

**KOGANEI**

**ELEWAVE SERIES  
NS SLIDERS SUPPORT SOFTWARE**

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**OWNER'S MANUAL** Ver.2.0

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※ For more information on the main unit and controller,  
see the “Elewave Series NS Sliders Owner’s Manual”  
(X435044).

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# 1. Software

## 1-1 Overview

This software communicates with the Elewave series NS Sliders controllers, enabling operation settings and operating state display for the actuator.

- Setting of operation data  
Enters and edits operation position, speed, and pushing level, including other things, and saves and prints files.
- Operation  
Starts/stops operation, executes return to origin, and displays the current positions, based on the data you set.
- Display  
Displays the errors and the point setting input for the NS Sliders.

## 1-2 System Requirements

- Actuator
  - NS Sliders      Model: **EWM5**\*
- Operating System
  - Windows 95 (Higher than Service Pack 1), Windows 98, Windows ME, Windows NT4.0, Windows 2000, Windows XP
- Computer System
  - ☐ Main unit :                      PC featuring a Pentium processor
  - ☐ Memory :                        At least 32 MB available
  - ☐ Hard disk space :                At least 50 MB available
  - ☐ Video monitor :                800 × 600 or better (1024 × 786 or better recommended)
  - ☐ Serial port :                      One RS-232C serial port (COM1 to 8) must be available

# 2. Before You Begin

## 2-1 Preparation

- Installing the program  
Copy the file **EWM\* \*.exe** to a folder and run it. Among the files extracted to the folder, you will see **setup.exe**. Run **setup.exe** to start the installation program. Follow the instructions that appear on screen to install the program.

**Notes** 1: If an older version is installed, remove it before running **setup.exe**.  
2: If you are using Windows 2000 or Windows XP, log in with Administrator rights before installing the program. In addition, use single-byte alphanumeric characters for the login name.

- Uninstalling the program
  - 1) On the Windows taskbar, click the **Start** button, point to **Settings**, and then click **Control Panel**. In the **Control Panel**, double-click **Add or Remove Programs**. In the list of programs, select **EWM5 Support Software**, and then click **Remove**.
  - 2) The process for removing program will start. Follow the instructions that appear on screen to remove it.

## 2-2 Connecting Controller to a PC

- Use a serial cross cable for communication cable interlink to connect between the COM ports on the PC and controller.

## 3. Basic Operations for Selection of Controller Type

### 3-1 Software Startup Procedure

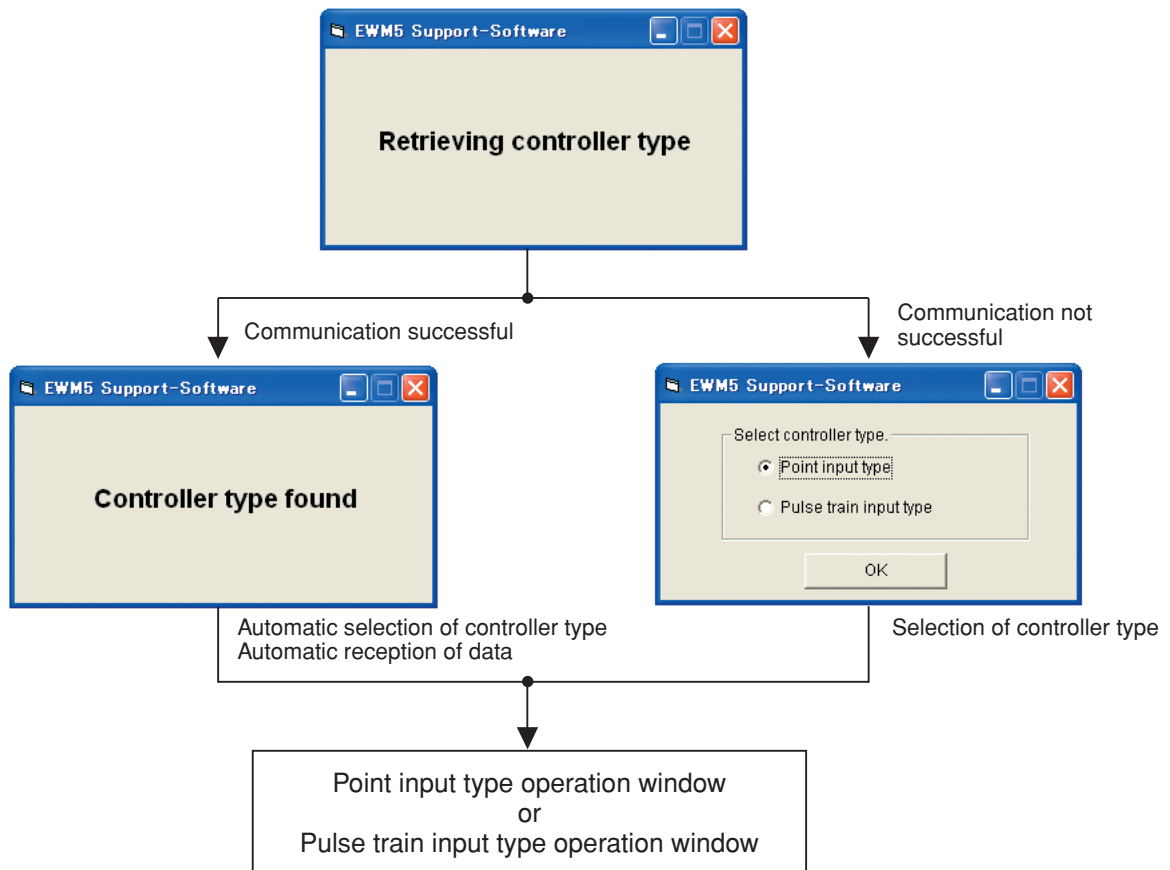
This support software selects the controller type at startup.

- Online (Support software is in communication with the controller)
  - 1) After software startup, automatically starts communication with the controller.
  - 2) Based on the response from the controller, the software finds the controller type, and moves to the operation window, by the controller type.
- Offline (Support software is not in communication with the controller)
  - 1) After software startup, automatically starts communication with the controller.
  - 2) Confirms that no response has come from the controller, and then moves to the operation window by the controller type.
  - 3) Select the controller type to be used, and press the **OK** button.
  - 4) Moves to the operation window, by the controller type.

