FASTECH
Fast, Accurate, Smooth Motion Control

Confidential

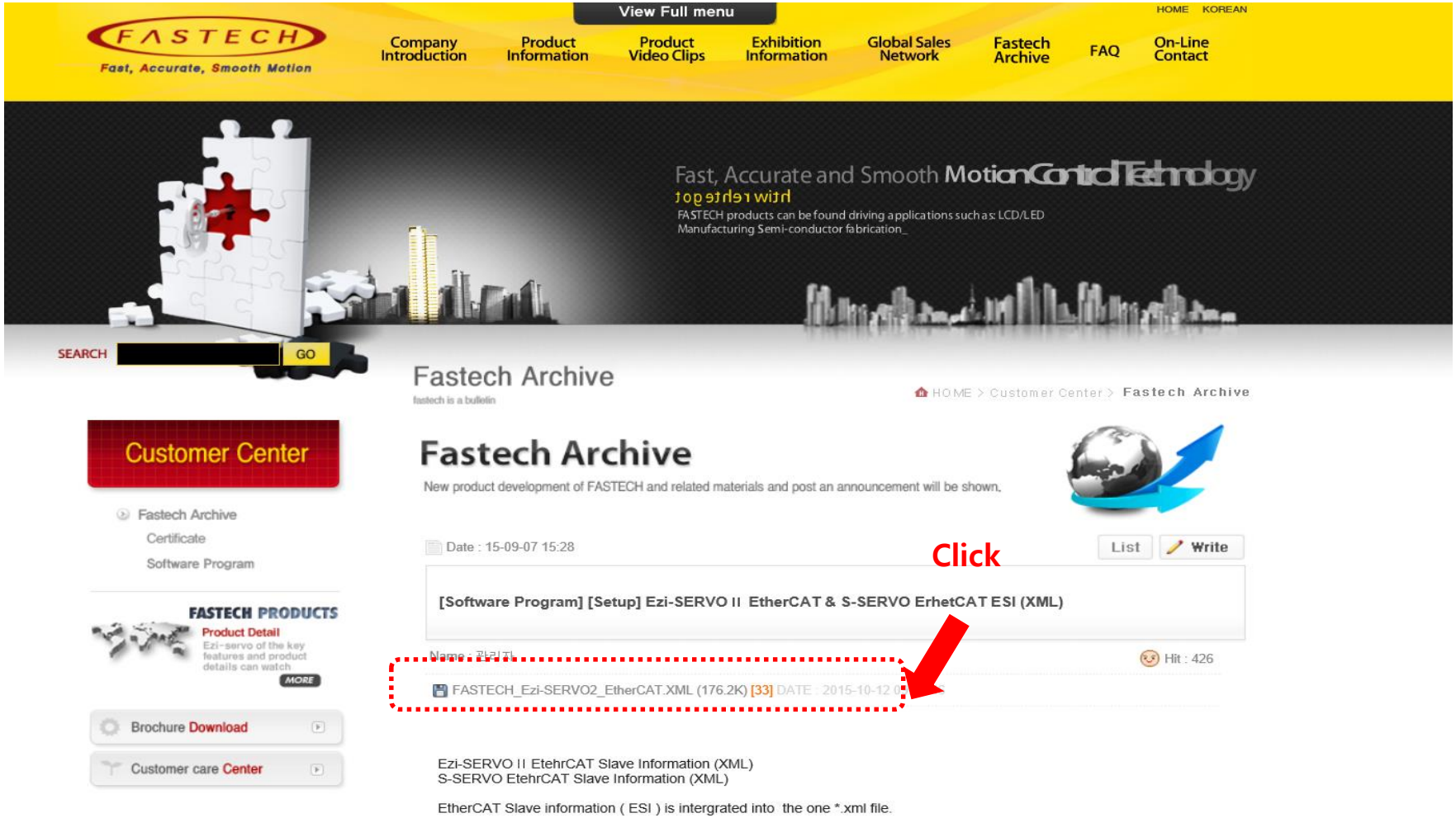
Ezi-SERVOII-EC operation manual for < Elmo Motion Control 'Maestro' >

Ezi-SERVO®
Closed Loop Stepping System

▣ Ezi-SERVOII-EC data Download [ESI(XML)]

Confidential

❑ **ESI(XML)** : Download from www.fastech.co.kr **webpage [FASTECH Archive]**



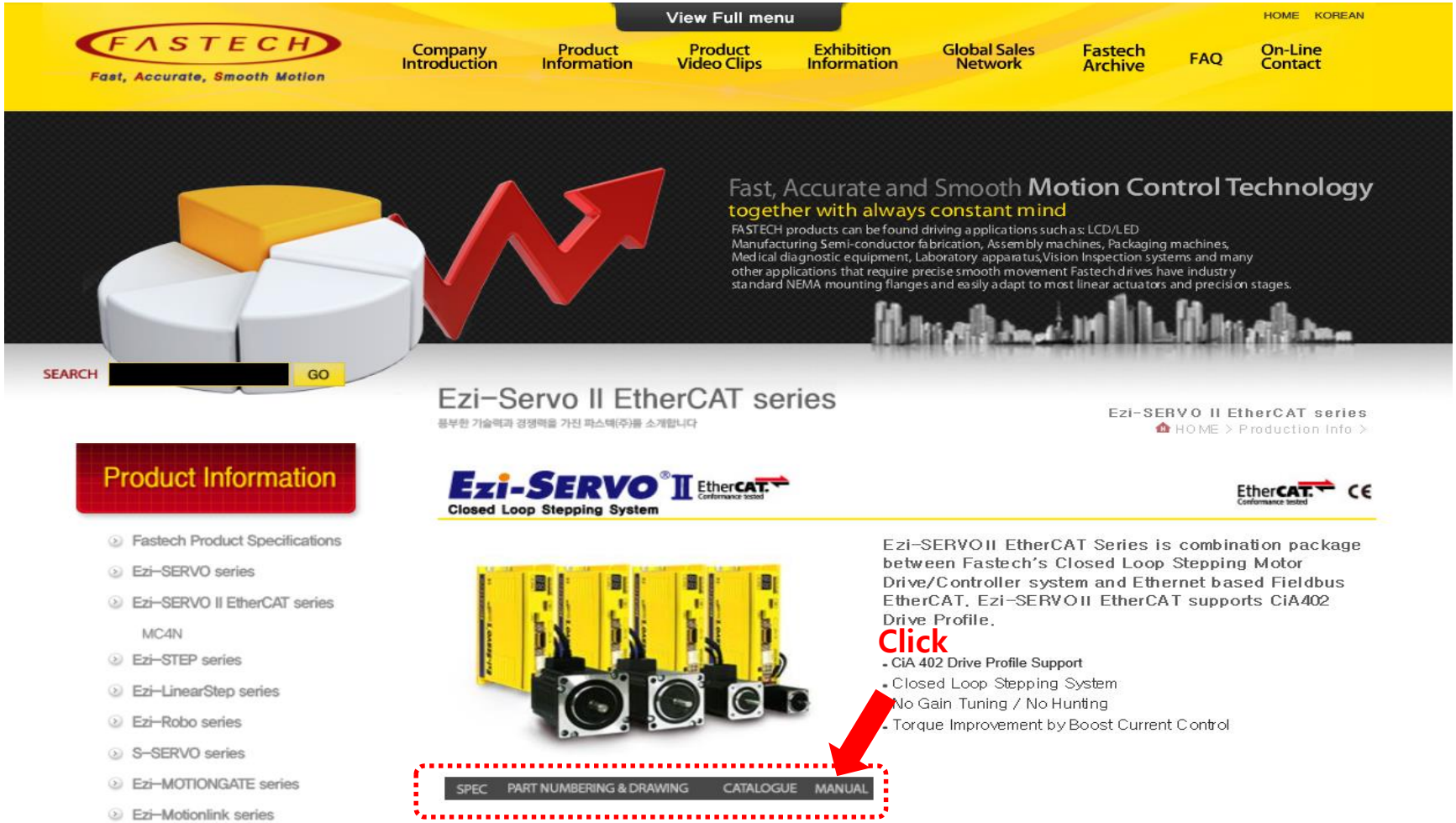
Ezi-SERVO®
Closed Loop Stepping System

▣ Ezi-SERVOII-EC data Download

Confidential

[Manual]

❑ **Manual** : Download from www.fastech.co.kr **webpage [Product information]**



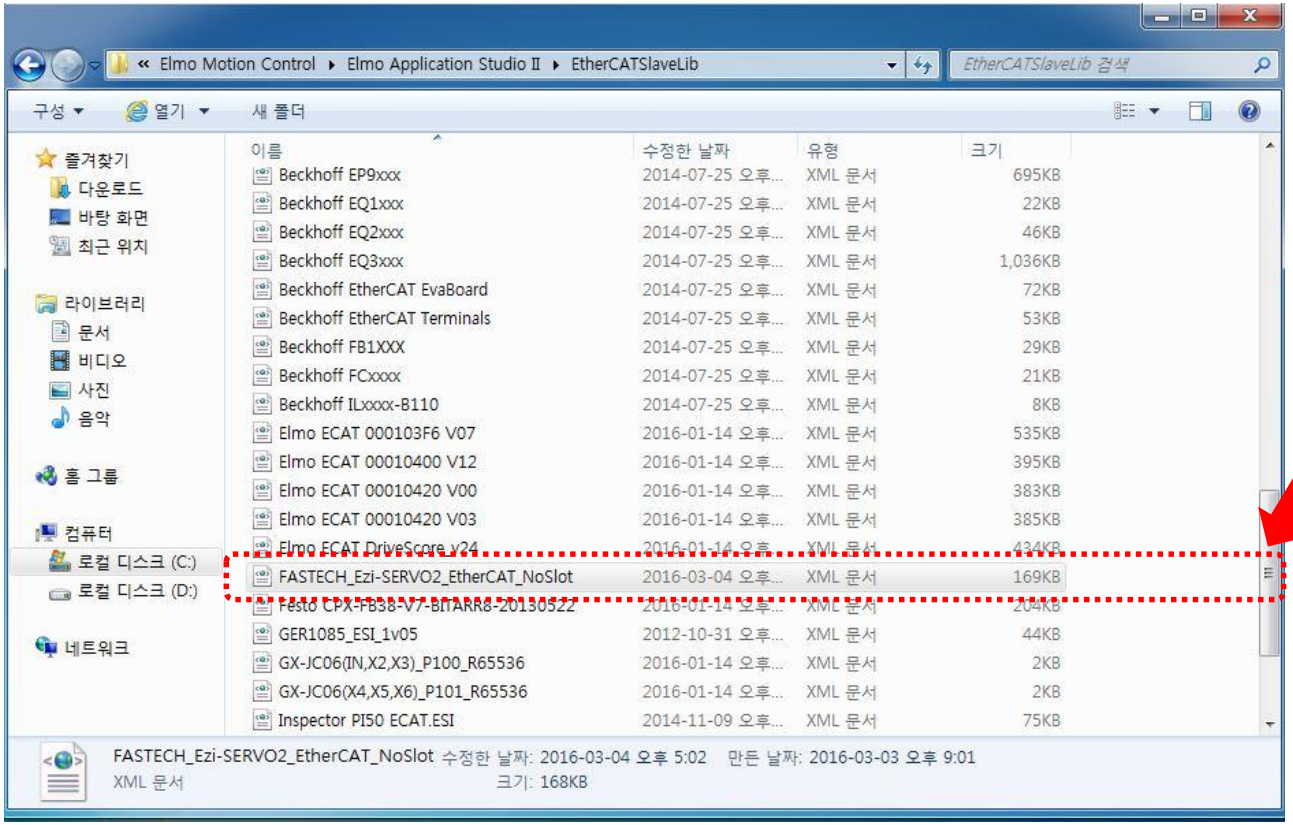
Ezi-SERVO®
Closed Loop Stepping System

▣ ESI(XML) file save

Confidential

❑ Make copy of ESI (XML) file from FASTECH website through below path

Path : C:₩Program Files (x86)₩Elmo Motion Control₩Elmo Application Studio II₩EtherCATSlaveLib



