

KM53M88

4-20MA outdoor aluminum wind speed and direction integrated sensor

User Manual

File Version: V21.5.24

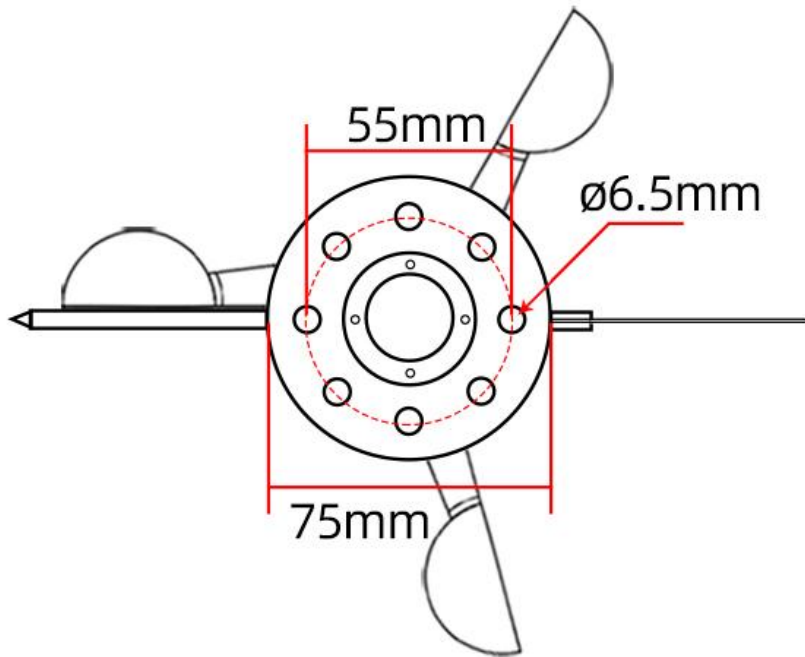
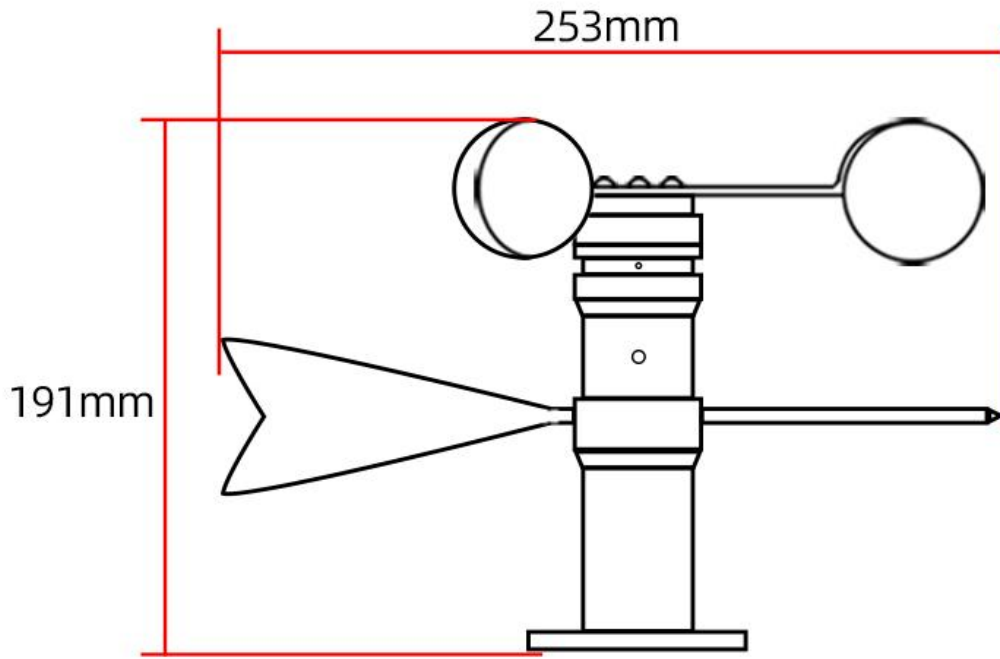


