



SMART PRODUCTS FOR SMART PEOPLE

VIBER X+





Instrument manual

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Instrument basics

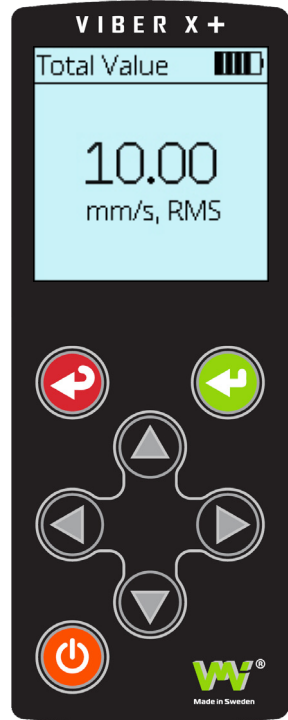
This section contains basic information about how to operate the instrument and the meanings of the different keys and symbols.

	ON/OFF Used to switch ON or OFF the Instrument.
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	OK (Enter) Used to start a measurement, confirm an action or go forward in a menu.
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	ESC (Escape) Used to cancel an action or to return to the previous menu.
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	Arrows (up, down, left, right) Depending on the context, are used to change the selected items.
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Connectors on front and rear sides

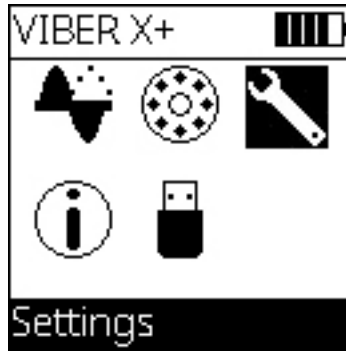


Vibration input Used to connect an accelerometer to measure vibration.



USB-C connector It connects the VIBER X+ to a PC for file transfers or to a charger for battery charging.

Main menu description



When using the charger, the display shows the charger icon instead of the battery icon.



Each segment of the battery icon represents 20% of the remaining battery capacity.



Starts total value measurement.



Starts bearing condition measurement.



Opens the settings menu.



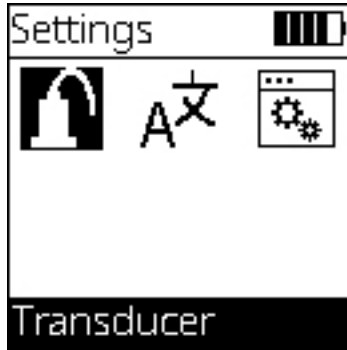
Opens the information menu.



Starts the connection function via USB.



Instrument settings



Transducer settings



Language settings



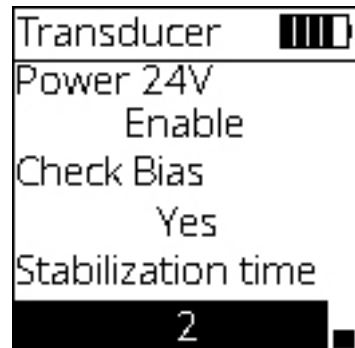
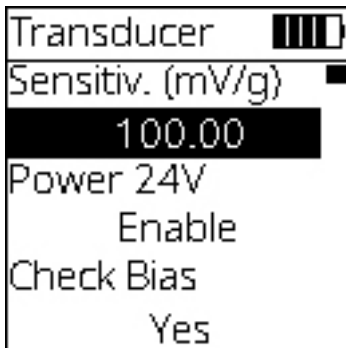
Application settings



Transducer settings

This section allows setting the following factors.

- **Sensitivity (mV/g)** Press the right arrow on the keypad, set the transducer sensitivity per its calibration certificate, and press OK.
- **Power 24V** The supply voltage to the accelerometer can be enabled or disabled.
- **Check Bias** When enabled, this function checks the transducer and its cable at the start of measurement to ensure accurate readings.
- **Stabilization time** Sets the number of seconds to allow the transducer to stabilize when initiating measurement.



