



# METEOTRACKER STANDALONE

## QUICK START GUIDE

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## 1. Overview and package content

**MeteoTracker Standalone** is the MeteoTracker solution of choice for urban climate mapping, seamlessly deploying city buses or other service fleets as a mobile weather network to provide ultra-high spatial resolution mapping of the urban thermal and hygrometric fields.

The MeteoTracker Standalone product includes:

- Two physical devices:
  - **MeteoTracker IND (MT IND)**  
An industrial-grade weather device that measures temperature, relative humidity, and atmospheric pressure plus seven additional derived parameters (dew-point, vertical temperature gradient, etc...).
  - **Teltonika FMC130 4G/GNSS modem**  
A modem that connects to the MT IND device via BLE, geo-tags the acquired data, and sends them to the cloud.
- An integrated software infrastructure for data visualization and processing



## 2. Registration to the MeteoTracker platform and devices enablement

In order to register and enable the MeteoTracker Standalone devices within the MeteoTracker platform, the following steps must be completed:

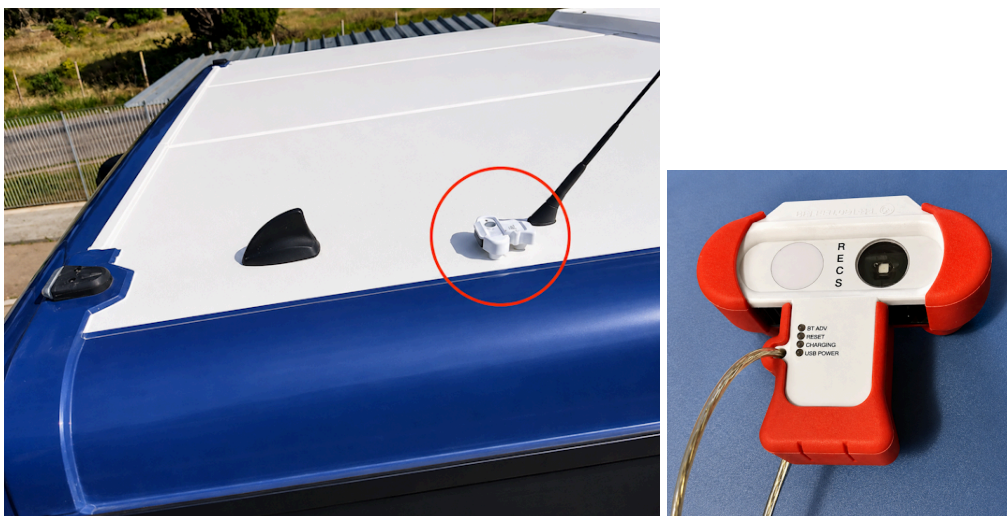
- Register an account on the MeteoTracker platform at: **[app.meteotracker.com](http://app.meteotracker.com)**  
During the registration process, select the **email + password** authentication method in order to enable access to the MeteoTracker API services (if included in the purchased package).

- Send an email to: **standalone@meteotracker.com** indicating the email address used for the registration, so that the account can be configured and enabled as a **MeteoTracker Standalone account**.

### 3. Devices installation

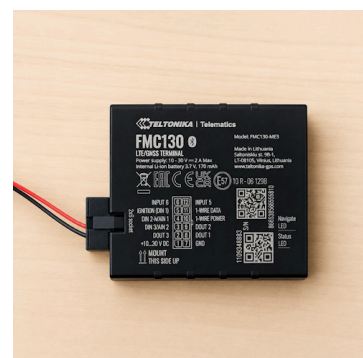
#### 3.1. MeteoTracker-IND

- Place the MT-IND device on the rooftop of the vehicle using its integrated magnetic base. If the mounting surface is not ferromagnetic, use the supplied adhesive pads featuring a metallized upper surface. **Make sure that the device ADV is on** (BT ADV led blinking every 5 seconds)
- The installation resistance has been tested up to speeds of 150 km/h.
- Where additional safety requirements apply, the device can be secured with a safety wire passing through the lateral hole provided on the MT-IND enclosure.









