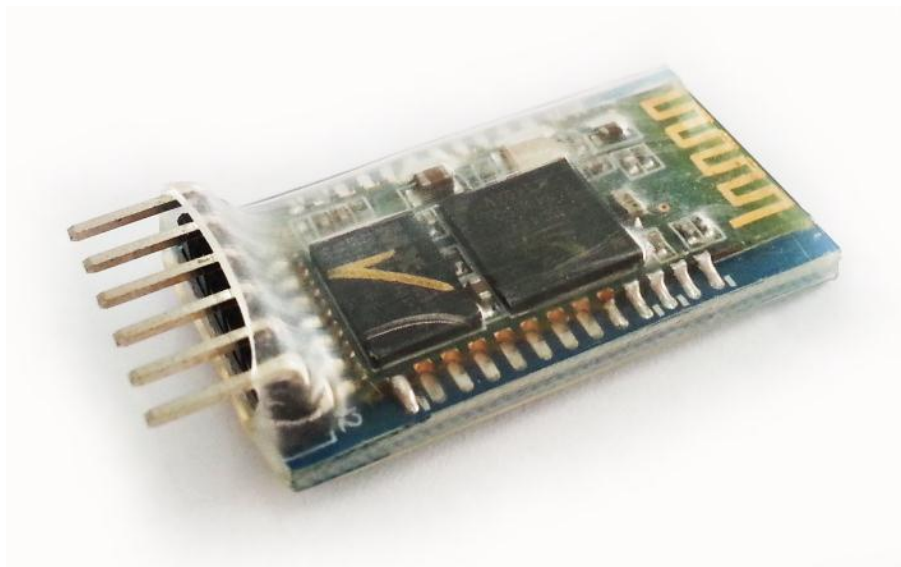


HC-05 Bluetooth Module



User's Manual V1.0

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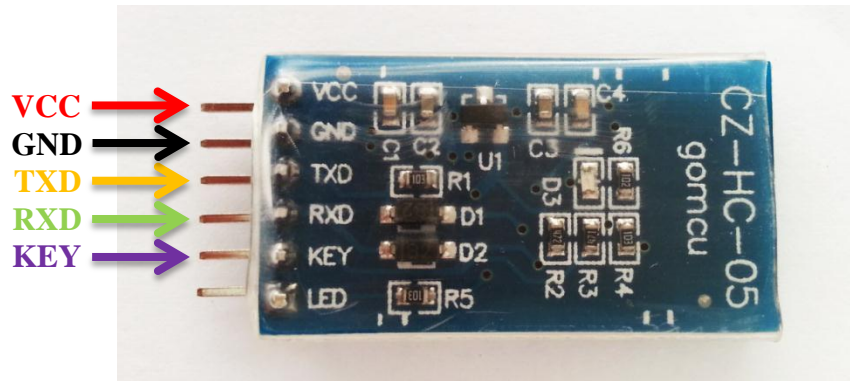
1. Introduction

HC-05 Bluetooth Module is an easy to use Bluetooth SPP (Serial Port Protocol) module, designed for transparent wireless serial connection setup. Its communication is via serial communication which makes an easy way to interface with controller or PC. HC-05 Bluetooth module provides switching mode between master and slave mode which means it able to use neither receiving nor transmitting data.

Specification:

- Model: HC-05
- Input Voltage: DC 5V
- Communication Method: Serial Communication
- Master and slave mode can be switched

2. Pin Definition



| Pin | Description | Function |
|-----|--|--|
| VCC | +5V | Connect to +5V |
| GND | Ground | Connect to Ground |
| TXD | UART_TXD, Bluetooth serial signal sending PIN | Connect with the MCU's (Microcontroller and etc) RXD PIN. |
| RXD | UART_RXD, Bluetooth serial signal receiving PIN | Connect with the MCU's (Microcontroller and etc) TXD PIN. |
| KEY | Mode switch input | If it is input low level or connect to the air, the module is at paired or communication mode. If it's input high level, the module will enter to AT mode. |

