

SM5388V

0-5V outdoor aluminum wind speed and direction integrated sensor

User Manual

File Version: V22.2.22

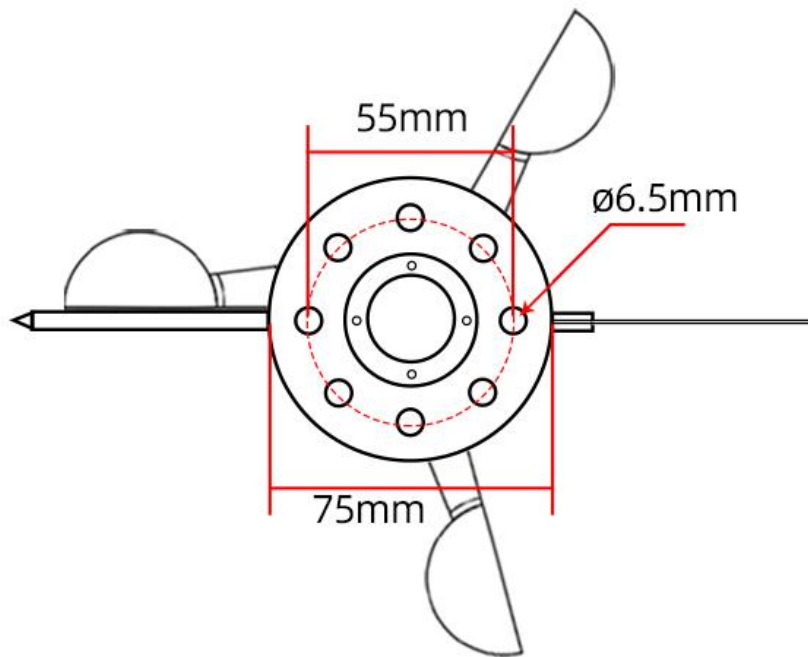
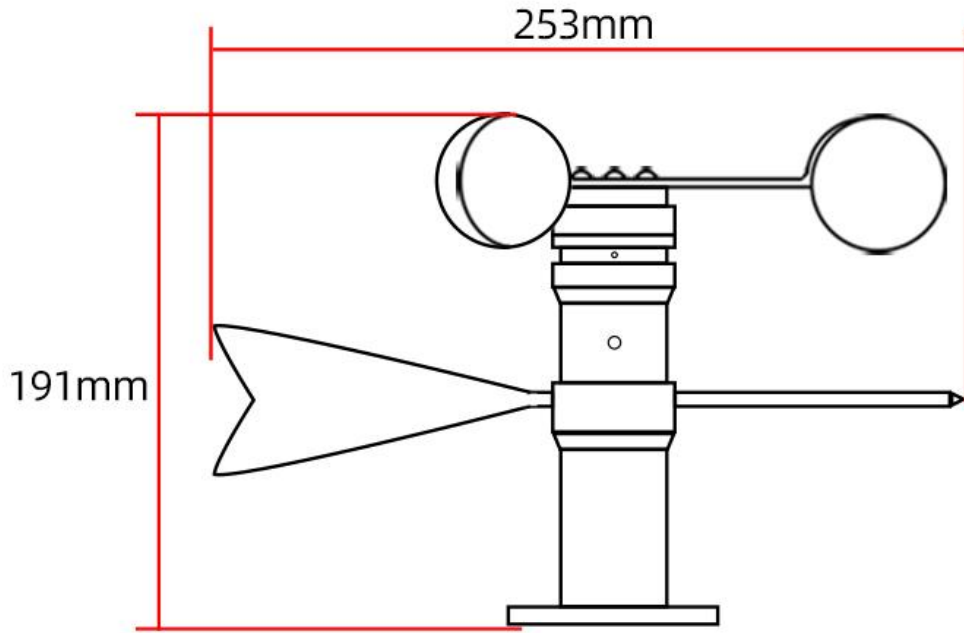


