

```

int val;
long last=0;
int stat=LOW;
int stat2;
int contar=0;
int displayrpm;

int sens=75; // this value indicates the limit reading between dark and light,
             // it has to be tested as it may change according on the
             // distance the leds are placed.
int nPalas=1; // the number of blades of the propeller

int milisegundos=500; // the time it takes each reading

#include <LiquidCrystal.h>

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

void setup()
{
  Serial.begin(9600);
  pinMode(13,OUTPUT);
  lcd.begin(16,2);
}

void loop()
{
  val=analogRead(0);
  if(val<sens)
    stat=LOW;
  else
    stat=HIGH;
  digitalWrite(13,stat); //as iR light is invisible for us, the led on pin 13
                        //indicate the state of the circuit.

  if(stat2!=stat){ //counts when the state change, thats from (dark to light) or
                  //from (light to dark), remmember that IR light is invisible for us.
    contar++;
    stat2=stat;
  }
  if(millis()-last>=milisegundos){
    double rps=((double)contar/nPalas)/2.0*1000.0/milisegundos;
    double rpm=((double)contar/nPalas)/2.0*60000.0/(milisegundos);
    displayrpm=rpm;
    Serial.print((contar/2.0));Serial.print(" RPS ");Serial.print(rps);
  }
}

```

```
Serial.print(" RPM");Serial.print(rpm);Serial.print(" VAL ");Serial.println(val);
contar=0;
last=millis();
Serial.print(" MPH ");
Serial.print(rpm*0.0080622311);

LCDPrint ();
}
}

void LCDPrint ()
{
lcd.clear ();
lcd.setCursor (0,0);
lcd.print("MPH");
lcd.setCursor (0,1);
lcd.print(displayrpm*0.0080622311 );
lcd.setCursor (8,0);
lcd.print("RPM");
lcd.setCursor (8,1);
lcd.print(displayrpm);

return;
}
```