Close to 100 years
Since 1925

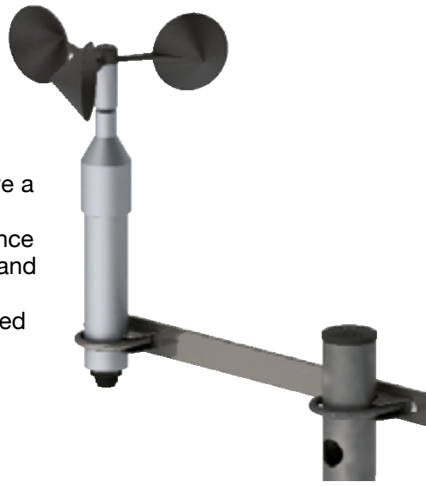
SIAP+MICROS
Environmental Monitoring Solutions

WIND SPEED Sensor

t031 TVV-ET

- Low inertia and high resolution
- High accuracy
- Robust and easy to install
- Equipped with heating system (optional)

Description



TVV is composed of a rotating body connected to three conical shaped elements (cups), and it measures the wind speed exploiting the wind resistance to rotational movement of the cups.
The rotating system is equipped with a six poles cylindrical magnet. A Hall effect sensor detects the rotary motion that generates in the meantime an impulse at the passage of each pole.
The dimensions of the cups and the lightness of their material have been thoroughly picked to achieve a very low mechanical inertia and, consequently, to ensure a high sensitivity of the measurement.
The structure of TVV is very robust and the sensing element has a reliable durability and a proper resistance even at high wind speeds. Furthermore, its simple and compact design facilitates the installation and makes easier the on-site maintenance activities.
The sensor is supplied with power and signal cable (12m), and it is available upon request on heated version, powered at 24V (alternating or direct current).

Main feautures

- Measure up to 65 m/s
- High accuracy
- Protection against overvoltages
- Equipped with heating system (optional)

Technical Specifications*

Measurement performance			
Wind speed [m/s]			
Transducer	6-pole magnet and stabilized Hall effect sensor		
Measurement range	0 ÷ 75		
Resolution	< 0.1		
Accuracy	< 0.15		
Still air	0%		
Onset speed	0.25 m/s		
Operating conditions			
Temperature	-40°C ÷ +70°C		
Humidity	0% ÷ 100%		
Outputs			
Natural	Open drain output: V_V measurement is given by the frequency f as following: V_V = f [Hz] / 3.3676 [Hz/ m/s] + 0.1881 [m/s]		
Tension	0 ÷ 2 V ↔ 0 ÷ 75 [m/s]		
Current	4 ÷ 20 mA ↔ 0 ÷ 75 [m/s]		
RS485-Modbus	Wind speed [m/s]		
SDI – 12	Wind speed [m/s]		
Power supply and consumption			
Voltage supply	7 ÷ 24 Vdc		
Heating system voltage supply	12 ÷ 24 V [DC o AC]		
Consumption *(mA)*	Min	Typical	Max
Natural	-	2.5	-
RS485-Modbus / SDI-12 / 0 ÷ 2 V	-	1	3
4 ÷ 20 mA	5	-	25
Heating system power		40 W @ 24 V	
Mechanical specifications			
Protective body	Cups: PA6 + 30% fiberglass, the entire body is made of aluminium alloy and stainless steel screws		
Weight	750 g		
Dimensions	$Ø_{MAX}$ = 230 mm; Heigh = 336 mm		
Electrical connections	IP67 / 7 pole male connector		

*Changes on technical performances can be applied upon request of specific calibration

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