



Competencia

Robótica



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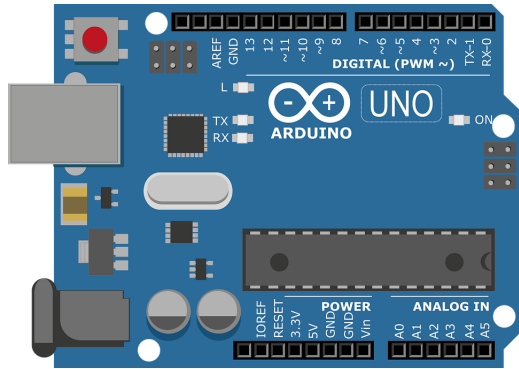
Capacitación sobre el robot seguidor de línea



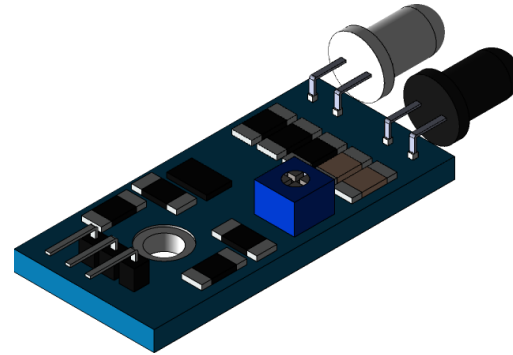
Tecnoparque
Nodo Atlántico

Requisitos Mínimos

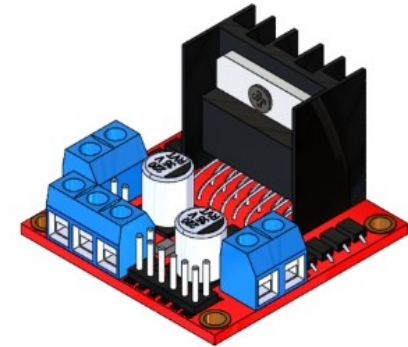
- Controlador



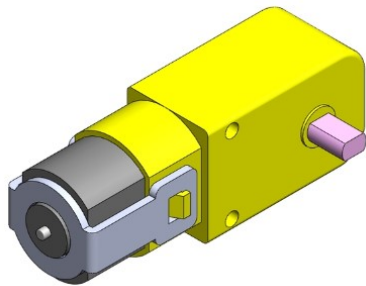
- Sensores de Infrarrojos



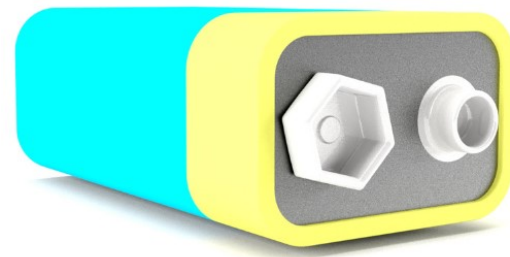
- Controlador de motor



- Motores



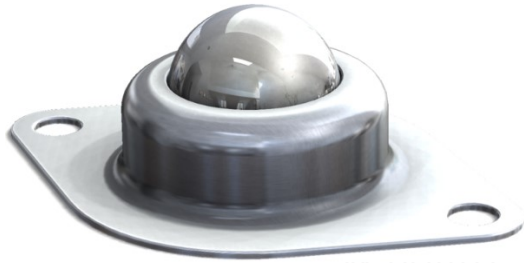
- Baterías



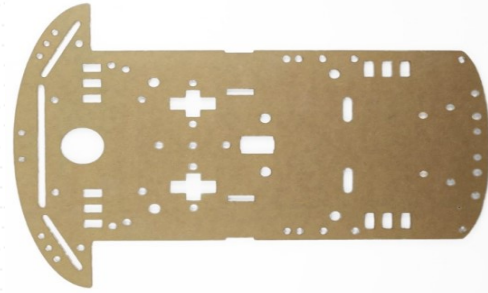
- Llantas



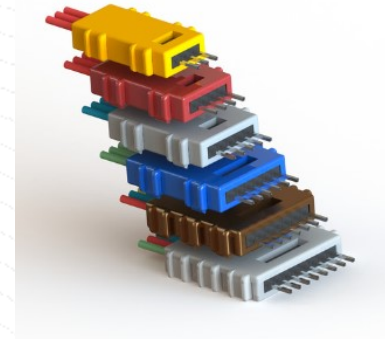
- Rueda loca



- Chasis del carro



- Cableado

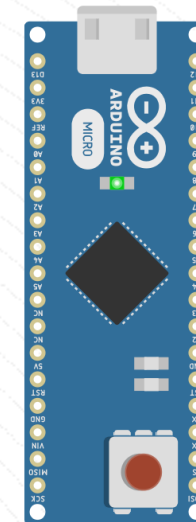
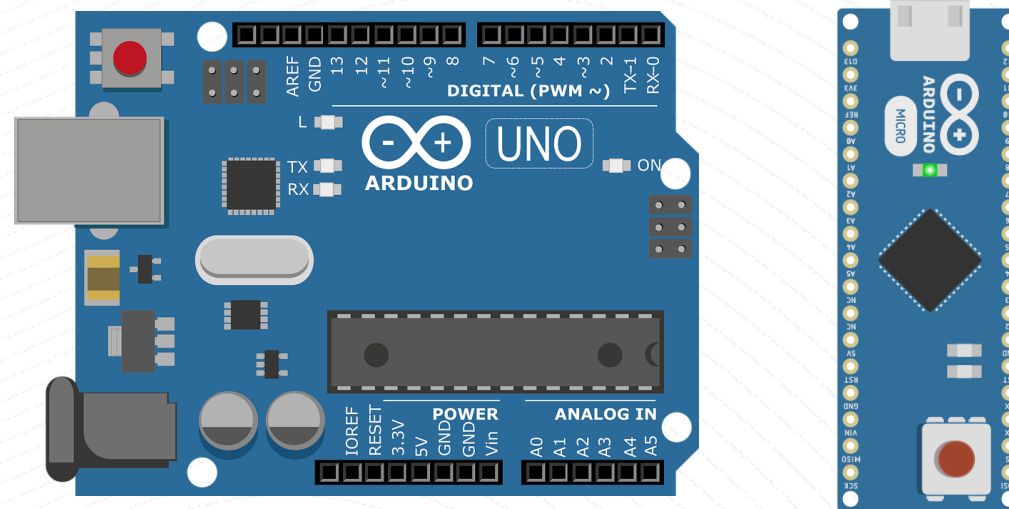


