



**Engineering Software** 

# GX Configurator-QP Version 2 Operating Manual

-SW2D5C-QD75P-E



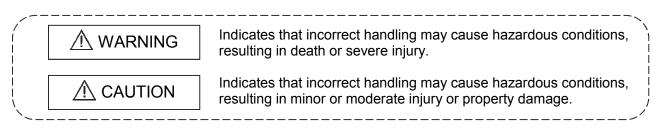
# • SAFETY PRECAUTIONS •

(Read these precautions before using this product.)

Before using this product, please read this manual and the relevant manuals carefully and pay full attention to safety to handle the product correctly.

The precautions given in this manual are concerned with this product only. For the safety precautions of the programmable controller system, refer to the user's manual for the CPU module User's Manual.

In this manual, the safety precautions are classified into two levels: "AWARNING" and "ACAUTION".



Under some circumstances, failure to observe the precautions given under "A CAUTION" may lead to serious consequences.

Observe the precautions of both levels because they are important for personal and system safety.

Make sure that the end users read this manual and then keep the manual in a safe place for future reference.

# [Start-Up/Maintenance Precautions]

# 

• Before performing the OPR, JOG operation, inching operation, positioning data test or other operation in the test mode, read the manual carefully, fully ensure safety, and set the programmable controller CPU to STOP.

Not doing so can damage the machine or cause an accident due to misoperation.

# • CONDITIONS OF USE FOR THE PRODUCT •

(1) Mitsubishi programmable controller ("the PRODUCT") shall be used in conditions;

i) where any problem, fault or failure occurring in the PRODUCT, if any, shall not lead to any major or serious accident; and

ii) where the backup and fail-safe function are systematically or automatically provided outside of the PRODUCT for the case of any problem, fault or failure occurring in the PRODUCT.

(2) The PRODUCT has been designed and manufactured for the purpose of being used in general industries.

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Prohibited Applications include, but not limited to, the use of the PRODUCT in;

- Nuclear Power Plants and any other power plants operated by Power companies, and/or any other cases in which the public could be affected if any problem or fault occurs in the PRODUCT.
- Railway companies or Public service purposes, and/or any other cases in which establishment of a special quality assurance system is required by the Purchaser or End User.
- Aircraft or Aerospace, Medical applications, Train equipment, transport equipment such as Elevator and Escalator, Incineration and Fuel devices, Vehicles, Manned transportation, Equipment for Recreation and Amusement, and Safety devices, handling of Nuclear or Hazardous Materials or Chemicals, Mining and Drilling, and/or other applications where there is a significant risk of injury to the public or property.

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REVISIONS

\* The manual number is given on the bottom left of the back cover.

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		Section 5.2, Section 6.1, Section 6.3, Section 6.6.2, Section 7.1,		
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		Section 10.4.5, Section 11.1.4, Section 11.2.1 to Section 11.2.3,		
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		Section 6.6.1, Section 7.4, Section 8.2, Section 8.3.1, Section 10.2.4 to Section 10.2.6, Section 10.5, Section 11.1.2, Section 11.1.3,		
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l		Appendix 3		
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#### INTRODUCTION

Thank you for choosing the Mitsubishi MELSOFT Series Integrated FA software. Read this manual and make sure you understand the functions and performance of MELSOFT series thoroughly in advance to ensure correct use.

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#### ABOUT MANUALS

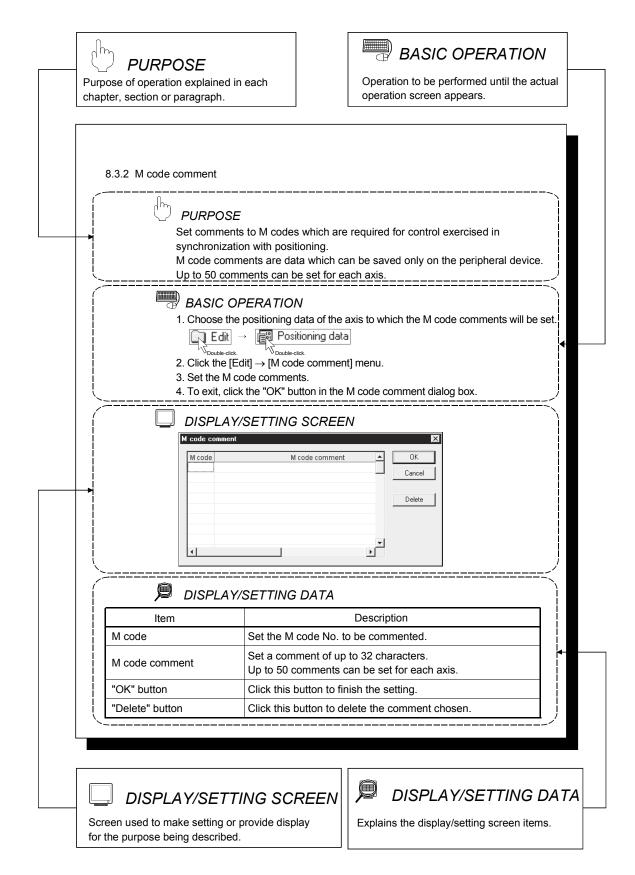
The following manuals are related to this product.

Refer to the following table and request the required ones.

### Related Manuals

Manual Name	Manual Number (Model Code)
Type QD75P/QD75D Positioning Module User's Manual Describes the system configuration, performance specifications, functions, handling, pre-operation procedures and troubleshooting of the QD75P1/QD75P2/QD75P4 and QD75D1/QD75D2/QD75D4. (Sold separately)	SH-080058 (13JR09)
Type QD75M Positioning Module User's Manual (Details)         Describes the system configuration, performance specifications, functions, handling, pre-operation         procedures and troubleshooting of the QD75M1/QD75M2/QD75M4.       (Sold separately)	IB-0300062 (1XB752)
Type QD75MH Positioning Module User's Manual (Details)         Describes the system configuration, performance specifications, functions, handling, pre-operation         procedures and troubleshooting of the QD75MH1/QD75MH2/QD75MH4.       (Sold separately)	IB-0300117 (1XB917)
MELSEC-L LD75P/LD75D Positioning Module User's Manual Describes the system configuration, performance specifications, functions, handling, pre-operation procedures and troubleshooting of the LD75P4/LD75D4. (Sold separately)	SH-080911ENG (13JZ46)
MELSEC-L LD77MH Simple Motion Module User's Manual (Positioning Control) Describes the system configuration, performance specifications, functions, handling, pre-operation procedures and troubleshooting of the LD77MH4. (Sold separately)	IB-0300172 (1XB942)
Q Corresponding MELSECNET/H Network System Reference Manual (Remote I/O network) This manual describes the system configuration of MELSECNET/H network system (Remote I/O network), performance, specifications and programming. (Sold separately)	SH-080124 (13JF96)
GOT1000 Series Connection Manual (Mitsubishi Products) Describes the system configuration for connection type and cable wiring applicable to GOT1000 series. (Sold separately)	SH-080868ENG (1D7MC2)

#### HOW TO USE THIS MANUAL



In addition, there are also the following explanations.



Point

Describes application operation if there are multiple purposes and the basic operation and display/setting data do not provide enough information.

# • HELPFUL CORRECTIVE ACTIONS

Explains corrective actions if monitored data is abnormal or a test cannot be made.

Provides information relevant to that page, e.g. the items you should be careful of and the functions you should know.

The following table lists the symbols used in this manual and their definitions.

Symbol	Description	
	Represents the menu name of the menu bar.	
	If the menu name differs among Axes #1 to #4, they are indicated #1 to #4.	
[ ]	[ ] $\rightarrow$ [ ] indicates a drop-down menu.	
	Example: [Project] $\rightarrow$ [New Project] menu	
	[Online] $\rightarrow$ [Test] $\rightarrow$ [Operation test #1 to #4] menu	
	Represents the tool button on the toolbar corresponding to the drop-down menu.	
( )	If the button differs among Axes #1 to #4, the buttons of #1 to #4 are indicated.	
	Example: [Project] $\rightarrow$ [Save Project] menu ( $\blacksquare$ )	
	$[Online] \rightarrow [Test] \rightarrow [M \text{ code off}] \rightarrow [M \text{ code #1 to #4 off}] \text{ menu} ( \blacksquare \text{ to } \blacksquare)$	
	Represents the item name or command button in the dialog box.	
	Example: "OK" button	
<< >>	Represents the tab in the dialog box.	
<< >>	Example: < <basic 1="" parameter="">&gt; tab</basic>	

#### ABOUT THE GENERIC TERMS AND ABBREVIATIONS

The following generic terms and abbreviations for the software for positioning module, positioning modules, etc. are used in this manual.

Generic		
Term/Abbreviation	Description	
GX Configurator-QP	Generic product name for type SW2D5C-QD75P-E, SW2D5C-QD75P-EA and SW2D5C-QD75P-EV -EA means a multiple license product and -EV an update-only product.	
GX Configurator-AP	Generic product name for type SW0D5C-AD75P-E and SW0D5C-AD75P-EA -EA means a multiple license product.	
GX Developer	Abbreviation for GX Developer (SW4D5C-GPPW-E or later)	
SW1AD75P	Generic term for SW1RX-AD75P, SW1NX-AD75P, SW1IVD-AD75P(-E) positioning module software packages for MELSEC-A series	
Peripheral device	Generic term for personal computers and personal computer CPU modules on which GX Configurator-QP may be used	
QD75P	Generic term for type QD75P1, QD75P2 and QD75P4 positioning modules	
QD75D	Generic term for type QD75D1, QD75D2 and QD75D4 positioning modules	
QD75M	Generic term for type QD75M1, QD75M2 and QD75M4 positioning modules	
QD75MH	Generic term for type QD75MH1, QD75MH2 and QD75MH4 positioning modules	
QD75	Generic term for type QD75P, QD75D, QD75M and QD75MH positioning modules	
LD75	Generic term for type LD75P4 and LD75D4 positioning modules	
LD77	Another term for type LD77MH4 simple motion module	
Positioning module	Generic term for type QD75 and LD75 positioning modules and type LD77 simple motion modules	
AD75P	Generic term for type QD75P1, AD75P2 and AD75P3, A1SD75P1, A1SD75P2, A1SD75P3, AD75P1-S3, AD75P2-S3, AD75P3-S3, A1SD75P1-S3, A1SD75P2-S3, A1SD75P3-S3 and AJ65BT-D75P2-S3 positioning modules	
AD75M	Generic term for type AD75M1, AD75M2, AD75M3, A1SD75M1, A1SD75M2 and A1SD75M3 positioning modules	
AD75	Generic term for MELSEC-A series positioning modules that may be used with GX Configurator-AP	
QCPU	Generic term for Q00JCPU, Q00UJCPU, Q00CPU, Q00UCPU, Q01CPU, Q01UCPU, Q02CPU, Q02HCPU, Q02HCPU, Q02UCPU, Q03UDCPU, Q03UDECPU, Q04UDHCPU, Q04UDEHCPU, Q06HCPU, Q06HCPU, Q06UDHCPU, Q06UDEHCPU, Q10UDHCPU, Q10UDEHCPU, Q12HCPU, Q12HCPU, Q13UDHCPU, Q13UDEHCPU, Q20UDHCPU, Q20UDEHCPU, Q25HCPU, Q26UDHCPU, and Q26UDEHCPU	
LCPU	Generic term for L02CPU and L26CPU-BT	
Universal model QCPU	Generic term for Q00UJCPU, Q00UCPU, Q01UCPU, Q02UCPU, Q03UDCPU, Q04UDHCPU, Q06UDHCPU, Q10UDHCPU, Q13UDHCPU, Q20UDHCPU, Q26UDHCPU, Q03UDECPU, Q04UDEHCPU, Q06UDEHCPU, Q10UDEHCPU, Q13UDEHCPU, Q20UDEHCPU, and Q26UDEHCPU	
Built-in Ethernet port QCPU	Generic term for Q03UDECPU, Q04UDEHCPU, Q06UDEHCPU, Q10UDEHCPU, Q13UDEHCPU, Q20UDEHCPU, and Q26UDEHCPU	
Programmable controller CPU	Generic term for programmable controller CPU on which a positioning module can be mounted	
Serial communication module	Generic term for Q corresponding serial communication module and L corresponding serial communication module	
PC CPU module	Abbreviation for MELSEC-Q series compatible PC CPU module (CONTEC CO., LTD. make)	
Servo amplifier	Generic term for drive units connected to the positioning module	
Servo motor	Generic term for motors connected to the drive units (servo amplifiers)	
Positioning control	Generic term for equipment sets which exercise positioning control, including the positioning	
system	modules, servo amplifiers, servo motors and external switches	
1-license product	Abbreviation for 1-license product of GX Configurator-QP	

(To the next page)

Generic Term/Abbreviation	Description
Multiple-license product	Abbreviation for multiple-license product of GX Configurator-QP
Update-only product	Abbreviation for update-only product of GX Configurator-QP
Windows <sup>®</sup> 7	Generic term for the following: Microsoft <sup>®</sup> Windows <sup>®</sup> 7 Starter Operating System, Microsoft <sup>®</sup> Windows <sup>®</sup> 7 Home Premium Operating System, Microsoft <sup>®</sup> Windows <sup>®</sup> 7 Professional Operating System, Microsoft <sup>®</sup> Windows <sup>®</sup> 7 Ultimate Operating System, Microsoft <sup>®</sup> Windows <sup>®</sup> 7 Enterprise Operating System Note that the 32-bit version is designated as "32-bit Windows <sup>®</sup> 7", and the 64-bit version is designated as "64-bit Windows <sup>®</sup> 7".
Windows Vista®	Generic term for the following:Microsoft® Windows Vista®Home Basic Operating System,Microsoft® Windows Vista®Home Premium Operating System,Microsoft® Windows Vista®Business Operating System,Microsoft® Windows Vista®Ultimate Operating System,Microsoft® Windows Vista®Enterprise Operating System,
Windows® XP	Generic term for the following: Microsoft® Windows® XP Professional Operating System, Microsoft® Windows® XP Home Edition Operating System

# PACKING LIST

This product consists of the following.

Туре	Product Name		Quantity
SW2D5C-QD75P-E	GX Configurator-QP Version 2 (1-license product)	(CD-ROM)	1
	End-user software license agreement		1
	Software registration notice		1
	License agreement		1
	GX Configurator-QP Version 2 (multiple-license product)	(CD-ROM)	1
SW2D5C-QD75P-EA	End-user software license agreement		1
5W2D5C-QD75P-EA	Software registration notice		1
	License agreement		n*
SW2D5C-QD75P-EV	GX Configurator-QP Version 2 (update-only product)	(CD-ROM)	1
	End-user software license agreement		1
	Software registration notice		1
	License agreement		1

st : Cards of the same quantity as the number of licenses are packed with the product.

# 1. OVERVIEW

This manual describes the functions and operating procedures of GX Configurator-QP. GX Configurator-QP is a software package that performs various functions such as data settings, monitoring, and tests for the MELSEC-Q/L series positioning modules.

GX Configurator-QP offers the following functions.

- Setting of positioning data and parameters
- Simulation using positioning data
- Read/write of data from/to positioning module
- Monitoring of positioning control status
- Test operation of positioning control
- Auto refresh setting between QCPU or LCPU devices and positioning module buffer memory

GX Configurator-QP can be used with any of the following positioning modules.

Desitioning module type	Model			
Positioning module type	MELSEC-Q series	MELSEC-L series		
Open collector output type	QD75P1, QD75P2, QD75P4	LD75P4		
Differential driver output type	QD75D1, QD75D2, QD75D4	LD75D4		
SSCNET connection type	QD75M1, QD75M2, QD75M4	-		
SSCNETIII connection type	QD75MH1, QD75MH2, QD75MH4	LD77MH4		

GX Configurator-QP can access the QD75 via any of the following modules.

Module type	Model
	Q00JCPU, Q00UJCPU, Q00CPU, Q00UCPU, Q01CPU,
	Q01UCPU, Q02CPU, Q02HCPU, Q02PHCPU,
QCPU	Q02UCPU, Q03UDCPU, Q03UDECPU, Q04UDHCPU,
	Q04UDEHCPU, Q06HCPU, Q06PHCPU, Q06UDHCPU,
	Q06UDEHCPU, Q10UDHCPU, Q10UDEHCPU,
	Q12HCPU, Q12PHCPU, Q13UDHCPU, Q13UDEHCPU,
	Q20UDHCPU, Q20UDEHCPU, Q25HCPU, Q25PHCPU,
	Q26UDHCPU, and Q26UDEHCPU
Q corresponding serial	
communication module	QJ71C24(N), QJ71C24(N)-R2
Q corresponding MELSECNET/H	
network remote I/O module *	QJ72LP25-25, QJ72BR15, QJ72LP25G, QJ72LP25GE
C Controller module	Q12DCCPU-V

\* : Only when connecting to the remote I/O module directly.

Module type	Model
LCPU	L02CPU, L26CPU-BT
L corresponding serial communication module	LJ71C24, LJ71C24-R2

\_\_\_\_\_

GX Configurator-QP can access the LD75/LD77 via any of the following modules.



GX Configurator-QP can simultaneously edit positioning module projects of MELSEC-Q series and MELSEC-L series.

Also, online operation in each project is available by specifying a connection target for each project.

## 1.1 Features

### (1) Concurrent editing of multiple projects

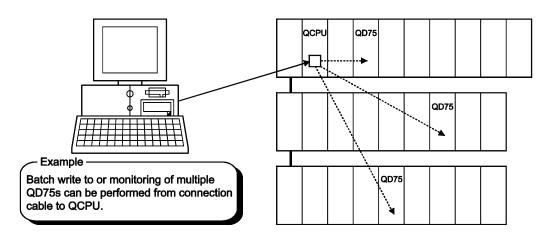
Capable of opening multiple projects simultaneously, this software allows you to easily edit the positioning data and block start data to be utilized by copying and pasting.

oject <u>E</u> dit <u>V</u> iew <u>O</u> nline _	[ool <u>W</u> ir	ndow <u>H</u> elp								
	8									
1 4 8 8 8 8										
	M N	191 191	2222	<b>F</b> B						
sample01 / QD75[	sam	ple01 / QD3	75D4 / Positionin	g data Ax	is #2 (170 :	0)			_ 🗆 🗵	
@9 Project informa ⊡@1 Edit	No.	Pattern	CTRI method	SI V axis	<u>arr(ms)</u>	DEC(ms)	Positioning	Arc Address	Command Dwe	
- 👘 Parameter	1	2:LOCUS	D:ABS ArcMP	Axis #1	0:1000	0;1000	100	75	100	
Positioning	2	2:LOCUS	D:ABS ArcMP	Axis #1		0;1000	200	125	100	
😰 Positionin <u>c</u>	3	2:LOCUS	D:ABS ArcMP	Axis #1	0;1000	0;1000	300	275		
Positionin <u>c</u>	4	2:LOCUS	D:ABS ArcMP	Axis #1	0;1000	0;1000	400	0		
Positioning	5	2:LOCUS	D:ABS ArcMP	Axis #1	0:1000	0;1000	500	0	100	
Block start	6	0:END	D:ABS ArcMP	Axis #1		0;1000	600	0	100	
Block start	7	<u></u>								
一篇 Block start 信题 Block start	1	1	i							
									Copy & page	aste
	🕮 sam	ple02 / QD	5P2 / Positionin	g data Axi	is #2 (170 :	0)				
	No.	Pattern	CTRL method	SLV axis	ACC(ms)	DEC(ms)	Positioning	Arc Address	Command D	
Project informa	1	2:LOCUS	D:ABS ArcMP	Axis #1	0;1000	0;1000	100	75	100 7 /	
Edit	2	2:LOCUS	D:ABS ArcMP	Axis #1	0;1000	0;1000	200	125	100	
Parameter	3	2:LOCUS	D:ABS ArcMP	Axis #1	0;1000	0;1000	300	275		
Positioning	4	2:LOCUS	D:ABS ArcMP	Axis #1		0;1000	400	0		
- 👘 Positioning	5	2:LOCUS	D:ABS ArcMP	Axis #1		0;1000	500	0		
Block start	6	0:END	D:ABS ArcMP	Axis #1		0;1000	600	0	100	
- Rinck start	7					-,,-				
▶	1									

#### (2) Efficient debugging of multi-modules

Because the QD75/LD75/LD77 to be connected to is set per project, batch write to or monitoring of multi-modules can be performed.

When using multiple QD75/LD75/LD77s, you can reduce the software start waiting time and physical work time, increasing debugging efficiency.



#### (3) Simplified program by auto refresh setting

Auto refresh setting is made to automatically read the following values stored in QD75/LD75/LD77 buffer memory to the QCPU/LCPU devices.

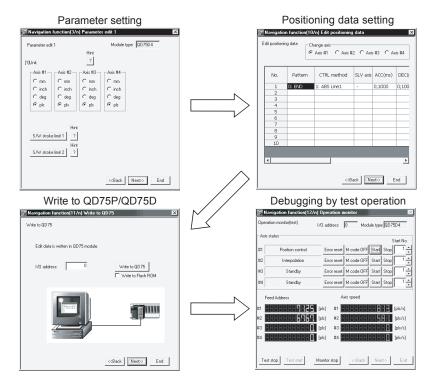
- Feed present value
- Machine feed value
- Feed speed
- Error No.
- Warning No.
- · Enable M code

Auto refresh setting reduces the number of FROM instructions used to read the buffer memory storage values, facilitating creation and debugging of programs.

Module information				_		
Module type: Positioning unit	S	itart I/O No.:	0000			
Module model name: QD75MH4						
Setting item	Module side Buffer size	Module side Transfer word count		Transfer direction	PLC side Device	1
Feed present value (Axis #1)	2	2		->	D100	- 1
Machine feed value (Axis #1)	2	2		->	D102	귀
Feed speed (Axis #1)	2	2		->		-
Error No. (Axis #1)	1	1		->		-
Warning No. (Axis #1)	1	1		->		-
Enable M code (Axis #1)	1	1		->		-
Busy (Axis #1)	1	1		->		-
Feed present value (Axis #2)	2	2		->		-
Machine feed value (Axis #2)	2	2		->		-
					1	
Make text file	End setu	р			Cancel	

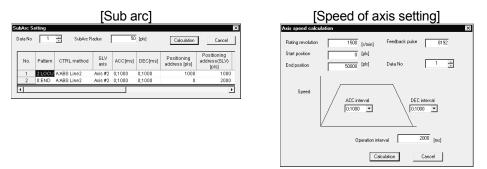
(4) Ease of operation with navigation function (only for QD75P/QD75D) GX Configurator-QP has a navigation function which can perform operations from data setting, write to the QD75P/QD75D, monitoring, test to data storage in a sequential order.

As basic settings and debugging can be performed in orderly sequence, you can understand operations necessary for this software and positioning control.



(5) Setting of optimum positioning data without complicated calculation Positioning data can be set by sub arc setting and automatic axis speed setting. Sub arc setting generates from the specified two linear interpolation control data the circular interpolation control data in which the angle between two linear paths is converted into a circular arc (curve) path.

Sub axis speed setting calculates the axis speed (command speed) from the operation time, travel, acceleration/deceleration time and motor specifications.

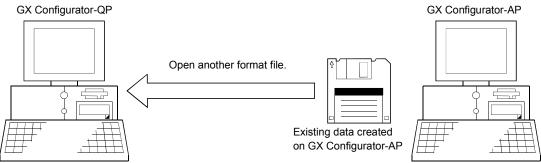


These functions allow the optimum positioning data to be set without complicated calculation and advance measurement.

#### (6) Ease of transition from AD75 (only for QD75)

You can read and use the data created on A series SW1\_-AD75P and GX Configurator-AP.

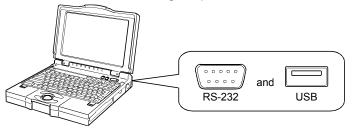
Valuable data is not wasted and can be utilized for QD75.



#### (7) Versatility by compatibility with RS-232 and USB

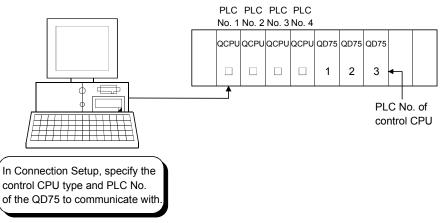
If the personal computer does not have a free serial port, connection can be made from the USB connector.

Especially for a notebook computer having a few serial ports, there are no restrictions due to shortage of ports.



#### (8) Compatible with multiple CPU system (only for QD75)

On GX Configurator-QP, setting the control CPU type and PLC No. of the QD75 to communicate with in Connection Setup (refer to Section 7.1) allows communication to be made with any QD75.



#### (Example)

Connection Setup for communication with the QD75 under control of PLC No. 1 PLC type: Type of PLC No. 1, Multiple PLC specification: PLC No. 1

\* : For details, refer to "QCPU User's Manual (Multiple CPU system)".



• Communication with the QD75 cannot be made if the control CPU type and PLC No. of the QD75 to communicate with are not set correctly in Connection Setup.

• If correct settings have been made in Connection Setup, any of PLC No. 1 to No. 4 may be specified as the connection target of the connection cable.

# 1.2 Manual Makeup

This manual is made up of 11 chapters and appendices.

This manual assumes that GX Configurator-QP is used to perform steps from positioning control system checking to operation in the following procedure.

<Sequence of steps taken by the user up to positioning control system operation>

Step 1: Install and wire the positioning control system.	Refer To
• Install and wire the programmable controller (such as the QCPU/LCPU, QD75/LD75/LD77, I/O	User's manual for
modules and intelligent function modules), servo amplifiers, motors, external switches and other	the positioning
external devices.	module used

Step 2: Check the GX Configurator-QP functions and learn the basic operations.	Refer To
Check the system with which GX Configurator-QP can be used.	Chapter 2
Check the functions that can be performed by GX Configurator-QP.	Chapter 3
Install GX Configurator-QP in the peripheral device and start the program.	Chapter 4
Learn the GX Configurator-QP screen makeup and basic operations.	Chapter 5

Step 3: Start operation of GX Configurator-QP.	Refer To
Create a project which will be the object of operation for GX Configurator-QP.	Chapter 6

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Step 4: Check the connection and initial operation of the positioning control system.	Refer To
Specify the QD75/LD75/LD77 to be accessed, ports where cables will be connected, and others.	
Check the QD75/LD75/LD77 types and I/O addresses of the stations connected.	
Check connection according to the signal states from the external devices.	Chapter 7
Check the alarms and warnings of the positioning module.	
Check that the servo motors are run by JOG operation.	

(To the next page)

## (From the preceding page)

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Step 5: Set and write data to the positioning module.	Refer To
<ul> <li>Set the parameters appropriate for the positioning control system and control.</li> <li>Set the servo parameters appropriate for the specifications of the servo amplifiers and motors used. (Only QD75M, QD75MH, and LD77)</li> <li>Set the positioning data and M code comments.</li> <li>Check the positioning data on the simulation screen.</li> <li>Make the corresponding setting if block start data and/or condition data is required.</li> <li>Make error check to check the parameters, servo parameters, positioning data and block start data settings.</li> </ul>	Chapter 8
Write, read or verity the set data on the project.	Chapter 9

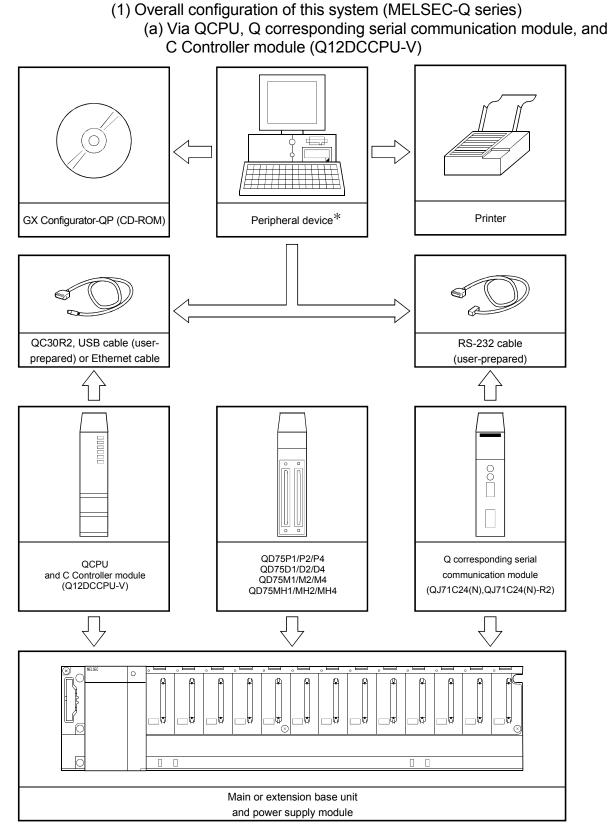
Step 6: Perform test operation and check and adjust the settings.	Refer To
Make online error check to recheck the settings of the parameters, servo parameters, positioning	
data and block start data written to the QD75/LD75/LD77.	
Check positioning control and test on the monitor screen.	Chapter 10
<ul> <li>Set the positioning data and block start data, and perform test operation.</li> </ul>	
Make present value change test, speed change test, OPR test, JOG operation test and MPG	
operation test to check the parameters, addresses, axis speeds, etc.	

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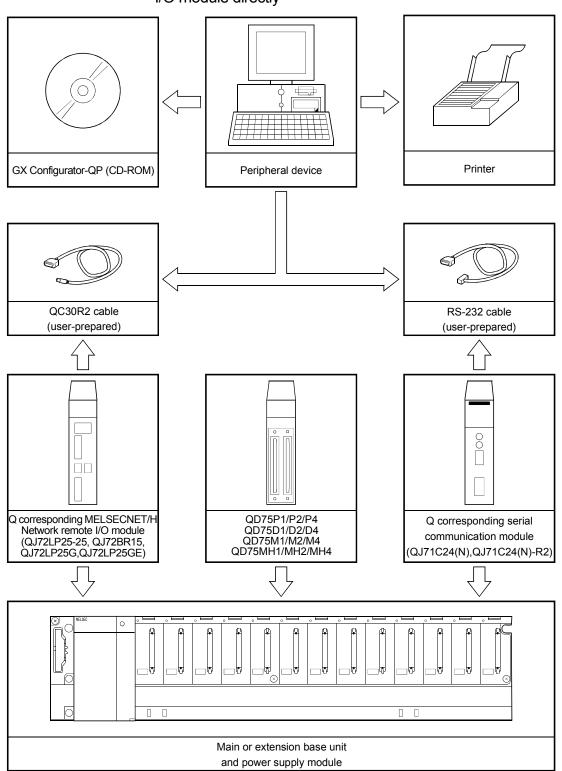
Step 7: Positioning control system operation	Refer To
Operate the positioning control system with the programmable controller CPU program.	User's manual for the positioning module used

# 2. SYSTEM CONFIGURATION

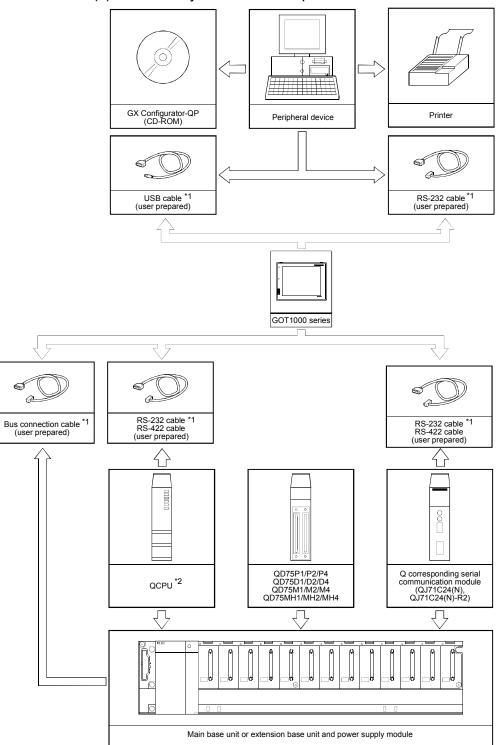
### 2.1 System Configuration



\* : When the PC CPU module is used as a peripheral device, the connection cable is not needed since it is loaded to the base unit module directly. For details of the PC CPU module, refer to Manual for PC CPU module.



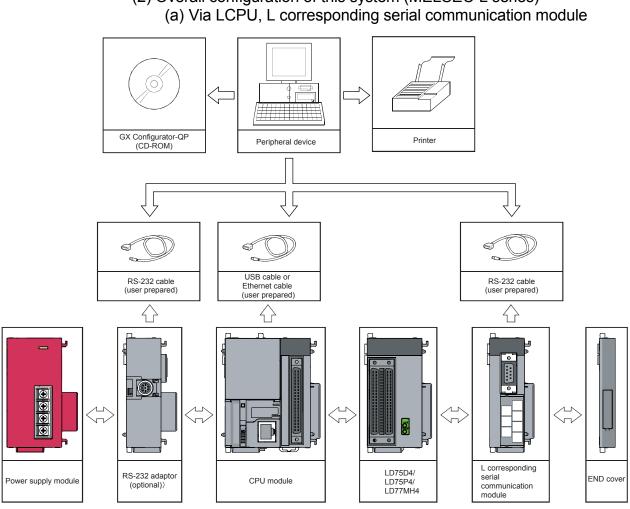
(b) Connecting to Q corresponding MELSECNET/H network remote I/O module directly



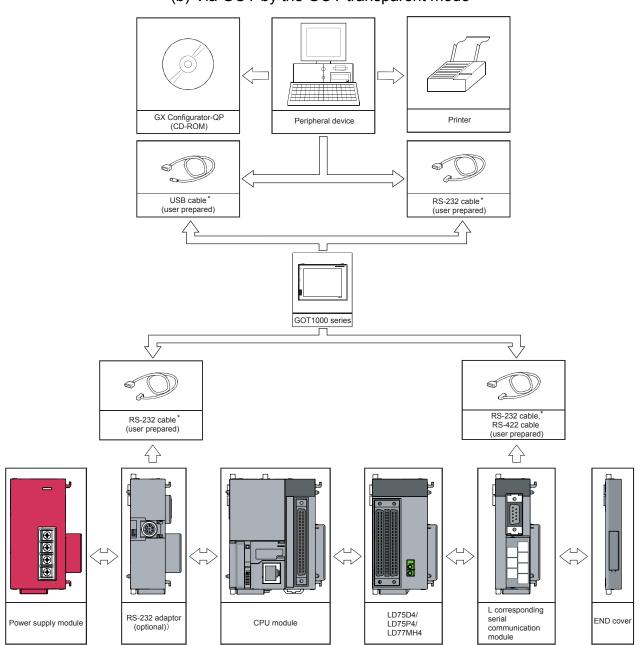
### (c) Via GOT by the GOT transparent mode

\*1: For cables for connection of a peripheral device to the programmable controller via GOT by the GOT transparent mode, refer to the GOT1000 Series Connection Manual (Mitsubishi Products).

\*2: The GOT transparent mode does not support Q corresponding MELSECNET/H Network remote I/O modules and C Controller module (Q12DCCPU-V).



(2) Overall configuration of this system (MELSEC-L series)



(b) Via GOT by the GOT transparent mode

\*: For cables for connection of a peripheral device to the programmable controller via GOT by the GOT transparent mode, refer to the GOT1000 Series Connection Manual (Mitsubishi Products).



- Do not connect a peripheral device to the serial communication module by multidrop link.
- When the GOT transparent mode is activated, Ethernet connection cannot be made between GOT and a peripheral device and between GOT and the programmable controller.

- (3) About the connection cables
  - (a) Connection to QCPU or Q corresponding MELSECNET/H network remote I/O module by QC30R2 (made by Mitsubishi Electric)

When the baudrate is set to 115.2/57.6kbps, communication cannot be made unless the peripheral device used is compatible with the communication speed of 115.2/57.6kbps.

If a communication error occurs, reduce the baudrate setting and restart communication.

#### (b) Connection to QCPU/LCPU or C Controller module (Q12DCCPU-V) by USB cable

• Usable when the USB driver has been installed with any of the following operating systems used.

$Microsoft^{\ensuremath{\mathbb{R}}}$	Windows®	98 Op	erating System
Microsoft®	Windows®	Millen	nium Edition Operating System
Microsoft®	Windows®	2000 F	Professional Operating System
Microsoft®	Windows®	XP Pr	ofessional Operating System
Microsoft®	Windows®	XP Ho	ome Edition Operating System
Microsoft <sup>®</sup>	Windows \	/ista®	Home Basic Operating System
Microsoft <sup>®</sup>	Windows \	/ista®	Home Premium Operating System
Microsoft <sup>®</sup>	Windows \	/ista®	Business Operating System
Microsoft <sup>®</sup>	Windows \	/ista®	Ultimate Operating System
Microsoft <sup>®</sup>	Windows \	/ista®	Enterprise Operating System
Microsoft <sup>®</sup>	Windows®	7 Sta	irter Operating System
Microsoft®	Windows®	7 Ho	me Premium Operating System
Microsoft <sup>®</sup>	Windows®	7 Pro	ofessional Operating System
Microsoft®	Windows®	7 Ulti	mate Operating System
Microsoft <sup>®</sup>	Windows®	7 En	terprise Operating System
I lea of tha	I ISB cable /	allowe	only programmable controller CPLL

• Use of the USB cable allows only programmable controller CPU to be connected.

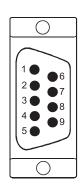
### (c) Connection to QCPU/LCPU by Ethernet cable

- Connect the personal computer with the Built-in Ethernet port QCPU or LCPU directly by using the Ethernet cable.
   The GX Configurator-QP does not support the online connection between the personal computer and the Built-in Ethernet port QCPU or LCPU.
- Use the following Ethernet cables.

Connection mode	Specifications
10BASE-T connection	Cables compliant with Ethernet standards, category 3 or higher (STP/UTP cables)
100BASE-TX connection	Cables compliant with Ethernet standards, category 5 or higher (STP/UTP cables)
	In an environment subject to electric noise, use shielded twisted-pair (STP)

an environment subject to electric noise, use shielded twisted-pair (STP) cables.

1

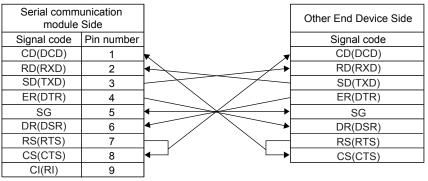


(d) Connection to serial communication module	
The specifications of the DS 232 cable connector are indi	~

The specifications of the RS-232 cable connector are indicated below.

Pin Numbe	er Signal Code	Signal Name	Signal Direction Serial communication module
1	CD(DCD)	Data carrier detect	← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ←
2	RD(RXD)	Received data	← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ←
3	SD(TXD)	Transmitted data	→ →
4	ER(DTR)	Data terminal ready	→ →
5	SG	Signal ground	← → →
6	DR(DSR)	Data set ready	↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
7	RS(RTS)	Request to send	│
8	CS(CTS)	Clear to send	↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
9	CI(RI)	Ring indicator	↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓

Connection example which can turn ON/OFF CD signal (No. 1 pin)



Connection example which cannot turn ON/OFF CD signal (No. 1 pin)
 Connection example for exercising DC code control or DTR/DSR control

Serial communication module Side			Other End Device Side
Signal code	Pinnumber		Signal code
CD(DCD)	1		CD(DCD)
RD(RXD)	2	◆ →	RD(RXD)
SD(TXD)	3		SD(TXD)
ER(DTR)	4		ER(DTR)
SG	5	$\longleftrightarrow$	SG
DR(DSR)	6		DR(DSR)
RS(RTS)	7		RS(RTS)
CS(CTS)	8	<b>┥</b>	CS(CTS)
CI(RI)	9		

(e) Connection via GOT

For cables for connection of a peripheral device to the programmable controller via GOT by the GOT transparent mode, refer to the GOT1000 Series Connection Manual (Mitsubishi Products).

# 2.2 Operating Environment

#### The operating environment of GX Configurator-QP is indicated below.

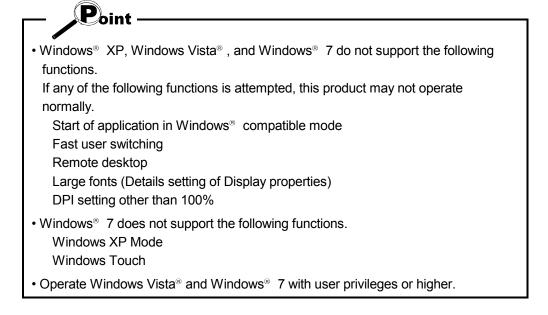
	Item	Description
Peripheral	Personal computer	Personal computer on which Windows <sup>®</sup> operates.
device	PC CPU module	MELSEC-Q series compatible PC CPU module (CONTEC CO., LTD. make)
Computer n	nain unit	
	CPU	Refer to the following table "Used operating system and performance required for
	Required memory	personal computer".
Hard disk fr	ee space	200MB or more
Disk drive		CD-ROM disk drive
Display		800 × 600 dot or more resolution *1
		Microsoft®Windows®95 Operating System SP 1 or laterMicrosoft®Windows®98 Operating SystemMicrosoft®Windows®Millennium Edition Operating SystemMicrosoft®Windows NT®Workstation Operating System Version 4.0 SP 3 or laterMicrosoft®Windows®2000 Professional Operating SystemMicrosoft®Windows®XP Professional Operating SystemMicrosoft®Windows®XP Professional Operating SystemMicrosoft®Windows®XP Home Edition Operating SystemMicrosoft®WindowsVista® Home Basic Operating SystemMicrosoft®Windows Vista®Home Premium Operating SystemMicrosoft®Windows Vista®Business Operating SystemMicrosoft®Windows Vista®Ultimate Operating SystemMicrosoft®Windows Vista®Enterprise Operating SystemMicrosoft®Windows Vista®Enterprise Operating SystemMicrosoft®Windows®7 Starter Operating SystemMicrosoft®Windows®7 Home Premium Operating SystemMicrosoft®Windows®7 Professional Operating SystemMicrosoft®Windows®7 Ultimate Operating System

\*1: For Windows Vista® and Windows® 7, resolution of 1024  $\times$  768 pixels or more is recommended.

\*2: 64-bit Windows<sup>®</sup> XP and 64-bit Windows Vista<sup>®</sup> are not supported.

