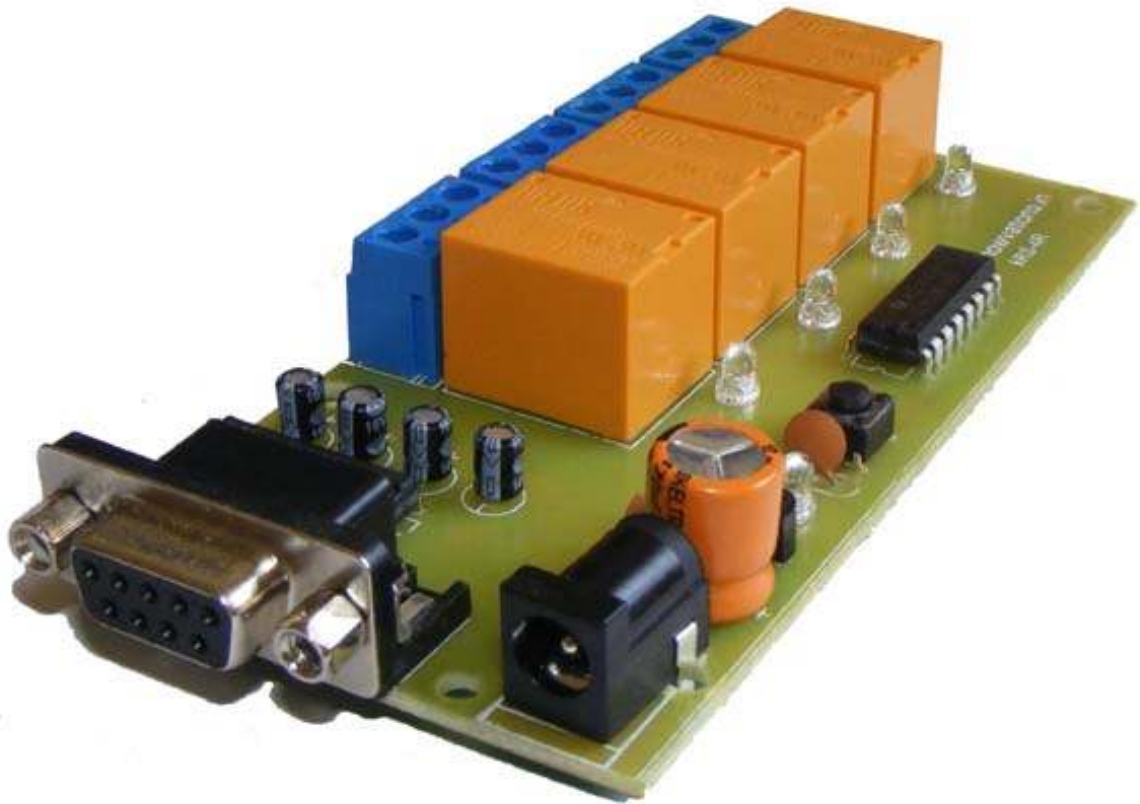


# User Manual





## 4 channel RS232 Relay Board -iRS-4R

Welcome to the world of Computer Automation. This RS232 Relay Board - iRS-4R is a perfect companion for all your computer automation projects. It is RS232 based card having 4 onboard relays for switching external devices.

