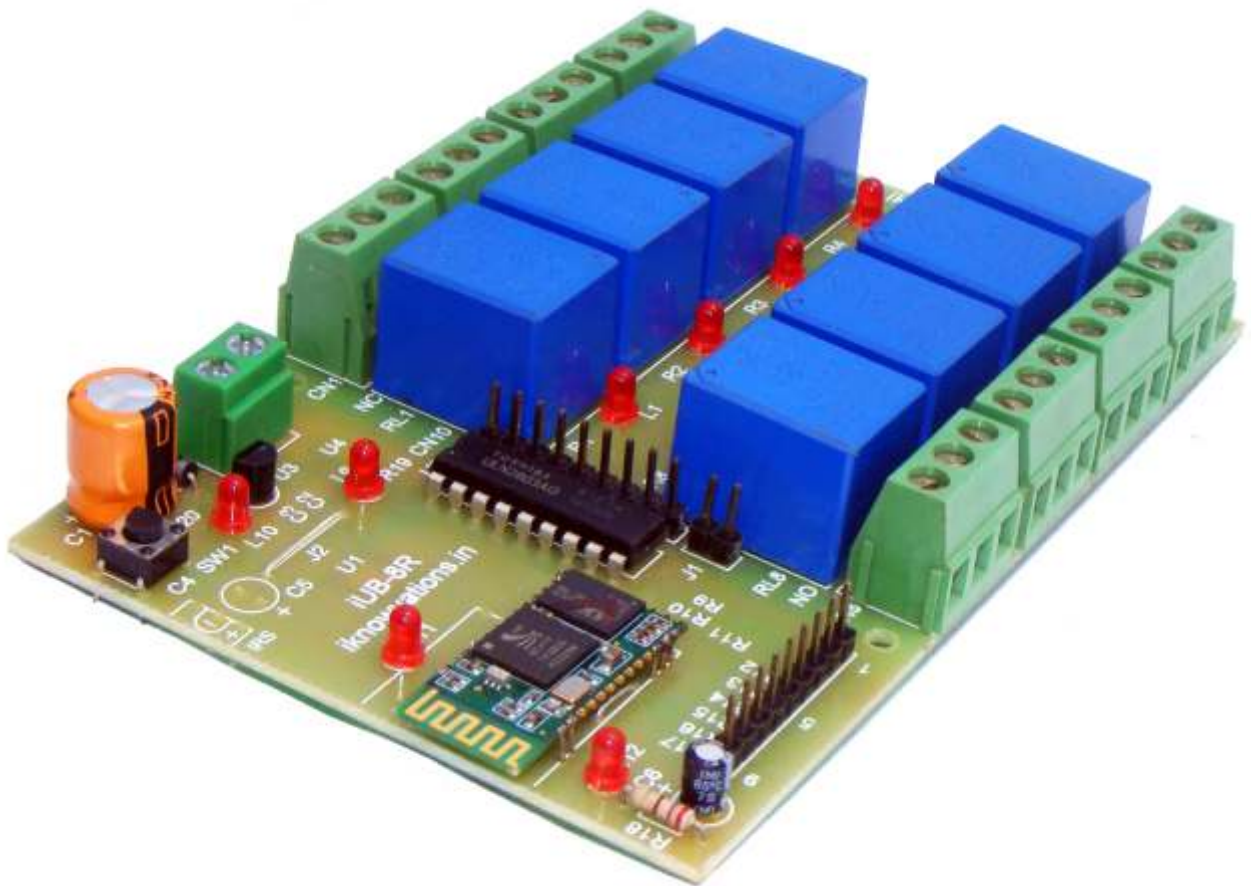
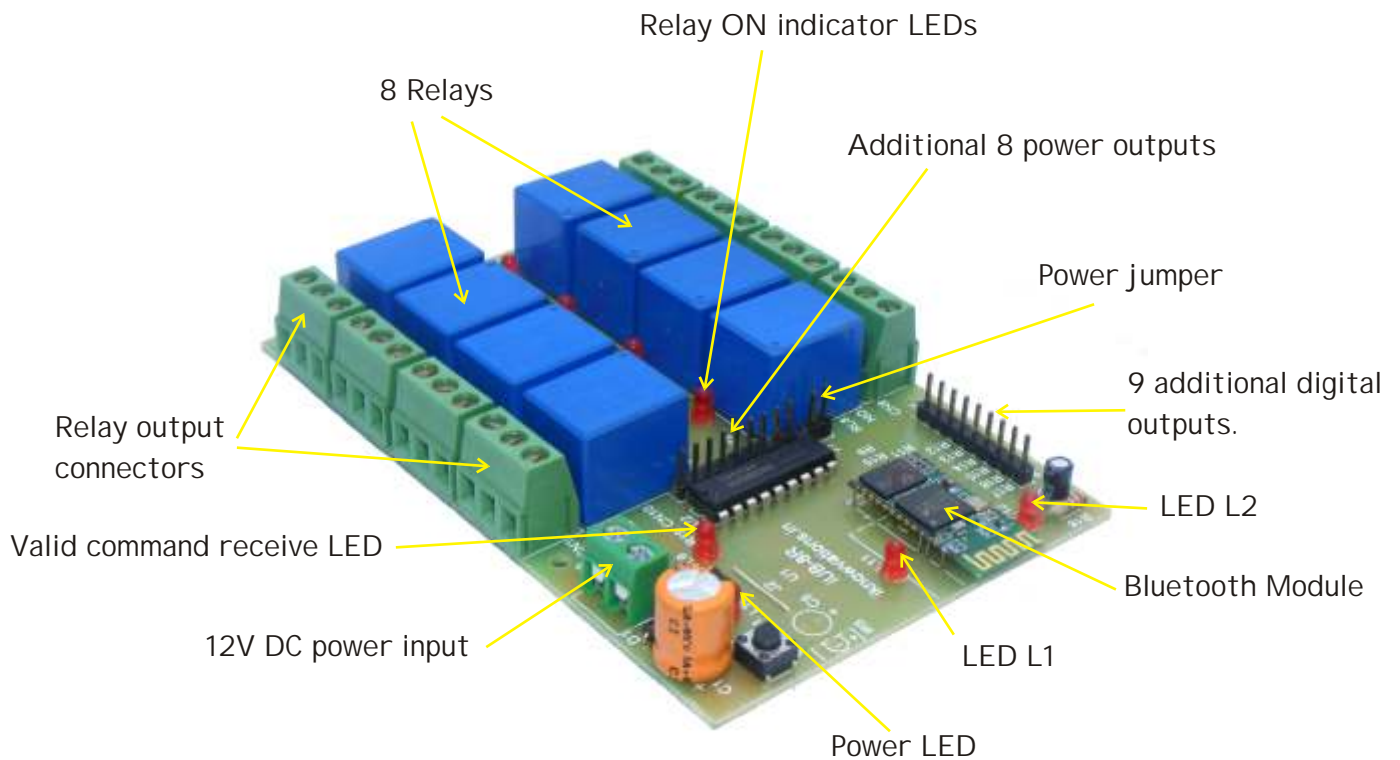


User Manual



Bluetooth DAQ & Relay Board 8 Ch - iUB-BT8RD

User manual



Features -

1. 8 on board relays to control various electrical equipments / products.
2. Additional 8 power outputs to control other loads parallel to the relays.
3. Power jumper to control only power outputs without relay control. This can be used to control other loads in the range of 7-15 DC volts 300 mA per channel.
4. On board 5.0 & 3.3 V DC regulator.
5. On board Relay ON LEDs, Valid command LED and 2 LEDs indicating discoverable and connected Bluetooth relay board status.
6. 9 additional digital 3.3 V input and output pins.
7. Power input of 12V DC to operate the board with relays.

