

# Click&Go Plus™ User's Manual

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# Click&Go Plus™ User's Manual

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Moxa's ioLogik 2500 is a remote I/O device designed for smart monitoring applications over Ethernet and wireless interfaces. With Click&Go Plus™ intelligence built in, the ioLogik 2500 can be configured for simple outputs paired up with simple input triggers, without using a PC controller.

Click&Go Plus™ intelligence allows the ioLogik 2500 to be configured to automatically report I/O events according to user-specified conditions. Simple IF-Then-Else statements are used to specify conditions that are required for certain actions to take place. Up to 8 conditions and 8 actions can be combined in one rule, and up to 48 rules can be defined. Supported actions include sending SNMP traps or TCP/UDP messages to up to 10 hosts at a time.

The following topics are covered in this chapter:

- ❑ **Click&Go Plus™ Overview**
- ❑ **Click&Go plus™ Features**
- ❑ **Using Click&Go Plus™ Logic**

# Click&Go Plus™ Overview

Click&Go Plus™ logic can be managed and configured with the IOxpress utility to handle front-end events. IOxpress's graphical user interface also provides easy access to all status information and ioLogik 2500 settings.

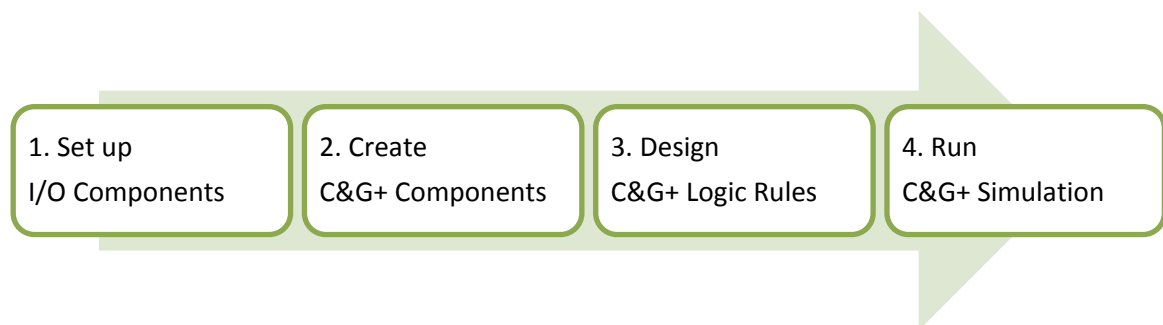
## Click&Go plus™ Features

Click&Go Plus Logic has the following key features:

- Easy local logic control using graphical and intuitive IF-Then-Else style constructions
- Up to 48 user-defined rules
- Choice of email, TCP, UDP, and SNMP trap for active I/O messaging
- Customizable message content with dynamic fields for time, date, IP address, and more
- Up to 10 simultaneous IP destinations for TCP/UDP messaging
- Internal register function for remote output control when Click&Go plus is running
- Timer Delay function for timing events
- Configurable interval for time-triggered events

## Using Click&Go Plus™ Logic

The following flowchart shows an overview of the Click&Go Plus™ Logic configuration process:



More information is available about each of these four topics:

- Setting up I/O Components: See the ioLogik 2500 User's Manual.
- Creating C&G+ Components: See Chapter 2 of this manual.
- Designing C&G+ Logic Rules: See Chapter 3 of this manual.
- Running C&G+ Simulation: See Chapter 4 of this manual.

## Click&Go Plus™ Components

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Click&Go Plus™ components can be used to specify conditions and actions that are required for certain actions to take place. Up to 8 conditions and 8 actions can be combined in one rule, and you can define up to 48 rules.

The following topics are covered in this chapter:

- ❑ **Timer**
- ❑ **SNMP Trap**
- ❑ **TCP/UDP Message**
- ❑ **Email**
- ❑ **Schedule**
- ❑ **Internal Register**
- ❑ **Remote Action**
- ❑ **CGI Commands**
- ❑ **SMS (ioLogik 2500-GPRS/HSPA only)**
  - As Server
  - As Client

# Timer

The Timer function allows users to delay an action, trigger an action to run, or repeat an action. A timer is activated by a change of the logic event. After the timed interval has expired, the output will be performed.

