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Online operations

4

1 Writing and reading to/from the PLC CPU

Even if a circuit (program) is created by GPPW, the PLC does not work as a PLC if data is not written to the CPU, or it cannot read the circuit (program) from the CPU for debugging.

This chapter explains writing and reading the created circuit to/from the CPU.

1.1 Writing data to the PLC CPU

This section explains writing circuits created by GPPW (sequence program) to CPU.

Reading can also be performed using the same procedure.

(2) Click and select here

⇩
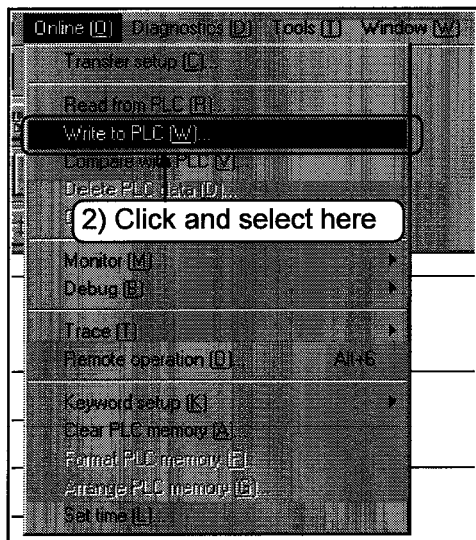
To the following page

1) The following explanation assumes that the circuits (sequence programs) have already been created by GPPW. Set the「RUN」key switch of CPU to「STOP」.

2) Click the [Online]-[Write to PLC] menu.

From previous page

⇩

3) Select and click

After selecting all items, click here

⇩
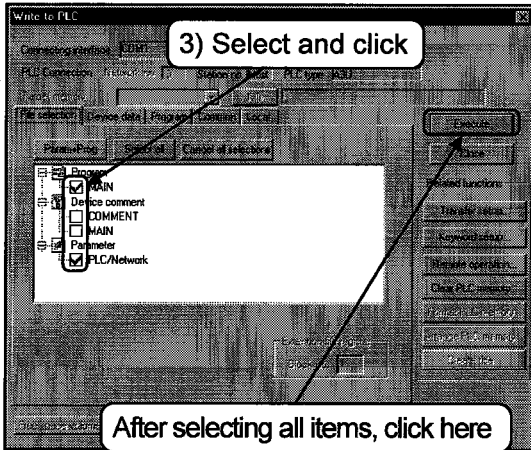
3) Use the 「File selection」 tab to select parameters and programs to write to the CPU from data being edited. To write all data, click | Param+Prog |.
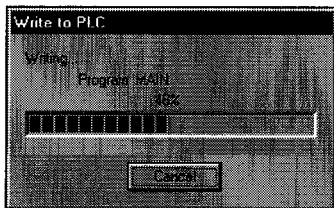
4) A dialog box for writing is displayed. When finished, the message 「Completed」 appears. Click | OK | to end writing.

Online operations

——Reading circuits (sequence programs) from the CPU——

2) Select and click
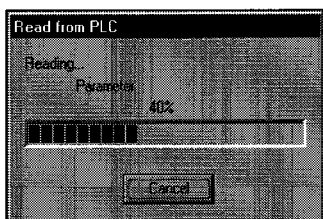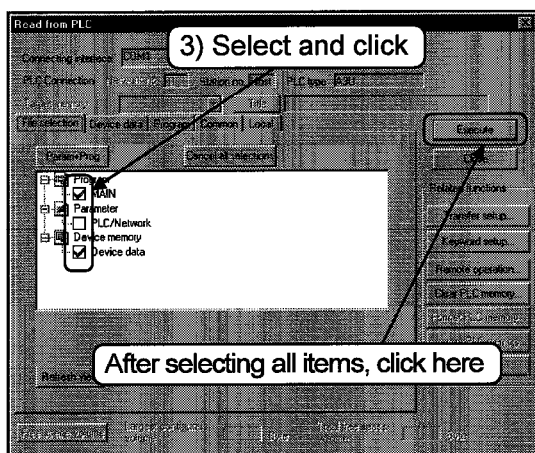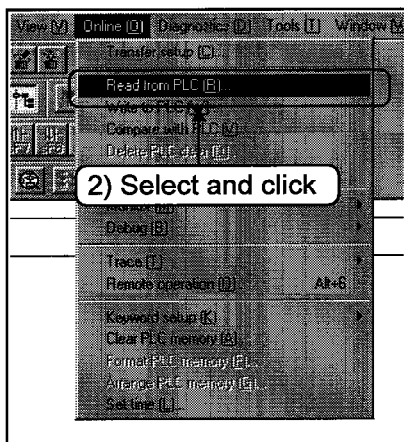
1) The following explanation assumes that the circuits (sequence programs) are in the CPU.
Set the 「RUN」 key switch of CPU to 「STOP」.

2) Click the [Online]-[Read form PLC] menu.

⇩

3) Select and click

After selecting all items, click here

3) Select parameters and programs to read from the CPU from PLC data by using the 「File selection」 tab. To read all data, click Param+Prog .

⇩

4) A dialog box for data reading is displayed. When finished, the message 「Completed」 appears. Click OK to end reading.

MEMO

2 Monitoring PLC status

Reads a circuit (sequence program) written to PLC CPU on GPPW and monitors its operation status.

This chapter explains operations for monitoring.

2.1 Monitoring circuit status

This section explains monitoring the circuit (sequence program) status.

2) Select and click
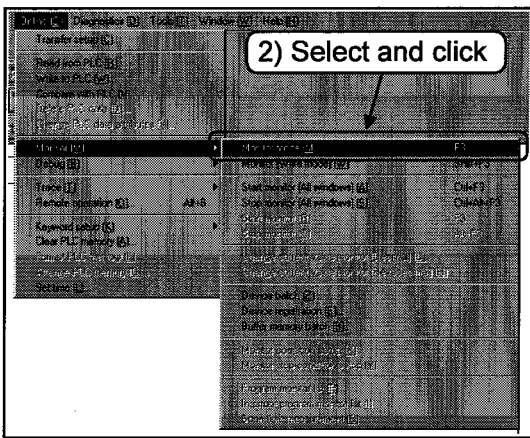
The following explanation assumes that a circuit (sequence program) has been written to the PLC CPU.