Applications -

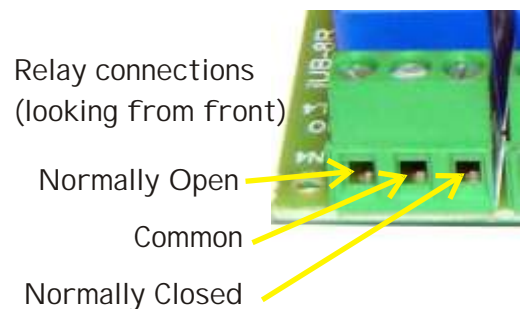
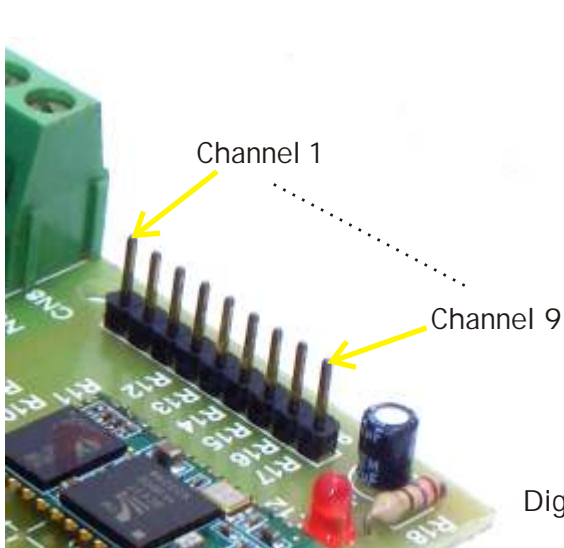
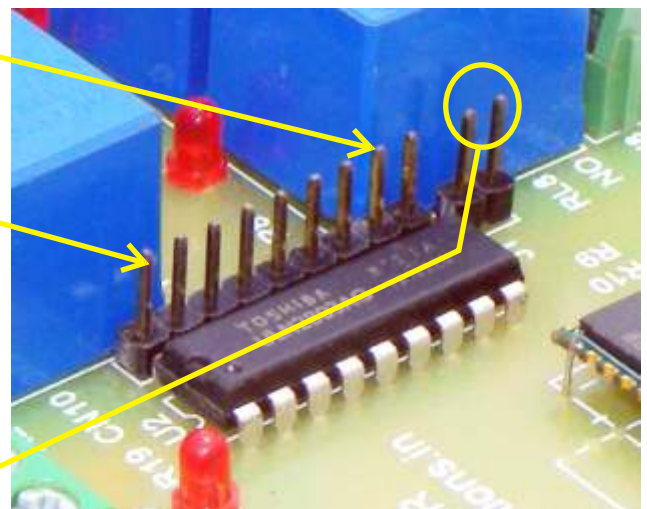
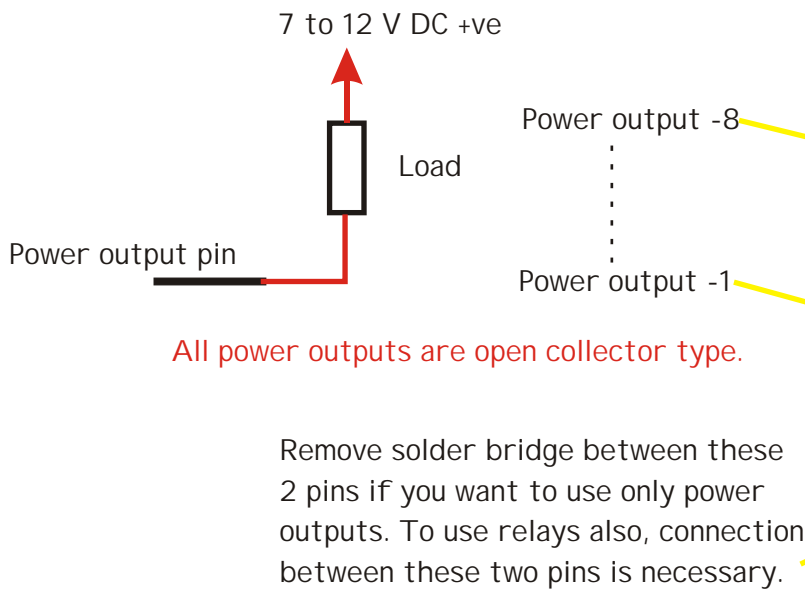
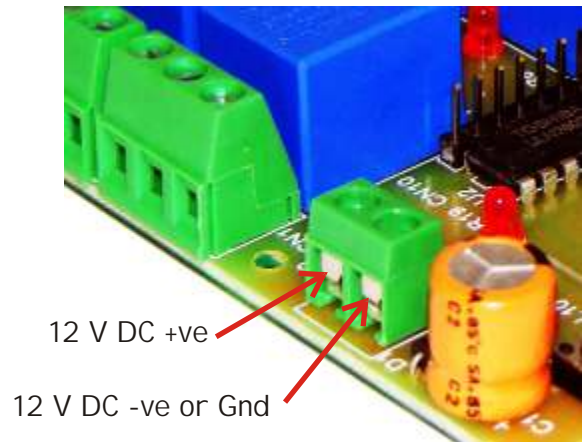
1. Home automation.
2. Industrial automation.
3. PC, Tablets and Smart phone operated controls.
4. Lighting control.
5. Garden, agriculture & horticulture equipments control.
6. Hobby & Do It Yourself projects.
7. Smart phone operated Robotics.



Bluetooth DAQ & Relay Board 8 Ch - iUB-BT8RD

User manual

Power supply can be from 7 V to 12 Vdc.
 If you are using Relays, you have to provide 12 V DC only.
 If you are using other power outputs and not the relays, then you can use 7 to 12 V DC, depending upon your application.



