MITSUBISHI

Programmable Controllers MELSEC-L Series Quick Start Guide





How to read this guide

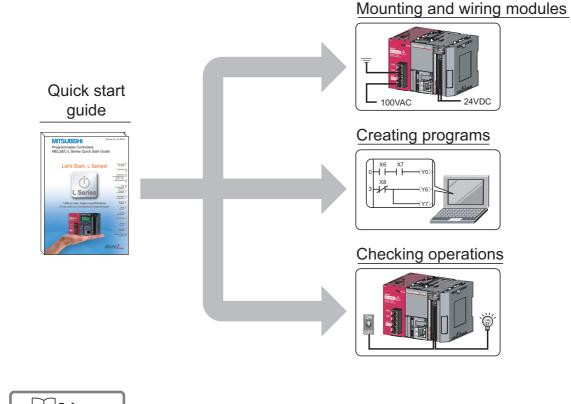
The following shows the symbols used in this Quick start guide with descriptions and examples.

Symbol	Description	Example
Point	This symbol explains information you need to know.	Select [View] \rightarrow [Comment] (\boxed{Ctrl} key + $\boxed{F5}$ key). The comment display/hide setting can be switched.
Reference	This symbol describes the references of manuals and pages for more details.	For details, refer to the following manual. MELSEC-L CPU Module User's Manual (Function Explanation, Program Fundamentals) : SH-080889ENG
	This symbol describes the explanations of the terminology.	Device : A place where ON/OFF or numeric values and character string data is recorded in the programmable controller.
Caution	This symbol describes content that must be noted in operation.	When mounting the module, the power must be turned off.
[]	Menu names on the menu bar ([] \rightarrow [] shows drop-down menus.)	Select [Project] \rightarrow [New project].
	Buttons on the screen	OK button
	Keys on the keyboard	F4 key
()	Another procedure corresponding to a drop-down menu (icons and keys on the keyboard)	Select [View] \rightarrow [Comment] (\boxed{Ctrl} key + $\boxed{F5}$ key).

Introduction

This Quick start guide explains the basic procedures for the first-time use of the Mitsubishi programmable controller MELSEC-L series CPU module (CPU module).

You can easily understand how to use the programmable controller with this guide.



Reference	
 Precautions 	
	Y PRECAUTIONS" in the MELSEC-L CPU Module User's Manual or "Safety
Guidelines" that	at is an included manual of CPU module carefully.
Acoution	
∠!\Caution	
	rt guide explains operations in the programmable controller system described in

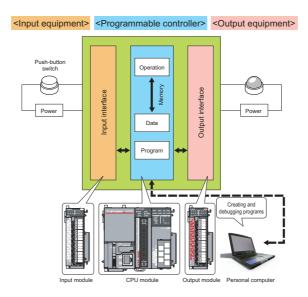
Read the manuals referred on the following page when you design or manage the system.

Related manuals" (P.6)

Operations that can be performed using MELSEC-L series

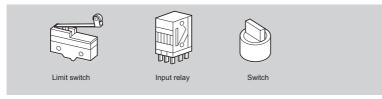
Programmable controllers

The programmable controllers perform sequence control and logical operations by switching the output of output equipment ON/OFF according to the command signal from the input equipment.

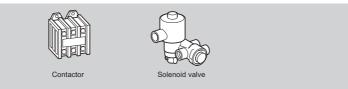


Other equipment is shown below.

<Examples of input equipment>



<Examples of output equipment>

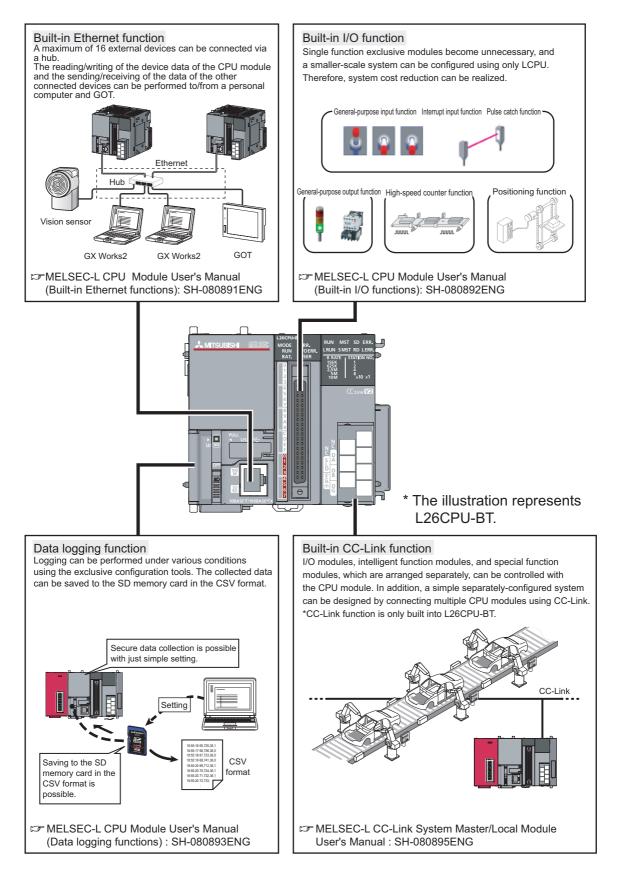


Terminology

Sequence contro	 Consecutively processes each control step based on the fixed order or procedure.
Logical operatior	is: One of the basic operation methods in programming. Logical operations consist of three basic operations: logical AND, logical OR, and logical NOT.
Limit switch	: A switch to stop the movement of mobile objects on both sides of a moving apparatus for safety reasons.
Relay	: Breaks/connects the electricity with electrical switching.
Contactor	: Generally called an electromagnetic contactor to break circuits and switch the heater.
Solenoid valve	: An electromagnet with a direct/alternating current. Connected to the output side of the programmable controller.

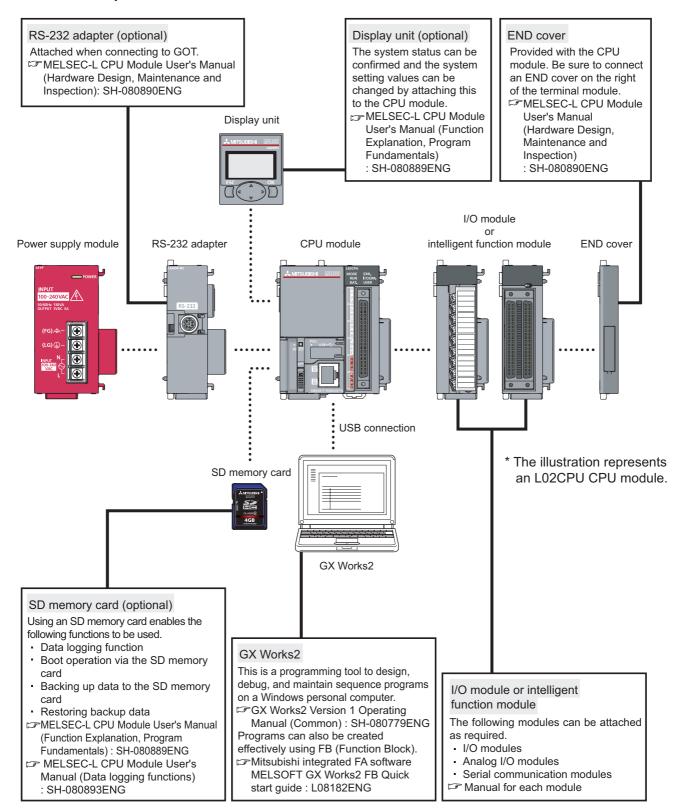
Features of CPU module

MELSEC-L series programmable controllers are all-in-one programmable controllers that have the following functions built into the CPU module. The use of these built-in functions enables you to design a smaller-scale system.



System enhancement according to application

By connecting various types of modules, the system can be enhanced according to the application. As a baseless structure is employed, the space of the control panel can be used effectively without being limited by the size of the base.



Related manuals

This Quick start guide explains the basic procedures for introducing programmable controllers. Read the following manuals to use each module with a full understanding according to your purpose.

Learning about programmable controllers

- MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) . . . SH-080890ENG This manual explains specifications, installation, and maintenance methods for the CPU module and the power supply module.
- MELSEC-L CPU Module User's Manual (Function Explanation, Program Fundamentals) SH-080889ENG

This manual explains the functions of the CPU modules. It also explains the operations of devices, parameters, and display unit that are the basic knowledge necessary for programming.

Learning about programming tools (software)

- GX Works2 Beginner's Manual (Simple Project).....SH-080787ENG
 This manual explains the basic operations for creating, editing, and monitoring programs on simple projects for operators who are using GX Works2 for the first time.
- GX Works2 Version 1 Operating Manual (Common)SH-080779ENG This manual explains the common functions of both the simple and structured projects of GX Works2, including the operation methods for system configurations, parameter settings, and online functions.

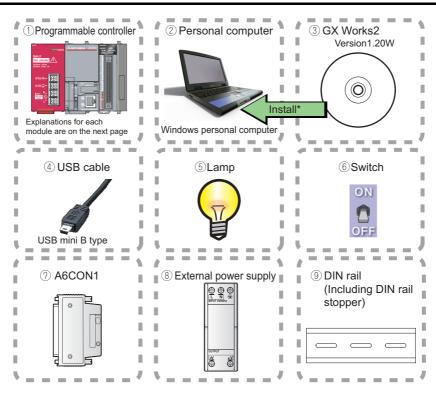
Using programmable controllers

The programmable controllers are installed with procedures as shown below.

