

# Arduino Output

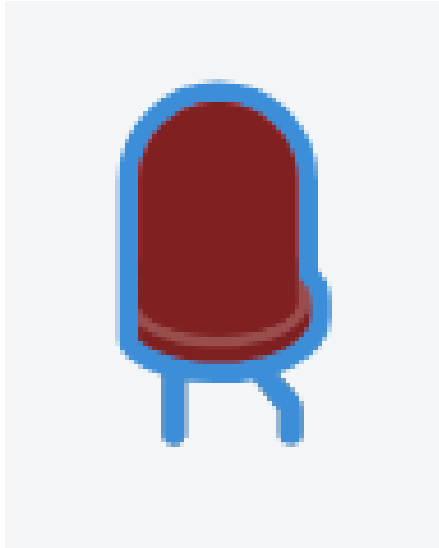
## Input

Arduino output refers to signals or actions produced by the Arduino board, such as lighting up LEDs, moving motors, or displaying information on screens, based on programmed instructions.

## List of Output

- LED
- LED RGB
- Light Bulb
- Neopixel
- NeoPixel Ring 12
- Vibration Motor
- DC Motor
- DC Motor with encoder
- Micro Servo
- Hobby Gearmotor
- Piezo
- IR Remote
- 7 Segment Display
- LCD 16 x 2
- 7 Segment Display

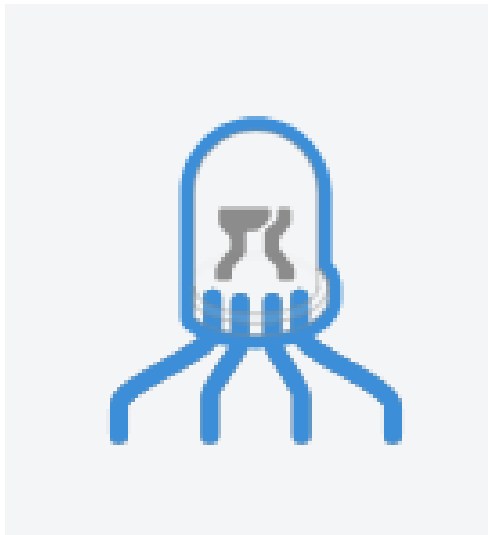
## LED



### Functions

An Arduino LED function turns an LED on or off. You specify the pin connected to the LED and use commands like `digitalWrite(pin, HIGH)` for on and `digitalWrite(pin, LOW)` for off.

## LED RGB



### Functions

An RGB LED function in Arduino allows control of red, green, and blue colors by adjusting voltage levels through PWM pins, creating various colors by mixing these primary light components.

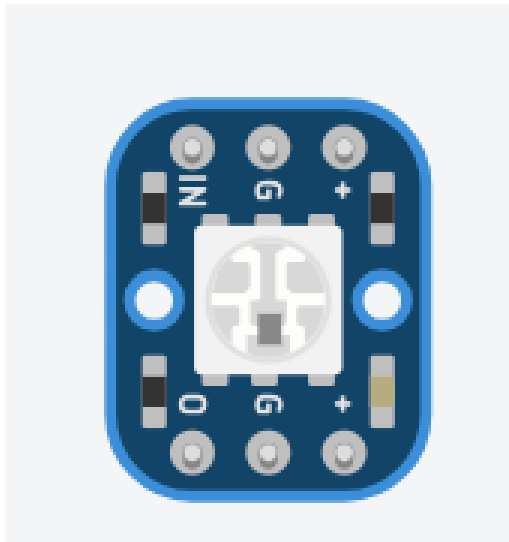
## Light Bulb



## Functions

A light bulb function in Arduino turns an LED on or off based on code commands, demonstrating basic control of electronic components through software, essential for learning and experimenting with circuits.

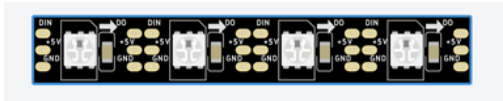
## Neopixel



## Functions

Neopixel functions in Arduino control RGB LED strips or matrices. Key functions include setting colors (`setPixelColor`), updating (`show`), and adjusting brightness (`setBrightness`).