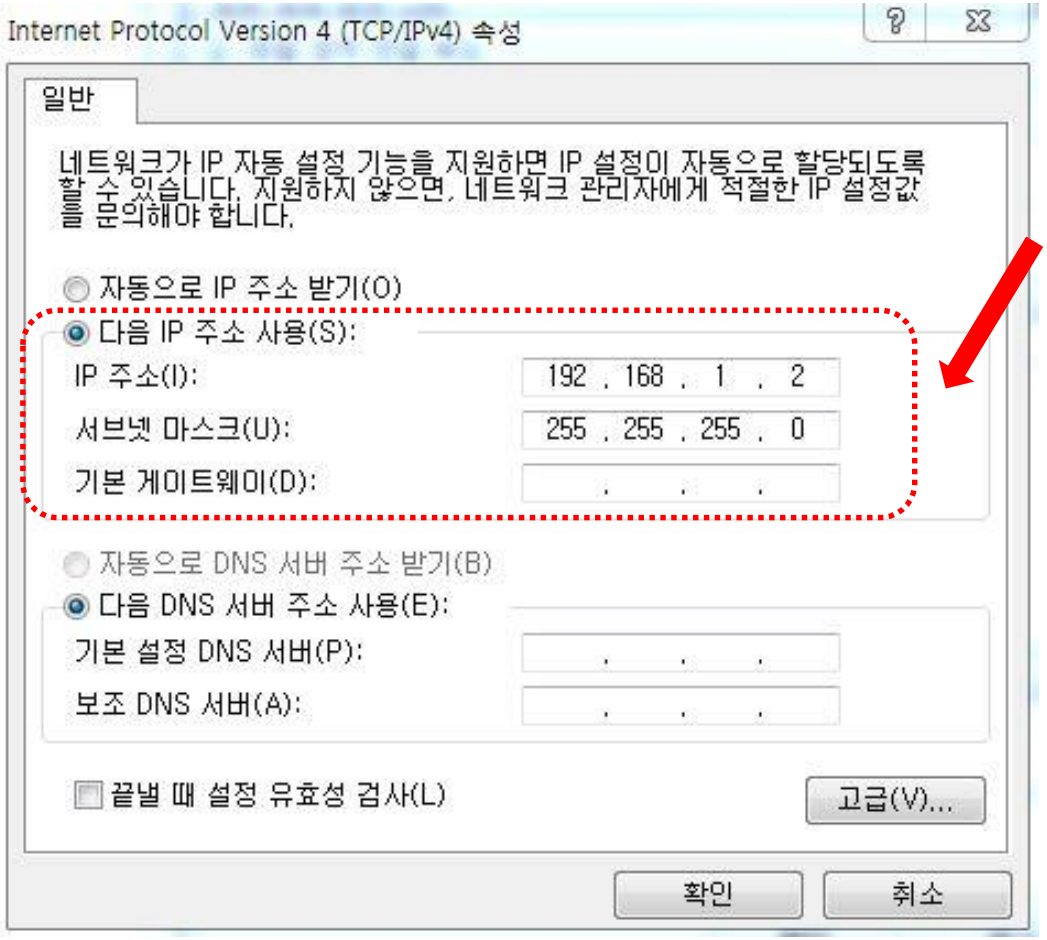
FASTECH
ESI(XML)file

Ezi-SERVO®
Closed Loop Stepping System

▣ PC Setting [IP address change]

Confidential

❑ Change Ethernet networks 'IP addresses' & Subnet Mask ' on the PC connected to the Maestro, '



ex) Not to use "3" at the end od address

- Setting not to conflict to connection to Master

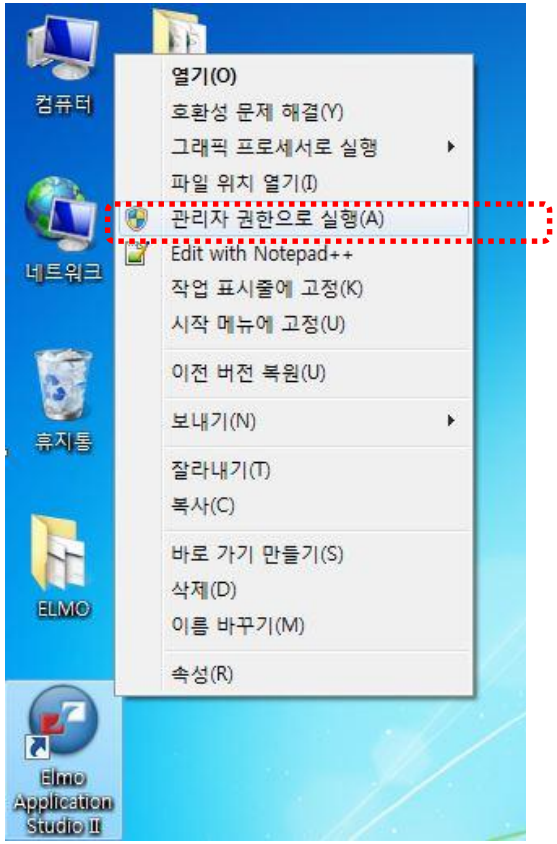
- In case of Gold Maestro use IP address 192.168.1.3

Ezi-SERVO®
Closed Loop Stepping System

▣ Elmo Application Studio II [Execute GUI]

❑ Elmo Application Studio II

EXE file is created on wallpaper



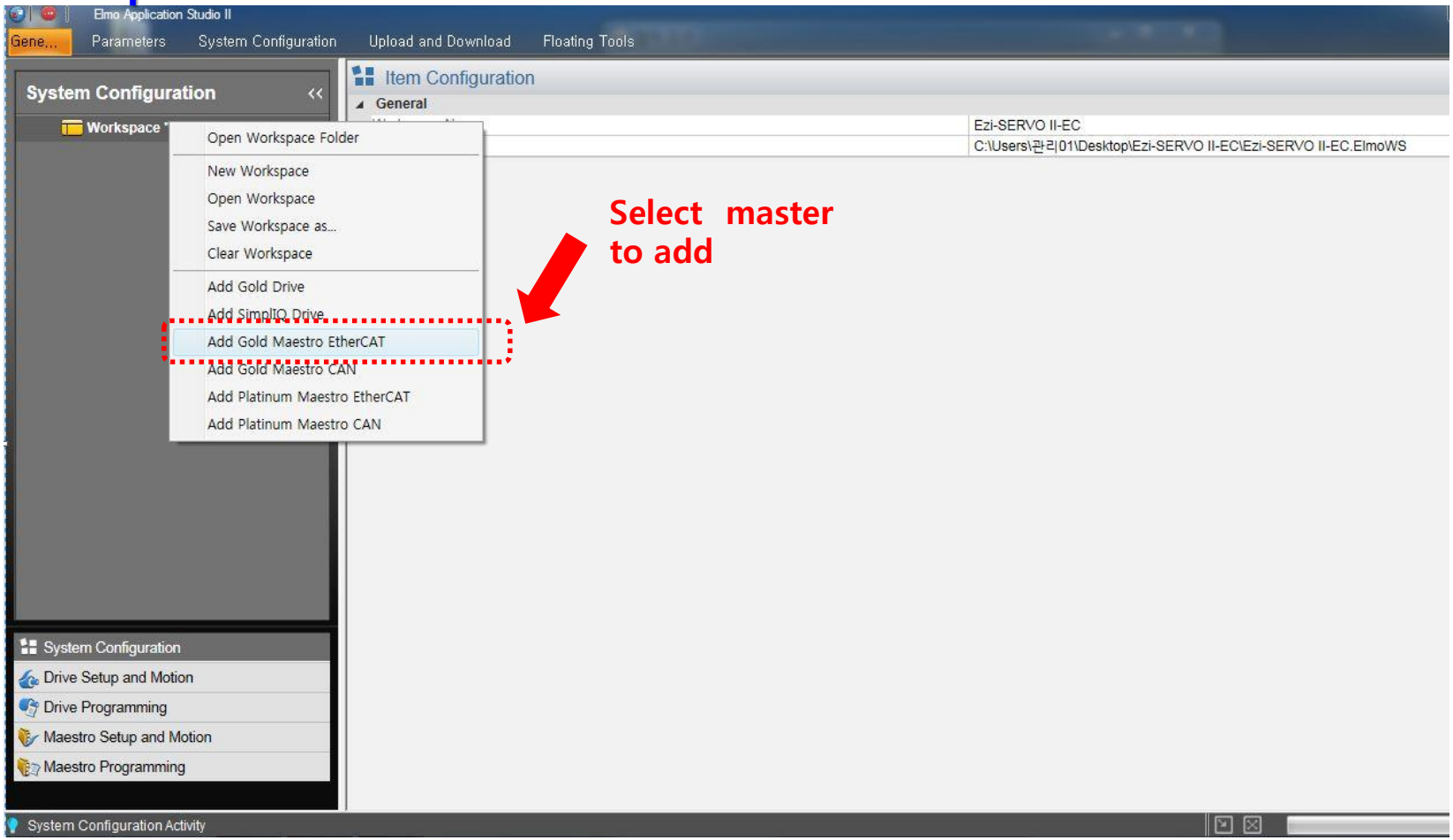
Execute to administration authority

- **Release the Window Firewall before execution**
- **Implement all functions in it's GUI without making seperate Init File.**

1. Master Set up [Add to new Master]

Confidential

❑ Click to right button of mouse to add new master from the new Workspace

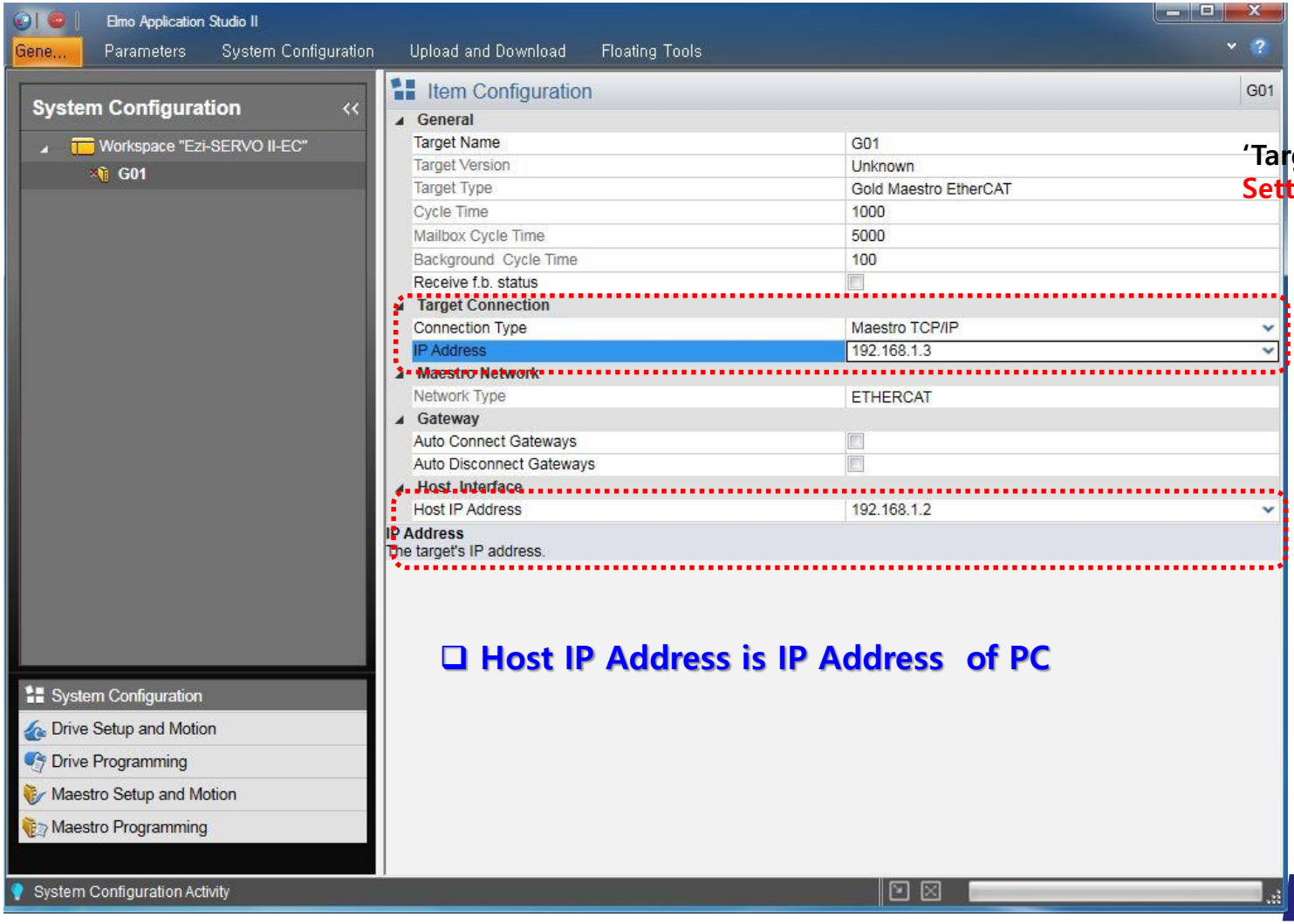


Ezi-SERVO®
Closed Loop Stepping System

1. Master Set up [Add to new Master]

Confidential

❑ Basic setting of created Master (G01)



'Target Connection'
Setting as below pic.

