KOGANEI

ELEWAVE SERIES
ELECTRIC ROTARY ACTUATORS
SUPPORT SOFTWARE

OWNER'S MANUAL Ver.3.0

Contents

※ For more information on the main unit and controller, see the “Elewave Series Electric Rotary Actuators Owner’s Manual” (X495025).

1. Software

1-1 Overview

This software communicates with the Elewave Series Electric Rotary Actuator controllers, enabling operation settings and operating state display for the actuator.

■ Setting of operation data
Enters and edits operation position, speed, and force, including other things, and saves and prints files.

■ Operation
Starts/stops operation, executes return to origin, and displays the current angle, based on the data you set.

■ Display
Displays the errors and the point setting input for the Electric Rotary Actuators.

1-2 System Requirements

■ Actuator

・Electric Rotary Actuators Model: **EWHRT3, EWHRT5, EWHRT10, EWHRT20**

■ 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 **EWR＊＊＊.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 **EWR 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.

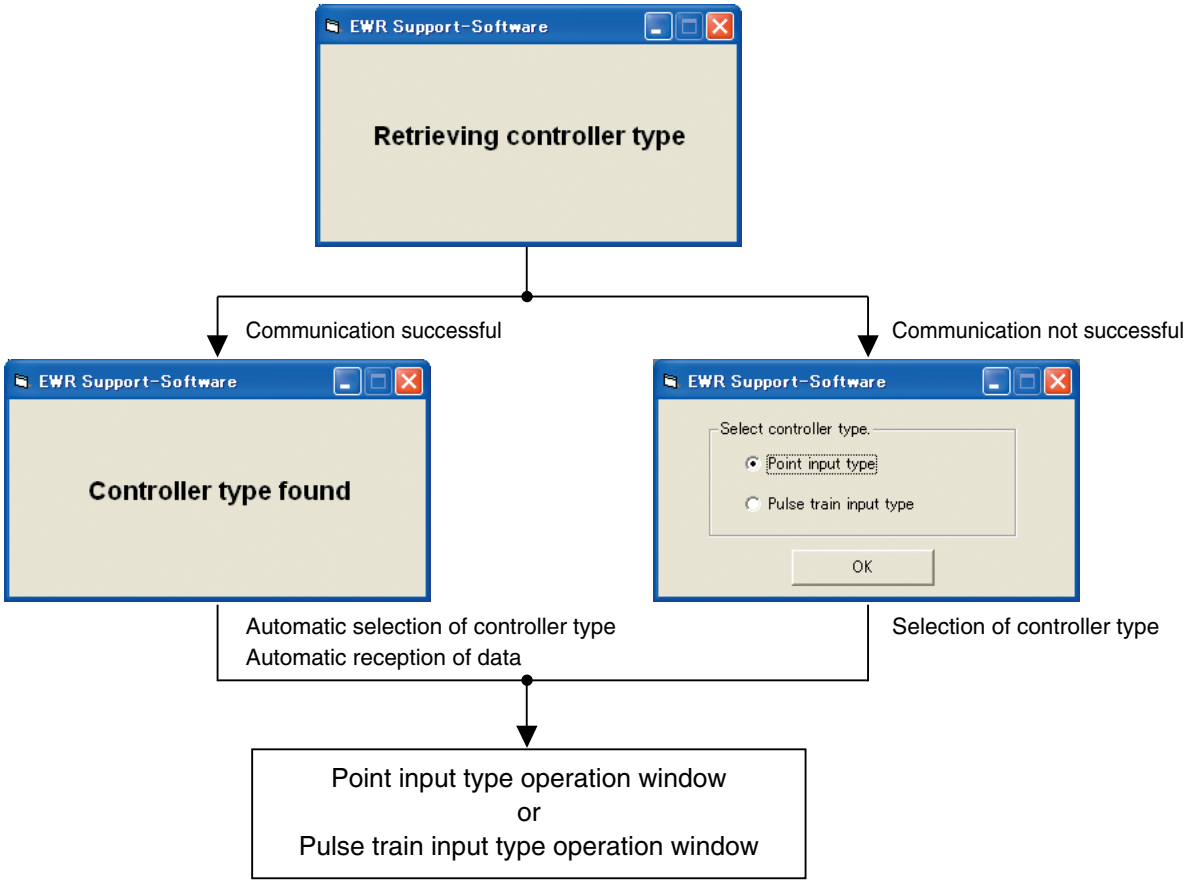
■ Offline (Support software is not in communication with the controller)

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

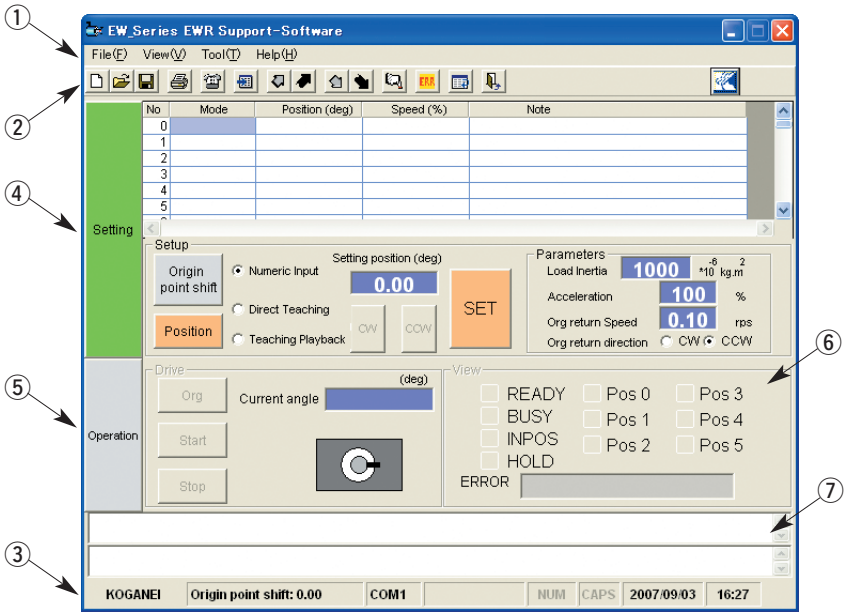
4-1 Operation Procedure

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.

