

# **RELAY TIMER R4X**

**V2.5**

**Software Tutorial**



**Ginkgo LLC**

**Serial Port & Network Communication Software**

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# 1. Introduction

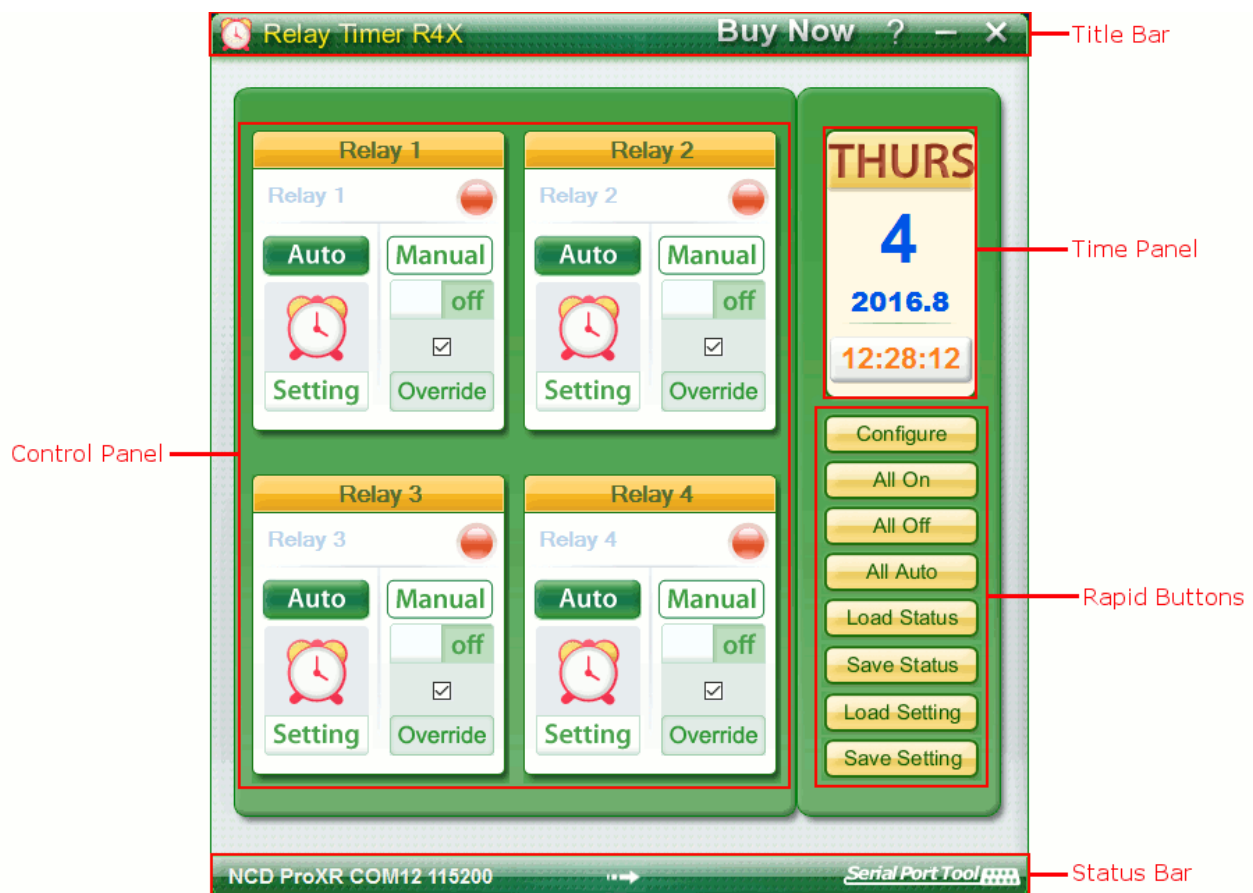
Relay Timer R4X is one of our Relay Timer series software, which is to control relay boards of [National Control Devices](#), [Robot Electronics](#), and [Velleman](#).

Relay Timer R4X is special to control 4-channel relay boards. Programmable time setting and high resolution make it quite fit for lights control, science experiment control, home automation control, industry control, energy conservation control, and so on.

We also have [Relay Timer R1X](#), [Relay Timer R2X](#), [Relay Timer R8X](#), and [Relay Timer R16X](#). They all have same features, except for different number of relay channel. [Relay Timer](#) is more powerful. It allows you to connect and control multiple relay boards.

## • Interface

The user interface of Relay Timer R4X includes *Title Bar*, *Control Panels*, *Time Panel*, *Rapid Buttons*, and *Status Bar*.



- **Features**

- Control 4- channel relay boards through Serial Port/USB or Network interface
- Control relays manually with separate control panel
- Control relays automatically according to schedule setting
- Detect and show relay connection status automatically and continuously
- Remind for disconnection and re-connection automatically
- Update and display the current relay status simultaneously
- Support multiple schedule setting with recurrence options
- Switch to auto control mode after specified time or at fixed time
- Launch automatically after log-in Windows
- Control relays remotely from other computers
- Launch by command line with specified parameters
- Save schedule setting for later loading.

## 2. Installation

- **System Requirement**

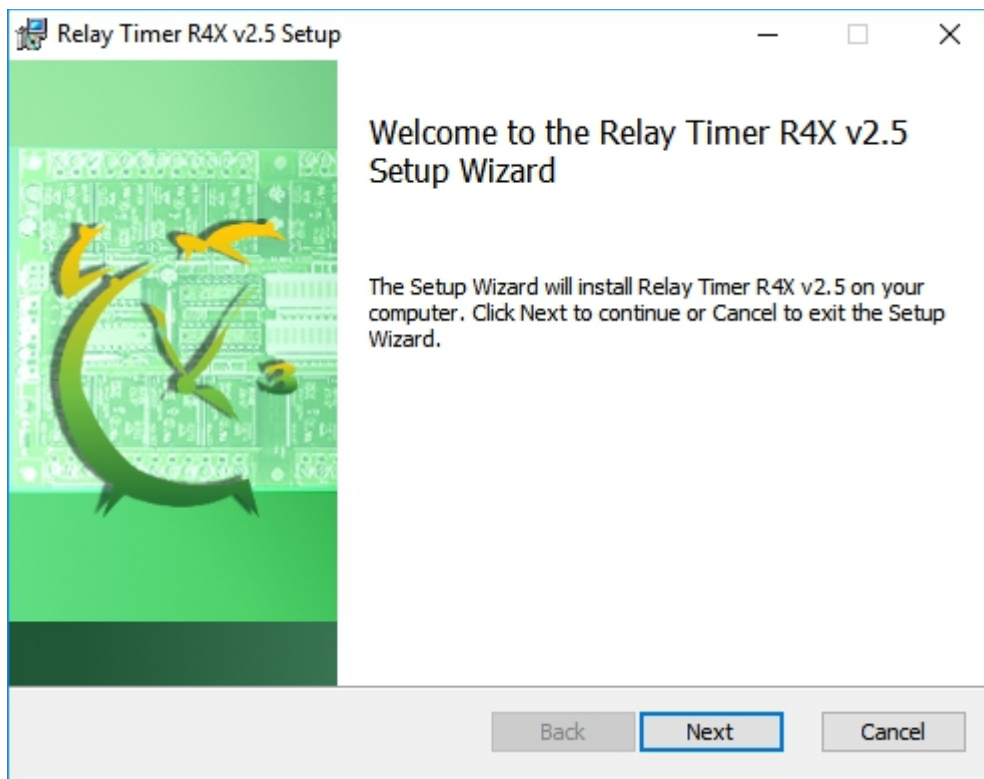
Relay Timer R4X works well on Windows 7, Windows 8, and Windows 10.  
Please be sure you have your Windows system updated.

