



Products description and application

This product is an economic type maintenance free wind speed sensor. It adopts compact design, has light weight, low power consumption, low starting threshold, various signal output for option.

Application: wind monitoring and wind data collection for engineering machinery, container cranes, mines, power plants and so on.

CMC License for Manufacturing Measuring Instruments has been approved.

Features

- Adopt non-contact magnetic measuring technology, high anti-interference ability and reliability.
- Wide wind measuring range, low starting threshold, resolution up to 0.35°
- Wind vane and housing adopts maze structure connection design.
- Modular design, ease to mount and maintain on site, suit to various industries and application.
- Fault tolerant design, product not damage in wrong wiring connection.
- Multistage lightning surge design.
- Wide voltage design.

General Specifications

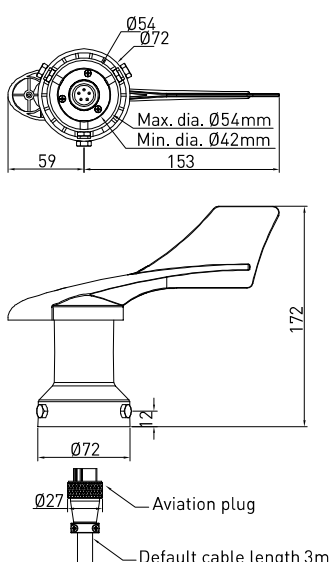
Electrical		Mechanical	
Rated voltage	DC5V~30V ¹	Housing material	PC+ABS
Operating current	Max. 35mA	Wind vane	PC+ABS
Lightning surge	IEC61000-4-5 4kV /2kA	Bearing	SS440C
Electrostatic discharge	IEC61000-4-2 air discharge 16kV	Humidity	0%~100%RH
	IEC61000-4-2contact discharge8kV	Operating temperature	Ta-40℃ ~ +70℃
		IP rate	IEC60529 IP65
		Wiring	Aviation socket ²
		Housing color	Black RAL9005
		Weight	0.3 kg
Meteorological			
Starting threshold	≤0.5m/s Vu=20℃		
Anti-wind level	>70m/s		
Range	0°~360°		
Accuracy	±2°		
	0.35°		

1. Rated voltage, see How to Order.

2. Default lead cable length is 3 meters.

Mounting dimensions

Unit: mm

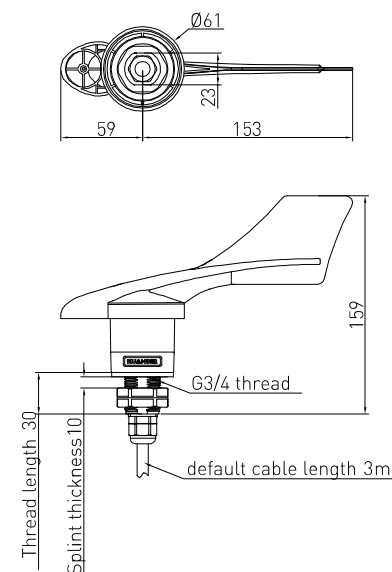


Mast tube mount

1. Connect and fix the aviation plug and socket.
2. Mount product on the top of equipment with 3 nos. M6 screws.

Caution:

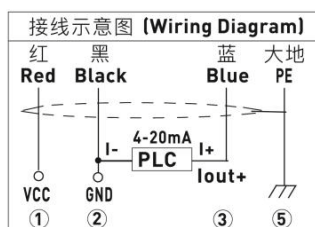
1. Mount the product on a flat surface, fix it well, prevent drop.
2. Align the north pointing mark of product with Geographic pole (calibrating with compass).



G3/4" thread mount

1. Fix product with 2 nos. G3/4" thread

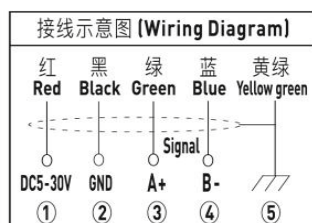
Wiring diagram



4-20mA current signal output: it is recommended to use RVVP/3-core/0.5mm²/copper core/high and low temperature resistant shielding cable, maximum communication distance is 1000m.

