HC-05 Bluetooth Module Interfacing with Arduino UNO

Introduction

HC-05 is a Bluetooth device used for wireless communication with Bluetooth enabled devices (like smartphone). It communicates with microcontrollers using serial communication (USART).

Default settings of HC-05 Bluetooth module can be changed using certain AT commands.

As HC-05 Bluetooth module has 3.3 V level for RX/TX and microcontroller can detect 3.3 V level, so, there is no need to shift TX voltage level of HC-05 module. But we need to shift the transmit voltage level from microcontroller to RX of HC-05 module.

# **Interfacing Diagram**

# C:\Users\Manas\Desktop\Bluetooth_Interfacing_Diagram.png

**Note :**Default Bluetooth name of the device is “HC-05” and default PIN (password) for connection is either “0000” or “1234”.

# **Example**

Here, we will transmit data from Smartphone via Bluetooth to the Arduino Uno and display it on Serial Monitor of PC.

Download and install a **Bluetooth terminal** application on your phone and use it to connect to the HC-05 Bluetooth module.

Data is sent from the Smartphone using the **Bluetooth terminal** application.

# **Sketch for Displaying Data Received Via Bluetooth On Serial Monitor**

#include<SoftwareSerial.h>

/\* Create object named bt of the class SoftwareSerial \*/

SoftwareSerial bt(2,3); /\* (Rx,Tx) \*/

void setup() {

bt.begin(9600); /\* Define baud rate for software serial communication \*/

Serial.begin(9600); /\* Define baud rate for serial communication \*/

}

void loop() {

if (bt.available()) /\* If data is available on serial port \*/

{

Serial.write(bt.read()); /\* Print character received on to the serial monitor \*/

}

}