Operating evoters	Performance Required for Personal Computer			
Operating system	CPU	Required memory		
Windows <sup>®</sup> 95	Pentium <sup>®</sup> 133MHz or more	64MB or more		
Windows <sup>®</sup> 98	Pentium <sup>®</sup> 133MHz or more	64MB or more		
Windows <sup>®</sup> Me	Pentium <sup>®</sup> 150MHz or more	64MB or more		
Windows NT <sup>®</sup> Workstation 4.0	Pentium <sup>®</sup> 133MHz or more	64MB or more		
Windows <sup>®</sup> 2000 Professional	Pentium <sup>®</sup> 133MHz or more	64MB or more		
Windows <sup>®</sup> XP	Pentium <sup>®</sup> 300MHz or more	128MB or more		
Windows Vista <sup>®</sup>	Pentium <sup>®</sup> 1GHz or more	1GB or more		
Windows <sup>®</sup> 7	Pentium <sup>®</sup> 1GHz or more	1GB or more (32-bit Windows <sup>®</sup> 7) 2GB or more (64-bit Windows <sup>®</sup> 7)		

#### Used operating system and performance required for personal computer



### 2.3 Instructions for use of older version of GX Configurator-QP

If using an older version of GX Configurator-QP, pay attention to the following.

- (1) For using QD75M
  - When GX Configurator-QP Version 2.13P or later is used, setting items and setting values for the QD75M parameters have been added.
  - If a QD75M project created with GX Configurator-QP Version 2.13P or later is opened on GX Configurator-QP Version 2.12N or earlier, some data will not be processed properly.
  - For details, refer to "Section 8.2 Servo Parameter Setting".
- (2) For using QD75MH
  - Use GX Configurator-QP Version 2.20W or later.
  - QD75MH projects cannot be opened on GX Configurator-QP Version 2.19V or earlier.
- (3) For using LD75/LD77
  - Use GX Configurator-QP Version 2.33K or later.
  - LD75/LD77 projects cannot be opened on GX Configurator-QP Version 2.32J or earlier.
- (4) When opening a project with unsupported connection destination data

If the following dialog box appears after an existing project is opened, the used Configurator-QP does not support the settings of the connection destination.

GX Configurator-QP								
<b>į</b>	The Connection route of the selected project is not supported. Connection route information is returned to a default.							
	(OK]							

Change the destination route.

# **3. FUNCTION LIST**

## 3.1 Function List

(1) Function list

The main functions of GX Configurator-QP are listed.

	Function	Description	QD75P/ QD75D	QD75M/ QD75MH	LD75	LD77
	Parameter setting	Sets the basic parameters #1, basic parameters #2, extended parameters #1, extended parameters #2, OPR basic parameters and OPR extended parameters.	0	0	0	0
	Servo parameter setting	Sets the servo parameters. Sets servo basic parameters, servo regulation parameters and servo extended parameters for QD75M. Sets servo amplifier series, basic setting parameters, gain/filter parameters, extension setting parameters and I/O setting parameters, extended control parameters, special setting parameters for QD75MH/LD77.	×	0	×	0
	Positioning data setting	Sets the positioning data, such as pattern, control method, accel/decel time and address, on an axis basis.	0	0	0	0
<b>F</b> -1:4	M code comment setting	Sets comments to the M codes assigned to the positioning data on an axis basis.	0	0	0	0
Edit	Sub arc	Automatically generates positioning data to ensure smooth movement on the intersection of consecutive two-axis linear interpolations by circular interpolation.	0	0	0	0
	Automatic axis speed setting	Automatically calculates the axis speed in the constant-speed part by setting the time taken from a positioning start until the target position is reached.	0	×	0	×
	Block start data setting	Sets the starting mode, etc. of the positioning data specified for points on an axis basis.	0	0	0	0
	Condition data setting	Sets the data which is used as a special start condition in the block start data on an axis basis.	0	0	0	0
	Simulation	Simulates axis operation from the setting positioning data. Wave form data is displayed for single axis control. Locus data is displayed for two axis interpolation control.	0	0	0	0

# **3. FUNCTION LIST**

	Functio	on	Description	QD75P/ QD75D	QD75M/ QD75MH	LD75	LD77
	Positioning	monitor	Enters the monitor mode from the positioning data edit window and monitors the positioning data during operation.	0	0	0	0
	Block start	monitor	Enters the monitor mode from the block start data edit window and monitors the block start data during operation.	0	0	0	0
	Operation r	nonitor	Monitors the operating states, such as feed present values, axis feed speeds, axis statuses and executed positioning data numbers, of all axes.	0	0	0	0
	History r	nonitor	Monitors the error, warning, start history of all axes.	0	0	0	0
Monitor	Signal m	nonitor	Monitors the X/Y devices, external signals or status signals of all axes.	0	0	0	0
	Operatio	on monitor	Monitors the control states, QD75/LD75/LD77 parameter settings or others of all axes.	0	0	0	0
	Servo m	onitor	Monitors the states of the servo amplifiers and servo motors on all axes.	×	0	×	0
	Sampling	Signal	Monitors the specified signals while simultaneously sampling them.	0	0	0	0
	monitor	Buffer memory	Monitors the specified buffer memory data while simultaneously sampling them.	0	0	0	0
	System monitor	pnitor	Shows the system configuration of the host and the I/O address and model (type) of the specified QD75.	0	0	×	×
	Cableless ı	node	Tests the QD75P/QD75D/LD75 alone without wiring between the servo amplifier and motor.	0	×	0	×
	Positioning	data test edit	Writes the setting parameters, positioning data and block start data in the test mode.	0	0	0	0
		Positioning start	Specifies the positioning data number and block start data point number and performs test operation.	0	0	0	0
		Present value change	Performs the change test of the feed present value.	0	0	0	0
Test	Operation	Speed change	Performs a speed change test on the axis on which a positioning start test is being done.	0	0	0	0
	test	OPR	Performs an original point return test.	0	0	0	0
		JOG operation	Performs a JOG operation test.	0	0	0	0
		Inching operation	Moves the axis over the specified distance per operation.	0	0	0	0
		MPG operation	Performs test operation using a manual pulse generator.	0	0	0	0

# **3. FUNCTION LIST**

	Function	Description	QD75P/ QD75D	QD75M/ QD75MH	LD75	LD77
Diagnosis	Checking connect	Displays signals from external devices. Also tests initial operation by JOG operation.	0	×	0	×
Trace	Wave trace	Traces the speed command for a given time and displays the waveform data relative to the time axis.	0	×	0	×
Trace	Location trace	Traces the position command or real value for a given time and displays the track data of the axes.	0	×	0	×
	Auto refresh setting	Assigns the QD75/LD75/LD77 buffer memory and CPU module devices for auto refresh between QD75/LD75/LD77 and CPU module.	0	0	0	0
Extended	Navigation	Performs operations from parameter and positioning data settings to simple test operation and set data storage in accordance with navigation.	0	×	×	×

## 3.2 Menu List

## The menu bar drop-down menus are listed below.

	nline
- New Project ······ Section 6.1	- Connect
Open Project ························ Section 6.2	- Read fro
Close Project ······ Section 6.4	- Write to
- Save Project ······ Section 6.3	-Writing c
- Save as Project ················· Section 6.3	- Verify m
Delete Project ······ Section 6.5	Error ch
- Verify Project ················ Section 11.1.1	<ul> <li>Servo al</li> </ul>
- Import file	- OS infor
File reading of SW1RX/IVD/NX-AD75P ····· Section 6.6.1	-Flash RO
File reading of SW0D5C-AD75P Section 6.6.1	<ul> <li>Initialize</li> </ul>
File reading of CSV form positioning data · · · Section 6.6.2	- Monitor
File reading of Trace data ••••••••••••••••••••••••••••••••••	Moni
Export file	Test
File writing of CSV form positioning data *** Section 6.7	Test
└─ File writing of Trace data ······· Section 11.8.2,11.9.2	Edit p
Change module type ······ Section 11.1.2	Teac
Print ····· Section 11.6.2	Cable
Printer setup ······ Section 11.6.1	Oper
Latest file Section 6.2	- o
Exit ····· Section 4.4	-0
Edit	<u> </u>
Cut Section 11.2.1	Error
Copy ····· Section 11.2.1	-E
Paste ····· Section 11.2.1	-E
- Select all ····· Section 11.2.1	-E
- Jump ······ Section 11.2.2	ĿΕ
Clear row ······ Section 11.2.3	M co
Clear column Section 11.2.3	-M
Axis copy Section 11.3.1	-M
Block start copy ······ Section 11.3.2	-M
M code comment ································ Section 8.3.2	-M
Condition data edit ··································· Section 8.5.2	- All ax
- Simulation · · · · · · · · · · · · · · · · · · ·	- All ax
Assistance arc ······ Section 8.3.1	•Tool
└ Speed of axis setting · · · · · · · · · · · · · · · · · · ·	-#
	-#2
View	-#:
Project tree view TC Section 5.2	ol L#
- Toolbar ····· Section 5.2	-Error che
Test toolbar ······ Section 5.2	- Initializin
Status bar Section 5.2	-Navigatio
Online toolbar ······ Section 5.2	-System
Select block start data no Section 8.5.1	Intelliger
	T

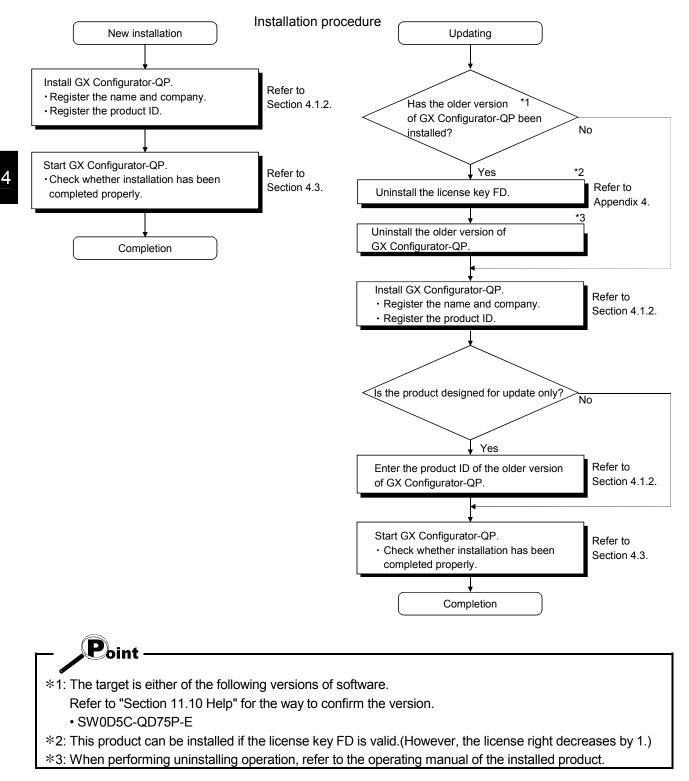
Online
Connection setup
Read from module Section 9.1
Write to module Section 9.1
Writing of batch of multi module ••••••• Section 11.1.4
Verify module data ······ Section 9.1
Error check module data Section 10.1
- Servo amplifier data read ······ Section 10.1
OS information Section 7.3
Flash ROM request
<ul> <li>Initialize module</li> <li>Section 9.4</li> </ul>
Monitor
0.2 Monitor On/Off ······ Section 10.2,10.3
Test
Test On/Off ······ Section 10.4
9.2 Edit positioning data Section 11.7.2
Teaching ······Section 11.7.1
Cableless mode ······ Section 10.4
Operation test
Operation test #1 ····· Section 10.4.1
Operation test #2 ····· Section 10.4.1
Operation test #3 ····· Section 10.4.1
Coperation test #4 · · · · · · · · · · · · Section 10.4.1
Error reset #1 · · · · · · · · Chapter 10 Error reset #2 · · · · · · Chapter 10
Error reset #2 ······ Chapter 10
Error reset #4 ······ Chapter 10
M code off #1 ······ Chapter 10
M code off #2 ······ Chapter 10
M code off #3 ······ Chapter 10
M code off #4 ······ Chapter 10
All axis stop ······· Chapter 10
All axis Servo On/Off ······· Section 10.5
Tool · · · · · · · · · · · · · · · · · ·
#1 Servo Off command · · · · · · · Section 10.5
#2 Servo Off command · · · · · · Section 10.5
#3 Servo Off command · · · · · · · Section 10.5
Tool
Error check Section 8.6
<ul> <li>Initializing data</li> <li>Initializing data</li> </ul>
-Navigation ······
- System monitor ······ Section 7.2
Intelligent function utility ········· Section 11.1.3
Option ••••••••••••••••••••••••••••••••••••
Window
- Cascade · · · · · · · · · · · · · · · · · · ·
-Tile vertically ······ Section 5.7
Arrange icons ····· Section 5.7
All close Section 5.7
Help
Error/Warning/List of Buffer memory ······ Section 11.10 Key operations list ····· Section 11.10
Key operations list Section 11.10     About Section 11.10
Connection to MELFANS web ······ Section 11.10

# 4. INSTALLATION AND UNINSTALLATION

This chapter describes how to install and uninstall GX Configurator-QP.

4.1 Installation

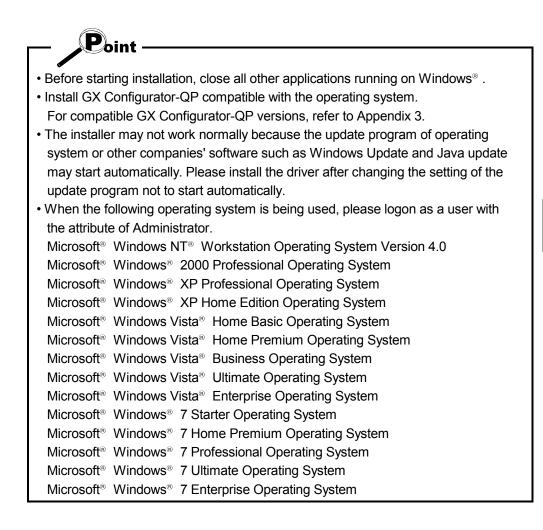
## 4.1.1 Installation procedure



4 - 1

## 4.1.2 Installing GX Configurator-QP

The following explains how to install GX Configurator-QP.



요 Sw2d5c-qd75 (D:)		a n X		
All Folders	Contents of 'D:\'			
🗟 Desktop	Name	Size	Туре	-
🗄 🚚 My Computer	🖻 Data.tag	1KB	TAG File	
	💌 data1.cab	3,281KB	CAB File	
± (C:)	🛋 lang.dat	5KB	DAT File	
	💌 layout.bin	1KB	BIN File	
Control Panel  Printers  Recycle Bin	S LicCheck.dll	23KB	Application Extension	
	os.dat	1KB	DAT File	
	PROCHECK.dll	44KB	Application Extension	
	Setup.bmp	394KB	Bitmap Image	
	Setup.exe	59KB	Application	_
	Setup.ini	1KB	Configuration Settings	
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- 1) After powering on the personal computer, start  $Windows^{\scriptscriptstyle \circledcirc}$  .
- Start Windows<sup>®</sup> Explorer and click the drive where the disk is inserted. Double-click "Setup.exe".

To display Windows<sup>®</sup> Explorer, choose [Start]  $\rightarrow$  [Programs]  $\rightarrow$  [Windows Explorer].

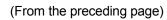
 \* : When user account control is enabled, the following dialog box appears. Click "Allow" or Yes button.

#### [Windows Vista®]

lser Account Control	×
An unidentified program wants access to your com	puter
Don't run the program unless you know where it's from or you've used i before.	t i
SETUP.EXE Unidentified Publisher	
Cancel I don't know where this program is from or what it's for.	
Allow I trust this program. I know where it's from or I've used it before.	
✓ <u>D</u> etails	
User Account Control helps stop unauthorized changes to your computer	s.

#### [Windows<sup>®</sup> 7]

🛞 User	Account Control		×		
	Do you want to allow the following program from an unknown publisher to make changes to this computer?				
	Program name: Publisher: File origin:	SETUP.EXE <b>Unknown</b> CD/DVD drive			
🕑 si	now <u>d</u> etails		Yes No		
			Change when these notifications appear		



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Severe  Please execute Setup.Exe again after uninstalling the installed product.	<ul> <li>3) If the message shown on the left appears, click the</li> <li>OK button, uninstall GX Configurator-QP, and</li> <li>then reinstall it.</li> </ul>
Severe   This package is not in proper operating environment. Please install this package after executing \Update\DCOM95.Exe from CD-ROM.  C  Severe   X	<ul> <li>4) If either of the left screens appears, perform operation in accordance with the instructions given in (a) in "(reference) When message appears at start of installation".</li> <li>After the operation is over, restart installation operation.</li> </ul>
This package is not in proper operating environment. Please install this package after executing \Update\Axdist.Exe from CD-ROM.	
Severe   This package is not in proper operating environment. Please install this package after executing \EnvMEL\Setup.Exe from CD-ROM.  OK	If the left screen appears, perform operation in accordance with the instructions given in (b) in "(reference) When message appears at start of installation". After the operation is over, restart installation operation.
Install There is a possibility for improper installation if you execute without closing all the running applications(Including resident programs).0k?	<ul> <li>5) The screen shown on the left appears. Make sure that all applications have been closed, and click the OK button.</li> <li>If applications are running, close them all.</li> </ul>
Welcome         ▼           Welcome to the SWnD5-QD75P Setup program. This program will install SWnD5-QD75P on your computer.         This strongly recommended that you exit all Windows programs before running this Setup program.           Click Cancel to quit Setup and then close any programs you have running. Click Next to continue with the Setup program.         Click Cancel to quit Setup and then close any programs you have running. Click Next to continue with the Setup program.           WARNING: This program is protected by copyright law and international treaties.         Unauthorized reproduction or distribution of this program, or any point of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.           < Back	6) As the screen shown on the left appears, click the <u>Next&gt;</u> button.
↓	

(To the next page)

↓ User Information 7) Enter the name and company, and click X the Next> button. Type your name below. You must also type the name of the company you work for. Name: MITSUBISHI MITSUBISHI ELECTRIC Co. <u>C</u>ompany: < <u>B</u>ack <u>N</u>ext > Cancel . **Registration Confirmation** 8) Check the registered name and company. If they are correct, click the Yes button. You have provided the following registration information: To change them, click the No button to return to MITSUBISHI Name: MITSUBISHI ELECTRIC Co. the previous screen. Company: Is this registration information correct? Yes <u>N</u>o Input ProductID 9) Enter the product ID and chick the Next> button. The product ID is given in the "License agreement" Please enter the product ID of the product. Please input in single byte English characters. packed with the product. · [ Proceed to Step 11) to install the product newly. Proceed to Step 10) to update the product. < <u>B</u>ack <u>N</u>ext > Cancel

(To the next page)

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$\downarrow$	
Input ProductID       ×         Please enter the product ID of the old product. Please input in single byte English characters.	<ul> <li>10) When an update-only product is used for updating, the screen shown on the left appears. Enter the product ID of the old product and click the Next&gt; button.</li> <li>The product ID is given in the "Software Registration Card" or "License agreement" packed with the product.</li> <li>The screen shown on the left does not appear when the product is installed anew.</li> </ul>
< <u>B</u> ack <u>N</u> ext > Cancel	
Choose Destination Location	11) Specify the installation destination folder.
The setup will installSWnD5-QD75P in the following directory. Click [Next] to install in this directory. Click [Browse] and select the directory for installing in other directory. Click [Cancel] for not installing.	After specifying the destination folder, click the <u>Next&gt;</u> button. It defaults to "C:\MELSEC\". To change the destination folder, click the <u>Browse</u> button and specify a new drive and folder.
Destination Folder       C:\MELSEC\       Browse       < Back       Next>       Cancel	REMARK If the following dialog box appears, click the OK button to end the installation. Then, reinstall GX Configurator-QP compatible with the operating system. For the versions of GX Configurator-QP

(To the next page)

to Appendix 3. (The following screen may appear behind another screen. Then, press

the Alt + Tab keys to bring it to the front.)

compatible with each operating system, refer

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[Windows® XP]

The following screen may appear at installation.

Click Continue.

We checked operations in Windows<sup>®</sup> XP (Problems never occur after installation.)

The following screen may appear behind

	er screen. Then, press It] + <u>Tab</u> keys to bring it to the front.
Software	e Installation
	The software you are installing has not passed Windows Logo testing to verify its compatibility with Windows XP. ( <u>Tell me why</u> <u>this testing is important</u> ) Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the software vendor for software that has passed Windows Logo testing.
Hardwa	Continue Anyway STOP Installation
	The software you are installing for this hardware: MITSUBISHI GOT1000 USB Controller has not passed Windows Logo testing to verify its compatibility with Windows XP: [Tell me why this testing is important.] Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.

Continue Anyway STOP Installation

(To the next page)

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[Windows Vista<sup>®</sup> and Windows<sup>®</sup> 7]

The following screen may appear at installation.

Click Install. (Although the displayed screen may differ for some operating systems, the operation is the same.)

The following screen may appear behind another screen. Then, press

the Alt + Tab keys to bring it to the front.

Windows	Security				
	Name: Jungo Jungo	l this device softw , HI ELECTRIC CORPOR			
	s trust software from DRATION".	n "MITSUBISHI ELECTR	IC	Install	Do <u>n</u> 't Install
	ould only install dri re is safe to install?	ver software from publ	ishers you trust. <u>Ho</u>	ow can I decide wi	hich device
- Windows	Security				
		II this device softv	vare?		2
Would ye	ou like to instal Name: MITSUBISHI	II this device softv ELECTRIC CORPORATI SHI ELECTRIC CORPOR	ON Universa		2
Would ye	ou like to instal Name: MITSUBISHI Publisher: MITSUBI:	ELECTRIC CORPORATI	ON Universa ATION	Install	Do <u>n</u> 't Install

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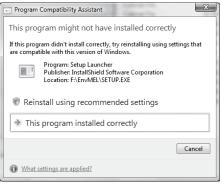


↓				
Informati	on X			
<b>(j</b> )	Completed the installation of this product.			
	(OK)			

12) When the screen on the left appears, installation is complete.

Click the OK button.

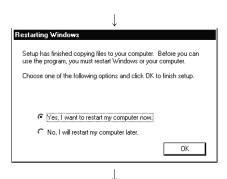
\*: When the following screen appears, select "This program installed correctly".



Do not choose "Reinstall using recommended settings", because the installer installs an incorrect module.

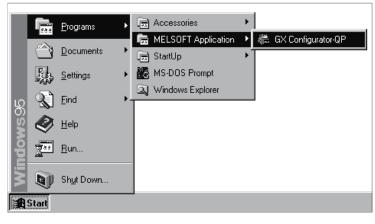
If choose, reinstall GX Configurator-QP with following POINT on the next page.

13) If the message shown on the left appears, restart  $$W$ indows^{\scriptscriptstyle (\! R\!)}$ .$ 



(Complete)

Installing GX Configurator-QP registers the icon as shown below.



## REMARK

For Windows<sup>®</sup> XP, Windows Vista<sup>®</sup>, and Windows<sup>®</sup> 7, the icon is registered under [MELSOFT Application], displayed by selecting [All Programs] from the start menu.



Note the following when starting the installer from the hard disk on the personal computer.

If the "Program Compatibility Assistant" screen appears after the installation, choose "This program installed correctly".

If "Reinstall using recommended settings" is selected by mistake, 'Windows XP compatibility mode' is set automatically.

Disable the 'Windows XP compatibility mode' by following the procedure described below, and perform the reinstallation.

- 1. Right-click on the setup.exe icon of the installation target in the Windows explorer, and open the "setup Properties" screen.
- 2. Select the "Compatibility" tab and click the Show settings for all users button.
- 3. Uncheck the "Run this program in compatibility mode for:" check box of compatibility mode in the "Compatibility for all users" tab and click the OK button.
- 4. Click the OK button on the "setup Properties" screen.

Security	Details	Previous Versions	
General	Compatibility	Digital Signatures	
an earlier version of matches that earlier Compatibility mode Run this prog Windows XP (S Settings Run in 256 c Run in 640 x Disable visua Disable visua	ervice Pack 2) olors 480 screen resolution I themes	for:	Setup Properties Compatibility for all users If you have problems with this program and it worked correctly on an earlier version of Windows, select the compatibility mode that matches that earlier version. Compatibility mode Run this program in compatibility mode for: Window pp (Service Pack 2) Settings Run in 256 colors Uncheck the check Run in 256 colors
Privilege Level	ay scaling on high DPI sett ram as an administrator gs for all users		Run in 640 x 480 screen resolution  Disable visual themes  Disable desktop composition  Disable display scaling on high DPI settings  Privilege Level
	ОК	Cancel Apply	Run this program as an administrator

#### (Reference) When message appears at start of installation

When the installation of this product starts, the "This package is not in proper operating environment" message appears, disabling normal completion of installation.

In such a case, close all applications and perform the (a) or (b) operation.

#### (a) Installation of dcom95.exe or Axdist.exe

Execute dcom95.exe or Axdist.exe provided for GX Configurator-QP. Install GX Configurator-QP after executing the exe file and restarting the IBM-PC/AT compatible.

The exe file to be executed on the corresponding operating system is indicated below.

Operating System	File name
Microsoft <sup>®</sup> Windows <sup>®</sup> 95 Operating System	dcom95.exe
Microsoft <sup>®</sup> Windows <sup>®</sup> 98 Operating System	Axdist.exe
Microsoft <sup>®</sup> Windows NT <sup>®</sup> Workstation Operating System Version 4.0	Axdist.exe

(dcom95.exe and Axdist.exe are in the "Update" folder on CD-ROM.)

(b) Installation of EnvMEL

Execute Setup.exe in the "EnvMEL" folder on this product CD-ROM. Install GX Configurator-QP after executing the "Setup.exe".

\*: When user account control is enabled, the following dialog box appears. Click Allow or Yes.

Windows Vista® ]	[Windows <sup>®</sup> 7]
User Account Control	😵 User Account Control
An unidentified program wants access to your computer	Do you want to allow the following program from an unknown publisher to make changes to this computer?
Don't run the program unless you know where it's from or you've used it before. STUP.EXE Unidentified Publisher Cancel	Program name: SETUP.EXE Publisher: <b>Unknown</b> File origin: CD/DVD drive
I don't know where this program is from or what it's for.	Show <u>d</u> etails <u>Yes</u> <u>No</u>
Allow I trust this program. I know where it's from or I've used it before.	Change when these notifications appear
⊙ <u>D</u> etails	
User Account Control helps stop unauthorized changes to your computer.	

After executing the above exe file, install the product again. If this product is not installed properly at this time, reboot the personal computer.

\*: If the following dialog box appears, select "This program installed correctly". Do not choose "Reinstall using recommended settings", because the installer installs an incorrect module.

Program Compatibility Assistant
This program might not have installed correctly
If this program didn't install correctly, try reinstalling using settings that are compatible with this version of Windows.
Program: Setup Launcher Publisher: InstallShield Software Corporation Location: F\EnvMEL\SETUP.EXE
Reinstall using recommended settings
This program installed correctly
Cancel
What settings are applied?

## 4.1.3 Installing the USB Driver

To communicate between the personal computer on which Windows<sup>®</sup> 2000 Professional, Windows<sup>®</sup> XP, Windows Vista<sup>®</sup>, or Windows<sup>®</sup> 7 has been installed and the CPU module with USB, install a USB driver.

The following is the USB driver installation procedure.



If the USB driver cannot be installed, check the following setting.

When Windows® 2000 Professional is used

If you have selected "Block-Prevent installation of unsigned files" after [Control Panel] - [System] - [Hardware] - [Driver Signing], the USB driver may not be installed.

Choose "Ignore-Install all files, regardless of file signature" or "Warn-Display a message before installing an unsigned file" for [Driver Signing], and install the USB driver.

 When Windows XP used If you have selected "Block-Never install unsigned driver software" after [Control Panel] - [System] - [Hardware] - [Driver Signing], the USB driver may not be installed.

Choose "Ignore-Install the software anyway and don't ask for my approval" or "Warn-Prompt me each time to choose an action" for [Driver Signing], and install the USB driver.

## [1] When Windows® 2000 Professional is used

The following indicates the procedure for installing the USB driver when using Windows<sup>®</sup> 2000 Professional.

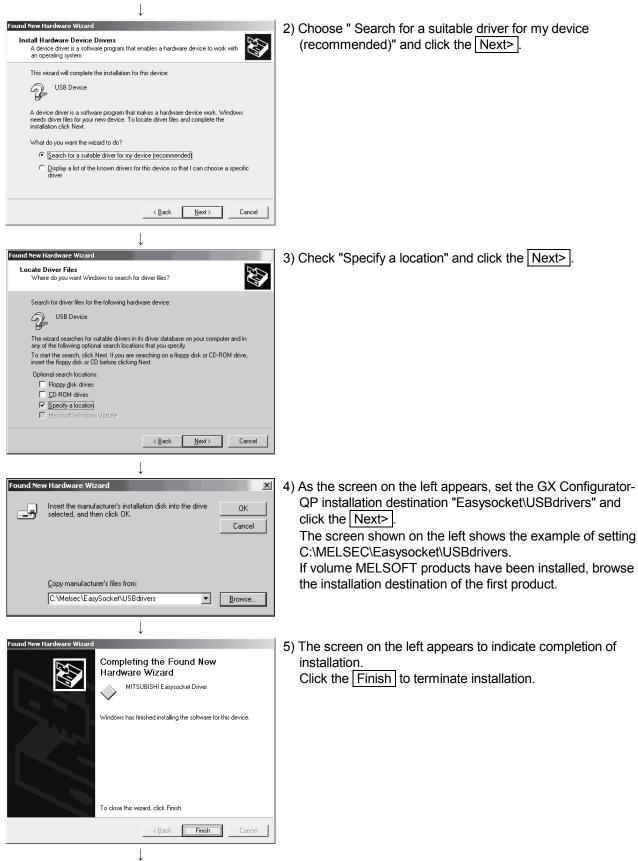


(To the next page)

1) The screen shown on the left appears when the personal computer and the CPU module is connected with USB cable.

Click the Next>.

(From the previous page)

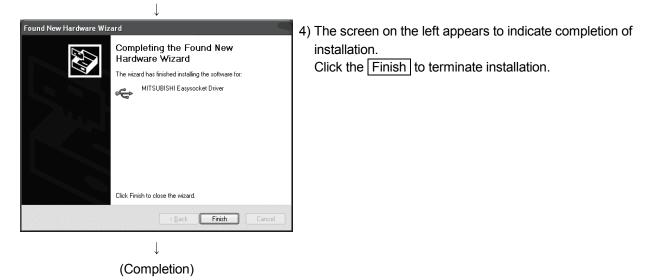


## [2] When Windows® XP is used

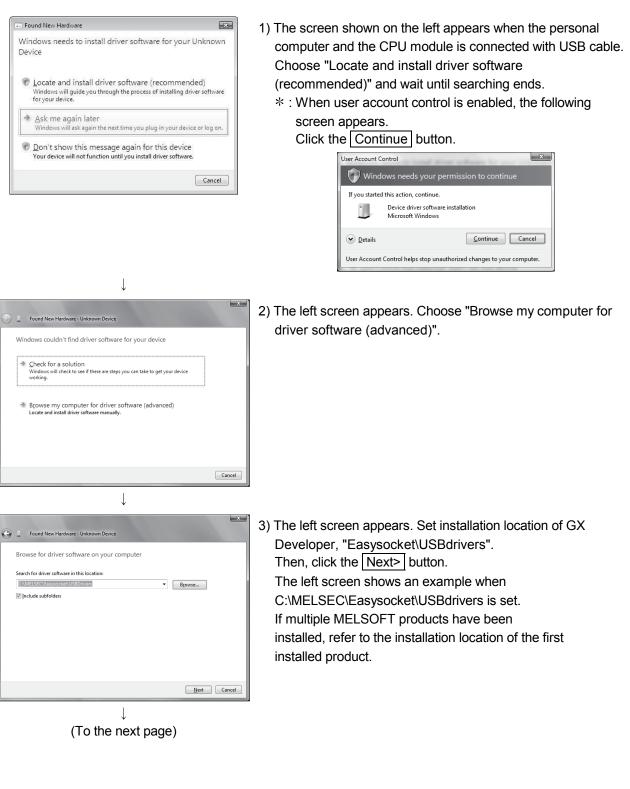
The following indicates the procedure for installing the USB driver when using Windows  $\ensuremath{^\otimes}$  XP.

Found New Hardware Wizard         Welcome to the Found New Hardware Wizard         This wizard helps you install software for:         USB Device         What do you want the wizard to do?         Install the software automatically (Recommended)         Install from a list or specific location (Advanced)         Click Next to continue.	<ol> <li>The screen shown on the left appears when the personal computer and the CPU module is connected with USB cable.</li> <li>Choose "Install from a list or specific location [Advanced]" and click the <u>Next&gt;</u>.</li> </ol>
Found New Hardware Wizard         Please choose your search and installation options.         Image: Search for the best driver in these locations.         Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.         Image: Search removable media. The best driver found will be installed.         Image: Search removable media. The best driver found will be installed.         Image: Image: Search removable media. The best driver found will be installed.         Image: I	<ul> <li>2) As the screen on the left appears, choose "Include this location in the search". Check "Include this location in the search" and set "Easysocket\USBDrivers" of the folder where GX Configurator-QP was installed. After setting, click the Next&gt;. The screen shown on the left shows the example of setting C:\MELSEC\Easysocket\USBDrivers. If volume MELSOFT products have been installed, browse the installation destination of the first product.</li> </ul>
Hardware Installation         Image: Straight of the software you are installing for this hardware:         MITSUBISHI Easysocket Driver         has not passed Windows Logo testing to verify its compatibility with Windows XP. [Tell me why this testing is important.]         Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.         Image: Continue Anyway       STOP Installation         Image: Continue Anyway       Mitsubility         Image: Continue Anyway       Stop Installation	<ul> <li>3) As the screen on the left appears, click the Continue Anyway.</li> <li>REMARKS</li> <li>Though the screen on the left appears during installation of the USB driver, we have confirmed that the USB driver operates properly using Windows® XP.</li> <li>(No problem will occur after installation of the USB driver.) Click Continue Anyway to continue the installation of the USB driver.</li> </ul>

#### (From the previous page)



## [3] When Windows Vista® is used



The following shows installation procedure of USB driver when using Windows  $\mbox{Vista}^{\mbox{\tiny $\$$}}$  .

#### (From the previous page)



Found New Hardware - MTSUBISH Easystocket Driver
The software for this device has been successfully installed
Windows has finished installing the driver software for this device:
MTSUBISH Easystocket Driver

- 4) The left screen appears. Select "Install this driver software anyway".
- 5) The left screen appears. Click the Close button.

$\downarrow$	
Driver Software Installation	×
MITSUBISHI Easysocket Driver installed	
The software for this device has been successfully installed. MITSUBISHI Easysocket Driver Ready to use	
	Close
$\downarrow$	

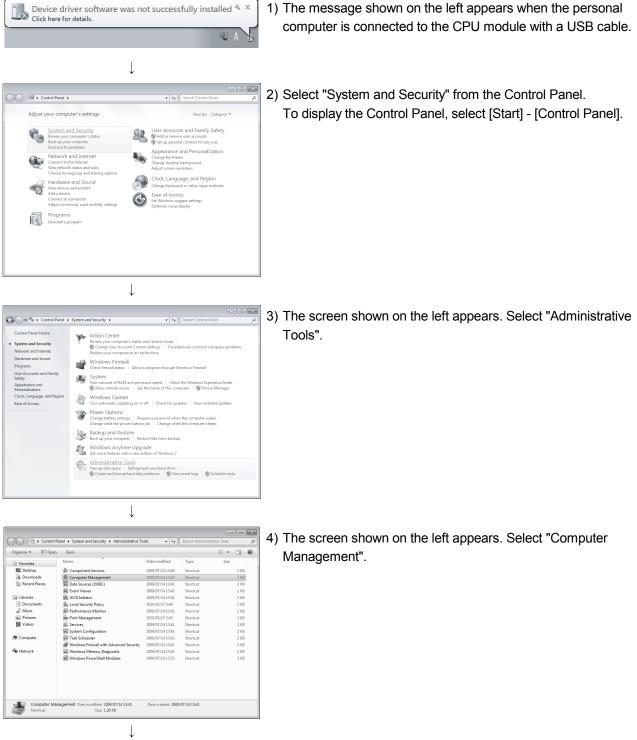
Close

(Completion)

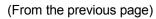
 The left screen appears when the installation is completed.
 Click the Close button to exit.

## [4] When Windows® 7 is used

The following shows installation procedure of USB driver when using Windows® 7.



(To the next page)



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5) Right-click "Unknown device" in the Windows Device Manager as shown left, and select "Update Driver Software...".

## REMARKS

If multiple 'Unknown devices' exist therefore cannot be specified, right-click "Unknown device" as shown left and select "Properties". The "Unknown device", whose "Hardware Ids" is "USB\VID\_06D3&PID\_1800" on the <<Details>> tab of the properties screen, is the update target.

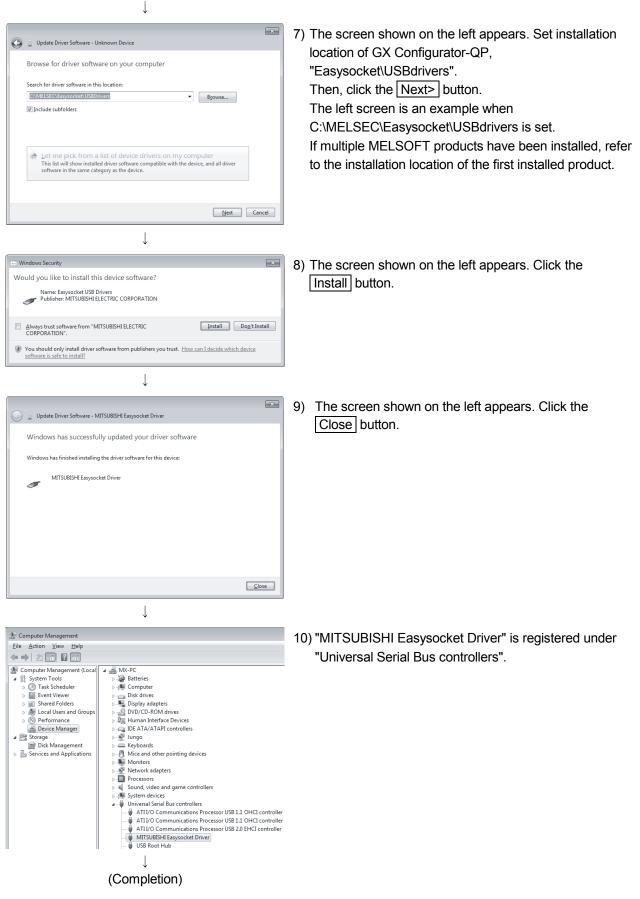
Unknown device Properties	×
General Driver Details	
Unknown device	
Property	
Hardware Ids	•
Value	
USB\VID_06D3&PID_1800&REV_0100	
	OK Cancel

) <u>[</u> (	Jpdate Driver Software - Unknown Device	
Hov	v do you want to search for driver software?	
ð	Search automatically for updated driver software Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.	
۲	Browse my computer for driver software Locate and install driver software manually.	
		Cancel

(To the next page)

6) The screen shown on the left appears. Select "Browse my computer for driver software".

#### (From the previous page)



## 4.1.4 Upgrading the USB drivers

In Windows Vista<sup>®</sup> or Windows<sup>®</sup> 7, if MELSOFT incompatible with each operating system has been installed when MELSOFT compatible with each operating system is installed, upgrading the USB drivers is required.

The USB driver has the following two types:

- $\cdot$  USB driver for CPU module connection
- USB driver for GOT connection (used for the GOT transparent mode.)
- (1) Procedure for upgrading the USB driver for CPU module connection

#### (a) Check method

Whether upgrade of the USB driver is required or not can be checked by the USB driver version.

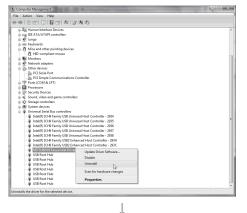
Start the Windows Device Manager while the personal computer is connected to the CPU module with USB, right-click "MITSUBISHI Easysocket Driver" and select "Properties".

Update is necessary if the version shown in the << Driver>> tab of the properties screen is the following.

- Windows Vista<sup>®</sup> : "2.0.0.0" or earlier
- Windows® 7: "3.0.0.0" or earlier

MITSUBISHI Easysocket Dr	river Properties
General Driver Details	
MITSUBISHI Ea	asysocket Driver
Driver Provider:	MITSUBISHI ELECTRIC CO.
Driver Date:	2010/02/15
Driver Version:	3.0.0.0
Digital Signer:	MITSUBISHI ELECTRIC CORPORATION
Driver Details	To view details about the driver files.
Update Driver	To update the driver software for this device.
Roll Back Driver	If the device fails after updating the driver, roll back to the previously installed driver.
Disable	Disables the selected device.
Uninstall	To uninstall the driver (Advanced).
	OK Cancel

(b) Upgrade procedure



(To the next page)

- 1) Connect the personal computer to the CPU module with USB cable.
- Start the Windows Device Manager, right-click
   "MITSUBISHI Easysocket Driver", and select "Uninstall".

#### (From the previous page)

1



- The warning dialog box shown on the left appears. Select "Delete the driver software for this device." and click the OK button.
- 4) Disconnect the USB cable and reconnect it to the same USB port after 5 seconds.

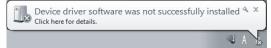
[Windows Vista®]

The confirmation dialog box the following screen appears.

Select "Ask me again later".



# $\label{eq:constraint} \begin{array}{l} [Windows^{\scriptscriptstyle (\! \mathbb{R}\!)} \ 7] \\ The following balloon appears for a little while. \end{array}$



(To the next page)

(From the previous page)  $\downarrow$ 

Computer Management	The second secon	
File Action View Help		
>   2 m   2   2 m		
🗉 🎭 Display adapters		
DVD/CD-ROM drives		
Floppy drive controllers		
🕀 🕼 Human Interface Devic		
IDE ATA/ATAPI control	ers	
🗉 💇 Jungo		
Keyboards		
B Mice and other pointing		
HID-compliant mos	se	
Monitors     Monitors     Monitors		
Wetwork adapters     Other devices		
- In PCI Serial Port		
PCI Simple Commu	nications Controller	
Unknown device		
Ports (COM & LPT)	Update Driver Software	
Processors	Disable	
Security Devices	Uninstall	
🗊 🛋 Sound, video and ga	Scan for hardware changes	
General Controllers     General Controllers	scan for hardware changes	
🕀 🚛 System devices	Properties	
😑 🏺 Universal Serial Bus com		
	USB Universal Host Controller - 2934	
	USB Universal Host Controller - 2935 USB Universal Host Controller - 2936	
	USB Universal Host Controller - 200 USB Universal Host Controller - 2007	
	US8 Universal Host Controller - 2937	
	US82 Enhanced Host Controller - 293A	
	US82 Enhanced Host Controller - 293C	
USB Root Hub		

5) Right-click "Unknown device" in the Windows Device Manager and select "Update Driver Software...".