1) Read the circuit (sequence program) from the PLC CPU to GPPW.

2) Click the [Online]-[Monitor]-[Monitor mode] menu.
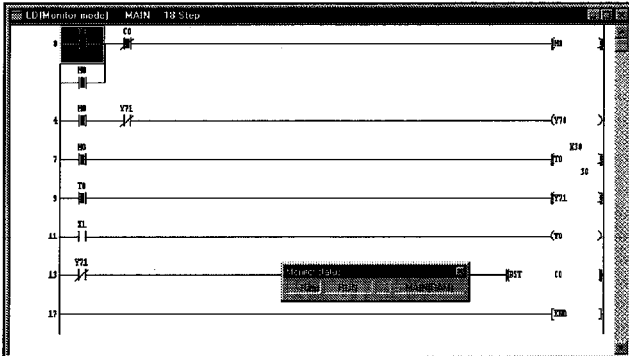
3) To end monitoring, go to other menus.

(1) In monitoring mode, the monitor status dialog box is displayed as follows whether the monitoring is ON or OFF.

<A series>   <QnA series>
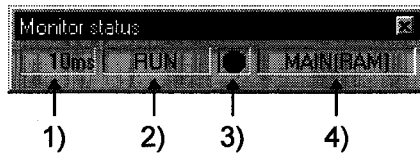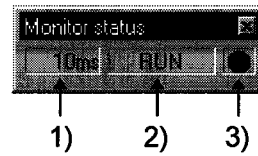
1)   Scan time
      The maximum scan time of the monitored PLC CPU is displayed.
      The unit of scan time for A series is 10 ms.

2)   Condition of the PLC CPU
      The operation status of the PLC CPU is displayed.

3)   Monitoring status
      Blinks during monitoring.

4)   Executed program name
      The program name being executed is displayed.
      QnA series do not support this function.

(2) The ON and OFF status of the circuits are shown as follows.

OFF ⊣⊢ ⫲ ⊸⊶ ⊣ ⊦*

ON ⊣⊢ ⫲ ⊸⊶ ⊣ ⊦*

*:Only comparison instructions equivalent to contacts and SET, RST, PLS, PLF, SFT, SFTP, MC, FF, DELTA, and DELTAP that are equivalent to coils are supported.
(FF, DELTA, and DELTAP are instructions for QnA series.)

2.2 Monitoring designated devices

Allows quick monitoring of circuits with many steps which are not displayed on the screen.
This section explains registering and monitoring devices that are not displayed.

Example of circuit for monitoring
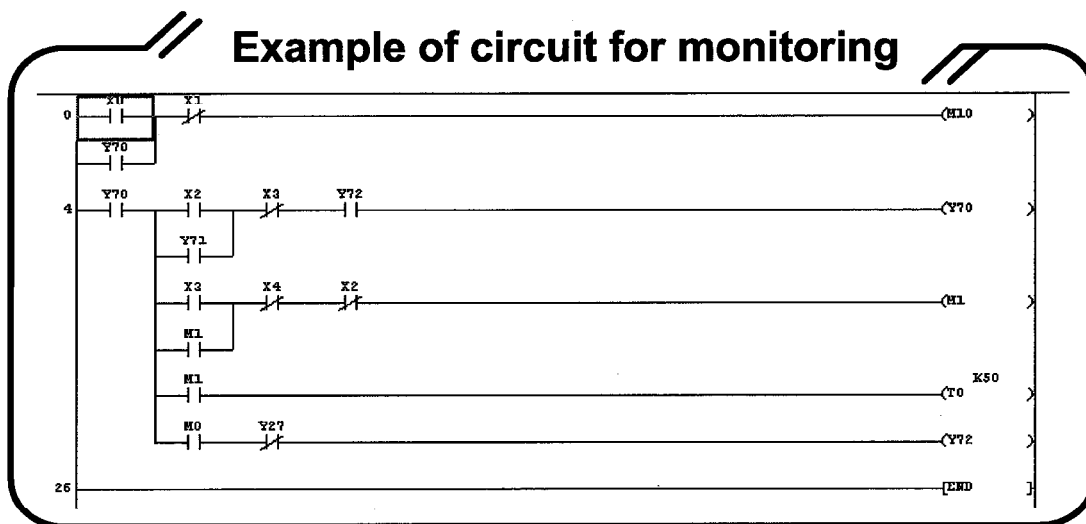
The following explanation assumes that the circuit (sequence program) is already written to the PLC CPU.

1) The circuit (sequence program) is read from the PLC CPU to GPPW.

2) Click [Online]-[Monitor]-[Device registration].

2) Click here

⇩
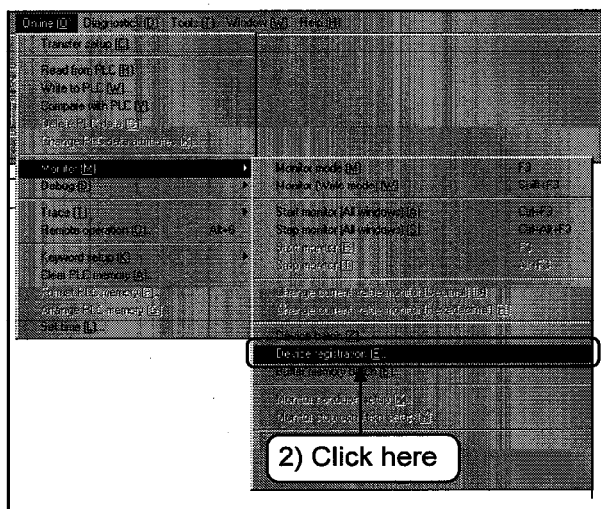
To the following page

From previous page

⇩

3) Input device name

4) Double click here

Click here

⇩

8) Input device name, and turn ON positively

6) Click here

7) Click here

3) Input device name for monitoring to the「Device」item.

4) Double click the left mouse button on the black line. The「Register device」dialog box is displayed.
Input "X1" to「Device」, then click [Register].
Repeat these operations to close the dialog box.

5) Set the「STOP」key switch of the CPU to「RUN」.