#### 3.2. Modem FMC130









- Place the internal modem so that the side with the white markings has a **clear, unobstructed view of the sky** in all directions, in order to avoid blocking the GNSS signal received by the GNSS receiver inside the module.



- If needed, use **double-sided adhesive tape** to ensure stable positioning.
- Connect the power cables of the modem (red and black wires) to a **12 V - 30 V power source**
- The **LED status** indicates what is the modem operating status according to the below tables

NAVIGATION LED INDICATIONS	
BEHAVIOUR	MEANING
 Permanently Switched On	 GNSS signal is not received
 Blinking Every Second	 Normal mode, GNSS is working
 Off	 GNSS is turned off because: <ul style="list-style-type: none"> <li>• Device is not working or</li> <li>• Device is in sleep mode</li> </ul>

STATUS LED INDICATIONS	
BEHAVIOUR	MEANING
 Blinking Every Second	 Normal mode
 Blinking Every Two Seconds	 Sleep mode
 Blinking Fast For A Short Time	 Modem activity
 Off	 Device is not working

### 3.3. MeteoTracker and modem reciprocal distance

The MeteoTracker device communicates with the modem via a Bluetooth connection; therefore, the distance between the two devices should not exceed 10–15 meters. If a metal structure is located between the two devices, the maximum recommended distance may decrease to 2–3 meters.

The nRF Connect app (available on the Play Store) can be used to measure the MeteoTracker Bluetooth signal strength at the modem installation position. The signal level should be higher than -95 dBm, while values around -85 dBm indicate a good signal quality.

### 3.4. Battery life

The MeteoTracker-IND device has a sophisticated electronic design aimed, among other features, to be extremely low-power consumption.

The rechargeable 320 mAh battery typically lasts 8+ months.

When the optional solar panel is used, the battery life is virtually infinite.

## 4. Starting measuring

Once the steps described in Sections 2 and 3 have been completed, the system is ready to collect data in a fully automated way, triggered by the modem's internal accelerometer.

- When the vehicle **starts moving**, the modem wakes up and the data measured by the MT-IND device are transferred to the modem, which geo-tags them and sends them to the server.
- When a **stop longer than 5 minutes** is detected, the session is automatically closed. This is the default value, but different time intervals can be configured.
- **Data quality is primarily ensured by the patented Radiation Error Correction System**, which corrects solar radiation errors even at very low speeds.
- To manage the **initial transient phase and zero-speed conditions**, the Guard-time and Autopause software functions are activated:
  - **Guard-time** is activated when a session starts and prevents data from being recorded until at least 10 points at a speed of at least 10 km/h have been detected. This allows the system to discard initial values that may be affected by overheating, for example when the vehicle has been parked under direct sunlight.
  - **Autopause** is activated when a temperature variation greater than  $\pm 0.5\text{ }^{\circ}\text{C}$  is detected while the vehicle speed is zero.

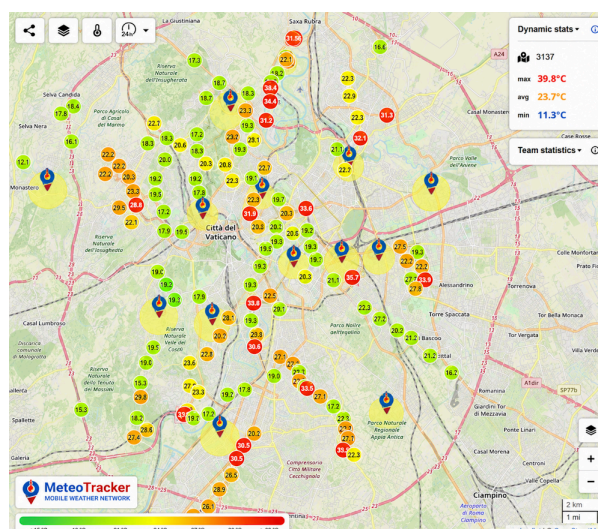
All the time intervals mentioned above are default values and can be customized to better suit specific use cases, such as city buses, cable cars, boats, or trains.