"1 Preparing for Operation" (P.8)	
Preparing the necessary equipment	
"2 System Configuration" (P.9)	
Introducing equipment used for operations in this Quick start guide	
"3Mounting Modules" (P.10)	
Mounting the prepared modules	
"4Wiring Modules" (P.12)	5
Wiring the power supply module and the external I/O devices	1
"5Checking Power Supply" (P.15)	2
Turning on the system to check the condition of the CPU module	
	3
"6 Programming" (P.16)	4
Creating a program with GX Works2	
	5
"7 Writing Programs" (P.22)	6
Writing a program created with GX Works2 to the CPU module	
	7
"8 Checking Operation" (P.25)	8
Executing the program by turning the CPU module to RUN and checking that ON/OFF of inputs correspond to ON/OFF of output	

1 Preparing for Operation

Preparing the necessary equipment



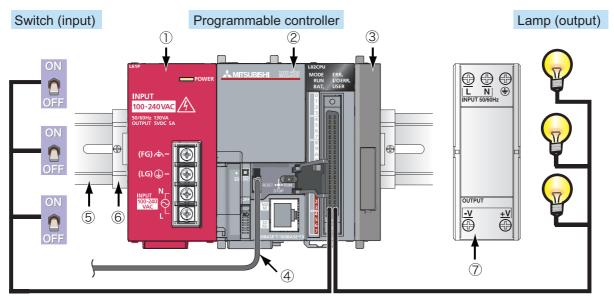
*GX Works2 Version 1 needs to be installed in your personal computer in advance.

2 System Configuration

System configuration example

This Quick start guide explains the following system configuration as an example.

Inputs and outputs are configured as switches and lamps respectively.



* Wires to the power supply module and the power of the external I/O devices are omitted.

No.	Name	Model	Description
1	Power supply module	L61P	Supplies power to modules such as CPU module.
2	CPU module	L02CPU	Integrates the control of the programmable controller.
3	END cover	L6EC	Supplied with the CPU module. Be sure to connect an END cover on the right of the terminal module.
4	Connection cable (USB cable)	MR-J3USBCBL3M (USB A type - USB mini B type)	Connects the personal computer with GX Works2 installed and the CPU module.
(5)	DIN rail	(IEC 60715) • TH35-7.5Fe • TH35-7.5Al • TH35-15Fe	The programmable controller system is secured by attaching it to the DIN rail.
6	DIN rail stopper	-	Use DIN rail stoppers that can be attached to the DIN rails.
7	External power supply	_	Supplies power to the external I/O devices. Use the CE marked models and be sure to perform grounding for the FG terminal.

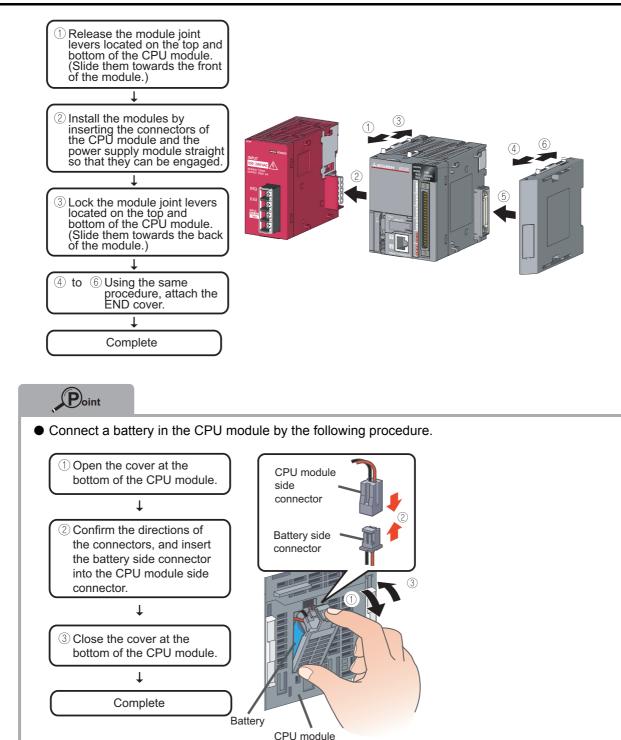
3 Mounting Modules

Mount the prepared modules.

A battery connector must be connected when using the CPU module for the first time.

The power supply must be disconnected when mounting modules.

Mounting modules



 Pull down all the DIN rail hooks on the back of the modules. (Pull them down until they click.)

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② Engage the claws at the top of the modules with the top of the DIN rail, and then insert the DIN rail to install.

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 Lock the DIN rail hooks of the modules to engage them with the DIN rail.
 (Push them up until they click. If your finger does not reach the DIN rail hook, use a screwdriver, etc.)

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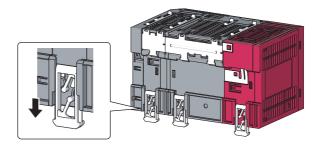
④ Loosen the screws of the DIN rail stoppers.

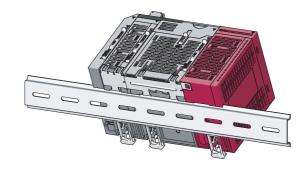
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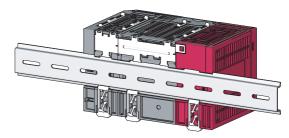
Engage the claw at the bottom of a DIN rail stopper with the bottom of the DIN rail, and then engage the claw at the top of the DIN rail stopper with the top of the DIN rail.
(Engage the DIN rail stopper after confirming the arrow indication on the front surface of the DIN rail stopper.)

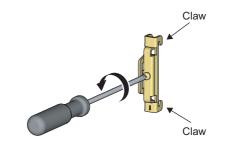
6 Slide the DIN rain stopper to the edge of the module and tighten the screw using a screwdriver. (Using the same procedure, attach a DIN rail stopper to other side of the module.)

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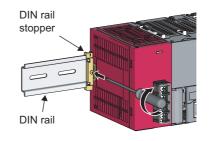








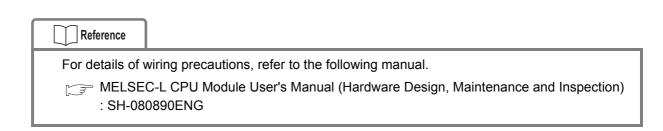




4 Wiring Modules

Wire the power supply module and the external I/O devices.

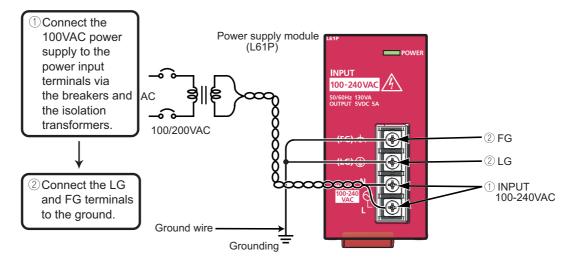
The power supply must be disconnected when wiring modules.



Wiring the power supply module

The following shows an example of wiring the power line and the ground wire.

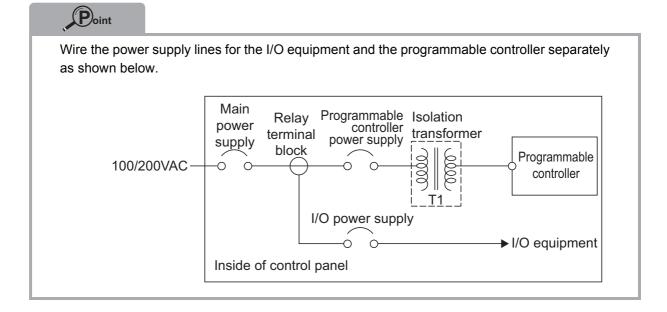
Grounding is performed to prevent electric shocks and malfunctions.



A6CON1 Ø External power supply Output common 0 Switch 1 0 Signal: X6 The flat cable arrangement and section to be connected are as shown below. (Viewed from the insertion point of the connector) æ ①Input Switch 2 Ш Signal: X7 common B20 A20 B19 B18 B17 A19 Switch 3 A18 Signal: X8 A17 B16 A16 B15 Al 5 B14 B13 B12 5 A14 A13 A12 Lamp 1 . Signal: Y0 2 B11 B10 B09 F Input common Switch 3 (X7) Switch 1 (X6) Lamp 2 $\overline{\mathcal{M}}$ Switch 2 (X8) Signal: Y6 B08 L 8 B07 806 A06 Lamp 3 A05 Signal: Y7 Lamp 1 (Y0) B04 A04 В03 А03 B02 Lamp 3 (Y7) Lamp 2 (Y6) 2 R01 Output common

The following shows an example of wiring the connectors for external devices.

The pin arrangements of the connectors for external devices differ considerably from those of the I/O modules. Be sure to confirm the flat cable arrangement in the illustration shown above before connection.



Isolation trans	former : A two-winding transformer. The primary and secondary coils are wound separately to protect the secondary load.
Control panel	 This is a panel that consists of breakers, switches, protection devices, relays, and programmable controllers, etc. By combining them, the panel performs the following operation. Receiving signals from external switches and sensors Suppling electricity to operate motors and solenoid valves of external machines and equipment Giving the signals to other equipment.

5 Checking Power Supply

Check that the power supply runs normally after configuring the system, mounting modules, and wiring.

Operating procedure

- 1. Check before turning on the power supply.
 - Wiring of the power supply
 - Power supply voltage
- 2. Set the CPU module to STOP. Open the cover on the front of the CPU module and set the switch to STOP.
- 3. Turn on the power supply module.
- 4. Check that the power supply runs normally.

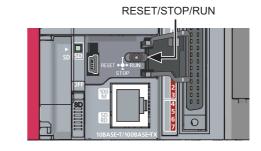
Check the front LEDs on each module. The following shows the normal state of the LEDs.