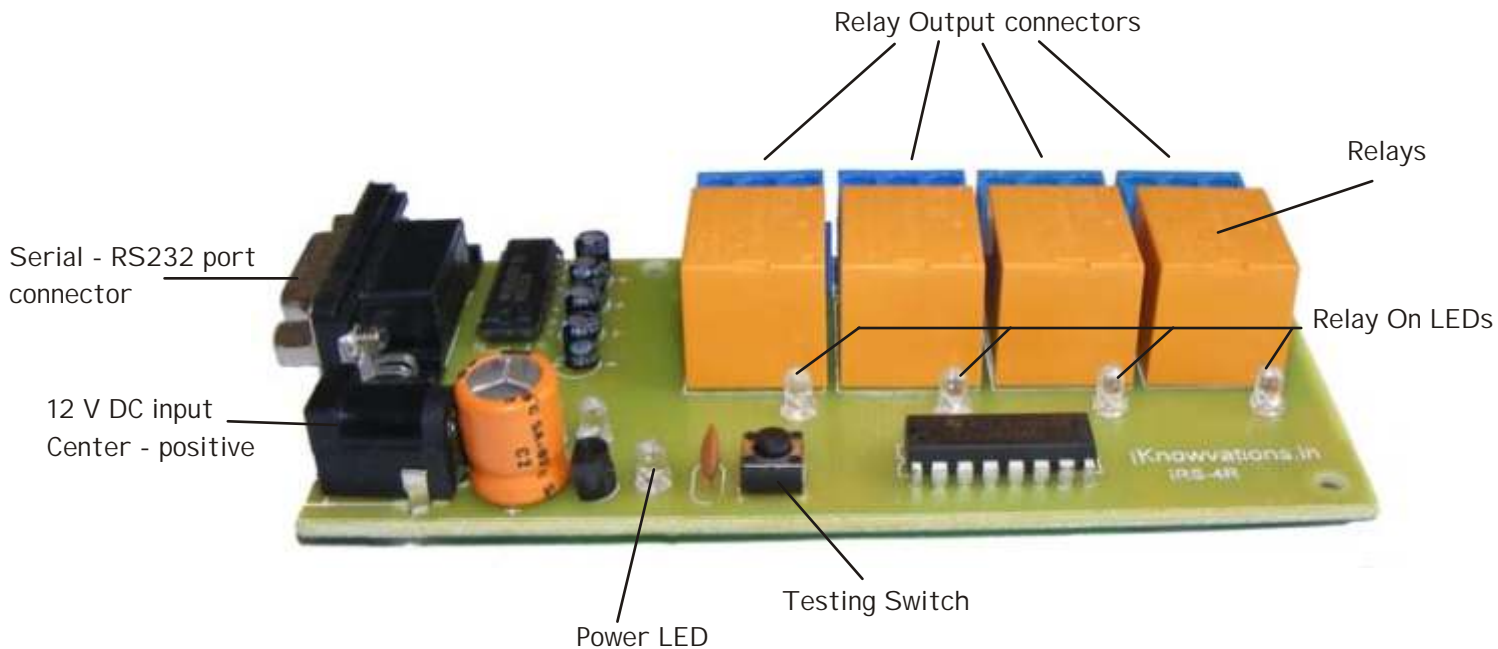
It uses existing Com Port ( you can choose the available one), which allows easy communication with the card. Any programming language that supports serial communications ( C, C#, C++, VB, VB.NET, Perl, Java etc) can be used to communicate with iRS-4R very easily. Easy to use commands are available to communicate with iRS-4R for Switching On/Off of Relays.

Get windows drivers, test applications and sample codes at -

<http://iknowvations.in>

Manufactured by -

I knowvations  
Rajivnagar,Vidyanagar  
Hubli - 580031  
India.



#### Technical Specifications -

- No. of Relays - 4.
- Relay Specifications - Coil Voltage 12V Dc. Contact capacity - 5A Max.
- Supply voltage - 12 V Dc.

#### Please Read Carefully

This device iRS-4R connects to RS232 port of your computer and can be used to control external devices through its relays. Incorrect use or faulty board can cause damage to controller itself or Serial Port controller of your computer or Motherboard of your computer. Extreme care should be taken while using this board. It will be totally user's responsibility for the use of this card.

I knowvations, it's employees, suppliers, distributors, dealers and/or resellers are not liable to any kind of damage or loss of data as a result of use of this device, including special, incidental, or consequential damages resulting from the use of this device or under any legal theory, including loss of profits, downtime, goodwill damage to, or replacement of equipment or property and any cost for recovering or reproducing any data stored in computers connected with this device.

Your purchase and/or use of this board indicates your acceptance of these terms.

## Command Reference -

1. For Relay Outputs -
  - 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.

There are 2 additional commands for relays -

- RLA0 - Make All Relays Off.
- RLA1 - Make All Relays On.

2. 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 - iRS-4R

You can connect the card with your computer using any serial port cable. You have also to apply power 12 V Dc to Barrel connector ( center +ve).

