WHADDA

EXCITING ELECTRONICS

EN Bluetooth® HC-05 transmission module

WPI302

whadda.com

Introduction

To all residents of the European Union
Important environmental information about this product
This symbol on the device or the package indicates that disposal of the device after its lifecycle could harm the environment. Do not dispose of the unit (or batteries) as unsorted municipal waste; it should be taken to a specialized company for recycling. This device should be returned to your distributor or to a local recycling service. Respect the local environmental rules.
If in doubt, contact your local waste disposal authorities.

Thank you for choosing Whadda! Please read the manual thoroughly before bringing this device into service. If the device was damaged in transit, do not install or use it and contact your dealer.

Safety Instructions

Read and understand this manual and all safety signs before using this appliance.

For indoor use only.

- This device can be used by children aged from 8 years and above, and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning the use of the device in a safe way and understand the hazards involved. Children shall not play with the device. Cleaning and user maintenance shall not be made by children without supervision.

General Guidelines

- Refer to the Velleman® Service and Quality Warranty on the last pages of this manual.
- All modifications of the device are forbidden for safety reasons. Damage caused by user modifications to the device is not covered by the warranty.
- Only use the device for its intended purpose. Using the device in an unauthorized way will void the warranty.
- Damage caused by disregard of certain guidelines in this manual is not covered by the warranty and the dealer will not accept responsibility for any ensuing defects or problems.
- Nor Velleman Group nv nor its dealers can be held responsible for any damage (extraordinary, incidental or indirect) – of any nature (financial, physical...) arising from the possession, use or failure of this product.
- Keep this manual for future reference.

What is Arduino®

Arduino® is an open-source prototyping platform based on easy-to-use hardware and software. Arduino® boards are able to read inputs – light-on sensor, a finger on a button or a Twitter message – and turn it into an output – activating of a motor, turning on an LED, publishing something online. You can tell your board what to do by sending a set of instructions to the microcontroller on the board. To do so, you use the Arduino programming language (based on Wiring) and the Arduino® software IDE (based on Processing). Additional shields/modules/components are required for reading a twitter message or publishing online. Surf to www.arduino.cc for more information.

RED Declaration of Conformity

Hereby, Velleman Group nv declares that the radio equipment type WPI302 is in compliance with Directive 2014/53/EU.
The full text of the EU declaration of conformity is available at the following internet address: www.velleman.eu.

Product Overview

This module allows you to integrate a microcontroller into a Bluetooth® network.

Specifications

- frequency: 2.45 GHz
- asynchronous speed: max. 2.1 Mbps
- security: authentication
- profile: Bluetooth® serial port
- power supply: +3.3 VDC
- maximum voltage level for data signals (Tx and Rx): only 3.3 VDC
- working temperature: max. 60 °C
- chip: CSR (Cambridge Silicon Radio) BC417 Bluetooth® v2.0

Pin Layout

KEY	if brought high before power is applied, forces AT Command Setup Mode; blinks slowly (2 seconds)
VCC	power supply
GND	ground
TXD	transmit serial data
RXD	receive serial data
STATE	tells if connected or not

Connection

To connect to the Bluetooth® module from your PC or phone, search for BT devices and connect to the device called "HC-05". The standard PIN-code is 1234.
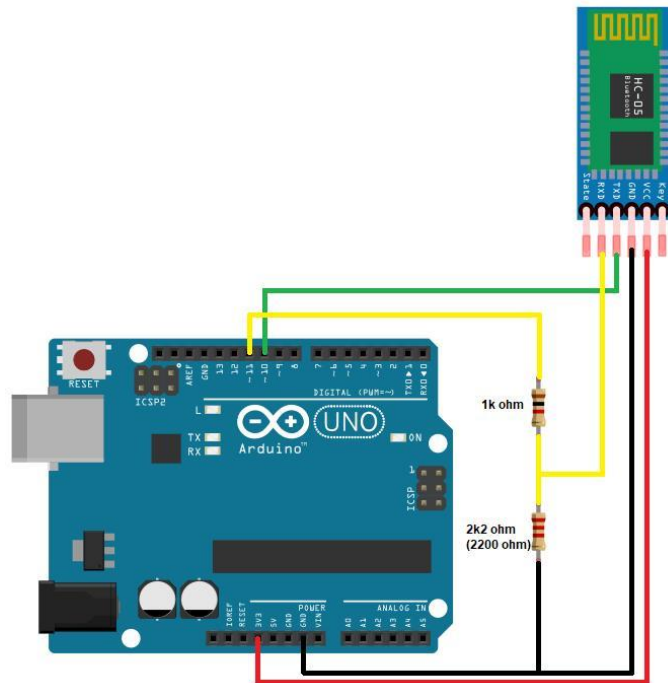
Arduino®		WPI302
5 V	►	VCC
GND	►	GND
D11	►	Rx via voltage divider to pin D11
D10	►	Tx

Programming Code

Whadda Bluetooth HC-05 module (WPI302/VMA302) example

This demo program uses a software serial port on pins 10 & 11 to connect to the Whadda Bluetooth module.
Connect to the bluetooth module using your bluetooth enabled phone or pc. The BT device name is "HC-05", the standard pincode is 1234.
Using a serial terminal app/program (e.g. Serial Bluetooth Terminal for android, coolterm for PC) you can send and receive messages to/from the module.
If you send a 1, the LED coneected to PIN 13 will turn ON. If you send a 0, the LED will turn off.

*/

```
#include <SoftwareSerial.h> // Include SoftwareSerial library

const int ledpin = 13; // set ledpin to pin 13

char BluetoothData; // variable to store data from BT module

SoftwareSerial WhaddaBT(10, 11); // RX | TX

void setup(){
 // put your setup code here, to run once:
 pinMode(ledpin, OUTPUT); // Set led pin as OUTPUT
 WhaddaBT.begin(9600); // initialize the Serial connection with the BT module at 9600
baud

 WhaddaBT.println("Bluetooth connected! Please press 0 or 1 to turn the LED off or on."); //
Send a message when the BT module is connected

}

void loop(){
 // put your main code here, to run repeatedly:
 // When new data is available from the BT module:
 if(WhaddaBT.available()){
  BluetoothData = WhaddaBT.read(); // Read incoming data

  // If incoming data is 1...
  if(BluetoothData == '1'){
   digitalWrite(ledpin, HIGH); // Turn on led
   WhaddaBT.println("LED turned ON"); // Send "LED turned ON" message to BT module
  }
  else if (BluetoothData == '0'){
   digitalWrite(ledpin, LOW); // Turn off led
   WhaddaBT.println("LED turned OFF"); // Send "LED turned OFF" message to BT module
  }
 }
 delay(100); // delay of 100 ms
}
```