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USER GUIDE

BWS500

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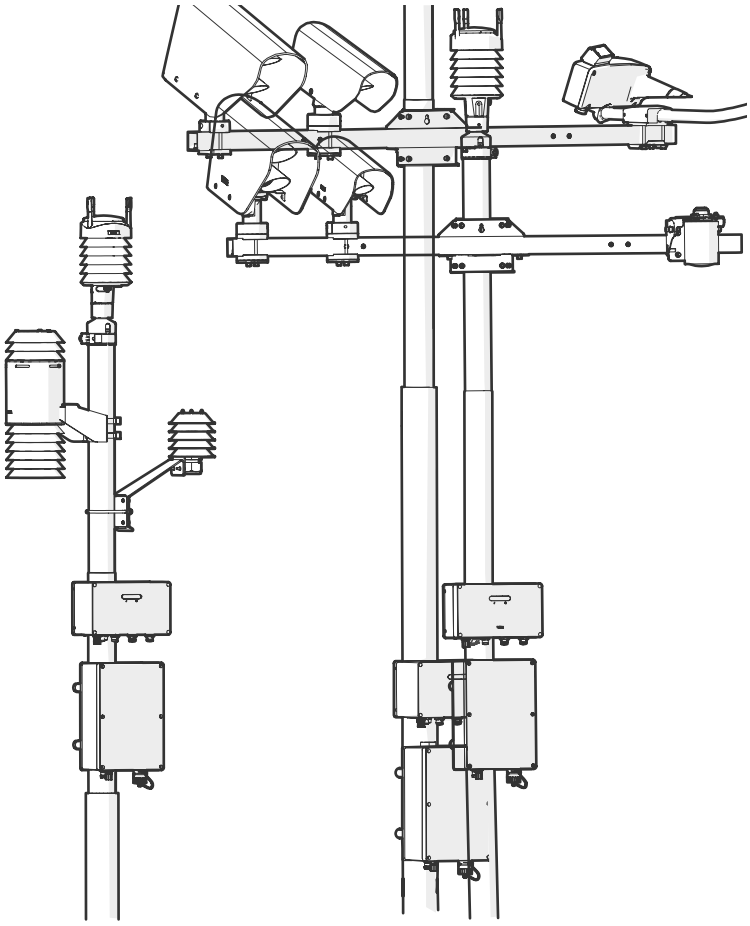


M212822EN-G

Maintenance Guide

Vaisala Beam Weather Station

BWS500



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1. About this document

1.1 Version information

This document provides instructions for maintaining Vaisala Beam Weather Station BWS500.

Table 1 Document versions (English)

Document code	Date	Description
M212822EN-G	January 2025	The following features have been added in EGW501 software release 2.10.0: • User account management • Factory reset through the Web UI • Support for automatic GNSS (Global Navigation Satellite System) location acquisition and the possibility to send this information over PODS-MQTT For instructions on how to enable the GNSS location acquisition, see BWS500 Setup Guide (M212787EN). A new cleaning tool is now available for DSC211. The order code is DSCDSTCLEANINGTOOL. The DSC211 cleaning instructions have been updated accordingly.
M212822EN-F	June 2024	Support for Hukseflux SR05 pyranometer has been added.
M212822EN-E	March 2024	Support for the following sensors has been added: • Geolux Snow Level Sensor LX-80S • Vega Water Level Radar Sensor VEGAPULS C 23 Vaisala Present Weather and Visibility Sensors PWD12 and PWD22 have been removed from the document. AQT560 has replaced AQT530 in the offering. Existing AQT530 sensors continue working as previously.

1.2 Related manuals



Some of these documents can be found in our product documentation portal at docs.vaisala.com.

Table 2 BWS500 manuals

Document code	Name
M212787EN	Vaisala Beam Weather Station BWS500 Setup Guide
M212534EN	BWS500 Wall Mounting Installation Guide
M212769EN	PSU501 Storage Instructions

Document code	Name
M212822EN	Vaisala Beam Weather Station BWS500 Maintenance Guide
M212525EN	Vaisala Beam Weather Station BWS500 Spare Part List
M212478EN	Vaisala Beam Weather Station BWS500 System Description
M212450EN	Vaisala Beam Weather Station BWS500 Technical Specification
M213032EN	Vaisala Beam Weather Station BWS500 Upgrade Guide
M212952EN	*Vaisala Beam Weather Station BWS500 PODS-MQTT Interface Description*
M212555EN	*Accessing Maintenance Web User Interface*

Table 3 Other manuals

Document	Name
M210373EN	Vaisala Short Pole Mast DKP202, DKP203, DKP204, and DKP204W-CAMPOLE User Guide
M213027EN	Vaisala Air Quality Transmitter AQT560 Product Description
M212982EN	Vaisala Air Quality Transmitter AQT560 Setup Guide
M213026EN	Vaisala Air Quality Transmitter AQT560 Configuration Guide
M212983EN	*Vaisala Air Quality Transmitter AQT560 Maintenance Guide*
M211651EN	*Vaisala Remote Road State Sensor DSC211 User Guide*
M210716EN	*Vaisala Remote Road Surface Temperature Sensor DST111 and DST111R User's Guide*
M211897EN	Vaisala CARBOCAP Carbon Dioxide Probe GMP252 User Guide
–	*Geolux LX-80S Snow Level Sensor User Manual*
–	*Hukseflux SR05-D1A3 & SR05-D2A2 User Manual*
–	*Vega VEGAPULS C 23 Radar Sensor for Continuous Level Measurement Operating Instructions*
M211840EN	Vaisala Weather Transmitter WXT530 Series User Guide

1.3 Documentation conventions

WARNING! Warning alerts you to a serious hazard. If you do not read and follow instructions carefully at this point, there is a risk of injury or even death.

CAUTION! Caution warns you of a potential hazard. If you do not read and follow instructions carefully at this point, the product could be damaged or important data could be lost.

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Highlights important information on using the product.



Gives information for using the product more efficiently.



Lists tools needed to perform the task.



Indicates that you need to take some notes during the task.

