Wireless 3D Vibration Meter User Manual

Wireless 3D vibration meter´s manual for calculation.

Laiteversio: Vibration sensor DV-1

Palvelu: https://calculationtools.com

Device information

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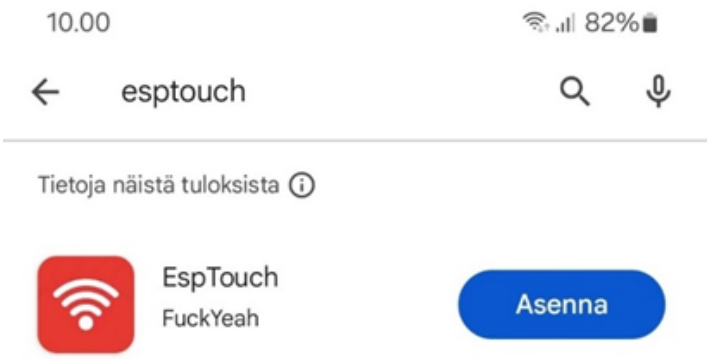
Device spesification	182 mm x 100 mm x 45 mm
Device items icluded	Charging cable
Also needed equipment	• Metallic disk under device • Wireless net connection • optional fixing srews for device (example: roof, walls)

Vibration devices WIFI-connection manual

02



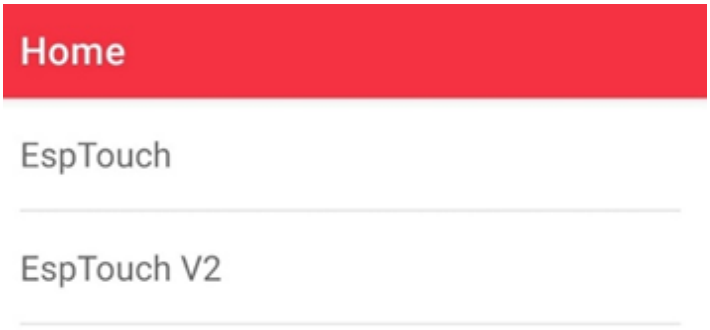
1. Install to your mobile device **”EspTouch”** from playstore

2. Connect your mobile to that wifi-net, where want your vibration device to be used. **Make sure that the net has IT-station uses and is capable for 2.4 ghz frequencekäytössä and WPA2 protection.** Also make sure to use SSID and your password is maximum 20 marks.

3. Start your vibration device in ***”mate- mode”*** as follows:

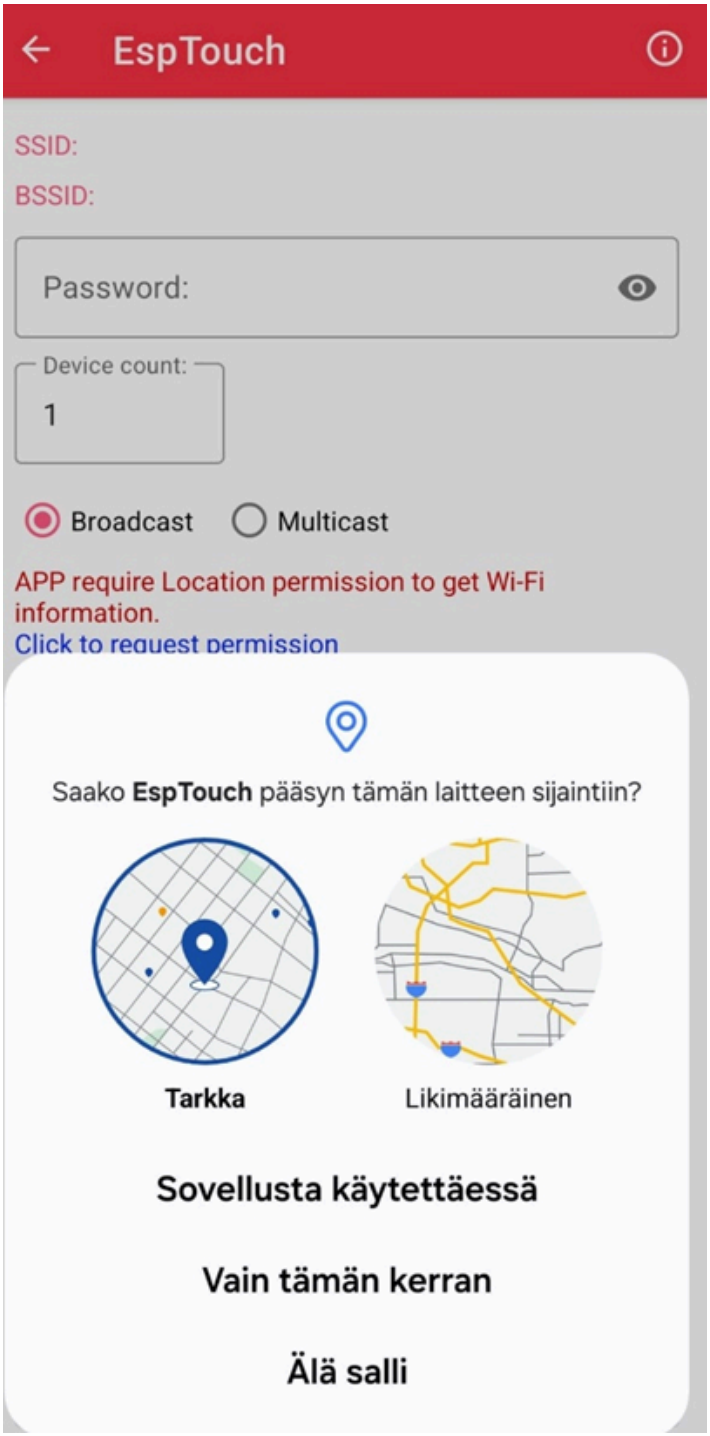
Hold black mate button- pressed and press red start-button for short time.

