

WIND DIRECTION Sensor

t033 TDV-E



High precision

Robust and easy to install

Equipped with heating system (optional)

Description

TDV has been thoroughly designed to ensure high standards of performance in wind direction monitoring. The sensing element consists of a balanced vane connected to a magnet, whose position is detected by a Hall effect sensor. The whole system allows to investigate with very reliable precision the orientation of the wind by detecting the movement of the wind vane from its original position.

Wind vane and the lightness of its material have been accurately chosen in order to obtain a very low mechanical inertia and consequently achieve a high sensitivity.

The robust structure of the sensor gives an adequate 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 features

- **High angular resolution**
- **High accuracy**
- **Robust and easy to install**
- **Equipped with heating system (optional)**

Technical Specifications*

Measurement performance

Wind direction [°]

Transducer	Magnet and Hall effect direction sensor
Measurement range	0 ÷ 359.9 (read also 0 ÷ 360)
Resolution	0.1
Sensitivity of the transducer	< 0.1
Accuracy	± 1
Starting threshold	< 1.0 m/s
Onset speed	< 0.4 m/s

Operating conditions

Temperature	-30°C ÷ +60°C
Humidity	0% ÷ 100%
Gust survival	80 m/s (more than 30 min.)

Outputs

Tension	0 ÷ 2 V ↔ 0 ÷ 359.9 [°]
Current	4 ÷ 20 mA ↔ 0 ÷ 359.9 [°]
RS485-Modbus	Wind Direction [°]
SDI-12	Wind Direction [°]

Power supply and Consumption

Voltage supply	7 ÷ 30 Vdc		
Heating system voltage supply	9 ÷ 24 V [DC o AC]		
Consumption (mA)	Min	Typical	Max
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	Alluminium alloy and stainless steel screws
Weight	930 g
Dimensions	Ø _{MAX} = 520 mm, Height = 385 mm
Electrical connections	IP67 / 7 pole male connector

Ordering codes

Current output, Tension output, RS485-Modbus serial output	PSM-t033a-TDV-IVS
SDI-12 serial output	PSM-t033d-TDV-12
Heated version, Tension output	PSM-t034b-TDVR-V

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