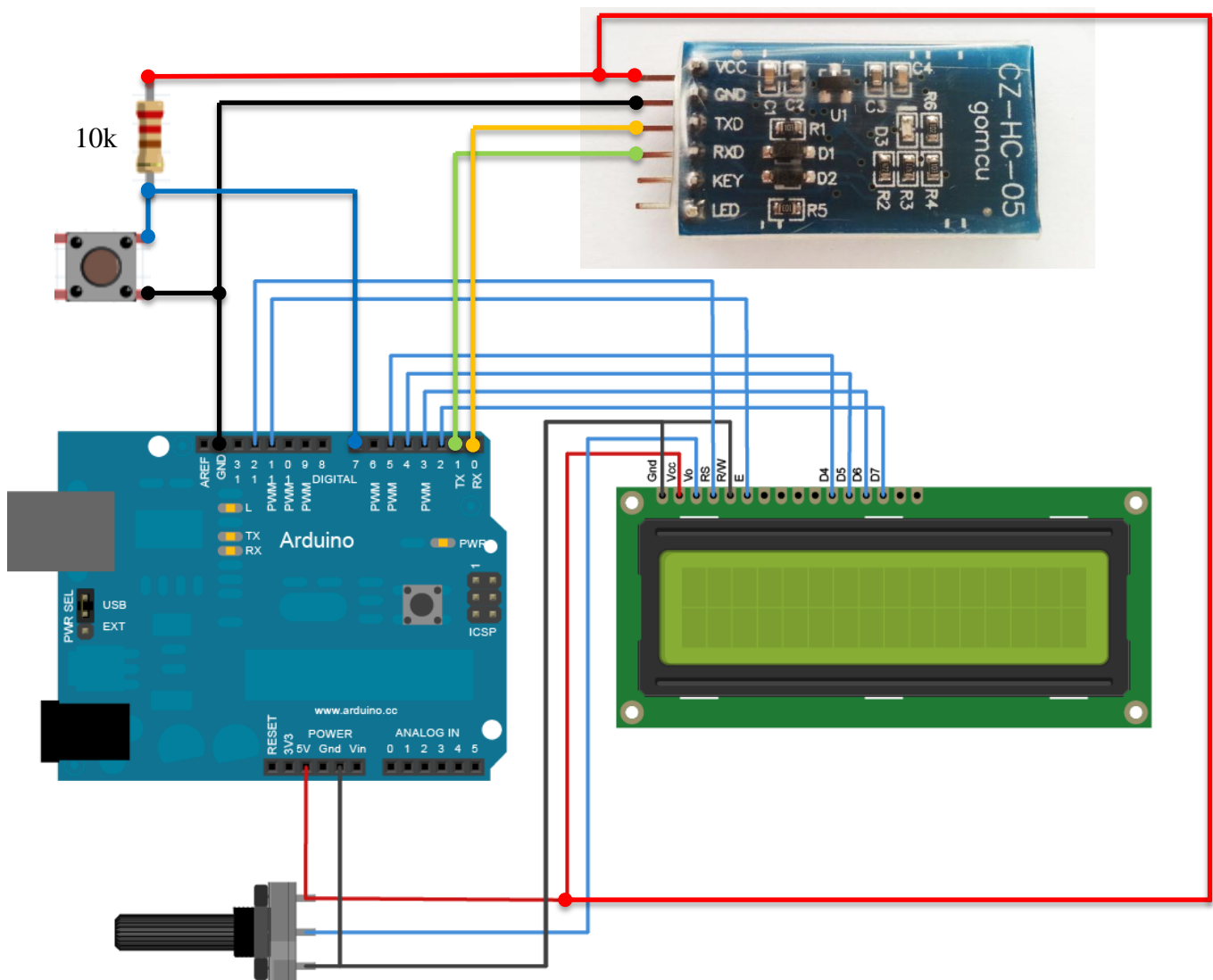
3. Sample Hardware Installation and Sample Source Code

Below is the example of interfacing between Arduino UNO and PC via HC-05 Bluetooth Module. In this example, the **communication mode** is used.