#### REMARKS

If there are several unknown devices and a driver to be upgraded cannot be specified, right-click "Unknown device" and select "Properties".

The "Unknown device", whose "Hardware Ids" is "USB\VID\_06D3&PID\_1800" in the "Details" tab of the "Unknown device Properties" dialog box, is the upgrade target.

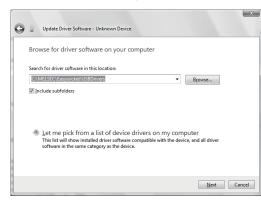
Unknown device Properties
General Driver Details
Unknown device
Property
Hardware Ids 🗸
Value
USB\VID_G6D3&PID_1800&REV_0100 USB\VID_G6D3&PID_1800
OK Cancel

The dialog box shown on the left appears.
 Select "Browse my computer for driver software".

<u>u</u>	Update Driver Software - Unknown Device	
Нои	v do you want to search for driver software?	
*	Search automatically for updated driver software Windows will search your computer and the Internet for the latest driver software for your device.	
٢	Browse my computer for driver software Locate and install driver software manually.	

(To the next page)

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7) The dialog box shown on the left appears. Set the installation location of this product, "Easysocket\USBdrivers" and click <u>Next</u>. The left dialog box shows an example when "C:\MELSEC\Easysocket\USBdrivers" is set. When multiple MELSOFT products have been installed, set the installation location of the first-installed product.

[Windows Vista® ]

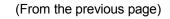


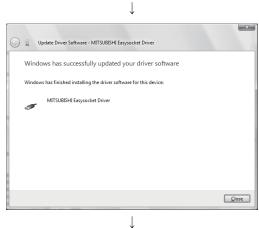
#### [Windows<sup>®</sup> 7]

•-] W	findows Security
Wo	ould you like to install this device software? Name Easysocket USB Drivers Publisher: MITSUBISHI ELECTRIC CORPORATION
	Always trust software from "MITSUBISHI ELECTRIC [Install CORPORATION".
Ø	You should only install driver software from publishers you trust. How can I decide which device software is safe to install?

(To the next page)

8) If the confirmation dialog box shown on the left appears, select "Install this driver software anyway" or Install.





(Completion)  $\downarrow$ 

9) The confirmation dialog box shown on the left appears. Select Close. Upgrade is completed.

- (2) Procedure for upgrading the USB driver for GOT connection
  - (a) Check method

While the personal computer is connected to GOT with USB, power off and then on the GOT and then start the Windows Device Manager. If "MITSUBISHI GOT1000 USB Controller" is not displayed under "Universal Serial Bus controllers", and "Unknown device" is displayed under

"Other devices", the driver needs to be upgraded. The "Unknown device", whose "Hardware Ids" is

"USB\VID\_06D3&PID\_01E0" in the "Details" tab of the "Unknown device Properties" dialog box, is the upgrade target.

🚔 Device Manager		Unknown device Properties
File Action View Help	目目現代	General Driver Details
Alt-PC     Batteries     Batteries     Disk drives     D	lers	Uktroun device Prooffy Hedevee Ide Value USB WID_66034P0_01E34REV_0100 USB WID_66034P0_01E3 USB WID_66034P0_01E3
→ 🛄 Processors → 🚽 Sound, video and ga → ∰ System devices → → Ū Universal Serial Bus c	Update Driver Software Disable Uninstall Scan for hardware changes Properties	OK Canod
Opens property sheet for the curren	it selection.	

## (b) Upgrade procedure

1) Connect the personal computer to the GOT with USB cable.

e Action View Help		
Image:	2 J R 10	
MX-PC		
Batteries		
Image: Computer		
Disk drives		
Display adapters		
DVD/CD-ROM drives		
》 🕼 Human Interface Devi		
IDE ATA/ATAPI control	llers	
🛛 💇 Jungo		
Keyboards		
B Mice and other pointing	ng devices	
Monitors		
Network adapters		
a ⋅ D Other devices		
Unknown device		
Processors	Update Driver Software	
Sound, video and gr	Disable	
<ul> <li>Im System devices</li> <li>Im Universal Serial Bus</li> </ul>	Uninstall	
	Scan for hardware changes	
	Scarror nationale enanges	

(To the next page)

- 2) Start the Windows Device Manager, right-click
- "Unknown device", and select "Update Driver Software...".

#### (From the previous page)

Ţ

	×
Update Driver Software - Unknown Device	
How do you want to search for driver software?	
Search automatically for updated driver software Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.	
Browse my computer for driver software Locate and install driver software manually.	
	Cancel

↓

3) The confirmation dialog box shown on the left appears. Select "Browse my computer for driver software".

Update Driver Software - Unknown Device
Browse for driver software on your computer
Search for driver software in this location:
Include subfolders
Include subfolders</

↓ (Completion) Close

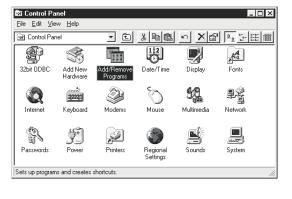
- 4) The dialog box shown on the left appears. Set the installation location of this product, "EZSocket\EZSocketGOT\Drivers" and click <u>Next</u>. The left dialog box shows an example when "C:\MELSEC\EZSocket\EZSocketGOT\Drivers" is set. When multiple MELSOFT products have been installed, set the installation location of the first-installed product.
- 5) The confirmation dialog box shown on the left appears. Select Close. Upgrade is completed.

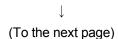
## 4.2 Uninstallation

This section explains the operation for removing GX Configurator-QP from the hard disk.

Displayed screens may differ depending on the operating system. In such a case, uninstall GX Configurator-QP with referring to "Remarks".

## (1) Uninstalling GX Configurator-QP





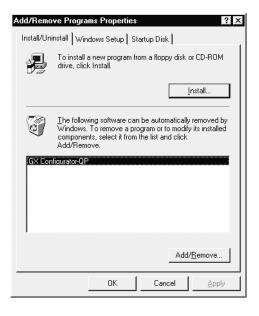
 Double-click "Add/Remove Programs" on the Control Panel.
 To display the Control Panel, choose [Start] →

#### REMARKS

[Settings]  $\rightarrow$  [Control Panel].

When using Windows<sup>®</sup> XP, choose "Add or Remove Programs" from the Control Panel. For Windows Vista<sup>®</sup> and Windows<sup>®</sup> 7, select "Uninstall a program" in the "Control Panel" window.

To display the Control Panel, choose [Start] - [Control Panel].



 $\downarrow$  (To the next page)

2) Choose "GX Configurator-QP". After selection, click Add/Remove.

#### REMARKS

The screen shown on the left is the one for Windows<sup>®</sup> 98.

The displayed screen varies with the operating system.

Depending on the used operating system, perform the following operation.

<Windows® 2000 Professional and

Windows<sup>®</sup> XP>

- (a) Click "Add/Remove Programs".
- (b) Choose "GX Configurator-QP".
- (c) Click the Change/Remove button.

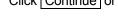
#### <Windows Vista® >

Select "GX Configurator-QP" in the "Uninstall or change a program" window and click "Uninstall/Change".\*

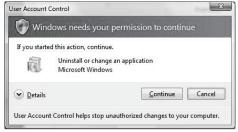
<Windows® 7>

Double-click "GX Configurator-QP" in the "Uninstall or change a program" window.\*

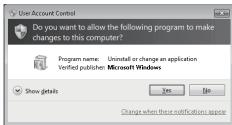
 \* : When user account control is enabled in Windows Vista<sup>®</sup>, the following screen appears.
 Click Continue or Yes.



### [Windows Vista®]



#### [Windows® 7]



$\downarrow$	
Confirm File Deletion  Are you sure you want to completely remove 'SWnD5-QD75P' and all of its component  Yes No	3) Coi 8? Clic Clic
$\downarrow$	
Remove Shared File?	4) If the click If you the s MEL
File name:     MELFANSweb Shortcut.URL       Located in:     C:\MELSEC\	click Conf
YesYes To <u>A</u> llNo <u>No to All</u>	
Remove Programs From Your Computer unInstallShield will remove the software 'GX Configurator-QP' from your computer. Please wait while each of the following components is removed	5) Whe click
<ul> <li>Shared program files</li> <li>Standard program files</li> <li>Standard program files</li> <li>Folder items</li> <li>Frogram folders</li> <li>Program directories</li> <li>Program registry entries</li> <li>Uninstall successfully completed.</li> </ul>	Whe uning
[	
$\downarrow$	

3) Confirm that the file may be removed.Clicking the Yes button starts uninstallation.Clicking the No button stops uninstallation.

 If the left screen has appeared, click the <u>No To All</u> button.
 If you click the <u>Yes</u> or <u>Yes To All</u> button, the shared file of the Windows<sup>®</sup> compatible MELSOFT software is removed. Therefore, click the <u>No To All</u> button when removing GX Configurator-QP only.

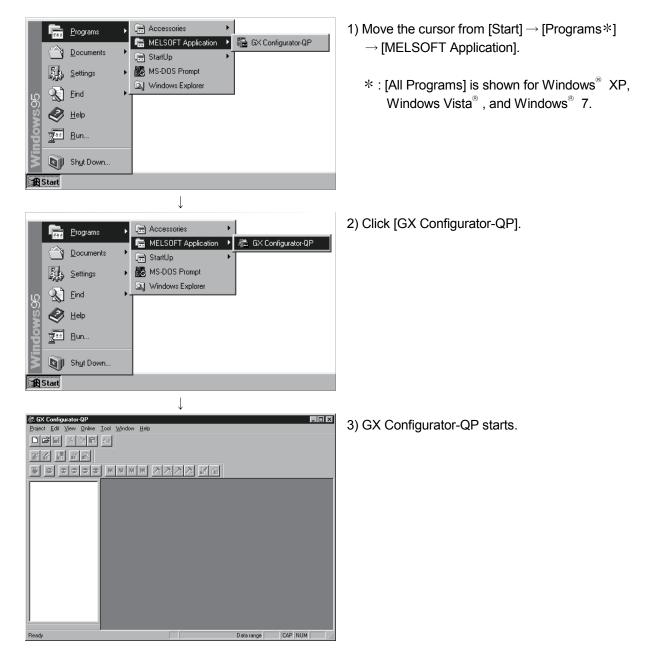
5) When the removal completed message appears, click the OK button.

When the completed message appears, uninstallation is complete.

(Completion)

## 4.3 Starting GX Configurator-QP

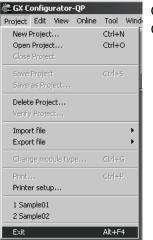
This section explains how to start GX Configurator-QP from the start menu.



## 4.4 Exiting GX Configurator-QP

This section describes how to exit GX Configurator-QP.

#### (1) Menu-driven exit method



Click the [Project]  $\rightarrow$  [Exit] menu. GX Configurator-QP ends.

## (2) Title bar-driven exit method

着 GX Confi	gurator-(
<u>R</u> estore	
<u>M</u> ove	
<u>S</u> ize	
Mi <u>n</u> imize	
Ma <u>x</u> imize	
<u>C</u> lose	Alt+F4

Click 💼 and choose [Close].

Alternatively, click  $\blacksquare$  at the right end of the title bar.

- Point —

In the online status such as the monitor or test mode, you cannot exit GX Configurator-QP.

In any of the following cases, end the program after choosing the offline status.

Monitor mode (refer to Section 10.2)

Test mode (refer to Section 10.4)

Online status for checking connect (refer to Section 7.4)

## REMARK

When a new project has been created or a project has been modified but is not yet saved, the confirmation dialog box appears to ask you whether you will save that project or not.

When you do not want to save it, click the No button.

When you want to save it, click the Yes button.

When you save a new project, choose [Save as Project].

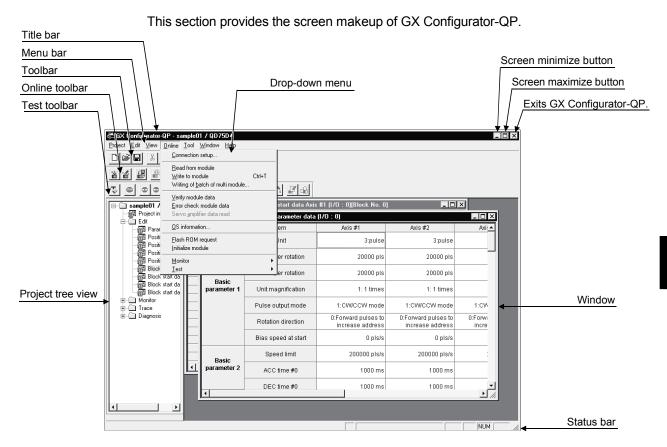
For further information, refer to Section 6.1.

# MEMO


## 5. SCREEN MAKEUP AND BASIC OPERATIONS

This chapter explains the screen makeup and the display selection, window arrangement and other operations of GX Configurator-QP.

### 5.1 Screen Makeup and Display Selection



## (1) Display selection and window arrangement operations

You can use the following drop-down menu to choose to display or hide any toolbar or arrange windows.

Menu Operation	Description	
[View] $\rightarrow$ [Project tree view]		
[Toolbar]	Used to display or hide the corresponding toolbar.	
[Test toolbar]		
[Online toolbar]		
[View] $\rightarrow$ [Status bar]	Used to display or hide the status bar.	
	Used to choose any of block numbers 0 to 4 to be	
[View] $\rightarrow$ [Select block start no]	displayed on the block start data edit window. (Refer to	
	Section 8.5.1)	
$[Window] \to [Cascade]$	Used to overlap multiple windows.	
	The above screen gives a cascade example	
[Window] $\rightarrow$ [Tile vertically]	Used to lay multiple windows side by side.	
	Used to arrange windows which have been reduced to	
$[Window] \rightarrow [Arrange icons]$	small icons (minimized).	
$[Window] \rightarrow [All \ close]$	Used to close all open windows.	

## 5.2 Basic Operations

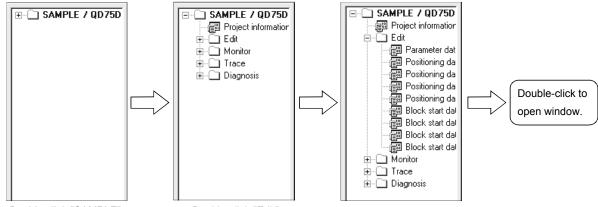
- (1) Basic operation for project tree view
  - (a) Opening a window

The currently open project appears on the project tree view. Double-click the project name or click  $\boxdot$  to show its functions. (From the keyboard, choose the project name and press the " $\rightarrow$ " key.)

Double-click the function name or click  $\boxplus$  to show the window types. (From the keyboard, choose the function name and press the "—" key.)

Double-click the window name to open that window.

(From the keyboard, choose the window name and press the "Space" key.)



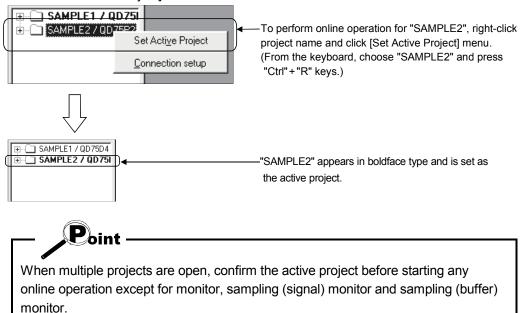
Double-click "SAMPLE".

Double-click "Edit".

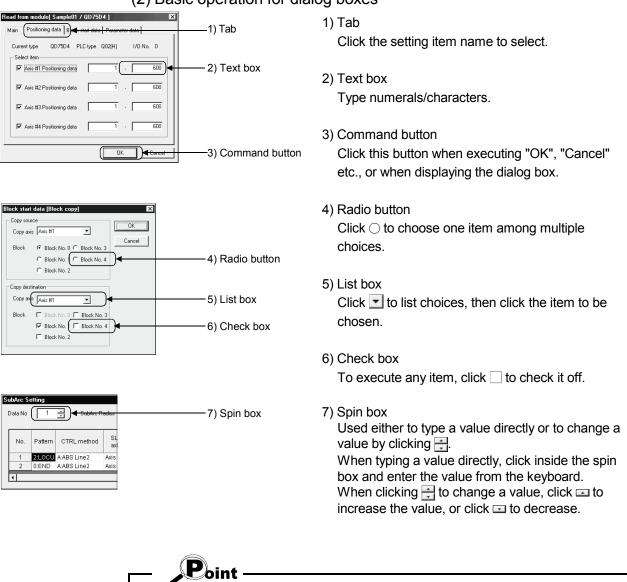
## (b) Changing the active project

Any online operation except for monitor, sampling (signal) monitor and sampling (buffer) monitor is performed for the module to which the active project is connected, separately from the active window.

To change the active project, right-click the project name and click [Set Active Project].



5



(2) Basic operation for dialog boxes

When performing operation from the keyboard, choose the setting item with the "Tab" key.

When there are two or more choices, use the " $\leftrightarrow$ ", " $\rightarrow$ ", " $\uparrow$ " and / or " $\downarrow$ " key.

### (3) Moving the focus from the keyboard

Use the "Alt" key to move the focus to the drop-down menu. Use the "F6" key to move the focus between the project tree view and window (edit, monitor, trace, checking connect).

### (4) Shortcut key list

The following shortcut keys can be used with GX Configurator-QP.

Shortcut Key	Function (Corresponding Menu Item)	Tool Button	Shortcut Key	Function (Corresponding Menu Item)	Tool Button
Ctrl+N	New project file		Ctrl+Y	Clear row	
Ctrl+O	Open project file	ų	Ctrl+B	Select block start no	
Ctrl+S	Save		Ctrl+T	Write to module	1
Ctrl+G	Change module type	_	Ctrl+M	Monitor On/Off	Second
Ctrl+P	Print	6	Ctrl+F4	Close active window	
Ctrl+X	Cut	×	Ctrl+F6	Change active window	_
Ctrl+C	Сору		F1	Help	_
Ctrl+V	Paste	Ê		Change active window	
Ctrl+A	Select All	_	Alt+F4	Evit/close dialog hox	—
Ctrl+J	Jump	_		Exit/close dialog box	

### (5) Tool button list

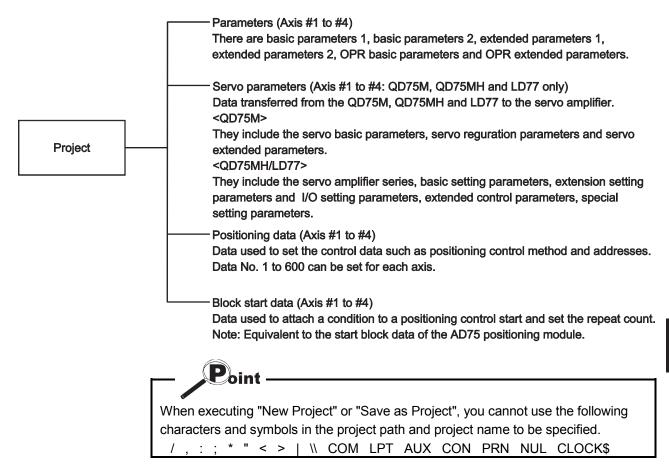
The following table lists the tool buttons of GX Configurator-QP.

Toolbar	Tool	Function (Corresponding Menu Item)	Toolbar	Tool	Function (Corresponding Menu Item)
Туре	Button		Туре	Button	T 10 /0″
		New project file		Ę,	Test On/Off
	Ľ	Open project file			All axis stop command
		Save		$\oplus$	Error reset #1
Toolbar	Ж	Cut		2	Error reset #2
		Сору		3	Error reset #3
	Ē	Paste			Error reset #4
	6	Print		101	M code Off #1
	論	Read from module	Test	<b> 2</b>	M code Off #2
	۶.	Write to module	toolbar	<b> 9 </b>	M code Off #3
Online toolbar		Verify module			M code Off #4
toolbai	Í	Monitor On/Off		$\mathcal{P}_1$	Operation Test #1
	R	Check module		<b>P</b> 2	Operation Test #2
				ĸ	Operation Test #3
				Ŕ	Operation Test #4
				ľ	Positioning data edit in TEST MODE
				цij	Teaching

## 6. PROJECT CREATION

A project is a collection of parameters, servo parameters, positioning data and block start data.

<GX Configurator-QP project makeup>



### 6.1 Creating a New Project

QD75M4

Project file name specification

New Project

Module type

Project path

Project name Project title <u>Project</u> <u>E</u>dit <u>V</u>iew <u>O</u>nline <u>T</u>ool

 $\downarrow$ 

C:\MELSEC\QD75P

New Project read to module

Untitled

<u>N</u>ew Project... <u>O</u>pen Project... Ctrl+N

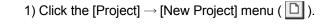
Ctrl+O

Set the QD75/LD75/LD77 model used to create a new project and the project items.

×

Reference

Reference



 Click the "Reference" button of the Module type in the [New Project] dialog box.

- Choose the Select type and Select Axis radio buttons.
- 4) Click the "OK" button.

	OK	Cancel
$\downarrow$		
Select module type		×
Select type Q series Q D75P(Open collector type) Q D75D(Differential driver type) Q D75M(SSCNET) Q D75MH(SSCNET III) L series C LD75P(Open collector type) C LD75D(Differential driver type) C LD75D(Differential driver type) C LD77MH(SSCNET III) Select Axis Axis #1 Axis #2 Axis #4		OK Cancel

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 $\downarrow$ 

N	lew Project		×
	modulo (ypo	ID75P1	Reference
	Project file name		D. (
	Project path	C:\MELSEC\QD75P	Reference
	Project name	Sample1	_
	Project title		
		New Project read to module	
		OK	Cancel

\*1 Example)

Project path: C\MELSEC••••QD75\ Project name: Sample01 When setting the following:

C:\MELSEC\ · · · QD75P\Sample01\Sample01.Q75

Within 150 characters

\*2 To utilize the data read from the QD75/LD75/LD77, refer to "HELPFUL OPERATION (PART 2)" in this section.

- 5) Set the project save path. The project save path defaults to C:\MELSEC\QD75P. When changing it, refer to "HELPFUL OPERATION (PART 1)" in this section.
- 6) Set the project name.
  When specifying the project file name, you can use a total of up to 150 characters to set the project path and project name.
  When setting the project path and project name, the total number of characters should be within 150.
  This screen assumes that the project name is

This screen assumes that the project name is "Sample1".

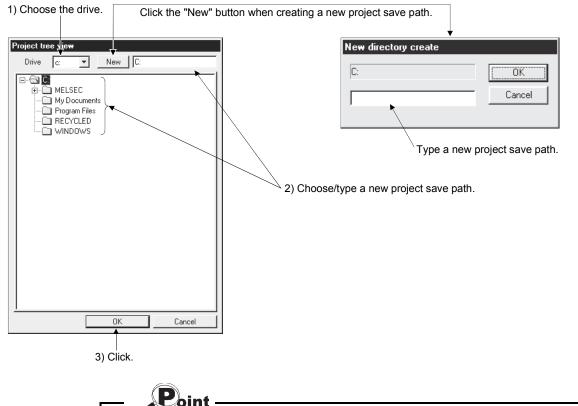
- 7) Set the project title as required.
- 8) Click the "OK" button. This creates a new project.



You can perform the operation of changing the project save path while simultaneously checking the project tree view.

In step 5) on the preceding page, click the Project file set "Reference" button. When the following dialog box appears, choose the project save path from the project tree view or type it from the keyboard.

This operation is also used to perform such operations as "Open Project", "Save Project" and "Delete Project".



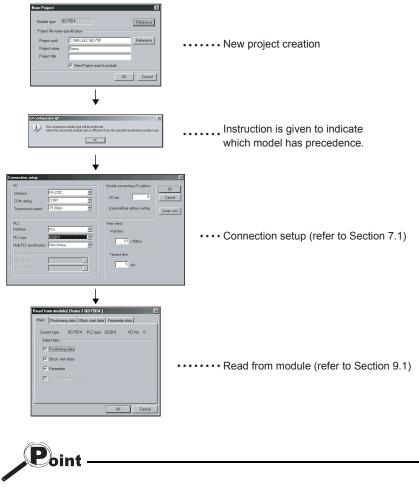
When saving a project, you cannot set "Untitled" in Project name. Also, do not use "Untitled n (n: 1, 2, 3 .....)" in Project name. If you read "Untitled 1" and create a new project in default setting, "Untitled2" appears on the Project tree view.

## HELPFUL OPERATION (PART 2)

When utilizing the data written to the QD75/LD75/LD77 to create a new project, perform the following operation.

- 1. Set the Module type, project save path, project name and project title in the New Project dialog box.
- 2. Click the "New Project read to module" check box.
- 3. Click the "OK" button.
- 4. Click the "OK" button in the instruction dialog box.
- 5. Set the interface, I/O address and others in the Connection setup dialog box (refer to Section 7.1).
- 6. Click the "OK" button.
- 7. Set the type and range of the data to be read in the Read from module dialog box (refer to Section 9.1).
- 8. Click the "OK" button to read the positioning data, block start data and parameters in the specified range from the QD75/LD75/LD77.

#### <New module data reading procedure>



When New Project read to module is performed for new project creation, the QD75/LD75/LD77 connected has precedence if the QD75/LD75/LD77 model of the project differs from the QD75/LD75/LD77 model connected.

After completion of reading, choose the [Project]  $\rightarrow$  [Change module type] menu to change the model. (Refer to Section 11.1.2.)

### 6.2 Opening the Existing Project

This section explains the operation of opening the saved project.

Open project file Project save path	<u>N</u> ew Pro <u>O</u> pen Pr <u>C</u> lose Pr <u>S</u> ave Pr	roject C roject C s Project	Reference
	, <u> </u>	_	
Project	QD75D4 QD75P2	Date 2001/04/24 2001/04/24 2001/04/24	Project title Back one step
			•
Project name	Sample01		Open Cancel
Open project file Project save path Project  Sample01	C:\MELSEC\	Date 2001/04/24	Reference E E
		2001/04/24	
Sample02	QD75P2	2001/04/24 2001/04/24	¥
Sample02			Dpen Cancel

1) Click the [Project]  $\rightarrow$  [Open Project] menu ( 📴 ).

- 2) Click the project name.For the setting operation of referring to the project save path, refer to "HELPFUL OPERATION (PART 1)" in Section 6.1.
- 3) Click the "Open" button.
- 4) The specified project opens.

5) To open multiple projects, repeat the operations in steps 1) to 3).The open projects are displayed on the project tree view. Point

- Projects created with GX Configurator-QP Version 2.33K or later cannot be opened with GX Configurator-QP Version 2.32J or earlier.
   Install GX Configurator-QP of the latest version.
- Recently opened projects (files) can be opened from the project menu

Up to four projects can be displayed.

Note that any projects not saved do not remain in the project menu.

In the initial setting, the [Latest file] menu item appears.

Project Edit View Online	e Tool Win	
New Project Ctrl+N		
Open Project	Ctrl+O	
Close Project		
Save Project	Ctrl+5	
Save as Project		
Delete Project		
Verify Project		
Import file	•	
Export file		
Change module type	Ctrl+G	
Print	Ctrl+P	
Printer setup		
1 Sample01		
2 Sample02		
Exit	Alt+F4	

### 6.3 Saving the Project



The project file which is currently edited is saved.

### BASIC OPERATION

- 1. Set the project to be saved as the active project. (Refer to Section 5.2.)
- 2. To perform save operation, click the [Project] $\rightarrow$ [Save Project] menu ( To perform save as operation, click the [Project]  $\rightarrow$  [Save as Project] menu. When specifying the project file name, you can use a total of up to 150 characters to set the project path and project name.

When setting the project path and project name, the total number of characters should be within 150.

For the operation of setting the project save path and project name, refer to "HELPFUL OPERATION (PART 1)" in Section 6.1.

### DISPLAY/SETTING SCREEN

Module type	QD75D4		
Project file nam	e specificati	on	
Project path	C:\ME	LSEC\QD75P	Reference
Project name	Samp	e	-
Project title			

### HELPFUL OPERATION

When you want to change the title in the same project name, perform the following operation.

- 1. Double-click "Project information" on the Project tree view.
- 2. Click the unchecked "Modified title " check box in the Project information window and change the current title.
- 3. Click the [Project]  $\rightarrow$  [Save Project] menu.

🚝 Sample01 / QD7	5D4 / Project information (I/O : 0)	×
Project file		
Project name	Sample01	1
Module type	QD75D4	
Modified title		
Project title		
- Connection informa	ation	_
PLC I/F	Non	
PLC type	Non	
I/O address	Non	

Point When saving a project, you cannot set "Untitled" in Project name. Also, do not use "Untitled n (n: 1, 2, 3 .....)" in Project name. If you read "Untitled 1" and create a new project in default setting, the same project name (Untitled 1) appears on the Project tree view.

### 6.4 Closing the Project



The open project is closed.



- 1. Set the project to be closed on the project tree view.
- 2. Click the [Project]  $\rightarrow$  [Close Project] menu.
- 3. If any setting has been changed, the dialog box appears to confirm whether the project will be saved or not.

Click the "Yes" button to save and close the project.

Click the "No" button to close the project without saving it.

GX Configurator-QP				
	The project (Sample) is changed. Do you want to save the changes?			
<u>Y</u> es	<u>N</u> o	Cancel		

### 6.5 Deleting the Project

The project is deleted from HD, FD, etc..

# BASIC OPERATION

- 1. Click the [Project]  $\rightarrow$  [Delete Project] menu.
- 2. In the Delete project file dialog box, choose the project you want to delete and click the "Delete" button.

Refer to "HELPFUL OPERATION (PART 1)" in Section 6.1 for the operation of changing the project save path.

- 3. As the project file deletion confirmation dialog box appears, click the "Yes" button.
- 4. The project is deleted.

### DISPLAY/SETTING SCREEN

Project save path	C:\MELSEC\Q	D75P\ R	eference 主 📰 🖥
Project	Туре	Date	Project title
t		1999/12/15	Back one step
SAMPLE01	QD75D4	1999/12/16	
SAMPLE02	QD75P2	1999/12/16	
SAMPLE03	QD75D4	1999/12/16	
SAMPLE04	QD75D4	1999/12/16	
•			
<sup>o</sup> roject name	SAMPLE04		Delete
			Cancel

### 6.6 Reading other Format Files

#### 6.6.1 Reading SW1RX/IVD/NX-AD75P / GX Configurator-AP format file



The positioning data, M code comments, block start data, condition data, parameters, servo parameters are read from the file of the MELSEC-A series software package (SW1 - AD75P, GX Configurator-AP) as a new project of GX Configurator-QP. (Note that they cannot be read to the LD75/LD77 project.)



### BASIC OPERATION

- 1. Click the [Project]  $\rightarrow$  [Import file]  $\rightarrow$  [File reading of SW1RX/IVD/NX-AD75P] / [File reading of SW0D5C-AD75P] menu.
- 2. Choose the file in the Open dialog box and click the "Open" button.
- 3. Click the "OK" button in the read destination confirmation dialog box.
- Set the QD75 model, project save path, project name and project title in the Other file type project dialog box. (Refer to Section 6.1 "HELPFUL OPERATION (PART 1)".)
- 5. Click the "OK" button.

### DISPLAY/SETTING SCREEN

Open				? ×
Look jn:	🖼 backup	- 6		0-0- 0-0-
backup.W	75			
File <u>n</u> ame:	backup.W75			<u>O</u> pen
Files of type:	SW0D5C-AD75P File (*.w75)	1	-	Cancel

(The screen shows an example of GX Configurator-AP file read.)

## 🔎 DISPLAY/SETTING DATA

Item	Description
Look in	Choose the project save path of the file you will read.
File name	Set the file name you will read.
Files of type	SW1RX/IVD/NX-AD75P File (*.d75) or SW0D5C-AD75P File (*.w75) appears.
"Up One Level" button	Click this button to show the folder one level above the currently displayed folder.
"List" button	Click this button to list files and folders.
"Details" button	Click this button to display the file and folder in detail.
"Open" button	Click this button to read the file.

Point

- Since there are no four-axis type AD75 positioning modules, the positioning data, block start data and parameters of the fourth axis are not read if the QD75 model of the save destination project is of the four axis type.
- Note the following when the file in the GX Configurator-AP or SW1\_-AD75P format has been read to GX Configurator-QP.

	Da	ata Type	Read to GX Configurator-QP			
	Start bias	speed	Section is changed from basic parameter 2 to basi parameter 1.			
		Over limit				
		Under limit	-			
		Drive unit ready				
		Stop signal				
		External signal	These are new items and therefore not read.			
	I/O logic	Zero phase signal	Default setting.			
		Zeroing dog				
		MPG	-			
Parameter		DCC				
		Command PLS signal	Output pulse logic selection to drive unit has been changed to this name.			
	Stepping	motor mode				
	Manual p	ulse generator selection	These are disused items and therefore read-			
		C time unit selection	disabled.			
	Near path	n control mode selection	This is a disused item and therefore read-disabled. (Because near path control mode is fixed)			
	Manual p selection	ulse generator input	These are new items and therefore read-disabled. Default setting.			
	Speed-pc	sition function selection				
Positioning	SLV axis		This is a new item and therefore read-disabled. Default setting.			
data	Positionir	ng comment	Not read from SW1 -AD75P.			
Block start data			Start block data has been changed to this name. Because of reduction in number of blocks, block numbers 5 to 10 are read-disabled. "Stop" in special start is replaced by "Wait start". *			
ndirect dat	а		This is a disused item and therefore read-disabled.			
Deviation counter clear signal output time		ar signal output time	This is a new item and therefore not read. Check and correct the setting after file reading.			

	oint			
[AD75P –	→ QD75M/QD75MH, AD75N	$1 \rightarrow \text{QD75P/QD75D}$		
	Data Type	Read to GX Configurator-QP		
Parameter Servo parameter		Default setting since parameter data differ.		
Positioning	SLV axis	This is a new item and therefore read-disabled. Default setting.		
data	Positioning comment	Not read from SW1 -AD75P.		
Block start data		Start block data has been changed to this name. Because of reduction in number of blocks, block numbers 5 to 10 are read-disabled. "Stop" in special start is replaced by "Wait start". *		
Indirect data		This is a disused item and therefore read-disabled.		
Deviation counter clear signal output time		This is a new item and therefore not read. Check and correct the setting after file reading.		
* : After fil	e reading, condition data setting is	needed.		

	D	ata Type	Read to GX Configurator-QP			
	Start bias		Section is changed from basic parameter 2 to basic parameter 1.			
		Over limit				
		Under limit				
	I/O logic	Stop signal	These are new items and therefore not read.			
		External signal	Default setting.			
		Zeroing dog				
		MPG				
Deremeter	ACC/DEC	time unit selection	This is a disused item and therefore read-disabled.			
Parameter	Near path	o control mode selection	This is a disused item and therefore read-disabled. (Because near path control mode is fixed)			
	External of	command function selection	External start function selection has been changed			
		$\to$ On-time permissible nge setting	Permissible restart range has been changed to this name.			
		ulse generator input	These are new items and therefore read-disabled.			
	Speed-pc	sition function selection	Default setting.			
Servo	When servo series is "MR-H-B (MR- H-BN)"		Values of "MR-H-BN" are read.			
parameter	When ser	vo series is "MR-J-B" +1	Default values of "MR-J2S-B" are read.			
*1	When ser	vo series is "MR-J2-B"	Values of "MR-J2-B" are read. *2			
	When ser	vo series is "others"	Default values of "MR-J2S-B" are read.			
Positioning	SLV axis		This is a new item and therefore read-disabled. Default setting.			
data	Positionin	ig comment	Not read from SW1AD75P.			
Block start data			Start block data has been changed to this name. Because of reduction in number of blocks, block numbers 5 to 10 are read-disabled. "Stop" in special start is replaced by "Wait start". *			
Indirect dat	а		This is a disused item and therefore read-disabled.			
*1: Defaul Make	t values ar setting ac	cording to the used servo.	nce parameter contents are different.			
		es of the MR-J2S-B are reac cording to the used servo.	I since the QD75M is incompatible.			

### 6.6.2 Reading the CSV format file

D PURPOSE

GX Configurator-QP allows CSV format files created with spreadsheet software, etc. be read as positioning data (axis #1 to #4). (Parameters, servo parameters, and block start data cannot be read.)

The creating method and reading operation of CSV format data are described below.



- If all items that make up positioning data have not been entered, CSV format data cannot be read, resulting in an error.
- Since CSV format data is read axis-by-axis, create CSV format data noting which axis (#1/#2/#3/#4) data is being created.

#### (1) CSV format data creating method

The following sheet indicates the items and values of CSV format data set on a column basis.

	A	В	C	D	Е	F	G	Н		J
1	2	A	2	0	1	1000	0	500	0	1
2	2	F	2	0	1	1000	1000	500	0	2
3	2	A	2	0	1	-1000	0	500	0	3
4	2	F	2	0	1	-1000	-1000	500	0	0
5	0	A	2	0	1	0	0	500	0	0
6										
누										
1)	2)	3)	4)	5)	6)	7)	8່)	9)	10)	1'1)
	<data above="" configurator-op="" gx="" read="" set="" software="" spreadsheet="" the="" to="" was="" with=""></data>									

<Example of data set to spreadsheet software>

<data above="" set="" software="" spreadsheet="" th="" the="" to="" was<=""><th>as read with GX Configurator-QP&gt;</th></data>	as read with GX Configurator-QP>
---	----------------------------------

No.	Pattern	CTRL method	SLV axis	ACC(ms)	DEC(ms)	Positioning address [pls]	Arc Address [pls]	Command speed [pls/sec]	Dwell time [ms]	M code
1	2:LOCUS	A:ABS line2	Axis #2	0;1000	0;1000	1000	0	500	0	1
2	2:LOCUS	F:ABS ArcRGT	Axis #2	0;1000	0;1000	1000	1000	500	0	2
3	2:LOCUS	A:ABS line2	Axis #2	0;1000	0;1000	-1000	0	500	0	3
4	2:LOCUS	F:ABS ArcRGT	Axis #2	0;1000	0;1000	-1000	-1000	500	0	0
5	0:END	A:ABS line2	Axis #2	0;1000	0;1000	0	0	500	0	0
6										

Number	Setting	Remarks
1)	Set the positioning control pattern in column 1 from left. Set any value from 0 to 2.	
2)	Set the operation method in column 2 from left. Set it with 1 to 9 and A to Z.	
3)	Set the interpolation axis for two-axis interpolation control in column 3 from left.	
4)	Set the host axis for single-axis or three-/four-axis interpolation control.	Refer to Section 8.3
5)	Set the accel time No. in column 4 from left. Set it from 0 to 3.	for details of data
6)	Set the decel time No. in column 5 from left. Set it from 0 to 3.	corresponding to
7)	Set the address in column 6 from left.	alphanumeric
8)	Set the circular positioning address in column 7 from left.	values to be set.
9)	Set the command speed in column 8 from left.	
10)	Set the dwell time in column 9 from left.	
11)	Set the M code in column 10 from left.	

(2) CSV format file reading operation

### BASIC OPERATION

- 1. On the project tree view ,set the active project whose CSV format file will be read. (Refer to Section 5.2.)
- 2. Click the [Project]  $\rightarrow$  [Import file]  $\rightarrow$  [File reading of CSV form positioning data] menu.
- 3. Click the "Yes" button in the dialog box which confirms that the read CSV format data will replace the present positioning data.
- 4. Choose the axis in the Object axis selection dialog box and click the "OK" button.
- 5. Choose the file and file type in the Open dialog box and click the "Open" button.
- 6. Click the "OK" button in the read confirmation dialog box.



### DISPLAY/SETTING SCREEN

[Object axis selection dialog box]

Object axis selection	×
Axis selection Positioning data #1	Cancel
C Positioning data #2 C Positioning data #3	
C Positioning data #4	

#### [Open dialog box]

Open					?	×
Look jn:	🔄 Sample	•	£	Ť		
a 1AXIS.csv	,					
1				_		_
File <u>n</u> ame:	1AXIS.csv				<u>O</u> pen	)
Files of type:	CSV File (*.CSV)		•		Cancel	

### DISPLAY/SETTING DATA

Item	Description
Object axis selection dialog	Choose the axis whose positioning data will be read in the CSV format.
box	
Look in	Choose the project save path of the file you will read.
File name	Set the file name to be read to the project.
Files of type	CSV File (*.CSV) appears.
"Up One Level" button	Click this button to show the folder one level above the currently displayed folder.
"List" button	Click this button to list files and folders.
"Details" button	Click this button to display the file and folder in detail.
"Open" button	Click this button to read the file.

### 6.7 Write to CSV Format File

The positioning data set in the project of GX Configurator-QP is saved in the CSV format file.

Refer to Section 6.6.2 (1) for the positioning data setting items and CSV format data.

## BASIC OPERATION

- 1. On the project tree view , set as the active project the project whose positioning data will be saved in the CSV format file. (Refer to Section 5.2.)
- 2. Click the [Project]  $\rightarrow$  [Export file]  $\rightarrow$  [File writing of CSV form positioning data] menu.
- 3. Choose the axis in the Object axis selection dialog box and click the "OK" button.
- 4. Set the save location and file name in the Save As dialog box and click the "Save" button.
- 5. Click the "OK" button in the write confirmation dialog box.



### DISPLAY/SETTING SCREEN

[Object axis selection dialog box]

Object axis selection	×
Axis selection	OK )
Positioning data #1     Positioning data #2	Cancel
C Positioning data #3	
C Positioning data #4	

#### [Save As dialog box]

Save As					? ×
Save jn:	🔄 Sample	٣	ŧ	÷۵	
1					
File <u>n</u> ame:	1AXIS.csv				<u>S</u> ave
Save as <u>t</u> ype:	CSV File (*.CSV)		Ŧ		Cancel

Item	Description	
Object axis selection dialog box	OR Choose the axis whose positioning data will be saved in the CSV format.	
Save in	Choose the drive or folder where the data will be saved.	
File name	Set the file name to be saved in the other format file.	
Files of type	CSV File (*.CSV) appears.	
"Up One Level" button	Click this button to show the folder one level above the currently displayed folder.	
"Create New Folder" button	Click this button to create a "new folder".	
"List" button	Click this button to list files and folders.	
"Details" button	Click this button to display the file and folder in detail.	
"Save" button	Click this button to save the other format file.	

# MEMO


## 7. SYSTEM CHECKING FROM PERIPHERAL DEVICE

Specify the QD75/LD75/LD77 to be accessed per project, also check connections with the external equipment (servo amplifiers, servo motors, etc.), and conduct initial operation tests of the servo motors.