- Notes
- 1: For Online, a move to the Controller Type window means that the support software and controller are not in communication. Check the controller power supply, connection, and connector.
  - 2: For Offline, if the wrong controller type is selected by mistake, quit the support software and restart.
  - 3: At the initial installation, the communication port is set to COM1. In the second and succeeding starts, communication will be performed through the COM port that was in use at the end of the previous session.
  - 4: For the operation window by the controller type, see p.4, "4. Basic Operations for Point Input Type," and p.12, "5. Basic Operations for Pulse Train Input Type."

### 3-2 Software Startup Flowchart

When the software is started up, it automatically starts communication.  
Based on the response, select the type of startup support software.



## 4. Basic Operations for Point Input Type

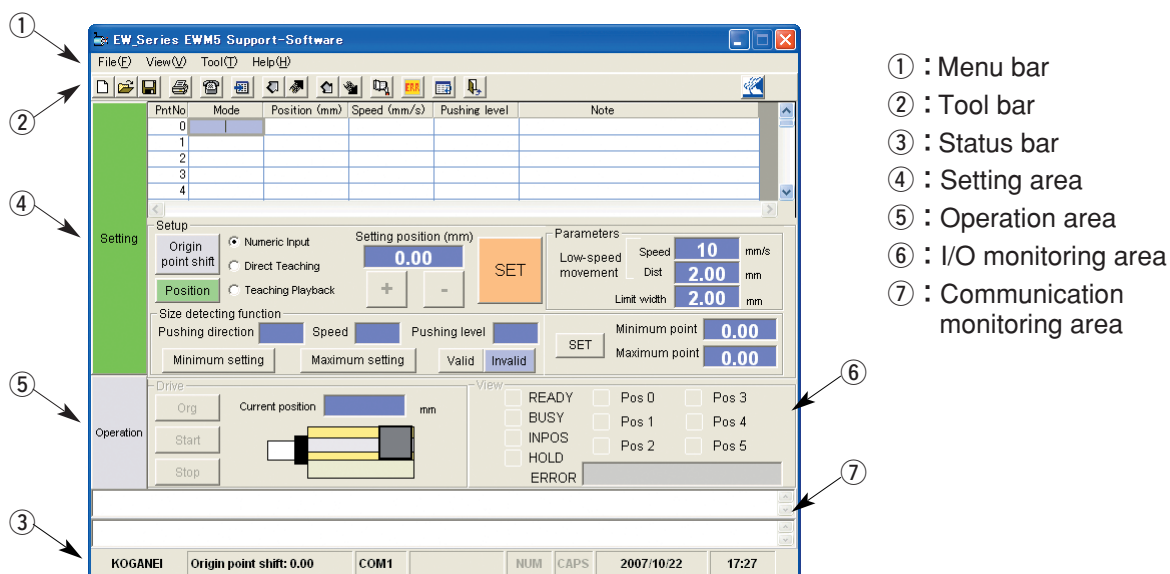
### 4-1 Operation Procedure

This section describes the operation procedure.















- 1) After starting the program, select **COM Setup** on the **Tool** menu on the menu bar and then set the communication port. (At the initial installation, the communication port is set to COM1. In the second and succeeding starts, communication will be performed through the COM port that was in use at the end of the previous session.)
- 2) Set the use conditions and so on using the parameters in the Setting area.
- 3) In the Operation area, perform the return to origin operation.
- 4) In the Setting area, set the origin point shift.  
(This setting is unnecessary if it is the same as the normal origin.)
- 5) In the Setting area, enter point data.
- 6) Send the point data and parameters.
- 7) In the Setting area, select the line of the point number that you want to operate.
- 8) In the Operation area, start operation by clicking **Start**.  
※ To operate another point data number, repeat steps 7 and 8 above.

**Caution:** When operating the main unit in an operation mode, always provide an emergency stop or stop function externally. The program's own stop function may not work if a communication error or some other problem occurs.

### 4-2 Support Software Operation Window



No.	Name	Description
①	Menu bar	<p>Displays the names of top-level menus. There are 4 pull-down menus organized by function.</p> <ul style="list-style-type: none"> <li>■ File <ul style="list-style-type: none"> <li>• New: Deletes existing settings then initializes new file settings in the window.</li> <li>• Open: Reads settings from a saved file and displays them on screen.</li> <li>• Save: Saves settings.</li> <li>• Print: Prints settings.</li> <li>• Exit: Quits the program.</li> </ul> </li> </ul> <p>※ You can add comments to files. However, they will not be stored on the controller.</p>

No.	Name	Description															
①	Menu bar	<div><div>■ View</div><div><div>• Point view :</div><div>Displays the point grid.</div></div><div><div>• Parameters view :</div><div>Displays the parameter grid.</div></div><div><div>• Toolbar :</div><div>Shows/hides the toolbar.</div></div><div><div>• Status bar :</div><div>Shows/hides the status bar.</div></div></div> <div><div>■ Tool</div><div><div>• Send (Point) :</div><div>Sends point data (mode, position, speed, and pushing level) to the controller.</div></div><div><div>• Send (Parameters) :</div><div>Sends parameter data to the controller.</div></div><div><div>• Receive (Point) :</div><div>Receives point data (mode, position, speed, and pushing level) from the controller.</div></div><div><div>• Receive (Parameters) :</div><div>Receives parameter data from the controller.</div></div><div><div>• COM Setup :</div><div>Sets the communication port to be used to communicate with the controller.</div></div><div><div>Note : The communication port is set to COM1 by default. If you will be using a port other than COM1, you must first set it after starting the program.</div></div><div><div>• Error history display :</div><div>Displays the last 16 errors. (The entry at the very bottom is the most recent error.)</div></div><div><div>• Compare :</div><div>Compares the settings with the data on the controller.</div></div><div><div>• Init :</div><div>Initializes point data, parameters, and origin position data. For parameter initialization, select the actuator number.</div></div></div> <table><tr><td>Model</td><td>EWM5S□-20</td><td>EWM5S□-40</td><td>EWM5H□-20</td><td>EWM5H□-40</td></tr><tr><td>Actuator No.</td><td>30</td><td>31</td><td>32</td><td>33</td></tr></table> <div><div>■ Help</div><div><div>• Version Information: Displays version information of NS Sliders support software.</div></div></div>	Model	EWM5S□-20	EWM5S□-40	EWM5H□-20	EWM5H□-40	Actuator No.	30	31	32	33					
Model	EWM5S□-20	EWM5S□-40	EWM5H□-20	EWM5H□-40													
Actuator No.	30	31	32	33													
②	Tool bar	<div>Provides buttons that function as shortcuts for frequently used commands.</div> <div><div> New File</div><div> Open</div><div> Save As</div><div> Print</div><div> COM Setup</div><div> Init</div><div> Send (Point)</div><div> Send (Parameters)</div><div> Receive (Point)</div><div> Receive (Parameters)</div><div> Compare</div><div> Error history display</div><div> Switch Window</div><div> Exit</div></div> <tr><td>③</td><td>Status bar</td><td><div><div>• Origin point shift</div><div>• Name of connected port</div><div>• Date</div><div>• Time</div></div><tr><td>④</td><td>Setting area</td><td><div><div>• Switches between the point entry field and parameter entry field by switching the display.</div><div>• Enters the position, speed, pushing level, origin point shift, and other items for operation data.</div></div><tr><td>⑤</td><td>Operation area</td><td><div><div>• Starts/stops operation and executes return to origin based on the data you set. 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## 4-3 Operations in Setting Area