**Note: For AT mode (use to change the default setting or etc), please refer to this link [Modify The HC-05 Bluetooth Module Defaults Using AT Commands](#).*

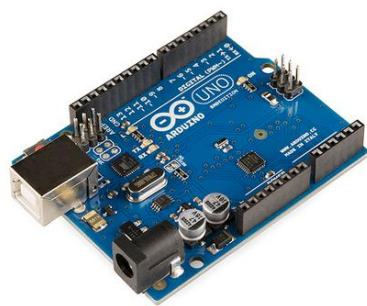
Diagram below shows the hardware connection between HC-05 Bluetooth Module and Arduino UNO. Besides Arduino, it may interface with any microcontroller such as PIC and etc.

- **VCC** → **Arduino 5V**
- **GND** → **Arduino GND**
- **TXD** → **Arduino Pin RX**
- **RXD** → **Arduino Pin TX**
- **KEY** → **Connect to the air for communication mode**

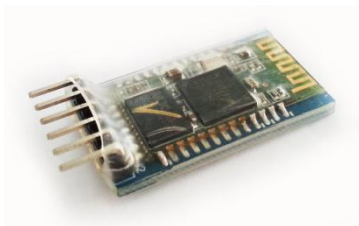


Next, please get the [sample source code](#) and burn it into Arduino UNO.

After completing hardware and source code installation on Arduino UNO, the next step is setting up PC site. In order to communicate with Arduino UNO, a Bluetooth device is needed as well on PC site. We recommend using USB plug in Bluetooth device in PC site. See below diagram for data transfer between Arduino UNO and PC via Bluetooth devices.



Arduino UNO



HC-05 Bluetooth Module



PC or Computer



USB Plug In Bluetooth Device

Data Transfer via
Bluetooth devices



In order to use Bluetooth device in PC site, Bluetooth Device Driver is needed to install in PC. If your USB Plug in Bluetooth device does not provides driver installation, you may download this [PC Site Bluetooth Software](#) and install it. Plug in your Bluetooth device to PC during installation and restart PC after installation.

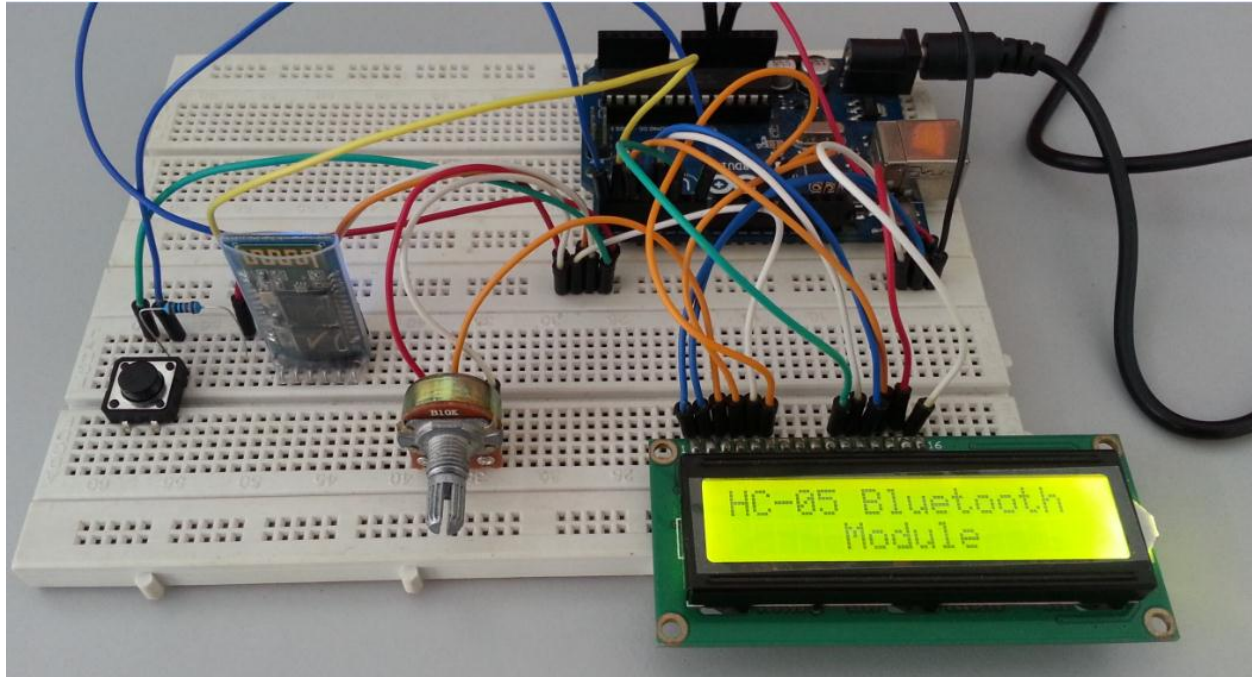
After setting up the Arduino UNO and PC site, now we proceed to next session which will show communication between Arduino UNO and PC through Bluetooth devices via communication mode.

