The RK100-01 Wind Speed Sensor is specifically designed to accurately and reliably measure wind velocity under the adverse environmental conditions. Digital circuits capable of strong RFI & EMI resistance and automatic temperature compensation are build-in, it outputs voltage and current signals by electromagnetic induction, the value and horizontal wind speed are linear relation. Shell is made of high-strength aluminum alloy, the sensor housing is made of aluminum alloy, the PCB board is painted with anti-corrosion coating, featured with water proof, corrosion resisting. Inside and turning position have sealing rings with nice sealing function, stop water, salt fog and dust getting in. The RK100-01 Wind speed sensor has good performance in harsh environment.

FEATURES

- Low starting threshold
- Massive all-metal construction
- Strong corrosion resistant ability
- Anti-wind load until 70m/s
- Double bearing design
- Surge protection design
- Easy Installation

APPLICATIONS

- Weather monitoring stations
- Safety monitoring of high-altitude equipment
- Ports
- Solar and wind power generation
- Mobile weather monitoring vehicles
- Marine vessels
- Remote airports & helipads
- Road & rail tunnels

SPECIFICATIONS

Output	Pulses	4-20mA	RS485	0-2V/0-5V/0-10V
Supply Voltage	5-24VDC	12-24VDC	12-24VDC	12-24VDC
Load Capacity	>2kΩ	<500Ω(typ 250Ω)		>2kΩ
Range	0-30m/s,0-40m/s,0-50m/s,0-60m/s			
Accuracy	±（0.3+0.03V）m/s			
Response time	<1s			
Starting Threshold	<0.3m/s			
Limit wind speed	70m/s			
Ingress Protection	IP65			
Operating Temperature	-30℃-+70℃			
Weight(unpacked)	420g			
Dimension	Cup rotor: ø220mm, Height:175mm			
Main material	Aluminum alloy			

| Finish	Polyester powder electrostatic spraying(black)
Storage Condition	10℃-60℃@20%-90%RH

OUTPUT CHARACTERISTICS

- **Pulses**

Characteristic transfer function:

V=0.083*F

(where V = wind speed (m/s), F = output frequency (Hz))
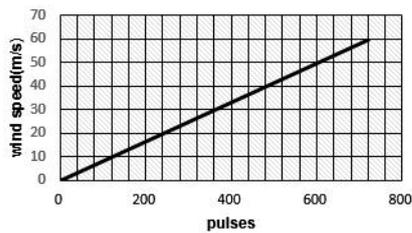
- **Current**

Characteristic transfer function:

V=(I-4)/ (20-4) *30(Range:0-30m/s),

V=(I-4)/ (20-4) *60(Range:0-60m/s).

(where V = wind speed (m/s), I = output Current(mA))
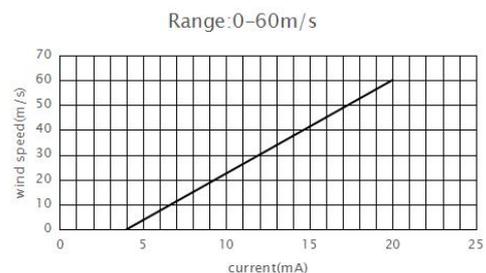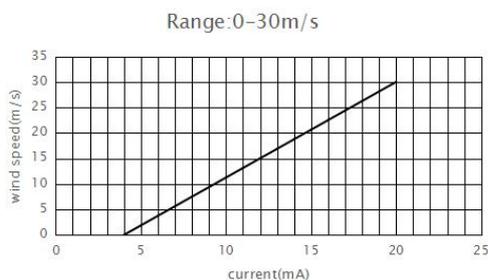
- **Voltage**

Characteristic transfer function:

V=U/ (full scale voltage-zero-point voltage) *30(Range:0-30m/s),

V=U/ (full scale voltage-zero-point voltage) *60(Range:0-60m/s).

(where V = wind speed (m/s), U = output voltage(V))

- **RS485**

If the transmission distance is over 100m, please add a 120Ω terminal matching resistances on the front end and back end of bus interface respectively. See the Modbus communication protocol specification.