### ● Window for setting point data

① : Setting  
 ② : Mode  
 ③ : Position  
 ④ : Speed  
 ⑤ : Pushing level  
 ⑥ : Note  
 ⑦ : Parameters  
 ⑧ : Size detecting function  
 ⑨ : Parameter list

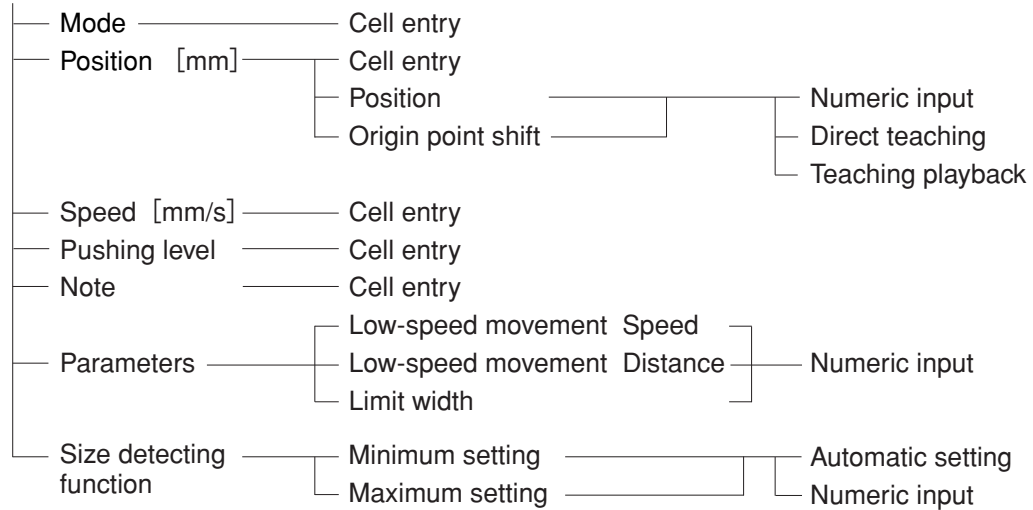
Origin point shift button  
 Position button  
 Numeric input box  
 Parameter input box

### ● Window for setting parameters

This window appears when you click  or select **Parameters** on the **View** menu bar.

⑨ : Parameter list

## Setting



## Cells in which point data can be entered

No.	Mode	Position	Speed	Pushing level
0	A	Entry OK	Entry OK	—
1	I	Entry OK	Entry OK	—
2	C	—	Entry OK	Entry OK
3	O	—	Entry OK	Entry OK
4	U	Entry OK	Entry OK	Entry OK
5				

No.	Name	Operation method	Remark
①	<b>Setting</b>	<ul style="list-style-type: none"> <li>Enter point data.</li> <li>Click <b>Setting</b> to enter setting mode.</li> <li>(The button will turn green.)</li> </ul>	Set the COM port before entering setting mode. (It is set to COM1 by default.)
②	<b>Mode</b>	<ul style="list-style-type: none"> <li>Set the operation mode for each point.</li> </ul> <p>[Input method]</p> <p><input type="checkbox"/> Setting cell input</p> <p>Directly input characters into the <b>Mode</b> cells.</p> <p>A : Positioning operation (Absolute position)</p> <p>I : Positioning operation (Relative position)</p> <p>C : Pushing operation (+ side)</p> <p>O : Pushing operation (— side)</p> <p>U : Pushing operation during acceleration/deceleration movement</p>	Use only uppercase single-byte characters and numbers.



