

AUXILIAR 5

Mecatrónica - ME4250

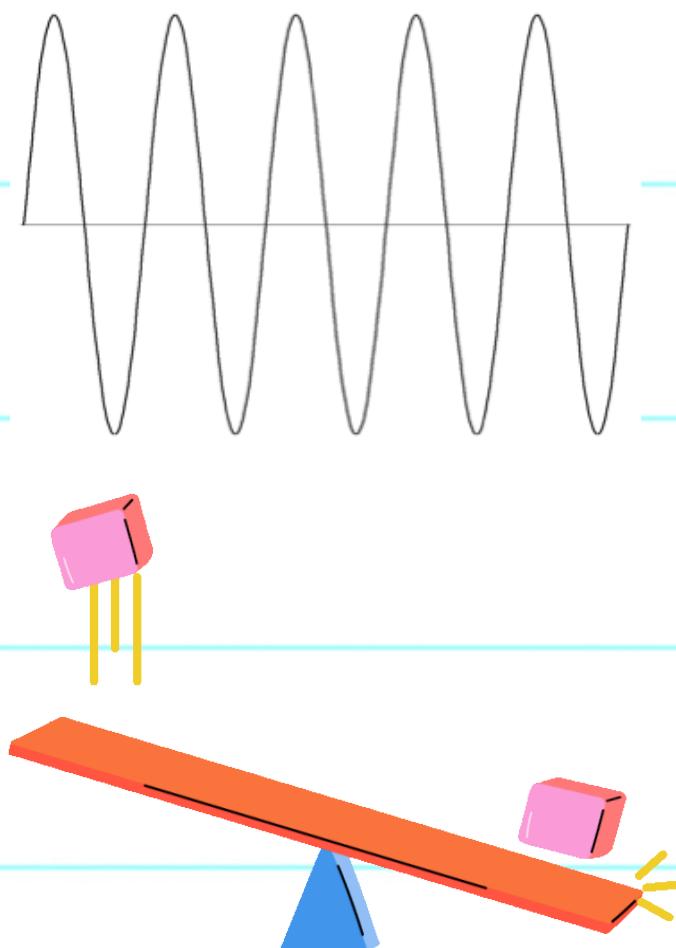
Profesor: Harold Valenzuela

Auxiliares: Francisco Cáceres - Fernando Navarrete



SENSORES

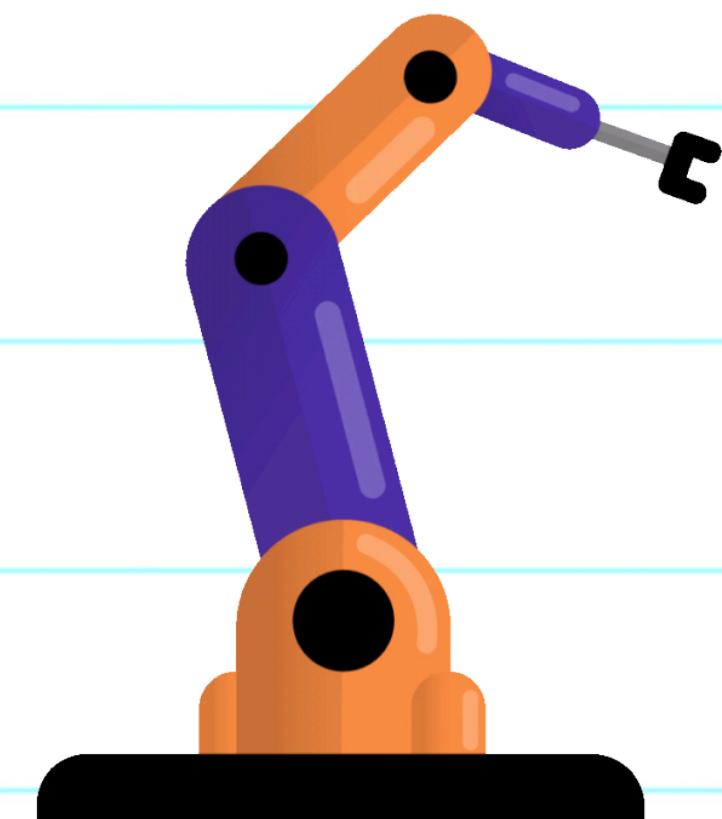
SEÑALES, INFORMACIÓN



SENSOR



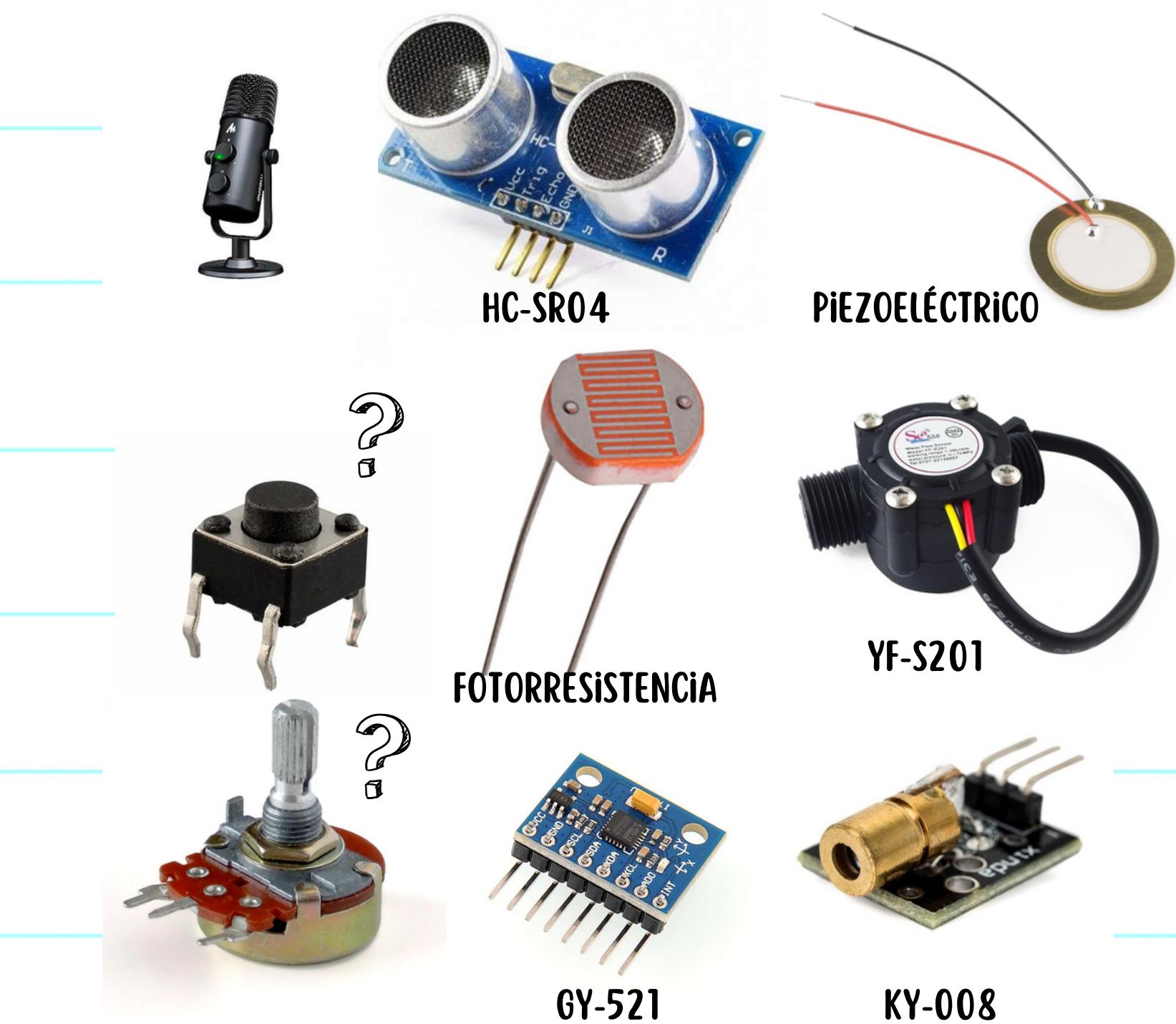
ACTUACIÓN



SPOILER

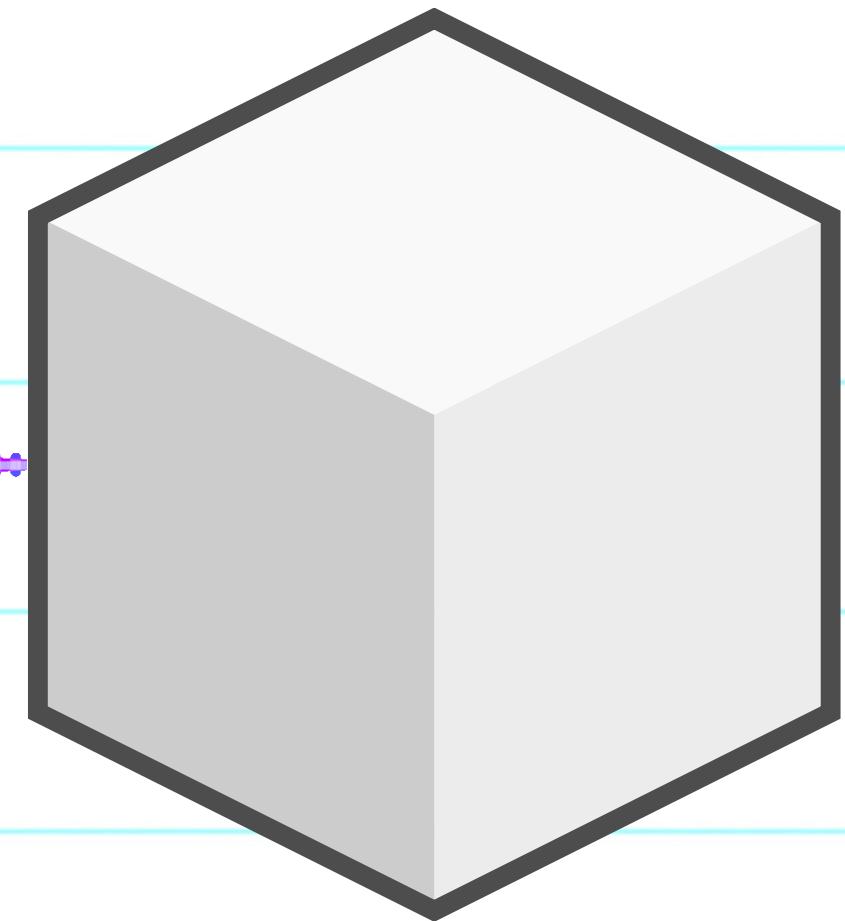
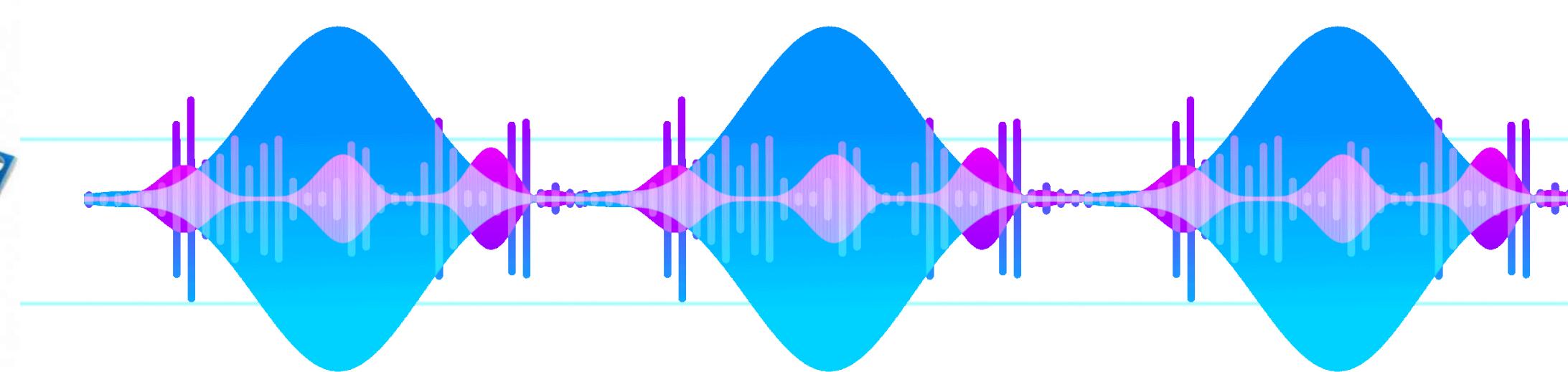
TIPOS DE SENSORES

- SENSORES DE PROXIMIDAD
- SENSORES DE TEMPERATURA
- SENSOR DE HUMEDAD
- SENSORES DE LUZ
- SENSORES DE POSICIÓN
- SENSORES DE VELOCIDAD/ACELERACIÓN
- SENSORES DE PRESIÓN
- SENSORES DE SONIDO Y VIBRACIONES
- SENSORES DE FLUJO
- SENSOR DE IMAGEN



SENSORES

ECO



SENSOR PROGRAMABLE



PINES DIGITALES
(0-1 O LOW-HIGH)



```
INT TRIGGER = 2;  
INT ECHO = 3;  
  
VOID SETUP():  
{  
PINMODE(TRIGGER, OUTPUT); //PIN COMO SALIDA  
PINMODE(ECHO, INPUT); //PIN COMO ENTRADA  
DIGITALWRITE(TRIGGER, LOW); //INICIALIZAMOS EL PIN CON 0  
}  
VOID LOOP():  
{  
DIGITALWRITE(TRIG,HIGH); //EMITIR PULSO DURANTE 50 MS  
DELAY(50);  
DIGITALWRITE(TRIG,LOW); //DEJA DE EMITIR PULSO  
TIEMPO=PULSEIN(ECHO,HIGH); //LEER EL PULSO, SE RECIBE UN TIEMPO  
DISTANCIA=TIEMPO/58.2; //SE DETERMINA LA DISTANCIA RECORRIDAS EN  
CM DE ACUERDO AL TIEMPO DE SALIDA Y LLEGADA DEL PULSO  
}
```

DATASHEET HC-SR04



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Part # HCSR04

Preview **PDF** Download HTML Chat AI Beta

HCSR04 Datasheet (PDF) - List of Unclassified Manufacturers

Part #	HCSR04
Description	Ultrasonic Sensor
File Size	515.73 Kbytes
Html View	1 2 3 4 5 6
Manufacturer	ETC2 [List of Unclassified Manufacturers]
Direct Link	
Logo	

Part #: AK2B/AK3B Series
Ultra-Low-Jitter Differential Oscillators  **ABRACON**  **DigiKey**
Authorized Distributor

Description: • 54 fs typ. (LVDS at 156.25 MHz)
• 100 MHz to 250 MHz range
• ±20 ppm stability over -40°C to +85°C

 [Download Datasheet](#)

