

ENVIRONMENTAL SENSING / DATA SHEET

SS101H-02

Wind Speed Sensor

Compact three-cup anemometer for reliable outdoor wind-speed measurement with RS485, analog and pulse output options.

Equipment Overview

Compact, lightweight three-cup sensor for convenient installation and long-term outdoor monitoring.

Aluminum-alloy housing with protective coating; a high-performance bearing system reduces rotational resistance and improves response.

For greenhouses, environmental monitoring, weather stations, vessels, docks, aquaculture and other wind-speed applications.



0–60 m/s MEASURING RANGE	0.1 m/s RESOLUTION	≤2 s RS485 / ANALOG RESPONSE	Modbus RTU DIGITAL COMMUNICATION
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CAPABILITY

Key Advantages

Sensing & Construction

- 0–60 m/s range; 0.1 m/s resolution for RS485 and analog configurations.
- EMI protection for stable field operation.
- Bottom cable outlet avoids aging aviation-plug gasket sealing issues.
- High-performance bearing system for low resistance and sensitive response.

Integration & Durability

- Full aluminum housing for strength, corrosion resistance and outdoor durability.
- Balanced structure reduces rotational inertia and improves responsiveness.
- Modbus RTU for straightforward system integration.
- Analog and pulse output configurations available.

APPLICATIONS

Application Scenarios

Greenhouses Wind monitoring for greenhouse ventilation and environmental control.	Weather Stations Field wind-speed measurement for meteorological monitoring systems.	Environmental Monitoring Outdoor environmental and ecological monitoring projects.
Marine / Docks Wind-speed monitoring on vessels, docks and coastal installations.	Aquaculture Wind monitoring for aquaculture and related outdoor operations.	General Outdoor Use Suitable for other outdoor wind-speed measurement installations.

PERFORMANCE

Technical Specifications

Item	Specification
Measurement Range	0–60 m/s

Item	Specification
Resolution	0.1 m/s (RS485 / analog)
Accuracy	$\pm(0.2 + 0.03V)$ m/s @ 0–30 m/s, 25°C; V = wind speed
Operating Temperature / Humidity	–40°C to +60°C; 0–95% RH, non-condensing
Housing	Full aluminum housing with corrosion-resistant surface treatment
Sensing Structure	Three-cup anemometer with low-resistance bearing system

OUTPUT / COMMUNICATION

Output Configurations

Item	RS485	Analog	Pulse
DC Supply	5–30 V DC	10–30 V DC	5–30 V DC
Maximum Power	0.3 W @12 V	0.7 W	Not stated in source
Output / Interface	RS485, Modbus RTU	4–20 mA; 0–5 V; 0–10 V	NPN / PNP pulse output
Response Time	≤ 2 s	≤ 2 s	≤ 0.5 s
Resolution	0.1 m/s	0.1 m/s	0.10625 m/s; 1.7 m/s = 16 pulses
Measurement Range	0–60 m/s	0–60 m/s (default 0–30 m/s)	0–60 m/s
Accuracy	$\pm(0.2 + 0.03V)$ m/s @0–30 m/s, 25°C	$\pm(0.2 + 0.03V)$ m/s @0–30 m/s, 25°C	$\pm(0.2 + 0.03V)$ m/s @0–30 m/s, 25°C
Load Capability	–	Voltage output resistance $\leq 250 \Omega$; current output $\leq 600 \Omega$	PNP ≥ 100 mA; NPN ≥ 100 mA

