move
SOLUTIONS

Vibrometer

Instruction Manual

Vibrometer

Instruction Manual

English
Read manual before product use

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Warnings

<div align="right">**1**</div>

For the correct and safe operation of the product, it is recommended to read and follow the instructions in this manual.

Great attention should be paid to the following warnings. Move Solutions shall not be held responsible for inconveniences, damage or malfunctions due to lack of compliance to the prescriptions and suggested use in this manual.

- The declared IP rating is to be intended with both the cable gland tightened around a cable and the lid of the product correctly screwed in place. Do not expose the product to humidity or dust in any other condition.

- Before use, make sure that the product conforms to the description in this manual and that no damage is present.

- Do not use batteries other than those specified by Move Solutions without express approval from a Move Solutions representative.

- Before any operation on the product, disconnect the batteries.

- The product is not intended for use in applications where safety is extremely critical, such as medical-related applications or life-security systems.

- On top of the prescriptions in this manual, the user should operate in compliance with local standards for security and health, and according to the best engineering practices for a safe installation.

- The product must be kept clear of children, animals, and any unauthorized personnel.

- Do not disassemble the product except when explicitly instructed in this manual, as this could cause malfunctions and damage the product.

- Do not attempt to repair or modify the product.

- If the product releases smoke or heat during operation, immediately disconnect the batteries.

- Do not expose the product to high temperatures outside the specified range or heat sources.

- Do not expose the product to liquids of any kind and do not operate on it with wet hands. The product can only be exposed to water when the conditions to guarantee the IP rating are satisfied.

- Do not operate on the product in extreme weather conditions that may damage the device or the user, such as thunderstorms or snowstorms.
- Do not disperse the product or part of it in the environment.
- Correct functioning of the product in environments with high radio activity is not guaranteed.
- The product is compliant to all regulations concerning the fair use of ISM radio bands. However, given the free nature of these bands, occasional conflict with nearby devices operating on the same bands cannot be fully prevented.

This product contains electronic components and batteries that must be disposed of separately from common household waste, according to local regulations. To ensure correct disposal of the product at the end of its lifecycle, please refer to your local authority. Failure to comply to the regulations could lead to penalties.

NOTE

- In case of deterioration or loss of this manual, a compliant copy may be requested by the customer from the manufacturer. For increased security, we suggest that you keep a copy of this manual in a place where it cannot be damaged or lost.

FC FCC Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

• This device may not cause harmful interference
• This device must accept any interference received, including interference that may cause undesired operation.

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

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

ISED Compliance

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) this device may not cause interference, and

(2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie 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, e

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with Industry Canada radiation exposure limits set forth for an uncontrolled environment.

Cet équipement est conforme à l'exposition aux rayonnements Industry Canada limites établies pour un environnement non contrôlé.

Symbols and provisions used in the documentation

The following symbols and conventions are used throughout the documentation. Please follow all warnings and instructions marked on the product.

⚠ WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, can result in minor or moderate injury.

❗ IMPORTANT

IMPORTANT indicates a potentially hazardous situation which, if not avoided, can result in property damage or loss of product functionality.

NOTE

NOTE specifies the operating environment, installation conditions, or special conditions of use.

Bold
Bold text highlights an important point or keywords for understanding the context.

Italic
Text in italics is used for specific names for sensors, options of the Move Cloud Platform, or chapters of this manual.

Fire Danger icons warn of the possibility of fire.

Electrical Danger icons warn of the risk of electric shock.

Prohibition icons indicate actions that must not be performed.

Glossary

- **PPV (Peak Particle Velocity)**
  The PPV represents the maximum of the modulus of the velocity vector recorded in the time interval considered. The modulus of the velocity vector is calculated by simultaneously considering the three components (x, y, z). For example, if you set the sensor cadence parameter to 2 minutes, the PPV is calculated over a time window of 2 minutes.

- **PCPV (Peak Component Particle Velocity)**
  PCPV is defined as the maximum value of the modulus of the velocity vector of each of the three orthogonal components measured simultaneously at a point.

- **Working Threshold**
  set the save threshold for devices in programmed operating mode, and activation threshold for those in threshold mode.

- **Alarm Threshold**
  this threshold is applied to events on the Move Cloud Platform. If the threshold is exceeded and email alarms are configured an email notification is sent.

General description

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The triaxial Vibrometer can measure the velocity of the point where it is installed, providing frequency and amplitude analysis of vibrations. With the use of Vibrometer devices it is possible to highlight vibrations in structures, mainly induced by external factors, and monitor their risks. The acquisition modes can be set by the user via the web interface provided in the service.