4. Communication between Arduino UNO and PC via Bluetooth

To communicate between Arduino UNO and PC through Bluetooth, please follow below steps.

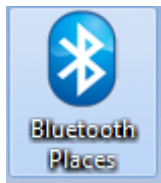
Step 1

Turn on Arduino UNO which with completed installation of sample hardware and source code.



Step 2

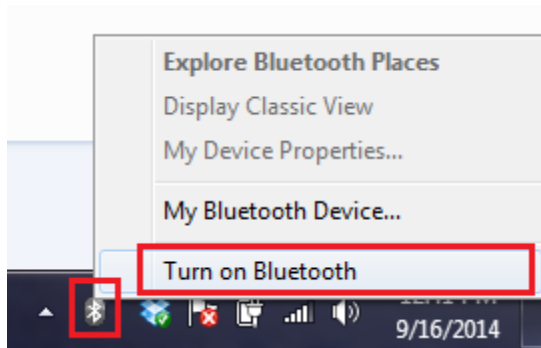
Go to [desktop] → open [Bluetooth Places]



Step 3

Go to [Right bottom corner at desktop] → right click [Bluetooth Icon]

→ Select [Turn on Bluetooth]

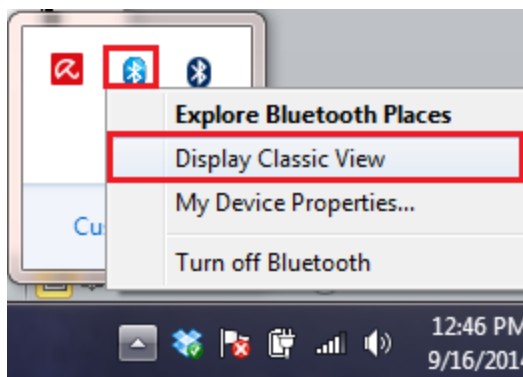


Step 4

After turn on Bluetooth device on PC site,

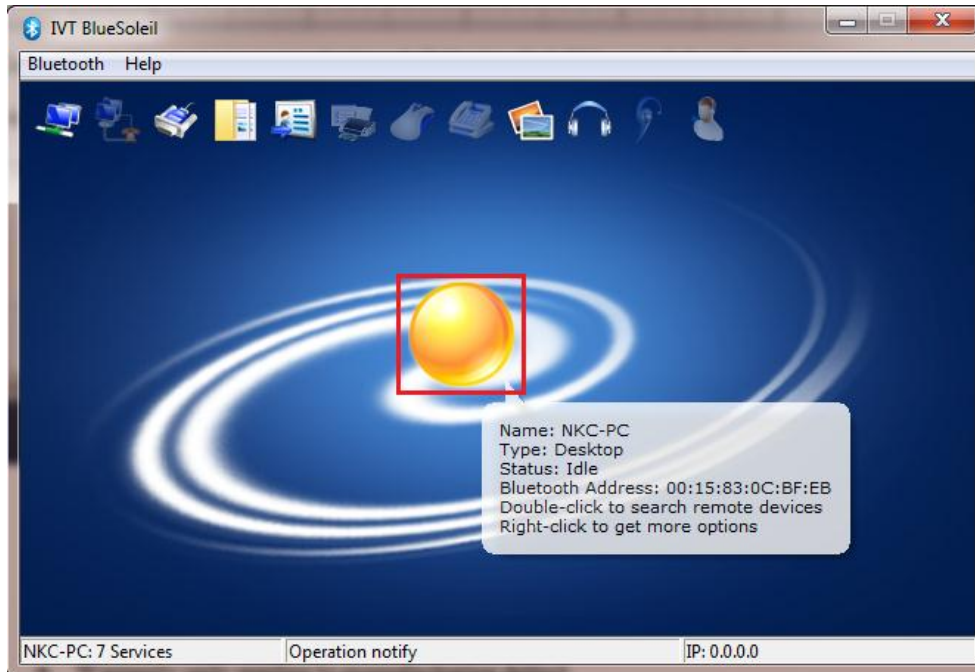
Go to [Right bottom corner at desktop] → Right click [Bluetooth Icon]

