RELAY TIMER R2X

V2.5

Software Tutorial

Table of Contents

1. Introduction

Relay Timer R2X is one of our Relay Timer series software, which is to control relay boards of **National Control Devices**, **Robot Electronics**, and **Velleman**.

Relay Timer R2X is special to control 2-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 R4X**, **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 booards.

• Interface

The user interface of Relay Timer R2X includes *Title Bar, Control Panels, Time Panel, Rapid Buttons, and Status Bar.*
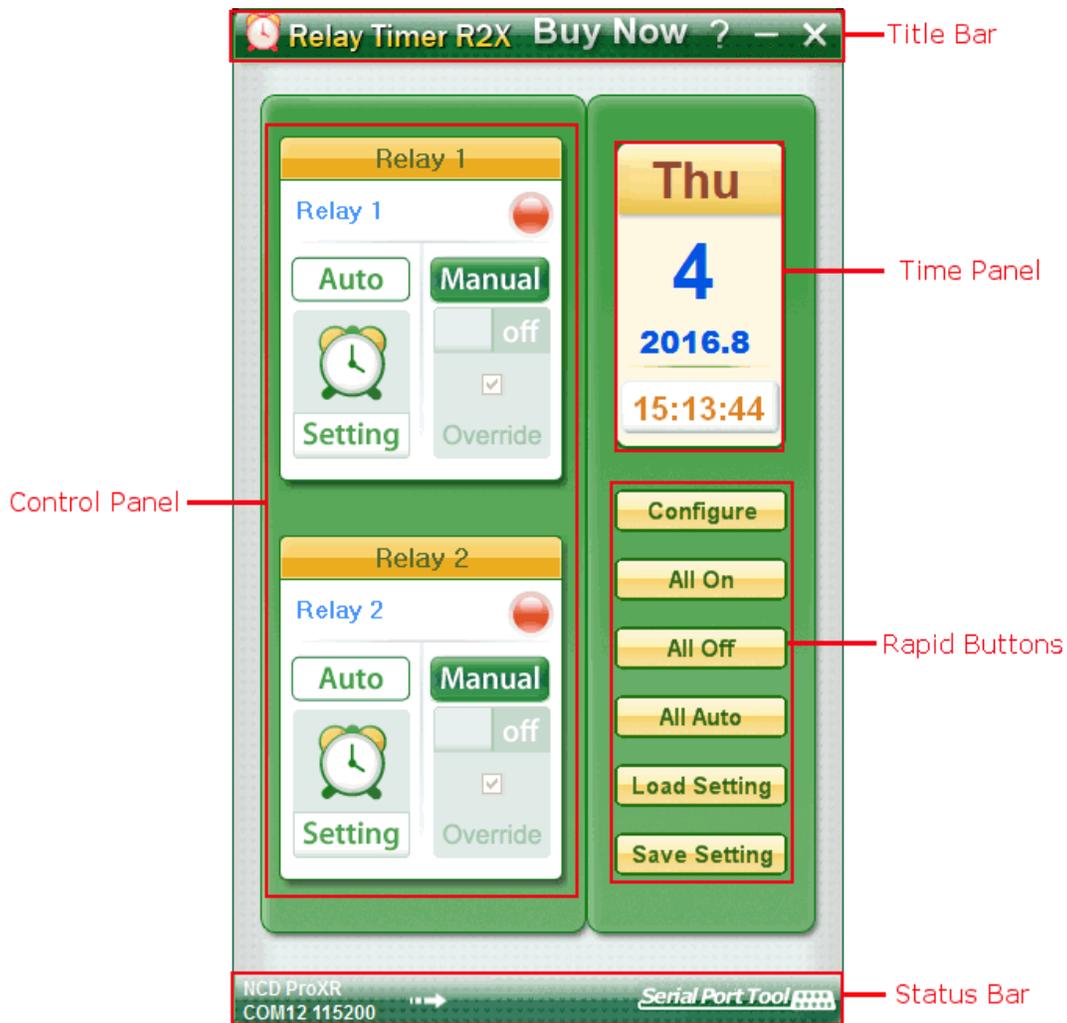
- **Features**

  - ➢ Control 2- 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.

