RK100-01T Anemometer Wind Speed Sensor

Overview

The RK100-01T wind speed sensor utilizes precision die-cast aluminum alloy technology, with small dimensional tolerances, high surface accuracy, built-in high-performance circuits, exceptional strength, outstanding weather resistance, superior corrosion resistance, and excellent waterproof performance. This sensor is widely used in applications requiring wind speed measurement, such as solar farms, meteorology, maritime vessels, docks, tower cranes, ports, agriculture, etc.

Features

- Easy to carry and install
- High measurement accuracy and stable performance
- IP65-rated protection
- Strong anti-electromagnetic interference ability
- Aluminum alloy material is light in weight and high in strength
- Unique internal treatment, enhanced anti-vibration ability

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

Item	Technical Specification	
Supply voltage	12-24VDC	5-24VDC
Output	RS485,4-20mA	Pulse(Pulse high level depends on the supply voltage)
Range	0-30m/s,0-50m/s,0-60m/s	
Starting threshold	0.2m/s	
Limit wind speed	70m/s	
Accuracy	±0.3m/s (+0.03V)	
Resolution	0.1m/s	
Response time	<1s	
Power consumption	20mA@12VDC	
Ingress protection	IP65	
Operating temperature	-30℃-+70℃	
Main material	Aluminum alloy	
Connector	M12 waterproof connector	
Surface treatment	Polyester powder electrostatic spraying(black)	
Weight(unpacked)	410g(Excluding wires)	
Storage condition	10℃-60℃@20%-90%RH	

Output Characteristics

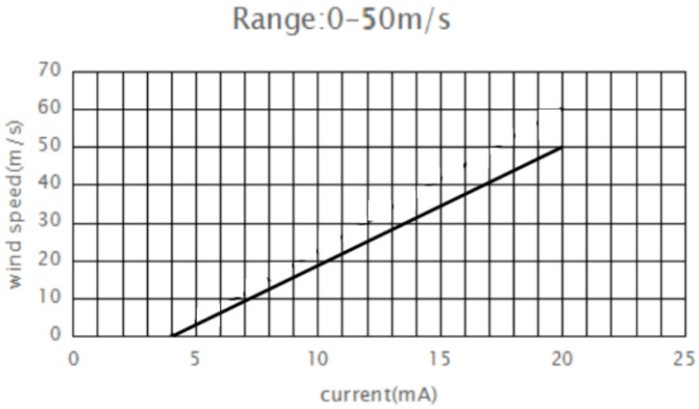
Pulse

V=0.5+0.169*F
V: Wind speed,m/s
F: Number of pulses within 1 second

Current

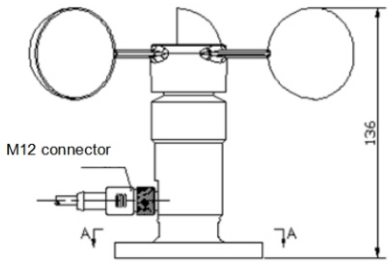
Characteristic transfer function:
V=(I-4)/ (20-4) *50(Range:0-50m/s)

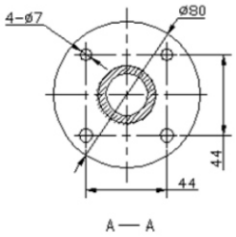
（where V = wind speed (m/s), I = output Current(mA))

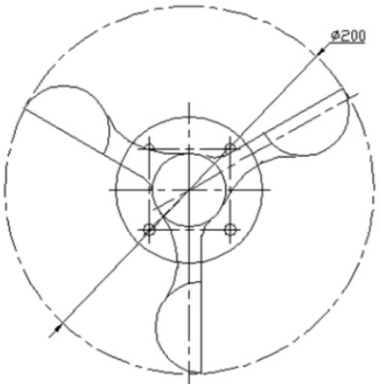


Dimension&Mounting

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







Appendix: wind speed-wind scale table

Scale	knots	Speed km/h	m/s	Name	Conditions at Sea	Conditions on Land
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+	-	-	-

Revision time	Reviser	Current Version	Remarks
20250428	Lee	V5. 0	