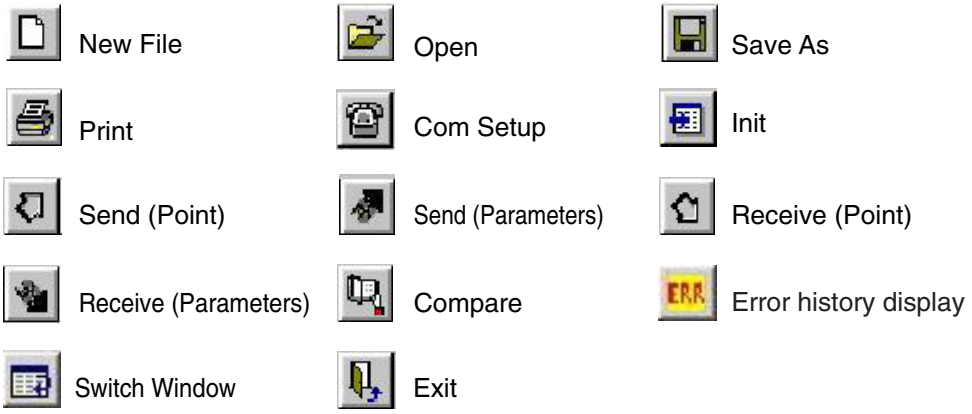
Caution: When operating the main unit in an operation mode, always provide an emergency stop or stop function externally. The program's own stop function may not work if a communication error or some other problem occurs.

4-2 Support Software Operation Window



① : Menu bar
② : Tool bar
③ : Status bar
④ : Setting area
⑤ : Operation area
⑥ : I/O monitoring area
⑦ : Communication monitoring area

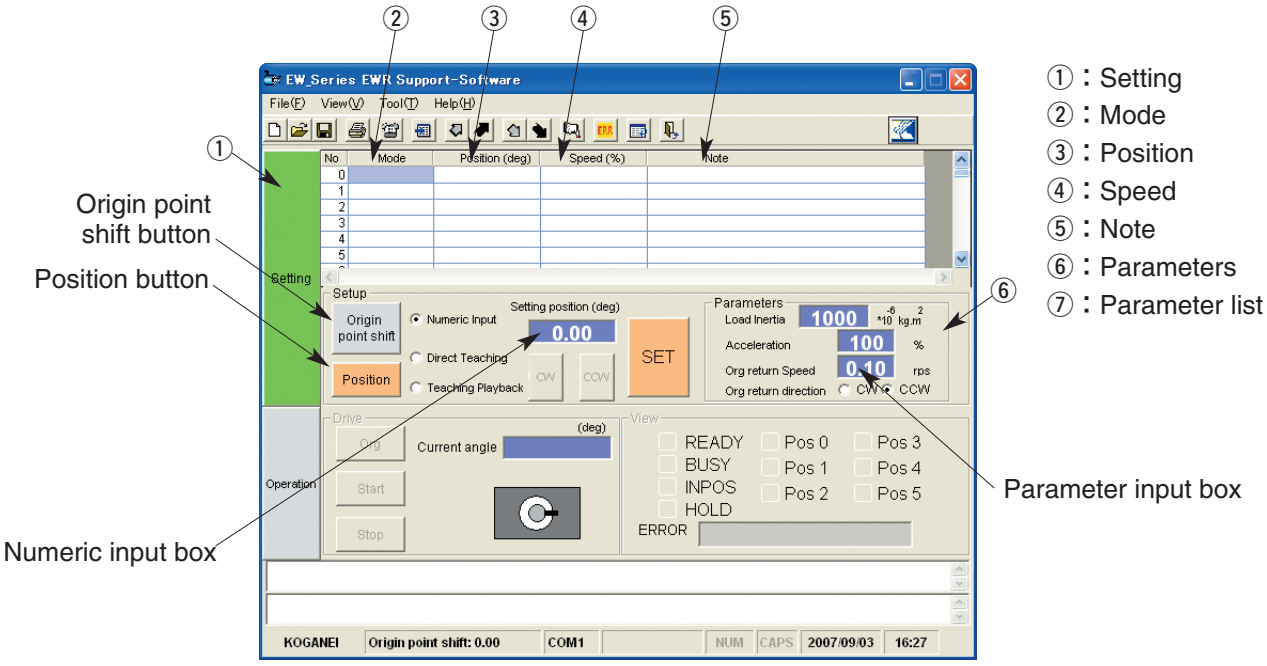
No.	Name	Description
①	Menu bar	Displays the names of top-level menus. There are 4 pull-down menus organized by function.
		■ File ・New: Deletes existing settings then initializes new file settings in the window. ・Open: Reads settings from a saved file and displays them on screen. ・Save: Saves settings. ・Print: Prints settings. ・Exit: Quits the program. ※ You can add comments to files. However, they will not be stored on the controller.

