MELSEC-Q/L Positioning Module FB Library Reference Manual

Applicable modules:

QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4, LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4

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MELSOFT Library

Reference Manual Revision History

Reference Manual Number	Date	Description
FBM-M033-A	2010/08/06	First edition
FBM-M033-B	2011/04/30	Added "Reference Manual Revision History", "Overview", "Chinese version of GX Works2".
FBM-M033-C	2012/03/26	1) Added a list of applicable modules. 2) Added chapter 1. 3) Changed the formats of Applicable hardware and software and Error codes in Details of the FB Library. 4) Changed the item numbers of Function description and Restrictions and precautions in Details of the FB Library. 5) Added descriptions on the setting values of input labels to Appendix 1 - FB Library Application Examples.
FBM-M033-D	2015/03/27	1) Added applicable GX Works2 Version. •This FB is able to install on GX Works2 of all language versions.

1. Overview

1.1 Overview of the FB Library

This FB library is for using the QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4, LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, and LD75D4 positioning modules.

1.2 Function of the FB Library

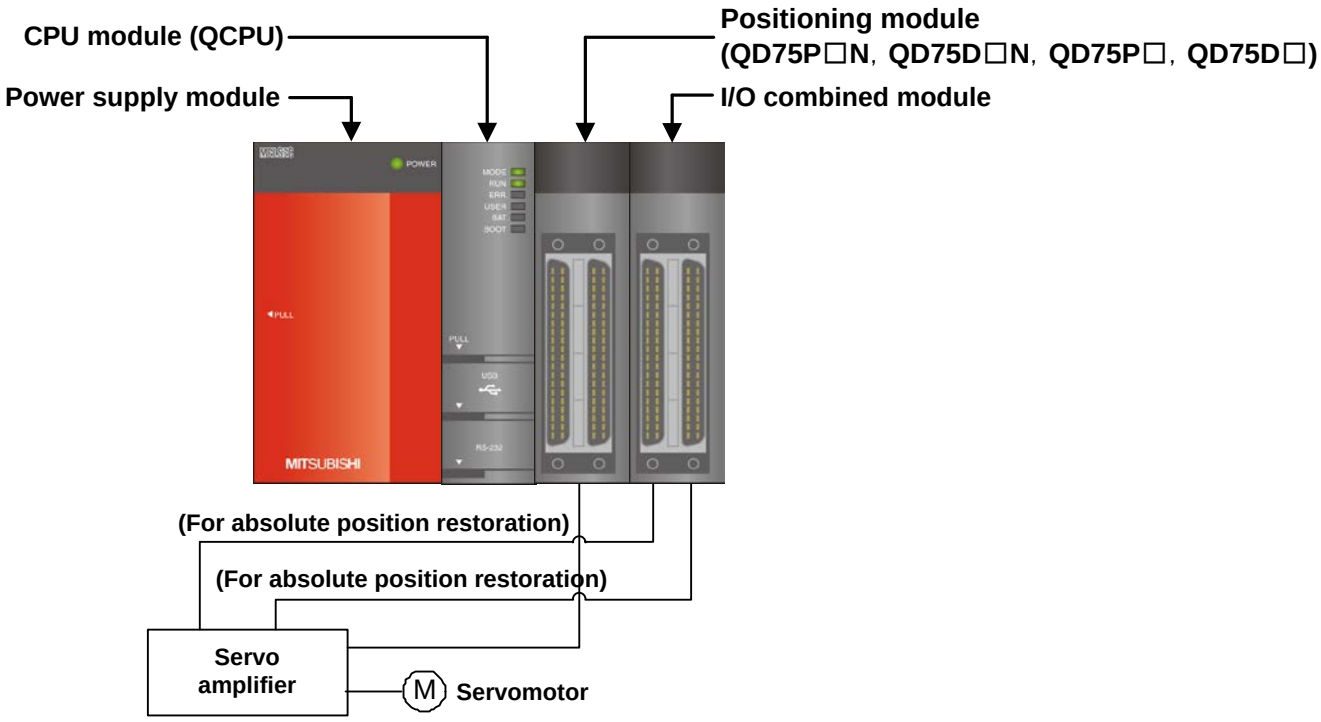
Item	Description
M+D75_SetBPARAM1	Sets basic parameters 1.
M+D75_SetBPARAM2	Sets basic parameters 2.
M+D75_SetDPARAM1	Sets detailed parameters 1.
M+D75_SetDPARAM2	Sets detailed parameters 2.
M+D75_SetZBPARAM	Sets OPR basic parameters.
M+D75_SetZDPARAM	Sets OPR detailed parameters.
M+D75_PosiDataSet	Sets the specified positioning data with the set positioning data (No.1 to 600).
M+D75_CPUReady	Performs the ON/OFF control of the PLC ready signal.
M+D75_StartPosi	Starts positioning specified with the data No. (1~600, 7000~7004, 9001~9003).
M+D75_JOG	Carries out JOG and inching operation.
M+D75_MPG	Carries out manual pulse generator operation (enables manual pulse generator operation).
M+D75_ChgSpeed	Executes speed change.
M+D75_ChgOverride	Changes an override value.
M+D75_ChgAccDecTime	Changes the acceleration/deceleration time during speed change.
M+D75_ChgPosi	Changes the target position.
M+D75_Restart	Issues a restart command to an axis that is stopped.
M+D75_ErrorOperation	Monitors errors and warnings, and performs error reset.
M+D75_InitParam	Issues a request to initialize parameters.
M+D75_WriteFlash	Issues a request to write the setting data to the flash ROM.
M+D75_ABRST	Executes absolute position restoration.

1.3 System Configuration Examples

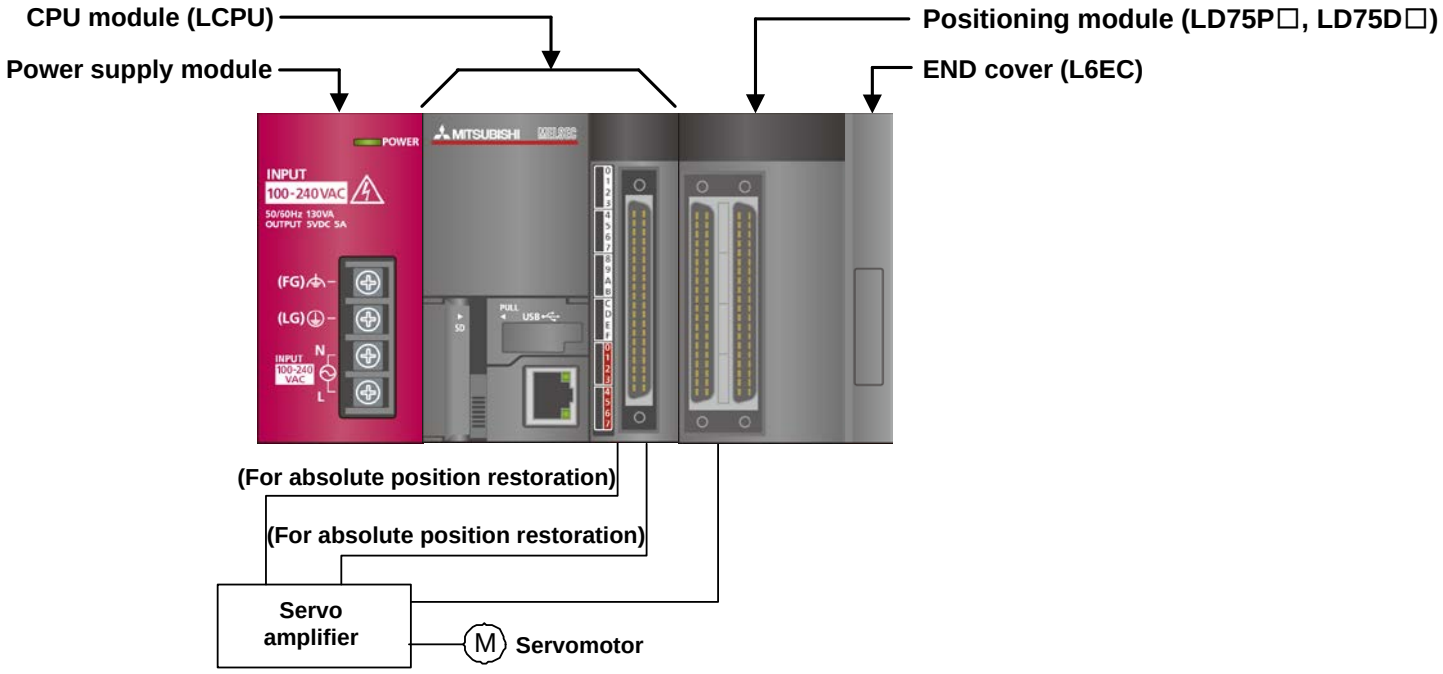
The application examples of D75FB are shown below.

I/O signals are allocated as shown in the figure below. Q series and L series have the same allocation.

(1) Q series system configuration example



(2) L series system configuration example



1.4 Relevant manual

Type QD75P/QD75D Positioning Module User's Manual

MELSEC-L LD75P/LD75D Positioning Module User's Manual

QCPU User's Manual (Hardware Design, Maintenance and Inspection)

MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection)

GX Works2 Version 1 Operating Manual (Common)

GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

1.5 Note

Please make sure to read user's manuals for the corresponding products before using the products.

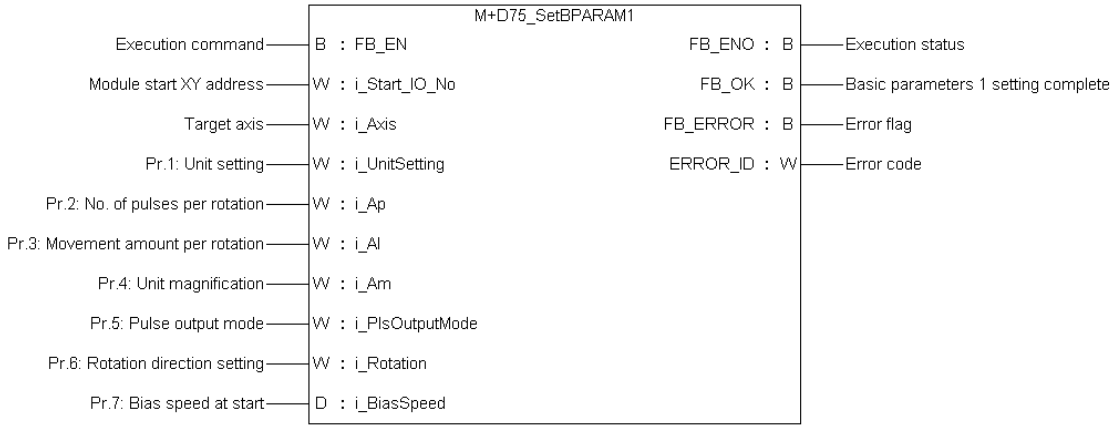
2. Details of the FB Library

2.1 M+D75_SetBPARAM1 (Basic parameters 1 setting)

FB Name

M+D75_SetBPARAM1

Function Overview

Item	Description
Function overview	Sets basic parameters 1 (Pr.1 to Pr.7).
Symbol	

Applicable hardware and software

Positioning Module

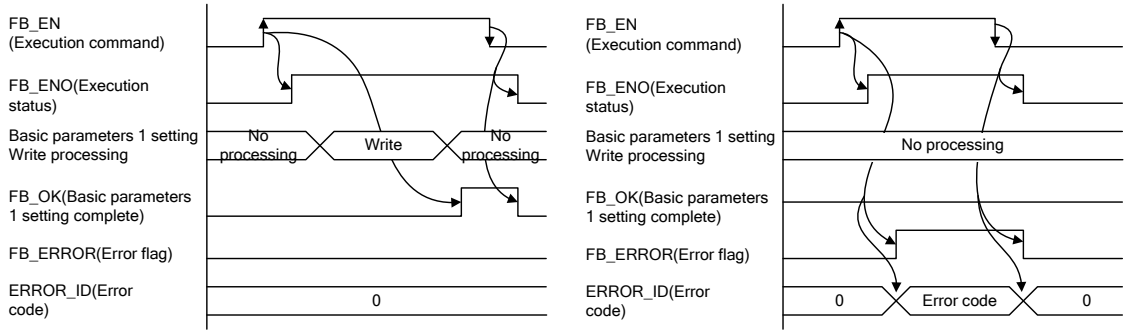
Series	Model
MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4
MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4

CPU module

Series	Model
MELSEC-Q Series *1	Basic model
	High performance model
	Universal model
MELSEC-L Series	LCPU

*1 Not applicable to QCPU (A mode)

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Applicable hardware and software</td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">272 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) By turning ON FB_EN (Execution command), the set basic parameters 1 is written to the buffer memory.
2) FB operation is one-shot only, triggered by the FB_EN signal.
3) After FB_EN (Execution command) is turned ON, the FB is completed by one scan.
4) Parameters are validated when the PLC ready signal (Yn0) turns from OFF to ON.
5) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code). Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 5) This FB uses index registers Z8 and Z9. Please do not use these index registers in an interrupt program. 6) Every input must be provided with a value for proper FB operation. 7) If the parameter is set using GX Configurator-QP or the configuration function of GX Works 2, using this FB is unnecessary. 8) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Pulsed execution (1 scan execution type)
Application example	Refer to "Appendix 1 - FB Library Application Examples"
Timing chart	[When operation completes without error] [When an error occurs] 
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

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Error Codes

●Error code list

Error code	Description	Action
10 (Decimal)	The specified target axis is not valid. The target axis is not within the range of 1 to 4.	Please try again after confirming the setting.

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.
Pr.1: Unit setting	i_UnitSetting	Word	0: mm 1: inch 2: degree 3: pulse	Set the unit used for defining positioning operations in Pr.1: unit setting.
Pr.2: No. of pulses per rotation	i_Ap	Word	1~65,535 (pulse)*1	Define the amount of movement achieved by each single pulse within a pulse train output. *1: Setting method •1~32,767: Set in decimal. •32,768~65,535: Set after converted into hexadecimal.
Pr.3: Movement amount per rotation	i_Al	Word	1~65,535*1	
Pr.4: Unit magnification	i_Am	Word	1:1-fold 10:10-fold 100:100-fold 1000:1000-fold	

Name (Comment)	Label name	Data type	Setting range	Description
Pr.5: Pulse output mode	i_PlsOutputMode	Word	0: PULSE/SIGN mode 1: CW/CCW mode 2: A phase/B phase (multiple of 4) 3: A phase/B phase (multiple of 1)	Set the pulse output mode to match the servo amplifier being used. The only valid data of the FB is the data at the moment when the PLC ready signal (Yn0) turns from OFF to ON for the first time after the power is switched ON or the CPU is reset.
Pr.6: Rotation direction setting	i_Rotation	Word	0: Current value increment with forward run pulse output 1: Current value increment with reverse run pulse output	Set the relation of the motor rotation direction and current value address increment/decrement.
Pr.7: Bias speed at start	i_BiasSpeed	Double Word	1) Pr.1: Unit setting = 0~2: 0~2,000,000,000 2) Pr.1: Unit setting = 3 QD75: 0~1,000,000 QD75N: 0~4,000,000 LD75: 0~4,000,000	Set the minimum speed upon starting.

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Basic parameters 1 setting complete	FB_OK	Bit	OFF	When ON, it indicates that the parameter setting is completed.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

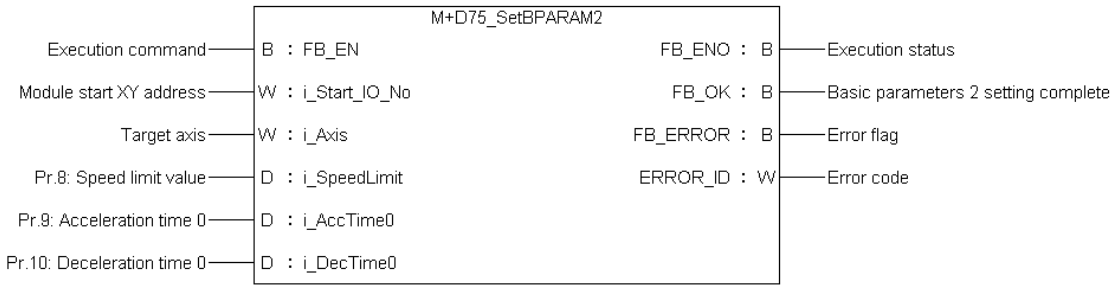
This chapter includes information related to the M+D75_SetBPARAM1 function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.2 M+D75_SetBPARAM2 (Basic parameters 2 setting)

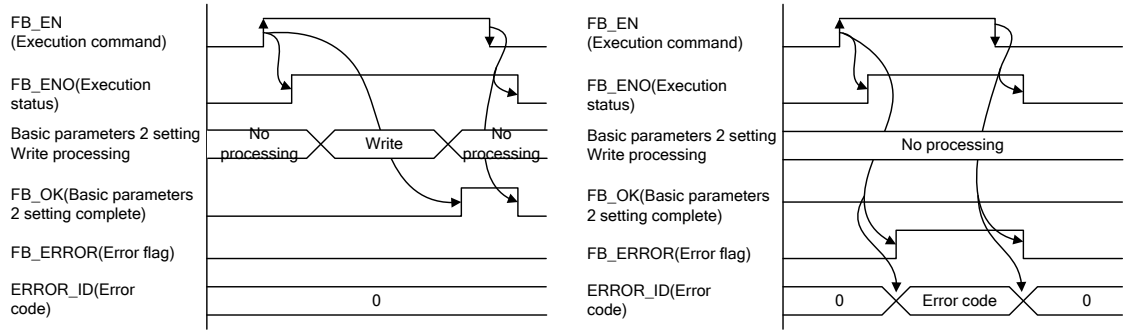
FB Name

M+D75_SetBPARAM2

Function Overview

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Function overview</td><td>Sets basic parameters 2 (Pr.8 to Pr.10).</td></tr>
<tr><td>Symbol</td><td> 
</td></tr>
<tr><td rowspan="2">Applicable hardware and software</td><td>Positioning Module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4</td></tr>
<tr><td>MELSEC-L Series</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
</table>
</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series *1</td><td>Basic model</td></tr>
<tr><td>High performance model</td></tr>
<tr><td>Universal model</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
</td></tr>
</table>

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td></td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">256 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) By turning ON FB_EN (Execution command), the set basic parameters 2 is written to the buffer memory.
2) FB operation is one-shot only, triggered by the FB_EN signal.
3) After FB_EN (Execution command) is turned ON, the FB is completed by one scan.
4) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code). Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 5) This FB uses index registers Z8 and Z9. Please do not use these index registers in an interrupt program. 6) Every input must be provided with a value for proper FB operation. 7) If the parameter is set using GX Configurator-QP or the configuration function of GX Works 2, using this FB is unnecessary. 8) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Pulsed execution (1 scan execution type)
Application example	Refer to "Appendix 1 - FB Library Application Examples"
Timing chart	[When operation completes without error] [When an error occurs] 
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

MELSOFT Library

Error Codes

●Error code list

Error code	Description	Action
10 (Decimal)	The specified target axis is not valid. The target axis is not within the range of 1 to 4.	Please try again after confirming the setting.

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.
Pr.8: Speed limit value	i_SpeedLimit	Double Word	1) Pr.1: Unit setting = 0~2: 1~2,000,000,000 2) Pr.1: Unit setting = 3: QD75: 1~1,000,000 QD75N: 1~4,000,000 LD75: 1~4,000,000	Set the maximum speed during positioning and OPR operations.
Pr.9: Acceleration time 0	i_AccTime0	Double Word	1~8,388,608 (ms)	Specify the time for the speed to increase from zero to the Pr.8: speed limit value.
Pr.10: Deceleration time 0	i_DecTime0	Double Word	1~8,388,608 (ms)	Specify the time for the speed to decrease from the Pr.8: speed limit value to zero.

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Basic parameters 2 setting complete	FB_OK	Bit	OFF	When ON, it indicates that the parameter setting is completed.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

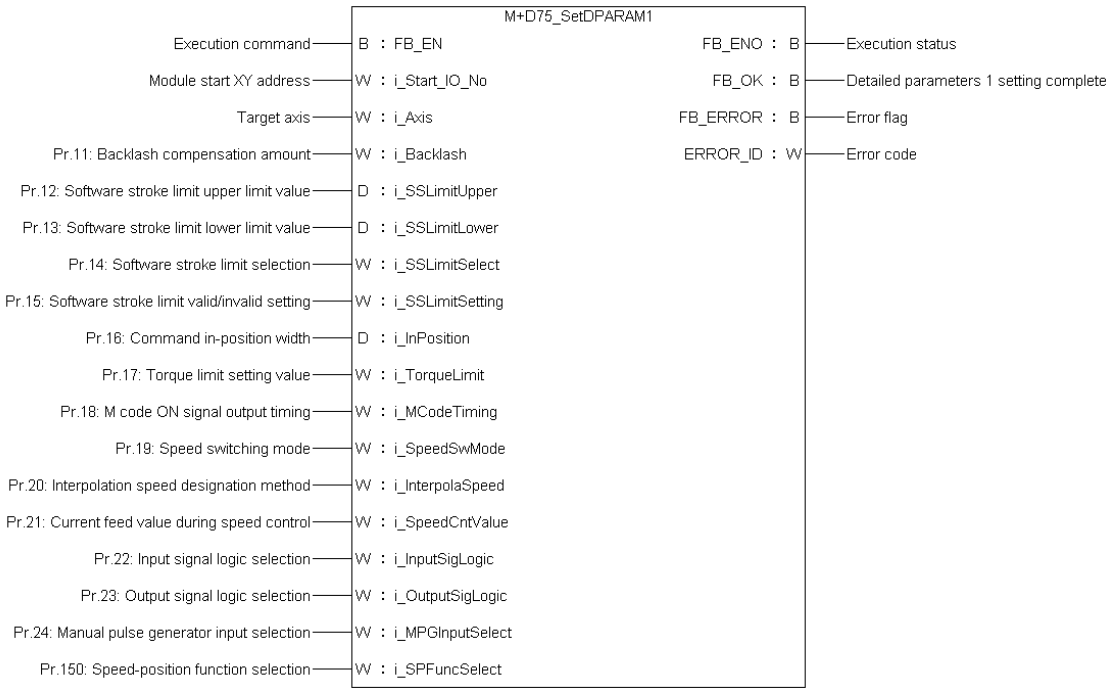
This chapter includes information related to the M+D75_SetBPARAM2 function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.3 M+D75_SetDPARAM1 (Detailed parameters 1 setting)

FB Name

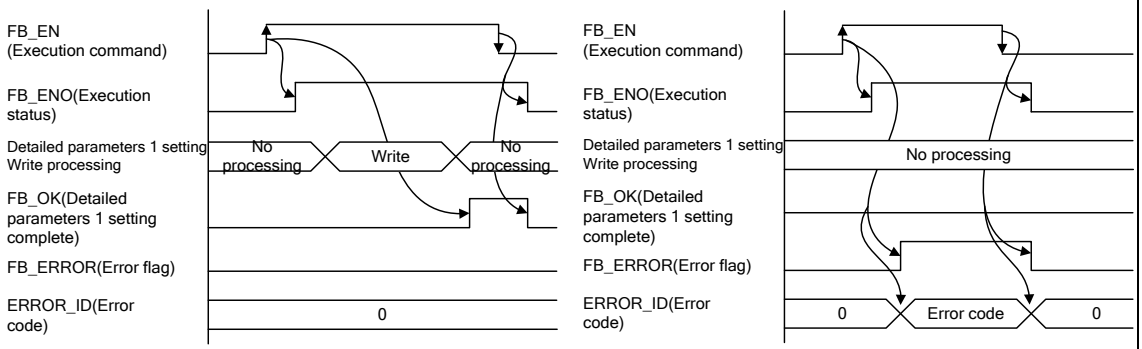
M+D75_SetDPARAM1

Function Overview

Item	Description
Function overview	Sets detailed parameters 1 (Pr.11 to Pr.24, and Pr.150).
Symbol	
Applicable hardware and software	Positioning Module

Series	Model
MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4
MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td rowspan="2"></td><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series *1</td><td>Basic model</td></tr>
<tr><td>High performance model</td></tr>
<tr><td>Universal model</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
</td></tr>
<tr><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".
</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">313 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) By turning ON FB_EN (Execution command), the set detailed parameters 1 is written to the buffer memory.
2) FB operation is one-shot only, triggered by the FB_EN signal.
3) After FB_EN (Execution command) is turned ON, the FB is completed by one scan.
4) Parameters are validated when the PLC ready signal (Yn0) turns from OFF to ON.
5) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code). Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 5) This FB uses index registers Z8 and Z9. Please do not use these index registers in an interrupt program. 6) Every input must be provided with a value for proper FB operation. 7) If the parameter is set using GX Configurator-QP or the configuration function of GX Works 2, using this FB is unnecessary. 8) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Pulsed execution (1 scan execution type)
Application example	Refer to "Appendix 1 - FB Library Application Examples"
Timing chart	[When operation completes without error] [When an error occurs] 
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

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Error Codes

●Error code list

Error code	Description	Action
10 (Decimal)	The specified target axis is not valid. The target axis is not within the range of 1 to 4.	Please try again after confirming the setting.

