

**PRODUCT OVERVIEW** 

# Accurate ultrasonic anemometer

Model ES-W303





#### Main features

- Moving parts, zero wear
- Maintenance-free, long service life
- Engineering plastic or aluminum alloy shell
- Using ultrasonic probe reflection type
- Using sound wave phase compensation technology
- Built-in three-axis electronic compass
- 3D acceleration module can provide stable longitudinal and lateral sway data in motion

# Compliance

C F

The electromagnetic compatibility in accordance with the following applicable directives: LVD 2014/35/EU Low Voltage EMC 2014/35/EU Electromagnetic Compatibility EMC 2014/35/EU Electromagnetic Compatibility

#### Introduction

ES-W303 high accuracy sonic anemometer is a kind of instrument which can measure the wind speed, wind direction and acoustic temperature by using the time difference of ultrasonic propagation in the air. Compact space structure makes the volume smaller and the appearance more beautiful; all aluminum alloy shell makes the weight lighter; integral heating can work normally in cold and frozen weather. It is recommended for wind power, tunnels, high-altitude buildings and other fields.

#### Application

It is mainly used in industries such as highways, meteorology, drilling platforms, waterways, ports, wind power generation, ships and automatic weather stations.

#### Dimension

Unit:mm



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## Specification

| Wind speed       | Range  | 0 - 60m/s (customizable 0 - 75m/s )    |  |
|------------------|--|--|--|
|                  | Accuracy   | ±2%                                    |  |
|                  | Resolution   | 0.01m/s                                |  |
|                  | Unit   | m/s,km/h,knots,mph,ft/min (selectable) |  |
| Wing direction   | Measure Range  | 0-359°                                 |  |
|                  | intersection angle with geographic north                           | 0-359°                                 |  |
|                  | Accuracy   | ±3°                                    |  |
|                  | Resolution   | 1°                                     |  |
| Digital output   | Interface  | RS232/RS485/SDI-12                     |  |
|                  | Baud rate  | 9600(default),1200-19200(configurable) |  |
|                  | Frequency  | Standard: 1Hz (1 output per second)    |  |
|                  |  | Customized:4Hz(4 outputs per second)   |  |
|                  | Protocol   | ModBus-RTU/NMEA 0183/SDI-12            |  |
| Analog output    | Two ways 4-20mA Max.load 500 $\Omega$ (current output is optional) |  |  |
| Protection grade | IP65 (with the cable connected)                                    |  |  |
| Operating Temp.  | -40°C ~+70°C   |  |  |
| Humidity         | 0 - 100%   |  |  |
| Power supply     | DC 7~30V DC (12~24 V DC during heating function)                   |  |  |
| Consumption      | 12mA@12V(Heater off), 130mA@12V(Heater on)                         |  |  |
| Size/Weight      | Ф144×165mm / 0.68kg  |  |  |
| Body material    | ASA  |  |  |
| Heating function | Start heating below 5°C (Chip auto-sensing)                        |  |  |

### Order guide

| ES-W303 | Ultrasonic Wind Speed & Direction Sensor |   |               |
|---------|--|---|---------------|
|         | CODE                                     | Function type   |               |
|         | А  | Wind speed + wind direction   |               |
|         | В  | Wind speed + wind direction+ atmospheric pressure                     |               |
|         | С  | Wind speed + wind direction+ electronic compass                       |               |
|         | D  | Wind speed + wind direction+ atmospheric pressure+ electronic compass |               |
|         |  | CODE  | Signal output |
|         |  | 1   | 4~20mA        |
|         |  | 2   | RS232         |
|         |  | 3   | RS485         |
|         |  | 4   | SDI-12        |
| ES-W303 | А  | 1   | Order example |