



WS50F ANEMOMETER

Sensor for measuring the horizontal component of the wind velocity



PRODUCT DESCRIPTION

The transducer is designed to acquire the velocity of the horizontal component of wind, returning an output of electric pulses at a frequency proportionate to the measured value. The acquired data are made available to display and data recording tools, dataloggers and for process control systems.

For the winter period, the device is equipped with an internal electronic heater to guarantee a regular movement of the hemispheres and to prevent ice from forming on the other turning parts. The parts outside the instrument are made of corrosion-proof materials (aluminium, plastic, stainless steel). The parts in aluminium are further protected by an anodising process. Labyrinth sealing further protects the more sensitive parts against humidity. The hemispheres are moved by the wind. An optoelectronic scanner determines the velocity of the cups and generates a frequency of pulses proportionate to the wind velocity, which are then used as an electrical output signal.

OPERATION

As the wind velocity changes, the rotation velocity of the disk changes and, as a result, the number of pulses generated by unit of time changes. If the instrument is installed where ice may form, a 15W heater sleeve powered at 24 VAC can be installed on the instrument case. The anemometer is built to meet the reliability, sturdiness and operational safety requirements even when environmental conditions are severe, so the case is in anodised "ANTICORODAL" aluminium alloy, the rotation axis runs on low friction stainless steel precision bearings and lastly, the output is on a watertight connector that meets military standards (MIL C 5015).

MAIN FEATURES

Construction materials:

the external parts of the instrument are made up of corrosion-proof materials (aluminium, plastic, stainless steel); the aluminium parts are further protected by an anodising process. Labyrinth sealing further protects the sensitive parts against humidity.

Easy maintenance:

the benefits that our anemometric sensor offers are not limited to precision, but also include quick and easy maintenance. Following installation according to specifications, the maintenance activities consist only of a periodic check of the sensor to ensure it is clean without any deposited grime.

Sturdy and reliable construction:

makes it an instrument with a long lifetime, which safeguards the customer's investment. The instrument does not drift due to aging and requires no periodic calibrations.

INSTALLATION

Generally speaking, wind reading instruments have to be able to take measurements of the wind conditions in a vast area.

In order to get a good reading of the velocity of the horizontal component of wind motion, the device has to be installed in an area free of obstacles for at least 10 metres.

Free area means that the transducer must be placed at least 10 times the height of the closest obstacle.

If this is not possible, the sensor must be installed at a height such that the nearby obstacles do not affect the measurement of the wind velocity taken.

The transducer must be placed in the centre of any vegetation at the site, and not on one side. This is to prevent privileged directions from being created in the reading. The sensor must be secured in a perfectly horizontal position, ensured using a spirit level, to prevent water from seeping into the instrument.

COMPONENTS THAT CAN BE ADDED OR BE BUILT INTO THE PRODUCT

If the instrument is installed where ice may form, a 15W heater sleeve powered at 24 VAC can be installed on the instrument case.

TECHNICAL SPECIFICATIONS

Specifications	
Sensor type	Incremental encoder
Range of measurement	0,5 ...50 m/s
Inertia	0,5 m/s
Accuracy	±0,5 m/s
Electrical output	2...630 Hz
Operative temperature	.-40° C ... +70°C
Material	Aluminium (AlMgSi1) Fibreglass-reinforced polycarbonate (Case)

CERTIFICATIONS AND PROTOCOLS

Certifications	Reference Standards
Electromagnetic Compatibility	IEC 61000-6-2 (immunity) IEC 61000-6-3 (interfering transmission)
Safety requirements for electrical devices	IEC 61010-6-1