Hold black mate-button pressed , until sreen shows flashing texts: **Starting WiFi config Use ESPTouch app**



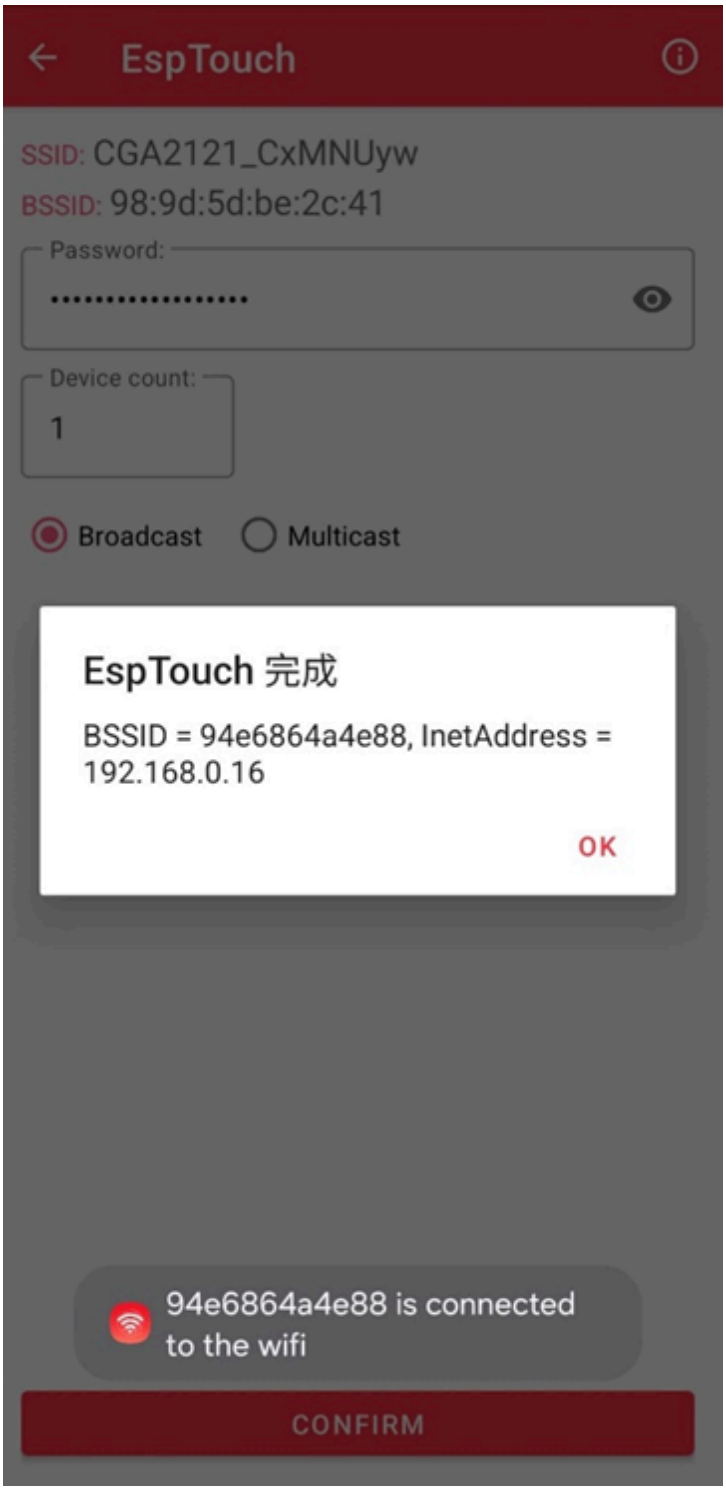
4. Start EspTouch in your mobile phone

5. Choose first choice from options **EspTouch** (not V2:ta!)



6. Choose: Allow accurate location

7. Insert WiFin password ja press ***"Confirm"***



8 . EspTouch informs, when devices are mated

9. Vibration device informs, that WiFi-connetion is established

10. Vibration device is starting

When the device is mated, you can start and stop device with red button. stop requires 3 second pressing time and starting takes 1 second

Vibration devices LED-lights:

There are three LED-lights at front panel. Device has two WiFi-radios, their light are the two upper LEDs which shows connection status green light on orange light off.

When LED stay orange: Wi-Fi is offline

When LED tvinkles orange: Wi-Fi is making connection

When LED stays green: Wi-Fi connection is established.

Last LED at bottom shows device battery-status **(orange =battery is charging, green=battery is full)**

Preparations before measurements

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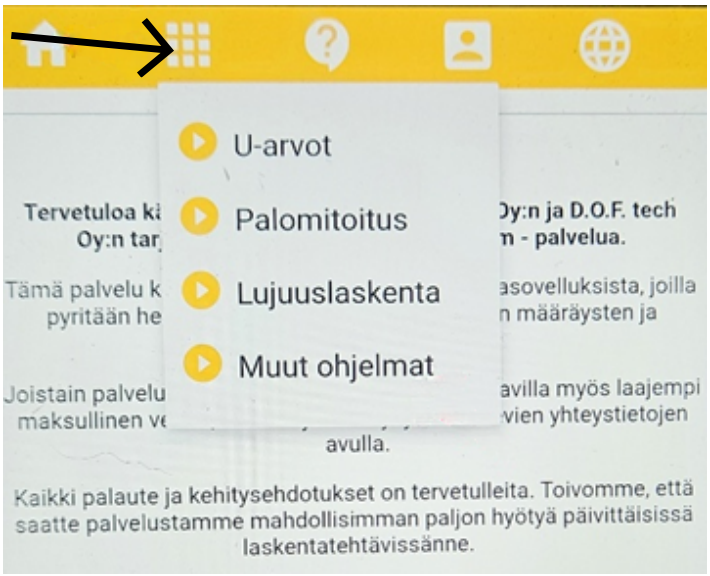
Make sure, that you have:

- Building information consisting floor -and structure pictures
- Access to Calculationtools.com-service (web browser domain)

- Charged vibration device and working net connection.

Making connection web- and cloud service:

1. Make sure, that wireless connection is formed for examble to Wi-Fi or another net.
2. Open web browser and go net address: **https://calculationtools.com**
3. Log in with needed sign in and password details.
4. When you are logged in, choose from menu bar at upper left corner **"Other applications"**



5. Open **"Other applications"** folder Sensor World

MUUT OHJELMAT

Sensorimaailma
Eri sensorivalmistajien sensoreiden yhtenäinen seuranta- ja hallintajärjestelmä