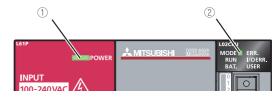
- Power supply module: "POWER" LED lights in green.
- ② CPU module: "MODE" LED lights in green.

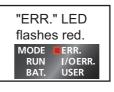
When a parameter or program is not written to the CPU module, the "ERR." LED flashes red, but it is not a problem at this stage.

The LED goes off when a program is written.

"7 Writing Programs" (P.22)







Construction of the system is complete. Turn off the power supply.

5

Point

- If the "POWER" LED of the power supply module is off, even though the power is turned on, check the wiring and installation statuses to confirm whether or not they are correct.
- If the "BAT." LED of the CPU module is flashing, check whether the battery has been correctly connected.

Terminology

Parameter: Setup information necessary to operate the programmable controller system. Modules and the network are set by writing parameters to the CPU module.

6 Programming

Create a program (sequence program) for sequence control.

"Devices" and "Instruction symbols" in programming

Combine "Devices" and "Instruction symbols" to create a sequence program.

1. Devices

Devices include bit devices and word devices.

①Bit device : Handles one-bit information such as the ON/OFF of a switch or a lamp.

• ON/OFF of a switch	\cdot ON/OFF of a lamp
ON	\mathbf{Q}

Examples of bit devices

Device name	Device symbol	Description
Input	Х	Receives a signal from an external device such as a switch.
Output	Y	Outputs a signal to an external device such as a lamp.
Internal relay	М	Temporarily saves data status in programs.
Timer (contact)	Т	Used to measure time. (When the set time comes, the contact is set to ON.)
Counter (contact)	С	Used to count the number of times the input condition turns from OFF to ON. (When the counter reaches the set number, the contact is set to ON.)

②Word device : Handles 16-bit information such as numeric values and character strings.

·Numeric value		Character strin	g
123456789		abcdefg	

Examples of word devices

Device name	Device symbol	Description
Data register	D	Registers numeric values and character strings.
Timer (current value)	т	Used to measure time. (Stores the current value of measuring time.)
Counter (current value)	С	Used to count the number of times the input condition turns from OFF to ON. (Stores the current value of the counter.)

Terminology	
Device	: A location to store data such as ON/OFF, numeric values, and character strings in the programmable controller.
Internal rela	y: Breaks/connects the sequential circuit by switching ON/OFF.
Contact	: An input used when creating a sequence program.

2. Instruction symbols

The following shows the basic instructions of sequence control.

Instruction symbol	Description
	Open contact: Conducts when an input signal is set to ON.
-1/- F6	Closed contact: Conducts when an input signal is set to OFF.
	Coil output: Outputs data to a specified device.

Terminology

Coil : An output used when creating a sequence program.

Reference

This section explains the most basic devices and instructions.

In addition to those listed above, other devices and instructions convenient for sequence control are available.

MELSEC-Q/L Programming Manual (Common Instructions):SH-080809ENG

Creating a program

Create a sequence program for rehearsal.

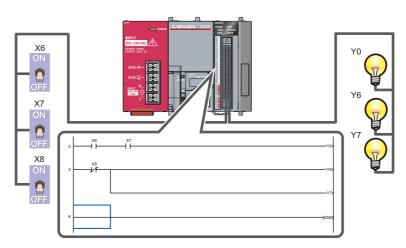
The following shows how to create a sequence program with basic devices and instruction symbols for sequence control.

The following devices and instruction symbols are used.

- Input : "X" device
- Output : "Y" device
- Instruction symbols : 貼, 拨, 穷

Create a program that performs the following controls.

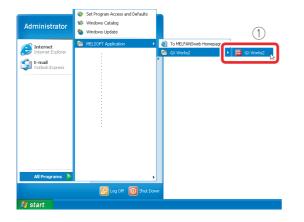
- When the X6 and X7 switches are turned on, the Y0 output lamp turns on.
- When the X8 switch is turned on, the Y6 and Y7 output lamps turn off.



The following explains the procedure to create this sequence program.

Operating procedure

 $(1) \ \ \text{Select [Start]} \rightarrow [\text{All Programs}] \rightarrow [\text{MELSOFT} \\ \text{Application}] \rightarrow [\text{GX Works2}] \rightarrow [\text{GX Works2}].$



After starting, the GX Works2 main screen is displayed.

MELSOFT Series GX Works2	
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Creating a new project

A project consists of programs, device comments, and parameters.

Operating procedure

(1) Select [Project] \rightarrow [New...].

E MELSOFT S	eries GX Wo	rks2			
Project Edit	Find/Replace	Compile	View	<u>O</u> nline	De <u>b</u> ug
<u>New</u>		Ctrl+N	4 PO-		10 F
: 📴 <u>O</u> pen		Ctrl+C	2		
Close			_		

- 1 Select "LCPU".
- ② Select the LCPU to be used (L02 in this guide).
- 3 Click the OK button.

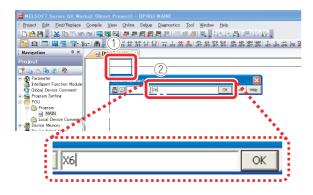
New Project	
Project Type:	ОК
Simple Project	Cancel
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PLC Series:	
LCPU	
PLC Type:	
L02	2
Language:	
Ladder	•

A project tree and a ladder screen are displayed.

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Operating procedure

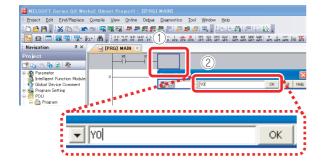
- *1.* Enter $_\downarrow^{X_6}$.
 - 1 Click the area to enter, and then enter "X".
 - (2) Enter "6" on the ladder input screen, and then click the ok button.



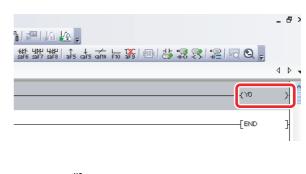
- *2*. Enter ^{X7}/_→ .
 - 1 Click the area to enter, and then enter "X".
 - ②Enter "7" on the ladder input screen, and then click the _____ button.

I MELSOFT Series GX Works2 (Unset Project) - [[PRG] MAIN]	
· Project Edit Find/Replace Compile View Online Debug Diagnostics Tool Window Help	
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• [A7]	OK
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- *3*. Enter ≺ Y0 ≯.
 - ①Enter "Y".
 - ②Enter "0" on the ladder input screen, and then click the ok button.

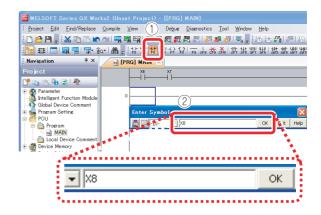


Coil Y0 is displayed.



4. Enter →^{X8}/→.

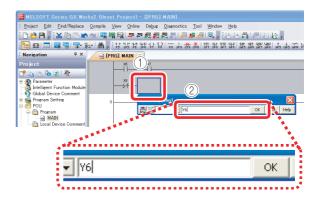
②Enter device "X8", and then click the _____ button.



5. Enter $\langle \gamma_6 \rangle$.

①Enter "Y".

②Enter "6" on the ladder input screen, and then click the ok button.



Coil Y6 is displayed.

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[END	3

6. Draw a line.

1 Click the area to enter, and then enter the +

 $\square \text{ and } \square \text{ tri} + \square.$

KALSOFT Series GX Works2 (Unset Project) - [[PRG] MAIN]
Provide Control of Control o

Converting a program

Define the contents of the entered ladder block.

Operating procedure

(1) Select [Compile] \rightarrow [Build].

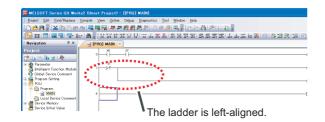
MELSOFT Series	GX Works	2 (Unset Pr	oject) -	[[P RG]	MAIN]
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Perform the conversion to align entered ladders. When completed, the gray display turns to white.

[Before conversion]



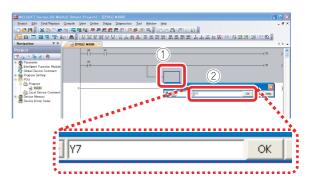
[After conversion]



7. Enter ≺ y7 .>.

①Enter "Y".

②Enter "7" on the ladder input screen, and then click the ok button.



Coil Y7 is displayed.

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		X

The programming is completed.

Point

Lines can also be edited using the following shortcut keys.

Editing	Toolbar	Short-cut key
Drawing lines	L F10	F10
Inputting vertical lines	l sF9	+ +
Inputting horizontal lines	F9	
Inputting horizontal lines continually	_	Ctrl + Shift + ← / →

A program is saved in unit of project.

Save the created project with a name.

Operating procedure

(1) Select [Project] \rightarrow [Save as].

醒 MELSOFT S	eries GX Wo	rks2 (Uns	et Pr	oject) -	[[P RG]	MAIN]
<u>Project</u>	<u>F</u> ind/Replace	<u>C</u> ompile	⊻iew	<u>O</u> nline	De <u>b</u> ug	<u>D</u> iagnos
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The "Save the project with a new name" screen is displayed.

- ② Specify the save location.
- ③ Enter the work space name, project name, and title.
- (4) Click the save button.

Save As	
Save Eolder Pati	
C:¥Documents and Settings	¥ZL01477¥My Documents Browse
Workspace/Project List:	
Workspace	
PROGRAM001	
PROGRAM002	
PROGRAM000	
	(3)
	PROGRAM001
Workspace Name:	
Project Name:	SampleProject
Title:	SampleProject
	(4) Save Cancel

5 Click the Yes button.



The project is saved.