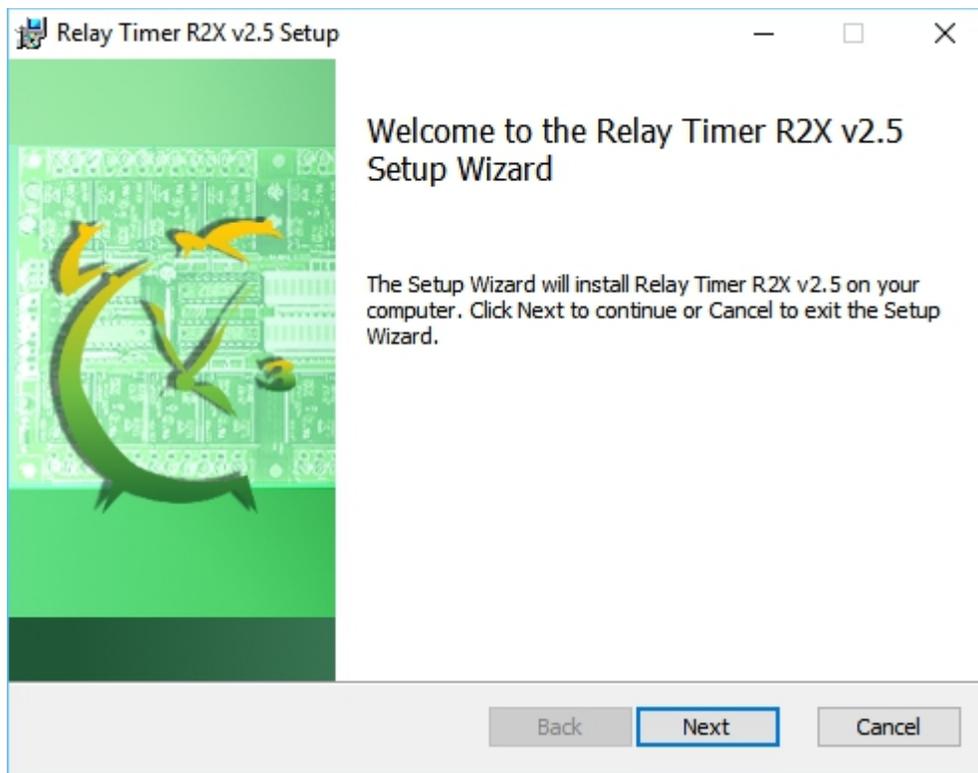## 2. Installation

- **System Requirement**

  Relay Timer R2X 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 R2X web page](), or click the link below
  http://www.serialporttool.com/download/RelayTimer/RelayTimerR2X.zip
  to save *RelayTimerR2X.zip* file on your computer.
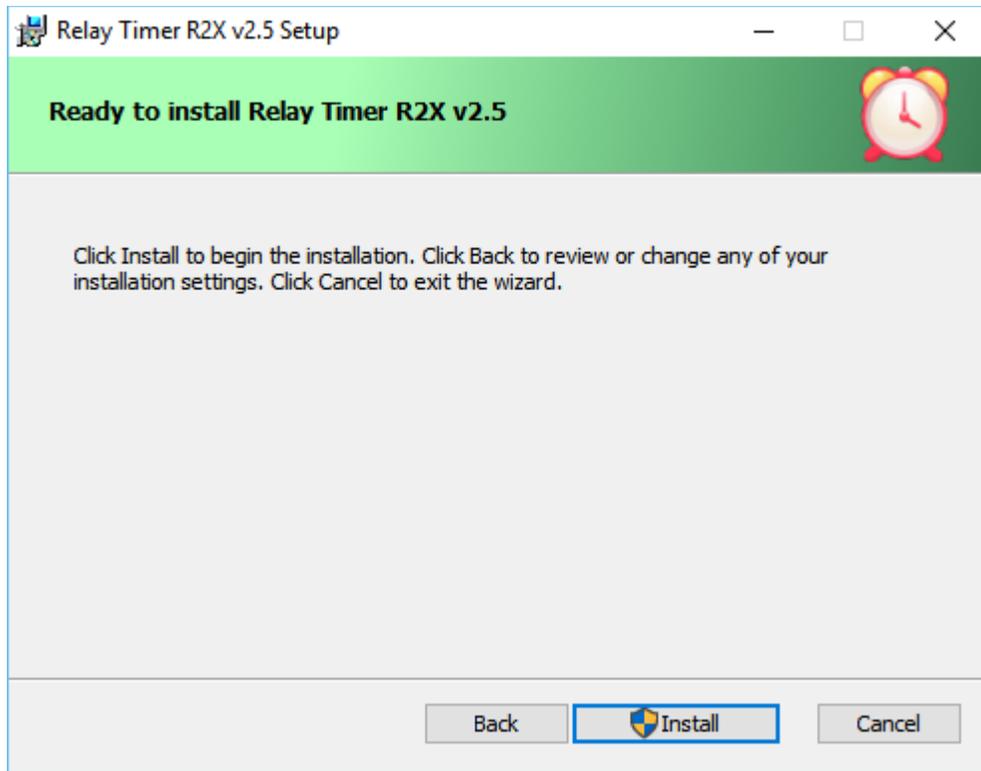
- **Install**

  Unzip *RelayTimerR2X.zip* file to get *RelayTimerR2X.msi* file.
  Double-click *RelayTimerR2X.msi* file to run Setup Wizard.