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.
Pr.11: Backlash compensation amount	i_Backlash	Word	0~65,535*1	Set the compensation amount of the error that occurs due to backlash when moving the machine via gears. *1: Setting method •0~32,767: Set in decimal. •32,768~65,535: Set after converted into hexadecimal.
Pr.12: Software stroke limit upper limit value	i_SSLimitUpper	Double Word	1) Pr.1: Unit setting = 0, 1, 3: -2,147,483,648~ 2,147,483,647 2) Pr.1: Unit setting = 2:	Set the upper limit for the machine's movement range during positioning control.

Name (Comment)	Label name	Data type	Setting range	Description
Pr.13: Software stroke limit lower limit value	i_SSLimitLower	Double Word	0~35,999,999	Set the lower limit for the machine's movement range during positioning control.
Pr.14: Software stroke limit selection	i_SSLimitSelect	Word	0: Apply software stroke limit on current feed value. 1: Apply software stroke limit on machine feed value.	Set whether to apply the software stroke limit on the "current feed value" or the "machine feed value".
Pr.15: Software stroke limit valid/invalid setting	i_SSLimitSetting	Word	0: Software stroke limit valid during JOG operation, inching operation, and manual pulse generator operation 1: Software stroke limit invalid during JOG operation, inching operation, and manual pulse generator operation	Set whether to validate the software stroke limit during JOG/Inching operation and manual pulse generator operation.
Pr.16: Command in-position width	i_InPosition	Double Word	1~2,147,483,647	Set the remaining distance that turns the command in-position ON.
Pr.17: Torque limit setting value	i_TorqueLimit	Word	1~500 (%)	Set the limit value of the torque generated by the servomotor.
Pr.18: M code ON signal output timing	i_MCodeTiming	Word	0: WITH mode 1: AFTER mode	Set the M code ON signal output timing.
Pr.19: Speed switching mode	i_SpeedSwMode	Word	0: Standard speed switching mode 1: Front-loading speed switching mode	Set whether to switch the Pr.19: speed switching mode with the standard switching or front-loading switching mode.

Name (Comment)	Label name	Data type	Setting range	Description
Pr.20: Interpolation speed designation method	i_InterpolaSpeed	Word	0: Composite speed 1: Reference axis speed	When carrying out interpolation, set whether to designate the composite or reference axis speed.
Pr.21: Current feed value during speed control	i_SpeedCntValue	Word	0: Do not update current feed value 1: Update current feed value 2: Clear current feed value to zero	Specify whether to enable or disable the update of the current feed value while operations are performed under the speed control.
Pr.22: Input signal logic selection	i_InputSigLogic	Word	b0: Lower limit b1: Upper limit b2: Drive unit READY b3: Stop signal b4: External command b5: Zero signal b6: Near-point signal b7: Not used*1 b8: Manual pulse generator input b9~b15: Not used*1 0: Negative logic 1: Positive logic	Set the input signal logic that matches the signaling specification of the connected external device. *1: Set "0".
Pr.23: Output signal logic selection	i_OutputSigLogic	Word	b0: Command pulse signal b1: Not used*1 b2: Not used*1 b3: Not used*1 b4: Deviation counter clear b5~b15: Not used*1 0: Negative logic 1: Positive logic	Set the output signal logic that matches the signaling specification of the connected external device. *1: Set "0".

Name (Comment)	Label name	Data type	Setting range	Description
Pr.24: Manual pulse generator input selection	i_MPGInputSelect	Word	0: A-phase/B-phase; multiplied by 4 1: A-phase/B-phase; multiplied by 2 2: A-phase/B-phase; multiplied by 1 3: PULSE/SIGN	Set the manual pulse generator input pulse mode. *The setting is valid only when i_Axis (Target axis) is set to "1". When i_Axis (Target axis) is set to other than 1, set "0".
Pr.150: Speed-position function selection	i_SPFuncSelect	Word	0: Speed-positioning switching control (INC mode) 2: Speed-positioning switching control (ABS mode)	Select the mode of speed-positioning switching control.

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Detailed parameters 1 setting complete	FB_OK	Bit	OFF	When ON, it indicates that the parameter setting is completed.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

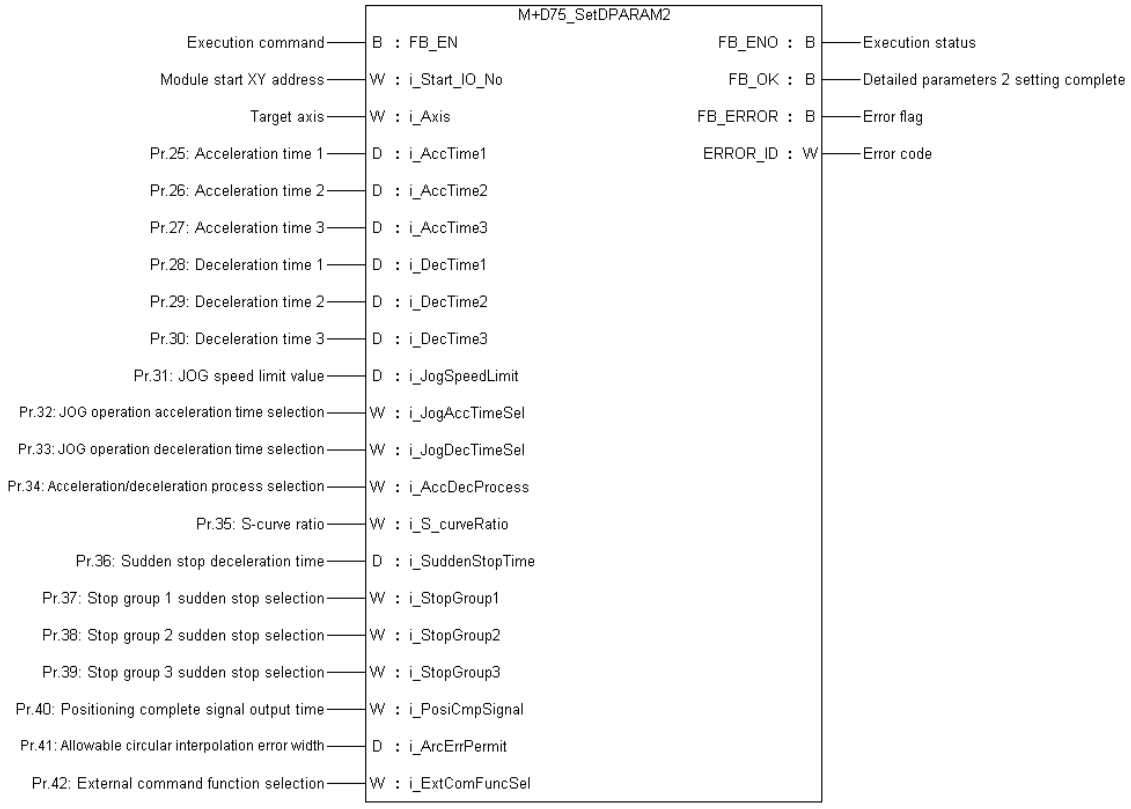
This chapter includes information related to the M+D75_SetDPARAM1 function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.4 M+D75_SetDPARAM2 (Detailed parameters 2 setting)

FB Name

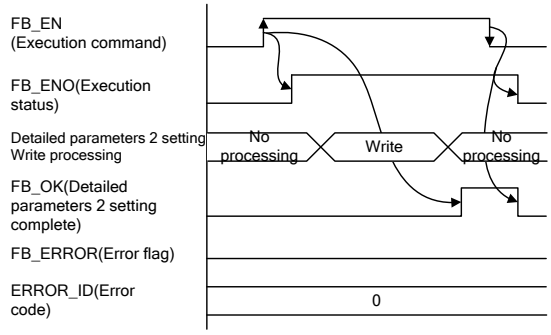
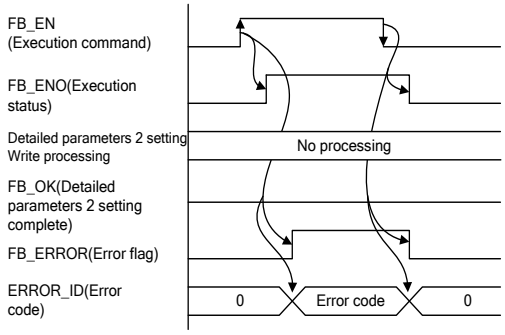
M+D75_SetDPARAM2

Function Overview

Item	Description
Function overview	Sets detailed parameters 2 (Pr.25 to Pr.42).
Symbol	
Applicable hardware and software	Positioning Module

Series	Model
MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4
MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td rowspan="2"></td><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series *1</td><td>Basic model</td></tr>
<tr><td>High performance model</td></tr>
<tr><td>Universal model</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
</td></tr>
<tr><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".
</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">320 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) By turning on FB_EN (Execution command), the set detailed parameters 2 is written to the buffer memory.
2) FB operation is one-shot only, triggered by the FB_EN signal.
3) After FB_EN (Execution command) is turned ON, the FB is completed by one scan.
4) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code). Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 5) This FB uses index registers Z8 and Z9. Please do not use these index registers in an interrupt program. 6) Every input must be provided with a value for proper FB operation. 7) If the parameter is set using GX Configurator-QP or the configuration function of GX Works 2, using this FB is unnecessary. 8) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Pulsed execution (1 scan execution type)
Application example	Refer to "Appendix 1 - FB Library Application Examples"
Timing chart	[When operation completes without error]  [When an error occurs] 
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

MELSOFT Library

Error Codes

●Error code list

Error code	Description	Action
10 (Decimal)	The specified target axis is not valid. The target axis is not within the range of 1 to 4.	Please try again after confirming the setting.

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.
Pr.25: Acceleration time 1	i_AccTime1	Double Word	1~8,388,608 (ms)	Set the time for the speed to increase from zero to the Pr.8: speed limit value.
Pr.26: Acceleration time 2	i_AccTime2			
Pr.27: Acceleration time 3	i_AccTime3			
Pr.28: Deceleration time 1	i_DecTime1			Set the time for the speed to decrease from the Pr.8: speed limit value to zero.
Pr.29: Deceleration time 2	i_DecTime2			
Pr.30: Deceleration time 3	i_DecTime3			

Name (Comment)	Label name	Data type	Setting range	Description
Pr.31: JOG speed limit value	i_JogSpeedLimit	Double Word	1) Pr.1: Unit setting = 0~2: 1~2,000,000,000 2) Pr.1: Unit setting = 3: QD75: 1~1,000,000 QD75N: 1~4,000,000 LD75: 1~4,000,000	Set the maximum speed for JOG operation.
Pr.32: JOG operation acceleration time selection	i_JogAccTimeSel	Word	0: Acceleration time 0 1: Acceleration time 1 2: Acceleration time 2 3: Acceleration time 3	Set which of the acceleration time 0 to 3 to use for the acceleration time during JOG operation.
Pr.33: JOG operation deceleration time selection	i_JogDecTimeSel	Word	0: Deceleration time 0 1: Deceleration time 1 2: Deceleration time 2 3: Deceleration time 3	Set which of the deceleration time 0 to 3 to use for the deceleration time during JOG operation.
Pr.34: Acceleration/deceleration process selection	i_AccDecProcess	Word	0: Trapezoid acceleration/decelera-tion process 1: S-curve acceleration/decelera-tion process	Set whether to use trapezoid acceleration/deceleration or S-curve acceleration/deceleration for the acceleration/deceleration process.
Pr.35: S-curve ratio	i_S_curveRatio	Word	1~100 (%)	Set the S-curve ratio for carrying out the S-curve acceleration/deceleration process.
Pr.36: Sudden stop deceleration time	i_SuddenStopTime	Double Word	1~8,388,608 (ms)	Set the time to reach speed 0 from the Pr.8: speed limit value during the sudden stop.
Pr.37: Stop group 1 sudden stop selection	i_StopGroup1	Word	0: Normal deceleration stop 1: Sudden stop	Set the method to stop when the stop causes in the stop groups occur.
Pr.38: Stop group 2 sudden stop selection	i_StopGroup2	Word		

Name (Comment)	Label name	Data type	Setting range	Description
Pr.39: Stop group 3 sudden stop selection	i_StopGroup3	Word		
Pr.40: Positioning complete signal output time	i_PosiCmpSignal	Word	0~65,535 (ms)*1	Set the output time of the positioning complete signal. *1: Setting method •0~32,767: Set in decimal. •32,768~65,535: Set after converted into hexadecimal.
Pr.41: Allowable circular interpolation error width	i_ArcErrPermit	Double Word	0~100,000	Set the allowable error range of the calculated arc path and end point address.
Pr.42: External command function selection	i_ExtComFuncSel	Word	0: External positioning start 1: External speed change request 2: Speed-position, position-speed switching request 3: Skip request	Select a command with which the external command signal should be associated.

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Detailed parameters 2 setting complete	FB_OK	Bit	OFF	When ON, it indicates that the parameter setting is completed.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

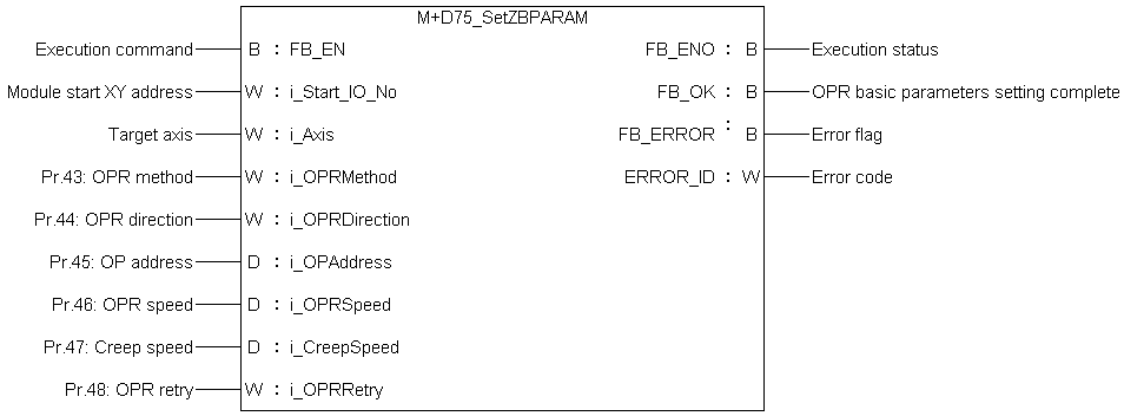
This chapter includes information related to the M+D75_SetDPARAM2 function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.5 M+D75_SetZBPARAM (OPR basic parameters setting)

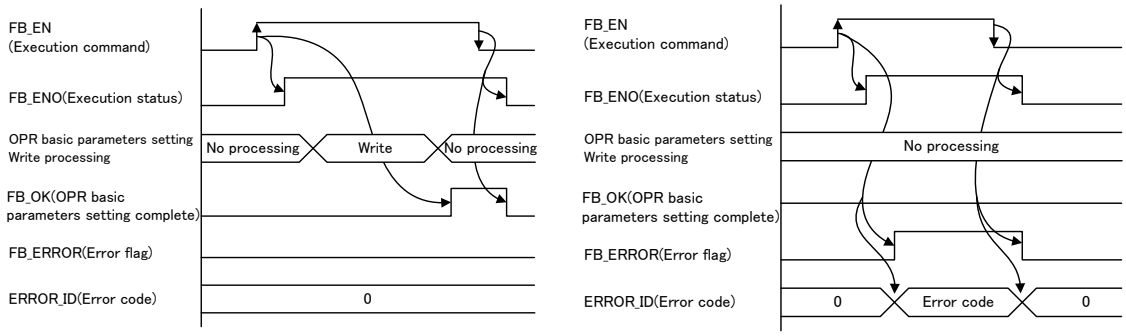
FB Name

M+D75_SetZBPARAM

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Sets OPR basic parameters (Pr.43 to Pr.48).</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="2">Applicable hardware and software</td><td>Positioning Module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4</td></tr>
<tr><td>MELSEC-L Series</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
</table>
</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series *1</td><td>Basic model</td></tr>
<tr><td>High performance model</td></tr>
<tr><td>Universal model</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
</td></tr>
</table>

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td></td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">302 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) By turning ON FB_EN (Execution command), the set OPR basic parameters is written to the buffer memory.
2) FB operation is one-shot only, triggered by the FB_EN signal.
3) After FB_EN (Execution command) is turned ON, the FB is completed by one scan.
4) Parameters are validated when the PLC ready signal (Yn0) turns from OFF to ON.
5) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code). Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 5) This FB uses index registers Z8 and Z9. Please do not use these index registers in an interrupt program. 6) Every input must be provided with a value for proper FB operation. 7) If the parameter is set using GX Configurator-QP or the configuration function of GX Works 2, using this FB is unnecessary. 8) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Pulsed execution (1 scan execution type)
Application example	Refer to "Appendix 1 - FB Library Application Examples"
Timing chart	[When operation completes without error] [When an error occurs] 
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

Error Codes

●Error code list

Error code	Description	Action
10 (Decimal)	The specified target axis is not valid. The target axis is not within the range of 1 to 4.	Please try again after confirming the setting.

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.
Pr.43: OPR method	i_OPRMethod	Word	0: Near-point dog method 1: Stopper method 1) 2: Stopper method 2) 3: Stopper method 3) 4: Count method 1) 5: Count method 2)	Set the OPR method for carrying out machine OPR.
Pr.44: OPR direction	i_OPRDirection	Word	0: Positive direction (address increment direction) 1: Negative direction (address decrement direction)	Set the direction to start movement when starting machine OPR.

Name (Comment)	Label name	Data type	Setting range	Description
Pr.45: OP address	i_OPAddress	Double Word	1) Pr.1: Unit setting = 0,1,3: -2,147,483,648~ 2,147,483,647 2) Pr.1: Unit setting = 2: 0~35,999,999	Set the address used as the reference point for positioning control (ABS system).
Pr.46: OPR speed	i_OPRSpeed	Double Word	1) Pr.1: Unit setting = 0~2: 1~2,000,000,000 2) Pr.1: Unit setting = 3: QD75: 1~1,000,000 QD75N: 1~4,000,000 LD75: 1~4,000,000	Set the speed for OPR.
Pr.47: Creep speed	i_CreepSpeed	Double Word	1) Pr.1: Unit setting = 0~2: 1~2,000,000,000 2) Pr.1: Unit setting = 3: QD75: 1~1,000,000 QD75N: 1~4,000,000 LD75: 1~4,000,000	Set the creep speed after near-point dog ON.
Pr.48: OPR retry	i_OPRRetry	Word	0: Do not retry OPR with limit switch 1: Retry OPR with limit switch	Set whether to carry out OPR retry.

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
OPR basic parameters setting complete	FB_OK	Bit	OFF	When ON, it indicates that the parameter setting is completed.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

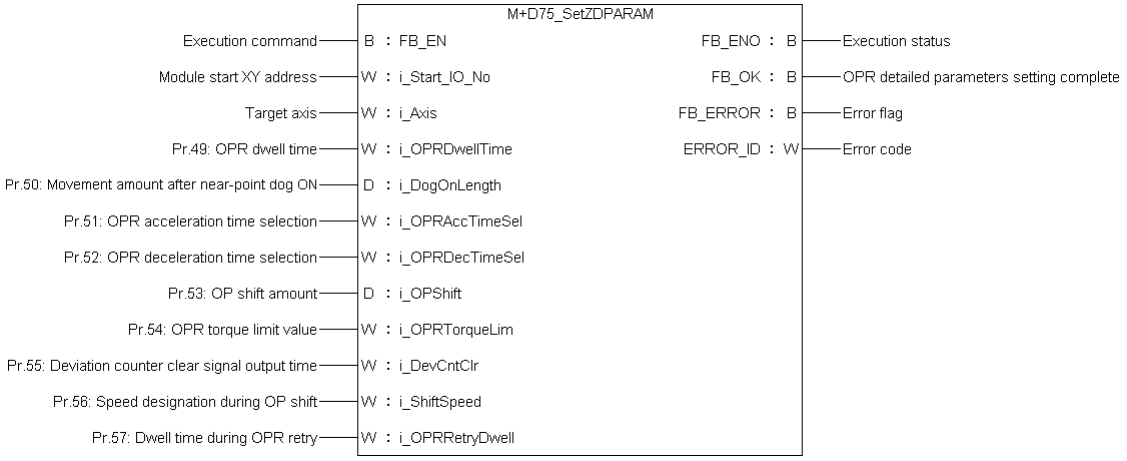
This chapter includes information related to the M+D75_SetZBPARAM function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.6 M+D75_SetZDPARAM (OPR detailed parameters setting)

FB Name

M+D75_SetZDPARAM

Function Overview

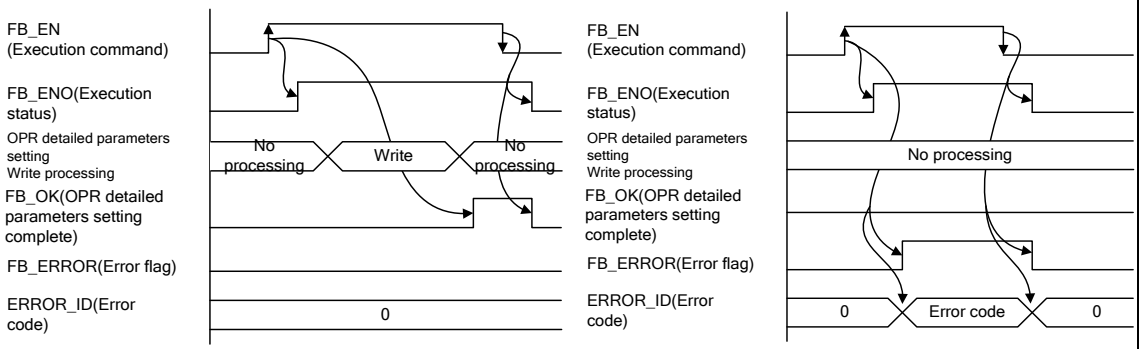
Item	Description
Function overview	Sets OPR detailed parameters (Pr.49 to Pr.57)
Symbol	
Applicable hardware and software	Positioning Module
	CPU module

Series	Model
MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4
MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4

Series	Model
MELSEC-Q Series *1	Basic model
	High performance model
	Universal model
MELSEC-L Series	LCPU

*1 Not applicable to QCPU (A mode)

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td></td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">286 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) By turning ON FB_EN (Execution command), the set OPR detailed parameters is written to the buffer memory.
2) FB operation is one-shot only, triggered by the FB_EN signal.
3) After FB_EN (Execution command) is turned ON, the FB is completed by one scan.
4) Parameters are validated when the PLC ready signal (Yn0) turns from OFF to ON.
5) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code). Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 5) This FB uses index registers Z8 and Z9. Please do not use these index registers in an interrupt program. 6) Every input must be provided with a value for proper FB operation. 7) If the parameter is set using GX Configurator-QP or the configuration function of GX Works 2, using this FB is unnecessary. 8) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Pulsed execution (1 scan execution type)
Application example	Refer to "Appendix 1 - FB Library Application Examples"
Timing chart	[When operation completes without error] [When an error occurs] 
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

Error Codes

●Error code list

Error code	Description	Action
10 (Decimal)	The specified target axis is not valid. The target axis is not within the range of 1 to 4.	Please try again after confirming the setting.

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.
Pr.49: OPR dwell time	i_OPRDwellTime	Word	0~65,535 (ms)*1	When stopper method 1) is set for Pr.43: OPR method, set the time for the machine OPR to complete after the near-point dog signal turns ON. *1: Setting method •0~32,767: Set in decimal. •32,768~65,535: Set after converted into hexadecimal.