Digital inputs /outputs/ ADCs

4

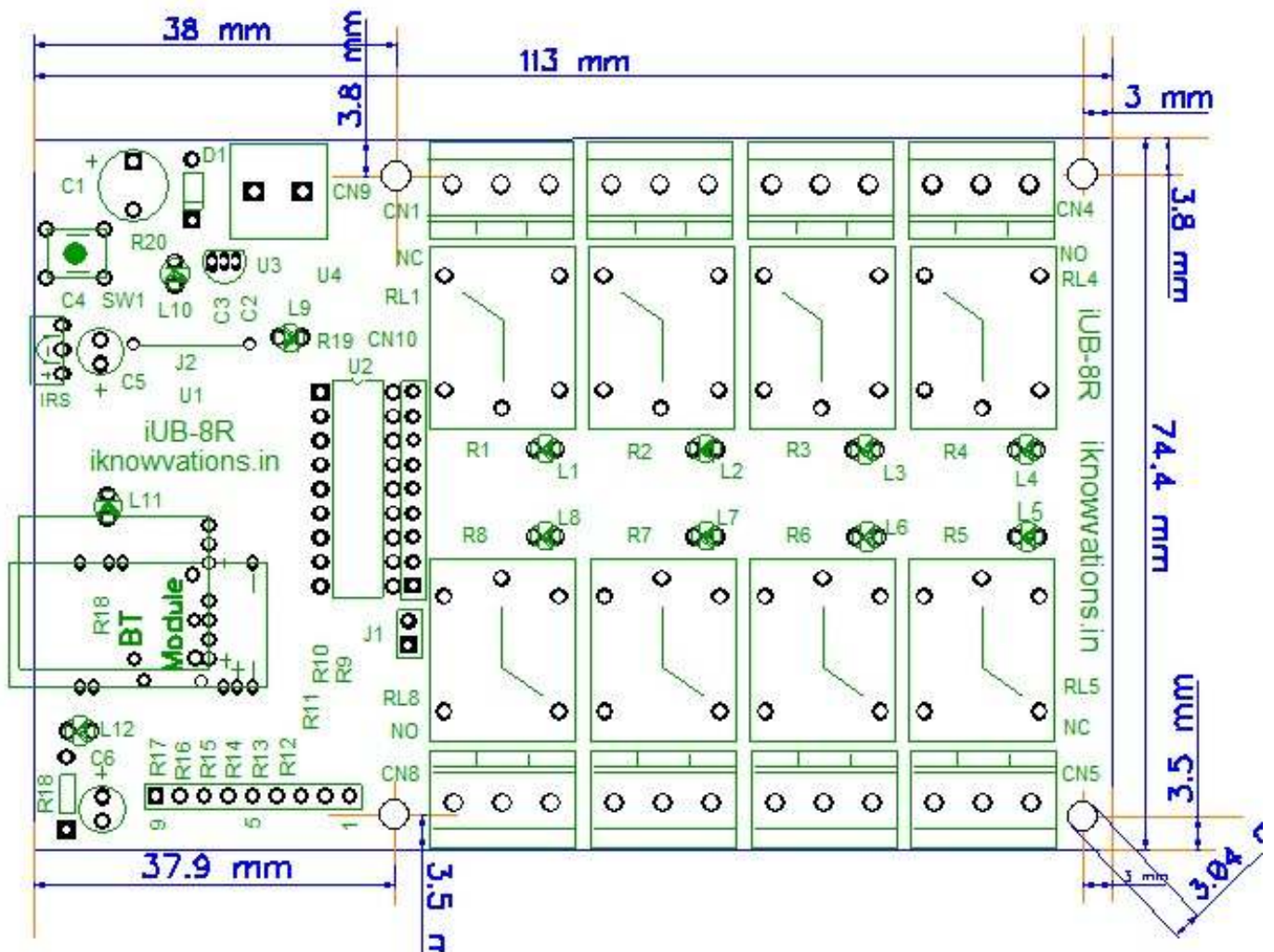
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Bluetooth DAQ & Relay Board 8 Ch - iUB-BT8RD

User manual

Board dimensions -



The diagram illustrates the board dimensions and component placement for the Bluetooth DAQ & Relay Board 8 Ch (iUB-BT8RD). Key dimensions include:

- Top edge width: 38 mm
- Top edge total width: 113 mm
- Top edge offset: 3.8 mm
- Right edge offset: 3 mm
- Right edge width: 3.8 mm
- Right edge total height: 74.4 mm
- Right edge offset: 3.5 mm
- Bottom edge width: 37.9 mm
- Bottom edge offset: 3.5 mm
- Bottom edge pitch: 3.5 mm
- Bottom edge offset: 3.8 mm
- Bottom edge offset: 3.8 mm

Components shown include:

- Resistors: R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20
- Capacitors: C1, C4, C5, C6
- Inductors: L1, L2, L3, L4, L5, L6, L7, L8, L9, L10, L11, L12
- Diodes: D1
- ICs: U1, U2, U3, U4
- Relays: RL1, RL2, RL3, RL4, RL5, RL6, RL7, RL8
- Connectors: CN1, CN2, CN3, CN4, CN5, CN8, CN9, CN10
- BT Module
- iUB-8R Module
- Other components: SW1, J1, J2, IRS, R18

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Doc-iUB-BT8RD-UM-Rev1.0

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4/17



Bluetooth DAQ & Relay Board 8 Ch - iUB-BT8RD

User manual

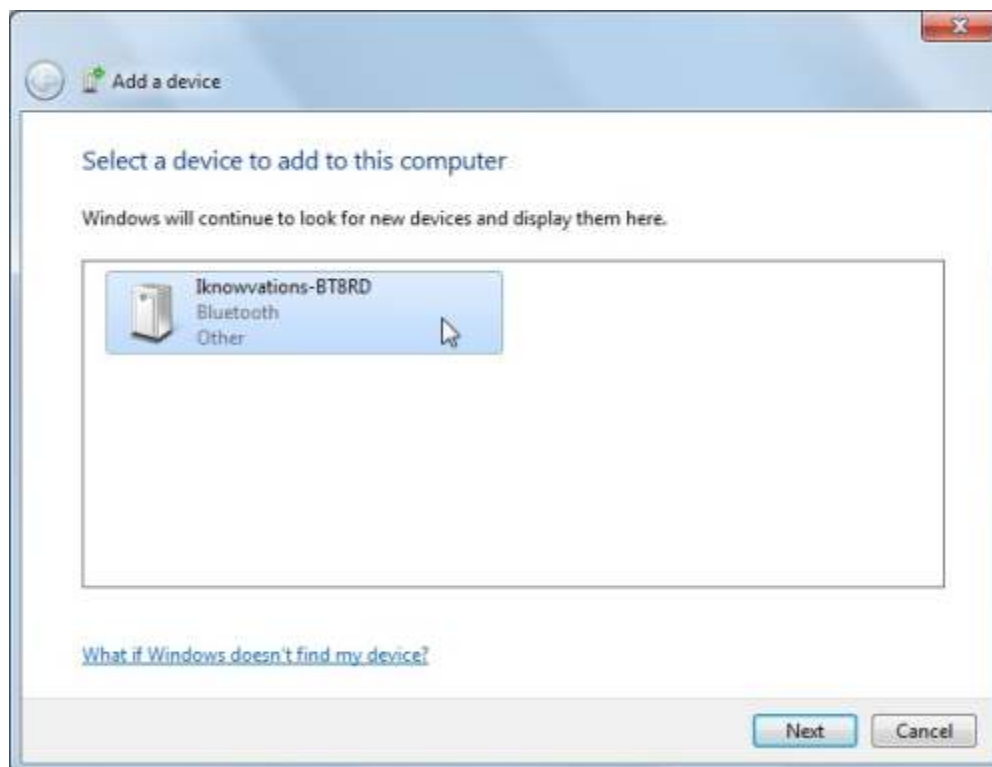
Installation.

