



Texas Electronics, Inc.

The Gold Standard in Weather Instrumentation Since 1957

Wind Velocity Anemometer

TV-4 Wind Speed Sensor



Description

The Texas Electronics, Inc. TV-4 Wind Speed Sensor is a mechanical style anemometer that measures the horizontal velocity of wind. This unit combines small physical size with superior bearings to meet the EPA's Prevention of Significant Deterioration (PSD) starting threshold requirements.

The TV-4 wind speed sensor is a freestanding device for measuring air velocity. The sensor consists of a lightweight 3-cup anemometer, which electromechanically converts wind speed into a measurable electronic signal.

The output signal can be presented in 3 optional forms: a pulsed DC signal, an AC frequency, or a conditioned analog signal. Each output has a specific application. The pulsed DC signal is used where high-accuracy is needed and continuous power is not a problem. The AC frequency output is used in situations where power consumption is critical. And finally, the conditioned analog signal is used to easily and quickly communicate with virtually all digital control systems such as PLC's or SCADA systems.

(Specifications on next page)

Features & Benefits

- Superior low starting threshold due to small physical size
- No plastic parts for extremely long life
- Precision stainless steel bearings for stability and repeatability
- Crossarm included with purchase of matching wind direction sensor
- Easy installation and maintenance
- Over 5 years in production
- Lightweight and rugged anodized aluminum exterior

Installation & Maintenance

Installation consists of threading the 10-32 mounting base into our crossarm or any other suitable beam. If a crossarm is used, the entire unit can be bolted to a mast or attached via U-bolts.

The sensor is dynamically calibrated at the factory and due to the nature of its operation should not require field calibration. Field maintenance should include occasional cleaning of the cup assembly and inspection of the internal mechanism to make sure it is free from insects and debris. In some applications users may need to occasionally verify and document sensor accuracy with a synchronous test motor. Other possible routine maintenance is to replace the bearing housing assembly every three to five years to maintain low starting threshold.

Ordering Information

<u>Model #</u>	<u>Description</u>
TV-4	Wind Speed Sensor, Light Industrial (Specify supply voltages other than 5 VDC)
TV-4AC	Wind Speed Sensor, AC Generator
TV-4A	Wind Speed Sensor, Analog 4-20 mA

**Sensor is designed to work with TD-4 wind direction sensor.*

Optional Parts / Accessories

Cable Additional Cable

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Specifications

Operating Range:	0-100 mph		
Signal Presentation:	Pulsed DC output - light chopper AC Frequency, or Analog, 4-20 mA (Please specify)		
Pulsed DC output:	20-slot disc 1 MPH = 520 pulses/min. 100 MPH = 52000 pulses/min.	Input Power:	+5.0 VDC @ 5mA (typical) (Other voltages available upon request)
AC Frequency output:	26 mV/MPH (typical) 0.133 Hz/MPH	Input Power:	None (self-generating)
Analog 4-20 mA out:	4 mA = 0 MPH 20 mA = 100 MPH	Input Power:	10-36 VDC
Performance:			
Accuracy:	+/- 2.0 mph (0.89 m/s)		
Distance Constant:	> 21.7' (6.6 m)		
Starting Threshold:	0.6 mph (0.27 m/s)		
Environmental:			
Operational Envelope:	0-135 mph (0 to 60 m/s)		
Temperature:	-40 to 160° F (-40 to 70° C)		
Relative Humidity:	0-100%		
Physical:			
Cup Wheel Diameter:	6.0" (15.3 cm)		
Overall Height:	4.75" (12.1 cm)		
Turning Radius:	3.0" (7.6 cm)		
Cup Diameter:	2.0" (5.1 cm)		
Bearings:	APEC 3 or better		
Mounting Base:	Screw attachment, 10-32 machine screw		
Weight:	0.5 lbs (0.23 kg) less cable		
Cable:	60' (18.3 m) 3 conductor 22 gauge		
Warranty:	3 year		