## 5. Data visualization and data services

### 5.1. MyMobileWeatherNetwork

The **MyMobileWeatherNetwork (MMWN)** package, included with the MeteoTracker Standalone purchase, provides a comprehensive set of tools for data visualization, processing, and export.

MMWN is automatically activated during the registration process. Once the setup is completed, the URL of the interactive map is generated and communicated via email from [standalone@meteotracker.com](mailto:standalone@meteotracker.com), together with the activation of all related functionalities described below.



## MyMobileWeatherNetwork package



**Mobile network map:** View real-time and archived data on an interactive map. Easily embed the map in any website using a simple i-frame.



**Smart URL:** Generate custom URLs that link to the selected map area, parameters, and time range—ideal for sharing and integration.



**Virtual Fixed Stations:** Select any point on the map and automatically collect MeteoTracker data each time a vehicle passes nearby (geo-fencing).



**Mobile network statistics:** Access key metrics with a single click—sessions completed, total kilometers traveled (overall and per vehicle), temperature extremes, and more.

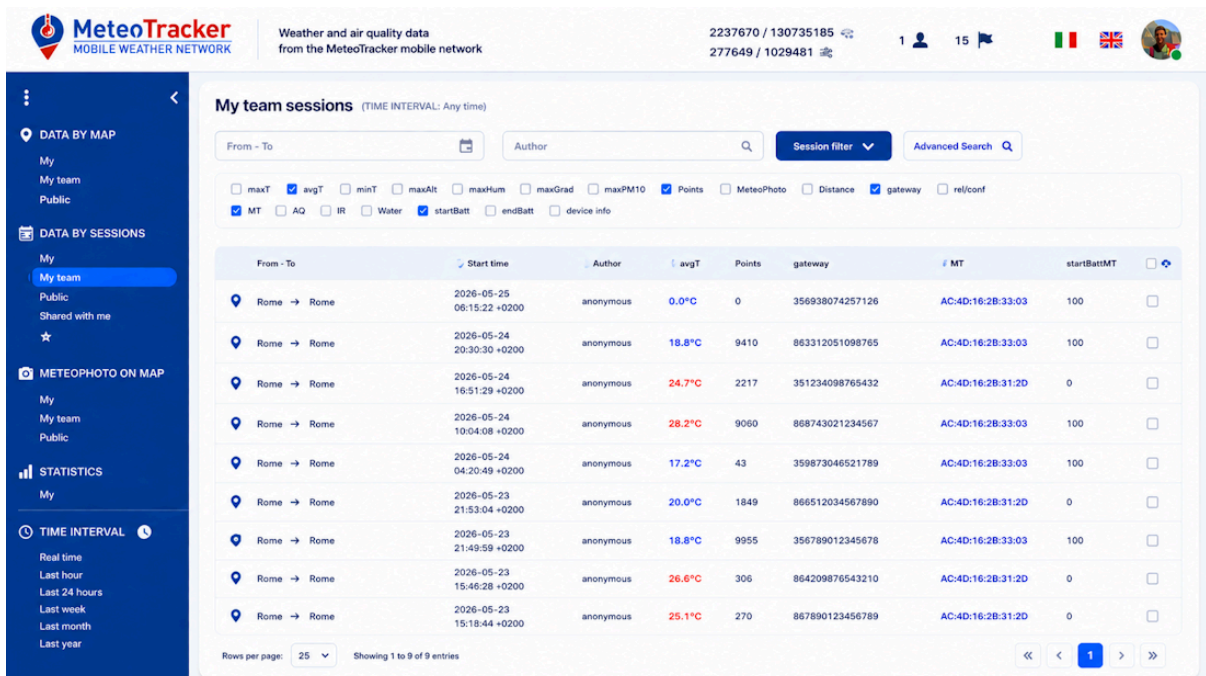


**Dynamic statistics:** Instantly view statistics for the area and time range currently displayed on the map.



**CSV batch download:** Select the mobile network sessions you need and download them as CSV files with one click.

## 5.2. MeteoTracker dashboard



The screenshot shows the MeteoTracker dashboard interface. At the top, there's a header with the MeteoTracker logo, user information (2237670 / 130735185), and flags for Italy and the UK. The main content area is titled 'My team sessions (TIME INTERVAL: Any time)'. It features a search bar for 'From - To' and 'Author', and a 'Session filter' dropdown. Below the search bar, there are various checkboxes for data types: maxT, avgT, minT, maxAlt, maxHum, maxGrad, maxPM10, Points, MeteoPhoto, Distance, gateway, rel/conf, MT, AQ, IR, Water, startBatt, endBatt, and device info. The main table displays a list of sessions with columns for From - To, Start time, Author, avgT, Points, gateway, # MT, and startBattMT. The table shows 9 entries for sessions in Rome, Italy, with varying start times and temperatures.