Power up the board with 12 V DC and LED L1 will start blinking. This shows that the device is in discoverable mode & not yet connected.

Now go to (PC or Laptop having Bluetooth made ON) control panel - Hardware and sound window. Click on "Add a Bluetooth device " as shown in below.



PC will start scanning & will show the I knowvations-BT8RD device, once it is found as below image shows.



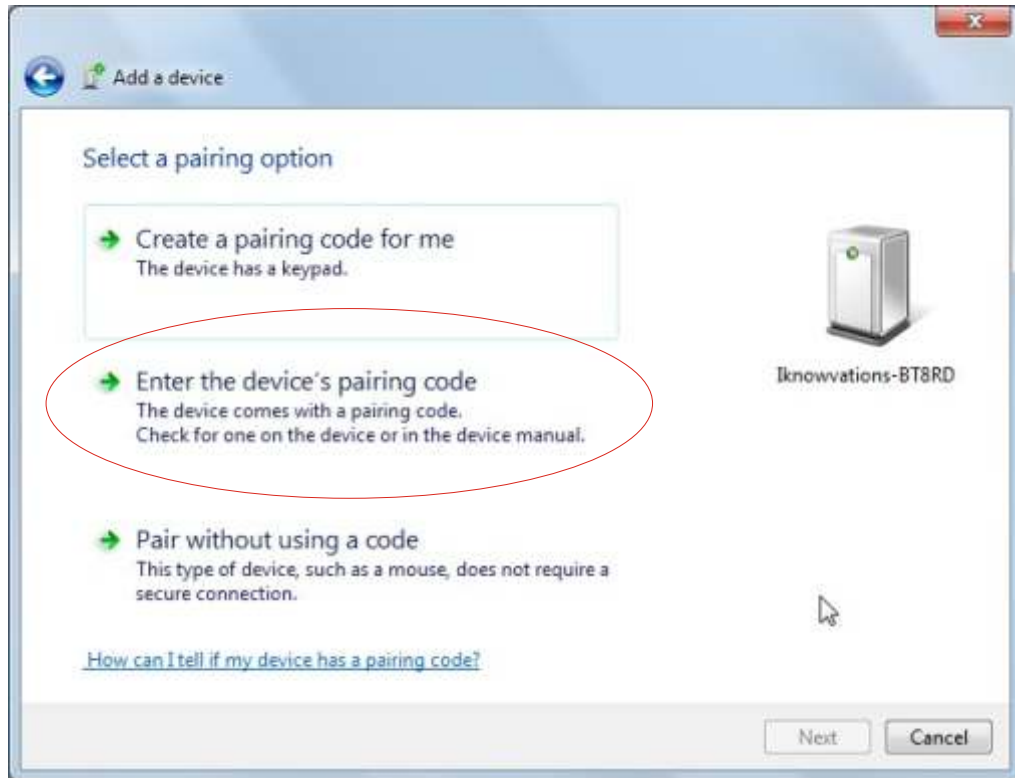
Enter " Next"



Bluetooth DAQ & Relay Board 8 Ch - iUB-BT8RD

User manual

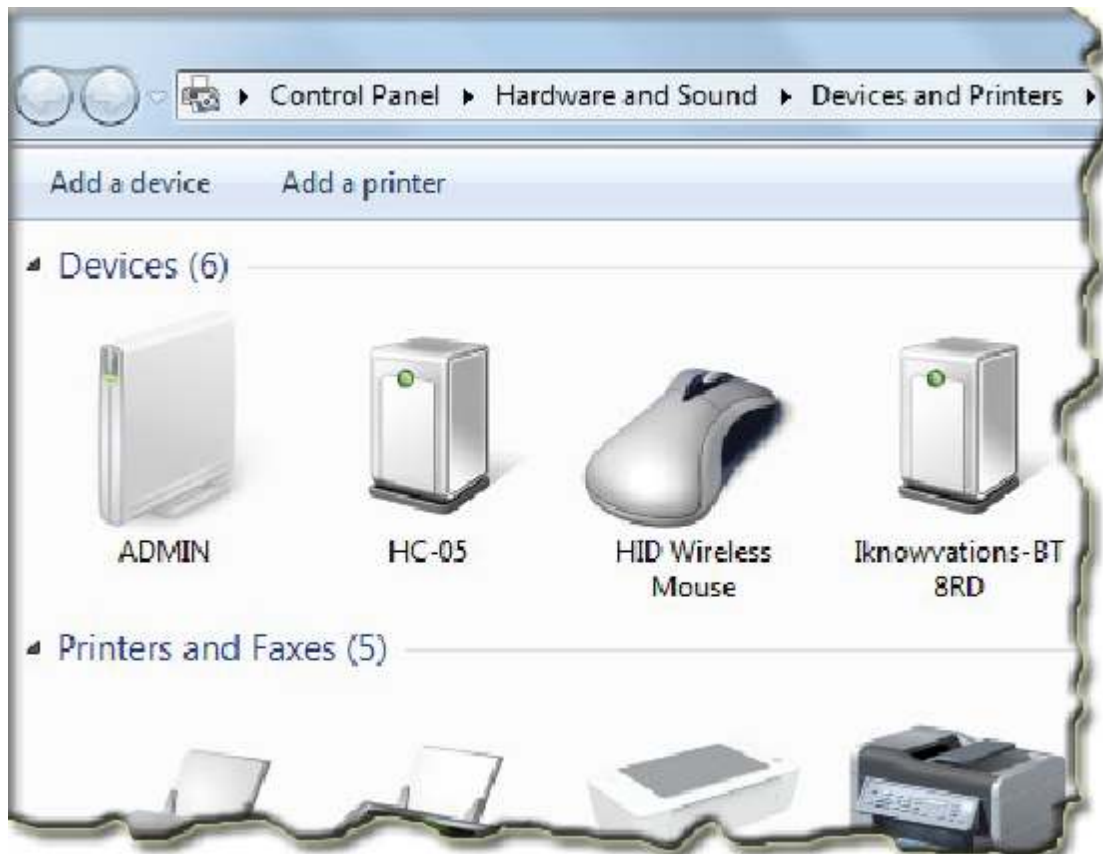
Click the encircled choice - "Enter the device's pairing code" and enter pairing code "1234" when asked. The board will be added to your computer.



Bluetooth DAQ & Relay Board 8 Ch - iUB-BT8RD

User manual

Once added it will be shown in "Devices & Printers" folder as shown below. Clicking on "Properties" button will show the COM port assigned to this board.