No.	Name	Interval(sec.)	Initial State

Timer Setting

Name

Time Interval  sec.

Initial State

Add

Apply

Delete

# SNMP Trap

The ioLogik supports SNMP (Simple Network Management Protocol) v1/v2c to allow monitoring of the network and I/O devices with SNMP Network Management software.

SNMP Trap can be used for THEN/ELSE actions. It is useful for building automation and telecom applications. The SNMP Trap function sends an SNMP trap to one or more IP destinations. The specific ID can be any number between 1 and 20. (You may need to consult with your network administrator to determine how trap numbers will be used and defined on your network.)

Enter your desired message in the **Content Settings** section. Dynamic fields such as time, date, IP address, and I/O status can be inserted in your message by clicking **Keyword Lookup**. Messages are sent in ASCII.

No.	Name

Name

**Server Settings**

Version  v1  v2c

Server 1 IP Address  Server 2 IP Address

Server 1 Trap Community  Server 2 Trap Community

**Parameter Settings**

Variable	Slot	Channel
<input type="checkbox"/> Variable 0	[Slot 00 Model: 2542 (-T)]	AI-00
<input type="checkbox"/> Variable 1	[Slot 00 Model: 2542 (-T)]	AI-00
<input type="checkbox"/> Variable 2	[Slot 00 Model: 2542 (-T)]	AI-00

Select Specific ID

**Content Settings**

Send as ASCII

Content : 0 (max chars=200)



# TCP/UDP Message

The TCP/UDP Message feature enables you to configure one or more IP addresses of the Message Servers to which Click&Go Plus logic sends the generated event messages. Click&Go Plus logic sends the defined active message to all addresses listed.

Configure the following fields in the Server Settings area:

- **Server 1 or 2 IP Address:** Enter the IP address of a message server.
- **Message Protocol:** Select the message protocol (**TCP** or **UDP**) to use from the drop-down list.
- **Message Port:** Set the port number the computer uses to communicate with the device. The default TCP/UDP port number is 9000.
- **Retry:** Enter the number of connection attempts.
- **Interval:** Enter the number of seconds the device will wait before sending an active message.

No.	Name

Name

**Server Settings**

Server 1 IP Address  Server 2 IP Address

Message Protocol  Message Port (TCP/UDP)

Retry  Interval (sec.)

**Content Settings**

Send as ASCII       Send as UNICODE       Send as HEX (separated by ',')

Content : 0 (max chars=200)

# Email

The E-mail function can send a customizable email to one or more mail boxes.

Server Recipients Email Content

Email Server Settings

Server Type  Encryption  Authentication

IP (or URL)  User Name

Port  (1-65535) Password

Confirm Password

Server Recipients Email Content

No.	Name	Email

Name

Email Address

Server Recipients Email Content

No.	Name

Name

Email Information

Subject  To

Sender Name

From

Content Settings

Send as ASCII  Send as UNICODE

Content : 0 (character limit=200)

# Schedule

The Schedule function can be used in an IF condition. It allows users to set a starting point or time period for a task.

For recurring actions, you can select the relevant weekdays. If a time period needs to be defined, specify the settings in the “Range of Recurrence” column. For example, the Schedule function can be used if a pump needs to start at 9:00 PM and stop at 11:00 PM every Monday, Wednesday, and Friday.

No.	Name

Schedule Name

Mode

Time  
Starts  Ends

Recurrence Pattern  
 Weekly  
 Recur every  week(s) on:  
 Sunday  Monday  Tuesday  Wednesday  
 Thursday  Friday  Saturday

Range of Recurrence  
 Starts on    
 No end date  
 Ends after  occurrences  
 Ends by

# Internal Register

Internal Register (Integer) is a flag that can be used with Click&Go Plus logic internally or externally. The 48 sets of internal registers can be polled and controlled by SCADA software using standard Modbus/TCP format, or implemented to redirect the result of one Click&Go Plus logic to another.