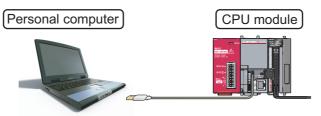
7 Writing Programs

Write the program to the CPU module.



Connecting the CPU module and the personal computer

Connect the CPU module and the USB port of the personal computer with a USB cable.



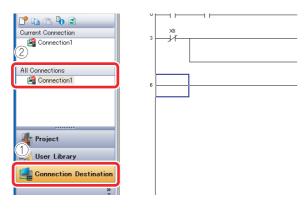
Turning on the programmable controller

Turn on the power supply module. Then turn on the power of the external power supply.

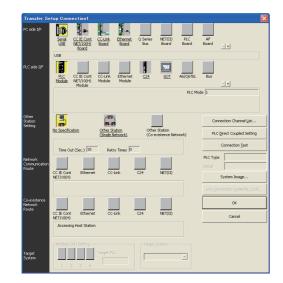
Setting GX Works2 and the programmable controller connection

Operating procedure

- ① Click [Connection Destination].
- (2) Double-click the data name to be transferred.



The "Transfer Setup Connection" screen is displayed.

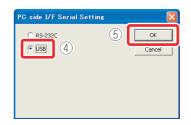


3 Double-click "Serial USB".

Transfer Set	up Con	nection1			
PC side I/F	D Serial USB	CC IE Cont NET/10(H) Board	<u>CC-Link</u> Board	<u>Ethernet</u> <u>Board</u>	Q Series Bus
	USB				

The "PC side I/F Serial setting" screen is displayed.

- ④ Select "USB".
- 5 Click the ____ button.



- 6 Click "PLC module".
- Click "No Specification".



8 Click the <u>Connection Iest</u> button.
Connection Channel Let Setting Mo Seconflication Time Out (Sec.) 10 Retry Times 0 Connection Network (Seconflication Time Out (Sec.) 10 Retry Times 0 Connection Let
When properly connected, the connection completion message is displayed.
 Click the OK button.
MELSOFT Application X Successfully connected with the L02CPUL Image: Connected with the L02CPUL Image: Connected with the Connected with the L02CPUL Image: Connected with the L02CPUL Image: Connected with the Connected with the L02CPUL Image: Connected with the L02CPUL Image: Connected with the Connected with the L02CPUL Image: Connected with the L02CPUL Image: Connected with the Connected with the L02CPUL Image: Connected with the L02CPUL Image: Connected with the Connected with the L02CPUL Image: Connected with the L02CPUL Image: Connected with the Connected with the L02CPUL Image: Connected with the L02CPUL Image: Connected with the Connected with the L02CPUL Image: Connected with the L02CPUL Image: Connected with the Connected with the L02CPUL Image: Connected with the L02CPUL Image: Connected with the Connected with the L02CPUL Image: Connected with the L02CPUL Image: Connected with the Connected with the L02CPUL Image: Connected with the L02CPUL Image: Connected with the Connected with the L02CPUL Image: Connected with the L02CPUL Image: Connected with the Connected with the L02CPUL Image: Connected with the L02CPUL Image: Connected with the Connected with the L02CPUL Image: Connected with the L02CPUL Image: Connected with the Connected with the L02CPUL<
CC IE Cost Ethernet CC-Link C24 NET(III) NET/10(H) System Image
Consistence Route Route CE E Conc Bithernet CCL int. CC4 NEI(III) CC E Concel NEI(III) Cancel Cancel Target System Target System

The connection setting is completed.

Point

If the screen shown below is displayed after step 8 is performed, check that the USB driver has been installed correctly and that an appropriate connection cable (USB cable) is being used. For the installation of the USB driver, refer to the following manual.

(m)	GX Works2 Installation Instr BCN-P5713	uctions:

٦	Unable to communicate with PLC. The following reasons may be responsible: Communication thre out. Cable trouble. RLC power are GPF or reset status. USB trouble.Present. < <pre>ES:01008502></pre>
	OK

Formatting the CPU module

Before writing the program, format the CPU module to set it to the initial status.

Operating procedure

(1) Select [Online] \rightarrow [PLC memory operation] \rightarrow [Format PLC memory].

🧱 MELSOFT Series GX W	orks2¥ZLO147	77¥My	Documer	ts¥PROGR	M001	E¥Samp	leProject - [[PRG] MAIN]
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🔁 🖬 🗖 🚟 🐨 🐨	tor M. Ett	- 40	Write to PLC	L.			実 教教部署 ふ 赤 赤 市 路 回 さき
Navigation 7 ×			(erify with I	PLC			1
Connection Destination			Start/Stop F	'LC			Ū
Connection Destination	•	í.	assword/K	eyword			-
Current Connection	4		LC Memory	Operation			Format PLC Memory.,
Connection		í –	Jelete PLC	Data.		_	·
			LC User Di	sta			Arrange PLC Memory
			Export to RC	DM Eormat.			
All Connections			Program Mei	mory <u>B</u> atch Do	anload		

The "Format PLC memory" screen is displayed.

- Select "Program Memory/Device Memory" from "Target Memory".
- (3) Click the Execute button.

Format PLC Memory	
Connection Channel List Connection Interface USB Target PLC (2)rkNo, 9 Station No, Host	<> PLC Module PLC Type 102
Target Memory Frogram Memory/Device Memory	
Oo not create a user setting system area (the rec	quired system area only)
C create a user setting system area	
High speed monitor area from other station	0 K Steps (015K Steps)
	K Steps
	Execute Close

(4) Click the Yes button.



5 Click the or button.



The CPU module format is completed.

Click the _____ button to close the "Format PLC Memory" screen.

Point

If data such as programs and parameters are already stored in the CPU module, they are deleted. Thus the necessary data should be read from the CPU module and saved as a project before executing the Format PLC "Format PLC Memory" function.

Operating procedure

(1) Select [Online] \rightarrow [Write to PLC].

📴 MELSOFT Series GX Works2¥ZL01-	477¥My Documents¥PROGRAM001E¥SampleProjec
<u>Eroject Edit Find/Replace Compile View</u>	ew <u>Online</u> De <u>b</u> ug <u>D</u> iagnostics <u>T</u> ool <u>W</u> indow <u>H</u> elp
	Wite to PLC
Navigation	Start/Stop PLC.
	Password/Keyword

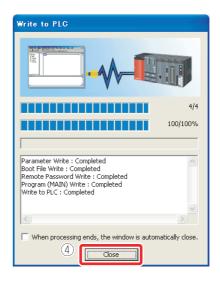
The "Online Data Operation" screen is displayed.

- Click "Parameter + Program". "Program" and "Parameter" are checked.
- 3 Click the **Execute** button.



When the "Write to PLC" function is properly executed, the following message is displayed.

(4) Click the _____ button.



The program writing is completed.

Click the _____ button to close the "Online Data Operation" screen.

8 Checking Operation

Execute the program written to the CPU module to check the operation.

Check the program operation with the switches and lamps or the monitor function of GX Works2.

Executing the program written to the CPU module

Use the "RESET/STOP/RUN" switch on the front of the CPU module for the operation.

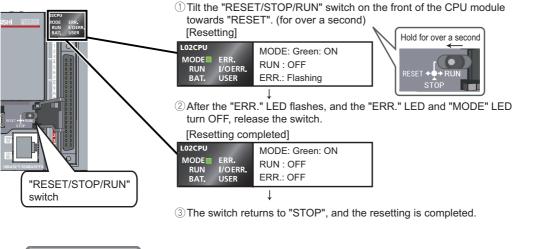
[The usage of the RESET/STOP/RUN switch]

: Executes the sequence program operation. RUN

- STOP : Stops the sequence program operation.
- RESET : Performs the hardware reset, operation error reset, and operation initialization.

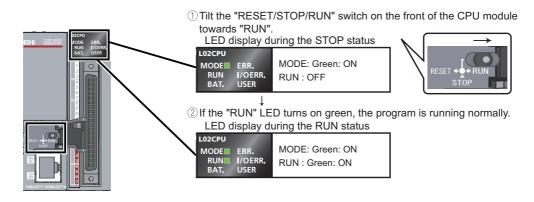
Operating procedure

1. Resetting the CPU module



Reference If the "ERR." LED does not turn off, refer to the following manual. MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) : SH-080890ENG

2. Executing the program



Do not use pointed tools such as a screwdriver when operating the switch. They may damage the switch.

Using switches and lamps to check the operation

Check the program operation by turning the switches and lamps ON/OFF. If all of the switches (X6, X7, and X8) are off right after the execution of the program, the output lamp Y0 stays off and the output lamp Y6 and the output lamp Y7 stay on due to the instructions from the created program.

1. Operation check 1

Turn on the switch X6. \rightarrow The output lamp Y0 stays off and the output lamps Y6 and Y7 stay on.

2. Operation check 2

Turn on the switch X7. \rightarrow The output lamp Y0 turns on.

3. Operation check 3

Turn on the switch X8. \rightarrow The output lamps Y6 and Y7 turn off.

Checking the operation in GX Works2

Check the program operation by using the monitor mode on the GX Works2 screen, where switches and lamps can be operated and their statuses can be checked.

Operating procedure

1. Set the operating program display screen to the monitor mode.

Select [Online] \rightarrow [Monitor] \rightarrow [Start Monitoring].