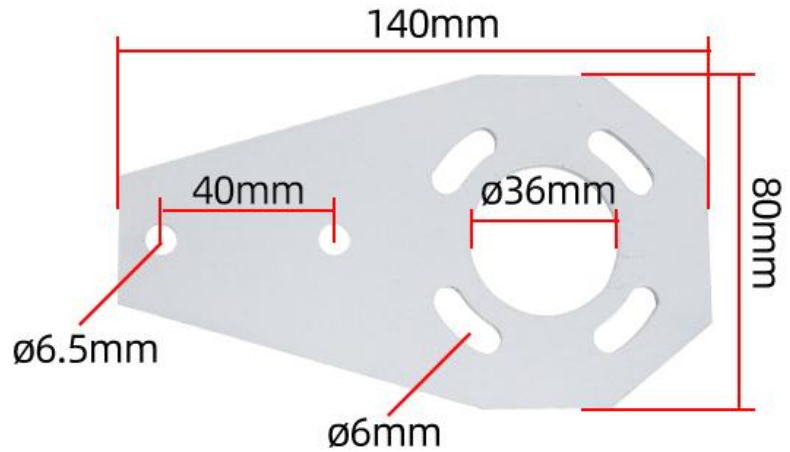
SM5388V using the standard DC0 ~ 5V voltage output signal,easy access to PLC , DCS and other instruments or systems for monitoring wind speed,conductivity state quantities.The internal use of high-precision sensing core and related devices to ensure high reliability and excellent long-term stability,can be customized RS232,RS485,CAN,4-20mA,DC0~5V\10V,ZIGBEE,Lora,WIFI,GPRS and other output methods.

Technical Parameters

Technical parameter	Parameter value
Brand	SONBEST
Wind speed range	0~30m/s
Start wind	0.2m/s
Wind speed accuracy	± 3%
Shell material	aluminum
Wind direction range	0~360°
Wind direction resolution	22.5°
Output Interface	DC0~5V
Power	DC12~24V 1A
Running temperature	-40~80°C

Product Size





How to wiring?

RS485			4~20MA		
■	RD	PWR+	■	RD	PWR+
■	GN	PWR-	■	GN	PWR-
■	YE	RS485 A+	■	YE	WD Current
■	BU	RS485 B-	■	BU	WS Current

DC0~5V/10V		
■	RD	PWR+
■	GN	PWR-
■	YE	WD Voltage
■	BU	WS Voltage

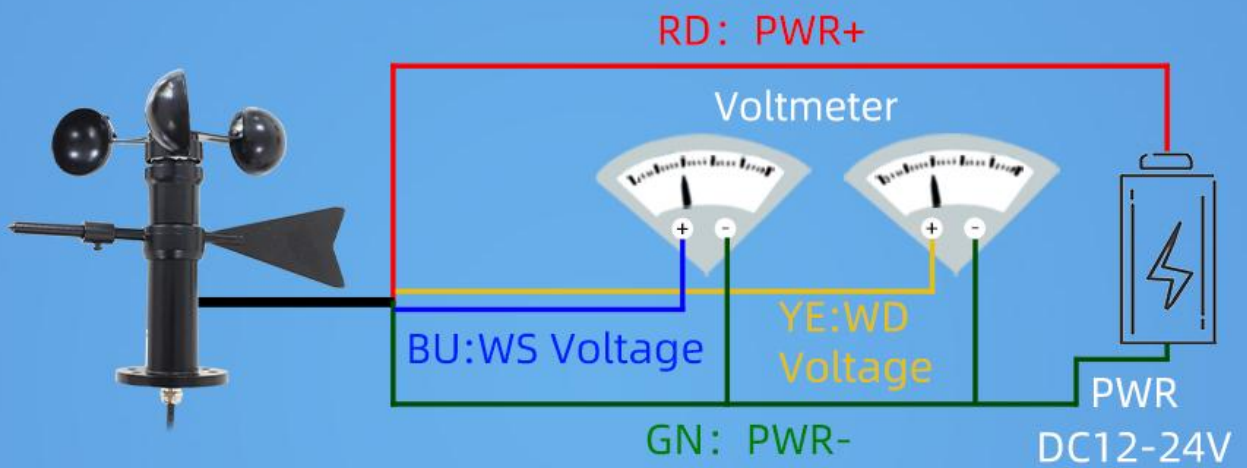
※Note: When wiring, connect the positive and negative poles of the power supply first, and then connect the signal wire