Name (Comment)	Label name	Data type	Setting range	Description
Pr.50: Movement amount after near-point dog ON	i_DogOnLength	Double Word	0~2,147,483,647	When the count method 1) or 2) is set in Pr.43: OPR method, set the movement amount to the OP after the near-point dog ON.
Pr.51: OPR acceleration time selection	i_OPRAccTimeSel	Word	0: Acceleration time 0 1: Acceleration time 1 2: Acceleration time 2 3: Acceleration time 3	Set which of the acceleration time 0 to 3 to use for the acceleration time during OPR.
Pr.52: OPR deceleration time selection	i_OPRDecTimeSel	Word	0: Deceleration time 0 1: Deceleration time 1 2: Deceleration time 2 3: Deceleration time 3	Set which of the deceleration time 0 to 3 to use for the deceleration time during OPR.
Pr.53: OP shift amount	i_OPShift	Double Word	-2,147,483,648~2,147,483,647	Set the shift amount from the position stopped at with machine OPR.
Pr.54: OPR torque limit value	i_OPRTorqueLim	Word	1~300 (%)	Set the value to limit the servomotor torque after reaching the creep speed during machine OPR.

Name (Comment)	Label name	Data type	Setting range	Description
Pr.55: Deviation counter clear signal output time	i_DevCntClr	Word	1~65,535 (ms)*1	Set the duration of the deviation counter clear signal output during a machine OPR operation using any of the following methods: the near-point dog method, stopper methods 1) to 3), and count method 1). *1: Setting method •1~32,767: Set in decimal. •32,768~65,535: Set after converted into hexadecimal.
Pr.56: Speed designation during OP shift	i_ShiftSpeed	Word	0: OPR speed 1: Creep speed	Set the operation speed for when a value other than 0 is set for Pr.53: OP shift amount.
Pr.57: Dwell time during OPR retry	i_OPRRetryDwell	Word	0~65,535 (ms)*1	When setting Pr.48: OPR retry, set the stop time during the retry. *1: Setting method •0~32,767: Set in decimal. •32,768~65,535: Set after converted into hexadecimal.

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
OPR detailed parameters setting complete	FB_OK	Bit	OFF	When ON, it indicates that the parameter setting is completed.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

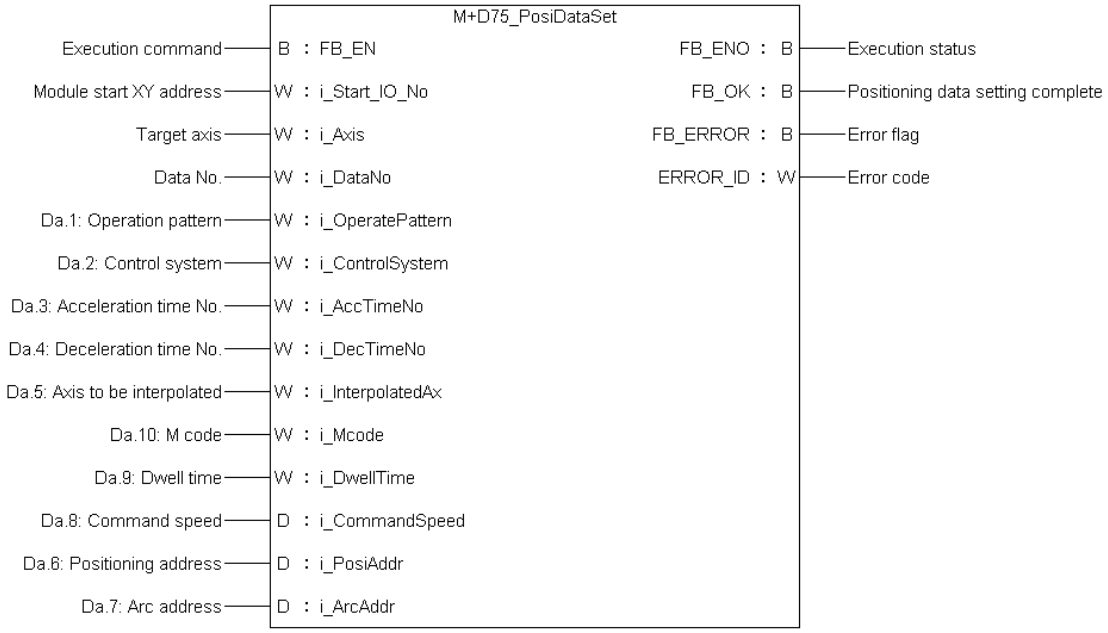
This chapter includes information related to the M+D75_SetZDPARAM function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.7 M+D75_PosiDataSet (Positioning data setting)

FB Name

M+D75_PosiDataSet

Function Overview

Item	Description
Function overview	Sets positioning data (Da.1 to Da.10).
Symbol	

Applicable hardware and software

Positioning Module

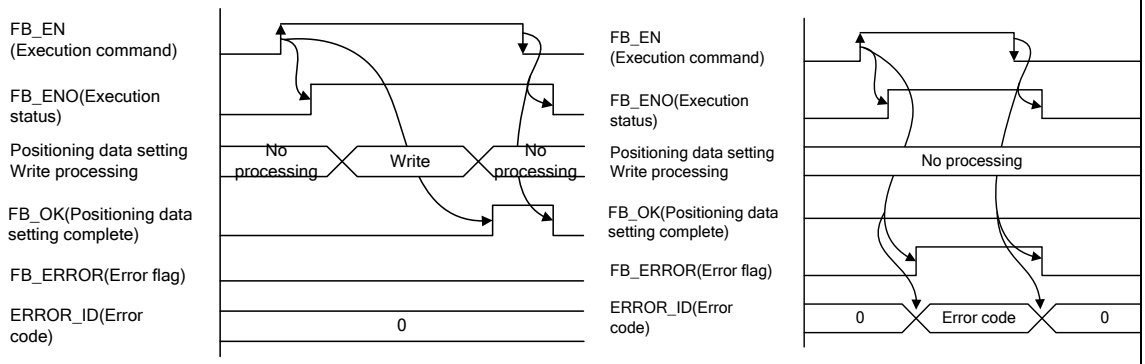
Series	Model
MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4
MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4

CPU module

Series	Model
MELSEC-Q Series *1	Basic model
	High performance model
	Universal model
MELSEC-L Series	LCPU

*1 Not applicable to QCPU (A mode)

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td></td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">333 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) By turning ON FB_EN (Execution command), the set positioning data is written to the buffer memory.
2) FB operation is one-shot only, triggered by the FB_EN signal.
3) After FB_EN (Execution command) is turned ON, the FB is completed by one scan.
4) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code). Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 5) This FB uses index registers Z8 and Z9. Please do not use these index registers in an interrupt program. 6) Every input must be provided with a value for proper FB operation. 7) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Pulsed execution (1 scan execution type)
Application example	Refer to "Appendix 1 - FB Library Application Examples"
Timing chart	[When operation completes without error] [When an error occurs] 
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

Error Codes

●Error code list

Error code	Description	Action
10 (Decimal)	The specified target axis is not valid. The target axis is not within the range of 1 to 4.	Please try again after confirming the setting.

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.
Data No.	i_DataNo	Word	1~600	Designate the positioning data No.
Da.1: Operation pattern	i_OperatePattern	Word	0: Positioning complete 1: Continuous positioning control 3:Continuous path control	Designate whether positioning is to be ended with just that data, or whether the positioning for the next data No. is to be carried out in succession. *If the invalid range of 4 or higher is set, bit 0 and 1 will be used. (For instance, when 4 is set, the operation will be performed under 0.)

Name (Comment)	Label name	Data type	Setting range	Description
Da.2: Control system	i_ControlSystem	Word	01h: ABS1 1-axis linear control (ABS) 02h: INC1 1-axis linear control (INC) 03h: FEED1 1-axis fixed-feed control 04h: VF1 1-axis speed control (forward run) 05h: VR1 1-axis speed control (reverse run) 06h: VPF speed-position switching control (forward run) 07h: VPR speed-position switching control (reverse run) 08h: PVF position-speed switching control (forward run) 09h: PVR position-speed switching control (reverse run) 0Ah: ABS2 2-axis linear interpolation control (ABS) 0Bh: INC2 2-axis linear interpolation control (INC) 0Ch: FEED2 fixed-feed control by 2-axis linear interpolation 0Dh: ABS) circular interpolation control with sub point specified (ABS) 0Eh: INC) circular interpolation control	Set the "control system" for carrying out positioning control.

Name (Comment)	Label name	Data type	Setting range	Description
			with sub point specified (INC) 0Fh: ABS. circular interpolation control with center point specified (ABS, CW) 10h: ABS. circular interpolation control with center point specified (ABS, CCW) 11h: INC. circular interpolation control with center point specified (INC, CW) 12h: INC. circular interpolation control with center point specified (INC, CCW) 13h: VF2 2-axis speed control (forward run) 14h: VR2 2-axis speed control (reverse run) 15h: ABS3 3-axis linear interpolation control (ABS) 16h: INC3 3-axis linear interpolation control (INC) 17h: FEED3 fixed-feed control by 3-axis linear interpolation control 18h: VF3 3-axis speed control (forward run) 19h: VR3 3-axis speed control (reverse run)	

Name (Comment)	Label name	Data type	Setting range	Description
			1Ah: ABS4 4-axis linear interpolation control (ABS) 1Bh: INC4 4-axis linear interpolation control (INC) 1Ch: FEED4 fixed-feed control by 4-axis linear interpolation control 1Dh: VF4 4-axis speed control (forward run) 1Eh: VR4 4-axis speed control (reverse run) 80h: NOP NOP instruction 81h: POS current value changing 82h: JUMP JUMP instruction 83h: LOOP declares the beginning of LOOP to LEND section 84h: LEND declares the end of LOOP to LEND section	
Da.3: Acceleration time No.	i_AccTimeNo	Word	0: Acceleration time 0 1: Acceleration time 1 2: Acceleration time 2 3: Acceleration time 3	Set which of "acceleration time 0 to 3" to use for the acceleration time during positioning. *If the invalid range of 4 or higher is set, bit 0 and 1 will be used. (For instance, when 4 is set, the operation will be performed under 0.)

Name (Comment)	Label name	Data type	Setting range	Description
Da.4: Deceleration time No.	i_DecTimeNo	Word	0: Deceleration time 0 1: Deceleration time 1 2: Deceleration time 2 3: Deceleration time 3	Set which of "deceleration time 0 to 3" to use for the deceleration time during positioning. *If the invalid range of 4 or higher is set, bit 0 and 1 will be used. (For instance, when 4 is set, the operation will be performed under 0.)
Da.5: Axis to be interpolated	i_InterpolatedAx	Word	0: Axis 1 1: Axis 2 2: Axis 3 3: Axis 4	Set the target axis for operations under the 2-axis interpolation control. Do not specify the own axis number or any number except the numbers in the setting range. Set "0" for operations under no interpolation, or 3 or 4-axis interpolation.

Name (Comment)	Label name	Data type	Setting range	Description
Da.10: M code	i_Mcode	Word	Da.2: Control system = 82h: JUMP instruction 0~10 Da.2: Control system = 83h: LOOP 1~65,535*1 Da.2: Control system = other than above 0~65,535*2	Set the "condition data No.", "number of repetitions", or "M code" depending on how the "control system" is set. *1: Setting method •1~32,767: Set in decimal. •32,768~65,535: Set after converted into hexadecimal. *2: Setting method •0~32,767: Set in decimal. •32,768~65,535: Set after converted into hexadecimal.
Da.9: Dwell time	i_DwellTime	Word	Da.2: Control system = 82h: JUMP instruction 1~600 Da.2: Control system = 82h: other than JUMP instruction 0~65,535*1	Set the "positioning data No." or "dwell time" corresponding to the "control system". *1: Setting method •0~32,767: Set in decimal. •32,768~65,535: Set after converted into hexadecimal.
Da.8: Command speed	i_CommandSpeed	Double Word	1) Pr.1: Unit setting = 0~2: 1~2,000,000,000 2) Pr.1: Unit setting = 3: QD75: 1~1,000,000 QD75N: 1~4,000,000 LD75: 1~4,000,000 -1: Current speed*1 (Speed set for previous positioning data No.)	Set the command speed for positioning. *1: The speed set for previous positioning data No. will be used for positioning control.

Name (Comment)	Label name	Data type	Setting range	Description
Da.6: Positioning address	i_PosiAddr	Double Word	1) Pr.1: Unit setting = 0,1,3 Da.2: Control system = 06h~09h 0~2,147,483,647 Da.2: Control system other than above -2,147,483,648~ 2,147,483,647 2) Pr.1: Unit setting = 2 Da.2: Control system = 01h, 0Ah, 15h, 1Ah, 81h 0~35,999,999 Da.2: Control system = 02h, 0Bh, 16h, 1Bh, 03h, 0Ch, 17h, 1Ch -2,147,483,648~ 2,147,483,647 Da.2: Control system = 06h, 07h INC mode 0~2,147,483,647 ABS mode 0~35,999,999 Da.2: Control system = 08h, 09h 0~2,147,483,647	Designate the target position/movement amount for positioning control. The setting value range differs according to the "control system".
Da.7: Arc address	i_ArcAddr	Double Word	1) Pr.1: Unit setting = 0,1,3 -2,147,483,648~ 2,147,483,647 2) Pr.1: Unit setting = 2 Not used*1	Use only for carrying out circular interpolation control. With sub point designation, set the sub point address. With center point designation, set the center point address of the arc. *1: Set "0".

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Positioning data setting complete	FB_OK	Bit	OFF	When ON, it indicates that the positioning data setting is completed.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

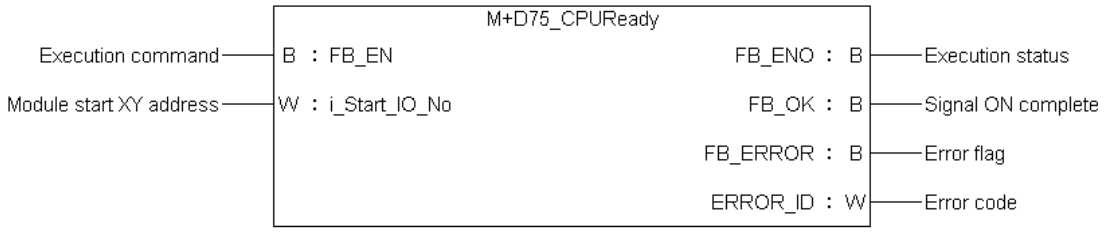
This chapter includes information related to the M+D75_PosiDataSet function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.8 M+D75_CPUReady (PLC ready signal ON)

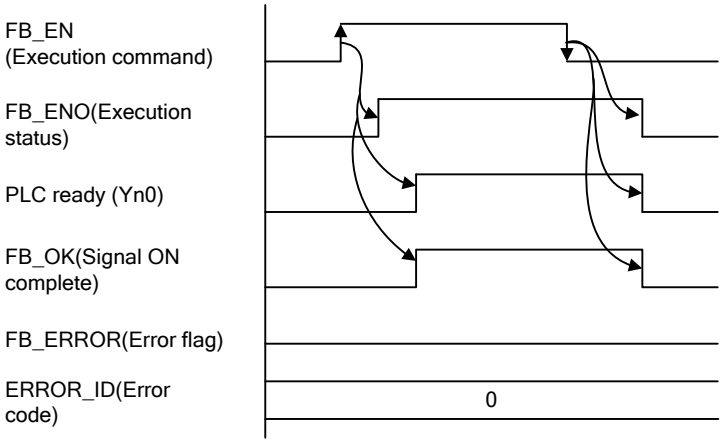
FB Name

M+D75_CPUReady

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Outputs PLC ready signal.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="2">Applicable hardware and software</td><td>Positioning Module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4</td></tr>
<tr><td>MELSEC-L Series</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
</table>
</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series *1</td><td>Basic model</td></tr>
<tr><td>High performance model</td></tr>
<tr><td>Universal model</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
</td></tr>
</table>

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td></td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">245 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) By turning ON FB_EN (Execution command), the CPU ready signal (Yn0) is turned ON.
2) After FB_EN (Execution command) is turned ON, the FB is completed by one scan.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
<tr><td>Restrictions and precautions</td><td colspan="2">1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation.
2) The FB cannot be used in an interrupt program.
3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF.
4) This FB uses index register Z9. Please do not use this index register in an interrupt program.
5) Every input must be provided with a value for proper FB operation.
6) When FB_EN (Execution command) is turned ON from OFF, the OFF time should be set to 100 ms or longer.
7) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application.
For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).</td></tr>
<tr><td>FB operation type</td><td colspan="2">Real-time execution</td></tr>
<tr><td>Application example</td><td colspan="2">Refer to "Appendix 1 - FB Library Application Examples"</td></tr>
</table>

Item	Description
Timing chart	
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

Error Codes

●Error code list

Error code	Description	Action
None	None	None

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Signal ON complete	FB_OK	Bit	OFF	When ON, it indicates that the CPU ready signal ON is completed.
Error flag	FB_ERROR	Bit	OFF	Always OFF
Error code	ERROR_ID	Word	0	Always 0

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

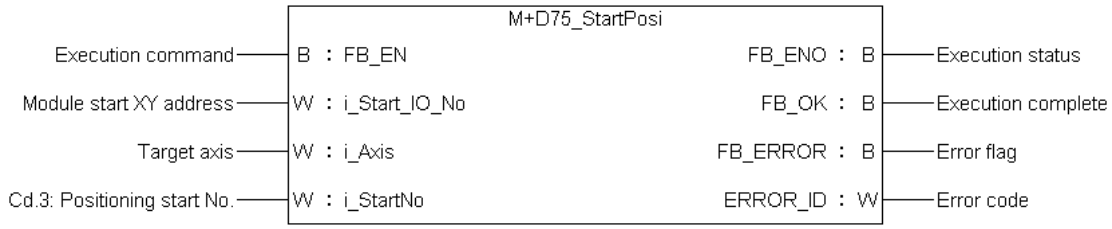
This chapter includes information related to the M+D75_CPUReady function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.9 M+D75_StartPosi (Positioning start)

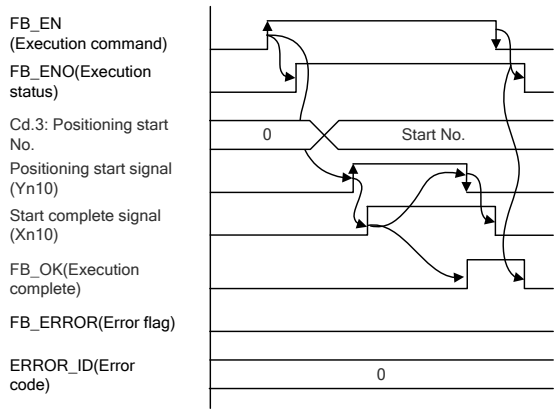
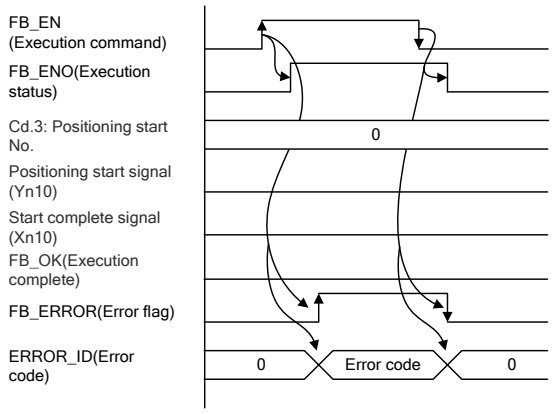
FB Name

M+D75_StartPosi

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Starts positioning.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="2">Applicable hardware and software</td><td>Positioning Module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4</td></tr>
<tr><td>MELSEC-L Series</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
</table>
</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series *1</td><td>Basic model</td></tr>
<tr><td>High performance model</td></tr>
<tr><td>Universal model</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
</td></tr>
</table>

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td></td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">320 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) By turning ON FB_EN (Execution command), the control required for i_StartNo (Cd.3: Positioning start No.) is started.
2) The FB is started when the positioning start signal (Yn10) is turned ON.
3) When FB_EN (Execution command) is turned ON, the following conditions must be satisfied to turn ON the positioning start signal (Yn10).
When the following conditions are not satisfied, the positioning start signal (Yn10) is not turned ON, but FB_OK (Execution complete) is turned ON. (In this case, warnings at start will not occur.)
[Conditions]
QD75/LD75 ready signal (Xn0): ON, Positioning start signal (Yn10): OFF, Start complete signal (Xn10): OFF, BUSY signal (XnC): OFF
4) After FB_EN (Execution command) is turned ON, the FB is completed in multiple scans.
5) When the start complete signal (Xn10) is ON or FB_EN (Execution command) is OFF, the positioning start signal (Yn10) is turned OFF.
6) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code). Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 5) This FB uses index registers Z6 to Z9. Please do not use these index registers in an interrupt program. 6) When this FB is used in two or more places, a duplicated coil warning may occur during compile operation due to the Y signal being operated by index modification. However this is not a problem and the FB will operate without error. 7) The data is not set at start in the FB. Data necessary for each control of start No. must be set in the parameters and buffer memory beforehand. 8) Every input must be provided with a value for proper FB operation. 9) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 1 - FB Library Application Examples"
Timing chart	[When operation completes without error]  [When an error occurs] 

MELSOFT Library

Item	Description
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

Error Codes

●Error code list

Error code	Description	Action
10 (Decimal)	The specified target axis is not valid. The target axis is not within the range of 1 to 4.	Please try again after confirming the setting.

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.

Name (Comment)	Label name	Data type	Setting range	Description
Cd.3: Positioning start No.	i_StartNo	Word	1~600:Positioning data No. 7000~7004: Block start designation 9001: Machine OPR 9002: Fast OPR 9003: Current value changing 9004: Simultaneous starting of multiple axes	Set the "Positioning start No." required for the start control in Cd.3: Positioning start No.

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Execution complete	FB_OK	Bit	OFF	When ON, it indicates that the execution is completed. However, the FB is not turned ON if a module error has occurred at start.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

This chapter includes information related to the M+D75_StartPosi function block.

It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.

Before using any Mitsubishi products, please read all the relevant manuals.