From - To	Start time	Author	avgT	Points	gateway	# MT	startBattMT
Rome → Rome	2026-05-25 06:15:22 +0200	anonymous	0.0°C	0	356938074257126	AC:4D:16:2B:33:03	100
Rome → Rome	2026-05-24 20:30:30 +0200	anonymous	18.8°C	9410	863312051098765	AC:4D:16:2B:33:03	100
Rome → Rome	2026-05-24 16:51:29 +0200	anonymous	24.7°C	2217	351234098765432	AC:4D:16:2B:31:2D	0
Rome → Rome	2026-05-24 10:04:08 +0200	anonymous	28.2°C	9060	868743021234567	AC:4D:16:2B:33:03	100
Rome → Rome	2026-05-24 04:20:49 +0200	anonymous	17.2°C	43	359673046521789	AC:4D:16:2B:33:03	100
Rome → Rome	2026-05-23 21:53:04 +0200	anonymous	20.0°C	1849	866512034567890	AC:4D:16:2B:31:2D	0
Rome → Rome	2026-05-23 21:49:59 +0200	anonymous	18.8°C	9955	356789012345678	AC:4D:16:2B:33:03	100
Rome → Rome	2026-05-23 15:46:28 +0200	anonymous	26.6°C	306	864209876543210	AC:4D:16:2B:31:2D	0
Rome → Rome	2026-05-23 15:18:44 +0200	anonymous	25.1°C	270	867890123456789	AC:4D:16:2B:31:2D	0

Accessible from [app.meteotracker.com](https://app.meteotracker.com), the MeteoTracker dashboard is designed for advanced analysis of measurement sessions.

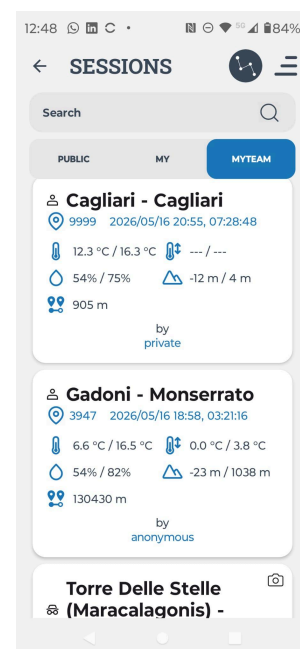
Main features include:

- **Interactive map and graph analysis**  
Each session can be analyzed through synchronized maps and graphs. Selecting a point on the map highlights the corresponding point on the graph, and vice versa.
- **Advanced session filtering**  
Measurement sessions can be filtered using multiple criteria, including time range, author, device ID, and other metadata.
- **CSV batch export**  
Easily export selected sessions in CSV format through batch download functionality. Exported files use descriptive filenames including the related session identifiers.
- **MyTeam management**  
Dedicated tools for managing and analyzing data collected by the user's MeteoTracker fleet.

### 5.3. MeteoTracker+ App (Android)

The **MeteoTracker+** Android application includes the “**MyTeam**” section, where all sessions belonging to the user's MeteoTracker fleet can be viewed both in real time and as archived data.

The **MyTeam** functionality is part of the **MyMobileWeatherNetwork (MMWN)** service, enabling centralized access to fleet measurements and collaborative monitoring activities.



## 6. References

- ✓ [MeteoTracker manuals and documentation](#)
- ✉ [info@meteotracker.com](mailto:info@meteotracker.com)