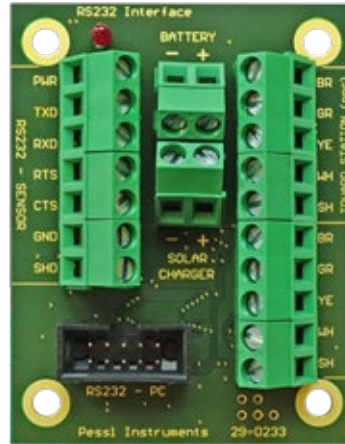


RS232 Interface

RS232

A standard Interface that allows serial communication transmission of data.



YOU CAN CONNECT:

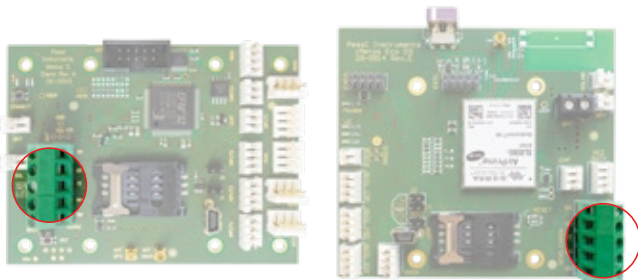
One piece of the following sensors:

- Sommer MessTechnik snow depth sensor
- Ultrasonic VEGA Radar level sensor

CONNECTION TO MOTHERBOARDS

iMETOS 3.3 board

iMETOS ECO D3 board



Stations & Dataloggers

iMETOS® 3.3

iMETOS® 3.3 WiFi

iMETOS® ECO D3

iMETOS® Blue

iMETOS® LoRa

iMETOS® NB IoT

iMETOS® MobiLab

iMETEO® PRO

iMETOS iSCOUT®

iMETOS CropVIEW®

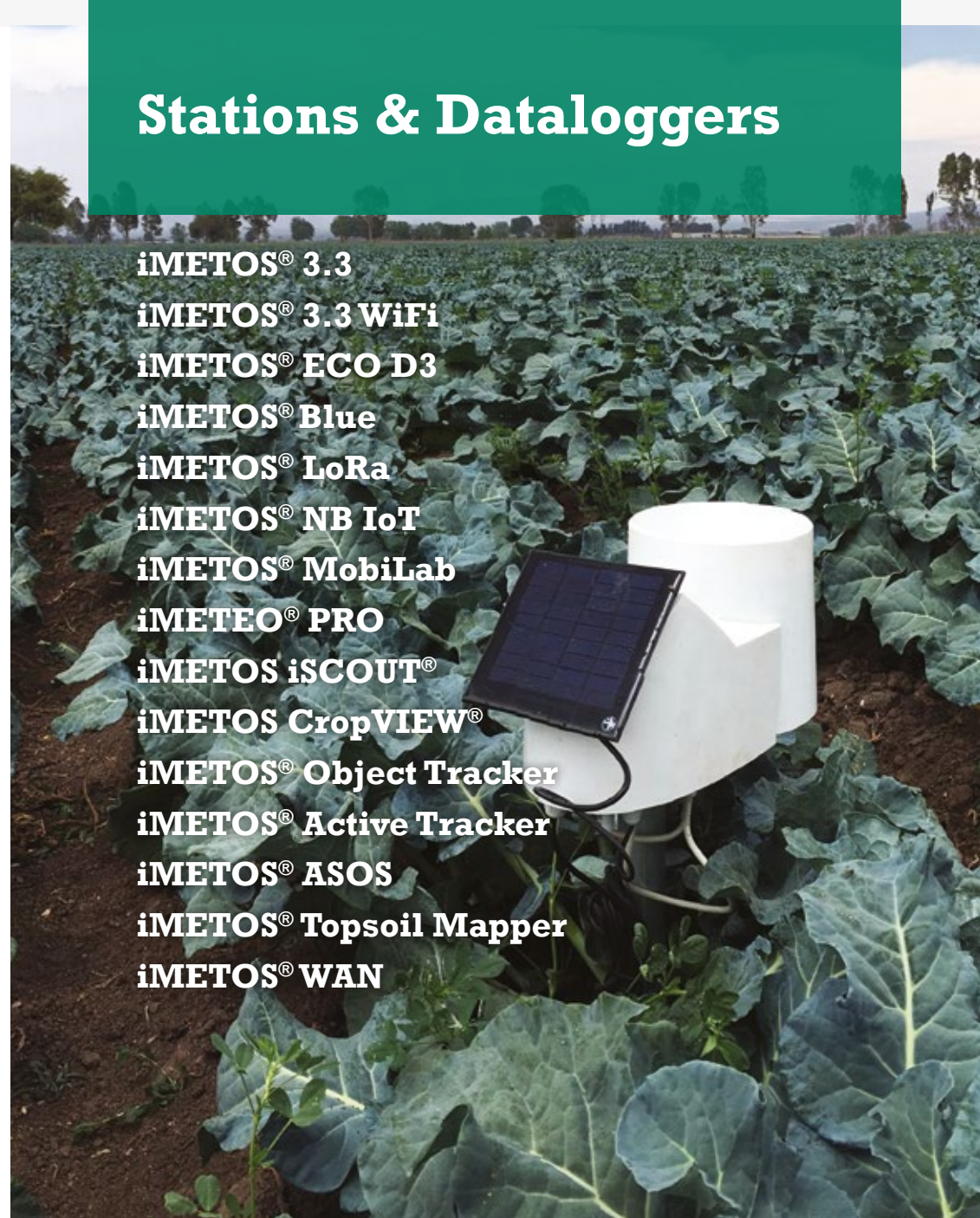
iMETOS® Object Tracker

iMETOS® Active Tracker

iMETOS® ASOS

iMETOS® Topsoil Mapper

iMETOS® WAN



iMETOS® 3.3



iMETOS® 3.3 is a durable and flexible data logger for all climatic conditions, powered by rechargeable batteries and a solar panel. The data logger has a built-in UMTS/CDMA modem for direct communication with the FieldClimate platform, and can handle up to 600 sensors through the intelligent sensor bus system. The system is extremely reliable due to a non-volatile internal memory and can store more than 8 MB of logged data (cca. 1 month).



TECHNICAL SPECIFICATIONS

| | |
|-----------------------------------|--|
| Sensors layout | 1 wind speed, 1 leaf wetness, 1 rain gauge, 1 water-meter (reed), 2 hydroclips (air temperature and relative humidity) |
| Extension connector | Radio access point or drill & drop or ultrasonic wind sensor or two extra chain connectors – Pessl Instruments bus cable nodes |
| Memory | 8 MB flash memory |
| Internet connectivity | GSM - GPRS, EDGE, HSPA, CDMA, UMTS, Satellite |
