

*IPP-3100*

*Network DI/DO Control Module*



## *Web Page User Manual*

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## CHAPTER 1 GETTING STARTED

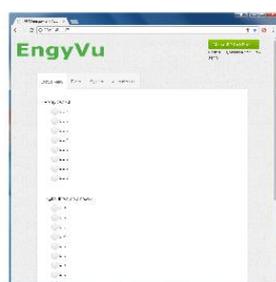
IPP-3100 Network Control Module supports the current stable version of the browser and the version that preceded it. For example, Internet Explorer on Windows, Microsoft Edge on Windows 10, Firefox on Windows, Safari on Mac OS X, Chrome on Windows. IPP-3100 features 16 channels DI, 8 channels DO and one RS-232 or RS-485 (select by setting) output. IPP-3100 provides a web interface to remote control "IPP Link" network include configuration, scheduling, setting event function and device update. This chapter includes information about how to configure and manage your IPP-3100 Network Control Module via a website interface.

### SETUP IPP-3100

Before use IPP-3100 web interface to manage setting operation, please make sure IPP-3100 is installed on network correctly, and every PC or Device on this network can access IPP-3100 via the web browser.

Setup note:

1. Ensure that your network interface card (NIC) is operational
2. Supports the TCP/IP protocol.
3. Confirm IPP-3100 power and system LED on.
4. Ethernet Cable connects IPP-3100 to computer or device.
5. The IPP-3100 default IP address is 192.168.1.127.
6. Change your computer or device IP address to 192.168.1.x. (x from 1 to 254, except 127)
7. Use web browser to access IPP Management App.



IPP-3100 Web Page



PC

—  
LAN

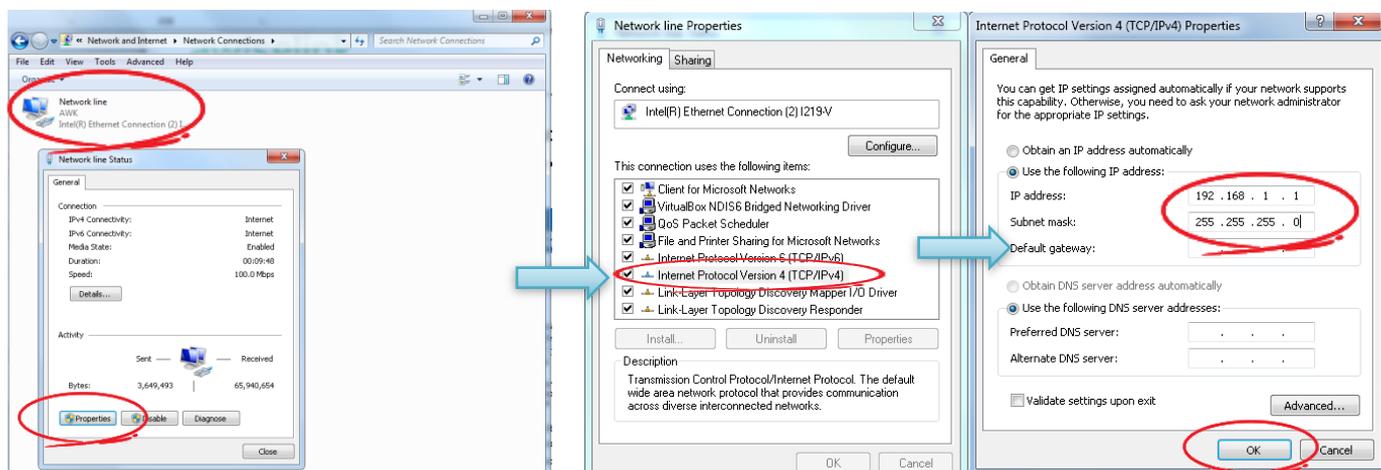


IPP-3100

ACCESS WEB PAGE

Follow as bellow step to access management page of IPP-3100.

Step1 Set IP address of network adapter on PC

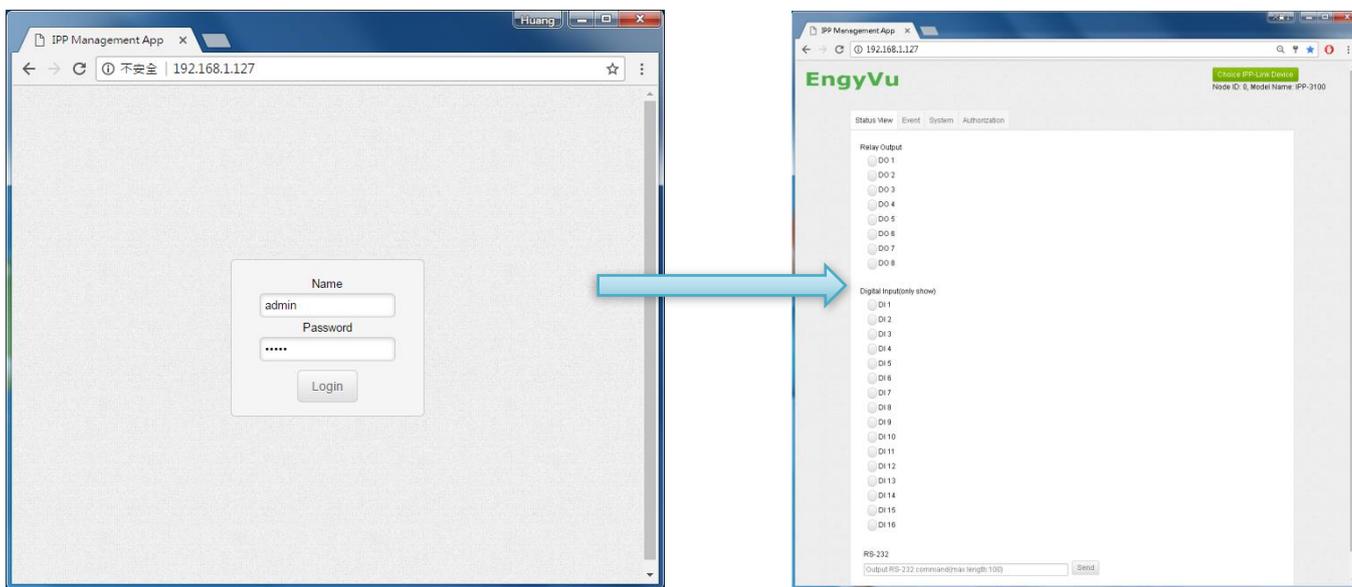


Network Connections

IPv4 Properties

Step2 Open web browser and set IP address at url to enter login page. Default IP is 192.168.1.127.

Enter Name & Password to access IPP-3100 web page. Default Name/Password is admin/admin.



Login Page

IPP-3100 Web Page

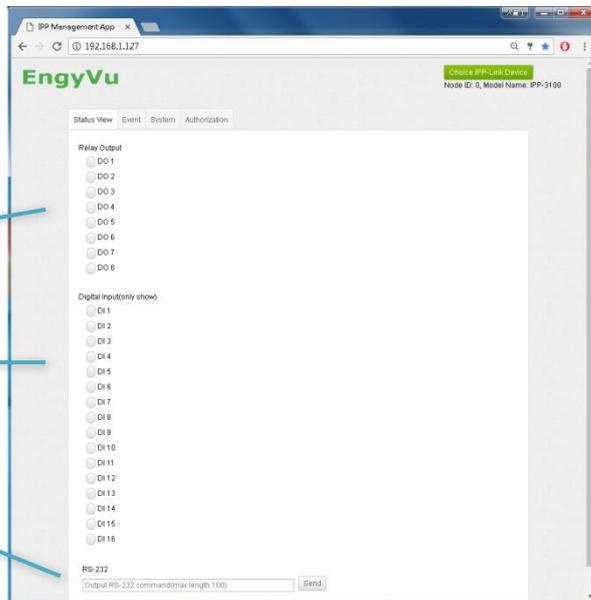
## CHAPTER 2 STATUS VIEW

IPP-3100 provides basic control and device status on Status View page. Status character name can be changed at System-Naming page.