MELSOFT Library

2.10 M+D75_JOG (JOG/inching operation)

FB Name

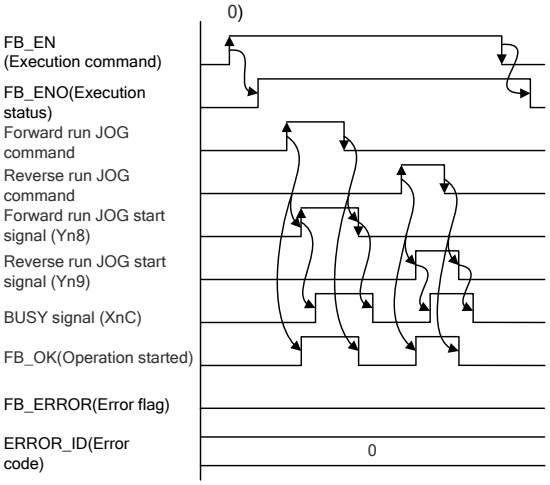
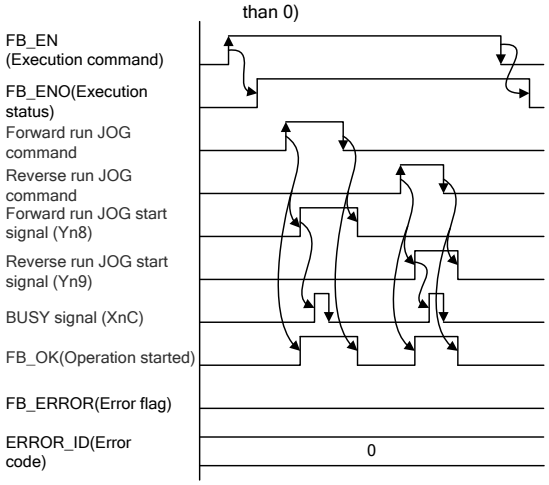
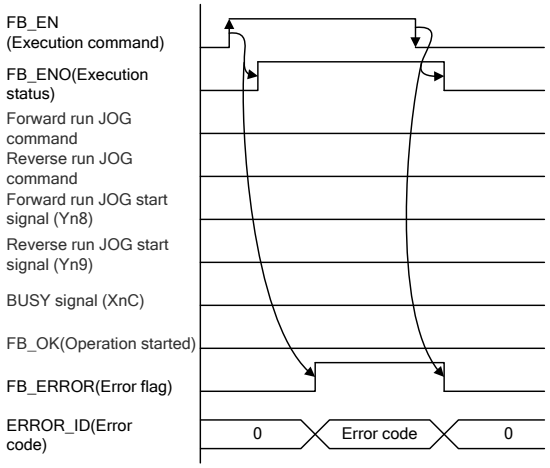
M+D75_JOG

Function Overview

Item	Description	
Function overview	Carries out JOG and inching operation.	
Symbol		
Applicable hardware and software	Positioning Module	<table><tr><th>Series</th><th>Model</th></tr><tr><td>MELSEC-Q Series</td><td>QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4</td></tr><tr><td>MELSEC-L Series</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr></table>
	CPU module	<table><tr><th>Series</th><th>Model</th></tr><tr><td rowspan="3">MELSEC-Q Series *1</td><td>Basic model</td></tr><tr><td>High performance model</td></tr><tr><td>Universal model</td></tr><tr><td>MELSEC-L Series</td><td>LCPU</td></tr></table> *1 Not applicable to QCPU (A mode)

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td></td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">383 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) After FB_EN (Execution command) is turned ON, JOG or inching operation is carried out by turning ON i_FowardJOG (Forward run JOG command) or i_ReverseJOG (Reverse run JOG command).
2) After FB_EN (Execution command) is turned ON, the FB is always executed.
3) When i_FowardJOG (Forward run JOG command) and i_ReverseJOG (Reverse run JOG command) are simultaneously turned ON, the operation stops.
4) After FB_EN (Execution command) is turned ON, the operation will stop if FB_EN (Execution command) is turned OFF during i_FowardJOG (Forward run JOG command) or i_ReverseJOG (Reverse run JOG command) operation.
5) The operation will stop if i_ReverseJOG (Reverse run JOG command) is turned ON during the forward run JOG operation. When i_ReverseJOG (Reverse run JOG command) is turned OFF from ON, the forward run JOG operation will start again. (Work in the same way for the opposite operation.)
6) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code). Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 5) This FB uses index registers Z5 to Z9. Please do not use these index registers in an interrupt program. 6) It is dangerous to set the JOG speed to a large value from the beginning. For safety, first set to a smaller value and check the movement. Then, gradually increase the value to an optimum speed for control. 7) If a value other than "0" is set in Cd.16: Inching movement amount and Cd.17: JOG speed, the operation will become an inching operation. 8) When this FB is used in two or more places, a duplicated coil warning may occur during compile operation due to the Y signal being operated by index modification. However this is not a problem and the FB will operate without error. 9) Every input must be provided with a value for proper FB operation. 10) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Real-time execution
Application example	Refer to "Appendix 1 - FB Library Application Examples"

Item	Description
Timing chart	[When operation completes without error] (When 1-axis operation is performed) Forward run JOG operation (Inching movement amount 0)  Forward run inching operation(Inching movement amount other than 0)  [When an error occurs] 
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

Error Codes

●Error code list

Error code	Description	Action
10 (Decimal)	The specified target axis is not valid. The target axis is not within the range of 1 to 4.	Please try again after confirming the setting. (After the forward run JOG command/reverse run JOG command is turned OFF and FB_EN is turned ON from OFF, turn ON the forward run JOG command/reverse run JOG command again.)

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.
Forward run JOG command	i_FowardJOG	Bit	ON, OFF	Turn ON for forward run JOG or forward run inching operation
Reverse run JOG command	i_ReverseJOG	Bit	ON, OFF	Turn ON for reverse run JOG or reverse run inching operation.
Cd.17: JOG speed	i_JOGSpeed	Double Word	1) Pr.1: Unit setting = 0~2: 0~2,000,000,000 2) Pr.1: Unit setting = 3: QD75: 0~1,000,000 QD75N: 0~4,000,000 LD75: 0~4,000,000	Set the JOG speed. Set "0" for inching operation.

Name (Comment)	Label name	Data type	Setting range	Description
Cd.16: Inching movement amount	i_Inching	Word	0~65,535*1 0: JOG operation	Set inching movement amount. Set "0" for JOG operation. *1: Setting method •0~32,767: Set in decimal. •32,768~65,535: Set after converted into hexadecimal.

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Operation start complete	FB_OK	Bit	OFF	ON: JOG command is ON. OFF: JOG command is OFF.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

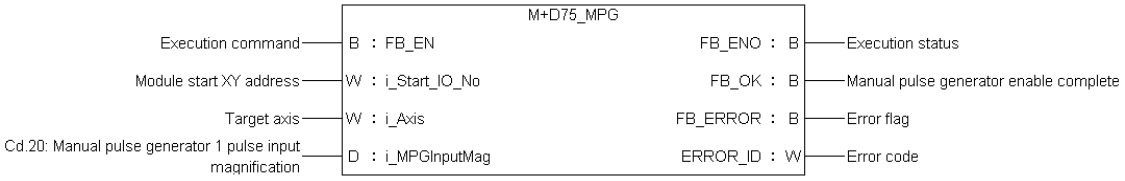
This chapter includes information related to the M+D75_JOG function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.11 M+D75_MPG (Manual pulse generator operation)

FB Name

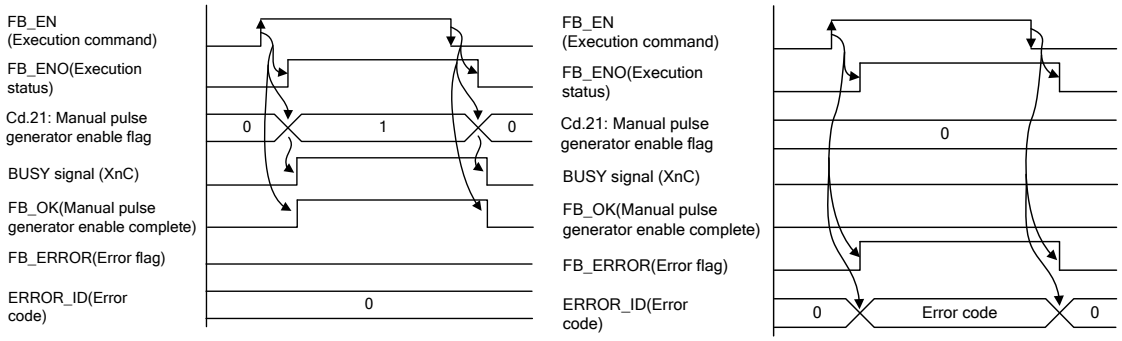
M+D75_MPG

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Carries out manual pulse generator operation.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="2">Applicable hardware and software</td><td>Positioning Module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4</td></tr>
<tr><td>MELSEC-L Series</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
</table>
</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series *1</td><td>Basic model</td></tr>
<tr><td>High performance model</td></tr>
<tr><td>Universal model</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
</td></tr>
</table>

MELSOFT Library

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td></td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">300 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) The manual pulse generator operation is enabled or disabled by turning ON/OFF FB_EN (Execution command).
2) After FB_EN (Execution command) is turned ON, the FB is always executed.
3) While FB_OK (Manual pulse generator enable complete) is turned ON, the workpiece is moved corresponding to the No. of pulses input from the manual pulse generator.
4) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code). Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) Do not change i_Axis (Target axis) while FB_EN (Execution command) is turned ON. 5) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 6) This FB uses index registers Z6 to Z9. Please do not use these index registers in an interrupt program. 7) Every input must be provided with a value for proper FB operation. 8) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Real-time execution
Application example	Refer to "Appendix 1 - FB Library Application Examples"
Timing chart	[When operation completes without error] [When an error occurs] (When 1-axis operation is performed) 
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

Error Codes

●Error code list

Error code	Description	Action
10 (Decimal)	The specified target axis is not valid. The target axis is not within the range of 1 to 4.	Please try again after confirming the setting.

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.
Cd.20: Manual pulse generator 1 pulse input magnification	i_MPGInputMag	Double Word	QD75: 1~100 QD75N: 1~1,000 LD75: 1~1,000	Set the manual pulse generator 1 pulse input magnification. Value 0: Read as "1". Value 1001 or higher: Read as "1000".

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Manual pulse generator enable complete	FB_OK	Bit	OFF	When ON, it indicates that the manual pulse generator enable setting is completed.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

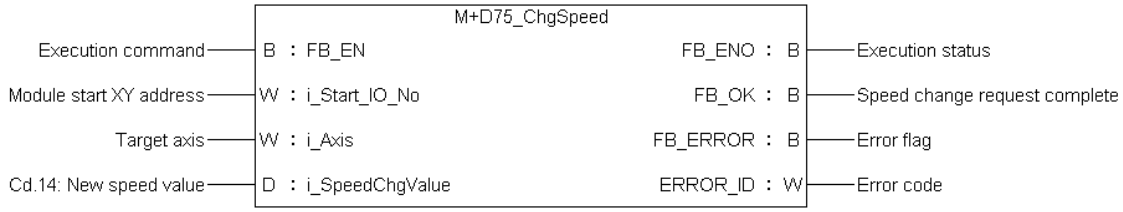
This chapter includes information related to the M+D75_MPG function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.12 M+D75_ChgSpeed (Speed change)

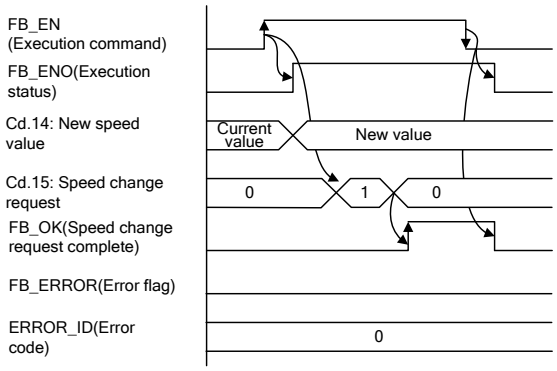
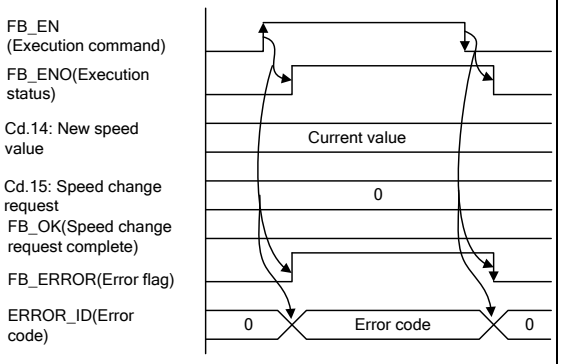
FB Name

M+D75_ChgSpeed

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Executes speed change.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="2">Applicable hardware and software</td><td>Positioning Module</td><td><table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4</td></tr>
<tr><td>MELSEC-L Series</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
</table></td></tr>
<tr><td>CPU module</td><td><table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series *1</td><td>Basic model</td></tr>
<tr><td>High performance model</td></tr>
<tr><td>Universal model</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
*1 Not applicable to QCPU (A mode)</td></tr>
</table>

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td></td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">286 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) The speed during control is changed to a newly designated speed by turning ON FB_EN (Execution command).
2) After FB_EN (Execution command) is turned ON, the FB is completed in multiple scans.
3) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code). Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 5) This FB uses index registers Z7 to Z9. Please do not use these index registers in an interrupt program. 6) Every input must be provided with a value for proper FB operation. 7) If FB_EN (Execution command) is turned ON while the BUSY signal (XnC) is OFF, the request will be ignored. In this case, FB_OK (Speed change request complete) is not turned ON. 8) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 1 - FB Library Application Examples"
Timing chart	[When operation completes without error]  [When an error occurs] 
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

Error Codes

●Error code list

Error code	Description	Action
10 (Decimal)	The specified target axis is not valid. The target axis is not within the range of 1 to 4.	Please try again after confirming the setting.

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.
Cd.14: New speed value	i_SpeedChgValue	Double Word	1) Pr.1: Unit setting = 0~2: 0~2,000,000,000 2) Pr.1: Unit setting = 3: QD75: 0~1,000,000 QD75N: 0~4,000,000 LD75: 0~4,000,000	Set the new speed.

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Speed change request complete	FB_OK	Bit	OFF	When ON, it indicates that the speed change request is completed.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

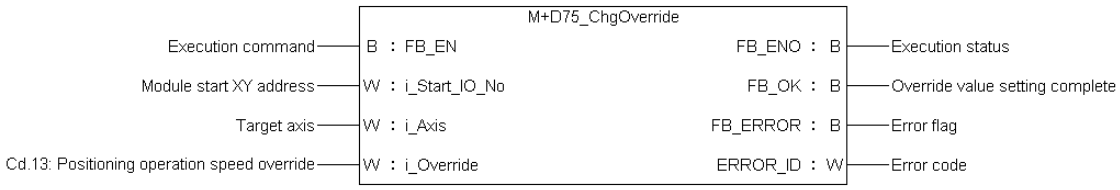
This chapter includes information related to the M+D75_ChgSpeed function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.13 M+D75_ChgOverride (Override)

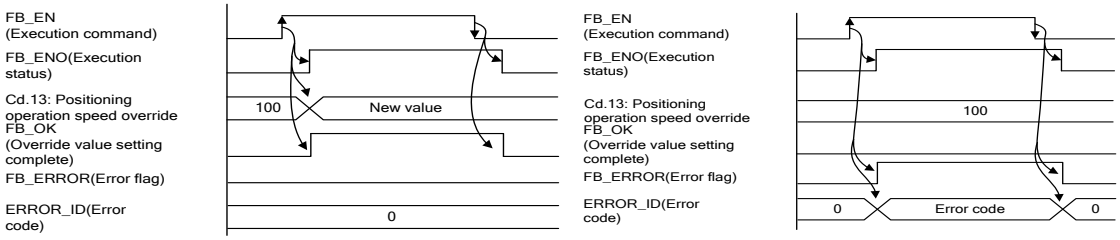
FB Name

M+D75_ChgOverride

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Makes an override.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="2">Applicable hardware and software</td><td>Positioning Module</td><td><table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4</td></tr>
<tr><td>MELSEC-L Series</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
</table></td></tr>
<tr><td>CPU module</td><td><table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series *1</td><td>Basic model</td></tr>
<tr><td>High performance model</td></tr>
<tr><td>Universal model</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
*1 Not applicable to QCPU (A mode)</td></tr>
</table>

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td></td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">252 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) By turning ON FB_EN (Execution command), the speed is changed for all control to be executed at a percentage specified with i_Override (Cd.13: Positioning operation speed override).
2) The FB can only be executed once per scan.
3) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code). Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 5) This FB uses index registers Z7 to Z9. Please do not use these index registers in an interrupt program. 6) Every input must be provided with a value for proper FB operation. 7) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Pulsed execution (1 scan execution type)
Application example	Refer to "Appendix 1 - FB Library Application Examples"
Timing chart	[When operation completes without error] [When an error occurs] 
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

Error codes

●Error code list

Error code	Description	Action
10 (Decimal)	The specified target axis is not valid. The target axis is not within the range of 1 to 4.	Please try again after confirming the setting.

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the target axis.
Cd.13: Positioning operation speed override	i_Override	Word	1~300 (%)	Set the new speed as a percentage.

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Override value setting complete	FB_OK	Bit	OFF	When ON, it indicates that the setting of override value is completed.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

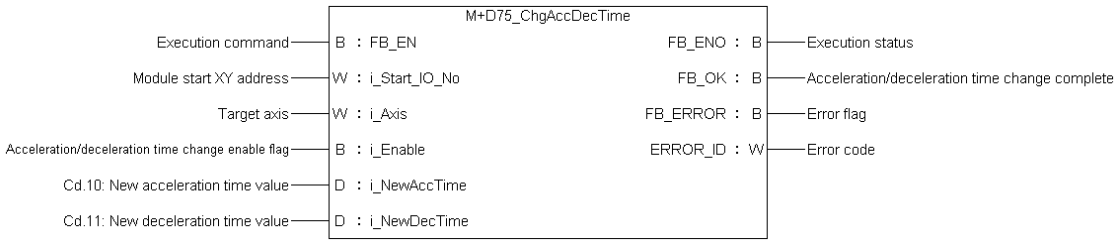
This chapter includes information related to the M+D75_ChgOverride function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.14 M+D75_ChgAccDecTime (Acceleration/deceleration time setting value change)

FB Name

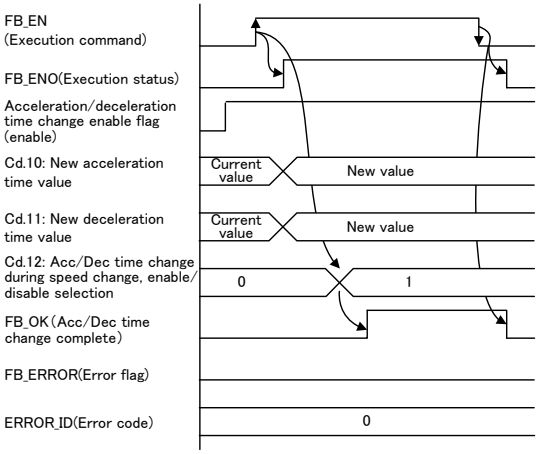
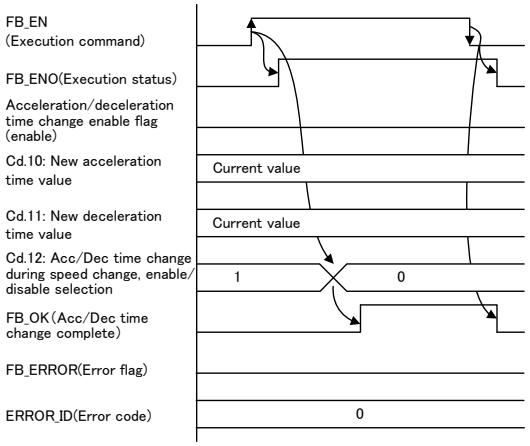
M+D75_ChgAccDecTime

Function Overview

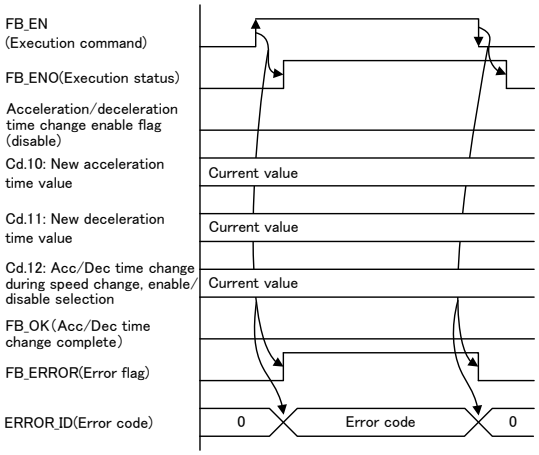
<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Changes the setting value of the acceleration/deceleration time.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="2">Applicable hardware and software</td><td>Positioning Module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4</td></tr>
<tr><td>MELSEC-L Series</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
</table>
</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series *1</td><td>Basic model</td></tr>
<tr><td>High performance model</td></tr>
<tr><td>Universal model</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
</td></tr>
</table>

MELSOFT Library

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td></td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">307 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) By turning ON FB_EN (Execution command), the acceleration/deceleration time setting is changed according to the i_Enable (Acceleration/deceleration time change enable flag).
When i_Enable (Acceleration/deceleration time change enable flag) is ON, i_NewAccTime (Cd.10: New acceleration time value) and i_NewDecTime (Cd.11: New deceleration time value) are set, and Cd.12: Acceleration/deceleration time change during speed change, enable/disable selection is changed to 1: Acceleration/deceleration time change enable.
When i_Enable (Acceleration/deceleration time change enable flag) is OFF, both i_NewAccTime (Cd.10: New acceleration time value) and i_NewDecTime (Cd.11: New deceleration time value) are not changed, and Cd.12: Acceleration/deceleration time change during speed change, enable/disable selection is changed to 0: Acceleration/deceleration time change disable.
2) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code). Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 5) This FB uses index registers Z7 to Z9. Please do not use these index registers in an interrupt program. 6) A duplicated coil warning may occur with this FB during compile operation. However this is not a problem and the FB will operate without error. 7) Every input must be provided with a value for proper FB operation. 8) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Pulsed execution (1 scan execution type)
Application example	Refer to "Appendix 1 - FB Library Application Examples"
Timing chart	[When operation completes without error] (Cd.12: When enabling the acceleration/ deceleration time change during speed change, enable/disable selection)  (Cd.12: When disabling the acceleration/ deceleration time change during speed change, enable/disable selection) 

MELSOFT Library

Item	Description
	[When an error occurs] 
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

Error Codes

●Error code list

Error code	Description	Action
10 (Decimal)	The specified target axis is not valid. The target axis is not within the range of 1 to 4.	Please try again after confirming the setting.

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.
Acceleration/deceleration time change enable flag	i_Enable	Bit	ON: Enabled OFF: Disabled	Enable or disable acceleration/deceleration time change.
Cd.10: New acceleration time value	i_NewAccTime	Double Word	0~8,388,608(ms)	Set the new acceleration time. When 0 is set, the acceleration time is not changed even if the speed is changed. In this case, control is performed with the preset acceleration time.

Name (Comment)	Label name	Data type	Setting range	Description
Cd.11: New deceleration time value	i_NewDecTime	Double Word	0~8,388,608(ms)	Set the new deceleration time. When 0 is set, the deceleration time is not changed even if the speed is changed. In this case, the control is performed with the preset deceleration time.

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Acceleration/deceleration time change complete	FB_OK	Bit	OFF	When ON, it indicates that the setting of Acceleration/deceleration time change is completed.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

This chapter includes information related to the M+D75_ChgAccDecTime function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

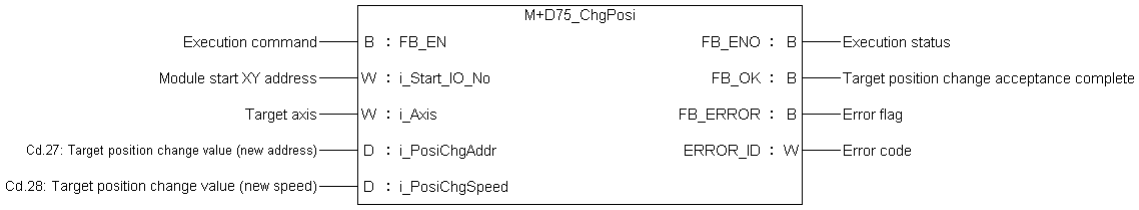
MELSOFT Library

2.15 M+D75_ChgPosi (Target position change)

FB Name

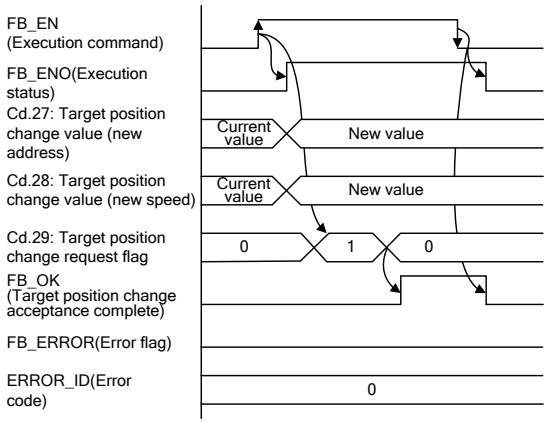
M+D75_ChgPosi

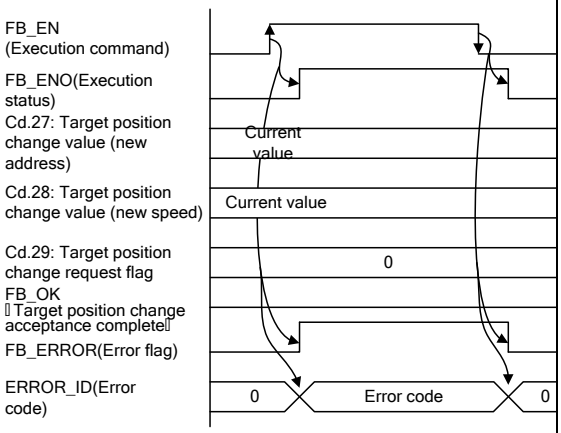
Function Overview

<table>
<tr><td>Item</td><td colspan="2">Description</td></tr>
<tr><td>Function overview</td><td colspan="2">Changes the target position.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="2">Applicable hardware and software</td><td>Positioning Module</td><td><table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4</td></tr>
<tr><td>MELSEC-L Series</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
</table></td></tr>
<tr><td>CPU module</td><td><table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series *1</td><td>Basic model</td></tr>
<tr><td>High performance model</td></tr>
<tr><td>Universal model</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
*1 Not applicable to QCPU (A mode)</td></tr>
</table>

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td></td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">315 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) By turning ON FB_EN (Execution command), the target position under position control is changed to the value set for i_PosiChgAddr (Cd.27: Target position change value (new address)). Also the command speed is changed to the value set for i_PosiChgSpeed (Cd.28: Target position change value (new speed)) simultaneously.
2) After FB_EN (Execution command) is turned ON, the FB is completed in multiple scans.
3) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code). Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 5) This FB uses index registers Z7 to Z9. Please do not use these index registers in an interrupt program. 6) Every input must be provided with a value for proper FB operation. 7) If FB_EN (Execution command) is turned ON while the BUSY signal (XnC) is OFF, the request will be ignored. In this case, FB_OK (Target position change complete) is not turned ON. 8) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 1 - FB Library Application Examples"
Timing chart	[When operation completes without error] [When an error occurs]





Item	Description
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

Error codes

●Error code list

Error code	Description	Action
10 (Decimal)	The specified target axis is not valid. The target axis is not within the range of 1 to 4.	Please try again after confirming the setting.