| Alert | SMS, user configurable via website |
| Dimensions without sensors | 41 cm L x 13 cm W x 7 cm H |
| Weight without sensors | 2.2 kg |
| Measuring interval | 5 minutes (by default) |
| Logging interval | 15-120 min (user selectable) |
| Transmission frequency | User selectable |
| Battery | 6V, 4.5AH, Operating range: -35 °C to 80 °C |
| Solar panel | Dimensions: 13.5 x 13.5 cm, 2 Watt solar panel |
| | iMETOS® 3.3 base unit (no sensors included), internet based logger, battery 4.5AH, 1.4 Watt solar panel, UMTS based, logger, mounting brackets |

Main Sensor Variations



iMETOS IMT150

Air Temperature and Relative Humidity sensor, Global Radiation and Rain Gauge.



iMETOS IMT200

Air Temperature and Relative Humidity sensor, a Rain Gauge and a Leaf Wetness sensor.



iMETOS IMT280

Rain Gauge and all the sensors for Evapotranspiration calculation: Air Temperature and Relative Humidity, Global Radiation and Wind Speed.



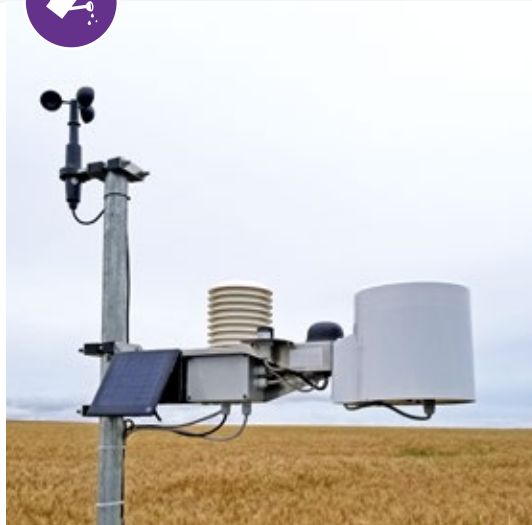
iMETOS IMT300

Sensors for Evapotranspiration and Disease Models calculation: Air Temperature and Relative Humidity, Rain Gauge, Global Radiation, Wind Speed and Leaf Wetness.

iMETOS® 3.3 WiFi



iMETOS® 3.3 WiFi is a durable and flexible data logger for all climatic conditions, powered by rechargeable batteries and a solar panel. The data logger has a built-in WiFi modem for direct communication with the FieldClimate platform, and can handle up to 600 sensors through the intelligent sensor bus system. The system is extremely reliable due to a non-volatile internal memory and can store more than 8 MB of logged data (cca. 1 month).