Application solution

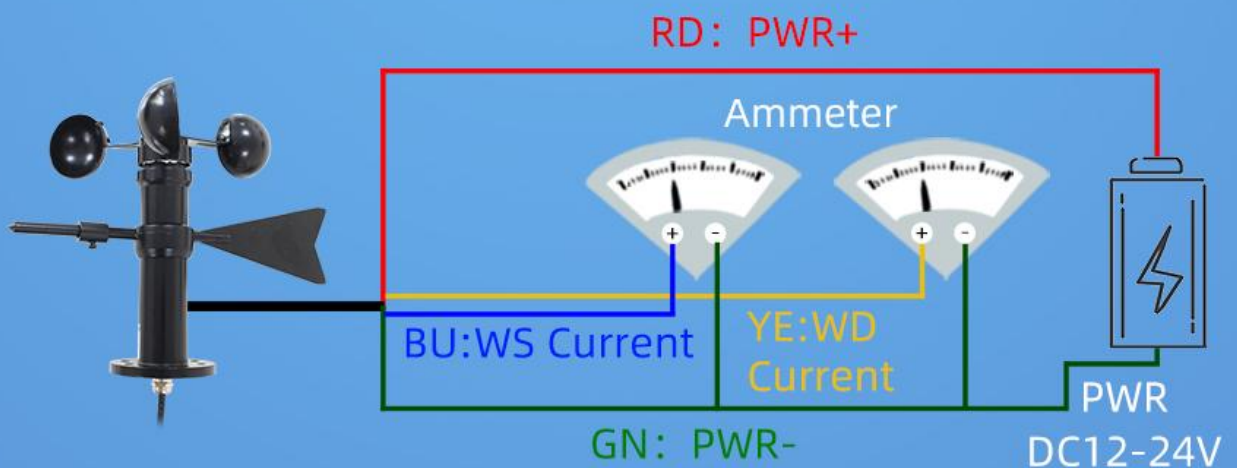
■ RS485 ■



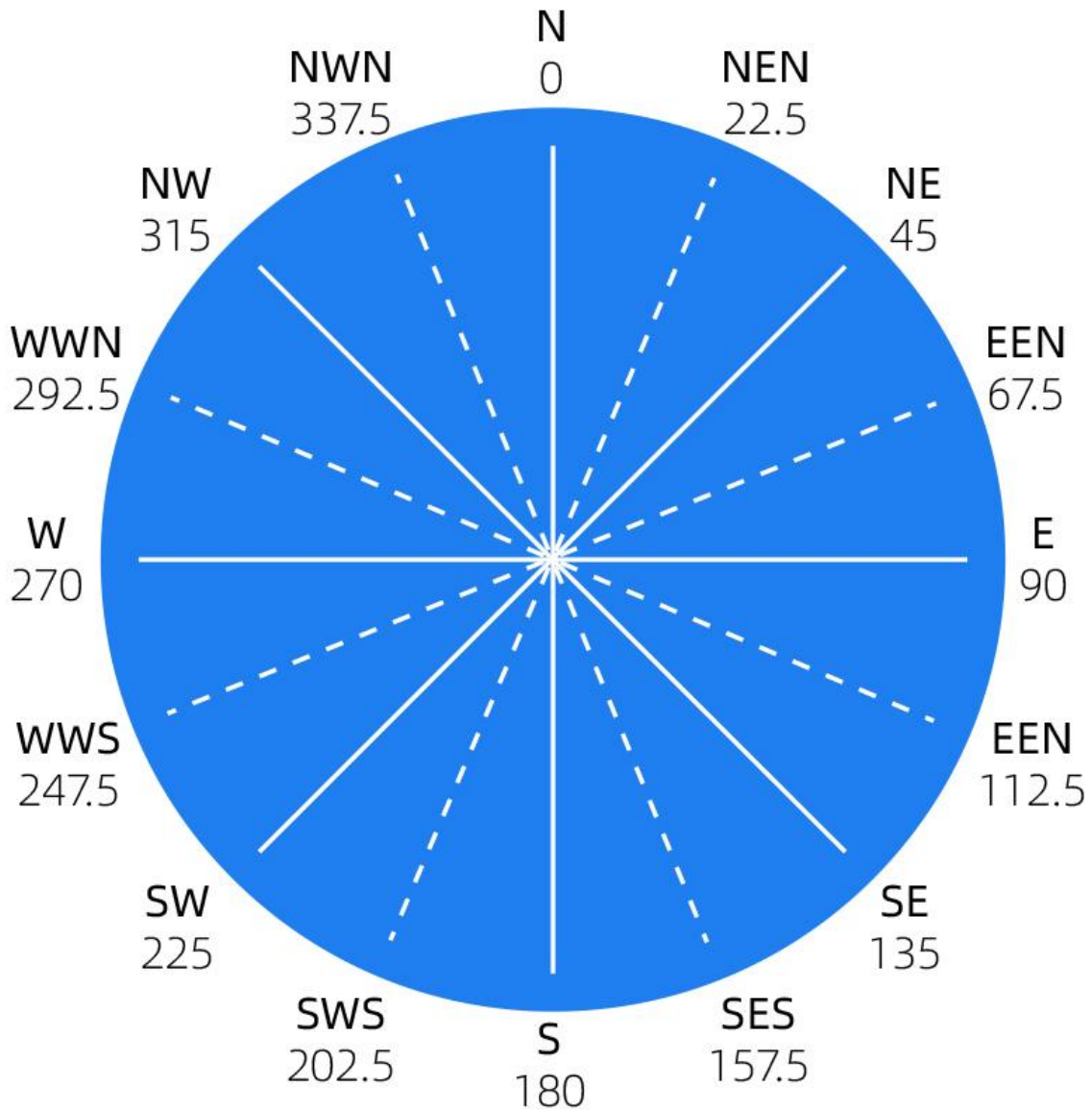
■ DC0~5V/10V ■



■ 4~20mA ■



16-DIMENSIONAL MAP OF WIND DIRECTION



How to use?



1. wind speed and DC0-5Vvoltage computing relationship

For example, the range is 0~30m/s, the analog output is 0~5V DC0-5Vvoltage signal, wind speed and DC0-5Vvoltage The calculation relationship is as shown in the formula: $C = (A2-A1) * (X-B1) / (B2-B1) + A1$, where A2 is wind speed range upper limit, A1 is the lower limit of the range, B2 is DC0-5Vvoltage output range upper limit, B1 is the lower limit, X is the currently read wind speed value, and C is the calculated DC0-5Vvoltage value. The list of commonly used values is as follows:

DC0-5Vvoltage(V)	wind speedValue (m/s)	Calculation Process
0	0.0	$(30-0)*(0-0)\div(5-0)+0$
1	6.0	$(30-0)*(1-0)\div(5-0)+0$
2	12.0	$(30-0)*(2-0)\div(5-0)+0$
3	18.0	$(30-0)*(3-0)\div(5-0)+0$
4	24.0	$(30-0)*(4-0)\div(5-0)+0$
5	30.0	$(30-0)*(5-0)\div(5-0)+0$

As shown in the above formula, when measuring 2.5V, current DC0-5Vvoltage is 15m/s.

2. conductivity and DC0-5Vvoltage computing relationship

For example, the range is 0~360°, the analog output is 0~5V DC0-5Vvoltage signal, conductivity and DC0-5Vvoltage The calculation relationship is as shown in the formula: $C = (A2-A1) * (X-B1) / (B2-B1) + A1$, where A2 is conductivity range upper limit, A1 is the lower limit of the range, B2 is DC0-5Vvoltage output range upper limit, B1 is the lower limit, X is the currently read conductivity value, and C is the calculated DC0-5Vvoltage value. The list of commonly used values is as follows:

DC0-5Vvoltage(V)	conductivityValue (°)	Calculation Process
0	0.0	$(360-0)*(0-0)\div(5-0)+0$
1	72.0	$(360-0)*(1-0)\div(5-0)+0$
2	144.0	$(360-0)*(2-0)\div(5-0)+0$
3	216.0	$(360-0)*(3-0)\div(5-0)+0$
4	288.0	$(360-0)*(4-0)\div(5-0)+0$
5	360.0	$(360-0)*(5-0)\div(5-0)+0$

As shown in the above formula, when measuring 2.5V, current DC0-5V voltage is 180°。

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