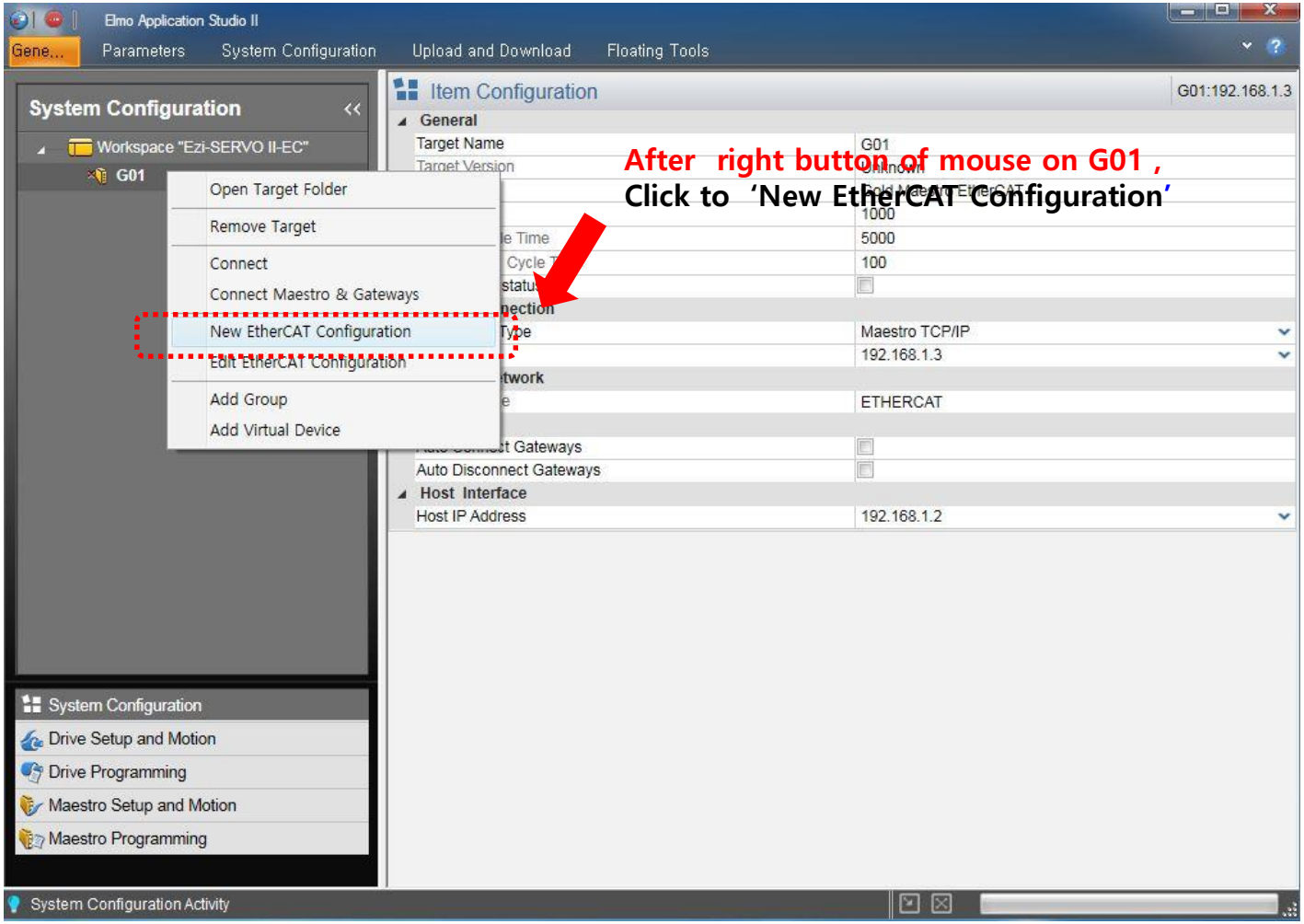
❑ Host IP Address is IP Address of PC

Ezi-SERVO®
Closed Loop Stepping System

1. Master Set up [Add to new Master]

Confidential

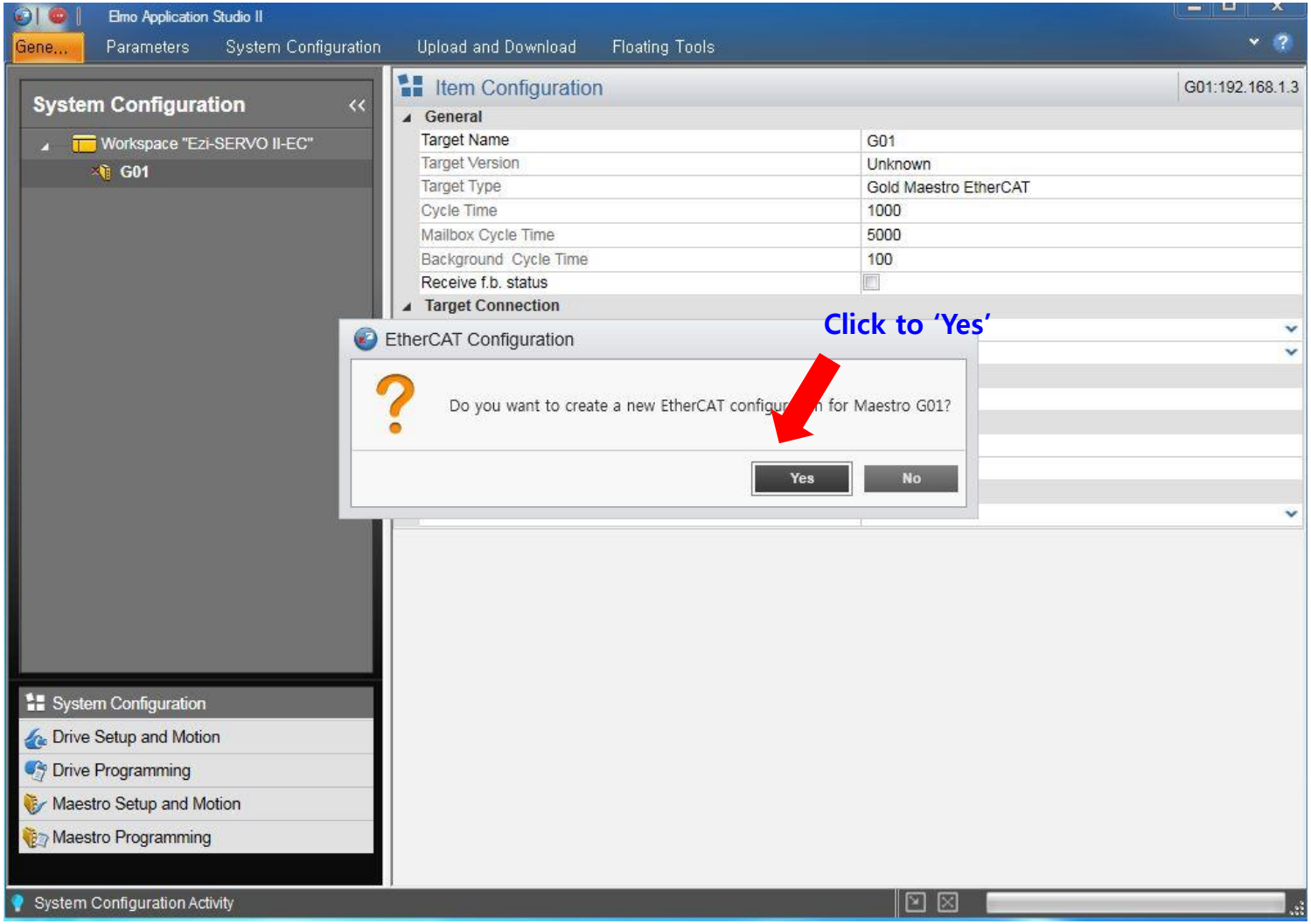
❑ Searching connected EtherCAT Slave after setting



Ezi-SERVO®
Closed Loop Stepping System

1. Master Set up [Add to new Master]

Confidential

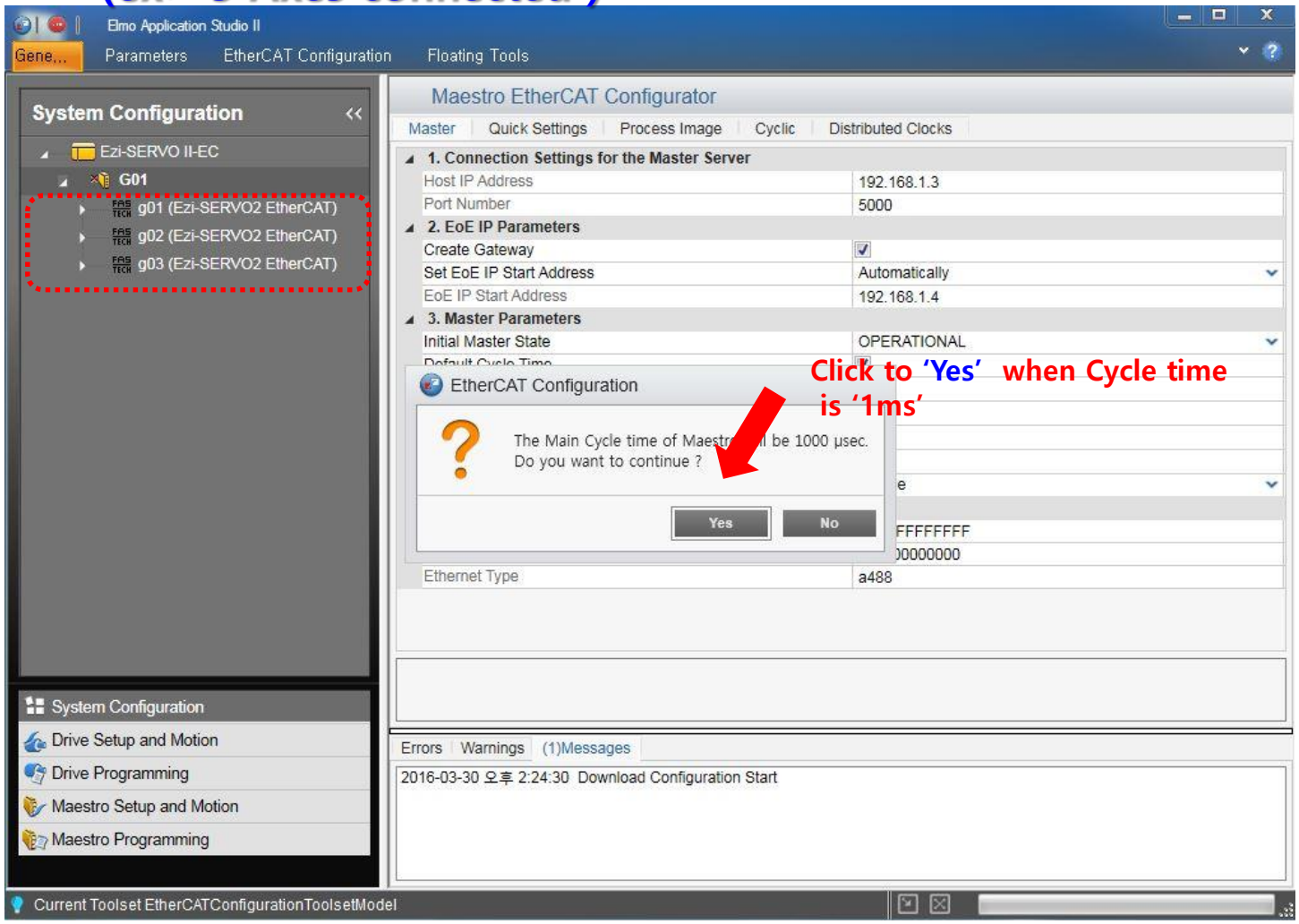


Ezi-SERVO®
Closed Loop Stepping System

2. Slave Setting [Ezi-SERVO II-EC connection]

Confidential

❑ The connected drivers are recognized to a Physical Layer (ex> 3 Axes connected)