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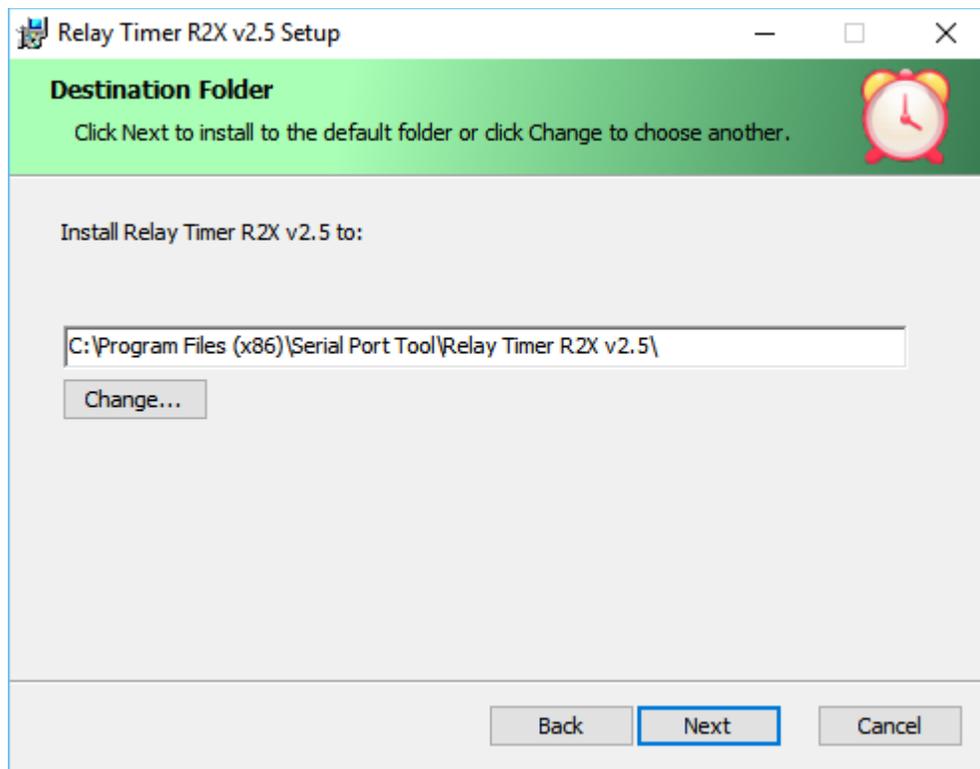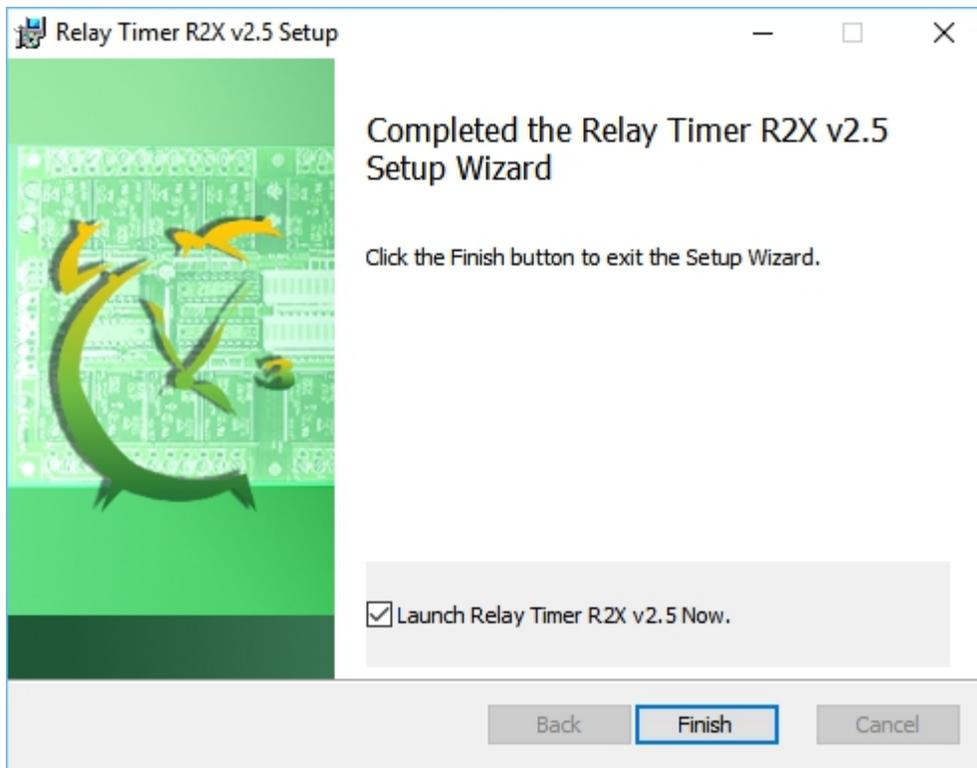

Select *Destination Folder* or keep default folder, and click *Next* button to step into next panel.

Click *Install* button, Relay Timer R2X will be installed automatically.

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

Keep *Launch Relay Timer R2X Now* option checked. Click *Finish* button to exit the Setup wizard and run Relay Timer R2X at the same time.

3. Registration

After you install and run Relay Timer R2X, you will see the registration reminder panel first.
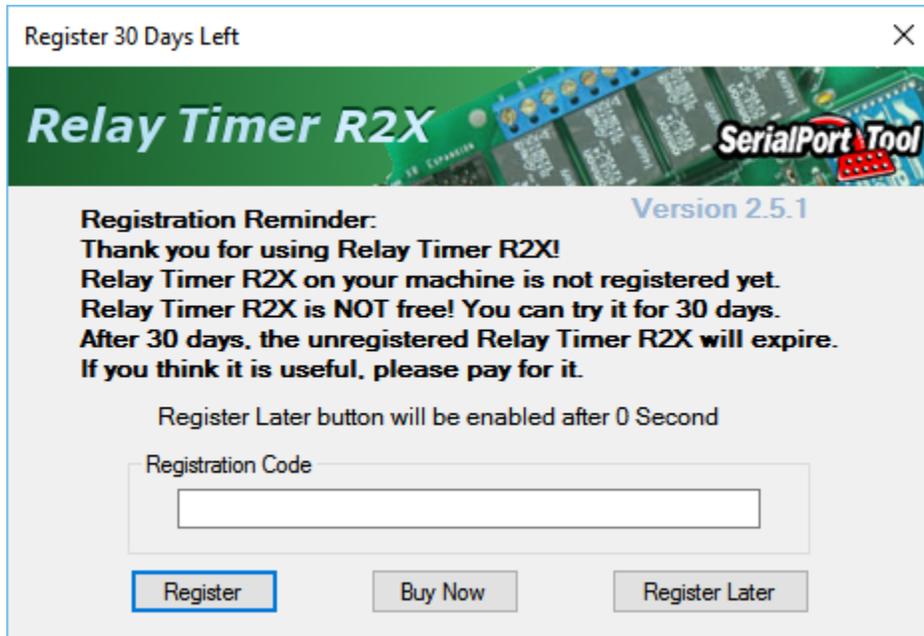
You have 30 days to try all features of Relay Timer R2X after install. This panel will let you know how many days left for your free trial. It will be shown every time when you run Relay Timer R2X until you have it registered.

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 R2X, you need connect the relay board to your computer through serial port/USB or by network interface. Then, run Relay Timer R2X to set up the connection between relay board and Relay Timer R2X.