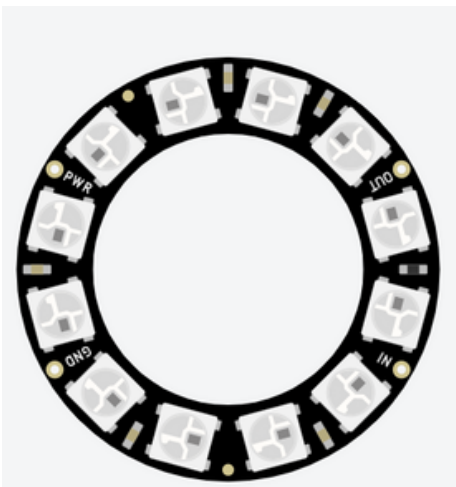
## Neopixel Strip 4



### Functions

Neopixel Strip is an LED strip that can change colors individually. Functions include setting colors, brightness, and effects like animations. Controlled via Arduino, it uses libraries for easy programming.

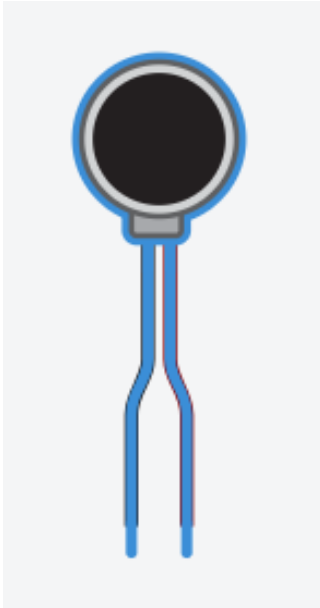
## Neopixel Ring 12



### Functions

A Neopixel Ring 12 is an LED ring for Arduino that displays colorful lights. Functions include setting colors, brightness, and effects like chasing lights, all controlled programmatically through Arduino code.

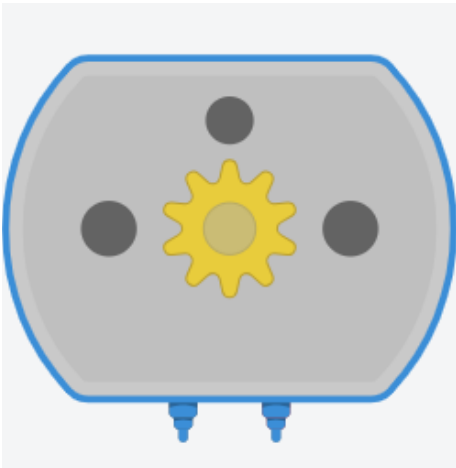
## Vibration Motor



### Functions

A vibration motor in Arduino creates vibrations when powered, useful for alerts or feedback in projects. It operates by spinning an unbalanced weight to generate vibration.

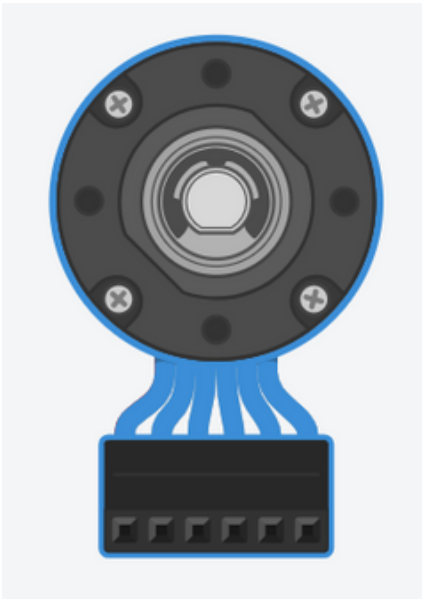
## Dc Motor



### Functions

A DC motor function in Arduino controls motor speed and direction using PWM signals. It connects motor pins to Arduino, sets PWM output, and adjusts speed and direction with digitalWrite commands.

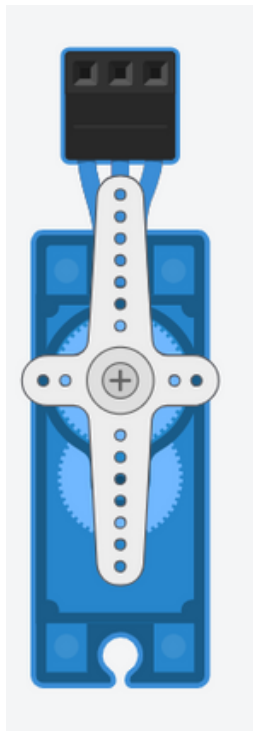
## DC Motor with encoder



### Functions

A DC motor with an encoder in Arduino measures rotation. It sends data on how much the motor has turned, aiding precise control and position feedback for projects like robotics and automation.