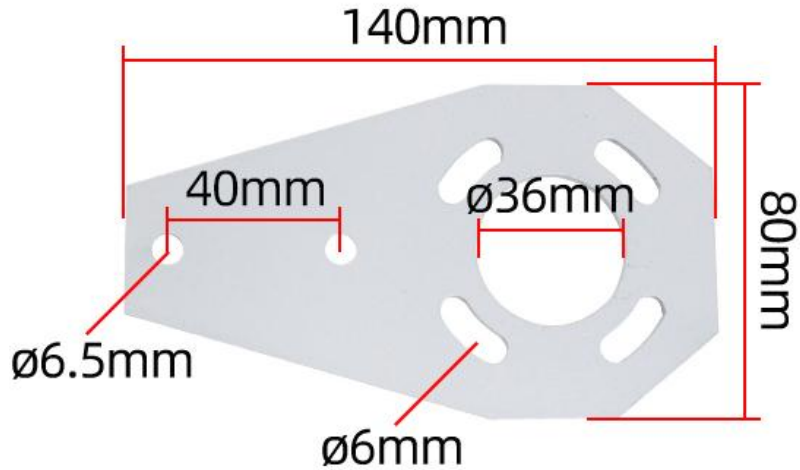
KM53M88 using the standard DC4-20mA current output signal,easy access to PLC , DCS and other instruments or systems for monitoring wind speed,conductivity state quantities.The internal use of high-precision sensing core and related devices to ensure high reliability and excellent long-term stability,can be customized RS232,RS485,CAN,4-20mA,DC0~5V10V,ZIGBEE,Lora,WIFI,GPRS and other output methods.

Technical Parameters

Technical parameter	Parameter value
Brand	KLHA
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°
Communication Interface	DC4~20mA
Power	DC12~24V 1A
Running temperature	-40~80°C

Product Size





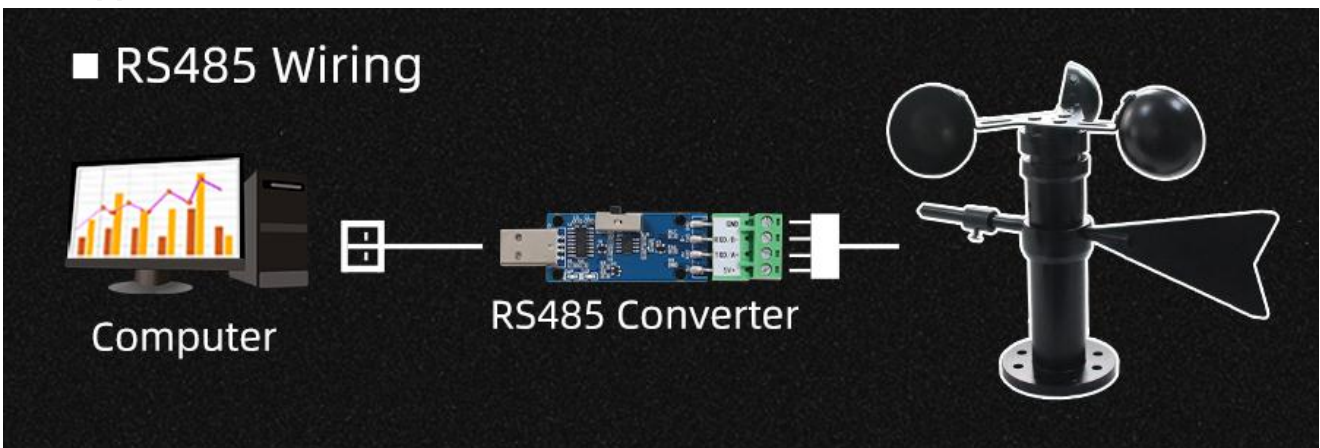
How to wiring?

