

Mitsubishi Simple Motion Module  
MELSEC-L Series  
LD77MS16

Sample Screen Manual

Mitsubishi Electric Corporation

## Using the Samples

---

The sample screen data and files such as the instruction manual can be used upon agreement to the following matters.

- (1) This data is available for use by customers currently using or considering use of Mitsubishi products.
- (2) The intellectual property rights of the files provided by Mitsubishi (hereinafter referred to as the "Files") belong to Mitsubishi.
- (3) Alteration, reproduction, transfer or sales of the Files is prohibited.  
This does not apply when the content, in part or full, is used for Mitsubishi products incorporated in a device or system created by the customer. Furthermore, this does not apply to the transfer, reproduction, reference or change of layout in the specifications, designs or instruction manuals of built-in products prepared by the customer using Mitsubishi products.
- (4) Mitsubishi will not be held liable for any damages resulting from the use of the Files or the data extracted from the Files. The customer is responsible for all use.
- (5) If any usage conditions are appended to the Files, those conditions must be observed.
- (6) The Files may be deleted or the contents changed without prior notice.
- (7) When using the Files, please always read the corresponding manuals and related manuals indicated therein. Please pay special attention to safety, and correctly handle the product.

## CONTENTS

---

CONTENTS .....	3
REVISIONS .....	4
1. OUTLINE.....	5
2. SYSTEM CONFIGURATION .....	5
3. GOT.....	5
3.1 System Applications That Are Automatically Selected .....	5
3.2 Controller Setting of Screen Design Software.....	5
3.3 Ethernet Setting of Screen Design Software.....	6
3.4 Overlap Window Setting of Screen Design Software.....	6
4. SIMPLE MOTION MODULE .....	6
4.1 Start I/O Number of Module.....	6
5. SCREEN SPECIFICATIONS .....	6
5.1 Display Language.....	6
5.2 Screen List/Transition.....	6
5.3 Explanation of Screens.....	9
5.3.1 Menu (B-30001).....	9
5.3.2 Operation Monitor (B-30002).....	10
5.3.3 I/O Monitor (B-30003).....	11
5.3.4 Axis Monitor 1/4 (B-30004).....	12
5.3.5 Axis Monitor 2/4 (B-30005).....	13
5.3.6 Axis Monitor 3/4 (B-30006).....	14
5.3.7 Axis Monitor 4/4 (B-30007).....	15
5.3.8 Cam Auto-generation Function (B-30008).....	16
5.3.9 Tuning (B-30009).....	17
5.3.10 Error & Warning History (B-30010).....	18
5.3.11 Manual Display (B-30500) .....	19
5.3.12 Alarm Reset (W-30001) .....	21
5.3.13 Language Setting (W-30002).....	22
5.3.14 Clock Setting (W-30003).....	23
5.3.15 Cam Auto-generation Check Screen (W-30010) .....	24
5.3.16 Tuning Setting Check Screen (W-30011) .....	25
5.4 Device List.....	26
5.5 Comment List .....	28
5.6 Script List.....	29
6. MANUAL DISPLAY .....	33
6.1 Preparing Document Data for Manual Display.....	33
7. OTHERS .....	34
7.1 Changing Start I/O Number .....	34

## REVISIONS

---

### Sample Screen Manual

Date	Control No.*	Description
2014/1	BCN-P5999-0182	First edition
2015/2	BCN-P5999-0182-2	Device Specification for Document ID
2015/6	BCN-P5999-0182-2a	Project data improved

\* The Control No. is noted at the lower right of each page.

### Project data

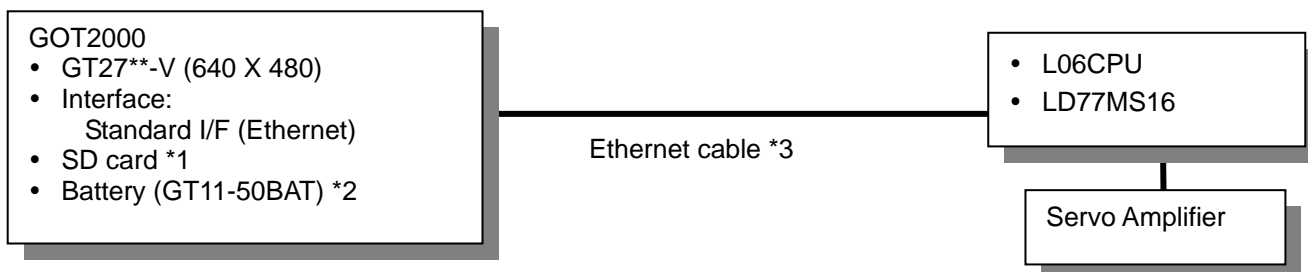
Date	Project data	GT Designer3*	Description
2014/1	MITSUBISHI_LD77MS16_V_Ver1_E.GTX	1.105K	First edition
2015/2	MITSUBISHI_LD77MS16_V_Ver2_E.GTX	1.126G	Device Specification for Document ID
2015/6	MITSUBISHI_LD77MS16_V_Ver2a_E.GTX	1.128J	Incorrect description on the screen has been revised.

\* The version number of screen design software used to create the project data is listed. Please use the screen design software with the listed version or later.

## 1. OUTLINE

This manual explains the sample screens of GOT2000 connected to a MELSEC-L Series PLC (L06CPU) via Ethernet. The sample screens can be used for monitoring the status of each axis and the buffer memory (including current values and alarms) of Simple Motion Module (LD77MS16).

## 2. SYSTEM CONFIGURATION



\*1: The SD card is used for the document display function.

\*2: The battery is used for the backup of the clock data. (The battery is provided with the GOT as standard.)

\*3: For more details about the cable, please refer to the "GOT2000 Series Connection Manual (Mitsubishi Products)".

## 3. GOT

### 3.1 System Applications That Are Automatically Selected

Type	System application name	
Standard Function	Standard System Application	
	Standard Font	Japanese
Communication Driver	Ethernet Connection	Ethernet (MELSEC), Q17nNC, CRnD-700, Gateway
Extended Function	Standard Font	Chinese (Simplified)
	Outline Font	Alphanumeric/Kana
		Japanese (Kanji)
		Chinese (Simplified)
	Document Display	

### 3.2 Controller Setting of Screen Design Software

#### Detail Setting

Item	Set value	Remarks
GOT NET No.	1	
GOT Station No.	2	
GOT Ethernet Setting	Refer to table below	
GOT Communication Port No.	5001	
Retry (Times)	3	
Startup Time (Sec)	3	
Timeout Time (Sec)	3	
Delay Time (ms)	0	

#### GOT Ethernet Setting

Item	Set value	Remarks
Reflect GOT Ethernet setting in the GOT	Checked	
GOT IP Address	192.168.3.18	
Subnet Mask	255.255.255.0	
Default Gateway	0.0.0.0	
Peripheral S/W Communication Port No.	5015	
Transparent Port No.	5014	

### 3.3 Ethernet Setting of Screen Design Software

	Host	Net No.	Station	Unit Type	IP Address	Port No.	Communication
1	*	1	1	LCPU	192.168.3.39	5006	UDP

### 3.4 Overlap Window Setting of Screen Design Software

[Close the window when switching base screens] of [Detail Setting] for overlap window in [Screen Switching/Window] is enabled to close the window when switching base screens.

## 4. SIMPLE MOTION MODULE

### 4.1 Start I/O Number of Module

The module's start I/O number is set to 10H. For more details about changing the start I/O number, please refer to "7.1 Changing Start I/O Number".

## 5. SCREEN SPECIFICATIONS

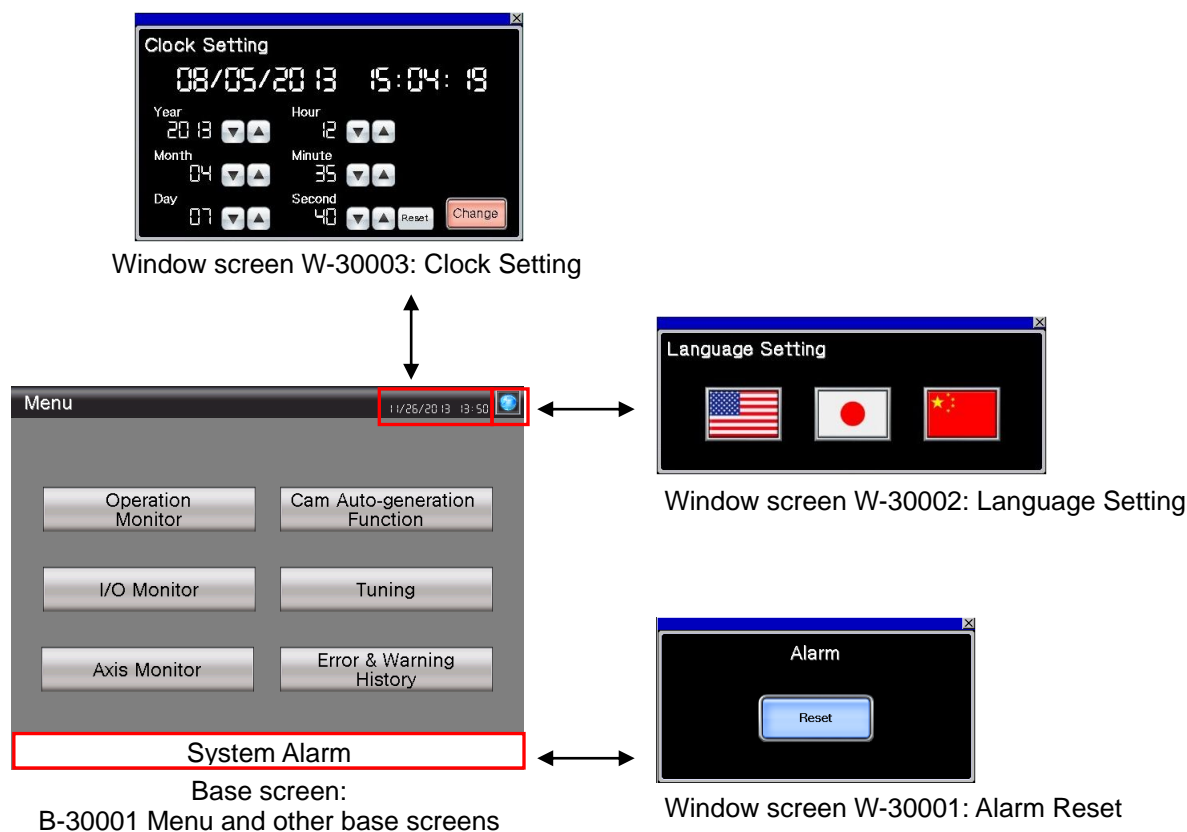
### 5.1 Display Language

The language of the text displayed on the screen can be switched between Japanese, English, and Chinese (Simplified). The text strings in each language are registered in the columns No. 1 to No. 3 in the comment group No. 500 as shown below. When the column No. is set in the language switching device, the language corresponding to the column No. will appear.