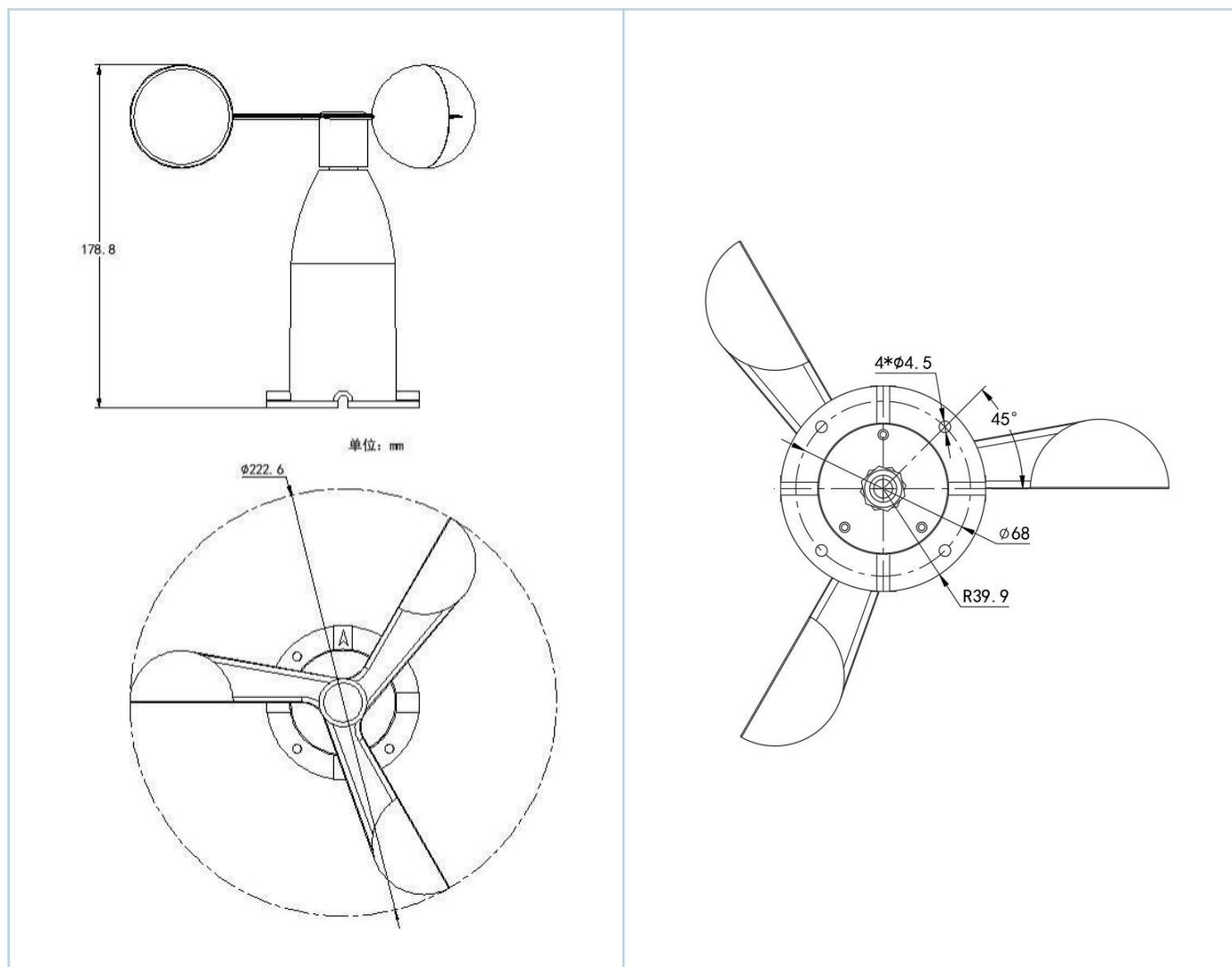
COMMUNICATION

RS485 Modbus Settings

Parameter	Setting
Protocol	Modbus RTU over RS485
Data Bits	8
Parity	None
Stop Bits	1
Default Address	1
Baud Rates	2400, 4800 (default), 9600, 19200, 38400, 57600, 115200
Parameter Configuration	Configured through the RS485 interface using the supplied configuration software

MECHANICAL

Outline Dimensions



Key source dimensions: overall height 178.8 mm; rotating envelope $\varnothing 222.6$ mm; base $\varnothing 68$ mm; four $\varnothing 4.5$ mm mounting holes.

ORDERING

Product Selection

Code	Description
SS-	Company code
101H-02	Aluminum-housing wind speed sensor
1	4–20 mA current output
2	0–5 V voltage output
3	0–10 V voltage output
4	RS485 output (Modbus protocol)
5	NPN output
6	PNP output

Code	Description
7	NPNR output with pull-up resistor
8	4G upload, split configuration

Note: Select the output code according to the required signal interface. The source document does not specify additional ordering fields beyond the code list above.

APPENDIX

Wind Speed – Beaufort Scale Reference

Scale	knots	km/h	m/s	Name
0	<1	<2	0-0.2	Calm
1	1-3	1-5	0.3-1.5	Light air
2	4-6	6-11	1.6-3.3	Light breeze
3	7-10	12-19	3.4-5.4	Gentle breeze
4	11-16	20-29	5.5-7.9	Moderate breeze
5	17-21	30-39	8-10.7	Fresh breeze
6	22-27	40-50	10.8-13.8	Strong breeze
7	28-33	51-61	13.9-17.1	Near gale
8	34-40	62-74	17.2-20.7	Gale
9	41-47	76-87	20.8-24.4	Strong gale
10	48-55	88-102	24.5-28.4	Storm
11	56-63	103-118	28.5-32.6	Violent storm
12	64-71	119-133	32.7-36.9	Hurricane
13	72-80	134-149	37-41.4	-
14	81-89	150-166	41.5-46.1	-
15	90-99	167-183	46.2-50.9	-
16	100+	184+	51+	-

CONTACT / SUPPORT

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