<table>
<tr><th>No.</th><th>Name</th><th>Description</th></tr>
<tr><td>①</td><td>Menu bar</td><td>■ View
・Point view: Displays the point grid.
・Parameters view: Displays the parameter grid.
・Toolbar: Shows/hides the toolbar.
・Status bar: Shows/hides the status bar.
■ Tool
・Send (Point): Sends point data (mode, angle, and speed) to the controller.
・Send (Parameters): Sends parameter data (load inertia, acceleration, origin return speed, and direction) to the controller.
・Receive (Point): Receives point data (mode, angle, and speed) from the controller.
・Receive (Parameters): Receives parameter data (load inertia, acceleration, origin return speed, and direction) from the controller.
・COM Setup: Sets the communication port to be used to communicate with the controller.
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.
・Error history display: Displays the last 16 errors.
(The entry at the very bottom is the most recent error.)
・Compare: Compares the settings with the data on the controller.
・Init: Initializes point data and parameters.
For parameter initialization, select the actuator number.
<table><tr><td>Model</td><td>EWHRT3</td><td>EWHRT5</td><td>EWHRT10</td><td>EWHRT20</td></tr><tr><td>Actuator No.</td><td>61</td><td>62</td><td>63</td><td>64</td></tr></table>
■ Help
・Version Information: Displays version information of Electric Rotary Actuators support software.</td></tr>
<tr><td>②</td><td>Tool bar</td><td>Provides buttons that function as shortcuts for frequently used commands.
 
New File Open Save As
Print Com Setup Init
Send (Point) Send (Parameters) Receive (Point)
Receive (Parameters) Compare Error history display
Switch Window Exit</td></tr>
<tr><td>③</td><td>Status bar</td><td>・Origin point shift ・ Name of connected port
・Date ・ Time</td></tr>
<tr><td>④</td><td>Setting area</td><td>・Switches between the point entry field and parameter entry field by switching the display.
・Enters the position, speed, origin point shift, and other items for operation data.</td></tr>
</table>

No.	Name	Description
⑤	Operation area	・Starts/stops operation and executes return to origin based on the data you set. In addition, the current position will be displayed in the current angle display box.
⑥	I/O monitoring area	・Displays the output status of the READY, BUSY, and INPOS signals. ・Pos 0 to 5: Displays the input status of point setting input Pos 0 to 5. ・Error display: Displays errors in the Error display box.
⑦	Communication monitoring area	・Displays data sent/received between the PC and controller. (Upper listbox: Displays data sent. Lower listbox: Displays data received.)

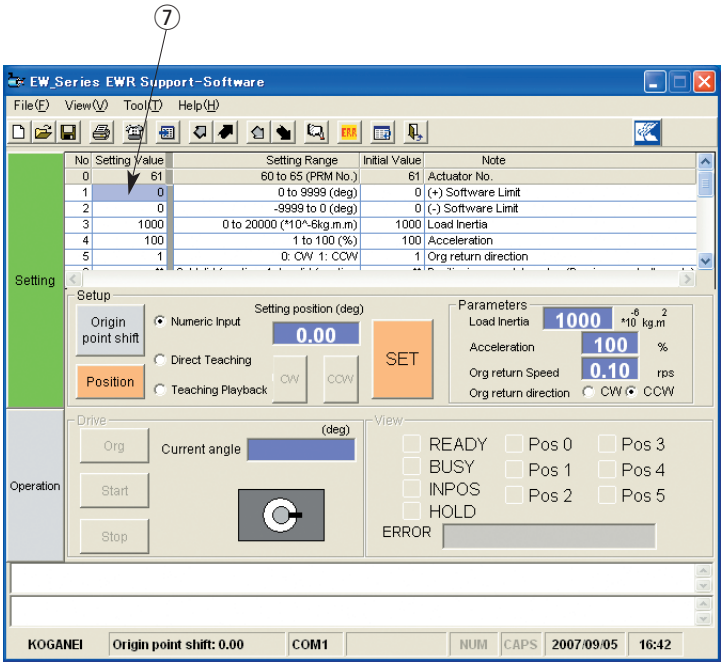
4-3 Operations in Setting Area

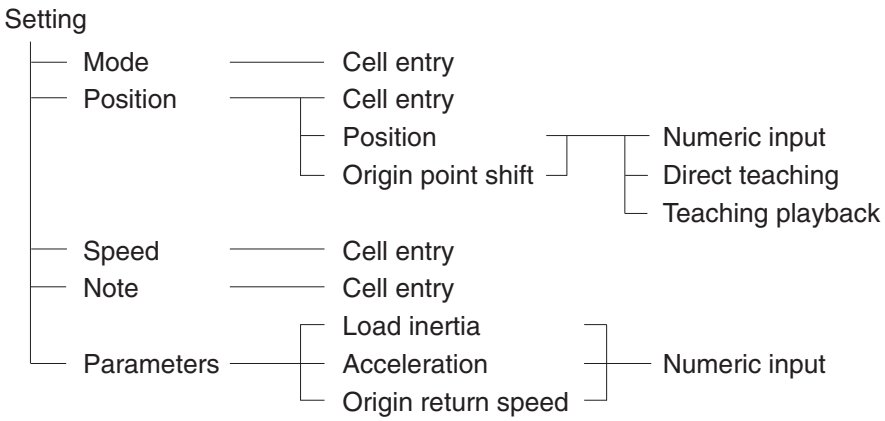
● Window for setting point data



● Window for setting parameters

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





Cells in which point data can be entered

No.	Mode	Position	Speed
0	A	Entry OK	Entry OK
1	I	Entry OK	Entry OK
2	B	Entry OK[Note]	
3			

Note: Input at Mode B (brake) switches the status of the brake on and off.

Mode B	0: Brake OFF
	1: Brake ON

No.	Name	Operation method	Remark
①	**Setting**	・ Enter point data. Click **Setting** to enter setting mode. (The button will turn green.)	Set the COM port before entering setting mode. (It is set to COM1 by default.)
②	**Mode**	・ Set the operation mode for each point. [Input method] ☐ Setting cell input Directly input characters into the **Mode** cells. A : Positioning operation (Absolute position) I : Positioning operation (Relative position) B : Switching brake status After entering a value, confirm it by pressing the ENTER key.	Use only uppercase single-byte characters and numbers.