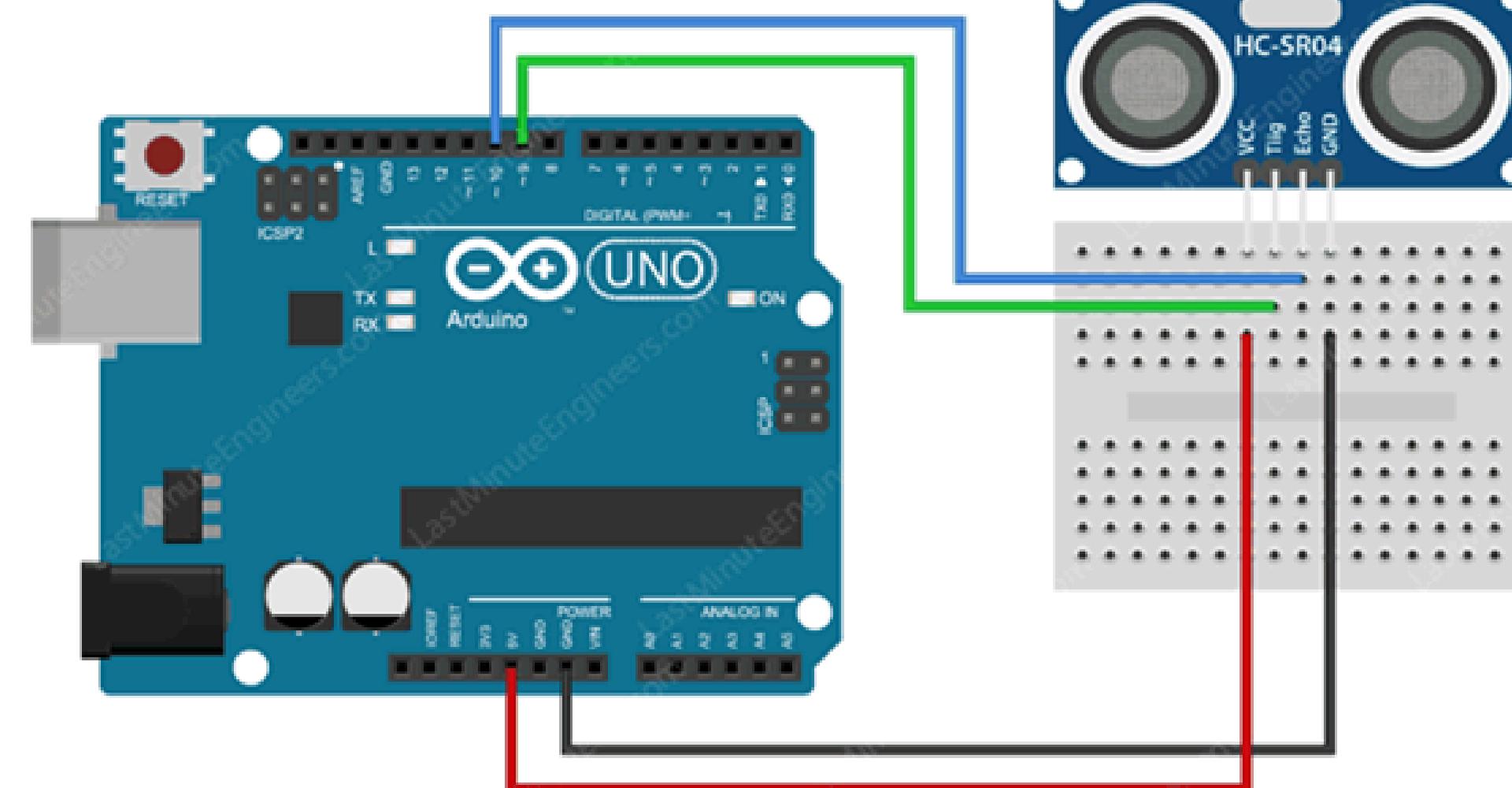
DATASHEET HC-SR04

HC-SR04 Y ARDUINO



HC-SR04

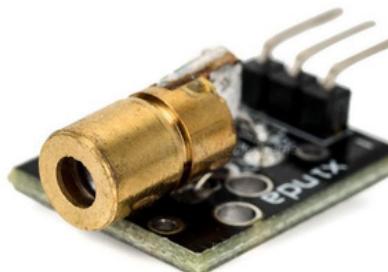
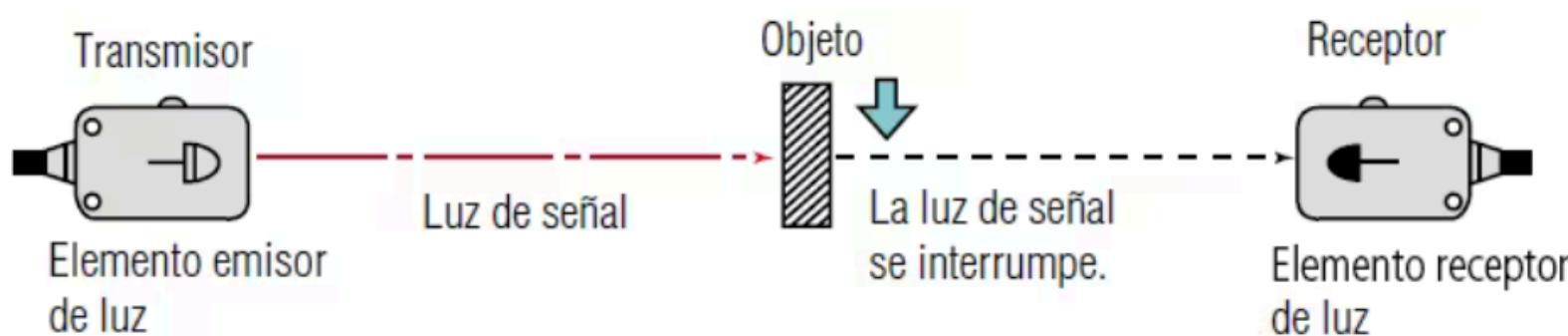
Last Minute
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GUIA

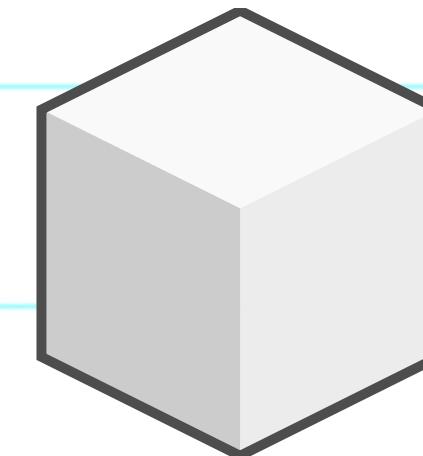
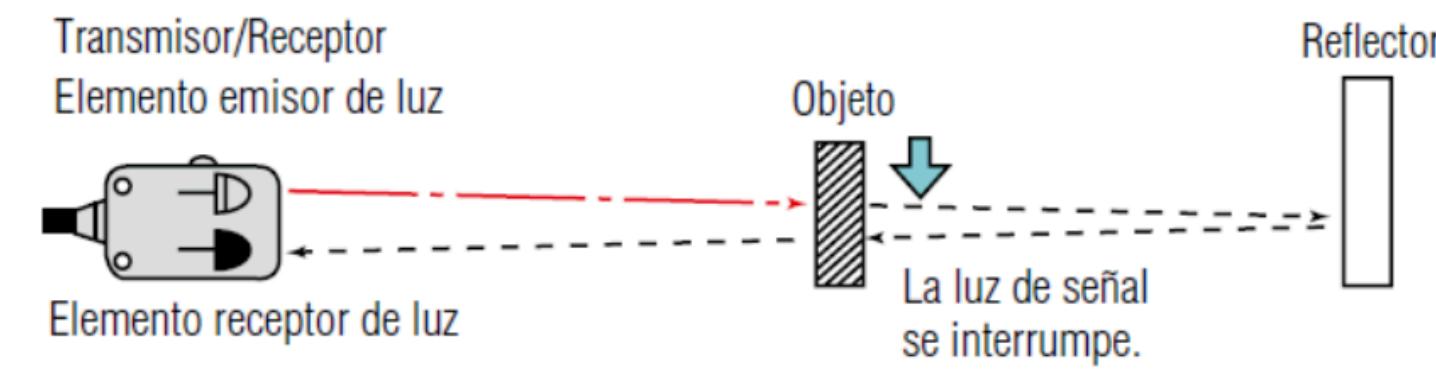
SENSORES

