

u-CBM vibration configurator

Online help



Manufacturer

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1 About this documentation

1.1 Complete documentation

This manual describes how to use the software u-sense vibration configurator.

When using the u-sense vibration configurator, please also observe the

- **Operating instructions Smart sensor u-sense vibration**
- **Quick reference IoT gateway**
- **Integrated online help IoT gateway**

All documents can be downloaded from the Weidmüller website.

1.2 Symbols and notices

The situation-dependent warnings may contain the following warning symbols:



Notes on the documentation

In the remaining texts, further formatting is used that has the following meaning:



Texts next to this arrow are notes which are not relevant to safety, but provide important information about proper and effective work procedures.

- ▶ Instructions are marked with black triangles next to the text.
- Lists are marked with dashes next to the text.

2 Product description

2.1 u-sense vibration configurator

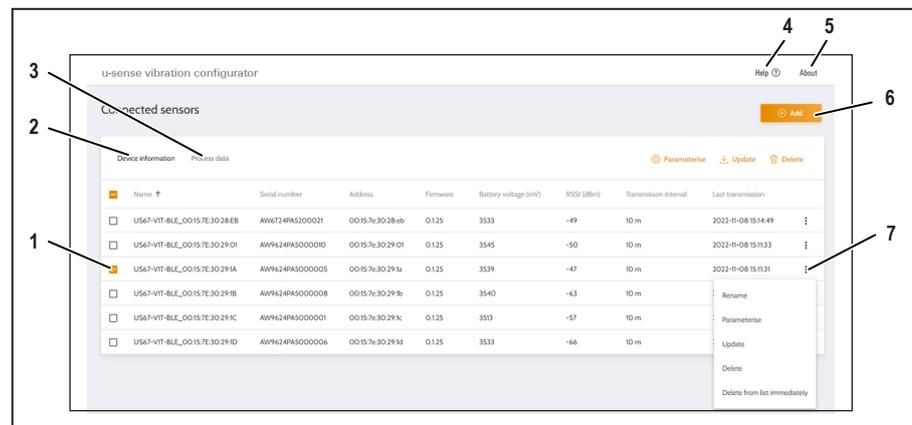
The u-CBM vibration configurator is a web-based software running on an IoT-GW30. The software can be used for:

- Scanning for available sensors
- Adding sensors to a gateway
- Identifying connected sensors
- Displaying the status of sensors
- Displaying the process data of sensors
- Setting the name of a sensor
- Setting the transmission interval

3 Getting to know the configurator

3.1 Starting page

The starting page is displayed each time the u-sense vibration configurator is started.



- 1 Marking a sensor
- 2 Displaying device information
- 3 Displaying process data
- 4 Displaying help
- 5 Displaying legal information/software version
- 6 Adding a sensor
- 7 Selecting a sensor operation

3.2 Displaying legal information

- ▶ On the starting page, click **About**.

3.3 Displaying the software version

- ▶ On the starting page, click **About**.

4 Working with the configurator

4.1 Adding a sensor



Prerequisite

Detailed instructions for commissioning the sensor can be found in the operating instructions **Smart sensor u-CBM vibration**.

You have installed and commissioned the sensor.

- ▶ Click **Add**.

A dialogue box is opened.

A scan is started that lists all sensors in the transmission range that are in pairing mode.

- ▶ Select the sensor you want to add.

A list box is opened.

- ▶ Enter the sensor PIN of the sensor.



You will find the sensor PIN in the sensor box. If the sensor PIN is entered incorrectly five times, the LED is illuminated red. The sensor must be reset to factory settings.

- ▶ Enter a name or leave the default name.

- ▶ Select a transmission interval.

- ▶ Click **Add**.

The sensor is added.

- ▶ Click **Close**.

4.2 Renaming a sensor

- ▶ Mark the sensor you want to rename.

- ▶ Click **:**.

- ▶ Click **Rename sensor**.

A dialogue box is opened.

- ▶ In the text box **Name**, enter the desired name.

- ▶ Click **Rename**.

4.3 Changing the sensor settings

- ▶ Mark the sensor whose settings you want to change.

- ▶ In the **menu bar**, click the **gear** icon.

- ▶ Click the transmission interval text box.

A drop-down list is displayed.

- ▶ Select the desired transmission interval.

- ▶ Click **Parameterise**.

The setting is changed at the next transmission interval.

4.4 Deleting the sensor connection on the gateway and in the sensor

- ▶ Mark the sensor you want to delete.
- ▶ In the menu bar, click the trash can icon.
A dialogue box is opened.

- ▶ Click **Delete**.

The sensor is deleted at the next transmission interval.



What to do next:

When the connection data is deleted in the sensor, the sensor starts the pairing mode for an hour to enable a new connection to a gateway.

If the sensor is not reachable, e. g. the sensor is out of range, you must delete the sensor connection on the gateway, see section 4.5.

4.5 Deleting the sensor connection on the gateway

You can use this function if a sensor is not reachable, e. g. the sensor is out of range. In this case, the connection data can only be deleted on the gateway.

Prerequisite

The attempt to delete the sensor connection on the gateway and in the sensor has failed.

- ▶ Mark the sensor you want to delete.
- ▶ Click **:**.
- ▶ Click **Delete from list immediately**.
- ▶ Click **Yes**.