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.
Cd.27: Target position change value (new address)	i_PosiChgAddr	Double Word	1) Pr.1: Unit setting=2 ABS mode 0~35,999,999 INC mode -2,147,483,648~2,147,483,647 2) Pr.1: Unit setting=Other than 2 -2,147,483,648~2,147,483,647	When changing the target position during a positioning operation, specify a new positioning address.

Name (Comment)	Label name	Data type	Setting range	Description
Cd.28: Target position change value (new speed)	i_PosiChgSpeed	Double Word	1) Pr.1: Unit setting=0~2: 0~2,000,000,000 2) Pr.1: Unit setting=3: QD75: 0~1,000,000 QD75N: 0~4,000,000 LD75: 0~4,000,000	When changing the target position during a positioning operation, specify a new speed. When 0 is set, the speed is not changed.

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Target position change acceptance complete	FB_OK	Bit	OFF	When ON, it indicates that a request of target position change request flag has been accepted by the module.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

This chapter includes information related to the M+D75_ChgPosi function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

MELSOFT Library

2.16 M+D75_Restart (Restart)

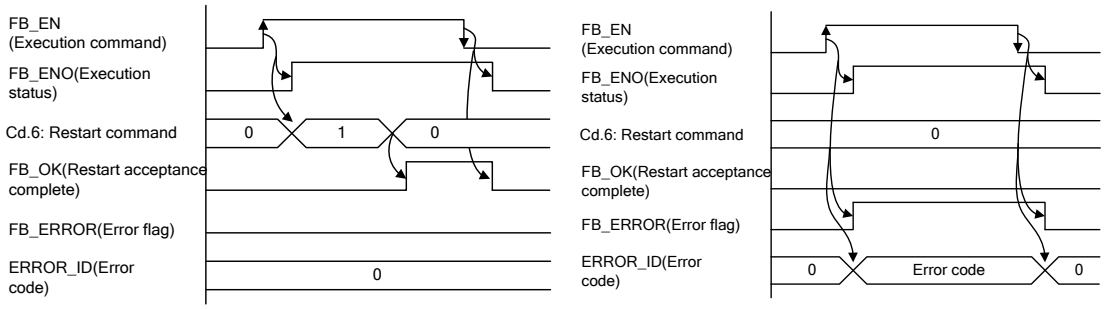
FB Name

M+D75_Restart

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Performs restart.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="2">Applicable hardware and software</td><td>Positioning Module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4</td></tr>
<tr><td>MELSEC-L Series</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
</table>
</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series *1</td><td>Basic model</td></tr>
<tr><td>High performance model</td></tr>
<tr><td>Universal model</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
</td></tr>
</table>

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td></td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">276 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) By turning ON FB_EN (Execution command), positioning operation that stopped when a stop cause has occurred restarts.
2) After FB_EN (Execution command) is turned ON, the FB is completed in multiple scans.
3) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code). Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 5) This FB uses index registers Z7 to Z9. Please do not use these index registers in an interrupt program. 6) Every input must be provided with a value for proper FB operation. 7) If FB_EN (Execution command) is turned ON while the BUSY signal (X signal) is OFF, the request will be ignored. In this case, FB_OK (Restart acceptance complete) is not turned ON. 8) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 1 - FB Library Application Examples"
Timing chart	[When operation completes without error] [When an error occurs] 
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

Error Codes

●Error code list

Error code	Description	Action
10 (Decimal)	The specified target axis is not valid. The target axis is not within the range of 1 to 4.	Please try again after confirming the setting.

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Restart acceptance complete	FB_OK	Bit	OFF	When ON, it is indicates that the restart command has been accepted by the module.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

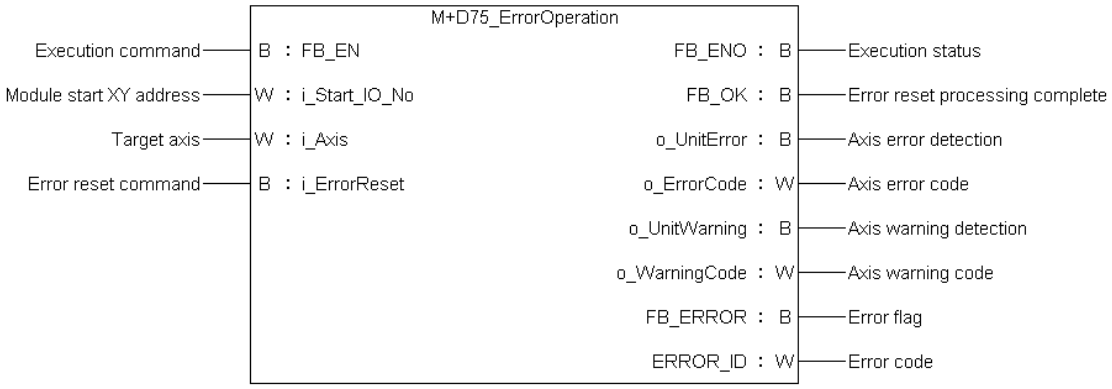
This chapter includes information related to the M+D75_Restart function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.17 M+D75_ErrorOperation (Error operation)

FB Name

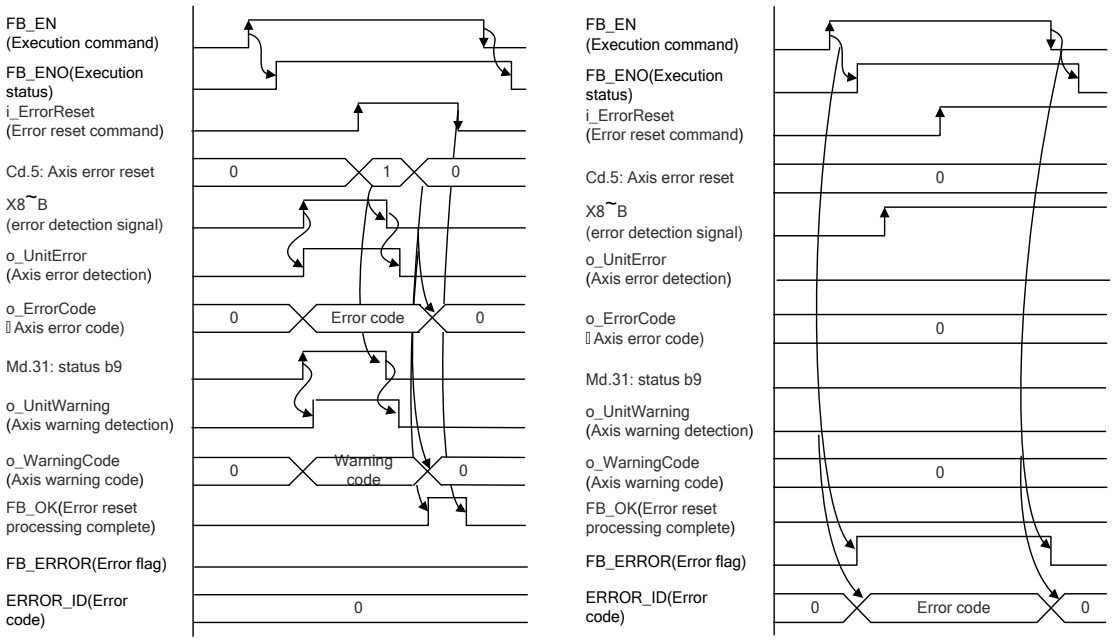
M+D75_ErrorOperation

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Monitors errors and warnings, and performs error reset.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="2">Applicable hardware and software</td><td>Positioning Module</td><td><table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4</td></tr>
<tr><td>MELSEC-L Series</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
</table></td></tr>
<tr><td>CPU module</td><td><table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series *1</td><td>Basic model</td></tr>
<tr><td>High performance model</td></tr>
<tr><td>Universal model</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
*1 Not applicable to QCPU (A mode)</td></tr>
</table>

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td></td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">320 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) When FB_EN (Execution command) is turned ON, an error in the target axis is monitored.
2) An error code is stored in o_ErrorCode (Axis error code) when a module error occurs.
3) After FB_EN (Execution command) is turned ON, an error is reset when i_ErrorReset (Error reset command) is turned ON during error occurrence.
4) A warning can be reset by turning ON i_ErrorReset (Error reset command) even when a module warning is occurring.
5) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code). Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 5) This FB uses index registers Z7 to Z9. Please do not use these index registers in an interrupt program. 6) Do not change i_Axis (Target axis) while FB_EN (Execution command) is turned ON. 7) Every input must be provided with a value for proper FB operation. 8) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Real-time execution
Application example	Refer to "Appendix 1 - FB Library Application Examples"
Timing chart	[When operation completes without error] [When an error occurs]



MELSOFT Library

Item	Description
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

Error Codes

●Error code list

Error code	Description	Action
10 (Decimal)	The specified target axis is not valid. The target axis is not within the range of 1 to 4.	Please try again after confirming the setting.

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.
Error reset command	i_ErrorReset	Bit	ON, OFF	ON: An error is reset. OFF: An error is not reset.

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Error reset processing complete	FB_OK	Bit	OFF	When ON, it indicates that an error reset is completed.
Axis error detection	o_UnitError	Bit	OFF	When ON, it indicates that an axis error has occurred.
Axis error code	o_ErrorCode	Word	0	Return a code for a target axis error occurred in the module.
Axis warning detection	o_UnitWarning	Bit	OFF	When ON, it indicates that an axis warning has occurred.
Axis warning code	o_WarningCode	Word	0	Return a code for a target axis warning occurred in the module.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

This chapter includes information related to the M+D75_ErrorOperation function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.18 M+D75_InitParam (Parameter initialization)

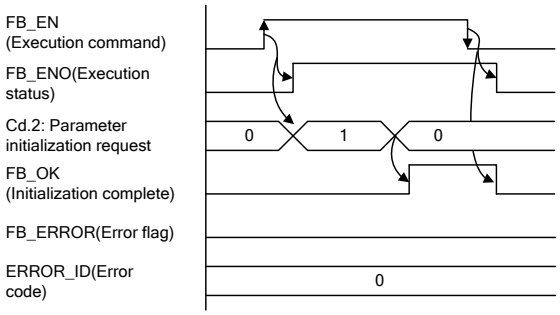
FB Name

M+D75_InitParam

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Initializes parameters.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="2">Applicable hardware and software</td><td>Positioning Module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4</td></tr>
<tr><td>MELSEC-L Series</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
</table>
</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series *1</td><td>Basic model</td></tr>
<tr><td>High performance model</td></tr>
<tr><td>Universal model</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
</td></tr>
</table>

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td></td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">209 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) By turning ON FB_EN (Execution command), the setting data stored in the buffer memory and in flash ROM of LD75P (4/2/1)/LD75D (4/2/1) or QD75P (4/4N, 2/2N, 1/1N)/QD75D (4/4N, 2/2N, 1/1N) are returned to the factory-set initial value.
2) After FB_EN (Execution command) is turned ON, the FB is completed in multiple scans.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) This FB uses index registers Z8 and Z9. Please do not use these index registers in an interrupt program. 5) Every input must be provided with a value for proper FB operation. 6) PLC ready signal (Yn0) must be tuned OFF to use this FB. FB_EN (Execution command) must also be turned OFF if PLC ready signal (Yn0) is turned ON with M+D75_CPUReady (PLC ready signal ON). 7) After completing the initialization of setting data, reset the CPU unit or reboot the PLC power. 8) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 1 - FB Library Application Examples"
Timing chart	
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

Error Codes

●Error code list

Error code	Description	Action
None	None	None

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Initialization complete	FB_OK	Bit	OFF	When ON, the initialization of parameters is completed.
Error flag	FB_ERROR	Bit	OFF	Always OFF
Error code	ERROR_ID	Word	0	Always 0

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

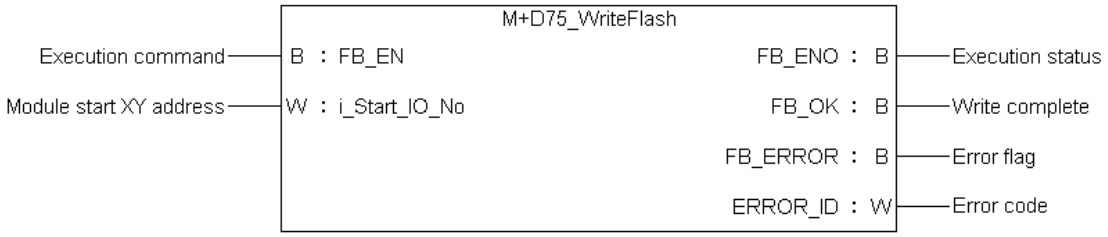
This chapter includes information related to the M+D75_InitParam function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.19 M+D75_WriteFlash (Flash ROM writing)

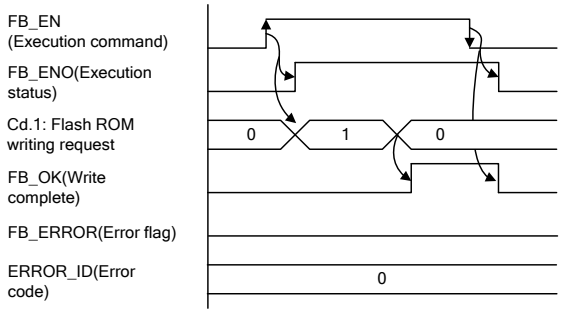
FB Name

M+D75_WriteFlash

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Writes the setting data to the flash ROM.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="2">Applicable hardware and software</td><td>Positioning Module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series</td><td>QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4</td></tr>
<tr><td>MELSEC-L Series</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
</table>
</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td rowspan="3">MELSEC-Q Series *1</td><td>Basic model</td></tr>
<tr><td>High performance model</td></tr>
<tr><td>Universal model</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
</td></tr>
</table>

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td></td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">207 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) By turning ON FB_EN (Execution command), the data set in the buffer memory is written to the flash ROM.
2) After FB_EN (Execution command) is turned ON, the FB is completed in multiple scans.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
<tr><td>Restrictions and precautions</td><td colspan="2">1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation.
2) The FB cannot be used in an interrupt program.
3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF.
4) Every input must be provided with a value for proper FB operation.
5) PLC ready signal (Yn0) must be tuned OFF to use this FB. FB_EN (Execution command) must also be turned OFF if PLC ready signal (Yn0) is turned ON with M+D75_CPUReady (PLC ready signal ON).
6) This FB uses index registers Z8 and Z9. Please do not use these index registers in an interrupt program.
7) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application.
For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).</td></tr>
<tr><td>FB operation type</td><td colspan="2">Pulsed execution (multiple scan execution type)</td></tr>
<tr><td>Application example</td><td colspan="2">Refer to "Appendix 1 - FB Library Application Examples"</td></tr>
</table>

Item	Description
Timing chart	
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

Error Codes

●Error code list

Error code	Description	Action
None	None	None

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Write complete	FB_OK	Bit	OFF	When ON, it indicates that writing to flash ROM is completed.
Error flag	FB_ERROR	Bit	OFF	Always OFF
Error code	ERROR_ID	Word	0	Always 0

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

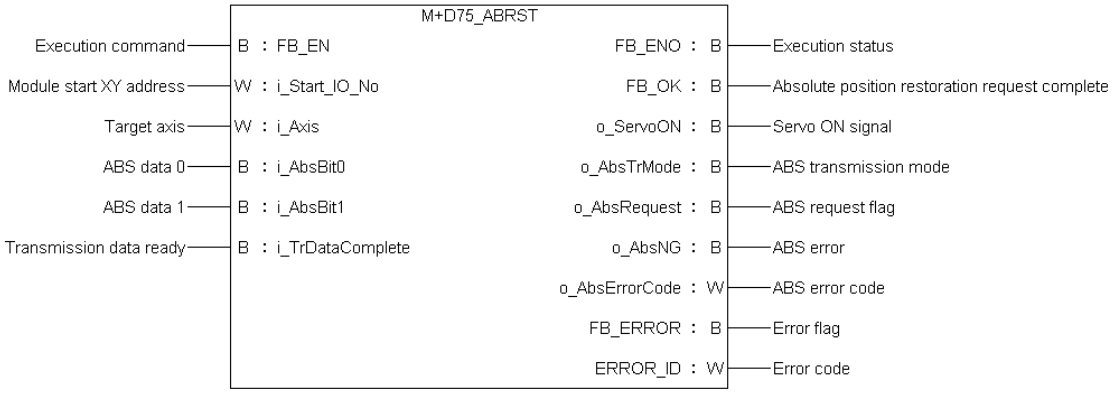
This chapter includes information related to the M+D75_WriteFlash function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.20 M+D75_ABRST (Absolute position restoration)

FB Name

M+D75_ABRST

Function Overview

Item	Description
Function overview	Executes absolute position restoration.
Symbol	
Applicable hardware and software	Positioning Module

Series	Model
MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4
MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4

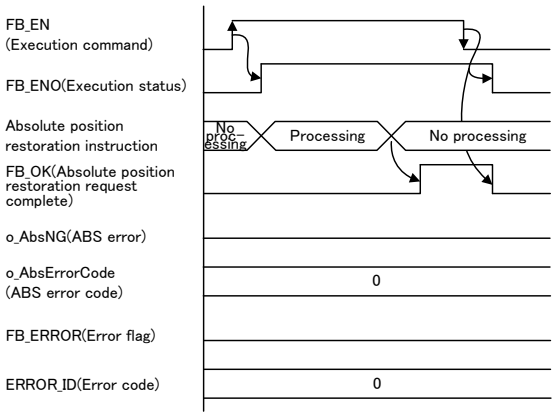
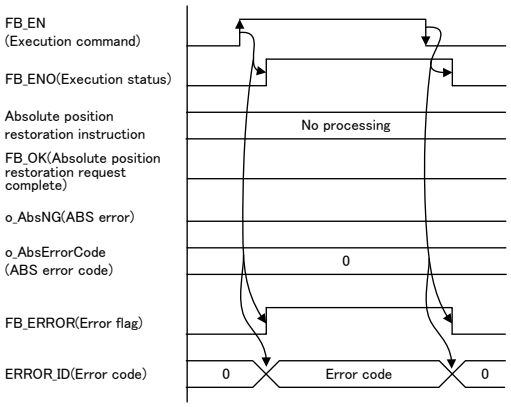
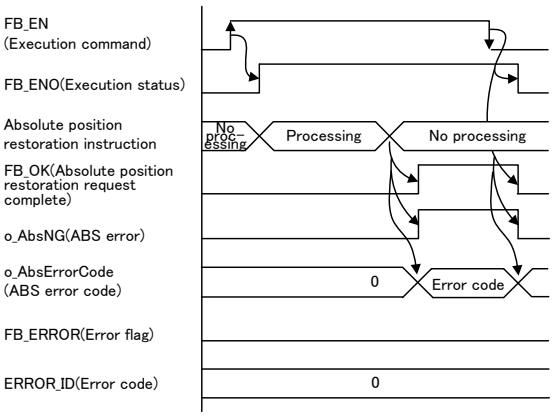
CPU module

Series	Model
MELSEC-Q Series *1	Basic model
	High performance model
	Universal model
MELSEC-L Series	LCPU

*1 Not applicable to QCPU (A mode)

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td></td><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
<tr><td>Japanese version</td><td>Version1.86Q or later</td></tr>
<tr><td>English version</td><td>Version1.24A or later</td></tr>
<tr><td>Chinese (Simplified) version</td><td>Version1.49B or later</td></tr>
<tr><td>Chinese (Traditional) version</td><td>Version1.49B or later</td></tr>
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">413 steps (for MELSEC-Q series universal model CPU)
*The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.</td></tr>
<tr><td>Function description</td><td colspan="2">1) By turning ON FB_EN (Execution command), the absolute position is restored.
2) After FB_EN (Execution command) is turned ON, the FB is completed in multiple scans.
3) When absolute position restoration is completed abnormally, o_AbsNG (ABS error) is turned ON and an error code is stored in o_AbsErrorCode (ABS error code).
For error codes, please refer to the manuals listed in the Relevant manuals section.
4) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code).
Refer to the error code explanation section for details.</td></tr>
<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
</table>

Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do not use this FB in programs that are only executed once such as a subroutine, FOR-NEXT loop, etc. because it is impossible to turn OFF. 4) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 5) Every input must be provided with a value for proper FB operation. 6) PLC ready signal (Yn0) must be tuned OFF to use this FB. FB_EN (Execution command) must also be turned OFF if PLC ready signal (Yn0) is turned ON with M+D75_CPUReady (PLC ready signal ON). 7) This FB uses index registers Z8 and Z9. Please do not use these index registers in an interrupt program. 8) When using this FB, FB_EN (Execution command) must remain turned ON after completion of absolute position restoration. 9) Do not turn OFF FB_EN (Execution command) during restoring the absolute position. If FB_EN (Execution command) is turned OFF before absolute position restoration is completed, an error occurs when FB_EN (Execution command) is turned ON again and an error 804 (dedicated instruction error) is stored in o_AbsErrorCode (ABS error code). If an error 804 (dedicated instruction error) occurs, reset the error and then turn OFF and ON FB_EN (Execution command) again. 10) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the QD75 or LD75. Configure these settings by making the GX Works2 switch setting according to the application. For details on how to use the intelligent function module switch setting, refer to GX Works2 Operating Manual (Common).
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 1 - FB Library Application Examples"

Item	Description
Timing chart	[When operation completes without error]  [When an error occurs] (When the target axis setting is out of range)  [When an error occurs] (When absolute position restoration command completed abnormally) 
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual •MELSEC-L LD75P/LD75D Positioning Module User's Manual •QCPU User's Manual (Hardware Design, Maintenance and Inspection) •MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) •GX Works2 Version 1 Operating Manual (Common) •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

Error Codes

●Error code list

Error code	Description	Action
10 (Decimal)	The specified target axis is not valid. The target axis is not within the range of 1 to 4.	Please try again after confirming the setting.

Labels

●Input labels

Name (Comment)	Label name	Data type	Setting range	Description
Execution command	FB_EN	Bit	ON, OFF	ON: The FB is activated. OFF: The FB is not activated.
Module start XY address	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the D75 module is mounted. (For example, enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.
ABS data 0	i_AbsBit0	Bit	ON, OFF	Lower bit of data received from the servo amplifier
ABS data 1	i_AbsBit1	Bit	ON, OFF	Upper bit of data received from the servo amplifier
Transmission data ready	i_TrDataComplete	Bit	ON: Ready OFF: Preparing	A ready signal from the servo amplifier

●Output labels

Name (Comment)	Label name	Data type	Initial value	Description
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON. OFF: Execution command is OFF.
Absolute position restoration request complete	FB_OK	Bit	OFF	When ON, it indicates that absolute position restoration request is completed.
Servo ON signal	o_ServoON	Bit	OFF	While ON, the servo ON signal is ON.
ABS transmission	o_AbsTrMode	Bit	OFF	While ON, the servo amplifier is in the ABS

Name (Comment)	Label name	Data type	Initial value	Description
mode				transmission mode.
ABS request flag	o_AbsRequest	Bit	OFF	While ON, ABS data is requested.
ABS error	o_AbsNG	Bit	OFF	When ON, it indicates that absolute position restoration is completed abnormally.
ABS error code	o_AbsErrorCode	Word	0	Return an absolute position restoration command error code. For error codes, refer to MELSEC-L LD75P/LD75D positioning module user's manual or MELSEC-Q QD75P/QD75D positioning module user's manual, and check and take a countermeasure against the error.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

Version	Date	Description
1.00A	2010/08/06	First edition
1.01B	2012/03/26	Solved the problem that causes the OPERATION ERROR (error code: 4101) when using an index register number that is used by the FB.

