

Ultrasonic anemometer

Model ES-W3057



Introduction

ES-W3057 Ultrasonic wind speed and direction sensor is a high-precision, two-dimensional instrument that measures wind speed and direction based on the principle of ultrasonic transit-time differences in air. It features a robust structure with a housing made of stainless steel and aluminum alloy, finished with an anodized coating, and boasts an IP66 protection rating. The unit is equipped with an intelligent, high-power heating module, ensuring reliable operation even in extreme cold, freezing conditions, or high-altitude environments. It is characterized by high accuracy and rapid response times.

Main features

- Rugged, durable housing design; easy to install; suitable for all-weather measurement
- No moving parts; the entire system is maintenance-free
- MODBUS communication protocol; standard RS485/RS232 output
- Integrated internal heating system with a maximum heating power of 120W
- Outputs average and gust wind data in compliance with WMO standards

Compliance

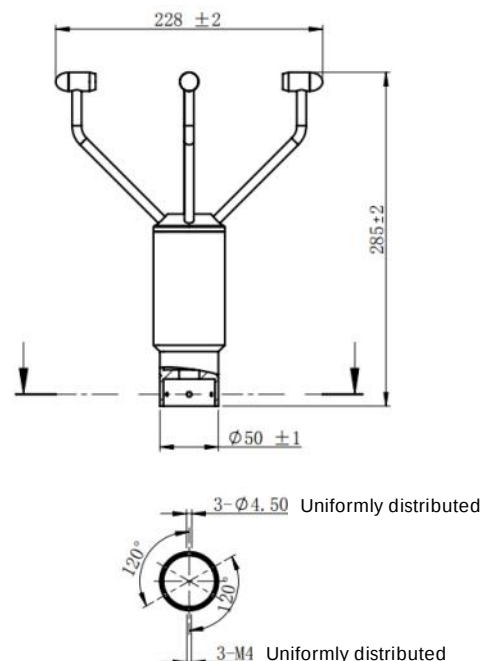
The electromagnetic compatibility in accordance with the following applicable directives:

- LVD 2014/35/EU Low Voltage
- EMC 2014/30/EU Electromagnetic Compatibility
- EMC 2014/35/EU Electromagnetic Compatibility

Application

It is primarily used in sectors such as expressways, meteorology, drilling platforms, shipping channels, ports, wind power generation, marine vessels, and automatic weather stations.

Dimension



Specification

Wind speed	Range	0-60 m/s (up to 80 m/s)
	Accuracy	±2%
	Resolution	0.01m/s
Wing direction	Measure Range	0-359°
	Accuracy	±3°
	Resolution	1°
Ultrasonic output frequency	1 Hz (standard output); 10 Hz (optional)	
Units of measurement	m/s, knots, mph, kph, ft/min	
Average and gust	Rolling average: 2 min / 10 min; Gust: 3-second interval	
Digital/analog output interfaces	RS232/RS485 (selectable); SDI-12 (optional)	
Communication baud rate	4800-19200	
Ingress protection rating	IP66	
Operating temperature	-50°C to +70°C	
Electromagnetic shielding	Compliant with EN61000-6-2 standard	
Storage temperature/humidity	-40°C to +80°C / 0-100%	
Power requirements and consumption	Wind speed/direction: DC 7-30V (10mA @ 12V) / Heating: DC 24V / 410mA Power supply module (optional): Input VAC (110-220V) / 1.4A (50-60Hz) Output DC 12V/24V / 2500mA	
Dimensions/weight	Φ228×285mm 1.13kg	
Materials	Stainless steel + aluminum alloy	

Order guide

ES-W3057	Ultrasonic Wind Speed & Direction Sensor		
	CODE	Range	
	A	0-60 m/s	
	B	0-80 m/s	
		CODE	Signal output
		1	RS232
		2	RS485
		3	SDI-12
ES-W3057	A	1	Order example