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

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

- **Manufacturer**

Relay Timer R2X supports relay boards of **National Control Devices**, **Robot Electronics**, and **Velleman** only for now.
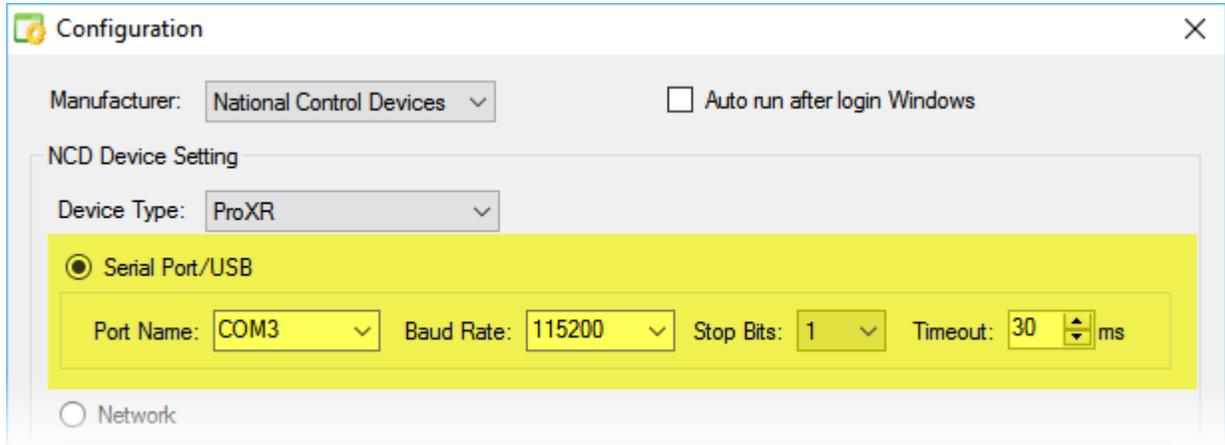
• **Device Type**

There are different device types for each manufacturer. Select the right one for your relay board.
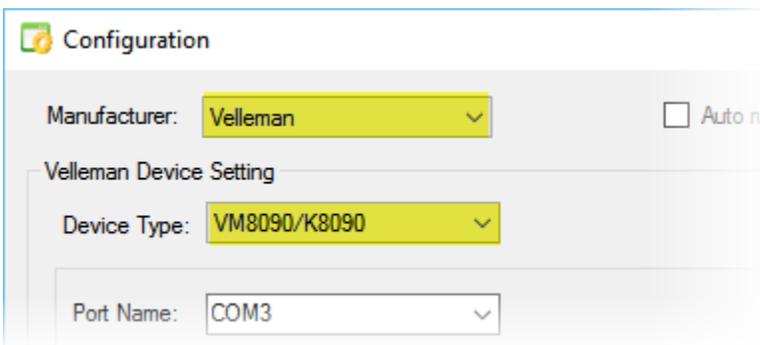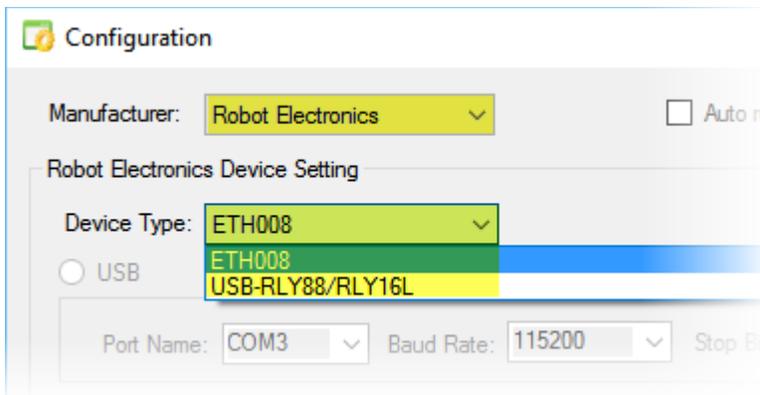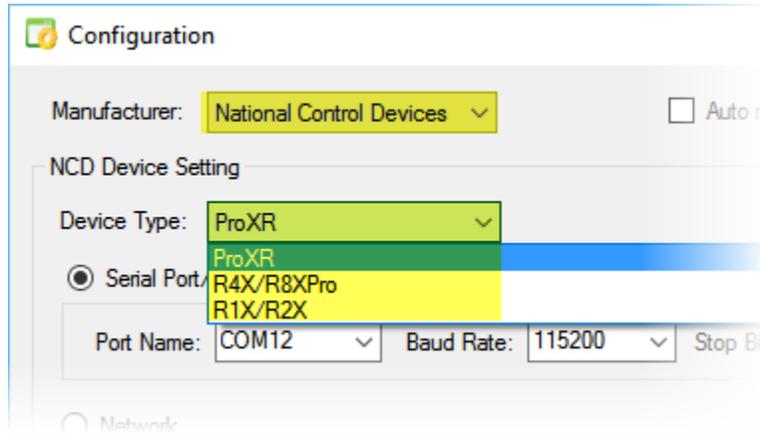
• **Serial Port/USB Connection**

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 R2X 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.
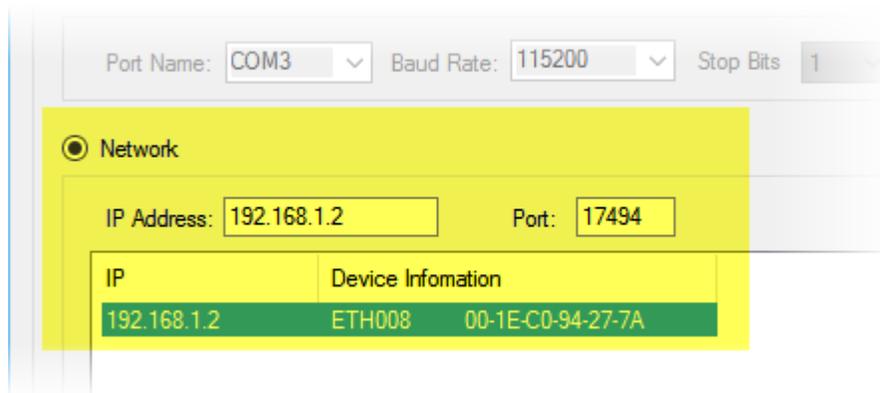
IP Address and *Port* number need to be input here.

