

Wind Velocity Anemometer

TV-110-L320 Wind Speed Sensor



Description

The Texas Electronics, Inc. TV-110-L320 Wind Speed Sensor is a mechanical style anemometer that measures the horizontal velocity of wind. This unit is designed to meet or exceed all the EPA's Prevention of Significant Deterioration (PSD) requirements. The TV-110-L320 wind speed sensor is a freestanding device for measuring air velocity. The sensor consists of a lightweight 3-cup anemometer, which is mechanically coupled to 20-slot disc located within the sensor housing. A light beam, produced by an infrared light emitting diode (LED), passes through the slotted disc and falls upon a light-detecting transistor. The transistor switches on and off 20 times for each revolution of the cup assembly. Therefore a pulsed output is produced which is proportional to wind speed.

Features & Benefits

- Superior low starting threshold
- 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 25 years in production
- Lightweight and rugged anodized aluminum

Specifications

Operating Range	0-100 MPH
Signal Presentation:	Frequency, pulsed output light chopper
The 20-slot disc produces the following	
liner repetition rate:	
0 RPM = 1 MPH = 200 pulses/min.	
100 RPM = 10 MPH = 2,000	
1,000 RPM = 100 MPH = 20,000 pulses/min.	
Excitation:	+5.0 VDC @ 5 mA (typical)
(other voltages available upon request)	
Performance:	
Accuracy:	+/- 1.0 MPH (0.45 m/s) over entire range
	+/- 0.6 MPH (0.25 m/s) at less than 11.2 MPH
	(5.0 m/s)
Distance Constant:	>16.5' (5.0 m)
Starting Threshold:	1.1 MPH (0.5 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:	
Height:	6.5" (16.5 cm)
Cup Diameter:	3.25" (8.25 cm)
Cup Wheel Diameter:	12.5" (32 cm)
Finish:	Gold Anodized Aluminum
Cable:	60', 22 Gauge 3 conductor
Bearings:	APEC 3 or better
Mounting Pole:	0.75" O.D. (1.9 cm)
Warranty:	3 years

Installation & Maintenance

Installation consists of attaching the unit to a mast via the supplied mounting pole. 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. Possible bearing and photo detector replacement every three to five years to maintain low starting threshold.

Ordering Information

Model #:

TV-110-L320	Wind Speed Sensor, Medium Industrial (Specify supply voltages other than 5VDC)
TV-110-L320-A	Wind Speed Sensor, 4-20 mA

** Sensor is designed to work with TD-106-5D Wind Direction Sensor*

Optional Parts / Accessories

T-8011M	Synchronous motor for calibration
Cable	Additional Cable



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