Relay output Control

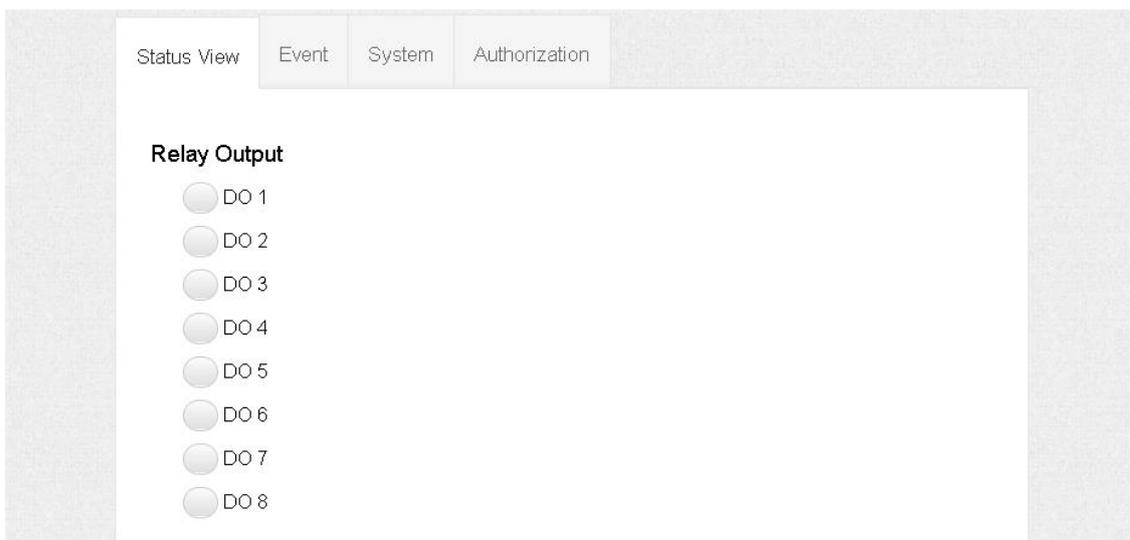
Digital Input Monitor

Serial Port Output Data



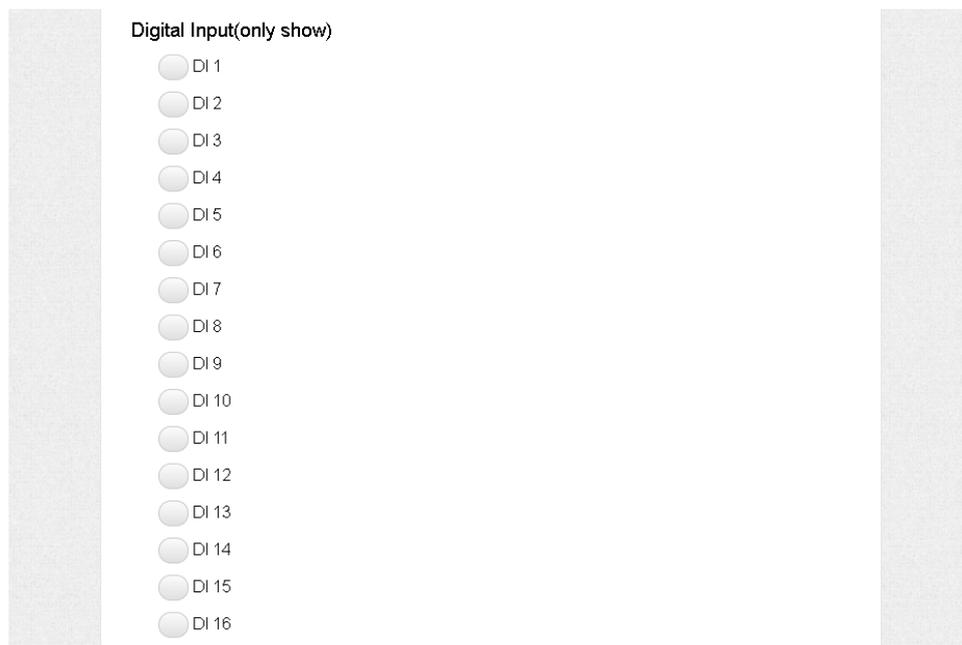
## RELAY OUTPUT CONTROL

IPP-3100 has 8 channels relay output. Display status of relay output channel, if the output state is ON, the status is Green. If the output state is OFF, the status is White.



## DIGITAL INPUT MONITOR

IPP-3100 has 16 channels digital input. Display status of digital input channel, if the input state is open, the status is OFF (White). If the input state is short, the status is ON (Green). Monitor response time about 1sec.



## SERIAL DATA OUTPUT

IPP-3100 Serial Port can send text data or [hex] code at Status page (Max. 100bytes). Press the Send button, the data will be sent. Serial Port baud rate can be changed at System page. Default mode is RS-232, baud rate is 115200bps. Serial Port will be different by Interface that can be changed by System-Serial page, please refer [Serial](#) section.



## CHAPTER 3 EVENT

Each IPP series offers EVENT function that is easy to transform different scenes. In EVENT page, user can set different trigger condition and get device action when trigger active. The EVENT Schedule function can help user execute EVENT automatically with timing. Each DI has default action on device, please disable [DI Action](#) at System-DI Config page when DI set to EVENT trigger.

Example:

A Living room connects with IPP product as bellow picture.

IPP-5206 controls lightings and fan of living room.

IPP-5303 controls blinds curtain of windows.

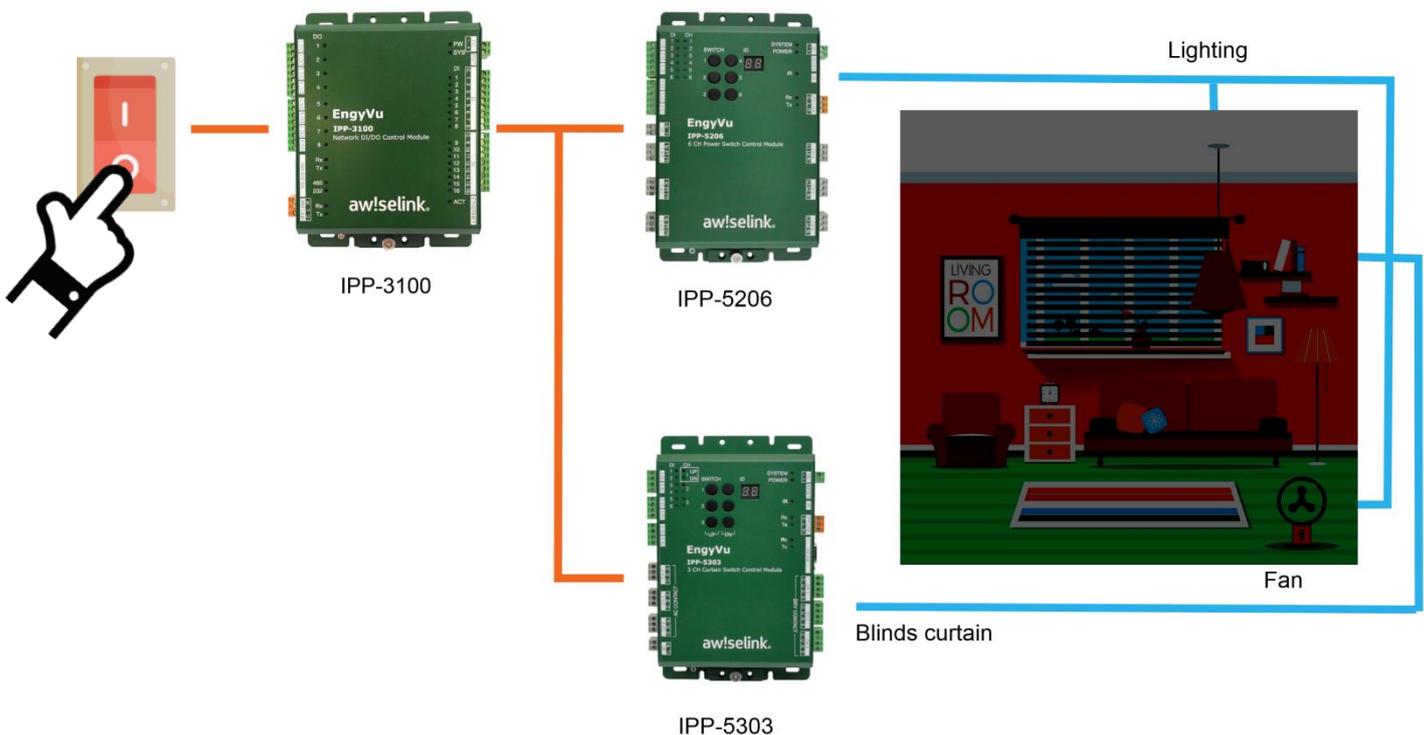
IPP-3100 is EVENT trigger source with switch.

Scene 1: Outing scene

Lights are off. Blinds curtain is closed. Fan is power off.

Scenes EVENT Trigger: SW1 of IPP-3100

Scenes EVENT Executor: IPP-5206 Light off and fan is power off. IPP-5303 Blinds curtain comes down.