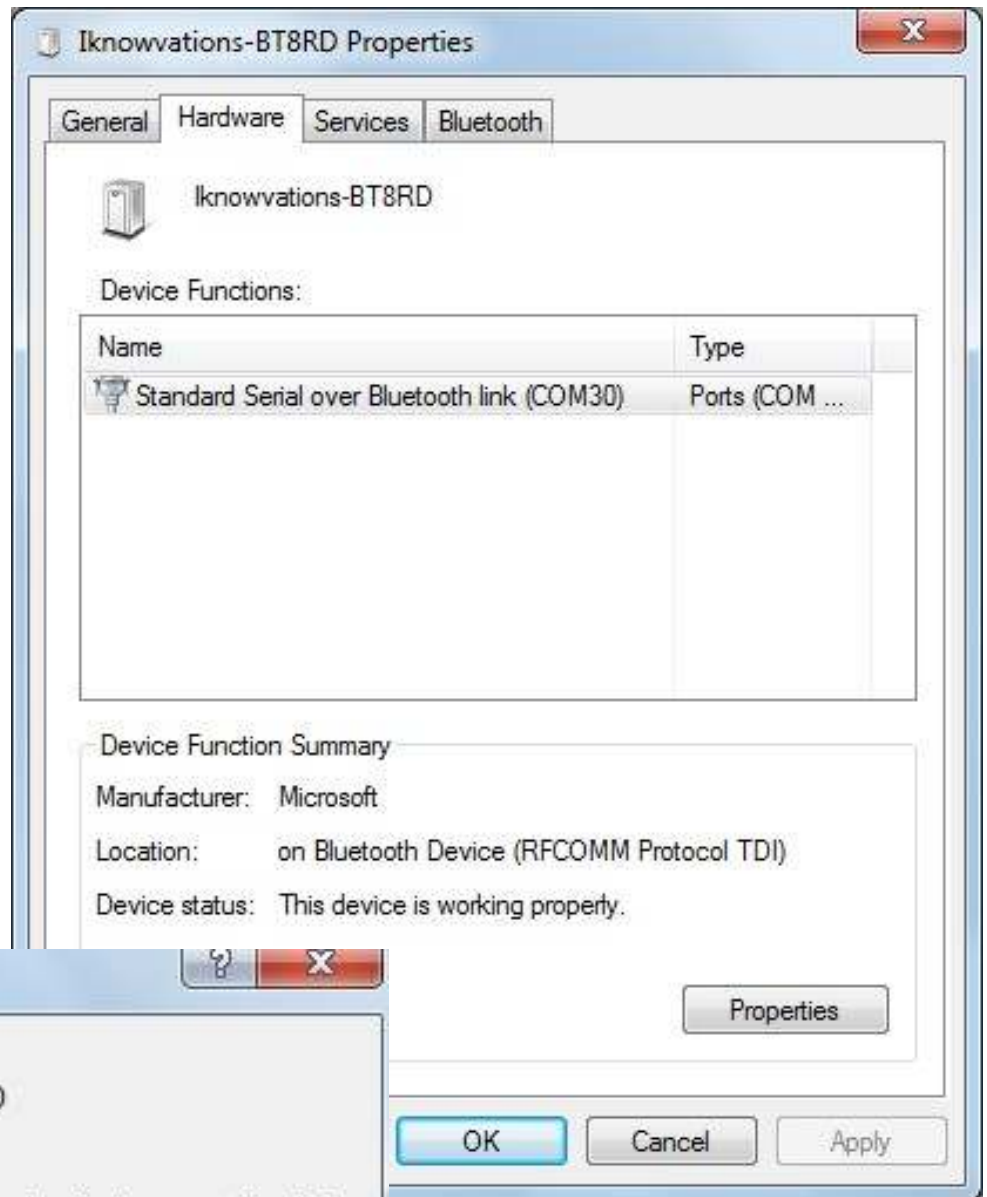




Bluetooth DAQ & Relay Board 8 Ch - iUB-BT8RD

User manual

This fig shows COM30 assigned to this board by computer.



Now you can connect to this board by using any serial communication software like HyperTerminal using COM port assigned by your computer.

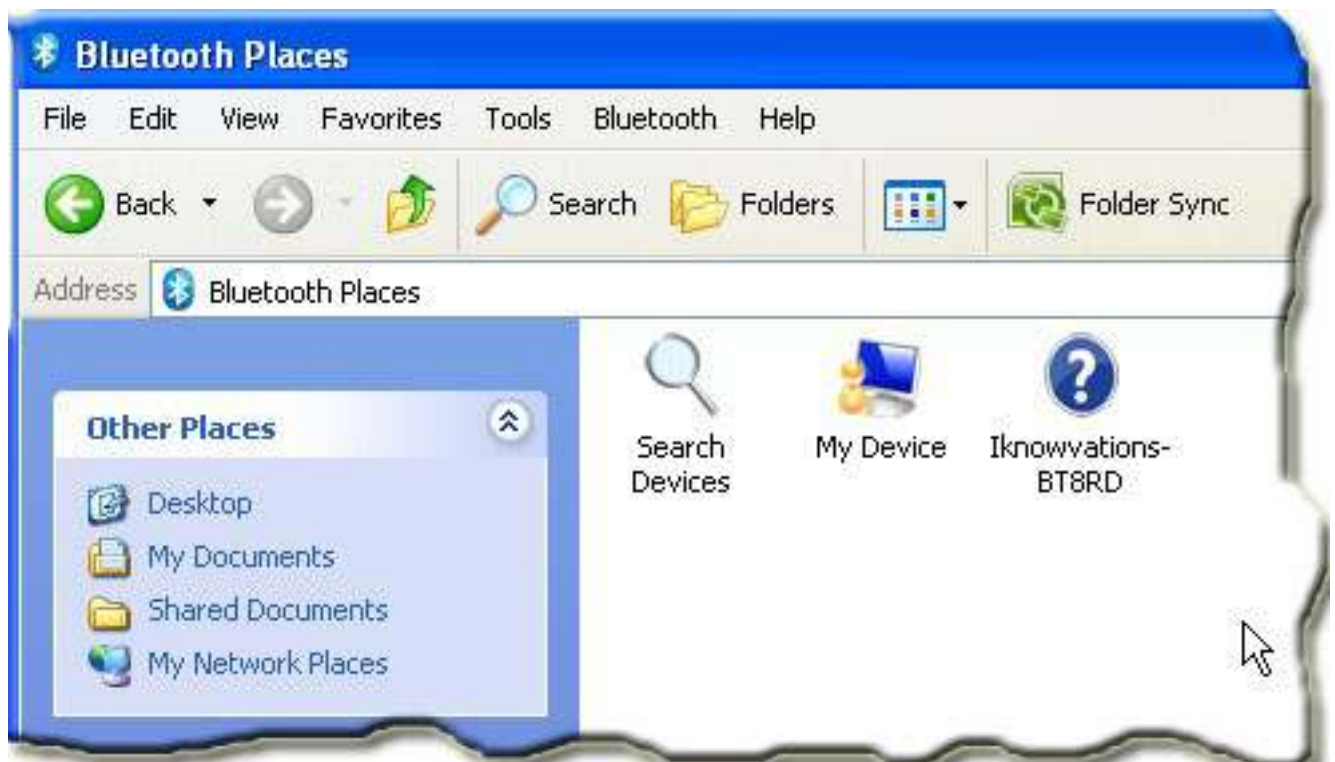
For example this board is assigned COM30. Yours may be different.



