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Wind speed & wind direction



MeteoWind 2

Anemometer with a wind vane. Exceeds **WMO** and **MEASNET Class 1** accuracy standards for meteorology & wind resource assessment. Very low 4mA combined power consumption and integrated triple layer lightning & surge protection for reliable operation. Protected oversize bearings with high dirt and weather resistance proven to provide **long-term measurement stability & reliability** in dirty & dusty environments.

Serviceable bearing & cups with high dirt resistance

- Serviceability of rotor bearing, anemometer cups and wind vane
- Special double-arm reinforced cup design with over-size bearings for robustness.
- Highest level of 3 stage lightning, EMC, Surge & ESD protection
- Industry standard RS-485 output
- Simple & robust MODBUS RTU and ASCII communication protocol is user selectable
- Long-term tested dirt resistance in highly dusty environments with salt-spray
- *All models feature a weather proof locking bayonet connector.*

Elliptic cup design offers snow resistance and high accuracy per WMO & MEASNET standards

Dual arm reinforced cup design for all weather reliability

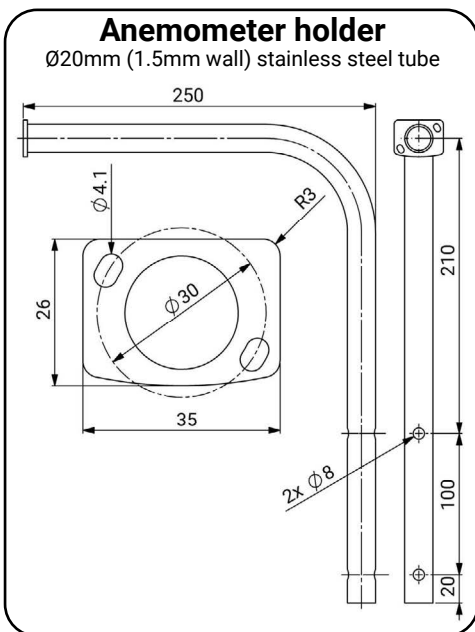
- WMO & MEASNET conforming wind speed and direction.
- 10Hz sampling rate to accurately capture wind gusts.
- Fast response and minimal over-speeding for accurate wind gust measurement.
- Robust two arm reinforced rotor cup design
- Special flat elliptical cups offer superb snow shedding with very good hail resistance
- All-metal replaceable wind direction vane.
- Strong all-metal anodized-aluminum body

Heated anemometer with wind vane 20 Watts of heat for all weather reliability

- Built in dual heater distributes heat where it is needed most.
- Heater can be controlled manually from a data logger or automatically based on anemometer temperature or based on anemometer temperature and wind speed.
- Safe operation from 5V up to a 24V DC power source.
- Heater output of can be controlled by input voltage
- 20W at 24V for high reliability all weather deicing
- 5W at 12V with user selectable automatic or manual control for solar powered AWOS/AWS weather stations
- Patented flat elliptic cup design offers superb winter snow shedding even without heating.

Where measurement accuracy + lightning protection is important
A more reliable replacement for ultrasonic anemometers

Measurement standards of anemometer & wind vane				
	Range	Resolution	Accuracy	Sampling rate
Wind speed	0-80 m/s gust	0.01m/s	< 1% or < ±0.2 m/s (the greater of) or ±0.05 m/s (4-16 m/s) with MEASNET CALIBRATION	10Hz @ 3 pulses per revolution
Wind direction	0-360°	1°	2° (no dead-spot)	10Hz
Linearity	R ² > 0.99995 MEASNET/IEC 61400-12-1:2005			
Tilt angle sensitivity	Cosine response, see graph. (Horizontal wind speed measurement)			
Starting wind speed	<0.3m/s			
Default linearity constants (Calibration equation coefficients)	Anemometer Cups before 2023: $m/s = 0.43*(Hz) + 0.33$ Dendriform Cups 2023+: $m/s = 0.4360 * (Hz) + 0.3500$ for ±0.2 m/s or quadratic linearization: $m/s = -0.00020 * (Hz)^2 + 0.4470 * (Hz) + 0.3000$ for ±0.15 m/s			
Distance constant (Delay distance)	1.7 m (per ASTM D 5096-96)			
Electrical specifications of anemometer & wind vane				
Output signal & communication	RS-485 with Modbus RTU & ASCII			
Supply Voltage	5...24VDC with inrush protection & reverse polarity protection			
Power consumption	2.6mA @12V (combined wind speed & direction at 10Hz sampling including RS-485 coms)			
Lightning & surge protection	per IEC EN 61000-4-5 on both data & power lines, Surge, EFT/Burst, ESD 15kV			
Environmental rating of anemometer & wind vane				
Operating temperature & humidity	-40°C to +80°C, 0% to 100% RH			
Survival wind speed	>90m/s (324kph, 200mph)			
Connection	Bayonet connector with silicone o-ring			
IP – Protection rating	IP65W (DIN 40050)			
General anemometer & wind vane specifications				
Heater (optional)	20W (1.1A) @ 24VDC (5W @ 12VDC), User selectable manual or automatic heater control			
Weight (mass)	Anemometer = aprox. 300g (without stainless steel mount)			
Dimensions	Anemometer rotor diameter = Ø164mm, Wind vane radius =136mm, Total height = 320mm			
Patented / Registered	OHIM 002153882-0001, 002153882-0002, 002153882-0003			
Mounting	two M4 screws with supplied holder as pictured below			

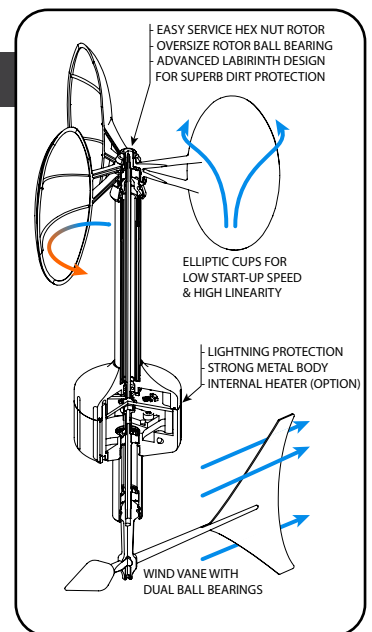


Compact design

Combining of the anemometer and wind vane electronics allows this compact design to shine. Improved levels of reliability are made possible due to the reduction of electrical components. Compact size increases anemometer accuracy and reduces snow buildup for improved winter operations and more effective heater deicing.

Other customer related benefits from this combined wind sensor include:

- Reduction in the number of connectors & wiring for better weather & lightning resistance
- Reduction in mounting hardware and installation time
- Simpler & faster maintenance
- Simpler data logger configuration



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