1.4 Trademarks

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2. Product overview

2.1 Vaisala Beam Weather Station BWS500

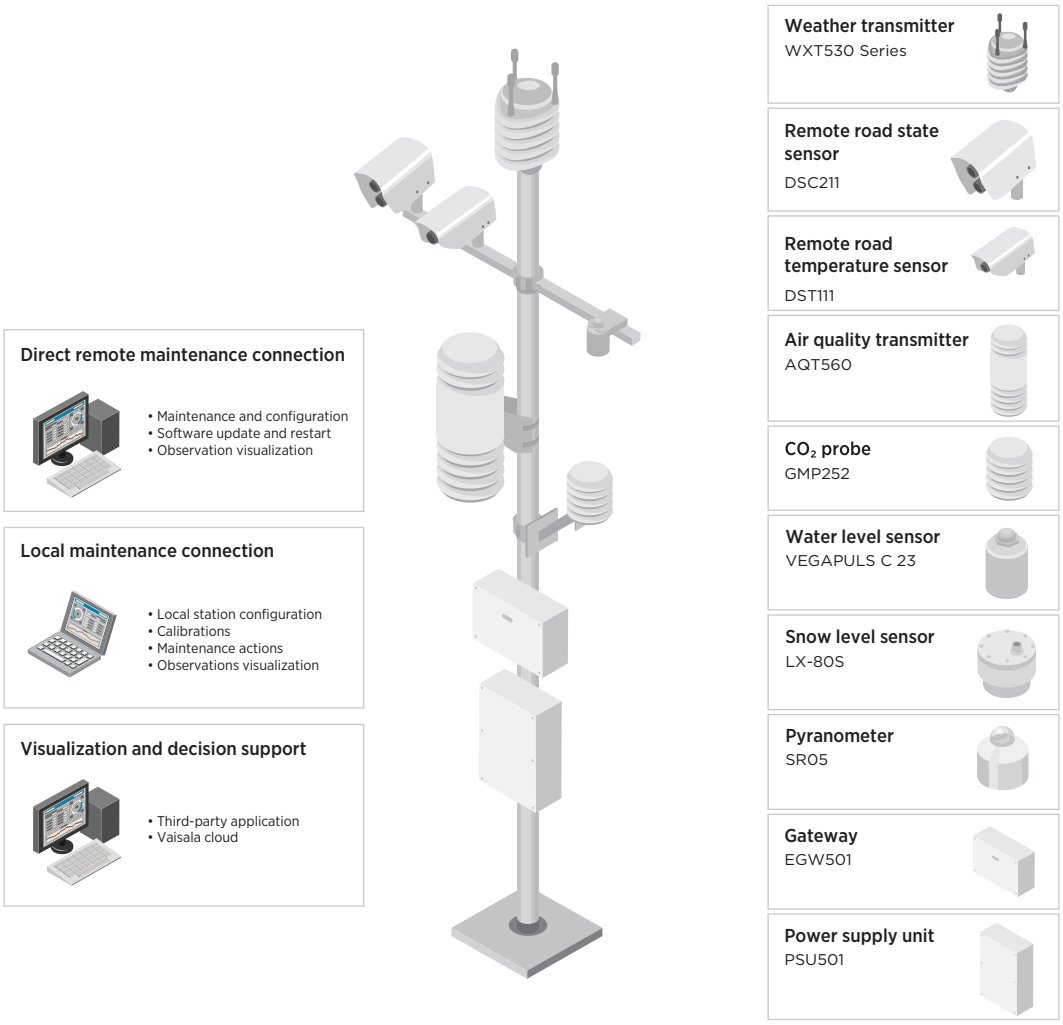


Figure 1 Vaisala Beam Weather Station BWS500

Vaisala Beam Weather Station BWS500 is a compact weather station for cities, road authorities, and industrial zones. With the flexible and scalable Beam weather station, communities can assess road conditions, air pollution, and other environmental challenges. The weather, environmental, and road state observations can be used to fit various and specific needs.

Beam Weather Station supports a wide range of Vaisala and third-party sensors, making it suitable for a variety of applications, including air quality observation, heat wave tracking, urban flood monitoring, environmental traffic management, and many more. BWS500 can be scaled to support both small and large-scale weather observation networks.

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The sensor selection of BWS500 includes the following sensors:

- Vaisala Air Quality Transmitter AQT560
- Vaisala Remote Road Surface State Sensor DSC211
- Vaisala Remote Road Surface Temperature Sensor DST111
- Vaisala Carbon Dioxide Probe GMP252
- Geolux Snow Level Sensor LX-80S
- Hukseflux SR05 pyranometer
- Vega Water Level Radar Sensor VEGAPULS C 23
- Vaisala Weather Transmitter WXT530 Series

WXT530 series sensors measure 6 different weather parameters. AQT560 provides measurement data of the most important urban pollutant gases and particles, and GMP252 measures carbon dioxide concentration up to 10 000 ppm CO_2.

DSC211 measures road surface state, layer thickness, and grip. DST111 measures road surface temperature, air temperature, dew point temperature, and relative humidity.

VEGAPULS C 23 measures water level and LX-80S snow depth. SR05 measures solar radiation.

You can select multiple sensors for your weather station. Note that there may be certain limitations in sensor combination due to power demands. Contact Vaisala to discuss your requirements.

2.2 Product and part names

Table 4 Product and part names

Item	Name
BWS500	Vaisala Beam Weather Station
EGW501	Vaisala Edge Gateway
PSU501	Vaisala Power Supply Unit for AC (mains) and DC power
SOL501	Vaisala Solar Panel 20 W for tripod
SOL502	Vaisala Solar Panel 20 W for pole mast
DKT504	Vaisala Tripod Mast
DKP202 DKP203 DKP204	Vaisala Short Pole Mast
AQT560	Vaisala Air Quality Transmitter
DSC211	Vaisala Remote Road Surface State Sensor
DST111	Vaisala Remote Road Surface Temperature Sensor
GMP252	Vaisala Carbon Dioxide Probe
LX-80S	Geolux Snow Level Sensor

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Item	Name
SR05	Hukseflux pyranometer
VEGAPULS C 23	Vega Water Level Radar Sensor
WXT530	Vaisala Weather Transmitter

2.3 Safety

WARNING! Assess the risks from the installation work. Consider also the effects of local weather conditions.

WARNING! Do not perform installation or maintenance procedures when there is a risk of thunderstorm or lightning activity in the area.

WARNING! Follow local and state legislation and regulations on occupational safety.

WARNING! The AC (mains) power supply line must be equipped with an overcurrent protection device (a fuse or a circuit breaker). The current rating of the overcurrent protection device must be aligned with the cable size used to connect PSU501. Unless local regulations state otherwise, use the following:

- Maximum 6 A device for 0.75 mm^2 (18 AWG) cables
- Maximum of 10 A device for 1 mm^2 (17 AWG) cables
- Maximum of 16 A device for 1.5 mm^2 (15 AWG) cables

WARNING! Do not replace the AC (mains) cable with an inadequately rated cable.

WARNING! Do not replace the battery with a battery of an incorrect type. If you do, there is a risk of deflagration. Dispose of used batteries according to statutory regulations.

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WARNING! Do not throw the battery into a hot oven or fire, or mechanically crush or cut the battery. Improper disposal can cause an explosion.



WARNING! Do not leave the battery in an environment surrounded by extremely high temperatures. Extremely high temperature can result in deflagration or leakage of flammable liquid or gas.



WARNING! Make sure that the battery is not subjected to an extremely low air pressure. Extremely low air pressure can result in deflagration or leakage of flammable liquid or gas.



WARNING! Some instruments and sensors or versions are heated. To avoid injury, do not touch heated parts when heating is on.



CAUTION! This device requires a separation distance of at least 20 cm (7.87 in). This distance must be maintained between the user and the device when the device is operating.



CAUTION! This device may be disturbed by electromagnetic interference.



CAUTION! To prevent electrostatic discharge, avoid touching component contacts or connectors.



Vaisala Air Quality Transmitters AQT530 and AQT560 and Vaisala Remote Road State Sensor DSC211 are classified as Class 1 laser devices in accordance with International Standard IEC/EN 60825-1. They comply with 21 CFR 1040.10 and 1040.11 except for conformance with IEC 60825-1 Ed. 3., as described in the Laser Notice No. 56, dated May 8, 2019. A Class 1 laser device is safe under all conditions of normal use.
AQT530 and AQT560 incorporate a Class 3B laser. The laser is contained in an enclosure, preventing direct physical access to laser radiation.

WARNING! To avoid exposure to laser radiation, do not disassemble the air quality transmitter unless instructed to do so in air quality transmitter maintenance instructions.



When working with equipment in extremely cold temperatures, use appropriate personal protective equipment such as thermally insulated gloves and clothing.



Wear personal protective equipment (PPE).

WARNING! If the equipment is used in a manner not specified by Vaisala, the protection provided by the equipment may be impaired.

WARNING! Do not substitute parts or modify the system, or install unsuitable parts in the system. Improper modification can damage the product or lead to malfunction.

WARNING! Failure to comply with these precautions or with specific warnings elsewhere in these instructions violates safety standards of design, manufacture, and intended use of the product. Vaisala assumes no liability for the customer's failure to comply with these requirements.

2.3.1 ESD protection

Electrostatic discharge (ESD) can damage electronic circuits. Vaisala products are adequately protected against ESD for their intended use. However, it is possible to damage the product by delivering electrostatic discharges when touching, removing, or inserting any objects in the equipment housing.

To avoid delivering high static voltages to the product, touch a conductive part of the equipment chassis with your other hand before touching ESD-sensitive components.

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3. Maintenance

3.1 Overview of maintenance

In general, BWS500 needs very little maintenance.

The stations connected to Vaisala cloud are monitored through the remote monitoring service. If something is not working as expected, remote diagnostics analyze the issue. If a station needs local maintenance, Vaisala contacts you to visit the station and perform simple checks.

If the station is not connected to the remote monitoring service, monitor the station status through the maintenance web user interface, Web UI, or the status information sent by the station. For instructions on how to connect to the Web UI, see one of the following:

- Connecting to the station locally (page 13)
- Connecting to the station remotely (page 15)

For the status information sent by the station, see *BWS500 PODS-MQTT Interface Description (M212952EN)*.