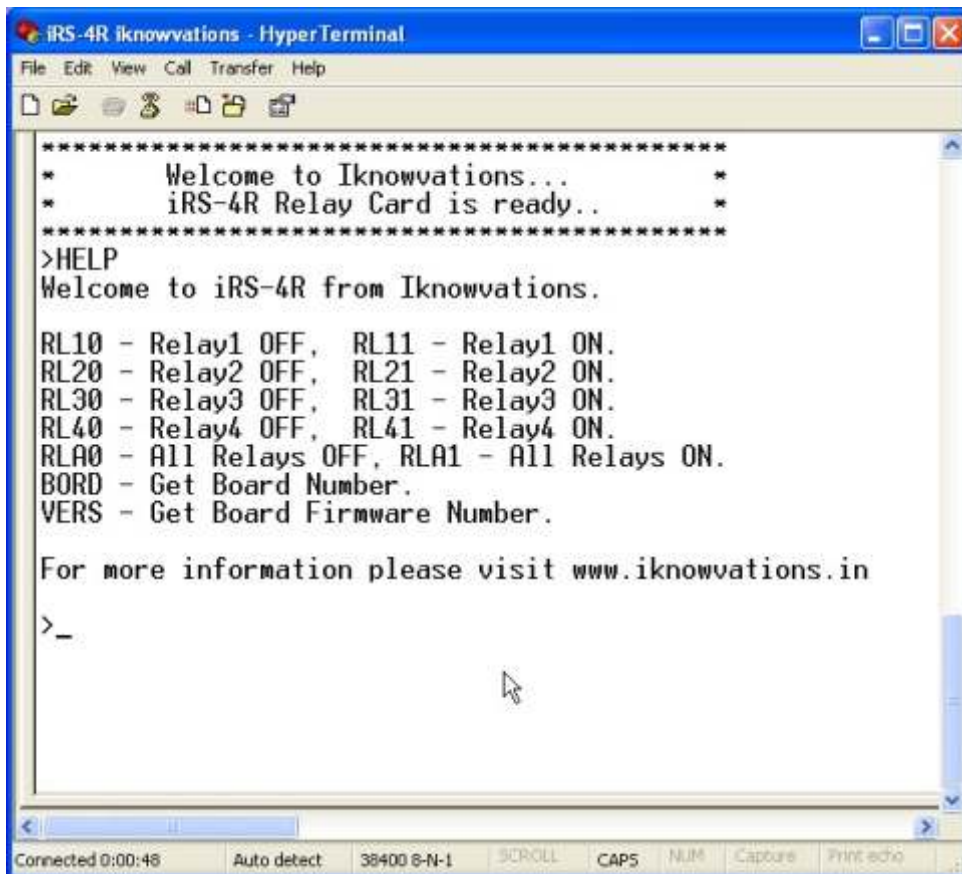
You can communicate with the card through Hyper Terminal Software which generally every computer has pre installed or you can use **iKontrol-iRS** - a special software made by I knowvations ( you can download it free from our website [iknowvations.in](http://iknowvations.in)) or you can develop your own software.

If you want to communicate with the card via HyperTerminal then start the HyperTerminal & set the com values as per following screen shot.



Select the com port as per your connection to the card.

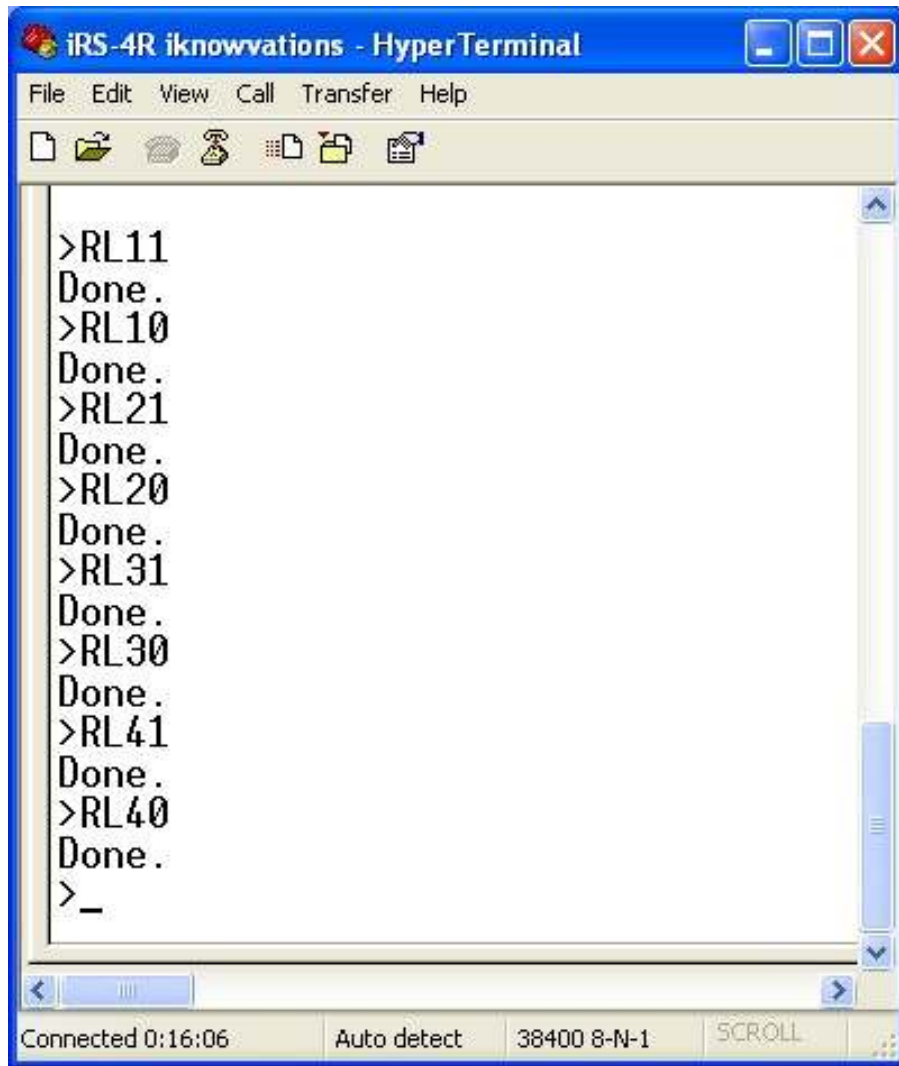
Apply the power to the card. You will be greeted with the welcome message and the prompt ">".