The sensor measures a variety of parameters such as the maximum PPV (Peak particle velocity), the maximum amplitude and frequency on each axis, and more.
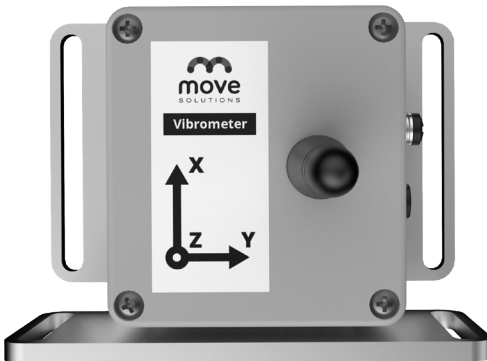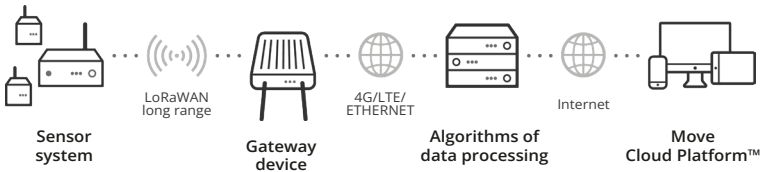
These parameters are then sent to the Move Cloud Platform. The Vibrometer is thus suitable for use in geo-environmental, hydrogeological, geotechnical, and structural monitoring.

The Vibrometer can store acquisitions locally to allow the user to retrieve greater amounts of data, i.e., the full event waveform.

Access to data saved locally is possible through the serial connector.

Moreover, the user can also access the streaming mode for a live view of the data flow.

A specific software and serial cable are required to access both the storage memory and the streaming mode.

The Vibrometer is part of the Move Solutions range of LoRaWAN products for monitoring purposes; as such, it needs a LoRaWAN gateway in its range (such as the Move Solutions Gateway Pro) to connect to the Move Cloud Platform. When the sensor is connected to the platform, the settings and data can be personalized to fit the user's needs.

| Sensor system | LoRaWAN long range | Gateway device | 4G/LTE/ETHERNET | Algorithms of data processing | Internet | Move Cloud Platform™ |

Technical Data

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Operation	
Operating temperature range	-40°C to +80°C
IP rating	IP67
Batteries	1 LiSOCl2 battery (suggested: EVE ER34615EHR2)
Battery connector	JST EHR-2
Radio coverage	1 km in line of sight with gateway[1]
Maximum radiated power	< +17 dBm
Transmission Frequency	868 MHz in EU and UK, 902 MHZ in US and Canada

[1] This information is strictly dependent on environmental parameters such as humidity, presence of other radio devices, presence of obstacles and others.

| Operation parameters	
Cadence of programmed acquisitions	Once every 1, 2, 5, 15, 30 minutes
Time accuracy	± 1 second
Supported regulations[2]	DIN4150-3 80 Hz, OSMRE, USBM RI 8507, custom
Velocity range	± 50 mm/s; ± 100 mm/s
Velocity resolution	0.00152 mm/s at ± 50 mm/s range; 0.00305 mm/s at ± 100 mm/s range
RMS noise	0.05 mm/s
Bandwidth	0.8 – 100 Hz

Effective sample rate	512 Hz
Number of samples for each acquisition	1024
Acquisition duration	2 seconds
Internal storage	2000 acquisitions

[2] Additional calibration may be necessary for compliance with some regulations. Calibration service available on request.

Mechanical	
Dimensions (with plate and antenna)	123 x 95 x 145 mm
Material	Alloy GD-AlSi12
Weight	1.1 Kg

What's in the box

The Vibrometer is shipped inside a cardboard box. On the side of the box, a label is affixed with the EUI and Serial Number of the product. The EUI is very important as it identifies the sensor on the Move Cloud Platform™.
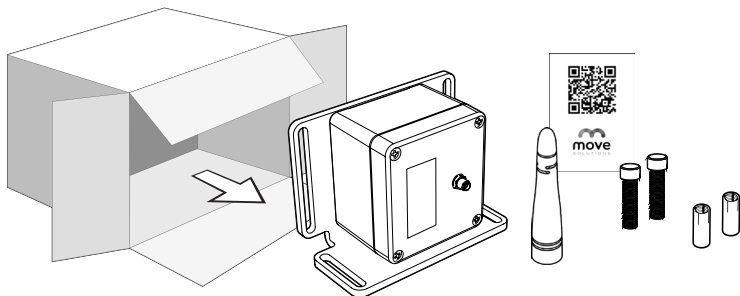
Inside the package you should find:

Number of pieces	Components
1 pc.	Vibrometer
1 pcs.	Antenna
2 pcs.	Anchors (M6x25mm, fixing hole 8mm)
2 pcs.	Socket cap screws (M6x30mm)
1 pc.	Move Solutions flyer with a QR code linking to the most up-to-date documentation