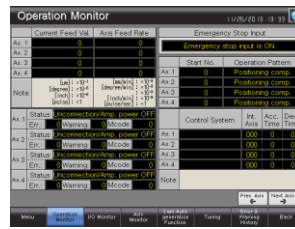
Column No.	Language
1	English
2	Japanese
3	Chinese (Simplified)

### 5.2 Screen List/Transition

#### 5.2.1 Screen List/transition (common)



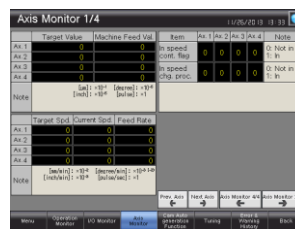
## 5.2.2 Screen list/transition (individual)



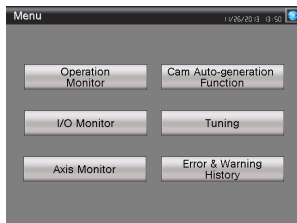
Base screen B-30002: Operation Monitor



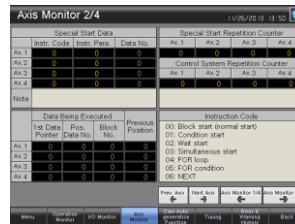
Base screen B-30003: I/O Monitor



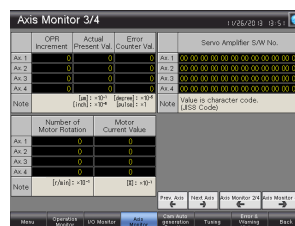
Base screen B-30004: Axis Monitor 1/4



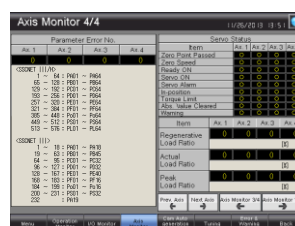
Base screen B-30001: Menu



Base screen B-30005: Axis Monitor 2/4



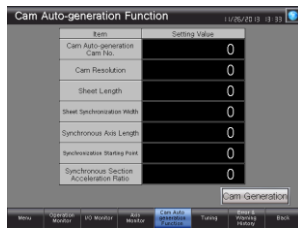
Base screen B-30006: Axis Monitor 3/4



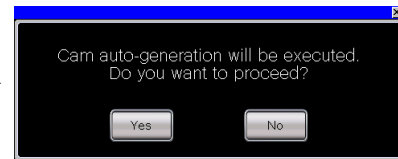
Base screen B-30007: Axis Monitor 4/4

To next page

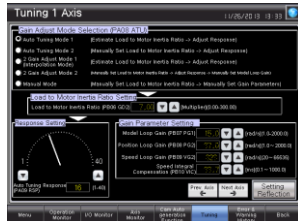
From previous page



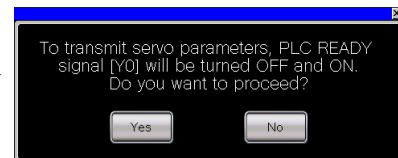
Base screen B-30008:  
Cam Auto-generation Function



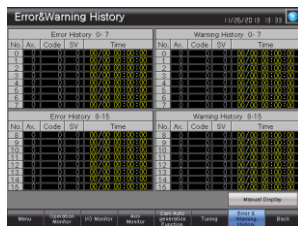
Window screen W-30010:  
Cam Auto-generation Check Screen



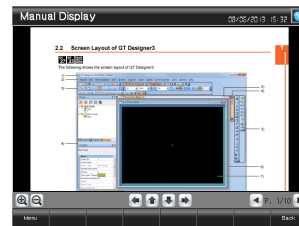
Base screen B-30009: Tuning



Window screen W-30011:  
Tuning Setting Check Screen



Base screen  
B-30010: Error & Warning History

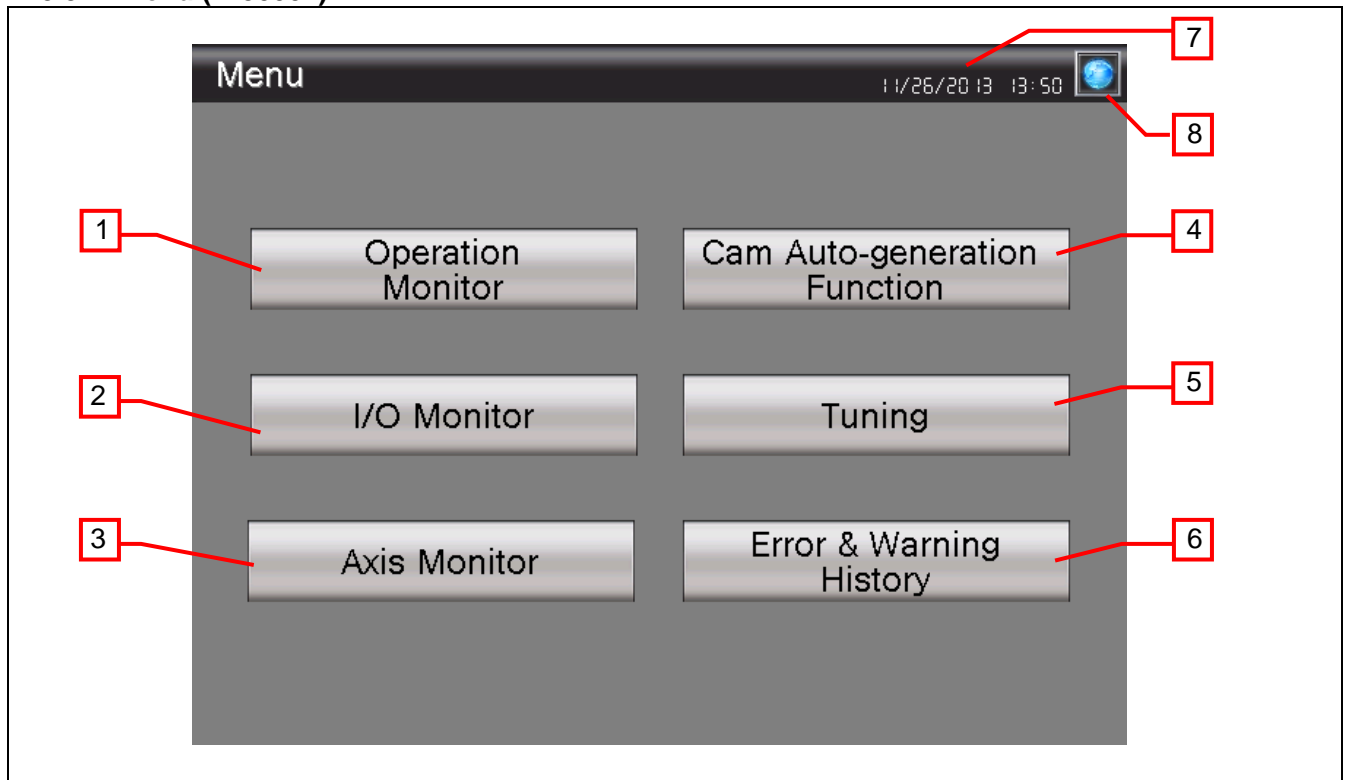


Base screen B-30500:Manual Display



## 5.3 Explanation of Screens

### 5.3.1 Menu (B-30001)



#### Outline

This is the Menu screen.

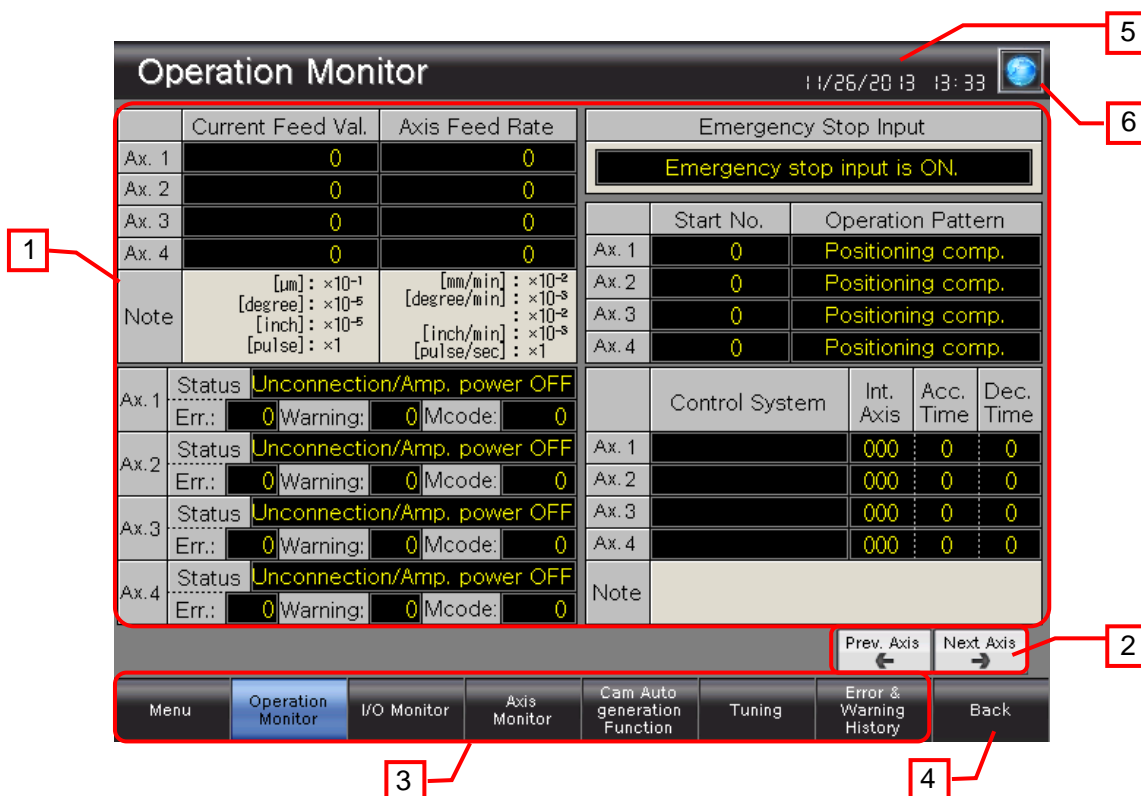
#### Description

1. Switches to the [Operation Monitor] screen.
2. Switches to the [I/O Monitor] screen.
3. Switches to the [Axis Monitor] screen (1/4).
4. Switches to the [Cam Auto-generation Function] screen.
5. Switches to the [Tuning] screen.
6. Switches to the [Error & Warning History] screen.
7. Displays the current date and time. Touch the area to open the [Clock Setting] window.
8. Opens the [Language Setting] window.

#### Remarks

- If a system alarm occurs, the alarm message will appear at the bottom of the screen. When touching the left end of the message, the display position of the message changes in the order of upper, center, and lower. When touching the other part of the message, the [Alarm Reset] window appears.

### 5.3.2 Operation Monitor (B-30002)



#### Outline

This is the LD77MS16 operation monitor screen.

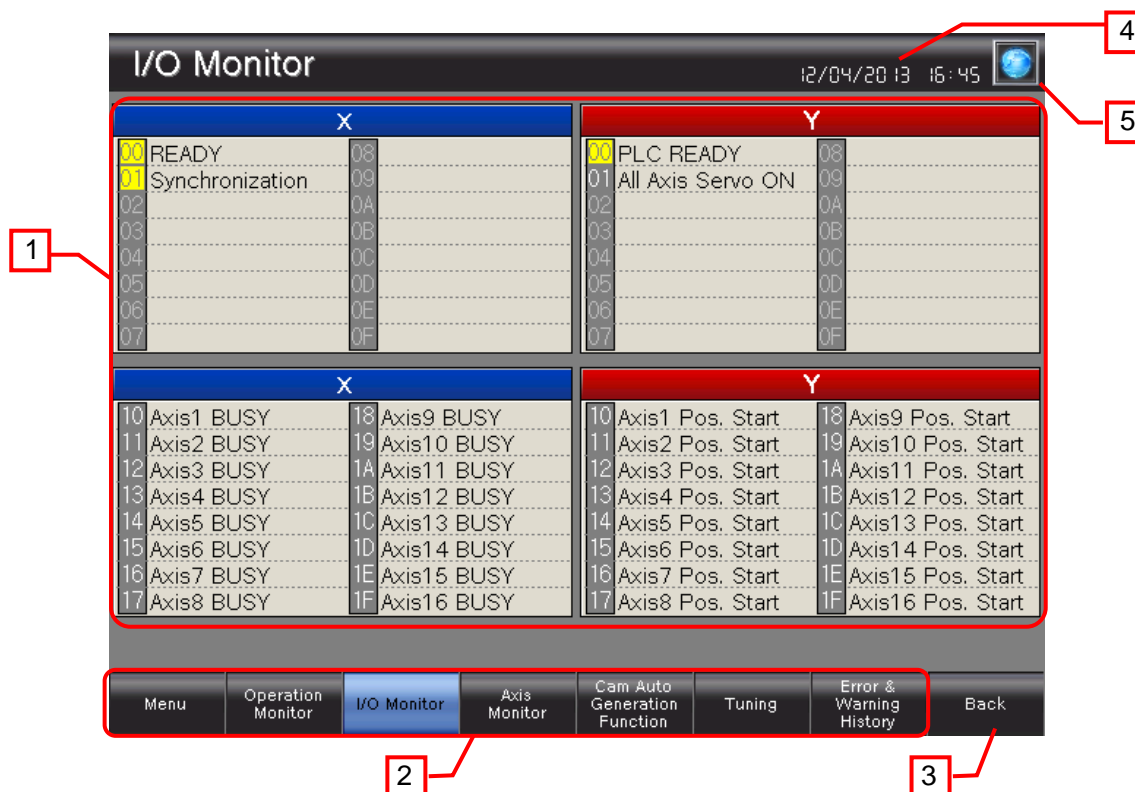
#### Description

- Displays the following about axis 1 to axis 16.
  - Current Feed Val., Axis Feed Rate
  - Status, Err., Warning, Mcode
  - Emergency Stop Input
  - Start No., Operation Pattern
  - Control System, Int. Axis, Acc. Time, Dec. Time
- Switches axes to monitor.
- Switches to each screen. The blue switch indicates the currently displayed screen, thus selecting this switch will not switch the screen.
- Switches to the previously opened screen.
- Displays the current date and time. Touch the area to open the [Clock Setting] window.
- Opens the [Language Setting] window.