- Chasis de batería

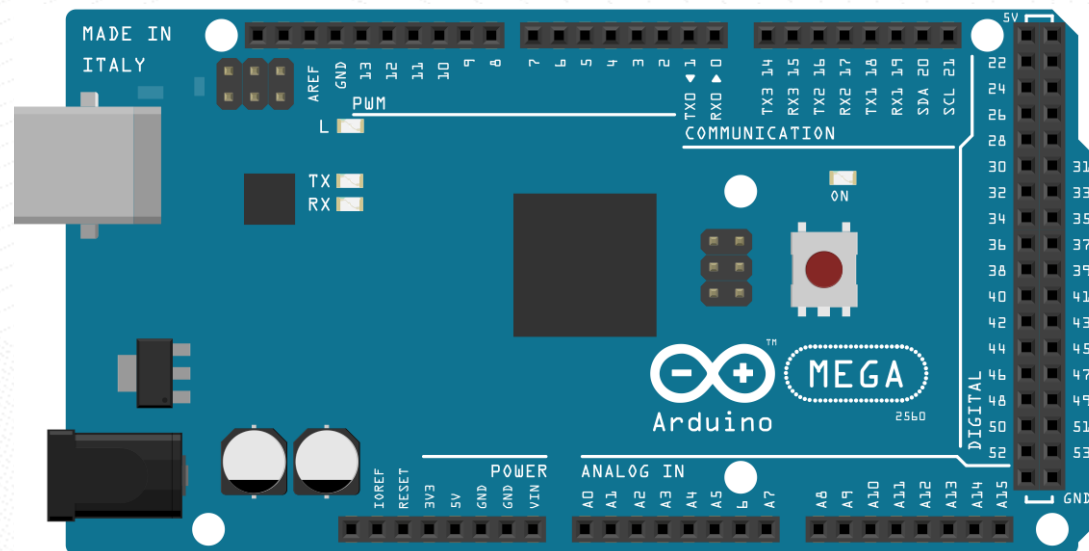


- Firmware





Controlador



Made with Fritzing.org



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Arduino Blocks

The screenshot shows the homepage of the Arduino Blocks website. At the top left is the logo "arduino blocks" with a search bar "Buscar proyectos". On the top right, there are links for "Recursos" and "Iniciar sesión" with a Spanish flag icon. Below the header, there are two buttons: "¡Probar ahora!" and "Iniciar sesión". The main content is divided into three columns:

- Por donde empezar...**: Features a video thumbnail for "AB-Connector v5" showing code blocks and a hardware diagram.
- Robots & Kits**: Features a video thumbnail for "NEW!!! ESP32 STEAMakers" with the text "Un nuevo referente en robótica educativa" and "AHORA EL LÍMITE ESTÁ EN TU IMAGINACIÓN".
- Enlaces**: Contains social media icons for Facebook, YouTube, and Telegram, with the text "Tweeter".

At the bottom, there are three navigation buttons: "Plataformas soportadas...", "Colaborador & Distribuidor Oficial", and "Libros & Documentación".

<http://www.arduinooblocks.com/>

Firmware

Setup() // Inicializar



Loop() // Bucle



digitalWrite // Escribir digital pin



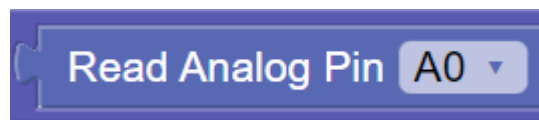
digitalRead // Leer digital pin



analogWrite // Escribir analógica pin



analogRead // Leer analógica pin



IF



Comparadores

Igual que ==

Menor que >

Mayor que <

Mayor igual que >=

Menor igual que <=

Diferente de !=

Condiciones

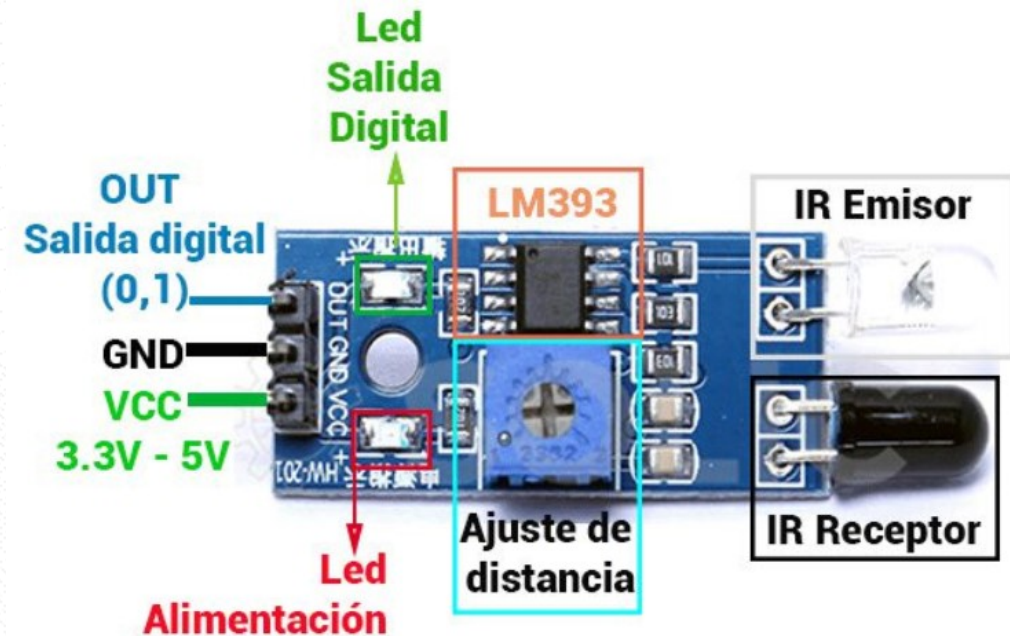
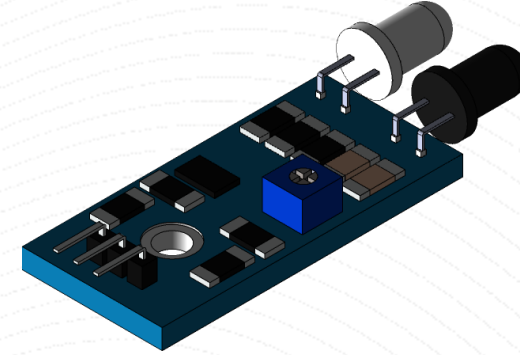
Y &&