Table 5 BWS500 maintenance

Task	Frequency
Mast maintenance	See the mast documentation
Support arm maintenance	During site visits
Sensor maintenance	Depends on the sensor
Check the solar panel condition	Twice a year
Clean the solar panel	As needed
Replace the PSU501 battery	Every 3 years (or more often, if needed)

More information

- Mast maintenance (page 15)
- Support arm maintenance (page 15)
- Solar panel maintenance (page 15)
- Sensor maintenance (page 16)

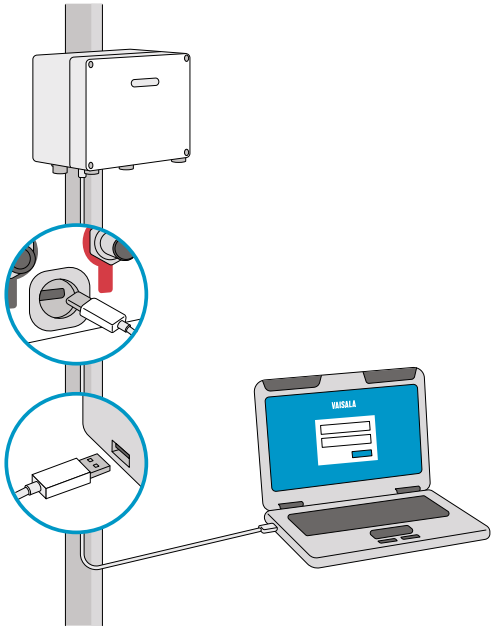
3.1.1 Connecting to the station locally

The Web UI has been tested with the latest versions of Microsoft Edge, Mozilla Firefox, and Google Chrome at the time of publishing this document.



For security reasons, passwords cannot be retrieved from the system. If you forget your username or password, contact Vaisala.

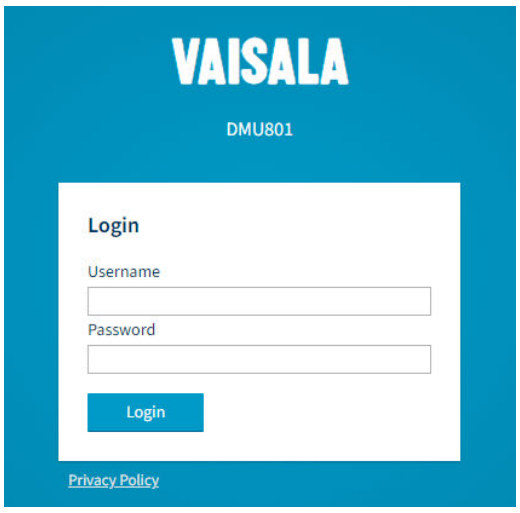
1. Remove the plug and connect your computer to EGW501 with a USB-C cable.



2. Open a web browser and go to the Web UI address:

   https://192.168.10.2

3. Web browsers do not trust a self-signed certificate. If you are logging in for the first time, the browser indicates that the connection is untrusted or insecure. Ignore the warning and continue to the site.
4. On the **Login** page, type the username and password in the fields.



5. Select **Login**.

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3.1.2 Connecting to the station remotely

For remote connection, the station must have a public, static IP address or be connected to a private access point.

Remote connection is not possible with the Vaisala SIM card.

1. Connect your browser to the public IP address or address provided by the access point.
2. Follow the login instructions in Connecting to the station locally (page 13).

3.2 Mast maintenance

Your installation usually includes a mast. For maintenance instructions, see the mast documentation.

3.3 Support arm maintenance

When you check the mast, check that the support arm is firmly attached. Check with a spirit level that the alignment is in level.

3.4 Solar panel maintenance



CAUTION! Handle the solar panel with care. Impact on the front or rear surface can damage the module. Do not bend the panel.



When working with the solar panel, use properly insulated tools and wear rubber gloves.

Preventive maintenance for the solar panel includes:

- Inspecting the module at least twice a year for overall integrity. Make sure that connections to the battery are tight and free of corrosion.
- Cleaning the module surface, if needed. Dirt accumulation on the module's front surface can reduce the light energy collected by the module. If the module surface is dirty, gently clean it using mild detergent and a soft, lint-free cloth.



CAUTION! Do not use a scrub brush. It can damage the front surface of the module.

3.5 Sensor maintenance

Table 6 Sensor maintenance instructions

Sensor	Instructions
AQT560	*AQT560 Maintenance Guide (M212983EN)*
DSC211	DSC maintenance (page 16) *DSC211 User Guide (M211651EN)*
DST111	*DST111 and DST111R User Guide (M210716EN)*
GMP252	GMP252 User Guide (M211897EN)
LX-80S	*Geolux LX-80S Snow Level Sensor User Manual*
SR05	*Hukseflux SR05-D1A3 & SR05-D2A2 User Manual*
VEGAPULS C 23	*Vega VEGAPULS C 23 Radar Sensor for Continuous Level Measurement Operating Instructions*
WXT530 Series	WXT530 User Guide (M211840EN)

3.6 DSC maintenance

Perform a basic check of DSC once a year before winter. Preventive maintenance includes:

- Checking that there are no outer damages in the device, cables, or connectors.
- Checking that the sensor is aimed at the wheel track. The wheel track may change its place over the winter. To check that the sensor is aimed at the desired area on the road surface, look along the straight part of the edge of the weather shield.
- Cleaning the sensor. If the sensor gets easily dirty due to the installation location, regular cleaning is advised.
- Calibrating the sensor, if needed.
- If the sensor reports irregular values and calibration does not help, adjust sensor signal strength.

More information

- Cleaning DSC (page 16)
- DSC dry calibration (page 18)
- Calibrating DSC211 (page 19)
- Adjusting DSC211 signal strength (page 20)

3.6.1 Cleaning DSC



- Soft, lint-free cloth
- 50 % isopropyl alcohol
- DSC cleaning tool (DSCDSTCLEANINGTOOL)

Whenever you visit the site, clean the windows and hoods of the receiver and transmitter.

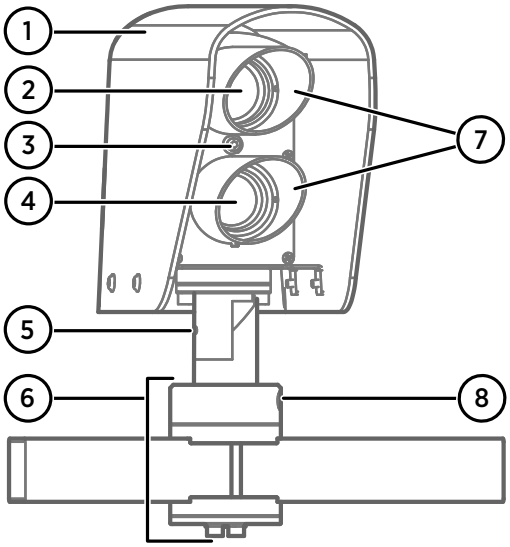
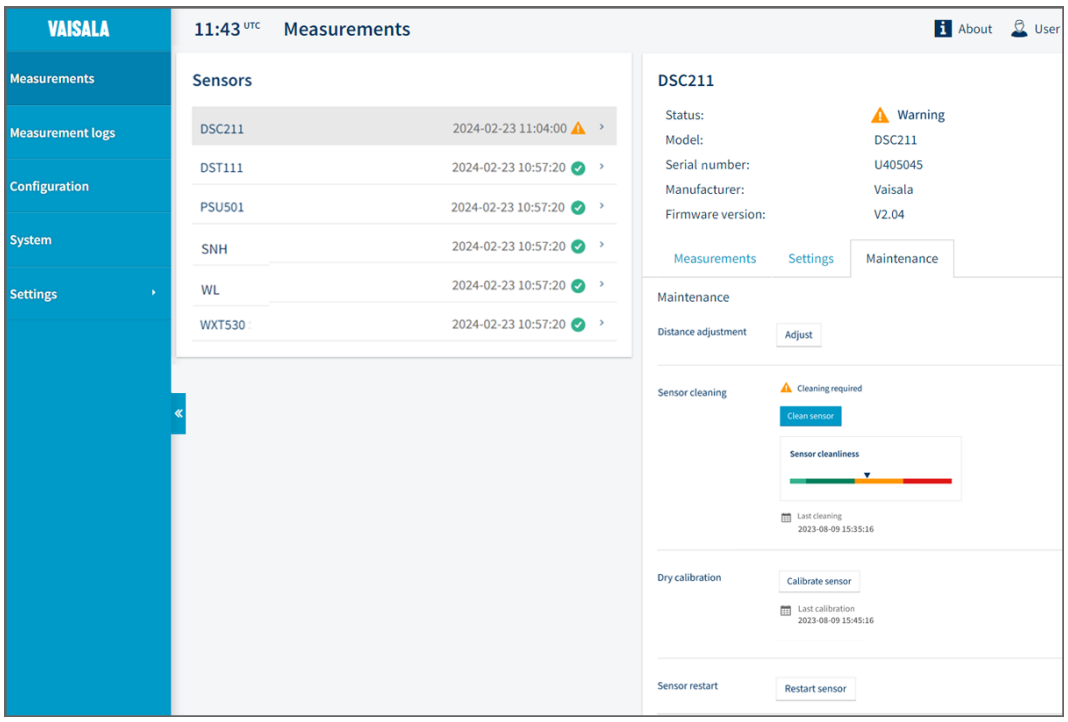


Figure 2 DSC hardware structure

1 Weather shield
2 Transmitter
3 Adjustment screw (measuring distance)
4 Receiver
5 Tilt screw (tilt angle)
6 Mounting bracket
7 Hoods
8 Installation bolt

The sensor automatically measures the contamination of the receiver window and warns of heavy contamination. In most cases, cleaning is unnecessary since the windows are well protected from dirt by the weather shield and the hoods.