#### Remarks

- If a system alarm occurs, the alarm message will appear at the bottom of the screen. When touching the left end of the message, the display position of the message changes in the order of upper, center, and lower. When touching the other part of the message, the [Alarm Reset] window appears.

### 5.3.3 I/O Monitor (B-30003)



#### Outline

This is the LD77MS16 I/O monitor screen.

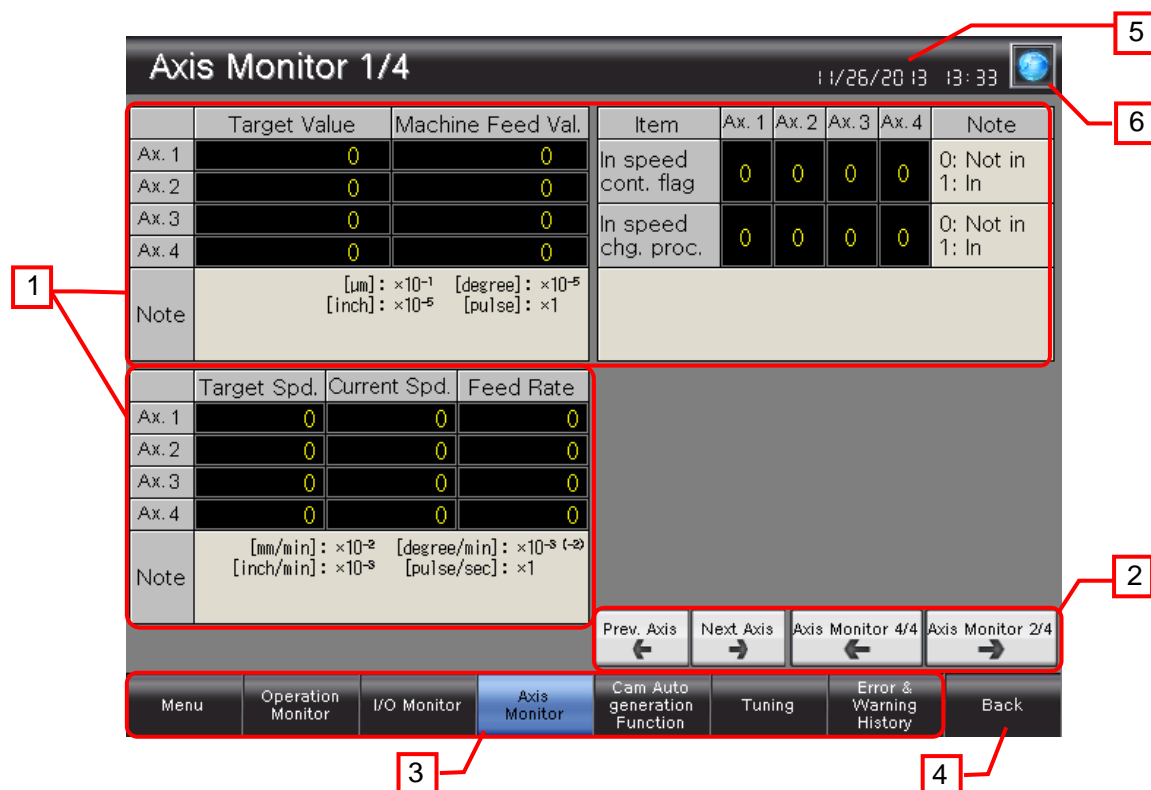
#### Description

1. Displays the input/output status.
2. Switches to each screen. The blue switch indicates the currently displayed screen, thus selecting this switch will not switch the screen.
3. Switches to the previously opened screen.
4. Displays the current date and time. Touch the area to open the [Clock Setting] window.
5. Opens the [Language Setting] window.

#### Remarks

- If a system alarm occurs, the alarm message will appear at the bottom of the screen. When touching the left end of the message, the display position of the message changes in the order of upper, center, and lower. When touching the other part of the message, the [Alarm Reset] window appears.

### 5.3.4 Axis Monitor 1/4 (B-30004)



#### Outline

This is the LD77MS16 axis monitor screen (1/4).

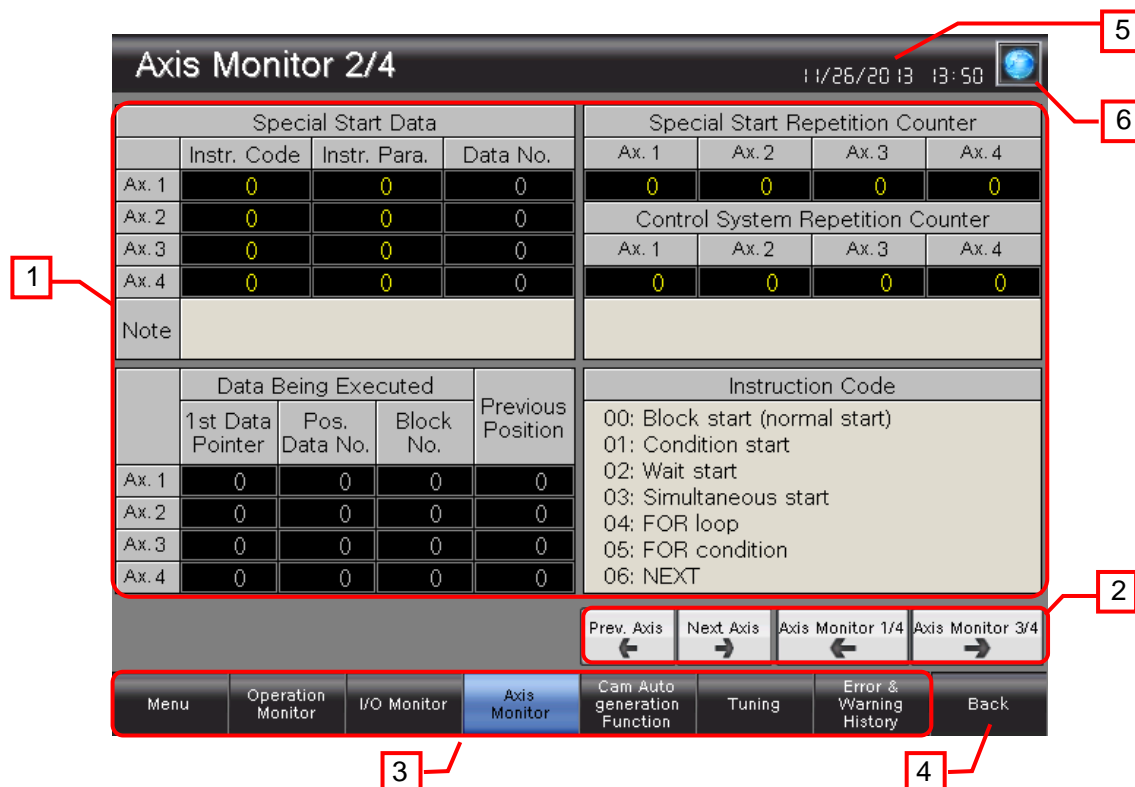
#### Description

- Displays the following about axis 1 to axis 16.
  - Target Value, Machine Feed Val.
  - Target Spd., Current Spd., Feed Rate
  - In speed cont. flag, In speed chg. proc.
- Switches axes and axis monitor screens.
- Switches to each screen. The blue switch indicates the currently displayed screen, thus selecting this switch will not switch the screen.
- Switches to the previously opened screen.
- Displays the current date and time. Touch the area to open the [Clock Setting] window.
- Opens the [Language Setting] window.

#### Remarks

- If a system alarm occurs, the alarm message will appear at the bottom of the screen. When touching the left end of the message, the display position of the message changes in the order of upper, center, and lower. When touching the other part of the message, the [Alarm Reset] window appears.

### 5.3.5 Axis Monitor 2/4 (B-30005)



#### Outline

This is the LD77MS16 axis monitor screen (2/4).

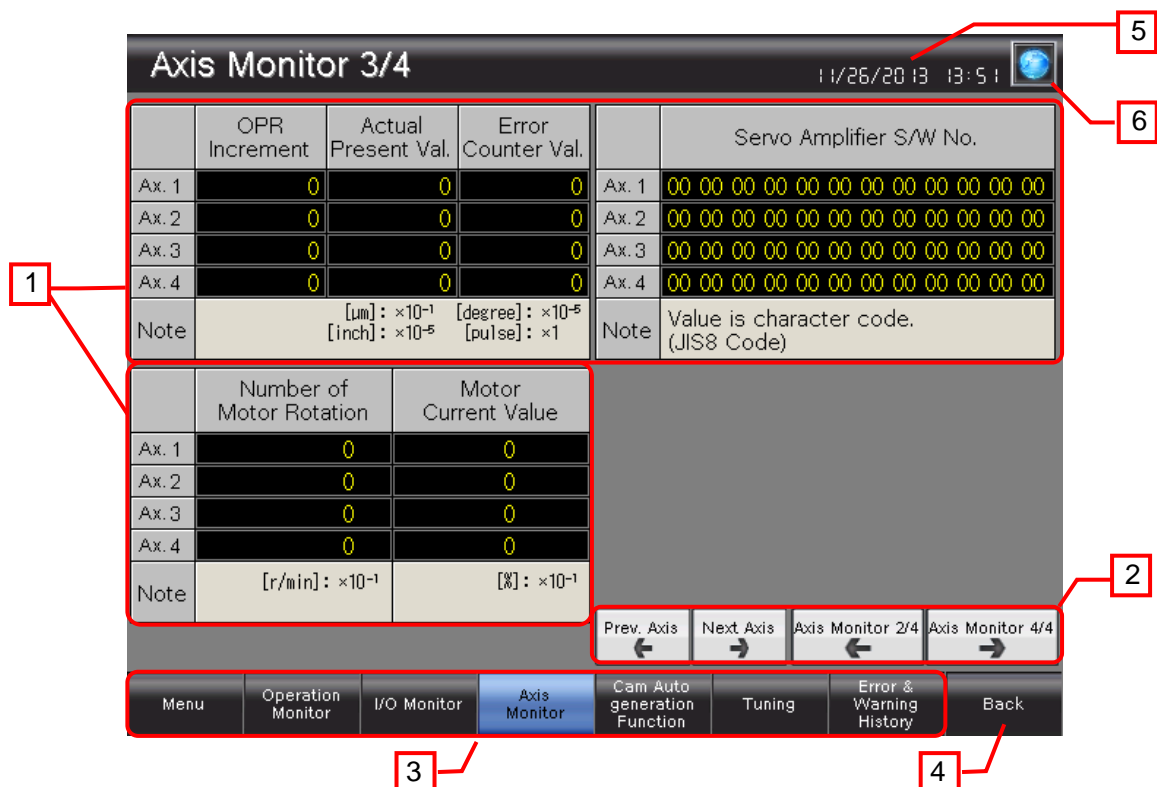
#### Description

- Displays the following about axis 1 to axis 16.
  - Special Start Data (Instr. Code, Instr. Para., Data No.)
  - Data Being Executed (1st Data Pointer, Pos. Data No., Block No.), Previous Position
  - Special Start Repetition Counter, Control System Repetition Counter
- Switches axes and axis monitor screens.
- Switches to each screen. The blue switch indicates the currently displayed screen, thus selecting this switch will not switch the screen.
- Switches to the previously opened screen.
- Displays the current date and time. Touch the area to open the [Clock Setting] window.
- Opens the [Language Setting] window.