O ||

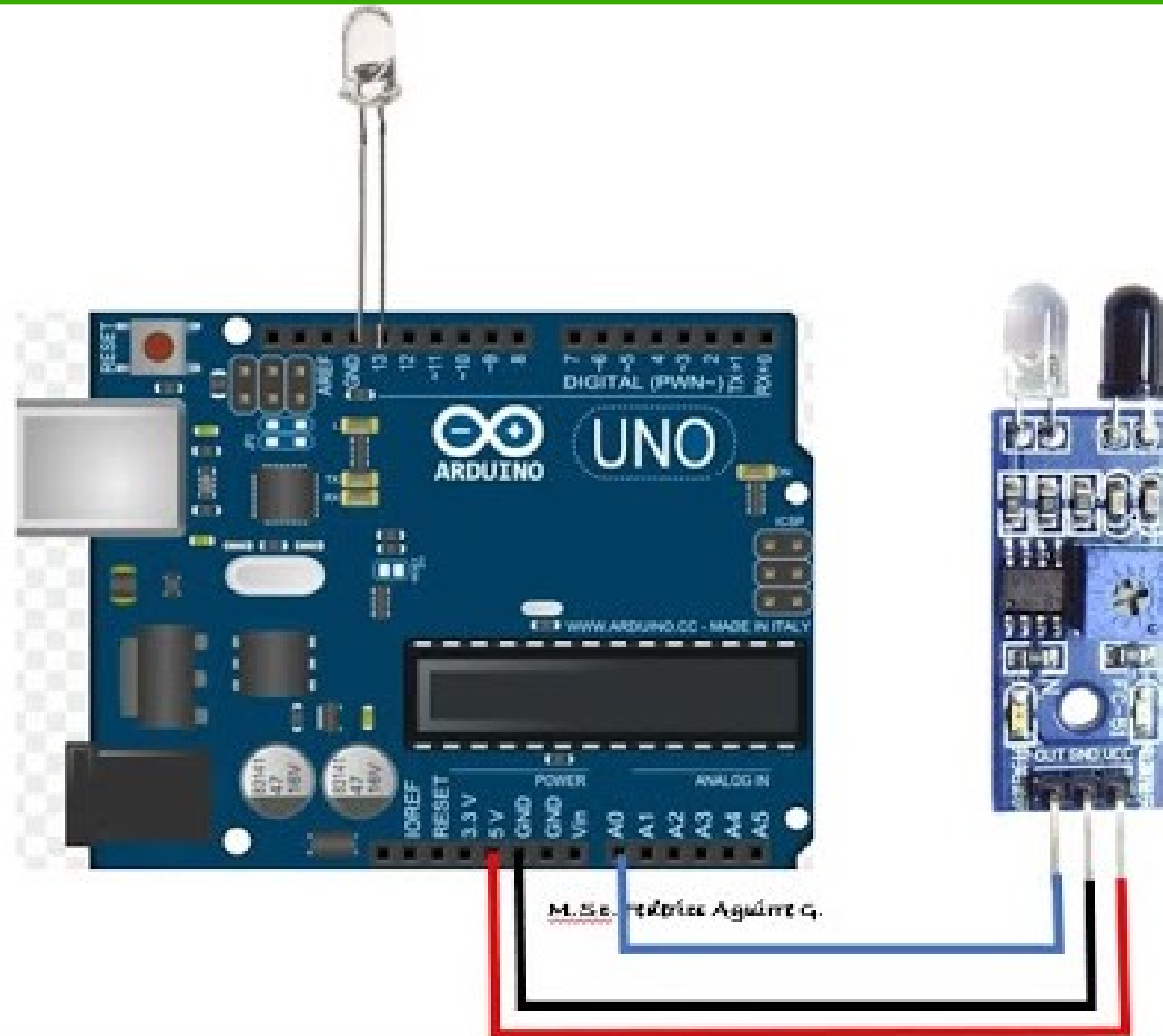
NO !



Sensor Infrarrojo



Conexiones



Código

```
int infrarrojo=A0;
int led=13;
int valor=0;

void setup(){
  pinMode(infrarrojo, INPUT);
  pinMode(led, OUTPUT);
}

void loop(){
  valor = digitalRead(infrarrojo);
  if (valor == HIGH) {
    digitalWrite(led, HIGH);
  }else{
    digitalWrite(led, LOW);
  }
  delay(500);
}
```