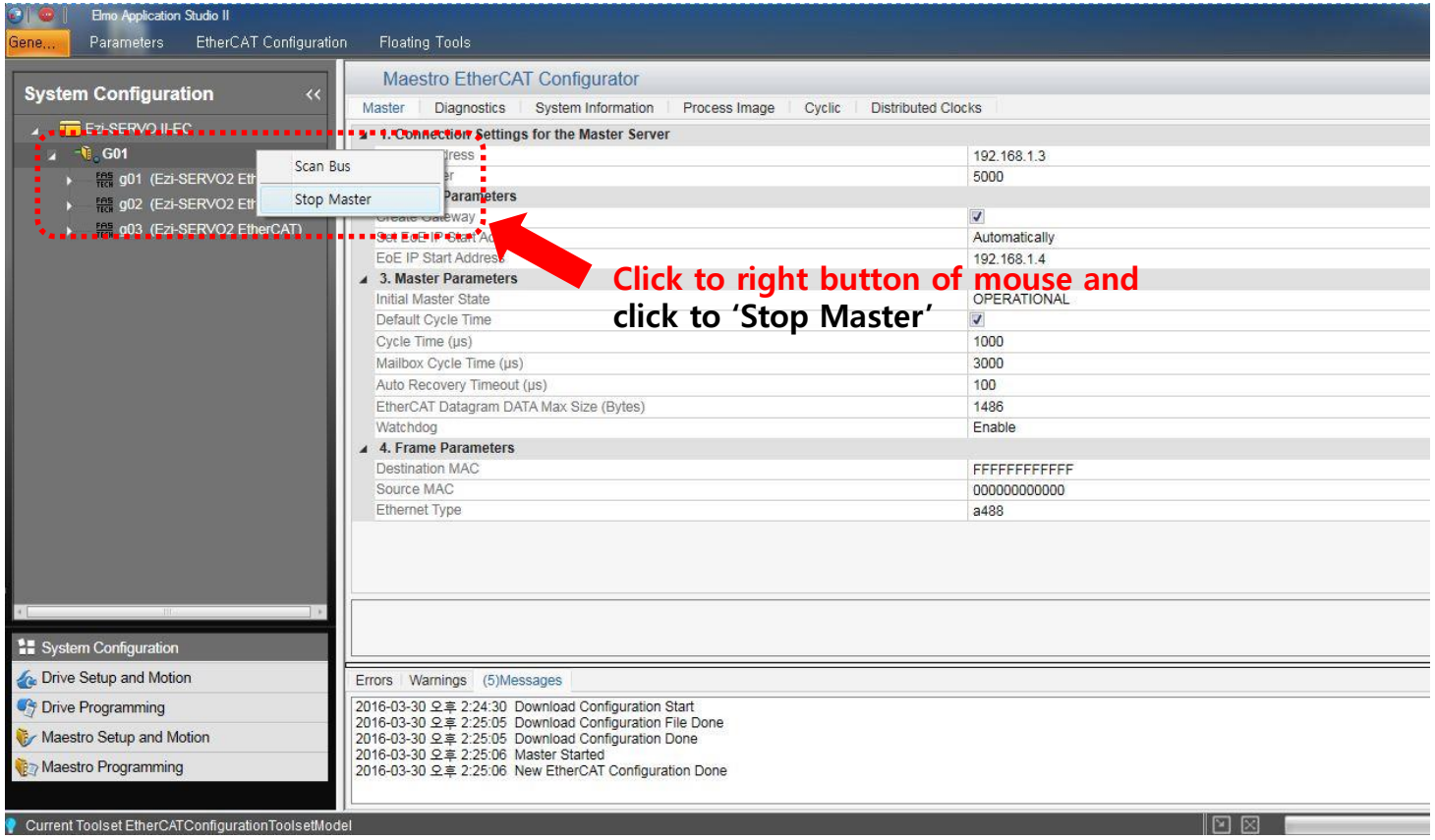
Ezi-SERVO®
Closed Loop Stepping System

2. Slave Setting [Ezi-SERVO II-EC connection]

Confidential

❑ PDO Mapping & Drive setting

- To Stop the Master for drive setting

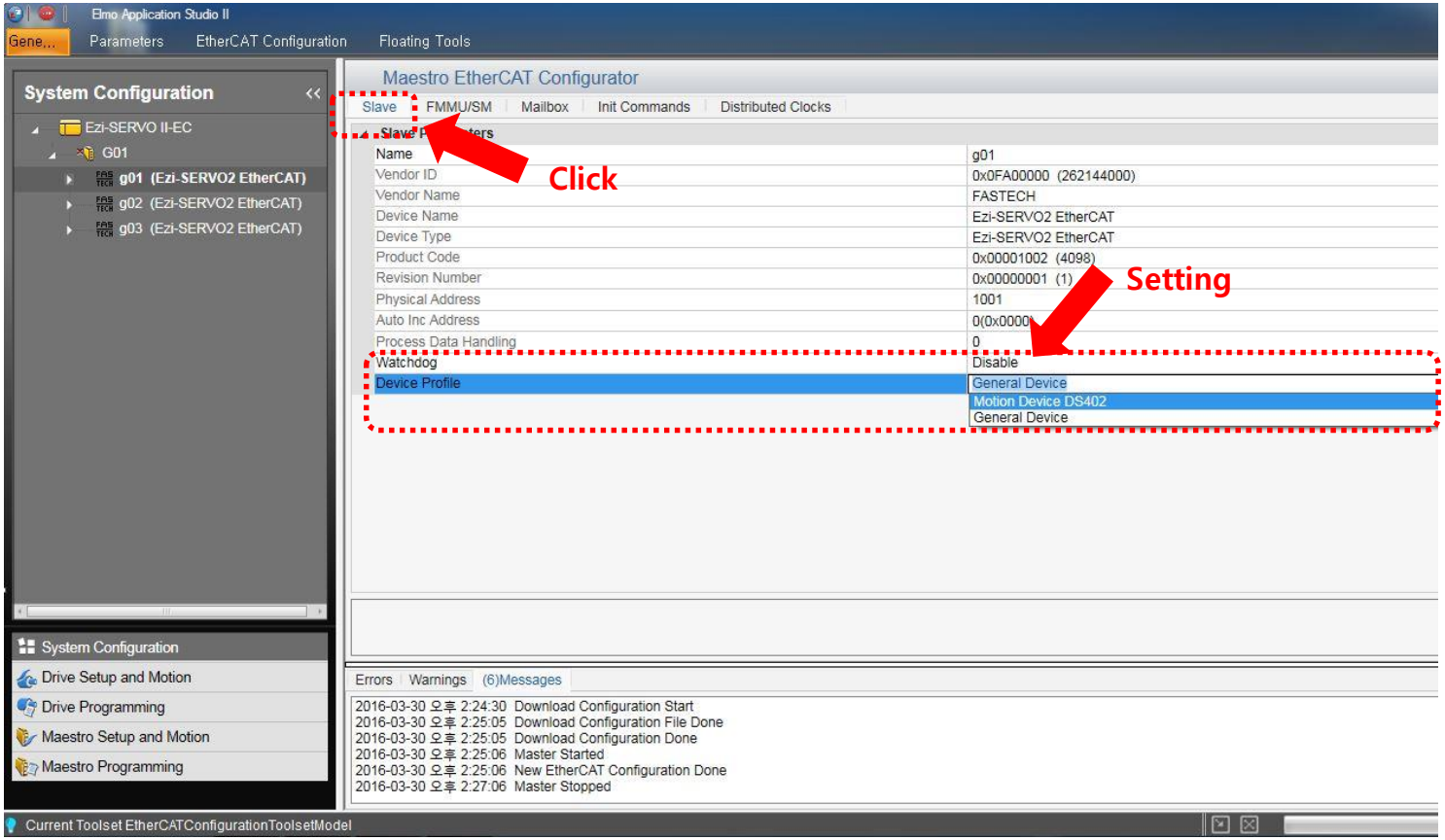


2. Slave Setting [Ezi-SERVO II-EC setting]

Confidential

❑ PDO Mapping & Drive setting (Slave)

- To set the Device Profile as 'Motion Device DS402'



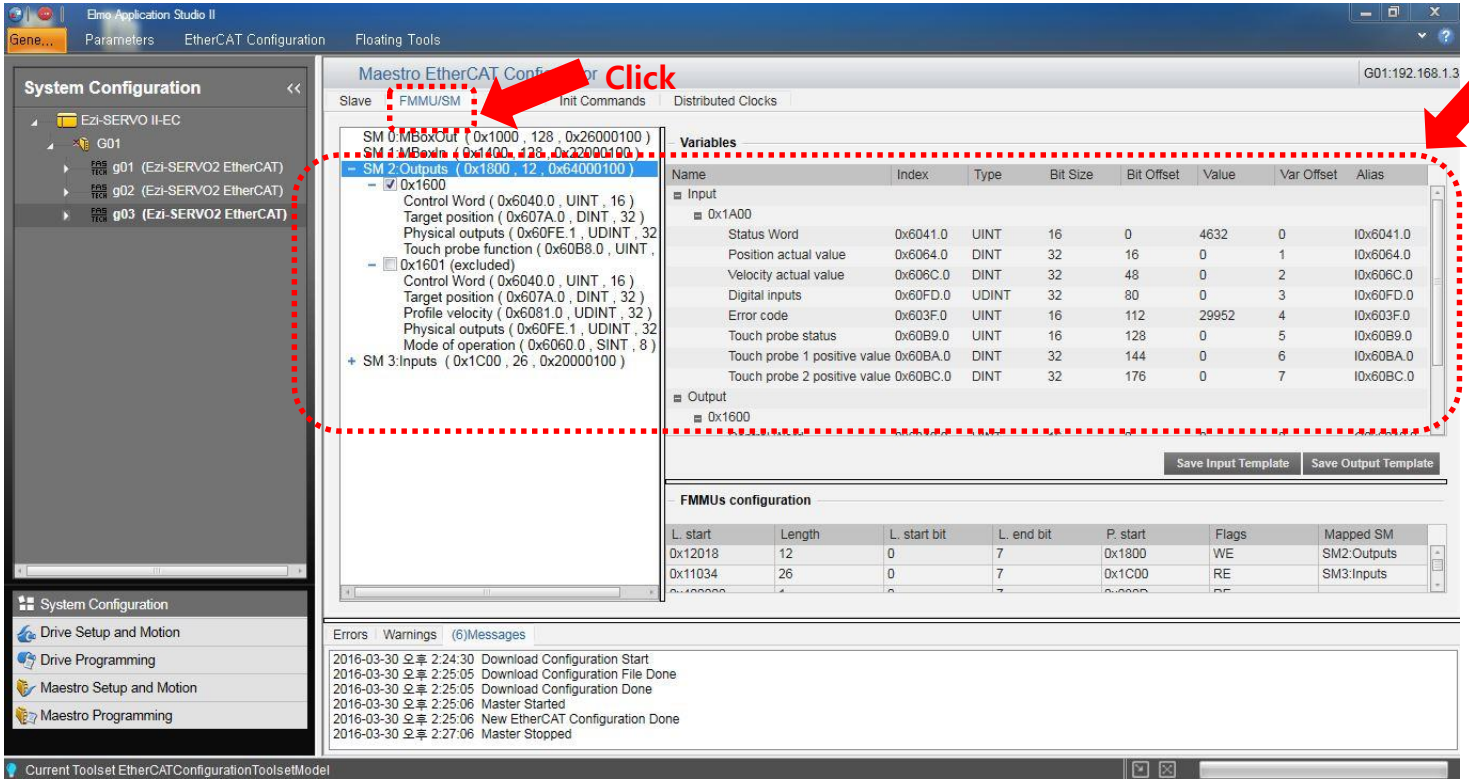
Ezi-SERVO®
Closed Loop Stepping System

2. Slave Setting [Ezi-SERVO II-EC setting]

Confidential

❑ PDO Mapping & Drive setting (Slave)