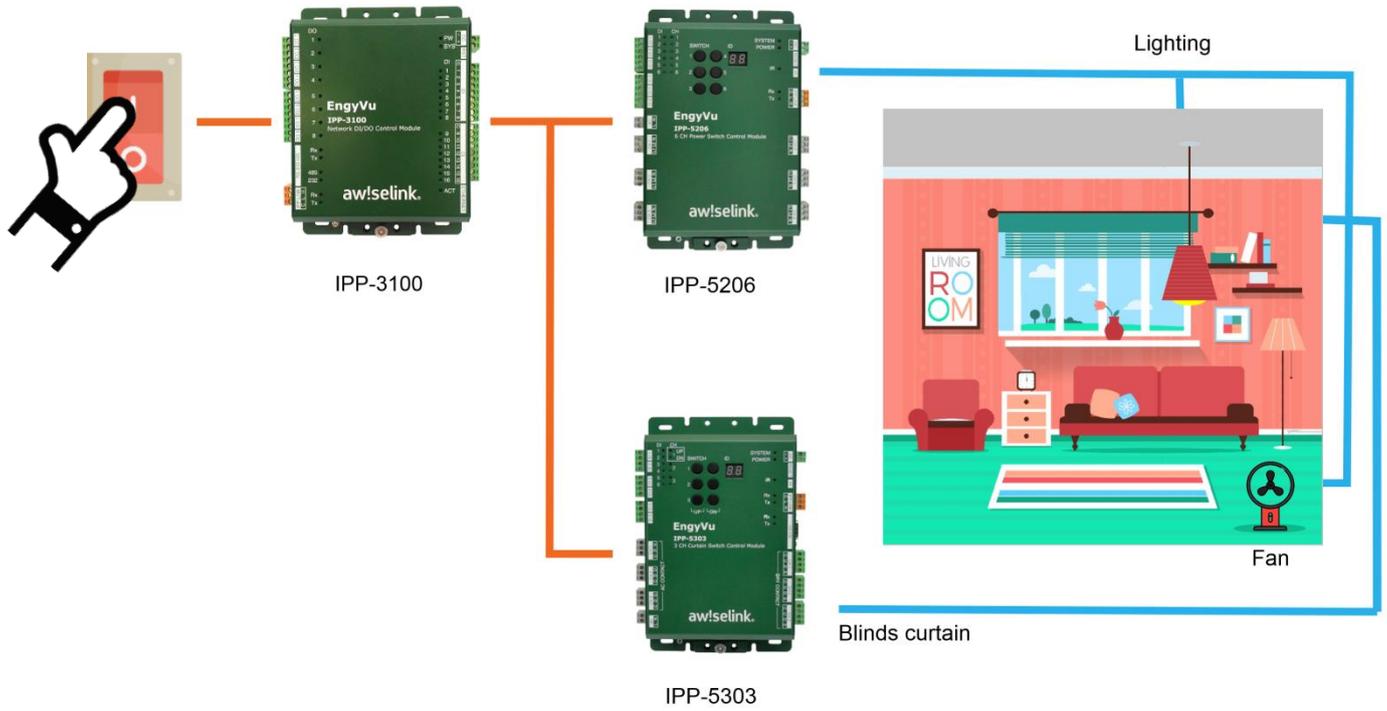


Scene 2: Home scenes

Lights are on. Blinds curtain is open. Fan is power on.

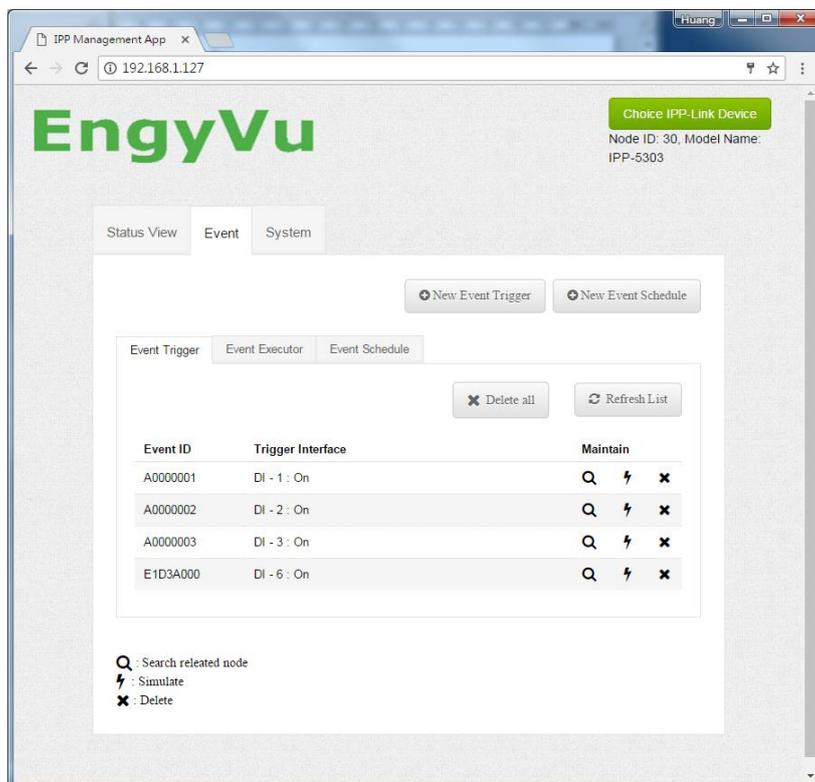
Scenes EVENT Trigger: SW2 of IPP-3100

Scenes EVENT Executor: IPP-5206 Light on and fan is power on, IPP-5303 Blinds curtain goes up.



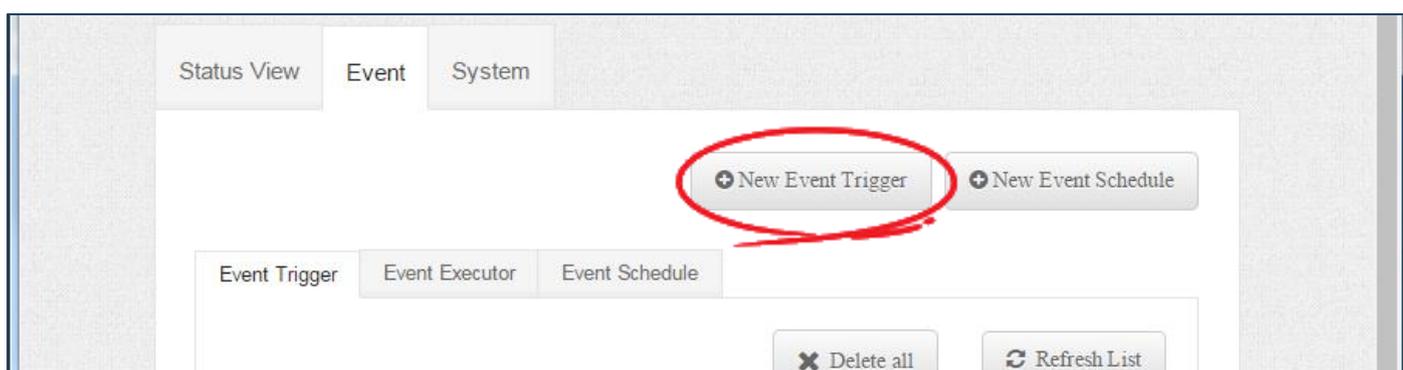
## EVENT PAGE

Event page provides new event trigger and new event schedule to create event. There are 3 status pages to show event trigger, event executor and event schedule of current device. Please refer as follow sections to understand event setting.



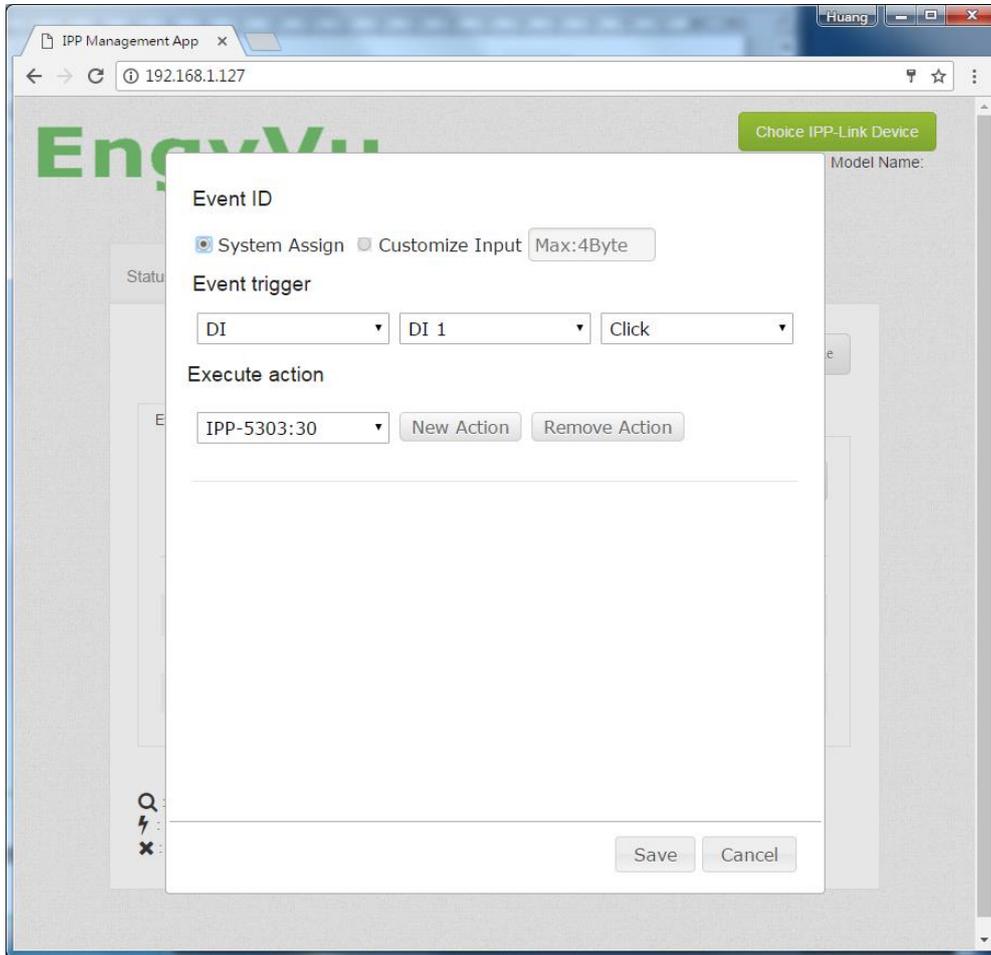
## NEW AN EVENT

Press  to enter setting window and create a new event trigger.