6) Click the [Start monitor] button.

7) Click the [Device test] button to open the「Device test」dialog box.

8) Input "X1" as the device name, and click [FORCE ON]. The field ON/OFF/Current value displays ●(ON). Input the name "T0" and the present value "10" in decimal 16 bit integer to the word device/buffer memory field, and click [Set].
The field "ON/OFF/Current value" of T0 displays "10" to indicate the monitoring status.
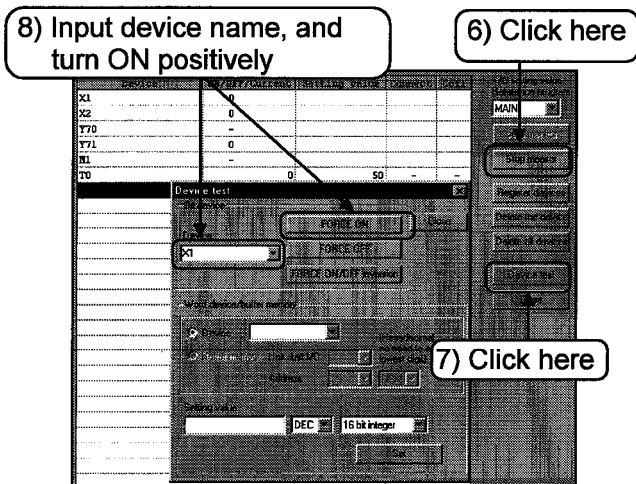
Online operations

③ Debugging a created circuit

The created circuits (sequence programs) are written to the PLC CPU to confirm that the programs operate properly.

This chapter explains debugging the created circuits.

3.1 Turning ON/OFF contact positively

This section explains turning ON/OFF contact positively.
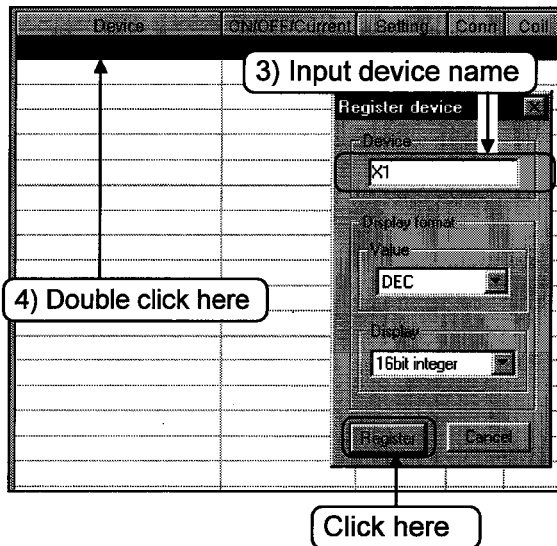

4) Select and click

The following explanation assumes that the circuit (sequence program) has already been written to the PLC CPU.

1) Read the circuit (sequence program) from the CPU to GPPW.
2) Set the circuit (sequence program) to the monitored status.
3) Set the「STOP」key switch to「RUN」.
4) Click the [Online]-[Debug]-[Device test] menu.

⇩

5) Input the bit device number
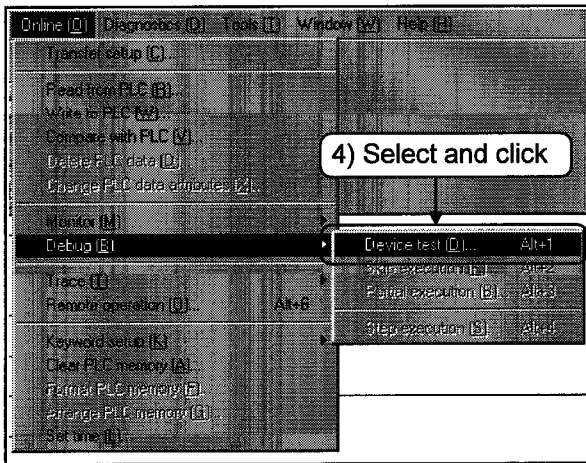

6) Select and click
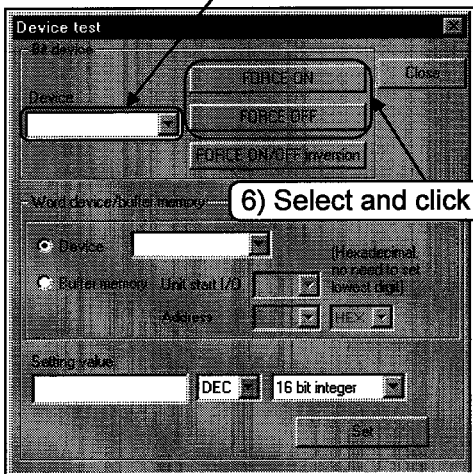
5) Input the bit device number to be turned ON/OFF positively.

6) Select whether to turn ON or turn OFF positively.

Hint!
1) Bring the cursor to the device to turn ON/OFF.
2) Double click the left mouse button (or press the (Enter) key) while pressing the (Shift) key.
3) The device is turned ON or OFF.

——Changing the present value of the word device/buffer memory——

This section explains changing the present value of the word device or the buffer memory.
To change the present value of the word device, do the following.

Input the word device name
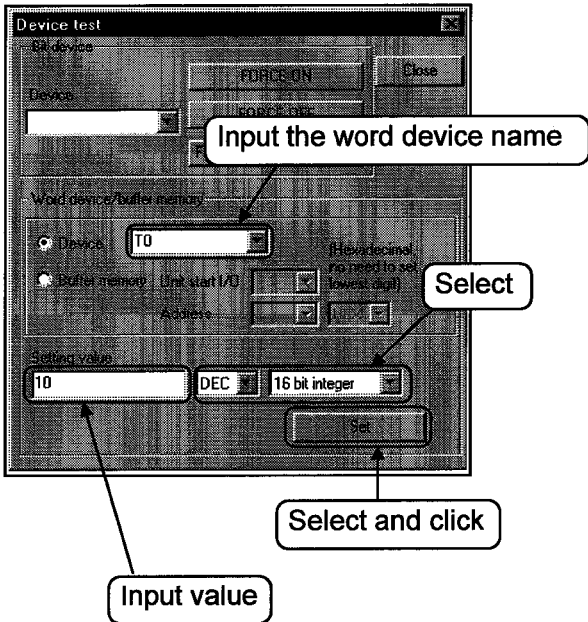
Select

Input value

Select and click

1) Steps 1) to 4) are the same as turning ON/OFF contact positively

2) Input the word device name for changing the present value.