Note

This chapter includes information related to the M+D75_ABRST function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

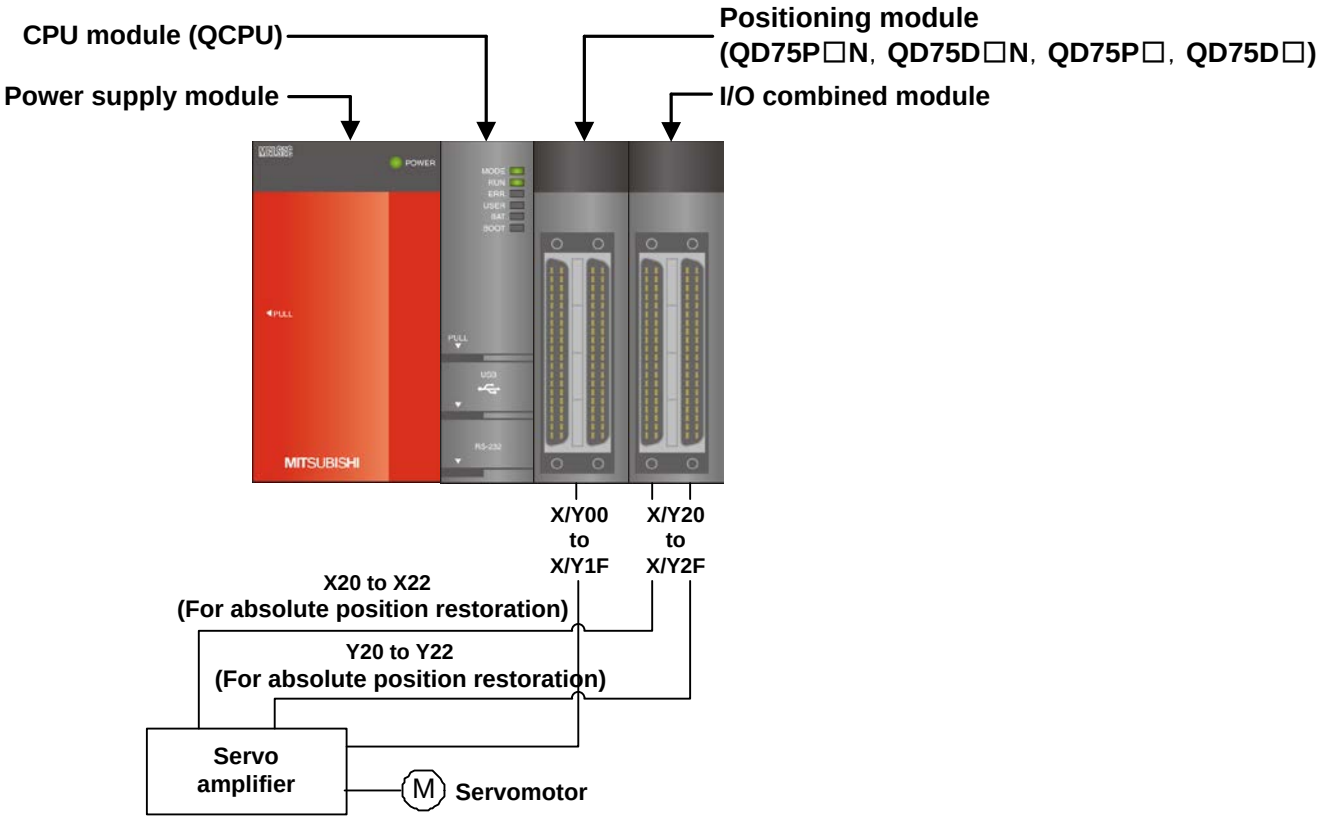
Appendix 1. FB Library Application Examples

D75FB Application examples are as follows.

System Configuration Examples

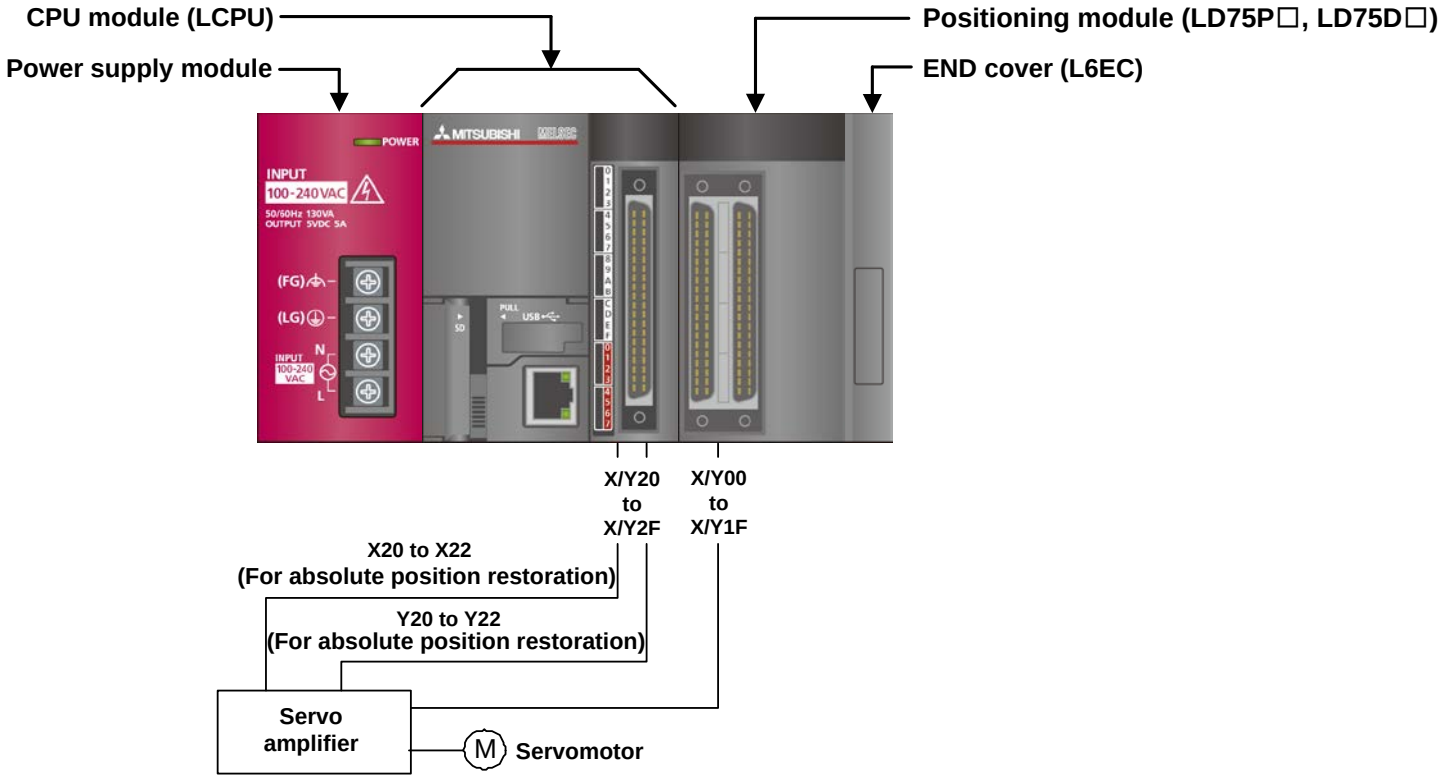
I/O signals are allocated as shown in the figure below. Q series and L series have the same allocation.

(1) Q series system configuration example



MELSOFT Library

(2) L series system configuration example



Reminder

1) Every input must be provided with a value for proper FB operation.
   If not set, the values will be unspecified.
2) Abbreviations may be used in the label comments due to the limitation on the number of the characters to display in GX Works2.

List of devices

External input (commands)

Device	FB function name	Application(ON details)
M0	Basic parameters 1 setting	BParam 1 setting request
M10	Basic parameters 2 setting	BParam 2 setting request
M20	Detailed parameters 1 setting	DParam 1 setting request
M30	Detailed parameters 2 setting	DParam 2 setting request
M40	OPR basic parameters setting	ZBParam setting request
M50	OPR detailed parameters setting	ZDParam setting request
M60	Positioning data setting	Positioning data setting request
M70	PLC ready signal ON	PLC ready signal ON condition judgment
M71		PLC ready signal ON request
M80	Positioning start	Positioning start request
M90	JOG/inching operation	JOG operation start request
M91		Forward run JOG start
M92		Reverse run JOG start
M100	Manual pulse generator operation	MPG start request
M110	Speed change	Speed change request
M120	Override	Override command
M130	Acceleration/deceleration time setting value change	Acc/Dec time change command
M131		Acc/Dec time change enable flag
M140	Target position change	Target position change command
M150	Restart	Restart command
M160	Error operation	Error operation FB start
M161		Error reset request
M170	Parameter initialization	Parameter initialization command
M180	Flash ROM writing	Flash ROM writing request
M190	Absolute position restoration	ABS restoration start request
X20		ABS data0('H'/'L')
X21		ABS data1('H'/'L')
X22		Transmission data ready

Data register

Device	FB function name	Application(ON details)
D0	Basic parameters 1 setting	BParam 1 setting FB error code
D10	Basic parameters 2 setting	BParam 2 setting FB error code
D20	Detailed parameters 1 setting	DParam 1 setting FB error code
D30	Detailed parameters 2 setting	DParam 2 setting FB error code
D40	OPR basic parameters setting	ZBParam setting FB error code
D50	OPR detailed parameters setting	ZDParam setting FB error code
D60	Positioning data setting	Positioning setting error code
D70	Positioning start	Positioning start FB error code
D80	JOG/inching operation	JOG operation FB error code
D90	Manual pulse generator operation	MPG operation FB error code
D100	Speed change	Speed change FB error code
D110	Override	Override FB error code
D120	Acceleration/deceleration time setting value change	Acc/Dec time change error code
D130	Target position change	Target position change err code
D140	Restart	Restart FB error code
D150	Error operation	Error code designated axis
D151		Warning code designated axis
D152		Error operation FB error code
D160	Absolute position restoration	ABS error code
D161		ABS restoration FB error code

External output (checks)

Device	FB function name	Application(ON details)
M1	Basic parameters 1 setting	BParam 1 setting ready
M2		BParam 1 setting complete
F0		BParam 1 setting FB error
M11	Basic parameters 2 setting	BParam 2 setting ready
M12		BParam 2 setting complete
F5		BParam 2 setting FB error
M21	Detailed parameters 1 setting	DParam 1 setting ready
M22		DParam 1 setting complete
F10		DParam 1 setting FB error
M31	Detailed parameters 2 setting	DParam 2 setting ready
M32		DParam 2 setting compete
F15		DParam 2 setting FB error
M41	OPR basic parameters setting	ZBParam setting ready
M42		ZBParam setting complete
F20		ZBParam setting FB error
M51	OPR detailed parameters setting	ZDParam setting ready
M52		ZDParam setting complete
F25		ZDParam setting FB error
M61	Positioning data setting	Positioning data setting ready
M62		Positioning data setting comp
F30		Positioning setting FB error
M72	PLC ready signal ON	PLC ready signal ON ready
M73		PLC ready signal ON complete
M81	Positioning start	Positioning start ready
M82		Execution complete
F35		Positioning start FB error
M93	JOG/inching operation	JOG operation FB ready
M94		Operation started
F40		JOG operation FB error
M101	Manual pulse generator operation	MPG operation ready
M102		MPG enable complete
F45		MPG operation FB error
M111	Speed change	Speed change ready
M112		Speed change request complete
F50		Speed change FB error
M121	Override	Override ready
M122		Override value setting complete
F55		Override FB error
M132	Acceleration/deceleration time setting value change	Acc/Dec time change ready
M133		Acc/Dec time change request
F60		Acc/Dec time change FB error
M141	Target position change	Target position change ready
M142		Target position change request
F65		Target position change FB error
M151	Restart	Restart ready
M152		Restart acceptance complete
F70		Restart FB error
M162	Error operation	Error reset ready
M163		Error reset complete
M164		Axis error detection
M165		Axis warning detection
F75		Error operation FB error
M171	Parameter initialization	Parameter initialization ready
M172		Parameter initialization comp
M181	Flash ROM writing	Flash ROM writing ready
M182		Flash ROM writing complete
M191	Absolute position restoration	ABS restoration ready
M192		ABS restoration request complete
M193		ABS error
Y20		Servo ON signal
Y21		ABS transmission mode
Y22		ABS request flag
F80		ABS restoration FB error

Program

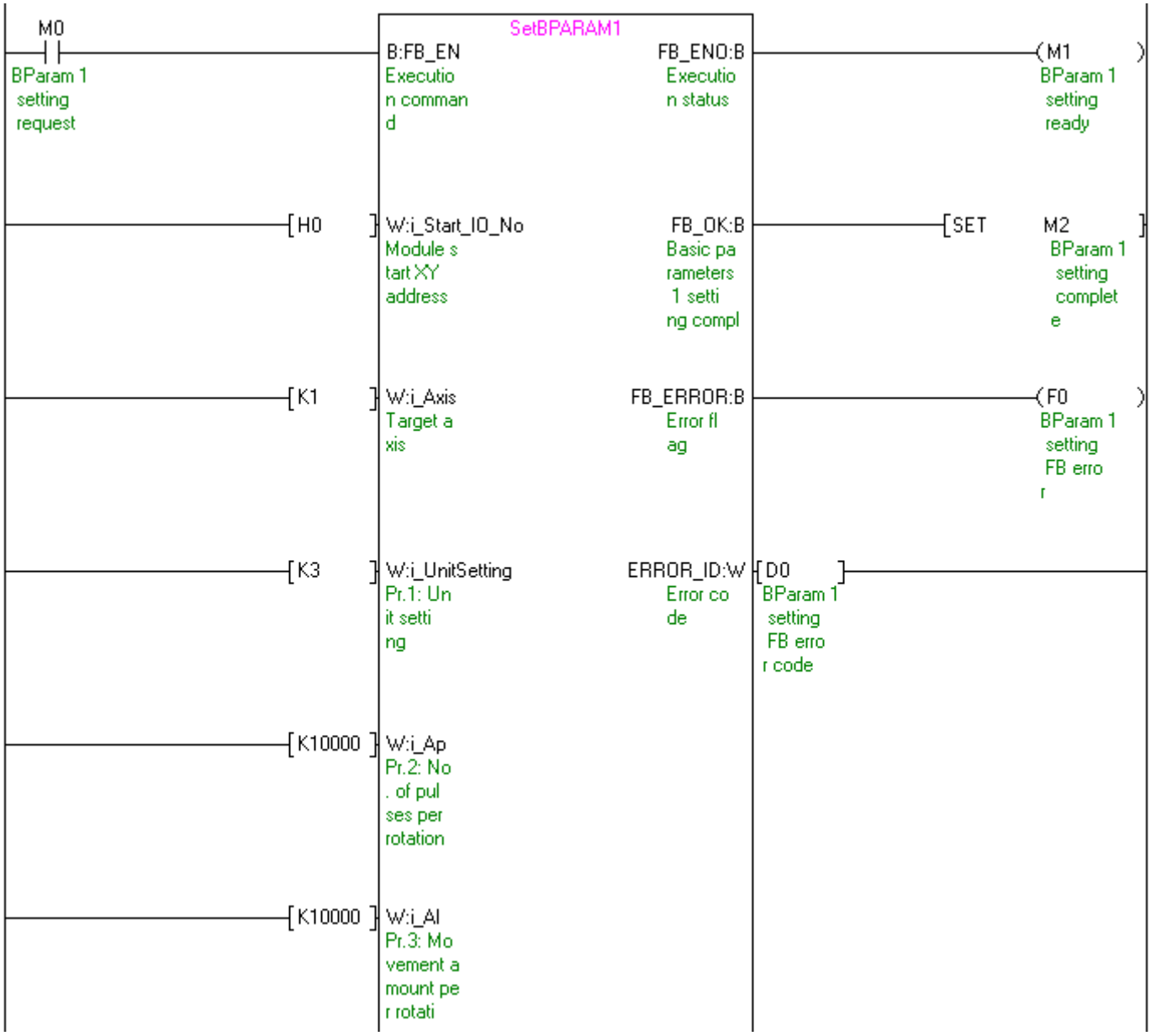
M+D75_SetBPARAM1 (Basic parameters 1 setting)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_UnitSetting	K3	Set the unit setting to pulse.
i_Ap	K10000	Set the No. of pulses per rotation to 10,000.
i_Al	K10000	Set the movement amount per rotation to 10,000.
i_Am	K1	Set the unit magnification to 1-fold.
i_PlsOutputMode	K0	Set the pulse output mode to PULSE/SIGN mode.
i_Rotation	K0	Set the rotation direction setting to "Current value increment with forward run pulse output".
i_BiasSpeed	K100	Set the bias speed at start to 100.

By turning ON M0, the basic parameters 1 values for axis 1 are written to the buffer memory.

*It is recommended to use GX Configurator-QP or the configuration function of GX Works 2 to perform module initialization such as parameter setting. In this case, using this FB is unnecessary.

*The basic parameter 1 setting complete (M2) contact is used for PLC ready signal ON FB (M+D75_CPUReady).



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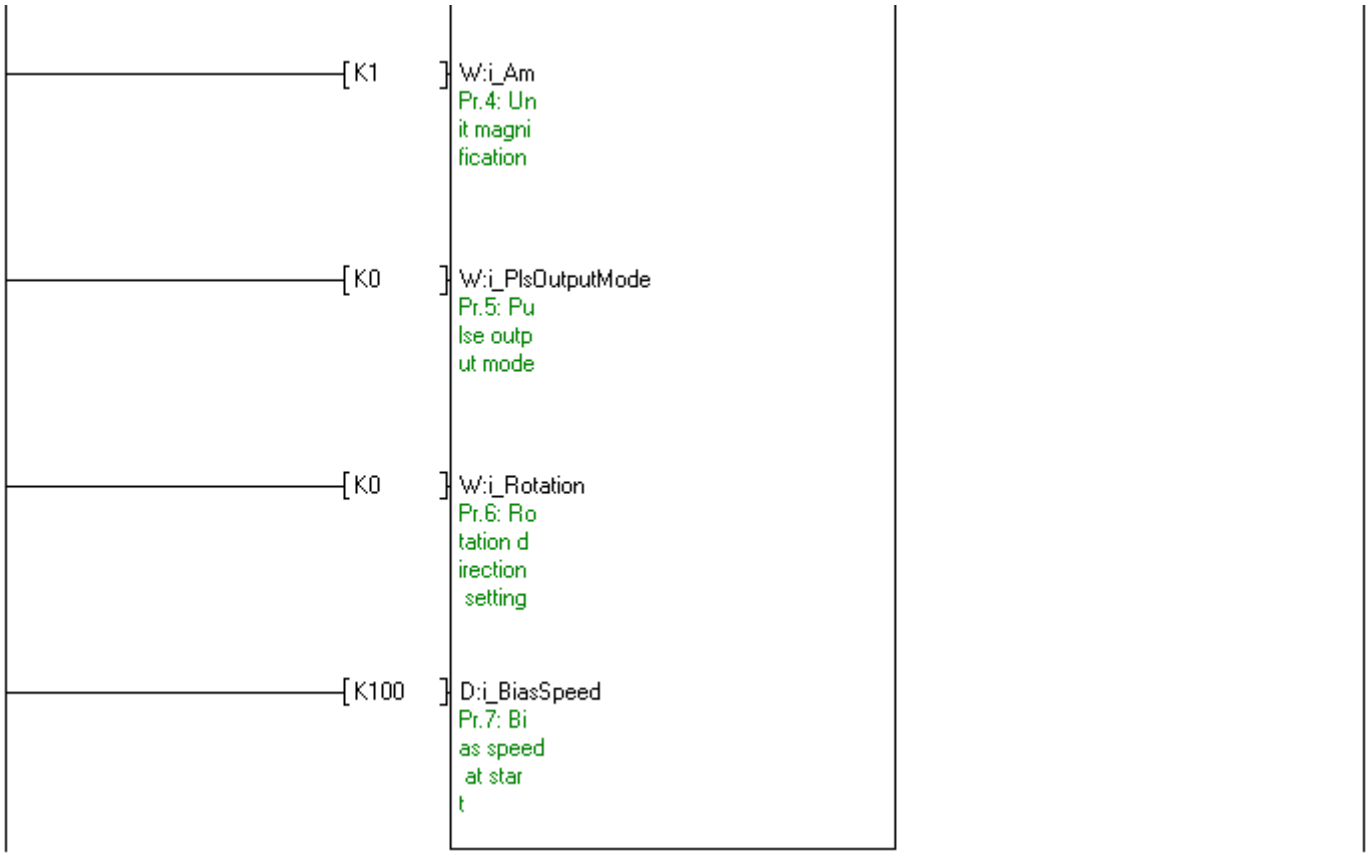
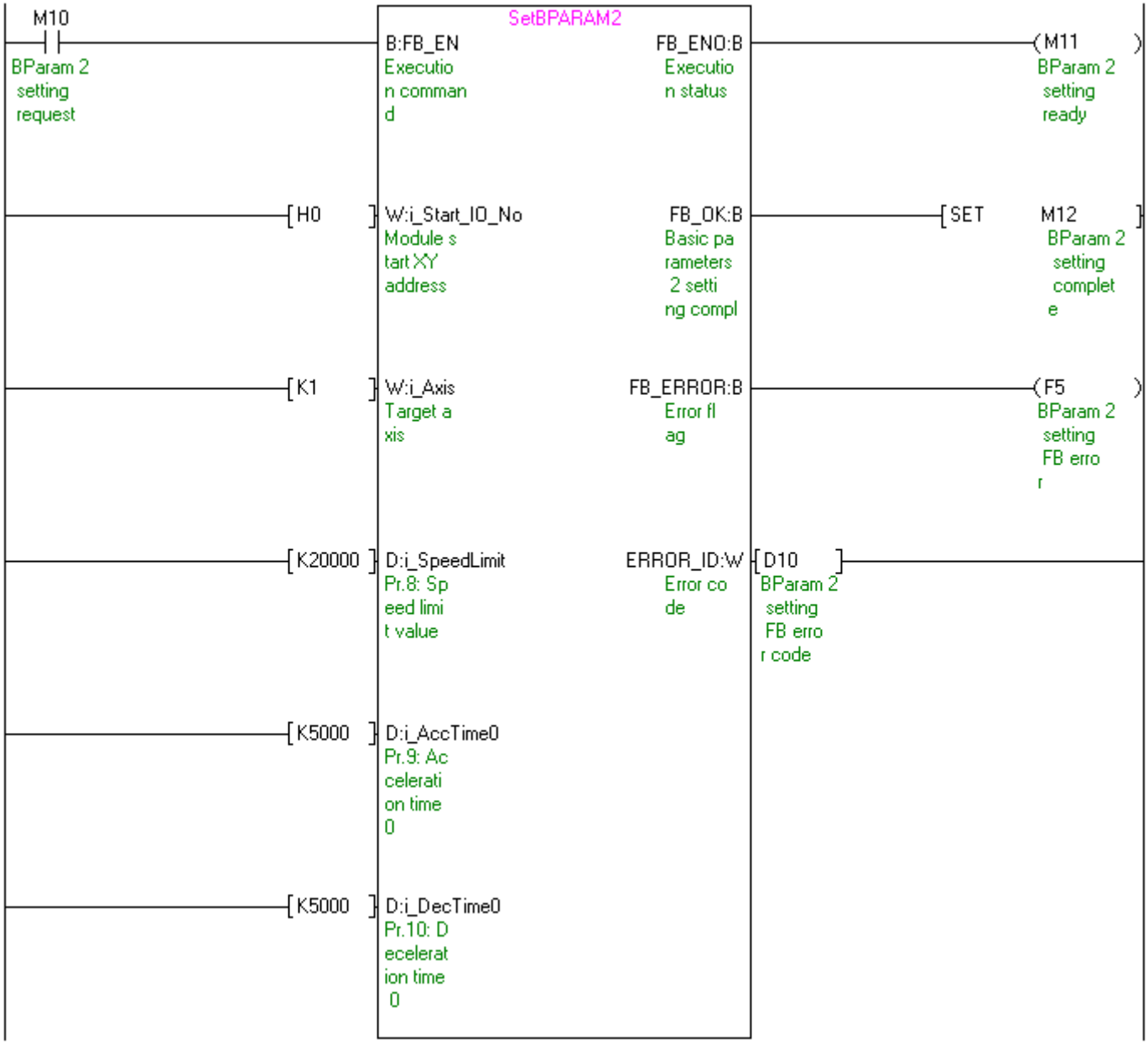

K1
W:i_Am
Pr.4: Un
it magni
fication
K0
W:i_PlsOutputMode
Pr.5: Pu
lse outp
ut mode
K0
W:i_Rotation
Pr.6: Ro
tation d
irection
setting
K100
D:i_BiasSpeed
Pr.7: Bi
as speed
at star
t

M+D75_SetBPARAM2 (Basic parameters 2 setting)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_SpeedLimit	K20000	Set the speed limit value to 20,000.
i_AccTime0	K5000	Set the acceleration time 0 to 5,000.
i_DecTime0	K5000	Set the deceleration time 0 to 5,000.