#### Remarks

- If a system alarm occurs, the alarm message will appear at the bottom of the screen. When touching the left end of the message, the display position of the message changes in the order of upper, center, and lower. When touching the other part of the message, the [Alarm Reset] window appears.

### 5.3.6 Axis Monitor 3/4 (B-30006)



#### Outline

This is the LD77MS16 axis monitor screen (3/4).

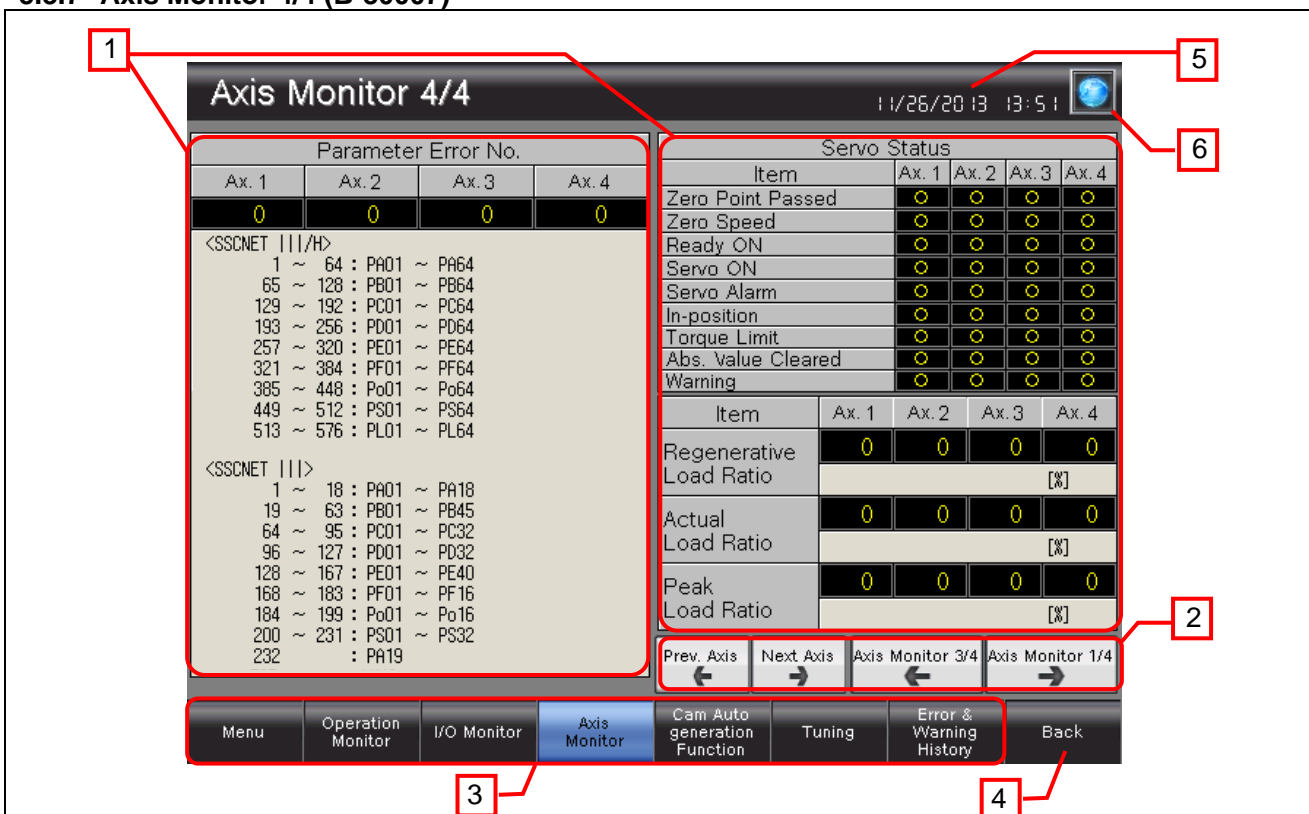
#### Description

- Displays the following about axis 1 to axis 16.
  - OPR Increment, Actual Present Val., Error Counter Val.
  - Number of Motor Rotation, Motor Current Value
  - Servo Amplifier S/W No.
- Switches axes and axis monitor screens.
- Switches to each screen. The blue switch indicates the currently displayed screen, thus selecting this switch will not switch the screen.
- Switches to the previously opened screen.
- Displays the current date and time. Touch the area to open the [Clock Setting] window.
- Opens the [Language Setting] window.

#### Remarks

- If a system alarm occurs, the alarm message will appear at the bottom of the screen. When touching the left end of the message, the display position of the message changes in the order of upper, center, and lower. When touching the other part of the message, the [Alarm Reset] window appears.

### 5.3.7 Axis Monitor 4/4 (B-30007)



#### Outline

This is the LD77MS16 axis monitor screen (4/4).

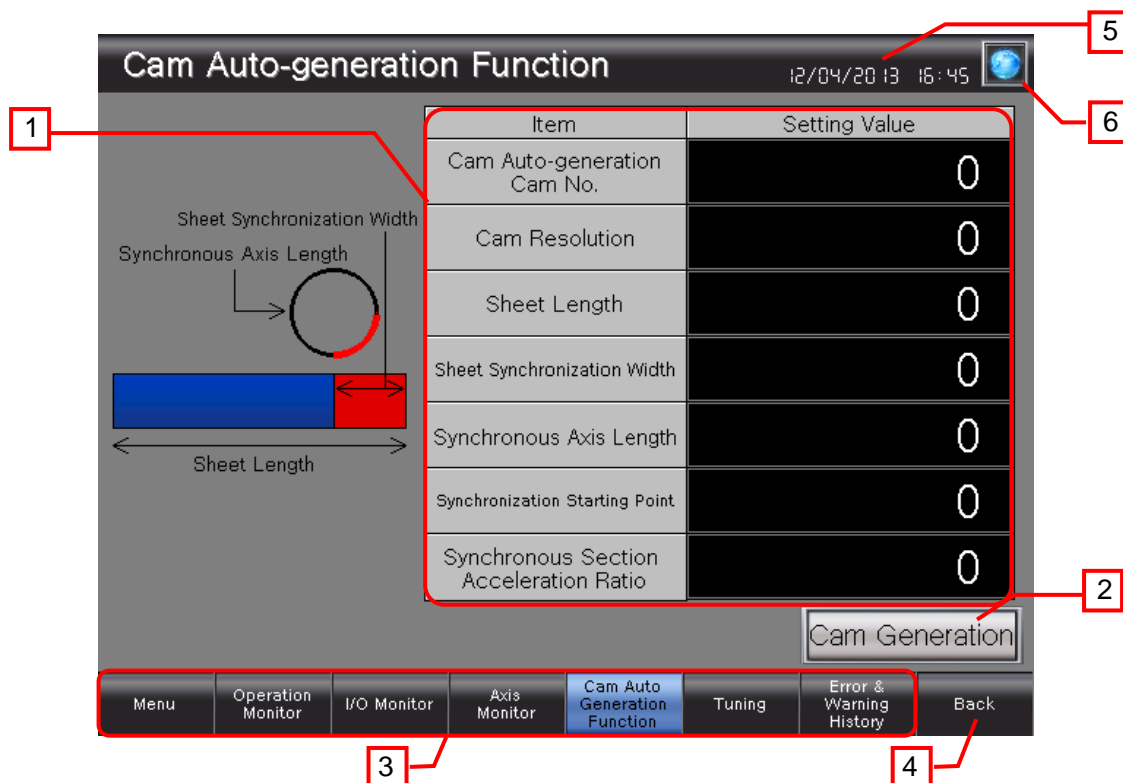
#### Description

- Displays the following about axis 1 to axis 16.
  - Parameter Error No.
  - Servo Status
  - Regenerative Load Ratio, Actual Load Ratio, Peak Load Ratio
- Switches axes and axis monitor screens.
- Switches to each screen. The blue switch indicates the currently displayed screen, thus selecting this switch will not switch the screen.
- Switches to the previously opened screen.
- Displays the current date and time. Touch the area to open the [Clock Setting] window.
- Opens the [Language Setting] window.

#### Remarks

- If a system alarm occurs, the alarm message will appear at the bottom of the screen. When touching the left end of the message, the display position of the message changes in the order of upper, center, and lower. When touching the other part of the message, the [Alarm Reset] window appears.

### 5.3.8 Cam Auto-generation Function (B-30008)



#### Outline

This is the LD77MS16 cam auto-generation screen.

#### Description

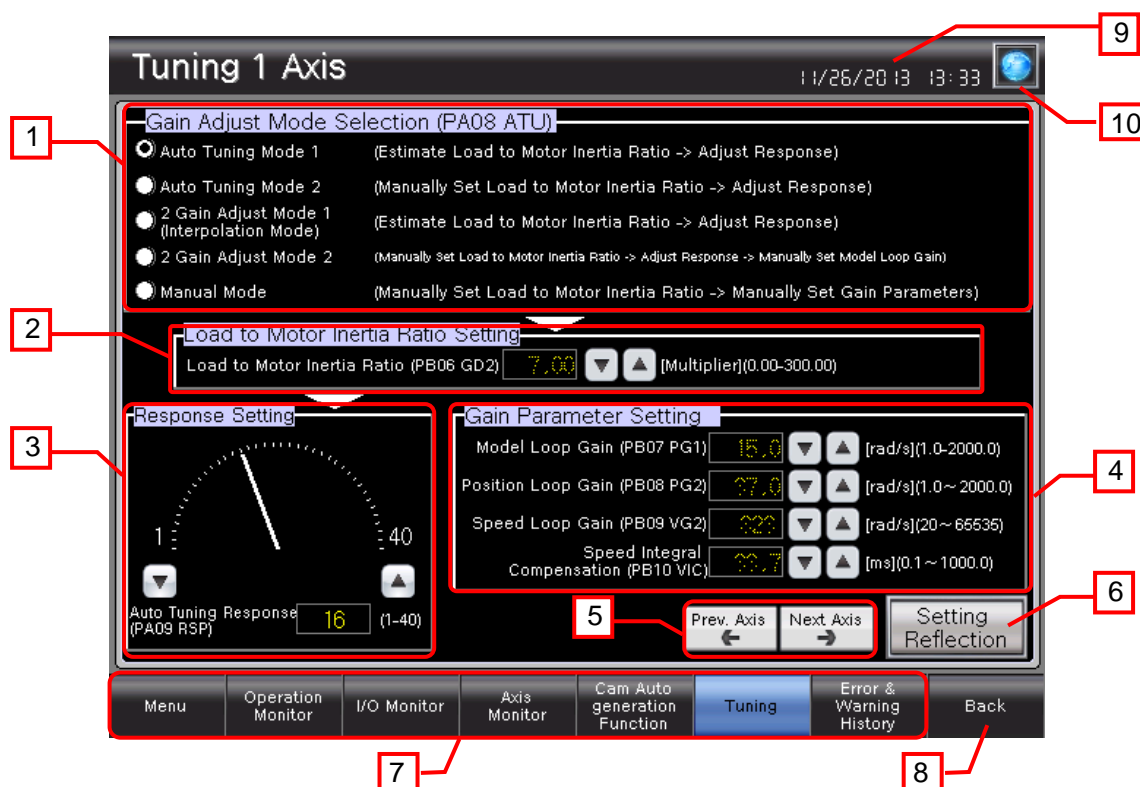
1. Sets parameters that are required for cam auto-generation.
2. Executes cam generation.
3. Switches to each screen. The blue switch indicates the currently displayed screen, thus selecting this switch will not switch the screen.
4. Switches to the previously opened screen.
5. Displays the current date and time. Touch the area to open the [Clock Setting] window.
6. Opens the [Language Setting] window.