Caution:

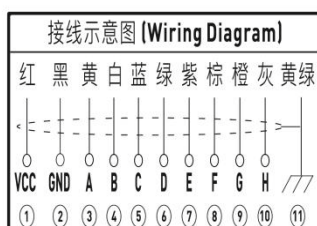
1. Blue wire is the signal line, marked as *Signal*, indicates the wind speed signal output.
2. Actual communication distance is in accordance with onsite environment.



RS485 signal output: it is recommended to use RVVP/4-core/0.5mm²/copper core/high and low temperature resistant shielding cable, maximum communication distance is 1000m.

Caution:

1. Green signal line be marked as A⁺ Blue signal line be marked as B⁻.
2. Actual communication distance is in accordance with onsite environment.



Gray Code output: it is recommended to use RVVP/10-core/0.3mm²/copper core/high and low temperature resistant shielding cable, maximum communication distance is 1000m.

Caution:

Actual communication distance is in accordance with onsite environment.

Caution:

1. Ensure cable connection is correct before power on.
2. Cable shield layer and housing must be well grounded.
3. Its suggested to return product to factory for calibrating every 18 months.

RS485 protocol

Baud rate: 4800bit/s, 8bit data, no parity check, one stop bit.

Query wind data

Command: 23H 04H 00H 07H 00H 01H 86H 89H

Response: 23H 04H 02H xxH xxH CRCL CRCH

Byte definition:

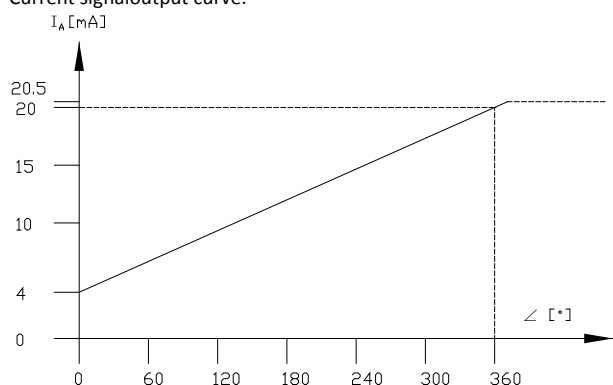
23H is slave address in the command, 04H is function code, 00H, 07H are the high and low address of the first register, 00H, 01H are the high and low quantity of register, 89H, 86H are the high and low of previous six bytes' CRC check code.

23H is slave address in the response, 04H is function code, 02H is byte, xxH, xxH are high and low byte of returned wind direction data, e.g. 0AH, F0H it is 2800, indicate wind direction 280°, CRCH, CRCL are high and low of previous five returned bytes' CRC check code.

Additional instruction:

1. One RS485 bus connect to only one wind sensor.
2. Error address and command not be responded.
3. CRC check uses ANSI CRC16: polynomial is $X^{16}+X^{15}+X^2+1$.

Current signal output curve:



How to Order

P/N	Model	Rated voltage	Signal output	Mount
1000055-001	FA023	DC18V-DC30V	4-20mA current, 0-360°	Ø54 mast tube mount, 5-pin aviation socket
1000055-004	FA023	DC18V-DC30V	4-20mA current, 0-360°	G3/4thread mount, 3-core lead cable (L=3m)
1000055-002	FA026	DC9V-DC15V	8 bit Gray Code	Ø54 mast tube mount, 12-pin aviation socket
1000055-003	FA024	DC5V-DC30V	RS485, modbus protocol, Baud rate 4800bps	G3/4thread mount, 4-core lead cable (L=5m)
1000055-006	FA024	DC5V-DC30V	RS485, modbus protocol, Baud rate 4800bps	Ø54 mast tube mount, 5-pin aviation socket

Thanks for choosing our products, NANHUA Electronics is the professional brand of signal transmission and high quality industrial lighting which is trusted and loved by global users from various industries.

Read and understand these instructions completely and carefully. Wrong installation and operation may lead to fires, electric shock, and others. Due to our continued efforts to improve our products, product specifications are subject to change without notice. ©NANHUA Electronics Co., Ltd. All rights reserved. www.nanhua.com