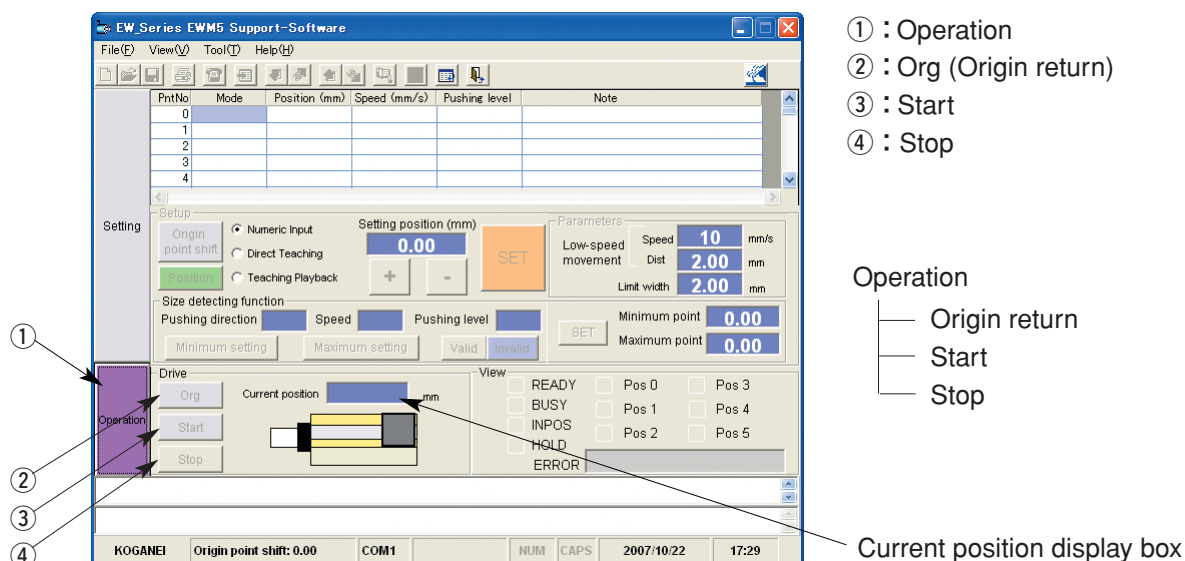
No.	Name	Operation method	Remark				
③	<b>Position</b> Target position	<ul style="list-style-type: none"><li>Enter the target position for each point. There are 4 ways to enter positions.</li></ul> <p>[Input method]</p> <p><input type="checkbox"/> Setting cell input Enter a value directly in a <b>Position</b> cell. After entering a value, confirm it by pressing the ENTER key.</p> <p><input type="checkbox"/> Numeric input Enter a position in the numeric input box. Procedure:</p> <ul style="list-style-type: none"><li>Click the <b>Position</b> button.</li><li>Select <b>Numeric Input</b>.</li><li>Enter a value in the numeric input box.</li><li>Clicking <b>SET</b> copies the value to the position cell of the selected number.</li></ul> <p><input type="checkbox"/> Direct teaching Set the position by manually operating the main unit. Procedure:</p> <ul style="list-style-type: none"><li>Click the <b>Position</b> button.</li><li>Select <b>Direct Teaching</b>.</li><li>In the sub-window, select <b>Cut the excitation of the motor</b>.</li><li>Set the position manually.</li><li>Clicking <b>SET</b> copies the value to the position cell of the selected number.</li><li>In the sub-window, select <b>Excitation of the motor</b>.</li></ul> <p><input type="checkbox"/> Teaching playback Operate the main unit by clicking <b>+/-</b> to set the position. Procedure:</p> <ul style="list-style-type: none"><li>Click the <b>Position</b> button.</li><li>Select <b>Teaching Playback</b>.</li><li>Set the position by clicking <b>+/-</b>.</li><li>Clicking <b>SET</b> copies the value to the position cell of the selected number.</li></ul>	<p>Setting range</p> <table><tr><td>EWM5□□-20</td><td>EWM5□□-40</td></tr><tr><td>-20~20mm</td><td>-40~40mm</td></tr></table> <p>(Enter using 2 decimal places. However, the value entered must be within the stroke range.)</p> <p>Check whether <b>Numeric Input</b>, <b>Direct Teaching</b>, or <b>Teaching Playback</b> is selected.</p> <p>※ When the return to origin instruction appears, follow the instructions that appear on screen.</p> <p><b>SET</b> button Always click this button after setting a value. ※ Values will not be copied to the <b>Position</b> cell when the selected mode is C or O.</p>	EWM5□□-20	EWM5□□-40	-20~20mm	-40~40mm
	EWM5□□-20	EWM5□□-40					
-20~20mm	-40~40mm						
<b>Origin point shift</b>	<ul style="list-style-type: none"><li>Set the origin point shift. There are 3 ways to enter this.</li></ul> <p>[Input method]</p> <p><input type="checkbox"/> Numeric input</p> <p><input type="checkbox"/> Direct teaching</p> <p><input type="checkbox"/> Teaching playback</p> <p>※ The setting method is the same as for setting positions.</p>	<p><b>SET</b> button Always click this button after setting a value. ※ When the send to controller instruction appears, follow the instructions that appear on screen.</p>					
④	<b>Speed</b>	<ul style="list-style-type: none"><li>Set the speed at each point.</li></ul> <p>[Input method]</p> <p><input type="checkbox"/> Setting cell input Enter a numeric value directly in the <b>Speed</b> cell. After entering a value, confirm it by pressing the ENTER key.</p>	<p>Setting range</p> <ul style="list-style-type: none"><li>For modes A, I, and U</li></ul> <table><tr><td>EWM5S□-□□</td><td>EWM5H□-□□</td></tr><tr><td>1~50mm/s</td><td>1~120mm/s</td></tr></table> <ul style="list-style-type: none"><li>For modes C and O: 10mm/s</li></ul>	EWM5S□-□□	EWM5H□-□□	1~50mm/s	1~120mm/s
EWM5S□-□□	EWM5H□-□□						
1~50mm/s	1~120mm/s						

No.	Name	Operation method	Remark								
⑤	Pushing level	<ul style="list-style-type: none"><li>Set the pushing force level for each point.</li></ul> <p>[Input method] <input type="checkbox"/> Setting cell input Enter a numeric value directly in the <b>Pushing level</b> cell. After entering a value, confirm it by pressing the ENTER key.</p>	Setting range For modes C, O, U only: 1 to 10  ※ For more information, see the Owner's Manual for the main unit.								
⑥	Note	<ul style="list-style-type: none"><li>Enter a comment for each point.</li></ul> <p>[Input method] <input type="checkbox"/> Setting cell input Enter a comment directly in the <b>Note</b> cell. After entering a comment, confirm it by pressing the ENTER key.</p>	Kanji can be used in comments. Characters equivalent to up to 199 single-byte characters can be entered per line.								
⑦	Parameters	<ul style="list-style-type: none"><li>Set the operation parameters for mode U.</li></ul> <p>[Input method] <input type="checkbox"/> Input box Enter a numeric value directly in the parameter input box. After entering a value, confirm it by pressing the ENTER key.</p>	Setting range <ul style="list-style-type: none"><li>Speed: Low-speed movement speed 1~10mm/s (Integer value)</li><li>Dist: Low-speed movement distance</li></ul> <table><tr><td>EWM5□□-20</td><td>EWM5□□-40</td></tr><tr><td>1~20mm</td><td>1~40mm</td></tr></table> <p>(Two decimal places)</p> <ul style="list-style-type: none"><li>Limit width:</li></ul> <table><tr><td>EWM5□□-20</td><td>EWM5□□-40</td></tr><tr><td>0~20mm</td><td>0~40mm</td></tr></table> <p>(Two decimal places)</p>	EWM5□□-20	EWM5□□-40	1~20mm	1~40mm	EWM5□□-20	EWM5□□-40	0~20mm	0~40mm
EWM5□□-20	EWM5□□-40										
1~20mm	1~40mm										
EWM5□□-20	EWM5□□-40										
0~20mm	0~40mm										
⑧	Size detecting function	<ul style="list-style-type: none"><li>Set the minimum and maximum sample dimensions.</li></ul> <p>Procedure 1: 1) Click <b>Valid</b>. 2) Enter a letter in <b>Pushing direction</b>. (C: + direction, O: — direction) 3) Enter a value in <b>Speed</b>. (1~10mm/s) 4) Enter a value in <b>Pushing Level</b>. (1 to 10) 5) Set the minimum sample and then click <b>Minimum setting</b>. 6) Set the maximum sample and then click <b>Maximum setting</b>.</p> <p>● The pushing position of the minimum and maximum samples will be displayed in <b>Minimum point</b> and <b>Maximum point</b> fields to the right.</p> <p>Procedure 2: 1) Click <b>Valid</b>. 2) Enter the sample pushing positions directly in the <b>Minimum point</b> and <b>Maximum point</b> fields to the right. 3) Click <b>SET</b>.</p> <p>● You can also use Procedure 2 to revise the value of the minimum and maximum points displayed in Procedure 1.</p>	<ul style="list-style-type: none"><li>Pushes the sample and sets the minimum sample dimensions automatically.</li><li>Pushes the sample and sets the maximum sample dimensions automatically.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <								