- **Download**

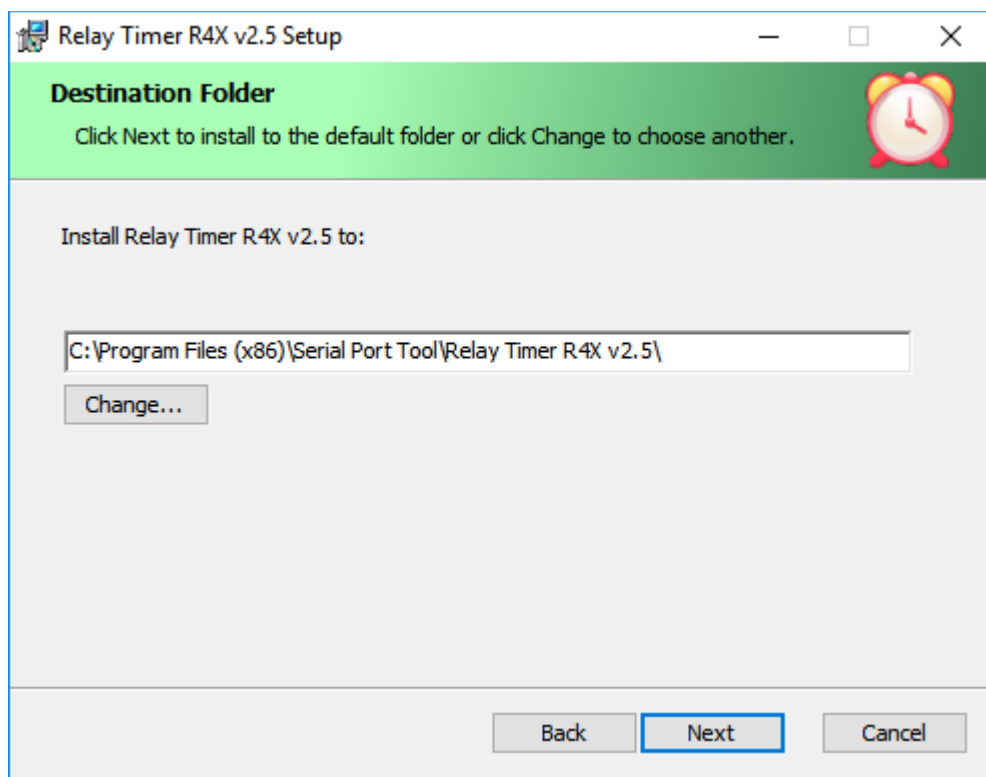
Click *Download* link on [Relay Timer R4X web page](#), or click the link below  
<http://www.serialporttool.com/download/RelayTimer/RelayTimerR4X.zip>  
to save *RelayTimerR4X.zip* file on your computer.

- **Install**

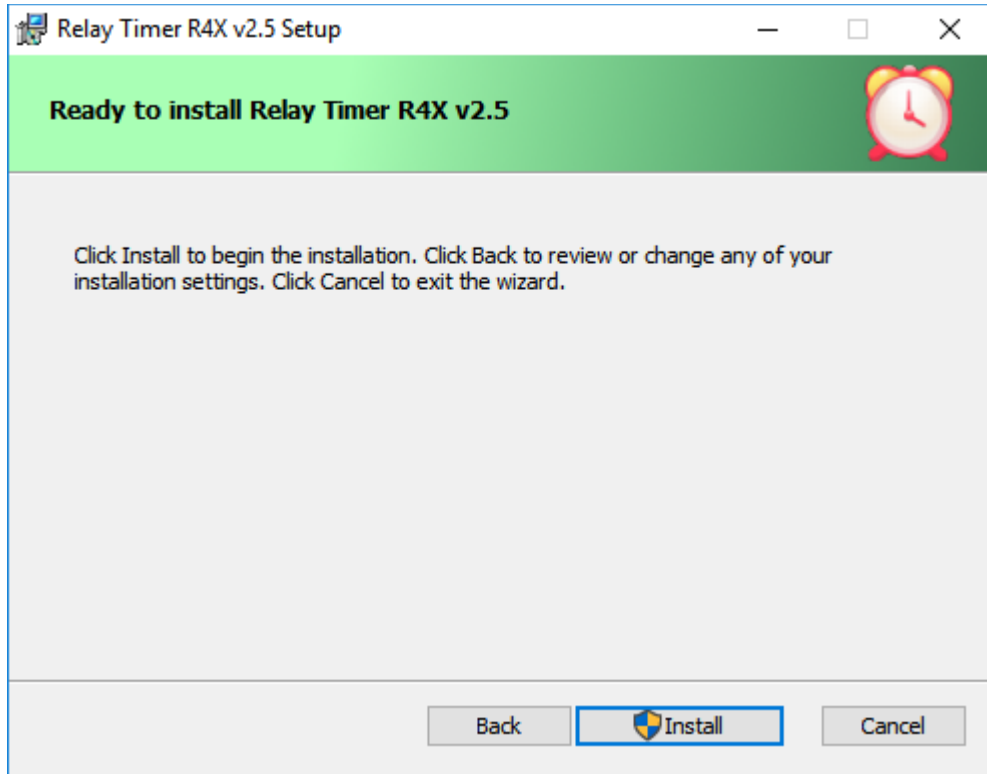
Unzip *RelayTimerR4X.zip* file to get *RelayTimerR4X.msi* file.  
Double-click *RelayTimerR4X.msi* file to run Setup Wizard.



Follow the instruction of Setup Wizard, click *Next* button to step into next panel.

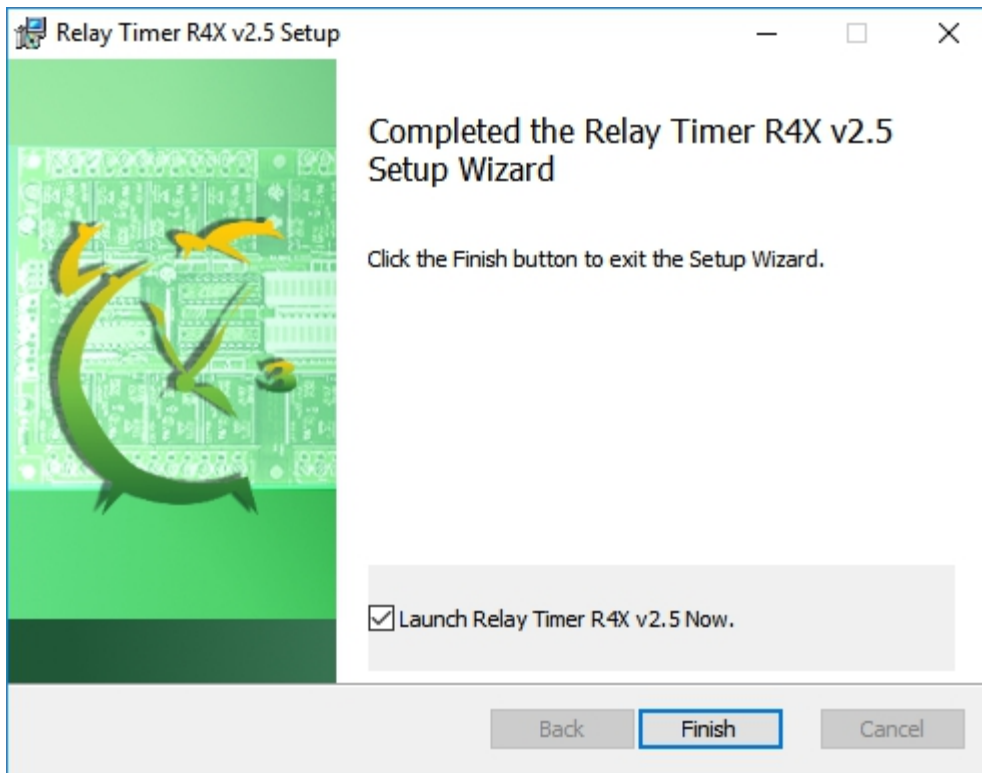


Select *Destination Folder* or keep default folder, and click *Next* button to step into next panel.