→ Select [Display Classic View]



Step 5

Double Click [Center Ball of Bluetooth software] to search surrounding available Bluetooth device.

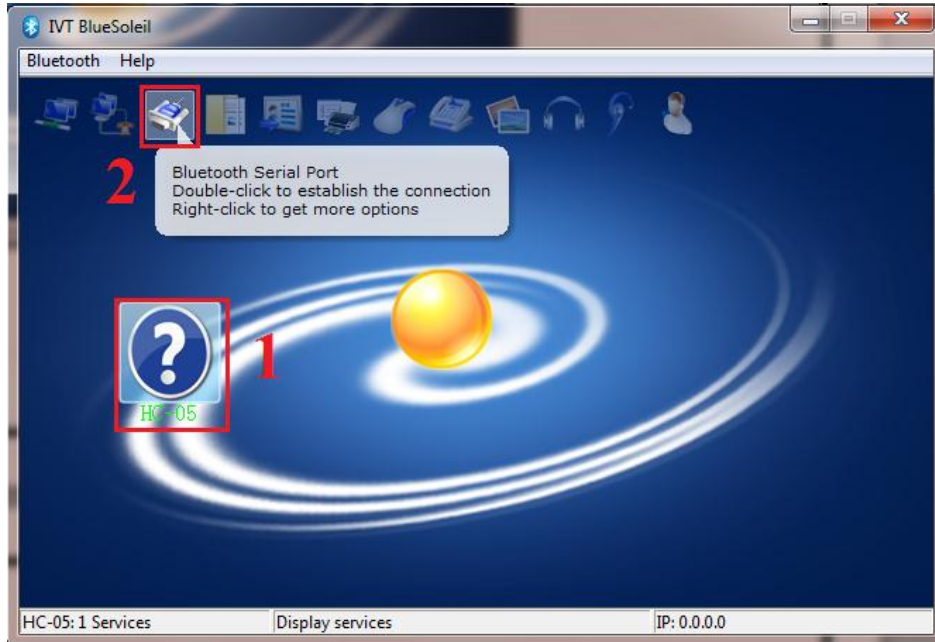


The HC-05 Bluetooth Module will be found and shown on the display.



