

## Wind speed sensor



### Description

The sensor is provided with a Robinson 3 cup rotor which rotates around a vertical axis.

This element is mounted on the top of the sensor body and is joint to an internal axis which is linked to stainless steel bearings with low friction in order to increase sensor sensitivity.

Coupled to the rotation axis, an optical transducer converts the rotation rate to a digital electric signal. The frequency of the impulsive signal is proportional to rotation rate of the rotor and so to wind speed.

The sensor body is made in anticorrosive aluminum, a material which guarantees a substantial durability and high resistance to corrosion, making the instrument suitable for applications in marine environments.

The sensor provides a good response over the entire range of wind speed, it is able to detecting low intensity of wind and high speeds up to 50 m/s (corresponding to 180 km/h).

An electronic board, based on a low power 32bit microprocessor, allows the characterization of the sensor at several points within the operating range; this allows to linearize the response curve so as to elevate the accuracy of the instrument.

On the bottom end of the sensor there is a connector for the signal and supply cable. The connector is watertight and has a screw connection.

For the calibration of the sensor, a certified instrument is used (reference ACCREDIA). The calibration based on comparison allows to maintain continuity with the metrological chain and assigns a scientific value to the measurement.

The sensor requires minimal maintenance: at least once a year, it is recommended to check the regular rotation of the cup-wind mill, which must take place without any particular friction, but rather with the normal smoothness of a mechanical component rotating on bearings.

Optionally, a heating set is available in order to avoid the block of the rotor due to freezing.



Cup anemometer



MTX anemometric monitoring station

Technical specifications may be varied without prior notice

## Technical Specifications

<b>Sensor type</b>	Three cup rotor
<b>Measuring principle</b>	Optical pulse transducer
<b>Measuring range</b>	0...50m/s - damage limit: 75m/s
<b>Accuracy</b>	±0,5m/s to 10m/s; ±1,0m/s over 10m/s (standard calibration) ±0,2m/s (customized calibration)
<b>Resolution</b>	0,1m/s
<b>Sensitivity threshold</b>	≤0,25m/s
<b>Electrical output</b>	0 ... 1V; 0 ... 2V; 0 ... 5V; 4 ... 20mA
<b>Power supply</b>	9 ... 24Vdc
<b>Power consumption</b>	≤10mA
<b>Surge protection</b>	Fast Zener (ICTE diodes) and varistors
<b>Operating range</b>	-30 ... +70°C
<b>Dimensions</b>	H=270mm D=200mm
<b>Weight</b>	0,6Kg
<b>Heater (optional)</b>	Power supply: 10...15Vdc Power consumption: 0,9A Threshold start: 4°C

## Ordering codes

Wind speed sensor with electrical output 0 ... 1V; 0 ... 2V; 0 ... 5V (to define at the order)	<b>FAR203AA</b>
Wind speed sensor with electrical output 0 ... 1V; 0 ... 2V; 0 ... 5V (to define at the order) and internal heater	<b>FAR203CA</b>
Wind speed sensor with electrical output 4 ... 20mA	<b>FAR203BA</b>
Wind speed sensor with electrical output 4 ... 20mA and internal heater	<b>FAR203DA</b>

Technical specifications may be varied without prior notice