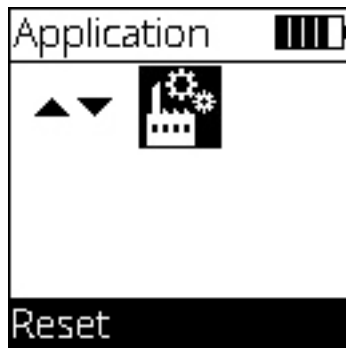
Language

Select the desired language from the list containing more than twelve languages and the instrument will change the language accordingly.



Application

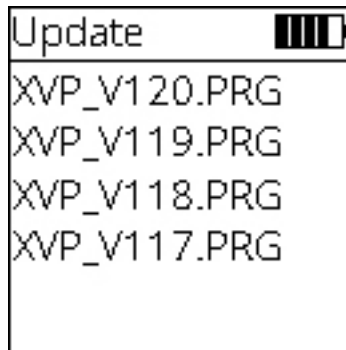
It includes two functions, update and reset.



Update



Choose the desired firmware version from the list, install it, and remember to reboot for the selected firmware version to take effect.



Reset

It resets some settings to factory defaults. The following list includes all affected positions.

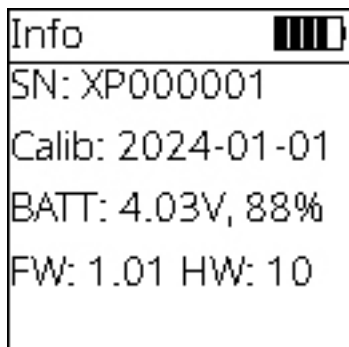
- **Total value** 10 - 1000 Hz.
- **Transducer sensitivity (mV/g)** 100.00
- **Power 24V** Enabled
- **Check Bias** Yes
- **Stabilization time** 2 seconds



Information

This menu outlines key details about the instrument.

- **Serial number** The instrument's serial number is a unique identifier assigned to each unit for tracking and identification purposes.
- **Calibration date** It displays the date of the last calibration.
- **Battery level** It indicates the remaining battery capacity in percentage and the current battery voltage.
- **Firmware version** It displays the version number of the installed firmware.
- **Hardware version** It shows the version number of the hardware.





Connection

It facilitates communication between the instrument and a PC through USB, allowing the transfer of firmware files when an updated version is available.

If the desired firmware version is missing, download it to your PC. Connect your instrument to the PC using a USB C cable, initiate the connection on the instrument, and then copy the firmware file from your PC to paste it into the designated folder 'VIBERXP'.

General measurement settings

In this section, we describe the general application settings commonly used across various applications. While these settings may vary from one application to another, their implications remain consistent.

Measurement type The available type for total value measurement is velocity, presented in units of mm/s. For bearing condition measurement, the data type is acceleration, presented as gBC.

Detection type The detection type for both total value and bearing condition measurements is RMS. The RMS value of a set of values or a continuous-time waveform is the square root of the arithmetic mean (average) of the squares of the original values or the square of the function that defines the continuous waveform.

Frequency range The frequency range defines the span of frequencies, from the lowest to the highest, that a vibration measurement system can accurately detect and measure. This range ensures that all relevant vibration data within these limits is captured for precise analysis.



Measurements

VIBER X+ is designed to perform precise vibration measurements across a wide range of frequencies. It offers a total value measurement capability spanning from 2 Hz to 12800 Hz, making it suitable for capturing vibrations across different operational frequencies of machinery and equipment.

Additionally, VIBER X+ supports bearing condition measurements up to 16000 Hz, allowing it to detect higher-frequency vibrations that are often indicative of specific mechanical issues such as bearing defects or gear faults.

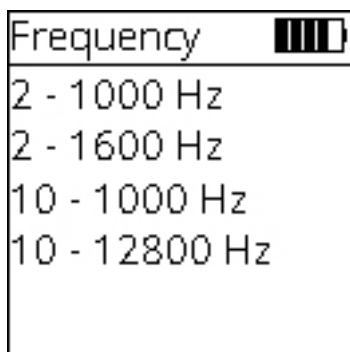
The instrument operates with exceptional sensitivity, capable of detecting vibration signals as low as 0.5 mV RMS. This sensitivity ensures that even subtle vibrations, which may indicate early stages of machinery deterioration, can be accurately measured and analyzed.