No.	Name	Operation method	Remark
⑨	Parameter list	<ul style="list-style-type: none"> <li>Displays all parameters. You can also change them.</li> </ul> <p>[Input method] Select the cell in the <b>Setting Value</b> column containing the parameter you want to change and then directly enter a new value. After entering a value, confirm it by pressing the ENTER key.</p>	<p>Setting range Enter a value within the range shown in the <b>Setting Range</b> column.</p>

## 4-4 Operations in Operation Area

After you finish making various settings, send the data to the controller using **Send (Point)** [F1] and **Send (Parameters)** [F2]. The main unit will not operate according to your settings until you send the data.



No.	Name	Operation method	Remark
①	<b>Operation</b>	<ul style="list-style-type: none"> <li>Enters operation mode.</li> </ul> <p>Select <b>Operation</b> to enter operation mode. (The button will turn pink.)</p>	You cannot edit data while in operation mode.
②	<b>Org</b>	<ul style="list-style-type: none"> <li>Executes return to origin.</li> </ul> <p>Clicking <b>Org</b> moves to the origin position. (The button will remain orange until the operation is complete.)</p>	If you have set origin point shift, the main unit will move to the normal origin and then to the shifted origin point.
③	<b>Start</b>	<ul style="list-style-type: none"> <li>Operates by the set conditions.</li> </ul> <p>Clicking <b>Start</b> operates the main unit according to the settings/parameters of the point number selected in the Setting area. (The button will remain green until the operation is complete.)</p>	
④	<b>Stop</b>	<ul style="list-style-type: none"> <li>Stops the operation.</li> </ul> <p>(The stop button will turn pink.)</p>	

## 5. Basic Operations for Pulse Train Input Type

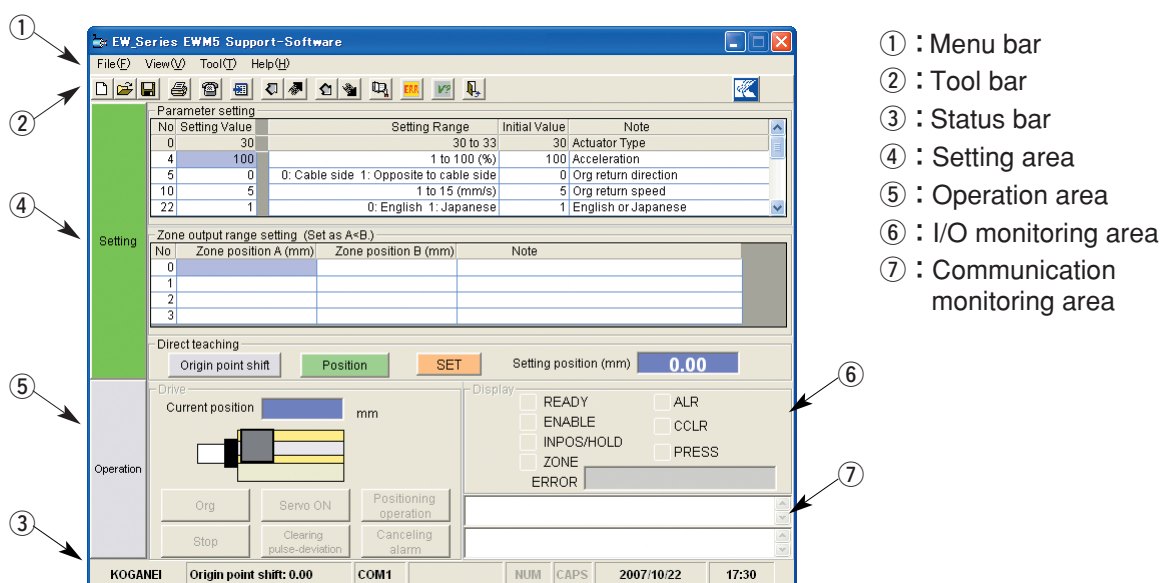
### 5-1 Operation Procedure

This section describes the operation procedure.















- 1) After starting the program, select **COM Setup** on the **Tool** menu on the menu bar and then set the communication port. (At the initial installation, the communication port is set to COM1. In the second and succeeding starts, communication will be performed through the COM port that was in use at the end of the previous session.)
- 2) Set the use conditions and so on using the parameters in the Setting area.
- 3) In the Operation area, perform the return to origin operation.
- 4) In the Setting area, set the origin point shift.  
(This setting is unnecessary if it is the same as the normal origin.)
- 5) In the Setting area, enter the zone data. (If not using zone data, this is not necessary.)
- 6) Send the zone data and parameters.

**Caution:** When operating the main unit in an operation mode, always provide an emergency stop or stop function externally. The program's own stop function may not work if a communication error or some other problem occurs.

