

HOUR METER AND VIBRATION MONITORING



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POSSIBLE APPLICATIONS:



**MACHINE
STARTUP ALERTS**



**HOUR METER
TRACKING**



**ALERTS IN CASE
OF MACHINERY
BREAKDOWN**

NOVEL BUSINESS MODEL

Rented machines are often used only for a short duration along the rental period. By monitoring the operation hours, rental companies can fit pricing to their clients' actual needs. Multiple machine shipments can be avoided by charging lower fees for availability and higher for actual use.

OVERVIEW

NaBi's vibration and speed sensors enables to monitor the changes in operation time and vibration status of a vibrating machine in action. To do so, **NaBi** is rigidly attached to the vibrating machine with saddle clips or cable ties. It can be attached to a compressor, an aggregator, a vehicle or even to a copy machine/copier (Figure 1).



Figure 1: Fixing NaBi to construction equipment or refrigerator compressor

The operating and standby conditions are individually configurable by setting time frames and the strength of the vibration to be measured. This function determines what can be considered as a continuous movement or a movement outage, depending on the length and strength of the vibration. In case of any motion state change, immediate data service and alarms or notifications (via e-mail or push notifications) can be easily set.

The vibration states, active operation hours and spatial orientation of the device can be seen graphically (Figure 2). Thus, you can make a comprehensive analysis of the daily operating hours on a weekly or even yearly basis (Figure 3). The data, which is graphically displayed, is also downloadable in Excel format or it can be automatically uploaded to any IT system via standard HTTP API.

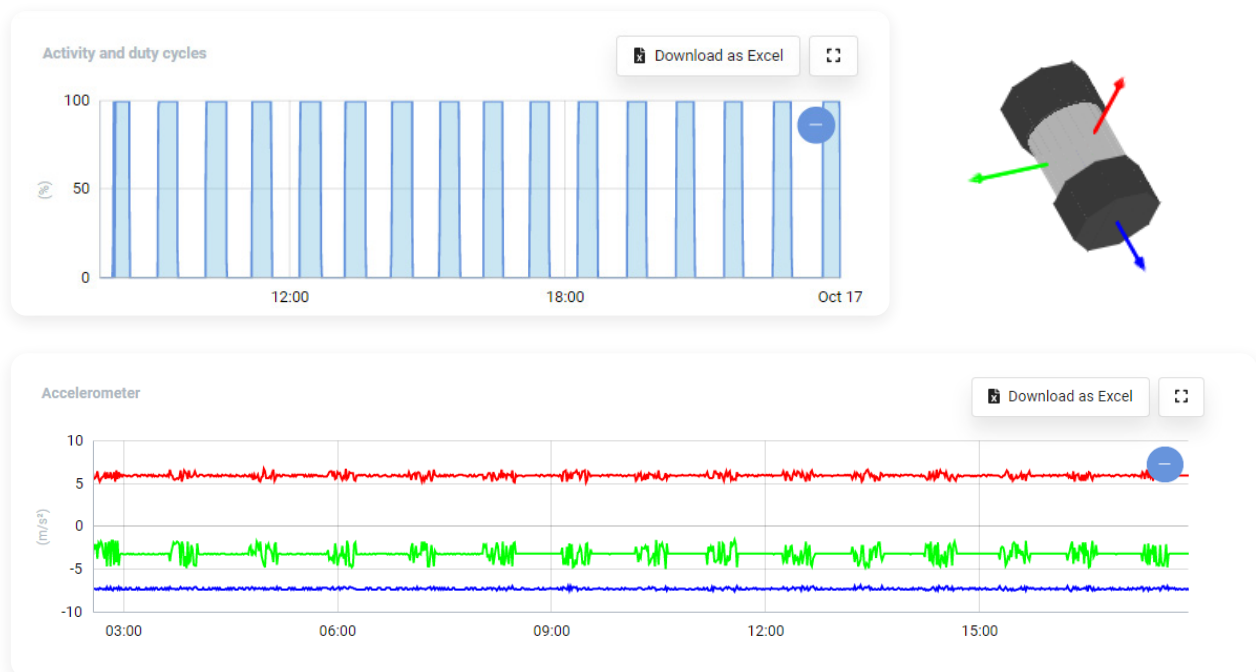


Figure 2: Graphical overview of the fixed vibrations, orientations and operating hours