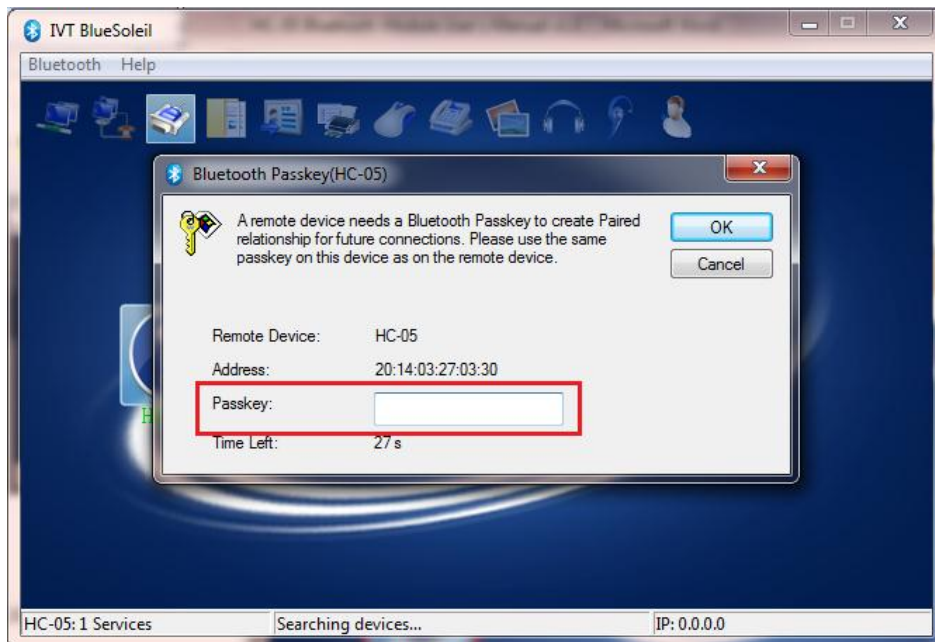
Step 6

Select the HC-05 Bluetooth Module on the display and double click the Serial Port Icon to connect.

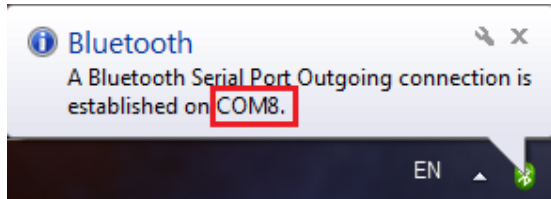


Step 7

Key in default passwords: 1234 on [Passkey] to connect HC-05 Bluetooth Module.



After key in correct passkey, the window will show which serial COM is connected to HC-05 Bluetooth Module. In this example, “COM8” was connected.



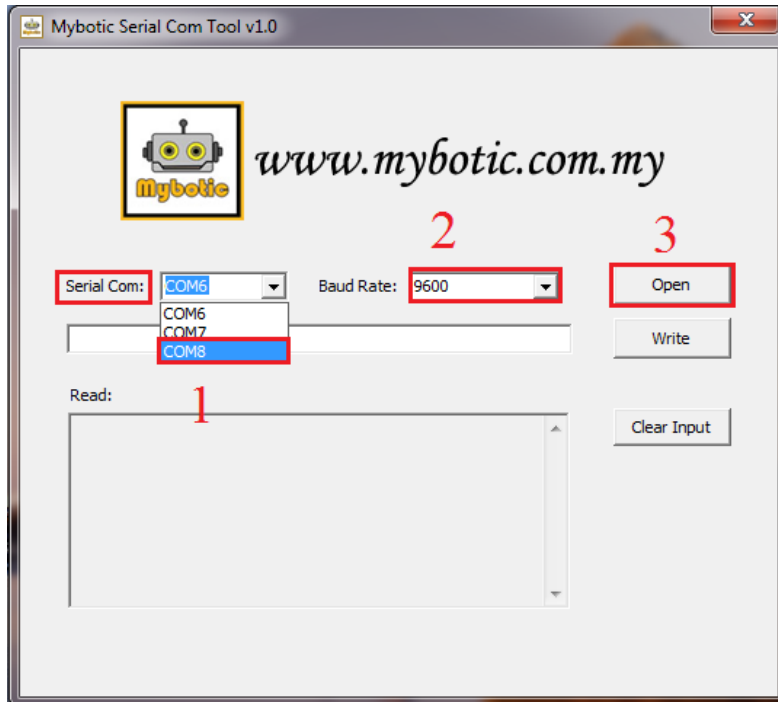
Step 8

To write data to Arduino UNO via HC-05 Bluetooth Module, open software “Mybotic Serial Com Tool”. This software can be getting at [here](#).