Panoraamamaailma
Panoraamakuvien yhdistäminen 360 maailmaksi

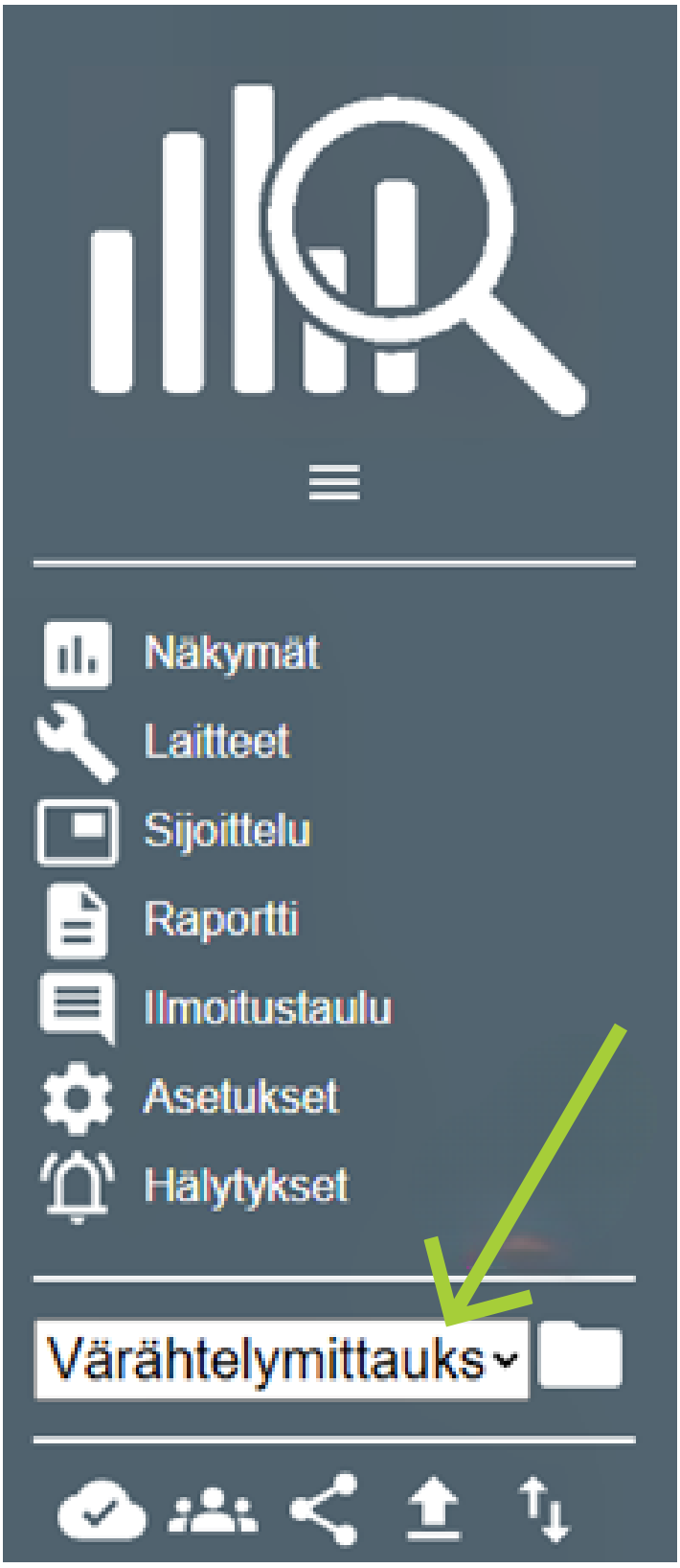
Projektinhallinta
Projektien tiedostojen hallintatyökalu