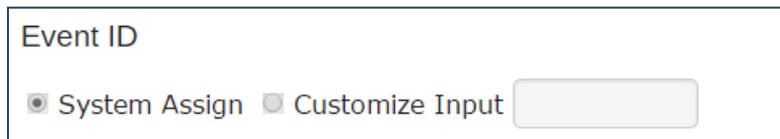
NEW AN EVENT TRIGGER

Event trigger setting window



Event ID:

System Assign means assign Event ID by system. Customize Input provide 8 characters for user assign a serial number for Event ID.



Event trigger:

1st dropdown option can select trigger source of current device for event trigger source.



2nd dropdown option can select trigger source channel of current device for event trigger source.

3rd dropdown option can select trigger action of current device for event trigger source. This option will be different by DI Type that can be changed by System-DI Config page, please refer [DI type definition](#) section.

**Execute action:**

Dropdown option can select event executor of all device in IPP-Link network for event trigger source, devices must connect and working at the same IPP-Link network. Option name is [Product name: Node ID].

Press **New Action** button to add new event executor and enter setting page, one node ID has one page. Add more event executor in one event trigger to make multi control of scenes.

Press **Remove Action** button to remove executor of current setting page. Please press Save to save event after setting.

NEW AN EXECUTOR ACTION FOR IPP-3100

Continue from previous section, when select an IPP-3100 device to new action, user can see IPP-3100 executor action setting page as bellow picture.

DO Action Select:

Dropdown option offer 4 actions of IPP-3100, there are Unchange, ON, OFF, Reverse. "Unchange" for no action, "ON" for DO short, "OFF" for DO open, "Reverse" for DO status reverses. The physical actions define as bellow.

DO1	Unchange ▾
DO2	Unchange
DO3	ON
	OFF
	Reverse

Action	Terminal block	Terminal block Action
ON		DO short
OFF		DO open

RS-232 Output:

IPP-3100 provides a RS-232 output. Edit the text box will be sending a string when event trigger execute.

**RS-232**

Output RS-232 command

RS-232 Delay  sec

Action executed delay time:

User can set delay time for each action executor. The action will be executed after delay time when event trigger active. Maximum delay time is 60sec. Delay time box will enable when action selected, but it will disable when action select to Unchange.

IPP-3100 ID 0

**Relay Output**

D01	<input type="button" value="Unchange"/>	D01 Delay	<input type="text" value="0"/>	sec
D02	<input type="button" value="Unchange"/>	D02 Delay	<input type="text" value="0"/>	sec
D03	<input type="button" value="Unchange"/>	D03 Delay	<input type="text" value="0"/>	sec
D04	<input type="button" value="Unchange"/>	D04 Delay	<input type="text" value="0"/>	sec
D05	<input type="button" value="Unchange"/>	D05 Delay	<input type="text" value="0"/>	sec
D06	<input type="button" value="Unchange"/>	D06 Delay	<input type="text" value="0"/>	sec
D07	<input type="button" value="Unchange"/>	D07 Delay	<input type="text" value="0"/>	sec
D08	<input type="button" value="Unchange"/>	D08 Delay	<input type="text" value="0"/>	sec

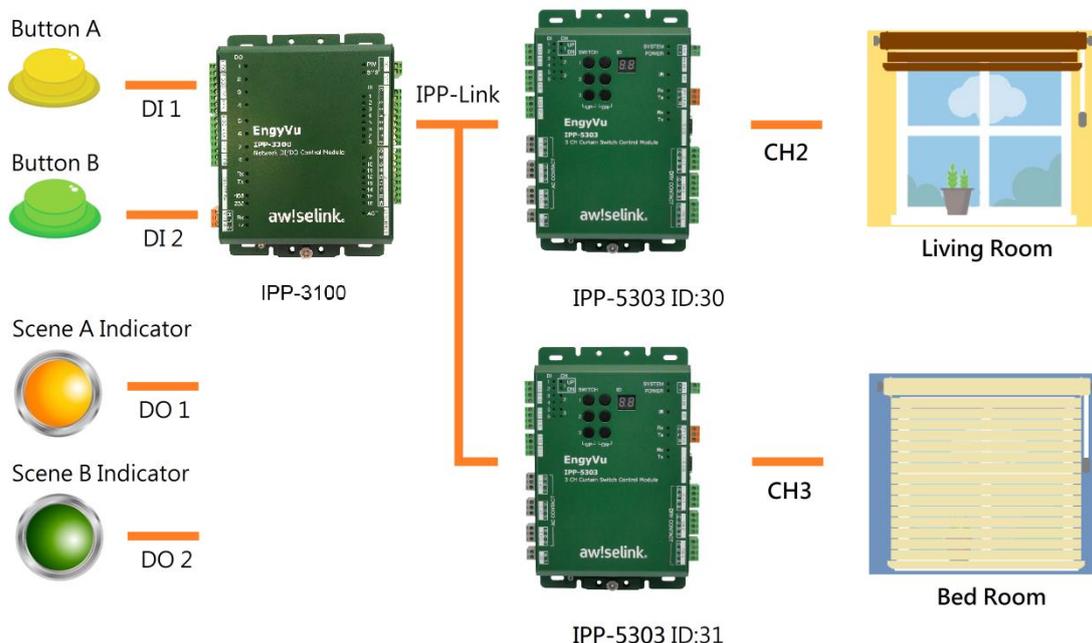
**RS-232**

Output RS-232 command

RS-232 Delay  sec

CREATE AN EVENT STEP BY STEP

Curtains connect with IPP product as bellow picture.



Design Event of scenes as bellow.

EVENT	EVENT ID	Trigger IPP-3100	Yellow LED IPP-3100	Green LED IPP-3100	Blinds of Living Room IPP-5303 ID:30	Blinds of Bed Room IPP-5303 ID:30
Scene A	A0000001	Button A	ON	OFF	Open	Close
Scene B	A0000002	Button B	OFF	ON	Close	Open

Create a new Event for Scene A

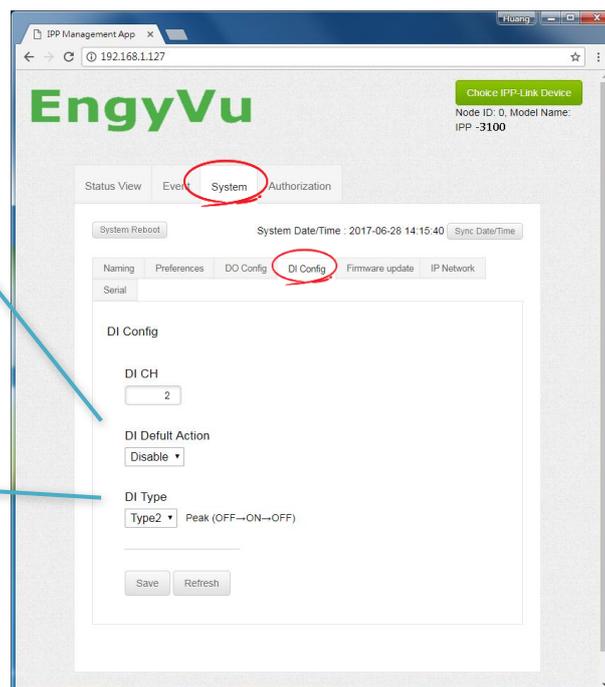
Step1 Enter IPP-3100 System Page and DI config setting.

Step2 Check DI action all disabled.

Comment: Before use EVENT function, please disable DI action for trigger channel.

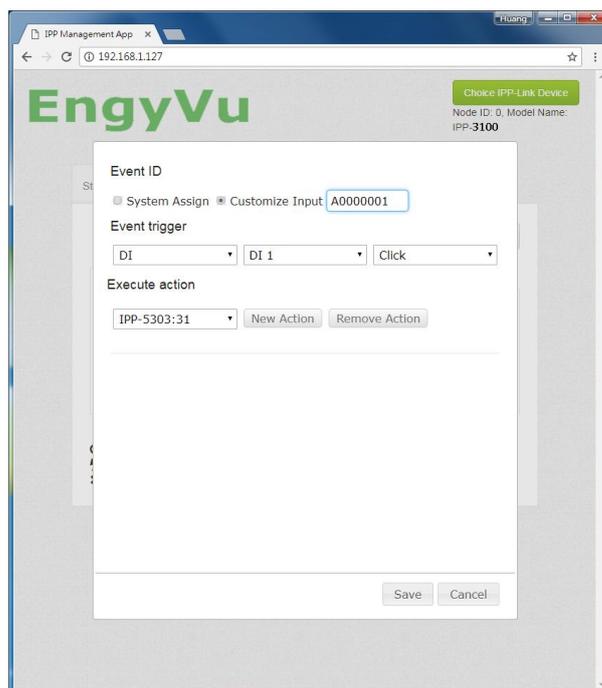
Step3 Chang DI type to type 2.

Comment: Button A and B are connect to IPP-3100 DI. IPP-3100 DI default type is type 4 – switch type, so we need to change DI Type to type 2 – button type first. Detail DI config setting please refer [DI config](#) section.