1. First check if cleaning is needed.
   a. In the Web UI, go to **Measurements**, and select the sensor.
   b. In the **Maintenance** tab, check the sensor cleanliness indicator to see if cleaning is required.



   c. If cleaning is required, select **Clean sensor**.
2. Using low pressure, spray 50 % isopropyl alcohol on the transmitter and receiver windows. Spray enough solution to dissolve and loosen any dirt.
3. Wrap a soft, lint-free cloth around the DSC end of the cleaning tool.
4. Wipe the transmitter window until it is clean.
5. Take a new, clean cloth and wipe the receiver window until it is clean.
6. Wait until the windows are dry.
7. In the Web UI, select **Finish** to save the new cleanliness value.

3.6.2 DSC dry calibration

DSC has been calibrated at the factory, but those values do not represent the actual properties of the road surface at the installation site. A dry calibration is needed after installation and asphalting.

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The sensor measures road surface on 3 different optical wavelengths. The raw measurements of these signals depend on the sensor unit, installation, and characteristics of the road surface. For road state analysis to work properly, all these signals must be on the same level when the road surface is dry. Dry calibration sets these signal values to the same level.

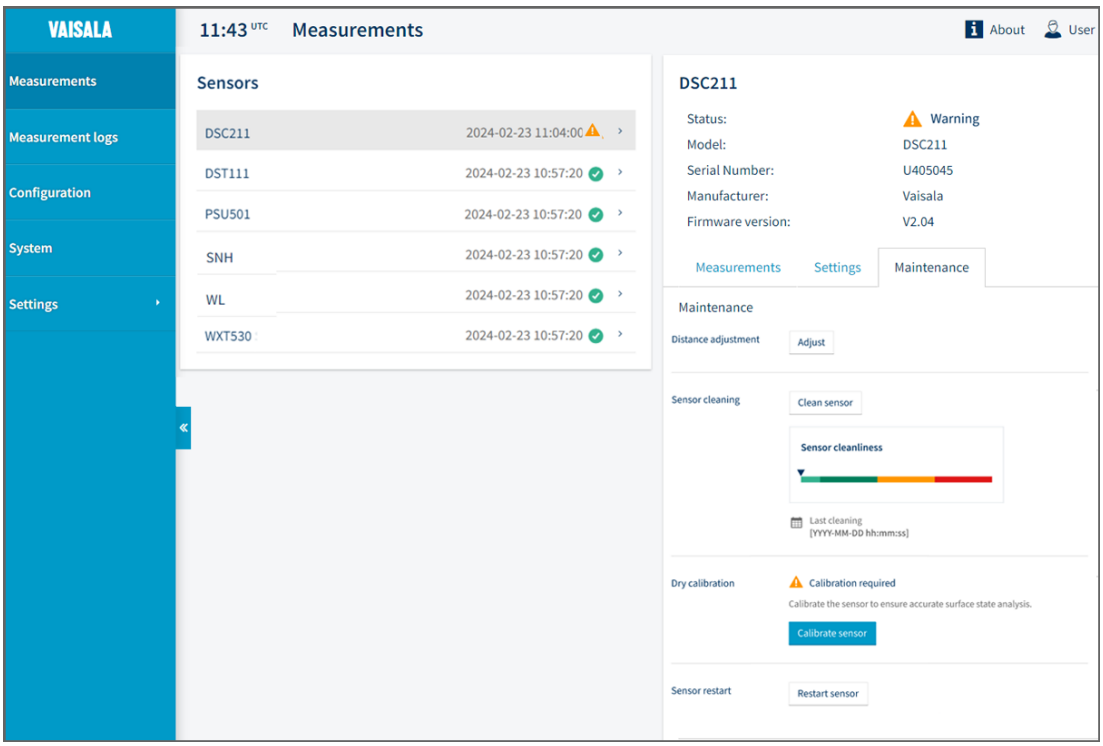
After mounting the sensor and powering up, let the sensor adjust at least 5 minutes before starting the dry calibration. During that time, do not make any adjustments or change the sensor settings.

The road surface must be totally dry for several hours before you start dry calibration. Calibrating the sensor against other than completely dry road surface causes incorrect observations.

Make sure that nothing obstructs the sensor view to the road surface. Flowing traffic does not interfere with the calibration, but stationary vehicles do.

3.6.3 Calibrating DSC211

1. In the Web UI, go to **Measurements**, and select the sensor.
2. In **Maintenance**, select **Calibrate sensor**, and follow the instructions on screen.

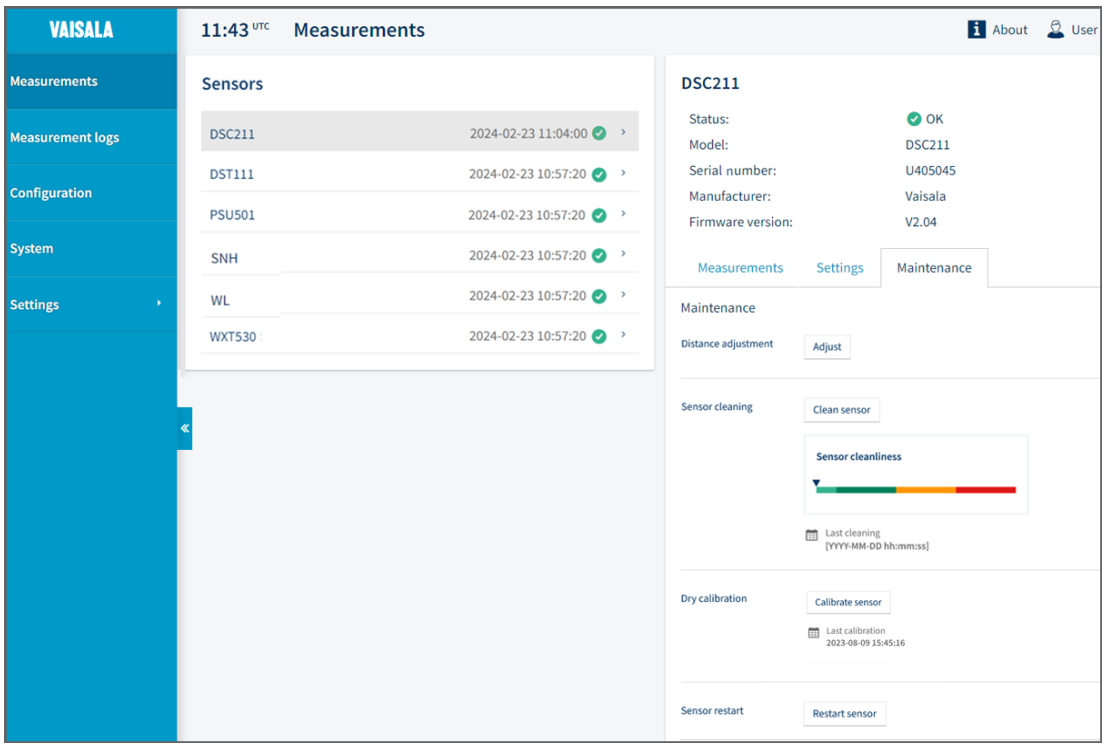


3.6.4 Adjusting DSC211 signal strength

- 4-mm ball-end Allen key of 150 mm (6 in) in length (included)

You may need to adjust the signal strength if the sensor reports irregular values and calibration does not help. The optical signals increase if the installation angle increases, the distance of the sensor from the road shortens, or the road becomes whiter.