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 R2X 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 R2X 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
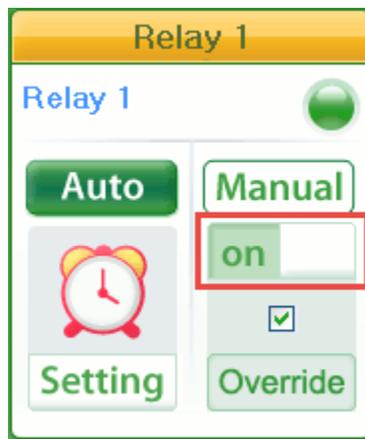
Click the switch button on the *Control Panel* for each relay channel to turn on/off single relay.

• 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.

6. Control Relay Automatically

When **Auto** button is pressed down like this **Auto**, it means the relay channel is in auto control mode. The relay will be turned on/off automatically according to the *Schedule Setting*.

• **Schedule Setting**

Click **Setting** button on the *Control Panel* to open *Relay Setting* panel. This panel is used to add, edit and delete Schedule Setting.

Relay Name: The relay can be given a name. It will be shown on the relay control panel.

*Schedule:*The relay will be turned on/ off according to this schedule list.

Click *Add* button to show *Schedule Setting* panel to set the schedule of relay status.

Schedule Name: Input the name for the schedule or keep it default.

Relay Status: Select the status of relay during *Schedule Time*.

- ◆ On --- Relay will always be turned on.
- ◆ Off --- Relay will always be turned off.
- ◆ Customize Action --- Relay will be turned on/off according to this action setting.

Schedule Time: Set the start and end time for relay to keep the status.

Recurrence Pattern: Select options for the frequency, with which you want the event to recur.

Recurrence Range: Select time range of recurrence.

If

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

Input time for *Turn On* and *Turn Off,* and select *Loop Count* for *Turn On/Off.* Click *OK*

button back to *Customize Action* panel.

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.

You will see the customize schedule setting is added. You can add more schedule settings here to make all kinds of complicated setting to control the relay automatically.

Click *OK* button to finish relay schedule setting.

After above settings, you can control single relay or both relays automatically.

• **Single Relay**

To control single relay automatically, you have to make sure the Auto button is pressed down ▢ **Auto** ▢ for this relay channel to let it to step into auto control mode. Then the status of this relay channel will be changed according to above settings automatically.

• **Both Relays**

Click ▢ **All Auto** ▢ button to set both relay channels into auto mode at the same time. Auto button of both relay channels will be pressed down together.

7. Save and Load Schedule Setting

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 both relay channels directly.

8. Auto Run after Login Windows

Relay Timer R2X can be run automatically after you start your computer and login Windows.

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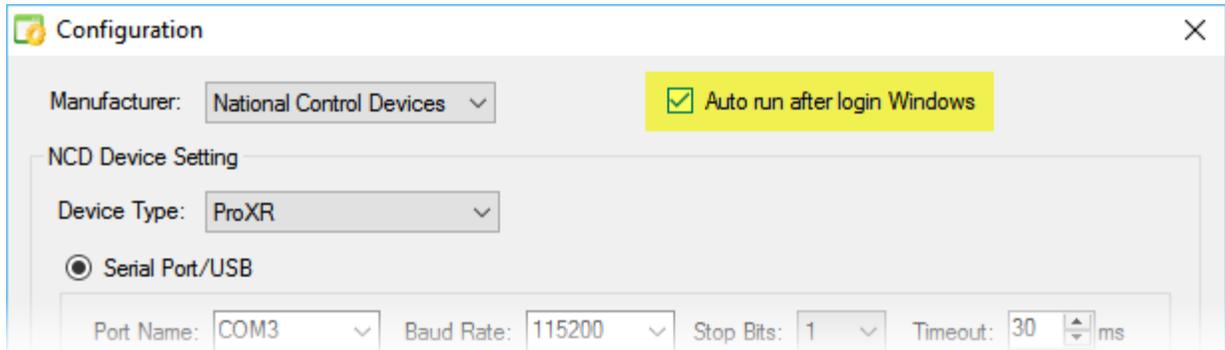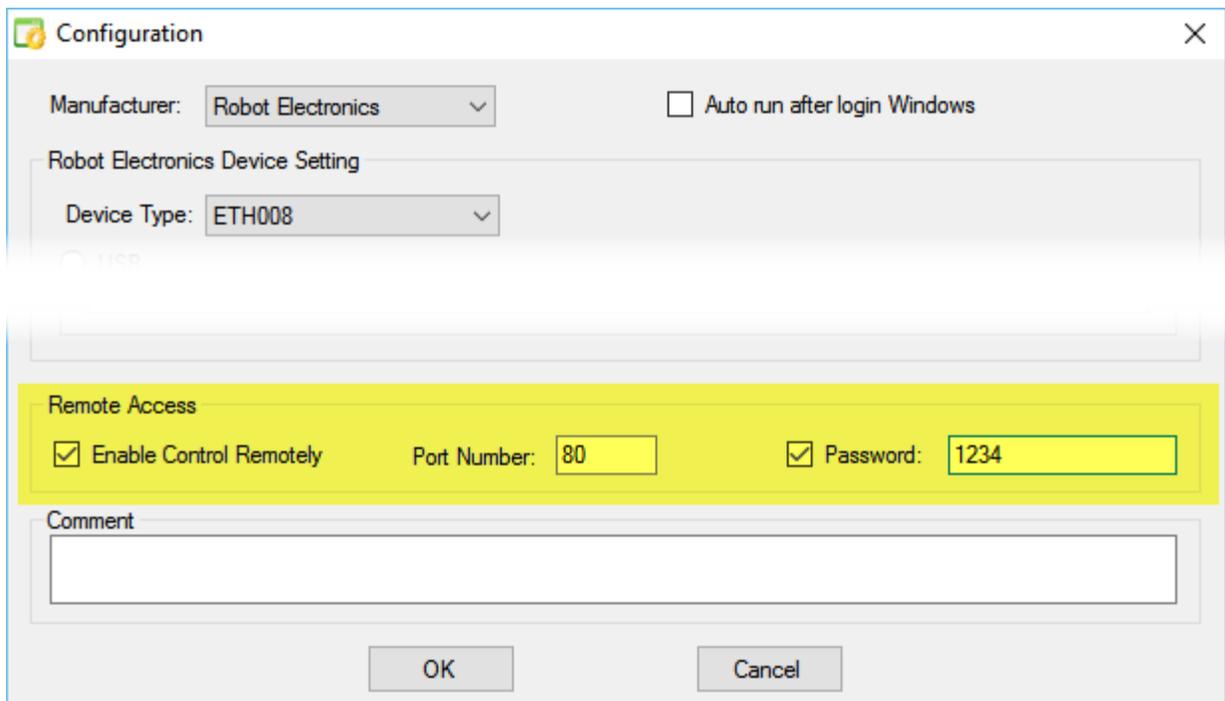