- **'PDO Mapping' on FMMU/SM**



Display for selected PDO item information

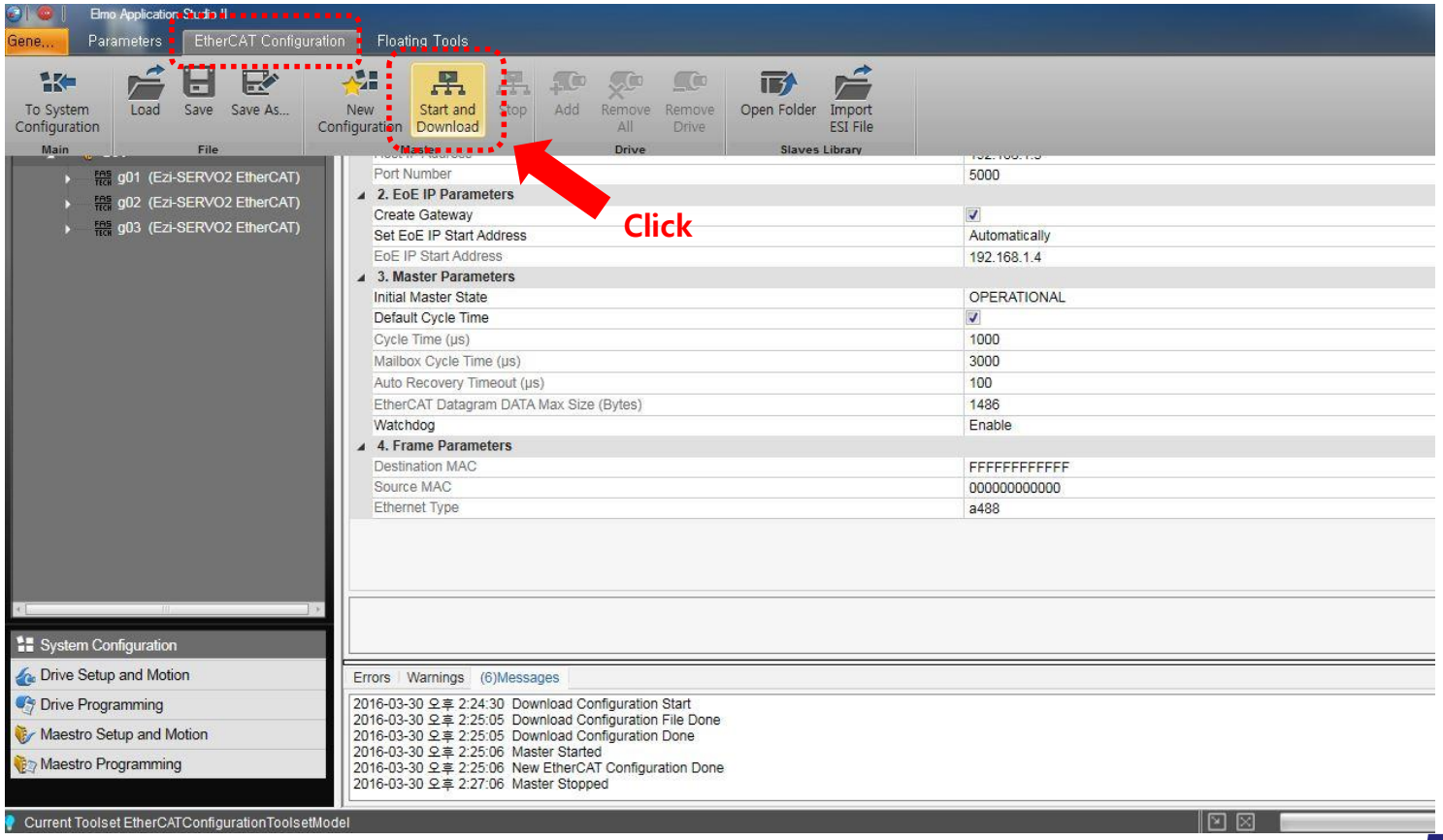
Ezi-SERVO®
Closed Loop Stepping System

2. Slave Setting [Ezi-SERVO II-EC setting]

Confidential

❑ PDO Mapping & Drive setting (Slave)

- To click to 의 'Start and Download in the 'EtherCAT Configuration" menu for save the setting content

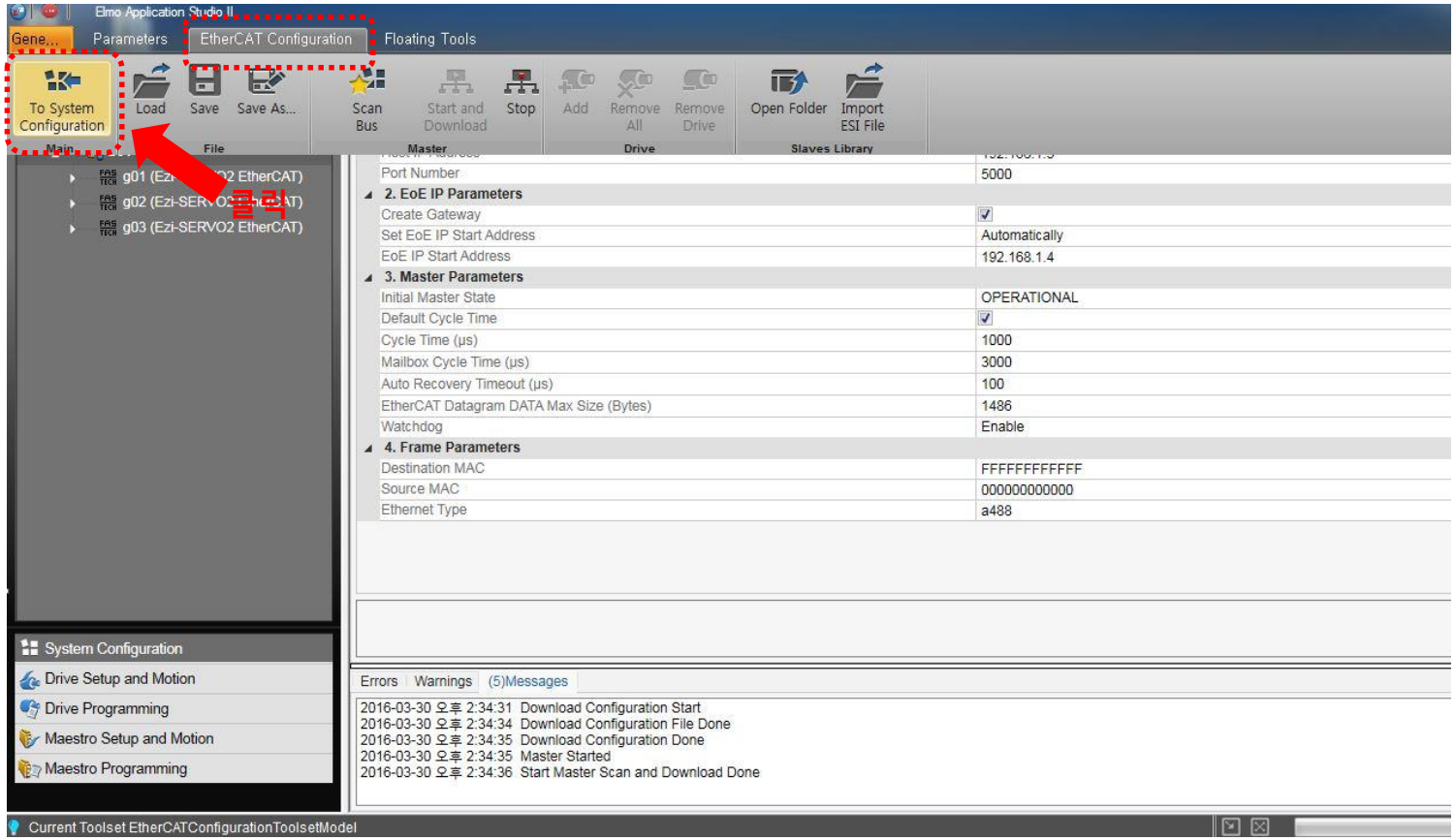


2. Slave Setting [Ezi-SERVO II-EC setting]

Confidential

❑ PDO Mapping & Drive setting (Slave)

- Click to 'To System Configuration'



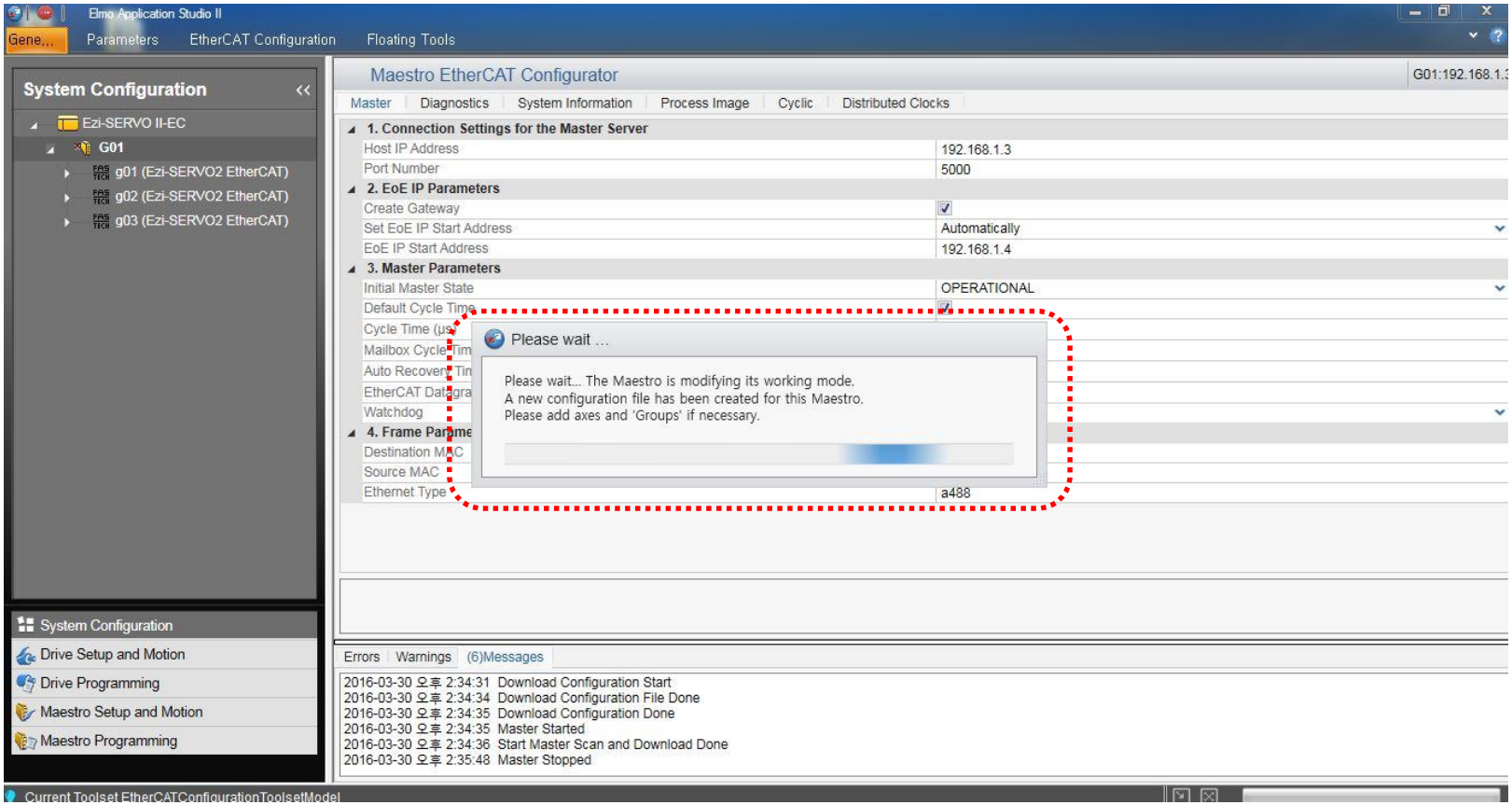
Ezi-SERVO®
Closed Loop Stepping System

2. Slave Setting [Ezi-SERVO II-EC setting]

Confidential

❑ PDO Mapping & Drive setting (Slave)

