RK100-01T Wind Speed Sensor

Overview

The RK100-01T 3 Cup Wind Speed is specifically designed to accurately and reliably measure wind velocity under adverse environmental conditions. It has built-in digital circuits with strong RFI & EMI resistance and automatic temperature compensation. It outputs voltage and current signals through Photoelectric Sensing Principle, with a linear relationship between the value and horizontal wind speed. The housing is made of high-strength aluminum alloy, and the PCB board is coated with anti-corrosion paint, featuring waterproof and corrosion-resistant properties. Sealing rings are installed inside and at rotating positions, providing excellent sealing to prevent water, salt fog, and dust from entering. The RK100-01 Wind Speed Sensor delivers good performance in harsh environments.

Features

- Low starting threshold
- Full-metal construction
- Strong corrosion resistant
- Withstands wind loads up to 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

Technical Parameter

Output	Pulses(3.3V)	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,0-50m/s,0-60m/s,0-75m/s			
Accuracy	±0.3m/s, +0.03V is current wind speed			
Resolution	0.1m/s			
Starting threshold	<0.5m/s			
Limit wind speed	75m/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			

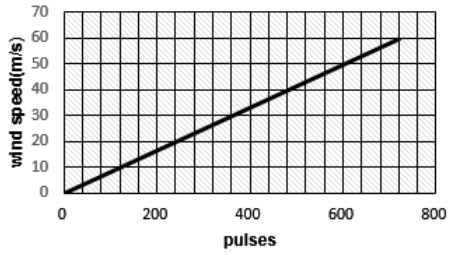
Output Characteristics

Pulses

Characteristic transfer function:

V=0.083*F

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



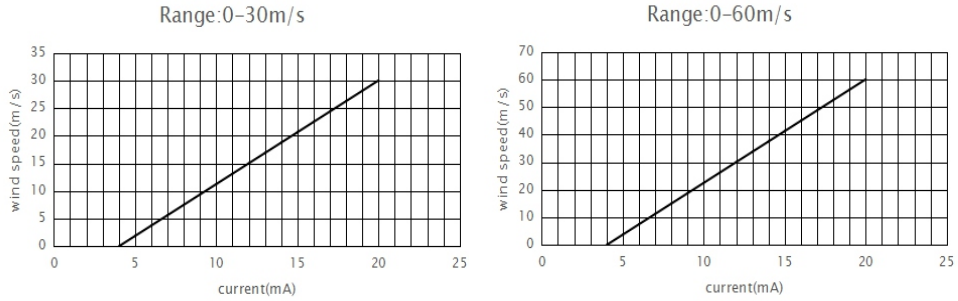
Current

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).

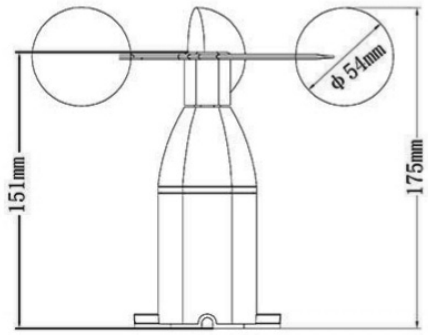
（where V = wind speed (m/s), U = output voltage(V))

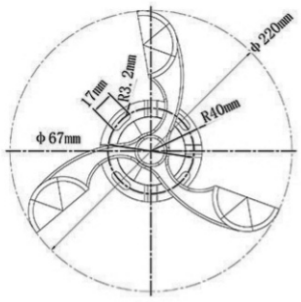
RS485

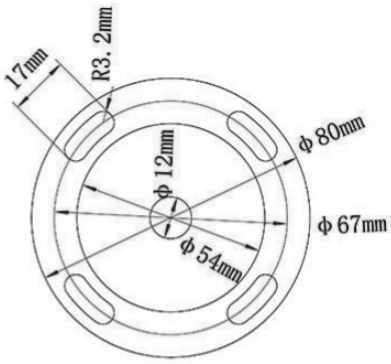
For transmission distances exceeding 100m, add a 120Ω terminal matching resistor at both ends of the bus interface. Refer to the Modbus communication protocol specification.

Dimension&Mounting

Flange-mounted. Secure with four screws on the bracket and ensure the product remains 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
					2000	Units:mm(typ)
					3000	Units:mm
					...	Units:mm

①The 0-30m/s range is recommended for better accuracy, as winds exceeding 30m/s are rare on the mainland.
Default power supply voltage: 12-24VDC. Contact us for other requirements when ordering.
Example: RK100-01AA2000 Output:4-20mA, Range:0-30m/s, Cable Length:2m.

Revision time	Reviser	Current Version	Remarks
20250329	Lee	V5. 0	