Select check box **Auto run after login Windows.**

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

Relay Timer R2X will be run automatically next time when you log in Windows system.

9. Control Remotely via Internet Browser

Relay Timer R2X can be controlled remotely from other computer via internet browser.

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

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.
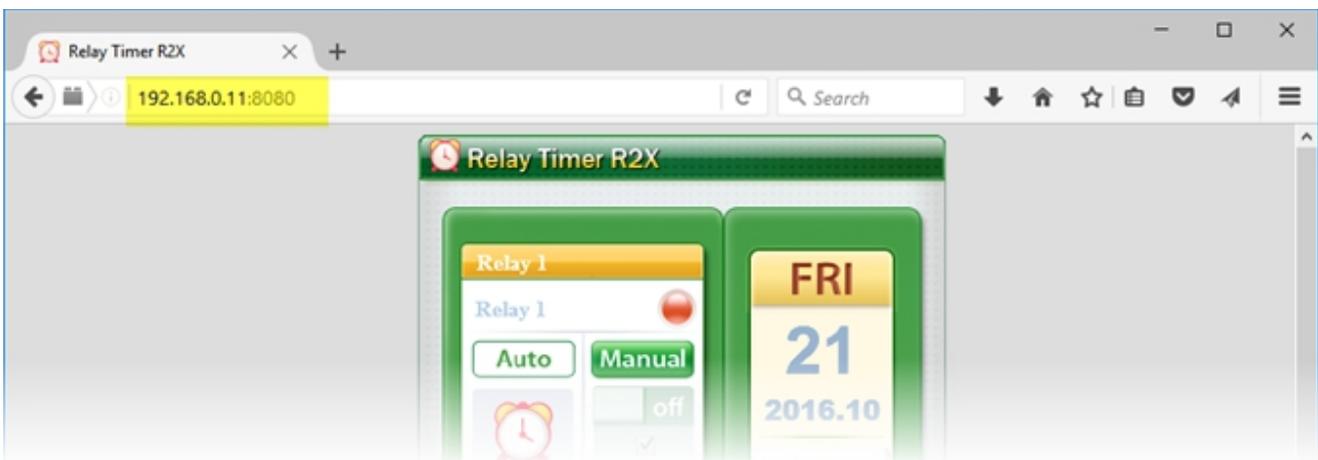
Click *OK* to finish the setting.

Relay Timer R2X can be controlled on any other computer, which is in the same network, by visiting the current computer's IP address via internet browser.
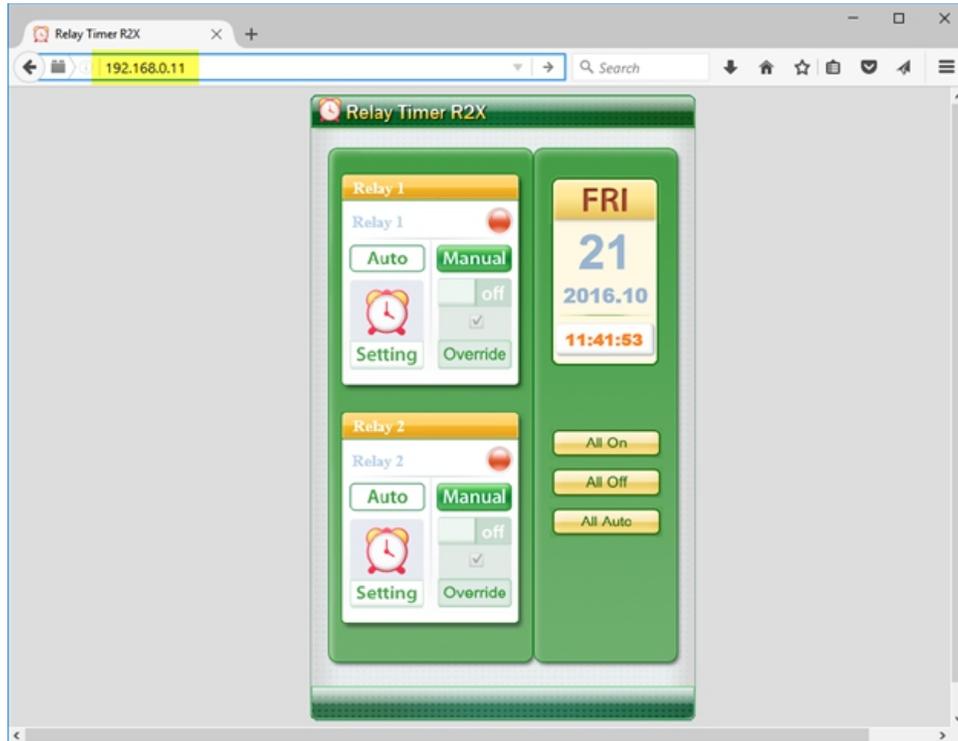
If Port Number is 80, you just need to type the IP address in the browser, shown as above.