Click *Install* button, Relay Timer R4X will be installed automatically.

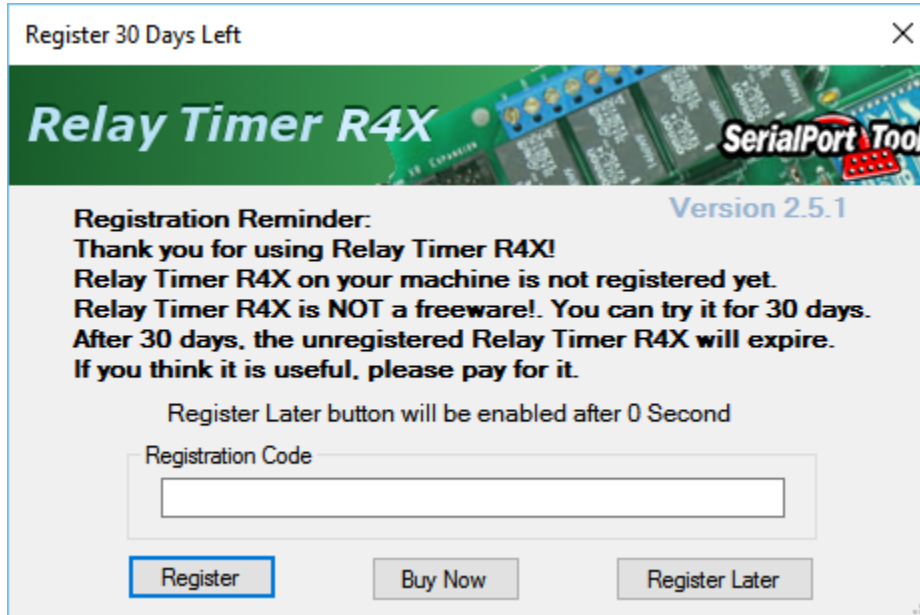
After that, the final panel will be shown up like below.



Keep *Launch Relay Timer R4X Now* option checked. Click *Finish* button to exit the Setup wizard and run Relay Timer R4X at the same time.

### 3. Registration

After you install and run Relay Timer R4X, you will see the registration reminder panel first.




You have 30 days to try all features of Relay Timer R4X after install. This panel will let you know how many days left for your free trial. It will be shown every time when you run Relay Timer R4X until you have it registered.

After you pay for and get your registration code, input the code on this panel, click *Register* Button. The code will be verified and registered online automatically. You will see a message box after registration successful. This registration reminder panel will not be shown any more.

### 4. Set Connection with Relay Board

To control relay board with Relay Timer R4X, you need connect the relay board to your computer through serial port/USB or by network interface. Then, run Relay Timer R4X to set up the connection between relay board and Relay Timer R4X.

Click  button to show the *Configuration* panel.

Configuration

Manufacturer: National Control Devices  Auto run after login Windows

NCD Device Setting

Device Type: ProXR

Serial Port/USB

Port Name: COM12 Baud Rate: 115200 Stop Bits: 1 Timeout: 30 ms

Network

IP Address: 192.168.0.104 Port: 2101

IP	Mac Address	Device Information	Firmware Version

Remote Access

Enable Control Remotely Port Number: 80  Password:

Comment

OK Cancel

Select *Manufacturer*, *Device Type*, and connection interface *Serial Port/USB* or *Network* for the connected relay board.

- **Manufacturer**

Configuration

Manufacturer: National Control Devices  Auto run after login

NCD Device Setting

Device Type: ProXR

Serial Port/USB

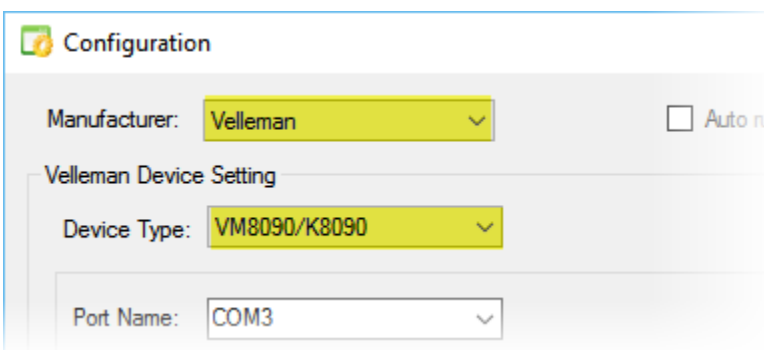
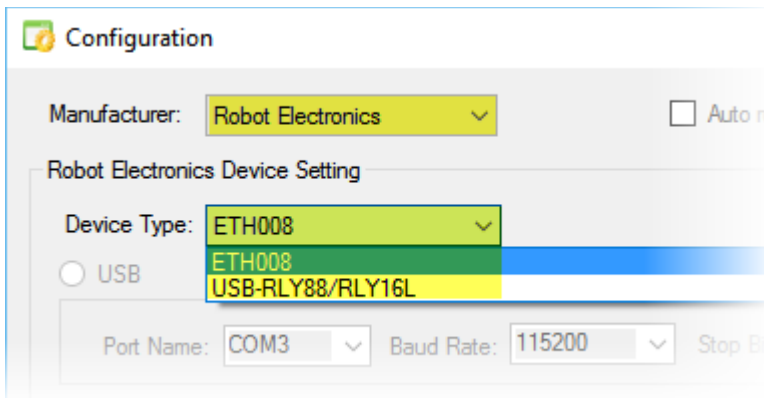
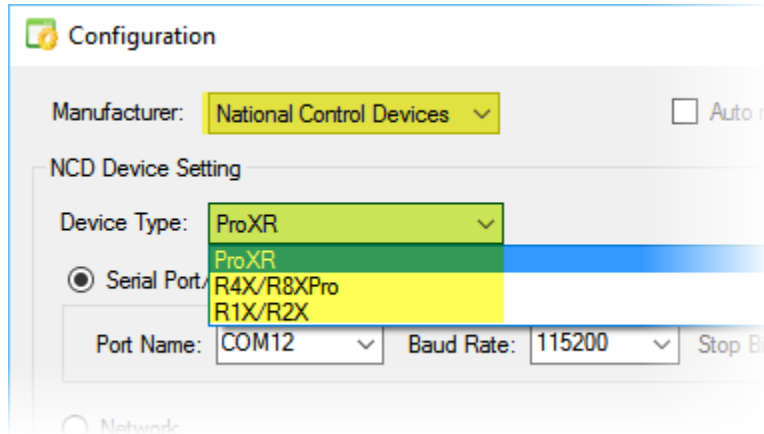
Port Name: COM12 Baud Rate: 115200 Stop Bits: 1



Relay Timer R4X supports relay boards of [National Control Devices](#), [Robot Electronics](#), and [Velleman](#) only for now.