## 4 Channel RS232 Relay Board-iRS-4R

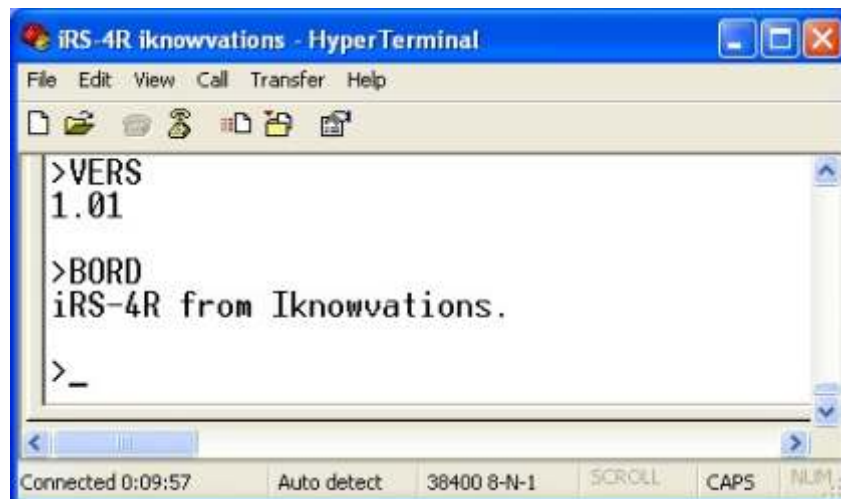
### User manual

Type HELP and press Enter. This is the way to enter any command. Please note that all the commands are entered in CAPS followed by Enter button. HELP command shows all the available commands along with their short description.



```
IRS-4R iknowvations - HyperTerminal
File Edit View Call Transfer Help
>RL11
Done.
>RL10
Done.
>RL21
Done.
>RL20
Done.
>RL31
Done.
>RL30
Done.
>RL41
Done.
>RL40
Done.
>_
>
```