- It will take dozens of seconds to save & apply for setting content



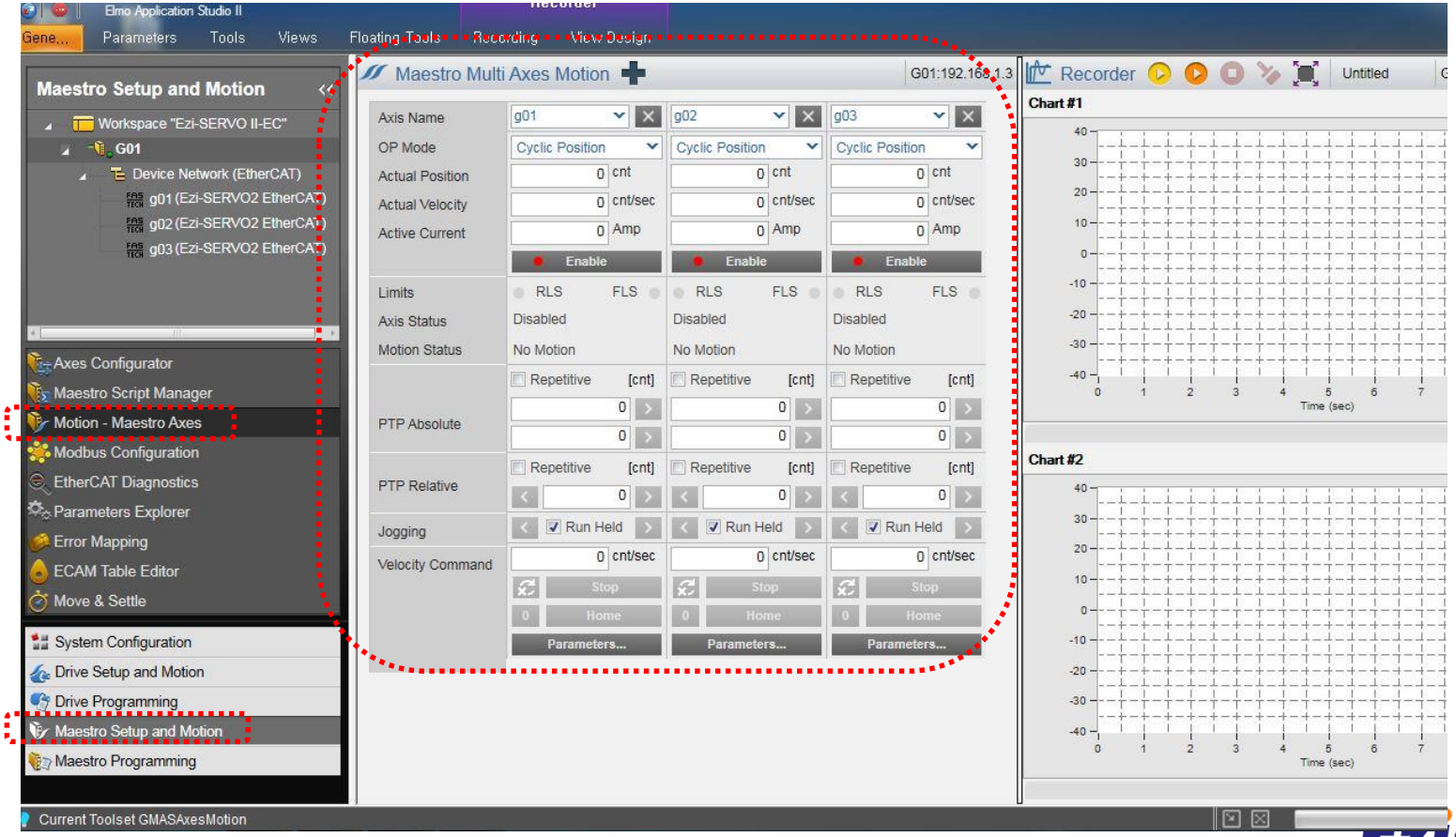
Ezi-SERVO®
Closed Loop Stepping System

3. Use of Ezi-SERVO II-EC [GUI instructions]

Confidential

❑ GUI motor driving (Turn on the GUI)

- Click to 1) Maestro Setup and Motion bottom left
  when click to 2) Motion – Maestro Axes, display as like below pic.

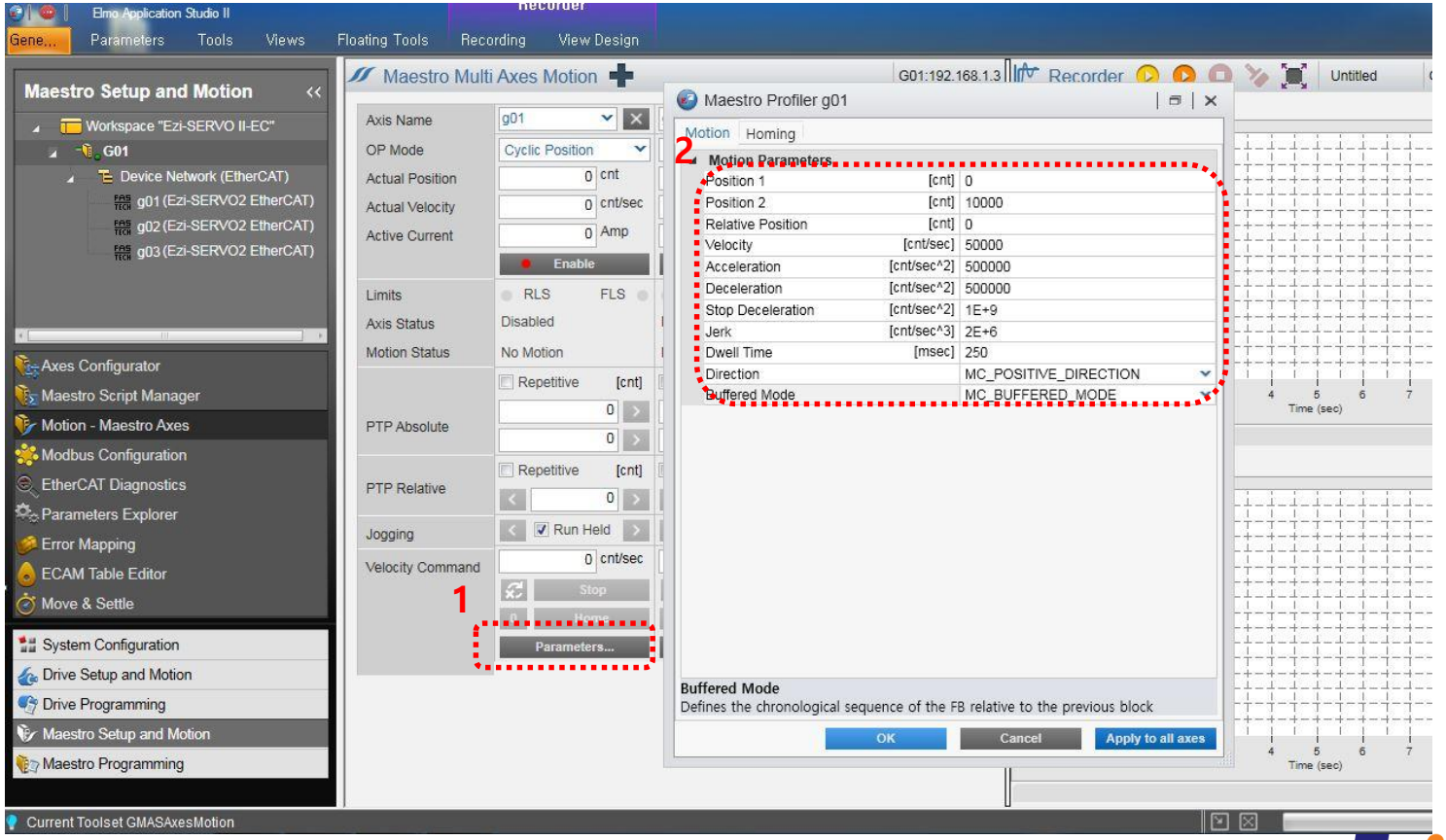


3. Use of Ezi-SERVO II-EC [GUI instructions]

Confidential

❑ GUI motor driving (Motor parameter setting)

- Click to 1) Parameters... below
  input the various values such as 2) Position, Velocity
  3) 'OK' : Apply to current Axis only / ' Apply to all axes' : Apply to all Axes



Ezi-SERVO®
Closed Loop Stepping System

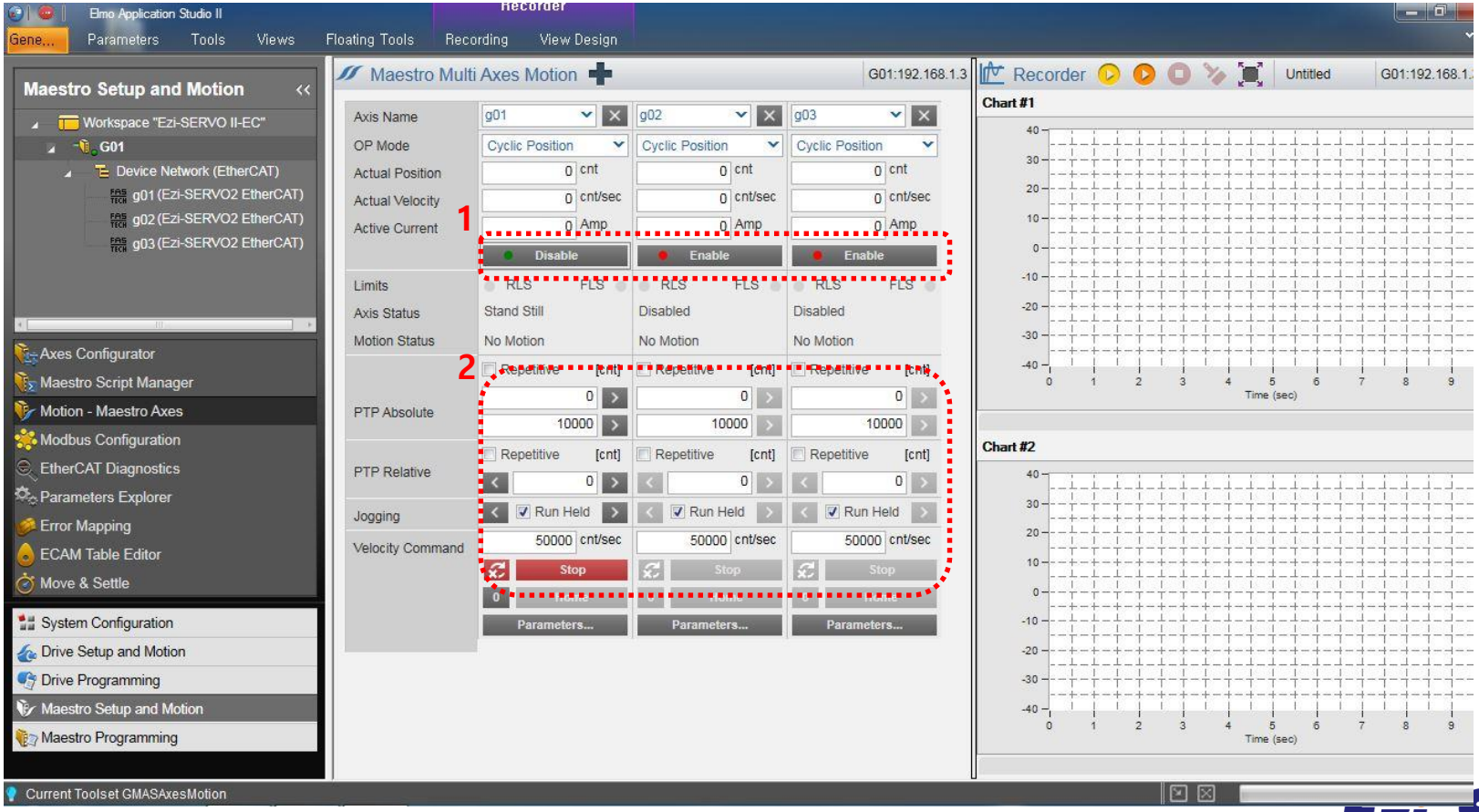
3. Use of Ezi-SERVO II-EC [GUI instructions]

Confidential

❑ GUI motor driving (SERVO ON/OFF)