3) Input set value.
   For setting the present value of the device to be changed, select decimal or hexadecimal, and select 16 bit integer, 32 bit integer or real number before setting the present value.
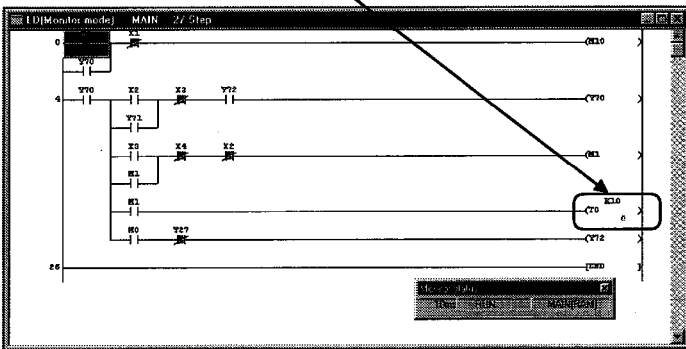
4 Online operations

3.2   Executing a program step by step

Sequence programs can be executed while the contents of each device in the program are confirmed.

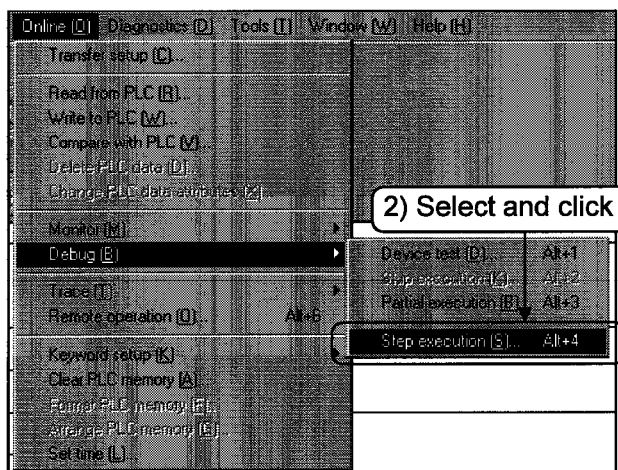**Example of circuit for debugging**
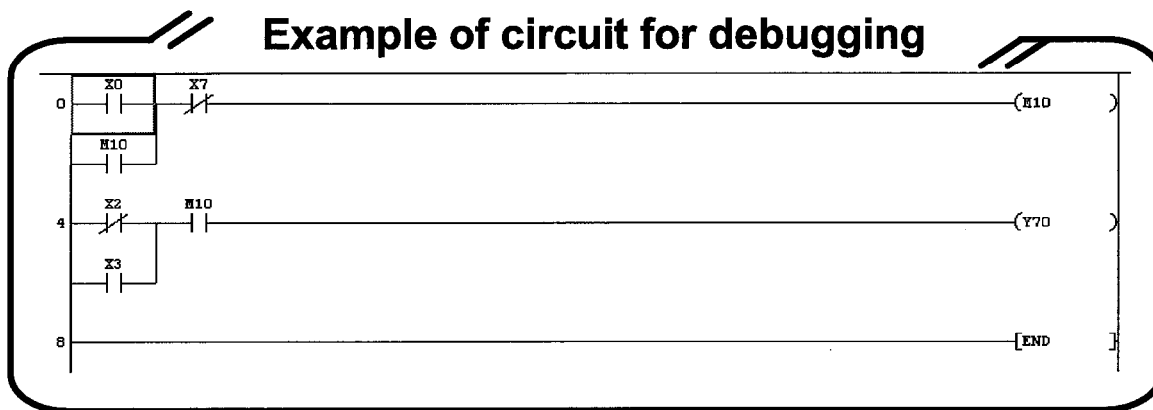
1) Display the circuit monitor screen.

☞ *Part 4. 2.1.* ☜

Set the remote operation or the 「STOP」 key switch of CPU to 「STEP-RUN」.

2) Click [Online]-[Debug]-[Step execution].

2) Select and click

3) Select the start position, and click ┌ Option setup ┐.

3) Select

Step execution

Click here

To the following page

From previous page

⇩

4) Click to put a check mark here

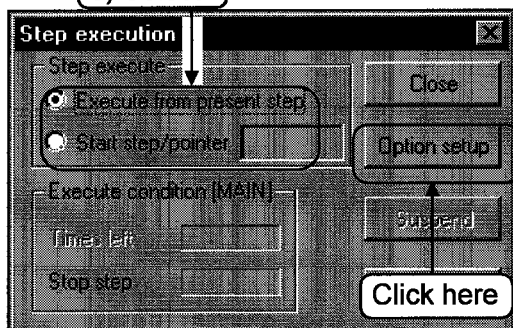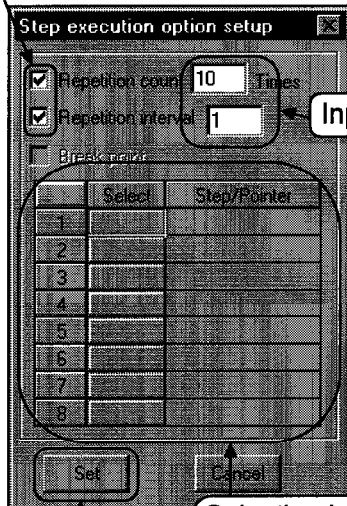Step execution option setup

☑ Repetition count [10] Times
☑ Repetition interval [1]