At the upper end of its capability, VIBER X+ can handle vibration signals as high as 5000 mV RMS, making it versatile enough to monitor and diagnose a wide range of vibration levels encountered in various industrial and mechanical environments.

Overall, VIBER X+ combines a broad frequency range with high precision and sensitivity, making it a valuable tool for comprehensive vibration analysis and condition monitoring tasks in industrial settings.

Total value settings

The total value settings contain options for selecting the frequency range and can be accessed by pressing the up arrow on the keypad after the total value measurement has been started.



Note! Available frequency ranges include 2 - 1000, 2 - 1600, 10 - 1000 and 10 - 12800 Hz.

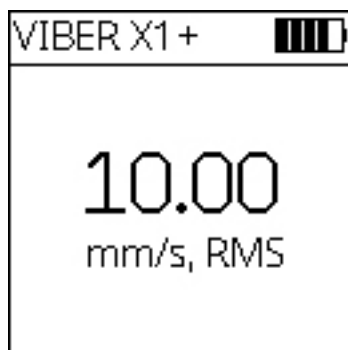
Unit Available unit is mm/s.

Detection Available detection types is RMS.

Total value

This application is designed for analysing the impact of mechanical actions and provides a convenient method to swiftly assess the vibration status of the machine.

The displayed information shows the vibration level in mm/s with RMS detection.



Note! Access other menus seamlessly during measurements using intelligent keyboard short-cuts for enhanced productivity.

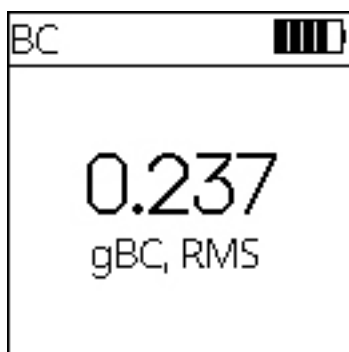
- **Up arrow** Instantly navigate to total value settings.
- **Down arrow** Instantly navigate to bearing condition measurement.



Bearing condition

The application analyses the impact of lubrication or other actions on bearings. The bearing condition value is a sum average of high-frequency vibrations within a specified frequency interval, serving as an indicator of overall bearing health.

The displayed information indicates the bearing condition level in gBC units, with RMS as the detection type, within a specified frequency range of 500 - 16000 Hz.



Note! Access other menus seamlessly during measurements using intelligent keyboard short-cuts for enhanced productivity.

- **Down arrow** Instantly navigate to total value measurement.

Charging

VIBER X+ is charged using a standard USB Type-C charger and supports a voltage range of 5 - 12 VDC 10W.

Utilizing the VMI's original charger provides up to 70% capacity from a fully discharged level in just two hours.

Battery

VIBER X+ is equipped with a lithium battery boasting a 2.0 Ah capacity, ensuring usage for up to 12 hours on a single charge under normal ambient temperature conditions.

Note! The backlight automatically turns off for a few seconds as a warning before the instrument shuts down when the battery capacity is nearing its end.

Each segment of the battery icon represents 20% of the remaining battery capacity.

 100% remaining of battery capacity.

 80% remaining of battery capacity.

 60% remaining of battery capacity.

 40% remaining of battery capacity.

 20% remaining of battery capacity.



Technical data

Digital	ADC	16 bit
	Dynamic range	96 dB
	Memory	4MB
Display	Size	1.8 inch, 128x128 pixels
Signal input	AC inputs	All standard ICP accelerometers (4mA/24V)
Measurements	Frequency range total value	2 to 12800 Hz
	Frequency range BC	500 - 16000 Hz
	Amplitude range	Up to 80 g, peak
	Accuracy	0.01 g \pm 2 % for non integrated 0.1 mm/s \pm 3 % for single integrated
	Resolution	Up to 0.25 Hz/line
Power	Battery	3.7 V, 2.0 Ah Li-ion
	Operating time	12 hours typical use
	Charging	4h fully charged, 2h up to 70%
	Charger	5 - 12 VDC, 10W, USB-C
Temp.	Operating Storage	-20 °C to +70 °C (-4 °F to 158 °F) -30 °C to +80 °C (-22 °F to 176 °F)
Size	Dimensions Weight	115 x 65 x 40 mm 170 gr

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