



MASTER YOUR OUTDOOR MICRO-CLIMATE MEASUREMENT

Freedom to measure anywhere, accurately.

WMO performance
temperature and humidity

Solar powered. Operates
6+ months without sun.



- **Professional WMO precision**
Temperature, humidity, dew point, frost point and rain per WMO
- **Stable long-term accuracy**
3-in-1 sensor tip housed inside the MeteoShield Pro offers long-term stability and low uncertainty of measurement
- **Accurate in all climates & weather**
MeteoShield Pro enables accurate measurement in all weather conditions and provides a very-high level of protection to the MeteoHelix's sensors
- **Easy calibration procedure**
Traceability is assured by a removable sensor tip which is interchangeable and can be easily calibrated with a calibration adapter or replaced
- **View & export live weather data**
allMeteo.com Web portal enables easy world-wide view of your weather station data including data export, API data access and live data view. It also offers the ability to manage your fleet of weather stations.

MeteoHelix IoT Pro

Exceeding WMO accuracy requirements has never been so easy and affordable.

Designed for precision and ease of use, the MeteoHelix IoT weather stations offer professional research grade accuracy meeting World Meteorological Organization standards.

Unique measurement properties of the patented double-helix design make this weather station highly resistant to long-term sensor drift and sensor measurement errors from the sun and other negative environmental factors.

This helical micro-weather station is the perfect choice for climate research in tough measurement environments.

Available in SigFox and LoRaWAN network coverage areas. NB-IoT coming soon.

allMeteo.com - portal for data & station management



Type	Accuracy	Stability	Resolution	Measuring range	Operating range	Response*	Meets WMO
Temperature	±0.2 °C (typical)	<0.02 °C per year	0.1 °C	-40 °C...105 °C	-40 °C...105 °C	5-30 s	yes
Relative humidity	±1.8 %RH @ 25 °C hysteresis ±1 %	<0.25 %RH per year	0.2%RH	0...100 %RH	0...100 %RH	8-40 s	yes
Dew point / Frost point	(calculated)	-	0.1°C	-40 °C...105 °C	-40 °C...105 °C	8-40 s	yes
Solar radiation	5 % of daily total	-0.6 % per year	2 W/m ²	0...1500 W/m ²	-40 °C...105 °C	< 1 s	no
Atmospheric pressure	±1.5hPa @25°C (750...1100hPa)	-1 hPa per year	0.04 hPa (mbar)	300...1100 hPa	10...1300 hPa	0.1 s	no
Rain (optional reed switch input)	Rain gauge dependent	Rain gauge dependent	0.001...10mm per pulse (set in allMeteo)	0...255 pulses per 10 minutes	Rain gauge dependent	-	yes

* τ63% sensor response time listed is with a filter cap. Response time with filter cap will vary based on cap porosity, material and fluid (air) flow. In applications where sensors are used in wet, dirty and dusty environments, we recommend regular inspection of filter cap cleanliness to maintain long term accuracy. Inspection interval should be determined by application and user experience in their application environment.

For applications where all-weather measurement accuracy meeting World Meteorological Organization (WMO) standards is required.

PRECISE ENOUGH FOR THE PROFESSIONAL, EASY TO USE FOR EVERYONE.

Mechanically strong, simple to install, even simpler to use and easy to connect to your application.





Electrical specifications of sensor	
Wireless communication	Available versions: Sigfox, LoRaWAN. NBloT & LTE-CAT-M1 available in 2019.
Supply voltage	Solar powered with internal Li Ion battery for 6+ months of operation without sun.
Power on/off	Magnetically activated on/off switch located in sensor head.
External connections	3m cable interface for pulse output rain gauge sensors.
Environmental rating of sensor	
Operating temperature & humidity	-27 °C to +65 °C (-40 °C in testing) 0% to 100%RH
IP – Protection rating	IP65W (DIN 40050) Protected from dust and weather.
General specifications	
Dimensions	Diameter = 170mm, Height = 226mm
Weight (mass)	1.2kg (2.0 kg including stainless steel holder)

MeteoHelix IoT Pro provides the highest levels of total measurement accuracy & lowest uncertainty in outdoor temperature & humidity measurement per World Meteorological Organization standards.

A weather station inside the revolutionary MeteoShield Pro

Naturally ventilated helical solar shield/screen. **Double-Helix shape eliminates** temperature errors from solar radiation more effectively than conventional multi-plate shields while offering unsurpassed **protection from the sun, dirt, rain, snow, sand & dust**. Double-helix increases clean air flow and rejects dirt particles away from the sensor, while keeping sensors cleaner than traditional multi-plate and fan aspirated shields.



Coming soon: MeteoSense IoT Pro expansion module
Designed for soil moisture sensors, leaf wetness sensors, wind meters, soil temperature sensors, snow temperature sensors, snow height sensors, RS485 smart sensors, analog sensors, rain gauges and more.

2 x	Digital (Pulse / Frequency up to 2kHz)
2 x	0 - 2.5 V
1 x	RS-485 MODBUS ASCII & RTU
1x	I ² C
Output	Sigfox, LoRaWAN, NBloT, LTE-CAT-M1

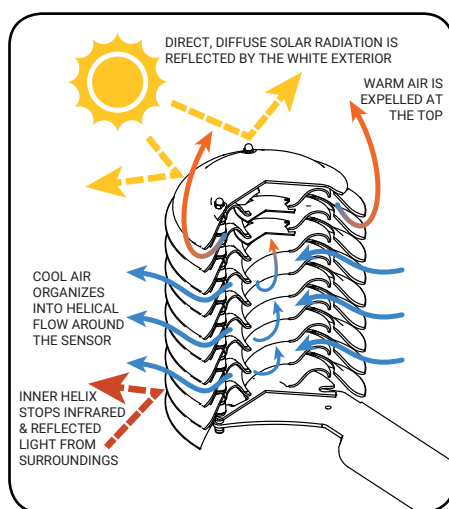
Benefits of the MeteoShield's double-helix shape

Helical radiation shield shape ventilates better than multi-plate radiation shields while maintaining better temperature sensor protection from dirt, sand, dust, rain, snow and ice.

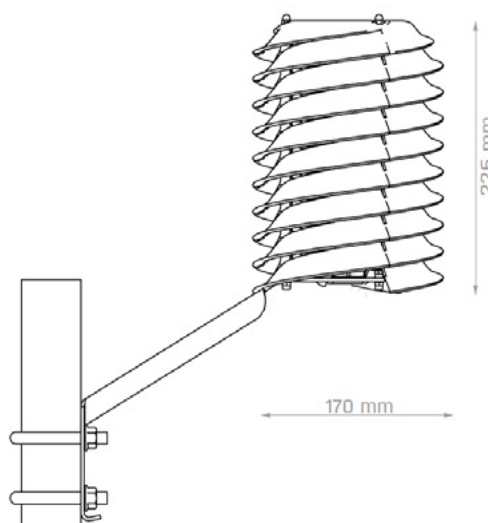
BENEFITS:

- Extending sensor life
- Long-term measurement stability

MeteoHelix performs better than many fan-ventilated radiation shields especially in high-reflectivity environments such as over snow, water, pavement or building walls.



MeteoHelix IoT Pro The professional micro-weather station



Reach your Gold Standard of measurement with BARANI sensors. ISO:9001 quality.

Data in this datasheet are preliminary and are subject to change.

