



## iMETOS iSCOUT

### USER MANUAL

Version 1.0, 05-2018



Thank you for choosing iMETOS iSCOUT® for Remote Trap Image Monitoring. iMETOS iSCOUT® periodically takes high resolution photos from the insect trap. Photos are automatically uploaded to the FieldClimate platform without the need of any user intervention, thus allowing a continuous insect control in the agricultural sector.

Different variations of iMETOS iSCOUT® devices can cover all your needs: iMETOS iSCOUT Pheromone, iMETOS iSCOUT Fruit Fly, iMETOS iSCOUT Bug, iMETOS iSCOUT Color Trap and Color Trap Dual. Monitor insect pressure in your crop. iMETOS iSCOUT® is the result of the combination of years of experience and “state of the art” technology.

#### **iMETOS iSCOUT® features:**

- 10 Megapixel resolution images.
- Embedded GPS location.
- Easy installation.
- Self-sufficient, as it is powered by a solar panel and a battery.
- Firmware upgrade “over the air”.
- Cloud Data Storage.
- Time series of pictures stored for further analysis.
- Automatic counting of captured objects.
- Personalized web interface.

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## YOUR iMETOS iSCOUT®

The iMETOS iSCOUT® device consists of two parts: main unit and control unit.

### Main unit:

- the trap housing
- a metal plate
- the motherboard (PCB) containing the processor, modem, SIM card holder, USB port, cameras with its optics and an UMTS/GPS antenna.

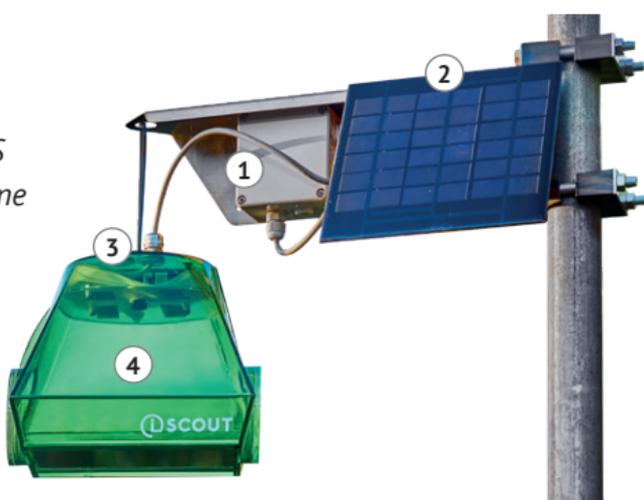
### Control unit:

- a stainless-steel holder
- a plastic waterproof box with PCB (PCB controls the main unit when to start/stop)
- power supply (battery and solar panel) is mounted and connected to the control unit

### Other parts:

- Consumables: sticky paper or insect glue
- Unique serial number
- Sticker with keys that enable the access to the *FieldClimate* platform

On picture: *iMETOS iSCOUT® Pheromone*



1. Control unit; 2. Power supply (solar panel and battery); 3. Logger and modem; 4. Trap.

### *iMETOS iSCOUT Variations*

- **iMETOS iSCOUT® Pheromone:** Designed to catch insects with the help of insect specific pheromone lure (codling moth and many other species).
- **iMETOS iSCOUT® Fruit Fly:** Designed to catch fruit flies (spotted wing drosophila, fruit fly etc.).
- **iMETOS iSCOUT® Bug:** Designed to catch bugs, without nettings on entries.
- **iMETOS iSCOUT® Color Trap** and **iMETOS iSCOUT® Color Trap Dual:** Developed for monitoring sticky traps of different colors. Device comes with a high-resolution camera and a holder for a sticky plate.

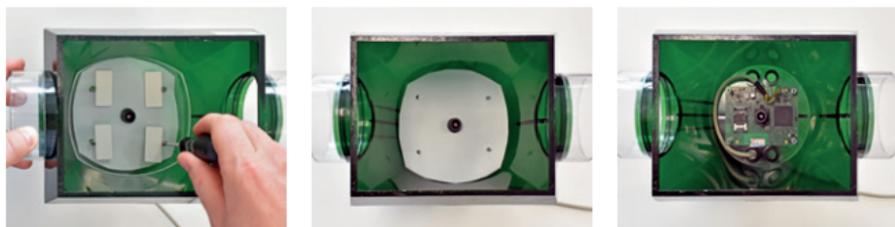
## START-UP THE iMETOS iSCOUT®

iMETOS iSCOUT® is operative in all areas covered at least by UMTS (3G) network (it will not work on 2G/GPRS services).

