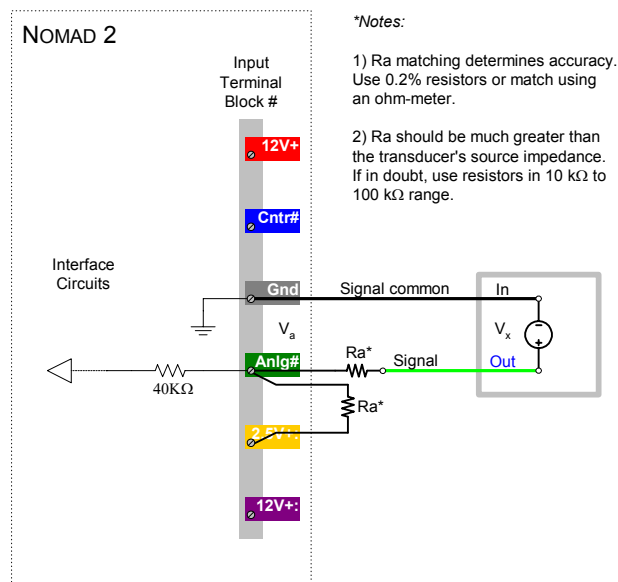


## USING THE R.M. YOUNG VERTICAL WIND SPEED ANEMOMETER WITH NOMAD 2

The R.M. Young Model 27106 is a propeller anemometer based on a DC generator. The propeller rotates in either direction depending on whether the vertical wind component is up or down. This produces a positive or negative signal with respect to signal common. As Nomad 2 analog inputs are unipolar (positive only), the output signal of the anemometer must be converted before it can be connected.

A simple two-resistor circuit is all that is needed. A wiring schematic is as follows:

This two-resistor circuit converts a bipolar (negative-going) DC voltage source to a positive-only one. The output relation is:

$$V_a = 1.25 + (V_x / 2)$$


R. M. Young specifies that the output of the anemometer ("Vx") is 0.50 V = 8.8 m/s. This means that the wind speed can be expressed as: [wind speed in m/s] = Vx × 17.6 [m/s per Volt].

The output of the circuit is therefore: [wind speed in m/s] = Va × 35.2 [m/s per Volt] - 44.0 [m/s].

Configure the connected analog input as follows:

**Device Information**

Type:

Name:  Serial Number:

Units:  Slope:  Offset:

Full Range:  0 to 2.5V  0 to 5.0V

Height:  Feet Azimuth:

The slope and offset in mph would be: [wind speed in mph] = Va × 78.8 [mph per Volt] - 98.5 [mph].