Testing RNRG Class 1 and RNRG 40C Anemometers

Introduction

The RNRG Class 1 and RNRG 40C anemometers' magnets and coil pickups convert wind speed to an AC sine wave signal. There are two simple measurements that can be performed to verify the sensor's electrical output is working properly.

The first measurement can be used if the sensor is stationary. The second measurement is for if the sensor is spinning, as in when it is installed on a tower.

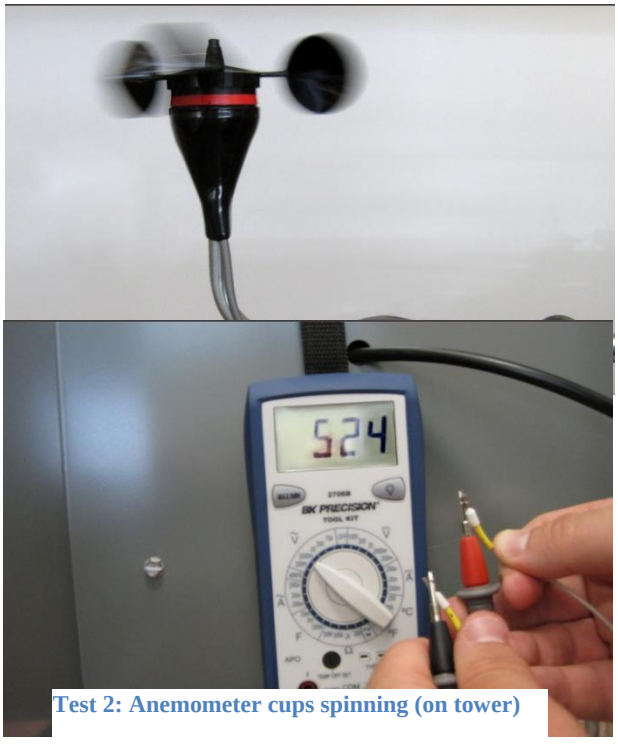
Tools Required

- Digital voltmeter (DVM)

Test 1: anemometer cups NOT spinning

1) Disconnect the anemometer from the data logger.
2) Set your digital volt meter read resistance on the 2K ohm scale.
3) Measure the resistance between positive (+) and negative (-) terminals --cups NOT spinning.
4) A reading between 600 and 700 ohms is acceptable.

Test 1: Anemometer cups NOT spinning



Test 2: Anemometer cups spinning (on tower)

Test 2: anemometer cups spinning (for sensors up tower)

1) Disconnect the sensor cable from the data logger.
2) Measure the AC voltage across the sensor wires.

3) If the reading fluctuates while the cups are spinning, the anemometer and cable connections are functioning properly.
4) If your volt meter has a frequency setting, you will notice the frequency change in proportion to wind speed [m/s = (0.765 x Hz) + 0.35].