Setup

Set LED = 13

Loop

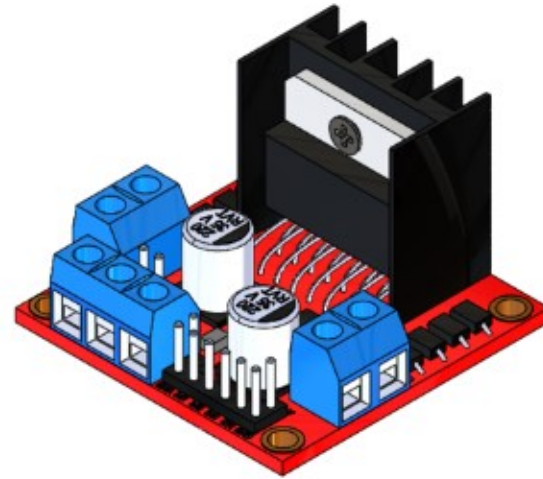
+ if Read Digital Pin A0

do Write Digital Pin LED On

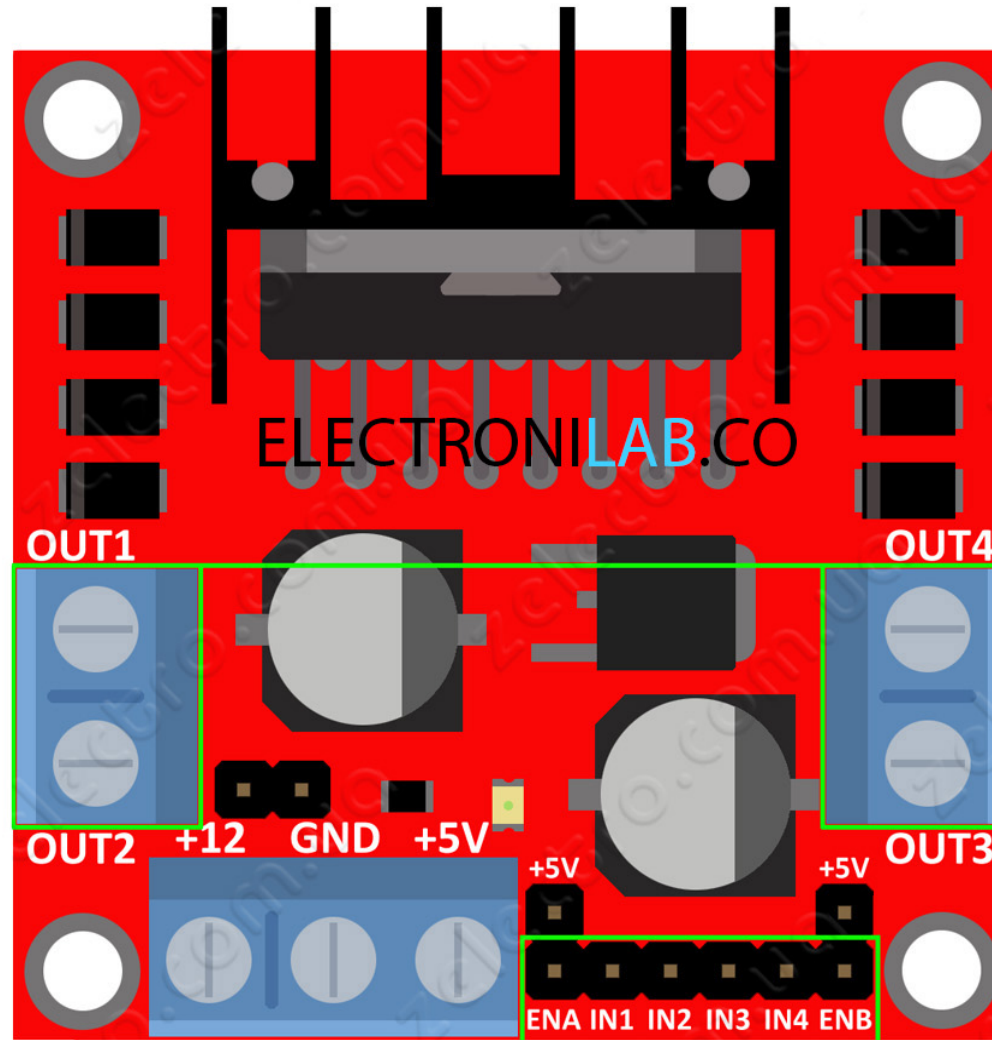
else Write Digital Pin LED Off



Controlador Del Motor



Características



Salidas inabilitadas



Salidas habilitadas

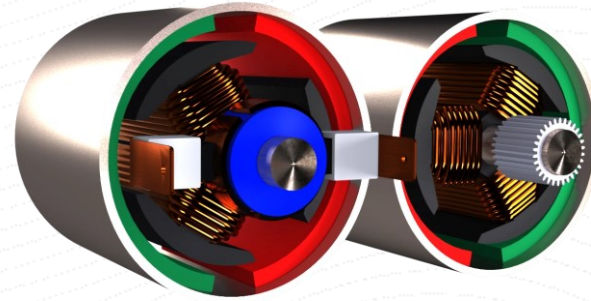


Salidas para motores

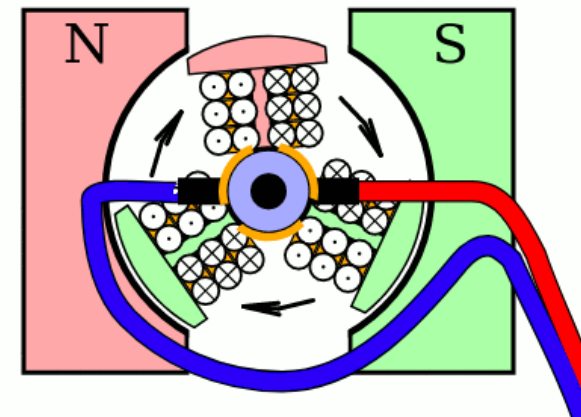
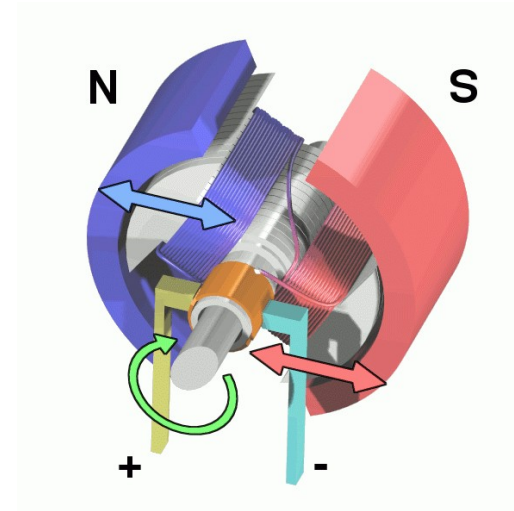
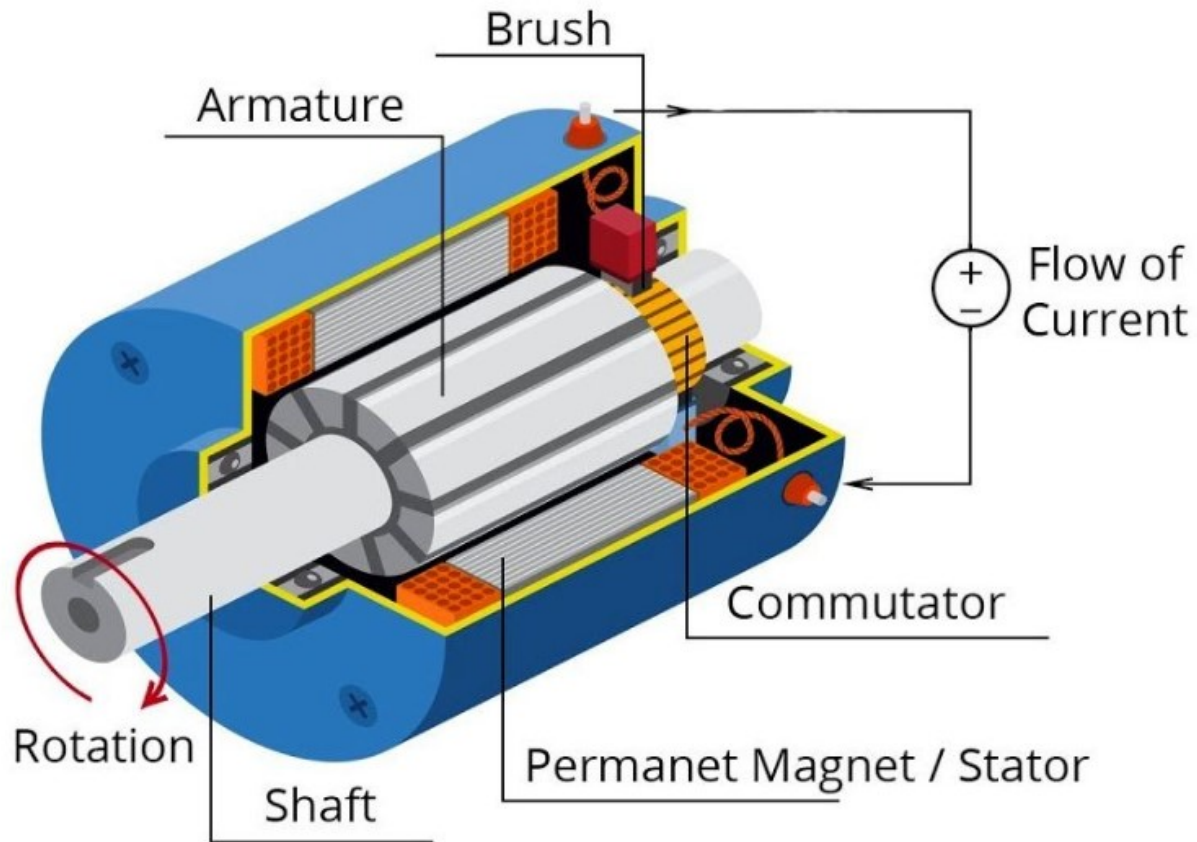
Terminales de control



