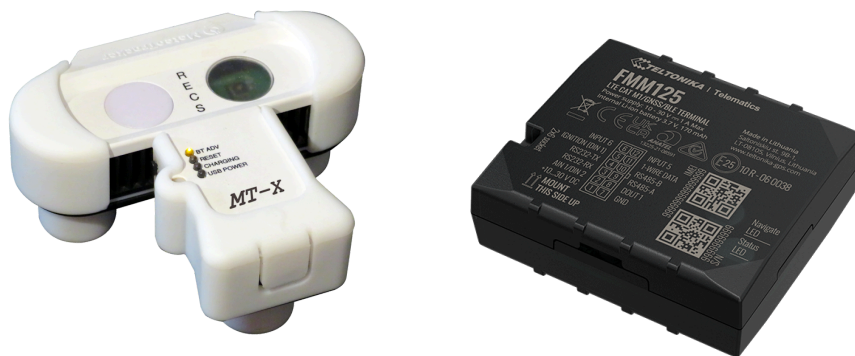


METEOTRACKER X STANDALONE

DATASHEET



Description

MeteoTracker X standalone (MTX-SA) is a ultra-low power weather sensor device specifically designed for measurements on the move, according to the paradigm “vehicle as a mobile sensor”.

It includes:

- the MeteoTracker X weather device for accurately measuring 3 primary weather parameters (temperature, relative humidity and pressure) plus a number of derived parameters (see list at page 2). It gets installed on the vehicle rooftop by its magnetic base;
- a cellular/GNSS modem that gets connected to the weather device via Bluetooth, performs data geo-tagging and uploading to the cloud operations, allowing for a completely automated data acquisition.

MTX-SA 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 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.

MTX-SA comes with a software infrastructure that implements a full data-management process:

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

Applications

MTX-SA is the device of choice for ultra-high resolution weather measurements by “instantly” turning any vehicle in a mobile, high accuracy-high precision weather station and a fleet in a mobile weather network.

Typical use cases include weather/climate services in the following sectors:

- urban areas;
- road networks
- ski-areas
- forest fire-fighting operations
- natural areas
- precision agriculture

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 speed: 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: $\pm 0.5^{\circ}\text{C}$
- **Humidex (thermal comfort index)**
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 (modem related): $< 0.1\text{ m/s}$ within $\pm 15\%$ error



SAMPLING FREQUENCY

- 0.2 Hz

CONNECTIVITY

- Bluetooth Low Energy
- Cellular (SIM provided with the modem)

POWER AND INSTALLATION

- **Weather device**
Battery life: 10+ months (rechargeable, 320 mAh) | accessory solar panel available
Installation: magnetic base
- **Cellular module**
12 V power: USB-C plug-in to vehicle power source

OPERATIVE RANGE

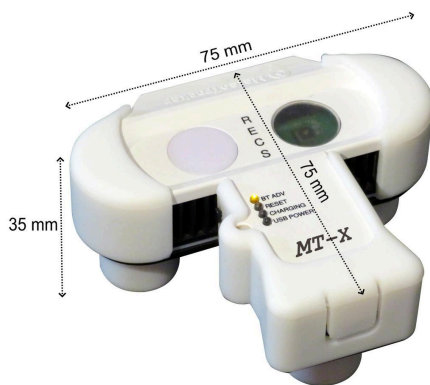
- -55° C | +125° C

IP GRADE

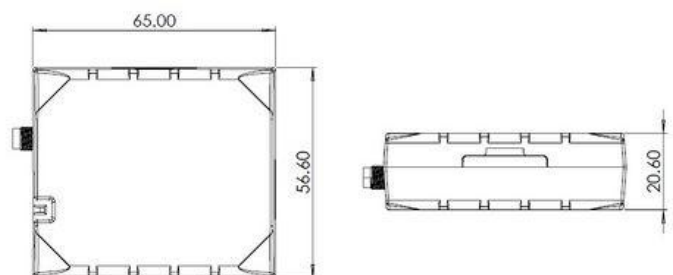
- IP66

DIMENSIONS AND WEIGHT

- Weight: MeteoTracker X device: 70 g | modem: 55 g



MeteoTracker X



Modem

For more information and purchasing:

<https://meteotracker.com/mt-standalone/>

info@meteotracker.com

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