What to do next:

The connection data is not deleted in the sensor.

For reconnecting the sensor with another gateway, press the reset button of the sensor.

4.6 Revoking an operation

You can revoke a delete, update or parameterise operation of a sensor.

- ▶ Mark the sensor whose operation you want to revoke.
- ▶ Click **:**.
- ▶ Click **Revoke ... operation**.
- ▶ Click **Yes**.

4.7 Overview of data per transmission interval

The data of each transmission interval consists of 3 events:

Event	Description
device_info	Sensor self-disclosure, e.g. address, serial number, name, firmware version
time_domain	Data from the time domain, e.g. vRMS, variance, kurtosis, temperature
FFT	Data from the frequency domain, concrete FFT of the time data in 2048 values per axis

4.8 Updating the firmware

- ▶ Mark the sensor you want to update.
- ▶ In the menu bar, click **Update**.

A dialogue box is opened.

- ▶ Click **Select file...**

A file dialogue is opened.

- ▶ Open the update from your file system (.zip).
- ▶ Click **OK**.
- ▶ Click **Start the firmware update**.
- ▶ Click **Close**.

The update is started at the next transmission interval.

The process of the firmware update is displayed in the **Firmware** column.

5 Programming Node-RED flows

5.1 Installing new nodes



Only install modules from trustworthy sources. Observe individual IT security policies.



The installation of a module fails, if it requires compiling source code on the device or relies on external dependencies that are not installed. Please check the package and its dependencies before installing it. If the installation of a module fails, check the debug sidebar of Node-RED.

New nodes extend the functionality of u-create web. These nodes are contributions by other Node-RED users, provided under free licenses. You can install new nodes via the built-in npm package manager. Multiple nodes are frequently grouped into modules.

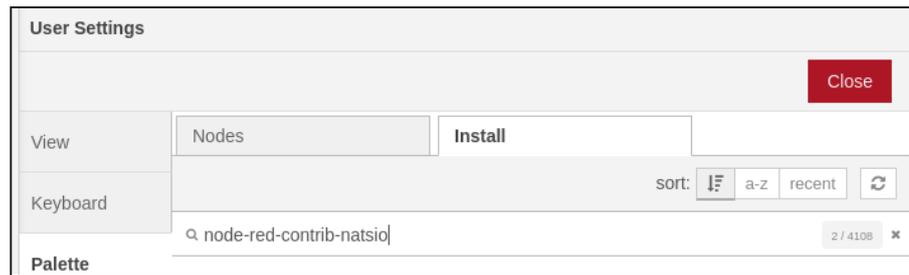
Prerequisite

The device must be connected to the internet in order to install new nodes. The PC via which you use u-create web must be connected to the internet in order to view the documentation of the node.

- ▶ Open Node-RED.
- ▶ Click ☰ to open the **Node-RED menu**.
- ▶ In the **Node-RED menu**, click **Manage palette**.

The **User Settings** dialogue is opened.

- ▶ Click the **Install** tab.
- ▶ In the **search modules** text box, search for the node-red-contrib-natsio module.



► Click the **install** button next to the module you want to install.
An installation dialogue is opened.

- Click **Open node information** to read the documentation of the module. The documentation is created and maintained by the creators of the module.
- Observe the documentation. The documentation contains information about usage, licensing and dependencies as well as links to the public repository and npm.
- If you decide to install the module, click **Install**.
The module is installed.

5.2 Managing installed nodes



Only install modules from trustworthy sources. Observe individual IT security policies.



The installation of a module fails, if it requires compiling source code on the device or relies on external dependencies that are not installed. Please check the package and its dependencies before installing it. If the installation of a module fails, check the debug sidebar of Node-RED.

You can manage the node in your palette by:

- updating modules
- enabling or disabling nodes
- uninstalling modules

Pre-installed modules cannot be uninstalled, but only disabled. If a node is currently used in a flow, it cannot be disabled or uninstalled

Prerequisite

The device must be connected to the internet in order to update nodes.

- Open Node-RED.
- Click ☰ to open the **Node-RED menu**.
- In the **Node-RED menu**, click **Manage palette**.

The **User Settings** dialogue is opened.

- Click the **Nodes** tab.
- In the search modules text box, search for the node-red-contrib-natsio module.
- If you want to access individual nodes in a module, click the **> X nodes** button.
- Click on a button to execute the desired operation:
 - **update to X.Y.Z**: update the module to version X.Y.Z.
 - **disable / enable**: disable / enable a node.
 - **disable all / enable all**: disable / enable all node in the module.
 - **uninstall**: uninstall the module.

5.3 Reading data from the sensor with Node-RED

The `natsio-sub` node allows to read data from the digital inputs of the sensor and inject them into a flow.

- ▶ Open Node-RED.
- ▶ Add a `natsio-sub` node from the `NatsIO` category to the workplace.
- ▶ Double-click the `natsio-sub` node to open the **Edit node** dialogue.
- ▶ Click the **pen icon**.
- ▶ In the **Name** text box, enter a name.
- ▶ Click **Add** to apply your changes.
- ▶ In the subject text box, enter `*`.
- ▶ Click **Done**.

Data from the connected sensors can now be read at the set transmission intervals.

What to do next: Connect the output of the `natsio-sub` node to the input of a debug node.



See integrated online help of the IoT gateway **Displaying messages using a debug node**.