TECHNICAL SPECIFICATIONS

| | |
|---|--|
| Sensors layout | 1 wind speed, 1 leaf wetness, 1 rain gauge, 1 water-meter (reed), 2 hygroclips (air temperature and relative humidity) |
| | 5 digital inputs: automatic sensor recognition, supporting sensor chains (max. 600 sensors) |
| Extension connector | Radio access point or drill & drop or ultrasonic wind sensor or two extra chain connectors – Pessl Instruments bus cable nodes |
| Memory | 8 MB flash memory |
| Internet connectivity | Wi-Fi - ensure WiFi coverage of your field (router) |
| Dimensions without sensors | 41 cm L x 13 cm W x 7 cm H |
| Weight without sensors | 2.2 kg |
| Measuring interval | 5 minutes (by default) |
| Logging interval | 10-120 min (user selectable) |
| Transmission frequency | User selectable |
| Battery | 6V, 4.5AH, Operating range: -35 °C to 80 °C |
| Solar panel | Dimensions: 13.5 x 13.5 cm, 2 Watt solar panel |
| iMETOS® 3.3 WiFi base unit (no sensors included), internet based logger, battery 4.5AH, 1.4 Watt solar panel, UMTS based, logger, mounting brackets | |



iMETOS® ECO D3



The wireless iMETOS® ECO D3 is a solar panel and battery powered data logger with rain gauge and sensors for water level, temperature, soil moisture, salinity, etc., designed to work in harsh conditions and in all climate zones. The system has a fully integrated UMTS/CDMA modem for direct communication with the FieldClimate platform and can handle up to 400 sensors through the intelligent sensor bus system.



TECHNICAL SPECIFICATIONS

| | |
|-----------------------------------|---|
| | 3 fixed analogue inputs: rain gauge, temperature/relative humidity, leaf wetness, 1 temperature input |
| Sensors Layout | 1 RS485 digital input – automatic sensor recognition supporting sensor chains 1 RS485 expansion input – supports 2 optional digital inputs |
| Memory | 8 MB flash memory |
| Internet connectivity | GPRS, EDGE, HSDPA, CDMA, UMTS, Wi-Fi, Satellite |
| Alert | SMS, user configurable via website |
| Dimensions without sensors | 30 cm L x 16 cm W x 19 cm H |
| Weight without sensors | 1.9 kg |
| Measuring interval | 5 minutes (by default) |
| Logging interval | 10-120 min (user selectable) |
| Transmission frequency | User selectable |
| Battery | 6V, 4.5AH, Operating range: -35 °C to 80 °C |
| Solar panel | Dimensions: 13.5 x 13.5 cm, 2 Watt solar panel |
| | iMETOS® ECO D3 base unit (without sensors), solar panel, with main board |

Sensor Variations



iMETOS ECO D3

Air Temperature, Relative Humidity sensor and Rain Gauge.



iMETOS ECO D3 ICE

The most accurate and affordable web based frost and stress warning system gives real time warning from anywhere in the world via SMS or through website. Users can easily set their own alert strategy through FieldClimate.

iMETOS® Blue



iMETOS® Blue, 2. odstavek za zamenjat Waving a Bluetooth-enabled smartphone over the iMETOS® Blue activates the mobile app and pairs the unit to download data on your mobile device. Data is transmitted to your phone in seconds, including the device number, GPS position and date of last download. An unlimited amount of data from multiple iMETOS® Blue stations can be uploaded and you can see the data directly on the mobile phone. Once your smartphone is connected to the Internet, all the data is synchronised with FieldClimate.com.



iMETOS Blue mobile app

TECHNICAL SPECIFICATIONS

| | |
|-----------------------------------|---|
| Model/Type | Processor PIC18 – Bluetooth 3.0 |
| Sensors layout | 3 fixed analogue inputs: wind speed, leaf wetness and rain gauge 5 digital inputs: automatic sensor recognition, supporting sensor chains (max. 400 sensors) |
| Housing | UV resistant polycarbonate plastic (Protection class IP65) |
| Memory | 8 MB |
| Dimensions without sensors | 30 cm L x 16 cm W x 19 cm H |
| Weight without sensors | 1.6 kg |
| Battery | One 3.6V Lithium Primary Cell with 19.000mAH (7 years operation) |
| Expected range | 10-40 meter |
| Supported sensors | Rain gauge 0.2 mm (0.01 inch) or read out of flow meters; 1 digital input e.g. for solar radiation or wind direction or pressure switch; leaf wetness sensor; 2 Watermark Sensors; 2 Decagon Sensors; 2 temperature sensors; 1 temperature and relative humidity sensor (Hygroclip) |