- **Device Type**

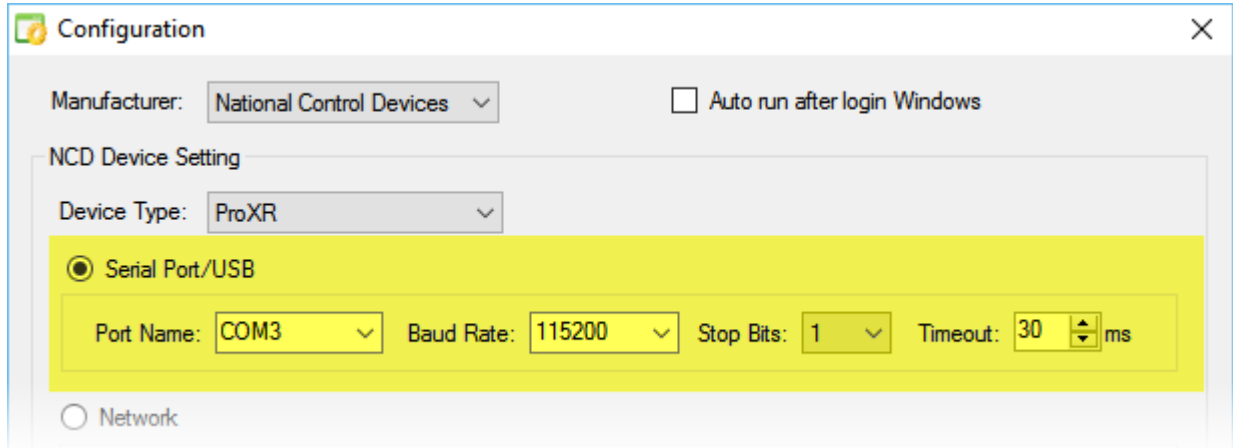
There are different device types for each manufacturer. Select the right one for your relay board.



- **Serial Port/USB Connection**

Select the option *Serial Port/USB*, if the relay board is connected to your computer with Serial

Port/USB interface.



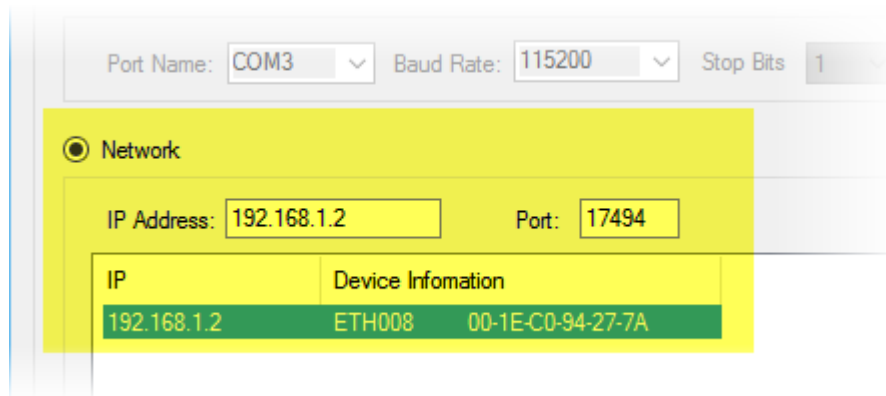
Select *Port Name* and *Baud Rate*. Keep default value for *Stop Bits* and *Timeout*.

*Port Name*: It is the name of Serial Port or USB interface that Relay Timer R4X will communicate with the relay board. All existed and available COM Port will be detected and list here. Select the corresponding COM Port for your relay board.

*Baud Rate*: It is the data transmission speed. Select the right Baud Rate to make the relay board work correctly. 9600 and 115200 are most used for relay board.

#### • Network Connection

Select the option *Network*, if your relay board is connected to network same as your computer.



*IP Address* and *Port* number need to be input here.

*IP Address*: It is the internet address of the relay board.

Be sure the relay board is set up in the same network with your computer. Normally, the connected network device information and IP Address will be list automatically. If not, you need log in your router to get the IP Address of the relay board.

*Port*: It is the communicate port number.

The default *Port* value is 2101 for National Control Devices' relay board, and 17494 for Robot Electronics' relay board.

After you select all above settings for the relay board, click *OK* button to finish configuration.

You will see the information of manufacturer, connection type and baud rate on *Status Bar*.



If the relay board is connected, you will see an arrow flashing on the *Status Bar*.

The flashing arrow indicates Relay Timer R4X is detecting the connection status between the computer and the relay board.

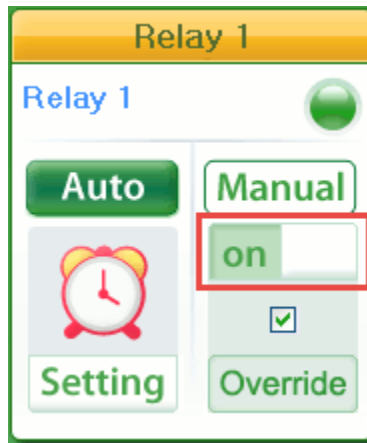
If the connection is invalid or broken, "Connection Error" will be displayed on Status Bar.

## 5. Control Relay Manually

Once you set up the connection, you can control the relay board with Relay Timer R4X now.

When **Manual** button on the *Control Panel* is pressed down **Manual**, it means the relay channel is in manual control mode. The relays can be controlled manually with your mouse click.

### • Single Relay



Click the switch button on the *Control Panel* for each relay channel to turn on/off single relay.

### • Both Relays

Click **All On** button to turn both relays on at the same time.

Click **All Off** button to turn both relays off at the same time.



**Recurrence Range:** Select time range of recurrence.

**Schedule Setting**

Schedule Name:

Relay Status:  Turn On,  Turn Off,  Customize Action

Schedule Time: Start: 08:00:00, End: 09:00:00, Same Day, Duration: 01:00:00

Recurrence Pattern:  Daily,  Every 1 day(s),  Weekly,  Monthly,  Yearly,  Every working day

Recurrence Range: Start: 8/30/2016,  No End Date,  End by: 8/31/2016

OK Cancel

If **Customize Action** is selected, **Customize Action** panel will be shown.