1. In the Web UI, go to **Measurements**, and select the sensor.
2. In **Maintenance**, select **Adjust**, and follow the instructions on screen.



3.7 Replacing PSU501 battery

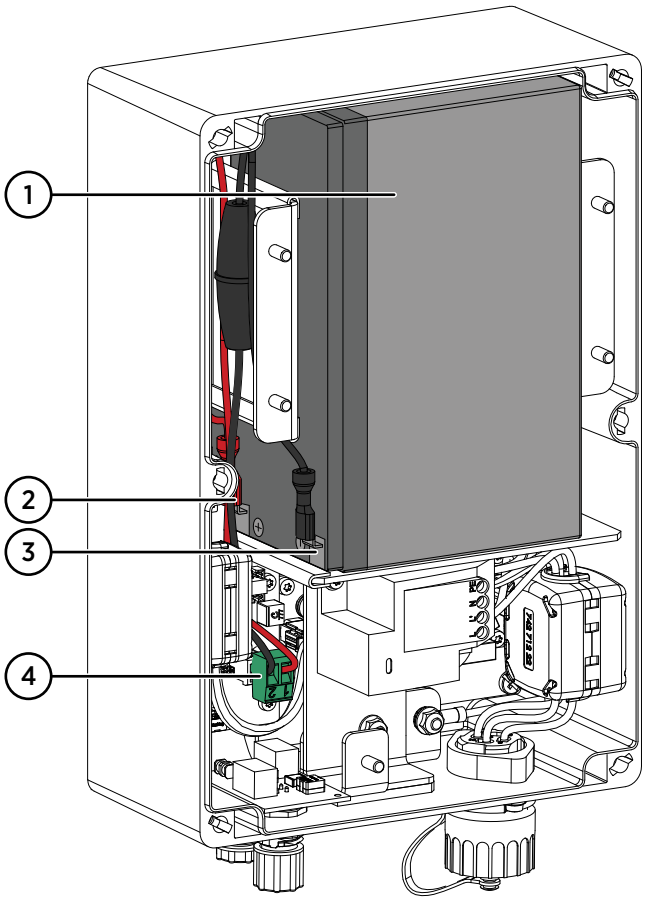


Figure 3 PSU501 battery parts

1 Battery
2 **+** terminal
3 **–** terminal
4 Cable connector plug

- 7-mm socket wrench
- 5-mm flat head screwdriver or Pozidriv screwdriver (PZ2)

Vaisala recommends that you replace the battery every 3 years. The battery may need to be replaced more often if the conditions require, for example:

- When operating in an environment where the ambient temperature is regularly very high.
- When the station runs only on solar power, that is, the battery is intensively used.

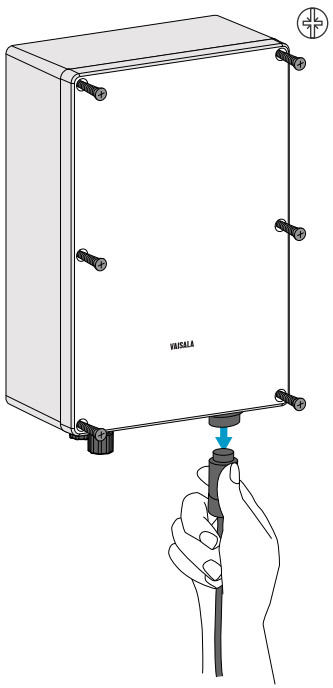
You can check the battery status and state of charge through the remote monitoring service for stations connected to Vaisala cloud. Battery status is also available in the PODS-MQTT interface.

The backup battery does not have any replaceable parts.

WARNING! Do not replace the battery with a battery of an incorrect type. If you do, there is a risk of deflagration. Dispose of used batteries according to statutory regulations.

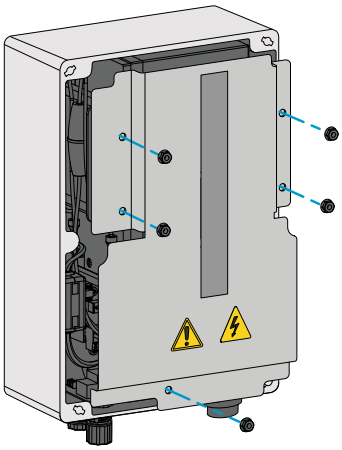
1. Disconnect the power cable.
2. To remove the PSU501 top cover, unscrew the fastening screws (6 pcs) and lift the cover.

   Use either a 5-mm flat head screwdriver or a Pozidriv screwdriver (PZ2).

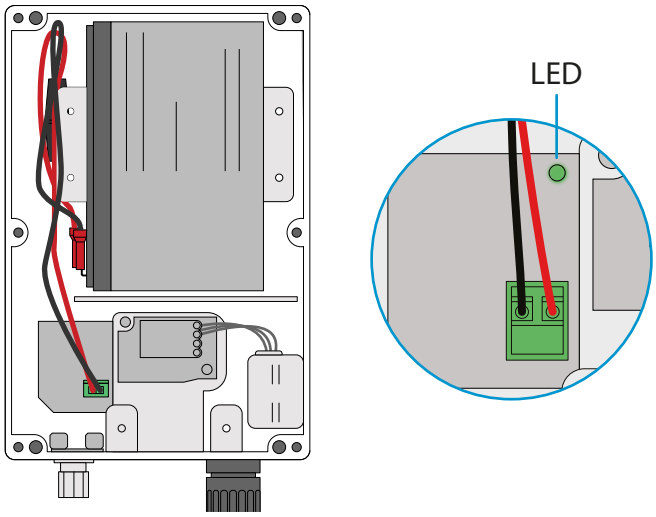


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3. To remove the PSU501 inner cover, unscrew the M4 nuts (5 pcs) and lift the cover.



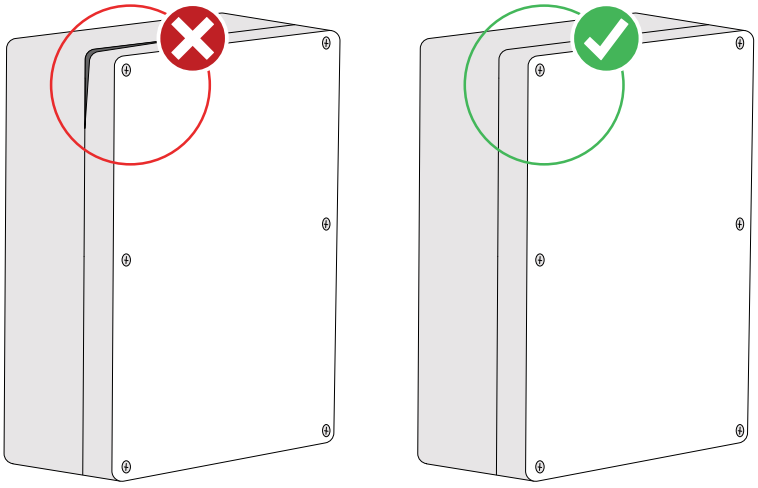
4. Carefully lift up the battery and remove it from the enclosure.
5. Disconnect the cables (red and black) from the battery terminals.
6. Connect the cables to the new battery.
7. Put the new battery in the enclosure.
8. Wait for a while, and check that the status LED on the component board is blinking green every 10 seconds.



A red LED indicates a failure. If the LED is constant red, disconnect and reconnect the battery. If this does not help, contact Vaisala.

9. Put the inner cover back in place.

10. To fasten the nuts, first turn each nut a few rounds one by one. Then tighten the nuts hand-tight.
11. Put the top cover back in place.
12. Tighten the screws until the cover makes good contact with the surface of the enclosure base.



4. Managing user accounts

4.1 Managing user accounts

To be able to use the DMU801 Web UI and Configuration Tool, you need a user account. User accounts are managed in the Web UI.

Only a user with the **Administrator** role can add, edit, or delete user accounts.

An administrator account is created in the initial login, after DMU801 has been activated with the device activation code. There can be several **Administrator** users.

4.2 User roles

User management is handled through user roles with different levels of access rights.



For security reasons, passwords cannot be retrieved from the system. If you forget your username or password, you have to reset DMU801 to factory default settings.

