



Arduino Fan Motor Module with L9110

The L9110 is a popular motor driver IC that can be used with Arduino to control small DC motors, including fan motors. Here's a guide to using the L9110 fan motor module with Arduino.

L9110 Motor Driver Basics

The L9110 module typically has:

- 2 control inputs (IA and IB for one motor channel)
- Motor output connections (OA and OB)
- VCC (2.5-12V) and GND connections

Wiring Diagram

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Arduino L9110 Module

5V VCC

GND GND

Pin 9 IA

Pin 10 IB

Connect your fan motor between OA and OB on the L9110 module.

Basic Arduino Code

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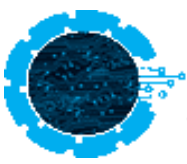
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```
// Define motor control pins
```

```
#define MOTOR_IA 9 // PWM pin for speed control
```

```
#define MOTOR_IB 10 // Direction control
```



```
void setup() {  
  
    pinMode(MOTOR_IA, OUTPUT);  
  
    pinMode(MOTOR_IB, OUTPUT);  
  
}  
  
void loop() {  
  
    // Rotate clockwise at full speed  
  
    digitalWrite(MOTOR_IB, HIGH);  
  
    analogWrite(MOTOR_IA, 255); // Full speed  
  
    delay(2000);  
  
  
    // Stop  
  
    analogWrite(MOTOR_IA, 0);  
  
    delay(1000);  
  
  
    // Rotate counter-clockwise at half speed  
  
    digitalWrite(MOTOR_IB, LOW);  
  
    analogWrite(MOTOR_IA, 128); // Half speed  
  
    delay(2000);  
  
  
    // Stop  
  
    analogWrite(MOTOR_IA, 0);  
  
    delay(1000);  
  
}
```

Controlling Fan Speed with PWM

You can adjust the fan speed using PWM (Pulse Width Modulation):

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```
void setFanSpeed(int speed) {  
  
    // Ensure speed is between 0 and 255  
  
    speed = constrain(speed, 0, 255);  
  
  
    // Set direction (always same direction for a fan)  
  
    digitalWrite(MOTOR_IB, HIGH); // Or LOW for opposite direction  
  
  
    // Set speed  
  
    analogWrite(MOTOR_IA, speed);  
}
```

Temperature-Controlled Fan Example

Here's a more advanced example that controls fan speed based on temperature:

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```
#include <DHT.h>  
  
  
#define DHTPIN 2  
  
#define DHTTYPE DHT11  
  
#define MOTOR_IA 9  
  
#define MOTOR_IB 10
```



```
DHT dht(DHTPIN, DHTTYPE);

void setup() {

  pinMode(MOTOR_IA, OUTPUT);

  pinMode(MOTOR_IB, OUTPUT);

  digitalWrite(MOTOR_IB, HIGH); // Set direction

  dht.begin();

  Serial.begin(9600);

}

void loop() {

  float temp = dht.readTemperature();

  if (isnan(temp)) {

    Serial.println("Failed to read temperature!");

    return;

  }

  Serial.print("Temperature: ");

  Serial.print(temp);

  Serial.println("°C");

  // Map temperature to fan speed (adjust these values as needed)

  int fanSpeed = map(temp, 20, 40, 0, 255);
```

```
fanSpeed = constrain(fanSpeed, 0, 255);
```

```
analogWrite(MOTOR_IA, fanSpeed);
```

```
delay(2000); // Wait 2 seconds between readings
```

```
}
```

Important Notes

1. The L9110 can handle voltages from 2.5V to 12V and currents up to 800mA.
2. For higher current fans, consider using a more powerful driver like the L298N.
3. Always connect a diode across the motor terminals to protect against back EMF.
4. The module may get warm during operation - provide adequate cooling if running at high power for extended periods.

