

# ULTRASONIC ANEMOMETER

WINSON



High accuracy

Reduced wing profile

Programmable heating system and electronic compass

# Description

WINSON is an ultrasonic anemometer for the measurement of wind speed and wind direction. The sensor exploits the principle for which the acoustic waves, along their path, are influenced by the movements of the air they pass through. The sensing element is composed of 3 transducers with dual function of transmitters and receivers.

WINSON is much more performant than the traditional wind sensors. Indeed, it simultaneously carries out 6 measurements on three different sonic trajectories generating a very precise measuring model, especially at higher ranges. Usual wind transducers instead can develop only 2 acoustic trajectories, and then they give as output only 4 measurements at the same time.

The sensor is equipped with a programmable heating system to perform even in harsh and tough weather conditions, as well as an electronic compass for applications on mobile stations.

The sensor is supplied with power and signal cable (12m).



## Main features

- **High accuracy**
- **Reduced wing profile**
- **Analog and digital electrical outputs**
- **Programmable heating system and electronic compass**
- **Diagnostic system for reporting measurement errors**

## Technical Specifications\*

### Measurement Performance

#### Wind speed [m/s]

Measurement range	0 ÷ 75
Resolution	0.1
Accuracy	2% in the range 2 ÷ 30, < 5 % outside 2 ÷ 30 range

#### Wind direction [°]

Measurement range	0 ÷ 359.9
Resolution	0.1
Accuracy (at 12 m/s wind speed)	±3

#### Heating

Programmable from	from 0 to +50 °C
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#### Operating conditions

Temperature	-40°C ÷ +60°C
Humidity	0% ÷ 100%

#### Outputs

RS485 Modbus	Wind speed, wind direction, sonic temperature
SDI – 12	Wind speed, wind direction, sonic temperature
Tension	Configurable (0 ÷ 2V) wind speed and direction

#### Power supply and consumption

Voltage supply	10 ÷ 24 Vdc		
Power supply	For wind speeds over 30 m/s, a 12Vdc power supply is required in order to achieve the declared performance		
Heating system voltage supply	12Vdc		
Consumption (mA)	Min	Typical	Max
Absorbed current during the measurement (8 samples/second)	-	20	-
Max absorbed current (heating system activated)	-	-	550

#### Mechanical specifications

Protective body	Polipropilene and Poliammide
Level of protection (IP)	IP66
Weight	620 g
Dimensions	Ø = 160 mm; Height: = 190 mm
Installation mast size (diameter)	External Ø <sub>MAX</sub> = 50 mm, Internal Ø <sub>MIN</sub> = 45 mm
Electrical connections	10 pole male connector

#### Ordering codes

RS485-Modbus serial output, SDI-12 serial output, Tension output. (heating system provided)	t035-WINSON
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\*Changes on technical performances can be applied upon request of specific calibration