METOS®

BY PESSL INSTRUMENTS

STREMO
USER MANUAL
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Thank you for choosing a METOS Stremo station for monitoring your 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 sun light, 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 interface with other custom applications.

METOS Stremo systems will be mainly used for:
- **Leaf transpiration & Plant stress monitoring**
- **Air Temperature/Moisture monitoring**
- **Irrigation and plant protection systems**

Pessl
INSTRUMENTS

YOUR METOS STREMO

The METOS Stremo consists of one plastic casing containing the electronics, the battery, solar panel, and the connected FylloClip 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 grants you the access to the FieldClimate platform.

CONNECTED SENSORS

On picture: METOS Stremo

- **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 fallback 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.
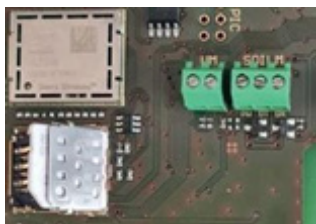
1. *Unscrew the four screws securing the device cover*
2. *Gently lift the cover as the battery is attached to the inside of the cover with a holder*

Open SIM tray

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

4. *The cover should unlock, and you can open it.*

Close SIM tray

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

6. *Close the cover and push it gently outward so the cover gets locked.*
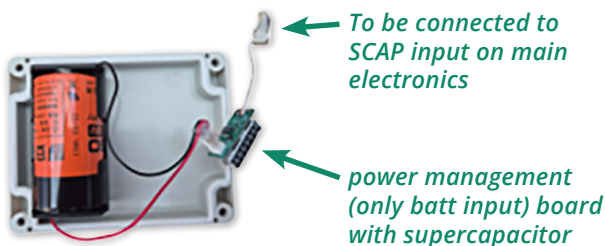
7. *Plug the power management cable into the BAT connector on the PCB (red-circled).*

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

9. *Close the cover to its final position and tighten the screws.*

⚠️ METOS Stremo product is supplied with a high capacity primary battery (Fanso). When there is a solar panel input on the small power management board, then the solar panel MUST be connected to the solar panel input on the small power management board NOT on the SOL input of the main Electronics.

ONLY Connect the solar panel to the SOL input of the main electronics when there is NO solar panel input on the small power management board.

To be connected to SCAP input on main electronics

power management (only batt input) board with supercapacitor

INSTALLING YOUR METOS STREMO

The METOS Stremo product has to be fixed on a pole using the metallic mounting holder and a clamp supplied with it.

Ensure adequate access to the plants leaves intended for monitoring and correct positioning of the solar panel and the photodiodes of the FylloClip sensors.

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, fertilizing.
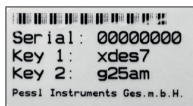
REGISTER AS A NEW USER ON FieldClimate.com

1. Open your web browser and go to

   www.fieldclimate.com

2. Click "**Register**" if you're a new user, or **log in** with your existing account.

3. After creating a new account, a confirmation email will be sent containing a verification link which must be accessed to activate your FieldClimate profile.

ADD YOUR METOS DEVICE TO YOUR ACCOUNT

To add your METOS device, click on the icon in the top right corner **User Menu > Add/Remove station**. It will ask you for the **Station Serial number (SN)**, **the station key and a name of your choosing**. Now the silver sticker which came with your station has to be used.

Key 1 gives you full (admin) access and enables you to change all the settings and set up the Metos Stremo.
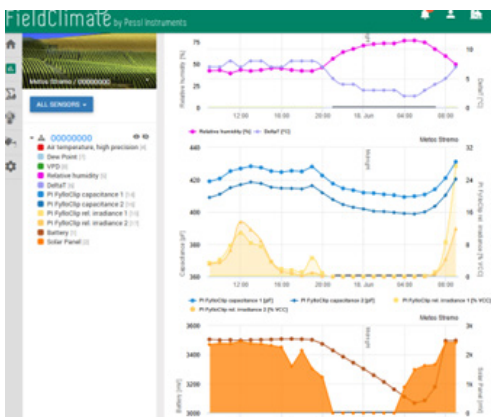
With **Key 2** the user is not allowed to change the station parameters, but can access all the data.

DASHBOARD, STATION DATA AND SETTINGS

In the new **Dashboard** the user can manage the fast access to the ser- vices of highest interest. On the top right corner, Station List allows you to choose among all registered devices.

On the navigation bar, **the Station data** page displays the data measured by your device. Data can be viewed in detailed graphs and tables. You can access the structured menu, which allows you to define time series resolution and export data in a chart/table. On the left side, you can see all sensors connected to your METOS Stremo.

With the activation of licenses for **localized weather forecast and plant disease models**, it is possible to access all data of these additional ser- vices (see figure above). To activate them, contact your local distributor or *license@metos.at*

On the **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, ensure there is Acrylic Protective Lacquer on the FylloClip Sensor - Around the Photodiode regions and the back.

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