By turning ON M10, the basic parameters 2 values for axis 1 are written to the buffer memory.

*It is recommended to use GX Configurator-QP or the configuration function of GX Works 2 to perform module initialization such as parameter setting. In this case, using this FB is unnecessary.


M10
BParam 2 setting request
SetBPARAM2
B:FB_EN Executio n comman d
FB_ENO:B Executio n status
M11 BParam 2 setting ready
H0
W:i_Start_IO_No Module s tart XY address
FB_OK:B Basic pa rameters 2 setti ng compl
SET M12 BParam 2 setting complet e
K1
W:i_Axis Target a xis
FB_ERROR:B Error fl ag
F5 BParam 2 setting FB erro r
K20000
D:i_SpeedLimit Pr.8: Sp eed limi t value
ERROR_ID:W Error co de
D10 BParam 2 setting FB erro r code
K5000
D:i_AccTime0 Pr.9: Ac celerati on time 0
K5000
D:i_DecTime0 Pr.10: D ecelerat ion time 0

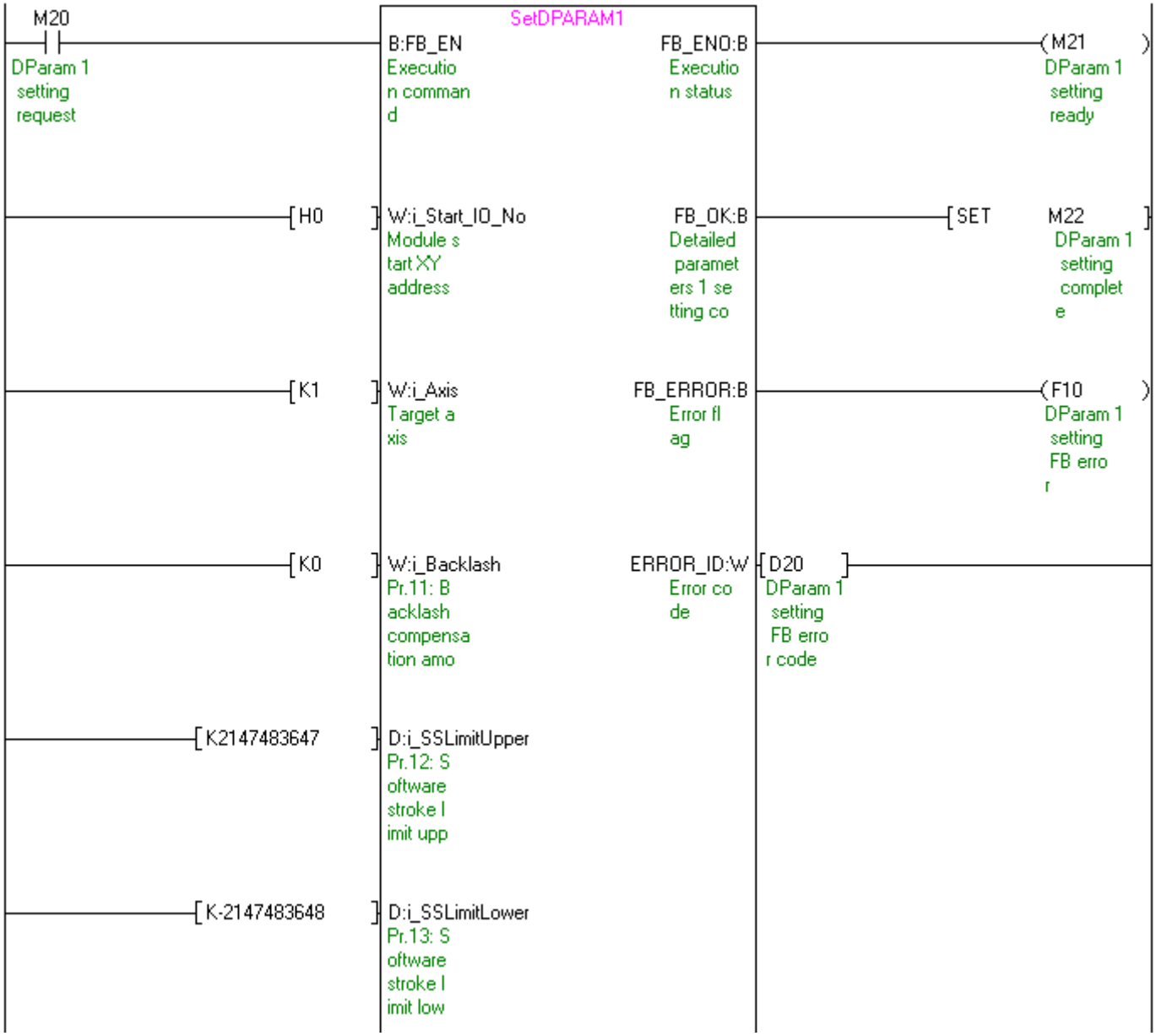
M+D75_SetDPARAM1 (Detailed parameters 1 setting)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_Backlash	K0	Set the backlash compensation amount to 0.
i_SSLimitUpper	K2147483647	Set the software stroke limit upper limit value to 2,147,483,647.
i_SSLimitLower	K-2147483648	Set the software stroke limit lower limit value to -2,147,483,648.
i_SSLimitSelect	K0	Set the software stroke limit selection to "Apply software stroke limit on current feed value".
i_SSLimitSetting	K0	Set the software stroke limit valid/invalid setting to "Software stroke limit valid during JOG operation, inching operation, and manual pulse generator operation".
i_InPosition	K100	Set the command in-position width to 100.
i_TorqueLimit	K100	Set the torque limit setting value to 100%.
i_MCodeTiming	K0	Set the M code ON signal output timing to "WITH mode".
i_SpeedSwMode	K0	Set the speed switching mode to "Standard speed switching mode".
i_InterpolaSpeed	K0	Set the interpolation speed designation method to "Composite speed".
i_SpeedCntValue	K1	Set the current feed value during speed control to "Update current feed value".
i_InputSigLogic	H0	Set the all input signals to negative logic.
i_OutputSigLogic	H0	Set the all output signals to negative logic.
i_MPGInputSelect	K0	Set the manual pulse generator input selection to "A-phase/B-phase; multiplied by 4".
i_SPFuncSelect	K0	Set the speed-position function selection to "Speed-positioning switching control (INC mode)".

By turning ON M20, the detailed parameters 1 values for axis 1 are written to the buffer memory.

*It is recommended to use GX Configurator-QP or the configuration function of GX Works 2 to perform module initialization such as parameter setting. In this case, using this FB is unnecessary.

*The detailed parameters 1 setting complete (M22) contact is used for PLC ready signal ON FB (M+D75_CPUReady).



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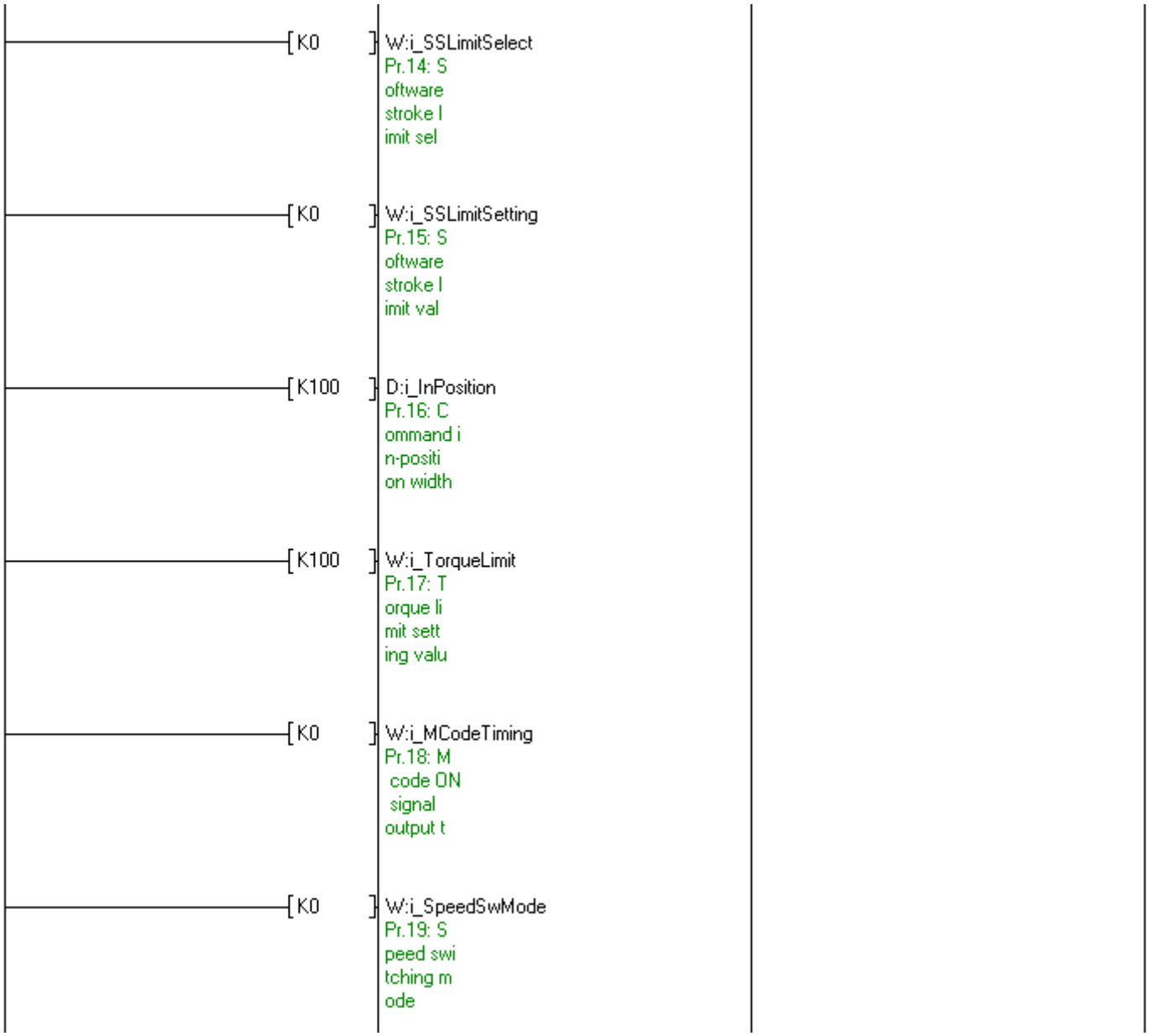

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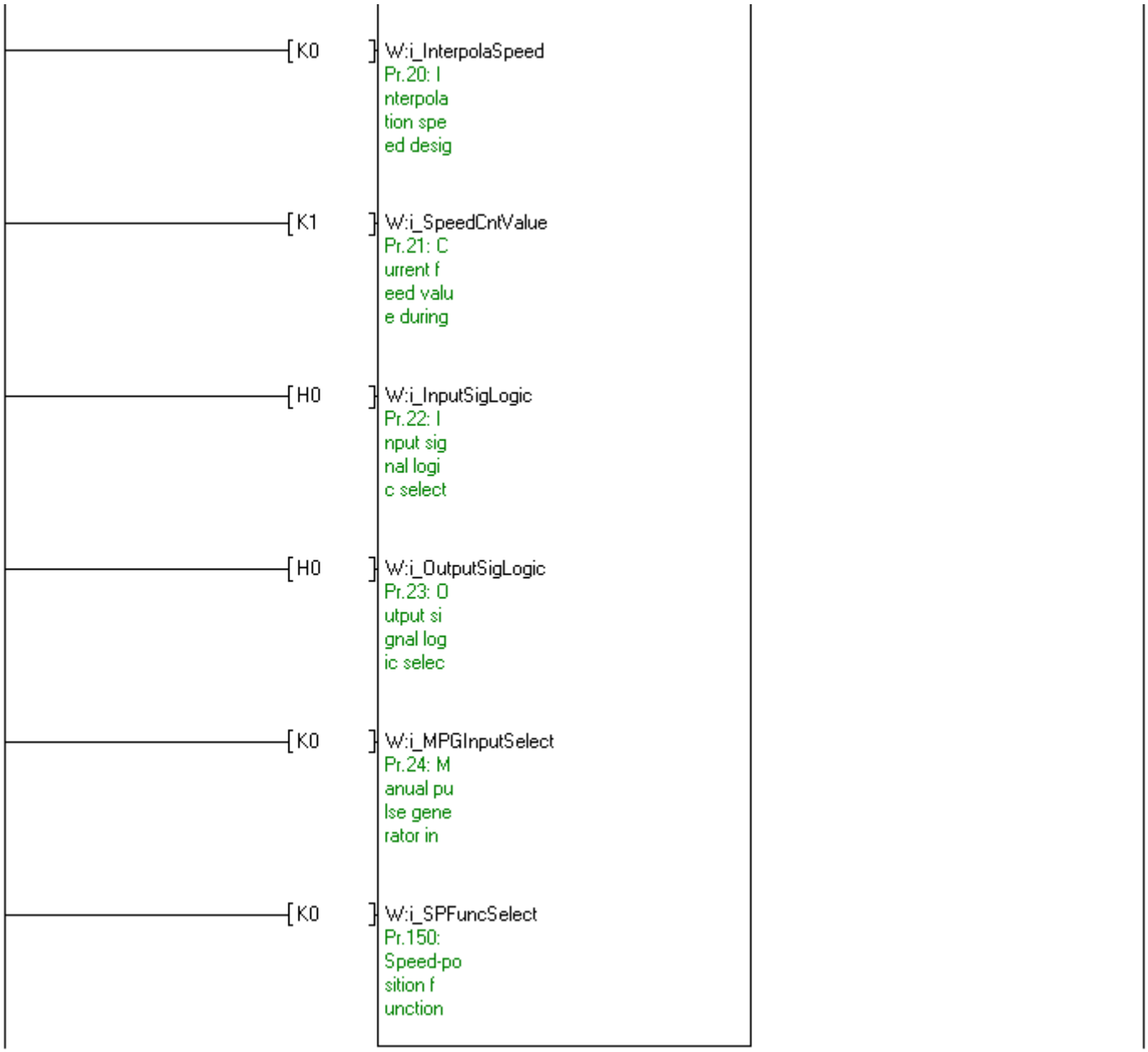
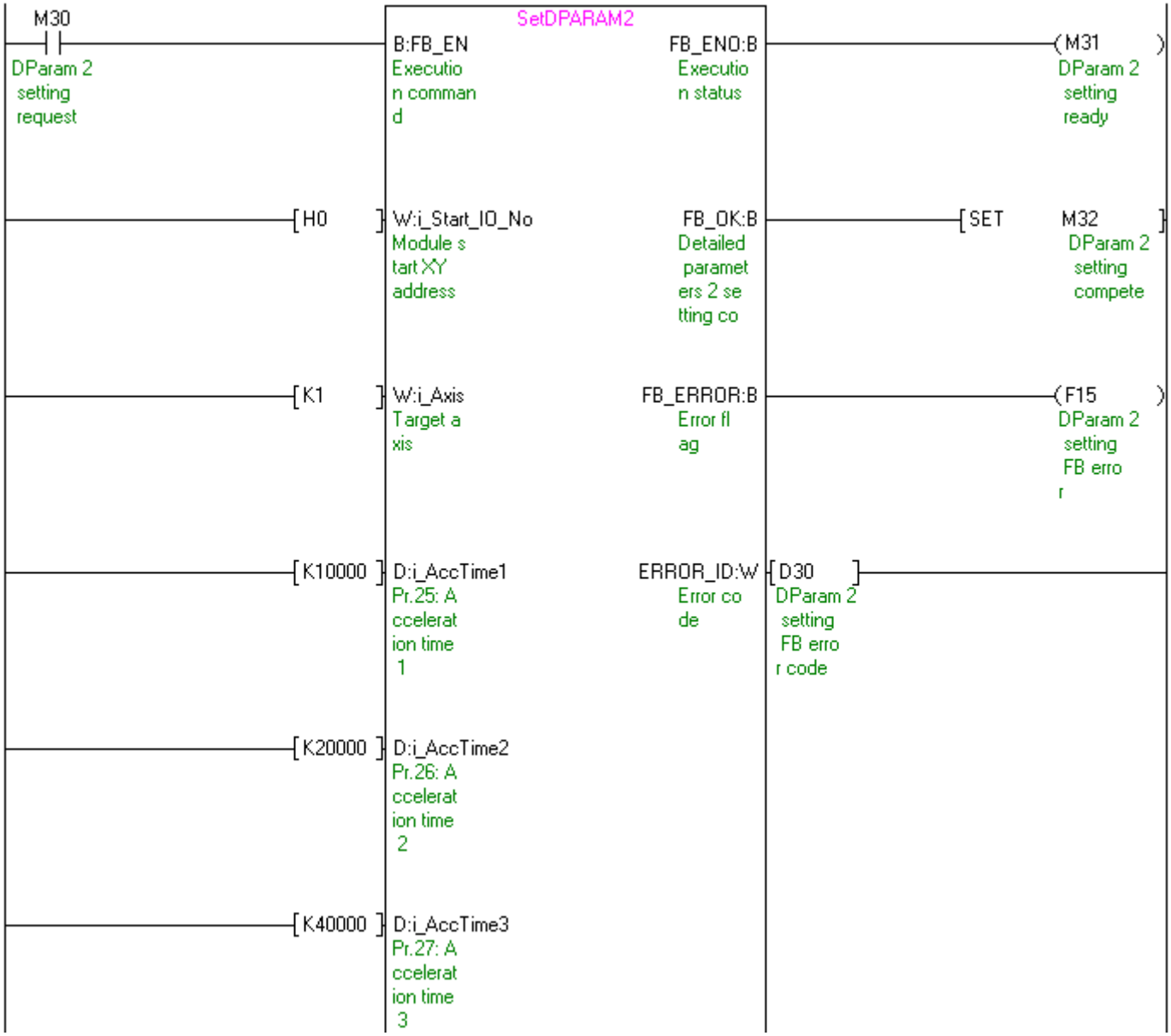

K0
W:i_InterpolaSpeed
Pr.20: I
nterpola
tion spe
ed desig
K1
W:i_SpeedCntValue
Pr.21: C
urrent f
eed valu
e during
H0
W:i_InputSigLogic
Pr.22: I
nput sig
nal logi
c select
H0
W:i_OutputSigLogic
Pr.23: O
utput si
gnal log
ic selec
K0
W:i_MPGInputSelect
Pr.24: M
anual pu
lse gene
rator in
K0
W:i_SPFuncSelect
Pr.150:
Speed-po
sition f
unction

M+D75_SetDPARAM2 (Detailed parameters 2 setting)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_AccTime1	K10000	Set the acceleration time 1 to 10,000.
i_AccTime2	K20000	Set the acceleration time 2 to 20,000.
i_AccTime3	K40000	Set the acceleration time 3 to 40,000.
i_DecTime1	K10000	Set the deceleration time 1 to 10,000.
i_DecTime2	K20000	Set the deceleration time 2 to 20,000.
i_DecTime3	K40000	Set the deceleration time 3 to 40,000.
i_JogSpeedLimit	K10000	Set the JOG speed limit value to 10,000.
i_JogAccTimeSel	K0	Set the JOG operation acceleration time selection to "Acceleration time 0".
i_JogDecTimeSel	K0	Set the JOG operation deceleration time selection to "Deceleration time 0".
i_AccDecProcess	K0	Set the acceleration/deceleration process selection to "Trapezoid acceleration/deceleration process".
i_S_curveRatio	K50	Set the S-curve ratio to 50%.
i_SuddenStopTime	K1000	Set the sudden stop deceleration time to 1,000.
i_StopGroup1	K0	Set the stop group 1 sudden stop selection to "Normal deceleration stop".
i_StopGroup2	K0	Set the stop group 2 sudden stop selection to "Normal deceleration stop".
i_StopGroup3	K0	Set the stop group 3 sudden stop selection to "Normal deceleration stop".
i_PosiCmpSignal	K100	Set the positioning complete signal output time to 100.
i_ArcErrPermit	K1000	Set the allowable circular interpolation error width to 1,000.
i_ExtComFuncSel	K0	Set the external command function selection to "External positioning start".

By turning ON M30, the detailed parameters 2 values for axis 1 are written to the buffer memory.

*It is recommended to use GX Configurator-QP or the configuration function of GX Works 2 to perform module initialization such as parameter setting. In this case, using this FB is unnecessary.