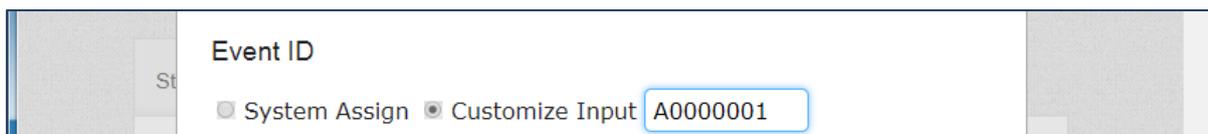


Step4 Change to IPP-3100 EVENT Page and click

Comment: Event will be triggered by buttons that connect to IPP-3100 DI, so we must be set EVENT at IPP-3100.



Step5 Assign ID: A0000001 for EVENT.



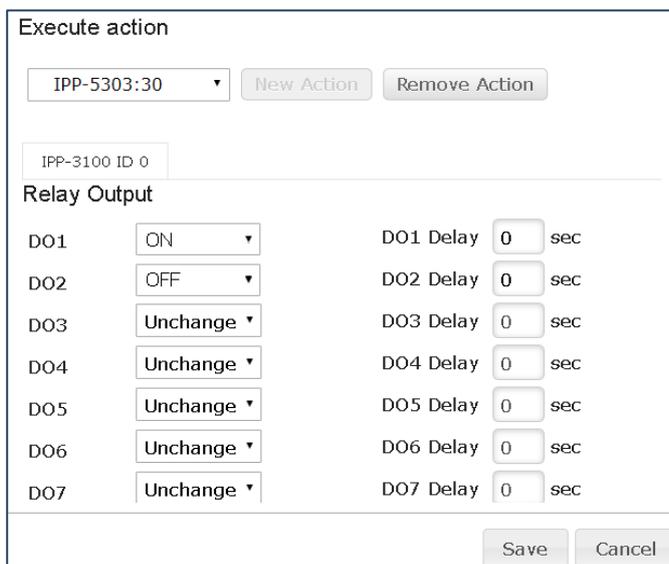
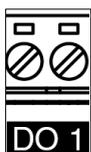
Step6 Select trigger source channel and action.

Comment: For this example, Scene A button connects to DI 1.



Step7 Select IPP-3100:0 and press  to set IPP-3100's EVENT action.

Comment: For this example, LED and LED power connect to DO terminal block, ON is DO short, LED ON. OFF is DO open, LED OFF. For scene A, DO1 LED shall be ON.



Step8 Select IPP-5303:30 and press **New Action** to set IPP-5303's EVENT action.

Comment: For this example, blinds of living room connect to CH2, for scene A, CH2 shall be UP.

Step9 Select IPP-5303:31 and press **New Action** to set IPP-5303's EVENT action.

Comment: For this example, blinds of bed room connect to CH3, for scene A, CH3 shall be DOWN.

Step10 Before save EVENT, click device tag can edit event action again. Press **Save** to save EVENT A0000001.

### Create a new Event for Scene B

Step11 Click **New Event Trigger** for add next EVENT.

Step12 Assign ID: A0000002 for EVENT.

Step13 Select trigger source channel and action.

Comment: For this example, Scene B button connects to DI 2.

Step14 Select IPP-3100:0 and press **New Action** to set IPP-3100's EVENT action.

Comment: For this example, LED and LED power connect to DO terminal block, ON is DO short, LED ON. OFF is DO open, LED OFF. For scene B, DO2 LED shall be ON.



Execute action

IPP-5303:30 **New Action** **Remove Action**

IPP-3100 ID 0

Relay Output

DO1	OFF	DO1 Delay	0	sec
DO2	ON	DO2 Delay	0	sec
DO3	Unchange	DO3 Delay	0	sec
DO4	Unchange	DO4 Delay	0	sec
DO5	Unchange	DO5 Delay	0	sec
DO6	Unchange	DO6 Delay	0	sec
DO7	Unchange	DO7 Delay	0	sec

**Save** **Cancel**

Step15 Select IPP-5303:30 and press **New Action** to set IPP-5303's EVENT action.

Comment: For this example, blinds of living room connect to CH2, for scene B, CH2 shall be DOWN.

Execute action

IPP-5303:31 **New Action** **Remove Action**

IPP-3100 ID 0 IPP-5303 ID 30

Curtain

CH1	Unchange	DO1 Delay	0	sec
CH2	DOWN	DO2 Delay	0	sec
CH3	Unchange	DO3 Delay	0	sec

RS-232

Output RS-232 command RS-232 Delay 0 sec

**Save** **Cancel**

Step16 Select IPP-5303:31 and press **New Action** to set IPP-5303's EVENT action.

Comment: For this example, blinds of bed room connect to CH3, for scene B, CH3 shall be UP.

Execute action

IPP-3100 ID 0 IPP-5303 ID 30 IPP-5303 ID 31

Curtain

CH1	Unchange	DO1 Delay	0	sec
CH2	Unchange	DO2 Delay	0	sec
CH3	UP	DO3 Delay	0	sec

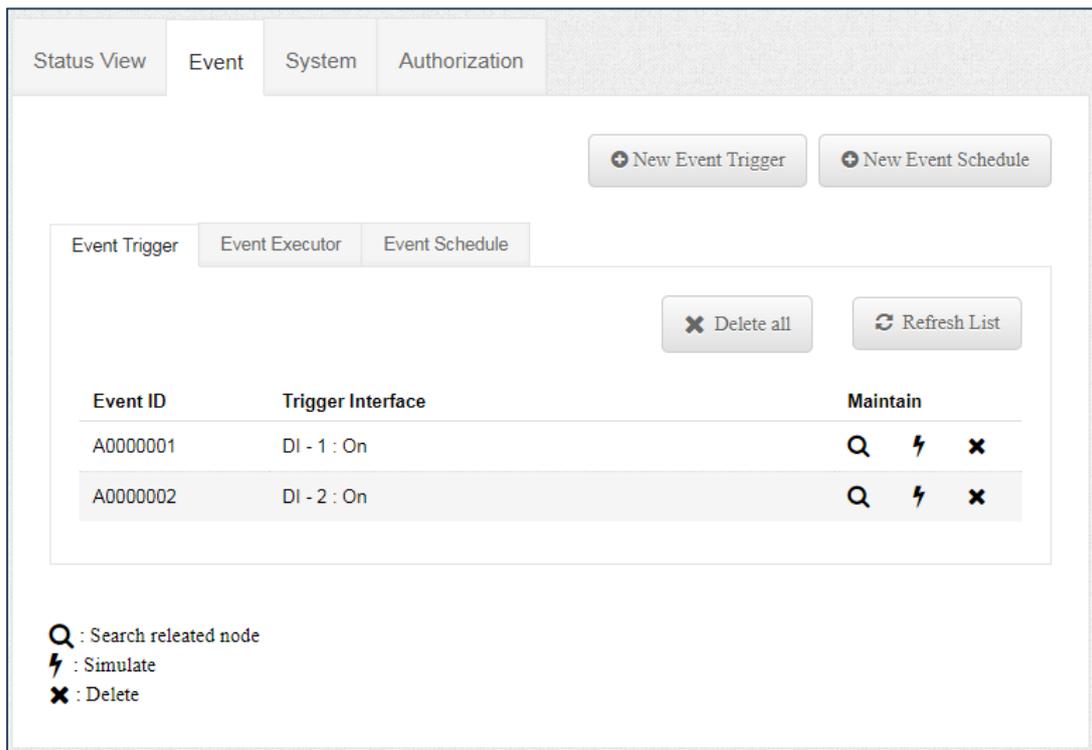
RS-232

Output RS-232 command RS-232 Delay 0 sec

**Save** **Cancel**

Step17 Before save EVENT, click device tag can edit event action again. Press **Save** to save EVENT A0000002.

Step18 Press  to show +EVENT list. Done.



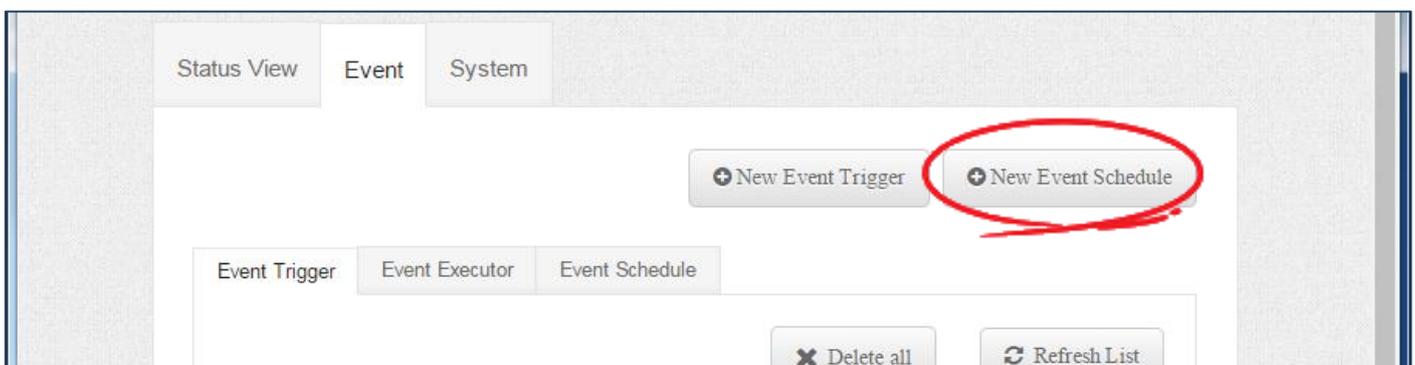
The screenshot shows the 'Event' tab selected in the top navigation bar. Below the navigation bar, there are two buttons: '+ New Event Trigger' and '+ New Event Schedule'. Underneath, there are three sub-tabs: 'Event Trigger', 'Event Executor', and 'Event Schedule'. The 'Event Trigger' sub-tab is active, showing a table with two rows of event data. The table has columns for 'Event ID', 'Trigger Interface', and 'Maintain'. The 'Maintain' column contains three icons: a magnifying glass (Search), a lightning bolt (Simulate), and an 'x' (Delete). Below the table, there are two buttons: 'Delete all' and 'Refresh List'. A legend at the bottom left explains the icons: a magnifying glass for 'Search related node', a lightning bolt for 'Simulate', and an 'x' for 'Delete'.