In GPRS, UTMS and LTE networks a SIM card from a provider is needed. In CDMA network, you do not need a SIM card.

To insert a SIM card:

1. Remove the plastic plate fixed on the top of the trap.



2. Carefully unscrew screws below the plastic plate and remove the paper.



3. Slide the metal part of the SIM card holder to unlock it. 4. Place the SIM card into the holder so the gold contacts on the SIM face down on the board. 5. Lock the holder by sliding the metal lock.

**Note:** Check that the PIN request for the SIM is disabled and that you have data transfer service enabled.



6. Connect the red cable to the positive battery terminal.

Every picture file has  $10 \pm 2$  MB (depending in the complexity of the image) so the data plan in your SIM should be calculated according the following formula:

**Monthly data plan** =  $12$  (MB per picture) \* *shootings per day* \*  $30$  (days per month) =  $12 * 2 * 30 = 720$  MB/month

Your device is now up and running. In case you need further support, please visit [metos.at/home/imetos-iscout-series](https://metos.at/home/imetos-iscout-series) or contact [support@metos.at](mailto:support@metos.at).

## INSTALLING YOUR iMETOS iSCOUT®

Due to its low weight, iMETOS iSCOUT can be hung wherever in the field needed – usually in the crop canopy. Control unit should be mounted above the canopy facing south, for the solar panel to receive sufficient sunlight to charge the battery.

The main unit can also be positioned a few meters away from the control unit - as depicted in the iMETOS iSCOUT® figure on the previous page.

iMETOS iSCOUT® devices are already focused to exact distance from camera to the sticky plate inside the trap. Additional focusing of your device is not necessary. After you insert a SIM card and connect the battery, your device is ready to use.

### If you use iMETOS iSCOUT® Pheromone trap:

1. Insert the sticky paper: Take the metal plate and peel off one side of the sticky plate. Align the sticky paper with the edges of the metal plate and press it down.
2. Put insect specific pheromone lure inside the trap (buy pheromone lures only from trusted resellers).

### If you use iMETOS iSCOUT® Fruit Fly trap:

1. Apply insect glue to metal plate: Apply it evenly to the metal plate.
2. Fill the feeding tank with an appropriate attractant liquid (buy attractant liquid from trusted resellers).

## USE YOUR iMETOS

First you need to register on the *FieldClimate* platform, which gives you access to the photos taken by the camera and to the data in charts or tables. *FieldClimate* also provides a powerful decision support system for growing your crops (plant protection, irrigation, sowing, harvesting, fertilizing).

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

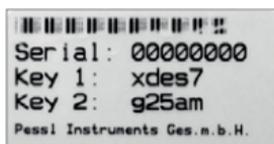
The registration process consists of three main steps shown in the screenshots:

- Step 1:** Accessing the [ng.FieldClimate.com](https://ng.FieldClimate.com) website. A red circle highlights the '+' button in the top right corner of the user menu.
- Step 2:** The registration form. It is divided into two sections:
  - LOGIN INFO:** Username, Password (min 5 characters), and Confirm password (min 5 characters).
  - BASIC INFO:** First name, Last name, and Email with format: example@web.com.
 There are also dropdown menus for language (English/Austria) and a checkbox for terms and conditions.
- Step 3:** A confirmation message: "User successfully created! Please check your email to activate your account." Below this are buttons for "LOGIN" and "REGISTER ANOTHER USER".

1. Go to [ng.fieldclimate.com/](https://ng.fieldclimate.com/) and click the button "+".
2. Insert your personal data & e-mail.
3. Check your e-mail and click on the link to activate the user account you created.

### ADD YOUR iMETOS DEVICE TO YOUR ACCOUNT

Now you can login to [ng.FieldClimate.com](https://ng.FieldClimate.com). To add your iMETOS device, click on the icon in the top right corner **User Menu > Add/Remove station.**



**Add 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:

**ADD STATION** **DELETE STATION**

It will ask you for the Station Serial number (SN) and the station key. Now the silver sticker (in the figure) which came with your iMETOS has to be used. Key 1 gives you full

(admin) access and enables you to change all the settings and set up the iMETOS (e.g. data transfer interval, SMS warning, etc.). With Key 2 the user is not allowed to change the station parameters, but can access all the data.