1) SERVO ON/OFF by use of Enable / Disable buttons

2) Motion command key enable / Disable when SERVO ON/OFF



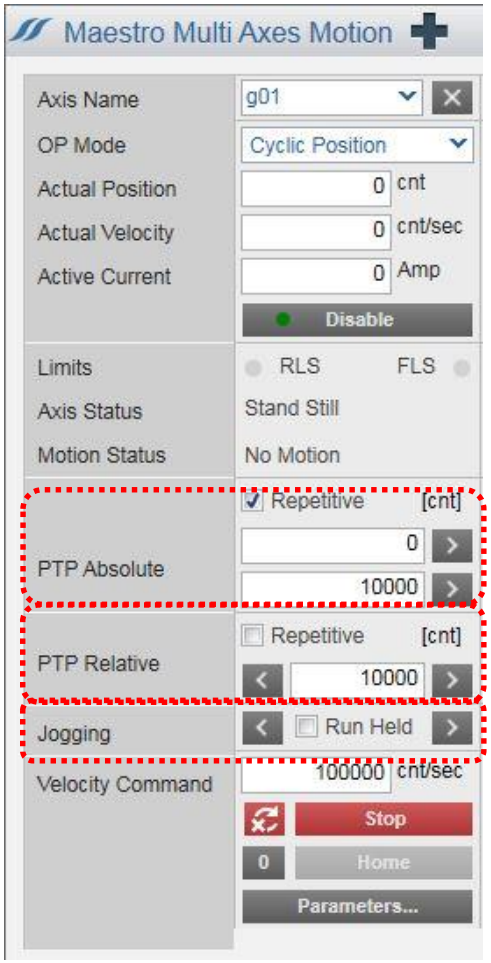
EZI-SERVO®
Closed Loop Stepping System

3. Use of Ezi-SERVO II-EC [GUI instructions]

Confidential

❑ GUI motor driving (Position Move)

1) Absolute Position Move(Replicable) : Click to ▶ button to move
2) Relative Position Move(Replicable) : Click to ▶ button to move
3) JOG Move : Move till limit when clear for click on 'Run Held'



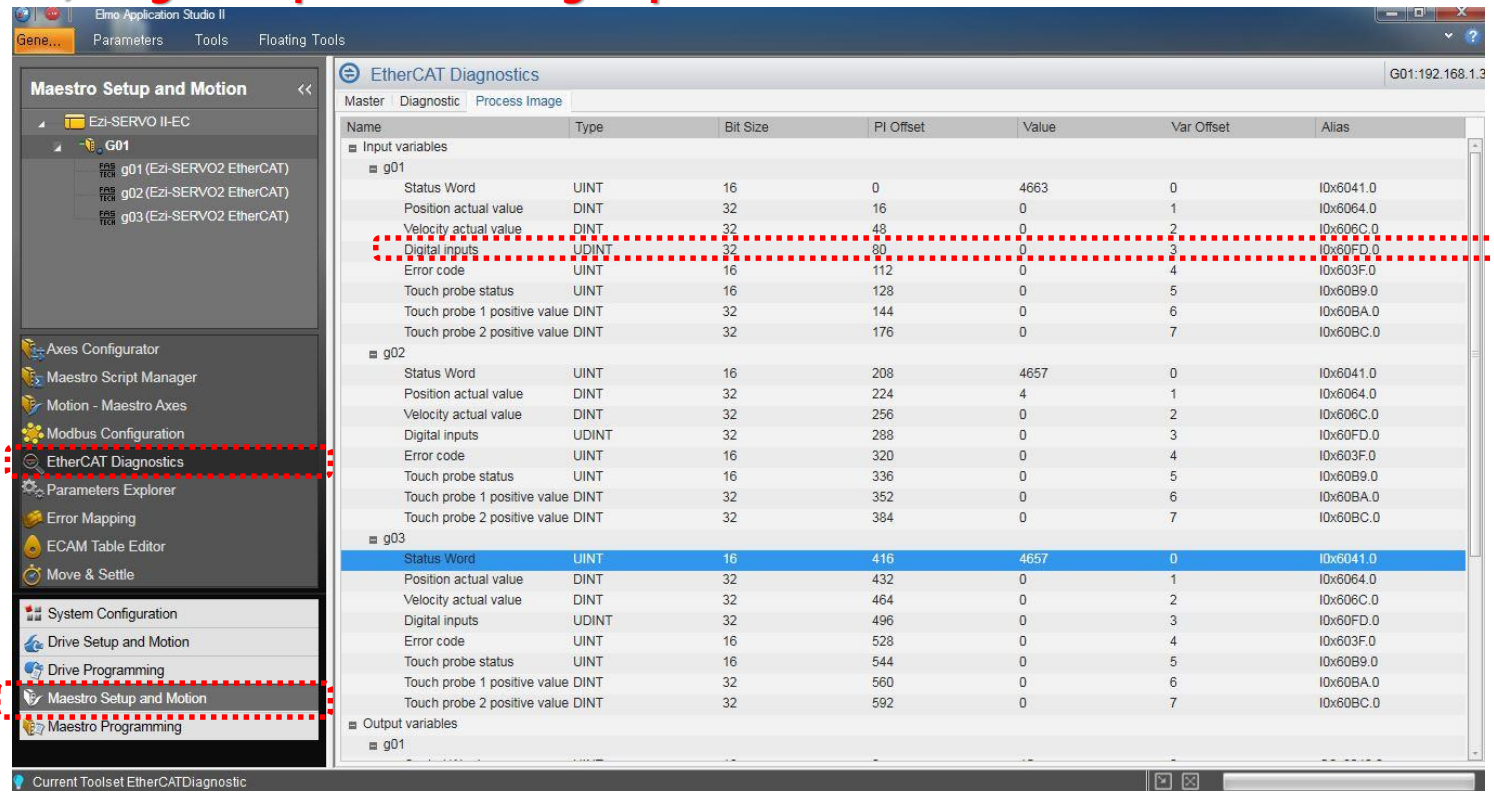
Ezi-SERVO®
Closed Loop Stepping System

3. Use of Ezi-SERVO II-EC [GUI instructions]

Confidential

❑ Object Value checking (PDO)

1) Click to 'Maestro Setup and Motion'
2) It can be checked on Process Image tab of 'EtherCAT Diagnostics'
3) 'Digital Inputs' checking is possible



Name	Type	Bit Size	PI Offset	Value	Var Offset	Alias
Input variables						
g01						
Status Word	UINT	16	0	4663	0	I0x6041.0
Position actual value	DINT	32	16	0	1	I0x6064.0
Velocity actual value	DINT	32	48	0	2	I0x606C.0
Digital inputs	UDINT	32	80	0	3	I0x60FD.0
Error code	UINT	16	112	0	4	I0x603F.0
Touch probe status	UINT	16	128	0	5	I0x60B9.0
Touch probe 1 positive value	DINT	32	144	0	6	I0x60BA.0
Touch probe 2 positive value	DINT	32	176	0	7	I0x60BC.0
g02						
Status Word	UINT	16	208	4657	0	I0x6041.0
Position actual value	DINT	32	224	4	1	I0x6064.0
Velocity actual value	DINT	32	256	0	2	I0x606C.0
Digital inputs	UDINT	32	288	0	3	I0x60FD.0
Error code	UINT	16	320	0	4	I0x603F.0
Touch probe status	UINT	16	336	0	5	I0x60B9.0
Touch probe 1 positive value	DINT	32	352	0	6	I0x60BA.0
Touch probe 2 positive value	DINT	32	384	0	7	I0x60BC.0
g03						
Status Word	UINT	16	416	4657	0	I0x6041.0
Position actual value	DINT	32	432	0	1	I0x6064.0
Velocity actual value	DINT	32	464	0	2	I0x606C.0
Digital inputs	UDINT	32	496	0	3	I0x60FD.0
Error code	UINT	16	528	0	4	I0x603F.0
Touch probe status	UINT	16	544	0	5	I0x60B9.0
Touch probe 1 positive value	DINT	32	560	0	6	I0x60BA.0
Touch probe 2 positive value	DINT	32	592	0	7	I0x60BC.0
Output variables						
g01						

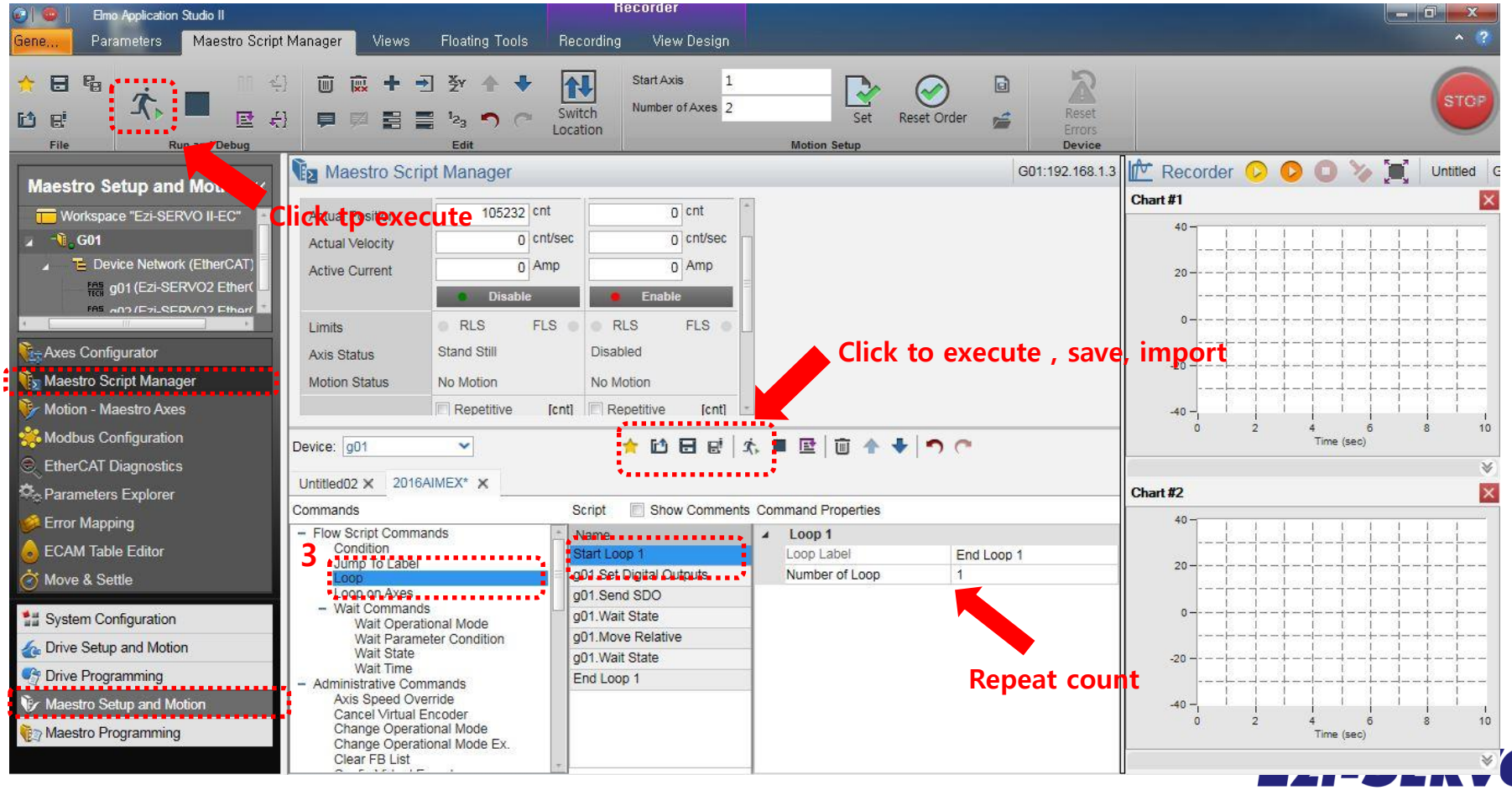
3. Use of Ezi-SERVO II-EC [GUI instructions]

Confidential

❑ use of Maestro Script Manager (1. Star Loop creating)