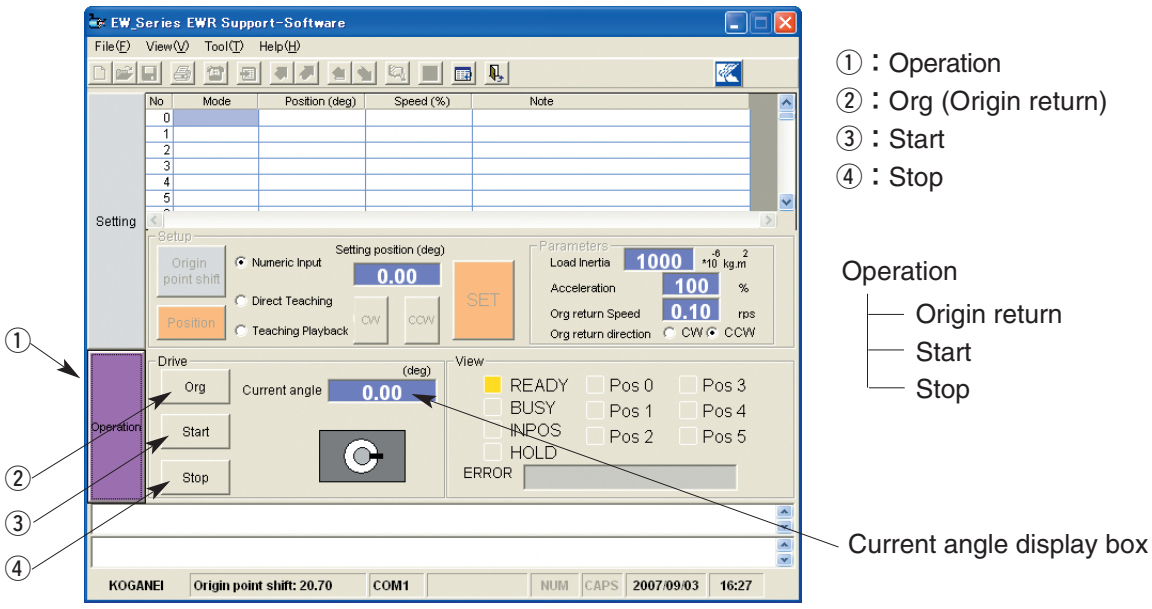
No.	Name	Operation method	Remark
③	**Position**	・ Enter the target angle for each point. There are 4 ways to enter positions. [Input method] ☐ Setting cell input Enter a numeric value directly in a **Position** cell. After entering a value, confirm it by pressing the ENTER key. ☐ Numeric input Enter an angle in the **Setting position** box. Procedure: ・ Click the **Position** button. ・ Select **Numeric Input**. ・ Enter a value in the numeric input box. ・ Clicking **SET** copies the value to the position cell of the selected number. ☐ Direct teaching Set the angle by manually operating the main unit. Procedure: ・ Click the **Position** button. ・ Select **Direct Teaching**. ・ In the sub-window, select **Cut the excitation of the motor**. ・ Set the angle manually. ・ Clicking **SET** copies the value to the position cell of the selected number. ・ In the sub-window, select **Excitation of the motor**. ☐ Teaching playback Operate the main unit by clicking the **CW/CCW** button to set the angle. Procedure: ・ Click the **Position** button. ・ Select **Teaching Playback**. ・ Set the angle by clicking the **CW/CCW** button. ・ Clicking **SET** copies the value to the position cell of the selected number.	Setting range −360°～360° (Enter using 2 decimal places) ※ You can input up to a maximum of 32400 by sending PRM21 command. Numeric input Check whether **Numeric Input**, **Direct Teaching** or **Teaching Playback** is selected. ※ When the return to origin instruction appears, follow the instructions that appear on screen. In Direct teaching and Teaching playback, the encoder resolution can only be set in 0.45° units. For fine adjustment, use numerical input. **SET** button Always click this button after setting a value.
	Origin point shift	・ Set the origin point shift. There are 3 ways to enter this. [Input method] ☐ Numeric input ☐ Direct teaching ☐ Teaching playback ※ The setting method is the same as for setting positions.	Setting range −327.68°～327.67° (Enter using 2 decimal places) **SET** button Always click this button after setting a value. ※ When the send to controller instruction appears, follow the instructions that appear on screen.

No.	Name	Operation method	Remark
④	**Speed**	・Set the speed at each point. [Input method] ☐ Setting cell input Enter a numeric value directly in the **Speed** cell. After entering a value, confirm it by pressing the ENTER key.	Setting range 1～100%
⑤	**Note**	・ Enter a comment for each point. [Input method] ☐ Setting cell input Enter a comment directly in the **Note** cell. After entering a comment, confirm it by pressing the ENTER key.	Kanji can be used in comments. Characters equivalent to up to 199 single-byte characters can be entered per line.
⑥	**Parameters**	・ Set the operation parameters. [Input method] ☐ Input box Enter a numeric value directly in the parameter input box. After entering a value, confirm it by pressing the ENTER key.	Setting range ・ Load inertia : 0～20000×10^{-6}kg・m^2 (integer values) Note: Refer to the actuator specifications, for maximum input value. ・ Acceleration:1～100% (integer values) ・ Origin return speed: 0.01～0.50 rps (Two decimal places)
⑦	Parameter list	・Displays all parameters. You can also change them. [Input method] Select the cell in the **Setting Value** 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.	Setting range Enter a value within the range shown in the **Setting Range** column.

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	**Operation**	・ Enters operation mode. Select **Operation** to enter operation mode. (The button will turn red.)	You cannot edit data while in operation mode.
②	**Org**	・ Executes return to origin. Clicking **Org** moves to the origin position. (The button will remain red until the operation is complete.)	If you have set origin point shift, the main unit will move to the normal origin and then to the shifted origin point.
③	**Start**	・ Operates by the set conditions. Clicking **Start** operates the main unit according to the settings/parameters of the point number selected in the Setting area. (The button will remain red until the operation is complete.)	
④	**Stop**	・ Stops the operation.	