Table 7 User roles and access rights

User role	Purpose
Administrator	• View observations, metadata, system status, and settings • Modify station and network settings • Perform maintenance tasks • Manage users • Update firmware and configuration file
Operator	• View observations, metadata, system status, and settings • Modify station and network settings • Perform maintenance tasks
Viewer	• View observations, metadata, system status, and settings

4.3 Adding new user accounts

1. Log in to the Web UI as an **Administrator**, and select **Users**.

2. Select **Add new user**, and set the following:

   Username
   Username for the user.

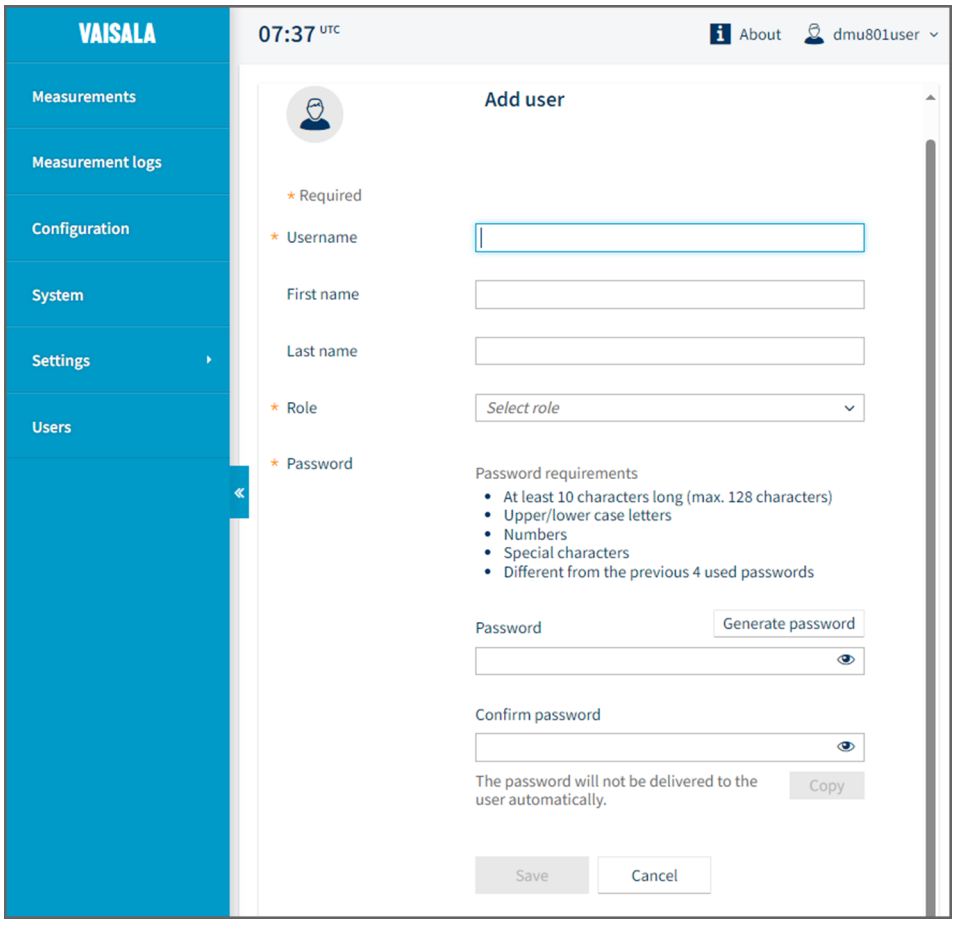
   First name
   First name of the user (optional).

   Last name
   Last name of the user (optional).

   Role
   The role of the user.

   Password
   The user's password.
   To use an automatically generated password, select **Generate password**.

   Confirm password
   Confirm the password.
   To copy the password and send it to the user, select **Copy**.



3. To save the changes, select **Save**.

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4.4 Editing user accounts

1. Log in to the Web UI as an **Administrator**, and select **Users**.
2. From the list of usernames, select the user you want to edit.
3. Make the changes.

> If you delete your account and no other accounts exist, you need to activate DMU801 with the device activation code before you can access the Web UI again.

> If you are an **Administrator** user, you can change your own password also in your own user view on the top right corner of the Web UI.

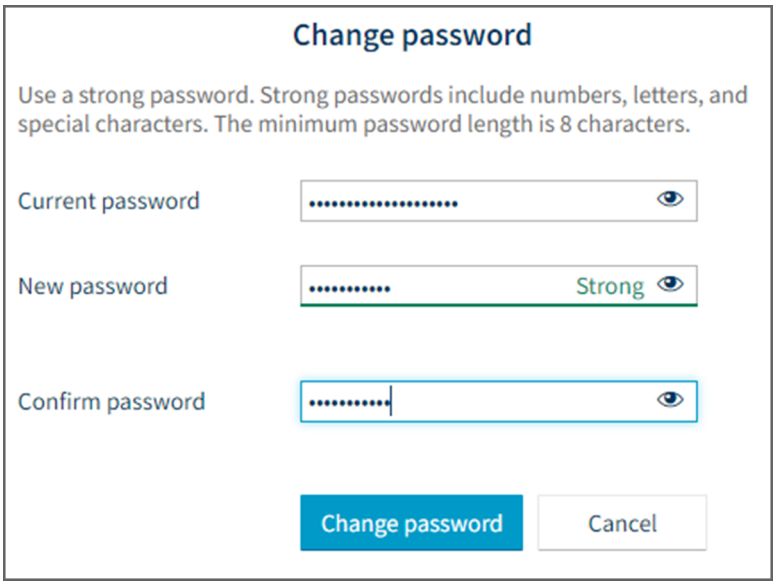
4. To save the changes, select **Save**.

4.5 Changing administrator password

If you are an **Administrator** user, you can change your own password by selecting your username on the top right corner of the Web UI.

1. In the Web UI, select **User > Change password**.
2. Type your password in the **Current password** field.
3. Type the new password in the **New password** field.

   You can see an indication of the password strength as you type.



4. Confirm the password.
5. To save the changes, select **Change password**.

5. Troubleshooting

5.1 Troubleshooting

If the product does not work as it should, check all cables and connectors for continuity, bad contacts, or corrosion.

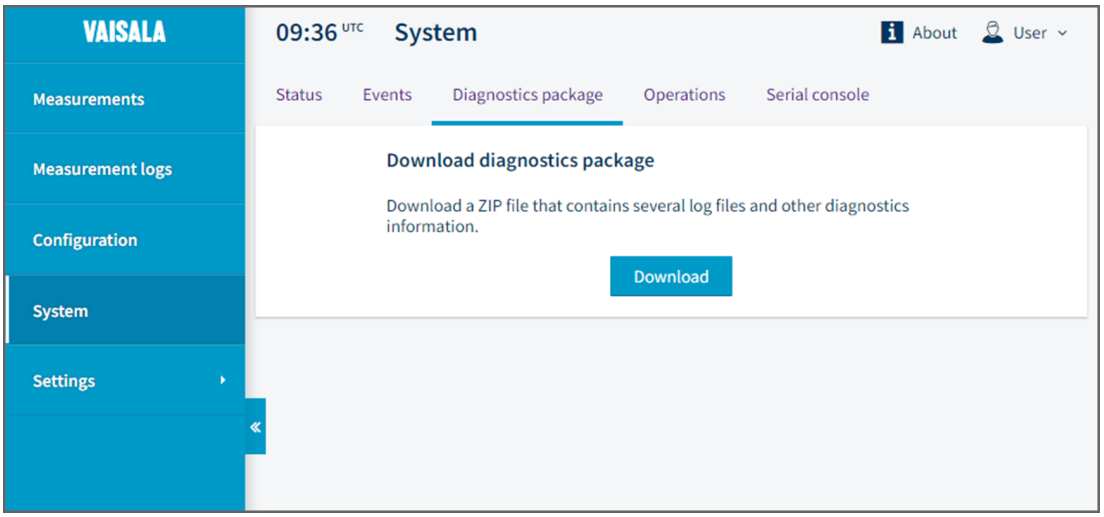
If the failure persists, download the system log files and send them to Vaisala helpdesk.

5.2 Downloading diagnostic data

You can download a diagnostic data package from the DMU801 Web UI. The package includes data log files that are useful for troubleshooting purposes. Also the station parameters are included in the diagnostics package.

If you encounter an error situation and need to contact Vaisala technical support, you can provide the diagnostics package to help with troubleshooting.