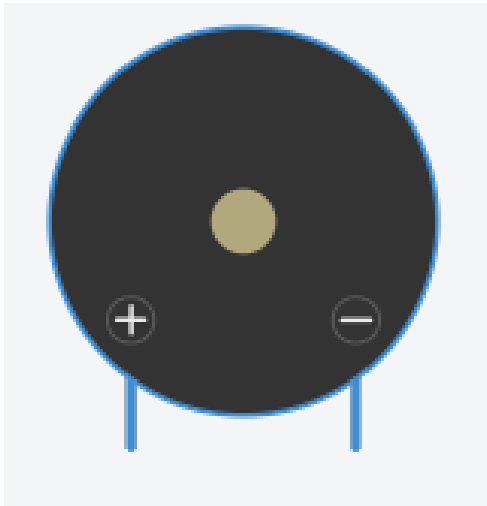
## Micro Servo



### Functions

A micro servo in Arduino rotates to a specific angle based on signals sent from the board. It's used for precise movements in robotics, like controlling robot arms or small mechanisms.

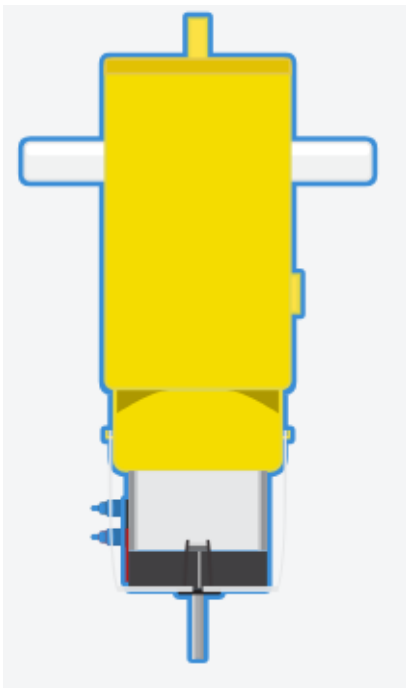
## Piezo



### Functions

A piezo buzzer in Arduino produces sound by rapidly vibrating a small disk when voltage is applied, emitting tones for alerts, melodies, or feedback in projects like alarms or music players.

## Hobby gearmotor



### Functions

Gearmotors in Arduino projects rotate wheels or mechanisms. They convert electrical signals into motion, making them ideal for robotics, vehicles, and automated devices in DIY electronics.

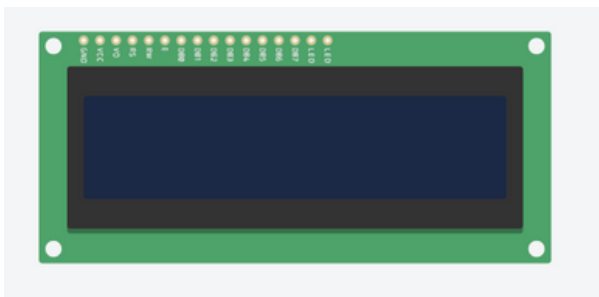
## IR Remote



### Functions

In Arduino, an IR remote function uses an infrared receiver to decode signals from a remote control. It enables Arduino projects to respond to commands like turning devices on/off or adjusting settings wirelessly.

## LCD 16 x 2

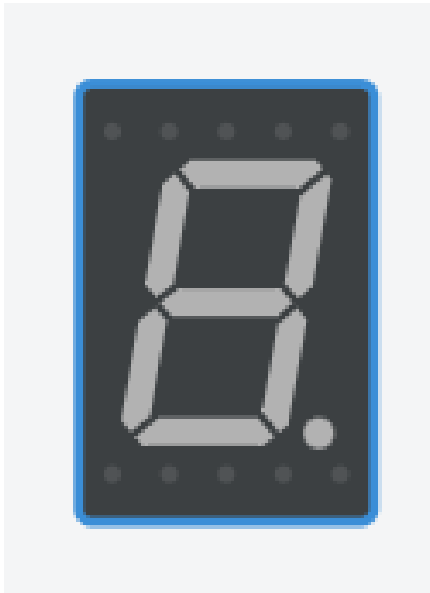


### Functions

In Arduino, the LCD 16x2 displays text and numbers with backlight. Functions include initializing, printing text, setting cursor position, and clearing screen. It connects via pins and communicates via a library.



## 7-Segment Display



### Functions

A 7-segment display in Arduino shows numbers by lighting up segments. Each segment represents part of a number (0-9). Arduino controls which segments light to display desired numbers or letters.

## 7-Segment Clock Display



### Functions

A 7-segment clock display in Arduino uses 7 LED segments to show digits (0-9). Each segment is controlled individually to form numbers, displaying hours and minutes based on real-time clock data.