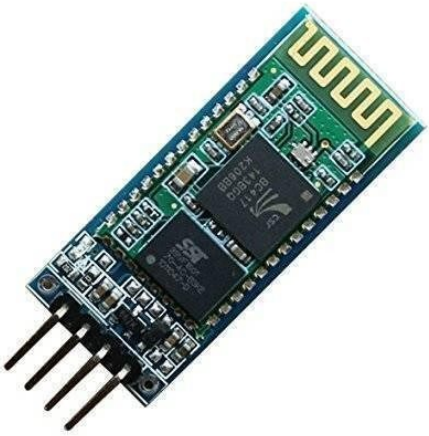
HC-06 Bluetooth Module

Bluetooth Serial Communication Module



The HC-06 is a compact Bluetooth module that provides wireless serial communication between Arduino or other microcontrollers and smartphones or computers. It is useful for remote control, wireless data transfer and robotics projects.

TOP USES

- Wireless Arduino Control
- Robot Remote Control
- Wireless Data Transfer
- Smartphone Communication

KEY FEATURES

- Bluetooth 2.0
- UART Serial Communication
- Easy Arduino Integration
- Compact Module
- Wireless Communication

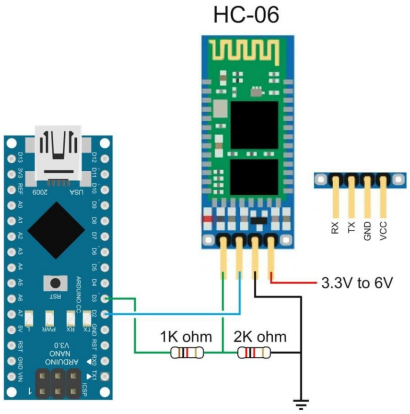
Technical Specifications

HC-06 Bluetooth Module

Parameter	Value
Module	HC-06
Bluetooth	2.0 + EDR
Communication	UART
Logic Voltage	3.3 V
Module Supply	Typically 5 V breakout
Frequency	2.4 GHz
Typical Range	Up to 10 m

Pinout

HC-06 Bluetooth Module



PIN FUNCTIONS

Pin	Function	Notes
VCC	Power	Connect to 5 V on typical breakout
GND	Ground	Common ground
TXD	UART TX	Connect to Arduino RX
RXD	UART RX	Connect to Arduino TX through voltage divider
KEY / EN	Mode Control	Optional on some versions

WIRING NOTES

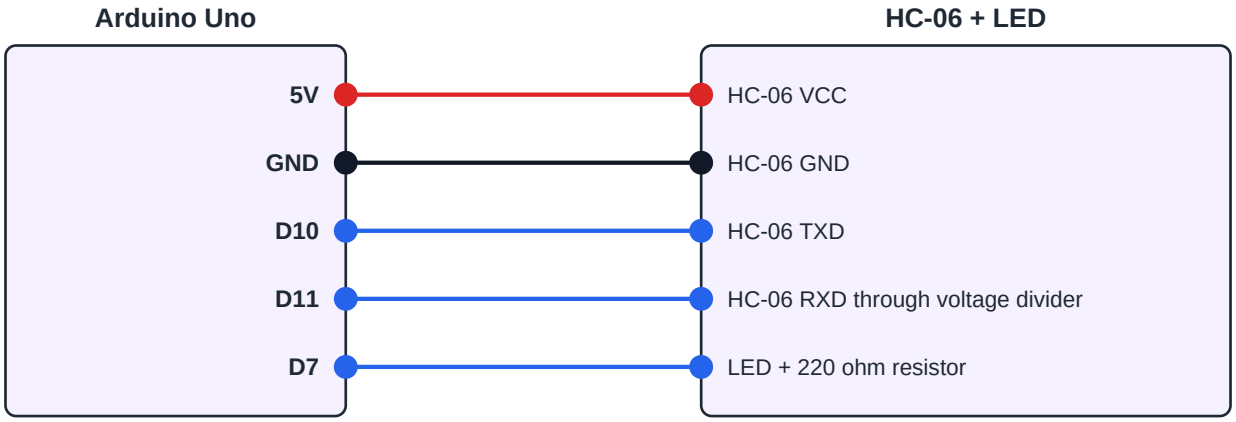
- The HC-06 communicates through UART.
- Use a voltage divider when sending 5 V Arduino TX to the HC-06 RXD.
- Check the specific breakout board supply requirements before powering it.

Example Project

Bluetooth LED Control

Control an LED from a smartphone by sending simple commands to the HC-06 through Bluetooth.

CIRCUIT



EXAMPLE CODE

```
#include <SoftwareSerial.h>

SoftwareSerial bluetooth(10, 11);
const int LED = 7;

void setup() {
  pinMode(LED, OUTPUT);
  bluetooth.begin(9600);
}

void loop() {
  if (bluetooth.available()) {
    char command = bluetooth.read();

    if (command == '1') {
      digitalWrite(LED, HIGH);
    }

    if (command == '0') {
      digitalWrite(LED, LOW);
    }
  }
}
```

EXPECTED RESULT

- Pair the HC-06 with a smartphone.
- Send 1 to turn the LED ON.
- Send 0 to turn the LED OFF.

Useful Links

HC-06 Bluetooth Module

Resource	Link
Arduino SoftwareSerial	https://docs.arduino.cc/learn/built-in-libraries/software-serial/
Arduino IDE	https://www.arduino.cc/en/software
Arduino Language Reference	https://docs.arduino.cc/language-reference/

COMPATIBLE COMPONENTS

- Arduino Uno
- Arduino Nano
- Arduino Mega
- Relay Modules
- LEDs
- Robotics Projects

Need this component?

Buy HC-06 Bluetooth Module >>

https://techzoneegypt.com/p/hc-06-bluetooth-module