1. In the Web UI, go to **System > Diagnostics package**.
2. On the **Diagnostics package** page, select **Download**.



3. Extract the ZIP file on your computer.

5.3 Verifying powering and network connection

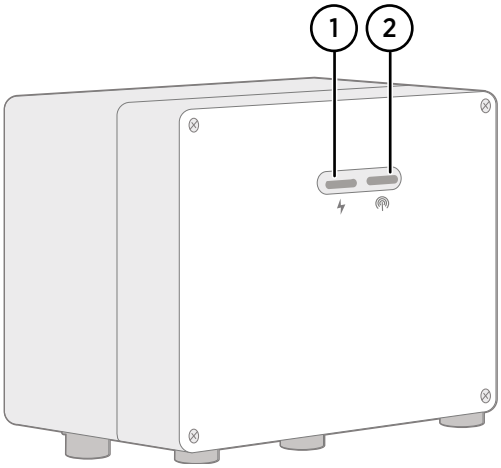


Figure 4 EGW501 LEDs

1 Powering LED
2 Connection LED

1. Check the powering from the EGW501 front panel LED indicator.

Table 8 Powering LED states

Powering status	LED	Description
Powering up		Green, blinking fast.
Power OK		Green, steady. After 60 minutes blinking slowly.
Battery voltage low		Red, blinking fast.
Error		Red, steady. Disconnect and reconnect the PSU501 battery. If this does not help, contact Vaisala.

2. Check the network connection from the EGW501 front panel LED indicator.

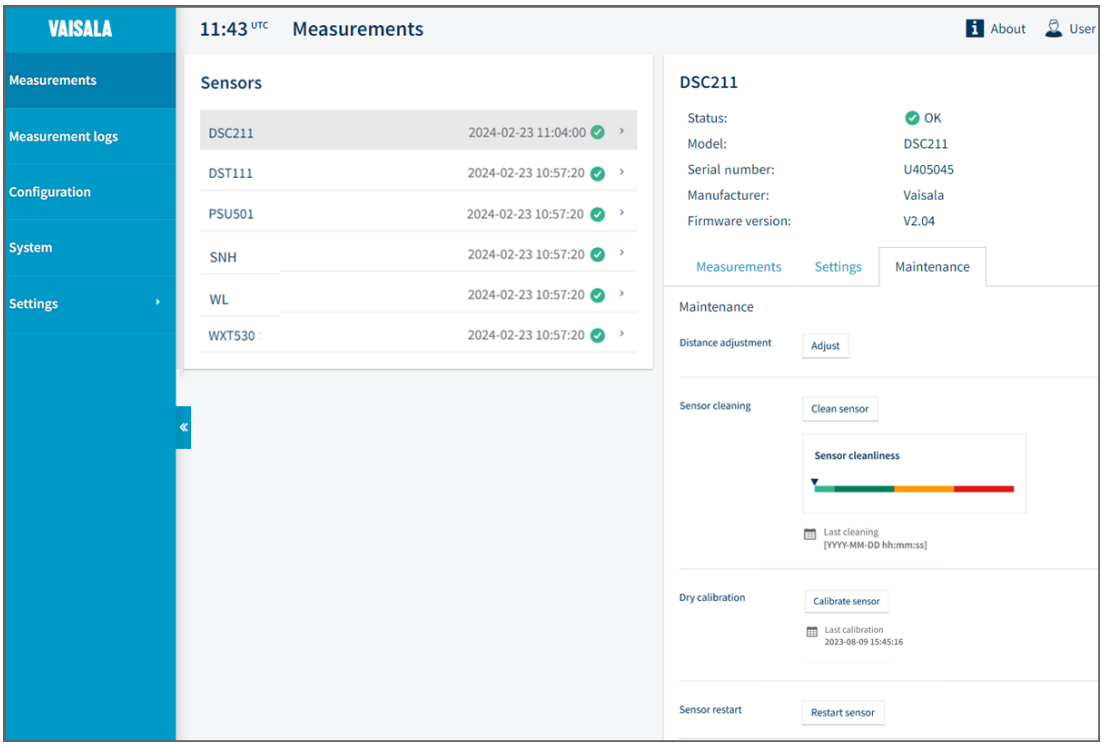
Table 9 Connection LED states

Connection status	LED	Description
Connecting		Green, blinking fast. Attempting to connect to a network.
Connection OK		Green, steady. Connected to a network. After 60 minutes blinking slowly.
Connection failed		Red, steady. No network connection. Check the debug console in the Web UI for possible errors. If needed, contact Vaisala.

5.4 Restarting sensors

In case of problems with a sensor, you can restart it from the Web UI. Restarting is available for certain sensors only.

1. In the Web UI, go to **Measurements**, and select the sensor.
2. In **Maintenance**, select **Restart sensor**.



5.5 Restoring factory default settings

You can restore all device settings in DMU801 to the factory default settings, for example in the following cases:

- You have forgotten your administrator username or password to the Web UI.
- You want to remove the configuration and all settings from DMU801, for example, when replacing DMU801 in a weather station with a device that has been in use earlier.

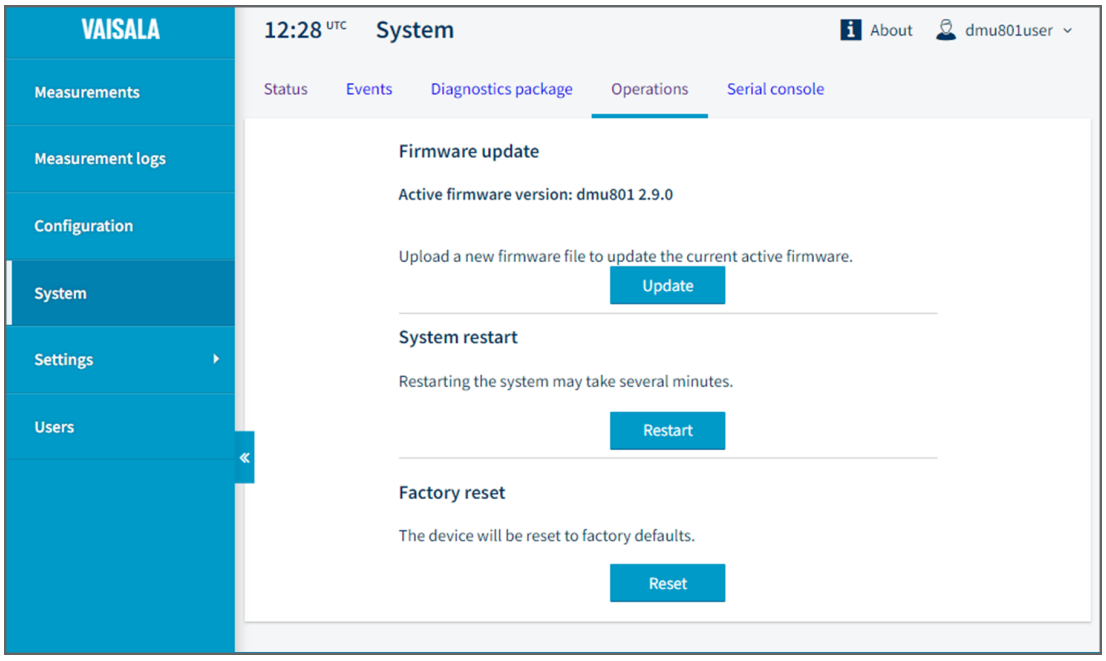
Restoring factory default settings erases all user-modifiable settings, configuration data, and observation data.

After restoring the factory default settings, you need to active DMU801 with the device activation code and create new users when you connect to the Web UI the next time.

5.5.1 Restoring factory default settings through Web UI

CAUTION! Erasing network settings means that you may not be able to connect to DMU801 remotely.

1. Log in to the Web UI as an **Administrator**.
2. In the Web UI, go to **System > Operations**.
3. Under **Factory reset**, select **Reset**.



The reset takes up to 1 minute.

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4. After the reset, log in to the Web UI, give the device activation code, and create a new user account.
5. Upload the configuration file through the Web UI.
6. Configure all the settings again.

6. Recycling

6.1 Recycling instructions

These recycling instructions guide you on the end-of-life treatment of this Vaisala product. As waste regulations and infrastructure vary in each country, these instructions only indicate the different components to be separated and common ways to handle them. Always follow local requirements when disposing of the product. Vaisala encourages to use the best available recycling practices to minimize related environmental impacts.