B NELSOFT Series GX Wor	ks2¥ZL01477¥I	ly Documents¥PROGRAMOD1E¥Samp	deProject - [[PRG] MAIN]
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	O [PRG] M	Start/Stop PLC.	
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Local Device Comment	•	Latch Data Backup	(
🕫 🎆 Device Memory		ELC Module Change	•
- 👼 Device Initial Value		Set Glock	
		Register/Cancel Display Module Menu.	
		Monitor	🛃 Start Monitoring (All Windows)
		Register Watch	
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			Start Watching Shift+51 Store Watching Shift+40+53
			Stog Watching Shift+Alt+F3

Execute the monitor to display the "Monitor status" screen.

)GR/	M001	E¥Sampl	eProject	- [[P RG]	MAIN]			
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							(\0	>

The ON/OFF status of bit devices can be checked on the ladder screen.

Contacts/outputs set to ON are displayed in blue.

Right after the program execution, bit devices X8, Y6, and Y7 are lit in blue due to the instructions from the program.

0 			
·	Blue illumination	Blue illumination	

2. Operation check 1

(1) Double-click X6 while pressing the Shift key \rightarrow X6 turns on.

1 Blue illumination

3. Operation check 2

(2) Double-click X7 while pressing the Shift key \rightarrow X7 turns on and Y0 lights.



4. Operation check 3

(3) Double-click X8 while pressing the Shift key \rightarrow X8 turns off and Y6 and Y7 turn off.



Point

While pressing the Shift key, double-click devices set to ON in Operation checks 1 and 2 to turn them off.

Frequently-used functions

This section explains functions frequently used in GX Works2.

Clarifying programs <comment></comment>	(P.29)
Device comment	
Statement	
Note	
Monitoring device values and status <device monitor=""></device>	(P.34)
Device batch monitor	
Entry data monitor	
Changing device values <device test=""></device>	(P.38)
Bit device forced ON/OFF	
Word device current value change	
Changing running programs <online change="" program=""></online>	(P.40)
Checking errors <error jump=""></error>	(P.41)
PLC diagnostics	
Error jump	
Monitoring system status <system monitor=""></system>	(P.43)



Clarifying programs <Comment>

Use comments to clarify the contents of a program.



The following are the three types of comment.

Туре	Description	Number of characters
Device comment	Describes roles and usage of each device.	32
Statement	Describes roles and usage of ladder blocks.	64
Note	Describes roles and usage of output instructions.	32

Point

Select [View] \rightarrow [Comment](Ctrl key	+ F5	key) to	switch t	the con	nment di	splay/hide
setting.							

Creating device comments

Device comments can be entered from the list or on the ladder diagram.

<Input operation from the list>

① Double-click [Global Device Comment] in the project list.



- ② Enter the start device number in "Device Name" and press the <u>Enter</u> key.
- ③ Enter a comment in the "Comment" column.
 * When entering comments for other devices, repeat Steps ② and ③.

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Global Device Comment	NR	
Program Setting	X4	
POU	25	
Program	X6	
	32	
🗌 🗃 MAN	X7 X8	
Local Device Convent	20	
Device Memory	XDA	
Device Initial Value	208	
	xog	
	x00	
	xpe	
	xor	
	x10	
	201	
	812	
	X13	
	314	
	815	
	X16	
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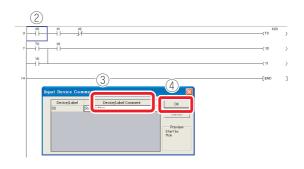
(4) Click the \bowtie button to close the screen.

<Input operation on the ladder diagram>

(1) Select [Edit] \rightarrow [Documentation] \rightarrow [Device Comment].

🛗 MELSO	DFT	Series GX Wor	ks2in	s¥ZLO	1477¥1	ly Doci	uments¥PR	DGRAM	1002E¥S	ample_02
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- (2) Double-click the ladder symbol to enter a comment.
- ③ Enter a comment on the "Input DeviceComment" screen.
- (4) Click the ____ button.



(5) Select the [Device Comment] menu in Step (1) again to finish the operation.

Entering comments when creating ladders

(1) Select [Tool] \rightarrow [Options].

<u>Project</u> Edit Eind/Replace	≳ompile <u>V</u> iew <u>O</u> nline De <u>b</u> ug	Diagnostics Tool Window Help	
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- (2) Select "Program Editor" \rightarrow "Ladder" \rightarrow "Device".
- ③ Select "Enter label comment and device comment".

	_ Operational Setting
Project Automatic Save Change History Program Editor Ladder/SFC	For Enter label comment and device comment
Device Comment Editor Parameter Monkor Onine Change	_ Explanation
⊞ - Intelligent Function Module	(4)

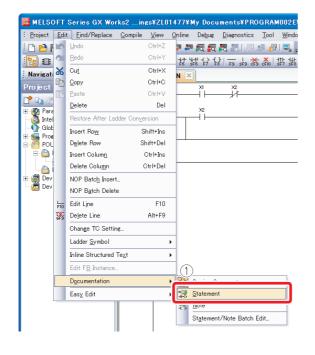
(4) Click the or button.

After the ladder entry operation, the "Device Comment" screen is displayed and a comment can be entered.

Device/Label Comment OK Cancel
Cancel
Preview

Operating procedure

(1) Select [Edit] \rightarrow [Documentation] \rightarrow [Statement].



- 2 Double-click a ladder symbol to enter a statement.
- ③ Select "In PLC".

2		
	(T0 K20	>
Enter Line Statement	(10	\rightarrow
Ганкс (3) Ск Бла	()1	>
14	END	}

- (4) Enter a statement.
- ⑤ Click the <u>ok</u> button.

Enter Line Statement	<u>6</u>
C In Periphet	OK Exit

6 Select the [Statement] menu in Step ① again to finish the operation.

If a statement is entered, the program needs to be "converted" to reflect the input. For details on the conversion, refer to the following.

"6 Programming-Converting a program"(P.20)

Point

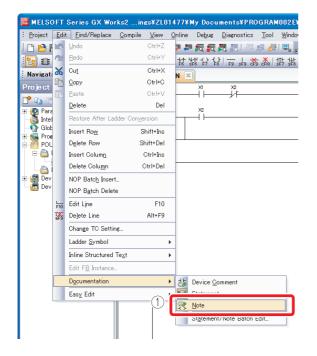
The following are the two types of statement.

- PLC statement Integrated statements can be written to/read from the CPU module.
- Peripheral statement

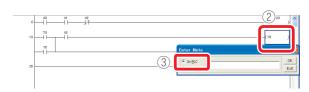
The program memory capacity can be saved since peripheral statements are not written to the CPU module. "*" is prefixed to the peripheral statement in the program.

Operating procedure

(1) Select [Edit] \rightarrow [Documentation] \rightarrow [Note].



- 2 Double-click an output instruction to enter a note.
- ③ Select "In PLC".



- ④ Enter a note.
- 5 Click the or button.

Enter Note	5 🛛
In PLC In Peripher	

 Select the [Note] menu in Step ① again to finish the operation.

If a note is entered, the program needs to be "converted" to reflect the input. For details on the conversion, refer to the following.

"6 Programming-Converting a program"(P.20)

Point

The following are the two types of note.

 PLC note Integrated notes can be written to/read

from the CPU module.

Peripheral note

The program memory capacity can be saved since peripheral notes are not written to the CPU module. "*" is prefixed to the peripheral note in the program.

Monitoring device values and status <Device monitor>

The following are the two types of device monitor.

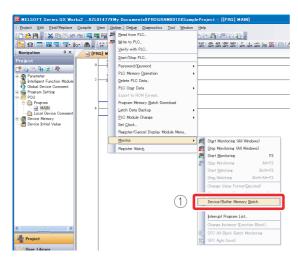
Туре	Purpose
Device batch monitor	Used to monitor consecutive devices of one type.
Entry data monitor	Used to simultaneously monitor separately-located devices in the ladder or various devices on one screen.

Device batch monitor

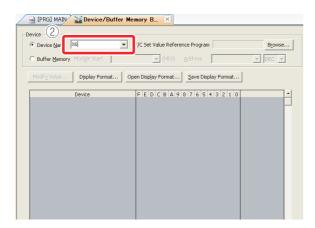
Monitors consecutive devices by specifying the start device number.

Operating procedure

 Select [Online] → [Monitor] → [Device/Buffer memory batch].



② Enter the start device number to be monitored and press the <u>Enter</u> key.



The values of devices and the ON/OFF status of contacts/coils are displayed.

③ Click the 🔀 button to close the screen.

_																
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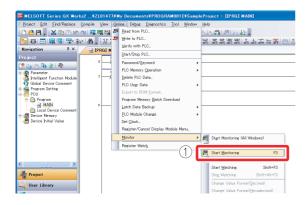
Entry data monitor

The device registration methods used to perform the Entry data monitoring are the specified device registration and the device registration with ladder monitor display. The device statuses can be displayed in watch windows 1 to 4.

<Specified device registration>

Register specified devices in Watch window 1.

(1) Select [Online] \rightarrow [Monitor] \rightarrow [Start Monitoring].

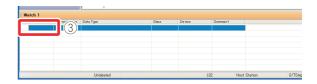


(2) Select [View] \rightarrow [Docking Window] \rightarrow [Watch1].

MELSOFT Series GX Works2	ZL01	477¥My Documents¥P	ROGRAMOO	I E¥Sa	ampleProject - [[PRG] MAIN]
Project Edit End/Replace Complet	- -	w Online Debus Diagr Icolbar Statusbar Golors Docking Window Comment Statement Ngte Non-Display Ladder Block	Ctrl+F5 Ctrl+F7 Ctrl+F8		[世習]間■▲● 00 野嬰盟雄雄野闘毒毒毒 际 Nevigation Window
Regiment Settine Compared Program Program Local Device Comment Begiment Settine Device Instal Value	88	Non-Display Ladder Block Display Ladder Block Non-Display All Ladder Block Display All Ladder Block Device Display All Device Display Cancel All Device Display Display Compile Result.	Ctrl+Num +	<u>A</u>	Watch1 Watch2 Watch2 Intelligent Function Module Monitor Find/Replace

* Watch window 1 is displayed on the bottom right of the screen.