Input values here

Break point

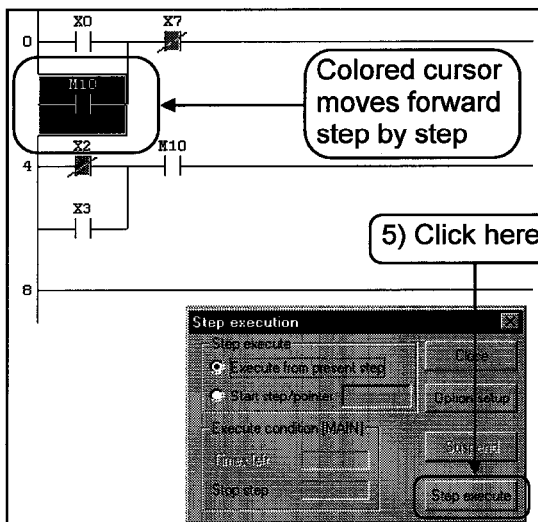| Select	Step/Pointer
1	
2	
3	
4	
5	
6	
7	
8	

Set   Cancel

Click here

Selection is available for QnA only

4) Click the repeat count and input "10 times (steps)".
Click the repeat interval, and input "1". After setting, click [Set].
(For QnA series system, set break point. QnA series system compares the repeat count and the break count, and executes program with the smaller step/pointer)

⇩

```
     X0      X7
0   --| |----|/|--
         M10
     X2      M10
4   --|/|----| |--
     X3
    --| |--
8
```

Colored cursor moves forward step by step

5) Click here

Step execution

Step execute
◉ Execute from present step
○ Start step/pointer [   ]

Execute condition [MAIN]
Time left [   ]
Stop step [   ]

Close
Option setup

Step execute
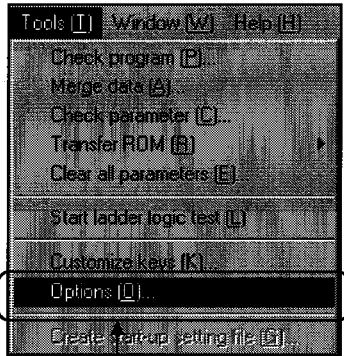
5) Click [Step execute].
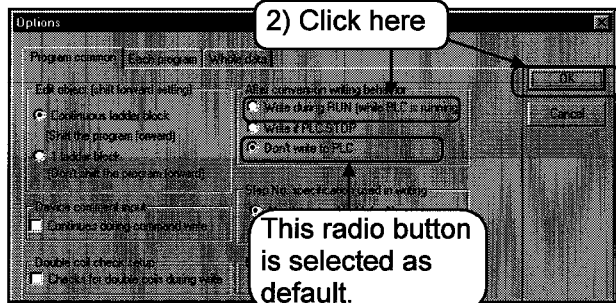Execution starts at step 0 and ends at step 10.

4 ▶ Online change

This chapter explains how to change data while the CPU is running.

4.1 Online change of the PLC CPU

This section explains changing the circuit while the CPU is running.

1) Click the [Tools]-[Options] menu.

1) Click here

2) Click here

This radio button is selected as default.

2) Select the radio button「Write during RUN (while PLC is running)」in the 「After conversion writing behavior」in the「Option」dialog box.
(「Don't write to PLC」is selected as default.)

To the following page

From previous page

⇩

(4) Click here)

⇩
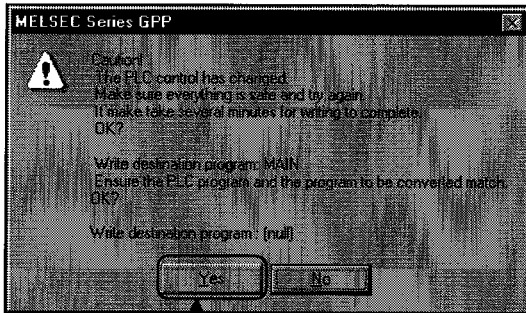
(5) Click here)

3) The following explanation assumes that the data in the PLC CPU and screen data are the same.
Circuit diagram will be corrected.
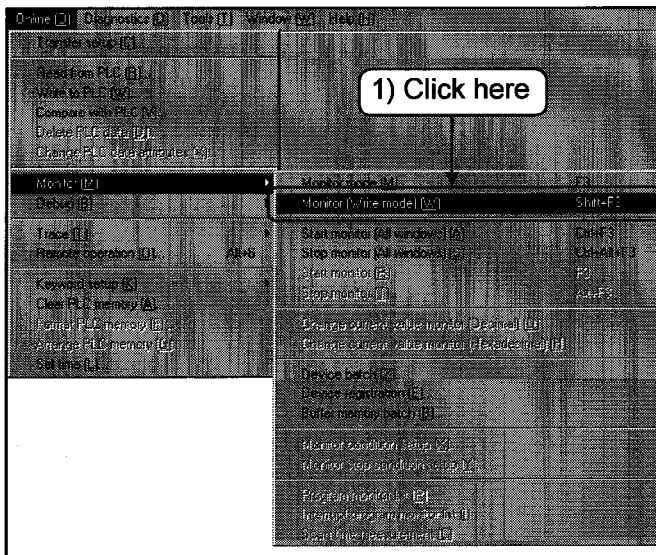
4) Click the [Convert]-[Convert] menu.

5) Writing during run is executed by clicking | Yes | in the write OK dialog box. When writing completes, a message to indicate completion appears.
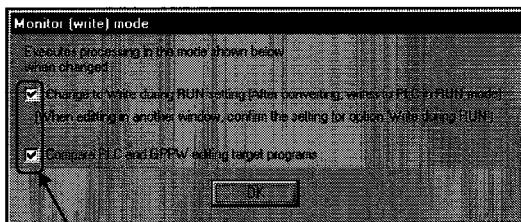
4.2 Changing data during monitoring, and writing during a run

This section explains changing CPU circuit during monitoring.

1) Click here
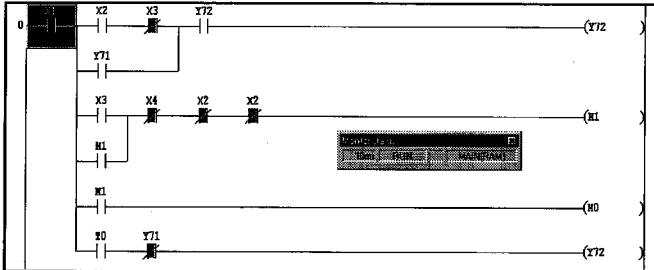
1) Click the [Online]-[Monitor]-[Monitor (Write mode)] menu.