Event ID	Trigger Interface	Maintain
A0000001	DI - 1 : On	🔍 ⚡ ✕
A0000002	DI - 2 : On	🔍 ⚡ ✕

🔍 : Search related node  
⚡ : Simulate  
✕ : Delete

## NEW AN EVENT SCHEDULE

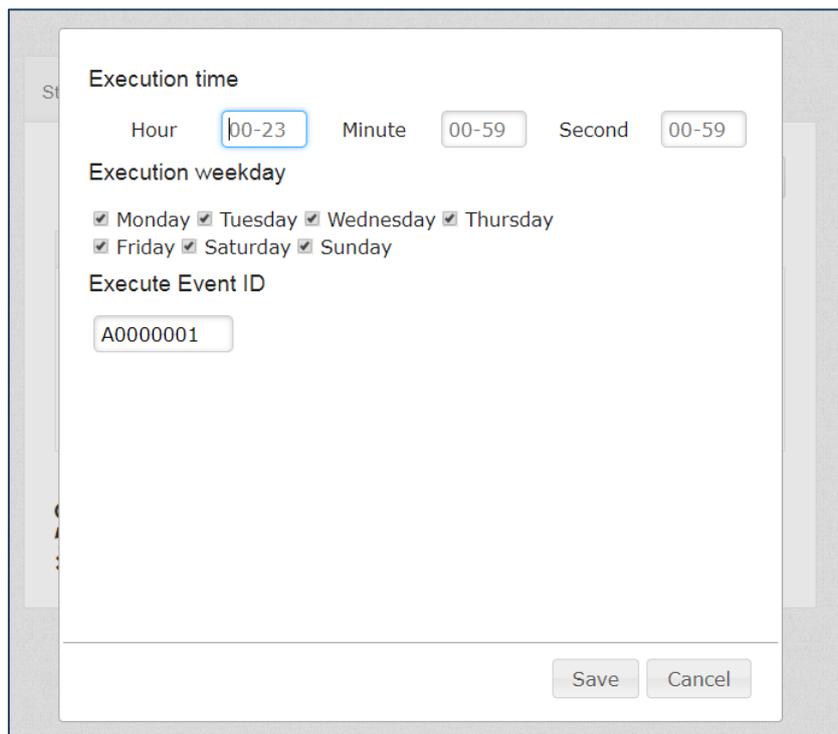
The Event also can be triggered by Event schedule. Once the set time has passed, the event will automatically active and it will repeat continuously by schedule. EVENT schedule and EVENT trigger must be set at the same device. Press  to enter setting window and create a new event schedule.



The screenshot shows the 'Event' tab selected in the top navigation bar. Below the navigation bar, there are two buttons: '+ New Event Trigger' and '+ New Event Schedule'. The '+ New Event Schedule' button is circled in red. Underneath, there are three sub-tabs: 'Event Trigger', 'Event Executor', and 'Event Schedule'. Below the sub-tabs, there are two buttons: 'Delete all' and 'Refresh List'.

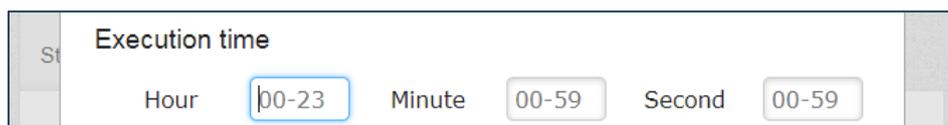
## EVENT SCHEDULE SETTING

When click , it will be show the Event schedule setting window.



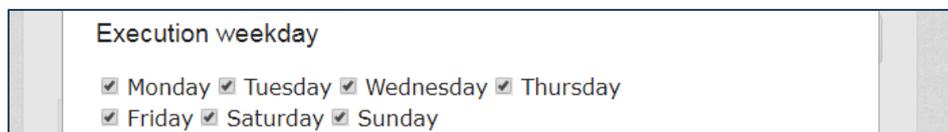
### Execution time:

Set a timing to execute EVENT, enter hour, minute, second for detail.



### Execution weekday:

Set what days of week EVENT schedule should be active.



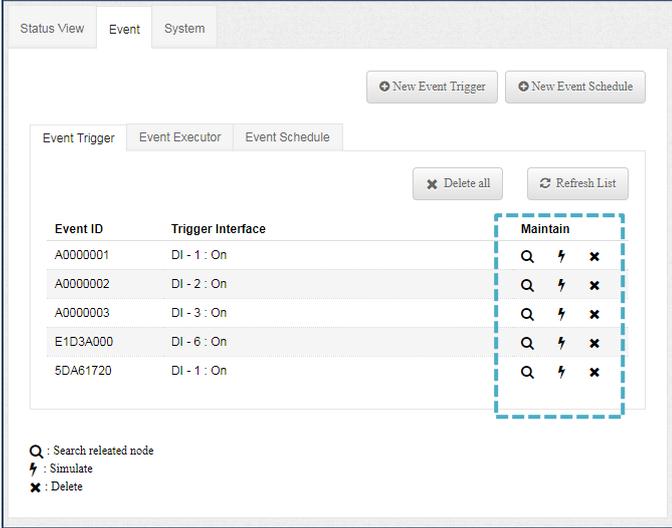
### Execute Event ID:

Set EVENT ID. Once the set time has passed, this EVENT action will be active by EVENT schedule.



## EVENT LIST

Press  will refresh list to show last event triggers. Press  to delete all event trigger and action.



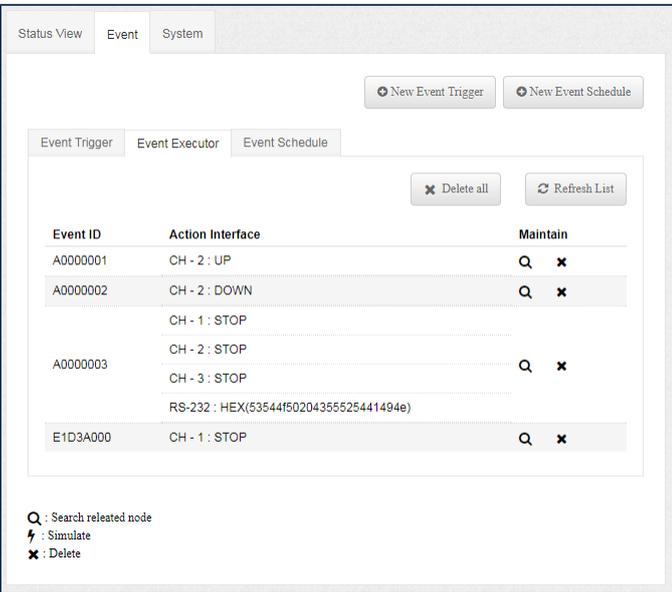
Event ID	Trigger Interface	Maintain
A0000001	DI - 1 : On	Q ⚡ ✕
A0000002	DI - 2 : On	Q ⚡ ✕
A0000003	DI - 3 : On	Q ⚡ ✕
E1D3A000	DI - 6 : On	Q ⚡ ✕
5DA61720	DI - 1 : On	Q ⚡ ✕

Q : Search related node  
⚡ : Simulate  
✕ : Delete

EVENT Trigger List

**Maintain:**  
Press Maintain item to maintain event and show event info.

-  Search and show related device ID to this EVENT.
-  Execute EVENT action for simulate.
-  Delete EVENT trigger and Executor action.

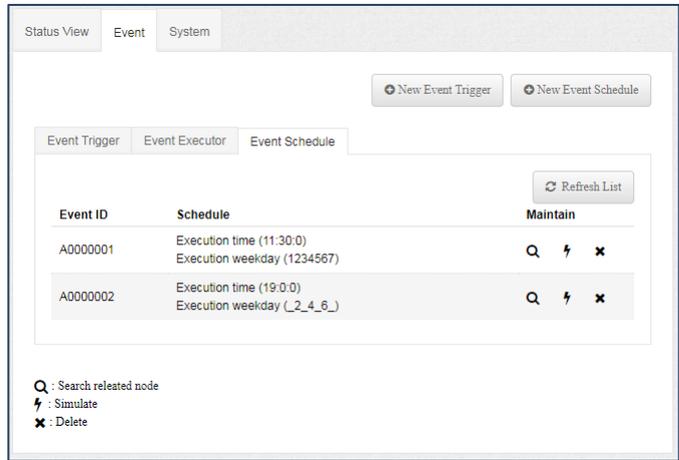


Event ID	Action Interface	Maintain
A0000001	CH - 2 : UP	Q ✕
A0000002	CH - 2 : DOWN	Q ✕
A0000003	CH - 1 : STOP	Q ✕
	CH - 3 : STOP	
E1D3A000	RS-232 : HEX(53544f50204355525441494e)	Q ✕
	CH - 1 : STOP	

Q : Search related node  
⚡ : Simulate  
✕ : Delete

EVENT Executor List

 Delete Executor action only in EVENT Executor List.