Värähtelytaajuus

YMPÄRISTÖ

Vähähiilisyyden arviointi

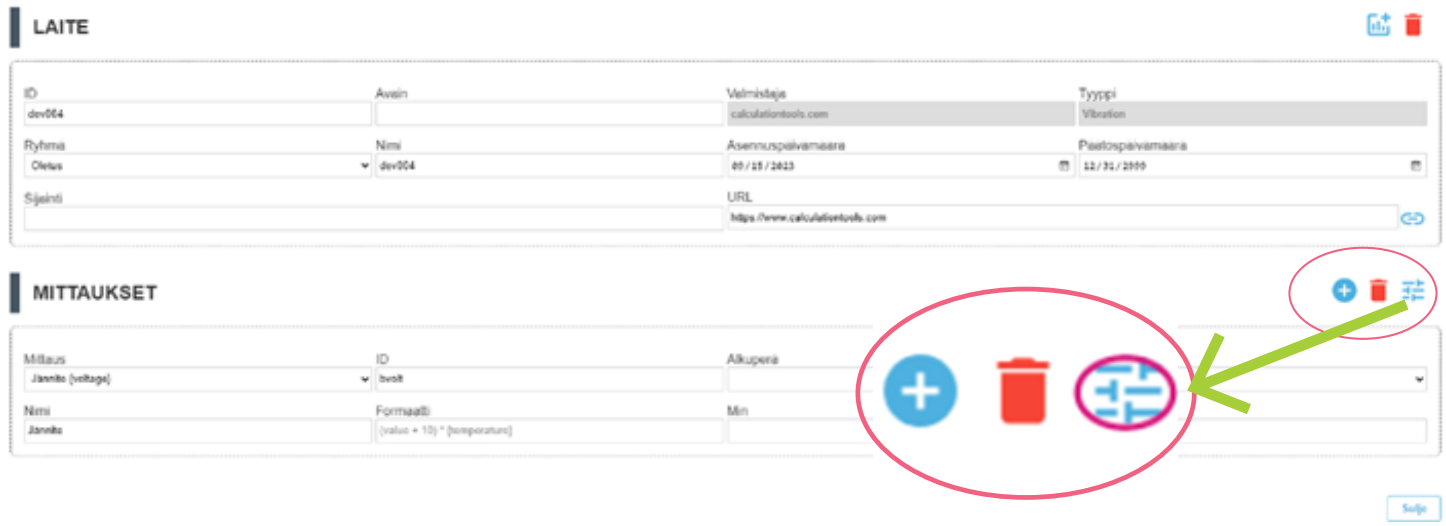
Päästötietokantojen hallinta



a. Choose from sensor world menu **"frequency analysis"**

b. Open "devices" menu and choose from devicelist a appropriate device

c. Click device picture → It opens the information, click right bottom control button, which opens devices control center. Via control center you manage wireless vibration device.