5. Basic Operations for Pulse Train Input Type

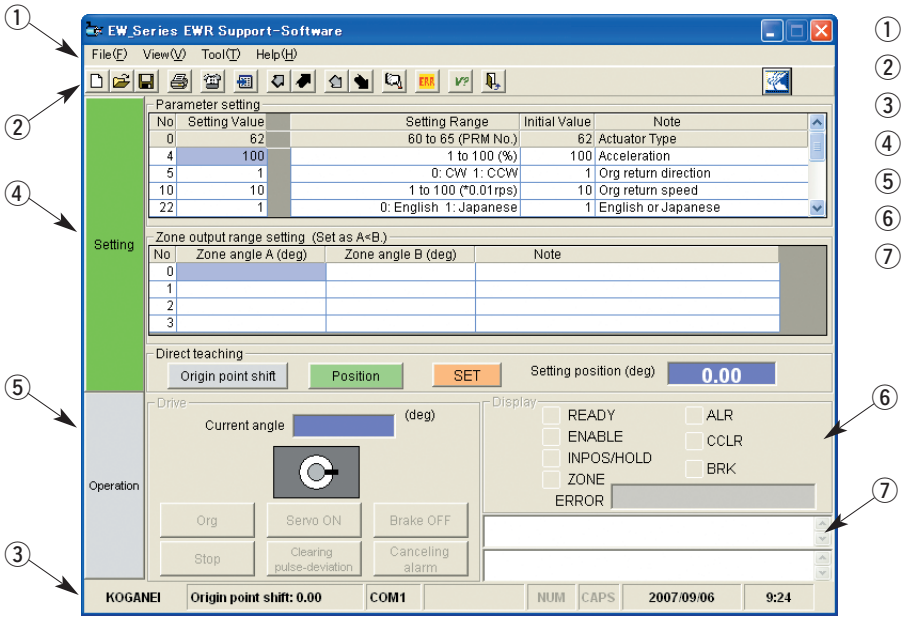
5-1 Operation Procedure

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.

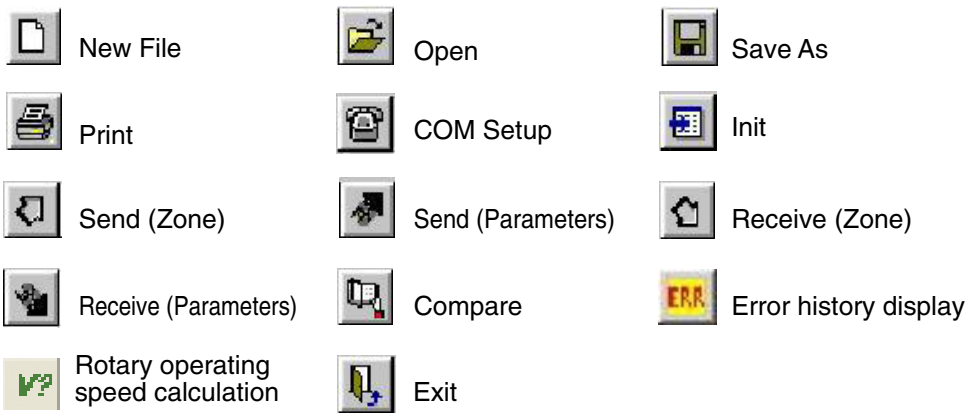
Caution: When operating the main unit in an operation mode, always provide an emergency stop or stop function externally. The program's own stop function may not work if a communication error or some other problem occurs.

5-2 Support Software Operation Window



① : Menu bar
② : Tool bar
③ : Status bar
④ : Setting area
⑤ : Operation area
⑥ : I/O monitoring area
⑦ : Communication monitoring area

No.	Name	Description
①	Menu bar	Displays the names of top-level menus. There are 4 pull-down menus organized by function.
		■ File ・ New: Deletes existing settings then initializes new file settings in the window. ・ Open: Reads settings from a saved file and displays them on screen. ・ Save: Saves settings. ・ Print: Prints settings. ・ Exit: Quits the program. ※ You can add comments to files. However, they will not be stored on the controller.