Connected 0:16:06 Auto detect 38400 8-N-1 SCROLL



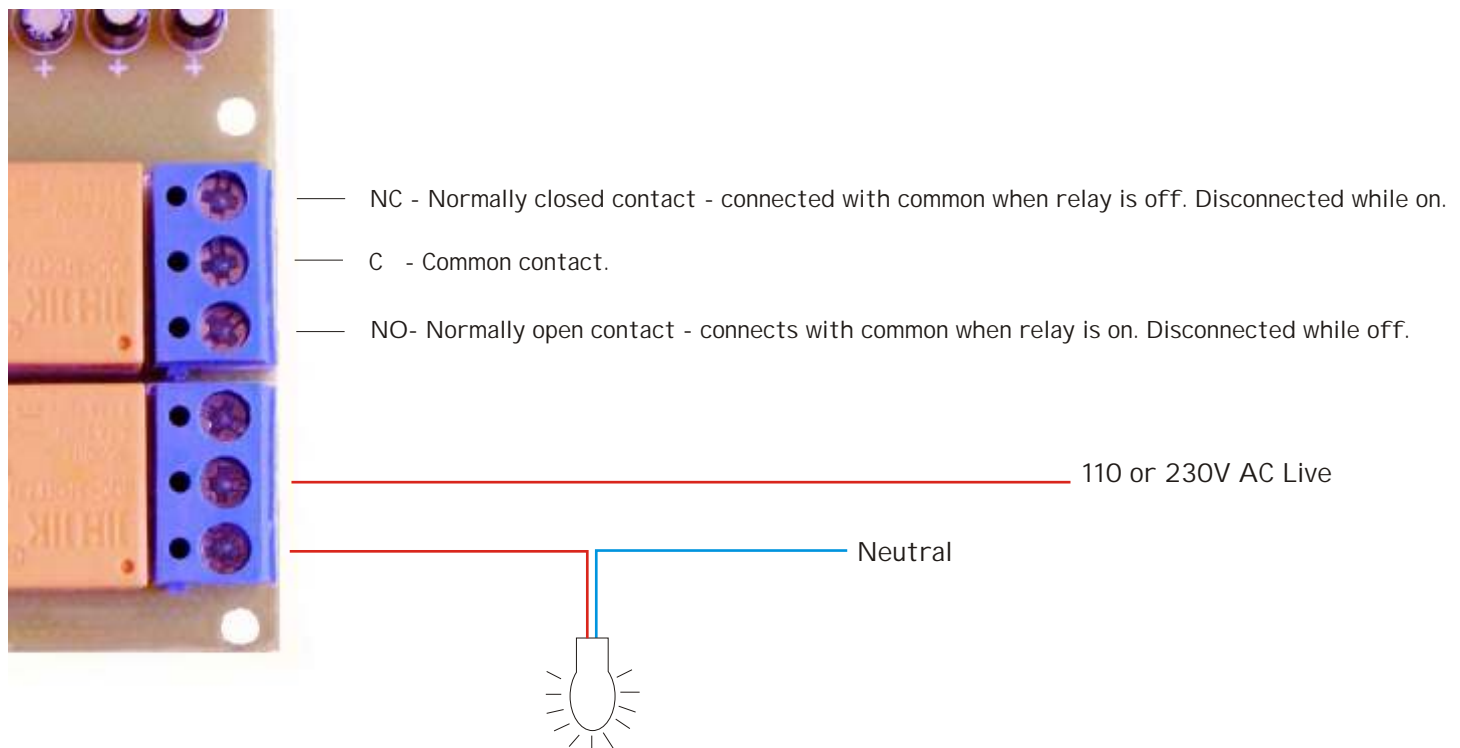
```
IRS-4R iknowvations - HyperTerminal
File Edit View Call Transfer Help
>VERS
1.01
>BORD
iRS-4R from Iknowvations.
>_
>
```

Connected 0:09:57 Auto detect 38400 8-N-1 SCROLL CAPS NUM

Screen shot showing various other commands.

### Using Relay Outputs -

Relay outputs can be used to operate various electrical devices under software control. **Extreme care should be taken if you are using 110 or 230 V AC. I knowvations will not be responsible for any kind of damage or loss whatsoever to life or property. It will be totally user's responsibility.**

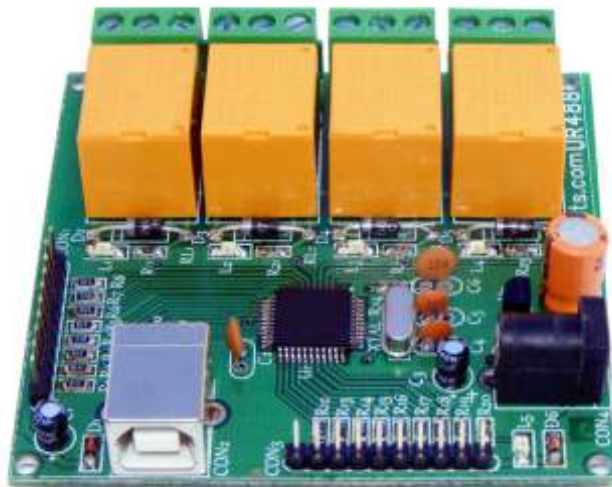


Use of RC Snubber Circuit across relay contacts is recommended to avoid electrical interference. It is must when Relays are used to operate any inductive load like motor, coil, relay , transformer etc. The value of R - can be from 39 ohms to 1 Kilo ohms & C may be from 0.01 mf to 0.1 mf 400V.

The R & C is connected in series & both ends are connected across two relay contacts -Common & NC. The purpose is to absorb back EMF generated when the load is disconnected from supply. When relay is made off the energy stored in inductive load try to jump across relay contacts which results in sparks. This sparks across contacts not only damage the tip material but also induce noise to the power supply circuit. This noise may cripple functioning of micro controller used in circuit. So if you use any inductive load with this circuit, do connect RC Snubber Circuit across the relay contacts

If you have any questions, want any assistance, want us to develop any special products for you just contact us at [support@iknowvations.in](mailto:support@iknowvations.in).

We have other products also that might interest you like -



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

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



6 digit 7 segment Multipurpose LED Counter

For more information, experiments & other technical knowledge do read our blog at [www.iknowvations.in](http://www.iknowvations.in)





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