**Customize Action**

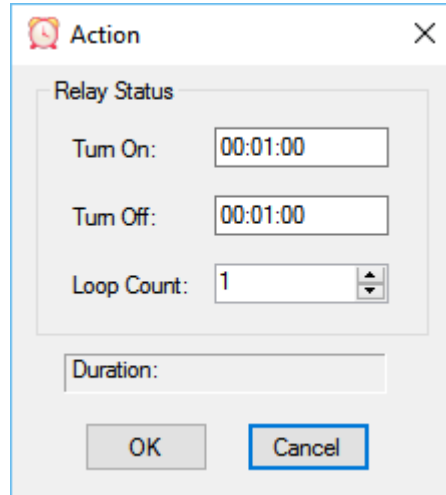
No.	Turn On	Turn Off	Loop	Duration

Buttons: Add, Edit, Delete, Delete All, Up, Down

Loop      Loop Count: 1      Duration: 00:00:00 / --:--:--

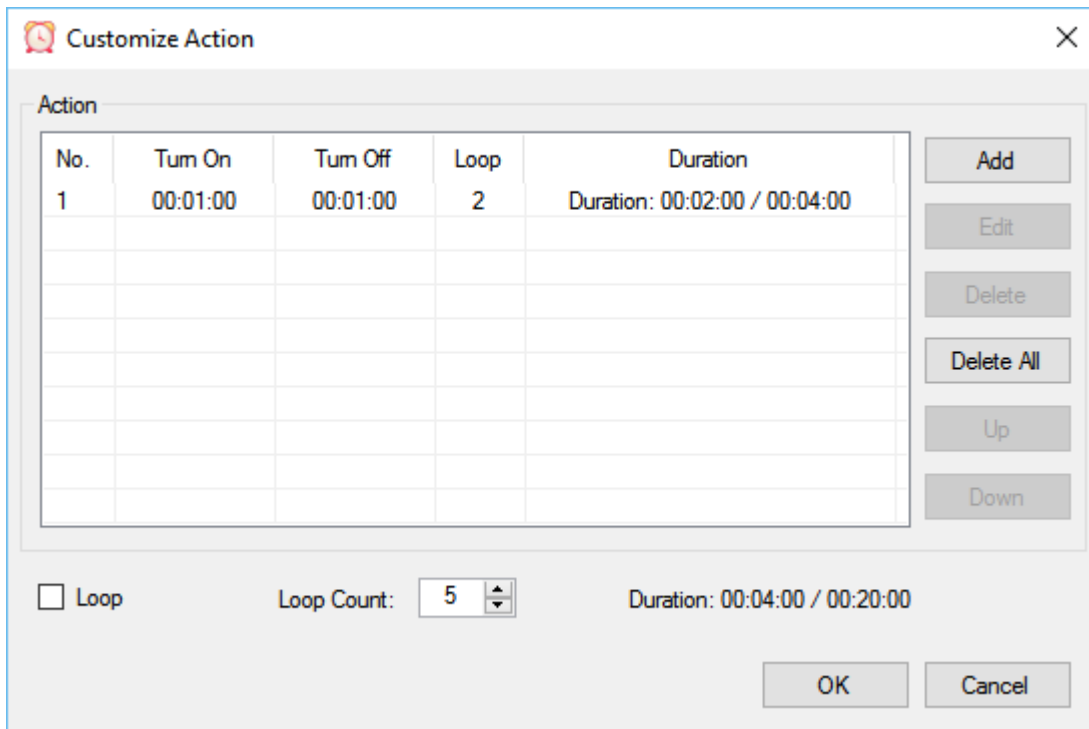
OK Cancel

Click *Add* button to open *Action* panel.



The 'Action' dialog box is titled 'Action' and has a close button (X) in the top right corner. It contains a 'Relay Status' section with three input fields: 'Turn On' (00:01:00), 'Turn Off' (00:01:00), and 'Loop Count' (1). Below these is a 'Duration' field. At the bottom are 'OK' and 'Cancel' buttons.

Input time for *Turn On* and *Turn Off*, and select *Loop Count* for *Turn On/Off*. Click *OK* button back to *Customize Action* panel.



The 'Customize Action' dialog box is titled 'Customize Action' and has a close button (X) in the top right corner. It contains a table with the following data:

No.	Turn On	Turn Off	Loop	Duration
1	00:01:00	00:01:00	2	Duration: 00:02:00 / 00:04:00

Below the table are buttons for 'Add', 'Edit', 'Delete', 'Delete All', 'Up', and 'Down'. At the bottom, there is a 'Loop' checkbox, 'Loop Count' (5), and 'Duration' (00:04:00 / 00:20:00). There are 'OK' and 'Cancel' buttons at the bottom right.

You can click *Add* button to add more *Action* rules on the list.

*Loop*: Select this check-box, the action in the list will always be executed in order.

*Loop Count*: Set the number for action loop.

*Duration*: Show the time for one loop and total loop.

Click *OK* button on both *Customize Action* and *Schedule Setting* panels to return to *Relay Setting* panel.



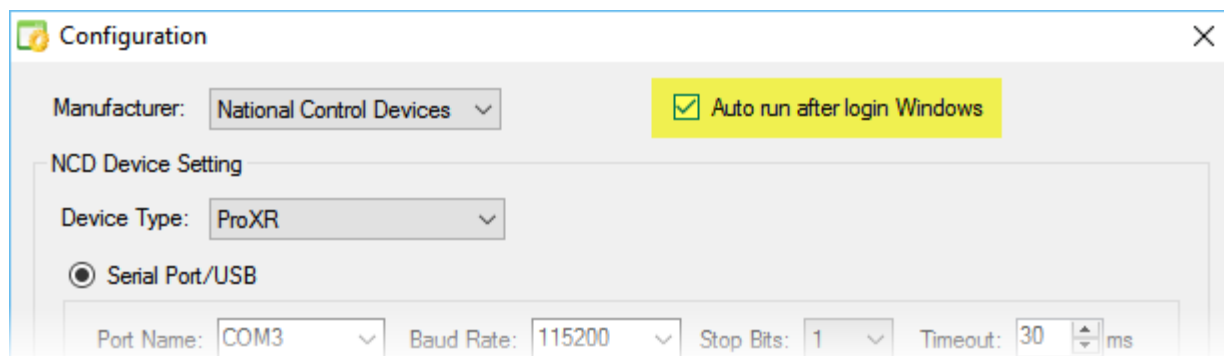
Click **Save Setting** button to save schedule settings for both relay channels to a \*.sch file.

Click **Load Setting** button to load a \*.sch file to get the schedule settings for all relay channels directly.

## 8. Auto Run after Login Windows

Relay Timer R4X can be run automatically after you start your computer and login Windows.

Click **Configure** button to open the *Configuration* panel.



The screenshot shows a 'Configuration' dialog box with the following settings:

- Manufacturer: National Control Devices
- Auto run after login Windows
- NCD Device Setting
  - Device Type: ProXR
  - Serial Port/USB
    - Port Name: COM3
    - Baud Rate: 115200
    - Stop Bits: 1
    - Timeout: 30 ms

Select check box **Auto run after login Windows**.

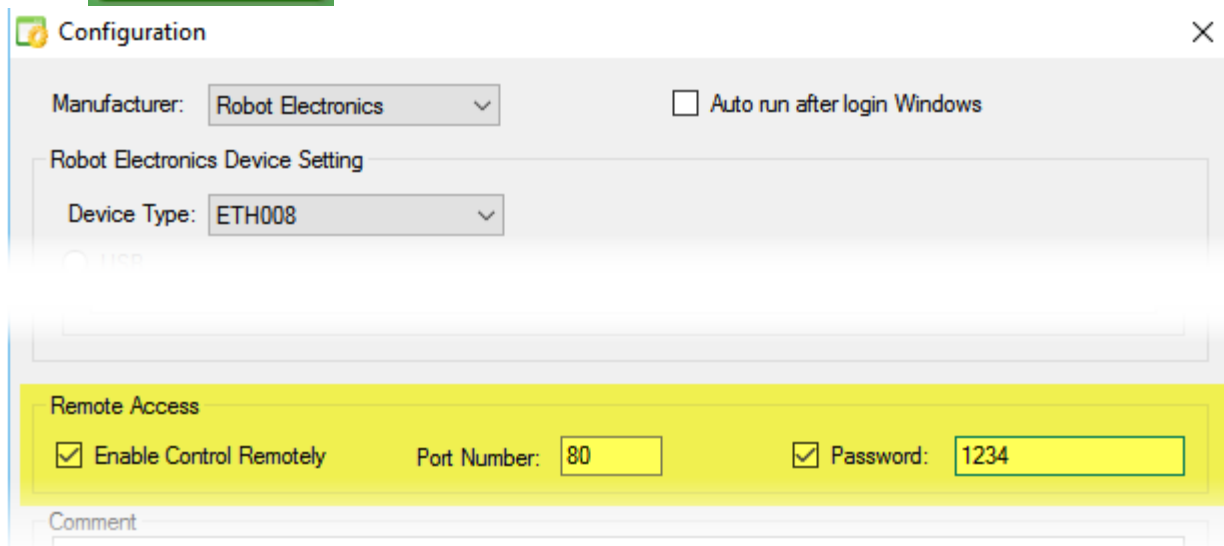
Click OK button on *Configuration* panel to finish the setting.