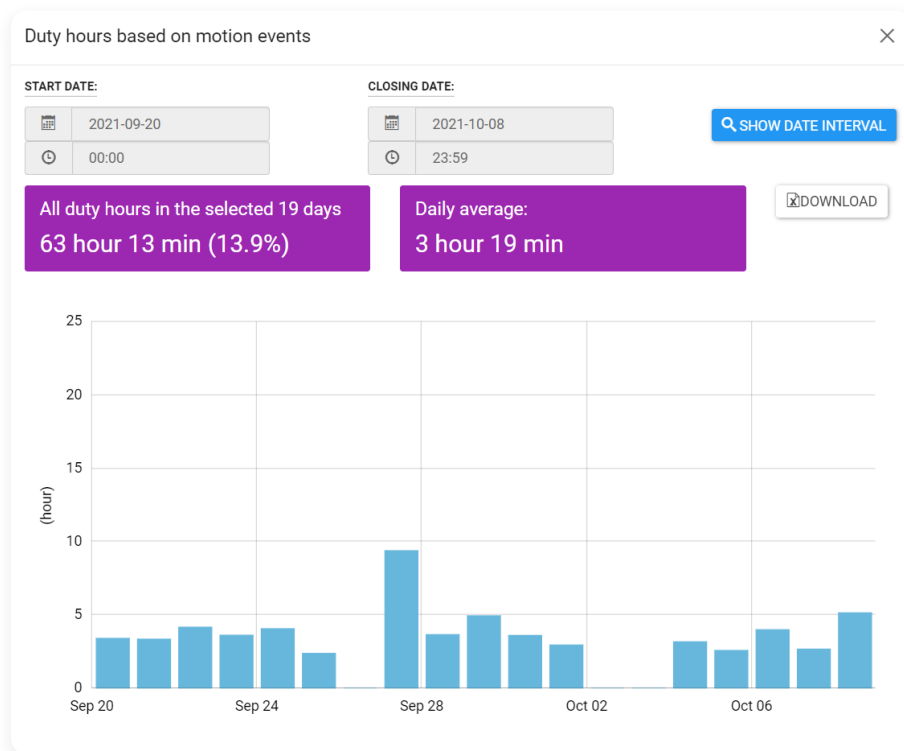


Figure 3: A daily overview of the hour meter

IMPORTANT NOTES

When measuring the operating hours, fasten the device to a lightly vibrating machine part! **NaBi**'s sensors can already detect very small amplitude vibrations.

To avoid unexpected device restarts due to vibration, use foam tape to secure the battery inside the device.

In the case of highly vibrating machines, a foam strip must be attached to the inside of the **NaBi** to fasten the battery and prevent any battery contact faults.

One or two-sided foam tape can also be used, the latter being more readily available. In the case of double-sided tape, the film only needs to be removed from one side, so it is used as a single-sided tape.

A strip about 1 mm thick, 10-20 mm wide, 40 mm long is required. Apply the tape to the metal plate inside the device as shown below before inserting the battery. In the case of a highly vibrating machine, it is recommended to use two foam strips on top of each other.

If required, the foam tape is provided for **NaBi** devices.



Figure 4: Placing a foam tape glued to the inside

Find out more about the possible applications of the device – like motion tracking or hour metering - on the website at www.nabitrack.com/business#applications. The functions based on different sensors can be used together or separately. For instance, the real-time temperature and location of refrigerated goods can be tracked simultaneously.