

- AGRICULTURE
- HYDROLOGY
- METEOROLOGY
- SHIPS
- AIRPORTS
- INDUSTRIAL & PLC
- OCEANOGRAPHY
- SKI LIFT & SNOW MAKING
- BUOY & MARINE
- INTRINSICALLY SAFE
- ROAD MANAGEMENT
- SMART CITIES
- COASTAL
- IOT
- POLAR AND WINTER
- WEATHER STATIONS

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

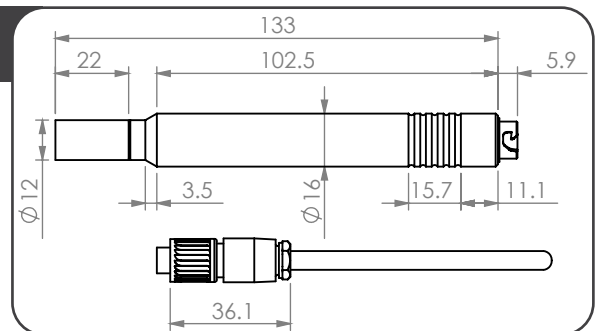
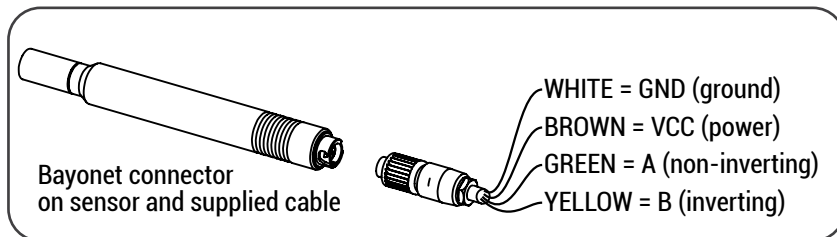
3-in-1 sensor probe with the same form factor as above 2-in-1 probe. Adds **Pressure** to the already superb **Temperature, Humidity, Dew Point and Frost Point** probe without increasing power consumption to maintain the same WMO accuracy requirements for Temperature and Humidity. Features a highly reliable 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 (silicone type) | ±0.15 °C (typical) ±0.2 °C (FS) | <0.02°C per year | 0.01 °C | -40°C...105°C | -40°C...105°C | 5-30s | yes |
| Relative Humidity (capacitive type) | ±1.8%RH @25°C hysteresis ±1% | <0.25%RH per year | 0.01%RH | 0...100%RH | 0...100%RH | 8-30s | yes |
| Dew point / Frost point | (calculated) | - | 0.01 °C | -40°C...105°C | -40°C...105°C | 8-30s | yes |
| Barometric Pressure (piezo-resistive type) | ±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

SENSORS FOR CRITICAL WEATHER INTELLIGENCE

| Electrical specifications of sensor | |
|-------------------------------------|---|
| Output signal & communication | RS-485 with Modbus RTU or ASCII |
| Supply Voltage | 5...24 VDC with reverse polarity protection (startup in-rush <100mA for 1ms) |
| Power consumption | 800 µA at 1Hz output including RS485 communication, 25 µA quiescent |
| 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 15 kV |
| 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 = 133 mm (164 mm with mating connector), Ø16 mm base, Ø12 mm PTFE sensor cap |

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 converter** adds a **triple layer of lightning protection, surge & ESD protection** between digital sensors like the MeteoTemp RH+T and MeteoWind and your data logger or PLC.
Available sensor converter interfaces:

Input from sensors: RS-485 MODBUS ASCII or RTU
 Output to logger: 0 - 1 V

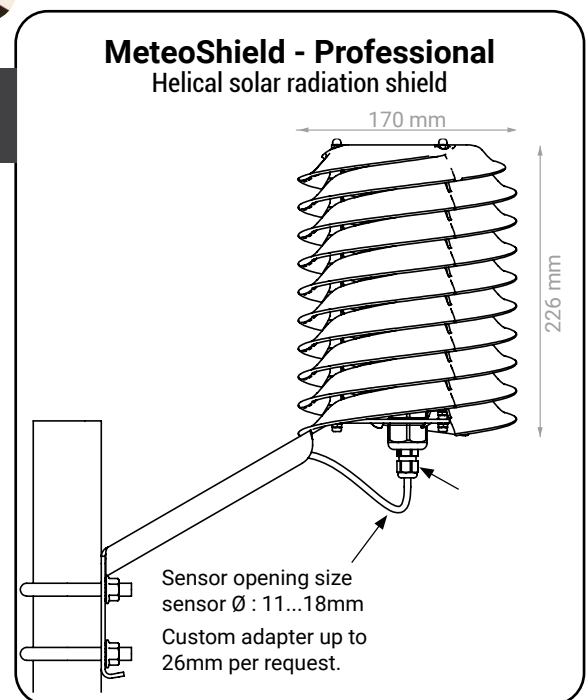
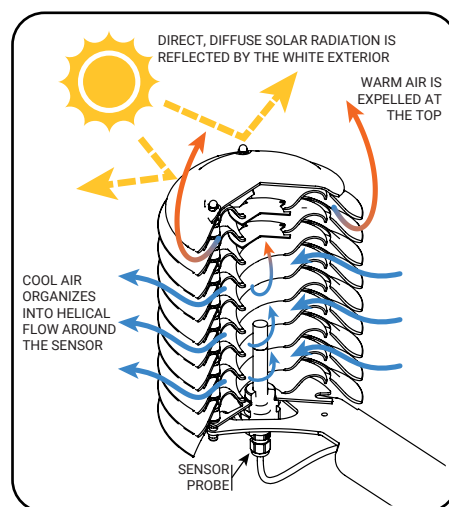
Double-Helix Benefits

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.



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