### 7.1 Connection Setup

Choose an the interface connected to the QCPU, LCPU, serial communication module, or Q corresponding MELSECNET/H network remote I/O module, and set the I/O address of the QD75/LD75/LD77 to be accessed.



### BASIC OPERATION

- 1. Click the [Online]  $\rightarrow$  [Connection setup] menu.
- 2. Choose the interface in the Connection setup dialog box and set the I/O address, etc.
- 3. After the setting is completed, click the "OK" button.

### DISPLAY/SETTING SCREEN

°C			Module connecting I/O address	ОК
Interface	USB	<b>•</b>		
COM setting	COM1	7	1/0 adr. 0	Cancel
Transmission speed	115.2kbps	7	(Caution)Real address setting	Comm. te
ԳԼԸ			Time check	
nterface	PLC	-	- Wait time	
PLC type	Q06H	•	10 x 500ms	
Multi PLC specification	Non-choice			
via GOT transparen	t mode		Timeout time	
Гуре	Direct coupled	7	10 sec	

DISPLAY/SETTING DATA

Item		Description
PC	Interface	Choose the type of the personal computer side interface. [For QD75 projects] "RS-232C", "USB", "Ethernet direct", or "Q series bus" can be selected. When using a PC CPU module, select "Q series bus". When "Ladder logic test" is selected for the programmable controller side interface, the personal computer side interface cannot be selected. [For LD75/LD77 projects] "RS-232C", "USB", or "Ethernet direct" can be selected. When "RS-232C" is selected for the personal computer side interface, "PLC" is selected for the programmable controller side interface, and the personal computer is directly connected to the LCPU using RS-232 cable, an RS-232 adapter (optional item) is required. When "via GOT transparent mode" is selected for the programmable controller side interface, "RS-232C" or "USB" can be set for the personal computer side interface. Since settable items depend on the selection status of "via GOT transparent mode", if the item is selected, reconfigure the settings. When "Serial communication" is not selected for the programmable controller side interface and "via GOT transparent mode" is not selected, the personal computer side interface is fixed to "RS-232C".
	COM setting	Choose a COM port when the personal computer side interface is "RS-232C". The selection range is "COM1" to "COM10".
	Transmission speed	Choose a transmission speed when the personal computer side interface is "RS-232C". The selection range is "9.6kbps" to "115.2kbps".
	Interface	Choose the type of the programmable controller to be connected. [For QD75 projects] "PLC", "Serial communication" or, "Ladder logic test" can be selected. When connecting via Q corresponding serial communication module, select "Serial communication". When connecting to GX Simulator, select "Ladder logic test". (Start GX Simulator from GX Developer beforehand.) When "Q series bus" is set for the personal computer side interface, the PLC side interface is fixed to "PLC". [For LD75/LD77 projects] "PLC" or "Serial communication" can be selected. When connecting via L corresponding serial communication module, select "Serial communication".
	PLC type	Select the model of the control CPU of the positioning module to communicate with or "Remote I/O".
PLC	Multi PLC specification	Select the CPU No. of the control CPU of the positioning module to communicate with in a multiple CPU system configuration. [For QD75 projects] "Non-choice", "PLC No.1", "PLC No.2", "PLC No.3", or "PLC No.4" can be selected. For a single CPU system configuration, select "Non-choice" or "PLC No. 1". [For LD75/LD77 projects] Since the projects are not supported in the multiple CPU system configuration, this item is fixed to "Non-choice".
	via GOT transparent mode	Select this item when connecting GX Configurator-QP to the programmable controller via GOT1000 series. This item can be selected when "RS-232C" or "USB" is chosen in the personal computer side interface, and "PLC" or "Serial communication" is chosen in the programmable controller side interface. When choosing "via GOT transparent mode", select a CPU module that supports the GOT transparent mode (other than "Remote I/O" and "Q12DCCPU-V").

7

lt	tem	Description
PLC	Туре	<ul> <li>Select a connection type between GOT1000 series and the programmable controller when using the GOT transparent mode.</li> <li>[For QD75 projects]</li> <li>This item can be set when "via GOT transparent mode" is selected.</li> <li>"Direct coupled" or "Bus" can be selected.</li> <li>When "Serial communication" is set for programmable controller side interface, the connection type between GOT1000 series and serial communication module is fixed to "Direct coupled".</li> <li>[For LD75/LD77 projects]</li> <li>The connection type between GOT1000 series and the programmable controller is fixed to "Direct coupled".</li> </ul>
I/O adr.		Set the I/O address (start I/O number) of the positioning module to be accessed in hexadecimal.
Wait time		Set the time-out period until when the positioning module accepts a request from GX Configurator-QP. When time-out occurs, the operating axes all stop.
Timeout time Set the suspension time of comm		Set the suspension time of communication judged as a communication error.
Comm. test		Whether the access target CPU module set in the Connection Setup dialog box can be communicated normally to the positioning module or not is tested. When normal communication can be made, the types of the positioning module and CPU module are displayed.



- If you set the personal computer interfaces to the same COM port in GX Configurator-QP and GX Developer, set the baudrate to the same speed. If they are started at the same time, the baudrate set first has priority and the baudrate set later is ignored.
- If GX Configurator-QP is forced to end in the test mode, a time-out occurs due to the elapse of the wait time and the QD75/LD75/LD77 cancels the test mode.
- A communications error may occur if communications are made with the QCPU/LCPU after setting of any of the resume function, suspend setting, power-saving function and standby mode of the peripheral device. For this reason, do not set the above functions when communicating with the QD75/LD75/LD77.
- If the USB cable is disconnected/connected, the QCPU/LCPU is reset, or power is switched on/off frequently during communications with the QCPU/LCPU, a communications error may occur and the system may not recover from the error. Hence, place the system offline when disconnecting/connecting the USB cable, resetting the QCPU/LCPU, or switching power on/off.

If the system does not recover from the communications error, completely disconnect the USB cable once and reconnect it after more than 5 seconds has elapsed. (An error may occur at the initial communications after this operation, but the system will function properly from the second time onwards.)

- A communication error may occur depending on the combination of the personal computer model, USB cable and so on.
- In that case, refer to the message displayed and perform operation again.
  If the baudrate is changed at the serial port of the personal computer (personal computer interface) to perform fast communication, communications may not be made or a communications delay may occur due to a communications retry depending on the performance of the personal computer.
  If communications cannot be made for fast communication, reduce the baudrate and restart communication.
- If "Multiple PLC specification" is set for the "PLC No. 2", "PLC No. 3" or "PLC No. 4" in the PLC side setting, that setting is made valid only when the QD75 of function version "B" or later is used. To confirm the function version of the QD75, refer to "Section 7.3 Checking the Positioning Module Function Version (OS Information) ".

## REMARK

When the programmable controller interface is "Serial communication" (Serial communication module), the serial communication module switches must be set on the PLC parameter I/O assignment setting screen of GX Developer.

Refer to GX Developer Operating Manual, for the way to make settings in the I/O assignment setting screen.

For details more information on the switch settings, refer to user's manual of the serial communication module used.

Switch setting examples are listed below.

Item	Description		Setting
Switch 1	CH1 communication speed	CH1 transmission setting	0726H
Switch 2	-	CH1 communications protocol	0008H
Switch 3	CH2 communication speed	CH2 transmission setting	0727H
Switch 4	-	CH2 communications protocol	0000H
Switch 5	Module sta	tion number	0000H

Detailed description of settings

Item	Setting	
Operation setting	Independent setting	
Data bit setting	8	
Parity bit yes/no setting	Yes	
Odd/even parity bit	Odd	
Stop bit setting	1	
Sum check yes/no setting	Yes	
Online change enable/disable setting	Enable	
Setting change enable/disable setting	Disable	
Transmission speed setting	19200bps	
Communications protocol	• For Q corresponding serial communication module:	
	Connecting GX Developer	
	<ul> <li>For L corresponding serial communication module:</li> </ul>	
	MELSOFT Connection	

### 7.1.1 Setting for connection via GOT (GOT transparent mode)

# PURPOSE

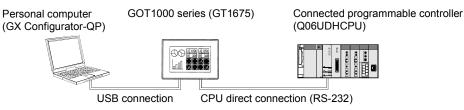
This section explains how to set GX Configurator-QP connected to the QCPU/LCPU or serial communication module by the GOT transparent mode. For cables connected to GOT, settings and precautions for GOT, refer to the GOT1000 Series Connection Manual (Mitsubishi Products).



### BASIC OPERATION

### (1) System configuration example

The following system configuration example shows the setting method. For system configuration in which the GOT transparent mode can be used, refer to Section 2.1.



### (2) Setting method

After connecting GOT and the personal computer, and GOT and the programmable controller, set the GOT transparent mode in the [Connection setup] screen by the following procedure.

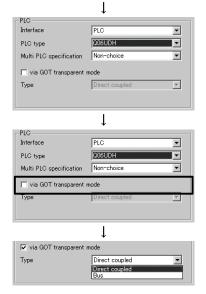
<u>C</u> onnection setup				
<u>R</u> ead from module <u>W</u> rite to module Ctrl+T Writing of <u>b</u> atch of multi module				
Verify module data Error check module data Servo amplifier data read				
<u>O</u> S information				
<u>E</u> lash ROM request <u>I</u> nitialize module				
Monitor ► Test ►				
$\downarrow$				
PC Interface OOM setting Transmission speed I152kbps				
↓				

(To the next page)

1) Choose [Online]  $\rightarrow$  [Connection setup].

Choose "USB" in "Interface" of "PC". 2)

#### (From the previous page)



- 3) Choose "PLC" in "Interface" of "PLC" and "Q06UDH" in "PLC type".
  (When connecting to a serial communication module, choose "Serial communication" in "Interface" of "PLC".)
- Select "via GOT transparent mode".
   (The setting of "Interface" of "PC" may be changed by the "Interface" setting of "PLC". In this case, set "Interface" of "PC" again.)
- 5) Choose "Direct coupled" in "Type".
  (Choose "Bus" in "Type" when connecting the QCPU and GOT in bus connection. When connecting to the LCPU or a serial communication module, "Type" is fixed to "Direct coupled".)

### 7.2 System Monitor

# PURPOSE

Check the module configuration, I/O address, Module type and Module axis status of the station (system) connected.

(Note that this function is not available for LD75/LD77 projects.)



## BASIC OPERATION

- 1. Set the connection target. (Refer to Section 7.1.)
- 2. Click the [Tool]  $\rightarrow$  [System monitor] menu.
- 3. The QD75 on the connected station appears in the System monitor dialog box.
- 4. Click the QD75 illustration and check the I/O address, CPU management, Module type and Module axis status.
- 5. To exit, click the "Close" button.

### **DISPLAY/SETTING SCREEN**

Main base Qn type		Update Close
Ex. base 1 None	Module information	a
Ex. base 2 None	I/D address 0 CPU management - Module type QD75M4 (SSCNET support axis #4 module type)	
Ex. base 3 None	Module axis status Axis #1 No Servo	
Ex. base 4 None	Axis #2         No Servo           Axis #3         No Servo	
Ex. base 5 None	Axis #4 No Servo	
Ex. base 6 None		
Ex. base 7 None		

#### $\bigcirc$ DISPLAY/SETTING DATA

Item	Description
System monitor	Shows the connection target programmable controller system.
System monitor	Clicking the QD75 illustration shows the module information.
Module information Shows the I/O address, CPU management, module type and module axis statuses	
"Update" button Click this button to show the latest system information.	

7.3 Checking the Positioning Module Function Version (OS Information)

# PURPOSE

Depending on the function version of the positioning module, this software may not be compatible with some functions. (Refer to Appendix 2.) Before setting various data, check the function version (product information) of the positioning module with the setting software.



# BASIC OPERATION

- 1. Specify the connection target. (Refer to Section 7.1.)
- 2. Click the [Online]  $\rightarrow$  [OS information] menu.
- 3. Check the function version in the OS information dialog box.
- 4. To exit, click the "Close" button.



OS information[ sar	nple01 / QD75M4 ] 🛛 🛛 🗙
Connected type	QD75M4
Product information	08051000000000-B
	Close

## DISPLAY/SETTING DATA

Item	Description		
Connected type Indicates the model of the connected QD75/LD75/LD77.			
Product information	Indicates the function version of the connected QD75/LD75/LD77. The function version "B" is		
FIDUUCLIMOIMALION	displayed on the above display/setting screen.		

### 7.4 Checking Connect

PURPOSE

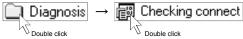
Make sure that the cables between the QD75P/QD75D/LD75 and servo amplifiers or external devices, and between servo motors and servo amplifiers are connected properly.

(Note that this function is not available for the QD75M/QD75MH/LD77.)



## BASIC OPERATION

- 1. Power on the positioning control system and STOP the programmable controller CPU.
- 2. Set the connection target. (Refer to Section 7.1.)
- 3. Choose Checking connect.



- 4. Click the "Online" button in the Checking connect window.
- 5. The online processing (test mode shift) confirmation dialog box appears. Click the "Initialize" button to check connection after initializing the QD75/LD75. Click "OK" to check connection without initializing the QD75/LD75.
- 6. Make sure that the external I/O signals are in the following states. Drive unit ready, Upper limit, Lower limit: ON (red) Stop signal: OFF (gray) If any of the above states is not established, refer to "HELPFUL OPERATION (1)" and "HELPFUL CORRECTIVE ACTIONS" in this section.
- 7. Check whether the following signals from the external devices are ON or OFF. Stop signal, External command.
- 8. Set the JOG speed.
- 9. Press the "FWD" or "REV" button to start JOG operation. Hold down the button to continue JOG operation.
- 10. Perform JOG operation and check the operation, rotation direction and feed speed of the servo motor.
- 11. Perform JOG operation and check whether Zero phase and DOG signals turn on or off.
- 12. Perform JOG operation and check whether the upper and lower limit switches turn on or off.

Refer to "HELPFUL OPERATION (2)" in this section for the way to restore an axis stop due to OFF of the upper/lower limit switch.

- 13. When an error has occurred, check the error code definition with the help function (refer to Section 11.10), then click [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Error reset]  $\rightarrow$ [Error reset #1 to #4] menu ( 1 to 1 ).
- 14. To exit, click the "Offline" button, and click the "OK" button in the test mode end confirmation dialog box.

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# DISPLAY/SETTING SCREEN

🛱 Untitled1 /	<sup>/</sup> QD75P2 / Checki	ng conne	ct(I/0:30)						<u>)</u> >
Operation m	onitor Current feed value				Error No.		in – Mir		]
Axis #1		pls	Feed speed O	pls/s		warn	iing No. 0		
Axis #2	0			pls/s	0		0		
Axis #3	0	pls	0	pls/s	0		0		
Axis #4	0	pls	0	pls/s	0		0		
_JOG operati	on		External	input outp	ut signal —				]
JOG dire	ction JOG spe	eed	Lower lin	nit	Axis #1	Axis #2	Axis #3	Axis #4	
< <rvs p<="" td=""><td>WD&gt;&gt;</td><td>10000 pls/</td><td>/s Upperlin Drive un</td><td></td><td></td><td></td><td>Ö</td><td>00</td><td></td></rvs>	WD>>	10000 pls/	/s Upperlin Drive un				Ö	00	
<rvs p<="" td=""><td>WD&gt;&gt;</td><td>pls/</td><td></td><td></td><td>õ</td><td>ŏ</td><td>õ</td><td>õ</td><td></td></rvs>	WD>>	pls/			õ	ŏ	õ	õ	
< <rvs p<="" td=""><td>WD&gt;&gt;</td><td>pls/</td><td>/s   </td><td>command ase signal</td><td>0</td><td>00</td><td>0</td><td>0</td><td></td></rvs>	WD>>	pls/	/s	command ase signal	0	00	0	0	
< <rvs p<="" td=""><td>WD&gt;&gt;</td><td>pls/</td><td>/s Near-poi DCC</td><td>nt dog sigr</td><td></td><td>õ</td><td>õ</td><td>õ</td><td></td></rvs>	WD>>	pls/	/s Near-poi DCC	nt dog sigr		õ	õ	õ	
						)nline		ffline	]
						TIIINE			

# DISPLAY/SETTING DATA

Item	Description
Operation monitor	Indicates the current feed value, feed speed, error No. and warning No. of each axis.
JOG speed	Set the speed for JOG operation.
JOG direction	Press the "FWD" or "RVS" button of the axis for JOG operation to start JOG operation.
External input output signal	Indicates the external I/O signal states (ON: Red, OFF: Gray) of the QD75/LD75.
"Offline" button	Click this button to end the QD75/LD75 test mode and end Checking connect.
"Online" button	Click this button to start the QD75/LD75 test mode and execute Checking connect.

# HELPFUL OPERATION (1)

Perform the following operation if the I/O logic states of the drive unit ready, upper/lower limit switch and stop signal are different from the initial settings (negative logic).

- 1. In the extended parameters, set the logic signals in which the following states are established during normal operation. (Refer to Section 8.1.) Drive unit ready, upper limit, lower limit: ON Stop signal: OFF
- 2. Write the parameters to the QD75/LD75. (Refer to Section 9.1.)
- 3. Perform steps 1 to 5 in the basic operation of this section.
- 4. Click the "No" button in the Move online dialog box.
- 5. The operation steps to be performed hereafter are the same as steps 7 to 14 in the basic operation of this section.

# HELPFUL OPERATION (2)

Perform the following operation to restart the axis which was brought to an alarm stop as the upper/lower limit switch had turned OFF during JOG operation.

- 1. Click [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Error reset]  $\rightarrow$  [Error reset #1 to #4] menu (  $\bigcirc$  to  $\bigcirc$  ).
- 2. Perform JOG operation to move the axis to within the upper or lower limit range.

## ➡ HELPFUL CORRECTIVE ACTIONS

Take the following corrective actions when Checking connect cannot be completed properly.

Status	Corrective Action		
Checking connect connect	Check the connection of cables with the QD75/LD75.		
Checking connect cannot start	In Connection setup, check whether the interface, PLC type and other settings are correct.		
5(d) (	(Refer to Section 7.1.)		
Drive unit ready signal is	Check that the servo amplifier is powered on.		
Drive unit ready signal is OFF	Check the connection of the external I/O signal connector.		
OFF	Change the extended parameter I/O logic.		
Linner/leurer limit eignel is	Check the connection of the external I/O signal connector.		
Upper/lower limit signal is OFF	Check for contact of the upper/lower limit switch.		
	Change the extended parameter I/O logic.		
	Check the connection of the external I/O signal connector.		
Stop signal is ON	Check the status of the stop switch.		
	Change the extended parameter I/O logic.		
JOG operation cannot be			
performed.	Check that JOG speed setting is not "0".		
Error/warning occurred	Check the error/warning code using the help function, and remove the cause.		

## 8. DATA SETTING

Set the parameters, servo parameters, positioning data and block start data to be written to the QD75/LD75/LD77, and check the setting ranges and matching of the data using the simulation or error check function.

Write the preset parameters, servo parameters, positioning data and block start data to the QD75/LD75/LD77 before starting positioning operation.

Refer to Section 9.1 for the operation to write the data to the QD75/LD75/LD77.

#### 8.1 Parameter Setting

Set the parameters necessary to exercise positioning control.

For parameter settings, refer to the user's manual for the positioning module used.



### PURPOSE

There are the following four parameter types.

- Basic parameters
- Extended parameters
- OPR basic parameters
- OPR extended parameters

The basic and extended parameters are divided into parameters 1 needed for system start and parameters 2 optimized according to the connected external devices and control.



#### **BASIC OPERATION**

1. Choose Parameter.

2. Make setting in the parameter edit window.

### DISPLAY/SETTING SCREEN

🚝 sample01 / (	QD75D4 / Parameter data	(1/0 : 0)		_ 🗆 ×
Kind	Item	Axis #1	Axis #2	1.
	Unit	3:pulse	3:pulse	
	Pulse per rotation	20000 pls	20000 pls	
Denia	Travel per rotation	20000 pls	20000 pls	
Basic parameter 1	Unit magnification	1:1 times	1:1 times	
	Pulse output mode	1:CW/CCW mode	1:CW/CCW mode	1:0
	Rotation direction	0:Forward pulses to increase address	0:Forward pulses to increase address	0:Fo inc
	Bias speed at start	0 pls/s	0 pis/s	
Desia	Speed limit	200000 pls/s	200000 pis/s	
Basic parameter 2	ACC time #0	1000 ms	1000 ms	
	DEC time #0	1000 ms	1000 ms	
Fotondod ↓				▼ ▶

Double-click the cell and make setting in the text box or list box.

In the text box, you can set the maximum value/minimum value/default value with the right-click menu.

Right-click a cell and select "Calculate electric gear" to display the calculation result of movement amount per pulse used for electric gear function.

For the electric gear function and movement amount per pulse, refer to the user's manual for the positioning module used.

When performing operation from the keyboard, enter the value and press the "Enter" key to determine the value.

In the list box which shows the set value and set data (example 3:pulse), pressing the "space" key displays a list.

Make selection with the "  $\uparrow$  " or "  $\downarrow$  " key, and press the "Enter" key to determine the value.

Item	Axis #1		[	Item	Axis #1
Unit	3:pulse			Unit	3:pulse 👻
Pulse per revolution	20000 pls	$\rightarrow$ "Space" key	→	Pulse per revolution	0:mm 1:inch
Travel per revolution	20000 pls			Travel per revolution	2:degree 3:pulse

In the parameter edit window, the indications have the following meanings.
Blue characters : Default (initial value) setting
Black characters : Setting other than default (no error)
Red : Setting range error
Since changing the unit setting changes the setting range, any setting other than the default (black characters) may result in a setting range error.
After changing the unit setting, execute an error check to confirm the setting.
"Speed-position function selection" in "Extended parameter 1" can be set when the QD75 of function version "B" or later, LD75, or LD77 is used.
To confirm the function version of the QD75/LD75/LD77, refer to "Section 7.3

Checking the Positioning Module Function Version (OS Information)".

### 8.2 Servo Parameter Setting



Set the servo parameters to be transferred from the QD75M, QD75MH and LD77 to the servo amplifiers via the SSCNET (Servo System Controller NETwork) or SSCNETIII.

For servo parameters, the following four types are available. <QD75M>

- Servo basic parameters
- Servo regulation parameters
- Servo extended parameters
- Servo extended parameters 2
- <QD75MH/LD77>
- Servo amplifier series
- Basic setting parameters
- · Gain/filter parameters
- Extension setting parameters
- I/O setting parameters
- Extended control parameters
- Special setting parameters

For settings, refer to the instruction manuals of the servo amplifiers and servo motors used.

## BASIC OPERATION

1. Choose Servo Parameter.



2. Make setting in the parameter edit window.

### DISPLAY/SETTING SCREEN

#### [Servo parameter setting screen (QD75M)]

Kind	Item	Axis #2	Axis #3	
	Servo series	3:MR-J2S-B	3:MR-J2S-B	
	Amplifier setting	0:Used in incremental system	D:Used in incremental system	0
	Regenerative brake option	0:Not used	0:Not used	
	External dynamic brake	0:No	0:No	
Servo basic parameter	Motor type	80:Automatic setting	80:Automatic setting	ε
	Motor capacity	0	0	
	Servo motor speed	1 ×1000r/min	1 ×1000r/min	
	Feedback pulse	255:Depending on the motor resolution pulses.	255:Depending on the motor resolution pulses.	25 mot
	Rotation direction	0:Forward(CCW) with the increase of address.	0:Forward(CCW) with the increase of address.	0 the
	Auto tuning	1:Auto tuning mode 1	1:Auto tuning mode 1	1:.

#### [Servo parameter setting screen (QD75MH/LD77)]

Untitled1	/ QD75MH4 / Servo parameter d	lata (I/O : 0)		
Kind		Item	Axis #1	Axis #2
Servo amplifier series	Servo amplifier series		1:MR-J3-8	4:MR-J3-B Linear
	Control mode	Control mode selection	0.Semi closed loop system	4:Linear control mode
	Regenerative brake option	Selection of regenerative brake option	00: Regenerative brake option is not used	00: Regenerative brake option is not used
	Absolute position detection system	Selection of absolute position detection system	0.Used in incremental system	0.Used in incremental system
	Function selection A-1	Servo forced stop selection	0:Valid (Use the forced stop signal.)	0:Valid (Use the forced stop signal.)
Basic	Auto tuning	Gain adjustment mode setting	1:Auto tuning mode 1	1:Auto tuning mode 1
setting parameters			12:37.0Hz	12:37.0Hz
	In-position range		100 pulse	100 pulse
	Rotation direction selection (Moving direction selection)		D:Forward rotation (CCW) with the increase of the positioning address.	0:Positive direction with the increase of the positioning address
	Encoder output pulse		4000 pulse/rev	4000
	Encoder output pulse 2		0	0
	Adaptive tuning mode (Adaptive filter II)	Filter tuning mode selection	0:Filter OFF	0.Filter OFF
Gain/filter parameters	Vibration suppression control filter turning mode (Advanced vibration suppression control)	Vibration suppression control tuning mode	0.Vibration suppression control OFF	0:Vibration suppression control OFF
	Feed forward gain		0 %	0 %
•				•

Double-click the cell and make setting in the text box or list box. Right-click on each text box and select the maximum, minimum, or default value from the pop-up menu. (When one servo amplifier is selected for QD75MH/LD77, the applicable default setting values are automatically determined.) When one servo amplifier series is selected, a warning message appears on the screen. If the "Yes" button is selected, the applicable default setting values for each servo amplifier series can be determined automatically. If the "No" button is selected, the change of the servo amplifier series is cancelled.

GX Config	urator-QP 🔀
	Changes servo series? YES:It changed, default value of MR-J3-B Linear is set to Axis #1 servo parameter. NO: The input to Servo Amp Series is canceled.
	Yes

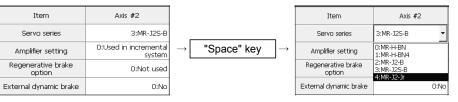
Set "Auto tuning response" of QD75MH/LD77 by moving the slider from the auto tuning response dialog box.

uto tuning response		2
Low response	Middle response	High response
	[Set value] 12:37.0Hz	
	OK Cancel	

When performing operation from the keyboard, enter the value and press the "Enter" key to determine the value.

In the list box which shows the set value and set data (example 3:pulse), pressing the "space" key displays a list.

Make selection with the "  $\uparrow$  " or "  $\downarrow$  " key, and press the "Enter" key to determine the value.





- In the parameter edit window, the indications have the following meanings.
  - Blue characters : Default (initial value) setting
    - : Setting other than default (no error)
- Black characters Red
- : Setting range error

The default (initial) values set in the change of the servo amplifier series are displayed in black.

- When the servo amplifier series is set to "Not used", communication with the servo amplifier does not start. Always select the servo amplifier to be used.
- Since changing the unit setting changes the setting range, any setting other than the default (black characters) may result in a setting range error.
- After changing the unit setting, execute an error check to confirm the setting. • For GX Configurator-QP version 2.18U or later, the initial value for "Servo response" has been changed from "0005" to "0002".

The parameter setting items and setting values of QD75M have been added to GX Configurator-QP Version 2.13P or later. (Refer to Appendix 3)

The following table indicates operations that will be performed if the project created on GX Configurator-QP Version 2.13P or later is opened on GX Configurator-QP Version

Туре	Item	Setting (Set Value)	Operation Performed when Project Is Opened using GX Configurator- QP earlier than Version 2.12N	Action
Servo parameter (for MR-J2S-B)	Regenerative brake option	For version 2.13P to 2.17T, "B: MR-RB31", "C: MR-RB51" For version 2.18U or later, "00: Not used" "01: FR-RC, FR-BU" "05: MR-RB32", "06: MR-RB34" "07: MR-RB54", "08: MR-RB30" "09: MR-RB50", "0B: MR-RB31" "0C: MR-RB51", "0E: Standard + fan" "10: MR-RB032", "11: MR-RB12" "12: MR-RB14", "13: MR-RB5E" "14: MR-RB5E + fan", "15: MR-RB9F" "16: MR-RB67 + fan", "17: MR-RB9F" "18: MR-RB9F + fan", "80: MR-RB3H-4" "83: MR-RB5H-4", "82: MR-RB34-4" "85: MR-RB54-4", "86: MR-RB1L-4" "87: MR-RB3L-4"	<ul> <li>Cell (table) is shown red (outside the setting range).</li> <li>Error check results in error.</li> </ul>	Since the setting is retained, it can be saved or written as-is.
Servo parameter (for MR-J2S-B)	Zeroing condition setting selection	"0: It is necessary to pass through one Z- phase after power on." "1: There is no need to pass through one Z- phase after power on."	Not displayed	Since the setting is retained, it can be saved or written as-is.

The defaults (initial values) are displayed if the project created using GX Configurator-QP earlier than Version 2.12N is opened using GX Configurator-QP Version 2.13P or later.

2.12N or earlier.

#### 8.3 Positioning Data Setting

This section describes the positioning data setting, the addition of circular interpolation control to the positioning data by specifying a sub point, and speed setting using the axis speed calculation function.

This section also explains the M code comment setting in which the M codes assigned to the positioning data are annotated with comments.

#### 8.3.1 Positioning data



Set the positioning data such as the operation pattern, control method, SLV axis, acceleration time No., deceleration time No., address and command speed. For details on positioning data, refer to the user's manual for the positioning module used.



#### **BASIC OPERATION**

1. Choose the axis to which the positioning data will be set.



2. Set the data in the positioning data edit window.

#### DISPLAY/SETTING SCREEN

No.	Pattern	CTRL method	SLV axis	ACC(ms)	DEC(ms)	Positioning address [pls]	Arc Address [pls]
1	2:LOCUS	A:ABS line2	Axis #2	0;1000	0;1000	964	0
2	2:LOCUS	D:ABS ArcMP	Axis #2	3;1500	3;1500	964	979
3	0:END	A:ABS line2	Axis #2	0;1000	0;1000	0	0
4							
5							
6							
7							
8							
9							
10							
11	1:CONT	1:ABS line1	-	2;1200	3;1500	2000	0
12	1:CONT	1:ABS line1	-	2;1200	3;1500	3000	0
13	0:END	1:ABS line1	-	2;1200	3;1500	0	0
14							

Double-click the cell and make setting in the text box or list box. For "SLV axis", choose it from the SLV axis set dialog box when the control method is 2-axis interpolation control.



When performing operation from the keyboard, enter the value and press the "Enter" key to determine the value.

For "Pattern', "CTRL method", "ACC" and "DEC", press the "space" key to display a list. Make selection with the " $\uparrow$ " or " $\downarrow$ " key, and press the "Enter" key to determine the value.

DISPLAY/SETTING DATA

Item	Description						
	Indicates the No. of the positioning data.						
N1-	The positioning data that can be ranges from No. 1 to 600.						
No.	However, No. 1 to 100 are displayed in the initial setting.						
	To change the display range, use the option function (refer to Section 11.5).						
	Choose the operation pattern for positioning control.						
Dettern	The selection range is 0 to 2.						
Pattern	0: END (End command) 2: LOCUS (continue locus positioning control)						
	1: CONT (continue positioning control)						
	Choose the operation positioning control method from among 1 to 9 and A to Z.						
	1: ABS line 1 (Axis #1 Linear control (ABS))						
	2: INC line 1 (Axis #1 Linear control (INC))						
	3: Feed 1 (Axis #1 Fixed-feed control)						
	4: FWD V1 (Axis #1 Speed control (Forward))						
	5: RVS V1 (Axis #1 Speed control (Reverse))						
	6: FWD V/P (Speed-Position switching control (Forward))						
	7: RVS V/P (Speed-Position switching control (Reverse))						
	8: FWD P/V (Position-Speed switching control (Forward))						
	9: RVS P/V (Position-Speed switching control (Reverse))						
	A: ABS line 2 (Axis #2 Linear interpolation control (ABS))						
	B: INC line 2 (Axis #2 Linear interpolation control (INC))						
	C: Feed 2 (Fixed-feed control by Axis #2 linear interpolation)						
	D: ABS ArcMP (Circular interpolation control with sub point specified (ABS))						
	E: INC ArcMP (Circular interpolation control with sub point specified (INC))						
	F: ABS ArcRGT (Circular interpolation control with center point specified (ABS/CW))						
	G: ABS ArcLFT (Circular interpolation control with center point specified (ABS/CCW))						
CTRL method	H: INC ArcRGT (Circular interpolation control with center point specified (INC/CW))						
	I: INC ArcLFT (Circular interpolation control with center point specified (INC/CCW))						
	J: FWD V2 (Axis #2 Speed control (Forward))						
	K: RVS V2 (Axis #2 Speed control (Reverse))						
	L: ABS line 3 (Axis #3 Linear interpolation control (ABS))						
	M: INC line 3 (Axis #3 Linear interpolation control (INC))						
	N: Feed 3 (Fixed-feed control by Axis #3 linear interpolation)						
	O: FWD V3 (Axis #3 Speed control (Forward))						
	P: RVS V3 (Axis #3 Speed control (Reverse))						
	Q: ABS line 4 (Axis #4 Linear interpolation (ABS))						
	R: INC line 4 (Axis #4 Linear interpolation (INC))						
	S: Feed 4 (Fixed-feed control by Axis #4 linear interpolation)						
	T: FWD V4 (Axis #4 Speed control (Forward))						
	U: RVS V4 (Axis #4 Speed control (Reverse))						
	V: NOP (NOP instruction)						
	W: Address CHG (Current value changing)						
	X: JUMP (JUMP instruction)						
	Y: LOOP (Declear the begining of LOOP to LEND section)						
	Z: LEND (Declear the end of LOOP to LEND section)						

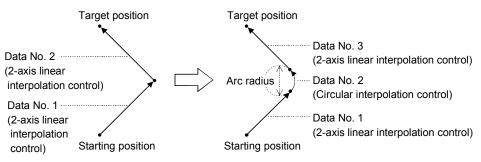
### 8. DATA SETTING

Item	Description
SLV axis	Set the interpolation axis when the control method is linear interpolation control (2 axes) or circular interpolation control. Use the SLV axis set dialog box.
ACC DEC	Choose the ACC time or DEC time from among 0 to 3 and set in the basic parameters 2 and extended parameters 2.
Positioning address	Set the address for the absolute system or the travel distance for the incremental system. Set a new current value when the control method is an address change.
Arc Address	Set the address of the sub point or center point designated for circular interpolation control.
Command speed	Set the command speed for positioning. Set the command speed to "-1" to exercise control at the current speed.
Dwell time	<ul> <li>Control method is other than "JUMP" Set the delay time till the next positioning data completion in the range 0 to 65535ms.</li> <li>Control method is "JUMP" Set any position from No. 1 to 600 of the JUMP destination.</li> </ul>
M code	<ul> <li>Control method is other than "JUMP" or "LOOP" Set the M code used to perform work, process, etc. in synchronization with positioning control in the range 1 to 65535.</li> <li>Control method is "JUMP" Set any of the condition data No. 1 to 10 which is used as the JUMP instruction execution condition. Setting of the condition data whose condition operator is "Simultaneously start axis set" is invalid. Set "0" to execute the JUMP instruction unconditionally.</li> <li>Control method is "LOOP" Set the repeat count within the range 1 to 65535.</li> </ul>
Positioning comment	Assign a comment per positioning data. You can set a comment of up to 32 characters.

	Point
The colors meanings.	s of the cells (list) in the positioning data edit window have the following
Yellow	: Setting must not be made since the data is on the interpolation axis side of interpolation control.
Red	: Item needing setting is not yet set or is in error.
Gray	: Setting need not be made (setting value is invalid).1)

HELPFUL OPERATION (1)

When you want to use a smooth arc (curve) on an intersection of two consecutive linear interpolation controls, you can perform the following operation to insert the circular interpolation control positioning data between the linear interpolation controls.



- 1. Open the positioning data edit window of the reference axis to which sub arc setting will be made.
- 2. Click the [Edit]  $\rightarrow$  [Assistance arc] menu.
- 3. Set "Data" and "SubArc Radius" in the SubArc Setting dialog box.
- 4. Click the " Calculation " button.
- 5. The positioning data overwrite confirmation dialog box appears. Click the "OK" button.

#### <Sub arc setting example>

					<u> </u>		
samı	ple1 / QD7	5D4 / Positionin	g data Axi	s #1 (170	: 0)		_ 0
No.	Pattern	CTRL method	SLV axis	ACC(ms	) DEC(ms	) Positioning address [pls]	Arc Addr [pls]
1	2:LOCUS	A:ABS line2	Axis #2	0;1000	0;1000	1000	
2	0:END	A:ABS line2	Axis #2	0;1000	0;1000	0	1
3							
4							
							•
				*			
bArc	Setting						
Data No	0 1	SubArc R	adius	50	[pls]	Calculation	Cancel
		<u> </u>	1			Calculation	Canosi
						P	ositionina
No.	Pattern	CTRL method	SLV	ACC[ms]	DEC[ms]		dress(SLV)
			axis '			address (bis)	(pis)
1	2:L0CU	A:ABS Line2	Axis #2 0	;1000	0;1000	1000	1000
2	0:END	A:ABS Line2	Axis #2 0	;1000	0;1000	0	2000
•							•
				$\downarrow$			
_				•			
: samp	ple1 / QD7	5D4 / Positionin	g data Axi	s #1 (170	: 0)		_ 🗆
No.	Pattern	CTRI method	SLV axis	ACC(ms	) DEC(ms	Positioning	Arc Addr
			_		· ·	<ul> <li>address [pis]</li> </ul>	[pls]
1	2:LOCUS	A:ABS line2	Axis #2		0;1000	964	-
2	2:LOCUS	D:ABS ArcMP	Axis #2		0;1000	964	
3	0:END	A:ABS line2	Axis #2	0;1000	0;1000	0	
4							

- Open the positioning data edit window of axis 1 which is used as the reference axis.
- Click the [Edit]  $\rightarrow$  [Assistance arc] menu.
- Set "1" to "Data" and "50" to "SubArc Radius".
- Click "OK" in the positioning data overwrite dialog box.
- The address of data No. 1 is changed and data No. 2 changes to circular interpolation control data. The original data of data No. 2 is set to data No. 3.
- Since the selected No. and next No. are overwritten by the positioning data created in sub arc setting, leave the next No. as NOP (empty).
- In either of the following cases, you cannot make sub arc setting. The control method is other than 2-axis linear interpolation control or fixeddistance feed 2.
- Positioning data setting is in error.

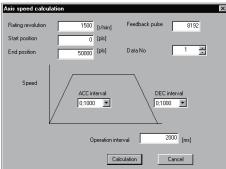
<u>۲</u>

Point

## 🕈 HELPFUL OPERATION (2)

Perform the following operation when you want to determine the command speed from the time needed to complete positioning. Use the axis speed calculation function to calculate the command speed from the travel distance, acceleration time, deceleration time, time needed for positioning completion and so on. (Note that the QD75M, QD75MH and LD77 cannot be used.)

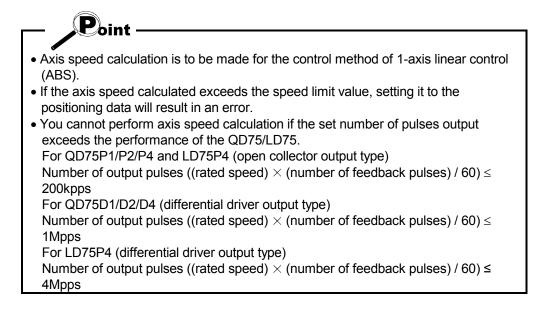
- 1. Open the positioning data edit window of the corresponding axis. (Active status)
- 2. Click the [Edit]  $\rightarrow$  [Speed of axis setting] menu.
- 3. Set the Rating, Feedback, Start position, End position, Operation interval and Data No. in the Axis speed calculation dialog box, and choose ACC interval and DEC interval.
- 4. Click the "Calculation" button to show the operation result in the Confirmation dialog box.
- 5. Click "OK" in the Confirmation dialog box to change the command speed to that of the operation result.



[Axis speed calculation dialog box]

#### [Confirmation dialog box]

Confirmation X This positioning data is available? Already positioning data exists. Over Write OK?					
					Cancel
No.	Pattern	CTRL method	ACC[ms]	DEC[ms]	Positioni address (j
1	0:END	1:ABS Line1	0;1000	0;1000	51



#### 8.3.2 M code comment

# PURPOSE

Set comments to M codes which are required for control exercised in synchronization with positioning control.

M code comments are data which can be saved only in the personal computer. Up to 50 comments can be set for each axis.



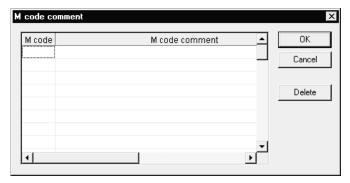
## BASIC OPERATION

1. Choose the positioning data of the axis to which the M code comments will be set.



- 2. Click the [Edit]  $\rightarrow$  [M code comment] menu.
- 3. Set the M code comments.
- 4. To exit, click the "OK" button in the M code comment dialog box.

#### **DISPLAY/SETTING SCREEN**



Item	Description
M code Set the M code No. to be commented.	
M and a comment	Set a comment of up to 32 characters.
M code comment	Up to 50 comments can be set for each axis.
"OK" button	Click this button to finish the setting.
"Delete" button	Click this button to delete the selected comment.

#### 8.4 Simulation

PURPOSE

Execute simulation (virtual positioning) with the set positioning data to check the operation of the axis.

The axis speed is displayed as waveform data for 1-axis control or as locus data for 2-axis interpolation control.

You cannot perform simulation for 3-/4-axis interpolation control.



#### BASIC OPERATION

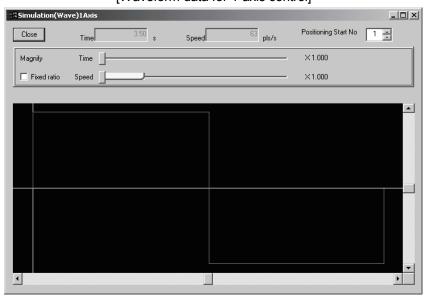
1. Open the positioning data edit window.

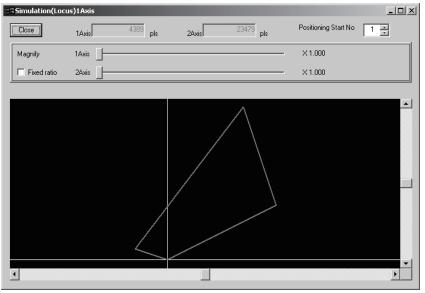


- 2. Click the [Edit]  $\rightarrow$  [Simulation] menu.
- 3. Type the Positioning Start No. of positioning data in the simulation window.
- 4. Setting or changing the positioning data being simulated in the positioning data edit window shows the simulation result at the point of data input.
- 5. To exit, click the "Close" button.