The default value of an internal register is “0”.

Internal Register Setting (Unsigned Short)

No.	Name	Initial Value
0	Internal Register-00	0
1	Internal Register-01	0
2	Internal Register-02	0
3	Internal Register-03	0
4	Internal Register-04	0
5	Internal Register-05	0
6	Internal Register-06	0
7	Internal Register-07	0
8	Internal Register-08	0
9	Internal Register-09	0

Float Internal Register Setting (Float)

No.	Name	Initial Value
0	Float Internal Register-00	0.000
1	Float Internal Register-01	0.000
2	Float Internal Register-02	0.000
3	Float Internal Register-03	0.000
4	Float Internal Register-04	0.000
5	Float Internal Register-05	0.000
6	Float Internal Register-06	0.000
7	Float Internal Register-07	0.000
8	Float Internal Register-08	0.000
9	Float Internal Register-09	0.000

# Remote Action

The Remote Action function can be used to send and receive triggers between several ioLogik 2500 devices.

- The “As Server” function can be used in IF conditions to trigger the local device.
- The “As Client” function can be used in THEN/ELSE actions to trigger a remote device.

**NOTE** For “As Server”, the device will only be triggered when “Client IP” and “Action ID” match.

# CGI Commands

CGI commands can be used with Click&Go Plus. Using a web browser or standard HTTP protocol makes it easier for a security SCADA system to monitor and control an ioLogik 2500 via CGI commands. Using the “as server” option allows the ioLogik 2500 to play the role of server to receive CGI commands, and use CGI commands in Click&Go Plus conditions. Using the “As Client” option allows the ioLogik 2500 to play role of client to send CGI commands, and use CGI commands in Click&Go Plus actions.

**NOTE** CGI commands are case-sensitive.

The default strings for sending CGI commands to the ioLogik 2500 are:

## GET Method

**http://IP address:Port/cg?CGIMOX=Command**

### Post Method

http://IP address:Port/cg?CGIMOX=Command

POST Method path + post content length = 17 (max = 99)

http://  :  /

Content (application/x-www-form-urlencoded only)

## SMS (ioLogik 2500-GPRS/HSPA only)

The Short Message Service function allows the user to configure SMS in detail, including selecting recipients from the phone book, defining the escalation and acknowledgements, and defining SMS content.

There are two tabs: **As Server** and **As Client**.

### As Server

The ioLogik 2500-GPRS/HSPA can be used as a server to receive command strings send from other cellular devices (such as ioLoigk 2500-Cellular devices and mobile phones). SMS commands allow users to use short messages to monitor or control the I/O status of an ioLogik 2500-GPRS/HSPA unit.

No.	Name

Name

Server Settings Length = 0 (max = 140)

Command String

# As Client

The ioLogik 2500-GPRS/HSPA can be used as a client for sending SMSs to other devices.

No.	Name

Name

**SMS Information**

Recipient Count

Recipient 1  Recipient 2  Recipient 3

Enable Escalation mode

Acknowledgement Timeout  Hour  Min  Sec

Retry loop Count  (0=send once)

**Content Settings**

Send as ASCII     Send as UNICODE     Send as HEX (separated by ',')

Content :

### Recipient Count

You can choose how many recipients will receive the SMS. Before you can select a specific recipient, you first need to add the recipient's information in the **Phone Book** (see below).

### Enable Escalation Mode

If you select **Enable Escalation Mode**, the SMS will be sent out in the sequence listed in the recipient list, and using the timeout interval. A recipient will stop receiving the SMS alarm when the preset maximum retry loop count is reached, or when one receiver acknowledges receiving the SMS.