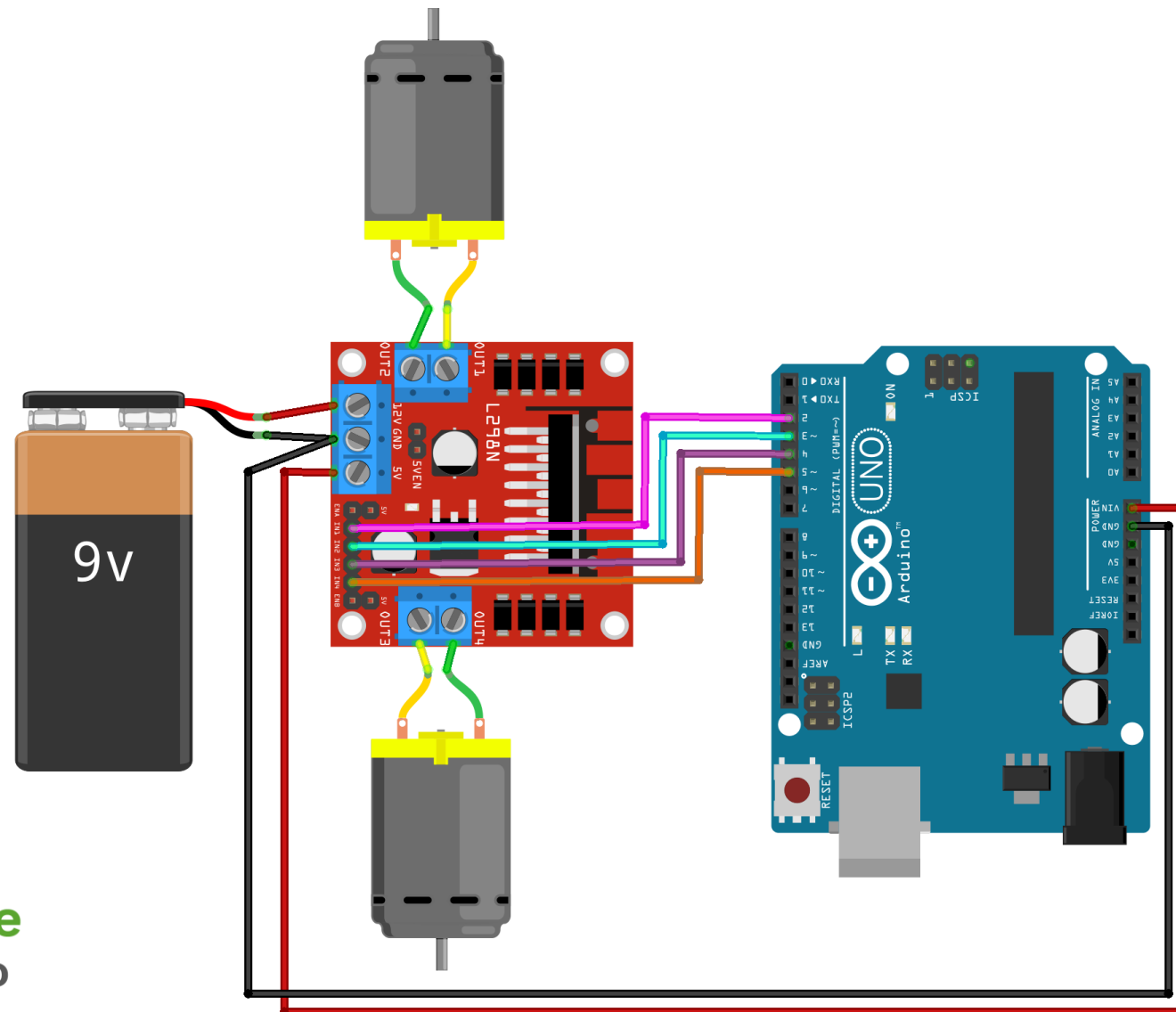
Motor DC



Características



Conexiones

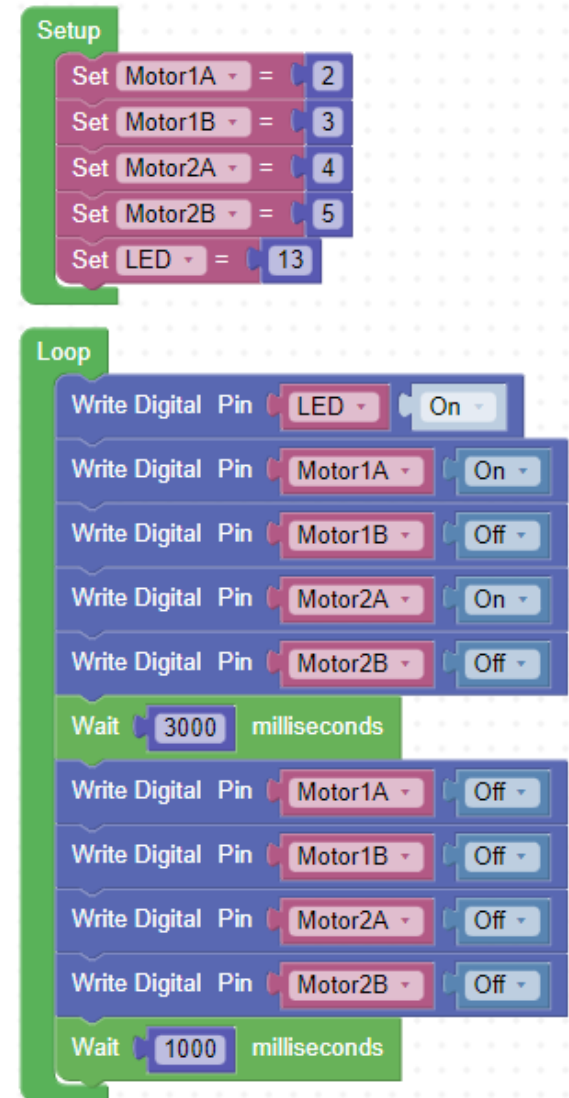


Código

```
int Motor1A = 2;
int Motor1B = 3;
int Motor2A = 4;
int Motor2B = 5;

void setup() {
  pinMode(Motor1A, OUTPUT);
  pinMode(Motor1B, OUTPUT);
  pinMode(Motor2A, OUTPUT);
  pinMode(Motor2B, OUTPUT);
}

void loop() {
  digitalWrite(Motor1A, HIGH);
  digitalWrite(Motor1B, LOW);
  digitalWrite(Motor2A, HIGH);
  digitalWrite(Motor2B, LOW);
  delay(3000);
  digitalWrite(Motor1A, LOW);
  digitalWrite(Motor1B, LOW);
  digitalWrite(Motor2A, LOW);
  digitalWrite(Motor2B, LOW);
  delay(1000);
}
```