[Waveform data for 1-axis control]





[Locus data for 2-axis interpolation control]



Item	Description
	Set the first positioning data No. from which simulation starts.
Positioning start No	Simulation is performed on the data from the specified No. to the "END" of the operation
	pattern.
Magnifi	Used to enlarge or reduce the simulation result in the vertical and horizontal directions.
Magnify	Moving the side to the right enlarges the result.
"Fired action" also also have	Click the unchecked check box to enlarge/reduce the result in the vertical and horizontal
"Fixed ratio" check box	directions by the same ratio.
Time/Speed	Chauge the time and axis aread at the position alighed in the simulation result display.
(Wave data)	Shows the time and axis speed at the position clicked in the simulation result display.
	Shows the coordinates at the position clicked in the simulation result display.
#1 to #4 axis (Locus data)	In the screen example, the coordinates shown are those of Axis #1 used as the reference
	axis and Axis #2 used as the interpolation axis.
	Shows the simulation result.
	Changing the positioning data also changes the simulation result in synchronization.
	For 2-axis interpolation control, the reference axis is in the horizontal direction and the
Simulation result	interpolation axis is in the vertical direction.
	For 1-axis control, time is in the horizontal direction and the axis speed is in the vertical
	direction.
	Use the scroll bars to move the display area.

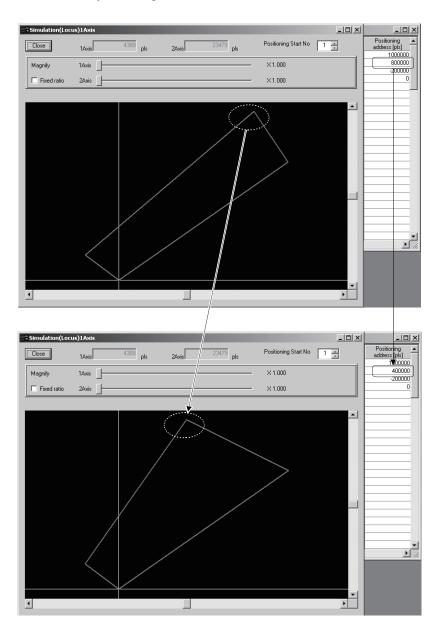
## REMARK

In the locus data for circular interpolation control, lines may be broken due to a data processing error during drawing.



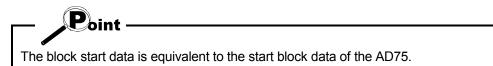
## HELPFUL OPERATION

When you want to try the command speeds (Wave) or addresses (Locus) at the setting of the positioning data, you can set or change the positioning data while simultaneously checking the simulation result.



#### 8.5 Block Start Data Setting

Set the block start data for controlling a positioning start and the condition data used as a condition for a special start.



#### 8.5.1 Block start data

PURPOSE

Specify the positioning data No. as a point, and set the block start data which sets the starting condition, execution order and execution count to each point. You can set up to 50 points per block. There are blocks No. 0 to 4 per axis.



## BASIC OPERATION

1. Choose the block start data.

Block start data 🗋 Edit

2. Make settings in the block start data edit window.

#### **DISPLAY/SETTING SCREEN**

Point No.	Pattern	Data No.	Special start	Param	Condition data	-
1	1:CONT	1	0:Normal start	0		
2	0:END	11	1:COND start	1	(800) = (100000)	
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

Double-click the cell and make settings in the text box or list box.

When performing operation from the keyboard, enter the value and press the "Enter" key to determine the value.

For "Pattern" and "Special start", press the "space" key to display a list. Make selection with the " î " or " J " key, and press the "Enter" key to determine the value.

Item	Description
Point No.	Shows the point numbers 1 to 50.
Dettorn	Select whether positioning control is ended at the point where positioning was completed or
Pattern	positioning control will be continued to the next point.
Data No.	Set the positioning data No. specified at the point.
Data NO.	The setting range is positioning data No. 1 to 600.
	Choose the type of positioning control start per point.
	The selection range is 0 to 6.
	0: Normal start
	1: COND start
Special start	2: Wait start
Special start	3: SIMU start
	4: FOR loop
	5: FOR condition
	6: NEXT start
	For details on special start, refer to the user's manual for the positioning module used.
	When you set a conditional start, wait start, simultaneous start or FOR condition in Special
	start, set any of the condition data No. 1 to 10 as its condition. (Refer to Section 8.5.2.)
Param	When you set FOR loop in Special start, set the repeat count.
	The setting range is 0 to 255.
	Setting "0" makes the repeat count limitless.
	When you set a conditional start, wait start, simultaneous start or FOR condition in Special
	start, the data of the parameter-set condition data No. appears.
Condition data	Double-clicking opens the condition data edit dialog box.
	When you set FOR loop in Special start, the "repeat count" appears.
	Nothing appears when you set a normal start or NEXT start in Special start.

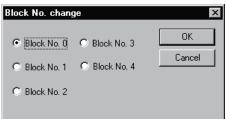


# HELPFUL OPERATION

The block start data to be edited defaults to block No. 0.

Perform the following operation to change the block to be edited to any of block No. 1 to 4.

- 1. Open the block start data edit window.
- 2. Click the [View]  $\rightarrow$  [Select block start data no] menu.
- 3. Choose the block to be edited in the Block No. change dialog box, and click the "OK" button.



#### 8.5.2 Condition data

# PURPOSE

Set the condition data which will be the starting conditions of the conditional start, wait start, simultaneous start and FOR condition in the block start data.



## BASIC OPERATION

1. Choose the block start data of the axis to which the condition data will be set.

$$\underbrace{\textbf{Edit}}_{\text{Double-click.}} \rightarrow \underbrace{\textbf{Block start data}}_{\text{Double-click.}}$$

- 2. Click the [Edit]  $\rightarrow$  [Condition data edit] menu.
- 3. Choose the data No. to be set in the Condition data list dialog box.
- 4. Click the "Edit" button in the Condition data list dialog box.
- 5. Choose the condition operator and condition identifier in the Condition data edit dialog box, and set the condition values.
- 6. Click the "OK" button in the Condition data edit dialog box.
- 7. To exit, click the "Close" button in the Condition data list dialog box.

#### **DISPLAY/SETTING SCREEN**

#### [Condition data list dialog box]

ondition o	lata list	×
No.	Condition data	Close
1	(800) => (1000)	
2	(800) <= (1000)	
3	Xdevice(05) = ON	
4	Axis #2(No.101)	
5		Edit
6		
7		Delete
8		
9		
10		

#### [Condition data edit dialog box]

Condition data edit		x
-µ		OK
Condition operator	** => P1	Cancel
Condition identifier	Buffer memory 16Bit	
	Buffer address Parameter	
	800 => 1000	
Please input the para	meter in P1 and P2,the buffer address in **.	
[Range] Buffer address: 0 - Parameter: -32768		

## DISPLAY/SETTING DATA

Item	Description			
No.	Shows the condition data No.			
Condition data	Shows the condition data set in the Condition data edit dialog box.			
"Edit" button	Click this button to display the Condition data edit dialog box.			
"Delete" button	Click this button to delete the condition data at the cursor.			
	Choose the type of the condition operator of the condition data.			
	• * *=P1			
	• * *!=P1			
	• * *<=P1			
	• * *=>P1			
	• P1<= * *<= P2			
Condition operator	• * *<=P1, P2<= * *			
	Device=ON			
	Device=OFF			
	Simultaneously start axis set			
	* * indicates the value stored in buffer memory.			
	P1 and P2 indicate parameters (values set as desired).			
	Device indicates the X/Y device.			
	Choose the object of the condition operator.			
	• If the condition operator is comparison between $**$ and P1 and/or P2			
	Choose the buffer memory size of 16 or 32 bits.			
Condition identifier	<ul> <li>If the condition operator is device=ON/OFF</li> </ul>			
	Choose the device type of X device or Y device.			
	• If the condition operator is simultaneously start, choose the axes to be started at the same			
	time.			
	Set the condition object to the condition operator.			
	If the condition operator is comparison between ** and P1 and/or P2     Set the buffer memory address in % %			
	Set the buffer memory address in **. Set to P1 and/or P2 the value of the size set in Condition identifier.			
Text box	<ul> <li>If the condition operator is device=ON/OFF</li> </ul>			
	Set the device name.			
	If the condition operator is simultaneously start			
	Set the positioning data No. of the axes to be started at the same time.			
"OK" button				
"OK" button	By clicking this button, the settings appear in the Condition data list dialog box.			



When setting the condition data consecutively, click in the Condition data edit dialog box.

Since this causes the Condition data edit dialog box to be kept open if you click the "OK" button, you can edit the condition data by switching it to the Condition data list dialog box.

#### 8.6 Error Check

## PURPOSE

Execute an error check to check the set parameters, servo parameters, positioning data and block start data for mismatches and setting omissions. For error check range, refer to the user's manual for the positioning module used.



## BASIC OPERATION

- 1. Set the error-checked project as the active project on the project tree view. (Refer to Section 5.2.)
- 2. Click the [Tool]  $\rightarrow$  [Error check] menu.



#### **DISPLAY/SETTING SCREEN**

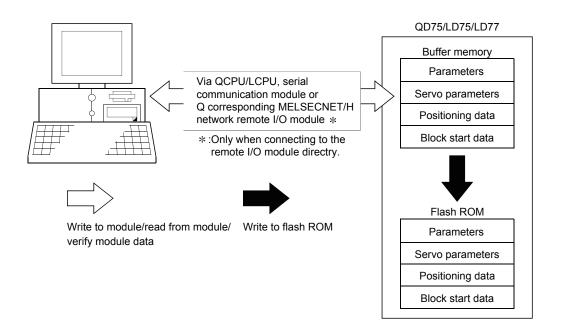
Error check [Sample01 / QD75D4]						
Error check item Positioning dat	Check					
Block start data			Close			
Parameter data	Jump					
🔲 Servo paramet	er data					
Item	Axis	No.	Error item			
Positioning data Block start data	1	7	Command speed Param			
•			Þ			

#### $\square$ DISPLAY/SETTING DATA

Item	Description		
Error check item	In the check box, set the data on which error check will be made.		
"Check" button	Click this button to start error check.		
"Jump" button	Click this button to show the error locations.		
	When error check is completed, the number of errors and error locations appear.		
Error check result	On the above screen, error locations are the command speed of axis #1 positioning data No.		
	7 and the parameter at point No. 1 of axis #1 block No. 0.		

# 9. WRITING TO/READING OF/VERIFICATION OF POSITIONING MODULE DATA

Perform write to module/read from module/verify module data, data write from QD75/LD75/LD77 buffer memory to flash ROM, and QD75/LD75/LD77 initialization.



#### 9.1 Write to Module/Read from Module/Verify Module Data

## D PURPOSE

Write, read and verify the data set in the project (parameters, servo parameters, positioning data, block start data) on an axis by axis basis.

# - Point

 Write to module executes a write to the QD75/LD75/LD77 which is set in the active project. When performing batch write to multiple QD75/LD75/LD77s, use the multimodule batch write function. (Refer to Section 11.1.4)

Note that data cannot be batch-written simultaneously to the positioning module of MELSEC-Q series and that of MELSEC-L series on the same route.

- Whether write to module may be performed or not is determined by the PLC state check setting in Option setting. (Refer to Section 11.5)
- When trying operation while simultaneously changing the positioning data, you can use the positioning data test edit function to write only the positioning data during a test. (Refer to Section 11.7.2)

## BASIC OPERATION

- Place the QCPU/LCPU in the STOP status. When performing write to QD75/LD75/LD77 without putting the QCPU/LCPU in the STOP status, change the PLC state check setting in Option setting.
- 2. As an active project, set the project used for write to QD75/LD75/LD77/read from QD75/LD75/LD77/verify QD75/LD75/LD77 data. Refer to Section 5.2 for the active project setting.
- Click the [Online] → [Write to module] ( )/[Read from module] ( )/Verify module data] ( ) menu.
- 4. Set the data type and range in the Write to module/ Read from module/Verify module data dialog box.
- 5. Click the "OK" button to start operation.
- 6. For module data verify, the verify result appears.

MELSOFT

DISPLAY/SETTING SCREEN

# <Write to module> <<Main>> tab screen

Write to module[ 9	ample04	/ QD75M/	1]		X
Parameter Main		) oning data	Servo pa	arameter data. Block start d	ata
Current type Select item		PLC type	Q02(H)	1/0 No.	20
	✓ Block start data				
Servo para					
Flash ROM	write		01		Cancel

#### <<Positioning data>> tab screen

Parameter data			Servo parameter data.			
Main	Positioning data		Block start data			
Current type	QD75M4	PLC type	Q02(H)	1/0 No	. 20	
Axis #1 Po	nitioning data		1		600	
1 - 24AIS #1110	ssidor in ry data;			·	000	
🔽 Axis #2 Po	sitioning data		1	•	600	
🔽 Axis #3 Po	ositioning data		1	· [	600	
Axis #4 Po	ositioning data		1	•	600	

#### <<Block start data>> tab screen

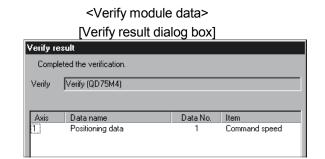
Parameter data	Servo para	meter data.
Main Position	ing data B	lock start data
Current type QD75M4 F	LC type QO2(H)	1/0 No. 20
Axis #1 Block start data	C Block 0 only ● All	
☑ Axis #2 Block start data	C Block 0 only ● All	
☑ Axis #3 Block start data	C Block 0 only ⓒ All	
Axis #4 Block start data	C Block 0 only ● All	

#### <<Parameter data>> tab screen

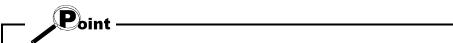
Main	Positi	oning data	a Block start data					
Paramete	Parameter data			Servo parameter data.				
Current type	QD75M4	PLC type	Q02(H)	1/0 No.	20			
Axis #1 Pa	arameter dat	a						
🔽 Axis #2 Pa	☞ Axis #2 Parameter data							
🔽 Axis #3 Pa	arameter dat	Э						
🔽 Axis #4 Pa	🔽 Axis #4 Parameter data							

#### <<Servo parameter data>> tab screen

Main	Posit	ioning data		Block start d	ata				
Paramete	r data		Servo par	rameter data.					
Current type	QD75M4	PLC type	Q02(H)	1/0 No.	20				
- Select item									
🔽 🗛 🖬 🖂	ervo parame	ter data							
<b>1</b> Auto #2.05									
I♥ Axis #2.56	Axis #2 Servo parameter data								
🔽 Axis #3 Se	ervo paramei	ter data							
<b>1</b> Auio #4 Co	Axis #4 Servo parameter data								
I♥ Axis #4 56	avu parame	lei uala							



Item	Description
Positioning data	Set the data used for write to QD75/LD75/LD77/read from QD75/LD75/LD77/verify
Block start data	QD75/LD75/LD77 data from positioning data, block start data and parameters.
Parameter	Block start data includes condition data.
"Flash ROM write" check	When performing write to QD75/LD75/LD77, set a request to write from buffer memory to
box	flash ROM at the same time.
Current type	Set the model of the QD75/LD75/LD77 connected to the peripheral device and the range of write/read/verify.
< <positioning data="">&gt; tab</positioning>	Click the corresponding tab to display the screen which is used to set the axes and ranges of
< <block data="" start="">&gt; tab</block>	the data for write to QD75/LD75/LD77/read from QD75/LD75/LD77/verify QD75/LD75/LD77
< <parameter data="">&gt; tab</parameter>	data.
<-Dopitioning data>> tab	Set the axes of the positioning data used for write to QD75/LD75/LD77/read from
< <positioning data="">&gt; tab</positioning>	QD75/LD75/LD77/verify QD75/LD75/LD77 data.
screen	Also, set the positioning data No.s in the write/read/verify range on an axis by axis basis.
< <block data="" start="">&gt; tab</block>	Set the axes of the block start data used for write to QD75/LD75/LD77/read from
screen	QD75/LD75/LD77/verify QD75/LD75/LD77 data.
Scieen	Also, set the range of the QD75/LD75/LD77 write/read/verify block on an axis basis.
< <parameter data="">&gt; tab</parameter>	Set the axes used for write to QD75/LD75/LD77/read from QD75/LD75/LD77/verify
screen	QD75/LD75/LD77 data.
< <servo data="" parameter="">&gt;</servo>	Set the axes used for write to QD75/LD75/LD77/read from QD75/LD75/LD77/verify
tab screen	QD75/LD75/LD77 data
"OK" button	Click this button to start write to QD75/LD75/LD77/read from QD75/LD75/LD77/verify
	QD75/LD75/LD77 data.
	After QD75/LD75/LD77 data verify is completed, differences between the QD75/LD75/LD77
	and project appear.
	The screen displays that the speed limit value of the axis #1 basic parameter 2 and the
Verify result dialog box	software stroke limit upper/lower limit value of the extended parameter 1 differ between the
	QD75/LD75/LD77 and project.
	If there are more than 100 mismatches, verify processing is suspended as soon as the
	number of mismatches reaches 100.



- Only data configured for setting items of GX Configurator-QP can be verified. GX Configurator-QP.
- The following data are saved in the peripheral device only and write to QD75/LD75/LD77/read from QD75/LD75/LD77/verify QD75/LD75/LD77 data cannot be performed.
- M code comments
- Positioning data comments
- Performing auto tuning on QD75MH/LD77 may change some servo parameters to auto tuning results, causing a verification error.

#### 9.2 Servo Amplifier Data Read

PURPOSE

Read the servo parameters used in the servo amplifiers to the QD75M buffer memory.

(Note that they cannot be read in QD75P/QD75D/QD75MH/LD75/LD77 projects.)



The servo parameters read to the QD75M buffer memory are not written to the flash ROM. To write them to the flash ROM, write them to the flash ROM separately.



1. Place the QCPU in the STOP status.

When performing servo amplifier data read without putting the QCPU in the STOP status, change the PLC state check setting in Option setting.

- 2. On the project tree view, set the required project as an active project. (Refer to Section 5.2.)
- 3. Click the [Online]  $\rightarrow$  [Servo amplifier data read] menu.
- 4. Click the "Action" button in the servo amplifier data read dialog box.

#### 9.3 Flash ROM write request

PURPOSE

Issue the command to write the QD75/LD75/LD77 buffer memory data to the flash ROM.

Write from buffer memory to flash ROM is batch-performed in the full ranges of the parameters, servo parameters, positioning data and block start data (including condition data).



Whether the flash ROM request may be performed or not is determined by the PLC state check setting in Option setting. (Refer to Section 11.5)

## BASIC OPERATION

- 1. Place the QCPU/LCPU in the STOP status. When performing the flash ROM write request without putting the QCPU/LCPU
- in the STOP status, change the PLC state check setting in Option setting. 2. On the project tree view, set the required project as an active project. (Refer to
  - Section 5.2)
- 3. Click the [Online]  $\rightarrow$  [Flash ROM request] menu.
- 4. Click the "Action" button in the Flash ROM request dialog box.
- 5. Click the "Yes" button in the execution confirmation dialog box.

#### 9.4 Module Initialization

PURPOSE

When the system is renewed, for example, initialize the QD75/LD75/LD77 flash ROM and buffer memory to place them in the factory-set status (default settings).

## - Point

Whether module initialization may be performed or not is determined by the PLC state check setting in Option setting. (Refer to Section 11.5)

## BASIC OPERATION

1. Place the QCPU/LCPU in the STOP status.

When performing module initialization without putting the QCPU/LCPU in the STOP status, change the PLC state check setting in Option setting.

- 2. On the project tree view, set the required project as an active project. (Refer to Section 5.2)
- 3. Click the [Online]  $\rightarrow$  [Initialize module] menu.
- 4. Click the "Action" button in the Initialize module dialog box.
- 5. Click the "Yes" button in the execution confirmation dialog box.

## **10. POSITIONING DEBUGGING**

Debug positioning operation by checking the parameters, positioning data and other data set to the QD75/LD75/LD77 for errors, monitoring the positioning operation, and performing various operation tests by positioning data test operation and JOG operation.



All axes stop if a communications error occurs, e.g. GX Configurator-QP is forced to end, the peripheral device is powered off, or the connection cable is disconnected, in the test mode.

In addition, the test mode of the QD75/LD75/LD77 is canceled after the wait time (set value imes 500ms) in Connection setup has elapsed.



## HELPFUL OPERATION (PART 1)

If an error has occurred during monitoring or testing, perform the following operation.

- 1. Check the axis status using Operation monitor (refer to Section 10.2.2).
- 2. When the axis status indicated is error, click the "Message" button and check the error code and message.
- 3. For the error code, confirm the error cause and its corrective action using the error/warning help.
- 4. Click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Error reset]  $\rightarrow$  [Error reset #1 to #4] menu (  $\bigcirc$  to **4**).
- 5. Remove the error cause according to the corrective action.



## HELPFUL OPERATION (PART 2)

To turn off the M code during monitoring or testing, perform the following operation.

Click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [M code off]  $\rightarrow$  [M code off #1 to #4] menu ( 12 ).



## HELPFUL OPERATION (PART 3)

To stop all operating axes during monitoring or testing due to an external equipment fault, etc. perform the following operation. Click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [All axis stop] menu (

#### 10.1 Error Check Module Data

PURPOSE

Execute an error check on the parameters, servo parameters, positioning data and block start data stored in the buffer memory of the specified QD75/LD75/LD77.

For actions taken for check results, refer to the user's manual for the positioning module used.



- 1. Choose the [Online]  $\rightarrow$  [Error check module data] menu (  $\textcircled{\begin{array}{c} \end{array}}$  ).
- 2. Operation differs depending on the target module of the active project.
  - For the QD75, connected QD75 is displayed in the System monitor dialog box. Clicking the corresponding QD75 illustration will open the Error check module data dialog box.
  - For the LD75 and LD77, the Error check module data dialog box for the target module of the active project will open.

Refer to Error Check (Section 8.6) for the operation that follows.

## J DISPLAY/SETTING SCREEN

 Error check module data[Sample03 / Q075M4]

 Main base

 Qn type

 Qn type

 Qn type

 Qn type

 Quite

 Close

 Ex. base 1

 None

 Ex. base 2

 None

 Ex. base 3

 None

 Ex. base 4

 None

 Ex. base 5

 None

 Ex. base 6

 None

 Ex. base 7

 None

[System monitor dialog box]

#### [Error check module data dialog box]

Error check module	data [(	200U3 / Q	D75M4 (I/0:0)]
Error check item Positioning data Block start data Parameter data Servo parameter	Check		
Item	Axis	No.	Error item
×			×

10 - 3

#### 10.2 Monitor

Monitor the positioning data and block start data execution states on an axis by axis basis, or perform detailed monitor of the error histories, signal states, present values, speeds, etc. on a project basis.

10.2.1 Monitoring the positioning data/block start data



From the positioning data/block start data edit window of any axis, monitor the positioning data No.s or block No.s and point No.s being executed.



## BASIC OPERATION

1. Choose the positioning or block start data edit window.

Edit → B Positioning data 🗊 Block start data Double-click. √ Double-clicl

- 2. Click the [Online]  $\rightarrow$  [Monitor]  $\rightarrow$  [Monitor On/Off] menu (
- 3. To exit, click the [Online]  $\rightarrow$  [Monitor]  $\rightarrow$  [Monitor On/Off] menu ( B).

**DISPLAY/SETTING SCREEN** 

[For positioning data monitor]

🗮 Sam	ple01 / QD	75D4 / Positionin	g data Ax	is #1 (170 :	: 0) (MONII	FOR MODE]Posit	ion control 💶 🛽	Ľ
No.	Pattern	CTRL method	SLV axis	ACC(ms)	DEC(ms)	Positioning address [pls]	Arc Address [pls]	st 📩
1	1:CONT	1:ABS line1	-	0;1000	0;1000	40000	0	_
2	1:CONT	1:ABS line1	-	0;1000	0;1000	20000	0	
3	1:CONT	1:ABS line1	-	0;1000	0;1000	5000	0	
4	1:CONT	1:ABS line1	-	0;1000	0;1000	10000	0	
5	1:CONT	1:ABS line1	-	0;1000	0;1000	30000	0	
6	1:CONT	1:ABS line1	-	0;1000	0;1000	0	0	
7	1:CONT	1:ABS line1	-	0;1000	0;1000	25000	0	
8	1:CONT	1:ABS line1	-	0;1000	0;1000	45000	0	
9	1:CONT	1:ABS line1	-	0;1000	0;1000	30000	0	
10	0:END	1:ABS line1	-	0;1000	0;1000	0	0	
11								•
4	٠ · · · · · · · · · · · · · · · · · · ·							

#### $\bigcirc$ DISPLAY/SETTING DATA

Item	Description
Positioning data	For positioning data monitor, the positioning data in execution is highlighted.
monitor/block start data	For block start data monitor, the point in execution is highlighted.
monitor	

#### 10.2.2 Operation monitor

# D PURPOSE

Monitor the feed present value, axis feed speed, axis status, positioning data No. executed last, error/warning code occurring currently, and M code of each axis. This monitor is used to confirm the basic axis states.



#### BASIC OPERATION

1. Choose Operation monitor.



- 2. Click the "Monitor start" button.
- 3. To exit, click the "Monitor stop" button.1. Choose Operation monitor.

#### DISPLAY/SETTING SCREEN

[Operation monitor dialog box] 🚝 sample01 / QD75M4 / Operation monitor (I/O : 0) \_ 🗆 × History Signal #1 Operation status #2 Operation status Servo monitor Comment Message #3 Operation status #4 Operation status Monitor Sto Monitoring. Axis feed speed Feed present value Axis status No Servo ana um 188 #1 No Servo #2 pls .... pls/s No Servo Π #3 pls pls/s No Servo #4 pls/s No Pattern CTRL method SLV axis ACC(ms) DEC(ms) Error Warning M code #1 0 END 1000 1000 903 0 0 #2 0 END 1000 1000 0 0 0 #3 0 END 1000 1000 0 0 0 #4 0 END 1000 1000 0 0 0

#### [Comment dialog box]

		osition operatio	ar common (
	Data No	M code No	M code comment
Axis #1	1	1	Paint
Axis #2	0		
Axis #3	0		
Axis #4	0		

#### [Error/Warning message dialog box]

903	Outside unit magnification range	Content
0	No warning	Content
xis #2		
0	No error	Content
0	No warning	Content
uxis #3 0 0	No error No warning	Content
vis #4	· · ·	P
0	No error	Content
0	No warning	Content

Item	Description				
Title bar	Shows the project name and I/O address.				
	Indicates the feed present value.				
Feed present value	Buffer memory address (Axis #1): 800, 801				
	Indicates the feed speed.				
Axis feed speed	Buffer memory address (Axis #1): 812, 813				
	Indicates the axis status.				
Axis status	Buffer memory address (Axis #1): 809				
	Indicates the positioning data No. in execution.				
NI-	Note that if other than the positioning data No. is specified for operation, its starting number				
No	is displayed.				
	Buffer memory address (Axis #1): 835				
Dutter	Indicates the positioning data pattern in execution.				
Pattern	Buffer memory address (Axis #1): 838				
	Indicates the positioning data control method in execution.				
CTRL method	Buffer memory address (Axis #1): 838				
	Shows the interpolation axis when the control method is 2-axis linear interpolation control or				
SLV axis	circular interpolation control.				
	Indicates the acceleration and deceleration times selected in the positioning data in execution.				
ACC	For the acceleration and deceleration times, refer to Parameter Setting (Section 8.1).				
DEC	Buffer memory address (Axis #1): 838				
	Shows the error and warning codes when an error and warning have occurred.				
Error	"0" is displayed when no error/warning has occurred.				
Warning	The error/warning codes can be confirmed in [Help].				
	Buffer memory address (Axis #1/error): 806, Buffer memory address (Axis #1/warning): 807				
Maada	Indicates the M code of the positioning data in execution.				
M code	Buffer memory address (Axis #1): 808				
"History" button	Click the corresponding button to display the history, signal, operation or servo monitor dialog				
"Signal" button	box.				
"#1 Operation status" button	The operation monitor dialog box appears per axis.				
"#2 Operation status" button	Refer to Section 10.2.3 for history monitor.				
"#3 Operation status" button	Refer to Section 10.2.4 for signal monitor.				
"#4 Operation status" button	Refer to Section 10.2.5 for operation monitor.				
"Servo monitor" button	Refer to Section 10.2.6 for servo monitor.				
"Comment" button	Click this button to display the dialog box which shows the positioning data or M code				
	comments in execution.				
"Message" button	Click this button at error occurrence to show the Error/Warning message dialog box.				
"Monitor start" button	Click this button to start monitor.				
"Monitor stop" button	Click this button to stop monitor.				
Comment dialog box	Shows the positioning data or M code comments in execution.				
	Shows the error or warning which is occurring per axis.				
Error/Warning message	The error code and error name are in the top field.				
dialog box	The warning code and error warning are in the bottom field.				

#### 10.2.3 History monitor

# D PURPOSE

Monitor the error, warning and start histories stored in the QD75/LD75/LD77 buffer memory during operation monitor.



## 1. Derform the basis exercises in Castion 10.2.2

- 1. Perform the basic operation in Section 10.2.2 to display the operation monitor window.
- 2. Click the "History" button on the operation monitor window.
- 3. Click the <<Error history>>/<<Warning history>>/<<Start history>> tab.



## DISPLAY/SETTING SCREEN

# Error history monitor]

# [Warning history monitor]

Item	Description				
Title bar	Shows the I/O address of the QD75/LD75/LD77 being monitored.				
Na	Represents the order of errors/warnings which occurred since power-on.				
No	If more than 16 errors/warnings occurred, the older ones are deleted.				
	Shows the axis where the error/warning occurred.				
Axis	Buffer memory address (newest error): 1293				
	Buffer memory address (newest warning): 1358				
	Shows the error/warning code.				
Code	Buffer memory address (newest error): 1294				
	Buffer memory address (newest warning): 1359				
	Shows the error/warning occurrence time in hour:minute:second format.				
Time	Buffer memory address (newest error): 1295, 1296				
	Buffer memory address (newest warning): 1360, 1361				
Message	Shows the error/warning name.				



## DISPLAY/SETTING SCREEN

ory	I/O:0					
ror h	istory   \	Warning history	Start history			
No.	Axis	Start	Mode	Time	Result	
1	1	PLC	Start No. 1	15:54:03	OK	
2	1	PLC	Start No. 1	15:58:51	538	
3	1	PLC	Start No. 1	16:12:02	OK	
4	1	PLC	Start No. 1	16:15:48	OK	
- 5						
6						
- 7						
8						
- 9						
10						
11						
12						
13						
14						
15						
16						

Item	Description
Title bar	Shows the I/O address of the QD75/LD75/LD77 being monitored.
No	Represents the order of starts since power-on. If there are more than 16 starts, the older ones are deleted.
Axis	Indicates the axis started. Buffer memory address: 1212
Start	Indicates the start command destination. The command destination is the programmable controller CPU, GX Configurator-QP or external signal. Buffer memory address: 1212
Mode	Indicates the type of operation started. The positioning data No. is displayed for operation which uses the positioning data. Buffer memory address: 1213
Time	Indicates the start occurrence time in hour:minute:second format. Buffer memory address: 1214, 1215
Result	Shows OK for a normal start. Shows the error code when an error occurs. The definition of the error code displayed can be confirmed by the help function. Buffer memory address: 1216

#### 10.2.4 Signal monitor

PURPOSE

Monitor the I/O signals (X/Y device), external I/O signals and status signals of the QD75/LD75/LD77.

For details on the signals, refer to the user's manual for the positioning module used.



#### BASIC OPERATION

- 1. Perform the basic operation in Section 10.2.2 to display the operation monitor window.
- 2. Click the "Signal" button in the operation monitor window.
- 3. Click the <<X Device>>/<<Y Device>>/<<External I/O signal>>/<<Status signal>>/<<Servo status signal>> tab.

#### DISPLAY/SETTING SCREEN

Status signal         Y           X Device         Y Device           X         Item           X40         QD75 READY           X411         Sync flag           X42         Used by system. Not used	Servo status signal External I/O signal ON/OFF Off On
X Item X40 QD75 READY X41 Sync flag X42 Used by system. Not used	ON/OFF Off
X40         QD75 READY           X41         Sync flag           X42         Used by system. Not used	Off
X41         Sync flag           X42         Used by system. Not used	On
X42 Used by system. Not used	On
	Off
X43 Used by system. Not used	Off
X44 #1 M code ON	Off
X45 #2 M code ON	Off
X46 #3 M code ON	Off
×47 #4 M code ON	Off
×48 #1 Error detection	Off
×49 #2 Error detection	Off
X4A #3 Error detection	Off
×4B #4 Error detection	Off
×4C #1 Busy	Off
X4D #2 Busy	Off
X4E #3 Busy	Off
×4F #4 Busy	Off
×50 #1 Start completed	Off
×51 #2 Start completed	Off

al I/C	[Y Device n		
	Status signal	Servo stat	us signal
ХD	evice Y Device	Exte	rnal I/O signal
Y	Item	ON/OFF	
Y40	PLC ready	Off	
Y41	Servo ON	Off	
Y42	Used by system. Not used	Off	
Y43	Used by system. Not used	Off	
Y44	#1 Axis stop	Off	
Y45	#2 Axis stop	Off	
Y46	#3 Axis stop	Off	
Y47	#4 Axis stop	Off	
Y48	#1 FWD JOG start	Off	
Y49	#1 RVS JOG start	Off	
Y4A	#2 FWD JOG start	Off	
Y4B	#2 RVS JOG start	Off	
Y4C	#3 FWD JOG start	Off	
Y4D	#3 RVS JOG start	Off	
Y4E	#4 FWD JOG start	Off	
Y4F	#4 RVS JOG start	Off	
Y50	#1 Positioning start	Off	
Y51	#2 Positioning start	Off	
Y52	#3 Positioning start	Off	-

(Screen example: Screen displayed when the QD75M is chosen in model selection)

## DISPLAY/SETTING DATA

Item	Description
Title bar	Shows the I/O address of the QD75/LD75/LD77 being monitored.
X Device Displays the On/Off states of the QD75/LD75/LD77 input signals.	
Y Device Displays the On/Off states of the QD75/LD75/LD77 output signals.	
	The Y device type depends on the model chosen in model selection.





## DISPLAY/SETTING SCREEN

[External I/O sig	gnal m	ioni	tor]		
Signal I/O:30					x
X Device Y Device External I/C	I signal 🛛 Si	tatus si	gnal		
	#1	#2			ı I
Drive unit ready Zero phase signal	On Off	On Off			
Near-point dog signal	Off	Off			
Stop signal Upper limit	Off On	Off On			
Lower limit External signal	On Off	On Off	-		
DDC signal	Off	Off			
Axi	s #1 Axi	s #2	Axis #3	Axis #4	
Valid external command					

(Screen example: Screen displayed when the QD75P or QD75D is chosen in model selection)

Item	Description
Title bar	Shows the I/O address of the QD75/LD75/LD77 being monitored.
	Shows the On/Off states of the QD75/LD75/LD77 's external I/O signals.
External I/O signal	The displayed external I/O signal type depends on the model chosen in model selection.
	Buffer memory address (Axis #1): 816
	Shows whether the start, V/P switch and P/V switch commands given by the external start
Valid external command	signals are valid (●) or invalid (◯).
	Buffer memory address (Axis #1): 1505

XDevice	Y Device	. 1		Externa	l 170 sid	mal
Status sign				status		
	-					
		#1	#2	#3	#4	
Velocity control flag		Off	Off	Off	Off	
V/P switching latch		Off	Off	Off	Off	
Command in-positio	n flag	Off	Off	Off	Off	
DPR request flag		On	On	On	On	
DPR completed flag	·	Off	Off	Off	Off	
P/V switching latch flag		Off	Off	Off	Off	
Axis warning detected		Off	Off	Off	Off	
Velocity change 0 f	ag	Off	Off	Off	Off	
						_

[Servo status nal I/0:40	sign	al m	noni	tor]	
	X Device Y Device External I/O signal			gnal	
	#1	#2	#3	#4	
Ready ON	Off	Off	Off	Off	
Servo ON	Off	Off	Off	Off	
Zeroing over	Off	Off	Off	Off	
In-position	Off	Off	Off	Off	
Zero speed	Off	Off	Off	Off	
Torque limit	Off	Off	Off	Off	
Servo alarm	Off	Off	Off	Off	
Servo warning	Off	Off	Off	Off	
,					

(Screen example: Screen displayed when the QD75M is chosen in model selection)

## DISPLAY/SETTING DATA

ltem	Description
Title bar	Shows the I/O address of the QD75/LD75/LD77 being monitored.
Status sizes	Shows the On/Off states of the QD75/LD75/LD77 's status signals.
Status signal	Buffer memory address (Axis #1): 817
	Shows the On/Off states of the QD75/LD75/LD77 's servo status signals.
	The servo status signals are displayed only when the QD75M/QD75MH/LD77 is chosen in
Servo status signal	model selection.
	Buffer memory address (Axis #1): 877 (QD75M)/876, 877 (QD75MH/LD77)

## DISPLAY/SETTING SCREEN

#### 10.2.5 Axis operation monitor

# 

Monitor the settings, states and others of the axis control data, velocity/position control, position/velocity control, original point return and JOG/MPG operation during operation monitor.

With operation monitor, you can check the detailed states of operation and the QD75/LD75/LD77 settings made with the program or peripheral device. For each monitor item, refer to the user's manual for the positioning module used.



#### BASIC OPERATION

- 1. Perform the basic operation in Section 10.2.2 to display the operation monitor window.
- 2. Click the "<Axis #1 to #4> Operation" button in the operation monitor window.
- Click the <<Axis control data>>/<<Velocity/position control>>/<<Position/velocity control>>/<<OPR>>/<<JOG/MPG>> tab in the Operation dialog box.