Bluetooth DAQ & Relay Board 8 Ch - iUB-BT8RD

User manual

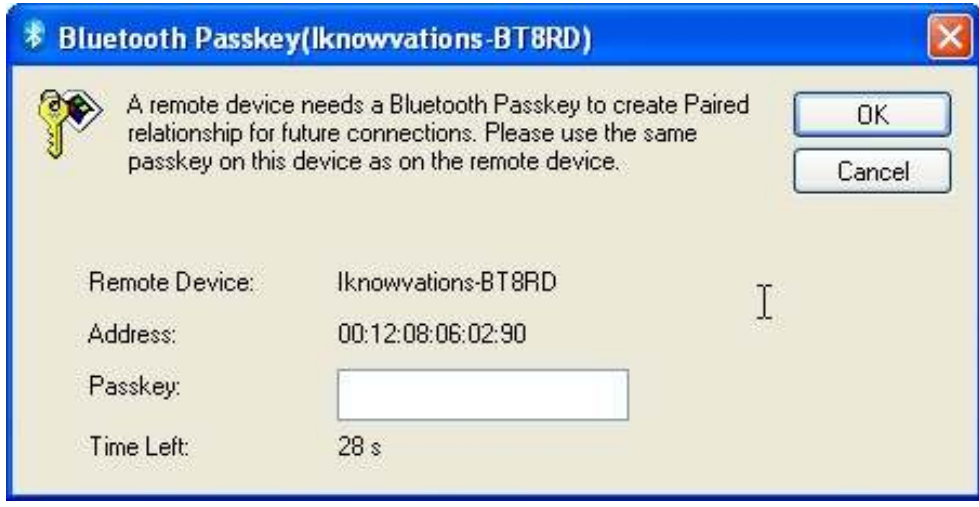
Following figures show the same procedure when the board is to be found by a PC having WIN32 OS.





Bluetooth DAQ & Relay Board 8 Ch - iUB-BT8RD

User manual

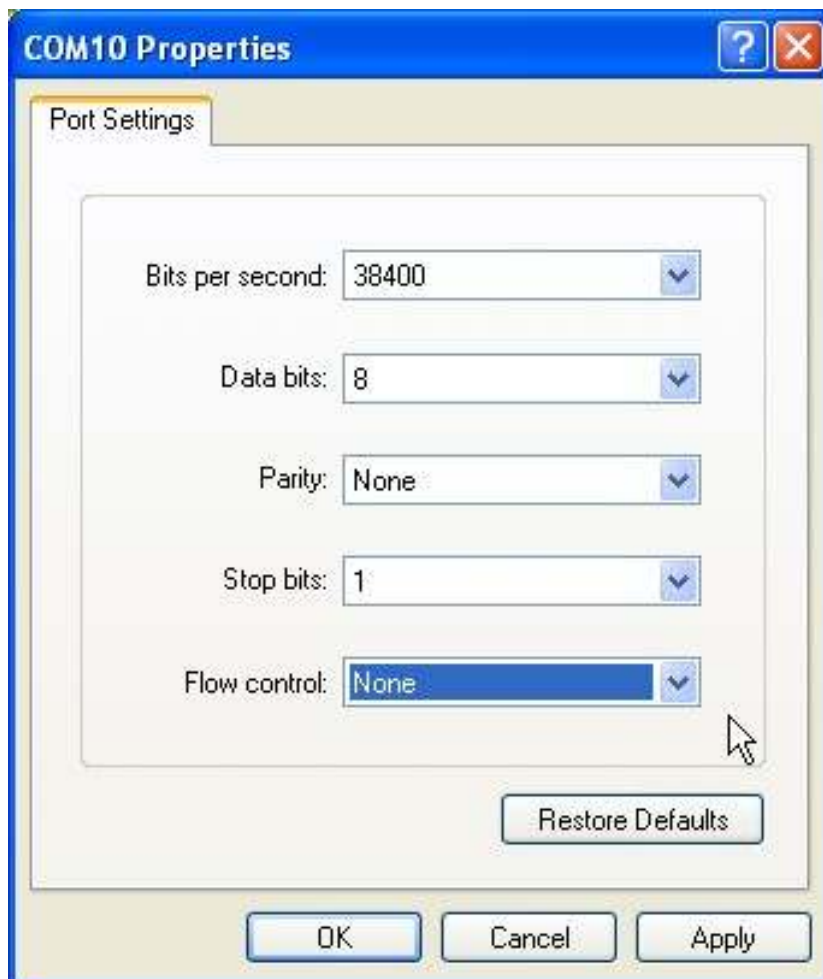


Bluetooth DAQ & Relay Board 8 Ch - iUB-BT8RD

User manual



As explained before you can connect with the board using COM port assigned by computer and keeping Port setting as shown in figure below.