Modelo de barrera

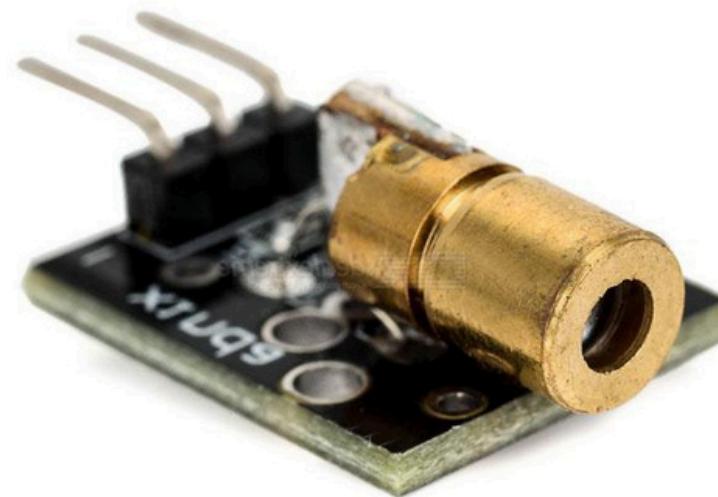


KY-008

Modelo retroreflectivo



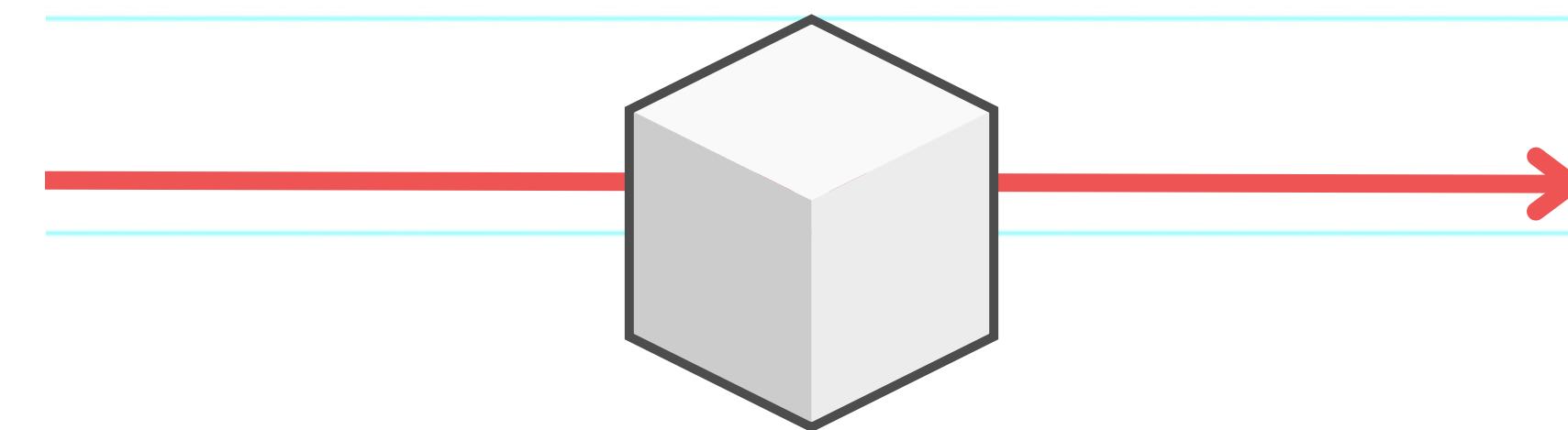
SENSOR PROGRAMABLE



KY-008

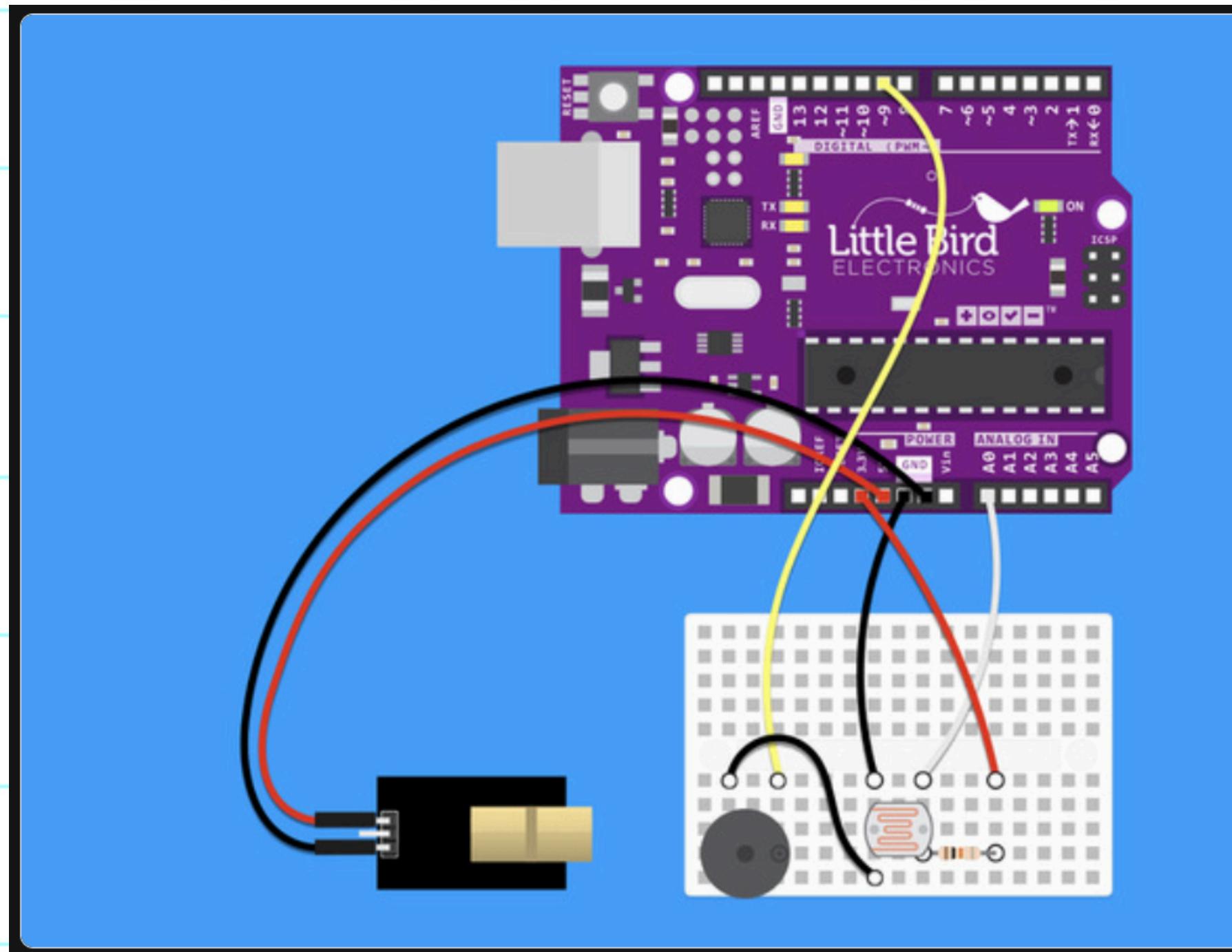
PIN ANALÓGICO
(0-1023)

MODELO DE BARRERA



FOTORRESISTENCIA

SENSOR PROGRAMABLE



[LINK PROYECTO](#)

```
INT LDR = 0; //ANALOG PIN TO WHICH LDR IS CONNECTED
INT LDR_VALUE = 0; //VARIABLE TO STORE LDR VALUES
CONST INT BUZZER = 9;

VOID SETUP() {
    SERIAL.BEGIN(9600); //START THE SERIAL MONITOR
}

VOID LOOP() {
    LDR_VALUE = ANALOGREAD(LDR); //READS THE LDR VALUES
    SERIAL.PRINTLN(LDR_VALUE); //PRINTS THE LDR VALUES TO SERIAL
    MONITOR
    DELAY(100); //WAIT

    IF (LDR_VALUE < 600) {
        TONE(BUZZER, 1000);
        DELAY(3000); // 3 SECONDS OF BEEPING TO TELL YOU THE TRIP WIRE
        HAS BEEN BROKEN
    } ELSE {
        NOTONE(BUZZER);
    }
}
```

