# METOS®

BY PESSL INSTRUMENTS

## LoRATH

## USER MANUAL

Version 1.0, 04-2022



Thank you for choosing a LoRATH station for monitoring your agrometeorological conditions as a part of the FieldClimate.com decision support system. The LoRATH station has been designed to monitor data with a sensor for Air Temperature and Moisture monitoring. Users are strongly recommended prior to ordering their LoRa products, to use the **Order Details Form.** This will help to set the right parameters for the products based on desired preferences before delivery. Like other products of the METOS® family, LoRATH LoRa measures and sends data to the FieldClimate platform via an Internet Provider via a LoRa Gateway. This is the default production standard. Users can decide to provision their end devices with any network provider of their choice and have the option to send the data to their own Application Server other than FieldClimate.

**LoRATH LoRa systems will be mainly used for:**
• Air-Temperature/Moisture monitoring

*MAIN VARIATIONS*
- **LoRATH:** air temperature, relative humidity
- **LoRATH Soil:** air temperature, relative humidity, WatermarkTM (water tension) and PI54-D VWC (Volumetric water content and soil temperature)

*SUPPORTED LoRA NETWORKS:*

The LoRATH station will be equipped with the proper modem depending on geographical location of Station deployment:

- **Modem RN2483**
  The RN2483 is a fully-certified 868MHz module based on wireless LoRaWAN® technology. This Module utilises a unique spread spectrum modulation to enable long-range, low power, and high network capacity. This module is tailored for the European Union (EU) market

- **Modem RN2903**
  The RN2903 is a fully-certified 915 MHz module based on wireless LoRa® technology. Unlike the RN2483, this module is tailored for the USA, Canada, Brazil and some countries in South America and Asia.

## YOUR LoRATH

The LoRATH consists of the case containing the electronics, the battery and a solar panel. Coming out of the case are the air temperature and air humidity sensors. On the top of the LoRATH´s case there is a sticker with a unique serial number and the keys that grants you access to the FieldClimate platform.



*On the picture to the right: LoRATH*

## START-UP THE LoRATH

By default, the LoRATH station comes with a connected Supercapacitor that collects energy from the solar panel. Based on the filled Order-Details-Form, the default parameters are set and the station is already in FieldClimate.

For successful data communication, LoRaWAN® network coverage must be available at the deployment location of the LoRATH device.

This coverage came from a LoRaWAN® Provider or from the user's own LoRa® Gateway. There is no need for a SIM-Card.

In situations where fine tuning of the configuration or parameter settings are needed, the client should:

1. Gently opening the case (after unscrewing the 4 screws at the top)

2. Extract the LoRa Board from the case and connect it via a micro-USB cable to the PC using the PI- service Terminal. The user will get the service menu and modem configuration scripts.

3. Reinsert the board and close the cover to its final position and tighten the screws after setting of parameters.

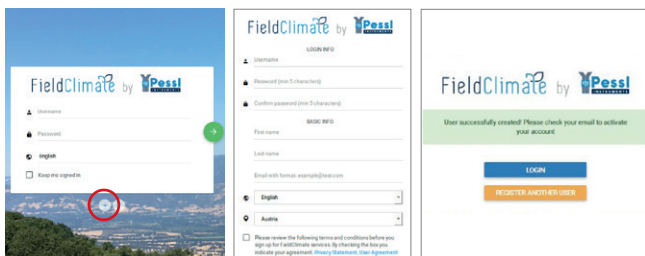For more detailed info visit *metos.at/manuals*.

## INSTALLING YOUR LoRATH

The LoRATH has to be fixed on a vertical pole. There is not a unique solution to attach the device to the pole. As manufacturer Pessl instruments may change the installation kit depending on the production line. Nevertheless, proper specific instructions referring to the installation kit are included when required.

## USE YOUR LoRATH

To start using services we provide, stations need to be registered on your FieldClimate platform account , which gives access to the data in graphs or tables. FieldClimate also provides a powerful decision support system for growing crops.
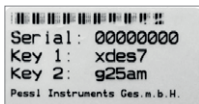
### REGISTER AS A NEW USER ON FieldClimate.com



1. Go to *fieldclimate.com/ login* and click the button "+".

2. Fill-in personal data & e-mail.

3. Activate user account by clicking on the activation link sent to your email

### *ADD YOUR LoRATH DEVICE TO YOUR FiledClimate ACCOUNT*

- login to www.FieldClimate.com with your credentials
- click on the icon in the top right corner **User Menu > Add/Remove station**.
  - It will ask you for a Station Serial number (SN) and a station key. Now the silver sticker (in the figure) which came with your METOS® has to be used.

```
Serial: 00000000
Key 1:  xdes7
Key 2:  g25am
Pessl Instruments Ges.m.b.H.
```

  - Key 1 gives you full access (admin) and enables you to change all the settings and set up the METOS® (for example data transfer interval, notification warning, etc.), with
  - Key 2 the user is not allowed to change the station parameters, but can access all the weather data.

|  ⊕ Add station  |  ⊖ Remove station  |
|---|---|

Use the Station ID and key that came with your iMetos station to add it to your list. Use key 1 if you want to be able to change station configuration settings or key 2 if you want read-only access.
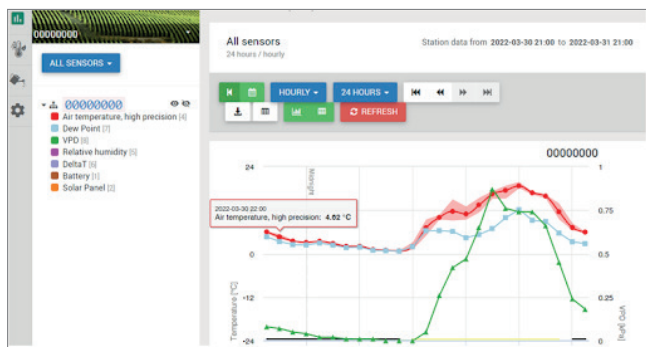
Station ID

Station key

Station name

**ADD STATION**   **CANCEL**

### *DASHBOARD, STATION DATA AND SETTINGS*

In the new **Dashboard** the user can manage the fast access to the services of highest interest. On the top right corner the **station list** allows you to choose among all registered devices. On the navigation bar select the data page from your device. Data can be viewed in detailed graphs and tables. You can access the structured menu, which allows you to define time resolution and export data in a chart or table. On the left side, you can see all the sensors connected to your LoRATH.

On the **Station settings** page you can configure your LoRATH 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 customise its colour in the graph.

For further inquiries visit *metos.at/fieldclimate-manual*.

## MAINTAINING THE LoRATH

The weather station should be checked periodically to ensure that the sensor is 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 sensor clean.

*For full user manuals please visit:*
*metos.at/manuals*