Carefully examine what's inside the package and check that everything is present and in excellent condition.
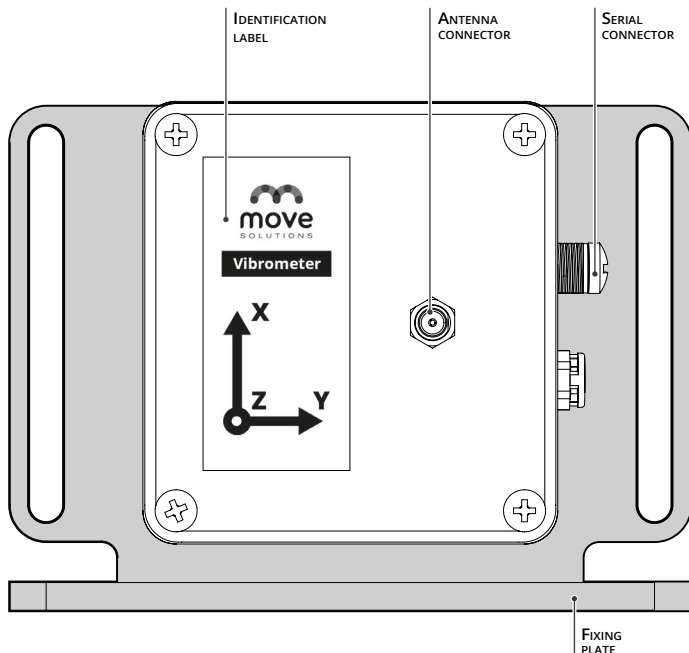
WARNING

- **DO NOT** use the Vibrometer if any of the components looks broken or tampered with.

A label baring the same information as the one on the packaging is affixed on the top lid of the Vibrometer.

From the outside you'll see:

IDENTIFICATION LABEL · ANTENNA CONNECTOR · SERIAL CONNECTOR

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X
Z Y

FIXING PLATE

IMPORTANT

- **DO NOT** unbox the Vibrometer in a dusty and/or humid environment. The IP rating of the product is guaranteed only after the antenna is screwed tightly on and the serial connector has a cable connected or the supplied lid on.

- **DO NOT** loosen or tighten the screws of the Vibrometer as this could alter the product's IP rating.

Quick guide to installation

BEFORE THE INSTALLATION

Check that you have the right tools for the operation.

1. A drill of suitable size
2. An electric screwdriver of suitable size
3. A level

1.

2.

3.

6.1 Orientation

NOTE

• The axes referenced on the Move Cloud Platform™ are the same as indicated on the device's labels. It is strongly advised to keep a consistent orientation of the vibrometers on the structure, unless differently intended, and to always take note of the installation position of each vibrometer for future reference.

Before the installation of the unit choose the correct orientation of the installation plate. Sensors of the same model and same application should be oriented the same way.
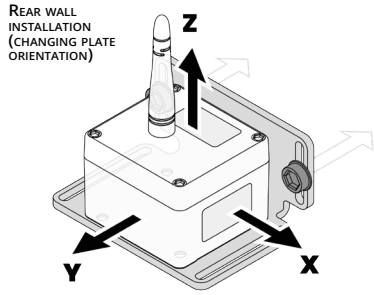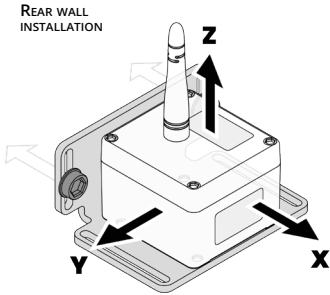
The Z axis (antenna) shown on the label must always be oriented upwards, resulting as parallel as possible to the gravitational axis and perpendicular to the horizontal plane (i.e.the ground).
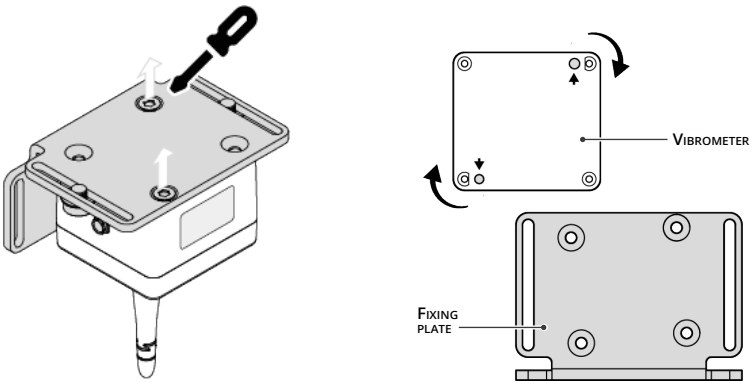

FLOOR INSTALLATION

CEILING INSTALLATION

REAR WALL INSTALLATION
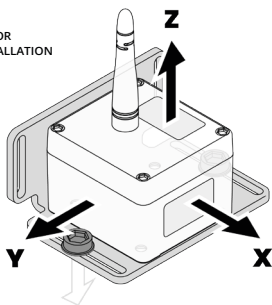
REAR WALL INSTALLATION (CHANGING PLATE ORIENTATION)