iMETOS® LoRa



iMETOS® LoRa is a new generation of the iMETOS weather stations, that operate on the LoRa network. iMETOS® LoRa can be connected to any existing LoRa network, if present at your location. We can also provide a LoRa gateway, to establish your own LoRa network. Mounting in the field is done in minutes. iMETOS® LoRa can handle various sensors. Data is permanently measured in 5-minute intervals and sent every 15 minutes to the server. All the data is synchronized with FieldClimate.com.



MEMBER OF
LoRa Alliance

TECHNICAL SPECIFICATIONS

| | |
|--|---|
| Model/Type | Processor PIC18 with LoRa modem |
| Sensors layout | 3 fixed analogue inputs: wind speed, leaf wetness and rain gauge 5 digital inputs: automatic sensor recognition |
| Housing | UV resistant polycarbonate plastic (Protection class IP65) |
| Dimensions without sensors | 30 cm L x 16 cm W x 19 cm H |
| Weight without sensors | 1.6 kg |
| Expected range | up to 8 km (line of sight) |
| Battery | 6V charging battery with solar panel |
| Solar panel | Dimensions: 13.5 x 13.5 cm, 2 Watt solar panel |
| Measuring interval | 5 minutes (by default) |
| Logging and transmission interval | 15 min (by default) |
| Supported sensors | 1 rain gauge 0.2 mm or 1 reed watermeter, 1 leaf wetness or 1 pressure switch, 1 temperature & relative humidity, 2 Watermark sensors, 2 Decagon sensors, 2 temperature sensors (soil, water, leaf, wet bulb) and 1 DC input (global radiation, barometric pressure, water level ...) |

iMETOS® NB IoT



iMETOS® NB IoT is a new generation of the iMETOS weather stations, that operates on the NB IoT network. iMETOS® NB IoT can be connected to existing NB IoT network, if present at your location. Mounting in the field is done in minutes. iMETOS® NB IoT can handle various sensors. Data is permanently measured in 5-minute interval and sent every 15 minutes to the server. All the data is synchronized and shown on FieldClimate.com.



TECHNICAL SPECIFICATIONS

| | |
|--|---|
| Model/Type | Processor PIC18 with NB IoT modem |
| Sensors layout | 3 fixed analogue inputs: wind speed, leaf wetness and rain gauge 5 digital inputs: automatic sensor recognition |
| Housing | UV resistant polycarbonate plastic (Protection class IP65) |
| Dimensions without sensors | 30 cm L x 16 cm W x 19 cm H |
| Weight without sensors | 1.6 kg |
| Expected range | wherever NB IoT network is available |
| Battery | 6V charging battery with solar panel |
| Measuring interval | 5 minutes (by default) |
| Logging and transmission interval | 15 min (by default) |
| Supported sensors | 1 rain gauge 0.2 mm or 1 reed watermeter, 1 leaf wetness or 1 pressure switch, 1 temperature & relative humidity, 2 Watermark sensors, 2 Decagon sensors, 2 temperature sensors (soil, water, leaf, wet bulb) and 1 DC input (global radiation, barometric pressure, water level ...) |

iMETOS® MobiLab



iMETOS® MobiLab is a mobile soil lab. It is a completely new concept which integrates soil nutrient analyses into a single microchip. After the soil samples are extracted from the field, the sample preparation is done right on the field or in the office.

The filtered sample solution is injected into a capillary type chip to which a high electric voltage is applied. Many of the dissolved chemical compounds are electrically charged and start to migrate in the electric field. Every molecule type migrates with a different speed through the liquid medium, depending on its molecule size and charge. The sample ingredients are separating and reach a detector one after another at different migration times. The concentration of each sample compound can be measured individually.