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Valmistaja
calculationtools.com
Tyyppi
Vibration
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Oletus
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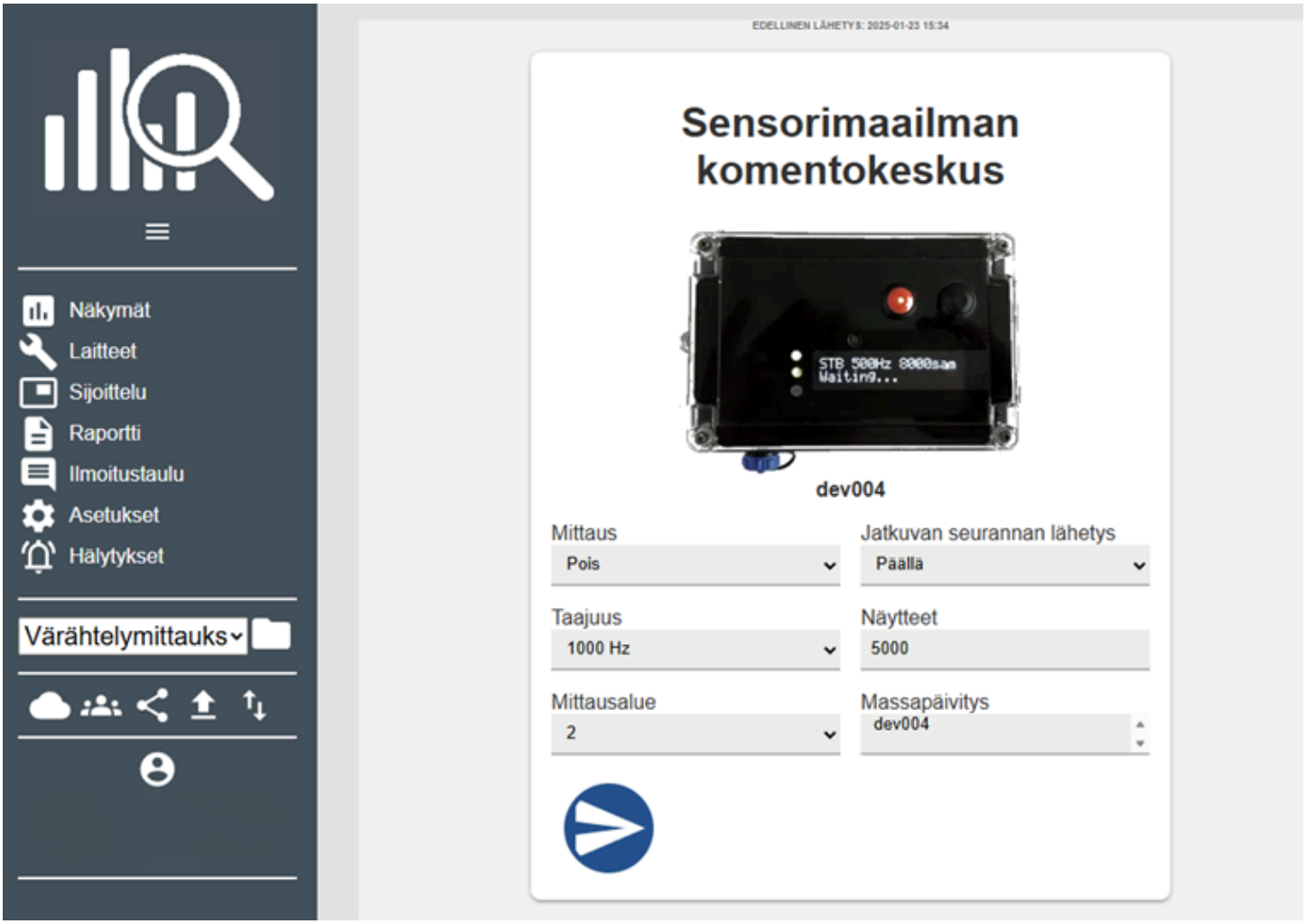
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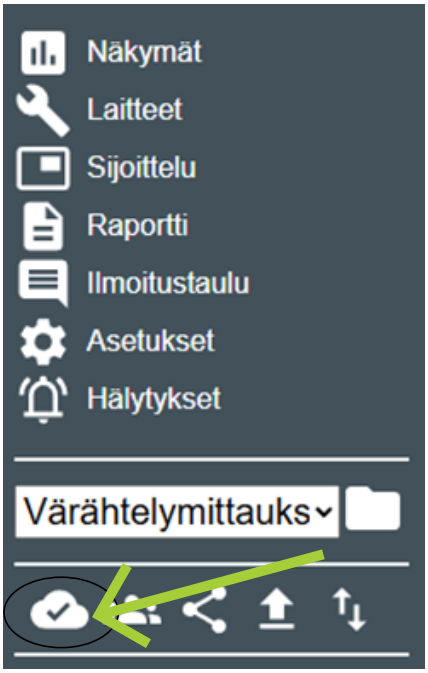
dev004

