

USB Mass Sensor sugu-M User's Manual

Thank you very much for purchasing this product.
A05-3830 USB Mass Sensor sugu-M is an electronic balance
used for science experiments in school education.
Please use this product after carefully reading its user's manual.

Caution

- No open flame: high risk of serious damage to the main unit.
- No disassembly: disassembling might cause breakdown or injury; therefore do not disassemble the product.
- Keep dry: if the product gets wet there is a risk of electric shock or breakdown; therefore do not expose it to water.
- If during use or storage you notice abnormal smell, the product gets warm, discoloration, deformation, or other abnormalities, stop using the product and contact us.
- Do not leave or store the product on places with high temperatures like under blazing sun inside a car or under strong direct sunlight. It might cause deformation or breakdown of the product.
- Do not apply strong pressure on the display, especially with sharp objects.
- When conducting experiments, place the product on a rigid, level surface only.
- Do not expose to strong shocks or do not throw it.
- Do not use the product if the case is broken or the connecting cable is damaged.
- The USB port is intended solely for data communication and power supply; it cannot be used for charging.
- After use, be sure to unplug the USB cable and reel it back.
- Check the condition of the product before and after long-term storage; if any abnormalities are found, discontinue use.
- Using solvents such as ethanol for cleaning or disinfection may cause damage or affect the product's appearance.
- This product is intended for measuring experiments in science classes at school. Use for different purposes is not supported.
- Teacher or trainer must instruct students about the safe ways of conducting experiments with this product before actually conducting experiments.
- This is not a toy. Not intended for children 12 years old and younger.

Specifications

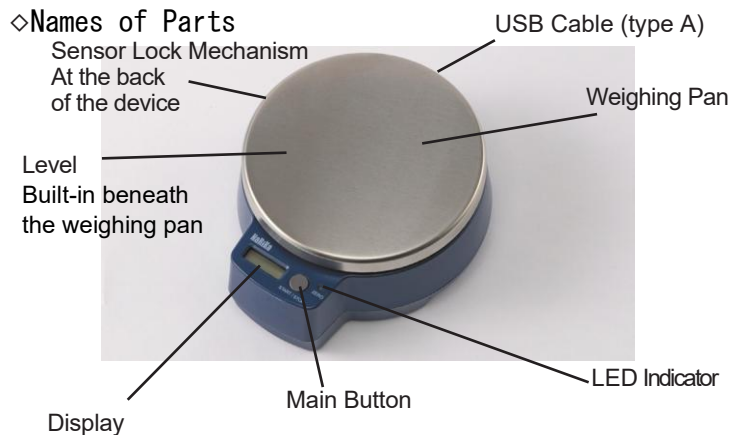
Dimensions: 150 x 170 x 70 mm; cord length 900 mm (retractable)
Measurement method: Strain gauge
Maximum capacity (g): 520 g (5.10 N)
Minimum display resolution (d): 0.01 g (switchable to 0.1 g or 1 g)
Repeatability: 3d
Linearity: $\pm 3d$
Tare range: 0 to maximum capacity
Display: 23 x 7 mm LCD; refresh rate 10 Hz
Output: USB 2.0
Power supply: USB-powered (5 V)
Supported OS: Windows 11, ChromeOS
Other features: Real-time display, built-in level

[When using the web app]

Measurement parameters: Mass (g) / Time (s)

Measurement interval: Max. 2 Hz; automatically adjusted based on elapsed measurement time

Names of Parts



Display: Shows the current measurement value.
Weighing Pan: Stainless steel
USB Cable: Used for USB power supply and data communication.
LED Indicator: Indicates the device status based on lighting state.
Green Light ON: Power ON; Green Light Flashing: Data communication in progress
Main Button: Calibration, taring, changing minimum display resolution, measurement modes selection
When using the web app, a single short press can also start or stop measurements.
Spirit Level: Used to verify that the surface the scale is placed on is horizontal (level).
Sensor Lock Mechanism: Allows the sensor to be locked to prevent damage during transport or storage.

Operating Instructions

Power On/Off

The product powers on when the USB cable is connected to a PC or the USB power port of an AC adapter.

When the power is ON, the LED indicator lights up, and the display shows the current measurement reading.



The display shows the current measurement reading. The LED lights up

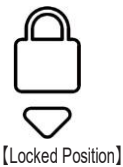


Measurement begins with the reading set to 0.00g at the time the power is turned on.

Clean the weighing platform before turning on the power.

Sensor Lock Mechanism (Located on the bottom of the unit)

Set the sensor lock to the Unlocked Position before use. Set the sensor lock to the Locked Position during transport or storage to help prevent accidental damage to the sensor.



Unit Location Installation

Use the unit on a flat surface, using the built-in spirit level as a guide. Avoid locations subject to excessive airflow (for example from air-condition or electric fan), vibration, heat sources, or rapid temperature fluctuations.

Operating the Main Switch

① Calibration (press the switch three times in a row immediately after turning on the power).

*Please prepare a 200g calibration weight (not included sold separately).

1. Immediately after plugging the USB cable into the power port (when the display shows [88888]), press the main switch three times.
2. When [200.00g] appears on the display, place the calibration weight (200g) on the weighing pan.
3. With the calibration weight still on the pan, press the main switch once.
4. [PASS] will appear on the display, followed by the weight of the calibration weight (200g), indicating that calibration is complete.
When you remove the calibration weight, [0.00g] will be displayed.

- ② Tare (one long press - press and hold the main button for 1 second)
You can tare the scale up to the maximum capacity (520g).
Place the item to be tared on the weighing pan, then one long press.