2) Click here

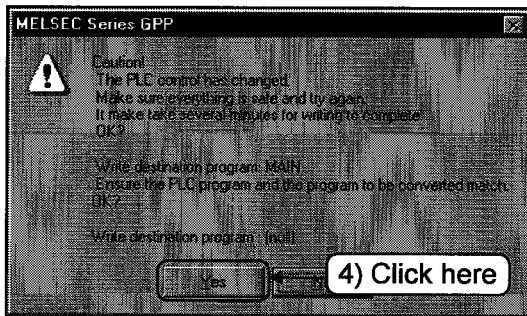2) Select and put check marks to the check box on the「Monitor (write) mode」dialog box.

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3) Correct the circuit diagram.

⇩

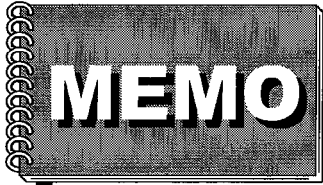4) Click here

4) After conversion, if writing during run is selected, confirm by the writing during run confirmation dialog box. If OK, click ⬚Yes⬚.

When writing completes, a message to indicate completion appears.

MEMO

Part 5

Useful functions

5

5

① ➤ Offline operations

Although GPPW can be operated by being familiar with Parts 1 to 4 of this manual, GPPW is equipped with more convenient and easy operations.

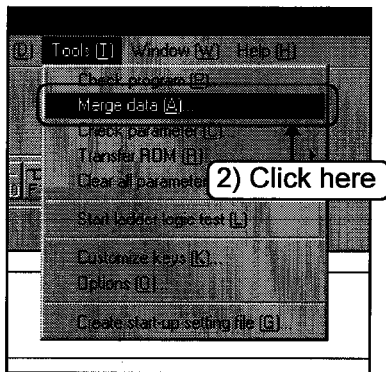This chapter explains useful functions for offline operations of GPPW.

1.1 Associating multiple programs

Operations for associating multiple programs to make one program.
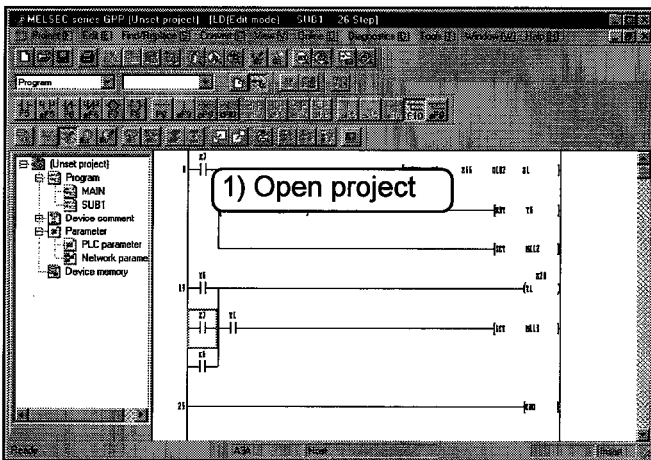
1) Read the project to which the associated program is stored.
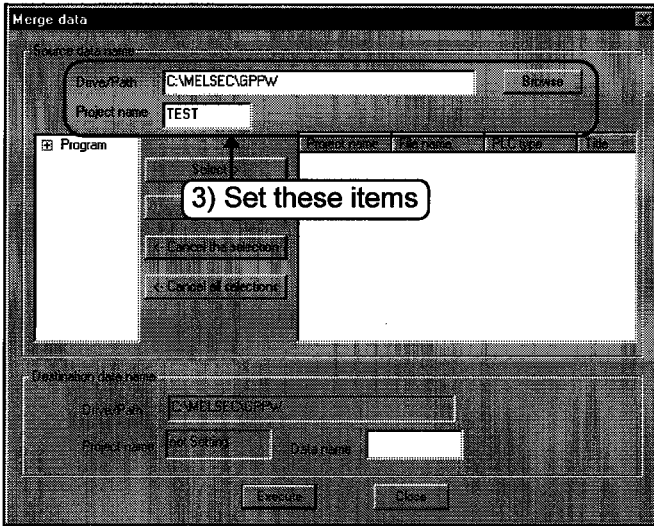
2) Click the [Tools]-[Marge data] menu.
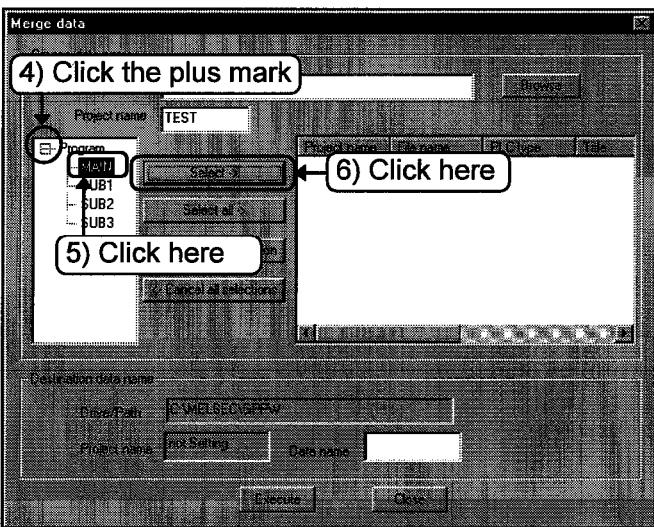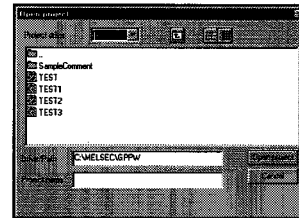
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⇩

3) Set the source path and project names.

Point

Click the [Browse] button. The following dialog box is displayed for setting the source path and project

☞ *Part 2, 2.4.*

⇩

4) Click the plus mark.