Relay Timer R4X will be run automatically next time when you log in Windows system.

## 9. Control Remotely via Internet Browser

Relay Timer R4X can be controlled remotely from other computer via internet browser.

Click **Configure** button to show the *Configuration* dialog.



The screenshot shows a 'Configuration' dialog box with the following settings:

- Manufacturer: Robot Electronics
- Auto run after login Windows
- Robot Electronics Device Setting
  - Device Type: ETH008
  - USB
- Remote Access
  - Enable Control Remotely
  - Port Number: 80
  - Password: 1234
- Comment



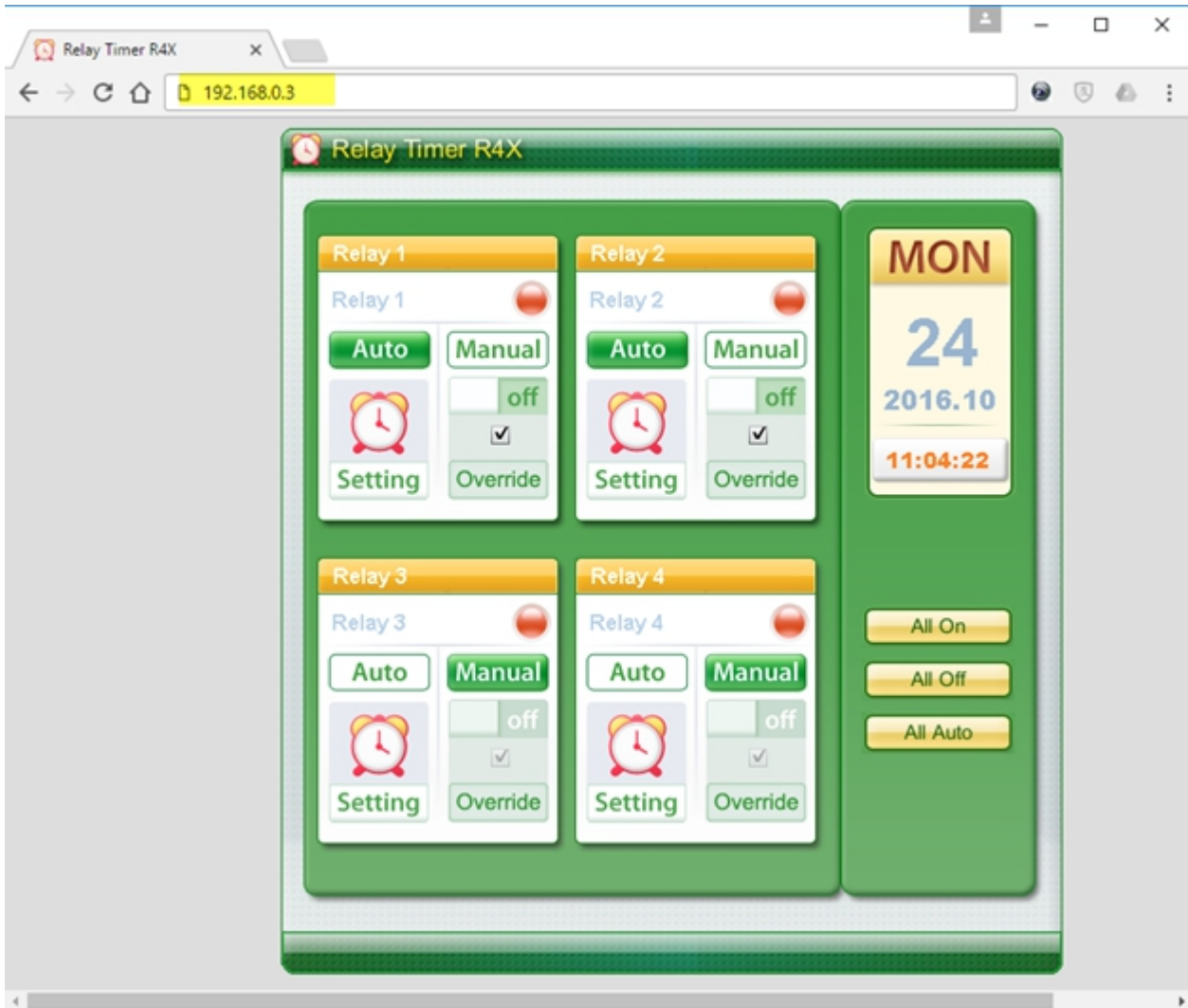
Select **Enable Control Remotely** check box.

Set *Port Number* or keep default value. Be sure this port number is not used by other applications.

Select *Password* to set password or keep it unchecked without password for remote access.

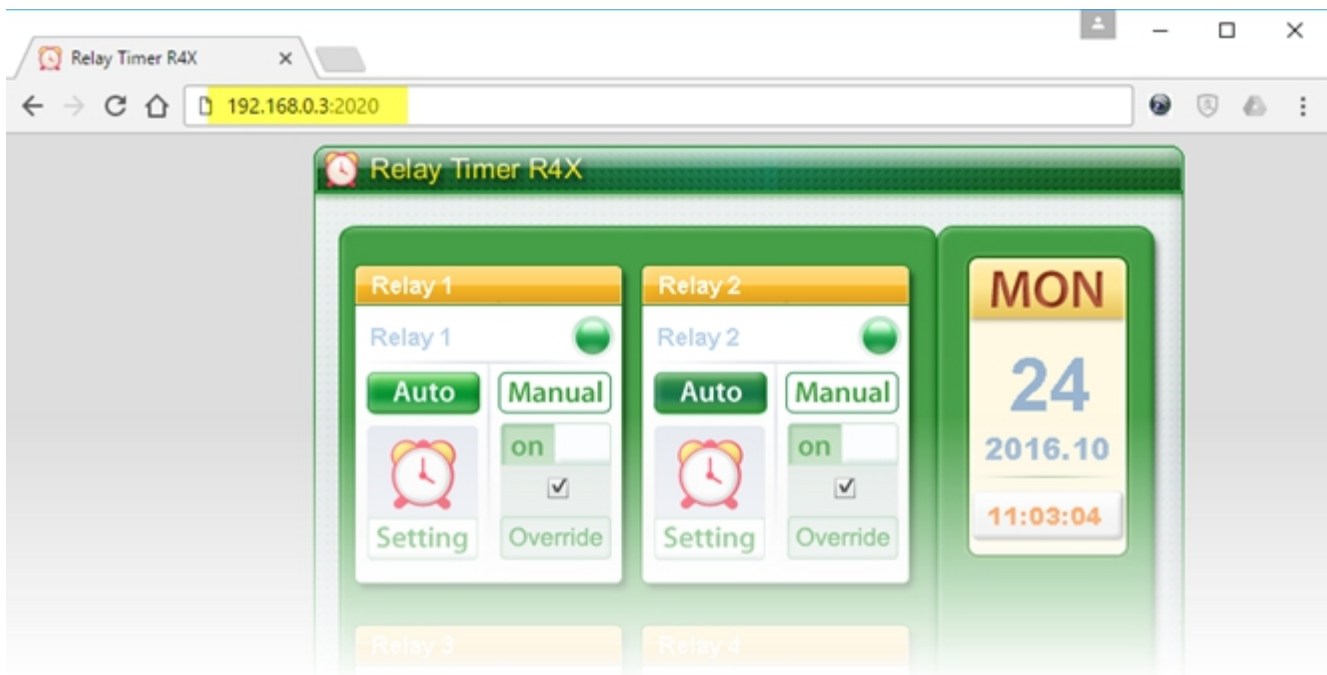
Click *OK* to finish the setting.