Z

Y

X
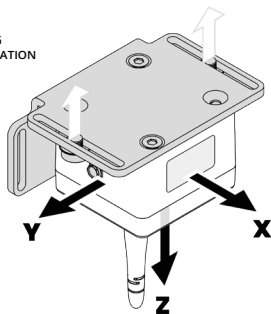
CHANGING PLATE ORIENTATION

The installation plate allows the Vibrometer to be rotated 90, 180 or 270 degrees around the Z axis relative to its factory position. To change the sensor's orientation:

VIBROMETER

FIXING PLATE

1. Remove the two screws on the bottom of the plate.
2. Rotate the Vibrometer as desired, making sure that the two smaller holes on the bottom of the device are aligned with two of the holes of the plate.
3. Screw in the two screws that were previously removed to lock into position.

6.2 Installation

IMPORTANT

Make sure the surface where the Vibrometer is going to be installed does not have asperities and protrusions. Close, stable and tight contact of the device with the surface is crucial to detecting accurate data.
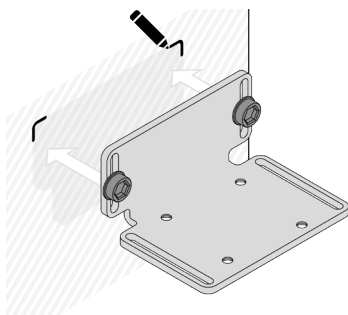
1. Using the installation plate as reference, mark the chosen spot.
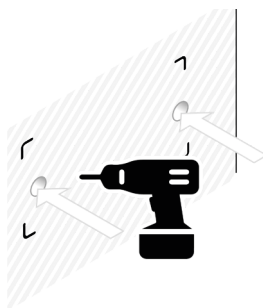
2. Drill two holes in the mounting surface.

3. Insert the two brass anchors in the holes.

4. Place the Vibrometer on the structure and loosely tighten the two screws.
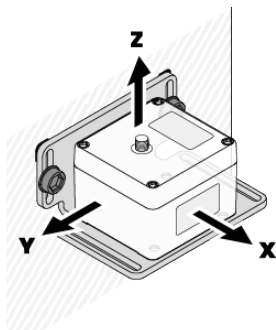
5. Make sure the Vibrometer's axes are correctly aligned with the structure. Refer to the "*Changing plate orientation*" chapter if you need to rotate the sensor.

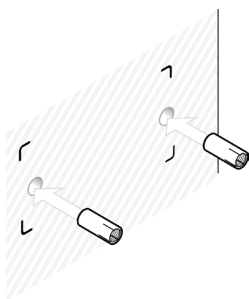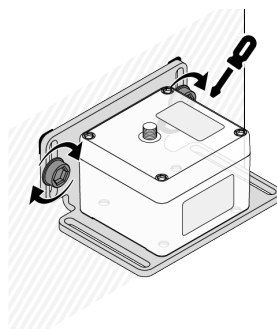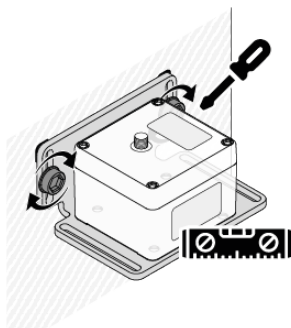**6.** Using a level, make sure that the sensor is as horizontal as possible. The plate allows for slight corrections in inclination. Tighten the screws to lock in place.
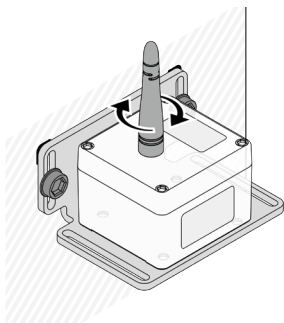
7. If the antenna was not already installed (advised to protect the sensor from humidity), tightly screw on the antenna.

If the gateway is already running, you can start checking your data on the Move Cloud Platform™ within a few minutes. Otherwise, a maximum time of 30 minutes after the installation of the gateway is required before the sensor can be viewed on the platform.

Maximizing radio performance

When installing the Vibrometer, it is important to follow some basic prescriptions to ensure the correct operation of the product.

For optimal radio performance, the antenna should be oriented the same way as the gateway antenna, and the gateway should be on the side of the device.

Avoid, if possible, to locate the gateway vertically above or under the Vibrometer. If this cannot be avoided, it is best to keep the two antennas perpendicular to one another. Keep the Vibrometer and the gateway in line of sight as much as possible, as obstacles along the path of the signal could have a negative impact on the radio link.

Additional information on optimal positioning can be found on the gateway manual.

