



INSTRUCTIONS



Thank you for purchasing an e-Vane from Inspeed. It was designed to provide you with consistent, accurate information, for use in a rugged environment, at an affordable price. We hope it will exceed your expectations. Here are a few things about your e-Vane:

First, the balanced vane should rotate with virtually zero friction. If there is any resistance to rotation, something is not right! (see below).

Calibration

The e-Vane is equipped with a precision Hall Effect encoder. The encoder produces an output based on the orientation of a magnet that hovers over it, attached to the vane shaft. The output of the Hall Effect encoder is an analog voltage, which ranges from 5% to 95% of the input voltage, where the specified input voltage is between 2.7 and 5.5 volts DC.

Installation & Operation

Even though the vane is nicely balanced, it is a good idea to mount the vane with the axis of rotation as vertical as possible. The 2 holes in the offset bracket are there for mounting purposes. It is also a good idea to mount the vane in clear, unobstructed air (as opposed to off the side of a pole, for example).

Setting Zero (or North)

There is a neat feature with the e-Vane that allows you to pick your very own "North" without having to mount the bracket any particular way. Here is how it works: There is a set screw on the side of the e-Vane body. When screwed in a small amount, the tip of the screw will press against the magnet holder inside the vane and prevent it from turning. This allows you to then twist the vane pointer until it is giving you correct directional data. So proceed as follows:

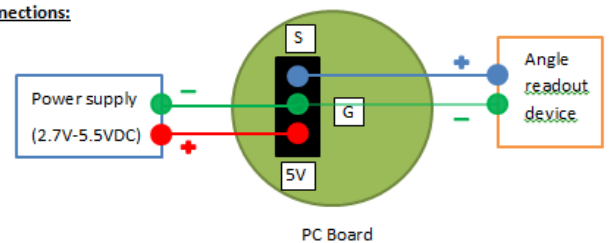
- determine the orientation of the bracket when it will be mounted (or actually mount the vane)
- rotate the vane until the readout is North (on Windworks software), or zero output.
- Hold the vane in that position and tighten the set screw to lock the magnet holder
- Twist the vane pointed until it points to actual North
- Release the set screw
- Done!

Electrical

There are three wires from the e-Vane: Ground (black), Supply Voltage (red), and Output (White).

At the time of this writing, the effect of wire length is not known. Since the output of the sensor is a higher, conditioned voltage, we do not foresee issues with longer lengths of wire (over 100 feet).

Connections:



Specifications:

Power supply voltage range	2.7 – 5.5 VDC
Power supply current	12 mA
Output voltage range	5 - 95% of power supply input voltage = 0 to 360 degrees of rotation
Output impedance	500 ohms
Minimum recommended input impedance	50K ohms
Angle non-linearity	+/- 1.67% of full scale, or +/-6 degrees

Cleaning and maintenance

If by chance dirt or contamination should enter the bearings of the e-Vane, it is not hard to clean, as follows:

- Remove the screws that hold the sensor under the e-Vane body
- Pull straight up on the vane to release the shaft from the magnet (the vane may come off the top too) Careful not to lose the washers for the bearing.
- Clean out the thrust bearing (the only thing that can really be an issue!)
- Reassemble by pressing the magnet/holder back into the vane with the body and thrust bearing in between, taking care to leave enough clearance to allow free rotation.

Thank you and enjoy your e-Vane!

