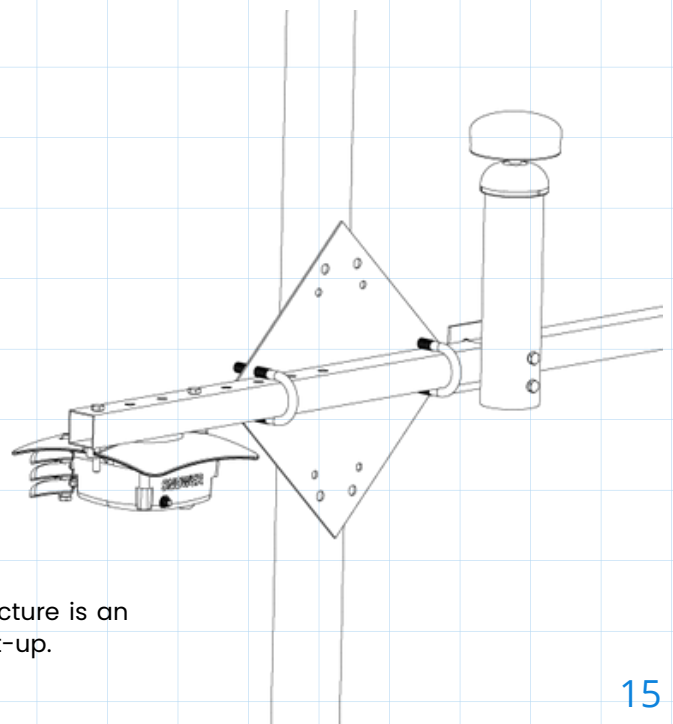
Windsensor
with a bracket



2x M6x30mm



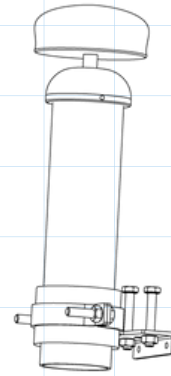
2x M6 Lock Nut



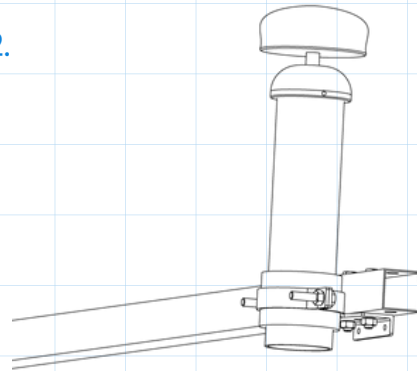
Attached picture is an
example set-up.

1. Locate the wind sensor's north arrow (the small notch at the bottom of the sensor). Ensure that, when installed, the notch is pointing toward North.
 - If the wind sensor requires adjustment, loosen the bracket screws and rotate the entire vertical pole until the notch aligns with North.
2. Set up wind sensor bracket on the horizontal pole by inserting two screws through the pole and the bracket.
 - The bracket is attached below the horizontal pole if used with Snower's mounting kit. If not, please attach it as best suited.
3. Attach wire to the device.

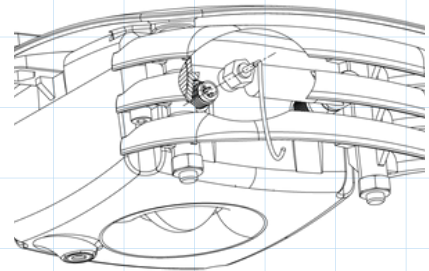
1.



2.



3.



4.3

All Available Parts

Different packages have different sets of parts



M6 Lock nut



M3x8



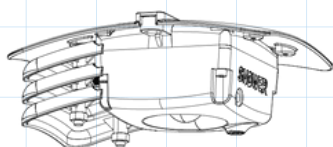
M6x45



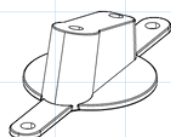
M6x60



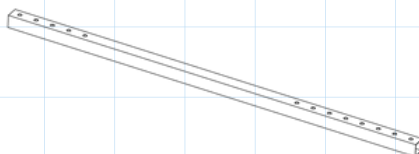
M6x70



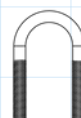
Snower One



Angle bracket



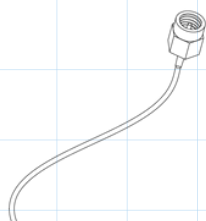
Horizontal pole



U-bolt 32mm



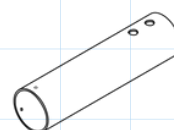
Ext. antenna



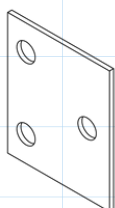
Ext antenna
cable



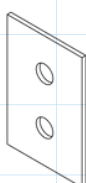
Wind sensor



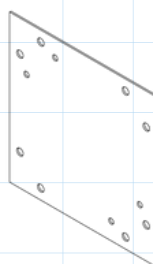
Wind sensor pole



Ext. antenna bracket



Wind sensor bracket



Mounting plate

FCC Statement

1. 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.

(2) This device must accept any interference received, including interference that may cause undesired operation.

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

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.

To comply with RF exposure requirements, a minimum separation distance of 20cm must be maintained between the user's body and the SNOWER One, including the antenna.

IC WARNING:

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

To comply with RF exposure requirements, a minimum separation distance of 20cm must be maintained between the user's body and the SNOWER One, including the antenna.

ADVERTENCIA IC

Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS (RSS) d'Innovation,

Sciences et Développement économique Canada. Le fonctionnement est soumis aux deux conditions suivantes :

(1) Cet appareil ne doit pas causer d'interférences.

(2) Cet appareil doit accepter toutes les interférences, y compris celles susceptibles de provoquer un fonctionnement indésirable de l'appareil.

Pour se conformer aux exigences d'exposition RF, une distance minimale de séparation de 20 cm doit être maintenue entre le corps de l'utilisateur et le SNOWER One, y compris l'antenne.