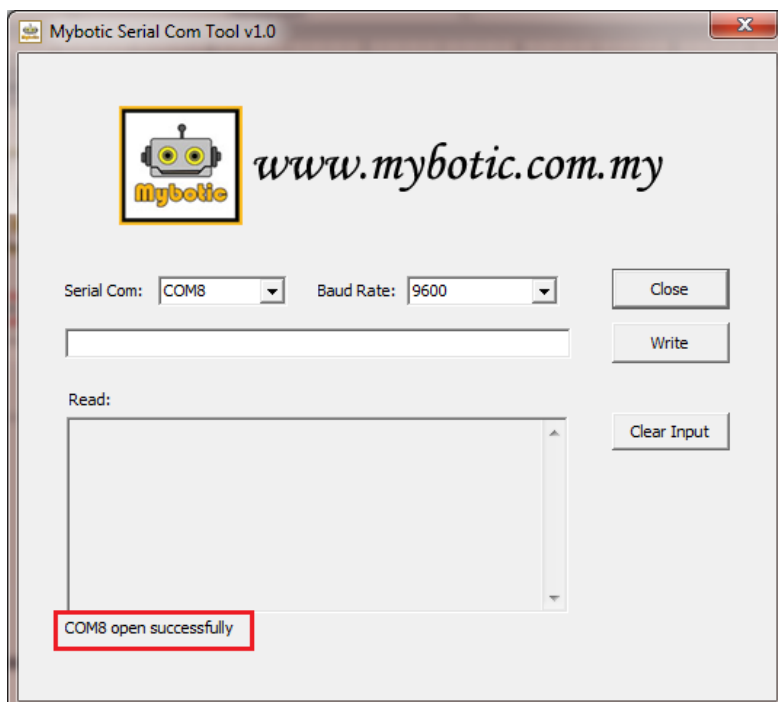


Step 9

1. Select the correct Serial Com (in this example, “COM8” is the correct Serial Com).
2. Select Baud Rate as 9600 (default in communication mode).
3. Click “Open”.



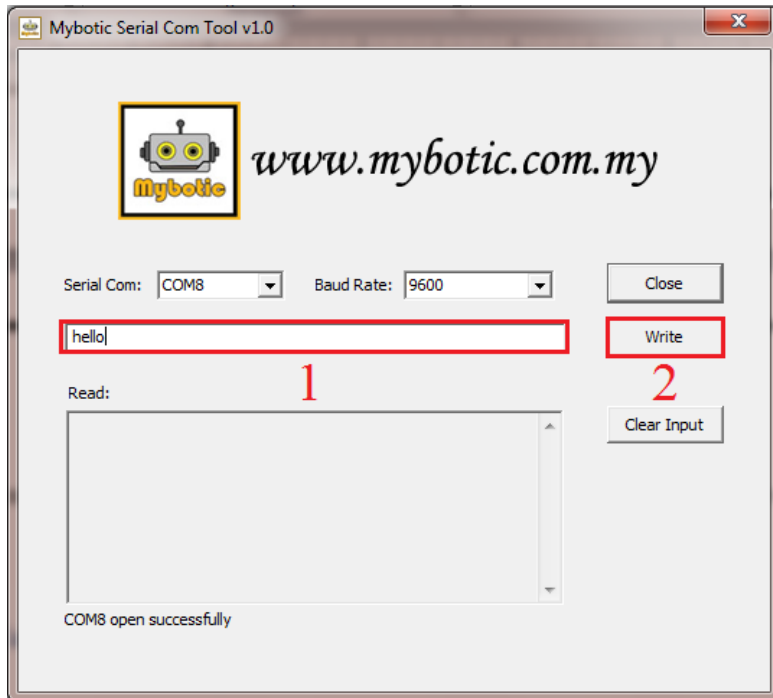
It will show “COM open successfully” if open successful.



