WIND MEASUREMENT / DATA SHEET

SS102H-02A
Heated Wind Direction Sensor

Reliable 360-degree wind direction measurement with PTC heating and robust EMC protection.

Overview

- SS102H-02A is a heated, high-reliability wind direction sensor for stable and accurate environmental wind direction measurement.
- The internal digital circuit captures the azimuth signal of the wind direction rod and outputs an electrical signal linearly related to wind direction.
- PTC automatic heating, sealed alloy construction, and protection against RF, electromagnetic interference and lightning surge support demanding outdoor use.



Measuring range **0-360 deg**	**Start speed** **>=0.5 m/s**	**Accuracy** **16 directions**	**IP rating** **IP65**
Operating voltage **15-30 VDC**	**Heating power** **<50 W**	**Wind resistance** **>70 m/s**	**Output** **4-20 mA / RS485**

Key Advantages

- Non-contact magnetic sensing measurement principle.
- Built-in high-performance sensor for accurate and reliable data collection.
- Full metal shell with corrosion and wind resistance.
- Aluminum-alloy wind direction rod for harsh operating conditions.
- Fault-tolerant circuit design helps protect against wiring errors.
- PTC automatic heating at 24 VDC with heating power below 50 W.
- CE EMC, multi-level lightning protection and surge protection are stated in the source datasheet.

Application Scenarios

- Factories and electric power facilities.
- Ports, mines and construction machinery.
- Wind turbines and large mechanical equipment.
- High-altitude operations and outdoor wind monitoring.

Measurement Principle

SS102H-02A uses non-contact magnetic sensing. The internal circuit collects the azimuth signal of the wind direction rod and outputs an electrical signal that is linearly related to environmental wind direction. The sensor includes PTC automatic heating for the stated heated configuration.

Technical Specifications

Item	Specification
Measuring range	0-360 deg
Operating voltage	15-30 VDC

Item	Specification
Starting wind speed	>=0.5 m/s
Accuracy	16 directions +/-3 deg; +/-2.5 deg
Operating temperature	-20 C to +85 C
Working humidity	0%-95% RH, non-condensing
Main material	Aluminum alloy / polyester coating
Heating method	PTC automatic heating
Heating voltage	24 VDC
Heating power	<50 W
Wind resistance	>70 m/s for 30 min
Protection level	IP65
Static protection	15 kV
Output signal	4-20 mA; 0-5 VDC; 0-10 VDC; RS485 (Modbus)

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

Output / Communication

Output Options

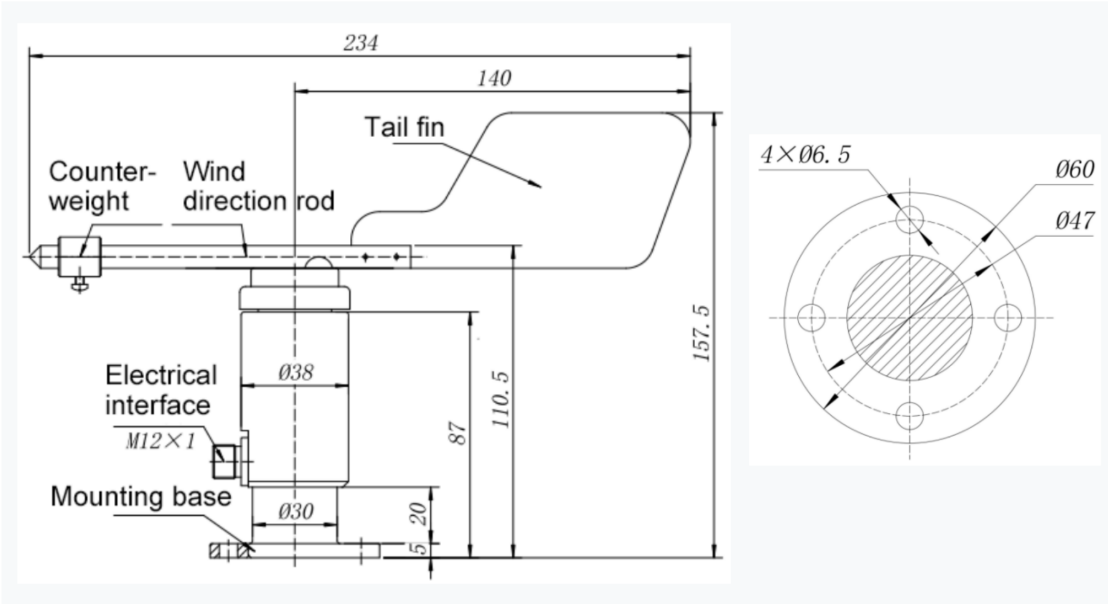
- 4-20 mA analog output.
- 0-5 VDC analog output.
- 0-10 VDC analog output.
- RS485 digital output using Modbus protocol.

Protection and Electrical Notes

- Operating supply: 15-30 VDC; heating supply: 24 VDC.
- PTC automatic heating power is specified as below 50 W.
- 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 sensor body diameter is 38 mm. The electrical interface is marked M12 x 1. 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	M12 pin	Line color	Definition
Analog signal output	1	Brown	+Vcc (power supply positive)
Analog signal output	2	White	Iout / Vout (output positive)
Analog signal output	3	Blue	GND (power supply negative)
Analog signal output	4	Black	Heat- (heating negative)
Analog signal output	5	Grey	Heat+ (heating positive)
RS485 digital signal output	1	Brown	+Vcc (power supply positive)
RS485 digital signal output	2	White	RS485 A
RS485 digital signal output	3	Blue	GND (power supply negative) / Heat- (heating negative)
RS485 digital signal output	4	Black	RS485 B
RS485 digital signal output	5	Grey	Heat+ (heating positive)

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

Product Selection / Ordering Information

Selection	Configuration
Base model	SS102H-02A - Heated 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	M12 connector / direct lead
Extended function	Heating type
Heating supply	24 VDC; PTC automatic heating; <50 W
Precision options	16 wind directions +/-3 deg; +/-2.5 deg
Measuring range	Wind direction angle, 0-360 deg
Units	Degree

Specify SS102H-02A together with the required output, power supply, heating, precision and connection configuration.

CONTACT / SUPPORT

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