<axis #1="">Operation 1/</axis>	0:0				×
Axis control data Veloc	ity/position control   Po	isition/velocity control   (	DPR ÌJOG∕N	4PG	
Target value Machine feed value Actual current value	0 pls 0 pls 0 pls 0 pls 0 pls	Current value chang Velocity change val Over ride value Step mode	 	0 0 100 Deceleration un	pls pls/s % iits
Step valid	-	ity change flag 🛛 🔵 change O flag 🔵		nal command (	•

[Axis control data monitor]

(Screen example: Axis #1 operation monitor screen displayed when the QD75M is chosen in model selection)

Ø	DISPLAY/SETTING DATA
/	

Item	Description		
Title bar	Shows the I/O address of the QD75/LD75/LD77 being monitored.		
	Shows the destination for positioning control.		
	For velocity/position switching control or position/velocity switching control, "0" is displayed		
Target value	for velocity control and the destination appears for position control.		
	"0" is shown for other operations.		
	Buffer memory address (Axis #1): 818, 819		
	Indicates the current position whose original point is the inherent position determined by the		
Machine feed value	machine (mechanical coordinates).		
Machine leed value	On completion of OPR, this value indicates the original point address.		
	Buffer memory address (Axis #1): 802, 803		
	Shows the actual current value.		
	The original point address is displayed at completion of OPR.		
Actual current value	The actual current value is displayed only when the QD75M/QD75MH/LD77 is chosen in		
	model selection.		
	Buffer memory address (Axis #1): 850, 851		
Current value changed	Shows the feed current value changed with the positioning start No. 9003.		
value	Buffer memory address (Axis #1): 1506, 1507		
Velocity change value	Shows the value of speed change made during positioning operation or JOG operation.		
	Buffer memory address (Axis #1): 1514, 1515		
Over ride value	Indicates the override speed set in the program.		
	Buffer memory address (Axis #1): 1513		
Step mode	Indicates the type of the step operation set in the program.		
Step mode	Buffer memory address (Axis #1): 1544		
	Shows that the step operation set in the program is valid.		
Step valid flag	<ul> <li>(ON) indicates that the step operation is valid.</li> </ul>		
	Buffer memory address (Axis #1): 1545		
Velocity change flag	Shows ● (ON) during speed changing.		
velocity change liag	Buffer memory address (Axis #1): 831		
Velocity change 0 flag	Shows $ullet$ (ON) when the speed is changed to 0 for speed changing.		
velocity change o hag	Buffer memory address (Axis #1): 817 (b10)		
Valid external command	Shows that the external command signal set in the program is valid.		
	• (ON) indicates that the start, velocity/position switching or position/velocity switching by		
	the external command signal is valid.		
	Buffer memory address (Axis #1): 1505		
	Indicates the skip command given in the program.		
Skip command	Shows $\bullet$ (ON) when the skip command is given.		
	Buffer memory address (Axis #1): 1547		

[Velocity/position control monitor]

<axis #1="">Operati</axis>	on I/O:O		×
	/elocity/position control Positio	on/velocity control OPR JOG/MPG Movement amount after velocity/position switching on	
Target speed Feed speed Current speed	0.00 mm/min 0.00 mm/min 0.00 mm/min	0.0 um Movement amount change register value 0.0 um	
	ng enables flag	Velocity control flag 🔿	

(Screen example: Axis #1 operation monitor screen)

Item	Description		
	Indicates the target speed for positioning data, OPR or JOG operation.		
Torget apood	For interpolation control, the composite speed or reference axis speed is displayed for the		
Target speed	reference axis and 0 appears for the interpolation axis.		
	Buffer memory address (Axis #1): 820, 821		
	Shows the speed of the axis operating actually in any operation.		
Food apood	For interpolation control, the composite speed or reference axis speed is displayed for the		
Feed speed	reference axis and 0 appears for the interpolation axis.		
	Buffer memory address (Axis #1): 804, 805		
	Indicates the current speed.		
	For interpolation control, the composite speed or reference axis speed is displayed for the		
Current speed	reference axis and 0 appears for the interpolation axis.		
	0 appears for JOG operation or MPG operation.		
	Buffer memory address (Axis #1): 810, 811		
Movement amount after	Indicates the travel distance under position control when velocity control is changed to		
velocity / position switching	position control during velocity/position switching control.		
ON	Buffer memory address (Axis #1): 814, 815		
Movement amount change	Indicates the value set to the velocity/position switching control travel correction register in		
register value	the program.		
	Buffer memory address (Axis #1): 1526, 1527		
	Indicates the velocity/position switching latch flag for the status signal. $ullet$ (ON) indicates that		
V/P switching latch flag	velocity control is switched to position control.		
	Buffer memory address (Axis #1): 817 (b1)		
	Indicates the velocity/position switching enable flag set in the program.		
V/P switching enable flag	● (ON) indicates that switching by the velocity/position switching signal is valid.		
	Buffer memory address (Axis #1): 1528		
	Indicates the signal for differentiating between velocity control and position control.		
Velocity control flag	● (ON) during velocity control.		
	Buffer memory address (Axis #1): 817(b0)		

#### DISPLAY/SETTING DATA



[Position/velocity control monitor]

<axis #1="">Operatio</axis>	on I/0:0				×
Axis control data	/elocity/position c	ontrol Position.	/velocity control 0PR	JOG/MPG	
Target speed Feed speed	0.00	mm/min P mm/min	Position/velocity switching	g control command velocity registe	ervalue mm/min
Current speed	0.00	mm/min			
		switching latch itching enables		Velocity control flag	

(Screen example: Axis #1 operation monitor screen)

Item	Description
	Indicates the target speed for positioning data, OPR or JOG operation.
<b>T</b>	For interpolation control, the composite speed or reference axis speed is displayed for the
Target speed	reference axis and 0 appears for the interpolation axis.
	Buffer memory address (Axis #1): 820, 821
	Shows the speed of the axis actually operating in any operation.
Food apood	For interpolation control, the composite speed or reference axis speed is displayed for the
Feed speed	reference axis and 0 appears for the interpolation axis.
	Buffer memory address (Axis #1): 804, 805
	For interpolation control, the composite speed or reference axis speed is displayed for the
Current anald	reference axis and 0 appears for the interpolation axis.
Current speed	0 appears for JOG operation or MPG operation.
	Buffer memory address (Axis #1): 810, 811
Position/velocity switching Displays the contents of register which stores the position/velocity change contr	
control command velocity	speed as set in the program.
register value	Buffer memory address (Axis #1): 1530, 1531
	Indicates the position/velocity switching latch flag for the status signal.     (ON) indicates that
P/V switching latch flag	position control is switched to velocity control.
	Buffer memory address (Axis #1): 817 (b5)
	Indicates the position/velocity switching enable flag set in the program.
P/V switching enable flag	<ul> <li>(ON) indicates that switching by the position/velocity switching signal is valid.</li> </ul>
	Buffer memory address (Axis #1): 1532
	Indicates the signal for differentiating between velocity control and position control.
Velocity control flag	● (ON) during velocity control.
	Buffer memory address (Axis #1): 817(b0)

#### Ø DISPLAY/SETTING DATA

[OPR monitor]					
<axis #1="">Operation I/0:0</axis>			x		
Axis control data Velocity/position control	Position/velocity control OPR	JOG/MPG			
Movement amount after near-point dog on Torque limit storing value	0 pls	OPR movement amount again			
Command in-position flag OPR request flag OPR completed flag OPR compl	Upper limit 🔵 Lower limit 🔵	Near-point dog signal 🔘			

(Screen example: Axis #1 operation monitor screen displayed when the QD75M is chosen in model selection)

Ø	DISPLAY/SETTING DATA	
		_

Item	Description
Movement amount after near-point dog On	Indicates the travel distance of the axis during OPR from the position where the limit switch is turned on by the dog to the position where OPR is completed. Buffer memory address (Axis #1): 824, 825
Torque limit storing value	Shows the torque limit setting or torque change value. Buffer memory address (Axis #1): 826
OPR movement amount again	Indicates the movement amount when the axis is moved to the zero point by re-travel. This item is displayed only when the QD75M, QD75MH, or LD77 is selected in Select module type. Buffer memory address (Axis #1): 848, 849
Command in-position flag OPR request flag OPR completed flag	Displays the status signals related to OPR. •: ON •: OFF Buffer memory address (Axis #1): 817 (b2 : Command in-position flag, b3 : OPR request flag, b4 : OPR completed flag)
Lower limit Upper limit Zero phase signal Zeroing signal DDC signal	Shows the external I/O signals related to OPR. (The zero phase signal and DDC signal are displayed when the QD75P,QD75D or LD75 is selected in model selection.) •: ON O: OFF Buffer memory address (Axis #1): 816 (b0 : Lower limit, b1 : Upper limit, b5 : Zero phase signal, b6 : Zeroing signal, b8 : DDC signal)

	[JOC	G/MPG monitor]	
<axis #1="">Operation</axis>	I/O:0		x
Axis control data Velo	ocity/position control   Positio	n/velocity control OPR JOG/MPG	
_JOG		MPG	
Reverse JOG	Forward JOG	Enable/Disable	
K)	$\mathbb{C}^{2}$	Manual pulse input mode	
JOG speed	JOG ACC time	A/B mode (x4)	
0 pls/	's 1000 ms	Manual pulse multiplier	
JOG speed limit valu	ie JOG DEC time		
20000 pls/	's 1000 ms	1 times	

(Screen example: Axis #1 operation monitor screen)

### DISPLAY/SETTING DATA

Item	Description	
Foward JOG Reverse JOG	Indicates the direction during JOG operation in the program.	
JOG speed	Indicates the axis speed during JOG operation in the program. Buffer memory address (Axis #1): 1518, 1519	
JOG speed limit value	Indicates the JOG operation limit value set in the extended parameters 2. Buffer memory address (Axis #1): 48, 49	
JOG ACC time JOG DEC time	Shows the acceleration time and deceleration time set in the extended parameters 2. Buffer memory address (Axis #1): 50 (JOG ACC time), 51 (JOG DEC time)	
Enable/Disable	Shows if manual pulse operation is allowed or not. Permission setting in the test mode from the peripheral device is not displayed. Buffer memory address (Axis #1): 1524	
Manual pulse input mode	Shows the MPG pulse input mode set in the extended parameters 1. Buffer memory address (Axis #1): 33	
Manual pulse multiplier	Indicates the factor per MPG output pulse set in the program is multiplied by to find the number of input pulses. Buffer memory address (Axis #1): 1522, 1523	

#### 10.2.6 Servo monitor



Monitor the servo status, torque control/servo load ratio, servo parameter setting contents and servo parameter error of the QD75M, QD75MH or LD77 during operation monitor.

With servo monitor, you can check the states and others of the servo amplifiers and servo motors connected to the QD75M, QD75MH or LD77.

For each monitor item, refer to the user's manual for the positioning module used and the instruction manuals of the servo amplifiers and servo motors used.



### BASIC OPERATION

- 1. Perform the basic operation in Section 11.1.2 to display the operation monitor main screen.
- 2. Click the "Servo monitor" button on the operation monitor main screen.
- 3. Click the <<Servo status>> / <<Torque control/Servo load ratio>> / <<Servo parameter setting contents>> / <<Servo parameter error>> tab in the servo monitor dialog box.



[Servo status]

rvo monitor IO : 0					
Servo status Torque control/S	ervo load ratio	Servo para	meter setting contents	Servo parameter erro	r)
-Axis #1					
Motor revolution number Motor current value Deviation counter value	0.0 0.0		Ready ON Servo ON Alarm Warning		
- Axis #2					
Motor movement amount Motor current value Deviation counter value	0.0 0.0		Ready ON Servo ON Alarm Warning		
- Axis #3					
Motor revolution number Motor current value	0.0	r/min %	Ready ON Servo ON Alarm		
Deviation counter value	0	pls	Warning		
Axis #4					
Motor revolution number Motor current value	0.0	r/min %	Ready ON Servo ON Alarm		
Deviation counter value	0	pls	Warning		

(Screen example: Axis #1 operation monitor screen displayed when the QD75M is chosen in model selection)

### DISPLAY/SETTING DATA

Item	Description
Motor revolution number	Shows the servo motor speed. The unit is the number of revolutions per minute. Buffer memory address (Axis #1): 854, 855
Motor movement amount	Shows the movement amount of the servo motor. The unit is a movement amount per second. (For the MR-J3-B linear only) Buffer memory address (Axis #1): 854, 855
Motor current value	Shows the value of current to the servo motor. Buffer memory address (Axis #1): 856
Deviation counter value	Shows the errors of the feed present value and actual present value in terms of the number of deviation counter pulses. Buffer memory address (Axis #1): 852, 853
Servo status signals	Shows the servo status signals. ●: ON ○: OFF Buffer memory address (Axis #1): 877

#### J DISPLAY/SETTING SCREEN

#### [Torque control/Servo load ratio]

vo status Torque control/Servo lo	ad ratio Servo pa	arameter setting contents   Servo para	ameter error
xis #1 torque control/Servo load ra	atio		
Torque control setting value	300 %	Revival load proportion	0%
Torque output setting value	0 %	Execution load proportion	0%
Torque changed value	0 %	Peak load proportion	0%
Torque control storing value	0 %		
xis #2 torque control/Servo load ra	atio		
Torque control setting value	300 %	Revival load proportion	0%
Torque output setting value	0 %	Execution load proportion	0%
Torque changed value	0 %	Peak load proportion	0%
Torque control storing value	0 %		
xis #3 torque control/Servo load ra	atio		
Torque control setting value	300 %	Revival load proportion	0%
Forque output setting value	0 %	Execution load proportion	0%
Torque changed value	0 %	Peak load proportion	0%
Torque control storing value	0 %		
xis #4 torque control/Servo load ra	atio		
Torque control setting value	300 %	Revival load proportion	0 %
Torque output setting value	0 %	Execution load proportion	0 %
Torque changed value	0%	Peak load proportion	0 %
Torque control storing value	0%		

(Screen example: Axis #1 operation monitor screen displayed when the QD75M is chosen in model selection)

### DISPLAY/SETTING DATA

Item	Description
Torque control setting	Shows the torque limit value set in the extended parameter 1 (refer to Section 8.1).
value	Buffer memory address (Axis #1): 26
	Shows the torque output value set in the program.
Torque output setting value	Buffer memory address (Axis #1): 1552
Tannua ahannaduushus	Shows the new torque value set in the program.
Torque changed value	Buffer memory address (Axis #1): 1525

Item	Description
Torque control storing	Shows the torque limit value or new torque value valid for the running servo motor.
value	Buffer memory address (Axis #1): 826
	Shows the regenerative load factor relative the permissible value of the regenerative brake
Revival load proportion	resistor selected in the servo basic parameter (refer to Section 8.2).
	Buffer memory address (Axis #1): 878
Everytion land properties	Shows the load factor relative to the rated torque.
Execution load proportion	Buffer memory address (Axis #1): 879
Deals lead properties	Shows the peak load factor relative to the rated torque.
Peak load proportion	Buffer memory address (Axis #1): 880

(1) QD75M

#### [Servo parameter setting contents]

osition control gain 1(rad/s)         35         35         35         35           elocity control gain 1(rad/s)         177         177         177         177           osition control gain 2(rad/s)         35         35         35         35           elocity control gain 2(rad/s)         817         817         817         817	Servo parameter					
bad inertia (times)         7.0	uto tunina					
elocity control gain 1(rad/s) 177 177 177 177 osition control gain 2(rad/s) 35 35 35 35 elocity control gain 2(rad/s) 817 817 817 817	.oad inertia (times)					
osition control gain 2(rad/s) 35 35 35 35 elocity control gain 2(rad/s) 817 817 817 817	Position control gain 1(rad/s)	35	35	35	35	
elocity control gain 2(rad/s) 817 817 817 817	/elocity control gain 1(rad/s)	177	177	177	177	
	Position control gain 2(rad/s)	35	35	35	35	
tegral speed compensation (ms) 20 20 20 20	/elocity control gain 2(rad/s)	817	817	817	817	
	ntegral speed compensation (ms)	20	20	20	20	

(2) QD75MH/LD7	7
----------------	---

[Servo parameter setting contents
-----------------------------------

ervo parameter					
	Axis #1	Axis #2	Axis #3	Axis #4	
Auto tuning	Auto 1	Auto 1	Auto 1	Auto 1	
Ratio of load inertia					
moment(mass) to servo motor inertia moment (times)	7.0	7.0	7.0	7.0	
Model loop gain (rad/s)	24	24	24	24	
Position loop gain (rad/s)	37	37	37	37	
Speed loop gain (rad/s)	823	823	823	823	
Speed integral compensation (ms)	33.7	33.7	33.7	33.7	

# DISPLAY/SETTING DATA

(1) QD75M

Item	Description
Auto tuning Load inertia	Shows the auto tuning values set in the servo basic parameters (refer to Section 8.2) and the
Position control gain1 Velocity control gain1	values of load inertia, each control gain and speed integral compensation set in the servo extended parameters (refer to Section8.2).
Position control gain2	When auto tuning is executed, the settings made according to the auto tuning results are displayed.
Velocity control gain2 Integral speed compensation	Buffer memory address (Axis #1): 857, 858, 859, 860, 861, 862, 863

#### (2) QD75MH/LD77

Item	Description
Auto tuning	
Ratio of load inertia moment (mass) to servo motor inertia moment Model loop gain Position control gain	Shows the auto tuning mode set in the servo basic parameters (refer to Section 8.2) and the values for the ratio of load inertia moment (mass) to servo motor inertia moment, each control gain and integral speed compensation set in the gain/filter parameters (refer to Section 8.2). When auto tuning is executed, the settings made according to the auto tuning results are displayed.
Velocity control gain	Buffer memory address (Axis #1): 30108, 30124, 30125, 30126, 30127, 30128
Integral speed compensation	

(1)	QD75N	Λ
、・ <i>、</i>	Q D 1 011	

	Item	Axis #1	Axis #2	Axis #3	Axis #4	<b>A</b>
1	AMS	Off	Off	Off	Off	
2	REG	Off	Off	Off	Off	
3	MTY	Off	Off	Off	Off	
4	MCA	Off	Off	Off	Off	
5	MTR	Off	Off	Off	Off	
6	FBP	Off	Off	Off	Off	
7	POL	Off	Off	Off	Off	
8	ATU	Off	Off	Off	Off	
9	RSP	Off	Off	Off	Off	
10	TLP	Off	Off	Off	Off	
11	TLN	Off	Off	Off	Off	
	GD2	Off	Off	Off	Off	
	PG1	Off	Off	Off	Off	
14	VG1	Off	Off	Off	Off	
	PG2	Off	Off	Off	Off	
	VG2	Off	Off	Off	Off	
	VIC	Off	Off	Off	Off	
	NCH	Off	Off	Off	Off	
	FFC	Off	Off	Off	Off	
	INP	Off	Off	Off	Off	
	MBR	Off	Off	Off	Off	
	MOD	Off	Off	Off	Off	
	OP1	Off	Off	Off	Off	
24	OP2	Off	Off	Off	Off	
25	OP3	Off	Off	Off	Off	
26		Off	Off	Off	Off	<b>-</b> 1

#### (2) QD75MH/LD77

#### [Servo parameter error Monitor]

	Parameter name
8	Auto tuning
uxis #2	
Parameter No.	Parameter name
0	(Normal status)
vxis #3 Parameter No.	Parameter name
22	Feed forward gain
xis #4	
	Parameter name

# DISPLAY/SETTING DATA

(1) QD75M

Description					
Shows the servo parameter types and their error judgments. No. indicates the lower 2 digits of the buffer memory address where the Axis #1 servo parameters of the QD75M are stored.					
No. Code Servo Parameter		Servo Parameter	QD75M Servo Parameter Storage Buffer Memory Address (Axis #1)		
1	AMS	Amplifier setting	101		
2	REG	Regenerative brake option	102		
3	MTY	Motor type	103		
4	MCA	Motor capacity	104		
•	•	•	•		
•	•	•	•		
•	•	•	•		
Displays an error judgment per servo parameter item of each axis. On: Error Off: No error					
	No. indicate parameters No. 1 2 3 4 · · · Displays ar On: Error Off: No error	No. indicates the lower parameters of the QD75 No. Code 1 AMS 2 REG 3 MTY 4 MCA • • • • • Displays an error judgm On: Error Off: No error	Shows the servo parameter types and their error judgme         No. indicates the lower 2 digits of the buffer memory add         parameters of the QD75M are stored.         No.       Code         Servo Parameter         1       AMS         AMS       Amplifier setting         2       REG         Regenerative brake option         3       MTY         4       MCA         Motor capacity         •       •    <		

#### (2) QD75MH/LD77

Item	Description					
	For each axis, shows parameter No. and name of the servo parameter in which an error has occurred. Parameter No. is assigned in ascending order according to servo parameter No. of QD75MH.					
	Parameter		Servo Parameter			
	No.	No.	Parameter name.			
	1	PA01	Control mode			
	2	PA02	Regenerative brake option			
	3	PA03	Absolute position detection system			
	•	•	•			
Servo parameter error	•	•	•			
	•	•	•			
	18	PA18	For manufacturer setting			
	19	PB01	Adaptive tuning mode (Adaptive filter II)			
	•	•	•			
	•	•	•			
	•	•	•			
	For details on servo parameters, refer to the user's manual for the positioning module used					
	and the instruction manuals of the servo amplifiers and servo motors used.					
	If there is no error, shows "0" for the parameter No. and "Normal state" for the parameter					
	name.					
	Buffer memory address (Axis #1): 870					

#### 10.3 Sampling Monitor

Monitor the ON/OFF of any registered signals and the buffer memory values while simultaneously sampling them.

#### 10.3.1 Sampling signal monitor

(h	PURPOSE

# You can monitor the ON/OFF of the specified X/Y devices, external I/O signals, status signals and servo status signals in the timing chart.



#### BASIC OPERATION

1. Choose Sampling monitor (signal).

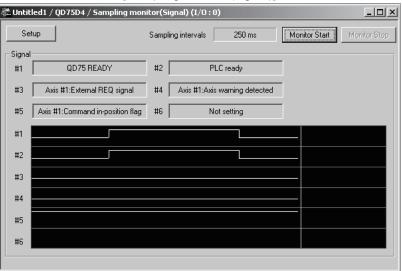
Image: Monitor → Image: Sampling monitor(Signal)



- 2. Click the "Setup" button in the Sampling monitor (signal) window.
- 3. Set the signals in the Sampling monitor dialog box.
- 4. Click the [Online]  $\rightarrow$  [Monitor]  $\rightarrow$  [Monitor On/Off] menu (
- 5. Check the monitor results.
- 6. To exit, click the [Online]  $\rightarrow$  [Monitor]  $\rightarrow$  [Monitor On/Off] menu (

#### DISPLAY/SETTING SCREEN

#### [Sampling monitor (signal)]



Sampling monitor					
Sampling intervals 250 ms					
C Signal data setting					
Signal type Signal item					
X Device QD75 READY					
Y Device PLC ready					
Axis #1 EXT I/O signal 💌 External REQ signal 💌					
Axis #1 Status signal 💽 Axis warning detected					
Axis #1 Status signal Command in-position flag					
Not setting					
OK Cancel					

[Sampling monitor dialog box]

### DISPLAY/SETTING DATA

Item	Description				
"Setup" button	Click this button to display the Sampling monitor dialog box.				
	ON/OFF states are shown in the HIGH/LOW timing chart.				
Sampling monitor result	The sampling cycle time changes with the sampling interval.				
-	The timing chart is enlarged or reduced according to the screen size.				
Sampling intervals	Choose the sampling intervals from among "50ms", "100ms", "250ms", "500ms", "750ms".				
Signal type	Choose the types of the sampled signals from the X Device, Y Device, EXT I/O signal,				
Signal type	Status signal and Servo status signal.				
Signal item	Choose the signals to be sampled.				
	Click this button to close the Sampling monitor dialog box and display the settings in the				
"OK" button	Sampling monitor (signal) window.				

#### 10.3.2 Sampling buffer monitor

#### PURPOSE

You can monitor the buffer memory storage values of the specified QD75/LD75/LD77 as waveform data.

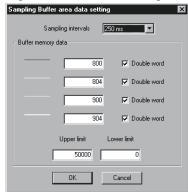
### BASIC OPERATION

- 1. Choose Sampling monitor (Buffer). Monitor → 🙀 Sampling monitor(Buffer)
  - Double-click. Double-click.
- 2. Click the "Setup" button in the Sampling monitor (Buffer) window.
- 3. Set the buffer memory addresses, upper limit value and lower limit value in the Sampling Buffer area data setting dialog box.
- 4. Click the [Online]  $\rightarrow$  [Monitor]  $\rightarrow$  [Monitor On/Off] menu (
- 5. Check the monitor results.
- 6. To exit, click the [Online]  $\rightarrow$  [Monitor]  $\rightarrow$  [Monitor On/Off] menu (

#### **DISPLAY/SETTING SCREEN**

#### [Sampling monitor (Buffer)]

ntitled1 / QD75MH4 / Sar	mpling monitor(Buffer) (I/O :	0)		_ <u>_ </u>
Setup	Sampling intervals	50 ms	Monitor Start Monitor Stop	
Buffer area data				
500	0			
· ···				
820 200	5			
, ,				
Not setting	-			
Not setting	-			
I Not setting				
Not setting	- 1			and the second
I Not seturing				
500	ā			
-500	0			



#### [Sampling Buffer area data setting dialog box]

#### DISPLAY/SETTING DATA

Item	Description					
"Setup" button	Click this button to display the Sampling Buffer area data setting dialog box.					
Sampling monitor result	Shows the buffer memory values as waveform data. The sampling cycle time changes with the sampling interval.					
	The waveform data are enlarged or reduced according to the screen size.					
Sampling intervals	Choose the sampling intervals from among "50ms", "100ms", "250ms", "500ms", "750ms".					
Buffer area dataSet the QD75/LD75/LD77 buffer memory addresses and device sizes to be Click the unchecked check box when monitoring double word data such as value and feed speed. The setting range is buffer memory addresses 800 to 1499. 						
Upper limit Lower limit	Set the upper and lower limit values to be displayed as waveform data. The waveform data near the upper limit value may not appear when the sampling screen is redisplayed by switching the windows, for example. In that case, set the upper limit value to a value larger than the sampled value, and also change the lower limit value to reduce the difference between the upper and lower limit values.					
"OK" button	Click this button to close the Sampling Buffer area data setting dialog box and display the settings in the Sampling monitor (Buffer) window.					



### HELPFUL OPERATION

If you do not know the buffer memory addresses of the QD75/LD75/LD77, you can set them by the following operation.

Right-click the text box in the Sampling Buffer area data setting dialog box. The buffer memory addresses and device sizes of the data selected from the

right-click menu are set automatically.

Sampling Buffer area data se	etting	×
Sampling intervals Buffer memory data	250 ms	
	Feed present value 🔸	Axis #1 Feed present value
	Machine feed value 🔸	Axis #2 Feed present value
	Feed speed 🔹 🕨	Axis #3 Feed present value
	Current speed 🔹 🕨	Axis #4 Feed present value
	Axis feed speed 🔹 🕨	



If sampling is performed while "Double word" is set for "Buffer memory data", acquired data may be separated.

#### 10.4 Test

 Place the QD75/LD75/LD77 in the test mode during operation monitor, and test the positioning start, present value change, speed change, OPR, JOG or MPG operation. Each operation of the QD75P/QD75D/LD75 can be tested in the cableless mode using its module alone.			
<ul> <li>Before performing the OPR, JOG operation, positioning data or other test in the test mode, read the manual carefully, fully ensure safety, and set the programmable controller CPU to STOP.</li> <li>Incorrect operations can damage the machine or cause an accident.</li> </ul>			
<ul> <li>(1) Test mode ON operation Perform the following operation to place the QD75/LD75/LD77 in the test mode. 1. Set the required project as the active project. Refer to Section 5.2 for the active project setting. 2. Click the [Online] → [Test] → [Test On/Off] menu ( )). </li> <li>3. Click the "Yes" button in the all displayed window closing confirmation dialog box.</li> <li>4. Click unchecked "Agreement with Module data" in the following dialog box.</li> <li>5. Choose Write or Read and click the "OK" button.</li> </ul>			

Refer to Section 9.1 for writing to and reading from the positioning module.

- 6. Click the "OK" button in the test mode confirmation dialog box.
- 7. To exit from the test mode, click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Test On/Off] menu(  $\bigcirc$  ).

Point (1) When conducting a test in the cableless mode, you cannot perform start, velocity/position switching and position/velocity switching under the control of external input signals and OPR which requires near point dogs and zero phase signal. Since the feed present value cannot be cleared by OPR, make the present value change test (refer to Section 10.4.2) to clear it. (2) If an error occurred due to cable disconnection during a test in the wiring-less mode, an attempt to shift to the test mode again after cable reconnection may display the dialog box "The module is already under TEST MODE." In this case, shift to the test mode after resetting the programmable controller CPU. (3) In the test mode, JOG or other operation may respond slower depending on the running condition of the personal computer. In such a case, take the following actions. · Close all applications except GX Configurator-QP so that they are not run concurrently. • Set the transmission speed to 38.4kbps or higher in Connection Setup (refer to Section 7.1).

# HELPFUL OPERATION

Perform the following operation when you want to test the positioning data or block start data before installing external equipment such as the servo amplifiers and motors.

- 1. Click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Cableless mode] menu.
- 2. Choose the test mode by performing the above operation.
- 3. The operation that will follow is the same as in the corresponding test. Refer to the corresponding pages.
- 4. To finish, exit from the test mode and click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Cableless mode] menu.

#### 10.4.1 Positioning start test



#### PURPOSE

Specify the positioning data No. or block start data point No. and perform test operation.

### BASIC OPERATION

- 1. Put the QD75/LD75/LD77 in the test mode in accordance with Section 10.4 (1).
- 2. Click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Operation test]  $\rightarrow$  [Operation test #1 to #4] menu ( |**>**<sub>1</sub> to |**>**<sub>1</sub> ).
- 3. Click the <<Position start>> tab in the TEST MODE setting dialog box.
- 4. Make external command setting when enabling velocity/position switching or position/velocity switching under the control of external command signal.
- 5. Choose Start mode.
- 6. Set Data No. or Block start No. and multiple axis sync start data No. according to Start mode.
- 7. When using a step start to perform test operation, click the unchecked "Step Start" check box to choose the step start type.
- 8. Clicking the "Start" button starts test operation from the specified positioning data or point.
- 9. To exit, click the "Close" button.

culterit leed v	alue /	Axis feed speed	
	0 pls	0 pls/s	
Axis status	Standby		
Error number	0	Warning number	0
Start type		Data No.	
Positioning sta	rt <u> </u>	EXT. com	mand
Block start No Block I	·	Point No.	
Multiple axis sy #1	vnc start data No, #2	#3 #4	
,			
Step start requ Step start		n unit 💌 Continue	

## DISPLAY/SETTING DATA

Item	Description			
Monitor item	Shows the axis status.			
	Choose the start mode of test operation.			
	Positioning start			
	Test operation is started from the specified positioning data No.			
Start type	Block start			
	Test operation is started from the specified block point No.			
	Multiple axis sync start			
	Test operation is started from the positioning data No. specified per axis.			
Data No.	Set the positioning data No. for the positioning start mode.			
Block No.	Set the block No. for the block start mode.			
Point No.	Set the point No. for the block start mode.			
Multiple axis sync start data No.	Set the positioning data No. to each axis for the multiple axis sync start mode.			
"EXT. command" button	Clicking this button shows the external command dialog box and allows you to set external			
EXT. Command Dutton	command enable, velocity/position switching enable or position/velocity switching enable.			
"Continue" button	Click this button during step standby to make a step start from the next positioning data No.			
"Start" button	Click this button to start test operation from the preset positioning data No. or point No.			
"Re-start" button	Click this button during an axis stop to resume test operation from the stop position.			
"Break off" button	Click this button to suspend positioning control during test operation.			
	Click this button at a step start to skip over continuous positioning control or continuous			
"Skip" button	locus control to the next positioning data. Skip is valid up to the positioning data next to the			
	end of the operation pattern.			

Item	Description
Step start request	When performing a step start, click the unchcked step start check box. When you made it valid, choose the step start type. • Data No. units Independently of the operation pattern, operation is started from the specified positioning data No., and is performed and brought to a step standby status per data. • Deceleration units When the operation pattern is continuous locus control, test operation is performed up to continuous positioning control or the last positioning data. Speed No.1 No.1 No.2 No.3 No.4 Time Deceleration unit step Data No. unit step Data No. unit step
"All axis stop" button	brought to step standby.         brought to standby.           Click this button to stop all axes.         Click this button to stop all axes.
"Stop" button	Click this button to stop all axes. Click this button to stop the axis. Clicking the "Re-start" button resumes test operation from the stop position.
< <feed present="" value<br="">CHG&gt;&gt; tab</feed>	Click the tab to show the corresponding test screen. Present value change test Refer to Section 10.4.2.
< <speed chg="">&gt; tab &lt;<opr>&gt; tab &lt;<jog mpg="">&gt; tab</jog></opr></speed>	Speed change test

#### 10.4.2 Present value change test

PURPOSE

Change the feed present value of the QD75/LD75/LD77 to the specified address.



#### <sup>)</sup> BASIC OPERATION

- 1. Place the QD75/LD75/LD77 in the test mode in accordance with Section 10.4 (1).
- 2. Click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Operation test]  $\rightarrow$  [Operation test #1 to #4] menu (  $\nearrow$  to  $\checkmark$  ).
- 3. Click the <<Feed present value CHG>> tab in the TEST MODE setting dialog box.
- 4. Type a new value in the text box and click the "Present value change" button.
- 5. To exit, click the "Close" button.

Current feed v	o pls	Axis feed speed 0 pls/s
Axis status	Standby	
Error number	(	) Warning number 0
Present value	change	
	0 pls	Present value change

### 🔎 DISPLAY/SETTING DATA

Item	Description			
Monitor item	Shows the axis status.			
Present value change	Set a new feed present value.			
"Present value change" button	Click this button to change the present value.			
"All axis stop" button	Click this button to stop all axes.			
"Stop" button	Click this button to stop the axis.			
< <position start="">&gt; tab &lt;<speed chg="">&gt; tab &lt;<opr>&gt; tab &lt;<jog mpg="">&gt; tab</jog></opr></speed></position>	Click the tab to show the corresponding test screen. Positioning start testRefer to Section 10.4.1. Speed change testRefer to Section 10.4.3. OPR testRefer to Section 10.4.4. JOG/MPG testRefer to Section 10.4.5.			

#### 10.4.3 Speed change test

### PURPOSE

Make a speed and/or acceleration/deceleration time change to the axis operating in the positioning start, OPR or JOG operation test to check the adequate speed and/or acceleration/deceleration time.



#### BASIC OPERATION

- 1. Place the QD75/LD75/LD77 in the test mode in accordance with Section 10.4 (1).
- 2. Click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Operation test]  $\rightarrow$  [Operation test #1 to #4] menu ( $\nearrow$  to  $\checkmark$ ).
- 3. Perform positioning start test (refer to Section 10.4.1), OPR test (refer to Section 10.4.4) or JOG/MPG operation test (refer to Section 10.4.5) in the TEST MODE setting dialog box.
- 4. Click the <<Speed CHG>> tab in the TEST MODE setting dialog box.
- When changing the acceleration/deceleration time, click the unchecked "ACC/DEC time set enable" check box and set the acceleration/deceleration time.
- 6. Make a speed change test on the running axis.
- 7. To exit, click the "Close" button.

Monitor item — Current feed v	alue	Axis feed speed
	0 pls	0 pls/s
Axis status	Standby	
Error number		D Warning number 0
Speed CHG		ACC/DEC time set
	0 pls/s	ACC/DEC time set enable
REQ. pre: change	ent value value	ACC time
Speed override	e	ms
· ·	00 %	DEC time
REQ. spee	ed override	0 ms



Item	Description
Monitor item	Shows the axis status.
Speed CHG	Set a new speed to replace the command speed, OPR speed or JOG operation speed of the running axis. The speed limit value is changed if the value is greater than the speed limit value set in basic parameters 2.
"REQ. present value change value" button	Click this button to change the speed.
Speed override	Set the multiplying factor (%) of the speed overriding the command speed, OPR speed or JOG operation speed. Override also influences the new speed resulting from speed change. The override value once executed is valid during the test mode. The setting range is 1 to 300%.
"REQ. speed override" button	Click this button to execute override. Clicking this button in the standby status of the axis makes the override speed valid at the next start. A speed change is also made when this button is clicked for the running axis.
"ACC/DEC time set enable" check box	Used to set whether an acceleration/deceleration time change is enabled or disabled at a speed change. Click the unchecked check box to change the acceleration/deceleration time when a speed change is made.
ACC time DEC time	Set the acceleration time and deceleration time to be changed as soon as a speed change is made. When "ACC/DEC time set enable" is disabled (not checked), the setting is invalid.
"All axis stop" button	Click this button to stop all axes.
"Stop" button	Click this button to stop the axis.
< <position start="">&gt; tab</position>	Click the tab to show the corresponding test screen.
< <feed present="" td="" value<=""><td>Positioning start testRefer to Section 10.4.1.</td></feed>	Positioning start testRefer to Section 10.4.1.
CHG>> tab	Present value change testRefer to Section 10.4.2.
< <opr>&gt; tab</opr>	OPR testRefer to Section 10.4.4.
< <jog mpg="">&gt; tab</jog>	JOG/MPG testRefer to Section 10.4.5.

#### 10.4.4 OPR test

PURPOSE

Perform an OPR test to set up an original point and correct the preset OPR basic parameters and OPR extended parameters.



### BASIC OPERATION

- 1. Place the QD75/LD75/LD77 in the test mode in accordance with Section 10.4 (1).
- 2. Click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Operation test]  $\rightarrow$  [Operation test #1 to #4] menu ( 💦 to 矝 ).
- 3. Click the <<OPR>> tab in the TEST MODE setting dialog box.
- 4. Check the OPR method, OPR speed and Original point address.
- 5. Choose the OPR type and click the "REQ. OPR" button.
- 6. To exit, click the "Close" button.

Current feed va	alue A	Axis feed speed	
Axis status Error number	Standby	Warning number	
OPR type Machine OPR OPR speed	T pls/s	OPR method Zeroing DOG OP address 0 pls	
REQ. (	OPR		

Ø DISPLAY/SETTING DATA

Item	Description		
Monitor item	Shows the axis status.		
OPR type	<ul> <li>Chose the type of a starting method used in the OPR test.</li> <li>Machine OPR</li> <li>OPR is performed using the dog or zero phase signal depending on the OPR method.</li> <li>Performed when the original point is set up.</li> <li>High speed OPR</li> <li>Operation of positioning to the original point is performed in the travel distance calculated from the mechanical feed distance and the original point address set to the OPR basic parameters after the original point has been set up.</li> </ul>		
"REQ. OPR" button	Click this button to start OPR set for the OPR method.		
OPR method OPR speed OP address	Show the data set in the OPR basic parameters.		
"All axis stop" button	Click this button to stop all axes.		
"Stop" button	Click this button to stop the axis.		
< <position start="">&gt; tab &lt;<feed present="" value<br="">CHG&gt;&gt; tab &lt;<speed chg="">&gt; tab &lt;<jog mpg="">&gt; tab</jog></speed></feed></position>	Click the tab to show the corresponding test screen. Positioning start test		

## HELPFUL OPERATION

The following operation example is given for original point setup when the OPR method is the count type 2).

- 1. Perform steps 1 to 5 in BASIC OPERATION in this section to make an OPR test of the machine OPR type.
- 2. If there is a difference between the position of the original point set up in the OPR test and the expected position, perform JOG/MPG operation test(refer to Section 10.4.5) to correct the position.
- 3. Check the difference between the feed present value and original point address.
- 4. Make correction of the difference to "Travel distance after DOG" in the OPR extended parameters.

#### 10.4.5 JOG/MPG operation test



When debugging positioning control by JOG or MPG operation, you can conduct the following tests.

- Forward/reverse direction checking
- Checking of the ON/OFF of the external input signals such as upper/lower limit switch, zero phase and dog signals
- · Speed and acceleration/deceleration operation tests
- · Measurement of backlash compensation by forward or reverse operation
- · Measurement of accurate addresses and travel distances

#### <sup>)</sup> BASIC OPERATION

- 1. Place the QD75/LD75/LD77 in the test mode in accordance with Section 10.4 (1).
- 2. Click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Operation test]  $\rightarrow$  [Operation test #1 to #4] menu ( $\nearrow$  to  $\checkmark$ ).
- 3. Click the <<JOG/MPG>> tab in the TEST MODE setting dialog box.
- 4. When performing JOG operation, set "1" or more for JOG velocity and "0" for Inching value, and press the "FWD JOG" or "RVS JOG" button.
- 5. When performing inching operation, set the inching travel value and press the "FWD JOG" or "RVS JOG" button.
- 6. When performing MPG operation, set the MPG input magnification, click unchecked MPG Enable flag, and use the manual pulse generator.
- 7. To exit, click the "Close" button.

#### DISPLAY/SETTING SCREEN

#1(Untitled1				
eed present valu	ie CHG   Spee	d CHG   OPR	JOG/MPG	4
Monitor item Current feed v	alue	Axis feed spec	ed	
	0 pls		0 pls/s	
Axis status	Standby			
Error number	0	Warning	number	1
JOG/inching o	peration			
JOG speed		Inching mo	vement amount	
	0 pls/s		0 pls	
	RVS JOG	FWD JOC	à	
Manual pulse o	peration			
Manual pul:	e input magnifi	cation		
1	times	🗖 MPG End	able flag	
All axis st	n l	Stop	Close	
	···			

### DISPLAY/SETTING DATA

Item	Description			
Monitor item	Shows the axis status.			
JOG speed	Set the speed for JOG operation. You cannot set any value beyond the JOG speed limit. JOG speed is ignored for inching operation.			
Inching movement amount	Set the movement amount for inching operation. Set "0" for JOG operation.			
"FWD JOG" button "RVS JOG" button	<ul> <li>Set the mouse pointer to the required arrow and press the left button of the mouse or press the space key to start JOG operation.</li> <li>When inching value is "1" or more Every time you press the button, the pulse equivalent to the inching value is output. Acceleration/deceleration processing is not performed.</li> <li>When inching value is "0" Hold down the left button of the mouse or the space key to continue operation at the specified JOG speed. The movement amount increments by one unit (mm, degree, inch, pulse).</li> <li>When the axis motion direction is opposite, change the rotation direction setting in basic parameters 1.</li> </ul>			
Manual pulse input	Set the multiplying factor per pulse input from the manual pulse generator for MPG			
magnification	operation.			
"MPG Enable flag" check box	Check this flag to enable MPG operation in the test mode.			
"All axis stop" button	Click this button to stop all axes.			
"Stop" button	Click this button to stop the axis.			
< <position start="">&gt; tab</position>	Click the tab to show the corresponding test screen.			
< <feed present="" td="" value<=""><td>Positioning start testRefer to Section 10.4.1.</td></feed>	Positioning start testRefer to Section 10.4.1.			
CHG>> tab	Present value change testRefer to Section 10.4.2.			
< <speed chg="">&gt; tab</speed>	Speed change testRefer to Section 10.4.3.			
< <opr>&gt; tab</opr>	OPR testRefer to Section 10.4.4.			



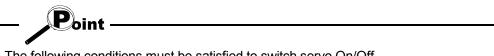
The inching value is at the given ratio of the JOG speed limit value, and an error will occur if it is greater than the value calculated by the following expression.

- Unit setting of "mm"
- JOG speed limit value (mm/min)  $\times$  0.00295 = inching value (µm)
- Unit setting of "inch" or "degree"
- JOG speed limit value (inch/min, degree/min)  $\times$  0.0000295 = inching value (inch, degree)
- Unit setting of "pulse"
- JOG speed limit value (pls)  $\times$  0.00177 = inching value (pls)

#### 10.5 Servo On/Off

PURPOSE

In the test mode of the QD75M, QD75MH or LD77 switch off the electromagnetic brake of the servo motor to coast the motor.



The following conditions must be satisfied to switch servo On/Off. <Servo On>

- The servo amplifier of the corresponding axis is in the ready On status and servo Off status.
- The corresponding axis is in other than the error occurrence/step error occurrence status.

<Servo Off>

- The servo amplifier of the corresponding axis is in the servo Off status.
- The corresponding axis is in the standby/stop/step standby status.

### BASIC OPERATION

- 1. Choose the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Test On/Off] menu (  $\checkmark$  ) to place the QD75M, QD75MH or LD77 in the test mode.
- 2. To put all axes in the servo Off status simultaneously, click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [All axis Servo On/Off] menu.

To switch servo Off axis-by-axis, click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Tool]  $\rightarrow$ 

[#1 Servo Off command] / [#2 Servo Off command] / [#3 Servo Off command] / [#4 Servo Off command] menu.

3. To switch servo On, click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [All axis Servo On/Off] menu.

### **11. USEFUL FUNCTIONS**

Out of the functions that can be performed on GX Configurator-QP, this chapter describes the functions and operations useful for project execution, positioning data setting, etc. and the functions which support settings.

This chapter also explains the teaching function which imports the feed present value to the address, the function which writes positioning data in the test mode, the function which prints project setting data, and the trace function which displays operation results as waveform/locus data.

#### 11.1 Useful Functions for Projects

This section describes the functions and operations which are helpful for utilizing project data to create projects and for changing set data.

#### 11.1.1 Verifying the project data



#### PURPOSE

Compare and verify the parameters, servo parameters, positioning data, block start data and condition data of the project set as the active project and the saved project.



### BASIC OPERATION

- 1. Set the verify source project as the active project. (Refer to Section 5.2.)
- 2. Click the [Project]  $\rightarrow$  [Verify Project] menu (
- 3. Choose the verify target project in the Verify project dialog box (1) and click the "Verify" button.
- 4. Set the types and ranges of the data to be verified in the Verify project dialog box (2).
- 5. Click the "OK" button.
- 6. Check the results in the Verify result dialog box.

#### **DISPLAY/SETTING SCREEN**

[Verify project dialog box (1)]

Verify project[ Sample / QD75D4 ]				
Project save path	C:\MELSEC\QD7	75P\ Refe	rence 🗈 🖽 🖽	
Project	Туре	Date	Project title	
<b>L</b>		2000/01/20	Back one step	
DEMO		2000/01/20	Sub directory	
Sample	QD75D4	2000/02/15		
Sample1	QD75D4	2000/02/15		
Sample2	QD75P2	2000/02/14		
Sample3	QD75D4	2000/02/14		
Sample4	QD75D4	2000/01/20		
•			► ►	
Project name	Sample4		Verify Cancel	

[Verify project dialog box (2)] Verify Project × Parameter data Servo parameter data. Main Positioning data Block start data Select item Positioning data

✓ Block start data
Parameter
☑ Servo parameter data
OK Cancel
[Verify result dialog box]
fy result

Verify Verify Project (Sample04)						
Axis	Data name	Data No.	Item			
1 1 1 1 1 1 1 1 2 2 2 2 2 4 4	Basic parameter 1 Basic parameter 1 Extended parameter 1 Extended parameter 1 Extended parameter 1 Basic parameter 1 Basic parameter 1 Basic parameter 2 Basic parameter 2 Extended parameter 1 Extended parameter 1		Unit DEC time #0 Under S/W stroke LM Over S/W stroke LMT S/W stroke LMT sele- JUG&MPG stroke limit Travel per rotation Start bias speed Speed limit ACC time #0 JUG&MPG stroke limit Under limit switch			
•						

## DISPLAY/SETTING DATA

Item	Description		
Project name	Click the project name of the verify destination.		
Project save path	Shows the project save path of the verify destination.		
"Reference" button	Click this button to display the Project tree dialog box (refer to Section 6.1).		
"Verify" button	Click this button to show the Verify project dialog box (2).		
Verify project dialog box (2) Set the types and ranges of the data to be verified.			
Verify result dialog box	Shows up to 100 different settings between the project set as the active project and the specified project. If the number of mismatches exceeds 100, verify processing is suspended as soon as the number of mismatches reaches 100.		