DIMENSION & MOUNTING

Flange mounted, fix four screws on the bracket and keep the product horizontal.
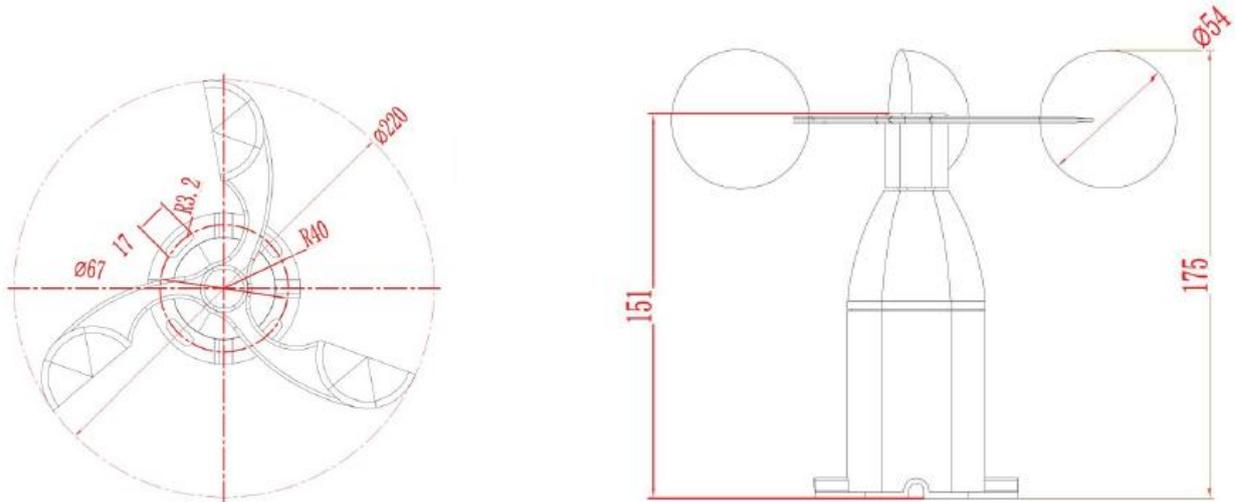
PARAMETER SELECTION TABLE

Remark	Series	Type	Output	Range①	Cable Length	
RK						
	100					
		01				
			A			4-20mA
			B			0-5V
			C			0-10V
			D			Pulses
			E			RS485
			X			Other
				A		0-30m/s(recommended)
				B		0-60m/s
					1500	Units:mm（typ）
					3000	Units:mm
					...	Units:mm

①It is recommended to use 0-30m/s range, which can get a better measurement accuracy. More than 30m/s wind is rare on mainland;

The default power supply voltage is 12-24VDC, if you have other requirements please confirm when ordering.

Example: RK100-01AA1500   Output:4-20mA, Range:0-30m/s, Cable Length:1.5m.

Appendix: wind speed-wind scale table

Scale	Speed			Name	Conditions at Sea	Conditions on Land
	knots	km/h	m/s			
0	< 1	< 2	0-0.2	Calm	Sea like a mirror.	Smoke rises vertically.
1	1-3	1-5	0.3-1.5	Light air	Ripples only.	Smoke drifts and leaves rustle.
2	4-6	6-11	1.6-3.3	Light breeze	Small wavelets (0.2 m). Crests have a glassy appearance.	Wind felt on face.
3	7-10	12-19	3.4-5.4	Gentle breeze	Large wavelets (0.6 m), crests begin to break.	Flags extended; leaves move.
4	11-16	20-29	5.5-7.9	Moderate breeze	Small waves (1 m), some whitecaps.	Dust and small branches move.
5	17-21	30-39	8-10.7	Fresh breeze	Moderate waves (1.8 m), many whitecaps.	Small trees begin to sway.
6	22-27	40-50	10.8-13.8	Strong breeze	Large waves (3 m), probably some spray.	Large branches move, wires whistle, umbrellas are difficult to control.
7	28-33	51-61	13.9-17.1	Near gale	Mounting sea (4 m) with foam blown in streaks downwind.	Whole trees in motion, inconvenience in walking.
8	34-40	62-74	17.2-20.7	Gale	Moderately high waves (5.5 m), crests break into spindrift.	Difficult to walk against wind. Twigs and small branches blown off trees.
9	41-47	76-87	20.8-24.4	Strong gale	High waves (7 m), dense foam, visibility affected.	Minor structural damage may occur (shingles blown off roofs).
10	48-55	88-102	24.5-28.4	Storm	Very high waves (9 m), heavy sea roll, visibility impaired. Surface generally white.	Trees uprooted; structural damage likely.
11	56-63	103-118	28.5-32.6	Violent storm	Exceptionally high waves (11 m), visibility poor.	Widespread damage to structures.
12	64-71	119-133	32.7-36.9	Hurricane	14 m waves, air filled with foam and spray, visibility bad.	Severe structural damage to buildings, wide spread devastation.
13	72-80	134-149	37-41.4	-	-	-
14	81-89	150-166	41.5-46.1	-	-	-
15	90-99	167-183	46.2-50.9	-	-	-
16	100+	184+	51+	-	-	-

Note: wave heights apply to the open sea; waves in sheltered waters will be lower and steeper. As sailors know, other factors such as swell and depth can also modify wave heights.

C€ Complies with applicable CE directives.

Specifications subject to change without notice. Version 4.0

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