At the Informationboard one can write needed information from measurement points and calculation detail. It serves as memorandum of measurement moments and for examble possible backround noises etc.

”Informationboard” menu opens sensor worlds information center. You can put your needen information to the message table for examble measurement points.

- From top right coners **plus**-button you can insert new message
- The message you can modify pressing **pensil**-button
- Wrote to informationboard mesasument points details
- Press **”Add”** and your message saves at the informationboard (web browser)

add picture to the message by your mobile phone **”add picture”** command. Accept function works dragging arrow logo to right waylta from leftside (mobileversion)



Attention!

Remember always save your information at **”cloud”** logo button

How to perform the measurement

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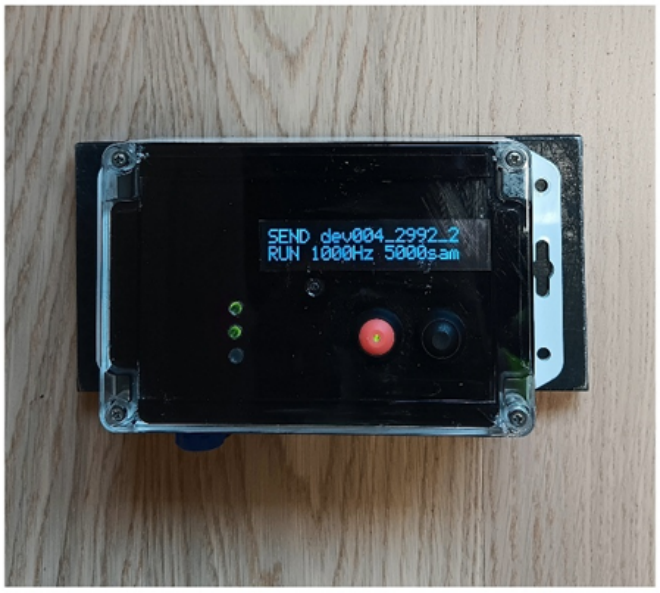
Fixing the vibration device to the measuring point

The vibration device is equipped with a magnet that can be used to fix the instrument firmly to the measuring point, for example by using a metal plate.

It is also possible to fix the device to the base with screws. For example, vertical structures where it is not possible to fix with a magnet. this also allows the measurement of vertical structures such as masts colums.

3D- vibration device, measures vibration in three different directions **X, Y ja Z**.



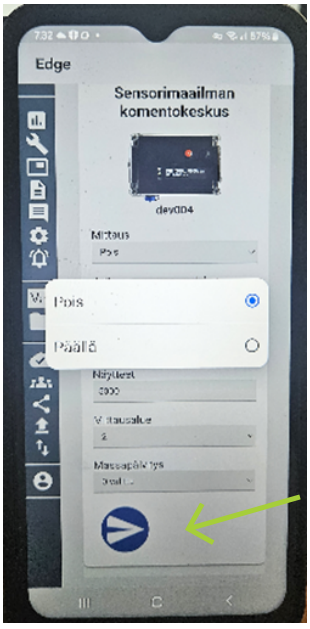
a. Select **"device on"** function in the sensor world command centre. Confirm the function by dragging the arrow button below to the right.

wait until the text **”RUN”** appears on the device and the device ready to measure.

b. Give device the boost:

Use the **Heel-Drop** -method:

- Stand on your toes near the meter (about 500 mm)
- Drop down on your heels to make a boost to create a vibration in the floor structure.



c. Wait a moment for the measurement to be saved and close measurement. confirm the operation by dragging the **narrow button** below to the right .