#### 11.1.2 Changing the model after data setting

# PURPOSE

Change the QD75 model after setting the parameters, positioning data or other data.

If you choose "New Project read to module" in New Project, the model is the same as the QD75 at the read destination. Therefore, when utilizing the data for the other model, change the QD75 model after completion of read.

(Note that a model cannot be changed in LD75 and LD77 projects, and cannot be changed to LD75 or LD77 in QD75 projects.)



## BASIC OPERATION

- 1. Set the required project as the active project. (Refer to Section 5.2.) If in the monitor or test mode, choose the offline status.
- 2. Click the [Project]  $\rightarrow$  [Change module type] menu.
- 3. To close the screen being displayed, click the "OK" button in the confirmation dialog box.
- 4. Choose a new model in the Select module type dialog box.
- 5. Click the "OK" button.

#### **DISPLAY/SETTING SCREEN**

Select module type	x
Select type C QD75P(Open collector type) C QD75D(Differential driver type) C QD75M(SSCNET) (DD75MH(SSCNET III)	OK Cancel
Select Axis O Axis #1 O Axis #2 O Axis #4	

#### 🕮 DISPLAY/SETTING DATA

Item Description	
Select type	Choose the model (type with the exception of the axis number) of the QD75.
Select Axis	Choose the number of axes of the QD75.
"OK" button	Click this button to change the model.

### Point

- Note that the model of MELSEC-Q series positioning module cannot be changed to that of MELSEC-L series.
- Independent of the QD75 model selected for the project, all data that can be set in the edit mode are saved in the project.
  - In a new project whose number of axes is 1, the parameters, positioning data, block start data, etc. of undisplayed Axis 2 to Axis 4 are saved. (However, the data of Axis 2 to Axis 4 are initial values.)
- When the project whose number of axes is 4 is saved after changing to a model for 1 or 2 axes, the data of Axis 3/Axis 4 is saved unchanged.
- Therefore, the model can be changed without restriction on the model selected when a new project is created.
- Depending on the combination of QD75 models, data may not be converted as shown in the following table.

Conversion	Conversion destination			
source	QD75P	QD75D	QD75M	QD75MH
QD75P	$\bigcirc$	$\bigcirc$	$\bigtriangleup$	$\bigtriangleup$
QD75D	0	0	$\bigtriangleup$	$\bigtriangleup$
QD75M	$\bigtriangleup$	$\bigtriangleup$	$\bigcirc$	
QD75MH	$\bigtriangleup$	$\bigtriangleup$		0

O: Conversion available

- △: Conversion is available for positioning data and block start data only. As default values are set to parameters and servo parameters resetting is required.
- ▲: Conversion is available for positioning data, block start data and parameter only. As default values are set to servo parameters, resetting is required.

#### 11.1.3 Intelligent function utility

PURPOSE

Make setting to read the following data automatically from the QD75/LD75/LD77 buffer memory to the QCPU/LCPU devices (e.g. data registers).

The set data are stored in the intelligent function module parameters of the GX Developer project.

- Feed present value Machine feed value
  - · Feed speed Enable M code

• Error No. Axis operating status

Auto refresh allows the above data of the QD75/LD75/LD77 to be imported to the QCPU/LCPU without creation of a program.



### BASIC OPERATION

1. Set the required project as the active project. (Refer to Section 5.2.)

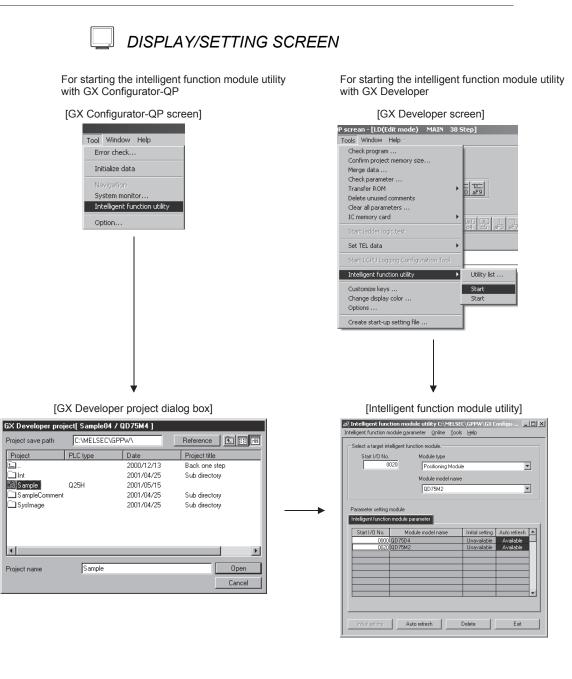
• Warning No.

- 2. Click the [Tool]  $\rightarrow$  [Intelligent function utility] menu.
- 3. Choose the target GX Developer project in the GX Developer project dialog box.
- 4. The intelligent function module utility starts.
- 5. Set Start I/O No., Package name and Module model name.
- 6. Click the "Auto refresh" button.
- 7. Assign the programmable controller CPU side devices to the auto refresh items in the Auto refresh setting dialog box.
- 8. Click the "End setup" button.
- 9. Click the "Exit" button in the Intelligent function module utility.
- 10. Click the "Yes" button in the intelligent function module parameter save confirmation dialog box.

The intelligent function module utility can be started to execute the auto refresh setting in GX Developer.

To start the intelligent function module utility in GX Developer, click [Tools]  $\rightarrow$ [Intelligent function utility] menu  $\rightarrow$  "Auto refresh" button.

Then, follow the above procedure of the basic operation from 5 to 10 to set the auto refresh.



£1..

\_\_\_\_\_Int

•

Module information			0000		
Module type: Positioning unit Module model name: QD75MH4	5	itart I/O No.:	0000		
Setting item	Module side Buffer size	Module side Transfer word count		Transfer direction	PLC side Device
Feed present value (Axis #1)	2	2		->	D100
Machine feed value (Axis #1)	2	2		->	D102
Feed speed (Axis #1)	2	2		->	
Error No. (Axis #1)	1	1		->	
Warning No. (Axis #1)	1	1		->	
Enable M code (Axis #1)	1	1		->	
Busy (Axis #1)	1	1		->	
Feed present value (Axis #2)	2	2		->	
Machine feed value (Axis #2)	2	2		->	

#### [Intelligent function module utility]

# DISPLAY/SETTING DATA

Item	Description
Project save path	Choose the save destination of the GX Developer project to which auto refresh setting will be made.
GX Developer project	Choose the GX Developer project to which auto refresh setting will be made.
Start I/O No.	Set the first I/O No. (I/O address) of the QD75/LD75/LD77.
Package name	Choose the positioning module.
Module model name	Choose the model of the QD75/LD75/LD77.
Intelligent function module parameter setting module	Shows the module to which the initial setting or auto refresh setting has been made in the intelligent function module utility.
"Auto refresh" button	Click this button to show the auto refresh setting dialog box.
"Delete" button	Click this button to make deletion from the intelligent function module parameter setting module.
PLC side Device	Set the programmable controller side devices to be automatically refreshed for the QD75/LD75/LD77 items. Data is automatically refreshed between the set devices and QD75/LD75/LD77 buffer memory.
"Make text file" button	Used to save the auto refresh settings as text data. Clicking this button shows the text file creation dialog box, where you set the save destination drive/path and file name.
"End setup" button	Click this button to register the auto refresh setting and close the dialog box.

Point

- The PLC side devices set for auto refresh store the QD75/LD75/LD77 data. Do not store other values using a program (e.g. FROM and MOV instructions).
- Number of parameters that may be set on GX Configurator-QP

The programmable controller CPU modules and MELSECNET/H network system's remote I/O station for use with installed intelligent function modules have restrictions on the number of parameters that may be set on GX Configurator.

Target of Installing Intelligent Function	Max. N	lumber of Set Parameters
Modules	Initial setting	Auto refresh setting
Q00J/Q00/Q01CPU	512	256
Q02/Q02H/Q06H/Q12H/Q25HCPU	512	256
Q02PH/Q06PH/Q12PH/Q25PHCPU	512	256
Q02UCPU	2048	1024
Q03UDCPU/Q04UDHCPU/Q06UDH/ Q13UDH/Q26UDH/Q03UDE/Q04UDEH/	4096	2048
Q06UDEH/Q13UDEH/Q26UDEHCPU		
L02CPU	2048	1024
L26CPU-BT	4096	2048
MELSECNET/H remote I/O station	512	256

Hence, when multiple intelligent function modules are installed on the remote I/O station, set GX Configurator so that a total of the set parameters of all intelligent function modules does not exceed the maximum number of set parameters of the remote I/O station.

Calculate the total of the set parameters separately for the initial setting and auto refresh setting.

The number of parameters that may be set on GX Configurator-QP per module is as follows.

Target Module	Initial setting	Auto refresh setting
QD75P1, QD75D1, QD75M1, QD75MH1		7 (max. number of set parameters)
QD75P2, QD75D2, QD75M2, QD75MH2		14 (max. number of set parameters)
QD75P4, QD75D4, QD75M4, QD75MH4,		20 (may number of estimation)
LD75P4, LD75D4, LD77MH4		28 (max. number of set parameters)

Example) How to count the number of set parameters for auto refresh setting

Module information						
Module type: Positioning unit	5	Start I/O No.:	0000			
Module model name: QD75MH4						
Setting item	Module side Buffer size			Transfer direction	PLC side Device	
Feed present value (Axis #1)	2	2		->	D100	
Machine feed value (Axis #1)	2	2		->	D102	
Feed speed (Axis #1)	2	2 2		->		
Error No. (Axis #1)	1	1		->	<b>├</b> }	— This single line is counted as one
Warning No. (Axis #1)				->		
Enable M code (Axis #1)	1	1		->		parameter that has been set.
Busy (Axis #1)	1	1		->		A blank is counted out.
Feed present value (Axis #2)	2	2		•>		
Machine feed value (Axis #2)	2	2		->	•	All setting items of this setting screen a
Make text file	End setu	ар			Cancel	added to the numbers of other intelliger function modules to calculate a sum tota

### 11.1.4 Multi module batch write



Batch write to multiple QD75/LD75/LD77s.

- Note that data cannot be batch-written simultaneously to the positioning module of MELSEC-Q series and that of MELSEC-L series on the same route.
- Whether multi module batch write may be performed or not is determined by the PLC state check setting in Option setting. (Refer to Section 11.5)

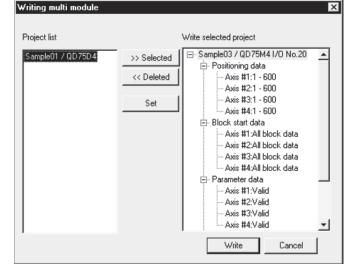


### 🗒 BASIC OPERATION

- 1. Open all projects to be batch written.
- 2. Specify the connection target in each project. (Refer to Section 7.1.)
- 3. Click the [Online]  $\rightarrow$  [Writing of batch of multi module] menu.
- 4. Choose the write target project from the project list in the Writing multi module dialog box, and click the ">>Selected" button. (The dialog box for choosing the items to be written to the module appears.)
- 5. Set the types and ranges of the data to be written and click the "OK" button.
- 6. Repeat the above steps 4 to 5 for the projects to be batch written.
- 7. Click the "Write" button in the Writing multi module dialog box.

### **DISPLAY/SETTING SCREEN**

[Writing multi module dialog box]



Multi module	batch write				×	
Par Main	ameter data	ositioning data		Servo parameter data. Block start data		
Current typ	e QD75h	14 PLC type	Q02(H)	1/0 No.	20	
Select ite						
Posit	ioning data					
🔽 Bloc	k start data					
🔽 Para	meter					
🔽 Serv	o parameter d	ata				
<b>I</b> Flast	n ROM write					
			0	к с	ancel	

# DISPLAY/SETTING DATA

Item	Description
Project list	Shows a list of the projects open in GX Configurator-QP.
Write selected project	Shows the projects for which multi module batch write will be performed. Make selection from the project list.
">>Selected" button	Click this button to register the project selected on the project list side to the write selected project side and display for that project the dialog box for selecting the items to be written to the module.
"< <deleted" button<="" td=""><td>Click this button to return the project selected on the write selected project side to the project list side.</td></deleted">	Click this button to return the project selected on the write selected project side to the project list side.
"Set" button	Click this button to display the dialog box for selecting the items to be written to the module for the project selected on the write selected project side.
< <main>&gt; &lt;<positioning data="">&gt; &lt;<block data="" start="">&gt; &lt;<parameter data="">&gt; &lt;<servo data="" parameter="">&gt; tab screen</servo></parameter></block></positioning></main>	Set the types and ranges of the data to be written to each project. The setting items are the same as in write to QD75/LD75/LD77. (Refer to Section 9.1.)
"Write" button	Click this button to batch write the projects registered as the write selected projects to the QD75/LD75/LD77.

### 11.2 Edit Functions for Data Setting

This section explains the edit functions which can be used for positioning data or block start data setting.

### 11.2.1 Cut/copy/paste

1:CONT

1:CONT

1:CONT

0:END

1:ABS line1

1:ABS line1

1:ABS line1

1:ABS line1

These functions cut/copy and paste some part of the positioning or block start data settings.

Also these functions cut/copy the values entered in Microsoft<sup>®</sup> Excel or Word table and pastes them to the positioning data or block start data of GX Configurator-QP.

No.	Pattern	CTRL method	SLV axis	ACC(ms)	DEC(ms)	Positioning	
1	1:CONT	1:ABS line1	-	0;1000	1;1500	50000	
2	1:CONT	1:ABS line1	-	3;800	2;1200	100000	
3	1:CONT	1:ABS line1	-	0;1000	1;1500	70000	
4	1:CONT	1:ABS line1	-	0;1000	1;1500	150000	
5	0:END	1:ABS line1	-	3;800	2;1200	0	
6							
4						► //	
	$\downarrow$						
No.	Pattern	CTRL method	SLV axis	ACC(ms)	DEC(ms)	Positioning 📥	
1	1:CONT	1:ABS line1	-	0.1000	1:1500 (		

### (1) Cut

Used to cut the selected range.

1) Choose the area to be cut.

- 2) Click the [Edit]  $\rightarrow$  [Cut] menu ( $\checkmark$ ). Alternatively, click [Cut] in the right-click menu.
- 3) The values in the selected range change to initial values.

### (2) Copy

3;800

0:1000

0;1000

3;800

2;1200 1;1500

1;1500

2;1200

Used to copy the selected range to the clipboard of Microsoft<sup>®</sup> Windows<sup>®</sup> Operating System.

No.	Pattern	CTRL method	SLV axis	ACC(ms)	DEC(ms)	Positioning	
1	1:CONT	1:ABS line1	-	0;1000	1;1500	50000	
2	1:CONT	1:ABS line1	-	3;800	2;1200	100000	
3	1:CONT	1:ABS line1	-	0;1000	1;1500	70000	
4	1:CONT	1:ABS line1	-	0;1000	1;1500	150000	
5	0:END	1:ABS line1	-	3;800	2;1200	0	
6							
4							

- 1) Choose the area to be copied.
- 2) Click the [Edit]  $\rightarrow$  [Copy] menu ( $\blacksquare$ ). Alternatively, click [Copy] in the right-click menu.

### (3) Paste

Used to paste the cut or copied data to the selected range. Note that paste may not be made if:

- The control method is not set to the data of paste destination;
- The data of cut or copy destination is different in control method from the data of paste destination; or
- The item cut or copied is different from the item of paste destination.

No.	Pattern	CTRL method	SLV axis	ACC(ms)	DEC(ms)	Positioning
1	1:CONT	1:ABS line1	-	0;1000	1;1500	0
2	1:CONT	1:ABS line1	-	3;800	2;1200	0
3	1:CONT	1:ABS line1	-	0;1000	1;1500	0
4	1:CONT	1:ABS line1	-	0;1000	1;1500	0
5	0:END	1:ABS line1	-	3;800	2;1200	0
6						/•
4						► //

Ì

	$\checkmark$						
No.	Pattern	CTRL method	SLV axis	ACC(ms)	DEC(ms)	Positioning	
1	1:CONT	1:ABS line1	-	0;1000	1;1500	50000	
2	1:CONT	1:ABS line1	-	3;800	2;1200	100000	
3	1:CONT	1:ABS line1	-	0;1000	1;1500	70000	
4	1:CONT	1:ABS line1	-	0;1000	1;1500	150000	
5	0:END	1:ABS line1	-	3;800	2;1200	0	
6						4	
4							

- 1) Choose the paste destination (copy destination) of the data cut (copied).
- Click the [Edit] → [Paste] menu ( [Paste] ).

   Alternatively, click [Paste] in the right-click menu.
- 3) The values in the selected range change to the cut (copied) data.

(4) Copying and pasting from Microsoft<sup>®</sup> Excel/Word table

Used to copy values entered into the Microsoft<sup>®</sup> Excel/Word table and paste them to positioning data or block start data of GX Configurator-QP.

[Example of copying Microsoft<sup>®</sup> Excel data and pasting them to positioning data]

34 N	licrosoft Ex	aal Daaki	
121	<u>File E</u> dit <u>V</u>	jew <u>I</u> nsert	
	A1	-	
	Α	В	
1	12000		
2	21000		
3	24500		
4	30000		
5	19000		
6	52000		
7	44000		
8	39000		
9	17000		
10	12000		

1) Choose and copy the Excel table.

No.	Pattern	CTRL method	SLV axis	ACC(ms)	DEC(ms)	Positioning address [pls]
1	1:CONT	1:ABS line1	-	0;1000	0;1000	12000
2	1:CONT	1:ABS line1	-	0;1000	0;1000	21000
3	1:CONT	1:ABS line1	-	0;1000	0;1000	24500
4	1:CONT	1:ABS line1	-	0;1000	0;1000	30000
5	1:CONT	1:ABS line1	-	0;1000	0;1000	19000
6	1:CONT	1:ABS line1	-	0;1000	0;1000	52000
7	1:CONT	1:ABS line1	-	0;1000	0;1000	44000
8	1:CONT	1:ABS line1	-	0;1000	0;1000	39000
9	1:CONT	1:ABS line1	-	0;1000	0;1000	17000
10	0:END	1:ABS line1	-	0;1000	0;1000	12000
11						
12						
13						
•						

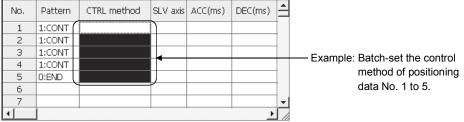
2) Choose the setting range in the positioning data and click the [Edit]  $\rightarrow$  [Paste] menu ( 🔞 ).



### HELPFUL OPERATION (1)

When making the same setting for multiple positioning data or block start data, perform the following operation to make batch setting in the selected range. Note that batch setting may be made for the same item (column) only. It cannot be made if you selected multiple items (columns).

#### 1) Choose the batch setting range.



### 2) Entering the value from the keyboard sets it on the top row of the selected range.

No.	Pattern	CTRL method	SLV axis	ACC(ms)	DEC(ms)	-	
1	1:CONT	1:ABS line1 🗾 💌				Î	
2	1:CONT						
3	1:CONT		•				<ul> <li>Example: When you type "1",</li> </ul>
4	1:CONT					I	"1:ABS line 1"
5	0:END		IJ			I	appears on the top
6			1			I	row of the selected
7						-	
4		•			•		range.

# 3) Press the Enter key on the keyboard or click the other items with the mouse to change the other rows of the selected range to the same setting.

No.	Pattern	CTRL method	SLV axis	ACC(ms)	DEC(ms)	1	
1	1:CONT	1:ABS line1	-	0;1000	0;1000	1	
2	1:CONT	1:ABS line1	-	0;1000	0;1000		
3	1:CONT	1:ABS line1	4	0;1000	0;1000		Example: "1:ABS line 1" is set to
4	1:CONT	1:ABS line1	-	0;1000	0;1000		all rows of the selected
5	0:END	1:ABS line1	)-	0;1000	0;1000		range.
6							
7						-	
		•					



### HELPFUL OPERATION (2)

Perform the following operation to cut/copy and paste all ranges of the positioning data or block start data displayed.

1. Click the [Edit]  $\rightarrow$  [Select all] menu.

🗮 Samp	🏗 Sample1 / QD75D4 / Positioning data Axis #1 (I/O : 0)					
No.	Pattern	CTRL method	SLV axis	ACC(ms)	DEC(ms)	Positioning <a></a>
1	1:CONT	1:ABS line1	-	0;1000	0;1000	40000
2	1:CONT	1:ABS line1	-	0;1000	0;1000	20000
3	1:CONT	1:ABS line1	-	0;1000	0;1000	5000
4	1:CONT	1:ABS line1		0;1000	0;1000	10000
5	1:CONT	1:ABS line1	-	0;1000	0;1000	30000
6	1:CONT	1:ABS line1	-	0;1000	0;1000	0
7	1:CONT	1:ABS line1	-	0;1000	0;1000	25000
8	1:CONT	1:ABS line1	-	0;1000	0;1000	45000
9	1:CONT	1:ABS line1		0;1000	0;1000	30000
10	1:CONT	1:ABS line1		0;1000	0;1000	0
11	1:CONT	1:ABS line1	-	0;1000	0;1000	20000
12	1:CONT	1:ABS line1		0;1000	0;1000	5000
13	1:CONT	1:ABS line1	-	0;1000	0;1000	10000
14	1:CONT	1:ABS line1	-	0;1000	0;1000	30000
15	1:CONT	1:ABS line1	-	0;1000	0;1000	0
16	1:CONT	1:ABS line1	-	0;1000	0;1000	25000
17	1:CONT	1:ABS line1	-	0;1000	0;1000	45000
18	1:CONT	1:ABS line1	-	0;1000	0;1000	30000 🖵
				1		▶ <i> </i>  ,

[Result of clicking [Select all] in the positioning data edit window]

- Point
- When "data No. 1 to data No. 100" has been selected in the data No. setting of the GX Configurator-QP option function, positioning data No. 101 to No. 600 are not included in the selection range.
- · For the block start data, only the block to be edited is the selection range
- If data do not match between the axes, data of all ranges cannot be pasted. In that case, perform the axis copy (refer to Section 11.3.1).

### 11.2.2 Jump

#### h PURPOSE

Move the cursor to the data No. specified for a positioning data edit window. Alternatively, move the cursor to the point No. specified in the block start data edit window.



### BASIC OPERATION

- 1. Click the [Edit]  $\rightarrow$  [Jump] menu.
- 2. Set the positioning data No. or block start data point No. of the jump destination in the JUMP dialog box.
- 3. Click the "OK" button.

### DISPLAY/SETTING SCREEN

着 Samp	ole1 / QD7	5M4 / Positioning	data Axi	s #1 (170 :	20)	_ 🗆 ×	3
No.	Pattern	CTRL method	SLV axis	ACC(ms)	DEC(ms)	Positioning Address [pls]	
1	1:CONT	1:ABS line1	-	0;1000	0;1000	40000	Н
2	1:CONT	1:ABS line1	-	0;1000	0;1000	20000	Н
3	1:CONT	1:ABS line1	-	0;1000	0;1000	, 5000 —	4
4	1:CONT	JUMP				10000	
5	1:CONT					30000	
6	1:CONT	<ul> <li>Indication Position</li> <li>No.</li> </ul>	ning data			0	
7	1:CONT	NO.			OK	25000	
8	1:CONT	Jump data No.	50		Cancel	45000	
9	1:CONT		·		Jancer	30000	
10	1:CONT					0	
11	1:CONT	1:ABS line1	-	0;1000	0;1000	20000	
12	1:CONT	1:ABS line1	-	0;1000	0;1000	5000	
13	1:CONT	1:ABS line1	-	0;1000	0;1000	10000	
14	1:CONT	1:ABS line1	-	0;1000	0;1000	30000	
15	1:CONT	1:ABS line1	-	0;1000	0;1000	0	
16	1:CONT	1:ABS line1	-	0;1000	0;1000	25000	
17	1:CONT	1:ABS line1	-	0;1000	0;1000	45000	
18	1:CONT	1:ABS line1	-	0;1000	0;1000	30000 🗸	1
<b>Ⅰ</b>						<u> </u>	1

#### DISPLAY/SETTING DATA Q

Item	Description
Jump data No.	Set the positioning data No. or the block start data point No. of the jump destination.
"OK" button	Click this button to move the cursor to the specified No.

### 11.2.3 Clearing the rows/columns

# PURPOSE

Clear only the rows or columns selected in the positioning data window or block start data edit window.



### BASIC OPERATION

- 1. Choose the rows (columns) which you want to initialize in the positioning data or block start data edit window.
- 2. Click the [Edit]  $\rightarrow$  [Clear row]/[Clear column] menu.

Alternatively, click the [Clear row]/[Clear column] menu in the right-click menu.

💏 Sample1 / QD75D4 / Positioning data Axis #1 (I/O : 0)						_	
No.	Pattern	CTRL method	SLV axis	ACC(ms)	DEC(ms)	Positioning address [pls]	<b>_</b>
1	1:CONT	1:ABS line1	-	0;1000	0;1000	4000	
2	1:CONT	1:ABS line1	-	0;1000	0;1000	2000	0
3	1:CONT	1:ABS line1	-	0;1000	0;1000	500	
4							
5							
6							
7	1:CONT	1:ABS line1	-	0;1000	0;1000	2500	0
8	1:CONT	1:ABS line1	-	0;1000	0;1000	4500	0
9	1:CONT	1:ABS line1	-	0;1000	0;1000	3000	0
10	1:CONT	1:ABS line1	-	0;1000	0;1000		0 -1
		1			1	1	<u>ار ا</u>

[Example of clearing the rows]

The selected rows are cleared (to the default values).

🛱 Sample1 / QD75D4 / Positioning data Axis #1 (I/O : 0)							
No.	Pattern	CTRL method	SLV axis	ACC(ms)	DEC(ms)	Positioning address [pls]	
1	1:CONT	1:ABS line1	-	0;1000	0;1000	0	
2	1:CONT	1:ABS line1	-	0;1000	0;1000	0	
3	1:CONT	1:ABS line1	-	0;1000	0;1000	0	
4	1:CONT	1:ABS line1	-	0;1000	0;1000	0	
5	1:CONT	1:ABS line1	-	0;1000	0;1000	0	
6	1:CONT	1:ABS line1	-	0;1000	0;1000	0	
7	1:CONT	1:ABS line1	-	0;1000	0;1000	0	
8	1:CONT	1:ABS line1	-	0;1000	0;1000	0	
9	1:CONT	1:ABS line1	-	0;1000	0;1000	0	
10	1:CONT	1:ABS line1	-	0;1000	0;1000	0,	
<b>ا</b>		1	1		· (		

[Example of clearing the columns]

The selected columns are cleared (to the default values).

### 11.2.4 Initializing the data

# PURPOSE

Initialize the parameters, servo parameters, positioning data and block start data (including condition data) of the active project axis-by-axis.

Note that the project data saved in the QD75/LD75/LD77, HD and FD are not initialized.



### BASIC OPERATION

- 1. Set the project to be initialized as the active project. (Refer to Section 5.2.)
- 2. Click the [Tool]  $\rightarrow$  [Initialize data] menu.
- 3. Set the types and axes of the data to be initialized in the Data initialize dialog box.
- 4. Click the "OK" button.

### DISPLAY/SETTING SCREEN

)ata initialize	[SampleO4 /	QD75M4]		×
Positioning da	ita			
Axis #1	🗖 Axis #2	🗖 Axis #3	Axis #4	🗖 ALL
Block start da	la			
🗖 Axis #1	🗖 Axis #2	🗖 Axis #3	🗖 Axis #4	🗖 ALL
Parameter da	ta			
🗖 Axis #1	Axis #2	🗖 Axis #3	🗖 Axis #4	🗖 ALL
Servo parame	eter data			
🗖 Axis #1	🗖 Axis #2	🗖 Axis #3	Axis #4	
	OK	Cance	1	

#### $\bigcirc$ DISPLAY/SETTING DATA

Item	Description
Positioning data	Set the axes of the positioning data to be initialized.
5	Check "ALL" to initialize the positioning data of all axes.
Block start data	Set the axes of the block start data to be initialized.
Diock Start data	Check "ALL" to initialize the block start data of all axes.
Parameter data	Set the axes of the parameters to be initialized.
Farameter uata	Check "ALL" to initialize the parameter data of all axes.
Sonio poromotor data	Set the axes of the parameters to be initialized.
Servo parameter data	Check "ALL" to initialize the servo parameter data of all axes.
"OK" button	Click this button to initialize the data.

### 11.3 Copying the Data

Copy the positioning data, block start data, parameters and servo parameters, set to the project axis-by-axis.

Also, copy the set block start data to another block.

When copying data to another project, use copy/paste of the edit function. (Refer to Section 11.2.1.)

### 11.3.1 Copying the data on an axis basis (Axis copy)



### PURPOSE

Using the axis copy function, copy the positioning data, block start data, parameters and servo parameters of any axis to another axis of the same project.

Point

When the axis copy is performed, data may not match between the axes. After performing the axis copy, please carry out an error check (refer to Section 8.6).

### BASIC OPERATION

- 1. Display any of the parameters (refer to Section 8.1), servo parameters (refer to Section 8.2),positioning data (refer to Section 8.3) and block start data (refer to Section 8.5) edit windows.
- 2. Click the [Edit]  $\rightarrow$  [Axis copy] menu.
- 3. Set the axis of the copy source, the types of the data to be copied, and the axis of the copy destination.
- 4. Click the "OK" button.

### DISPLAY/SETTING SCREEN

Copy axis	Axis #1	Cance
Copy data	Positioning data	
	Block start data	
	Parameter data	
	Servo parameter	
Copy destinati	on	
🗖 Axis #1	Axis #2 🗖 Axis #3 🗖 Axis #4	

🖳 DISPLAY/SETTING DATA

Item	Description
Copy source data	Choose the axis of the copy source and set the data to be copied.
	The block start data includes condition data.
Copy destination	Set the axis of the copy destination.
"OK" button	Click this button to copy the data.

### 11.3.2 Block start copy

# PURPOSE

Using the block start copy function, copy the block start data to the other blocks. The block start copy function is performed to copy data between blocks in the same project.



# BASIC OPERATION

- 1. Display the block start data edit window (refer to Section 8.5).
- 2. Click the [Edit]  $\rightarrow$  [Block start copy] menu.
- 3. Set the block No. of the copy source and the block No. of the copy destination.
- 4. Click the "OK" button.

Block start d	ata [Block copy]		×
Copy source	,		1
Copy axis	Axis #1	V	OK
Block No.	Block No. 0	C Block No. 3	Cancel
	C Block No. 1	C Block No. 4	
	O Block No. 2		
Copy destina	ation		
Copy axis	Axis #2	<b>T</b>	
Block No.	Block No. 0	Block No. 3	
	E Block No. 1	E Block No. 4	
	Block No. 2		
			J

# DISPLAY/SETTING DATA

Item	Description
Copy source block No.	Choose the copy axis and the block No. of the copy source.
Convidentingtion block No.	Set the copy axis and the block No. of the copy destination.
Copy destination block No.	Multiple blocks can be set at the same time.
"OK" button	Click this button to copy the data.

### 11.4 Navigation Function



### PURPOSE

Perform the operations necessary to use the QD75P and QD75D, from setting of the parameters and positioning data to write to QD75P and QD75D, monitor and test in the wizard format.

(The navigation function is unavailable for the QD75M,QD75MH, LD75,and LD77.) For parameter settings, refer to the user's manual for the positioning module used.



### BASIC OPERATION

- 1. Set the connection target. (Refer to Section 7.1.)
- 2. Click the [Tool]  $\rightarrow$  [Navigation] menu.
- 3. When the Navigation function screen appears, perform operation using the following procedure.

If the QD75P and QD75D is not loaded, steps 4) to 10) cannot be executed.

DD7504	1) Choose the model name.
< <index>&gt; *Navigation function is a simplified form of GX Configurator-QP function. Navigation is done in the following procedure. 1. Get the system configuration information. 2. Parameter settings. 3. Positioning data settings. 4. Write the data to the module. 5. Monitor &amp; Test. 6. Save the setting data in a file. 7. End. System monitor Open File Start</index>	2) Click the "Start" button.
✓       ✓         ✓       Navigation function[3/n] Parameter edit 1       ✓         ✓       Module type: ①D7504       Hint         (1)Unit.       ?          ✓       Axis #1       Axis #2       Axis #3         ✓       ✓       mm       C mm         ✓       mm       C mm       C mm         ✓       mm       C mm       C mm         ✓       mm       C mm       C mm         ✓       pts       C pts       C pts         ✓       pts       C pts       C pts         ✓       Hint       Y       Hint         SAW stroke imit 2       ?          ✓       ✓       Kint       End	<ul> <li>3) Make setting on the parameter edit 1 screen. After setting, click the "Next&gt;&gt;" button.</li> <li>Clicking the  button shows the hint for the corresponding item.</li> </ul>
Set each parameter. (Screen is eliminated for simplicity)	* To change the setting, click the "< <back" button="" to<br="">return to the preceding screen.</back">
(To the next page)	

E dit noriti	oning data	-					
con pour		Change ax		#2 O A	ás #3 🔿	Axis #4	
No.	Patter	m CTRI	. method	SLV ax	s ACC(ms	) DEC()	
1	0: END	1: ABS	Line1	•	0;1000	0;100	
2							
4				_			
6		_		-		-	
8		_		-			
9							
_			_				
1			_			F	
			<<	Back	lext>>]	End	
			_				
			<u> </u>				_
	tion functio	n(11/n) Wri	te to QD7	5		E	×
Write to	QD75						
Edi	t data is writter	in QD75 mod	dule.				
1/0	address [	0		Milita b	0076		
1/0	address:	0			to Flash RO	м	
1/0	address:	0				м	
1/0	address: [	•				м	
1/0	address: [	0				M	
1/0	address: [					M	
1/0	address:		 			M	
1/0	address: (					M	
1/0	address: [			[ Wite	to Flash RO		
1/0	address: (			[ Wite		M End	
1/0	address:		<b></b>	[ Wite	to Flash RO		
	address: (		↓	Back	to Flash RO		3
Naviga		n(12/n) Ope	eration mo	Back 1	to Flash RO	End	3
Naviga	tion function nonitor(test)	n(12/n) Ope	eration mo	Back 1	vexb>	End	3
Navig peration	tion function nonitor(test)	а <mark>(12/л) Ор</mark> а 1/0 ә	eration mo ddress:	Back	vexb>	End 275D4 Start No.	
Navig peration r	Ation function nomice(test)	n(12/n) Ope 1/0 o	eration mo ddress:	Back	text>>)	End 175D4 Start No.	
<sup>2</sup> Navige peration r Axis statuat	tion function nonitor(test) Standby	а <mark>(12/л) Ор</mark> и 1/0 а 1/2 а	ddress: 0	Back I	text>>)	End 27504 Start No. 2 7 7 7 2 7 7 7 7	
Pravig- peration i Axis statu 1	tion function nonitor(test) Standby Standby	а <mark>(12/л) Ори</mark> 1/О а Е Е	ddress:	Write     Write     Back     Mod     Code OFFR     A code OFFR	VextD>	End	
Navige peration r Axis statu 1 2 3 3 4	tion function nonitor(test) Standby Standby Standby	а <mark>(12/л) Ори</mark> 1/О а Е Е	ddress: 0 ddress: 1 irronreset 1 irronreset 1 irronreset 1 irronreset 1	Write     Write     Back     Mod     Code OFFR     A code OFFR	VextD>	End	
Avis statu	tion function nonitor(test) Standby Standby Standby	n(12/n) Ope	ddress: 0 drorreset N morreset N morreset N morreset N Avis	Write     Write     Write     Write     Work     Wor	te Fash RO	End   7504   Start No. 1	
Navige peration r Axis statu 1 2 3 3 4	tion function nonitor(test) Standby Standby Standby	а <mark>(12/л) Ори</mark> 1/О а Е Е	ddress: 0 ddress: 1 irronreset 1 irronreset 1 irronreset 1 irronreset 1	Write     Write     Write     Write     Work     Wor	VextD>	End   7504   Start No. 1	
Pravig:	tion function nonitor(test) Standby Standby Standby	n(12/n) Opr 1/0 a E E E	tration mo ddress: 0 monreset M monreset M monreset M monreset M	Write     Write     Write     Write     Work     Wor	te Fash RO	End 7504 Stat No. 9 1 2 9	
Pavig:	tion function nonitor(test) Standby Standby Standby	n(12/n) Opr 1/0 s E E E E E E E E E E E E E E E E E E E	eration mo ddress: 0 monreset /v monreset	Write     Write     Write     Write     Work     Wor	te Fash RO	End 5 5 5 5 1 2 5 1 2 5 1 2 5 1 2 5 1 2 5 1 2 5 1 2 5 1 2 5 1 2 5 1 2 5 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1	
Playing peration f Axis statu 1 2 3 3 4 4 2 5 3	tion function nonitor(test) Standby Standby Standby	A(12/n) Opt I/O a E E E E E E E E E E E E E E E E E E E	ddress: 0 morreset M morreset M morreset M morreset M Avis #1 #2 #3	Write     Write     Write     Write     Work     Wor	te Fash RO	End 72504 51at No. 72504 51at No. 72777 72777 72777 72777 72777 72777 727777 727777 7277777 7277777777	

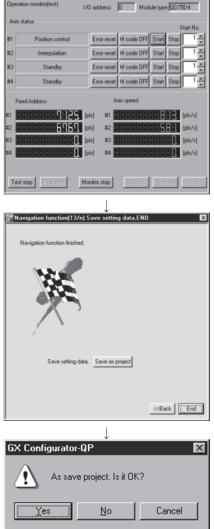
(From the preceding page)

### (To the next page)

 Choose the axis in Change axis and set the positioning data.
 After setting, click the "Next>>" button.

- ) Set I/O address To write data to the flash ROM of the QD75P and QD75D at the same time, click unchecked "Write to flash ROM".
- Click the "Write to QD75" button.
   When write is completed, click the "Next>>" button.
- 7) Click the "Monitor start" button.
- 8) Click the "Test start" button.

# (From the preceding page)



- 9) Set the positioning data No. in Start and click the "Start" button to start test operation. Use the "Stop", "Error reset" and/or "M code OFF" button as necessary.
- 10) When the test is over, click the "Test stop" button.After exiting from the test mode, click the "Next>>" button.
- 11) When saving the set parameters and positioning data, click the "Save as project" button.When not saving them, click the "End" button.

12) Click the "Yes" button to terminate the navigation function.

### 11.5 Option Setting



### PURPOSE

Set the option function of GX Configurator-QP.

The option function is used to make settings for write to module and set the display range of positioning data.



# BASIC OPERATION

- 1. Click the [Tool]  $\rightarrow$  [Option] menu.
- 2. Make settings in the Option settings dialog box.
- 3. To exit, click the "OK" button.

Option setting	TTING SCREE
Flash ROM write	Write data enable flag
Positioning data set	No.100
PLC state check	ne state of STOP is confirmed)
	OK Cancel

### DISPLAY/SETTING DATA

Item				Desc	ription				
Flash ROM write	Select whether data module. • YES Choose N write to n • NO Choose N when wri	Yes to ma nodule is No to mał	ake the ir performe ke the ini	nitial settii ed. tial settin	ng that da	ata will be	e written	to flash R	OM when
Write data enable flag	<ul><li>When you check this check box, any changes in the test mode using positioning data test edit or teaching are retained after the end of the test mode.</li><li>When you do not check this check box, data changes in the test mode are made invalid and return to the previous data at the end of the test mode.</li></ul>								
Positioning data set	Choose the range of window. • Data No. 1 to No. • Range	100S	hows po	sitioning	data No.	1 to 100.		itioning da	ata edit
	Make selection whe module, multi modulis executed. (Defau Since the set data of basis, the selected If you do not choose (QD75/LD75/LD77	lle batch It is "cheo on the Op set value e PLC sta	write, fla cked") otion scre s apply t ate check ignal) of	sh ROM een is sav o all proje <, write ca	write requ red not or ects. annot be	uest or Q n a projec performe	D75/LD7 ct basis t cd when 2 is ON.	75/LD77 in out on an	nitialization
	PLC state	ST	OP	except	STOP	ST	OP	except	STOP
PLC state check	X0 status of corresponding module	ON	OFF	ON	OFF	ON	OFF	ON	OFF
	Write processing	$\stackrel{ imes}{}$ (Note 2)	0	$\stackrel{ imes}{}_{ imes}$ (Note 1)	$\stackrel{ imes}{}_{ imes}$ (Note 1)	$\stackrel{ imes}{}_{ imes}$ (Note 2)	0	$\stackrel{ imes}{}_{ imes}$ (Note 2)	0
	<ul> <li>: Write enabled × : Write disabled</li> <li>Note 1 : "Please make the status of PLC in to STOP or remove the check on the PLC state check on the option screen. " appears.</li> <li>Note 2 : "The QD75/LD75/LD77 READY signal is turned on. Please execute again after turning off the QD75/LD75/LD77 READY signal." appears.</li> </ul>								
"OK" button	Click this button to	determine	e the set	data.					



When you increased the display range in positioning data display No. setting, it will take longer until the positioning data edit window appears.

When positioning data No. 101 onwards are not necessary, choose data No. 1 to No. 100. (The positioning data No. defaults to data No. 1 to No. 100.)

### 11.6 Printing the Project Data

Print the positioning data, block start data, parameters and servo parameters set in the project.

### 11.6.1 Printer setting

RPOSE

Choose the printer connected to the peripheral device, paper and printing orientation.

For printer setting, refer to Microsoft® Windows® Operating System manual. Also, for the printer properties, refer to the printer manual as they depend on Microsoft® Windows® Operating System manual printer driver used.