SENSORES

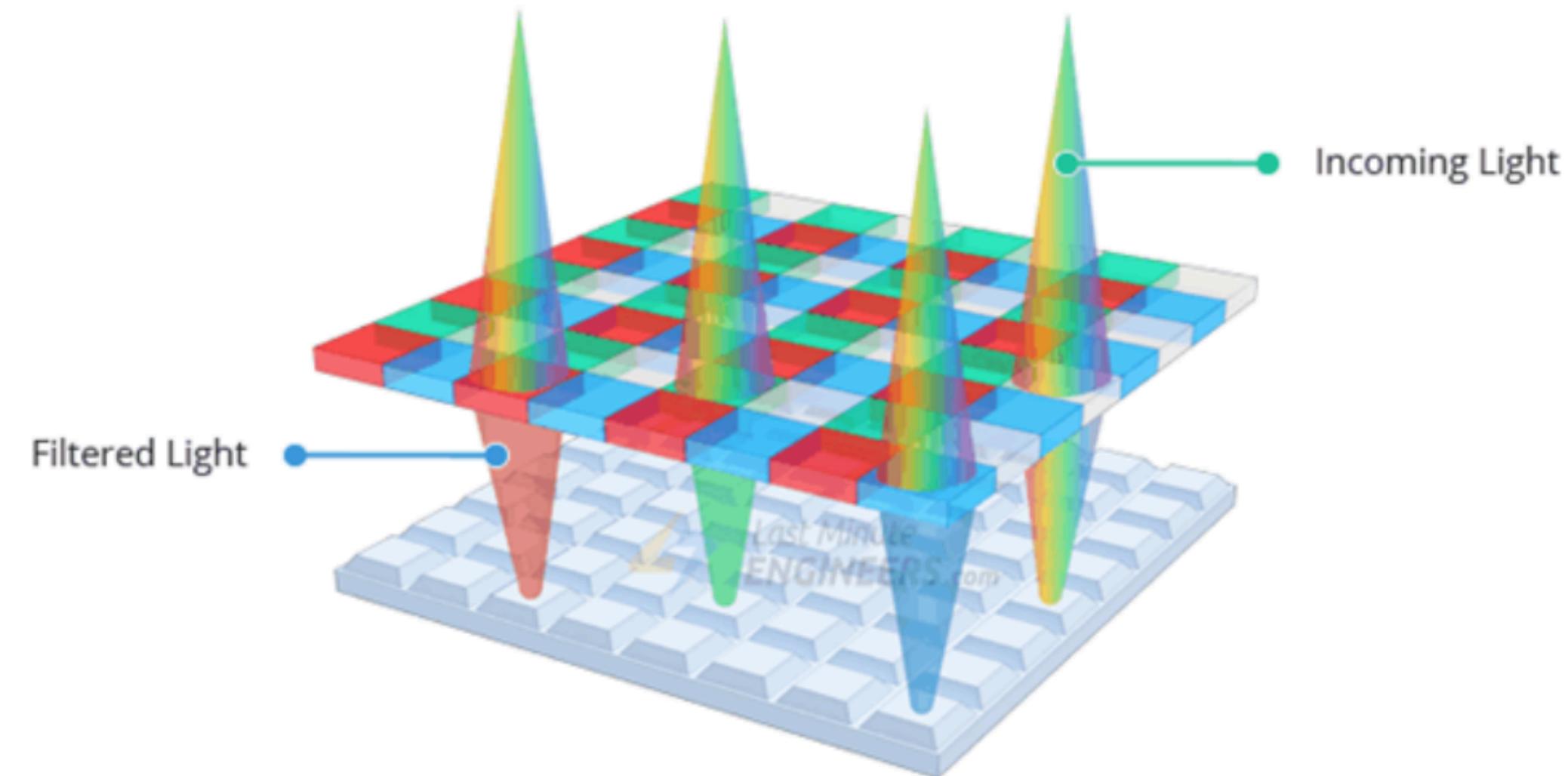


Sensor TCS3200 y Arduino

SENSORES

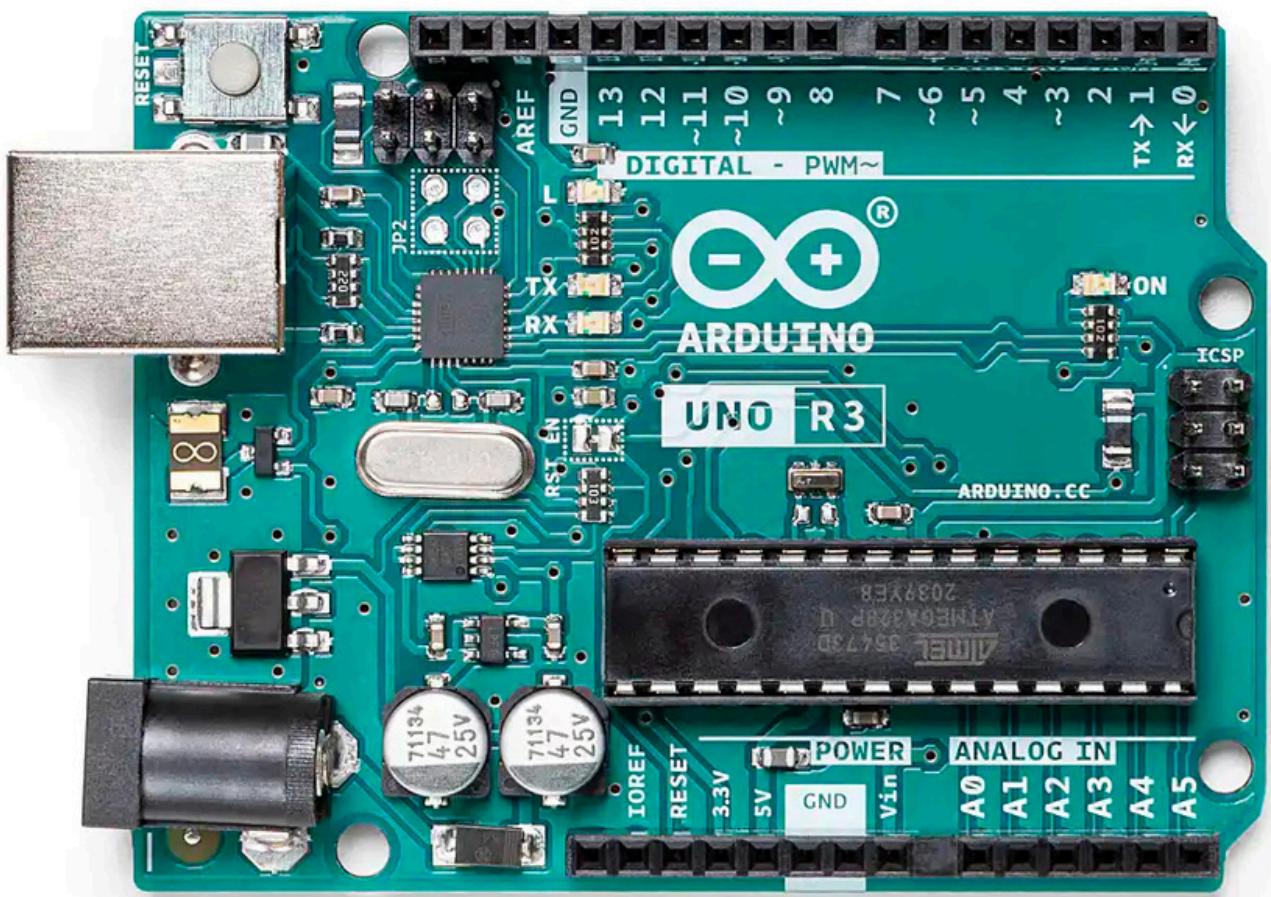


TCS3200

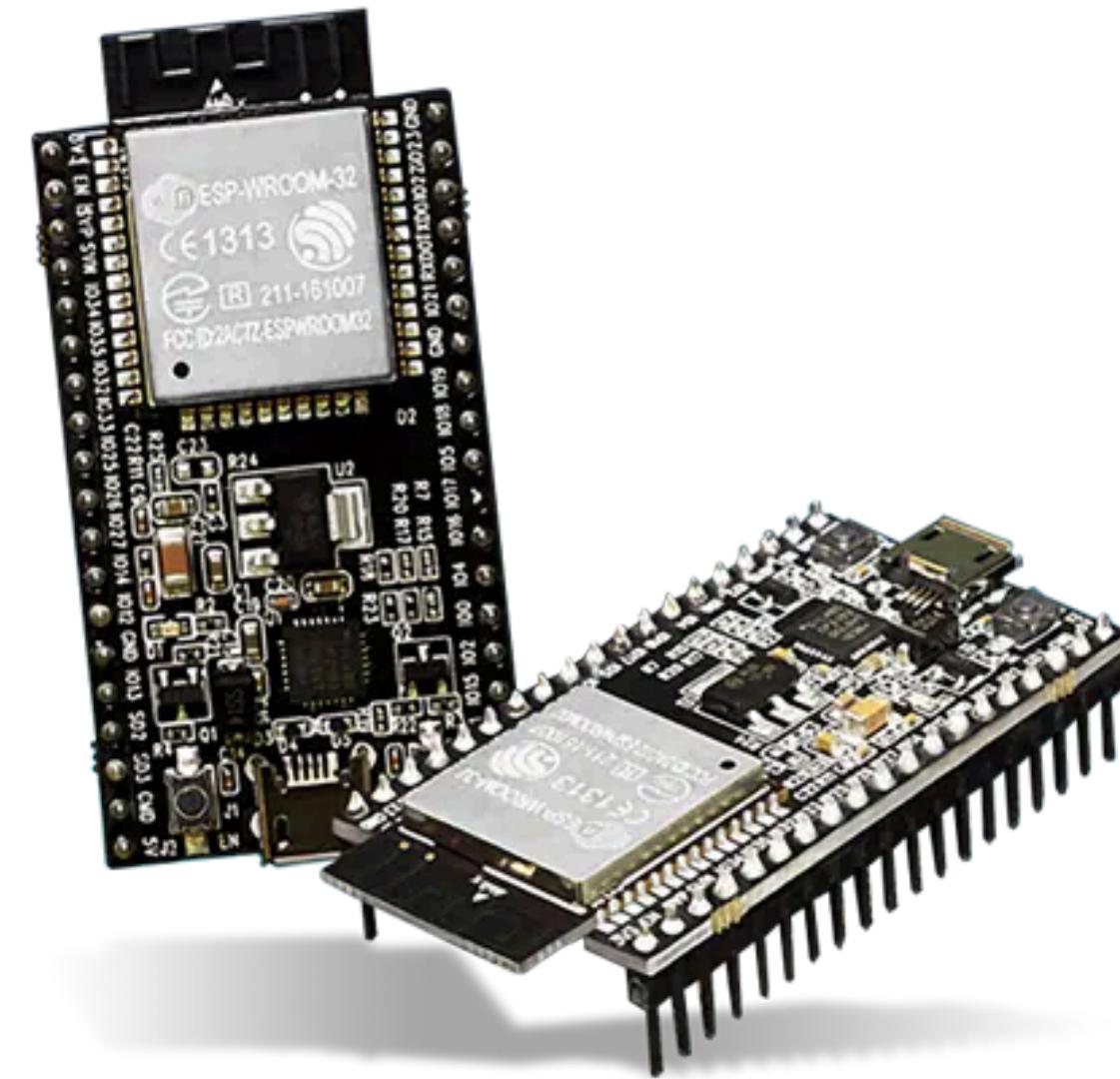