### 5-2 Support Software Operation Window



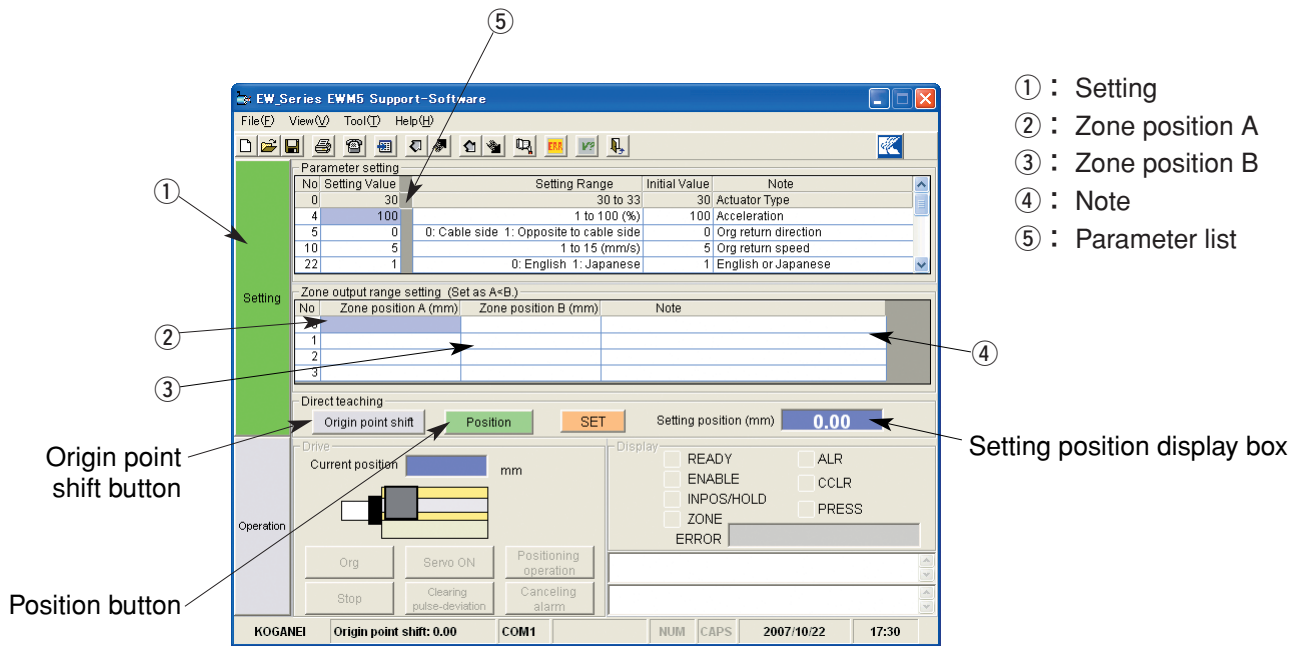
No.	Name	Description
①	Menu bar	<p>Displays the names of top-level menus. There are 4 pull-down menus organized by function.</p> <p>■ File</p> <ul style="list-style-type: none"> <li>• New : Deletes existing settings then initializes new file settings in the window.</li> <li>• Open : Reads settings from a saved file and displays them on screen.</li> <li>• Save : Saves settings.</li> <li>• Print : Prints settings.</li> <li>• Exit : Quits the program.</li> </ul> <p>※ You can add comments to files. However, they will not be stored on the controller.</p>

No.	Name	Description										
①	Menu bar	<div><div><div>■ View</div><div><div>• Toolbar :</div><div>Shows/hides the toolbar.</div></div><div><div>• Status bar :</div><div>Shows/hides the status bar.</div></div></div></div> <div><div><div>■ Tool</div><div><div>• Send (Zone) :</div><div>Sends zone data to the controller.</div></div><div><div>• Send (Parameters) :</div><div>Sends parameter data to the controller.</div></div><div><div>• Receive (Zone) :</div><div>Receives zone data from the controller.</div></div><div><div>• Receive (Parameters) :</div><div>Receives parameter data from the controller.</div></div><div><div>• COM Setup :</div><div>Sets the communication port to be used to communicate with the controller.</div></div></div><div><div><div>Note : The communication port is set to COM1 by default. If you will be using a port other than COM1, you must first set it after starting the program.</div></div></div><div><div><div>• Error history display :</div><div>Displays the last 16 errors. (The entry at the very bottom is the most recent error.)</div></div><div><div>• Slider operating speed calculation :</div><div>Calculates the maximum speed and maximum acceleration by actuator.</div></div><div><div>• Compare :</div><div>Compares the settings with the data on the controller.</div></div><div><div>• Init :</div><div>Initializes zone data, parameters, and origin position data. For parameter initialization, select the actuator number.</div></div></div><table><tr><td>Model</td><td>EWM5S□-20</td><td>EWM5S□-40</td><td>EWM5H□-20</td><td>EWM5H□-40</td></tr><tr><td>Actuator No.</td><td>30</td><td>31</td><td>32</td><td>33</td></tr></table></div> <div><div><div>■ Help</div><div><div>• Version Information:</div><div>Displays version information of NS Sliders support software.</div></div></div></div>	Model	EWM5S□-20	EWM5S□-40	EWM5H□-20	EWM5H□-40	Actuator No.	30	31	32	33
Model	EWM5S□-20	EWM5S□-40	EWM5H□-20	EWM5H□-40								
Actuator No.	30	31	32	33								
②	Tool bar	<div><div>Provides buttons that function as shortcuts for frequently used commands.</div><div><div><div></div><div>New File</div></div><div><div></div><div>Open</div></div><div><div></div><div>Save As</div></div></div><div><div><div></div><div>Print</div></div><div><div></div><div>COM Setup</div></div><div><div></div><div>Init</div></div></div><div><div><div></div><div>Send (Zone)</div></div><div><div></div><div>Send (Parameters)</div></div><div><div></div><div>Receive (Zone)</div></div></div><div><div><div></div><div>Receive (Parameters)</div></div><div><div></div><div>Compare</div></div><div><div></div><div>Error history display</div></div></div><div><div><div></div><div>Slider operating speed calculation</div></div><div><div></div><div>Exit</div></div></div></div>										
③	Status bar	<div><div><div>• Origin point shift</div><div>• Name of connected port</div></div><div><div>• Date</div><div>• Time</div></div></div>										
④	Setting area	<div><div><div>• Enter the zone output range and origin point shift, etc., and use it as setting data.</div></div></div>										

