FA233WWireless Transmitter

Products description and application

FA233W transmitter is used to automatic load wind speed and direction data, designed for the application of port, mine, power etc industries. Product has high reliable system, strong anti-interference ability and easy to mount.

Features

- Work together with NANHUA FA series wind sensors and displays, achieve the function of wireless send and receive wind data.
- Adopt enhanced type ZIGBEE wireless technology, long transmit distance.
- Adopt 2.4G DSSS, product has strong anti-interference ability.
- Product has relay function, extending transmit distance is available.

General Specifications

Electrical		Mechanical	Electrical
Input voltage	DC18V～30V	Housing material	Aluminum alloy + Polyester coating
Operating current	＜100mA	Ambient humidity	0~100%RH
Lightning surge	IEC61000-4-5 4kV /2kA	Operating temperature	Ta -40℃ ~ +70℃
Electrostatic discharge	IEC61000-4-2 air discharge 16kV IEC61000-4-2 contact discharge 8kV	IP Rate	IEC60529 IP65
		Color	Black RAL9005
Communication mode	RS485/Zigbee	Weight	1.0kg
Baud rate	9600bps		
Wind speed interface	4～20mA (0～50m/s)		
Wind direction interface	4～20mA (0～360°)		
Sensor supply voltage	DC18V～30V		
Sensor supply current	≤500mA		
Zigbee data			
Network	Star		
Antenna	2.4G SMA exterior antenna		
Note type	Route		
Antenna data	Glue stick antenna RF:2.4G gain:5DB standing wave:<<1.5 interface: SMA male		
Transmitted power	25dbm		
Radio frequency	2.4G ISMfree frequency		
Transmit rate	Steady 250K		
Receiving sensitivity	-105dbm		
Transmit distance	≤2000m		

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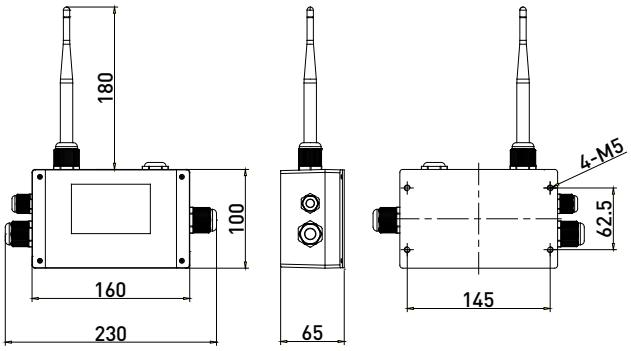
Mounting dimensions

Unit: mm



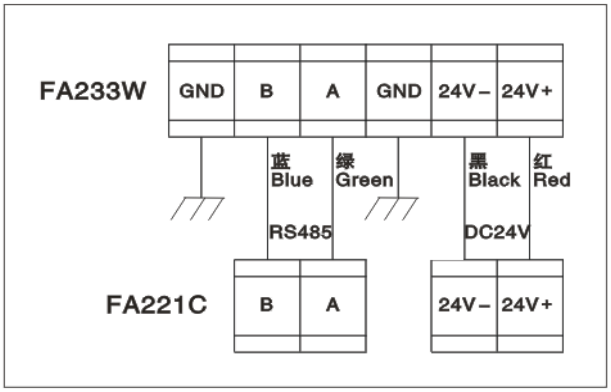
Installation and operation,

1. Ensure the voltage is correct.
2. Fix product to mount face by using 4 nos. M5 screws (not provided), ensure mount surface is flat and has enough mechanical strength.
3. Open front cover, connect the cable through cable gland.