RS485 Wiring		
█	RD	PWR+
█	GN	PWR-
█	YE	RS485 A+
█	BU	RS485 B-

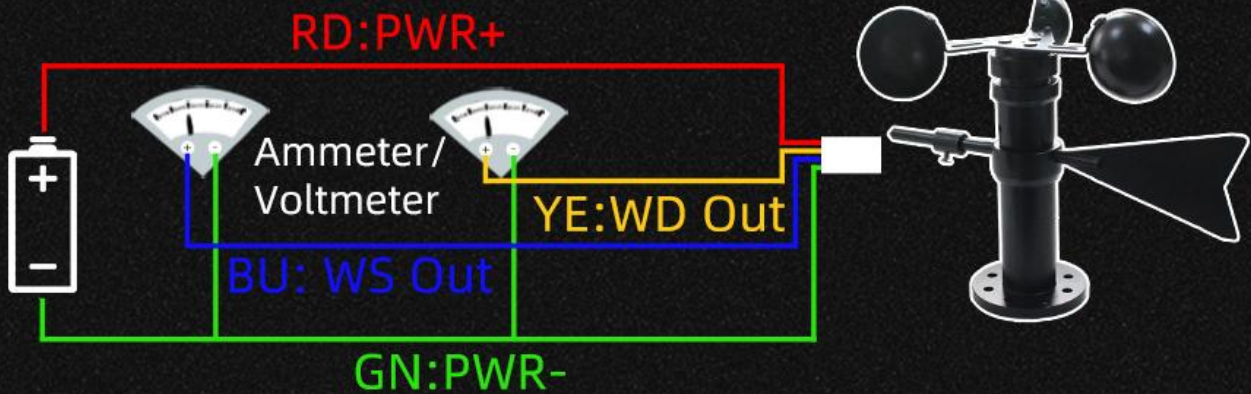
mA/V Wiring		
█	RD	PWR+
█	GN	PWR-
█	YE	WD Output
█	BU	WS Output