5) Click the program to associate.
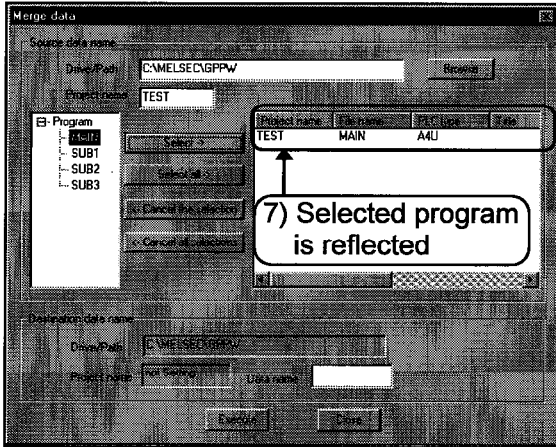
6) Click the [Select] button.

Hint!

To select all programs in the project, click the [Select all] button.

⇩

To the following page

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⇓

7) Selected program is reflected

⇓

8) Repeat steps 3) to 7)

⇓

9) Input data name

10) Click here

⇓

To the following page
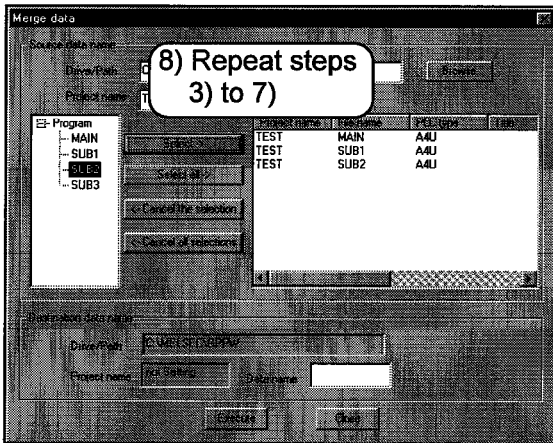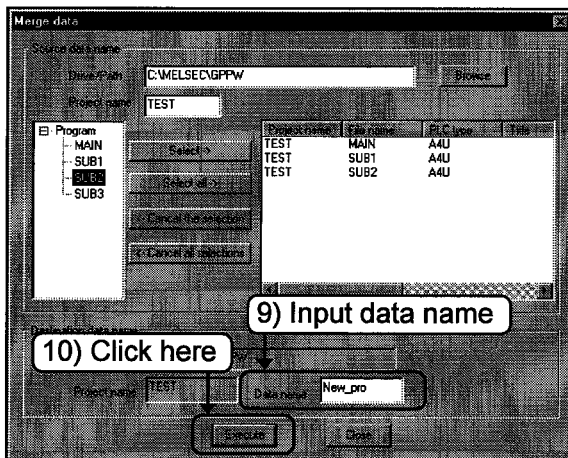
---

7) The selected program is reflected.

Hint!
·To cancel, select program, and click the | Cancel the selection | button.
·To cancel all the selected programs, click the | Cancel all selections | button.

8) Repeat steps 3) to 7) to select the source programs.

Hint!
Association is carried out in the order of selection from the program selected first.

9) Input the destination data name.
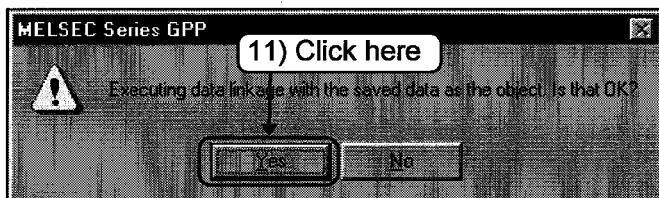
10) Click the | Execute | button.

Point
The destination program can be created only in the current project.

From previous page
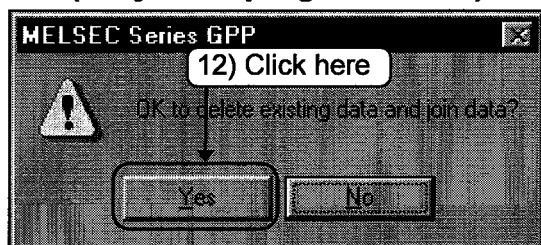
⇩

11) Click here

MELSEC Series GPP

Executing data linkage with the saved data as the object. Is that OK?

Yes | No

⇩

(Only if the program exists)

12) Click here

MELSEC Series GPP

OK to delete existing data and join data?

Yes | No

11) After confirmation, click the ⌐Yes⌐ button.

12) After confirmation, click the ⌐Yes⌐ button.
If the ⌐No⌐ button is clicked, association is not carried out.
Now, the association is completed.

5 Useful functions

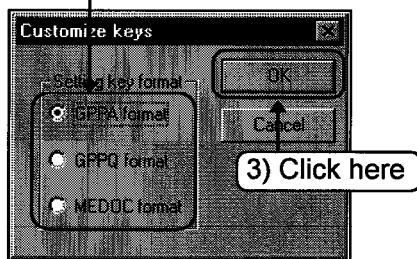## 1.2   Changing function keys in GPPA, GPPQ, and MEDOC formats

This section explains changing allocation of function keys frequently used for circuit creation to GPPA, GPPQ, and MEDOC formats.

1) Click here

⇩

2) Select format

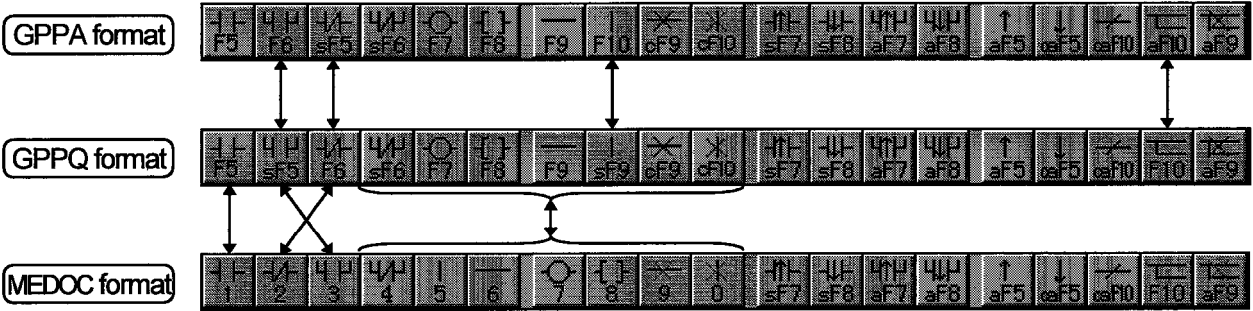3) Click here
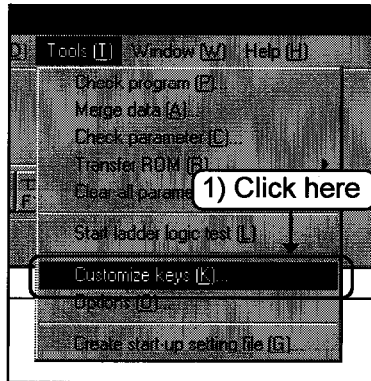
1) Click the [Tools]-[Customize keys] menu.