Sensor TCS3200 y Arduino

RESOLUCIÓN

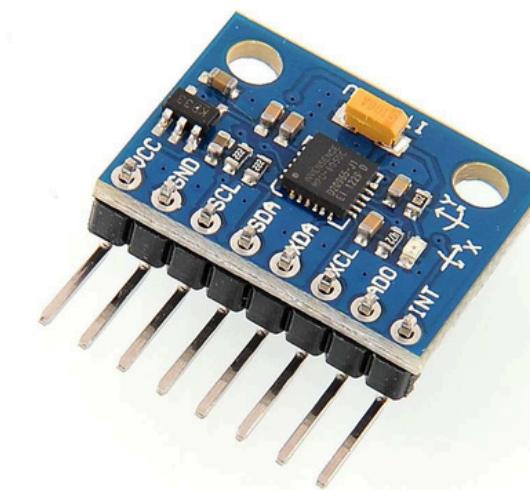
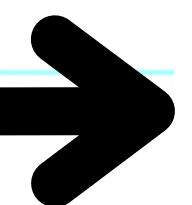
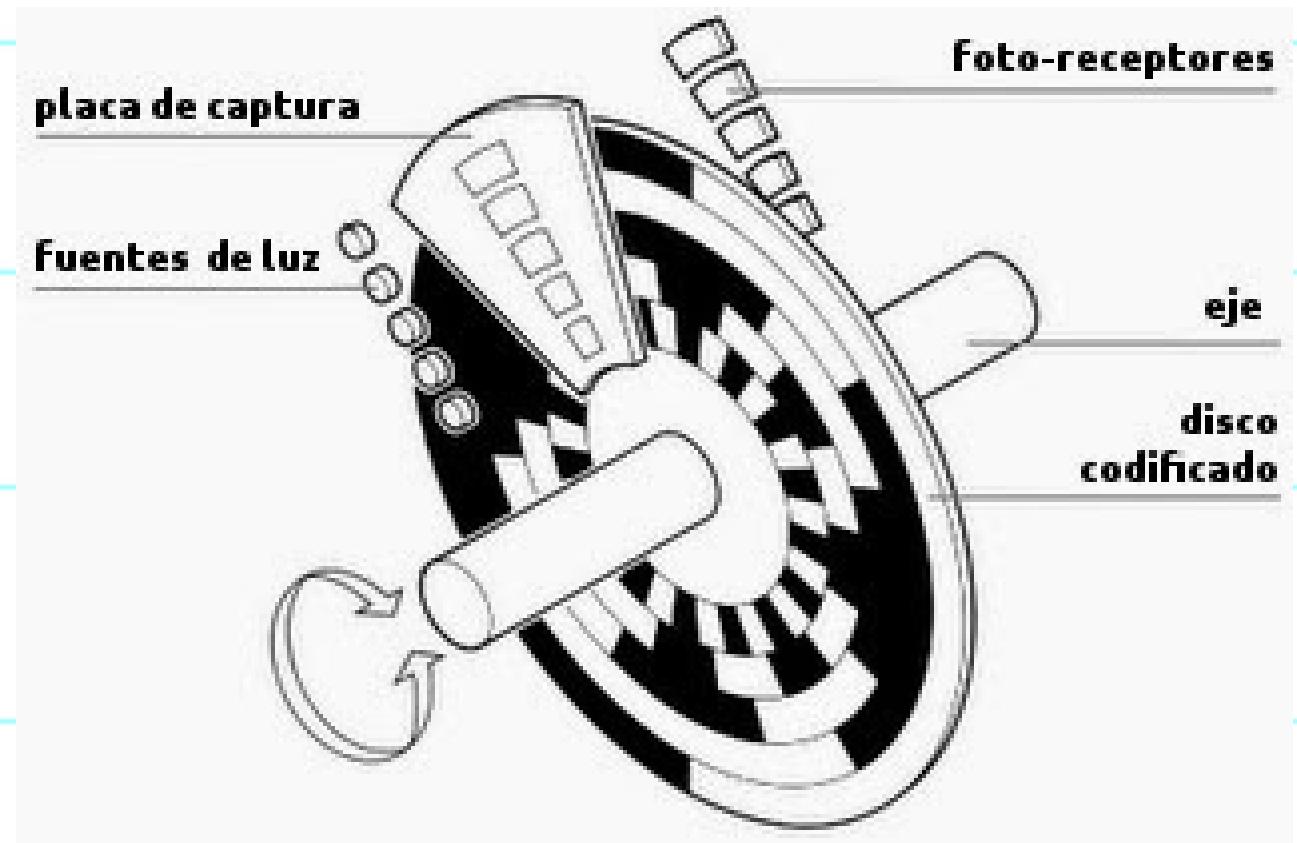


