

ENVIRONMENTAL SENSING / DATA SHEET

SS101-03

Wind Speed Sensor

Compact three-cup wind speed sensor with polycarbonate composite housing and multiple output configurations for long-term outdoor monitoring.

Overview

- Compact and lightweight three-cup sensor designed for easy carrying, assembly and long-term outdoor deployment.
- Polycarbonate composite housing provides corrosion resistance; the internal bearing system supports wind-speed acquisition.
- Available with analog, RS485, pulse, GPRS / 4G and dedicated 5 V configurations.
- Suitable for greenhouses, environmental monitoring, weather stations, vessels, docks and aquaculture.



0–70 m/s MAXIMUM CONFIGURABLE RANGE	0.1 m/s STANDARD RESOLUTION	≤1 s TYPICAL RESPONSE	–40 to +60 °C OPERATING TEMPERATURE
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CAPABILITY

Key Advantages

Mechanical & Signal Design

- 0–30 m/s standard analog range, customizable up to 0–70 m/s; 0.1 m/s standard resolution.
- Polycarbonate composite housing with corrosion resistance for long-term outdoor use.
- High-performance bearing design with low rotational resistance and sensitive response.
- Bottom cable outlet helps maintain long-term waterproof performance.

Configuration Flexibility

- Electromagnetic interference protection.
- RS485 Modbus, analog, pulse, GPRS / 4G and dedicated 5 V configurations.
- Analog versions can support three-wire and four-wire connection methods.
- Operating environment: –40 to +60 °C and 0–80% RH.

APPLICATIONS

Application Scenarios

Greenhouse Monitoring Greenhouse environmental control and ventilation systems.	Weather & Environment Meteorological stations and environmental protection.
Marine & Port Vessels, docks and related outdoor installations.	Aquaculture & Industry Aquaculture sites and other industrial equipment.

MEASUREMENT PRINCIPLE

Technical Principle

The three-cup rotor converts airflow into rotational motion. The internal bearing and sensing assembly detects rotational speed and converts it into a wind-speed value. Depending on the selected configuration, the sensor provides RS485 Modbus, analog voltage/current, pulse, or cellular data output.

OUTPUT OPTIONS

Configuration Overview

Configuration	Power / Measurement	Interface / Output
RS485 / Modbus	10–30 V DC; 0–70 m/s; 0.1 m/s; ≤1 s	2400/4800(default)/9600 baud; 8N1; address 1; function 03/04
Analog	10–30 V DC; default 0–30 m/s, optional 0–70 m/s; 0.1 m/s; ≤1 s	4–20 mA; 0–5 V / 0–10 V; voltage output resistance ≤250 Ω; current load ≤600 Ω
Pulse	5–30 V DC; 0–70 m/s; 0.0875 m/s; ≤0.5 s	Pulse output; PNP ≥100 mA; NPN ≥100 mA
GPRS / 4G	10–30 V DC; ≤0.3 W; 0–70 m/s; 0.1 m/s; ≤1 s	GPRS/GSM or 4G mobile-network communication as specified in the source
5 V Version	5 V DC; 0.12 W; default 0–30 m/s, optional 0–70 m/s; 0.1 m/s; ≤1 s	Selectable 0–5 V / 0–3 V / 0–2.5 V / 1–5 V; output resistance ≤250 Ω

PERFORMANCE

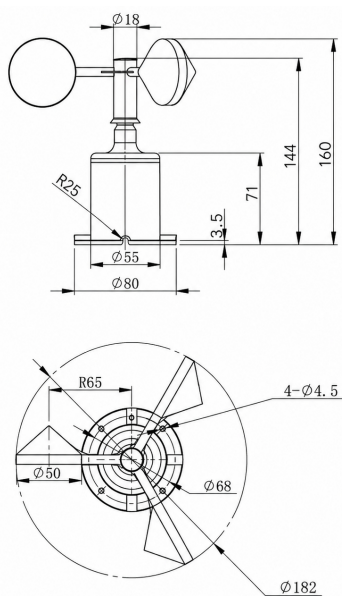
Technical Specifications

Configuration-specific power, measurement and interface parameters are listed in the Configuration Overview; the summary below records the source document's common performance and output notes.

Item	Specification
Common Performance	Accuracy: $\pm(0.2 + 0.03V)$ m/s at 0–30 m/s and 25 °C, where V is wind speed. Operating environment: -40 to +60 °C, 0–80% RH.
Analog / 5 V Output Notes	10–30 V analog versions support 4–20 mA, 0–5 V and 0–10 V. The dedicated 5 V version supports 0–5 V, 0–3 V, 0–2.5 V and 1–5 V.

MECHANICAL

Dimensions & Product Selection

 Overall Height: 160 Main Shaft Height: 144 Base Height: 71 Base Diameter: $\phi 80$ Unit (mm) Mounting Hole Diameter: $\phi 4.5$ Pitch Circle Diameter: $\phi 68$ Unit (mm)	Key Dimensions • Overall height: 160 mm • Main shaft height: 144 mm • Base height: 71 mm • Base diameter: $\phi 80$ mm • Rotor envelope diameter: $\phi 182$ mm • Mounting holes: 4 × $\phi 4.5$ mm • Mounting-hole PCD: $\phi 68$ mm
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MECHANICAL

Dimensions & Product Selection

PRODUCT SELECTION

Outline Dimensions & Ordering Information

Ordering codes below are reproduced from the supplied source document. Model prefix: SS101-03.

Ordering Code	Description	Ordering Code	Description
SS101-03-485	RS485 output	SS101-03-I20	4–20 mA output
SS101-03-V05	0–5 V output	SS101-03-V10	0–10 V output
SS101-03-GPRS	GPRS signal output	SS101-03-4G	4G signal output
SS101-03-PNP	PNP pulse output	SS101-03-NPN	NPN pulse output
SS101-03-NPNR	NPN output with internal pull-up resistor		

5 V version ordering options: V05 = 0–5 V, V03 = 0–3 V, V025 = 0–2.5 V, V15 = 1–5 V.

CONTACT / SUPPORT

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