PERSPECTIVE VIEW

BEST SIGNAL POWER

LOW SIGNAL POWER

BAD POSITION

GOOD POSITION

GATEWAY ANTENNA

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FRONTAL VIEW

BAD POSITION

GOOD POSITION
(NOT BEST)

BEST SIGNAL
POWER

LOW SIGNAL
POWER

GOOD POSITION

GATEWAY
ANTENNA
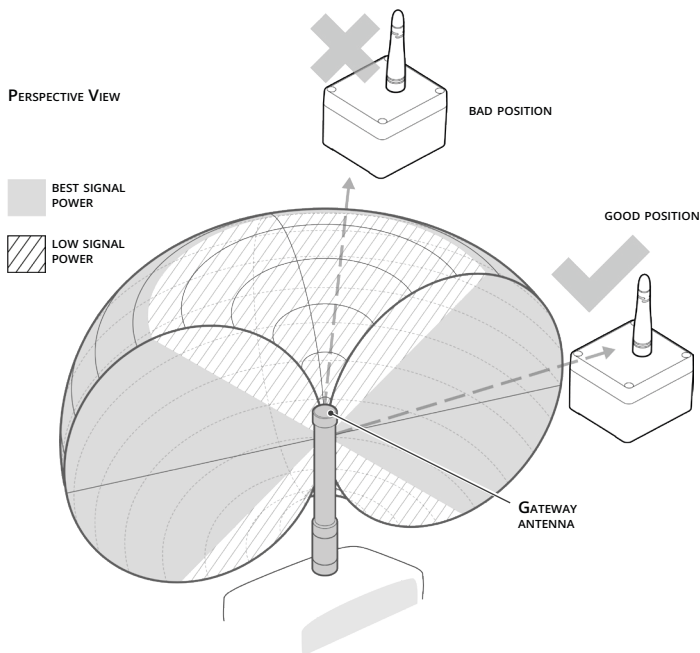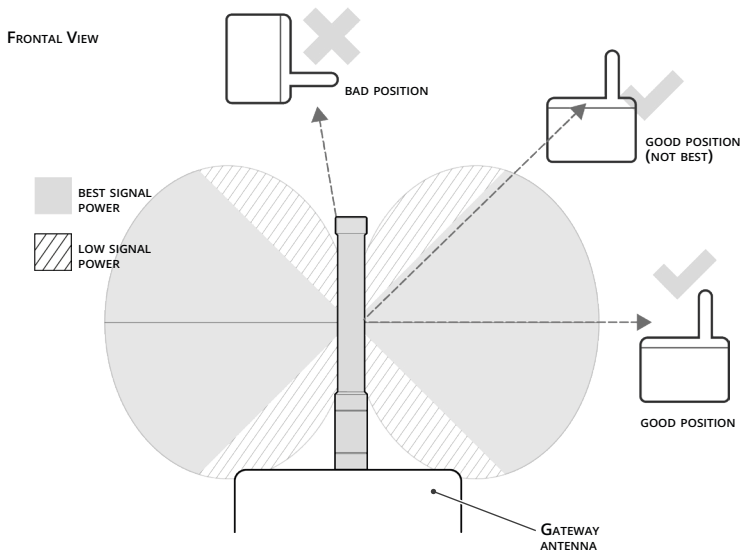
Try to keep the antenna as far as possible from metallic materials that could alter its radiative performance. Similarly, keep as clear as possible of high voltage power cables, radio and tv antennas and any other source of unwanted electromagnetic disturbance.

Use the hardware supplied with the Vibrometer to fix it to the wall, floor, or ceiling.

⚠️ **WARNING**

- Remember to install the Vibrometer away from busy areas where it could be damaged by or cause damage to animals or people. For example, don't install the Vibrometer on the floor unless it's in a completely secluded area.

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8.1 General settings

To access your Move Cloud Platform™, connect to the URL that you have been supplied with by Move Solutions™ and log in with your credentials.

Through the Move Cloud Platform™ you'll be able to:

•   check the data of the last 24 hours and the current state of all your devices

•   explore all the data that has been gathered by your sensors since day one

•   set alarms and email notifications for each sensor

•   manage settings for each sensor

•   ...and more!

NOTES

•   The Move Cloud Platform™ is frequently updated with new features, fixes, and reviews. Refer to its documentation for more detailed information.

•   Settings that alter the Vibrometer's behavior (settings that don't concern email alarms and sensor naming) can require up to 1 hour to be synchronized with the sensor.

To access the settings of your Vibrometer, go to ***Settings*** in the side navigation menu. Select ***Vibrometer*** in the side bar, and a list of all the vibrometers on your structure will appear.

From this page you will have various tabs available.

•   In the **Management** tab, you can add labels to your vibrometers, for example, to assign a mnemonic reference to each sensor.

•   In the **Regulation** tab, you can manage the sampling settings of the vibrometer, such as a specific setup that is tailored for a specific regulation, or use the custom mode, where you have direct control over the working criteria of the sensor.