#### Remarks

- If a system alarm occurs, the alarm message will appear at the bottom of the screen. When touching the left end of the message, the display position of the message changes in the order of upper, center, and lower. When touching the other part of the message, the [Alarm Reset] window appears.
- When GOT is started, the cam auto-generation type device is set to 1 with the project script. For more details about scripts, please refer to "5.6 Script List".



### 5.3.9 Tuning (B-30009)



#### Outline

This is the tuning screen of servo amplifiers.

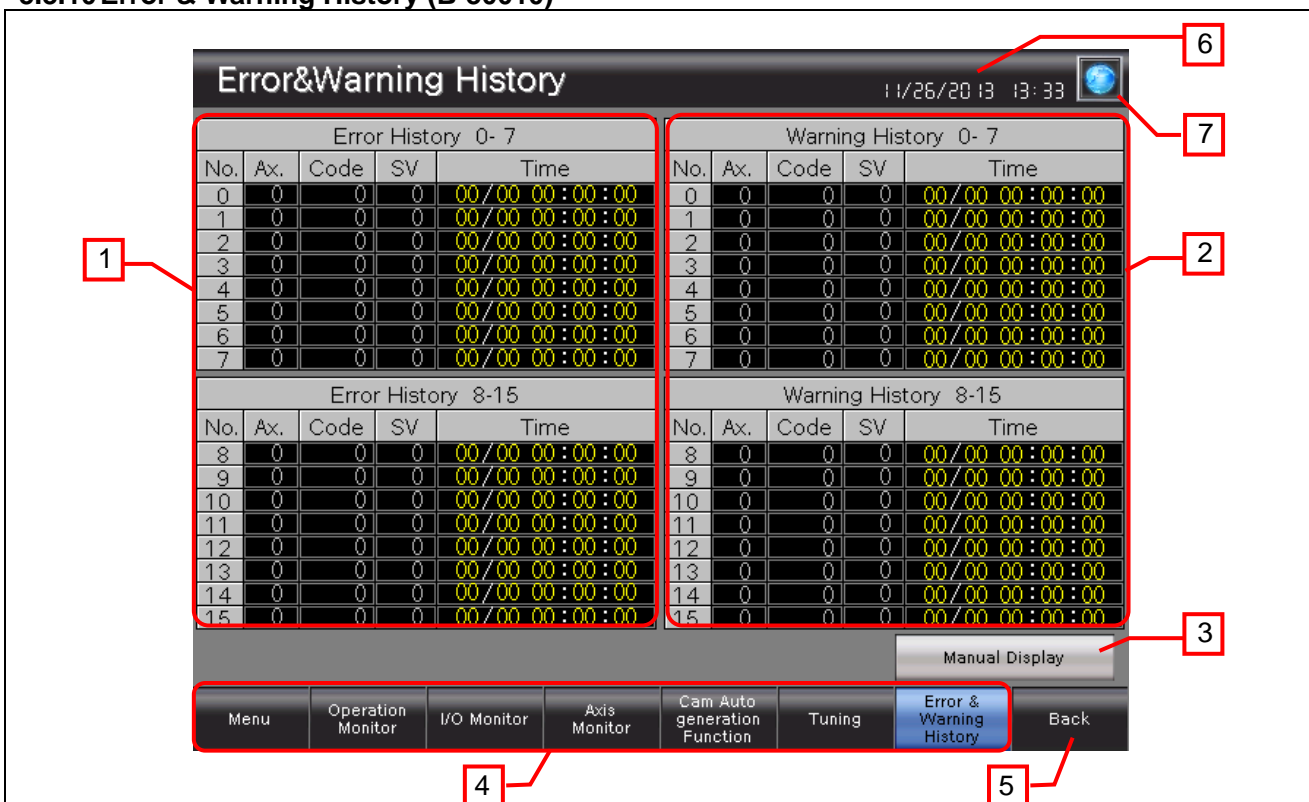
#### Description

1. Selects the gain adjust mode. Settable items vary depending on the selected mode.
2. Sets the load to motor inertia ratio.
3. Sets the auto tuning response.
4. Sets gain parameters.
5. Switches axes to monitor.
6. Reflects the tuning settings to the servo amplifier.
7. Switches to each screen. The blue switch indicates the currently displayed screen, thus selecting this switch will not switch the screen.
8. Switches to the previously opened screen.
9. Displays the current date and time. Touch the area to open the [Clock Setting] window.
10. Opens the [Language Setting] window.

#### Remarks

- If a system alarm occurs, the alarm message will appear at the bottom of the screen. When touching the left end of the message, the display position of the message changes in the order of upper, center, and lower. When touching the other part of the message, the [Alarm Reset] window appears.
- Screen scripts are used to change display according to the selected tuning mode and to make tuning settings. For more details about scripts, please refer to "5.6 Script List".

### 5.3.10 Error & Warning History (B-30010)



#### Outline

This is the LD77MS16 error & warning history screen.

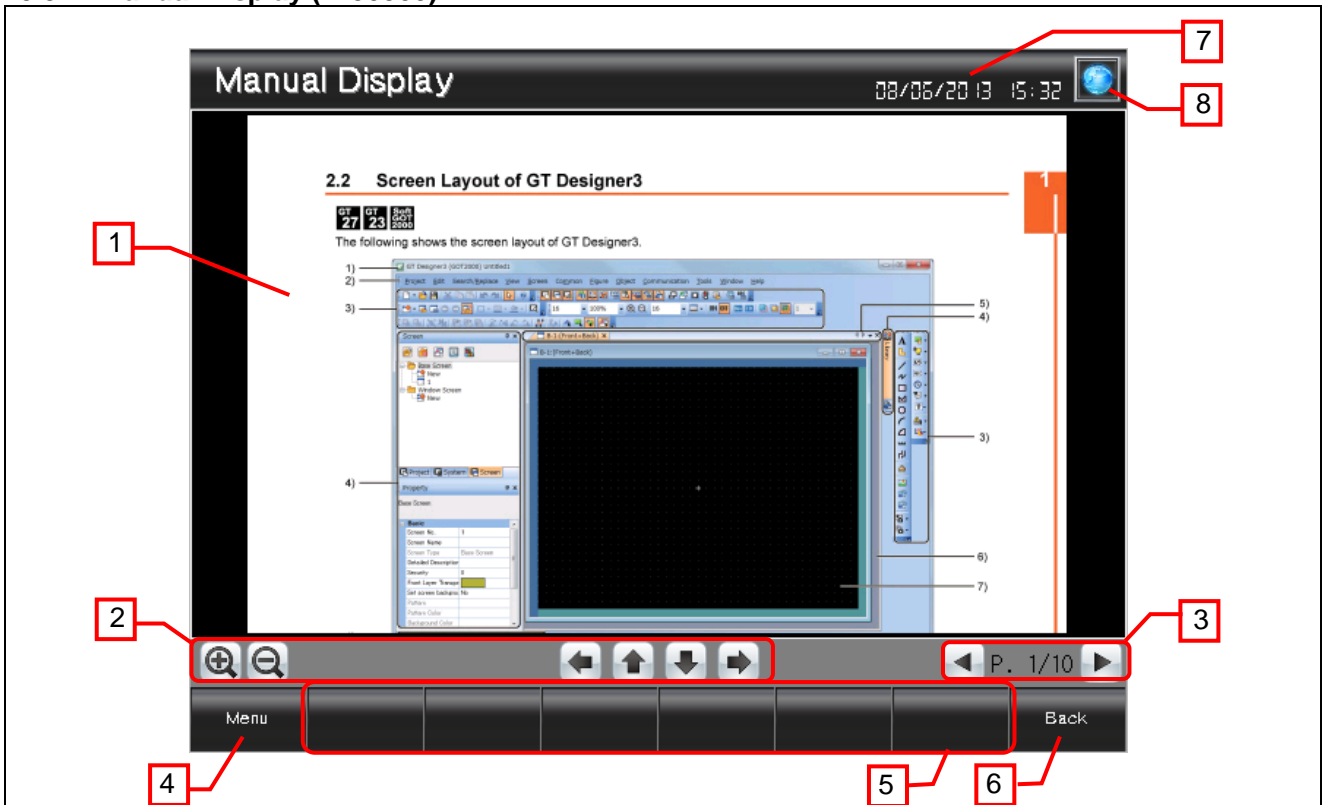
#### Description

1. Displays the error history.
2. Displays the warning history.
3. Switches to the [Manual Display] screen.
4. Switches to each screen. The blue switch indicates the currently displayed screen, thus selecting this switch will not switch the screen.
5. Switches to the previously opened screen.
6. Displays the current date and time. Touch the area to open the [Clock Setting] window.
7. Opens the [Language Setting] window.

#### Remarks

- If a system alarm occurs, the alarm message will appear at the bottom of the screen. When touching the left end of the message, the display position of the message changes in the order of upper, center, and lower. When touching the other part of the message, the [Alarm Reset] window appears.






### 5.3.11 Manual Display (B-30500)



#### Outline

This screen displays the manual of the currently displayed language.

#### Description

1. Manual Display displays a document with document ID (201 to 203) according to the language. The page 1 is displayed when the screen is displayed initially. While touching the document, flicking to 8 directions will scroll the document to 8 directions. While displaying the edge of the document, flicking the document will switch pages. Pinching out and in will zoom in and out the document in 3 steps (large, middle, and small).
2. These switches operate the displayed document.  
 : Enlarges or reduces the displayed document.  
 : Scrolls the displayed document to the left or right.  
 : Scrolls the displayed document up or down.
3. These switches operate the displayed document page.  
 : Displays the page number of the displayed document. Touch the value to change the page number.  
 : Switches to the previous or next page of the displayed document.
4. Switches to each screen. The blue switch indicates the currently displayed screen, thus selecting this switch will not switch the screen.
5. Shows unused switches for base screen switching.
6. Switches to the previously opened screen.
7. Displays the current date and time. Touch the area to open the [Clock Setting] window.
8. Opens the [Language Setting] window.

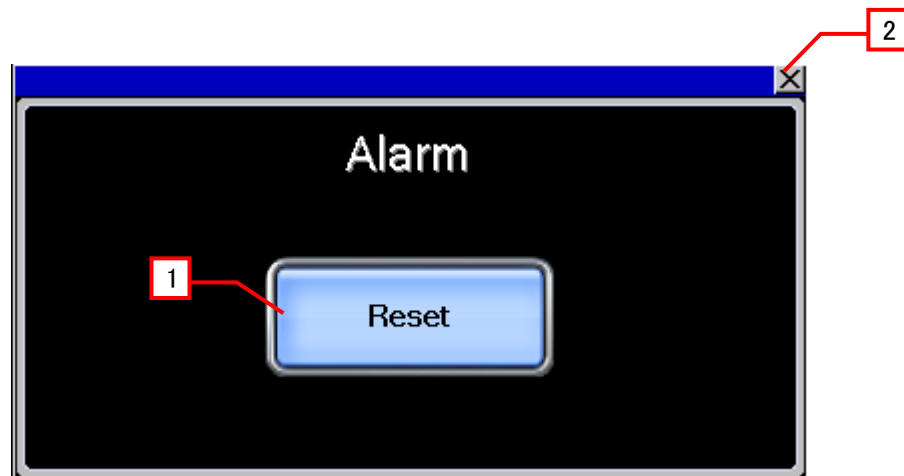
## Remarks

- The language setting reflect documents for Manual display. The relation of the column No. of the comment group No., languages and document (Document ID) is shown below.

Column No. of the comment group No	Language	Document ID
1	English	201
2	Japanese	202
3	Chinese (Simplified)	203

- When GOT is started, the document page is set to No. "1" and the Document ID is set to "201" with the project script. For more details about scripts, please refer to "5.6 Script List".
- The page feed switches are set not to exceed the total number of document pages by object script. For more details about scripts, please refer to "5.6 Script List".
- The document data for the manual display should be prepared by the customers. For more details, please refer to "6. MANUAL DISPLAY".
- If a system alarm occurs, the alarm message will appear at the bottom of the screen. When touching the left end of the message, the display position of the message changes in the order of upper, center, and lower. When touching the other part of the message, the [Alarm Reset] window appears.