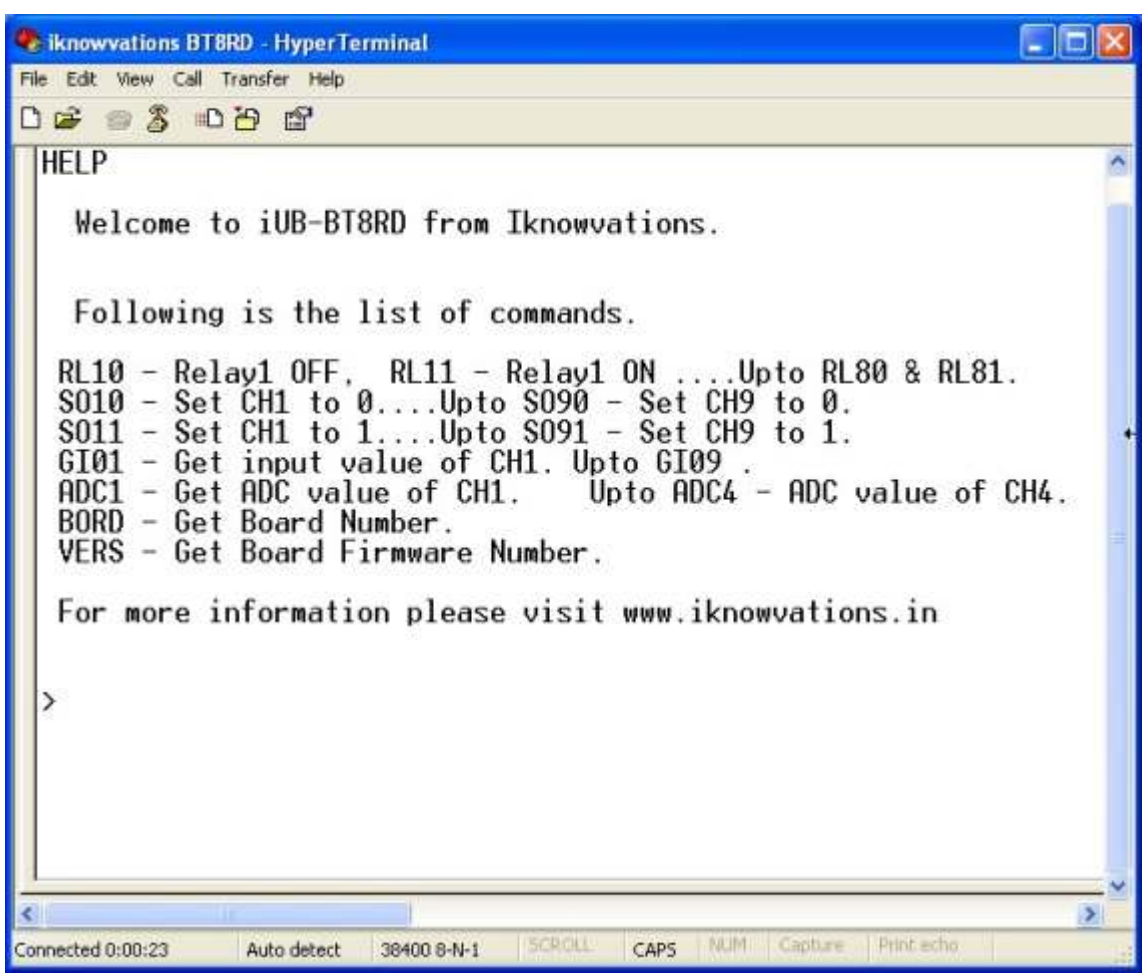




Bluetooth DAQ & Relay Board 8 Ch - iUB-BT8RD

User manual

Once connected, if you enter the command (all commands in CAPS) "HELP" the board will respond with all the available commands.

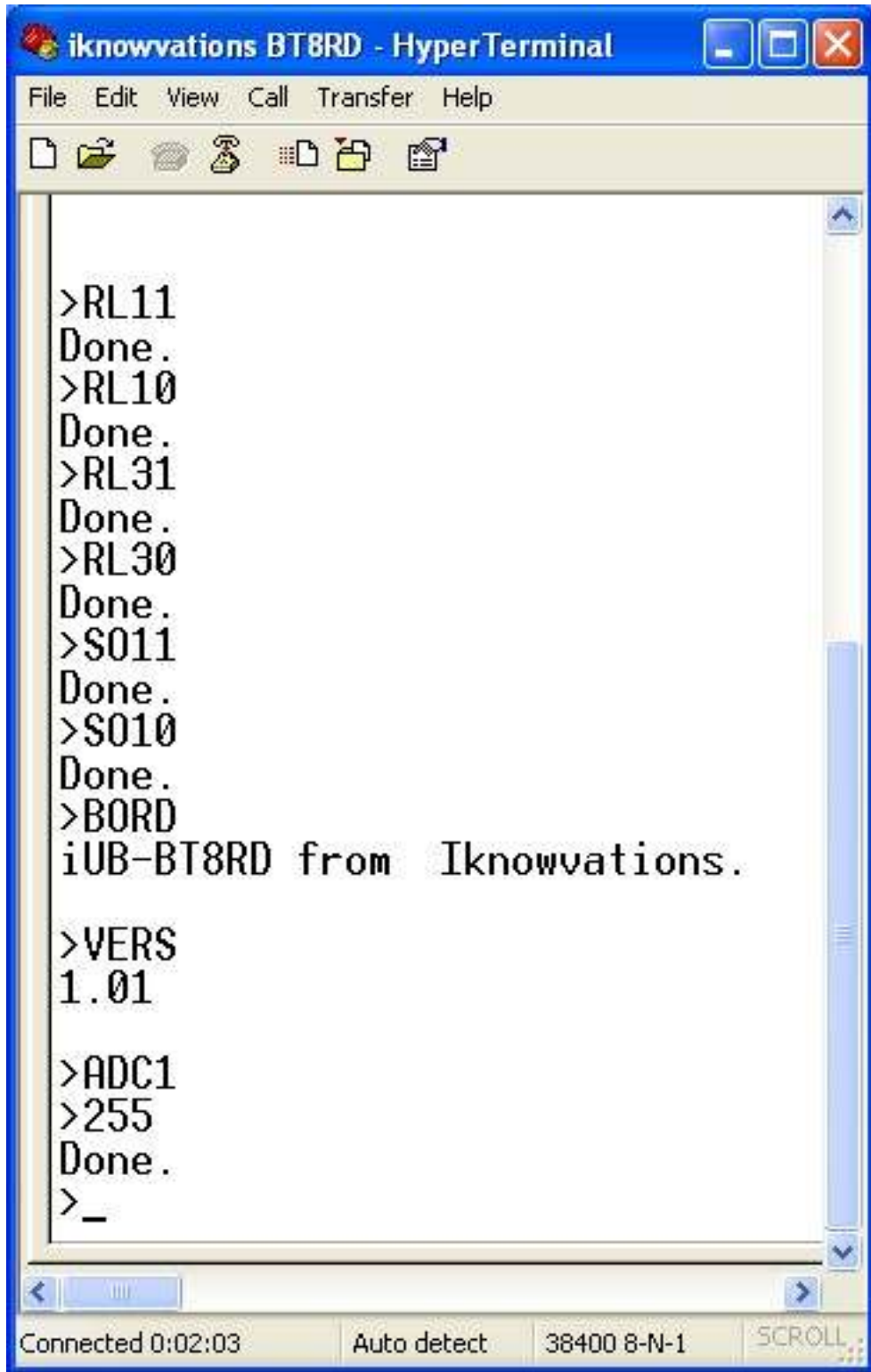




Bluetooth DAQ & Relay Board 8 Ch - iUB-BT8RD

User manual

Following figure shows some of the example commands and response provided by the board.

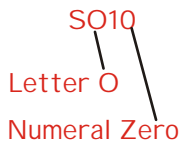


Command Reference -

1. For Relay Control -

- RL10 - Make Relay 1 Off.
- RL11 - Make Relay 1 On.
- RL20 - Make Relay 2 Off.
- RL21 - Make Relay 2 On.
- RL30 - Make Relay 3 Off.
- RL31 - Make Relay 3 On.
- RL40 - Make Relay 4 Off.
- RL41 - Make Relay 4 On.
- RL50 - Make Relay 5 Off.
- RL51 - Make Relay 5 On.
- RL60 - Make Relay 6 Off.
- RL61 - Make Relay 6 On.
- RL70 - Make Relay 7 Off.
- RL71 - Make Relay 7 On.
- RL80 - Make Relay 8 Off.
- RL81 - Make Relay 8 On.