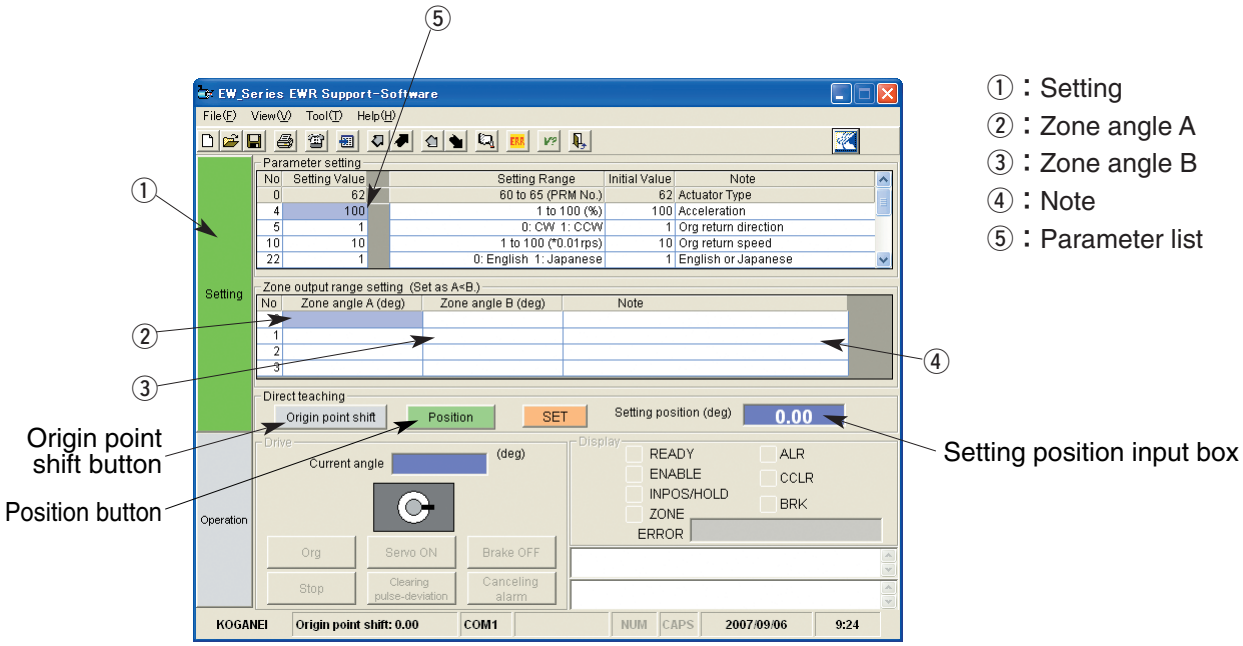
<table>
<tr><th>No.</th><th>Name</th><th>Description</th></tr>
<tr><td>①</td><td>Menu bar</td><td>
■ View
・Toolbar: Shows/hides the toolbar.
・Status bar: Shows/hides the status bar.
■ Tool
・Send (Zone): Sends zone data to the controller.
・Send (Parameters): Sends parameter data (load inertia, acceleration, origin return speed, and direction) to the controller.
・Receive (Zone): Receives zone data from the controller.
・Receive (Parameters): Receives parameter data (load inertia, acceleration, origin return speed, and direction) from the controller.
・COM Setup: Sets the communication port to be used to communicate with the controller.
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.
・Error history display: Displays the last 16 errors.
(The entry at the very bottom is the most recent error.)
・Rotary operating speed calculation:
Calculates the maximum speed and maximum acceleration by the actuator using the load inertia and setting range.
・Compare: Compares the settings with the data on the controller.
・Init: Initializes zone data and parameters.
For parameter initialization, select the actuator number.
<table>
<tr><th>Model</th><th>EWHRT3</th><th>EWHRT5</th><th>EWHRT10</th><th>EWHRT20</th></tr>
<tr><td>Actuator No.</td><td>61</td><td>62</td><td>63</td><td>64</td></tr>
</table>
■ Help
・Version Information: Displays version information for Electric Rotary Actuators support software.
</td></tr>
<tr><td>②</td><td>Tool bar</td><td>
Provides buttons that function as shortcuts for frequently used commands.


</td></tr>
<tr><td>③</td><td>Status bar</td><td>
・Origin point shift ・Name of connected port
・Date ・Time
</td></tr>
<tr><td>④</td><td>Setting area</td><td>
・Enter the zone output range and origin point shift, etc., and uses it as setting data.
</td></tr>
</table>

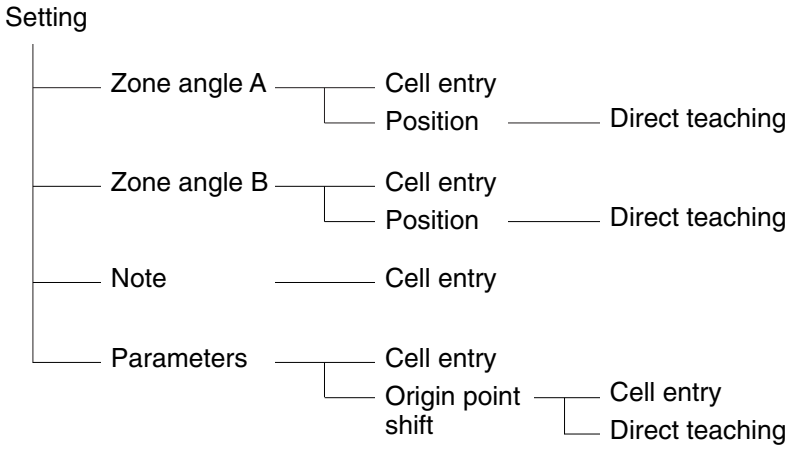
No.	Name	Description
⑤	Operation area	Can use all button functions. In addition, the current angle will be displayed in the current angle display box. ・Org: Executes return to origin. ・Stop: Stops the operation. ・Servo ON/OFF: Switches the servo ON/OFF. ・Clearing pulse-deviation: Clears the deviation, and sets the current position to 0.00. ・Brake ON/OFF: Switches the status of the brake to ON and OFF. ・Canceling alarm: Clears an alarm that has been set off.
⑥	I/O monitoring area	・Displays the READY, ENABLE, INPOS/HOLD, and ZONE signal output states. ・Displays the ALR, CCLR, and BRK signal output states. ・Error display: Displays errors in the ERROR display box.
⑦	Communication monitoring area	・Displays data sent/received between the PC and controller. (Upper listbox: Displays data sent. Lower listbox: Displays data received.)