Examination of the results

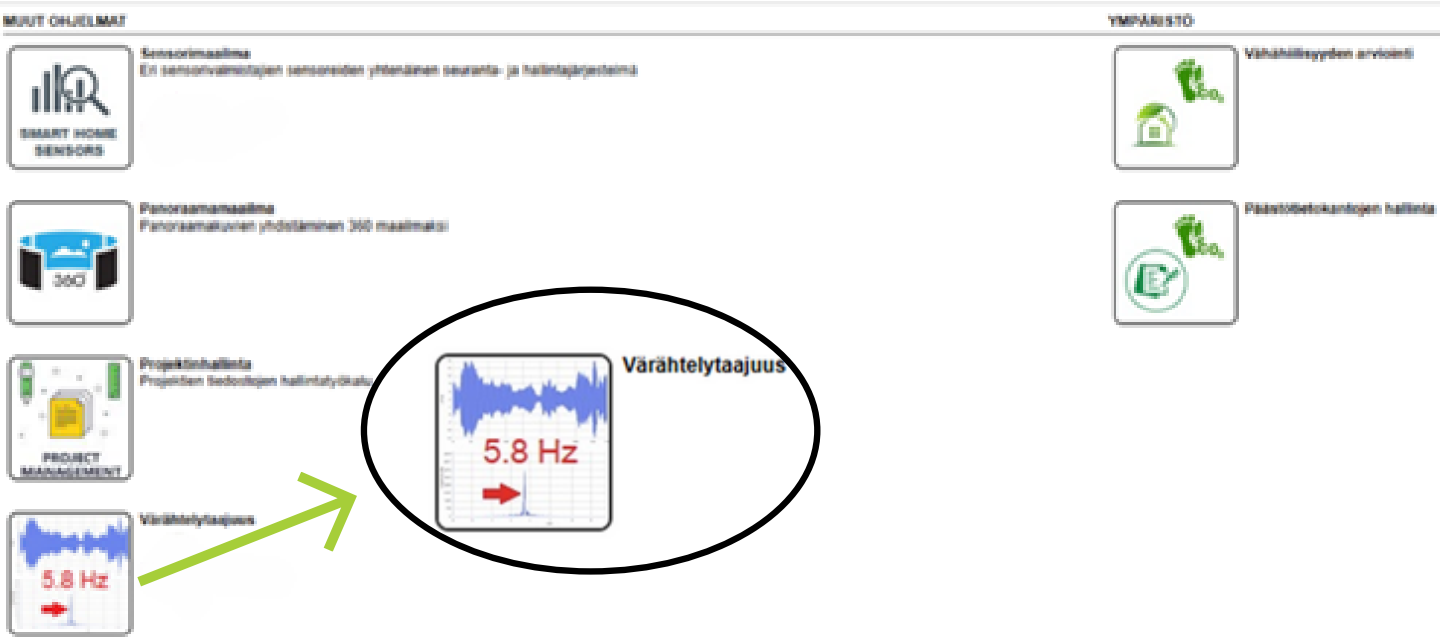
06

After the measurement, the service displays the following information:

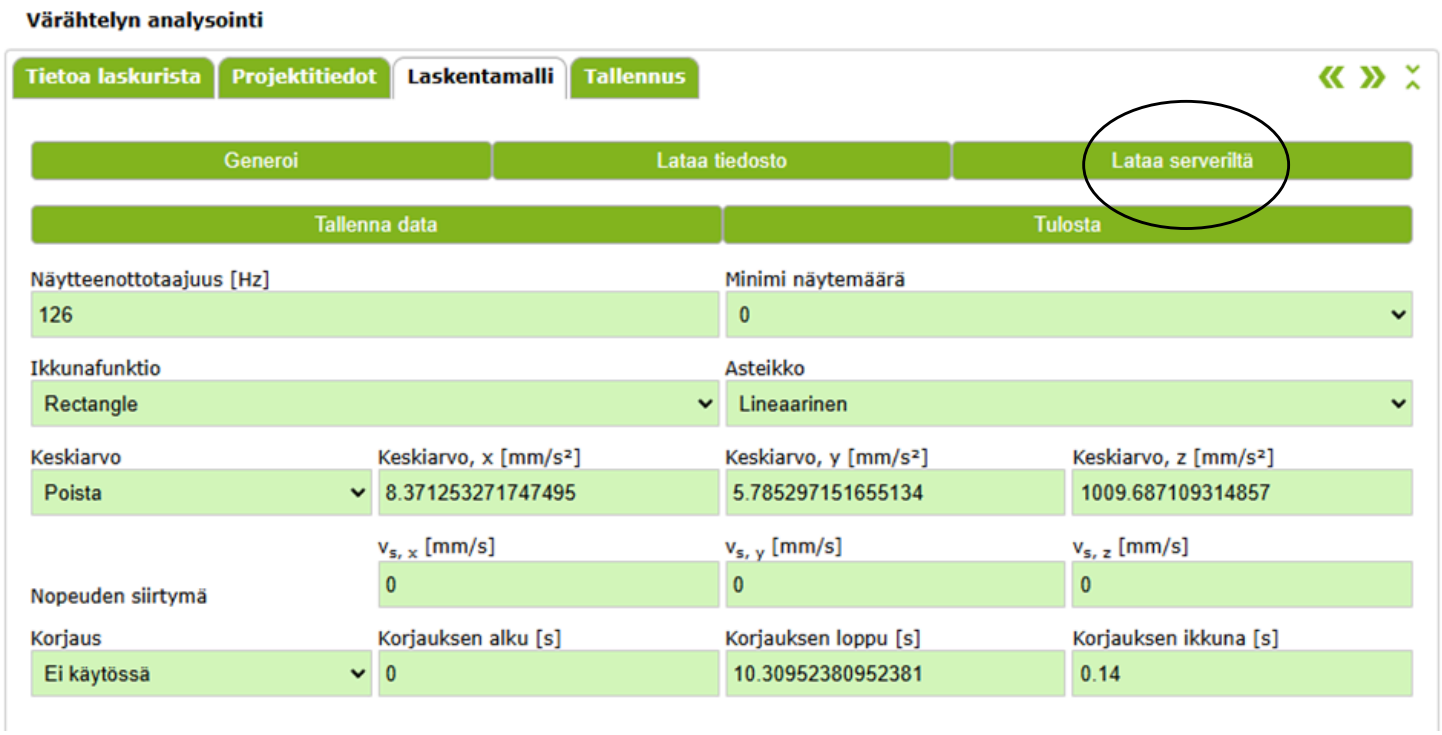
- **Natural frequency (Hz)**
- **Acceleration**
- **Transition**

The results are presented both **numerically** and as **graphs**.

a. Select start from the **”vibration frequency”** menu to view the results



b. CLick on the vibration analysis menu **”download from the server”** opens the measurements results for review.



Tallennus ja dokumentointi

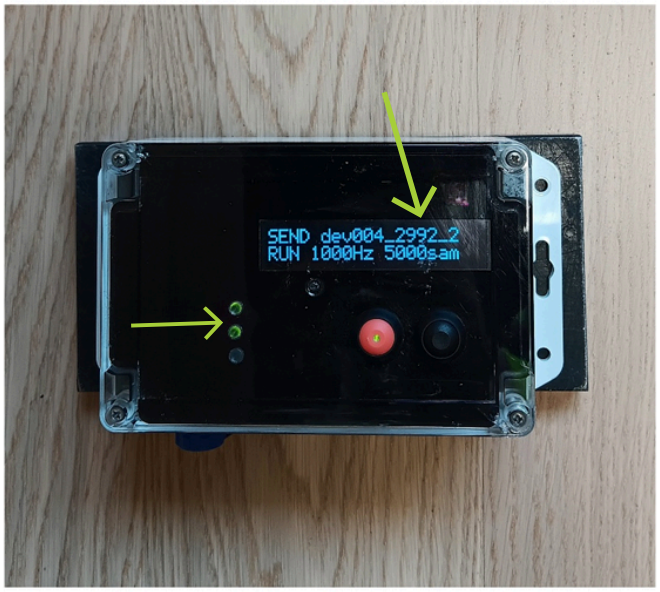
07

- Measurements are automatically stored in the cloudservice.
- You can download or print the results from the service's interface.
- It is recommended to include pictures of the measurement points and the measurement situation in the measurement report.

Once the boost is given, the measurement is automatically saved when you close the measurement.

Each measurement has its own group number and time stamp.

The measurement result is opened by the **”Download”** button on right side of the screen in menu.



HUOM!

When the boost is given, the top line of the instrument displays the measurement **”group number”**

The green lights on the bottom left of the device light up when a connection to the network is established.

Things to note

08

- Always carry out the measurement in the same room where the boost is produced.
- Avoid extra movements and noise during the measurement that may interfere with the results.
- Check your device for battery and connection before each use.
- Pre-design and select measurement points based on the floor plans, for example in AutoCAD-software.
- To speed up the measurement, mark the measurement points on a pre-planned program or on a piece of paper to use as a guide for the measurement itself.