# BASIC OPERATION

- 1. Click the [Project]  $\rightarrow$  [Printer setup] menu.
- 2. Set the printer, etc.
- 3. To exit, click the "OK" button.

### DISPLAY/SETTING SCREEN

Print Setup			? ×
Printer —			
<u>N</u> ame:	EPSON LP-9200	<b>•</b>	Properties
Status: Type: Where: Comment:	Ready EPSON LP-9200 \\Epc8042\lp-9200		
Paper-		- Orientation	
Size:	A4 210 x 297 mm 💌	A	Portrait
<u>S</u> ource:	Auto Select		C L <u>a</u> ndscape
		(OK	Cancel

(The screen shows the setting for Windows<sup>®</sup> 95.)

### 11.6.2 Printing

### PURPOSE

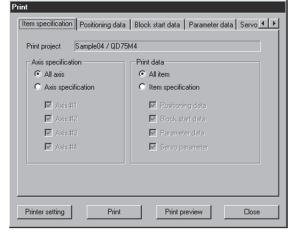
Print the positioning data, block start data (including condition data), parameter data and servo parameter data of the active project.

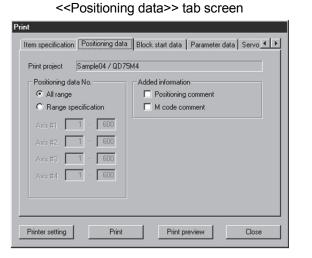
### BASIC OPERATION

- 1. Set the project to be printed as the active project. (Refer to Section 5.2.)
- 2. Click the [Project]  $\rightarrow$  [Print] menu ( ).
- 3. Set the axes and data types and ranges to be printed.
- 4. Click the "Print preview" button.
- 5. Clicking the "Print" button shows the Print dialog box.
- 6. Click the "OK" button in the Print dialog box to start printing.



### <<Item specification>> tab screen



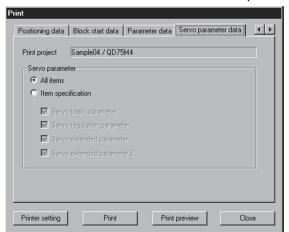


### <<Block start data>> tab screen

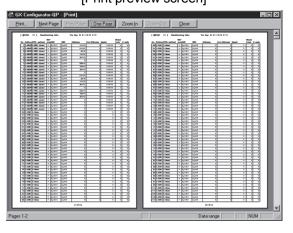
Print	
Item specification Positioning data	Block start data Parameter data Servo 💶 🕨
Print project Sample04 / QD75	м4
Block start data No.	Added information
<ul> <li>All range</li> </ul>	Condition data
C Range specification	
Block No. 0 . 4	
Printer setting Print	Print preview Close

<<Parameter data>> tab screen

Parameter	
All range	
C Item specification	
🔽 OPR Basic Parameter	Extended Parameter 1
OPR Extended parame	eter 🛛 🕅 Extended Parameter 2
🔽 Basic Parameter 1	
💌 Basic Parameter 2	



(Screen example: Screen displayed when the QD75M is chosen in model selection)



[Print preview screen]

<<Servo parameter data>> tab screen

Print
Positioning data   Block start data   Parameter data   Servo parameter data
Print project Untitled1 / QD75MH4
Servo parameter
C All items
C Item specification
Servo amplifier series 🔽 Extended control
Basic setting parameters Special setting
Gain/filter parameters
Extension setting parameters
I/O setting parameters
Printer setting Print Print preview Close

(Screen example: Screen displayed when the QD75MH/LD77 is chosen in model selection)

[Print dialog box]

Print			? ×
Printer			
<u>N</u> ame:	EPSON LP-9200	•	<u>P</u> roperties
Type:	Ready EPSON LP-9200 \\Epc8042\lp-9200		Print to file
Print range		Copies	) Park to tije
C All 4 pag	ges	Number of <u>c</u> o	pies: 1 🛨
Pages     C <u>S</u> election		11 22	3 Collate
		OK.	

# DISPLAY/SETTING DATA

Item	Description				
Drint project	Shows the project name to be printed.				
Print project	The project selected on the project tree view is to be printed.				
Axis specification	Set the axes whose data will be printed.				
Print data	Set the types of data to be printed.				
Desitioning data No	Set the printing ranges of positioning data.				
Positioning data No.	You can add positioning data and M code comments as additional information.				
Block start data No.	Set the printing range of block start data.				
DIUCK STALL UALA INU.	You can add condition data as added information.				
Parameter data	Set the parameter types to be printed.				
Servo parameter data	Set the servo parameter types to be printed.				
"Printer setting" button	Click this button to display the Print setting dialog box (refer to Section 11.6.1).				
"Print" button	Click this button to show the Print dialog.				
"Print preview" button	Click this button to display the Print preview.				
"Next Page" button	Click the corresponding button to preview the next or previous page.				
"Prev Page" button	Click the corresponding battor to preview the next or previous page.				
"One Page/Two Page"	Click this button to switch the preview between 1 page display and 2 page display.				
button	Chick this button to switch the preview between 1 page display and 2 page display.				
"Zoom In" button	Click the "Zoom In" button to enlarge the preview display.				
"Zoom Out" button	Click the "Zoom Out" button to reduce the preview display.				
Printer Name	Select the printer name.				
"Properties" button	Click this button to display the printer property dialog box.				
	For the printer properties, refer to the printer manual.				
Print range	Set the range of printing.				
Copies	Set the number of copies printed.				
"OK" button	Click this button to start printing.				

### [Positioning data print example]

			SLV	· .					Dwell	
o. Patte	ern CTRL I	nethod	axis	ACC	DEC	Address	Arc Address	Speed	time	M co
1 2:LO	CUS D: ABS	ArcMP	#2	0;1000	0;1000	0	250	100	0 500	
	sitioning code commo		: [Ce [	enter		]				
2 2:LO	CUS D:ABS	ArcMP	#2	0;1000	0;1000	1000	500	100	0 0	
	sitioning code comme			int1 int		]				
Mo		ent	[Pa		0;1000	]	500	) 100	0 500	
M c 3 2:100 Pos	code comme	ArcMP comment	[Pa #2	int	0;1000	] ] 0 ] ]	500	100	0 500	

[ QD75]	M4 #1 ]	Block	start data	Block N	Mon May 21 19:11:43 2001
10.	Pattern	Data No.	Special start	Param	Condition data
1	1:CONT	1	1:COND start	1	(800) <= (99999)
2	1:CONT	10	2:Wait start	2	(800) => (100000)
3	1:CONT	20	3:SIMU start	3	Axis #2(No.50), Axis #3(No.60)
4	1:CONT	30	4:FOR loop	10	Repeat count
. 5	1:CONT	40	5:FOR condition	5	(800) = (15000)
6	0:END	50	6:NEXT start	0	
7	0:END	1	0:Normal start	0	· · · · · · · · · · · · · · · · · · ·
8	0:END	1	0:Normal start	0	
9	0:END	1	0:Normal start	0	
10	0:END	1	0:Normal start	0	

#### [Block start data print example]

#### [Parameter print example]

Parameter name	Data set range	Data
OPR method	0:2eroing D06/%:Count∰1/5:Count∰2 5:Data set method	0
OPR direction	0:Forward direction (Address increase) 1:Reverse direction (Address decrease)	0
OP address	-2147403640 - 2147403647 pls	0 pls
OPR speed	1 - 50000000 pls/s	1 p1 s/ s

#### [Servo parameter print example]

Parameter name	Data set range	Data
Selection of regenerative brake option	00,01,02,03,04,05,06,08,09	00: Regenerative brake option is n ot used
Selection of absolute pos ition detection system	0:Used in incremental system 1:Used in absolute position detection system	0
Output signal 3 function selection	0:Signal allocated by Output signal 3 function selection 1:Dynamic brake interlock	0
Servo forced stop selecti on	0: Valid (Use the forred stop signal.) 1: Invalid (Do not use the forred stop signal.)	0
Gain adjustment mode sett ing	0:Interpolation mode l:Auto tuning mode l 2:Auto tuning mode 2 2:Manual mode	ı

### 11.7 Positioning Data Setting in Test Mode

In the test mode, import the feed address to the positioning data address and write changed positioning data to the QD75/LD75/LD77.

### 11.7.1 Teaching

PURPOSE

Enter the feed address of the axis moved by JOG or MPG operation into the address of the positioning data.



### BASIC OPERATION

- 1. Click unchecked Write data enable flag in Option. (Refer to Section 11.5.)
- 2. Click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Test On/Off] menu (  $\square$  ).
- 3. The positioning data edit window appears. (Refer to Section 8.3.1)
- 4. Clicking the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Teaching] menu (  $\square$  ) shows the feed address in the Teaching dialog box.
- 5. Click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Operation test]  $\rightarrow$  [Operation test #1 to #4] menu (  $\nearrow$  to  $\checkmark$  ).
- 6. Click the <<JOG/MPG>> tab in the TEST MODE setting dialog box.
- 7. Perform JOG or MPG operation to move the axis. (Refer to Section 10.4.5.)
- 8. Clicking the "Update" button in the Teaching dialog box displays the latest feed address.
- 9. In the positioning data monitor window, choose the positioning data No. address or arc address where the feed address will be imported.
- 10. Clicking the "Teaching" button enters the feed address to the positioning data No. address or arc address.
- 11. Repeat the basic operation steps 7 to 10 to continue teaching.
- 12. To end teaching, click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Teaching] menu (  $\square$  ).



If the Write data enable flag in Option is not made valid, the peripheral device does not retain the address set in the test mode.

Make the Write data enable flag invalid when you do not change the positioning data in the peripheral device.

### DISPLAY/SETTING SCREEN

📇 samp	ole03 / QC	)75D4 / Positionii	ng data Ax				MODE]Edit	_ <b>_ _ _</b> ×
Teachin	g Axis #1				×	I(ms)	Positioning address [pls]	Arc Addres
Feed A	ddress	10127 pls	Update	Teaching	2000 C	000	10127	Crew y
						000	20000	
3	1:CONT	1:ABS line1	-	0;1000	0;10	000	40000	
4	1:CONT	1:ABS line1	-	0;1000	0;10	000	60000	
5	0:END	1:ABS line1	-	0;1000	0;10	000	80000	
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16 ▼				1	I			► /

# DISPLAY/SETTING DATA

Item	Description
Feed Address	Shows the feed address of the QD75/LD75/LD77.
"Update" button	Click this button to update the "feed address" to the latest feed address.
"Teaching" button	Click this button to enter the "feed address" into the cell selected in the positioning data edit window.
Positioning data edit	Screen used to perform teaching or positioning data test edit in the test mode.
window	Double-clicking the address or arc address influences the feed address.

### 11.7.2 Positioning data test edit



Change the positioning data or block start data in the test mode and write them to the QD75/LD75/LD77.



### BASIC OPERATION

- 1. Click unchecked Write data enable flag in Option. (Refer to Section 11.5.)
- 2. Click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Test On/Off] menu (  $\boxed{\Box}$  ).
- 3. The positioning data/block start data edit window appears. (Refer to Section 8.3.1/Section 8.5.1.)
- 4. Click the [Online]  $\rightarrow$  [Test]  $\rightarrow$  [Edit positioning data] menu (
- 5. Edit the positioning data/block start data. (Refer to Section 8.3.1. / 8.5.1.)
- Clicking the [Online] → [Test] → [Edit positioning data] menu ( I) shows the dialog box which confirms whether to write the edited data to the QD75/LD75/LD77 or not.
- Click the "OK" button to write to the QD75/LD75/LD77 the positioning data or block start data changed in the test mode.
   When you click [Cancel], write to QD75/LD75/LD77 is not performed.



If the Write data enable flag in Option is not made valid, the data changed or set in the test mode are not retained.

Make the Write data enable flag invalid when you do not change the positioning data on the peripheral device.

### \_\_\_\_\_

### DISPLAY/SETTING SCREEN

🛱 Samp	ole01 / QD	75D4 / Positionin	g data Ax	is #1 (I/O :	: O) [TEST	MODE]Edit	_ 🗆 ×
No.	Pattern	CTRL method	SLV axis	ACC(ms)	DEC(ms)	Positioning address [pls]	Arc 🔺
1	1:CONT	1:ABS line1	-	0;1000	0;1000	9843	
2	1:CONT	1:ABS line1	-	0;1000	0;1000	20000	_
3	0:END	1:ABS line1	-	0;1000	0;1000	5000	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							-
•							► //.

The data changed in the test mode are shown in green letters.

### 11.8 Wave Trace

Using the wave trace function in the trace mode, show the speed command (axis speed) for positioning operation as waveform data. (Note that the QD75M, QD75MH and LD77 cannot be used.)

### 11.8.1 Wave trace condition setting

(h	PURPOSE

To execute the wave trace, set the trace starting condition and the data to be traced.



1. Choose Wave trace.



- 2. Click the "Setting" button in the wave trace window.
- 3. Set the Trace interval, Trace trigger, Stop condition, axis and data to be traced in the Trace setting dialog box.
- 4. Click the "OK" button in the Trace setting dialog box.
- 5. For the tracing operation that follows, refer to Section 11.8.2.

### DISPLAY/SETTING SCREEN

	terval 10 is) condition No condition op mode Buffer full	(1-256) ▼ ▼	X
Jetting	Axis selection	Trace data	
Data 1	Axis #1	Command speed	-
Data 2	No setting 💌	Command speed	
Data 3	No setting 💌	Command speed	
Data 4	No setting 💌	Command speed	~
	ОК С	ancel	

Q	DISPLAY/SETTING DATA

Item	Description	
	[For QD75P and QD75D projects]	
	Set the trace interval within the range 1 to 256.	
Trace interval	The interval is the set value $ imes$ 1.77ms.	
Trace interval	[For LD75 projects]	
	Set the trace interval within the range 1 to 512.	
	The interval is the set value $ imes$ 0.88ms.	
	Choose the actual trace starting condition.	
	No condition	
Trigger condition	Trace starts at the start request of the peripheral device.	
Trigger condition	• Wait start	
	Trace actually starts when the start signal (X10/X11/X12/X13) turns on after the start	
	request from the peripheral device.	
	Choose the trace stopping condition.	
	• Buffer full	
	Trace stops when the trace data area becomes full.	
	• Endless	
	Trace stops at the stop request of the peripheral device.	
Trace stop mode	Error stop	
Trace stop mode	Trace stops when an error occurs.	
	Trace point	
	[For QD75P and QD75D projects]	
	Trace stops when the number of trace points reaches the specified value (1 to 8192).	
	[For LD75 projects]	
	Trace stops when the number of trace points reaches the specified value (1 to 16384).	
Data 1		
Data 2	Represents the trace data No.	
Data 3		
Data 4		
Axis selection	Choose the axis whose data will be traced.	
	Choose the data type to be traced.	
Trace data	Command speed	
	Waveform data of the feed speed from the QD75P, QD75D and LD75 to the servo	
	amplifier.	
"OK" button	Click this button to close the Trace setting dialog box and display the axis number and data	
	type in the wave trace window.	

### 11.8.2 Wave trace execution



Execute wave trace after setting the trace conditions in accordance with Section 11.8.1.



### BASIC OPERATION

- 1. Perform the basic operation in Section 11.8.1 to set the trace conditions.
- 2. Click the "Trace" button to initialize trace.
- 3. When initialization is completed, click the "Start" button in the dialog box.
- 4. The trace data is read when the trace stop type condition is satisfied or the "Stop" button is clicked.
- 5. Check the QD75P, QD75D and LD75 control results from the displayed trace results.

### DISPLAY/SETTING SCREEN

🛍 sample01 / QD75D4 / Wave trace (I/0 : 0)
Maximum value         Time         144980         ms
Data#2
Data#3
Data#4
Minimum value
Data#1 -500
Data#2
Data#3
Data#4
Trace data
Axis #1 Command speed
Horizontal 1.00
Vertical 1.00
Preserve aspect Trace Stop Default Setting

DISPLAY/SETTING DATA
DISPLAT/SETTING DATA

Item	Description	
Maximum value Minimum value	Show the maximum and minimum values during tracing of each data.	
Time	Shows the tracing time.	
Waveform data	Shows the trace results. The horizontal axis indicates time. The vertical axis represents the value of the traced data. Use the scroll bars to move the display position.	
Horizontal Show the display multiplying factor of the waveform data.		
Vertical	Move to the right to enlarge or to the left to reduce.	
Preserve aspect	Check this check box to make the waveform data display multiplying factor equal in the vertical and horizontal directions.	
Trace data	Shows the axes and data types set in the Trace setting dialog box.	
"Trace" button "Trace		
"Stop" button	Click this button to stop trace and show the trace results. If the stop condition is Buffer full, Error stop or Trace point, clicking the "Stop" button stops trace and shows the trace results available at that point.	
"Default" button	Click this button to update the display to the latest trace data.	
"Setting" button	Click this button to display the Trace condition dialog box.	



### HELPFUL OPERATION

Clicking the [Project]  $\rightarrow$  [Export file]  $\rightarrow$  [File writing of Trace data] menu saves the trace data and trace conditions.

To read the trace data file, perform the following operation.

- 1. In the Select module type dialog box (refer to Section 11.1.2), choose the same model as the one at the time of write.
- 2. Display the wave trace window.
- 3. Click the [Project]  $\rightarrow$  [Import file]  $\rightarrow$  [File reading of Trace data] menu.
- 4. Click the "OK" button in the on-screen trace data overwrite confirmation dialog box.
- 5. Choose the file location and file name in the file opening dialog box and click the "Open" button to show the saved waveform data and trace conditions.

Point

- Read a waveform trace file while the Wave trace window is displayed.
- When the number of trace points is great, acquisition of trace data may take time.
  - The trace data files of QD75P/QD75D and those of LD75 differ in the file extension, and they are not compatible.

Positioning module	Extension
QD75P/QD75D	.wtr
LD75	.wtl

### 11.9 Location Trace

Using the location trace function in the trace mode, show 2-axis interpolation control or simultaneous start (2 axes) as locus data.

(Note that the QD75M, QD75MH and LD77 cannot be used.)

### 11.9.1 Location trace condition setting

lh)	PURPOSE
<u> </u>	

To execute the location trace, set the trace starting condition and the data to be traced.



1. Choose Location trace.



- 2. Click the "Setting" button in the Location trace window.
- 3. Set the Trace trigger, Stop condition, and axis and data to be traced in the Trace setting dialog box.
- 4. Click the "OK" button in the Trace setting dialog box.
- 5. For the tracing operation that follows, refer to Section 11.9.2.

### DISPLAY/SETTING SCREEN

Trace setting			×
Trigger condition	No condition		
Trigger condition		# <u></u>	
Trace stop mode	Buffer full	<b>v</b>	
Setting data			
Axis	selection	Trace data	
Data 1 Axis ‡	‡1-2 🔻	Command position	-
Data 2 No se	etting 🔽	Command position	7
OK	<b>7</b> 0	ancel	

Ø	DISPLAY/SETTING DATA
P	DISPLAY/SETTING DATA

Item	Description	
T-i	Choose the actual trace starting condition.	
	No condition	
	Trace starts at the start request of the peripheral device.	
Trigger condition	Wait start	
	Trace actually starts when the start signal (X10/X11/X12/X13) turns on after the start	
	request from the peripheral device.	
	Choose the trace stopping condition.	
	Buffer full	
	Trace stops when the trace data area becomes full.	
	• Endless	
	Trace stops at the stop request of the peripheral device.	
Trace stop mode	Error stop	
Trace stop mode	Trace stops when an error occurs.	
	Trace point	
	[For QD75P and QD75D projects]	
	Trace stops when the number of trace points reaches the specified value (1 to 8192).	
	[For LD75 projects]	
	Trace stops when the number of trace points reaches the specified value (1 to 16384).	
Data 1 Represents the trace data No.		
Data 2		
	Choose the combination of the axes whose data will be traced.	
Axis selection	In the locus data of the trace results, the fist axis number is for the horizontal axis and the	
AXIS SELECTION	latter axis number is for the vertical axis.	
	When you selected "#1-#4", #1 is for the horizontal axis and #4 for the vertical axis.	
	Choose the data type to be traced.	
Trace data	Command position	
	Locus data of the feed address from the QD75P, QD75D and LD75 to the servo amplifier.	
"OK" button	Click this button to close the Trace setting dialog box and display the axis numbers and data	
UN DULION	types in the Location trace window.	

### 11.9.2 Location trace execution



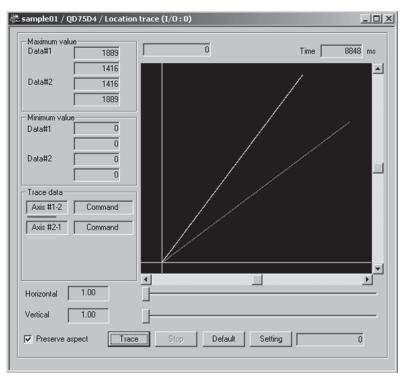
Execute location trace after setting the trace conditions in accordance with Section 11.9.1.



### BASIC OPERATION

- 1. Perform the basic operation in Section 11.9.1 to set the trace conditions.
- 2. Click the "Trace" button to initialize trace.
- 3. When initialization is completed, click the "Start" button in the dialog box.
- 4. The trace data is read when the trace stop type condition is satisfied or the "Stop" button is clicked.
- 5. Check the QD75P, QD75D and LD75 control results from the displayed trace results.

### DISPLAY/SETTING SCREEN



DISPLAY/SETTING DATA
DISPLAT/SETTING DATA

Item	Description	
Maximum value Minimum value	Show the maximum and minimum values during tracing of each data.	
Time	Shows the tracing time.	
	Shows the trace results.	
	The horizontal and vertical axes indicate the respective addresses (travel distances) of the	
Locus data	axis numbers set in trace condition setting.	
Locus dala	(When #1-#2 is selected as the axis number to be traced, the horizontal axis is Axis #1 and	
	the vertical axis is Axis #2.)	
	Use the scroll bars to move the display position.	
Horizontal	Show the display multiplying factor of the locus data.	
Vertical	Move $-$ to the right to enlarge or to the left to reduce.	
-	Check this check box to make the locus data display multiplying factor equal in the vertical	
Preserve aspect	and horizontal directions.	
Trace data	Shows the axes and data types set in the Trace setting dialog box.	
	Click this button to initialize trace.	
	On completion of initialization, the "Start" button in the dialog box is made valid.	
"Trace" button	Clicking the "Start" button gives a trace start request to the QD75P, QD75D and LD75.	
	If the trigger condition is "No condition", trace starts.	
	If the trigger condition is "Wait start", trace actually starts when the trigger condition holds.	
	Click this button to stop trace and show the trace results.	
"Stop" button	If the stop condition is Buffer full, Error stop or Trace point, clicking the "Stop" button stops	
	trace and shows the trace results available at that point.	
"Default" button	Click this button to update the display to the latest trace data.	
"Setting" button	Click this button to display the Trace condition dialog box.	



Clicking the [Project]  $\rightarrow$  [Export file]  $\rightarrow$  [File writing of Trace data] menu saves the trace data and trace conditions.

To read the trace data file, perform the following operation.

- 1. In the Select module type dialog box (refer to Section 11.1.2), choose the same model as the one at the time of write.
- 2. Display the Location trace window.
- 3. Click the [Project]  $\rightarrow$  [Import file]  $\rightarrow$  [File reading of Trace data] menu.
- 4. Click the "OK" button in the on-screen trace data overwrite confirmation dialog box.
- 5. Choose the file location and file name in the file opening dialog box and click the "Open" button to show the saved locus data and trace conditions.

Point

- Read a location trace file while the Location trace window is displayed.
- When the number of trace points is great, acquisition of trace data may take time.
- The trace data files of QD75P/QD75D and those of LD75 differ in the file extension and they are not compatible.

Positioning module	Extension
QD75P/QD75D	.wtr
LD75	.wtl

#### 11.10 Help

PURPOSE

With the help function, you can check the following.

• Error/Warning/List of Buffer memory Details and actions of error codes/warning codes and the buffer memory address

list of the QD75/LD75/LD77• Key operations list

- Key operations list
- List of GX Configurator-QP operation methods from the keyboard

About

Version of GX Configurator-QP

Connection to MELFANS web
 Connecting to MITSUBISHI ELECTRIC FA site



- 1. Click the [Help] menu.
- 2. Choose an item to be checked from the following menus.
  - QD75 error/warning/buffer memory list
  - LD75 error/warning/buffer memory list
  - LD77 error/warning/buffer memory list
  - Key operations list
  - About
  - Connection to MELFANS web



#### DISPLAY/SETTING SCREEN

#### [Error/Warning/Buffer memory List example]

Help Topics: LD75 error/wraning/buffer memory list	? ×
Contents Index Find	
	1
Click a book, and then click Open. Or click another tab, such as Index.	
Error code List	- 11
Warning code List	
🕸 I/O signals	
Buffer memory address List	
	ncel

	Options Help			 	 
Help <u>T</u> opics <u>B</u> ac	k <u>P</u> rint	<u>&lt;</u> <	<u>&gt;</u> >		
[Number:001	Faults				
Error code Li	st[Error code	e 001]		_	
Error code Error name		are is fau	lty.	-	
Remedy			-		

Point For Windows Vista® and Windows® 7, not the Help screen but the following "Windows Help and Support" window may be displayed. Perform the following procedure to install "WinHlp32.exe" which is needed to display the Help screen. (Note: The personal computer needs to be connected to the internet.) (1) Click the "Help" button. [Windows Vista<sup>®</sup>] (2) The screen shown left opens. Click the Windows Help and Support - • × link section. Ask Option Z (3) The Microsoft Support Knowledge Base page opens. Why can't I get Help from this program? (www.support.microsoft.com/kb/ The Help for this program was created in Windows Help form which was used in previous versions of Windows and it is not supported in Windows Vista. 917607/en-us) Following the instructions, download For more information, see Windows Help program (WinHlp32.exe) is no longer included with Windows on the Microsoft support website. Windows Help program for Windows Vista<sup>®</sup> (WinHlp32.exe) or Windows Help program for Windows<sup>®</sup> 7 (WinHlp32.exe). 🔳 Offline H (4) Install the file that has been [Windows<sup>®</sup> 7] downloaded. Windows Help and Support چە چ Ask Options -Search Help ρ Why can't I get Help from this program? The Help for this program was created in Windows Help format, which depends on a feature that isn't included in this version of Windows. However, you can download a program that will allow you to view Help created in the Windows Help format. For more information, go to the Microsoft Help and Support website. A More support options 🏨 Offli<u>n</u>e Help 👻

#### APPENDICES

#### Appendix 1 Read from Module/Write to Module Reference Processing Times

The following table indicates reference time required for read/write processing from GX Configurator-QP to the positioning module.

I	tem	Description
Positioning module		QD75MH
	CPU	Pentium <sup>®</sup> III 933MHz, Microsoft <sup>®</sup> Windows <sup>®</sup> 2000 Professional Operating System
Peripheral	Memory	64MB
device	Interface	Serial port
	Transfer speed	9600bps, 19200bps, 115200bps
	Positioning data	Axis #1 to #4: No. 1 to 600 each
Read/write	Block start data	Axis #1 to #4: Block No. 0 to 4 each
data	Parameters	Axis #1 to #4
	Servo parameters	Axis #1 to #4

• Write (QCPU direct connection)

Transfer speed 9600bps : 1 minute 32 seconds

- 19200bps : 47 seconds
- 115200bps : 17 seconds
- Read (QCPU direct connection)
  - Transfer speed 9600bps : 1 minute 32 seconds
    - 19200bps : 58 seconds
      - 115200bps : 17 seconds

#### Appendix 2 Restrictions Depending on Function Version of QD75

Note that the following functions are invalid when the function version "B" or later of the QD75 is not used.

To confirm the function version of the QD75, refer to "Section 7.3 Checking the Positioning Module Function Version (OS Information)".

Item	Description		
Connection setup	Specify the PLC No. of the multi PLC system *1 (for multi PLC system).		
Parameter	Make parameter setting for speed-position switching control (ABS mode). <speed-position function="" selection=""></speed-position>		
Monitoring signal	Monitor the signals for the pre-reading start function *2. <y14 #1="" #4="" 17:="" axis="" execution="" flags="" prohibition="" to=""></y14>		

\*1: For details, refer to the QCPU (Q Mode) User's Manual (Function Description/Program Basic).

\*2: For details, refer to the following.

- Type QD75P/QD75D Positioning Module User's Manual (SH-080058-B or later)
- Type QD75M Positioning Module User's Manual (Details)
- Type QD75MH Positioning Module User's Manual (Details)

#### Appendix 3 Functions Added to/Changed from the Previous Versions

The following table indicates the functions of the latest GX Configurator-QP version that are not available for SW0D5C-QD75P-E or that have been changed from those of SW0D5C-QD75P-E.

Added to /Changed Function	Description	Refer To
Change module type	QD75M is supported.	—
Servo parameters	The function to edit the servo parameters is added.	Section 8.2
Read/write/verify	The function to read/write/verify the servo parameters is added.	
Monitor	The function to monitor the servo status, torque control/servo load ratio, servo parameter setting contents and servo parameter error is added.	Section 10.2.6
Servo amplifier data read	The function to read the servo parameter data used in the servo amplifier to the QD75M buffer memory is added.	Section 9.2
Servo On/Off	The function to switch off the electromagnetic brakes of the servo motor to bring the servo motor into a free run status is added.	Section 10.5
Print	The function to print the servo parameters is added.	Section 11.6.2
Applicable programmable controller CPU	"Q00JCPU, Q00CPU, Q01CPU" are added.	Chapter 1
Operating environment	<ul> <li>The PC CPU module is added to the peripheral devices.</li> <li>Microsoft<sup>®</sup> Windows<sup>®</sup> Millennium Edition Operating System (English Version) is added to the operating systems.</li> <li>Microsoft<sup>®</sup> Windows<sup>®</sup> 2000 Professional Operating System (English Version) is added to the operating systems.</li> </ul>	Section 2.2
License key FD	The license key FD that was required for installation is disused.	_
Applicable programmable controller CPU	"Q12PHCPU, Q25PHCPU" are added.	Chapter 1
Servo parameters	<ul> <li>When the MR-J2S-B is selected as the servo series, "B: MR-RB31, C:MR-RB51" are added to the regenerative brake options.</li> <li>When the MR-J2S-B is selected as the servo series, "Zeroing condition setting selection" is added.</li> </ul>	Section 8.2
Connection Setup	In the PLC side setting, a change has been made to select "Remote I/O" using "PLC type".	Section 7.1
Multi module batch write	<ul> <li>A change has been made to automatically display the dialog box for selecting the items to be written to the module when the write target project is selected.</li> </ul>	Section 11.1.4
Operating environment	Microsoft <sup>®</sup> Windows <sup>®</sup> XP Professional Operating System (English Version) is added to the operating systems.     Microsoft <sup>®</sup> Windows <sup>®</sup> XP Home Edition Operating System	
Servo parameters	MR-J2S-B servo series parameters are added/changed.	Section 8.2
Change module type	QD75MH is supported	
Servo parameters	MR-J3 servo series parameters are added.	Section 8.2
Applicable programmable	"Q02UCPU, Q03UDCPU, Q04UDHCPU, Q06UDHCPU" are	
	Change module type Servo parameters Read/write/verify Monitor Servo amplifier data read Servo On/Off Print Applicable programmable controller CPU Operating environment License key FD Applicable programmable controller CPU Servo parameters Connection Setup Multi module batch write Operating environment Servo parameters Connection Setup Multi module batch write Servo parameters Change module type Servo parameters	Change module type         QD75M is supported.           Servo parameters         The function to edit the servo parameters is added.           Read/write/verify         The function to read/write/verify the servo parameters is added.           Monitor         The function to monitor the servo status, torque control/servo load ratio, servo parameter setting contents and servo parameter error is added.           Servo amplifier data read         The function to read the servo parameter data used in the servo amplifier to the QD75M buffer memory is added.           Servo On/Off         The function to switch off the electromagnetic brakes of the servo motor to bring the servo motor into a free run status is added.           Print         The function to print the servo parameters is added.           Applicable programmable controller CPU         "Q00JCPU, Q00CPU, Q01CPU" are added.           Operating environment         "The PC CPU module is added to the periting System (English Version) is added to the operating systems.           License key FD         The license key FD that was required for installation is disused.           Applicable programmable controller CPU         "Q12PHCPU, Q25PHCPU" are added.           Servo parameters         "When the MR-J2S-B is selected as the servo series, "B: MR-RB31, C:MR-RB51" are added to the regenerative brake options.           Servo parameters         "When the MR-J2S-B is selected as the servo series, "E: MR-RB31, C:MR-RB51" are added to the operating systems.           Servo parameters

\* : The applicable version can be confirmed in Product information. For details, refer to "Section 11.10 Help".

Applicable Version *	Added to /Changed Function	Description	Refer To
GX Configurator-QP Version 2.27D	Operating environment	<ul> <li>Microsoft<sup>®</sup> Windows Vista<sup>®</sup> Home Basic Operating System is added to the operating systems.</li> <li>Microsoft<sup>®</sup> Windows Vista<sup>®</sup> Home Premium Operating System is added to the operating systems.</li> <li>Microsoft<sup>®</sup> Windows Vista<sup>®</sup> Business Operating System is added to the operating systems.</li> <li>Microsoft<sup>®</sup> Windows Vista<sup>®</sup> Ultimate Operating System is added to the operating systems.</li> <li>Microsoft<sup>®</sup> Windows Vista<sup>®</sup> Enterprise Operating System is added to the operating systems.</li> </ul>	Section 2.2
GX Configurator-QP Version 2.29F	Applicable programmable controller CPU	"Q02PHCPU, Q06PHCPU, Q13UDHCPU, Q26UDHCPU, Q03UDECPU, Q04UDEHCPU, Q06UDEHCPU, Q13UDEHCPU, Q26UDEHCPU" are added.	Chapter 1
Version 2.29	Servo parameters	<ul> <li>MR-J3 full closed servo series parameters are added.</li> <li>MR-J3 servo linier series parameters are added.</li> </ul>	—
GX Configurator-QP Version 2.30G	Connection Setup	<ul> <li>"Ethernet direct" is added to the personal computer side interface.</li> <li>The default value of "Timeout time" for "RS232-C" or "USB" setting is changed to 10 seconds.</li> </ul>	Section 7.1
	Servo parameters	The method for executing the default (initial) settings for each servo amplifier series selected is changed.	Chapter 1
GX Configurator-QP	Applicable programmable controller CPU	<ul> <li>"Q00UJCPU, Q00UCPU, Q01UCPU, Q10UDHCPU, Q20UDHCPU, Q10UDEHCPU, and Q20UDEHCPU" are added.</li> <li>C Controller module, "Q12DCCPU-V" is added.</li> </ul>	
Version 2.32J	Connection setup	The GOT transparent mode is added.	Section 7.1.1
	Change module type	LD75P4, LD75D4, and LD77MH4 are supported.	_
	Applicable programmable controller CPU	L02CPU and L26CPU-BT are added.	Chapter 1
GX Configurator-QP Version 2.34L	Operating environment	<ul> <li>Microsoft<sup>®</sup> Windows<sup>®</sup> 7 Starter Operating System is added to the operating systems.</li> <li>Microsoft<sup>®</sup> Windows<sup>®</sup> 7 Home Premium Operating System is added to the operating systems.</li> <li>Microsoft<sup>®</sup> Windows<sup>®</sup> 7 Professional Operating System is added to the operating systems.</li> <li>Microsoft<sup>®</sup> Windows<sup>®</sup> 7 Ultimate Operating System is added to the operating systems.</li> <li>Microsoft<sup>®</sup> Windows<sup>®</sup> 7 Enterprise Operating System is added to the operating systems.</li> </ul>	Section 2.2
GX Configurator-QP Version 2.35M	Operating Environment	64-bit Windows <sup>®</sup> 7 is supported.	Section 2.2

\* : The applicable version can be confirmed in Product information. For details, refer to "Section 11.10 Help".

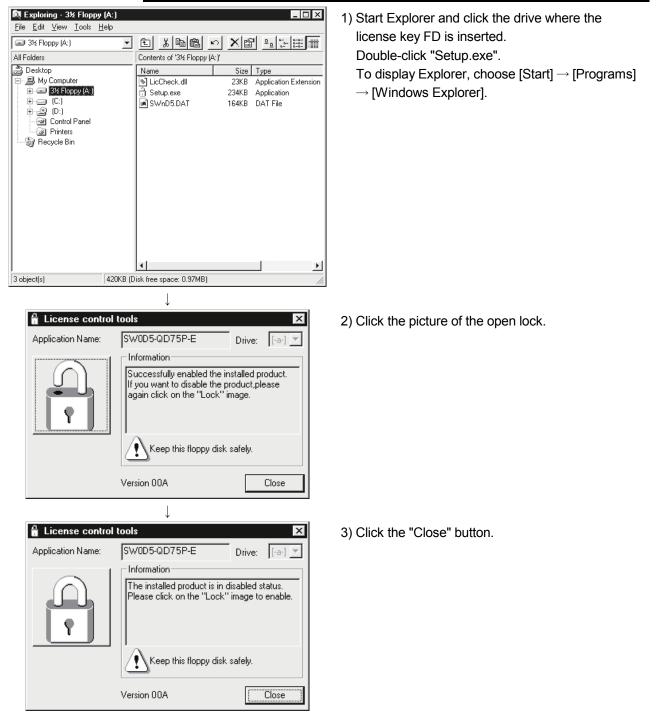
#### Appendix 4 Uninstalling the License Key FD

At installation of this product, uninstall the license key FD if the license key FD of an older version of GX Configurator-QP is valid.

If the license key FD remains valid, this product can be installed but the license right of the older version of GX Configurator-QP is decreased by 1.

Point

Uninstallation of the license key FD requires the same license key FD as used for installation.



#### Appendix 5 Parameter Names Shown in GX Configurator-QP Screens and Manuals

Since the parameter names of the existing software are employed for GX Configurator-QP, some parameter names shown in GX Configurator-QP screens may differ from those written in the user's manual for the positioning module used.

The following table lists parameter names shown in GX Configurator-QP screens and user's manual for the positioning module used.

GX C	onfigurator-QP screen	User's manual f	or the positioning module used
Parameter type	Parameter name	Parameter type	Parameter name
	Unit		Unit setting
	Pulse per rotation		No. of pulses per rotation
	Travel per rotation		Movement amount per rotation
Basic parameter 1	Unit magnification	Basic parameters 1	Unit magnification
	Pulse output mode		Pulse output mode
	Rotation direction		Rotation direction setting
	Bias speed at start		Bias speed at start
	Speed limit		Speed limit value
Basic parameter 2	ACC time #0	Basic parameters 2	Acceleration time 0
	DEC time #0		Deceleration time 0
	Backlash compensation		Backlash compensation amount
	S/W stroke LMT HIGH		Software stroke limit upper limit
			value
	SAM stroke LMT LOW		Software stroke limit lower limit
	S/W stroke LMT LOW		value
	S/W stroke LMT select		Software stroke limit selection
	JOG&MPG stroke limit		Software stroke limit valid/invalid
			setting
	Command in-position		Command in-position width
	Torque limit		Torque limit setting value
	M code ON output		M code ON signal output timing
	Speed switching mode		Speed switching mode
Extended	Interpolation speed mode	Detailed	Interpolation speed designation
parameter 1		parameters 1	method
	Address update in V-control		Current feed value during speed
			control
	Lower limit		Input signal logic selection:
			Lower limit
	Upper limit		Input signal logic selection:
			Upper limit
	Drive unit READY Stop signal		Input signal logic selection:
		_	Drive unit READY
			Input signal logic selection:
		_	Stop signal
	External command		Input signal logic selection:
			External command

GX C	onfigurator-QP screen	User's manual f	or the positioning module used
Parameter type	Parameter name	Parameter type	Parameter name
	Zero signal		Input signal logic selection: Zero signal
	Near-point dog signal		Input signal logic selection: Near-point (dog) signal
	MPG		Input signal logic selection: Manual pulse generator input
Extended	Command pls signal	Detailed	Output signal logic selection: Command pulse signal
parameter 1	DCC	parameters 1	Output signal logic selection: Deviation counter clear
	External input selection		External input signal selection
	MPG mode		Manual pulse generator input selection
	Speed-position function selection		Speed-position function selection
	Forced stop selection		Forced stop valid/invalid selection
	ACC time #1		Acceleration time 1
	ACC time #2		Acceleration time 2
	ACC time #3		Acceleration time 3
	DEC time #1		Deceleration time 1
	DEC time #2		Deceleration time 2
	DEC time #3		Deceleration time 3
	JOG speed limit		JOG speed limit value
	JOG ACC time		JOG operation acceleration time selection
	JOG DEC time		JOG operation deceleration time selection
	ACC/DEC set		Acceleration/deceleration process selection
Extended	S-curve ratio	Detailed	S-curve ratio (S-pattern ratio)
parameter 2	Sudden stop DEC time	parameters 2	Sudden stop deceleration time
	Stop group #1 Sudden stop		Stop group 1 sudden stop selection
	Stop group #2 Sudden stop		Stop group 2 sudden stop selection
	Stop group #3 Sudden stop		Stop group 3 sudden stop selection
	Positioning complete signal		Positioning complete signal output time
	Cir.arc error allowance		Allowable circular interpolation error width
	External command function		External command function selection

GX Configurator-QP screen		User's manual for the positioning module used		
Parameter type	Parameter name	Parameter type	Parameter name	
Detailed	Speed control 10x multiplier device for degree axis	Detailed	Speed control 10x multiplier setting for degree axis	
parameter 2	Restart allowable range when servo OFF $\rightarrow$ ON	parameters 2	Restart allowable range when servo OFF to ON	
	OPR method		OPR method	
	OPR direction		OPR direction	
OPR	OP address	OPR	OP address	
basic parameter	OPR speed	basic parameters	OPR speed	
	Creep speed		Creep speed	
	OPR retry		OPR retry	
	OPR dwell time		OPR dwell time	
	Travel setting after DOG ON		Setting for the movement amount after near-point dog ON	
	OPR ACC time		OPR acceleration time selection	
	OPR DEC time		OPR deceleration time selection	
OPR	OP shift amount	OPR	OP shift amount	
extended	OPR torque limit value	- detailed	OPR torque limit value	
parameter	Deviation command signal out time	parameters	Deviation counter clear signal output time	
	Operation setting for home position return incomplete		Operation setting for incompletion of OPR	
	OP shift speed specification		Speed designation during OP shift	
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VS-FlexGrid Pro

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<u>SH(NA)-080172-P(1609)MEE</u> MODEL: SW2D5C-QD75P-O-E MODEL CODE: 13JU19

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