Vaisala is committed to meeting the requirements of the EU Waste Electrical and Electronic Equipment (WEEE) Directive. This directive aims to minimize the impact of electrical and electronic goods on the environment, by increasing reuse and recycling, and reducing the amount of WEEE going to landfill. This symbol indicates that the product should be collected separately from other waste streams and treated appropriately.

If applicable, Vaisala recommends removing the battery unit before recycling the rest of the device. The battery unit can be recycled separately in accordance with local waste management practices and regulations.

Integrated small sized batteries are typically left in place and removed by professionals at the recycling facilities.

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6.2 BWS500 recycling

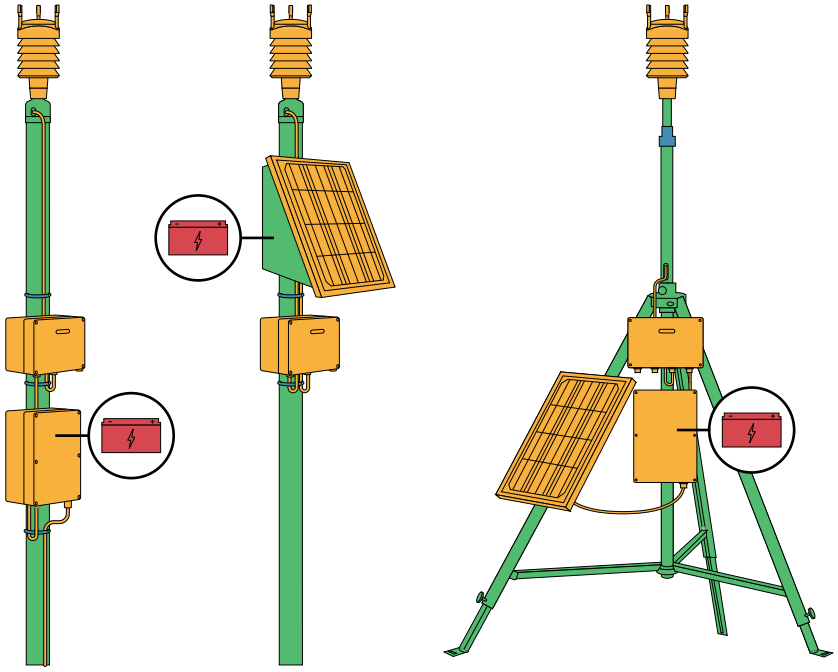


Figure 5 BWS500 materials for recycling

Waste type	Component
Battery waste	Battery inside PSU501
Electrical and electronic waste	Sensors
	Solar panel
	EGW501
	PSU501 excluding battery
	Cables
Metal waste	Pole mast
	Tripod mast
	WXT530 mounting adapter
	SOL501 mounting frame
Plastic waste	Tripod locking part
	Cable ties

6.3 Component-level recycling

For sensor recycling instructions, see the relevant sensor documentation.

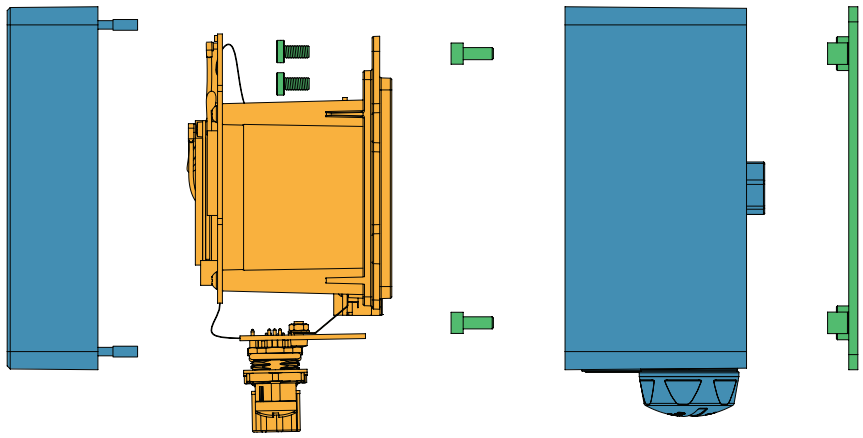


Figure 6 EGW501 materials for recycling

Waste type	Component
Electrical and electronic waste	Circuit board with frame
	Connectors
Metal waste	Mounting plate
	Screws
Plastic waste	Enclosure (polycarbonate)
	Service cap (polycarbonate and 10 % glass fiber)
	Pressure caps (nylon)

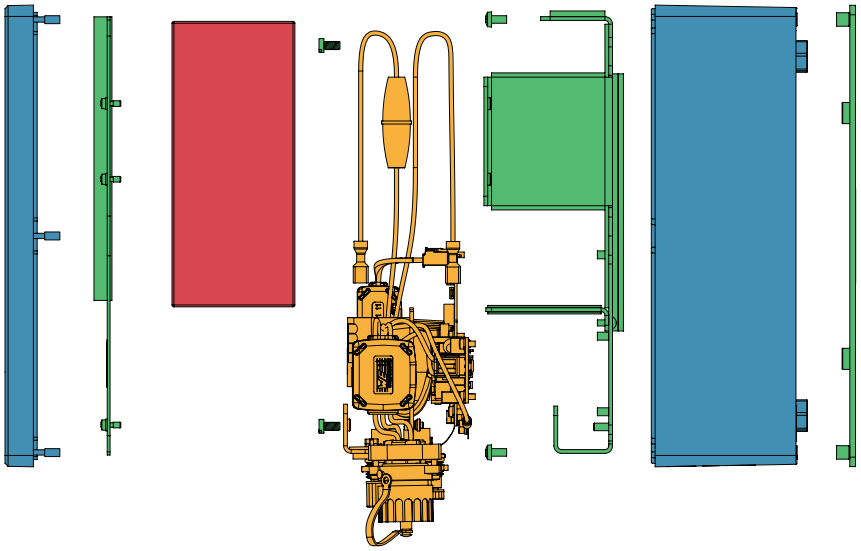


Figure 7 PSU501 materials for recycling

Waste type	Component
Battery waste	Battery
Electrical and electronic waste	Circuit board
	Connectors
	Cables
Metal waste	Top plate (aluminum)
	Component plate (aluminum)
	Mounting plate (aluminum)
	Screws
Plastic waste	Enclosure (polycarbonate)

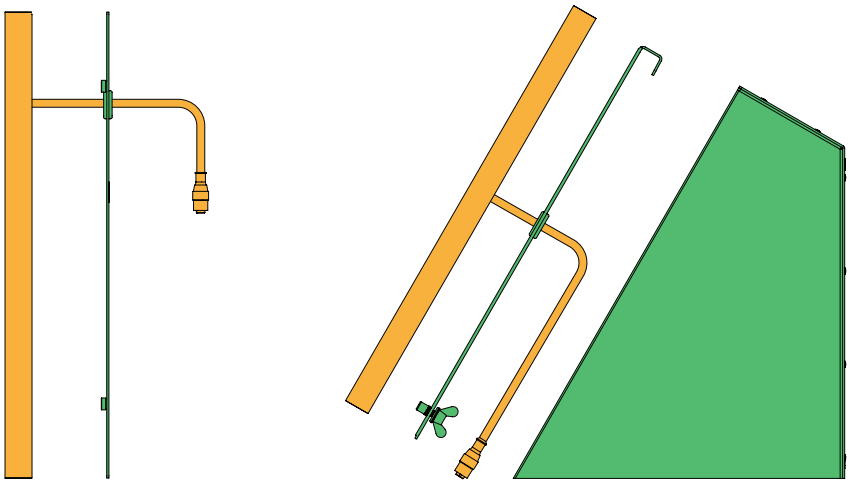


Figure 8 SOL501/502 materials for recycling

Waste type	Component
Electrical and electronic waste	Solar panel
	Cable
Metal waste	Mounting plate
	Mounting frame

Warranty

For standard warranty terms and conditions, see vaisala.com/warranty.

Please observe that any such warranty may not be valid in case of damage due to normal wear and tear, exceptional operating conditions, negligent handling or installation, or unauthorized modifications. Please see the applicable supply contract or Conditions of Sale for details of the warranty for each product.

Technical support



Contact Vaisala technical support at helpdesk@vaisala.com. Provide at least the following supporting information as applicable:

- Product name, model, and serial number
- Software/Firmware version
- System log files
- Name and location of the installation site
- Name and contact information of a technical person who can provide further information on the problem

For more information, see vaisala.com/support.

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