5-3 Operations in Setting Area

●Setting window



① : Setting
② : Zone angle A
③ : Zone angle B
④ : Note
⑤ : Parameter list



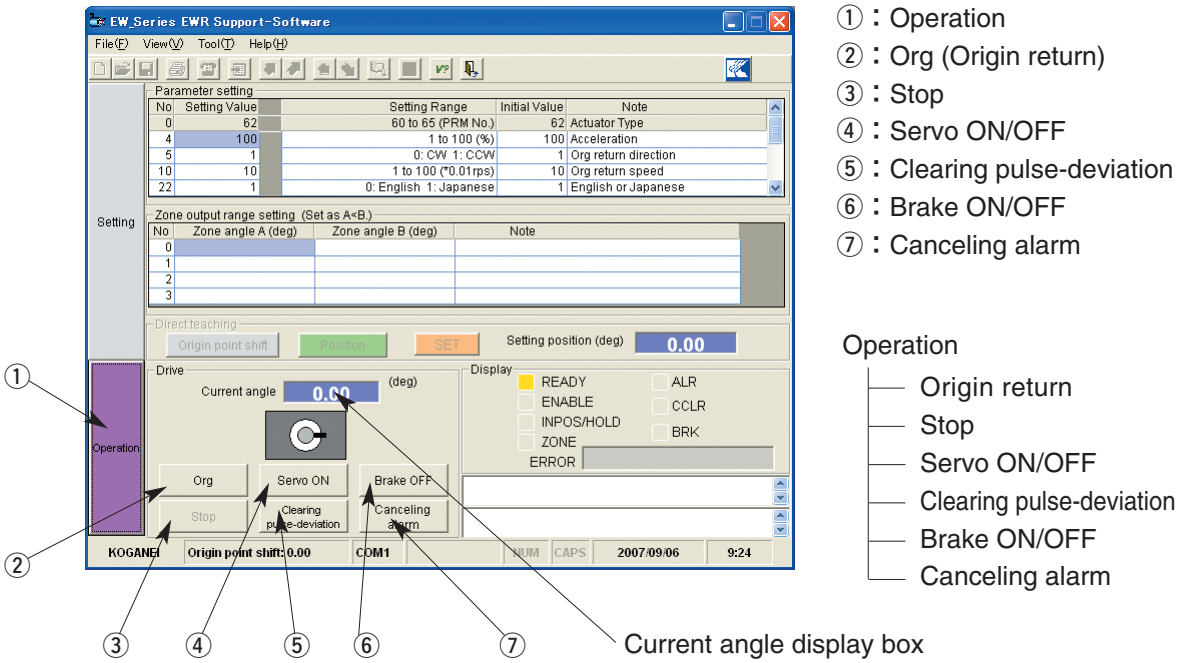
No.	Name	Operation method	Remark
①	**Setting**	・Enter zone data. Click **Setting** to enter setting mode. (The button will turn green.)	Set the COM port before entering setting mode. (It is set to COM1 by default.)

No.	Name	Operation method	Remark
②	**Zone angle A** Target angle	・Set the start angle for each zone output range. There are 2 ways to enter angles. [Input method] ☐ Setting cell input Enter a value directly in a **Zone angle A** cell. After entering a value, confirm it by pressing the ENTER key. ☐ Direct teaching Set the angle by manually operating the main unit. Procedure: ・Click the **Zone angle A** cell to input. ・Click the **Position** button. ・In the sub-window, select **Start return to origin**. ・In the sub-window, select **Cut the excitation of the motor**. ・Set the angle manually. ・Clicking **SET** copies the value to the zone angle A cell of the selected number. ・In the sub-window, select **Start return to origin**.	Setting range 0°～359.99° ・Set zone angle A so that it has a smaller value than zone angle B. ※ When the return to origin instruction appears, follow the instructions that appear on screen. In Direct teaching, the encoder resolution can only be set in 0.45° units. For fine adjustment, use numerical input. **SET** button Always click this button after setting a value.
③	**Zone angle B** Target angle	・Set the start angle for each zone output range. There are 2 ways to enter angles. [Input method] ☐ Setting cell input Enter a value directly in a **Zone angle B** cell. After entering a value, confirm it by pressing the ENTER key. ☐ Direct teaching Set the angle by manually operating the main unit. Procedure: ・Click the **Zone angle B** cell to input. ・Click the **Position** button. ・In the sub-window, select **Start return to origin**. ・In the sub-window, select **Cut the excitation of the motor**. ・Set the angle manually. ・Clicking **SET** copies the value to the zone angle B cell of the selected number. ・In the sub-window, select **Start return to origin**.	Setting range 0°～359.99° ・Set zone angle B so that it has a larger value than zone angle A. ※ When the return to origin instruction appears, follow the instructions that appear on screen. In Direct teaching, the encoder resolution can only be set in 0.45° units. For fine adjustment, use numerical input. **SET** button Always click this button after setting a value.
④	**Note**	・Enter a comment for each point. [Input method] ☐ Setting cell input Enter a comment directly in the **Note** cell. After entering a comment, confirm it by pressing the ENTER key.	Kanji can be used in comments. Characters equivalent to up to 199 single-byte characters can be entered per line.

No.	Name	Operation method	Remark
⑤	Parameter list **Origin point shift**	・Displays all parameters. You can also change them. There are 2 kinds of parameter input methods, for origin point shift only. [Input method] ☐ Setting cell input (all parameters) Select the cell in the **Setting Value** 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. ☐ Direct teaching (origin point shift only) Set the position by manually operating the main unit. Procedure: ・Click **Origin point shift**. ・In the sub-window, select **Start return to origin**. ・In the sub-window, select **Cut the excitation of the motor**. ・Set the position manually. ・Click **SET** to set the origin point shift parameters. ・In the sub-window, select **Excitation of the motor**.	Setting range Enter a value within the range shown in the **Setting Range** column. In Direct teaching, the encoder resolution can only be set in 0.45° units. For fine adjustment, use numerical input. **SET** button Always click this button after setting a value.