### 5.3.12 Alarm Reset (W-30001)



#### Outline

This window screen allows resetting the system alarm.

#### Description

1. Resets the system alarm, and closes the window screen after 1 second.
2. Closes the window screen.

#### Remarks

### 5.3.13 Language Setting (W-30002)



#### Outline

This window screen allows selecting the GOT language.

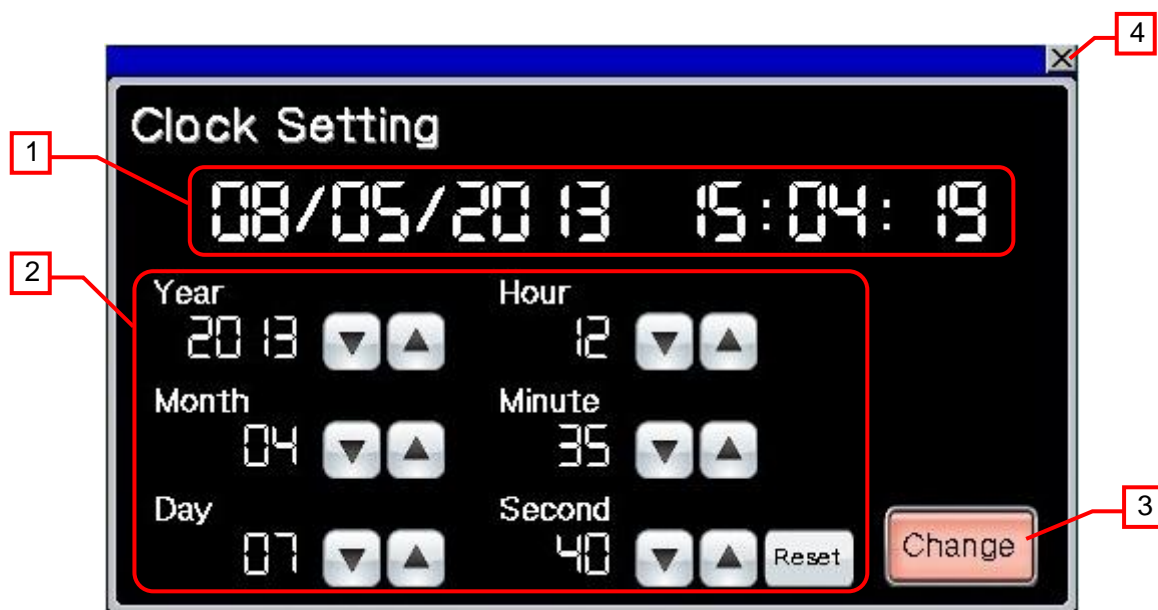
#### Description

1. Switches the language, and closes the window screen.
2. Closes the window screen.

#### Remarks

- The system language and Document ID for manual display also switched corresponding to the display language.



### 5.3.14 Clock Setting (W-30003)



#### Outline

This window screen allows changing the GOT clock data.

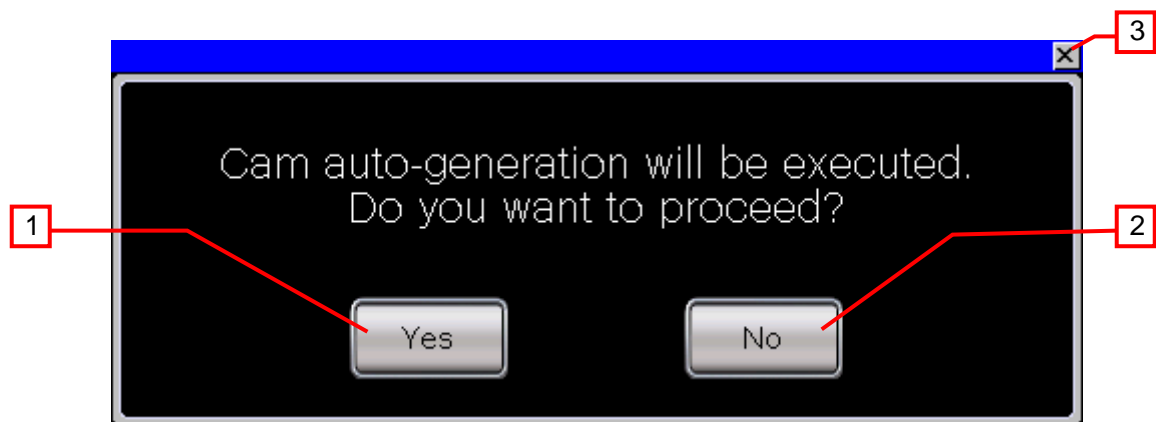
#### Description

1. Displays the current date and time.
2. Use   switches to change the date and time. Hold down the switches to increment or decrement the value continuously. The [Reset] switch resets the seconds.
3. Applies the set date and time to the GOT clock data, and closes the window screen after 1 second.
4. Closes the window screen.

#### Remarks

- The date and time at window opening are initially set as the clock data to be newly set.
- Object scripts are set for the numerical display of the year, month, date, hour, minute and second in the clock data to be newly set. For more details about scripts, please refer to "5.6 Script List".

### 5.3.15 Cam Auto-generation Check Screen (W-30010)



#### Outline

Check before executing cam auto-generation.

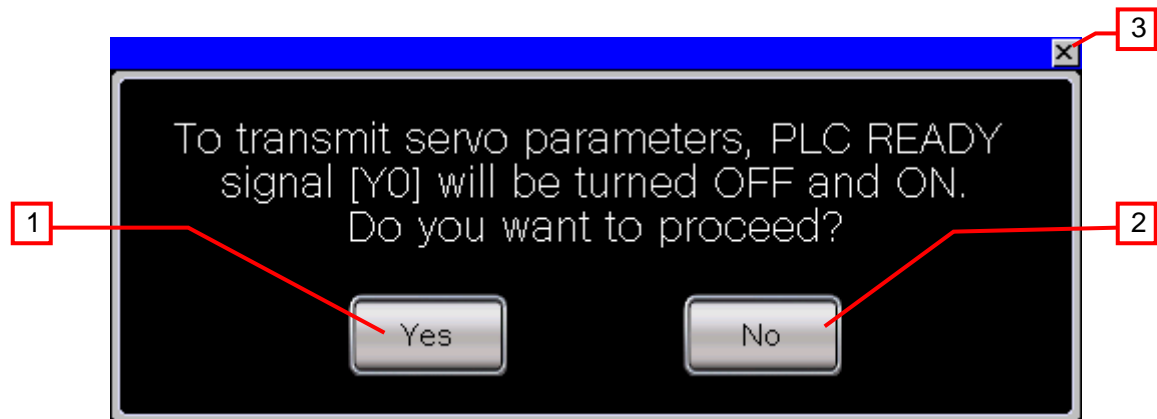
#### Description

1. Executes cam auto-generation.
2. Closes the window screen.
3. Closes the window screen.

#### Remarks



### 5.3.16 Tuning Setting Check Screen (W-30011)



#### Outline

Check before reflecting tuning settings.

#### Description

1. Transmits the tuning settings to the servo amplifier.
2. Closes the window screen.
3. Closes the window screen.

#### Remarks

## 5.4 Device List

Some of the devices specified for the on-screen switches, lamps, or others are also used for common settings of functions such as scripts. Using [Batch Edit] is recommended to change these devices in a batch. For more details about using [Batch Edit], please refer to "7.1 Changing Start I/O Number" and the "GT Designer3 (GOT2000) Help".

### 5.4.1 Devices of the controller

Type	Device No.	Application
Bit	X0010	Input Signal READY
	X0011	Input Signal Sync Flag
	X0020	Input Signal BUSY_Axis 1
	X0021	Input Signal BUSY_Axis 2
	X0022	Input Signal BUSY_Axis 3
	X0023	Input Signal BUSY_Axis 4
	X0024	Input Signal BUSY_Axis 5
	X0025	Input Signal BUSY_Axis 6
	X0026	Input Signal BUSY_Axis 7
	X0027	Input Signal BUSY_Axis 8
	X0028	Input Signal BUSY_Axis 9
	X0029	Input Signal BUSY_Axis 10
	X002A	Input Signal BUSY_Axis 11
	X002B	Input Signal BUSY_Axis 12
	X002C	Input Signal BUSY_Axis 13
	X002D	Input Signal BUSY_Axis 14
	X002E	Input Signal BUSY_Axis 15
	X002F	Input Signal BUSY_Axis 16
	Y0010	Output Signal PLC READY
	Y0011	Output Signal All Axis Servo ON
	Y0020	Output Signal Positioning Start_Axis 1
	Y0021	Output Signal Positioning Start_Axis 2
	Y0022	Output Signal Positioning Start_Axis 3
	Y0023	Output Signal Positioning Start_Axis 4
	Y0024	Output Signal Positioning Start_Axis 5
	Y0025	Output Signal Positioning Start_Axis 6
	Y0026	Output Signal Positioning Start_Axis 7
	Y0027	Output Signal Positioning Start_Axis 8
	Y0028	Output Signal Positioning Start_Axis 9
	Y0029	Output Signal Positioning Start_Axis 10
	Y002A	Output Signal Positioning Start_Axis 11
	Y002B	Output Signal Positioning Start_Axis 12
	Y002C	Output Signal Positioning Start_Axis 13
	Y002D	Output Signal Positioning Start_Axis 14
	Y002E	Output Signal Positioning Start_Axis 15
	Y002F	Output Signal Positioning Start_Axis 16
Word	U01-G2400+100n (n = 0 to 15)	Current Feed Val. (Axis 1 to 16)
	U01-G2402+100n (n = 0 to 15)	Machine Feed Val. (Axis 1 to 16)
	U01-G2406+100n (n = 0 to 15)	Error (Axis 1 to 16)
	U01-G2407+100n (n = 0 to 15)	Warning (Axis 1 to 16)
	U01-G2408+100n (n = 0 to 15)	M Code (Axis 1 to 16)
	U01-G2409+100n (n = 0 to 15)	Status (Axis 1 to 16)
	U01-G2410+100n (n = 0 to 15)	Current Speed (Axis 1 to 16)
	U01-G2412+100n (n = 0 to 15)	Axis Feed Rate (Axis 1 to 16)
	U01-G2418+100n (n = 0 to 15)	Target Value (Axis 1 to 16)
	U01-G2420+100n (n = 0 to 15)	Target Speed (Axis 1 to 16)
	U01-G2427+100n (n = 0 to 15)	Instr. Code (Axis 1 to 16)
	U01-G2428+100n (n = 0 to 15)	Instr. Para. (Axis 1 to 16)
	U01-G2429+100n (n = 0 to 15)	Start No. (Axis 1 to 16)
	U01-G2430+100n (n = 0 to 15)	In Speed Control (Axis 1 to 16)
	U01-G2431+100n (n = 0 to 15)	In Speed Change Process (Axis 1 to 16)
	U01-G2432+100n (n = 0 to 15)	Special Start Counter (Axis 1 to 16)
	U01-G2433+100n (n = 0 to 15)	Control System Counter (Axis 1 to 16)