③ Double-click the "Device/Label" column.



 ④ Enter the device/label to be registered and press the <u>Enter</u> key.

•	1					
Watch 1						
T' A *	Data Type	Class	Device	Comment		
× (4)	ви		X6			
	Unlabeled		LO	2 Host	Station	0/7St

(5) Select [Online] \rightarrow [Monitor] \rightarrow [Start Watching].

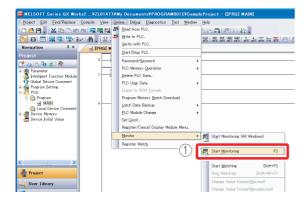
📴 MELSOFT Series GX Work	s2¥ZL01477	¥My Documents¥PROGRAM001E¥SampleProject - [[PRG] MAIN]
Eproject Edit Eind/Replace	<u>C</u> ompile <u>V</u> iew	<u>Qnline</u> Debug <u>D</u> iagnostics <u>T</u> ool <u>Window</u> <u>H</u> elp
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Navigation 7 ×	IPRG1 M	Verify with PLC.
Project	O [PRO] M	Start/Stop PLC
	• <u> </u>	Password/Keyword
C* 🕰 🖄 🖗 🖻 🐴		PLC Memory Operation
Parameter Antelligent Function Module	3 <u> </u>	Delete PLC Data
- 🖉 Global Device Comment		PLC User Data
🗄 🌆 Program Setting 🖶 🍊 POLI		Export to ROM Format.
😑 🛅 Program		Program Memory Batch Download
MAIN	6 <u> </u>	Latch Data Backup +
+ Cal Device Kemory		PLC Module Change +
-🧮 Device Initial Value		Set Qlock
		Register/Cancel Display Module Menu.
		Monitor Monitor (All Windows)
		Register Watch
		Start Monitoring F3
< <u> </u>		(5) Start <u>₩</u> atching Shift+F3
Project		©
User Library		Change Value Format(Decimal)
		Change Value Format(<u>H</u> exadecimal)

The values of devices and the ON/OFF status of contacts/coils are displayed.

<Device registration with ladder monitor display>

Specify the range of the ladder diagram on the ladder monitor screen and register the devices in a batch.

(1) Select [Online] \rightarrow [Monitor] \rightarrow [Start Monitoring].



(2) Select [View] \rightarrow [Docking Window] \rightarrow [Watch1].

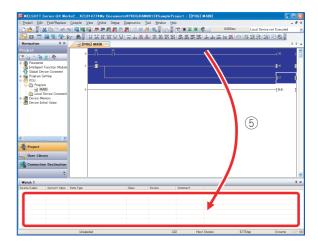


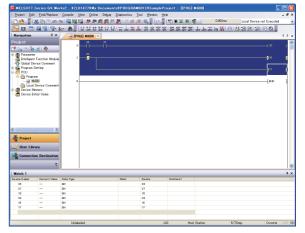
- ③ Click the start point of the ladder.
- (4) Click the end point of the ladder while pressing the shift key \rightarrow The range is specified.

	Series GX We	rks2¥ZL	014778	My Documen	teVPROGRAM	(001 E¥Sample F	roject - II	PRG1 N	(AIN]			-6
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Otbold D Otbold D Otbold D Porean Porean Porean Otbold D Porean Otbold D Otbold D	r r Function Module write Comment Setting an AN Device Comment fernory thial Value Xalue											:
	ž											
Watch 1												
Device/Label	Ourrent Value				Clarz	Davice	Domment					
	Ourrent Value	Data Type DA			Clarr	Device X6	Comment					

Register devices to the Watch window.

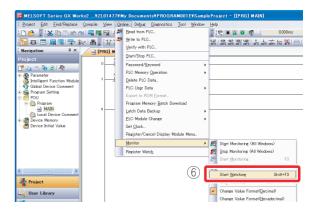
(5) Drag and drop the selected range to the watch window 1.



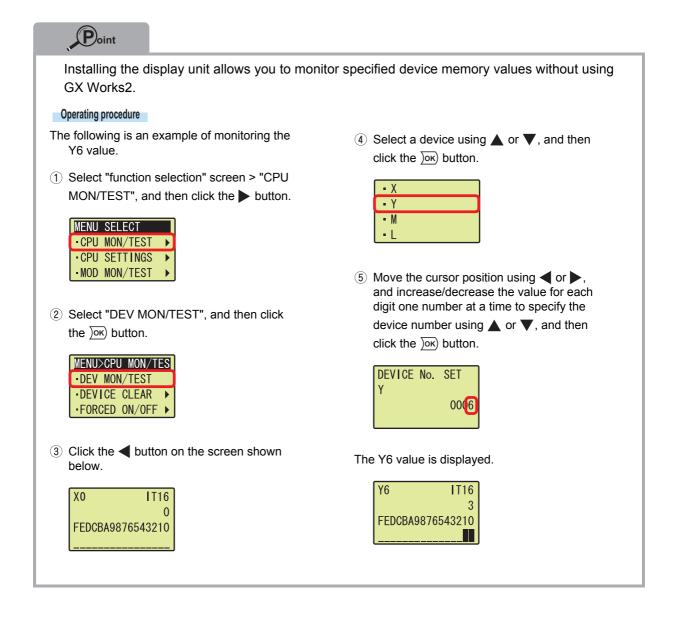


The values of the selected devices are monitored.

6 Select [Online] \rightarrow [Monitor] \rightarrow [Start Watching].



6



Changing device values <Device test>

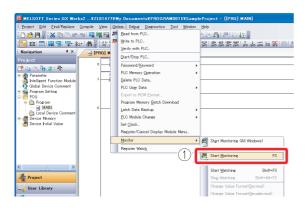
This function forcibly turns on/off the bit devices (X and Y) or changes the current value of the word device (such as T, C, and D).

Forced ON/OFF of bit device

Turn on/off forcibly the bit device (X and Y) of the CPU module.

Operating procedure

(1) Select [Online] \rightarrow [Monitor] \rightarrow [Start Monitoring].



② Select [Debug] → [Forced Input Output Registration/Cancellation..].

🎼 MELSOFT Series GX Work	s2¥ZL01477¥My I	Documents¥PROGRAM001E¥SampleProject ·	- [[PRG] MAIN]
<u>Project</u> Edit Eind/Replace	Qompile <u>V</u> iew <u>O</u> nline	Debug Diagnostics Tool Window Help	
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1	• m = !:: ::: :: ::	Show Restricted Instructions	່ 7 ໝີ6 มิร ໜ້າ ແ
Navigation 4 × Project		Eorced Input Output Registration/Cancellation.	
1 🔁 🖎 🗞 🕄 👫		Sampling Trace	•

- ③ Enter a device to be turned on/off forcibly.
- Turn on/off the device forcibly.
 [Resister FORCE ON] : Turns on the device.
 [Resister FORCE OFF] : Turns off the device.
 [Cancel Registration] : Cancels the registration of the specified device.

Fai	d Input O	utput Re	e is (4	on/Cano	ellation	
Device X6			Registe	r FORCE <u>O</u> N	<u>C</u> ancel R	egistration
Ľ		(Register	FORCE OF	=	
No.	Device	ON/OFF	No.	Device	ON/OFF	
1			17			
2			18			
3			19			
4			20			
5			21			
6			22			1
7			23			1
8			24			1
9			25			1
10			26			1
11			27			1
12			28			1
13			29			1
14			30			1
15			31			1
16			32			1
	lpdate Status	Bat	ch Cance	el Registratio	on Clos	; ;e

Word device current value change

Changes the current value of the word device (such as T, C, and D) in the CPU module to the specified value.

Operating procedure

(1) Select [Online] \rightarrow [Monitor] \rightarrow [Start Monitoring].

Project Edit Eind/Replace					Diagnostics	<u>T</u> ool	Window	Help			
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12 🗖 📰 🐨 🐨	ion Min .	많는		grite to PL				410	悲惨絮絮!	s des des les B	s al z
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Project			5	tart/Stop	PLC						_
1 Ch (1), Ch (2) / Ah	0	H	F	assword/	(eyword		,	-			
Parameter			F	LC Memor	y Operation		,				
-🛃 Intelligent Function Module	7	\vdash	1	elete PLC	Data						
Global Device Comment			F	LC User D	Nata		,				
- Setting - Marcel Poly		H	1	oport to R	OM <u>F</u> ormat			-			
😑 🛅 Program		H	6	rogram Me	emory <u>B</u> atch D	ownload					
MAIN Local Device Comment	14	H	ļ	atch Data	Backup		,	-			
Device Memory		Н	1	LC Module	: Change		•				
\overline \overline Device Initial Value			5	iet <u>C</u> lock							
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						(1)-		Start <u>M</u> onitoring	F	3
									Start Watching	Shift+F	
									Stop Watching	Shift+Alt+E	

(2) Select [Debug] \rightarrow [Modify Value].

MELSOFT Series GX Worl	ks2ings¥ZLO	1477¥My Doc	uments¥PRO	GRAM002E¥S	iample_02 - [[PRG] MAIN]
Eroject Edit Eind/Replace	<u>C</u> ompile <u>V</u> iew	Qnline Debug	<u>Diagnostics</u>	<u>T</u> ool <u>₩</u> indow	Help	
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Point

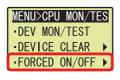
Installing the display unit allows the forced ON/OFF of X/Y device with the operation of the display unit.

