

Wind Speed Sensor

AR100-02



RELIABLE & ACCURATE WIND SPEED

Compatible with all Arson Instruments



Overview

The **AR100-02 Wind Speed Sensor** uses a sensitive 3-cup anemometer designed to measure wind speed and wind run. The cups are made of carbon fiber material, with high intensity and low starting threshold. The signal processing units are built in the housing shell. It can be widely used in meteorology, marine, environmental monitoring, airport, harbor, laboratory, industrial and agricultural areas.

Features & Benefits

- ▶ Low starting threshold
- ▶ Overall carbon fiber material
- ▶ Strong corrosion resistant ability
- ▶ Light structure
- ▶ Various output signals optional
- ▶ Easy installation

Applications

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

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Specifications



Item	Technical Specifications			
	Pulses	4-20mA	0-5V	RS485
Supply Voltage	5V,12V-24V	5V,12V-24V	5V,12V-24V	5V, 12V-24V
Load Capacity	>1kΩ	<500Ω(typ 250Ω)	>1kΩ	
Range	0-45m/s	0-45m/s	0-45m/s	0-45m/s
Accuracy	±(0.3+0.03V)m/s; (V is the current wind speed)			
Starting Threshold	<0.5m/s			
Limit wind speed	50m/s			
Ingress Protection	IP65			
Operating Temperature	-40°C~ +50°C			
Cable Grade	Nominal voltage:300V, Temperature grade:80°C			
Weight(unpacked)	170g			
Dimension	Cup rotor:ø179mm ,Height:160mm			
Main material	Carbon fiber			
Storage Condition	10°C-50°C @20% -90%RH			

Output Characteristics

► Pulses

Characteristic transfer function:

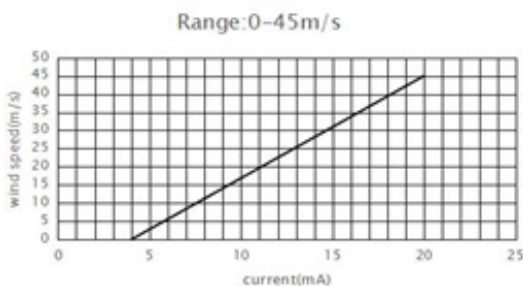
$$F=0, V=0;$$

$$F \neq 0, V=0.1+0.0875 \times F$$

(where V = wind speed (m/s),

F = output frequency(Hz))

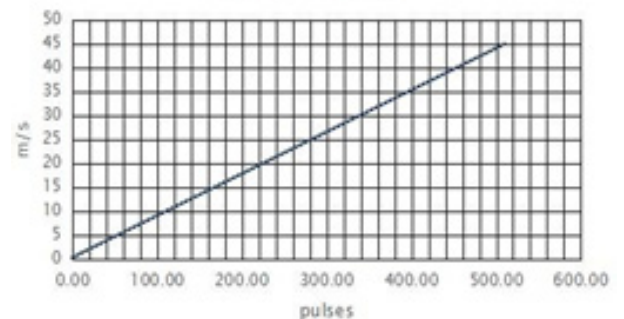
► Current



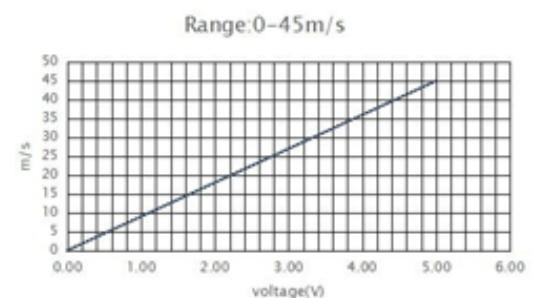
► RS485

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.

Range:0-45m/s



► Voltage



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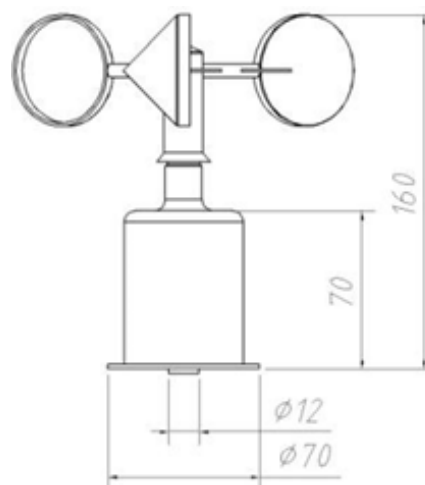
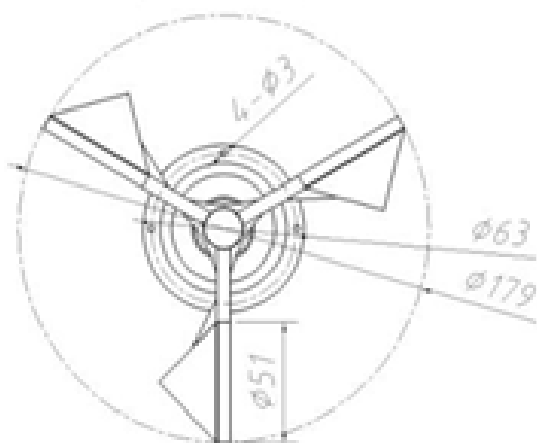
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Dimension & Mounting

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

Connector dimension:

ø15mm (recommended reserving ø 25mm for wiring)



Parameter Selection Table

Remark	Series	Type	Supply	Output	Cable Length	
AR						
	100					
		02				
			A			5V
			B			
			C			12-24V
			X			Other
				A		4-20mA
				B		0-5V
				C		RS485
				D		Pulses
				X		Other
					2500	Units:mm(typ)
					3000	Units:mm
					...	Units:mm

Example: AR100-02CA2500 Supply:12-24V ,OUTPUT:4-20mA,Cable Length:2.5m