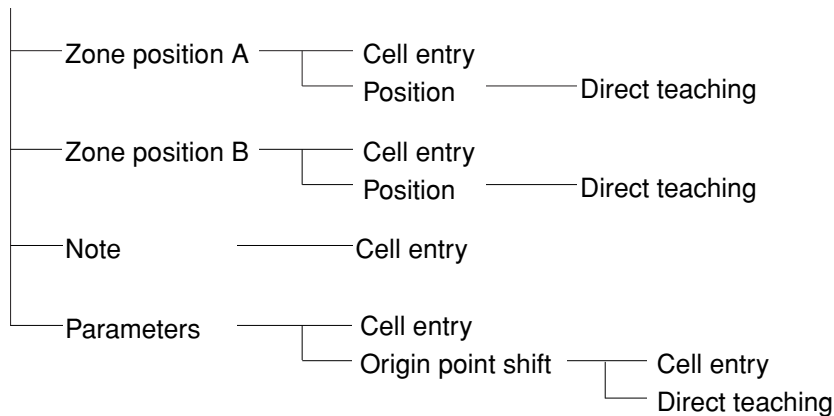
No.	Name	Description
⑤	Operation area	<p>Can use all button functions. In addition, the current position will be displayed in the current position display box.</p> <ul style="list-style-type: none"> <li>• Org : Executes return to origin.</li> <li>• Stop : Stops the operation.</li> <li>• Servo ON/OFF : Switches the servo ON/OFF.</li> <li>• Clearing pulse-deviation : Clears the deviation, and sets the current position to 0.00.</li> <li>• Positioning operation/Pushing operation : Switches between positioning and pushing operations.</li> <li>• Canceling alarm : Clears an alarm that has been set off.</li> </ul>
⑥	I/O monitoring area	<ul style="list-style-type: none"> <li>• Displays the READY, ENABLE, INPOS/HOLD, and ZONE signal output states.</li> <li>• Displays the ALR, CCLR, and PRESS signal input states.</li> <li>• Error display : Displays errors in the ERROR display box.</li> </ul>
⑦	Communication monitoring area	<ul style="list-style-type: none"> <li>• Displays data sent/received between the PC and controller. (Upper listbox : Displays data sent. Lower listbox : Displays data received.)</li> </ul>

## 5-3 Operations in Setting Area

### ● Setting window



### Setting



No.	Name	Operation method	Remark
①	<b>Setting</b>	<ul style="list-style-type: none"> <li>Enter zone data.</li> <li>Click <b>Setting</b> to enter setting mode.</li> <li>(The button will turn green.)</li> </ul>	Set the COM port before entering setting mode. (It is set to COM1 by default.)



No.	Name	Operation method	Remark
②	<b>Zone position A</b> Position	<ul style="list-style-type: none"> <li>Set the start position for each zone output range. There are 2 ways to enter positions.</li> </ul> <p>[Input method]</p> <p><input type="checkbox"/> Setting cell input Enter a value directly in a <b>Zone position A</b> cell. After entering a value, confirm it by pressing the ENTER key.</p> <p><input type="checkbox"/> Direct teaching Set the position by manually operating the main unit.</p> <p>Procedure:</p> <ul style="list-style-type: none"> <li>Click the <b>Zone position A</b> cell to input.</li> <li>Select <b>Position</b>.</li> <li>In the sub-window, select <b>Start return to origin</b>.</li> <li>In the sub-window, select <b>Cut the excitation of the motor</b>.</li> <li>Set the position manually.</li> <li>Clicking <b>SET</b> copies the value to the zone position A cell of the selected number.</li> <li>In the sub-window, select <b>Excitation of the motor</b>.</li> </ul>	<p>Setting range —40mm~40mm</p> <ul style="list-style-type: none"> <li>Set zone position A so that it has a smaller value than zone position B.</li> <li>Input ranges must not include 0.</li> <li>Set to match the stroke range.</li> </ul> <p>※ When the return to origin instruction appears, follow the instructions that appear on screen.</p> <p><b>SET</b> button Always click this button after setting a value.</p>
③	<b>Zone position B</b> Position	<ul style="list-style-type: none"> <li>Set the start position for each zone output range. There are 2 ways to enter positions.</li> </ul> <p>[Input method]</p> <p><input type="checkbox"/> Setting cell input Enter a value directly in a <b>Zone position B</b> cell. After entering a value, confirm it by pressing the ENTER key.</p> <p><input type="checkbox"/> Direct teaching Set the position by manually operating the main unit.</p> <p>Procedure:</p> <ul style="list-style-type: none"> <li>Click the <b>Zone position B</b> cell to input.</li> <li>Select <b>Position</b>.</li> <li>In the sub-window, select <b>Start return to origin</b>.</li> <li>In the sub-window, select <b>Cut the excitation of the motor</b>.</li> <li>Set the position manually.</li> <li>Clicking <b>SET</b> copies the value to the zone position B cell of the selected number.</li> <li>In the sub-window, select <b>Excitation of the motor</b>.</li> </ul>	<p>Setting range —40mm~40mm</p> <ul style="list-style-type: none"> <li>Set zone position B so that it has a larger value than zone position A.</li> <li>Input ranges must not include 0.</li> <li>Set to match the stroke range.</li> </ul> <p>※ When the return to origin instruction appears, follow the instructions that appear on screen.</p> <p><b>SET</b> button Always click this button after setting a value.</p>

No.	Name	Operation method	Remark
④	<b>Note</b>	<ul style="list-style-type: none"> <li>Enter a comment for each point.</li> </ul> <p>[Input method]</p> <p><input type="checkbox"/> Setting cell input</p> <p>Enter a comment directly in the <b>Note</b> cell.</p> <p>After entering a comment, confirm it by pressing the ENTER key.</p>	Kanji can be used in comments. Characters equivalent to up to 199 single-byte characters can be entered per line.
⑤	Parameter list <b>Origin point shift</b>	<ul style="list-style-type: none"> <li>Displays all parameters. You can also change them.</li> <li>There are 2 kinds of parameter input methods, for origin point shift only.</li> </ul> <p>[Input method]</p> <p><input type="checkbox"/> Setting cell input (all parameters)</p> <p>Select the cell in the <b>Setting Value</b> column containing the parameter you want to change and then directly enter a new value. After entering a value, confirm it by pressing the ENTER key.</p> <p><input type="checkbox"/> Direct teaching (origin point shift only)</p> <p>Set the position by manually operating the main unit.</p> <p>Procedure:</p> <ul style="list-style-type: none"> <li>Select <b>Origin point shift</b>.</li> <li>In the sub-window, select <b>Start return to origin</b>.</li> <li>In the sub-window, select <b>Cut the excitation of the motor</b>.</li> <li>Set the position manually.</li> <li>Click <b>SET</b> to set the origin point shift parameters</li> <li>In the sub-window, select <b>Excitation of the motor</b>.</li> </ul>	<p>Setting range</p> <p>Enter a value within the range shown in the <b>Setting Range</b> column.</p> <p><b>SET</b> button</p> <p>Always click this button after setting a value.</p>

## 5-4 Operations in Operation Area

After you finish making various settings, send the data to the controller using **Send (Zone)** [F1] and **Send (Parameters)** [F2]. The main unit will not operate according to your settings until you send the data.

