

Anemometer cups with pulse output for industrial application SIT certificate

The series ANTC has been designed and built for industrial applications, in particular:

- Measurements for wind turbines
- Historical analysis of data logger
- Control thresholds for wind and solar sails solar trackers

However, it is used in any area where they are necessary features of reliable, robust and accurate.

The body of the rotor is machined aluminum. The head rotates on ball bearings.

The cups are made of stainless-steel shock-absorbent and easily interchangeable. It also has a connector for convenient connection. The generation of pulses is via optical transducer, a digital encoder with 12 pulses per revolution.

EACH TRANSDUCER IS TESTED IN A WIND TUNNEL EQUIPPED WITH A CALIBRATION CERTIFICATE.

It runs on request, a periodic calibration and calibration product.



Anemometer ANTC- V1 has been specifically designed for industrial applications such as:

- Cranes and Mobile Cranes
- Buildings and general structures
- Photovoltaic solar trackers
- Wind turbines
- Weather Stations
- Irrigation systems
- Automated greenhouses
- Cable cars for ski plants
- Cannons snow
- Telescopic cranes
- Platforms self-mounting
- Structures for playgrounds
- Ornamental fountains
- Pressostatic structures
- Highway tunnels and viaducts

General Features

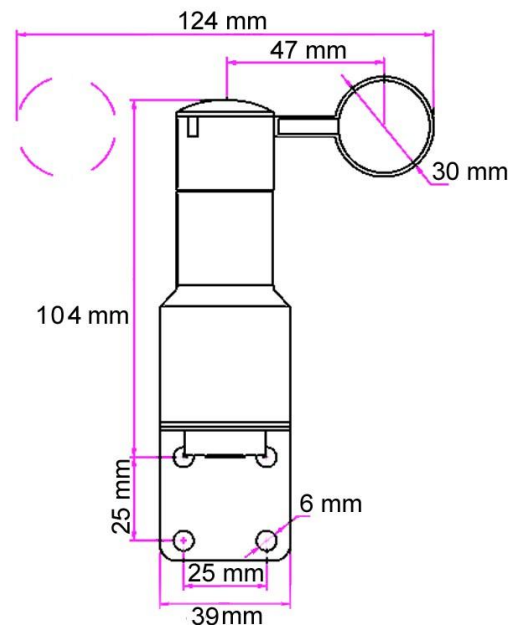
- Anodized aluminum rotating transducer mounted on double ball bearing complete with stainless steel bracket and female socket connector
- Assembled by $\pm 3^\circ$ from vertical axes. Cups upwards.
- Range of use 0-200km/h
- Frequency output signal with 12 pulse for revolution
- Optic transducer which provides the generation of pulses
- 12/24 Vdc power supply
- 3 pins to solder jack connection



Mechanical Features

The anemometer consists of aluminum body and rotor with a removable hat for the mechanical seal of a Nylon Cups shockproof, UV ray, low temperature and hailstorm resistant. Rotating on a Ball Bearings, moves a cogwheel that through a photodiode gives 12 pulses per 1 rotation.

- IP55 degree protection
 - Operating temperature $-10^\circ + 60^\circ\text{C}$
 - Overall size on a side draw
 - Nylon Cups interchangeable reinforced by the hail, resistant from -40° to $+120^\circ$ - Diam. 30mm
 - Medium Error 0,06%
 - Standard Deviation Errore 1,01%
 - carried out in the wind tunnel analysis with speeds from 0 to 200 km/h
- Dimensions
- Body rotor: H 104 mm
 - Body rotor + support: H 163 mm
 - Body rotor + support + connector: H 163 mm
 - Diam. min. top body rotor: 29 mm
 - Diam. max. bottom body rotor: 39 mm
 - Diam. max. rotating head with cups assembled: 124 mm
 - Stainless steel support assembled. Dimensions: H 42 mm / W 39 mm



Electrical Features

Items	ANTC-V1
Power supply	From 12 to 24 Vdc
Output signal	In frequency, square-wave pulses, the rising edge of the signal is equal to the voltage supply minus 1,2 Vdc of internal falls
Current/Consumption	15 mA
Measuring range of mechanical minimum and maximum	0-200 Km/h
Ideal load	From 4,7 k Ω to 10 k Ω



Connection jack

connector welding side view:

1 = 0v

2 = +12/24 Vdc

3 = output signal

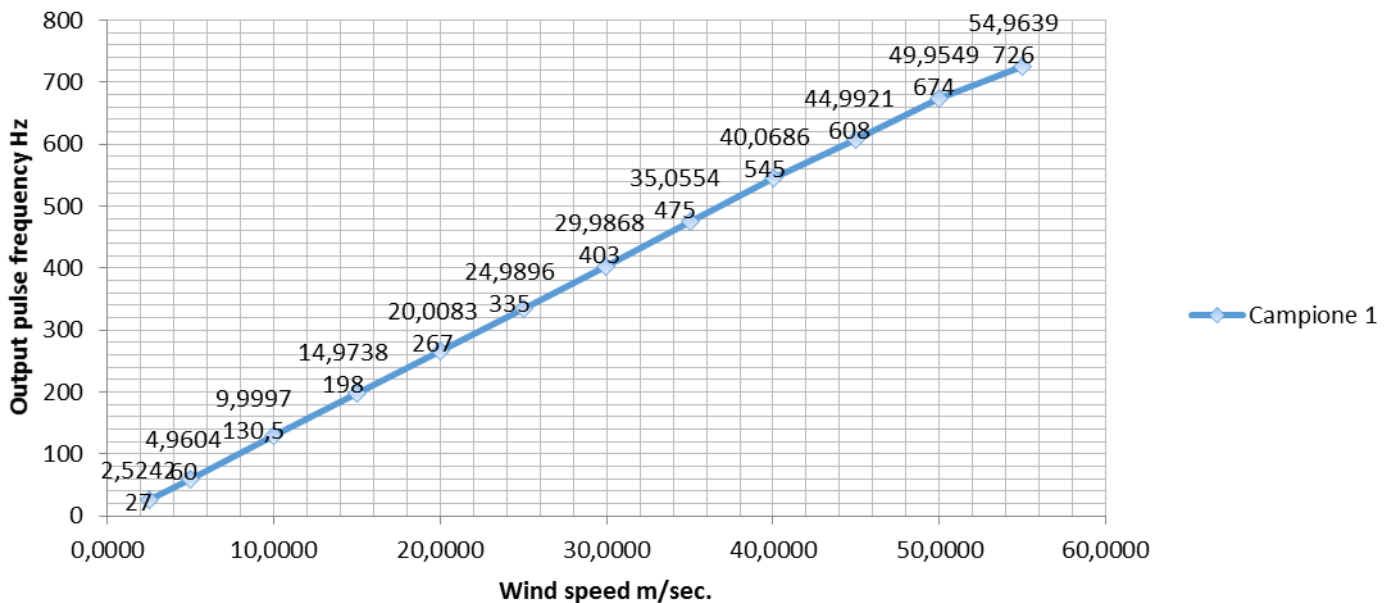
CAUTION: Use shielded cable 3x0,5 sq mm - the braided shield **MUST NOT BE CONNECTED** to the ground connector but completely isolated. It should be connected to ground only from the connection to the PLC electronics, display or electronic ANTC

Operation

It can be connected through the frequency output directly to PLC and / or board electronic market.
The anemometer ANTC-V1 has the following input/output characteristic tested and certified in the wind tunnel:

Speed [m/s]	Hz	Press. Din.[Pa]	Density [Kg/m^3]	Press. Abs.[Pa]	Temperature[C°]	Rh[%]	Correz.Pstat[Pa]
2,5242	27	3,752085	1,1777740	100.314,10937	22,285466	42,690334	0,022703
4,9604	60	14,488484	1,1776580	100.314,64598	22,314970	42,657025	-0,269763
9,9997	130,5	58,852735	1,1771370	100.292,24196	22,382067	42,394591	-1,475898
14,9738	198	131,962099	1,1770990	100.326,72085	22,498483	41,940608	-3,013437
20,0083	267	235,514989	1,1765990	100.324,50026	22,621103	41,508121	-4,842637
24,9896	335	367,235568	1,1761330	100.315,07809	22,714861	41,130829	-7,172559
29,9868	403	528,379229	1,1752070	100.309,71702	22,937202	40,419920	-10,026787
35,0554	475	721,214304	1,1737710	100.297,95471	23,272786	39,348665	-13,446228
40,0686	545	941,558005	1,1729190	100.292,91001	23,477485	38,732317	-17,355937
44,9921	608	1.184,801461	1,1705840	100.280,35265	24,040314	37,192292	-21,671177
49,9549	674	1.458,403534	1,1688290	100.273,24701	24,471514	36,066415	-26,518581
54,9639	726	1.761,882084	1,1664100	100.259,65381	25,053208	34,695982	-31,880004

Ratio between wind speed and output frequency of ANTC_V1



Accessories

Nylon Cups

Reinforced for hail, resistant from -40°C to +120°C, diam. 30mm, interchangeable. In the kit are included 3+1 stock cups



Stainless-steel bracket

Already assembled. Dimensions: height 42mm, width 39mm.



Connector

3 poles to be weld



M12 Connector model



The diagram labels the terminal block as follows:

- 2: libero / free
- 3: libero / free
- 1: - negative / marrone brown
- 4: + positive / bianco white
- 3: + segnale output verde / green

Optional Items

Connecting cable

Transducer connection cable provided in the required length



Cable

Cable welding and pre-wiring

It is possible to match the anemometer with a **programmable 2 relay outputs display** to see data in an immediate way and provide the alarm.



WM44-P
For panels



WM44-SS
For panels



WM44-DRM
For DIN Guide