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WMO performance Temperature and Humidity



MeteoTemp RH+T

2-in-1 meteorological sensor probe with waterproof connector. **Temperature, Humidity, Dew point and Frost point** output. Ultra-low 800 micro Amp power consumption **eliminates self heating** in Meteorological applications. Meets WMO requirements for accurate air temperature, humidity and long term stability.

Also features triple lightning protection and Surge, Transient & ESD protection.



Temperature + Humidity + Pressure

MeteoTemp RH+T with Pressure

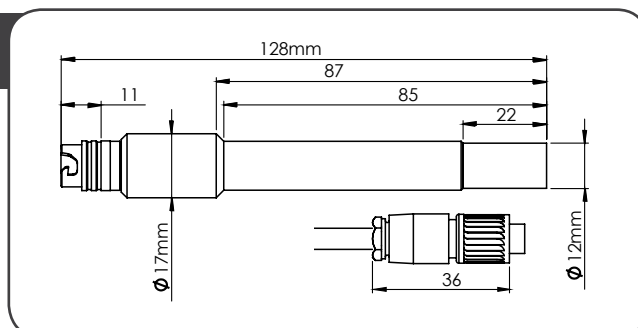
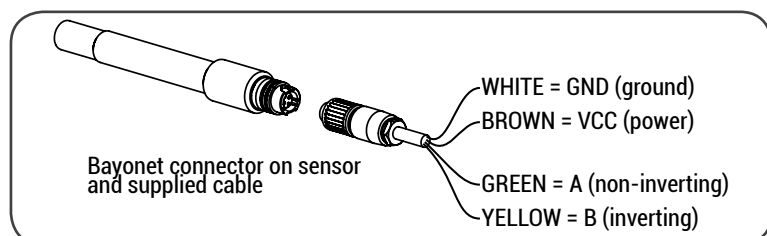
3-in-1 sensor probe with the same form factor as above 2-in-1 probe. Adds **Pressure** to the already superb **Temperature, Humidity, Dew Point and Frost Point** probe without increasing power consumption to maintain the same WMO accuracy requirements for Temperature and Humidity. Features a highly reliable sealed barometric pressure transducer in the sensor head.

Also features triple lightning protection and Surge, Transient & ESD protection.

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	5-30s	yes
Relative Humidity	±1.8%RH @25°C hysteresis ±1%	<0.25%RH per year	0.1%RH	0...100%RH	0...100%RH	8-30s	yes
Dew point / Frost point	(calculated)	-	0.1°C	-40°C...105°C	-40°C...105°C	8-30s	yes
Barometric Pressure	±1.5hPa @25°C (750...1100hPa)	-1 hPa per year	0.012hPa	300...1100hPa	10...1300hPa	0.1s	no

* τ63% sensor response time listed is without 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.

Ultra-low power with no self-heating



For applications where WMO accuracy and reliability with lightning protection and all-weather resistance is important

UPGRADE TO INTRINSICALLY SAFE

Mechanically strong, 800µA power consumption, triple level lightning, transient, surge, ESD protection.



Electrical specifications of sensor		
Output signal & communication	RS-485 with Modbus RTU & ASCII, (also available: Frequency, 0-10V, 4-20mA, RS232, RS422)	
Supply Voltage	5...15VDC with reverse polarity protection (startup in-rush <100mA for 1ms)	
Power consumption	800µA at 1Hz output including RS485 communication	
Lightning & surge protection	per IEC EN 61000-4-2, EN 61000-4-4, EN 61000-4-5 on both data & power lines, Surge, EFT/ Burst, ESD 15kV	
Environmental rating of sensor		
Operating temperature & humidity	-40°C to +105°C	0% to 100%RH
Connection	Bayonet connector with silicone o-ring	
IP – Protection rating	IP66W (DIN 40050)	
General specifications		
Dimensions	Length = 128mm (164mm with mating connector), Ø17mm base, Ø12mm PTFE sensor cap	
Weight (mass)	aprox. 20g (without mating connector and cable)	

For total highest measurement accuracy & lowest uncertainty in outdoor temperature & humidity measurement use MeteoTemp in combination with the only helical radiation shield MeteoShield

MeteoShield - Professional

Naturally aspirated 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.



Our **RS485 MODBUS-to-Analog** and **RS485-to-422/232 converters** add a triple layer of lightning protection, surge & ESD protection between digital sensors like MeteoTemp & your valuable data logger or PLC. Available sensor interfaces for all our sensors:

Pulse / Frequency	RS-485
0 - 10 V	RS-422
0 - 20 mA	RS-232
4 - 20 mA	MODBUS ASCII & RTU

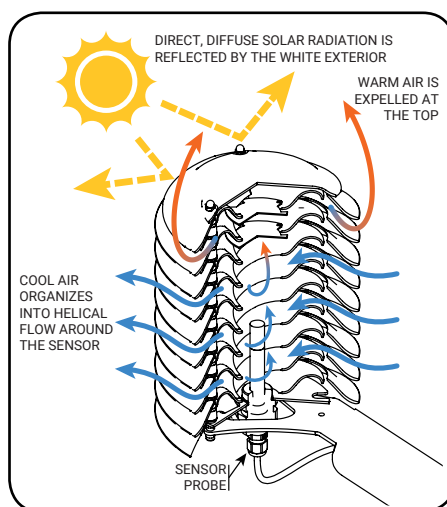
Double-Helix Benefits

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:

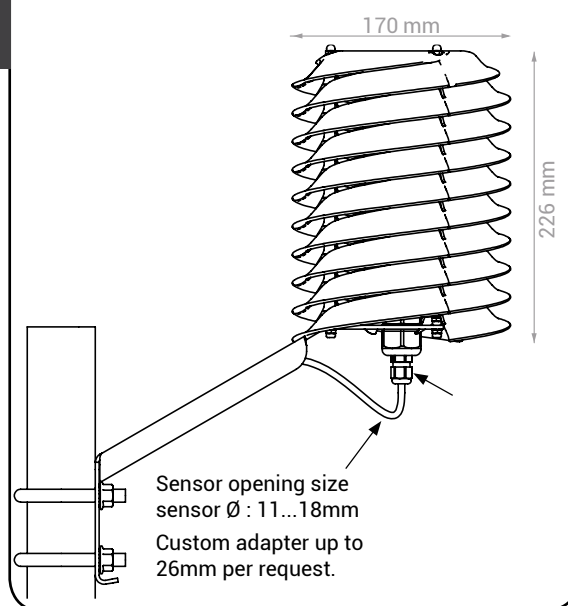
- Extending sensor life
- Long-term measurement stability

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



MeteoShield - Professional

Helical solar radiation shield



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