•   In the **Acquisition** type tab, you can choose the working mode of the Vibrometer: in Time triggering mode the data is sent to the platform regardless of its content on a regular basis (which can be set in the Cadence tab). In this mode,

the Working Threshold only determines if an event is saved to local storage or not. In Threshold triggering mode, data acquisition is performed only when the input velocity exceeds the Working Threshold.

- In the **Cadence** tab, you can choose how often data is sent to the Move Cloud Platform™ (available only in Time triggering mode).

- In the **Unit** tab you can choose your reference unit of measurement for velocity: mm/s or inch/s.

- Finally in the **Working threshold** tab you can set the threshold that triggers the transmission of data to the Move Cloud Platform™ and the registration of the event in the Vibrometer's internal storage.

8.2 Data Visualization

The data collected by the sensor is shown on the Move Cloud Platform™ in different ways.

- In **Dashboard**, the data from the last 24 hours is shown without any data aggregation. From top to bottom there are:

  ○ If PPV mode is enabled, the PPV graph shows the PPV computed on selected axes for the last day. A dashed line shows the alarm threshold, and datapoints that have exceeded the threshold are shown in red.

  ○ The PCPV / Frequency scatter plot: for each axis, the frequency of the FFT peak versus the peak height in the time domain, with data from the last 24 hours. Events that have exceed the threshold are shown in red, and the alarm threshold is shown as a yellow dashed line.

- In the **Events** page the user can select a custom date range to visualize the data from the sensor. Available data in this page:

  ○ PPV plot computed considering all 3 axes.

  ○ PCPV over time for each axis.

  ○ FFT spectrum peak amplitude over time for each axis.

  ○ Evolution over time of the frequency of the FFT spectrum peak, for each axis.

  ○ Sensor's internal temperature over time.

- In the **Vibrational Tool** page the user can select a custom date range to visualize the data from the sensor. Available data in this page:

  - If PPV mode is enabled, the PPV graph shows the PPV computed on selected axes for the last day. A dashed line shows the alarm threshold, and datapoints that have exceeded the threshold are shown in red.

  - The PCPV / Frequency scatter plot: for each axis, the frequency of the FFT peak versus the peak height in the time domain, with data from the last 24 hours. Events that have exceed the threshold are shown in red, and the aalarm threshold is shown as a yellow dashed line.

  - PCPV over time for each axis.

  - Evolution over time of the frequency of the FFT spectrum peak, for each axis.

When more than one day of data is selected, the number of data points can be very large. To make it easier for the user to read such a big amount of data, the platform performs **data aggregation** with a time step size that depends on how many days are selected. The aggregation is done by considering the worst-case velocity value in time domain for each aggregated time interval.

Acquired data

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The vibrometer samples data with a sampling frequency of 512 Hz, and has a -3dB bandwidth of 0.5 Hz (2nd order high-pass) to 100 Hz (2nd order low-pass). Sample resolution is 16 bits with a full scale that can be selected between 50 mm/s and 100 mm/s. Data processing is performed by packing the samples in events of 1024 samples or 2 seconds.

9.1 Storage memory

Event data is processed onboard and only the key parameters are sent to the cloud platform. It is possible to set the sensor to also save the full 3-axis waveform of the event in its storage memory for further processing. Up to 2000 events can be saved into the storage memory.

NOTE

- If the memory is full the sensor overwrites the oldest event found in its storage memory. Please select a suitable Working threshold to avoid overwriting important events (the higher the working threshold, the fewer the saved events). It is possible to avoid saving data to the storage memory by choosing the maximum allowed Working threshold in the current range.

Events saved into the storage memory can be exported to the user's PC. For this, the Vibrometer's serial cable (not included with the sensor) and desktop app are required.

9.2 Event acquisition mode and regulation

Events acquisition can be tuned by the user to cover many use cases. For this reason, there are different modes that define how event acquisition is triggered and how event data is processed.

NOTE

•   not all the combinations of event acquisition mode and regulation are allowed.

Event acquisition modes are:

•   **Programmed data acquisition**: the sensor sends events at regular intervals. If the event's velocity exceeds the working threshold, the event (waveform included) is saved to the storage memory. Customizable parameters are:

    ○   **Cadence**, defined as the time interval between two consecutive data acquisitions.

    ○   **Working threshold**. This mode is available for both *Specific regulation* and *Custom regulation*.

•   **Threshold data acquisition**: the sensor sends an event every time the input velocity exceeds the working threshold. The minimum time interval between two consecutive events transmission is 1 minute. In this mode, all data acquisitions are also saved into the onboard storage memory. Customizable parameters are:

    ○   **Working threshold**. This mode is available only when *Custom regulation* is selected.

Aside from the event acquisition mode, the user can select the regulation followed by the sensor among the following options.

•   **Specific regulation**: the user can select a specific regulation to comply to among those supported. Supported regulations are listed in the specification table. This mode only allows *Programmed data acquisition*.

