CDF-18A Propeller Wind Sensor

For weather automation applications

Features

- High Measurement Accuracy
- Overall carbon fiber material
- Strong corrosion resistant ability
- Wide Measurement Range
- Various output signals optional
- Easy Installation
- Rapid Response
- Versatile Applications

The CDF-18A Propeller wind speed and direction sensors typically consist of a propeller, a mast, a sensor housing, and an internal sensing mechanism. The propeller, made of lightweight yet durable materials like aluminum or high - performance plastics, is designed with aerodynamic blades. These blades are angled to efficiently capture the wind's energy and rotate in response to the wind flow. The mast serves as a support structure, holding the propeller at an appropriate height above the ground or the installation surface. The sensor housing, usually made of weather - resistant materials, contains the electronic components responsible for measuring and processing the wind - related data.

Typical installation locations

- Top of building
- Walls
- Open areas
- Outdoor locations

Design structure

When the wind blows, the propeller starts to rotate. The rotation speed of the propeller is directly proportional to the wind speed. An encoder or a magnetic sensor inside the housing counts the number of rotations of the propeller within a specific time interval. By using this count and pre - calibrated conversion factors, the sensor calculates the wind speed in units such as meters per second, knots, or miles per hour.

Easy installation

Choose an open and unobstructed location. It should be away from buildings, trees, and other obstacles that could disrupt the wind flow. Ideally, the sensor should be installed in an area where the wind can blow freely from all directions. A clear space with a radius of at least 10 times the height of the sensor above the ground is recommended to ensure accurate measurement.

Reliable operation

Propeller wind speed and direction sensors can quickly respond to changes in wind conditions. Their lightweight construction allows the propeller and vane to adjust rapidly to fluctuations in wind speed and direction. The response time can be as short as a few seconds, enabling real - time monitoring of dynamic wind patterns

Technical data

Measurement performance, models CDF-18A

Item	Wind speed	Wind direction
Range	0-60m/s	0-360°
Resolution	0.1m/s	1°
Accuracy	±(0.5+0.03V) m/s	±3°
Power supply	12-24VDC	
Output	NMEA-0183 RS485 SDI-12 ASCII CAN Bus	
Starting Threshold	<0.5m/s	
Operating Temperature	-30℃~ +70℃	
Main material	AAS	
Response time	<1s	
Level of protection	IP66	

Model number	Type	Output	Special features
CDF-10A	Wind speed	Pulses(PNP) RS485 4-20MA 0-5V	Three cup plastic wind speed
CDF-11A	Wind direction	RS485 4-20MA 0-5V	Plastic wind direction sensor
CDF-12A	Pipe wind speed	RS485 4-20MA 0-5V 0-10V	Duct type wind speed sensor
CDF-13B	Wind speed display controller	LED display	Wireless output relay output
CDF-15A	Digital Anemometer	LCD display	Hand-held anemometer
CDF-20B	Combined Wind Speed & Direction	RS485 4-20MA 0-5V 0-10V	Integrated wind speed and direction
CDF-21A	Ultrasonic Wind Speed & Direction	RS232/RS485(Modbus/NMEA-0183), Voltage(0-5V),Current(4-20mA) optional	Ultrasonic principle
CDF-22A	Mini Ultrasonic Wind Speed & Direction	4-20mA,RS232/RS485(Modbus or NMEA-183), SDI-12	Ultrasonic principle
CDF-26B	Recorder station for wind	LCD display & 4G WIFI Ethernet	Wind speed & direction recorder
CDQ-T6A	Miniature Ultrasonic Automatic Weather	RS485	Wind speed & direction temp & humidity &pressure
CDW-33A	Atmospheric Temperature,Humidity & Pressure	RS485	Shelter installation
CDY-12A	Economical Tipping Bucket Rainfall	Pulses(@10kΩ&0.01uF),RS485	Diameter :φ200mm, height: 271mm
CDG-10B	Solar Radiation	0-5V,4-20mA,RS485	Spectral range:300～1100nm

www.codasensor.com

Published by CODA | © CODA 2024

Hunan Coda Electronic Tech Co.,Ltd

T:+86-0731-85117089

W:www.codasensor.com

E:Molly@codasensor.com