2) Select the key format by clicking.

3) Click the ⌈OK⌋ button.

   Now, the format change is completed.

——Displaying tool bar after changing format——

The tool bars are changed as follows according to each format. The allocation of short cut keys is also changed.
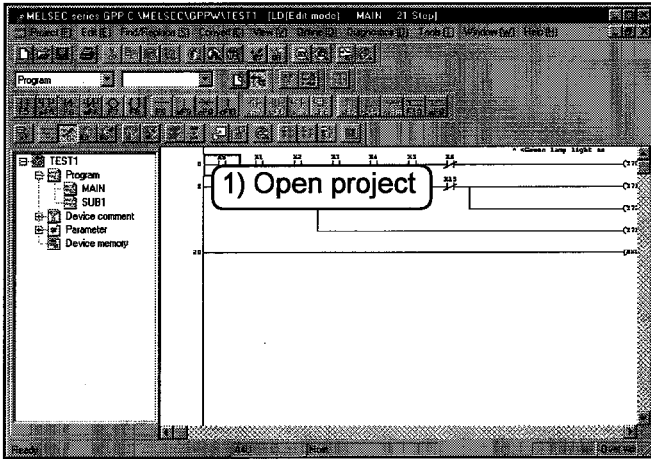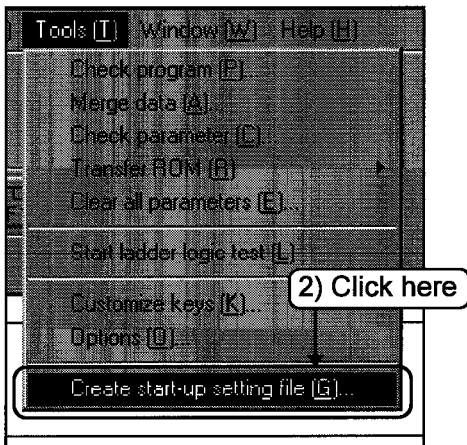
☞   *Appendix App. 1.*   ☜

1.3 Setting the designated projects for quick start-up

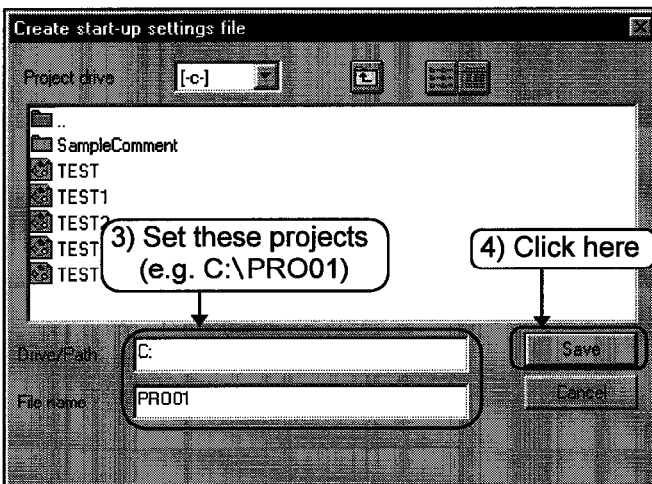This section explains setting the designated projects for quick start-up.

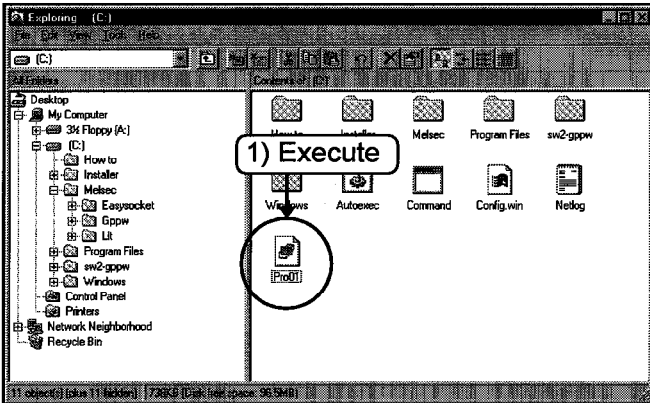1) Read the project to start-up with Windows.

        ☞ *Part 3, 1.6.*



2) Click the [Tools]-[Create start-up setting file] menu.

3) Set the directory path and file names. (Since extensions (*.GPS) are added automatically, it is not necessary to set extensions.)

4) Click the Save button to save the file.
Now the setting is completed.

——To start-up the designated project——

1) To start-up the designated project directly, execute the saved file by from Windows Explorer.
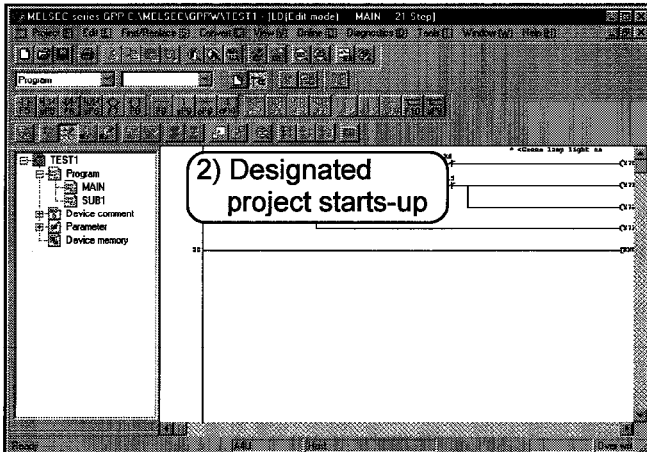
2) GPPW starts-up with the project.