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

10. Launch with Command Line

Relay Timer R2X 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 R2X 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 R2X 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 R2X 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.
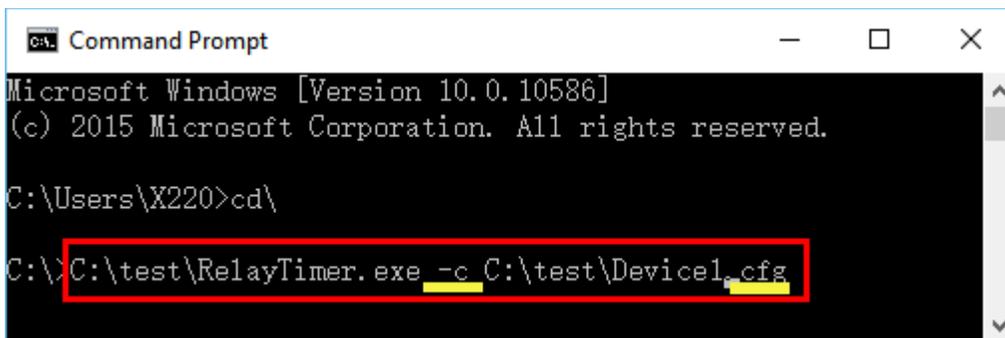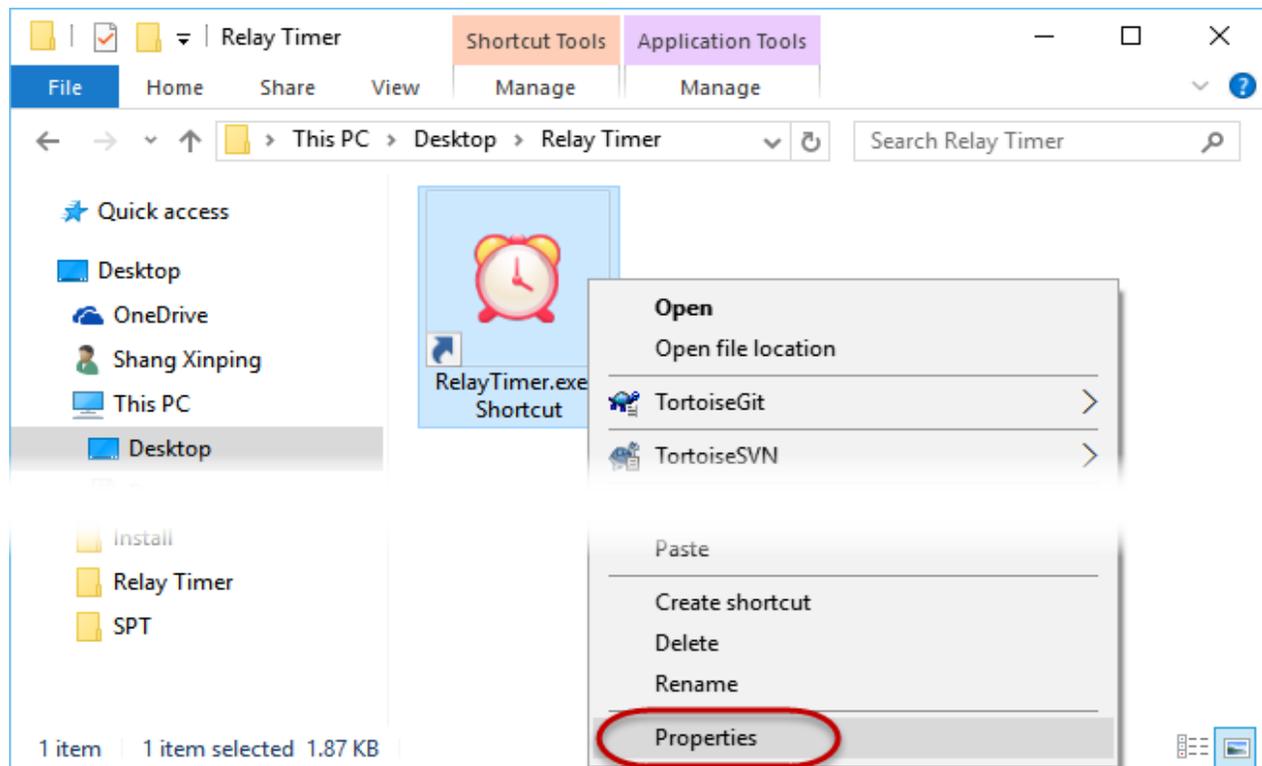