① : Operation  
 ② : Org (Origin return)  
 ③ : Stop  
 ④ : Servo ON/OFF  
 ⑤ : Clearing pulse-deviation  
 ⑥ : Positioning operation/Pushing operation  
 ⑦ : Canceling alarm

Operation

- Origin return
- Stop
- Servo ON/OFF
- Clearing pulse-deviation
- Positioning operation/Pushing operation
- Canceling alarm

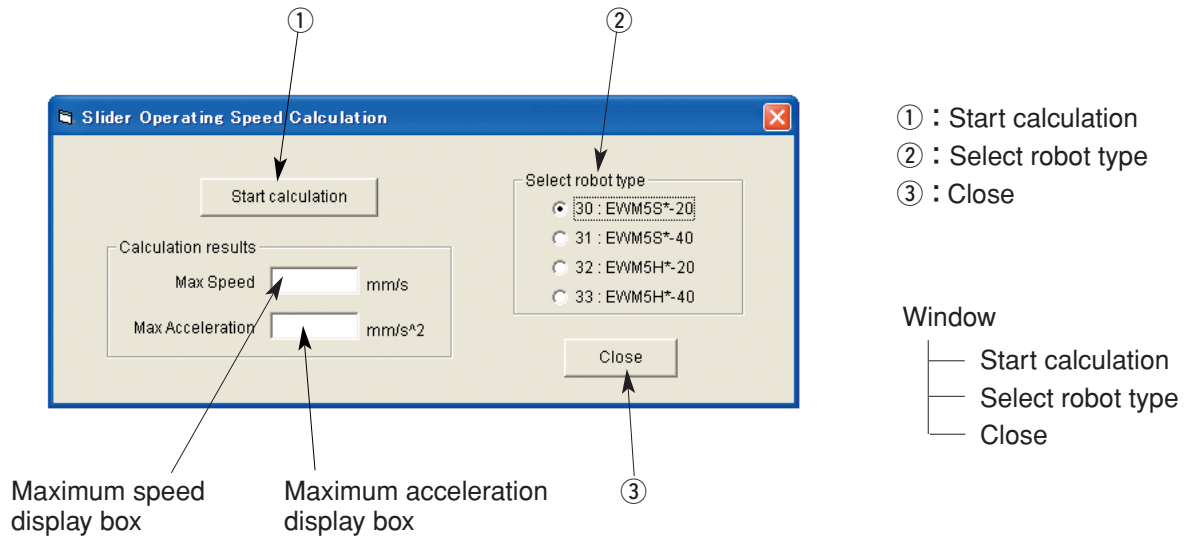
Current position display box

No.	Name	Operation method	Remark
①	<b>Operation</b>	<ul style="list-style-type: none"> <li>• Enters operation mode.</li> </ul> <p>Select <b>Operation</b> to enter operation mode. (The button will turn pink.)</p>	You cannot edit data while in operation mode.
②	<b>Org</b>	<ul style="list-style-type: none"> <li>• Executes return to origin.</li> </ul> <p>Clicking <b>Org</b> moves to the origin position. (The button will remain orange until the operation is complete.)</p>	If you have set origin point shift, the main unit will move to the normal origin and then to the shifted origin point.
③	<b>Stop</b>	<ul style="list-style-type: none"> <li>• Stops the operation.</li> </ul>	

No.	Name	Operation method	Remark
④	<b>Servo ON/OFF</b>	<ul style="list-style-type: none"> <li>• Performs servo ON/OFF (motor excitation/no excitation) operations.</li> </ul> <p>Click <b>Servo ON/OFF</b> in the following conditions.</p> <ul style="list-style-type: none"> <li>• When servo is ON: Switches servo OFF (no motor excitation).</li> <li>• When servo is OFF: Switches servo ON (motor excitation).</li> </ul>	Depending on the timing, commands may not be transmitted properly. When this happens, a pop-up menu will appear. Follow the instructions given there to perform operations.
⑤	<b>Clearing pulse-deviation</b>	<ul style="list-style-type: none"> <li>• Clears the pulse-deviation.</li> </ul> <p>Click <b>Clearing pulse-deviation</b> to clear any deviations. The current position becomes 0.00.</p>	
⑥	<b>Positioning operation/ Pushing operation</b>	<ul style="list-style-type: none"> <li>• Performs positioning or pushing operations.</li> </ul> <p>Click <b>Positioning operation/Pushing operation</b> in the following conditions.</p> <ul style="list-style-type: none"> <li>• When positioning operation is ON: Switches to Pushing operation.</li> <li>• When Pushing operation is ON: Switches to Positioning operation.</li> </ul>	Depending on the timing, commands may not be transmitted properly. When this happens, a pop-up menu will appear. Follow the instructions given there to perform operations.
⑦	<b>Canceling alarm</b>	<ul style="list-style-type: none"> <li>• Clears the alarm.</li> </ul> <p>Click <b>Canceling alarm</b> to clear an alarm that has been set off.</p>	

## 5-5 Operations for Slider Operating Speed Calculation Area

Select **Slider Operating Speed Calculation** from the **Tool** menu to display the Slider Operating Speed Calculation area. Here, you can check the maximum speed and maximum acceleration, which vary among each robot type.



No.	Name	Operation method
①	<b>Start calculation</b>	• Calculates the maximum speed and maximum acceleration, by robot type.
②	<b>Select robot type</b>	• Selects the robot type. The default value is <b>30 : EWM5S * -20</b> .
③	<b>Close</b>	• Closes the window.

## **Revision History**

Ver.2.0 (Changes to Ver. 2.0)

On all pages, information about the pulse train input controller added, and contents revised.

If you have questions about the contents of this manual, or  
about other technical issues, please consult the OVERSEAS DEPARTMENT  
at the address and telephone number shown below.

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**ELEWAVE SERIES**  
**NS SLIDERS SUPPORT SOFTWARE**  
OWNER'S MANUAL

October, 2007 Ver.2.0 X435046

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