First you need 100k resistor ( not 10k). Then upload this code:

int analogPin = A0;

int vane\_value = 0;

void setup() {

 Serial.begin(115200); // setup serial

}

void loop() {

 vane\_value = analogRead(analogPin); // read the input pin

 Serial.println(vane\_value); // debug value

 delay (3000);

}

Set wind direction to North and see what it is your vane\_value, and write it on paper. Then to check all your wind direction and write on paper. When you get all vane-value values write it in code section ,, Wind direction“

I have calculated the value in Volt at the terminals of my wind vane, using a resistor value of 10k connected between one of terminal to +3.3 V, and the following are the results:

DIRECTION INTERNAL

 RESISTOR VOLTAGE

(degrees) (Ohms) (V=3.3, R=10K)

0 33K 2.533 V

22.5 6.57K 1.308 V

45 8.2k 1.487 V

67.5 891 0.269 V

90 1K 0.300 V

112.5 688 0.212 V

135 2.2K 0.595 V

157.5 1.41K 0.407 V

180 3.9K 0.925 V

202.5 3.14K 0.788 V

225 16K 2.031 V

247.5 14.12K 1.932 V

270 120K 3.046 V

292.5 42.12K 2.667 V

315 64.9K 2.859 V

337.5 21.88K 2.265 V

Then I have modified your sketch in the section of Wind direction, as follow, but I get wrong results on the Serial Monitor!

For example,

if the vane points to North, I get (on Serial monitor):

Wind\_Direction = NW 293

Wind Avg = 0

Vane Value = 835;

if the vane points to South, I get:

Wind\_Direction = SE 112

Wind Avg = 0

Vane Value = 319;

if the vane points to Est, I get:

Wind\_Direction = NE 39

Wind Avg = 0

Vane Value = 112;

if the vane points to West, I get:

Wind\_Direction = N 350

Wind Avg = 0

Vane Value = 997

These it is your vane value

**I have certainly made mistakes, and for this reason I ask you to help me.**

////////////////////////////////// Wind direction ////////////////////////////////////////////////////////////

//-------------------------------------------------------------------------------------------------------------

void getWindDirection(void)

{

vane\_value = analogRead(A0);

Direction = map(vane\_value, 0, 1025, 0, 360); // **Are these value correct? It has to be 1023**

CalDirection = Direction + Offset;

if(CalDirection > 360)

CalDirection = CalDirection - 360;

if(CalDirection < 0)

CalDirection = CalDirection + 360;

 DirectionCheck();

//getHeading(CalDirection);

}

void DirectionCheck()

{

 if(vane\_value >= 2.266 && vane\_value < 2.534)

 wind\_avg = 0;

 else if(vane\_value >= 0.926 && vane\_value < 1.309)

 wind\_avg = 22.5;

 else if(vane\_value >= 1.309 && vane\_value < 1.488)

 wind\_avg = 45;

 else if(vane\_value >= 0.213 && vane\_value < 0.270)

 wind\_avg = 67.5;

 else if(vane\_value >= 0.270 && vane\_value < 0.301)

 wind\_avg = 90;

 else if(vane\_value >= 0 && vane\_value < 0.213)

 wind\_avg = 112.5;

 else if(vane\_value >= 0.408 && vane\_value < 0.596)

 wind\_avg = 135;

 else if(vane\_value >= 0.301 && vane\_value < 0.408)

 wind\_avg = 157.5;

 else if(vane\_value >= 0.789 && vane\_value < 0.926)

 wind\_avg = 180;

 else if(vane\_value >= 0.596 && vane\_value < 0.789)

 wind\_avg = 202.5;

 else if(vane\_value >= 1.933 && vane\_value < 2.032)

 wind\_avg = 225;

 else if(vane\_value >= 1.488 && vane\_value < 1.933)

 wind\_avg = 247.5;

 else if(vane\_value >= 2.860 && vane\_value < 3.047)

 wind\_avg = 270;

 else if(vane\_value >= 2.534 && vane\_value < 2.668)

 wind\_avg = 292.5;

 else if(vane\_value >= 2.668 && vane\_value < 2.860)

 wind\_avg = 315;

 else if(vane\_value >= 2.032 && vane\_value < 2.266)

 wind\_avg = 337.5;

 else if(vane\_value >= 2.266 && vane\_value < 2.534) // **Is this correct? No, it is not correct vane values**

 wind\_avg = 0;

 if (windSpeed > 0){

 DirectionAvg();

}

}

void DirectionAvg()

{

 int index = wind\_avg / 45; // **Is this correct? You dont need to change this**

 if ((index < 0) or (index > 7)) // **Is this correct? You dont need to change this**

 {exit;}

 windDirections[index]++;

}

int getWindDirectionMax()

{

 int max = windDirections[0];

 int index = 0;

 for (int i = 1; i < 8; i++) // **Is this correct? You dont need to change this**

 {

 if (max < windDirections[i])

 {

 max = windDirections[i]; // find max value

 index = i;

 }

 }

 return index \* 45; // return average wind direction // **Is this correct? You dont need to change this**

}

// Converts compass direction to heading

void getHeading(int direction) {

if(direction < 22)

Serial.print("N ");

else if (direction < 67)

Serial.print("NE ");

else if (direction < 112)

**Is these correct? You dont need to change this**

Serial.print("E ");

else if (direction < 157)

Serial.print("SE ");

else if (direction < 212)

Serial.print("S ");

else if (direction < 247)

Serial.print("SW ");

else if (direction < 292)

Serial.print("W ");

else if (direction < 337)

Serial.print("NW ");

else

Serial.print("N ");

}

////////////////////////////////////////////////////////////////////////////////////////////////////////

I thank you very, very much for the help!

Best wishes

Giuseppe