WIND MEASUREMENT / DATA SHEET

SS102-01
Wind Direction Sensor

Reliable 360-degree wind direction measurement for industrial and outdoor monitoring.

Overview

- SS102-01 is a high-reliability wind direction sensor for stable and accurate environmental wind direction measurement.
- The internal digital circuit captures the azimuth signal of the wind vane and provides an electrical output linearly related to wind direction.
- Alloy construction, sealed internal and rotating parts, and multi-level protection support outdoor and industrial operation.



Measuring range **0-360 deg**	**Start speed** **<=0.5 m/s**	**Accuracy** **16 directions**	**IP rating** **IP65**
Operating voltage **15-30 VDC**	**Wind resistance** **>70 m/s**	**Electrostatic** **15 kV**	**Output** **4-20 mA / RS485**

Key Advantages

- Non-contact magnetic sensing measurement principle.
- Built-in high-performance sensing circuit for accurate and reliable data collection.
- Full metal shell with corrosion and wind resistance.
- Stainless-steel wind vane for harsh operating conditions.
- Fault-tolerant circuit design helps protect against wiring errors.
- CE EMC, lightning protection and surge protection are stated in the source datasheet.

Application Scenarios

- Factories and power plants.
- Ports, mines and construction machinery.
- Wind turbines and large-scale machinery.
- High-altitude operations and outdoor wind monitoring.

Measurement Principle

SS102-01 uses non-contact magnetic sensing. The internal circuit collects the azimuth signal of the wind direction vane and outputs an electrical signal that is linearly related to the environmental wind direction.

Technical Specifications

Item	Specification
Operating voltage	15-30 VDC
Measuring range	0-360 deg
Start wind speed	<=0.5 m/s
Accuracy	16 directions +/-3 deg; +/-2.5 deg

Item	Specification
Operating temperature	-20 C to +85 C
Operating humidity	0%-95% RH, non-condensing
Wind resistance	>70 m/s for 30 min
Protection level	IP65
Electrostatic protection	15 kV
Output signal	4-20 mA; 0-5 VDC; 0-10 VDC; RS485 (Modbus RTU)
Main material	Aluminum alloy / polyester coating

Technical indicators and cable definitions may vary by actual product configuration. Refer to the confirmed order and supplied wiring definition.

Output / Communication

Output Options

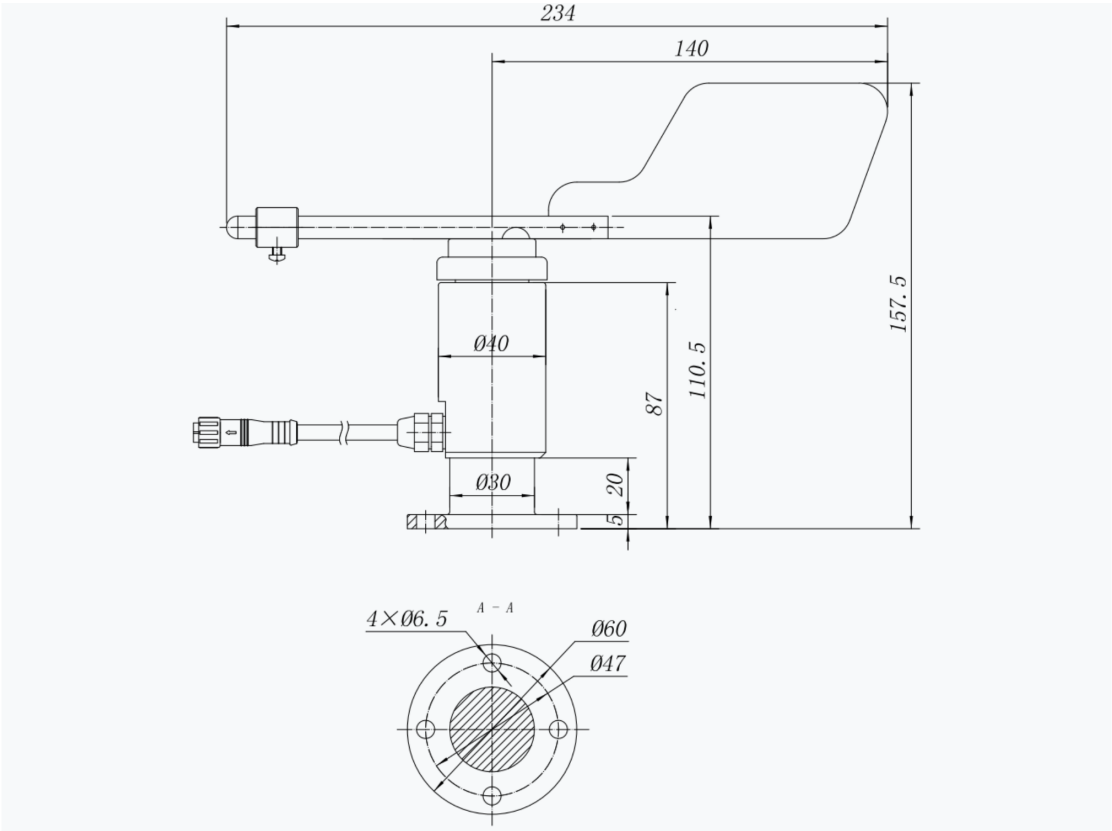
- 4-20 mA analog output.
- 0-5 VDC analog output.
- 0-10 VDC analog output.
- RS485 digital output using Modbus RTU.

Protection and Electrical Notes

- Operating supply: 15-30 VDC.
- Electrostatic protection: 15 kV.
- Fault-tolerant protection is stated for wiring errors.
- Confirm the actual output and wiring configuration before connection.

Mechanical Dimensions / Installation

Source drawing dimensions are in millimetres. Overall length is 234 mm and overall height is 157.5 mm; the body diameter is 40 mm. The mounting base is shown as 60 mm outer diameter, 47 mm inner diameter, with 4 x 6.5 mm mounting holes.



Mechanical drawing reproduced from the supplied source PDF

Electrical Connection / Wiring

Output	Pin	Wire color	Definition
RS485 digital output	1	Red	+Vcc (positive power)
RS485 digital output	4	White	RS485 A
RS485 digital output	2	Black	GND (negative power)
RS485 digital output	3	Yellow	RS485 B
4-20 mA signal output	1	Red	+Vcc (positive power)
4-20 mA signal output	4	White	/
4-20 mA signal output	2	Black	GND (negative power)
4-20 mA signal output	3	Yellow	Iout (signal output)
0-5 V / 0-10 V signal output	1	Red	+Vcc (positive power)
0-5 V / 0-10 V signal output	4	White	/
0-5 V / 0-10 V signal output	2	Black	GND (negative power)
0-5 V / 0-10 V signal output	3	Yellow	Vout (signal output)

Other wiring methods may be customized; the specific wiring is subject to the actual product order.

Product Selection / Ordering Information

Selection	Configuration
Base model	SS102-01 - Wind Direction Sensor
Output / power supply	4-20 mA / 24 VDC; 0-5 VDC / 24 VDC; 0-10 VDC / 24 VDC; RS485 / 24 VDC
Electrical connection	LED outlet
Extended function	Standard type
Precision options	16 wind directions +/-3 deg; +/-2.5 deg
Measuring range	Wind direction angle, 0-360 deg
Units	Degree

Specify SS102-01 together with the required output, power supply, precision and connection configuration.

CONTACT / SUPPORT

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