- Press 'Enter' key to launch Relay Timer R2X with the specified configuration file.
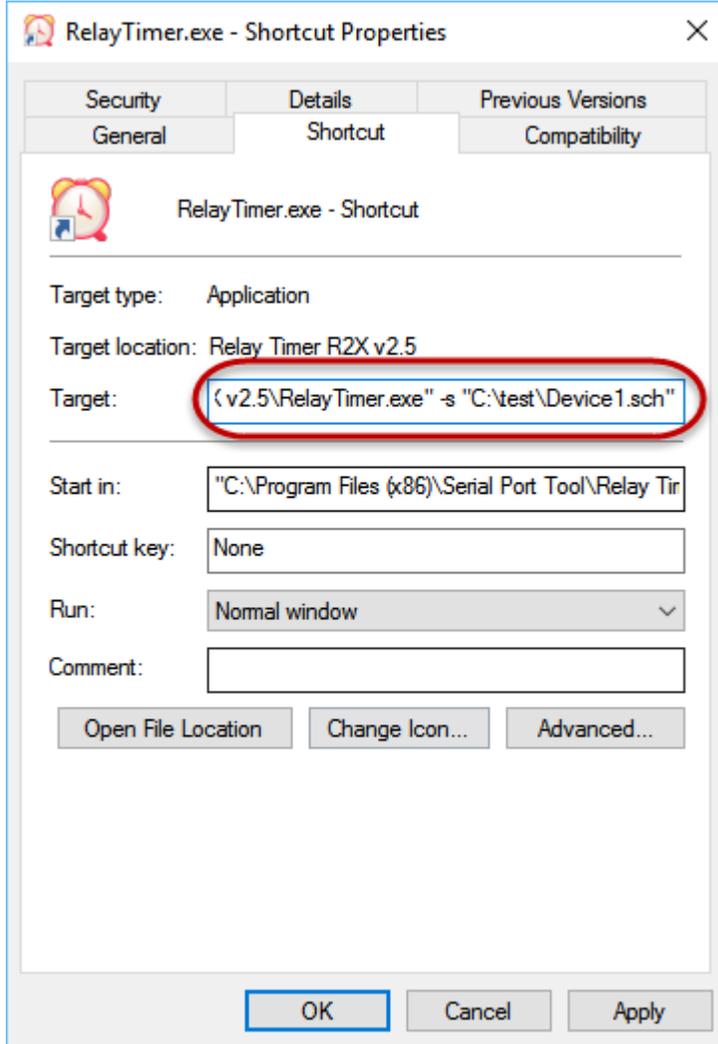

Example II:

- Create shortcut for RelayTimer.exe in the installation folder.
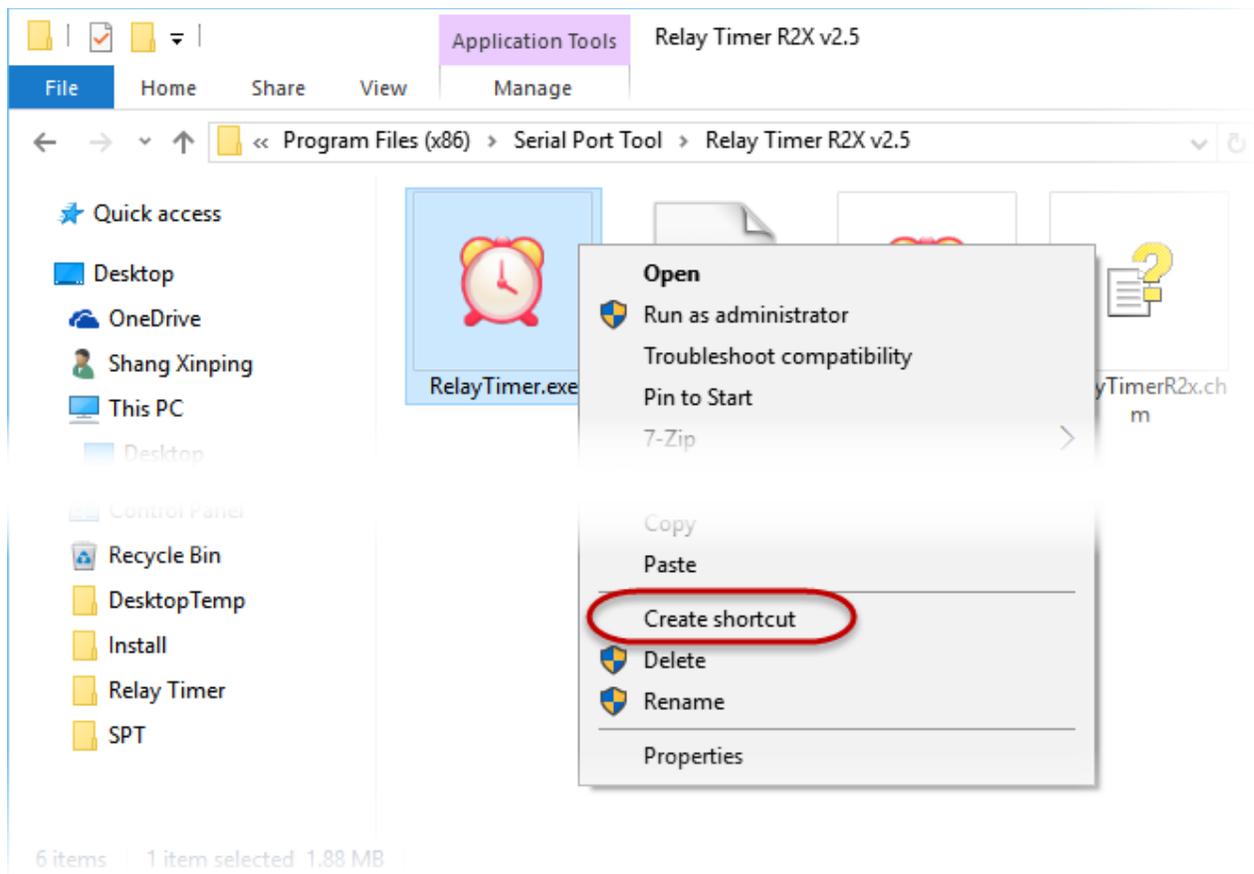
- Open 'Properties' of the shortcut.

- Add the arguments shown as below.

- Double click the shortcut to launch Relay Timer R2X with the specified schedule file.

11. Getting Help

We would like to support more kinds of relay board to work with Relay Timer R2X. Please contact us if you have any question or suggestion about Relay Timer R2X.

E-mail: support@serialporttool.com

We also have Quick Timer R2X software to control 2-channel relay boards by schedule setting.

Please visit our Website, Blog or YouTube channel to get more information.