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 : Brake ON/OFF
⑦ : Canceling alarm

Operation
- Origin return
- Stop
- Servo ON/OFF
- Clearing pulse-deviation
- Brake ON/OFF
- Canceling alarm

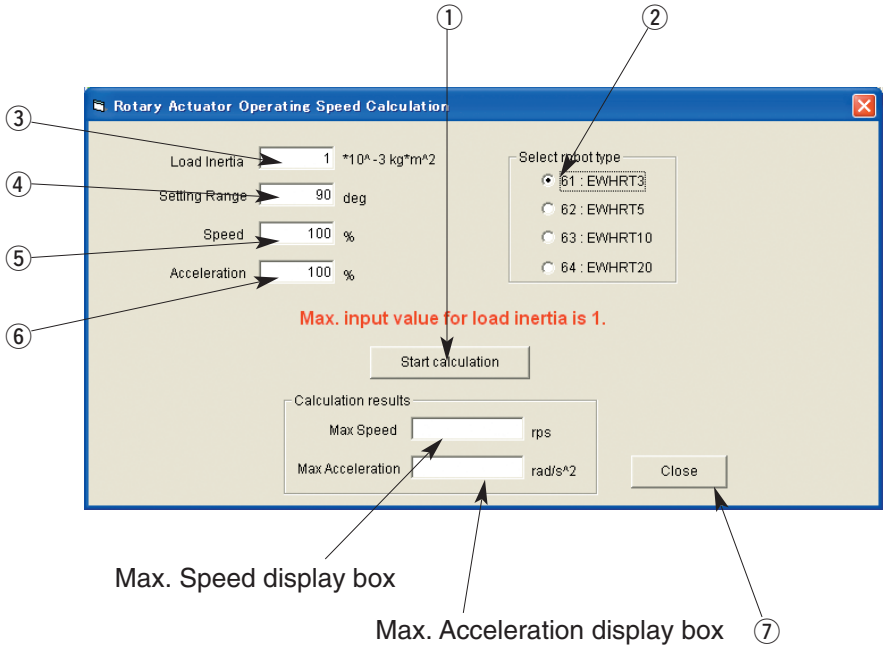
No.	Name	Operation method	Remark
①	**Operation**	・Enters operation mode. Select **Operation** to enter operation mode. (The button will turn pink.)	You cannot edit data while in operation mode.
②	**Org**	・Executes return to origin. Clicking **Org** moves to the origin position. (The button will remain orange until the operation is complete.)	If you have set origin point shift, the main unit will move to the normal origin and then to the shifted origin point.
③	**Stop**	・Stops the operation.	

No.	Name	Operation method	Remark
④	**Servo ON/OFF**	・Performs servo ON/OFF (motor excitation/no excitation) operations. Clicking **Servo ON/OFF** in the following conditions ・When servo is ON: Switches servo OFF (no motor excitation). ・When servo is OFF: Switches servo ON (motor excitation).	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	**Clearing pulse-deviation**	・Clears the pulse-deviation. Click **Clearing pulse-deviation** to clear any deviations. The current position becomes 0.00.	
⑥	**Brake ON/OFF**	・Performs brake ON/OFF operations. Clicking **Brake ON/OFF** in the following conditions ・When brake is ON: Switches brake OFF. ・When brake is OFF: Switches brake ON.	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	**Canceling alarm**	・Clears the alarm. Click **Canceling alarm** to clear an alarm that has been set off.	

5-5 Operations for Rotary Operating Speed Calculation Area

Select **Rotary Actuator Operating Speed Calculation** from the **Tool** menu to display the Rotary Operating Speed Calculation area.

Here, you can check the maximum speed and maximum acceleration, which vary among each robot type.



① : Start calculation
② : Select robot type
③ : Load Inertia input box
④ : Setting Range (angle) input box
⑤ : Speed input box
⑥ : Acceleration input box
⑦ : Close

Window
- Start calculation
- Select robot type
- Load Inertia input box
- Setting Range (angle) input box
- Speed input box
- Acceleration input box
- Close

No.	Name	Operation method	Remark
①	**Start calculation**	・Calculates the maximum speed and maximum acceleration, by robot type.	
②	**Select robot type**	・Selects the robot type. The default value is **61: EWHRT3**.	
③	**Load Inertia**	・Enter the load inertia.	The maximum input value for the load inertia will vary depending on the robot type.
④	**Setting Range**	・Enter the setting (angle) range.	
⑤	**Speed**	・Enter the speed.	
⑥	**Acceleration**	・Enter the acceleration.	
⑦	**Close**	・Closes the window.	

Revision History

Ver.2.0 (Changes to Ver. 2.0)

p.1 Owner's Manual No. changed from (X495007) to (X495025).

p.2 In 1-2 System Requirements, Actuator Models, "EWHRT3, 5, 10, and 20" added.
In the Operating System, Basic Software, Windows XP added.
In 2-1 Preparations, Installation, "EWR110.exe" changed to"EWR＊＊＊EN.exe" and Note 2 added.

p.3 3-2 Support Software Operation Screen replaced.

p.4 Errorhistory Display added to Tool in the Menu bar.
- Actuator No. list added to Init.
- Errorhistory Display icon added to the Tool bar.
- Pos 0 to 4 changed to Pos 0 to 5 in the Display area.

p.5 Point data setting window replaced.
Parameter setting window replaced.

p.6 In the Possible Input Items on the Point Data Cells, "B" added to the Mode column, and in the Position column, Input OK and Note added.
In the How to Operate column, "B: Switching brake" added, and some contents in the Precaution column deleted.

p.7 In the Name column, "Targeted angle" changed to "Position."
In the Precaution column, the maximum input changed from 3600 to 32400.

p.8 In the Precaution column, 0 to 1000 $\times$ 10^{-6} kg/m^2 changed to 0 to 20000 $\times$ 10^{-6} kg/m^2, and Note added.

p.9 Point data setting window replaced.

Ver.3.0 (Changes to Ver. 3.0)

On all pages, information about 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
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ELEWAVE SERIES

ELECTRIC ROTARY ACTUATORS SUPPORT SOFTWARE

OWNER'S MANUAL

October, 2007 Ver.3.0 X495011

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