Event ID	Schedule	Maintain
A0000001	Execution time (11:30:0) Execution weekday (1234567)	Q ⚡ ✕
A0000002	Execution time (19:0:0) Execution weekday (_2_4_6_)	Q ⚡ ✕

Q : Search related node  
⚡ : Simulate  
✕ : Delete

EVENT Schedule List

## CHAPTER 4 SYSTEM SETTING

IPP-3100 provides system setting, firmware update and information at System page. There are naming, preferences, DO config, DI config, firmware update, IP Network, serial setting.

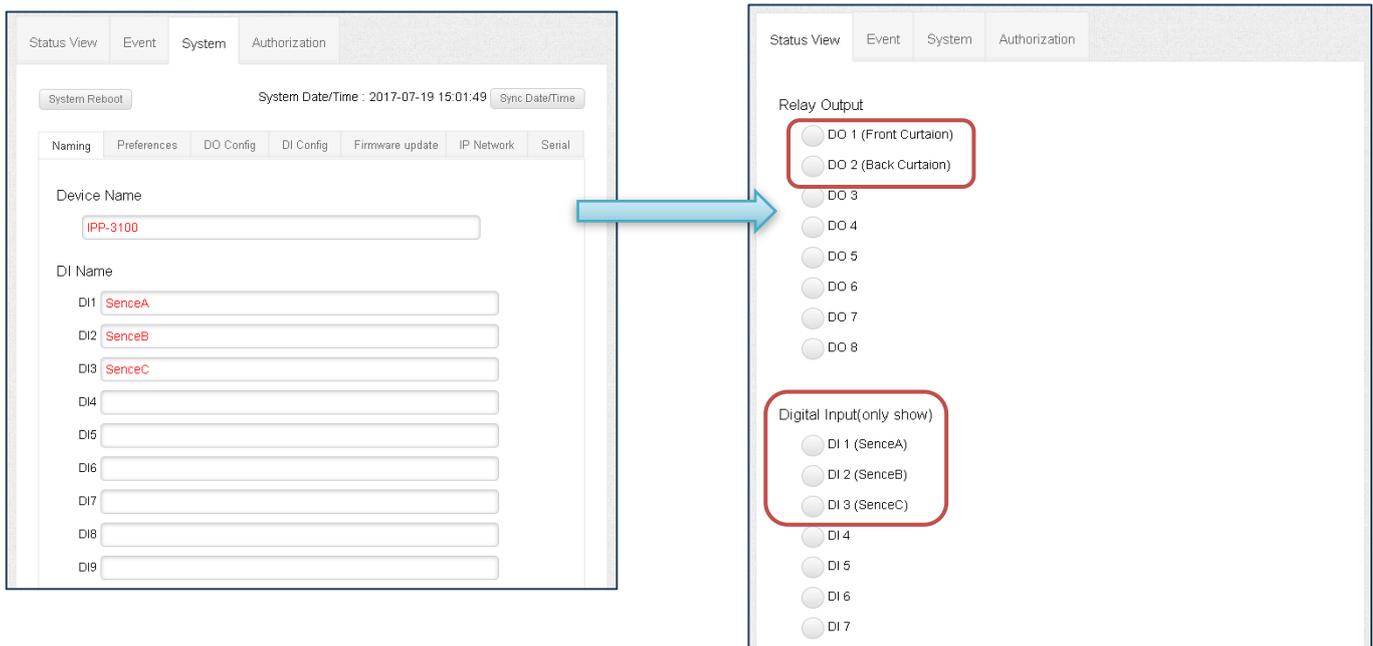
Device Reset: Reset device

Sync Date / Time: synchronize date and time of IPP-3100 and PC or mobile devices.



## NAMING

Assign name of each interface by Naming page.



## PREFERENCES

Preferences page show system information in here. There are parameters and system version for current device.

The screenshot shows the 'Preferences' page in the IPP-3100 web interface. The page has a navigation bar with tabs for 'Status View', 'Event', 'System', and 'Authorization'. Below the navigation bar, there is a 'System Reboot' button and a 'System Date/Time' field showing '2017-07-19 15:06:24' with a 'Sync Date/Time' button. The main content area has a sub-navigation bar with tabs for 'Naming', 'Preferences', 'DO Config', 'DI Config', 'Firmware update', 'IP Network', and 'Serial'. The 'Preferences' tab is selected, and the page displays the following information:

1. Node ID : 0
2. Model Name : IPP-3100
3. Unikey : 00:13:48:02:DF:B2
4. Firmware version :
  - CND Srv version 1.010 (build #1 Jun 9 2017 10:12:32)
  - IPP AP Srv version 1.020 (build #1 Jul 17 2017 15:53:34)
  - LOG Srv version 0.001 (build #1 Aug 3 2015 17:05:52)
  - S2E Srv version 0.002 (build #1 Oct 5 2015 15:58:03)
  - H0 version 1.04
5. Kernel version :
  - Filesystem : build #153 PREEMPT Wed Jul 13 13:54:31 CST 2011
6. Web AP version : 1.6.10

## DI CONFIG

Each DI channel can change configuration by DI config page, include DI action and DI type. Press  to save setting after edit. Press  to read setting of DI CH.

The screenshot shows the 'DI Config' page in the IPP-3100 web interface. The page has a navigation bar with tabs for 'Status View', 'Event', 'System', and 'Authorization'. Below the navigation bar, there is a 'System Reboot' button and a 'System Date/Time' field showing '2017-07-12 14:58:10' with a 'Sync Date/Time' button. The main content area has a sub-navigation bar with tabs for 'Naming', 'Preferences', 'DO Config', 'DI Config', 'Firmware update', 'IP Network', and 'Serial'. The 'DI Config' tab is selected, and the page displays the following configuration options:

- DI CH:
- DI Default Action:  (dropdown menu)
- DI Type:  (dropdown menu) Normal (ON/OFF)

At the bottom of the page, there are two buttons:  and .

## DI TYPE DEFINITION

IPP product series define DI type as below form. Each type can be signal trigger for IPP product action, the action such as digital output, relay output, dimmer control, curtain control...etc. DI can be used to connect with button, switch, digital input...etc. for different application. DI type can be change by configuration setting.

DI Type	Trigger Condition	Description
Type1	On -> Off / Off -> On	Status Change
Type2	Off -> On -> Off	Peak
Type3	On -> Off -> On	Valley
Type4	On / Off	Normal
Type5	Short press / Long press	Press Button

IPP-3100 DI type default is Type 4, the function like as switch.

## DI ACTION DEFINITION

IPP-3100 DI action defines default device operation as below form.

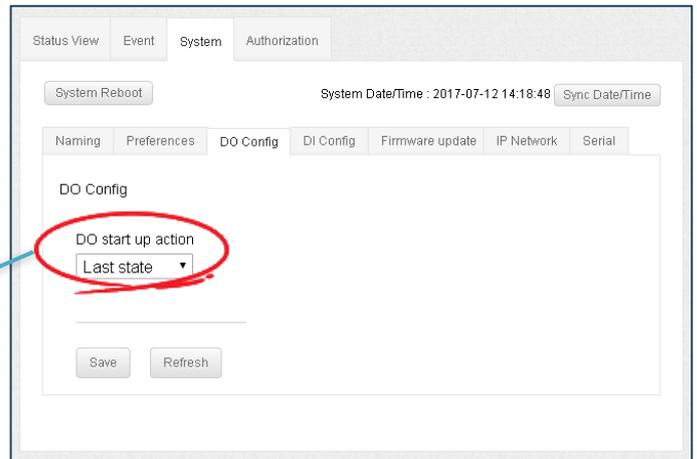
DI CH	DI Action Type4	Default Output Action	DI CH	DI Action Type4	Default Output Action
DI 1	ON	No action	DI 9	ON	No action
	OFF			OFF	
DI 2	ON	No action	DI 10	ON	No action
	OFF			OFF	
DI 3	ON	No action	DI 11	ON	No action
	OFF			OFF	
DI 4	ON	No action	DI 12	ON	No action
	OFF			OFF	
DI 5	ON	No action	DI 13	ON	No action
	OFF			OFF	
DI 6	ON	No action	DI 14	ON	No action
	OFF			OFF	
DI 7	ON	No action	DI 15	ON	No action
	OFF			OFF	
DI 8	ON	No action	DI 16	ON	No action
	OFF			OFF	

Each DI has default action on device. Please disable DI Action when DI set to EVENT Trigger, otherwise device will do DI action and EVENT Executor action in the same time.

## DO CONFIG

DO config page can change DO configuration. Press **Save** to save setting after edit. Press **Refresh** to read setting of DO start up action

DO start up action: The state of DO after IPP-3100 power on



## DO START UP ACTION DEFINITION

IPP-3100 DO start up action defines default device operation as below form.