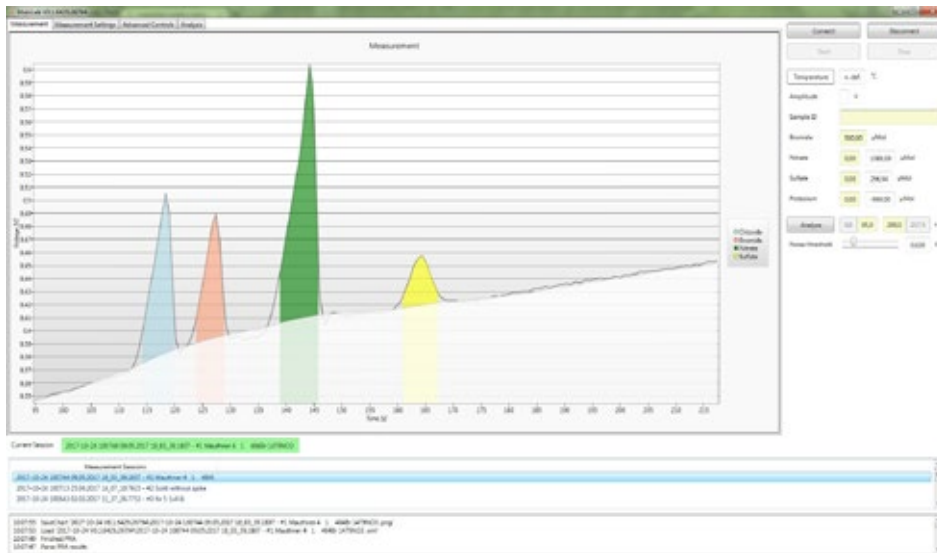
This technology also works for on-site measurements in field conditions and can be operated by users without laboratory knowledge. The measured data is related to GPS coordinates and is sent via telecommunication to our web-cloud, where it is saved and can be accessed by several users.

The possibility to transfer the data to machine-readable formats is under development, allowing the automatic site-specific variable rate application with precision farm machinery (e.g. fertilizer spreaders, sprayer etc.).

Sample analysis will be geographically referential and logged to FieldClimate.com.

TECHNICAL SPECIFICATIONS

| | |
|------------------------------|--|
| Minimum sample volume | 0.250 ml |
| Measurement range | 5-1000 ppm; 0.01-0.5 g/kg |
| Resolution | 0.5 ppm; 1 mg/kg |
| Accuracy | For measurements of liquid concentrations (ppm): $\pm 10\%$ For measurements of soil concentrations (mg/kg): $\pm 15\%$ |
| Chip lifetime | approximately 300-500 tests but maximum 1 month after breaking the sterile packaging |
| Battery capacity | 12 hours of measuring time, 3 months in standby |



HOW TO USE iMETOS MOBILAB

1. Take soil sample.
2. Mix sample, remove stones and plant debris, and then sieve it.
3. Weigh 10 g of the sieved sample into a falcon tube.
4. Add 20 g (= 20 ml) of the extraction buffer.
5. Close the falcon tube and put it on the shaker for 30 minutes.
6. Insert chip into the iMETOS MobilLab.
7. Close the chip clamp by pushing the lever down.
8. Connect the iMETOS MobilLab to electricity and USB for data processing.
9. Now remove the falcon tube from the shaker and leave it to sediment for 20 min.
10. Transfer supernatant into a prepared Eppendorf and from there into the iMETOS MobilLab analysis slot. Push play at the program button.



iMETEO® PRO is the optimal integration of measured and forecasted weather data. It combines the past temperature and rainfall data on the location and runs a precise 7-day microclimatic forecast on hourly basis that can be accessed at any time via computer or smartphone.

One part is a robust solar-powered Weather Station which measures and stores temperature and rainfall on your location, and sends this data in real time via GPRS, UMTS or CDMA to the Internet.



The second part is the combination of the historic measured weather data with the precise forecast, which is automatically calibrated with measured data. It provides a unique platform for the most accurate planning of harvest, planting, cultivation (including disease outbreak alerts), spraying and company logistics on subscription basis.

Hardware: Data logger GPRS/EDGE/UMTS/CDMA with 365 days of memory, Solar panel and rechargeable battery, Rain gauge 0.2 mm resolution, Air temperature -30 °C to 60 °C (precision ± 0.3 °C).

Forecasted data: Air temperature, Relative Humidity, Rainfall absolute in 0.2 mm resolution, including the probability of the rain, Sunshine duration, Cloud coverage in three stages (low, middle and high), Wind speed and wind gust, Wind direction, Evapotranspiration in mm (ET Value), Leaf Wetness, Cloud Coverage.

SERVICES:

Arable Agriculture

- Conditions for sugar beet and potato harvest
- Hours to use combines in small cereals
- Fertilizer and spraying possibilities
- NoBlight model
- TomCast model
- Rust infection
- Mould infections in turf and cereals

Wine and Fruit Producers

- Fertilizer and spraying possibilities
- Fruit and grape harvest
- NoBlight
- Scab infection
- Rust infection
- Powdery mildew risk periods
- Flight of moths

Animal Production

- Dairy stress
- Poultry stress
- Hay and silage preparation

Irrigation Farming

- Evapotranspiration for the next 7 days

