

METOS[®]

BY PESSL INSTRUMENTS

METOS STREMO

USER MANUAL

Version 1.0, 08-2025



Thank you for choosing a METOS Stremo station for monitoring plant physiological and agrometeorological conditions. The METOS Stremo has been designed for real-time monitoring of plant stress and environmental conditions using a set of advanced sensors that measure leaf transpiration, incident solar radiation, air temperature, relative humidity, and vapour pressure deficit (VPD).

Similar to other products of the METOS family, it measures and transmits data to the FieldClimate platform via NB-IoT connectivity. Users have access to their data through web, mobile applications, and integrated decision support systems.

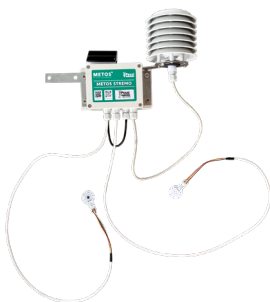
Additional services (like plant disease models and weather forecasts) are available with a license fee. Web API is available for the interface with other custom applications.

METOS Stremo systems will be mainly used for:

- Leaf transpiration & Plant stress monitoring
- Optimized irrigation management
- Air Temperature & Relative Humidity Monitoring

YOUR METOS STREMO

The METOS Stremo consists of one plastic casing containing the electronics, the battery, the solar panel, and the connected Fyllo-Clip sensors. In the package with the METOS Stremo, you will also find taped to the box a sticker with a unique serial number and the keys that grant you access to the FieldClimate platform.



On picture: METOS STREMO

CONNECTED SENSORS

- Air temperature, Relative humidity
- Two (2) ultra-light FylloClips

SUPPORTED NB-IoT NETWORKS:

The METOS Stremo stations can be equipped with one of two possible modems:

- **HL7800**

The HL7800 module for Cat-M1/NB1 worldwide networks is fully compliant with the 3GPP Release 13. More about supported frequencies and countries can be found at:

<https://www.sierrawireless.com/iot-solutions/products/hl7800/>

- **HL7802**

The HL7802 module for Cat-M1/NB1 worldwide networks with 2G fall-back is fully compliant with the 3GPP Release 13 standard. More about supported frequencies and countries can be found at:

<https://www.sierrawireless.com/iot-solutions/products/hl7802/>

START-UP THE METOS STREMO

By default, the METOS Stremo station comes with a battery connected to a power management board, a solar panel connected to the SOL input of the main electronics and based on your order, it can also come with or without a SIM card.

To start up the METOS Stremo requires opening the housing, connecting the power cable of the power management board to the SCAP input of the main electronics and optionally, inserting the SIM card. In special cases, checking the settings via the USB cable connected to the PC with the PI-Terminal/TeraTerm application may be required.

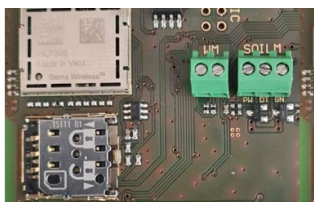
To use the NB-IoT or CAT-M1 connectivity, you need a SIM card which is provisioned for the NB-IoT/Cat-M1 network from the network provider and has sufficient signal from the radio tower.

METOS STREMO - Quick Startup Guide

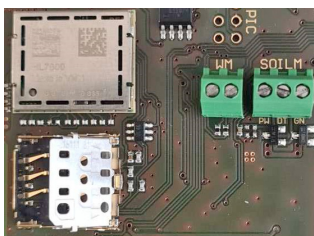
1. Opening the device

- Unscrew the four screws securing the cover.
- Carefully lift the cover – the battery is attached inside.

2. Insert SIM card (if required)

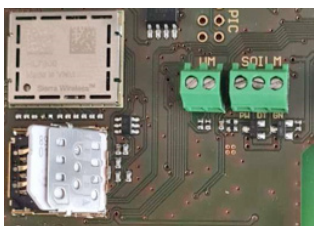


Open sim tray

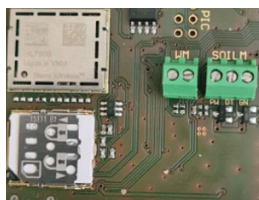


1. Slightly push the cover down and towards the center of the METOS Stremo board.

2. The cover should unlock, and you can open it.



3. Insert the SIM card correctly (contacts should be on the bottom side and the marking corner in the upper left position).

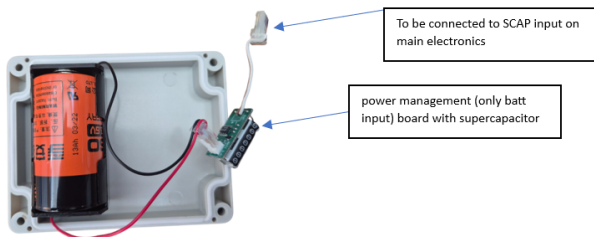


Close sim tray

4. Close the cover and push it gently outward, so the cover gets locked.

3. Connect power

- Plug the Battery cable (red/black) into the BAT connector on the power management.
- Plug the power management cable into the SCAP connector on the PCB (red-circled).



4. Solar panel connection

ONLY connect the solar panel to the SOL input (blue-circled) if there is no solar panel input on the small power management board.



METOS Stremo product is supplied with a high capacity primary battery (Fanso).

If the power management board has a solar input, connect the solar panel there, not to the main board.

If not: connect the panel to the SOL input on the main electronics (blue circle).

5. Closing the device.

- Close the cover to its final position and tighten the screws.

INSTALLING YOUR METOS STREMO

1. Mount the **METOS Stremo** on a pole using the metal bracket and clamp provided.

2. Ensure:

- Easy access to the plant leaves being monitored.
- Correct positioning of the solar panel and FylloClip photodiodes.

3. Sensor placement tips:

- Carefully clip each FylloClip to a **healthy leaf**.
- Ensure **good contact** between the sensor and the leaf surface.
- Avoid clipping on main veins, as this may cause poor contact or data issues.
- **Secure the sensor cable** to the **petiole** or branch using a **plastic tie, clamp, or tape**.



USE YOUR METOS STREMO

To begin using the services we provide, you'll need to set up an account on the FieldClimate platform. This platform gives you access to real-time and historical data in both graphical and tabular forms.

FieldClimate also provides a robust decision support system for optimizing your crop management, including plant protection, sowing, harvesting, and fertilizing.

REGISTER AS A NEW USER ON [FieldClimate.com](https://www.fieldclimate.com)

With the activation of licenses for localized Weather Forecast and plant Disease Models, it is possible to access all data of these additional services (see figure above). To activate them, contact your local distributor or subscriptions@metos.global.

On **Station settings** page you can configure your METOS STREMO device.

Station settings > Sensors and nodes: You can define a custom name for your station and nodes connected to it. For convenient viewing of data, you can also rename each sensor and customize its color in the graph.

For further inquiries visit metos.global/fieldclimate-manual.

MAINTAINING THE METOS STREMO

The weather station should be checked periodically to ensure that sensors are in optimal condition. Regular maintenance is necessary for flawless operation and durability.

At the **beginning of the new season**, check that the station is working correctly; data must be transmitted at the set interval to FieldClimate. Keep the **solar panel** and **sensors clean**, and **frequently check** that **Fyllo-Clip sensors** are securely attached to **healthy leaves** with good contact.

At the **end of the season**, carefully **remove** the METOS STREMO device from the plant. Clean and dry it thoroughly, then store it in a dry, safe location such as a **warehouse** until the next deployment.

For full user manual please visit:
metos.global/manuals



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