WIND MEASUREMENT / DATA SHEET

SS101-02P1
Pendulum Wind Speed Sensor

Intelligent wind speed sensing for large lifting, cantilever and vibration-prone outdoor equipment.



Overview

- SS101-02P1 is a pendulum wind speed sensor developed for large-scale lifting and cantilever mechanical equipment.
- Its self-adjusting vertical angle and non-contact magnetic sensing principle support real-time wind speed measurement on equipment subject to shaking, bumps and fluctuations.
- The alloy-aluminum wind cups and coated all-metal casing are designed for outdoor use and strong wind conditions.

Measuring range **0–50 / 0–30 m/s**	**Start speed** **≥0.5 m/s**	**Accuracy** **±0.5 m/s / ±3%FS**	**Protection** **IP65**
Output **4–20 mA / 0–5 V / 0–10 V**	**Digital** **RS485 (Modbus)**	**Wind resistance** **>70 m/s, 30 min**	**Temperature** **–20°C to +85°C**

Key Advantages

- Non-contact magnetic sensing measurement principle.
- Built-in high-performance sensor for accurate and reliable data collection.
- Low starting wind speed and wide measurement range.
- All-metal casing with corrosion resistance and strong wind resistance.
- Fault-tolerant circuit protection helps prevent damage from wrong wiring.
- CE EMC compliance, multi-level lightning protection and surge protection are stated in the source material.

Application Scenarios

- Crawler cranes and truck cranes.
- Factories, electric power facilities, ports and mines.
- Wind turbines and large mechanical equipment.
- Outdoor equipment exposed to vibration, bumps and fluctuating angles.
- General wind speed monitoring in indoor and outdoor environments.

Measurement Principle

SS101-02P1 measures wind speed using a non-contact magnetic sensing principle. The pendulum structure allows the sensor to maintain its vertical angle while the wind cups rotate in the external airflow. The built-in sensing and signal-conditioning circuit converts the measured speed into the selected analog, pulse or RS485 output.

Technical Specifications

Item	Specification
Operating voltage	12–30 VDC; 5 V / 24 V pulse
Measuring range	0–50 m/s; 0–30 m/s
Start wind speed	≥0.5 m/s
Wind resistance	>70 m/s for 30 min
Accuracy	±0.5 m/s (<5 m/s); ±3%FS (≥5 m/s)
Protection level	IP65
Operating temperature	−20°C to +85°C
Electrostatic protection	15 kV
Working humidity	0%–95% RH, non-condensing
Output signal	4–20 mA; 0–5 VDC; 0–10 VDC; pulse; RS485 (Modbus)
Main material	Aluminum alloy / polyester coating
Measurement principle	Non-contact magnetic sensing

Specific electrical performance and wiring definitions are subject to the actual product and selected output configuration.

Output / Communication

Output Options

- 4–20 mA analog output.
- 0–5 VDC analog output.
- 0–10 VDC analog output.
- Pulse output.
- RS485 output using Modbus protocol.

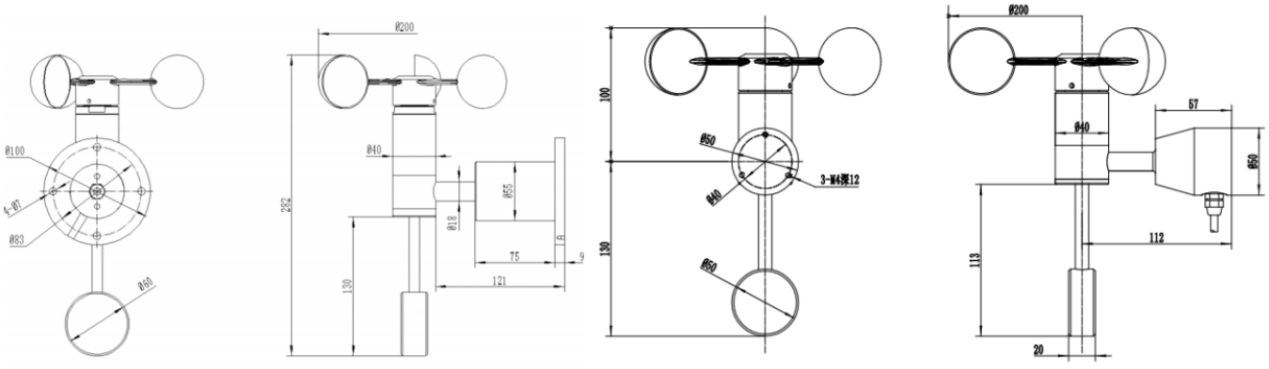
Electrical Notes

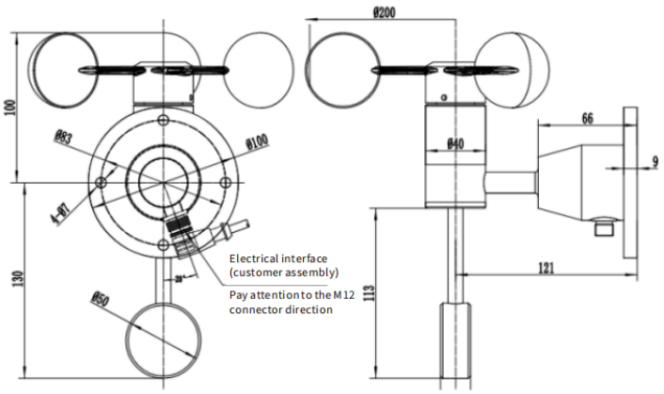
- 12–30 VDC operating supply.
- 5 V / 24 V pulse configuration is stated in the source.
- M12 and direct-lead electrical connection options are shown in the source ordering guide.
- Other outlet methods may be customized; final wiring follows the actual product.

Mechanical Dimensions / Installation

The source drawing provides several installation configurations: standard bottom direct outlet, M12 side outlet standard type and M12 side outlet wide flange base type. Use the selected configuration drawing and verify connector direction before installation.

Dimensions





Representative dimension configurations from the source drawing

Product Selection / Ordering Information

Selection	Configuration
Base model	SS101-02P1 — Pendulum Wind Speed Sensor
Output / power code	4–20 mA / 24 VDC; 0–5 VDC / 24 VDC; 0–10 VDC / 24 VDC; or RS485 / 24 VDC
Electrical connection	M12 connector or direct lead
Extended function	Standard type
Precision / range code	Precision and measuring range according to the selected configuration
Units	Wind speed: m/s

Specify SS101-02P1 together with the required output, power supply, electrical connection and mounting configuration. Final wiring and configuration are subject to the actual product.

Electrical Connection / Wiring

Signal type	Terminal / wire	Assignment
Analog output	1 / Red	+Vcc (power supply positive)
Analog output	3 / Black	GND (power ground)
Analog output	4 / Green	Iout / Vout (signal output)
Digital output	1 / Red	+Vcc (power supply positive)
Digital output	3 / Black	GND (power ground)
Digital output	4 / Green	RS485A
Digital output	2 / White	RS485B

Other outlet methods may be customized; final wiring is subject to the actual product.

CONTACT / SUPPORT

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