

27106T

Vertical Propeller Anemometer

The 27106T Propeller Anemometer is a low threshold precision air velocity sensor. Air velocity is measured using a fast-response, four-blade helicoid propeller that drives a high quality tech-generator transducer. The transducer converts the propeller's rotation to a DC voltage that is linearly proportional to air velocity. The anemometer's output signal can be read by all of our contemporary dataloggers as well as many retired dataloggers (e.g., CR510, CR10X, CR23X).

The 27106T should be oriented with the propeller facing the predominant flow of air being measured. Its propeller responds only to the component of the air flow which is parallel to the axis of its rotation. Off-axis response closely approximates a cosine curve with appropriate polarity. With perpendicular air flow, the propeller does not rotate.

Mounting

The sensor is shipped with a 3/4-inch IPS threaded pipe for mounting. The pipe can be attached to a CM202, CM204, or CM206 crossarm via a 1049 NU-RAIL fitting or CM220 Right Angle Mounting Bracket.

Ordering Information

Wind Speed Sensor

27106T-L RM Young Vertical Anemometer w/CFT Propeller. Enter cable length, in feet, after L. Must choose a cable termination option (see below).

Cable Termination Options (choose one)

- PT** Cable terminates in stripped and tinned leads for direct connection to a datalogger's terminals.
- PW** Cable terminates in connector for attachment to a prewired enclosure.

Mounts

- 1049** 3/4-inch x 1-inch NU-RAIL Fitting for attaching the 27106T to a crossarm, such as a CM202, CM204, or CM206.
- CM220** Right Angle Mounting Bracket for attaching the 27106T to a crossarm, such as a CM202, CM204, or CM206.



Recommended Cable Lengths

CM6	CM106	CM10	CM110	CM115	CM120	UT10	UT20	UT30
10 ft	13 ft	13 ft	13 ft	19 ft	24 ft	13 ft	24 ft	34 ft

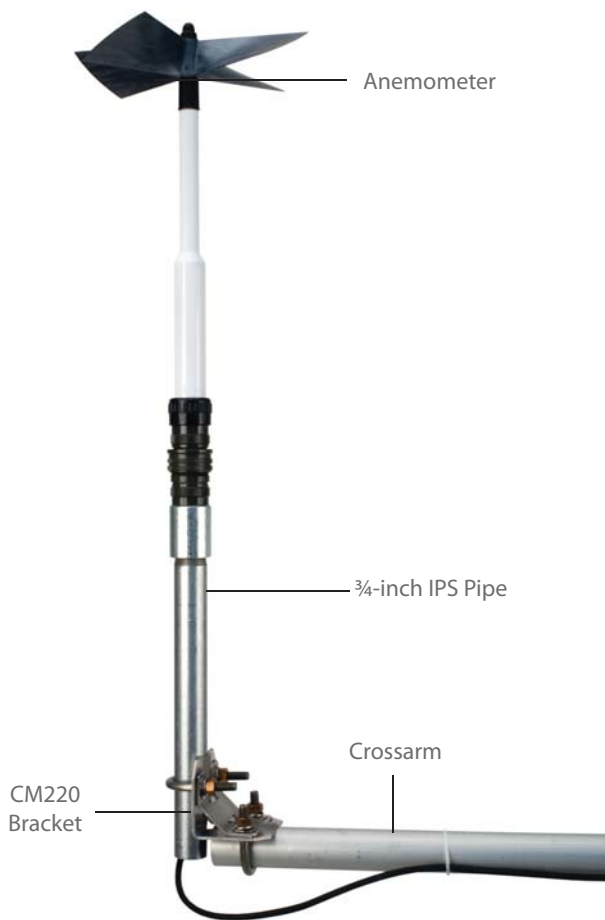
These cable lengths assume the sensor is mounted atop the tripod/tower via a CM202 crossarm.

Specifications

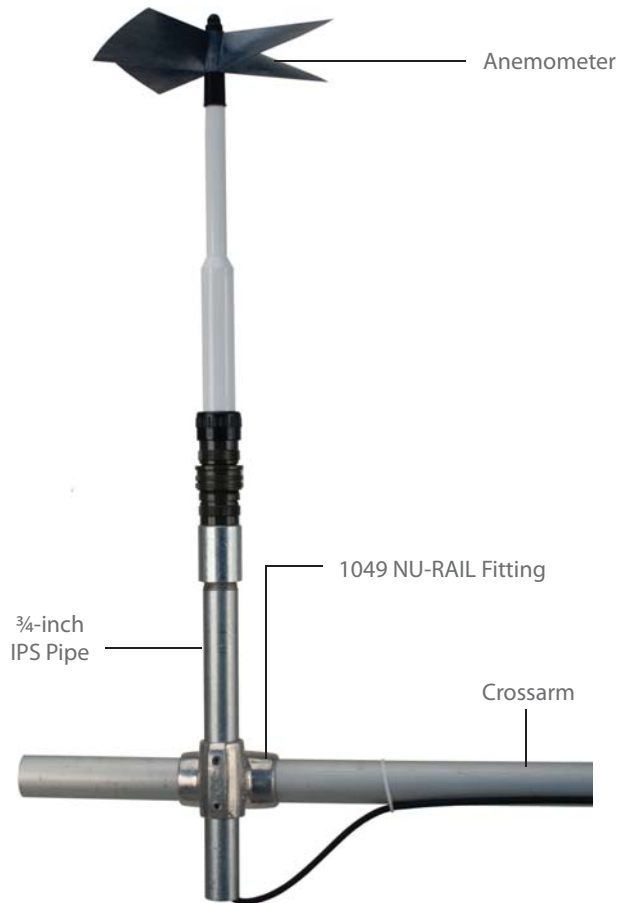
Range
Axial Flow: 0 to 90 mph (0 to 40 m/s)
All Angles: 0 to 80 mph (0 to 35 m/s)
Threshold Sensitivity*: 0.8 mph (0.4 m/s)
Distance Constant*: < 6.9 feet (2.1 m)
Pitch: 11.8 inch (30.0 cm) air passage per revolution
Signal Output: Analog DC voltage proportional to axial wind component. Polarity reverses with reverse rotation. 1800 rpm (500 mV) = 9.0 m/s (20.1 mph)

Operating Temperature: -50° to +50°C
Propeller Description: 4-blade helicoid propeller molded of carbon fiber thermoplastic
Dimensions
Overall Length: 17 inch (43 cm)
Propeller Diameter: 8 inch (20 cm)
Housing Diameter: 1 inch (2.5 cm)
Weight: 1.2 lbs (0.5 kg)

*Threshold and distance constant values are for axial flow.



This 27106T is attached to a crossarm via a CM220 Mount and 3/4-inch IPS pipe (shipped with the sensor).



This 27106T is attached to a crossarm via 1049 NU-RAIL Fitting and 3/4-inch IPS pipe (shipped with the sensor).