### Phone Book

Use the **Phone Book** to add, modify, or delete recipient information, which includes Name and Phone No.



# Click&Go Plus™ Rules

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Click&Go Plus logic was developed by Moxa to provide an easy way to program your ioLogik 2500. In this chapter, we explain how to use Click&Go Plus logic to deploy a remote I/O solution.

The following topics are covered in this chapter:

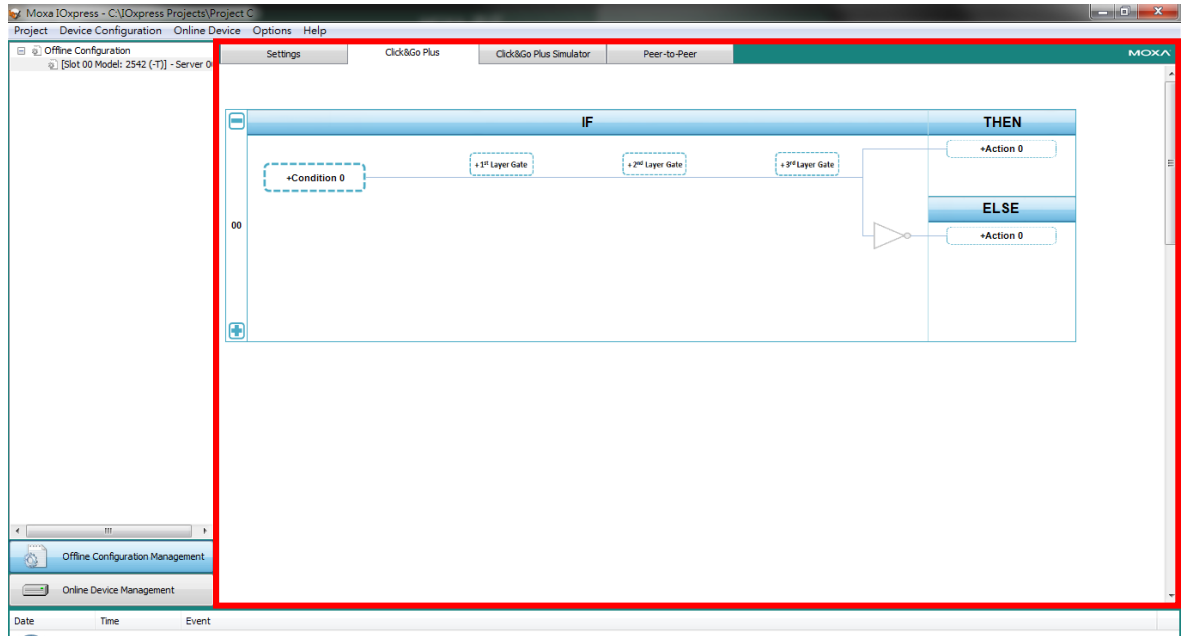
- **Click&Go Plus™ Rules**
- **If-THEN-ELSE Conditions**
  - Structural Categories
  - Types of IF Conditions
  - Types of THEN/ELSE Actions
  - List of IF Conditions
  - List of THEN/ELSE Actions



# Click&Go Plus™ Rules

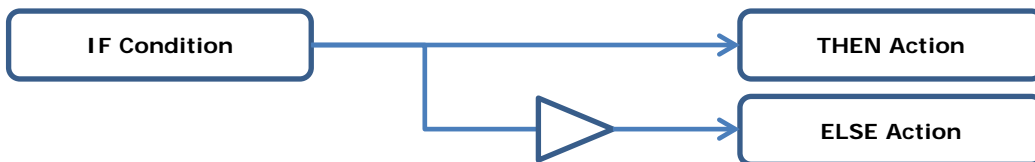
After you finish configure Click&Go components, you can create Click&Go Plus rules. Click&Go Plus logic provides an easy way to program your ioLogik 2500 product for Smart Ethernet/Wireless Remote I/O operations.

The main Click&Go rules page is shown below.