- ③ Changing the resolution (Press the main button twice)
You can change the resolution between three settings: 0.00 → 0.0 → 0 (g).
With the power on, press the main button twice.

*The changed resolution setting is saved in the device even after the power is turned off.

- ④ Switching between Grams (g) and Newtons (N) Measurement Modes (Press and hold the main button while turning on the power).
The default setting is grams (g).
If you plug the USB cable into the power port to turn on the power while holding down the main button, the device will switch to Newtons (N) measurement mode.

*The mode setting resets when the power is turned off.

- ⑤ Starting/Stopping Measurement When Using the Web Application
(Short press - shortly press the main button once while connected to the Web application)
You can start and stop measurement using the main button.

◇Connecting to a PC

Plug the USB cable (Type-A) into the USB port of your PC.

The LED indicator on the product will light up once it receives power.



◇Launching the Dedicated Web Application

Launch a web browser on your PC.

Visit the website listed below.

Supported Browsers: Google Chrome, Microsoft Edge

Dedicated Web Application for the sugu-M USB Temperature Sensor:

Sugu-M-Web



<https://global.narika.jp/sugu-m-web>

◇Connecting the Balance

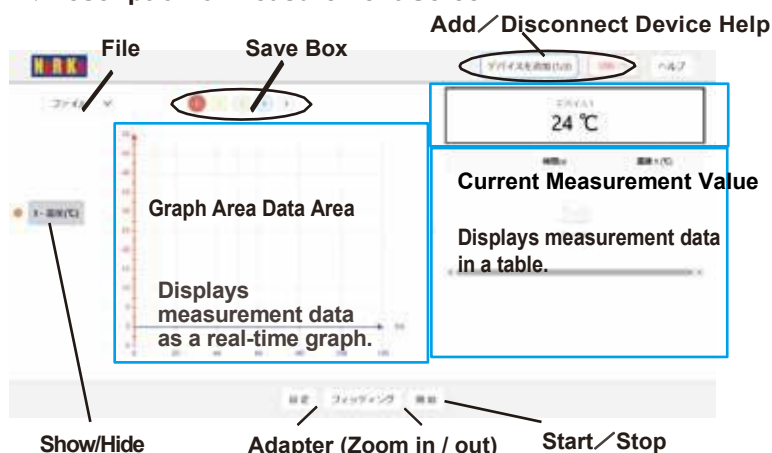
Click [Connect] at the top right corner of the web application screen. A pop-up window will display the devices connected to the USB port. Select [USB Mass Sensor sugu-M] and click [Connect].



② Select USB Mass Sensor sugu-M

You will be taken to the measurement screen shown above.

◇Description of Measurement Screen



- Start/Stop: Start / Stop Measurement

- **Adapter (Zoom in / out):** Adjusts the graph display so it occupies approximately 80% of the graph area based on the maximum and minimum measured values.

- **Settings:** Adjusts the display range of the measured values (vertical axis).

- **Show/Hide:** Switch on / off graph visibility. Clicking causes the corresponding sensor's LED indicator to flash briefly.

- **File:** Load File (open CSV file) / Save File (save data as CSV file).

- **Save Box:** Temporarily stores data from the last 5 measurements.

- **Add Device:** Connect up to 3 devices.

- **Help:** Access the product support webpage.

◇ Starting / Stopping Measurement

Operating on the product: Short press the Start/Stop button once.

Note: This is the recommended method for ease of use.

Operating via the Web Application: Click Start or Stop.



Press the Start/Stop button once



Or Click the Start/Stop button

◇ Automatic Adjustment of Measurement Intervals

The measurement interval is automatically optimized based on the elapsed measurement time.

Without complex settings this prevents data volume from becoming excessive, enabling long-term measurement.

[Sampling Rate] From the start of measurement up to 600 seconds: Measurements are taken at 0.5-second intervals.

From 601 seconds onward: The measurement interval automatically doubles to maintain a maximum of 1,200 data points per sensor.

Example: After 1,200 seconds (20 mins) elapsed: 1.0-second intervals

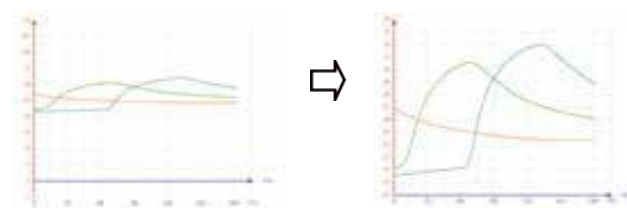
After 2,400 seconds (40 mins) elapsed: 2.0-second intervals

After that, the intervals are adjusted to optimal setting-such as 4.0 seconds, 8.0 seconds-while maintaining the data point limit.

◇Post-Measurement Operations

Adapter (Zoom in / out)

The vertical axis is initially set to -10 to +250g. Clicking Adapter after a measurement scales the graph based on the minimum and maximum measured values so that the data fits within the graph area.



② Show/Hide

Click to toggle the graph's visibility. When clicked, the LED on the corresponding device will flash briefly. This can be used to identify the correct device when multiple devices are connected.



③ Save Box

Up to the last 5 sets of measurement data are temporarily saved. You can retrieve this data by clicking on the box. The oldest data is overwritten when you perform the 6th measurement or later.

The box currently on display is highlighted in a darker color.



(Example: Image showing the data from Box 2 being displayed)

④ **Saving/Opening Data (File Menu)** Measurement data can be saved as a CSV file. Saved CSV files can be reopened and viewed in the web application.



For more details about the product, please refer to the URL below:

<https://global.narika.jp/product/053830w0>

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<https://global.narika.jp/>