1) Script can be made for demo running

2) 'Motion driving ' & 'Set Digital Outputs', 'Send SDO' are possible



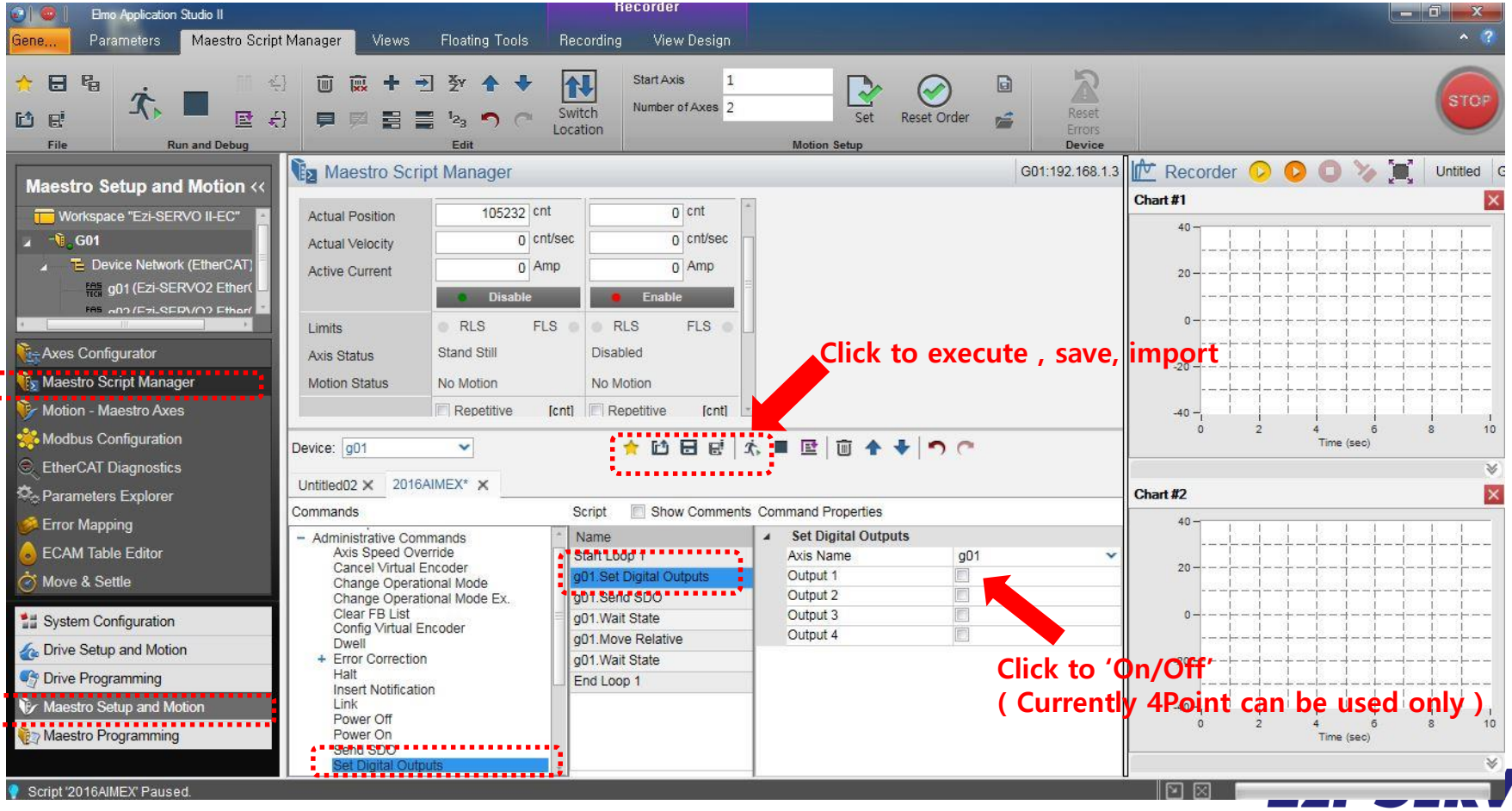
Closed Loop Stepping System

3. Use of Ezi-SERVO II-EC [GUI instructions]

Confidential

❑ use of Maestro Script Manager (2. Digital Outputs checking)

1) Script can be made for demo running
2) 'Motion driving ' & 'Set Digital Outputs', 'Send SDO' are possible



Closed Loop Stepping System

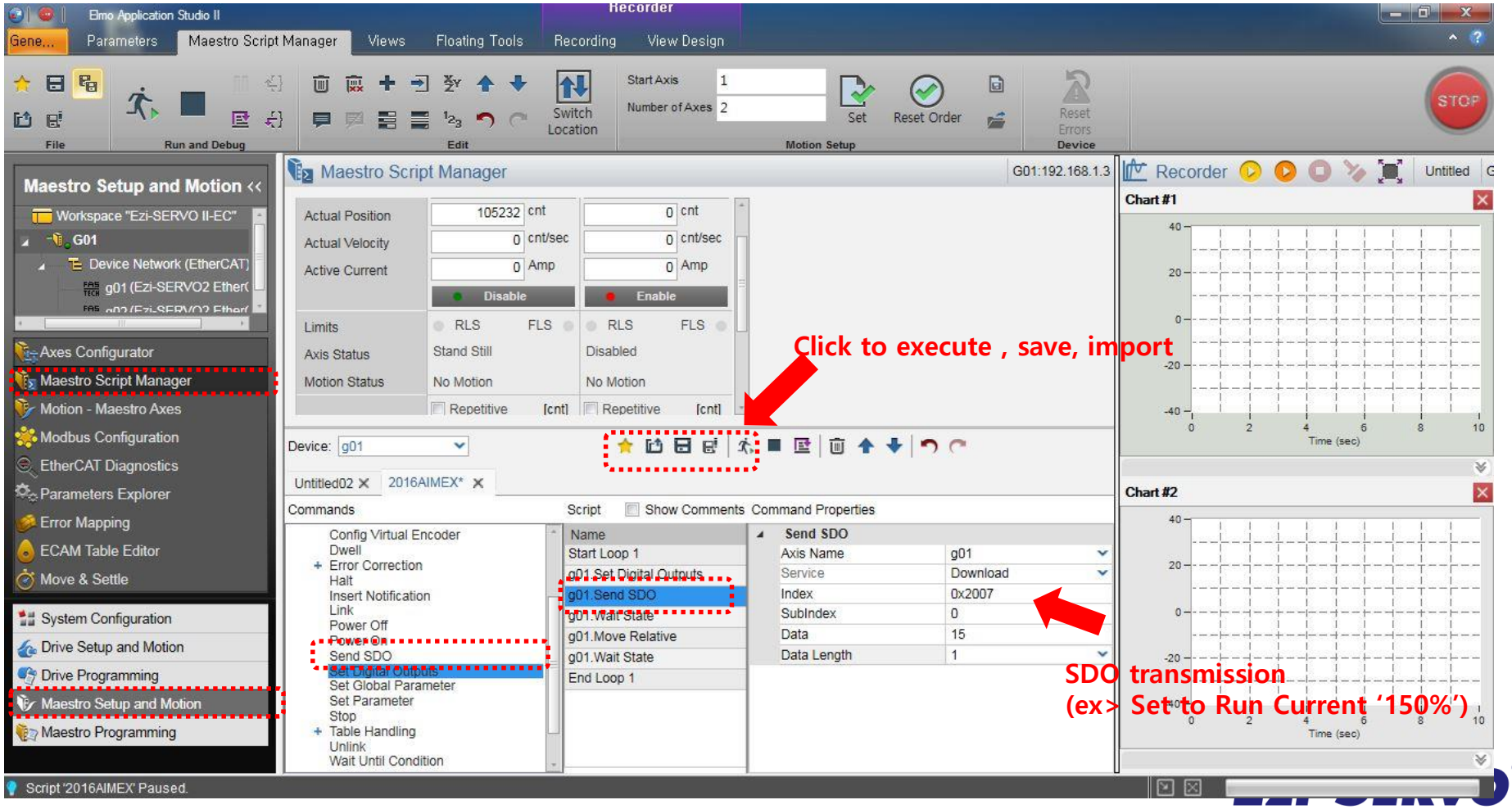
3. Use of Ezi-SERVO II-EC [GUI instructions]

Confidential

❑ Use of Maestro Script Manager (3. SDO transmission)

1) Script can be made for demo running

2) 'Motion driving ' & 'Set Digital Outputs', 'Send SDO' are possible



Closed Loop Stepping System

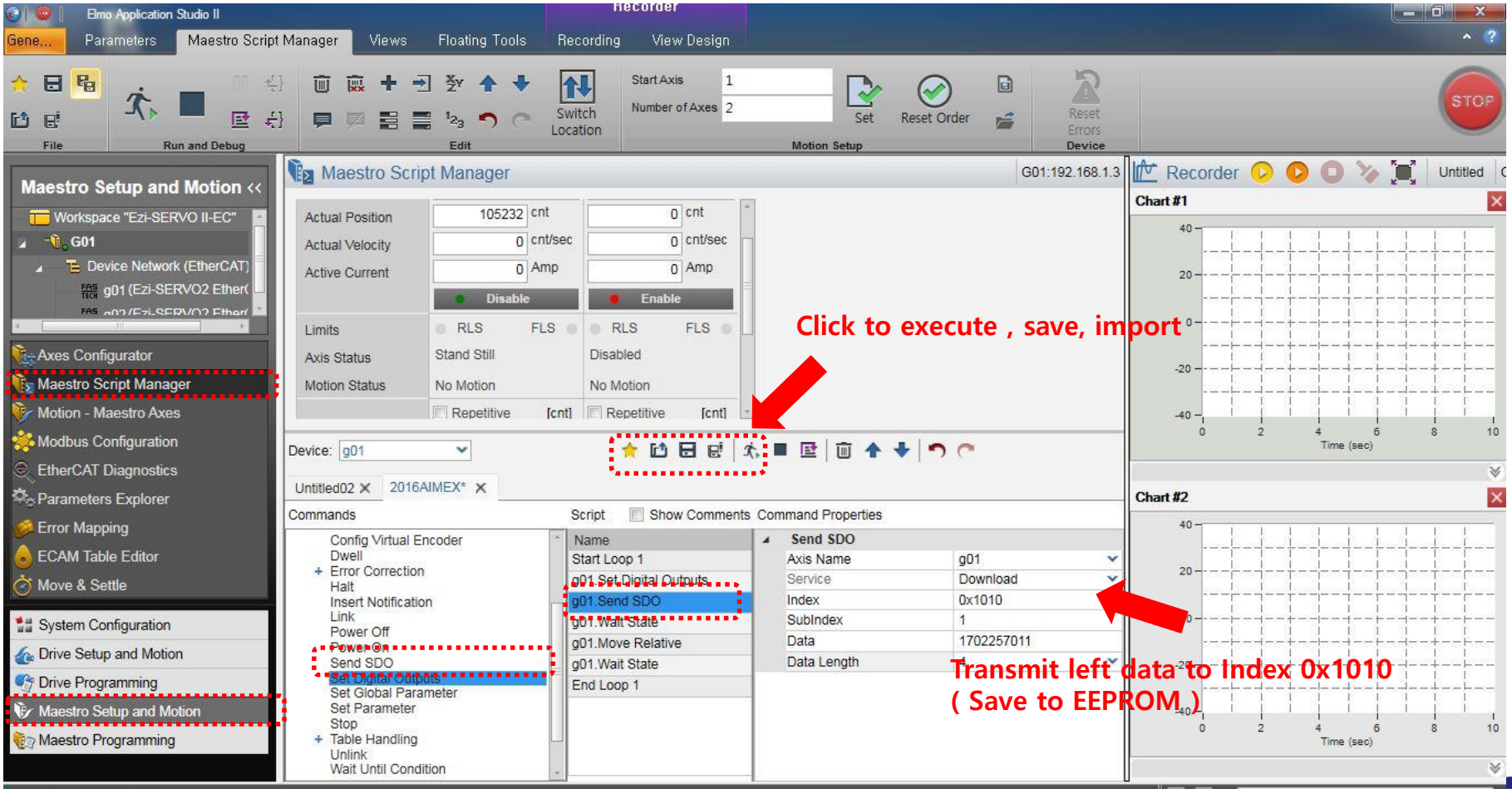
3. Use of Ezi-SERVO II-EC [GUI instructions]

Confidential

❑ Use of Maestro Script Manager (4. Save to SDO EEPROM)

1) Script can be made for demo running

2) 'Motion driving ' & 'Set Digital Outputs', 'Send SDO' are possible



Closed Loop Stepping System

We are a pioneer changing the history of step motor !!

Ezi-SERVO®
Closed Loop Stepping System