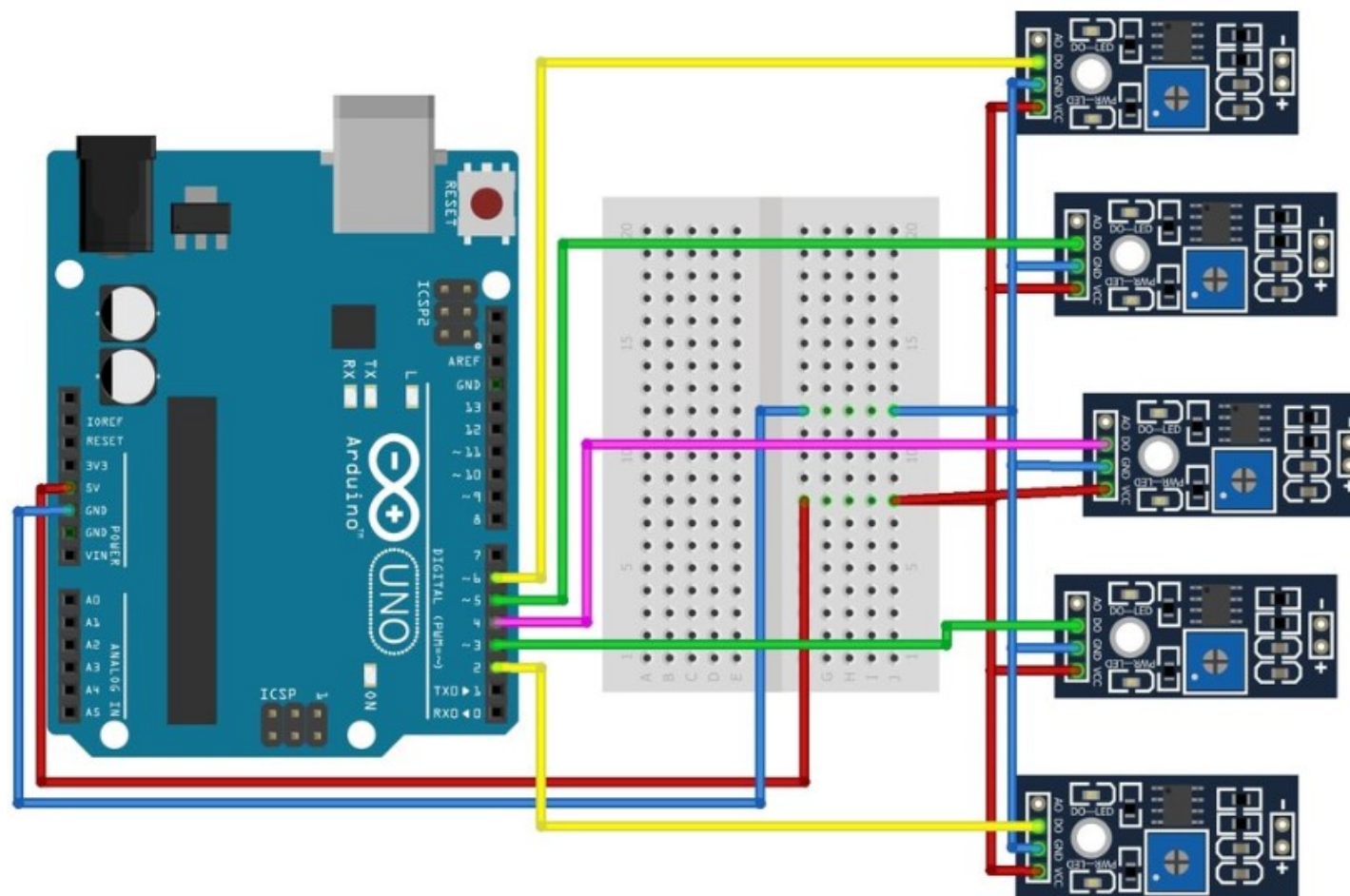
Robot seguidor de línea



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Conexiones

Sensores Infrarrojos

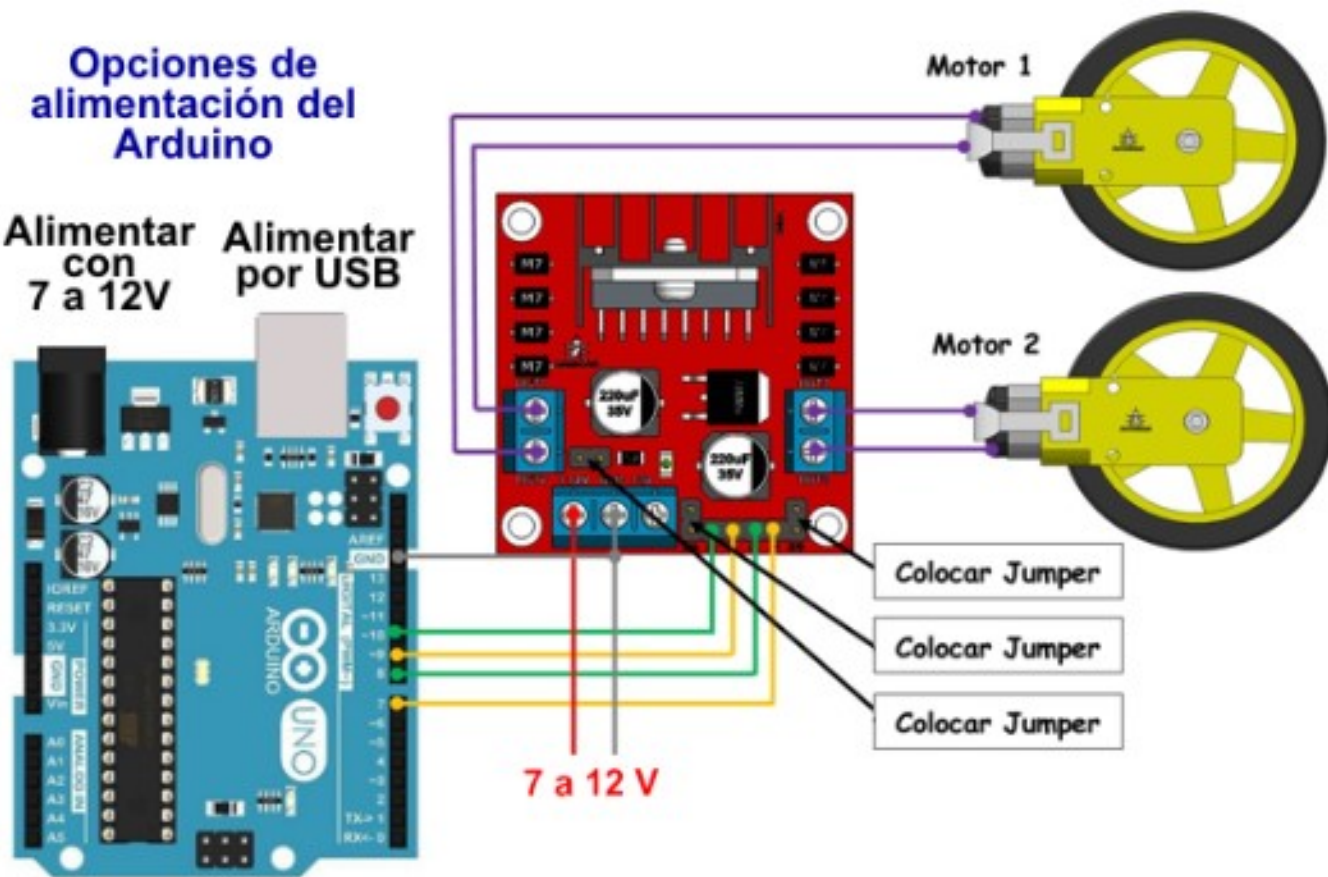


Motores DC

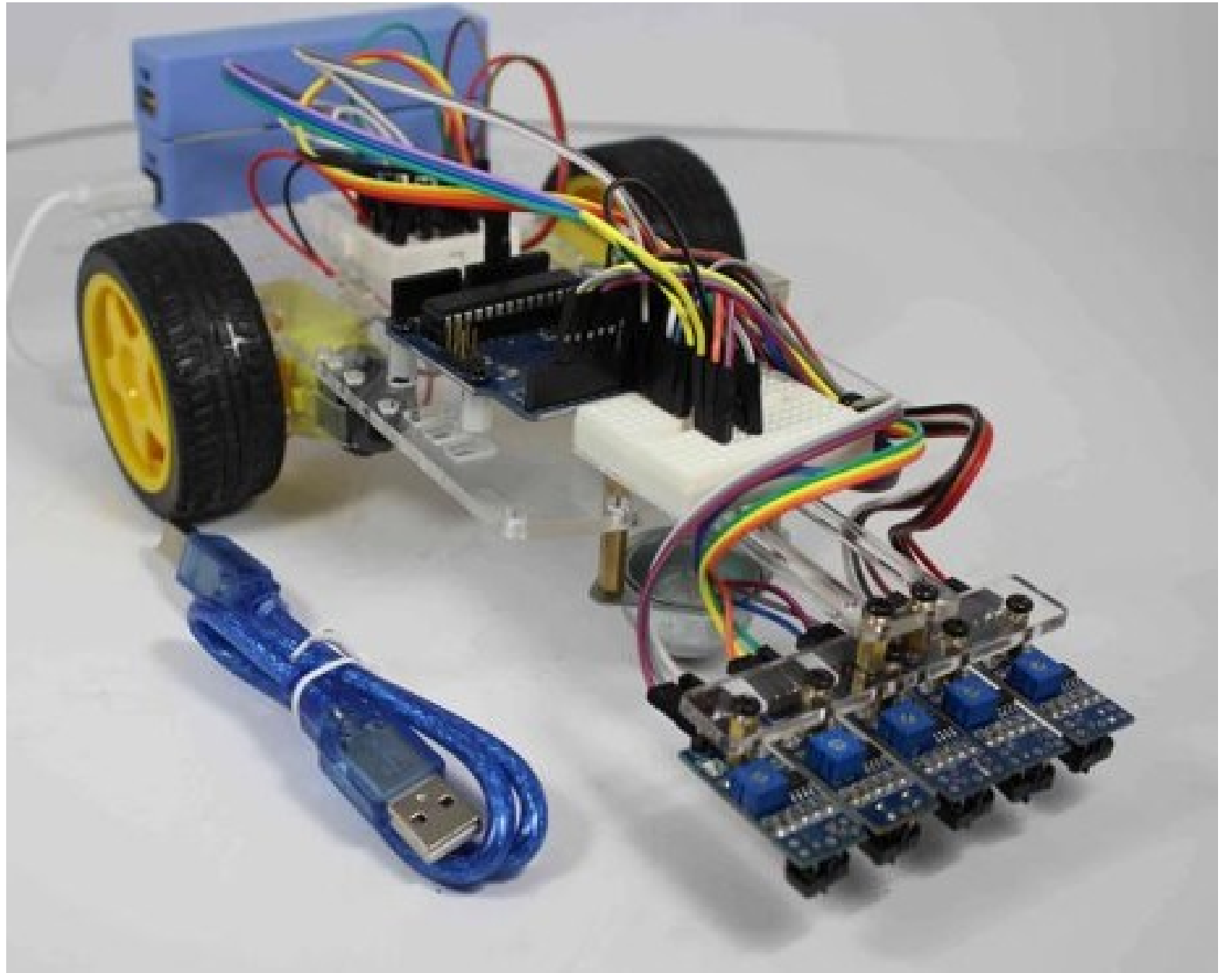
Opciones de alimentación del Arduino

Alimentar con 7 a 12V

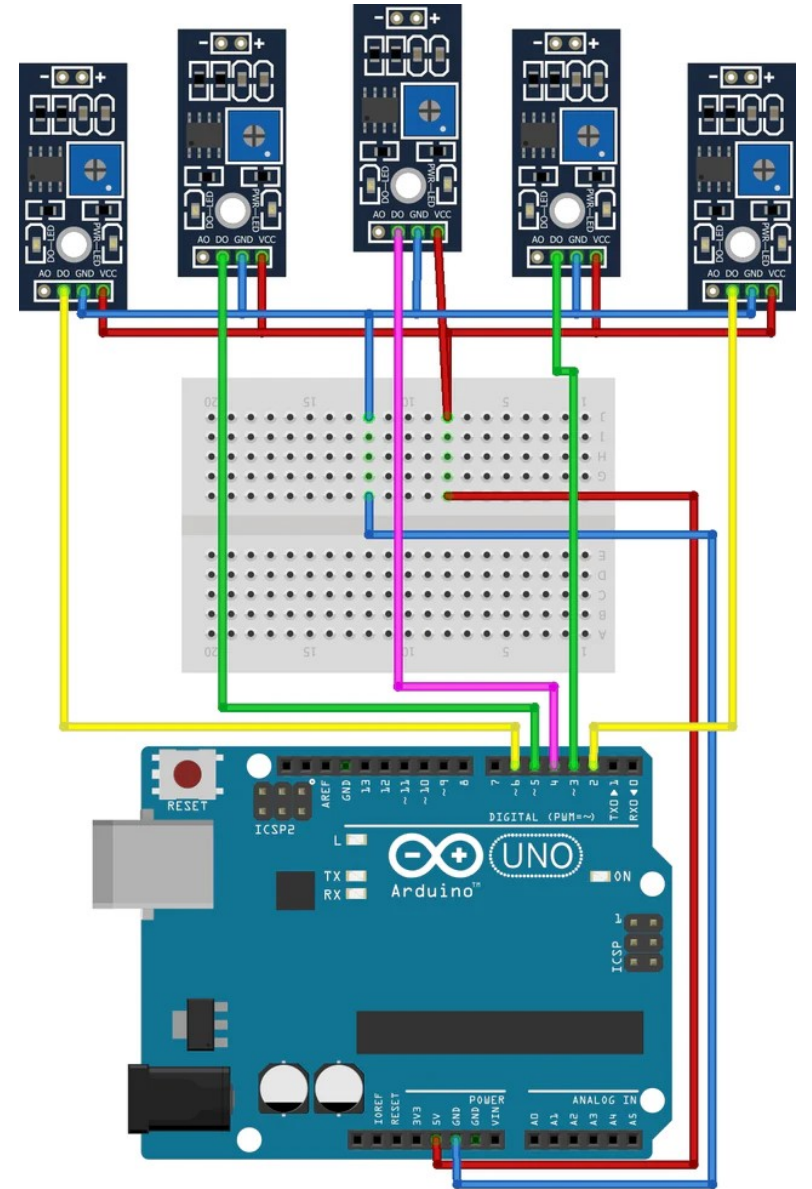
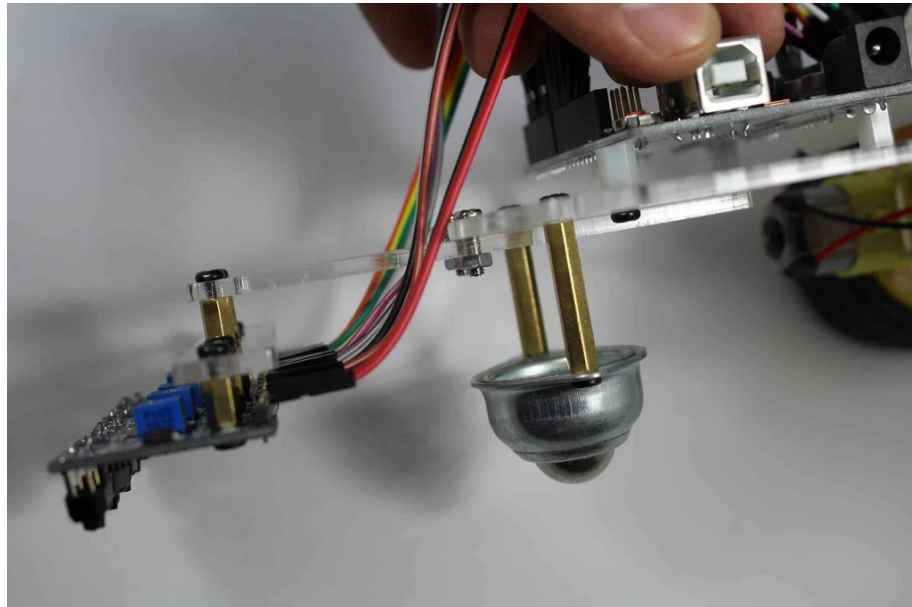
Alimentar por USB



Conexión Completa



Conexión Completa



```
void MotorAdelante ()
{
digitalWrite (PinIN1, HIGH);
digitalWrite (PinIN2, LOW);
digitalWrite (PinIN3, HIGH);
digitalWrite (PinIN4, LOW);
}
```

```
void MotorDerecha ()
{
digitalWrite (PinIN1, HIGH);
digitalWrite (PinIN2, LOW);
digitalWrite (PinIN3, LOW);
digitalWrite (PinIN4, HIGH);