RESOLUCIÓN ARDUINO UNO R3:
1024 (10BITS)



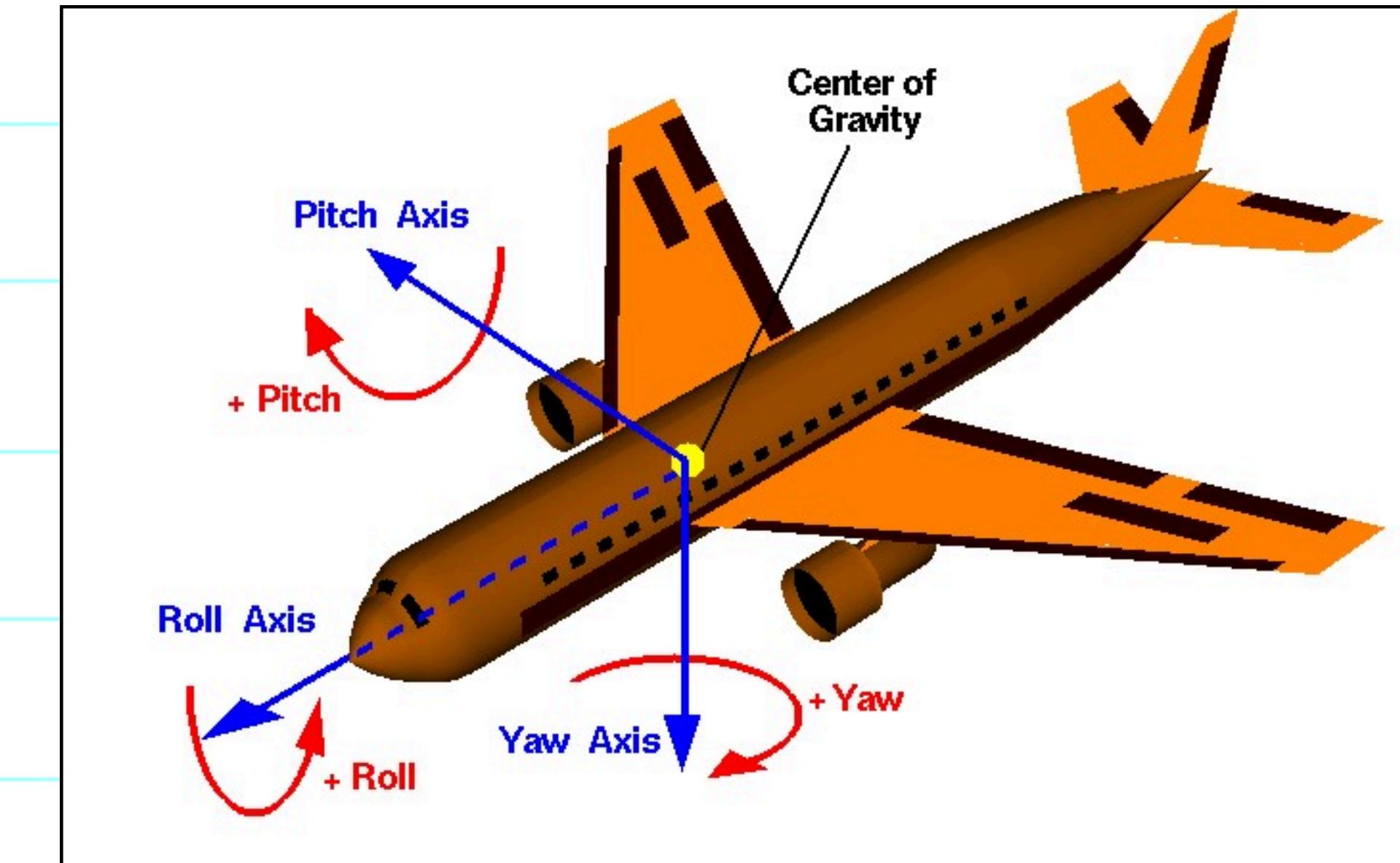
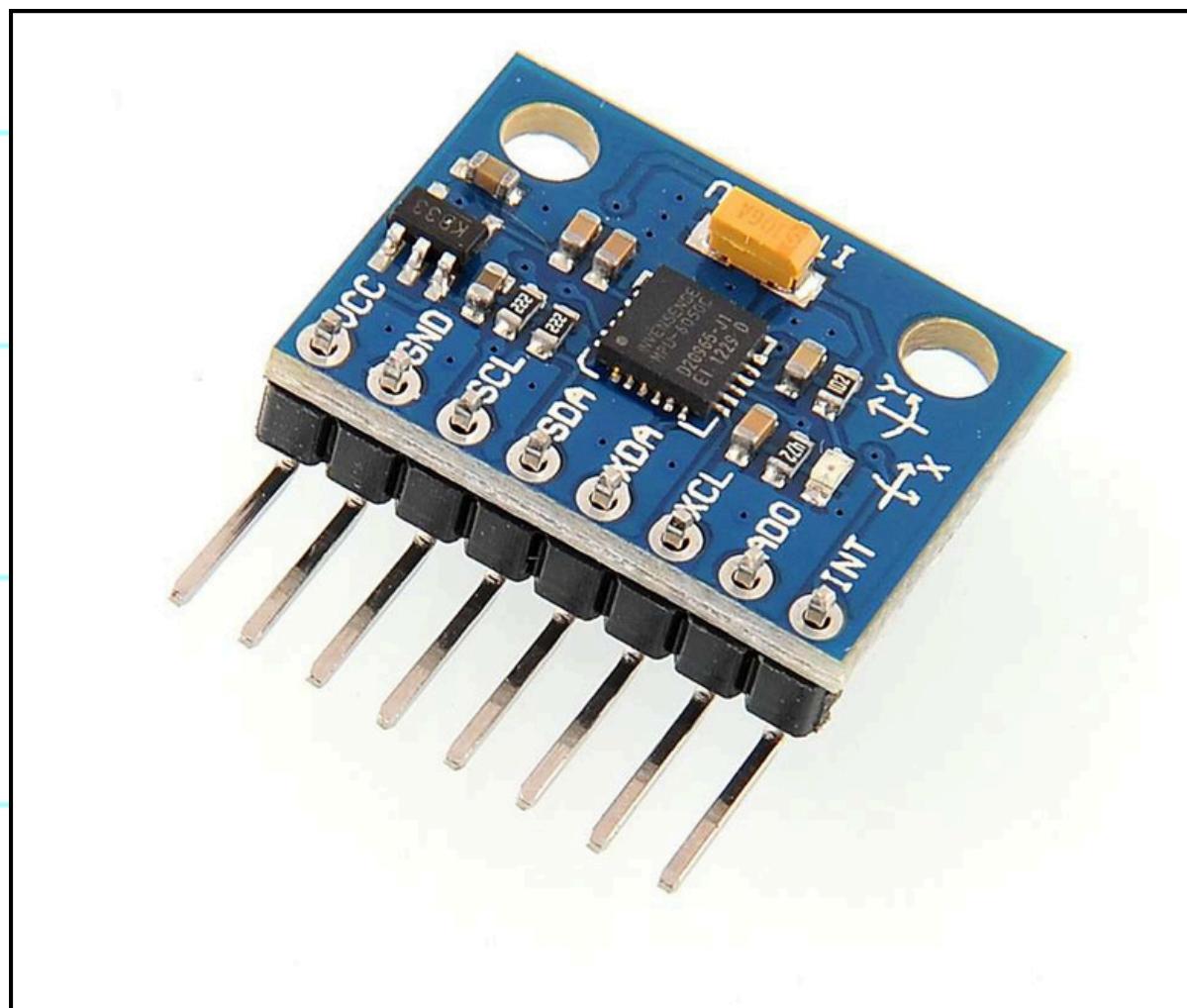
RESOLUCIÓN ESP32: 4096
(12BITS)