2. For Setting Outputs -



- SO10 - Make Channel 1 - Low - 0.
- SO11 - Make Channel 1 - High - 1.
- SO20 - Make Channel 2 - Low - 0.
- SO21 - Make Channel 2 - High - 1.
- SO30 - Make Channel 3 - Low - 0.
- SO31 - Make Channel 3 - High - 1.
- SO40 - Make Channel 4 - Low - 0.
- SO41 - Make Channel 4 - High - 1.
- SO50 - Make Channel 5 - Low - 0.
- SO51 - Make Channel 5 - High - 1.
- SO60 - Make Channel 6 - Low - 0.
- SO61 - Make Channel 6 - High - 1.
- SO70 - Make Channel 7 - Low - 0.
- SO71 - Make Channel 7 - High - 1.
- SO80 - Make Channel 8 - Low - 0.
- SO81 - Make Channel 8 - High - 1.
- SO90 - Make Channel 9 - Low - 0.
- SO91 - Make Channel 9 - High - 1.

3. For Getting Inputs -

- GI01 - Get input from Channel 1.
- GI02 - Get input from Channel 2.
- GI03 - Get input from Channel 3.
- GI04 - Get input from Channel 4.
- GI05 - Get input from Channel 5.
- GI06 - Get input from Channel 6.
- GI07 - Get input from Channel 7.
- GI08 - Get input from Channel 8.
- GI09 - Get input from Channel 9.

The card will respond with 1 or 0 for Input High or Input Low respectively.

4. For Getting Analog Inputs -

- ADC1 - Get Analog input value from Channel 1.
- ADC2 - Get Analog input value from Channel 2.
- ADC3 - Get Analog input value from Channel 3.
- ADC4 - Get Analog input value from Channel 4.

The card will respond with 0 to 1023 depending upon the voltage present on that channel. 0 for 0 v and 1023 for full 3.3 V.

5. Miscellaneous Commands -

- BORD - Issuing this command will return the card Number.
- VERS - Issuing this command will return the Firmware Version Number.
- HELP - prints these menu commands.

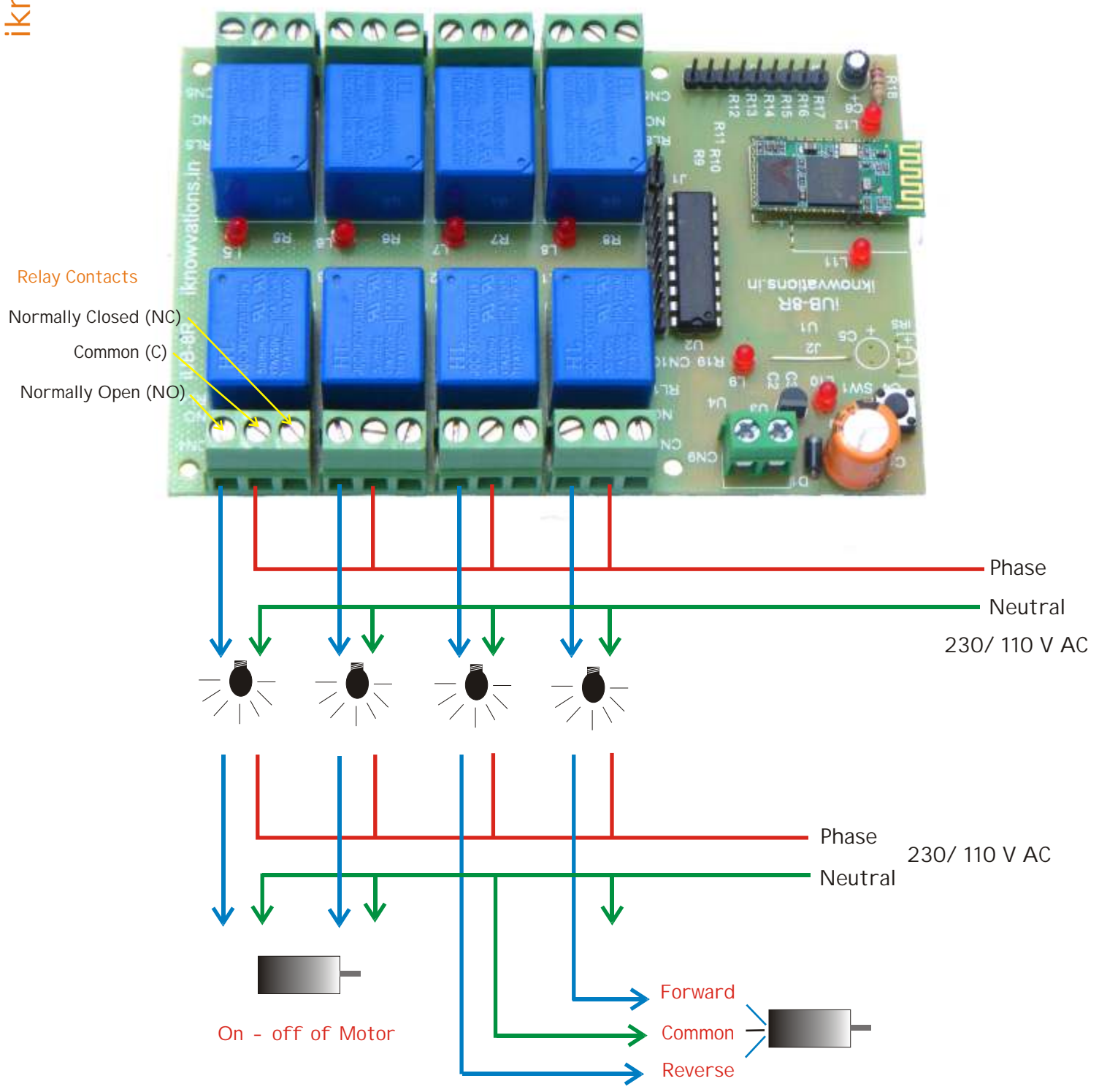
Using the card - iUB-BT8RD-

Once the card is connected through Bluetooth channel, you can communicate with the card through the COM port assigned to it by using any Serial Communication software like Hyper Terminal.

Bluetooth DAQ & Relay Board 8 Ch - iUB-BT8RD

User manual

Connecting AC load to Relays -



Motor on/off & forward/reverse use momentary function

There are many more varied uses of our Infrared controlled relay boards. Send us your novel idea to us at info@iknowvations.in & you can have a chance to win a free Infrared controlled relay card.

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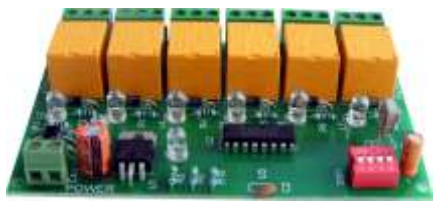
If you have any questions, want any assistance, want us to develop any special products for you just contact us at support@iknowvations.in.

We have other products also that might interest you like -



4 channel I R Remote control Board - AZ4CR-03

6 channel I R Remote control Board - AZ6CR-03



U452 is an USB based Relay Card having up to 16 I/O channels & 8 ADC channels. The ADC resolution is 8/10/12 bits user selectable.

R242 is an RS232 based Relay Card having up to 9 I/O channels & 4 ADC channels. The ADC resolution is 10 bits.



Experimental Board for TI LaunchPad.

6 digit 7 segment Multipurpose LED Counter



For more information visit - www.iknowvations.in



Bluetooth DAQ & Relay Board 8 Ch - iUB-BT8RD

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