ACTIVATE YOUR WEATHER FORECAST
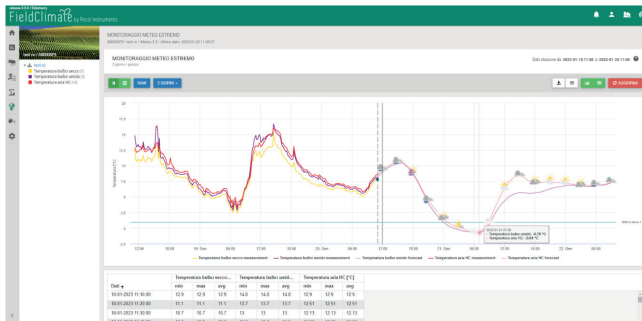
With the activation of subscription for the 3-months localised **weather forecast**, real-time measured data from your station's wet and dry bulb temperature sensors are coupled with an accurate prediction of temperature trends over the next 48 hours. This allows you to know your current orchard and/or field conditions, a site-specific forecast for the key frost conditions and to track the historical trends. This graph is part of the **Extreme Weather Monitoring** page (see figure below).

To activate the Weather Forecast, contact your local distributor or *license@metos.at*.

SET YOUR REAL-TIME FROST ALERTS

From site-specific sensors, the frost module provides the measurements of wet and dry bulb temperature. When a frost event is close to happening, an alert is sent by **text, sound and email**. That way, you'll know exactly when the crop is at risk, saving you money. Furthermore, it can determine if your frost mitigation tools are having the desired effect or need to be adjusted for efficiency.

To set new alerts go to **Settings > Notifications**.

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

MAINTAINING THE nMETOS FROST

The frost module 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 and, in particular, that the plastic bottle is full of water; if the bottle is empty, the wet bulb temperature will not be accurate.

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

Visit *metos.global/terms-of-use/* to view legal information for Pessl Instruments products and services.

METOS®
BY PESSL INSTRUMENTS

nMETOS FROST
USER MANUAL
Version 1.0, 05-2023

Thank you for choosing a nMETOS FROST station for monitoring your agrometeorological conditions. The nMETOS FROST has been designed to monitor data with a set of sensors for frost prediction and alarms. Like other products of the METOS® family, it measures and sends data to the FieldClimate platform using the NB-IoT service. The users have free access to data through web, mobile applications and decision support systems. Additional services (like weather forecasts) are available with a subscription fee. Web API is available for interface with other custom applications.

nMETOS FROST system is used for:
- Frost prediction
- Frost protection activities planning
- Frost alarm notifications

We encourage clients to use an additional 3 month weather forecast licence for predicting near future conditions and for planning services.

YOUR nMETOS FROST

The nMETOS FROST consists of one plastic casing containing the electronics, metal holder, the battery (not included), and the wet & dry bulb sensor.

In the package with the nMETOS FROST, you will also find pole clamps and a sticker with a unique serial number and the keys that grants you the access to the FieldClimate platform.

On picture:
nMETOS FROST *(wet & dry bulb sensor and a pole holder)*

nMETOS FROST COMMUNICATION MODES:

Measurement interval (in minutes)	5	1	1	1	5
Logging interval (in minutes)	10	5	5	5	10
Communication interval (in minutes)	60	60 or 15 min when event (+/- 0.5 °C)	60 or 5 min when event (+/- 0.5 °C)	60 or 15 min when event (+/- 0.5 °C)	60
Wet bulb temperature value	< -8° C	≥ -8 °C < -6 °C	≥ -6 °C < 4 °C	≥ 4 °C < 8 °C	≥ 8 °C

-8° C   -6° C   4° C   8° C

The intervals are fixed in the product and are not user configurable.

Event: happens, when a wet bulb temperature sensor value changes for 0.5 °C or more between two measurement intervals. Example: when it measures 3.2 °C and it detects 0.5 °C change at 12:03 pm measurement (compared to the previous logging interval at 12:00), data will be uploaded at 12:05 pm.

SUPPORTED TYPES OF COMMUNICATION:

The nMETOS FROST station can be delivered with:

- **HL7800**
  Cat-M1/NB networks
  https://www.sierrawireless.com/iot-solutions/products/hl7800/
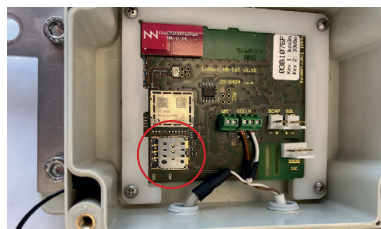
START-UP THE nMETOS FROST

By default, the nMETOS FROST station comes without a battery and based on your order, it can come with or without a SIM card.

To start up the nMETOS FROST, it requires opening the housing, inserting the SIM card and connecting the battery.
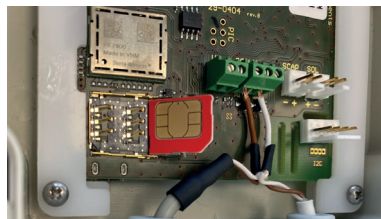
To use the NB-IoT or CAT-M1 connectivity you need a SIM card which is provisioned for the NB-IoT/Cat-M1 network from the network provider and sufficient signal from the radio tower.

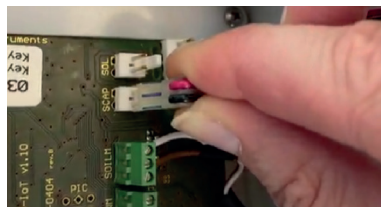### INSERTING THE SIM CARD AND CONNECTING THE BATTERY

1. Open the housing by unscrewing the 4 screws on the top.

2. Remove the board cover.

3. Slightly push the cover of the SIM card holder (circled red on the picture below) rightward to unlock it.

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

5. Close the cover and push it gently leftwards so the cover gets locked.

6. Plug the battery cable into the SCAP connector on the PCB.

7. Close the cover to its final position and tighten the screw.

The installation video is available on:
https://bit.ly/42JHHEe

INSTALLING YOUR nMETOS FROST

The nMETOS FROST comes with clamps to install it on a pole. At the side of the unit is a metal mounting frame. Push the long clamp screws through the holes on the metal mounting frame. Loosen the clamps so they come around the pole. Tighten the small nut to fix the device in place on the pole. Remember to fill the bottle with water before the frost season starts.
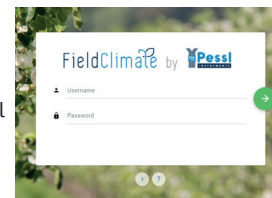
USE YOUR nMETOS FROST

To start using services we provide, you need to register on the *FieldClimate* platform, which gives you access to the data in graphs or tables. *FieldClimate* also provides a powerful decision support system for growing your crops.

REGISTER AS A NEW USER ON FieldClimate.com

1. Open *www.fieldclimate.com* and log in as an existing user or register as a new FieldClimate user.

2. After creating a new account, you will receive an email with a confirmation link with which you confirm the creation of your FieldClimate profile.
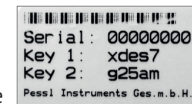
ADD YOUR METOS® DEVICE TO YOUR ACCOUNT

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 nMETOS FROST.

With Key 2 the user is not allowed to change the station parameters, but can access all the data.

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

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, **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.