Type	Device No.	Application
Word	U01-G2434+100n (n = 0 to 15)	1st Data Pointer (Axis 1 to 16)
	U01-G2435+100n (n = 0 to 15)	Pos. Data No. (Axis 1 to 16)
	U01-G2436+100n (n = 0 to 15)	Block No. (Axis 1 to 16)
	U01-G2437+100n (n = 0 to 15)	Previous Position (Axis 1 to 16)
	U01-G2438+100n (n = 0 to 15)	Acc. Time, Dec. Time, Operation Pattern, Control System (Axis 1 to 16)
	U01-G2441+100n (n = 0 to 15)	Int. Axis (Axis 1 to 16)
	U01-G2448+100n (n = 0 to 15)	OPR Increment (Axis 1 to 16)
	U01-G2450+100n (n = 0 to 15)	Actual Present Value (Axis 1 to 16)
	U01-G2452+100n (n = 0 to 15)	Error Counter Value (Axis 1 to 16)
	U01-G2454+100n (n = 0 to 15)	Number of Motor Rotation (Axis 1 to 16)
	U01-G2456+100n (n = 0 to 15)	Motor Current Value (Axis 1 to 16)
	U01-G2464+100n (n = 0 to 15)	Servo Amplifier S/W No._1, 2 (Axis 1 to 16)
	U01-G2465+100n (n = 0 to 15)	Servo Amplifier S/W No._3, 4 (Axis 1 to 16)
	U01-G2466+100n (n = 0 to 15)	Servo Amplifier S/W No._5, 6 (Axis 1 to 16)
	U01-G2467+100n (n = 0 to 15)	Servo Amplifier S/W No._7, 8 (Axis 1 to 16)
	U01-G2468+100n (n = 0 to 15)	Servo Amplifier S/W No._9, 10 (Axis 1 to 16)
	U01-G2469+100n (n = 0 to 15)	Servo Amplifier S/W No._11, 12 (Axis 1 to 16)
	U01-G2470+100n (n = 0 to 15)	Parameter Error No. (Axis 1 to 16)
	U01-G2476+100n (n = 0 to 15)	Zero Speed, Zero Point Passed (Axis 1 to 16)
	U01-G2477+100n (n = 0 to 15)	Ready ON, Servo ON, Servo Alarm, In-Position, Torque Limit, Abs. Value Cleared, Warning (Axis 1 to 16)
	U01-G2478+100n (n = 0 to 15)	Regenerative Load Ratio (Axis 1 to 16)
	U01-G2479+100n (n = 0 to 15)	Actual Load Ratio (Axis 1 to 16)
	U01-G2480+100n (n = 0 to 15)	Peak Load Ratio (Axis 1 to 16)
	U01-G4093+4p (p = 0 to 15)	Error History_ Axis (No.0 to No.15)
	U01-G4094+4p (p = 0 to 15)	Error History_ Code (No.0 to No.15)
	U01-G4095+4p (p = 0 to 15)	Error History_ Day, Hour (No.0 to No.15)
	U01-G4096+4p (p = 0 to 15)	Error History_ Minute, Second (No.0 to No.15)
	U01-G4158+4p (p = 0 to 15)	Warning History_ Axis (No.0 to No.15)
	U01-G4159+4p (p = 0 to 15)	Warning History_ Code (No.0 to No.15)
	U01-G4160+4p (p = 0 to 15)	Warning History_ Day, Hour (No.0 to No.15)
	U01-G4161+4p (p = 0 to 15)	Warning History_ Minute, Second (No.0 to No.15)
	U01-G4231	Emergency Stop Input
	U01-G4256+p (p = 0 to 15)	Error History_ Month (No.0 to No.15)
	U01-G4272+p (p = 0 to 15)	Warning History_ Month (No.0 to No.15)
	U01-G28408+100n (n = 0 to 15)	Gain Adjust Mode Selection (Axis 1 to 16)
	U01-G28409+100n (n = 0 to 15)	Auto Tuning Response (Axis 1 to 16)
	U01-G28424+100n (n = 0 to 15)	Load to Motor Inertia Ratio (Axis 1 to 16)
	U01-G28425+100n (n = 0 to 15)	Model Loop Gain (Axis 1 to 16)
	U01-G28426+100n (n = 0 to 15)	Position Loop Gain (Axis 1 to 16)
	U01-G28427+100n (n = 0 to 15)	Speed Loop Gain (Axis 1 to 16)
	U01-G28428+100n (n = 0 to 15)	Speed Integral Compensation (Axis 1 to 16)
	U01-G31300+p (p = 0 to 15)	Error History_ SV (No.0 to No.15)
	U01-G31316+p (p = 0 to 15)	Warning History_ SV (No.0 to No.15)
	U01-G53200	Cam Auto-generation Request
	U01-G53201	Cam Auto-generation Cam No.
	U01-G53202	Cam Auto-generation Type
	U01-G53204	Cam Resolution
	U01-G53206	Sheet Length
	U01-G53208	Sheet Synchronization Width
	U01-G53210	Synchronous Axis Length
	U01-G53212	Synchronization Starting Point
	U01-G53214	Synchronous Section Acceleration Ratio

### 5.4.2 GOT internal devices

Type	Device No.	Application
Bit	GB40	Script Trigger (Always ON)
	GB61008 to GB61012	Control Possibility of Adjust Mode Input
	GD60031.b13	GOT Error Reset Signal
	GD61011.b0	Script Trigger for Tuning Setting Reflection
	GS512.b0	Time Change Signal
Word	GD60000	Base Screen Switching
	GD60001	Overlap Window 1 Screen Switching
	GD60004	Overlap Window 2 Screen Switching
	GD60021	Language Switching
	GD60022	System Language Switching
	GD60031, GD60041	System Information
	GD60080 to GD60082	Document Display,
	GD61000	4 Axis Switching Offset Device (Monitor Value)
	GD61001	4 Axis Switching Offset Device (Axis Display)
	GD61010	1 Axis Switching Offset Device (Monitor Value)
	GD61012	1 Axis Switching Offset Device (Title Display)
	GD61013	Standby Processing Device
	GD61100	Initialization Flag
	GD63990 to GD63995	Clock Digital Switch
	GS513 to GS516	Changed Time
	GS650 to GS652	Current Time
	TMP950 to TMP996	For Script Operation

### 5.5 Comment List

Comment group No.	Comment No.	Where comments are used
500	No. 1 to No. 17	B-30001 to B-30500
	No. 551 to No. 941	B-30002
	No. 951 to No. 1000	B-30003
	No. 1011 to No. 1033	B-30004
	No. 1041 to No. 1068	B-30005
	No. 1071 to No. 1086	B-30006
	No. 1091 to No. 1118	B-30007
	No. 1121 to No. 1129	B-30010
	No. 1201 to No. 1202	W-30001
	No. 1203	W-30002
	No. 1204 to No. 1211	W-30003
	No. 1251 to No. 1262	B-30008
	No. 1301 to No. 1338	B-30009
	No. 1351 to No. 1353	W-30010
	No. 1361 to No. 1363	W-30011

## 5.6 Script List

Item	Settings
Project script	Specified
Screen script	B-30009, B-30500
Object script	B-30500, W-30003

### 5.6.1 Project script

Script No.	30001	Script name	Script30001
Comment	Initial Setting		
Data type	Signed BIN16	Trigger type	Rise, GB40
<pre>[w:GD60080]=201; //Set Document ID to 201 [w:GD60081]=1; //Set Document page No. to 1  [w:U01-G53202] = 1; //Set Cam Auto-generation Type  if([w:GD61100] == 0){ //After initialization, specific internal devices will not be re-initialized at a restart that will be caused by data communication or update.     [w:GD61012] = 1301; //Set Initial Value of Base Screen 30009 Title      [w:GD61100] = 1; //Set Flag }</pre>			

### 5.6.2 Screen script

#### Base screen 30009

Script No.	30101	Script name	Script30101
Comment	Reflect Tuning Settings		
Data type	Signed BIN16	Trigger type	ON, GD61011.b0
<pre>[w:GD61013] = 0; //Initialize GD61013 Value  while([w:GD61013] &lt; 10){ //Loop 10 Times or More     [w:GD61013] = [w:GD61013] + 1; }  if([w:GD61013] &gt;= 10 &amp;&amp; [b:Y0000] == OFF){ //GD61013 Is 5 and Y0 Is OFF     [b:Y0000] = ON; //Turn On Y0     [b:GD61011.b0] = OFF; //Turn Off Trigger     [w:GD61013] = 0; //Initialize GD61013 Value }</pre>			
Script No.	30102	Script name	Script30102
Comment	Tuning Screen Object Operation		
Data type	Signed BIN16	Trigger type	Ordinary
<pre>switch([w:U01-G28408[w:GD61010]]){ //Shade Numerical Objects According to Conditions case 1: [w:GB61008] = 2; break; case 2: [w:GB61008] = 4; break; case 0: [w:GB61008] = 1; break; case 4: [w:GB61008] = 16; break; case 3: [w:GB61008] = 8; break; }</pre>			

**Base screen 30500**

Script No.	30002	Script name	Script30002
Comment	DocumentDisplayProcessOfLastPage		
Data type	Unsigned BIN16	Trigger type	Ordinary
<pre>//Check the total number of document pages is not 0. if([w:GD60082]!=0){   //Compare the current page number to the total number of document pages to see if the current page   number exceeds the total number.   if([w:GD60081]&gt;[w:GD60082]){     //Set the last page to display.     [w:GD60081]=[w:GD60082];   } }</pre>			

**5.6.3 Object script****Base screen 30500**

Object	Switch	Object ID *1	20039
Script user ID	1		
Data type	Unsigned BIN16	Trigger type	Device Writing
<pre>//Do not exceed the total number of the document pages. if([u16:GD60081] &gt;= [u16:GD60082]){   [u16:GD60081] = [u16:GD60082] - 1; }</pre>			

**Window screen 30003**

Object	Numerical Display	Object ID *1	20018
Script user ID	1		
Data type	Unsigned BIN16	Trigger type	Rise, GB40
<pre>//Obtain Today's Year &amp; Month from Clock Data [w:TMP950] = [w:GS650] &amp; 0xF000; //Obtain Tenths Digit of "Last 2-Digits of Year" from Clock Data for Setting [w:TMP960] = [w:TMP950] &gt;&gt; 12; //Decimal Alignment [w:TMP968] = [w:TMP960] * 10; //BCD-&gt;BIN [w:TMP951] = [w:GS650] &amp; 0x0F00; //Obtain Ones Digit of "Last 2-Digits of Year" from Clock Data for Setting [w:TMP961] = [w:TMP951] &gt;&gt; 8; //BCD-&gt;BIN [w:TMP973] = 2000 + [w:TMP968] + [w:TMP961]; //Set Year to TMP973 as BIN [w:GD63990] = [w:TMP973]; //Set Year  [w:TMP952] = [w:GS650] &amp; 0x00F0; //Obtain Tenths Digit of Month from Clock Data for Setting [w:TMP962] = [w:TMP952] &gt;&gt; 4; //Decimal Alignment [w:TMP969] = [w:TMP962] * 10; //BCD-&gt;BIN [w:TMP953] = [w:GS650] &amp; 0x000F; //Obtain Ones Digit of Month from Clock Data for Setting [w:TMP974] = [w:TMP969] + [w:TMP953]; //Set Month to TMP974 as BIN [w:GD63991] = [w:TMP974]; //Set Month  [w:TMP954] = [w:GS651] &amp; 0xF000; //Obtain Tenths Digit of "Last 2-Digits of Day" from Clock Data for Setting [w:TMP963] = [w:TMP954] &gt;&gt; 12; //Decimal Alignment [w:TMP970] = [w:TMP963] * 10; //BCD-&gt;BIN [w:TMP955] = [w:GS651] &amp; 0x0F00; //Obtain Ones Digit of "Last 2-Digits of Day" from Clock Data for Setting [w:TMP964] = [w:TMP955] &gt;&gt; 8; //BCD-&gt;BIN [w:TMP975] = [w:TMP970] + [w:TMP964]; //Set Day to TMP975 as BIN [w:GD63992] = [w:TMP975]; //Set Day  [w:TMP956] = [w:GS651] &amp; 0x00F0; //Obtain Tenths Digit of Hour from Clock Data for Setting [w:TMP965] = [w:TMP956] &gt;&gt; 4; //Decimal Alignment [w:TMP971] = [w:TMP965] * 10; //BCD-&gt;BIN [w:TMP957] = [w:GS651] &amp; 0x000F; //Obtain Ones Digit of Hour from Clock Data for Setting [w:TMP976] = [w:TMP971] + [w:TMP957]; //Set Hour to TMP976 as BIN [w:GD63993] = [w:TMP976]; //Set Hour  [w:TMP958] = [w:GS652] &amp; 0xF000; //Obtain Tenths Digit of "Last 2-Digits of Minute" from Clock Data for Setting</pre>			

