



# CDF-10A Wind Speed Sensor

## For weather automation applications



### Features

- Low starting threshold
- Overall carbon fiber material
- Strong corrosion resistant ability
- Light structure
- Various output signals optional
- Easy Installation
- Three-cup design: The three-cup structure is sensitive to wind response and can quickly and accurately sense changes in wind speed
- Strong corrosion resistance: Plastic material has good corrosion resistance and can be used for a long time in harsh environments

The CDF-10A Wind Speed Sensor uses a sensitive 3-cup anemometer designed to measure wind speed and wind run. The cups are made of carbon fiber material, with high intensity and low starting threshold. The signal processing units are built in the housing shell. It can be widely used in meteorology, marine, environmental monitoring, airport, harbor, laboratory, industrial and agricultural areas.

### Typical installation locations

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

### Design structure

Three-cup wind speed sensor is a common instrument used to measure wind speed, which is mainly composed of shell, wind cup and circuit module. The sensing part is usually composed of three or four conical or hemispherical empty cups, which are fixed on a trident star bracket at 120° each other or a cross bracket at 90° each other, and the concave surface of the cup is arranged in one direction, and the entire transverse arm is fixed on a vertical rotating axis.

### Easy installation

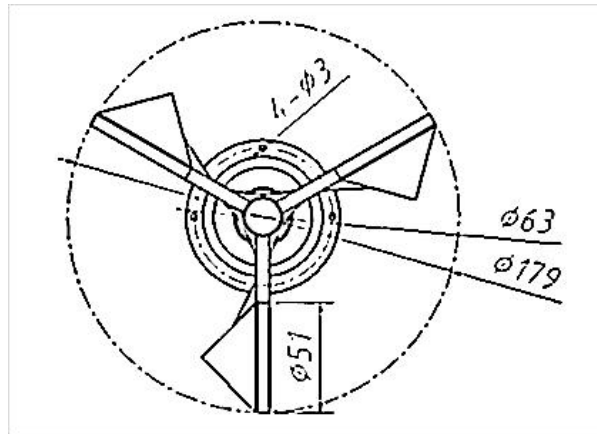
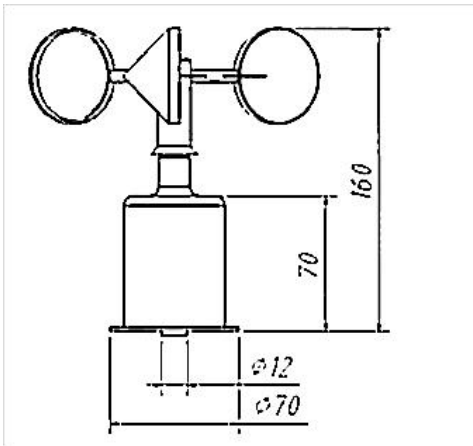
Professional mounting brackets can be used to hold the sensor in place to prevent shaking or displacement due to wind or other external forces. The installation bracket should have sufficient strength and stability to withstand the wind effect under various adverse weather conditions. or a cross bracket at 90° each other, and the concave surface of the cup is arranged in one direction, and the entire transverse arm is fixed on a vertical rotating axis.

### Reliable operation

The three-cup design is sensitive to wind and can quickly and accurately sense changes in wind speed. Its measurement accuracy remains stable within a certain range, and there will be no obvious deviation due to environmental changes or long-term.

# Dimensions & installing

## CDF-10A connector dimension



### Movable pole bracket



### Cross arm bracket



### Stainless steel bracket

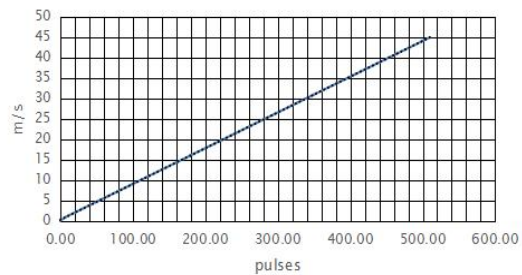


# Output characterist

## Pulses

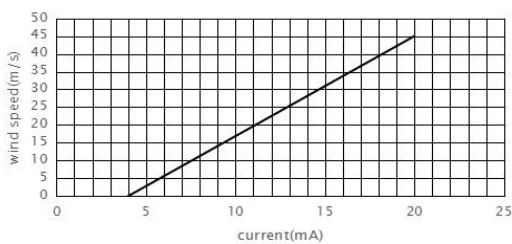
Characteristic transfer function:  
 $F=0, V=0;$   
 $F \neq 0, V=0.1+0.0875 \times F$   
 (where  $V$  = wind speed (m/s),  
 $F$  = output frequency(Hz))

Range:0-45m/s



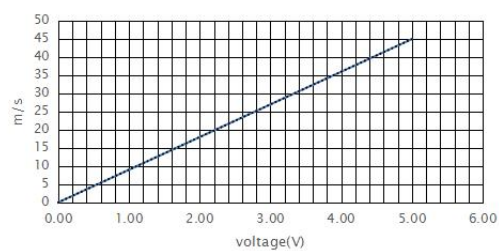
## Current

Range:0-45m/s



## Voltage

Range:0-45m/s



## Rs485

If the transmission distance is over 100m, please add a 120Ω terminal matching resistances on the front end and back end of bus interface respectively. See the modbus communication protocol specification.

# Technical data

## Measurement performance, models CDF - 10 A

Output	Pulses(PNP)	4-20mA	0-5V	RS485
Supply Voltage	5V,12V-24V	5V,12V-24V	5V,12V-24V	5V,12V-24V
Load Capacity	>1kΩ,default:high level:5V	<500Ω(typ 250Ω)	>1kΩ	
Range	0-45m/s	0-45m/s	0-45m/s	0-45m/s
Accuracy	±(0.3+0.03V)m/s; (V is the current wind speed)			
Starting Threshold	<0.5m/s			
Limit wind speed	50m/s			
Ingress Protection	IP65			
Operating Temperature	-40℃~ +50℃			
Cable Grade	Nominal voltage:300V ,Temperature grade:80℃			
Weight(unpacked)	170g			
Dimension	Cup rotor:ø179mm,Height:160mm			
Main material	Carbon fiber			
Storage Condition	10℃-50℃@20%-90%RH			

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



All rights reserved. Any logos and/or product names are trademarks of CODA or its individual partners. Any reproduction, transfer, distribution or storage of information contained in this document is prohibited. All specifications — technical included — are subject to change without notice.

**Hunan Coda Electronic Tech Co.,Ltd**

T:+86-0731-85117089

W:www.codasensor.com

E:Molly@codasensor.com