## If-THEN-ELSE Conditions

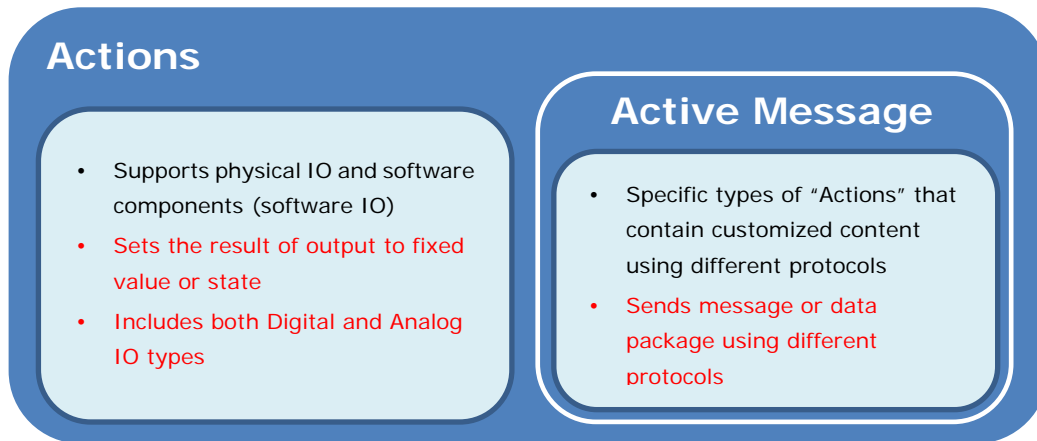
### Structural Categories



### Types of IF Conditions

- EVENT**
  - Supports physical IO and software components (software IO)
  - Monitors the result of Boolean type output (e.g., True/False, Enable/Disable, Start/Stop)
  - Usually used with "Digital" IO types
- COMPARISON**
  - Supports physical IO and software components (software IO)
  - Monitors the result of numerical output types
  - Usually used with "Analog" IO types

## Types of THEN/ELSE Actions



## List of IF Conditions

Parameter Type	Parameter	Actions
DI	DI Ch.	ON/OFF/Change /Change from OFF to ON / Change from ON to OFF
DO	DO Ch.	ON/OFF/Change /Change from OFF to ON / Change from ON to OFF
Relay	Relay Ch.	ON/OFF/Change /Change from OFF to ON / Change from ON to OFF
System Start-Up	-	TRUE
WIFI link up (Wireless Module only)	-	TRUE
Modbus Host Connection Fail	-	TRUE
Schedule	Schedule #	TRUE
Timer	Timer #	Timeout
Remote Action (Server)	Remote Action #	TRUE
SMS	SMS #	TRUE
CGI Command (Server)	CGI #	TRUE
Serial Tag	Serial Tag#	TRUE

Parameter Type	Parameter	Operator	Second Parameter
AI	AI Ch.	<, <=, =, >=, >	Constant
Float Internal Register	FIR #	<, <=, =, >=, >	Percentage
Virtual Channel	VC #	<, <=, =, >=, >	Other Parameter
Internal Register	IR#	<, <=, =, >=, >	Constant
Relay Counter (Lifetime)	R Ch.	<, <=, =, >=, >	Other Parameter
Relay Counter (Current)	R Ch.	<, <=, =, >=, >	
Counter	CNT Ch.	<, <=, =, >=, >	
Serial TAG (Float/DWORD/WORD)	Serial TAG #	<, <=, =, >=, >	

## List of THEN/ELSE Actions

Parameter Type	Parameter	Actions
DO	DO Ch.	ON/OFF
DO Pulse Output	DO Ch.	START/STOP
Relay	Relay Ch.	ON/OFF
Relay Counter (Current)	Relay Ch.	RESET
Relay Pulse Output	Relay Ch.	START/STOP
Internal Register	IR#	SET TO " "
Float Internal Register	FIR#	SET TO " "
Timer	Timer #	START/STOP/RESTART
Data Log	Profile #	START/STOP
FTP Upload	Profile #	START/STOP
Counter		RESET
Remote Action	Remote Action#	Send
AO	AO Ch.	SET TO " "