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

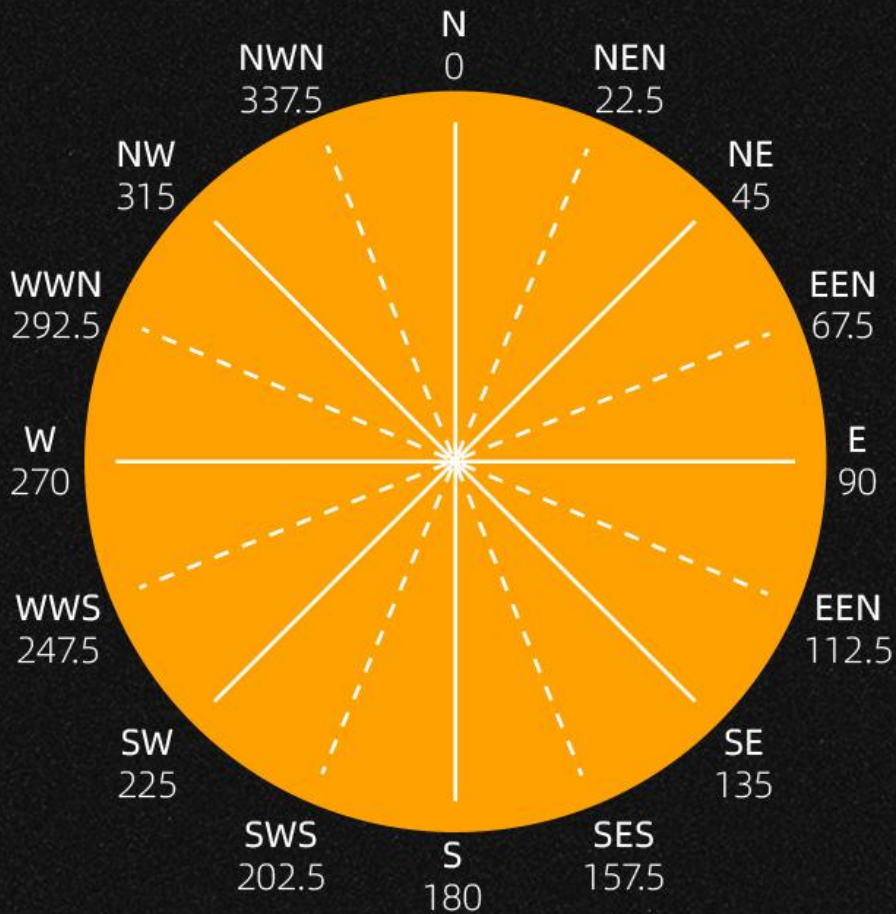
Application solution



■ mA/V Wiring



16-DIMENSIONAL MAP OF WIND DIRECTION



How to use?



1. wind speed and current computing relationship

For example, the range is 0~30m/s, the analog output is 4~20mA current signal, wind speed and current 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 current output range upper limit, B1 is the lower limit, X is the currently read wind speed value, and C is the calculated current value. The list of commonly used values is as follows:

current(mA)	wind speedValue (m/s)	Calculation Process
4	0.0	$(30-0)*(4-4) \div (20-4) + 0$
5	1.9	$(30-0)*(5-4) \div (20-4) + 0$
6	3.8	$(30-0)*(6-4) \div (20-4) + 0$
7	5.6	$(30-0)*(7-4) \div (20-4) + 0$
8	7.5	$(30-0)*(8-4) \div (20-4) + 0$
9	9.4	$(30-0)*(9-4) \div (20-4) + 0$
10	11.3	$(30-0)*(10-4) \div (20-4) + 0$
11	13.1	$(30-0)*(11-4) \div (20-4) + 0$
12	15.0	$(30-0)*(12-4) \div (20-4) + 0$
13	16.9	$(30-0)*(13-4) \div (20-4) + 0$
14	18.8	$(30-0)*(14-4) \div (20-4) + 0$
15	20.6	$(30-0)*(15-4) \div (20-4) + 0$
16	22.5	$(30-0)*(16-4) \div (20-4) + 0$
17	24.4	$(30-0)*(17-4) \div (20-4) + 0$
18	26.3	$(30-0)*(18-4) \div (20-4) + 0$
19	28.1	$(30-0)*(19-4) \div (20-4) + 0$
20	30.0	$(30-0)*(20-4) \div (20-4) + 0$

As shown in the above formula, when measuring 8mA, current current is 11.5m/s .

2. conductivity and current computing relationship

For example, the range is 0~360°, the analog output is 4~20mA current signal, conductivity and current. 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 current output range upper limit, B1 is the lower limit, X is the currently read conductivity value, and C is the calculated current value. The list of commonly used values is as follows:

current(mA)	conductivityValue (°)	Calculation Process
4	0.0	$(360-0)*(4-4) \div (20-4) + 0$
5	22.5	$(360-0)*(5-4) \div (20-4) + 0$
6	45.0	$(360-0)*(6-4) \div (20-4) + 0$
7	67.5	$(360-0)*(7-4) \div (20-4) + 0$
8	90.0	$(360-0)*(8-4) \div (20-4) + 0$
9	112.5	$(360-0)*(9-4) \div (20-4) + 0$
10	135.0	$(360-0)*(10-4) \div (20-4) + 0$
11	157.5	$(360-0)*(11-4) \div (20-4) + 0$
12	180.0	$(360-0)*(12-4) \div (20-4) + 0$
13	202.5	$(360-0)*(13-4) \div (20-4) + 0$
14	225.0	$(360-0)*(14-4) \div (20-4) + 0$
15	247.5	$(360-0)*(15-4) \div (20-4) + 0$
16	270.0	$(360-0)*(16-4) \div (20-4) + 0$
17	292.5	$(360-0)*(17-4) \div (20-4) + 0$
18	315.0	$(360-0)*(18-4) \div (20-4) + 0$
19	337.5	$(360-0)*(19-4) \div (20-4) + 0$
20	360.0	$(360-0)*(20-4) \div (20-4) + 0$

As shown in the above formula, when measuring 8mA, current current is 94°.

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