SENsoRES



GY-521

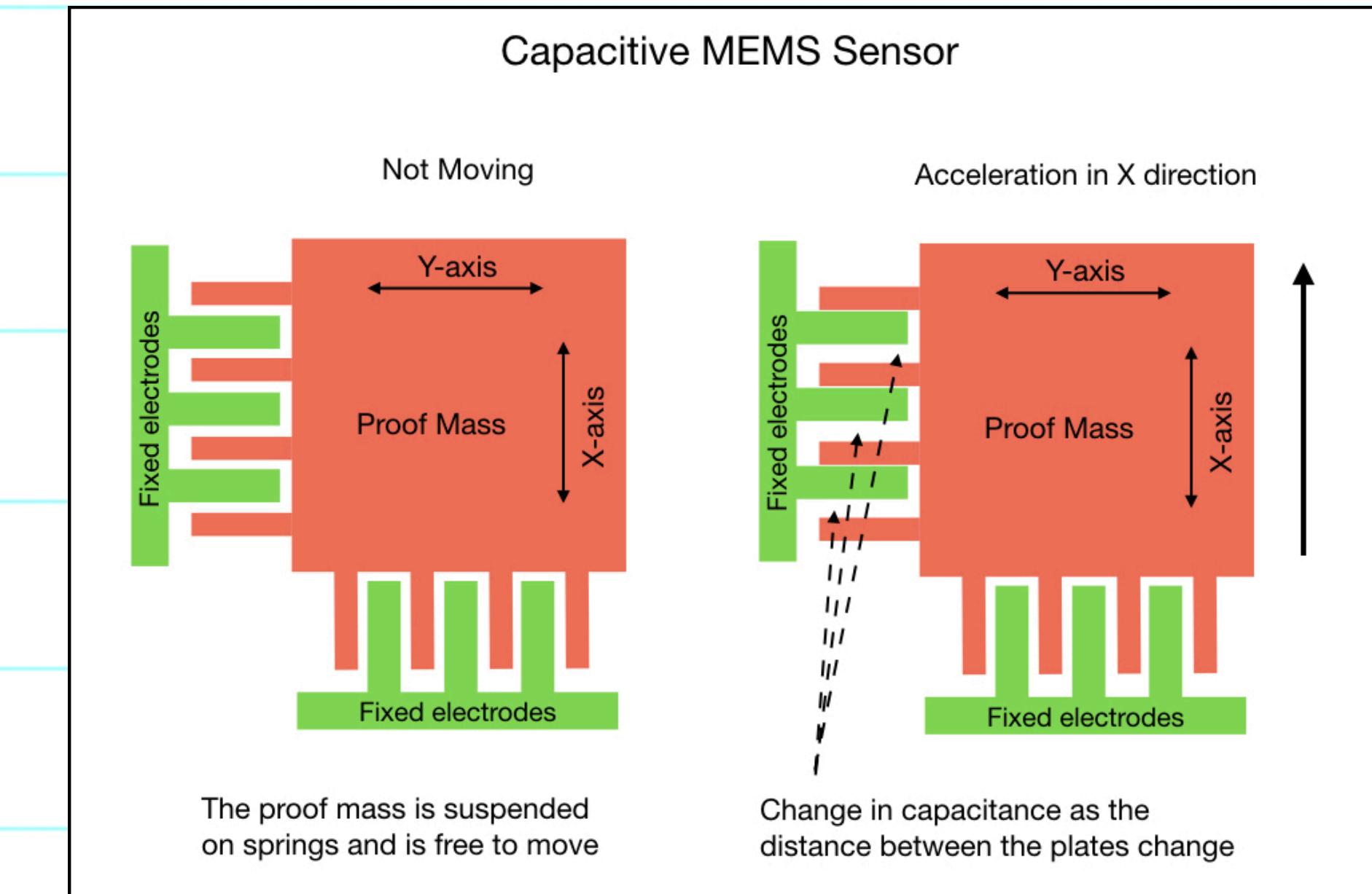
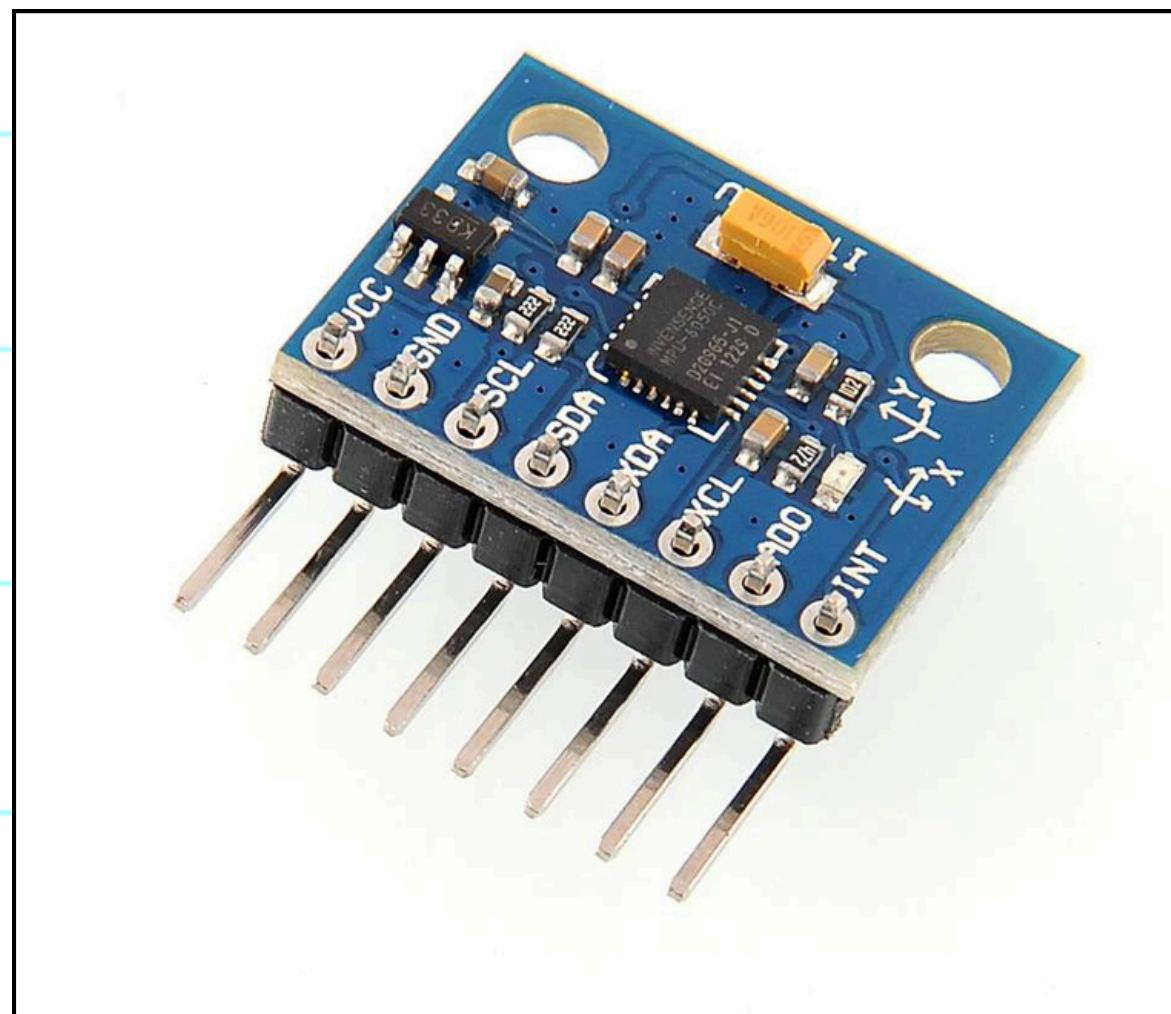
SENORES