Operating procedure

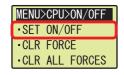
- The following is an example of operating the forced ON/OFF of X7.
- Select "function selection" screen > "CPU MON/TEST", and then click the ▶ button.

MENU	SELECT	
	MON/TEST	►
• CPU	SETTINGS	►
• MOD	MON/TEST	►

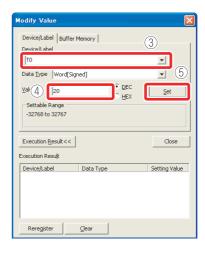
② Select "FORCED ON/OFF", and then click the button.



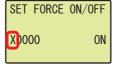
③ Select "SET ON/OFF", and then click the ow button.



- $(\ensuremath{\mathfrak{3}})$ Enter the device number to be changed.
- ④ Enter the value to be changed.
- 5 Click the **_**₂et button.



(4) Select X/Y using \blacktriangle or \blacktriangledown .



(5) Move the cursor position using ◀ or ▶, and increase/decrease the value for each digit one number at a time to specify the device number using ▲ or ▼.

SET	FORCE	ON/OFF
X00(7	ON

6 Move the cursor position using ◀ or ▶, switch ON/OFF using ▲ or ▼, and then click the os button.

ſ	SET	FORCE	ON/OFF
	X00()7	OFF

Changing running programs <Online program change>

This function writes only the modified ladder block to the CPU module while the CPU module is in the "RUN" status.

A program can be written in a short time since this function does not transfer the whole program.

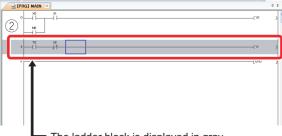
The following is an example of adding a contact to the ladder.

Operating procedure

① Display the ladder.



2 Add contacts.



• The ladder block is displayed in gray.

- (3) Select [Compile] \rightarrow [Online Program Change].
- 4 Click the <u>Yes</u> button.

1	Attention The operation of online change varies PLC control. Please check the safety before executing. The target memory is a program on the program memory.
	 If start-up execution instruction, fail execution instruction or SCJ instruction is given while programming, it cannot work prope -Online change to the same program from multiple positions at the same time is prohibited. Please check the old program and the program in FLC are identical before executing.
	Are you sure?
	Target Program : MAIN1

When the online program change has been properly completed, the following message is displayed.

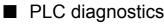
5 Click the or button.

MELSOF	T Series G	iX Works2	
٩	Online char There are 4	nge has completed. 99 online change mainter	nance steps remaining.
	5	OK	

The program in the CPU module and the program to be modified in GX Works2 must be the same to perform the online program change. If you are not sure, verify the programs in advance or modify the ladder after performing the "Read from PLC" function.

Checking errors < Error jump>

If an error occurs, it can be checked with PLC diagnostics. By using the Error jump, you can jump to the step number of the sequence program corresponding to the error.



The details of errors occurring can be checked from the PLC diagnostics.

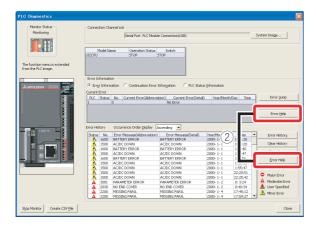
Operating procedure

(1) Select [Diagnostics] \rightarrow [PLC diagnostics].

🜃 MELSOFT Series GX Works2 (Unset Project) - [[PRG] M	AIN]
: Project Edit Eind/Replace Compile View Online Peter	PLC Diagnostics
	CC-Link IE Control Diagnostics
Project XI XI VI XI VI	QC-Link Diagnostics
Parameter M0 Intelligent Function Module	

PLC diagnostics screen (example)

(2) Click the [Error Help] button of the current error or the error history.



Help screen (example)

The details of the error and its countermeasures are displayed.

2100	SP. UNIT LAY ERR.	SP. UNIT LAY ERR.
Explanati	on	
	/O assignment setting of PLC d to an I/O module or vice ve	C parameter, Inteli (intelligent function module) was
In the I		E parameter, a module other than CPU (or nothing)
		ere made for a module without a general-purpose
- In the		ne parameter, the set assignment points of the
Incelliger	it runction module are less tr	han the points of the mounted modules.
Froublesh	nooting	
	on that corresponds to that r	e error using the GX Works2, check the FROM/TO numerical value (program error location), and correct
instructio		
instruction when ne The inte		was accessed is experiencing a hardware fault. entative.)
instruction when ne The inte	ligent function module that	
nstructio when ne The inte	ligent function module that	

Error jump

Errors can be checked easily with the error jump function of PLC diagnostics.

Operating procedure

(1) Select [Diagnostics] \rightarrow [PLC diagnostics].

🗰 MELSOFT Series GX Works2 (Unset Project) - [[PRG] H	(AIN]
Eroject Edit Eind/Replace Compile View Online Nebu	PLC Diagnostics
12 日 ■ 32 12 14 15 15 15 15 15 15 15 15 15 15 15 15 15	CC-Link IE Control Diagnostics
Project x x x C a B b 2 A	QC-Link Diagnostics
Parameter M0 Intelligent Function Module	

② Click the [Error Jump] button.

Monitoring	1.0011-016	Serial Port PLC Module	e Connection(USB)			5	ystem Image
e function menu is extended in the PLC inside.	Model Nan		Switch STOP				
-	Information						
10000							
MITOUOISHI BUSHUS	-	ition Continuation Error I	nformation C PLC Stati	us Information			
)	_	
PLC	Status			i) Veari.) //	-	Error Jump
			No Error	· · · · · · · · · · · · · · · · · · ·			
						Ĩ	
						Ì	Error Help
							Error Help
Error H	istory	Occurrence Order Display	sendin x				Error Help
• • • • • • • • • • • • • • • • • • •			scending 💌	Vice Black Pro-	Time		
Error H	s No.	Error Message(Abbreviation)	Error Message(Detail)	Year/Month/Day			Error (jelp Error History
• • • • • • • • • • • • • • • • • • •	s No. 1600	Error Message(Abbreviation) BATTERY ERROR	Error Message(Detail) BATTERY ERROR	2000-1-1	0:16:30		Error History
• • • • • • • • • • • • • • • • • • •	s No. 1600 1500	Error Message(Abbreviation) BATTERY ERROR AC/DC DOWN	Error Message(Detail) BATTERV ERROR AC/DC DOWN	2000-1-1 2000-1-1	0:16:30 0:20:20		Error History Clear History
• • • • • • • • • • • • • • • • • • •	s No. 1600 1500 1600	Error Message(Abbreviation) BATTERY ERROR ACJDC DOWN BATTERY ERROR	Error Message(Detail) BATTERY ERROR AC/DC DOWN BATTERY ERROR	2000-1-1 2000-1-1 2000-1-1	0:16:30 0:20:20 1:4:40		Error History
• • • • • • • • • • • • • • • • • • •	s No. 1600 1500 1600 1500	Error Message(Abbreviation) BATTERY ERROR ACJDC DOWN BATTERY ERROR ACJDC DOWN	Error Message(Detail) BATTERY ERROR ACIDC DOWN BATTERY ERROR ACIDC DOWN	2000-1-1 2000-1-1 2000-1-1 2000-1-1	0:16:30 0:20:20 1: 4:40 1: 4:47		Error History Clear History Error Jymp
• • • • • • • • • • • • • • • • • • •	s No. 1600 1500 1600 1500 1600	Error Message(Abbreviation) BATTERY ERROR ACJDC DOWN BATTERY ERROR ACJDC DOWN BATTERY ERROR	Error Message(Detail) BATTERY ERROR ACIDC DOWN BATTERY ERROR ACIDC DOWN BATTERY ERROR	2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1	0:16:30 0:20:20 1:4:40 1:4:47 1:4:56		Error History Clear History
• • • • • • • • • • • • • • • • • • •	s No. 1600 1500 1600 1500 1600 1500	Error Message(Abbreviation) BATTERY ERROR ACJDC DOWN BATTERY ERROR ACJDC DOWN BATTERY ERROR ACJDC DOWN	Error Message(Detail) BATTERY ERROR AC/DC DOWN BATTERY ERROR AC/DC DOWN BATTERY ERROR AC/DC DOWN	2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1	0:16:30 0:20:20 1: 4:40 1: 4:47 1: 4:56 1:31:33		Error History Clear History Error Jymp Error Help
• • • • • • • • • • • • • • • • • • •	s No. 1600 1500 1500 1500 1600 1500 1500	Error Message(Abbreviation) BATTERY ERROR AC/DC DOWN BATTERY ERROR AC/DC DOWN BATTERY ERROR AC/DC DOWN AC/DC DOWN	Error Message(Detail) BATTERY ERROR AC/DC DOWN BATTERY ERROR AC/DC DOWN BATTERY ERROR AC/DC DOWN AC/DC DOWN AC/DC DOWN	2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1	0:16:30 0:20:20 1: 4:40 1: 4:47 1: 4:56 1:31:33 1:55:47		Error History Clear History Error Jump Error Help Status Icon Legend
• • • • • • • • • • • • • • • • • • •	s No. 1600 1500 1500 1500 1600 1500 1500 1500	Error Message(Abbreviation) BATTERY ERROR ACIDC DOWN BATTERY ERROR ACIDC DOWN BATTERY ERROR ACIDC DOWN ACIDC DOWN ACIDC DOWN ACIDC DOWN	Error Wessae(Detail) BATTERY ERROR AC/DC DOWN BATTERY ERROR AC/DC DOWN BATTERY ERROR AC/DC DOWN AC/DC DOWN AC/DC DOWN	2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1	0:16:30 0:20:20 1: 4:40 1: 4:47 1: 4:56 1:31:33 1:55:47 22:20:51		Error History Clear History Error Jymp Error Help
• • • • • • • • • • • • • • • • • • •	s No. 1600 1500 1600 1500 1600 1500 1500 1500 1500	Error Message(Abbrevisition) BATTERY ERROR AC/DC DOWN BATTERY ERROR AC/DC DOWN BATTERY ERROR AC/DC DOWN AC/DC DOWN AC/DC DOWN AC/DC DOWN	Error Wessage(Detail) BATTERV ERROR ACIDC DOWN BATTERV ERROR ACIDC DOWN BATTERV ERROR ACIDC DOWN ACIDC DOWN ACIDC DOWN ACIDC DOWN	2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1	0:16:30 0:20:20 1:4:40 1:4:47 1:4:56 1:31:33 1:55:47 22:20:51 22:25:42		Error History Clear History Error Jump Error Help Status Icon Legend
• • • • • • • • • • • • • • • • • • •	s No. 1600 1500 1600 1500 1600 1500 1500 1500 1500 3001	Error Message(Abbrevisition) BATTERY ERROR ACIDC DOWN BATTERY ERROR ACIDC DOWN BATTERY ERROR ACIDC DOWN ACIDC DOWN ACIDC DOWN ACIDC DOWN ACIDC DOWN ACIDC DOWN ACIDC DOWN	Error Message(Detail) BATTERY ERROR AC/DC DOWN BATTERY ERROR AC/DC DOWN BATTERY ERROR AC/DC DOWN AC/DC DOWN AC/DC DOWN AC/DC DOWN AC/DC DOWN PARAMETER ERROR	2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1	0:16:30 0:20:20 1:4:40 1:4:47 1:4:56 1:31:33 1:55:47 22:20:51 22:25:42 0:3:24		Error History Clear History Error Jymp Error Help Status Icon Legend Major Error A Moderate Error
• • • • • • • • • • • • • • • • • • •	s No. 1600 1500 1600 1500 1600 1500 1500 1500 1500 1500 3001 2030	Error Message(Abbrevisition) BATTERY ERROR ACIDC DOWN BATTERY ERROR ACIDC DOWN BATTERY ERROR ACIDC DOWN ACIDC DOWN ACIDC DOWN ACIDC DOWN ACIDC DOWN ACIDC DOWN ACIDC DOWN NO END COVER	Error Message/Detail BATTERY ERROR AC/DC DOWN BATTERY ERROR AC/DC DOWN BATTERY ERROR AC/DC DOWN AC/DC DOWN AC/DC DOWN AC/DC DOWN AC/DC DOWN PARAMETER ERROR NO END COVER	2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-2 2000-1-2	0:16:30 0:20:20 1:4:40 1:4:47 1:4:56 1:31:33 1:55:47 22:20:51 22:25:42 0:3:24 0:40:34		Error History Glear History Error Jymp Error Help Status Icon Legen Adapte Error Moderate Error User Specified
• • • • • • • • • • • • • • • • • • •	s No. 1600 1500 1600 1500 1500 1500 1500 1500 1500 1500 2030 2200	Error Message(Abbrevisition) BATTERY ERROR ACIDC DOWN BATTERY ERROR ACIDC DOWN BATTERY ERROR ACIDC DOWN ACIDC DOWN ACIDC DOWN ACIDC DOWN ACIDC DOWN ACIDC DOWN ACIDC DOWN	Error Message(Detail) BATTERY ERROR AC/DC DOWN BATTERY ERROR AC/DC DOWN BATTERY ERROR AC/DC DOWN AC/DC DOWN AC/DC DOWN AC/DC DOWN AC/DC DOWN PARAMETER ERROR	2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1 2000-1-1	0:16:30 0:20:20 1:4:40 1:4:47 1:4:56 1:31:33 1:55:47 22:20:51 22:25:42 0:3:24		Error History Clear History Error Jymp Error Help Status Icon Legend Major Error A Moderate Error