Relay Timer R4X can be controlled on any other computer, which is in the same network, by visiting the current computer's IP address via internet browser.



If Port Number is 80, you just need to type the IP address in the browser, shown as above.

If Port Number is modified, you need add the number after the IP address, shown as below.



## 10. Launch with Command Line

Relay Timer R4X can be launched with command line operation to run with a specified configuration or schedule setting.

Format:

**"Path to RelayTimer.exe" -c "Path to \*.cfg"**

**"Path to RelayTimer.exe" -s "Path to \*.sch"**

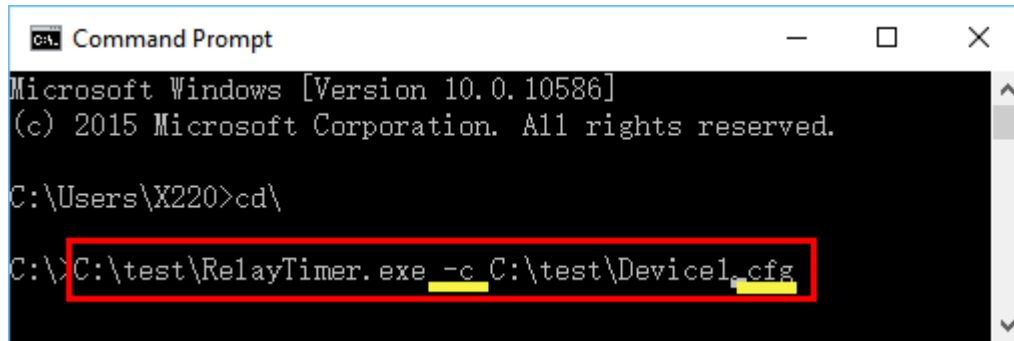
Note:

The parameter "-c" is to launch Relay Timer R4X with the specified configuration file (\*.cfg). Both the contents in [Configuration](#) dialog and [Relay Setting](#) dialogs will be loaded. If the \*.cfg file does not exist, it will be created in the specified path automatically. After editing the Configuration dialog and Setting dialogs, the information will be saved to the created \*.cfg file. When the command is run next time, all information will be loaded.

The parameter "-s" is to launch Relay Timer R4X with the schedule setting file (\*.sch). The content of [Relay Setting](#) dialog will be loaded. All information will be saved in the default configuration file. When Relay Timer R4X is launched by Icon on desktop or start menu, it loads the default configuration file. When you run this command, you need make sure the current default configuration file is same as when the \*.sch file was saved.

Example I:

- Click Windows Start -> Run cmd.exe to open command line window.
- Type the command with parameters.



```
Command Prompt
Microsoft Windows [Version 10.0.10586]
(c) 2015 Microsoft Corporation. All rights reserved.

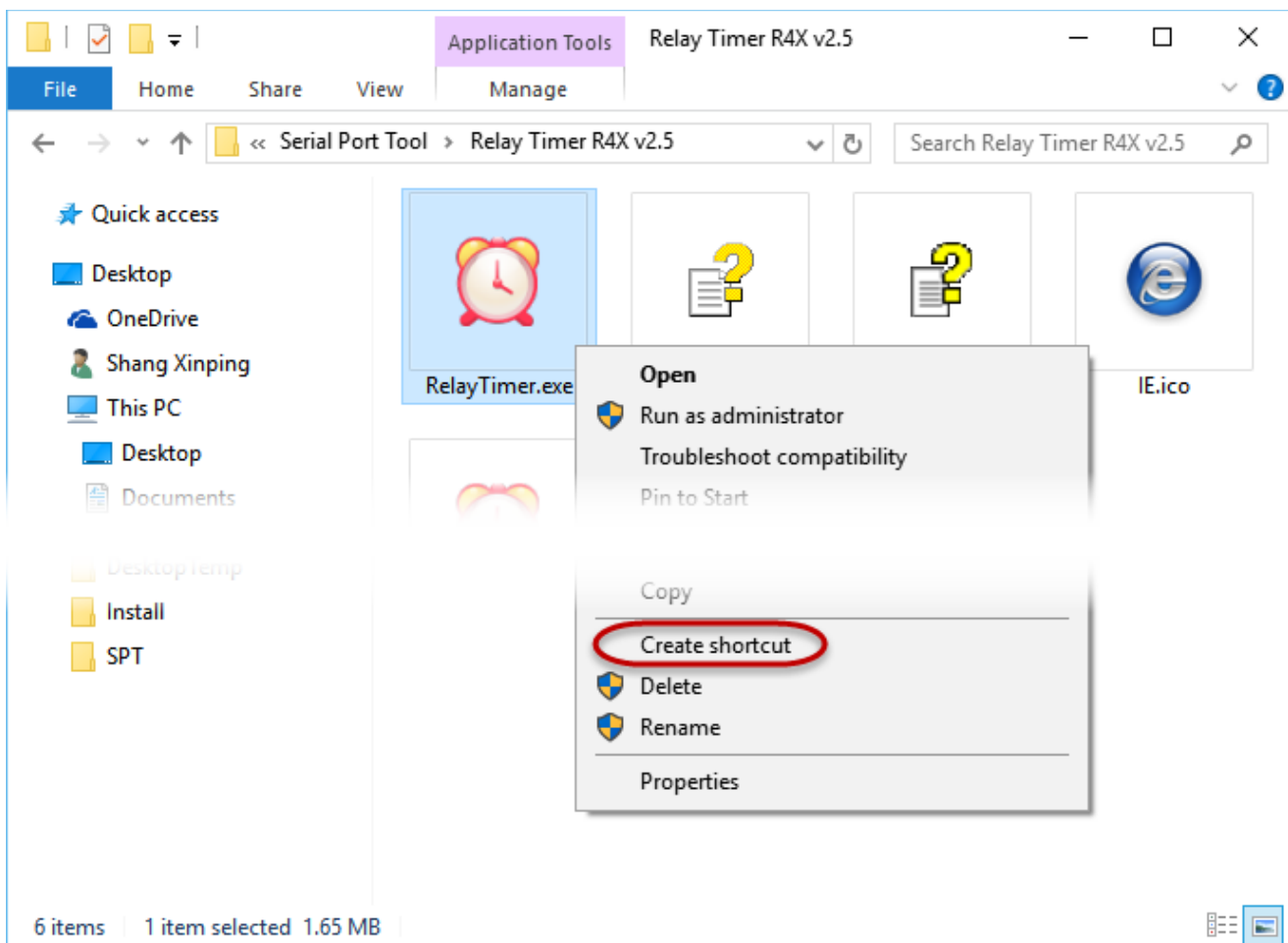
C:\Users\X220>cd\

C:\>C:\test\RelayTimer.exe -c C:\test\Device1.cfg
```