•   **Custom regulation**: the user can customize the following parameters:

    ○   Alarm threshold: all the events acquired by the sensor are compared to this threshold. If an event exceeds the alarm threshold an alarm is sent to the user.

    ○   Range: selects the velocity range between 50 and 100 mm/s,

    ○   Monitored axes: which axes among X, Y, Z are considered for event acquisition and alarm evaluation.

    ○   PPV mode: it selects how multiple axes are managed; it is effective only if more than one axis is selected. If only one is selected, the velocity is computed as follows for both PPV enabled or disabled:

$$Velocity = abs(x)$$

$$or$$

$$Velocity = abs(y)$$

$$or$$

$$Velocity = abs(z)$$

Where $abs(...)$ is the absolute value or module function.

If at least two axes are selected and the PPV mode is enabled, the velocity is computed as the norm of the vector composed by the selected axes:

- All axes selected:

$$Velocity = \sqrt{x^2 + y^2 + z^2}$$

- 2 axes selected:

$$Velocity = \sqrt{x^2 + y^2}$$

$$or$$

$$Velocity = \sqrt{x^2 + z^2}$$

If at least two axes are selected and the PPV mode is disabled, the velocity is computed at the maximum among the selected axes (considered as its absolute value):

- All axes selected:

$$Velocity = \max\{abs(x), abs(y), abs(z)\}$$

- 2 axes selected:

$$Velocity = \max\{abs(x), abs(y)\}$$

$$or$$

$$Velocity = \max\{abs(x), abs(z)\}$$

$$or$$

$$Velocity = \max\{abs(y), abs(z)\}$$

This mode allows both **Programmed** data acquisition and **Threshold data acquisition**.

The sensor implements always-on data acquisition: it samples the 3-axis velocity continuously in between the transmission of two events. This means that there is virtually no downtime in the acquired data, and even occasional vibrations of the structure are captured. The always-on data acquisition works for both programmed data acquisition and threshold data acquisition.

The selection of the event window is made based on the worst-case of the output for the selected criteria in the regulation tab.

Example:

• Programmed acquisition mode.

• Working threshold 20 mm/s.

• Selected axes: x, y, z.

• PPV mode enabled.
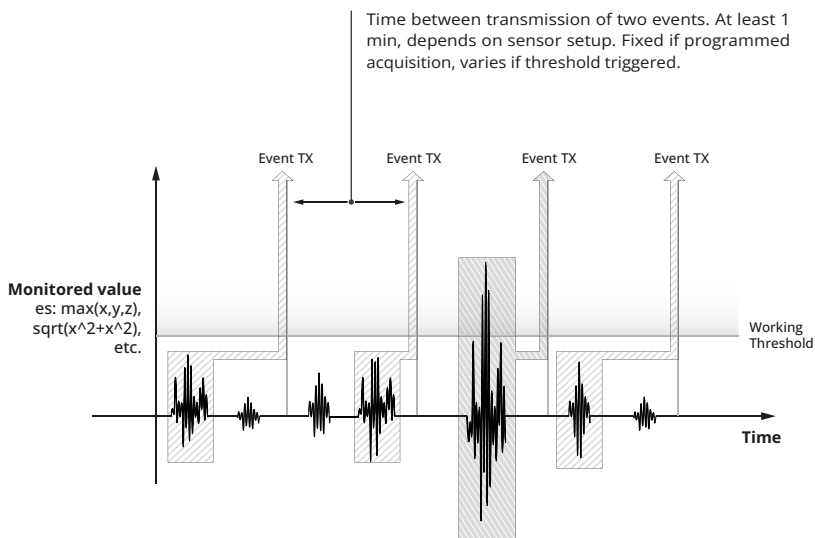
Gray background: 2-seconds time window of the acquired event that will be processed in the following event TX. Key parameters are sent to the cloud platform for all of them, the darker gray one is also saved into sensor's storage memory because exceeds working threshold.

In this case the sensor, for each sample, computes the value of the chosen monitored quantity (in this case, PPV on all 3 axes).

$$\sqrt{x^2 + y^2 + z^2}$$

Then, it tracks this value in time and keeps a buffer of 2 seconds centered on the highest value reached by chosen monitored quantity.

Once a TX event is reached, the 2 seconds data buffer is processed, key parameters are sent to the cloud platform, and the maximum value reached by the monitored quantity is compared to the Working threshold. For example, we can assume a maximum of 23 mm/s for the monitored quantity. Since this is above the 20 mm/s Working Threshold set for the sensor, this would mean that the event will be saved into the sensor's storage memory.

Maintenance

🛈 **IMPORTANT**

- Opening the Vibrometer and breaking the seal voids the warranty. Only change the battery independently when the warranty has already expired. For issues on devices still covered by warranty always consult Move Solutions before resolving to opening the product.

Depending on the sensor's working settings and its environmental conditions, a battery change may be necessary every few months to every few years. In this event, only use the prescribed batteries.