GY-521

MOVIMIENTOS MEDIDOS

SENSORES



GY-521

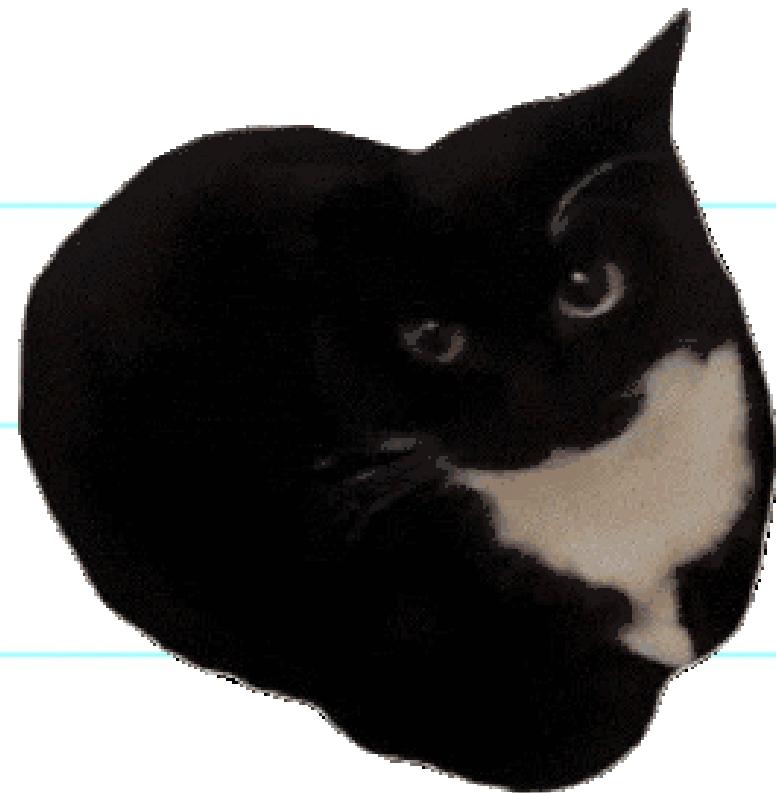
COMO FUNCIONA

¿CUÁL USAR?

1. DETERMINAR VARIABLES A MEDIR (TEMPERTATURA, PRESIÓN, POSICIÓN, VELOCIDAD, ETC).
2. VARIABLES QUE QUIERO CONTROLAR O CAMBIAR (CONTROL AUTOMÁTICO).
3. ¿QUÉ PRECISIÓN NECESITO? ¿DONDE VOY A MEDIR?



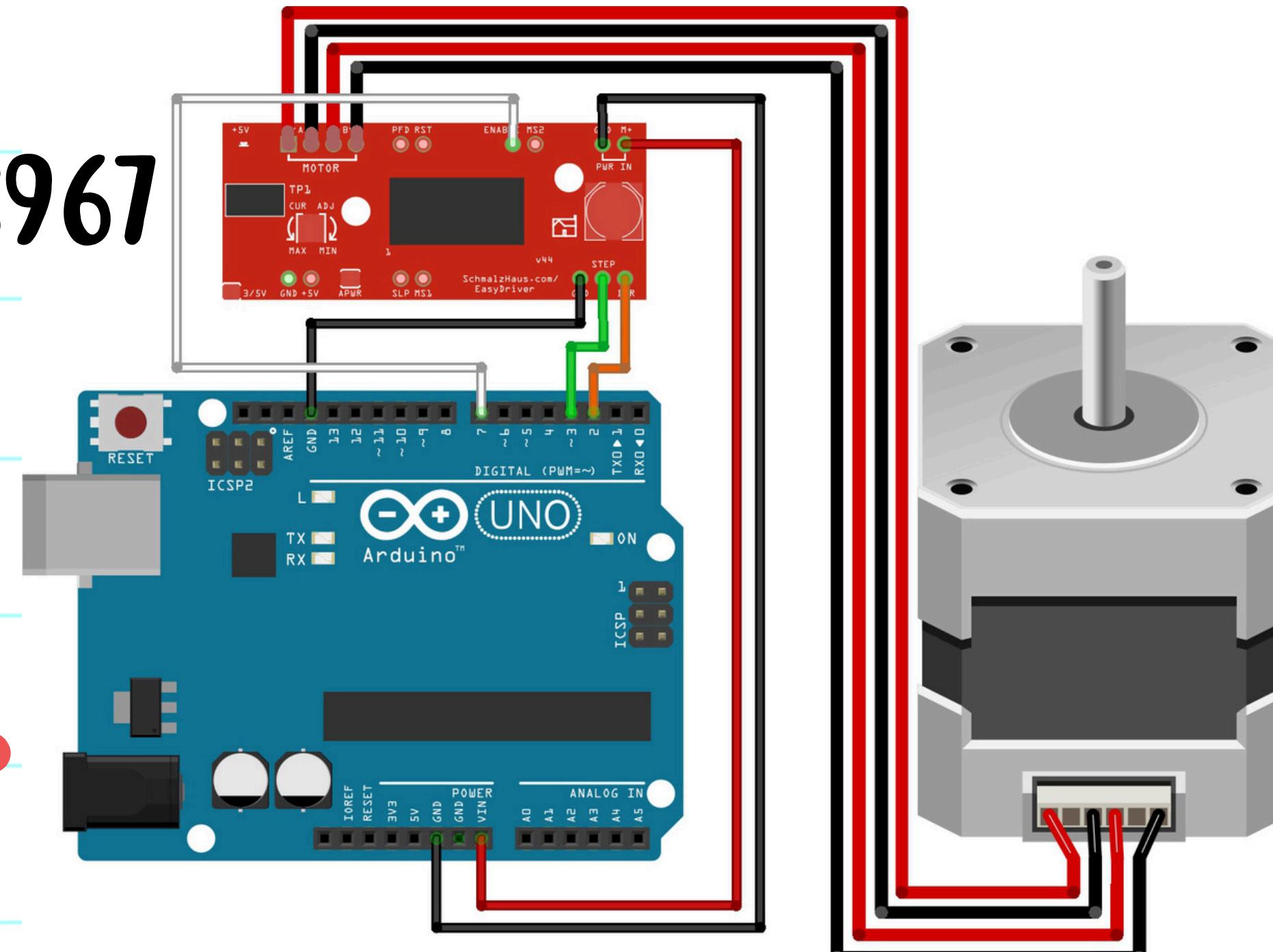
¡GRACIAS!



NEMA17 + EASY DRIVER A3967

EASYDRIVER A3967

iWAT!



LINK

NEMA 17