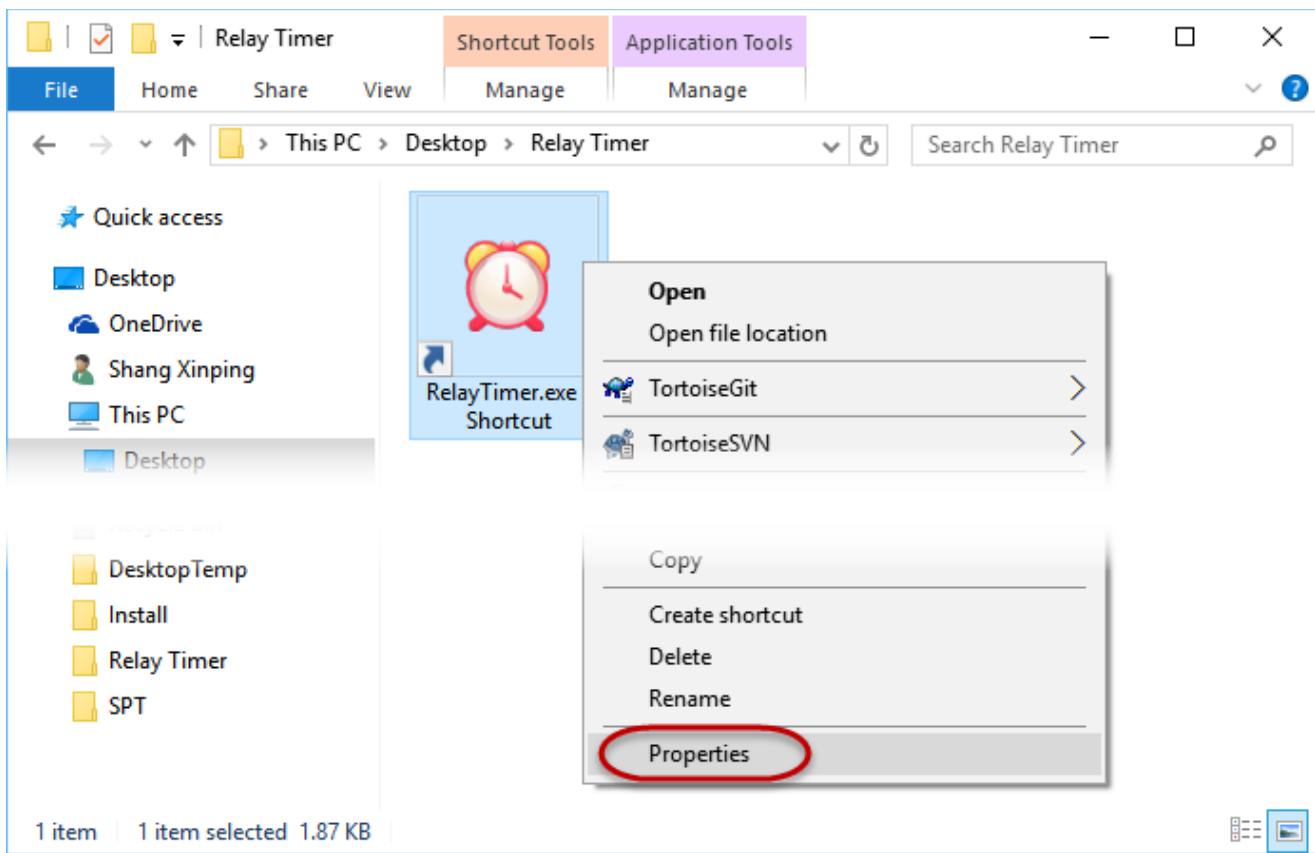
- Press 'Enter' key to launch Relay Timer R4X with the specified configuration file.

Example II:

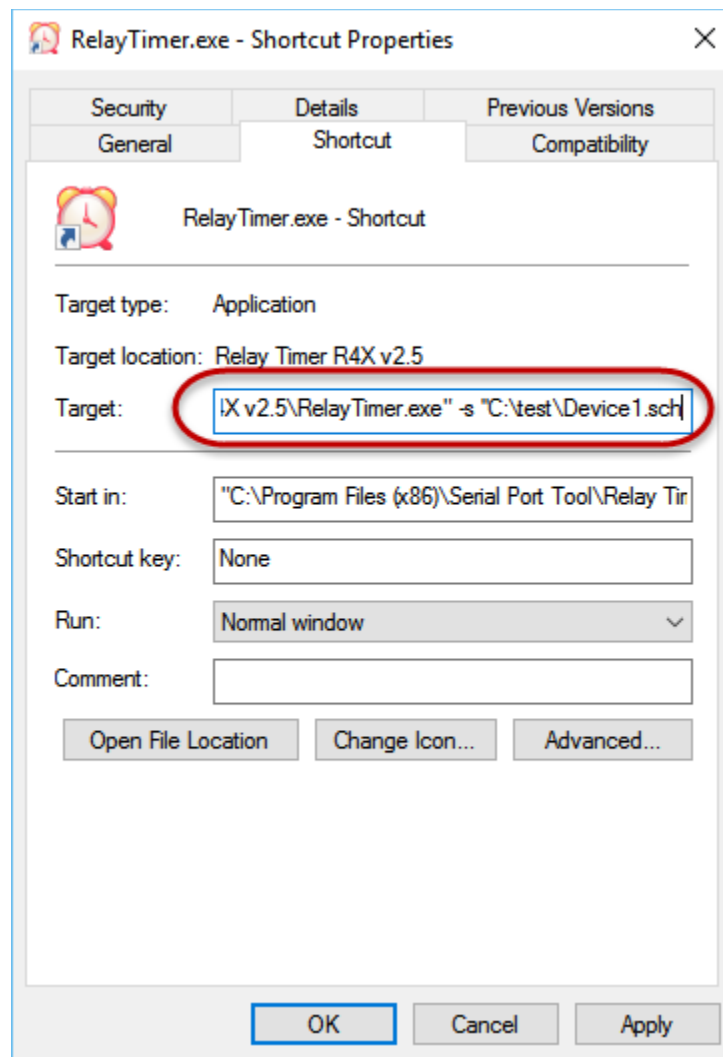
- Create shortcut for RelayTimer.exe in the installation folder.



- Open 'Properties' of the shortcut.



- Add the arguments shown as below.



- Double click the shortcut to launch Relay Timer R4X with the specified schedule file.

## 11. Getting Help

We would like to support more kinds of relay board to work with Relay Timer R4X. Please contact us if you have any question or suggestion about Relay Timer R4X.

E-mail: [support@serialporttool.com](mailto:support@serialporttool.com)

We also have [Quick Timer R4X](#) software to control 4-channel relay boards by schedule setting.

Please visit our [Website](#), [Blog](#) or [YouTube channel](#) to get more information.