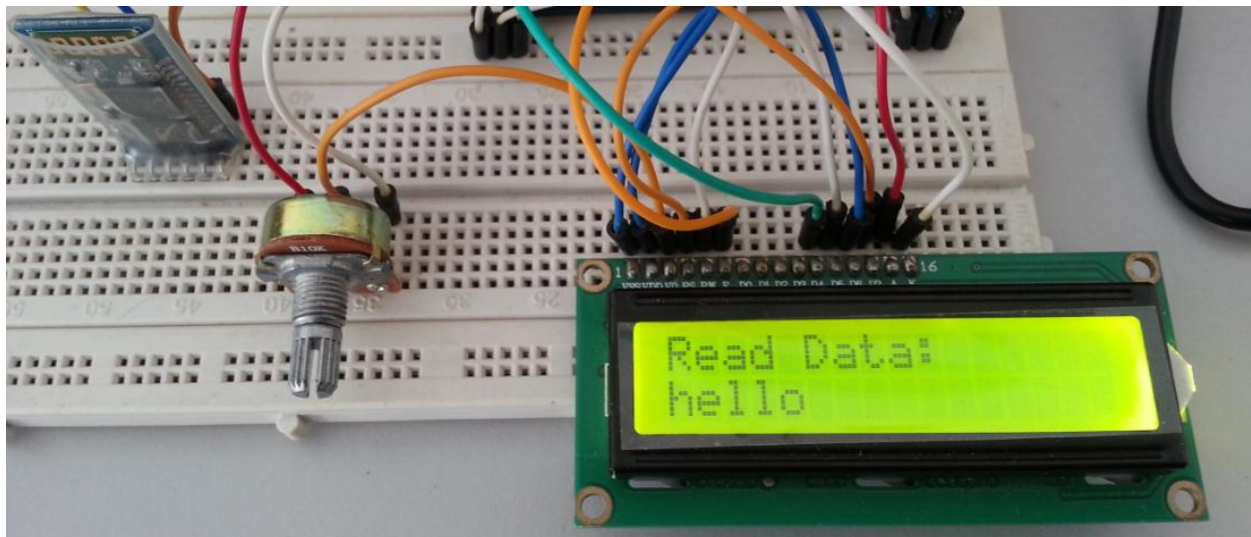
Step 10

Now you may send whatever you want to Arduino UNO by

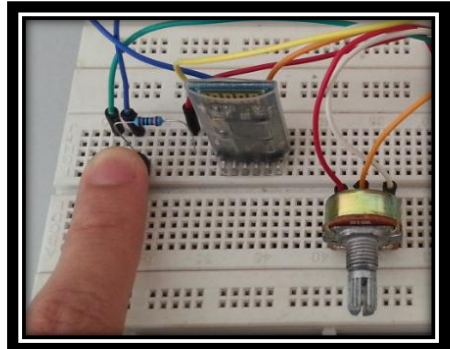
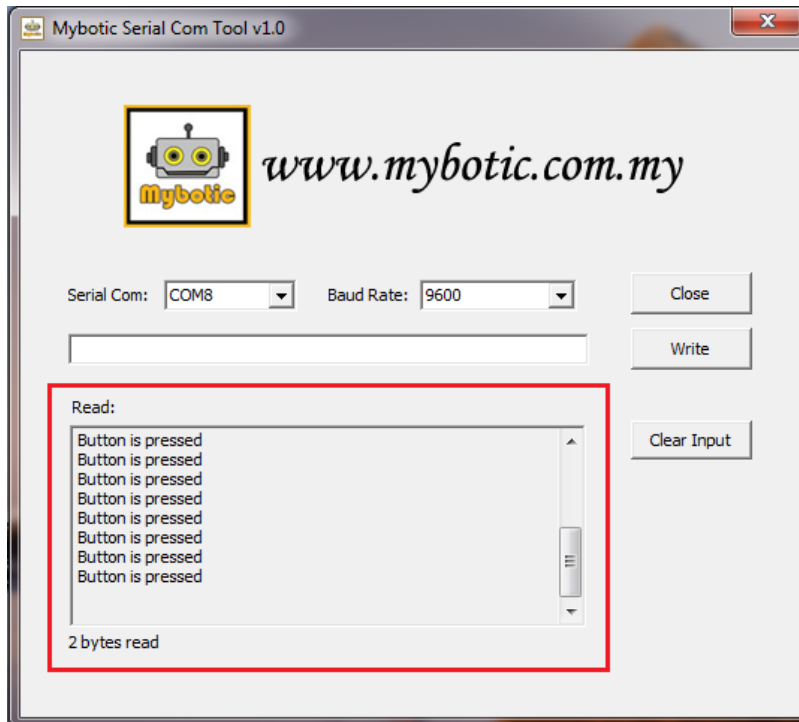
1. Writing data on text box and then
2. Click write.



In Arduino site, the data was received and display on LCD.



Besides sending data from PC to Arduino UNO, data can be sent from Arduino UNO to PC as well by pressing the button. The “Button is pressed” will be sent to PC and displayed on the Mybotic Serial Com Tool when the button is pressed.



5. Warranty

- Product warranty is valid for 3 months.
- Warranty only applies to manufacturing defect.
- Damaged caused by misuse is not covered under warranty.
- Warranty does not cover shipping cost for both ways.