}
```

```
void MotorIzquierda ()
{
digitalWrite (PinIN1, LOW);
digitalWrite (PinIN2, HIGH);
digitalWrite (PinIN3, HIGH);
digitalWrite (PinIN4, LOW);
}
```

```
void MotorStop ()
{
digitalWrite (PinIN1, LOW);
digitalWrite (PinIN2, LOW);
digitalWrite (PinIN3, LOW);
digitalWrite (PinIN4, LOW);
}
```



```

static int PinIN1 = 8;
static int PinIN2 = 9;
static int PinIN3 = 10;
static int PinIN4 = 11;
static int Pin_sensor1 = 2;  /
static int Pin_sensor2 = 3;  /

void setup() {
  Serial.begin(9600);
  pinMode(PinIN1, OUTPUT);
  pinMode(PinIN2, OUTPUT);
  pinMode(PinIN3, OUTPUT);
  pinMode(PinIN4, OUTPUT);
  pinMode(Pin_sensor1, INPUT);
  pinMode(Pin_sensor2, INPUT);
}

```

```

void loop() {

  int value1 = 0;
  int value2 = 0;
  value1 = digitalRead(Pin_sensor1);
  value2 = digitalRead(Pin_sensor2);

  if (value1 == LOW && value2 == LOW)
  {
    Serial.println("adelante");
    MotorAdelante();
  }

  if (value1 == HIGH && value2 == HIGH)
  {
    Serial.println("detenido");
    MotorStop();
  }

  if (value1 == HIGH && value2 == LOW)
  {
    Serial.println("izquierda");
    MotorIzquierda();
  }

  if (value2 == HIGH && value1 == LOW)
  {
    Serial.println("derecha");
    MotorDerecha();
  }
}

```





<https://www.qbprofe.com/blog/>



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G R A C I A S

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Línea de atención al empresario: 01 8000 910682



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