[w:TMP966] = [w:TMP958] >> 12; //Decimal Alignment [w:TMP972] = [w:TMP966] * 10; //BCD->BIN [w:TMP959] = [w:GS652] & 0x0F00; //Obtain Ones Digit of "Last 2-Digits of Minute" from Clock Data for Setting [w:TMP967] = [w:TMP959] >> 8; //BCD->BIN [w:TMP977] = [w:TMP972] + [w:TMP967]; //Set Minute to TMP977 as BIN [w:GD63994] = [w:TMP977]; //Set Minute  [w:TMP993] = [w:GS652] & 0x00F0; //Obtain Tenths Digit of Second from Clock Data for Setting [w:TMP995] = [w:TMP993] >> 4; //Decimal Alignment [w:TMP996] = [w:TMP995] * 10; //BCD->BIN [w:TMP994] = [w:GS652] & 0x000F; //Obtain Ones Digit of Second from Clock Data for Setting [w:TMP978] = [w:TMP996] + [w:TMP994]; //Set Second to TMP978 as BIN [w:GD63995] = [w:TMP978]; //Set Second			
Object	Numerical Display	Object ID *1	20019
Script user ID	2		
Data type	Unsigned BIN16	Trigger type	Ordinary
//BIN -> BCD Conversion  [w:TMP979] = [w:GD63990] - 2000; //Last 2-Digits of Year  [w:TMP980] = (([w:TMP979] / 10) << 4) + ([w:TMP979] % 10); //Year BIN -> BCD [w:TMP981] = ((([w:GD63991] / 10) << 4) + ([w:GD63991] % 10); //Month BIN -> BCD [w:TMP982] = ((([w:GD63992] / 10) << 4) + ([w:GD63992] % 10); //Day BIN -> BCD [w:TMP983] = ((([w:GD63993] / 10) << 4) + ([w:GD63993] % 10); //Hour BIN -> BCD [w:TMP984] = ((([w:GD63994] / 10) << 4) + ([w:GD63994] % 10); //Minute BIN -> BCD [w:TMP985] = ((([w:GD63995] / 10) << 4) + ([w:GD63995] % 10); //Second BIN -> BCD			
Object	Numerical Display	Object ID *1	20020
Script user ID	3		
Data type	Unsigned BIN16	Trigger type	Ordinary
//Year & Month Setting  [w:GS513] = ([w:TMP980] << 8) + [w:TMP981]; //Set Year & Month to Change Time Device			
Object	Numerical Display	Object ID *1	20021
Script user ID	4		
Data type	Unsigned BIN16	Trigger type	Ordinary
//Date & Time Setting  [w:GS514] = ([w:TMP982] << 8) + [w:TMP983]; //Set Date & Time to Change Time Device			
Object	Numerical Display	Object ID *1	20022
Script user ID	5		
Data type	Unsigned BIN16	Trigger type	Ordinary
//Minute & Second Setting  [w:GS515] = ([w:TMP984] << 8) + [w:TMP985]; //Set Minute & Second to Change Time Device			
Object	Numerical Display	Object ID *1	20023
Script user ID	6		
Data type	Unsigned BIN16	Trigger type	Ordinary
//Day of Week Setting  [w:TMP986] = [w:GD63990]; //Year (BIN) [w:TMP987] = [w:GD63991]; //Month (BIN) [w:TMP988] = [w:GD63992]; //Day (BIN)  if(([w:TMP987] == 1)    ([w:TMP987] == 2)){ //Correction Processing to Calculate January and February as 13th/14th Month [w:TMP986] = [w:TMP986] - 1; //Subtract 1 from Year [w:TMP987] = [w:TMP987] + 12; //Add 12 to Month			

```
}  
[w:TMP989] = [w:TMP986]/4; //Create Items Required for Zeller's Congruence  
[w:TMP990] = [w:TMP986]/100; //Create Items Required for Zeller's Congruence  
[w:TMP991] = [w:TMP986]/400; //Create Items Required for Zeller's Congruence  
[w:TMP992] = (13*[w:TMP987]+8)/5; //Create Items Required for Zeller's Congruence  
  
//Calculate Day of Week Using Zeller's Congruence and Set the Day to Change Time Device  
[w:GS516] = ([w:TMP986]+[w:TMP989]-[w:TMP990]+[w:TMP991]+[w:TMP992]+[w:TMP988])%7;
```

\*1 The Object ID might be changed when a screen is utilized



## 6. MANUAL DISPLAY

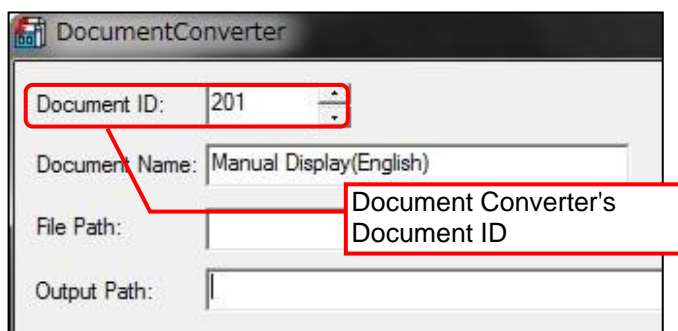
Manuals can be displayed using the document display function. For more details about the document display function, please refer to the "GT Designer3 (GOT2000) Help". Please note that the document display function does not support language switching. Therefore, in the sample screens, the language of document is switched by switching the document (Document ID) specified for a display language

### 6.1 Preparing Document Data for Manual Display

Example: Displaying a English manual (document) for Manual Display on the base screen B-30500

- (1) Convert the manual (Word or Excel, etc.) to be displayed into the document data (JPEG file) that can be used with the document display function by using Document Converter. Set the Document Converter's [Document ID] to 201.

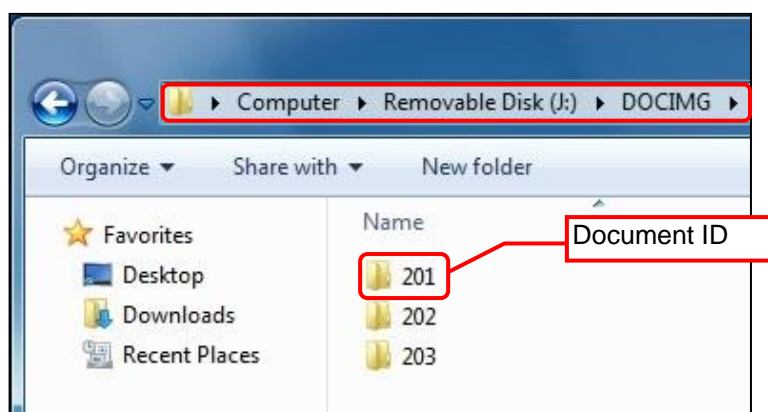
\*For details of the relation between Document ID and Display language, please refer to the table below.



Column No. of the comment group No	Language	Document ID
1	English	201
2	Japanese	202
3	Chinese (Simplified)	203

\*Please use Document Converter 2.09k or later. The total number pages and pages switches cannot work properly with 2.08 or older versions.

- (2) The document data is generated in the 201 folder in the DOCIMG. Save the entire DOCIMG folder into the SD card root directory without changing the folder configuration inside the DOCIMG folder.



SD card folder configuration

Note: In case the total number of pages is 100 or more.

This sample is made with the assumption that the total number of pages is up to 99 pages. If it exceeds 99 pages, please modify the format of numerical input (the number of "#") that displays the total number of pages and the page number of the currently displayed page.

## 7. OTHERS

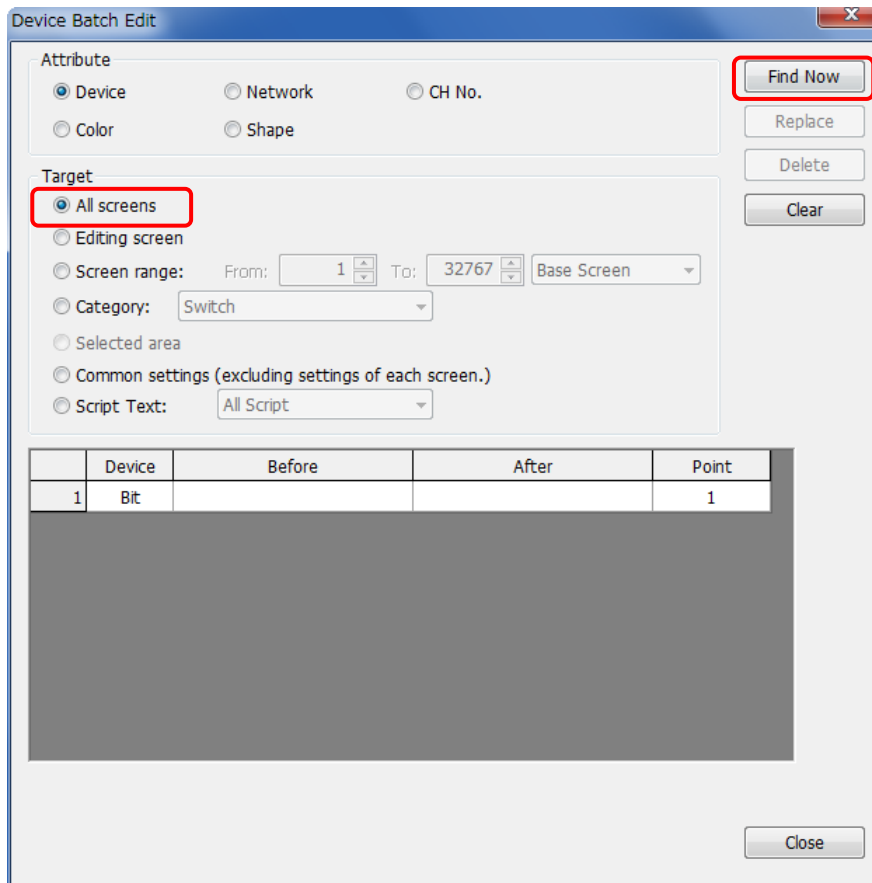
### 7.1 Changing Start I/O Number

Follow the procedure below to change the start I/O number of the module to a value other than 10H.  
(Example: Changing the start I/O number from 10H to 20H)

- (1) Select [Search/Replace] - [Batch Edit] - [Device] menu.



- (2) In the displayed setting dialog, select [All Screens], and click [Find Now].



- (3) Set the [After] device and [Point], and execute the batch edit.
- Changing the start I/O number of the buffer memory  
Set [Before] to U01-G2400, [After] to U02-G2400, and [Point] to 30532, and click [Replace].  
U01-G2400 to U01-G32931 will be changed to U02-G2400 to U02-G32931.

	Device	Before	After	Point
61	Bit	Y002F	Y002F	1
62	Word	U01-G2400	U02-G2400	30532
63	Word	U01-G2402	U01-G2402	1
64	Word	U01-G2406	U01-G2406	1
65	Word	U01-G2407	U01-G2407	1
66	Word	U01-G2408	U01-G2408	1
67	Word	U01-G2409	U01-G2409	1
68	Word	U01-G2410	U01-G2410	1

- Changing the start I/O number of the I/O signal  
To change the input signal (X device), set [Before] to X0010, [After] to X0030, and [Point] to 32, and click [Replace]. X0010 to X002F will be changed to X0030 to X004F.  
To change the output signal (Y device), set [Before] to Y0010, [After] to Y0030, and [Point] to 32, and click [Replace]. Y0010 to Y002F will be changed to Y0030 to Y004F.

	Device	Before	After	Point
27	Double Word	GD61010	GD61010	1
28	Bit	X0010	X0010	1
29	Bit	X0011	X0011	1
30	Bit	X0020	X0020	1
31	Bit	X0021	X0021	1
32	Bit	X0022	X0022	1
33	Bit	X0023	X0023	1
34	Bit	X0024	X0024	1
35	Bit	X0025	X0025	1