The cursor jumps to the step number of the sequence program corresponding to the selected error.



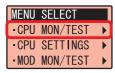
Point

Installing the display unit allows you to confirm the errors occurring and errors which have occurred in the past with the display unit.

Operating procedure

The following is an example of the operating procedure to check the latest errors occurring in the CPU module.

 Select "function selection" screen > "CPU MON/TEST", and then click the ▶ button.



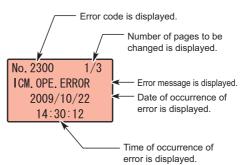
② Select "ERROR MONITOR", and then click the button.

MENU>CPU MON/TES
-SCAN TIME MON
•BLT-IN I/O MON► •ERROR MONITOR ►
■ERROR MONITOR ▶

③ Select "MONITOR", and then click the or button.

MENU>CPU>ERR	
-MONITOR	
•LOG	►
- CLEAR	

Error information is displayed.



Use **b** or **d** to display individual error information and common error information.

- To return to the previous screen, click the ESC button.
- The error history can be displayed and "Clearing the errors", etc. can also be performed using the display unit. MELSEC-L CPU Module User's Manual (Function Explanation, Program Fundamentals): SH-080889ENG

Monitoring system status <System monitor>

This function monitors the system status of the CPU module and other modules.

Operating procedure

Select [Diagnostics] \rightarrow [System Monitor].

MELSOFT Series GX Wor	ks2 (Unset Pro	ject) – [[PR	RG] MAIN]
Eroject Edit Eind/Replace	<u>C</u> ompile <u>V</u> iew	Qnline Debu	ug <u>D</u> iagnostics <u>T</u> ool <u>W</u> indow <u>H</u> elp
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Navigation 7 ×	PRG] M	AIN ×	CC-Link IE Control Diagnostics MELSECNET Diagnostics
Project		n XI	MELSECNET Diagnostics
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Parameter Anternative Comment Global Device Comment			

The "System monitor" screen is displayed.

- 1 Main block
- (2) Operation to selected module
- ③ Connection channel list
- (4) Block information list
- (5) Module information list

System Monitor System Connection Channel Let Monitoring Mentioning Connection Channel Let Serial Piot PLC Module Connection	ion(USB)					System	inage	2
Man Boa		Ma Slo L02	CPU(IO)	nformatio	n Diegnostic	3 E	rrar History	Detal
Block Module Block Name Power Number of Installed Modules	Status Block-	Series	Nodel Name	Point	Paramete		1/0	Network No. Station No.
							Address	
Supply Plodules			ower		Type Power	Point	Address	Station No.
Main block Exist 2	CPU .	L 1	605PU	-	Power Display Nodule	-	-	-
Supply Plodules		L 1		1	Power Display Nodule CPU	1	-	
Supply Plodules		L	605PU	1	Power Display Module	-	-	-
Supply Plodules	CPU	L	605PU 02CPU] 16Point	Power Display Nodule CPU Built-in IJO	16Point		-

No.	Description
1	Main block: Displays the module operation statuses and I/O addresses.
2	Operation to selected module: Displays the I/O and model of the module being selected.
3	Connection channel list: Displays the details of the connection target being set.
(4)	Block information list: Displays the block information.
5	Module information list: Displays the model, type, and start I/O of the module being selected.

ne details of each module		-	screen.
	Double-click the CPU mod → The "PLC Diagnostics"	screen is displayed an	d the operation status
	of the CPU module car	ре спескеа.	
	Monitor Status Connection Channel List		
	Monitoring Serial Port PLC Module Com	ection(USB)	System Image
System Moni pr	Model Name 0	peration Status Switch	
- Monitor Statu	The function menu is extended from the PLC image.		
Monitorin	Error Information		
	LADIEU ALTO LUSIE Current Error	ontinuation Error Information C PLC Status Information	
Main Block —	PLC Status No. Curr 1	nk Error(Abbreviation) Current Error(Detail) Year/Month No Error	Der Time Error Jump Error Glear
Main blo k			Error Help
		Order Display Ascending	v Time Error History
I/O Adr.		Open Composition Error Message(Detail) Year/Month/De NI A C/DC DOWN 2009-12-9 ROR SP. PARA ERROR 2009-12-9 NI A C/DC DOWN 2009-12-9	v Time ▲ Error Hstory 17:042 17:1:30 17:27:34 From Issory
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	A 1500 A 200 A 200 A 200 A 200 A 200 SP, PARAE A 200 SP, UNIT L A 200 SP, UNIT L A 200 SP, ARAE A 200 SP, ARAE A 200 SP, ARAE A 200	NN 2009-12-9 RROR SP. PARA ERROR 2009-12-10 Y ERR. SP. UNIT LAY ERR. 2009-12-10 BOOR SP. PARA ERROR 2009-12-10	Other Major Error 10:15:2 A Moderate Error 10:20:54 Liser Specified
	1500 AC(DC DO) 3300 SP. PARA E	IN AC/DC DOWN 2009-12-10 RROR SP. PARA ERROR 2010-1-5	10:20:54 10:24:40 10:45:28 ▼ Minor Error
	Stop Monitor Create CSV Ele		Close
Block Information List			
		(excluding CPU and p	ower supply).
Block Module Block Nar	→ The "Module Detailed		
Main block	the operation status of		necked. The built-in
	I/O can also be checke	d.	
	Built-in I/O Module Detailed Information		×
	Monitor Status Monitoring Model Name	L02CPU(10)	
	I/O Address Mount Position Product Information	0000 Main block PLC slot 111110000000000-A	
		110610000000000-a	
	Production Number		
	Production Number Module Information		
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Mitsubishi Programmable Controllers MELSEC-L Series Quick Start Guide

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