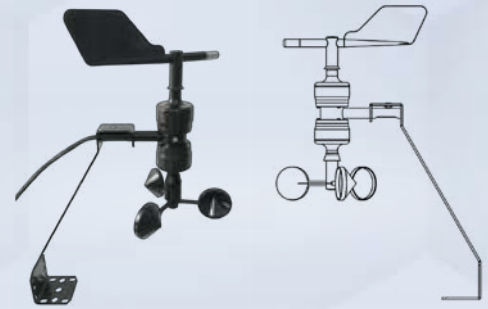




WIND SPEED AND DIRECTION SENSOR WIND SENSOR

MODEL NO: HS-AN009



PRODUCT OVERVIEW

The HS-AN009 is a highly integrated sensor combining wind speed and wind direction measurements in one robust device. Its durable aluminum alloy structure ensures high strength and reliable operation in various environments.

Wind Speed: Traditional three-cup anemometer design, made with imported ABS for excellent startup performance and durability.

Wind Direction: Low-inertia wind vane with a precision angle sensor provides accurate, stable wind direction data.

DESCRIPTION

In line with IEC 61724-1:2021, which specifies performance monitoring for photovoltaic systems, accurate wind speed and direction data are essential for calculating soiling losses, thermal losses, and derating factors caused by wind conditions. The HS-AN009's measurement range of up to 75 m/s and directional resolution of 1° allow it to perform reliably in both typical and extreme weather scenarios, supporting long-term yield analysis for solar power plants. Its high linearity, low power consumption (maximum 0.9 W), and robust signal integrity

To ensure measurement quality, the wind speed element utilizes high-grade ABS cups with optimized aerodynamics, achieving a starting threshold of ≤ 0.3 m/s, which meets or exceeds industry requirements for environmental monitoring and renewable energy applications. The internal signal conditioning circuit offers digital RS485 outputs. The Modbus RTU protocol is supported for easy integration into SCADA and data acquisition systems.

KEY ADVANTAGES

- High accuracy, wide measurement range, and low start threshold.
- Industry-standard outputs available as option (pulse, 4–20 mA, voltage).
- Supports IEC 61724-1 PV performance monitoring needs.
- Robust, weatherproof construction with corrosion-resistant materials.
- Low power consumption for continuous remote monitoring.



Safety Instructions

The installation and assembly of electrical equipment must be carried out by electrically qualified persons. The sensor may not be used with equipment whose direct or indirect purpose is to prevent human death or injury, or whose operation poses a risk to humans, animals or property.



Electrical Connection

The sensors are designed for safety extra-low voltage (SELV) operation. The cable shield shall be connected to the PE during installation.

WARNING: Connecting the supply voltage to the signal lines will damage the device.



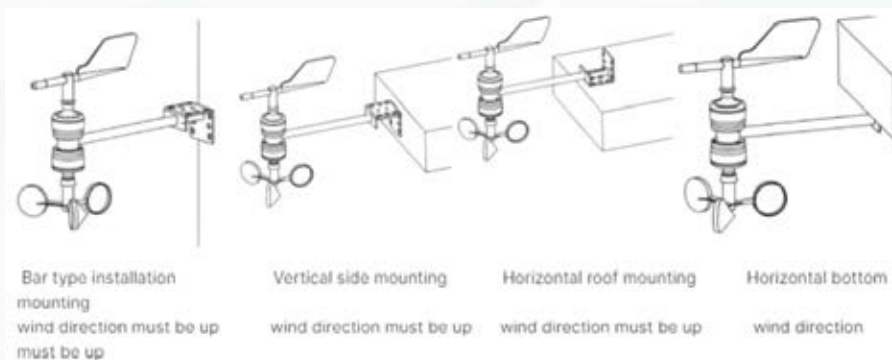
APPLICATIONS

Meteorology, environmental monitoring, Airports, ports, industrial automation, agriculture, transportation, and research.

INSTALLATION

Ensure the wind direction sensor is installed upright.

Multiple mounting options are available; refer to the schematic for details.



Specifications	Parameters
Power Supply	9 to 30 V DC
Signal Output	RS485
Range	Wind Speed: 0 to 75m/s Wind Direction: 0-359°
Accuracy	Wind Speed: ± 0.3 m/s or $\pm 3\%$ Wind Direction: $\leq \pm 2^\circ$
Sensor Housing	IP65
Starting Threshold	≤ 0.3 m/s
Cable length	2.5m, PUR coated, Shielded
Power Consumption	< 0.9 Watt
Resolution	Wind Speed: 0.1 m/s Wind Direction: 1°
Weight	Approx. 700 g
Material	Aluminum Alloy & Carbon Fiber
Operating Temperature	-40° to 70°C

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