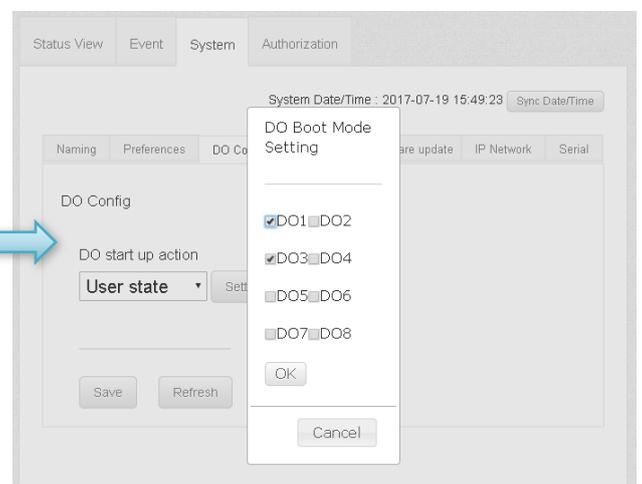
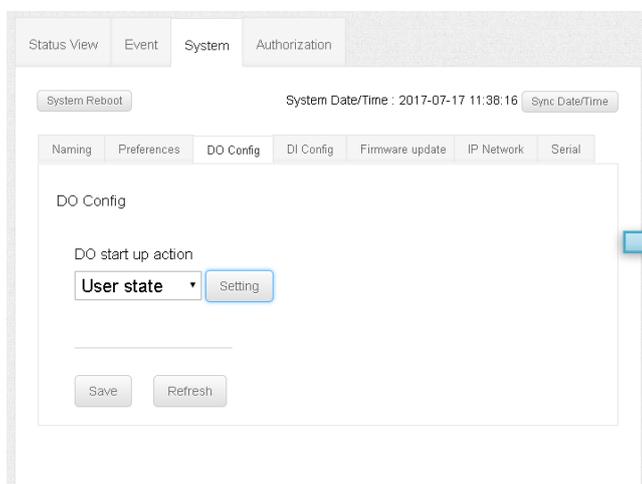
DO start up action	DO
Default state	All off
User state	Customize
Last state	The state before power off



User state: Customize operation as below.

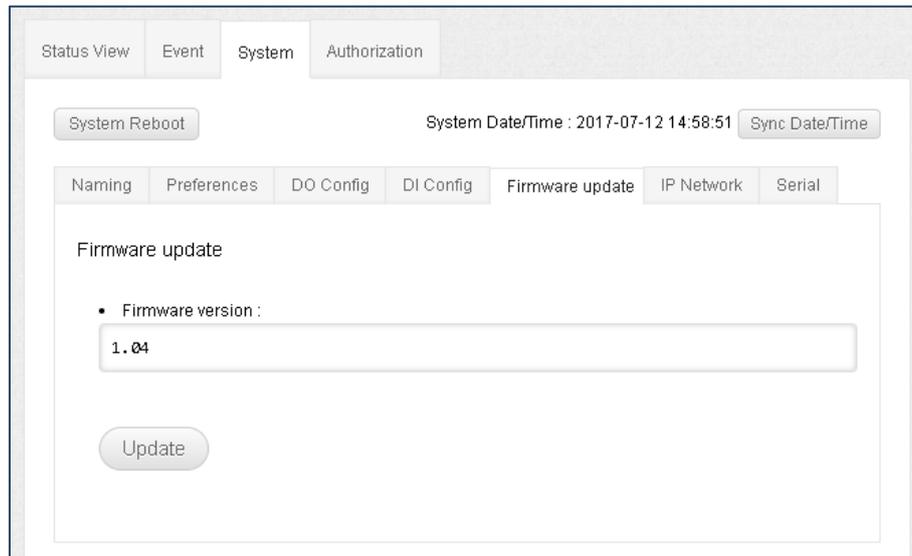
DO on after power on     DO off after power on

Press **Setting** button to set action for customize. Press **Save** to save setting after edit.



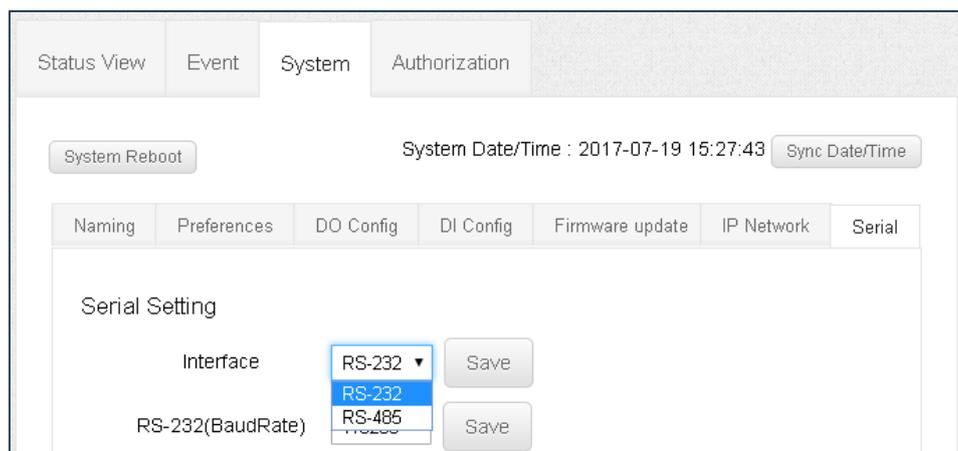
## FIRMWARE UPDATE

Firmware of IPP-series device can online update at Firmware update page. Press  will update firmware from IPP-3100 kernel and restart device after update.



## SERIAL

Serial page provides setting to configure serial port baud rate. Serial Port will be different by interface setting and SW2 on PCB board, please refer to the "IPP-3100-Installation\_v1.0" for details.



## IP NETWORK

Set IP type (Static or DHCP) with network mode.

DHCP type: IP address will be assigned to the IPP-3100 from the network's DHCP server. In this mode, the default IP address will be replaced by the DHCP server.

Static type: IP address, Netmask & Gateway shall be determined by user. (Default type)

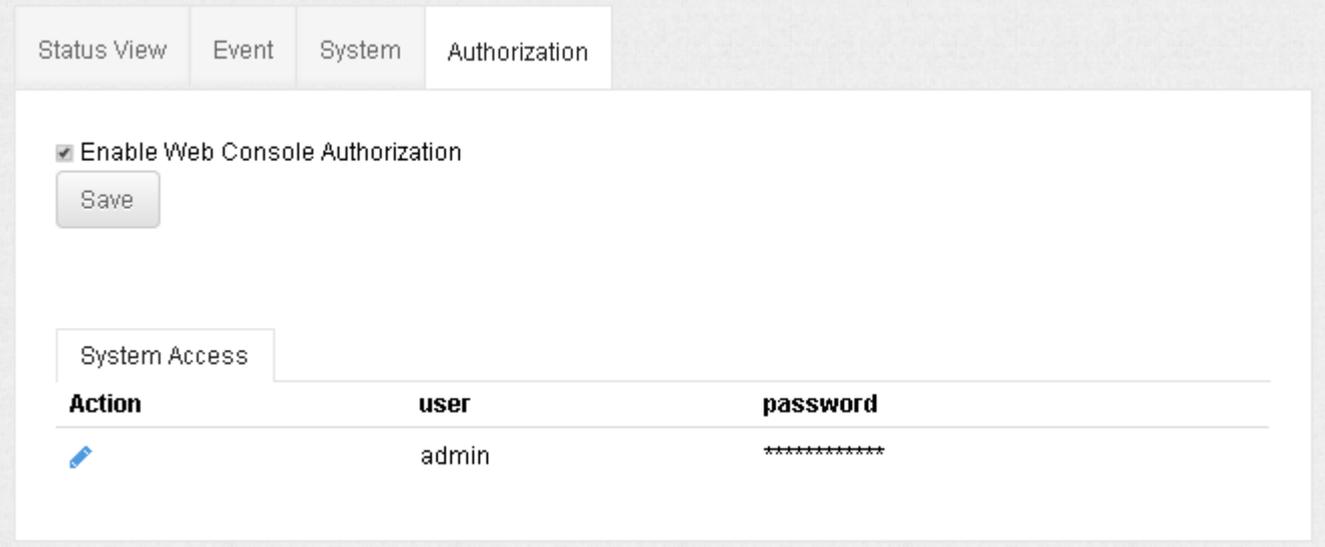
If it is over one IPP-3100 in the same network, please change ip network before use.

The screenshot displays the web interface for the IPP-3100 Network DI/DO Control Module. At the top, there are navigation tabs: Status View, Event, System, and Authorization. Below these, there is a 'System Reboot' button and the system date/time: 2017-07-21 13:37:35, with a 'Sync Date/Time' button. A secondary set of tabs includes Naming, Preferences, DO Config, DI Config, Firmware update, IP Network (selected), and Serial. The main content area is titled 'IP Network Setting' and contains two sections. The first section, 'IP Network Setting', has input fields for IP Type (STATIC), Host Name (IPP-3100), IP (192.168.1.127), Netmask (255.255.255.0), and Gateway (192.168.1.254). The second section, 'Chaneg IP Network Setting', has radio buttons for IP Type (Static selected, DHCP unselected), and input fields for Host Name (IPP-3100-01), IP (192.168.2.100), Netmask (255.255.255.0), and Gateway (192.168.2.1). A 'Save' button is located at the bottom left of the form.

## CHAPTER 5 AUTHORIZATION

Allow user to change the login password from Authorization page.

Press  button and enter a new password.



System Access

Action	user	password
	admin	*****

APPENDIX