For information on how to provision said batteries, please contact a Move Solutions representative. If the prescribed batteries are unavailable, or provisioning is not possible, consult a Move Solutions representative to find a viable alternative.

🛈 **IMPORTANT**

- Move Solutions is not responsible for malfunctions and damage caused by batteries supplied by other companies and/or utilization of batteries different from the specified part number.

To change the batteries:

1. Arrange the necessary tools to work safely where the vibrometer is installed.
2. make sure to work with dry hands and in a dry environment. It's advised not to change the batteries in humid, rainy, foggy, or snowy weather.
3. Open the lid. This voids the product's warranty (if still valid).
4. Disconnect the battery.
5. Insert the new battery.
6. Connect the new battery.
7. Properly close the lid tightening the screws. To tighten the screws, proceed in cross sequence and first tighten the screws gently, then tighten all screws to a torque of 1.7 Nm, still in cross sequence.
8. Properly close the lid tightening the screws.

Overall dimensions

Please note that the drawings provided in this manual are not drawn to scale.

The purpose of these illustrations is to assist you in understanding the various components and their relative positions. Therefore, it is essential to rely on the numerical measurements provided alongside the drawings for accurate dimensions.

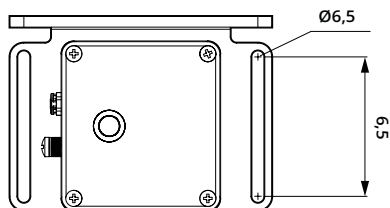The following measurements are expressed in millimeters (**mm**).

Front view
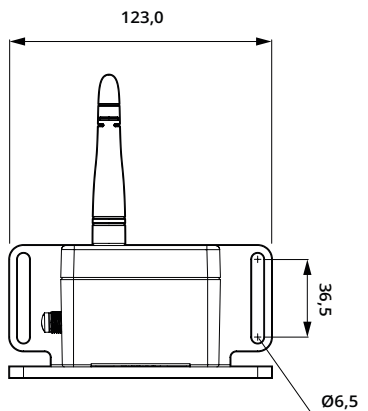
Right view
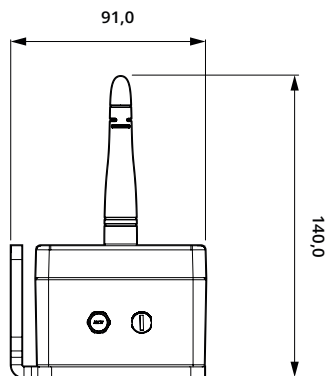
Upper view

Annex A
Troubleshooting

<div align="right">A</div>

Here we seek to give a few pointers to the most common misfunctions and Suggested countermeasures.

⚠ **WARNING**

- Remember to always disconnect the batteries before physically operating on the Vibrometer.

THE VIBROMETER IS OFFLINE

Check that a gateway is installed nearby, and that it is online. If the gateway is offline, refer to its manual or to the customer service to solve the problem. If the gateway has no issues, the problem can be ascribed to the sensor itself, so follow these steps to tighten the circle:

- Wait a few hours: the Vibrometer might be functioning correctly, but the data may not arrive due to high traffic on the radio channel. This might be the case in installations with a high density of LoRaWAN devices, or when the radio environment abruptly changed. The device automatically adapts its radio parameters to the environment, but in some cases up to one day might be required to reach stability.

- Examine the surroundings of the Vibrometer and check that no disturbance is present. Disturbances might come from industrial appliances, machinery, or metal objects in general. If the device has stopped working after regularly working for a while, investigate on environmental conditions that might have appeared (drastic changes in atmospheric conditions, such as fog or snow, or new obstacles that might have been installed). Changes in the device's environment could cause the device to go offline for several hours, for example if a large metal object is placed close to the sensor, behaving as a radio shield.

- Dismount the Vibrometer and move it in a location closer to the gateway and wait up to one day. If the Vibrometer goes back online, it probably means that the radio path between it and the gateway is suboptimal, and action needs to be taken.

If all these tests fail, refer to the customer support for assistance.

THE VIBROMETER IS ONLINE, BUT NO DATA IS SHOWING ON THE MOVE CLOUD PLATFORM

The Vibrometer might be configured in Threshold triggering mode with a working threshold that's too high for the data the Vibrometer is sensing. Check that the vibrometer's mechanical coupling to the structure is correct. If the mechanical coupling is correct the velocity data might be too low compared to the selected working threshold: in this case, you can set a lower threshold to collect more data points.

UNEXPECTED BEHAVIOR AFTER CHANGING THE SETTINGS

Changes made in the platform's setup menu might require up to 1 hour to be synchronized to the sensor. Moreover, if the setup is changed on more than one sensor, there might be a difference on when different sensors receive the new setting. For the best results, please allow some time for the system to stabilize after changing any settings.

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