### ***THE iMETOS iSCOUT®: STATION DATA AND SETTINGS***

You can browse through all stations by clicking the icon **Station List** in top right corner.

Click on the station name to select it.

Access the iMETOS iSCOUT® page, by clicking the **Eye icon** on the left side of the bar.

To choose which picture you want to see in full-size, use the **date selection tool** at the bottom of the page.

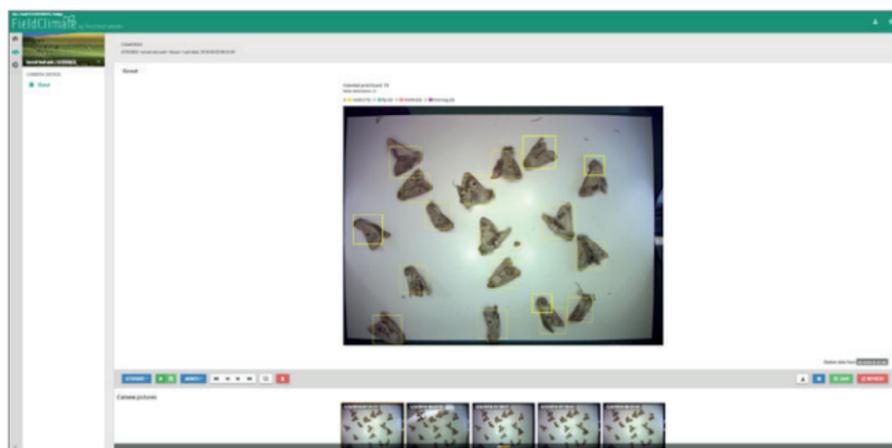
### ***INSECT DETECTION TOOL***

Insect detection tool **automatically detects** and counts all insects marked with rectangles. **Thicker rectangles** mark the **new insects** the system detected, based on the previous image.

You can **edit** the drawn **rectangles** on the image – change size, remove or add new rectangles.

Select the rectangle and **label/mark the insect** accordingly.

Remember to **save** at the end. You can also **export** the image.



On **STATION SETTINGS** page set up your iMETOS device.

**Station settings > Configuration:** Ensure that Time zone and location are properly set (you need to set it up manually, otherwise the station will not take and send photos at the time in your time zone). Under **Transfer settings**, you can define how your iMETOS device sends data. Note that the settings for logging interval and transmission times will work with the default values - first photo at 7am Austrian time - as long it is not changed.

Setup how your iMETOS iSCOUT® sends the data. Note that taking and sending pictures consumes a lot of data and energy, which is why a limitation of three pictures per day is set.

Under **Camera**, you can setup camera settings. Note that wrong settings can result in corrupted images. Change these settings only if you are an expert.

Visit [docs.metos.at/FieldClimate](https://docs.metos.at/FieldClimate) for more information.

## MAINTAINING THE iMETOS iSCOUT®

Replace the sticky plate when it is full. The frequency depends on the pest pressure.

When the solar panel of the iMETOS device is exposed to the sun and gets enough sunlight it should constantly recharge the battery of the system. The lifespan of the battery is expected to be 5 to 6 years with sufficient recharging from the solar panel. Deep discharge shortens its lifetime. The iMETOS will prevent this to happen and protect the battery by limiting the data transfer to the safe level of charge. In doing so, data is not lost and battery recovers faster. Please make sure to clean the solar panel if it is dirty or covered with snow or some other material.

## UPDATING YOUR iMETOS iSCOUT®

Every time the iMETOS iSCOUT® connects to *FieldClimate*, it checks for the latest firmware version. If it finds a newer version, it automatically downloads it and updates itself. iMETOS iSCOUT® can also be updated manually via the USB connection.

*For full user manual please visit:  
[metos.at/home/imetos-iscout-series](https://metos.at/home/imetos-iscout-series)*



Visit [metos.at/home/terms-of-use/](https://metos.at/home/terms-of-use/) to view legal information for Pessl Instruments products and services.