

METEOTRACKER X DATASHEET



Description

MeteoTracker X is a weather multi-sensor device specifically designed for measurements on the move, according to the paradigm “vehicle as a mobile sensor”.

It comes with a mobile App (Android and iOS) that gets connected to the sensor device via Bluetooth Low Energy technology and performs data geo-tagging and upload to the cloud operations, allowing for an ultra-high resolution data acquisition.

MeteoTracker X deploys the patented dual-sensor Radiation Error Correction System (US11,525,745, JP 7198510, EU EP3645989) to ensure high accuracy-high precision measurements even under strong solar radiation exposure even at low speed.

The MeteoTracker X technology includes the transpirant-membrane solution for the humidity sensor that eliminates long-term drift errors and guarantees optimal operations even in fully saturated air.

MeteoTracker X is associated to a software infrastructure that implements a full data-management process:

- dashboard and interactive map module for real-time and historic data visualisation
- data storage
- mobile App
- APIs for integration on third-party platforms
- CSV export
- interactive map module for real-time and historic data visualisation

Applications

MeteoTracker X is the device of choice for ultra-high resolution weather measurements and mapping by *instantly* turning any vehicle into a mobile, high accuracy-high precision weather station and a fleet into a mobile weather network.

Typical use cases include:

- citizen science projects
- weather exploration in remote areas (expeditions)
- weather monitoring during travels and sport activities (biking, paragliding, running)
- other activities where accurate thermo-hygro mapping of designated areas is requested

Specifications

MEASURED PARAMETERS

- **Air temperature**
 - accuracy: $\pm 0.1^{\circ}\text{C}$ typ (sensors) | $\pm 0.4^{\circ}\text{C}$ under solar radiation with speed $> 10\text{ km/h}$
 - measurement response time: 15°C variation over a 30 seconds time interval at 20 km/h
- **Relative Humidity**
 - Accuracy: 1% (typ)
 - operative range: from 0% to 100%
- **Pressure**
 - Accuracy: $\pm 0.03\text{ hPa}$ (relative) | $\pm 50\text{ Pa}$ (absolute)
- **Dew-point temperature**
 - Accuracy: $\pm 0.5^{\circ}\text{C}$
- **Altitude above sea level - QNH**
 - accuracy: $\pm 10\text{ m}$
- **Vertical thermal gradient**
 - $\pm 0.5^{\circ}\text{C} / 100\text{ m}$
- **Solar Radiation Intensity Indicator**
 - Accuracy: TBD
- **Potential temperature**
 - Accuracy: $\pm 0.5^{\circ}\text{C}$
- **Speed**
 - Accuracy: N.A. (smartphone GNSS receiver dependant)

SAMPLING FREQUENCY

- Up to 1 Hz

CONNECTIVITY

- Bluetooth Low Energy

POWER AND INSTALLATION

- Rechargeable battery (200 mAh)
- Battery life: 750+ hours
- Installation: magnetic base

OPERATIVE RANGE

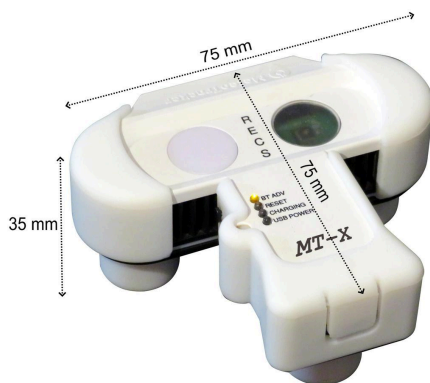
- -55°C | $+125^{\circ}\text{C}$

IP GRADE

- IP66

DIMENSIONS AND WEIGHT

- Weight: 70 g



For more information and purchasing:

<https://meteotracker.com/index.php/shop/>

info@meteotracker.com

<https://www.linkedin.com/showcase/meteotracker>