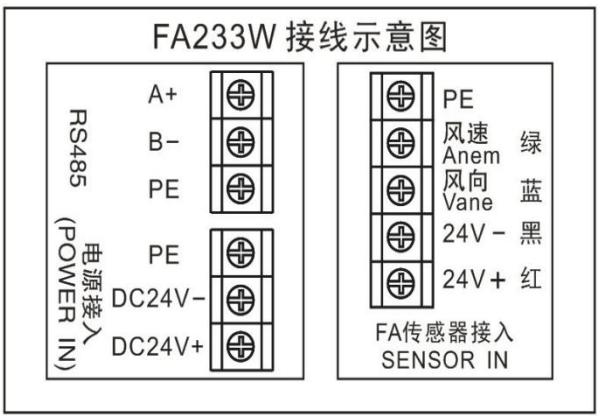
Caution:

1. Keep send antenna and receive antenna on the same level (see Best condition for transmitter and mounting), ensure there has no obstruct objects between two antennas.
2. In the same application, ensure wireless device must has same network and same radio channel,
3. FA233W could be used as send module, receive model or relay module. Connect FA220W or NANHUA FA series wind sensor as send module, multi FA220W could be used in the same application, but only one send module can be used. Connect FA221C as receive module. If use FA233W as relay module, it cannot be external connected wind sensors.

Wiring diagram



FA233W+FA221C wiring
Use RVVP/4 core/0.5mm²/ Copper core/ high and low temperature resistant shielding cable



Left: DC24V power input, PE is the earth line,
Left: RS485 input/output
Right: FA wind sensor current signal type input
If use the cable that we supplied, please refer below instruction to connect wires.
Red / Black wires are wind sensor power line.
Green wire is wind speed signal line
Blue wire is wind direction signal line

Caution:
If use NANHUA heating type wind sensor, connect heating wires to the Left POWER terminals, connect cable shielded layer to PE terminal.

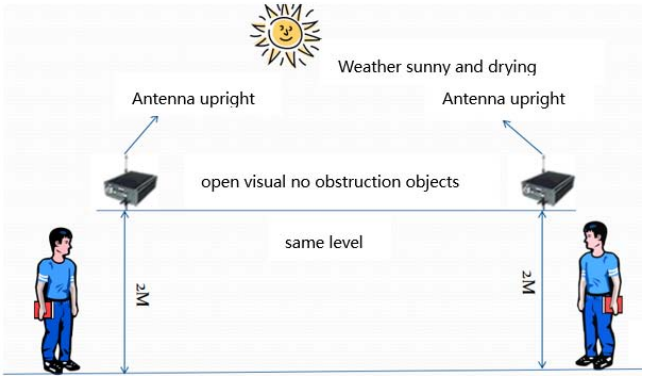
Protocol

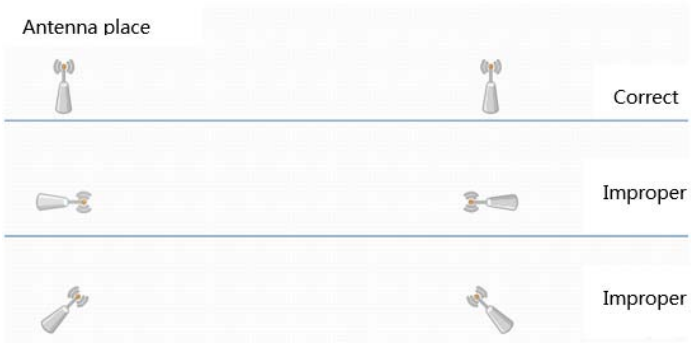
RS485 protocol (Baud rate 9600/8bit/1bit stop/no parity)
1. Data definition: auto-output a frame per 1s, total 7 bytes.

0xAA	0x04	0xXX	0xXX	0xZZ	0xZZ	checksum

AA is synchronous head, 0x04 is message length, next two 0xXX combine a word which indicate wind speed, next two 0xZZ combine a word which indicate wind direction, checksum==0xXX+0xXX+0xZZ+0xZZ, indicate checksum.
2. For example, 0xAA 0x04 0x01 0x6A 0x01 0x2C 0x98
Means wind speed is 0x016A = 36.2m/s , wind direction is 0x012C =300°.

Best condition for transmitter and mounting





How to Order

P/N	Model	Voltage	Signal	Mount
1000354-001	FA233W	DC24V	Wind speed / wind direction current signal input / RS485 output	4-M5 thread hole, size145×62.5mm

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.