Parameter Type	Parameter	Actions
SNMP Trap	Trap #	Send Every "" Sec (0 : Send One Time) . ** Repeat only when IF condition still exist for certain period of time.
TCP/UDP Message	Message #	Send Every "" Sec (0 : Send One Time) . ** Repeat only when IF condition still exist for certain period of time.
E-Mail	e-mail #	Send Every "" Sec (0 : Send One Time) . ** Repeat only when IF condition still exist for certain period of time.
SMS	SMS #	Send Every "" Sec (0 : Send One Time) . ** Repeat only when IF condition still exist for certain period of time.
CGI Command	CGI #	Send Every "" Sec (0 : Send One Time) . ** Repeat only when IF condition still exist for certain period of time.

# Click&Go Plus™ Simulation

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Click&Go Plus Simulation is a tool provided for users to simulate the Click&Go plus rules discussed in Chapter 3.

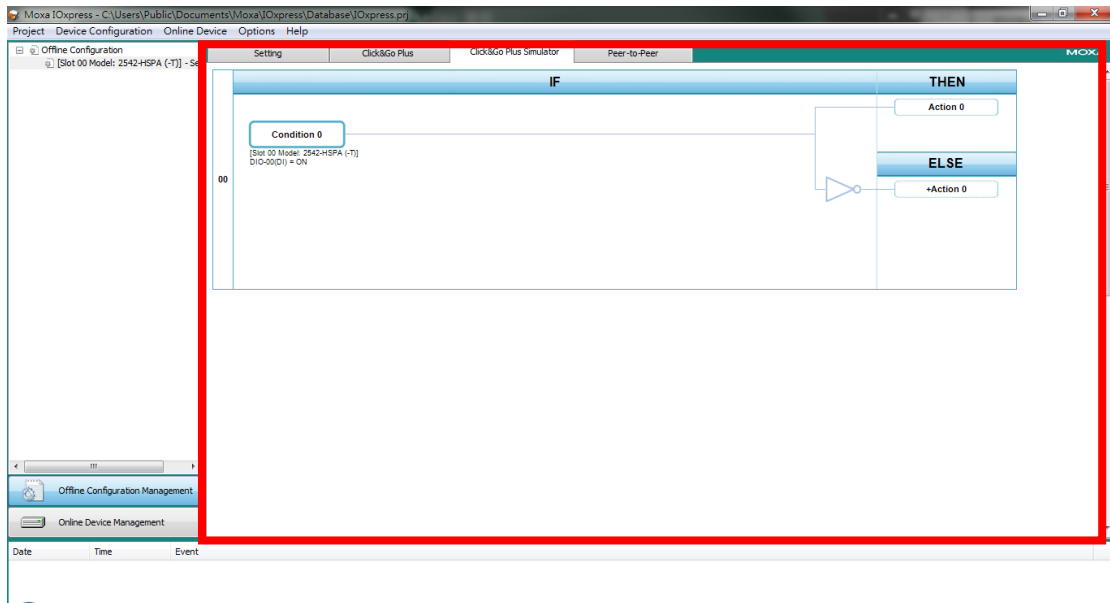
The following topics are covered in this chapter:

- ▣ **Starting a Simulation**

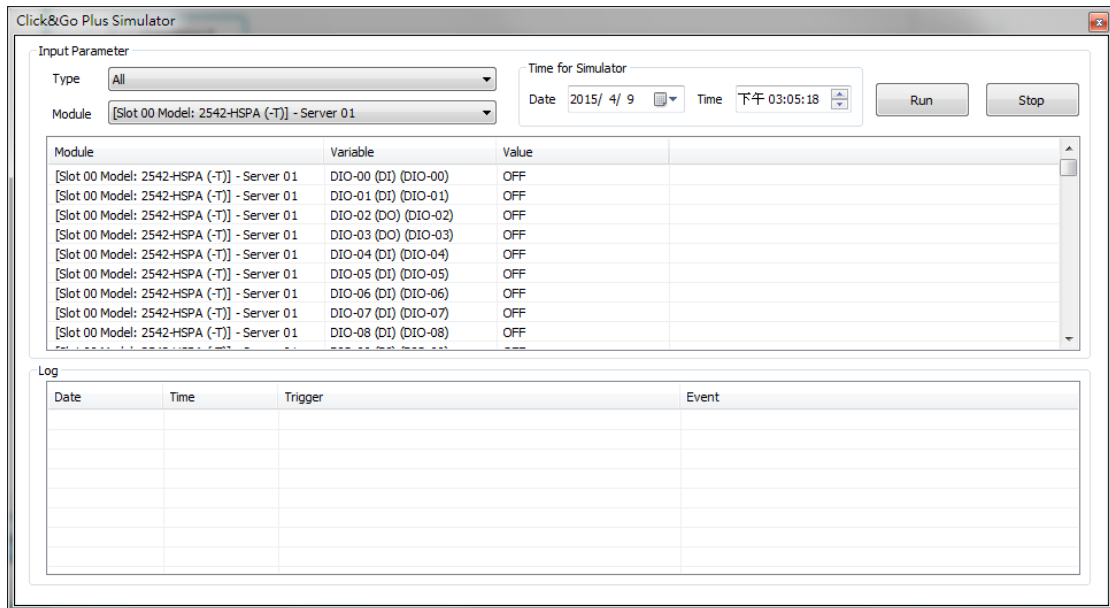
# Starting a Simulation

The following two figures show the main pages and simulator window of Click&Go rules. When you click the Click&Go Simulator Tab, the simulator window will pop up.

## Main Window



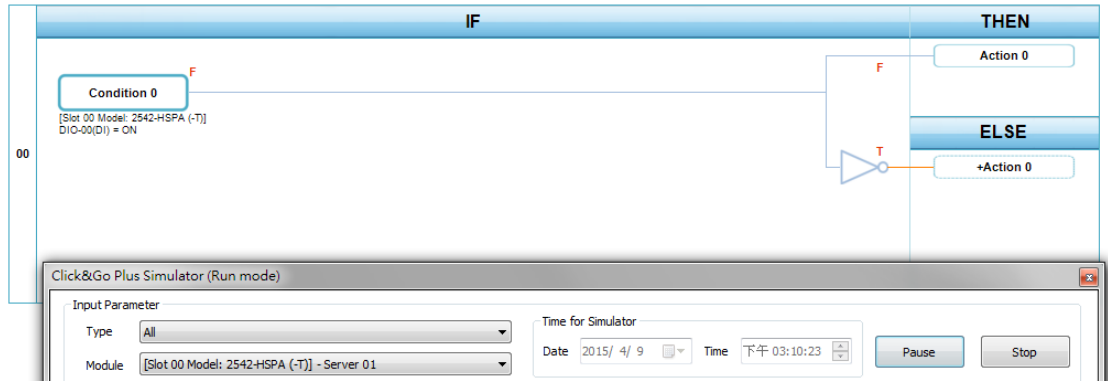
## Simulator Window



### Usage

Take the following steps to simulate your Click&Go Plus rules.

1. Set a "Value" for I/O status in advance by clicking the "Value" column.
2. Set "Time for Simulator" to simulate your system time.
3. Click "Run" to start the simulation.
4. While the simulation is running, you can change the value of any I/O status in the simulator window. The result will be shown in the main window.



5. Click **Pause** to temporarily stop a simulation, or click **Stop** to terminate a simulation. For example, if a counter currently has a value of 11, pausing the counter will cause the counter to continue counting from 11 when the simulation resumes. If you click stop, the counter will be reset to the initial counter value.