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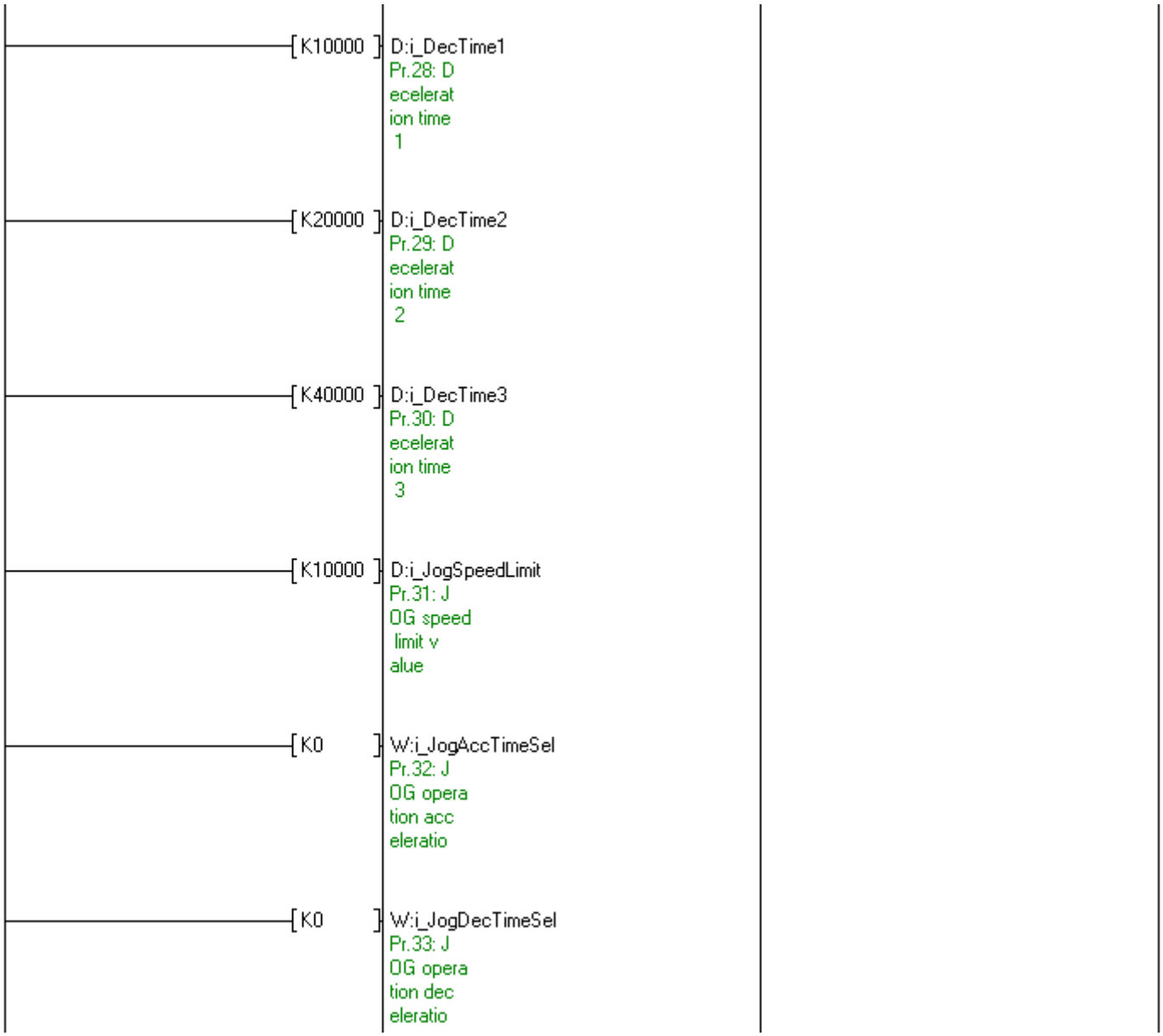

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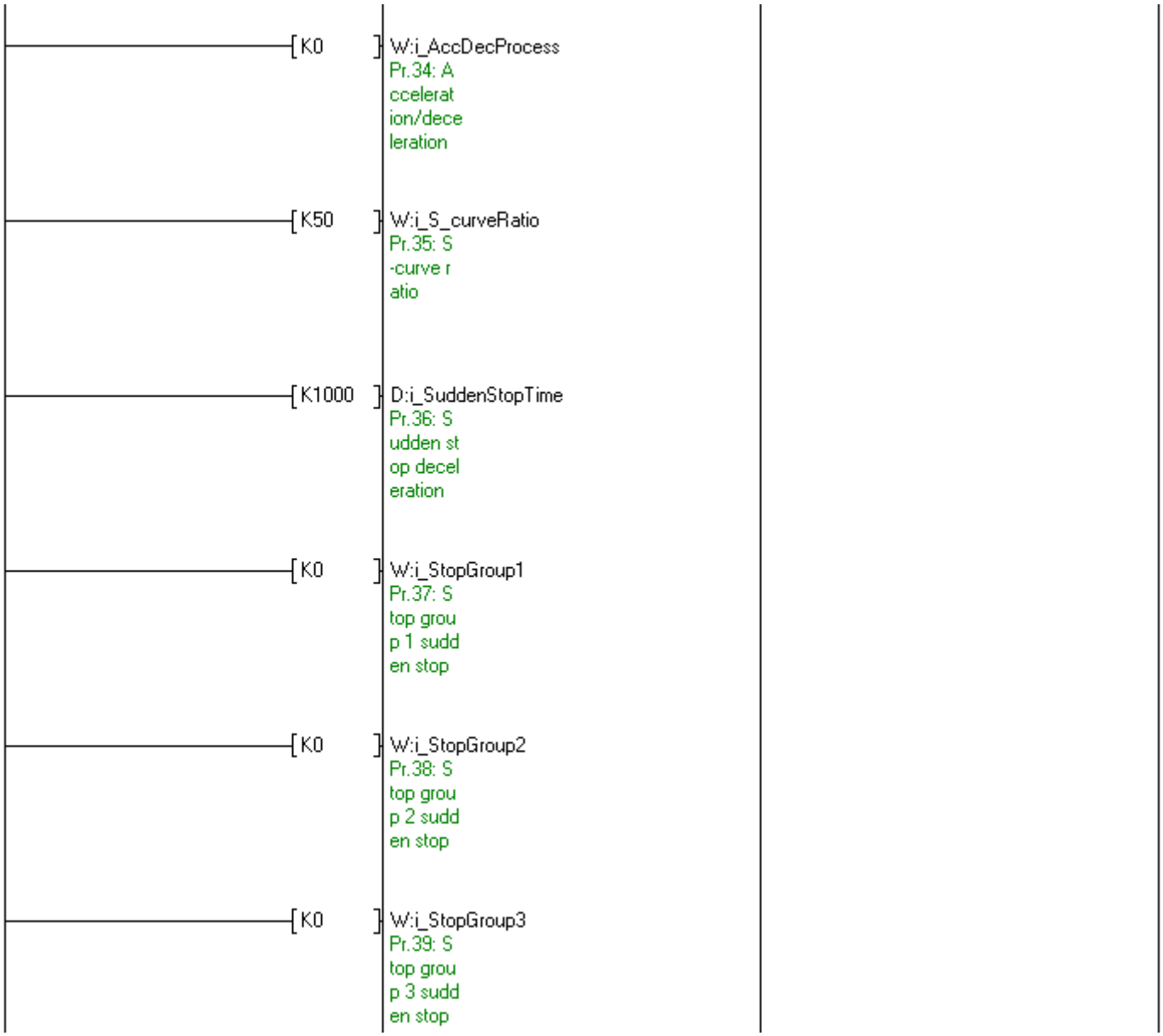

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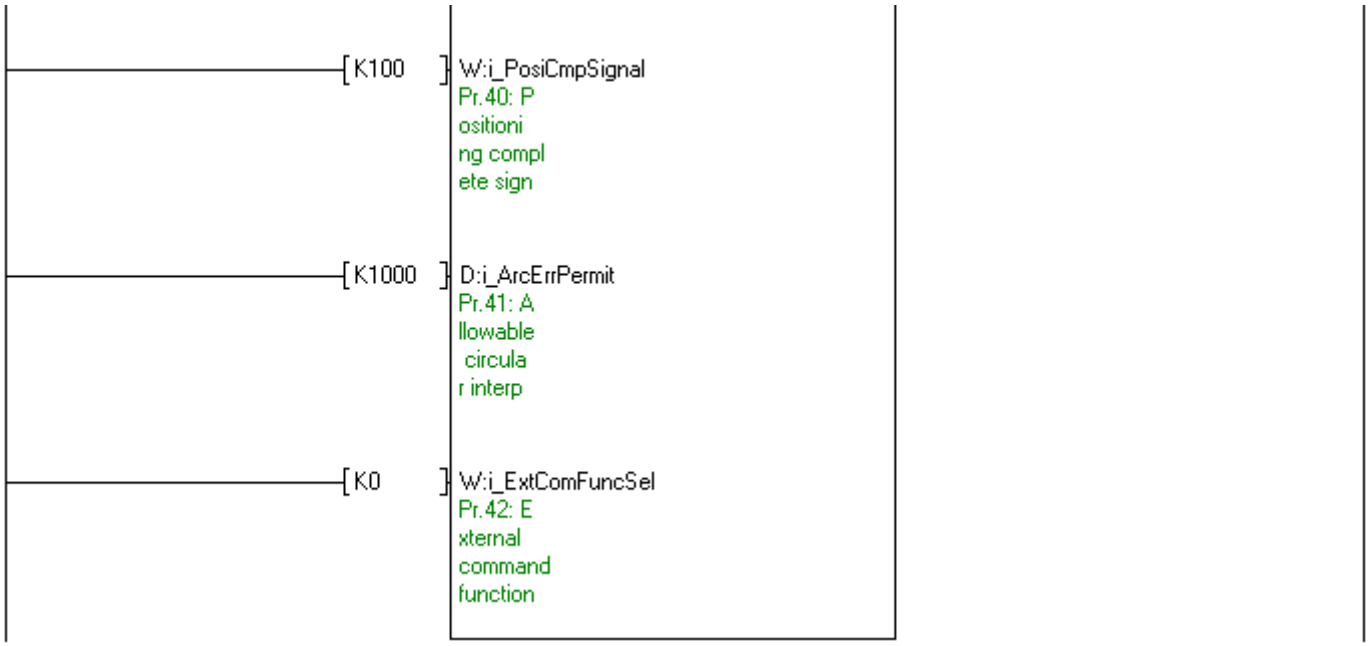

K100
W:i_PosiCmpSignal
Pr.40: P
ositioni
ng compl
ete sign
K1000
D:i_ArcErrPermit
Pr.41: A
llowable
circula
r interp
K0
W:i_ExtComFuncSel
Pr.42: E
xternal
command
function

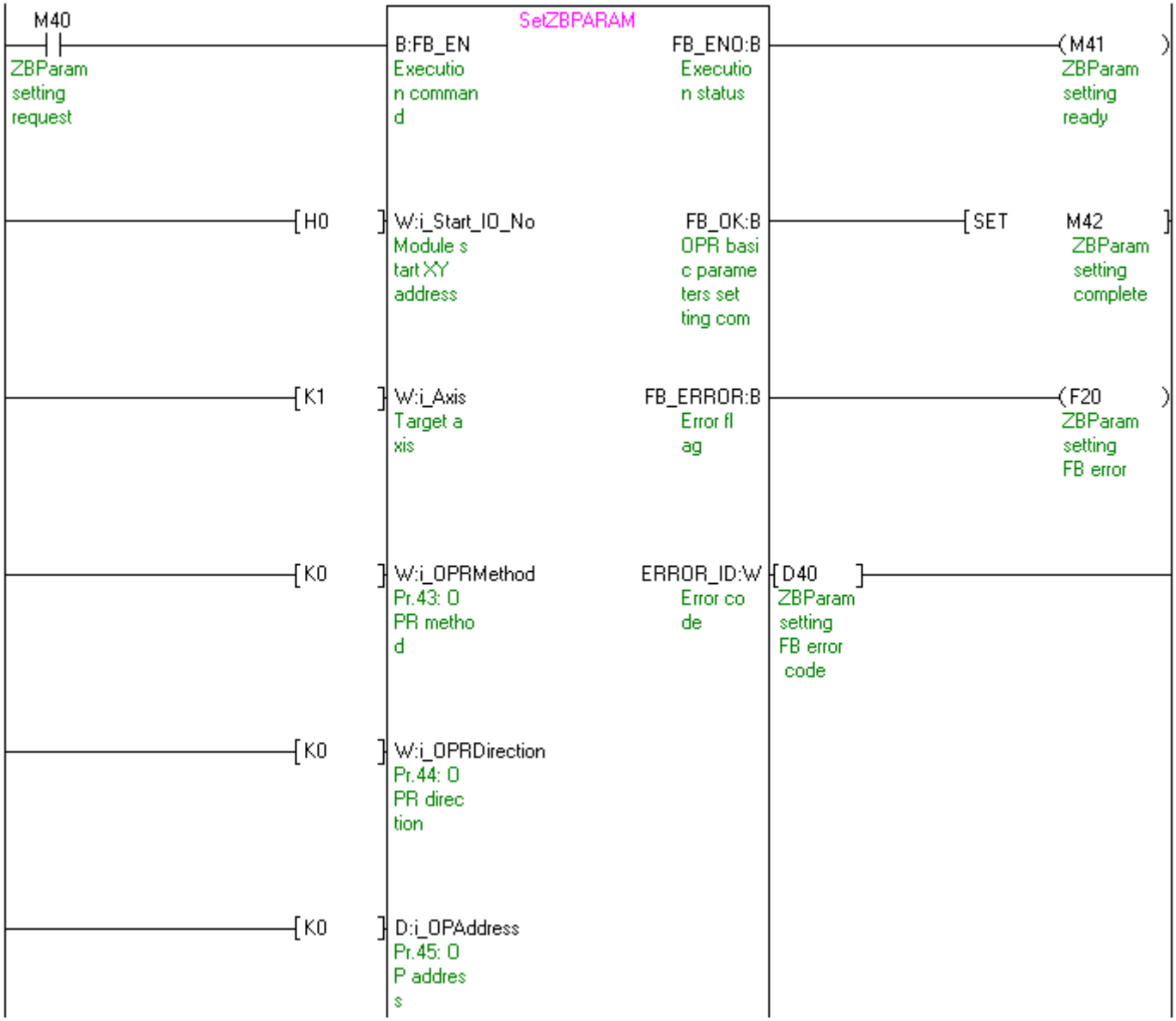
M+D75_SetZBPARAM (OPR basic parameters setting)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_OPRMethod	K0	Set the OPR method to "Near-point dog method".
i_OPRDirection	K0	Set the OPR direction to "Positive direction (address increment direction)".
i_OPAddress	K0	Set the OP address to 0.
i_OPRSpeed	K20000	Set the OPR speed to 20,000.
i_CreepSpeed	K1000	Set the creep speed to 1,000.
i_OPRRetry	K1	Set the OPR retry to "Retry OPR with limit switch.

By turning ON M40, the OPR basic parameters setting values for axis 1 are written to the buffer memory.

*It is recommended to use GX Configurator-QP or the configuration function of GX Works 2 to perform module initialization such as parameter setting. In this case, using this FB is unnecessary.

*The OPR parameters setting complete (M42) contact is used for PLC ready signal ON FB (M+D75_CPUReady).



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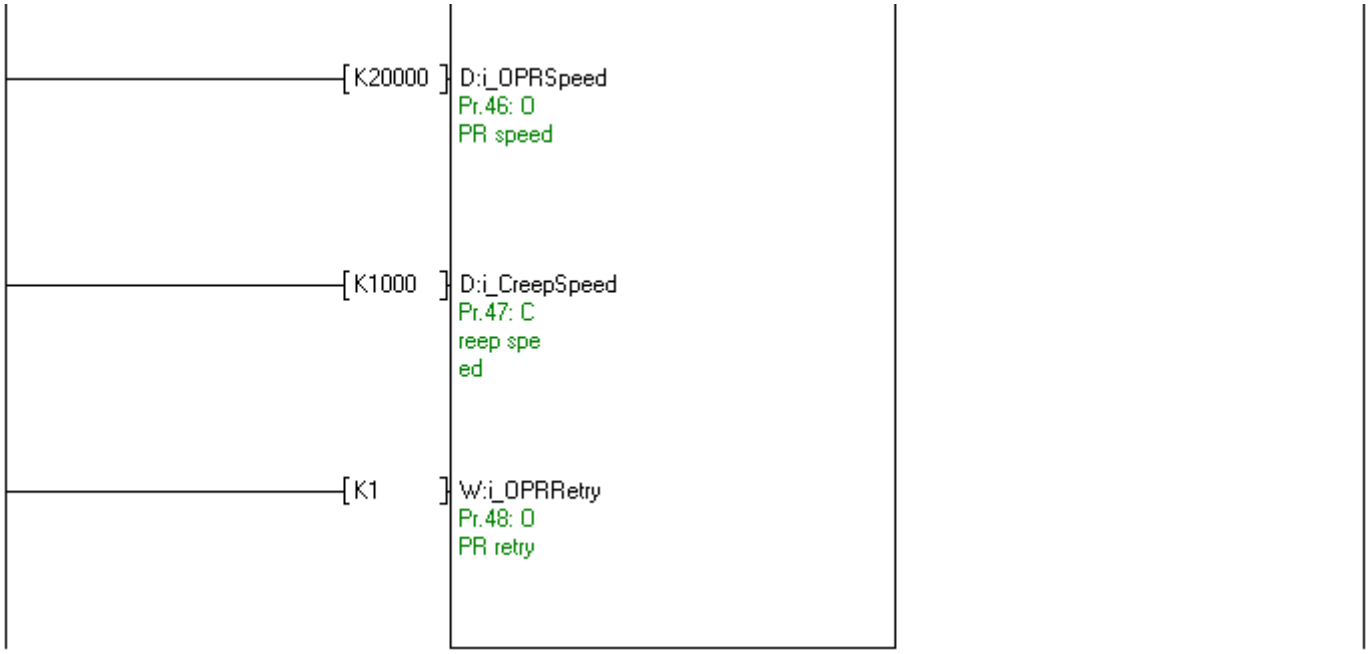

K20000
D:i_OPRSpeed
Pr.46: O
PR speed
K1000
D:i_CreepSpeed
Pr.47: C
reep spe
ed
K1
W:i_OPRRetry
Pr.48: O
PR retry

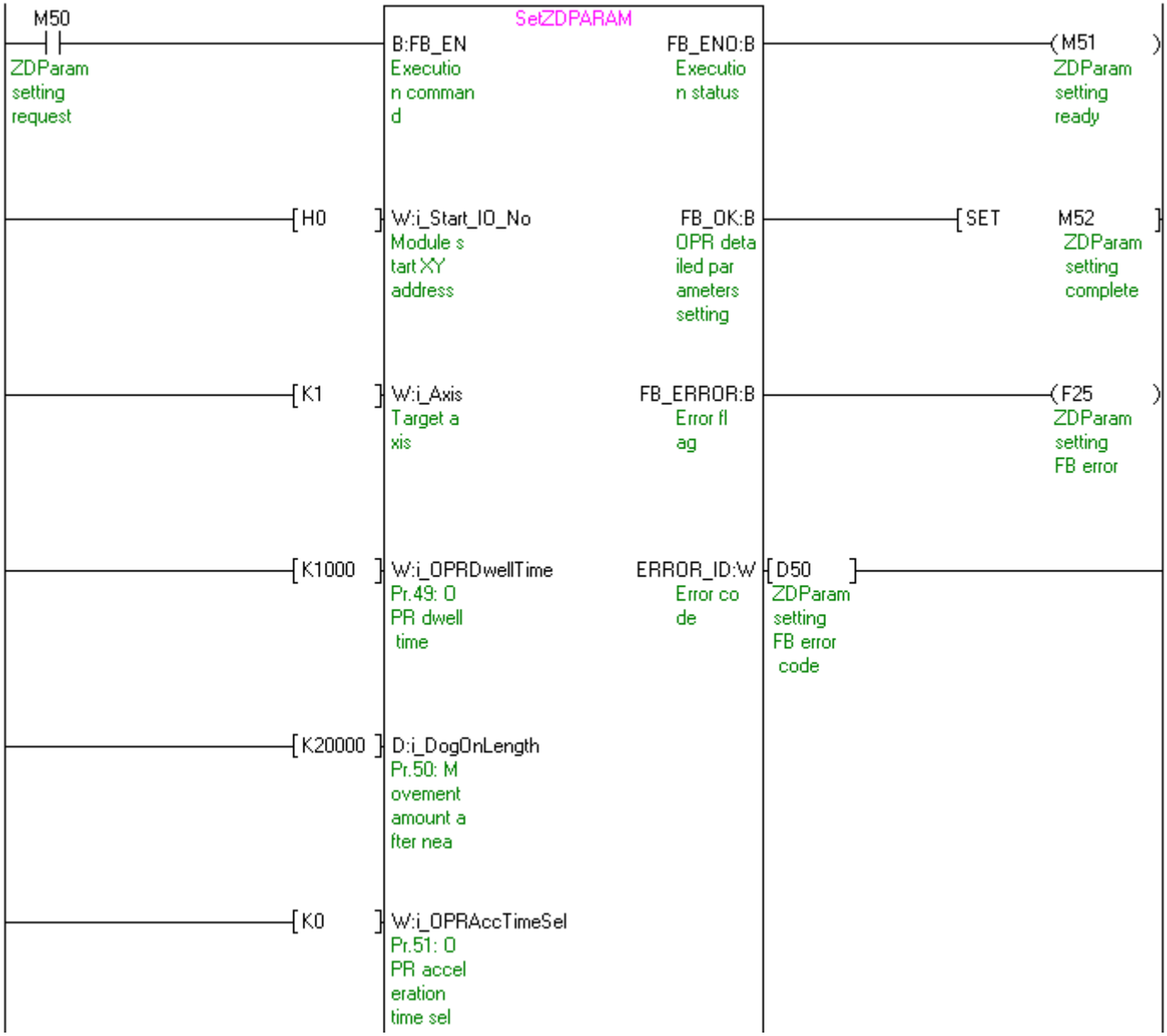
M+D75_SetZDPARAM (OPR detailed parameters setting)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_OPRDwellTime	K1000	Set the OPR dwell time to 1,000.
i_DogOnLength	K20000	Set the movement amount after near-point dog ON to 20,000.
i_OPRAccTimeSel	K0	Set the OPR acceleration time selection to "Acceleration time 0".
i_OPRDecTimeSel	K1	Set the OPR deceleration time selection to "Deceleration time 1".
i_OPShift	K0	Set the OP shift amount to 0.
i_OPRTorqueLim	K100	Set the OPR torque limit value to 100%.
i_DevCntClr	K11	Set the deviation counter clear signal output time to 11.
i_ShiftSpeed	K0	Set the Speed designation during OP shift to "OPR speed".
i_OPRRetryDwell	K100	Set the dwell time during OPR retry to 100.

By turning ON M50, the OPR detailed parameters setting values for axis 1 are written to the buffer memory.

*It is recommended to use GX Configurator-QP or the configuration function of GX Works 2 to perform module initialization such as parameter setting. In this case, using this FB is unnecessary.

*The OPR detailed parameters setting complete (M52) contact is used for PLC ready signal ON FB (M+D75_CPUReady).



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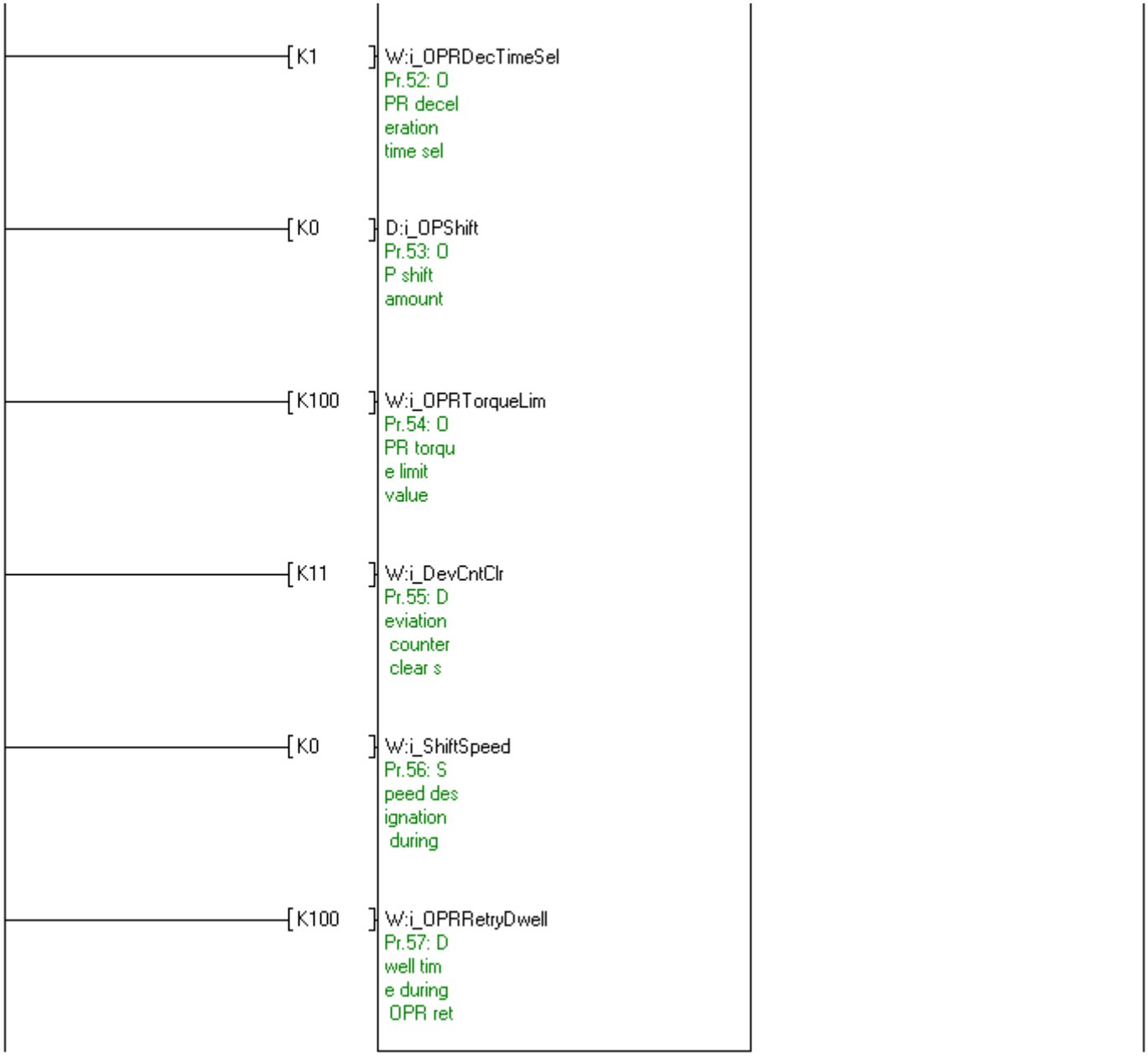
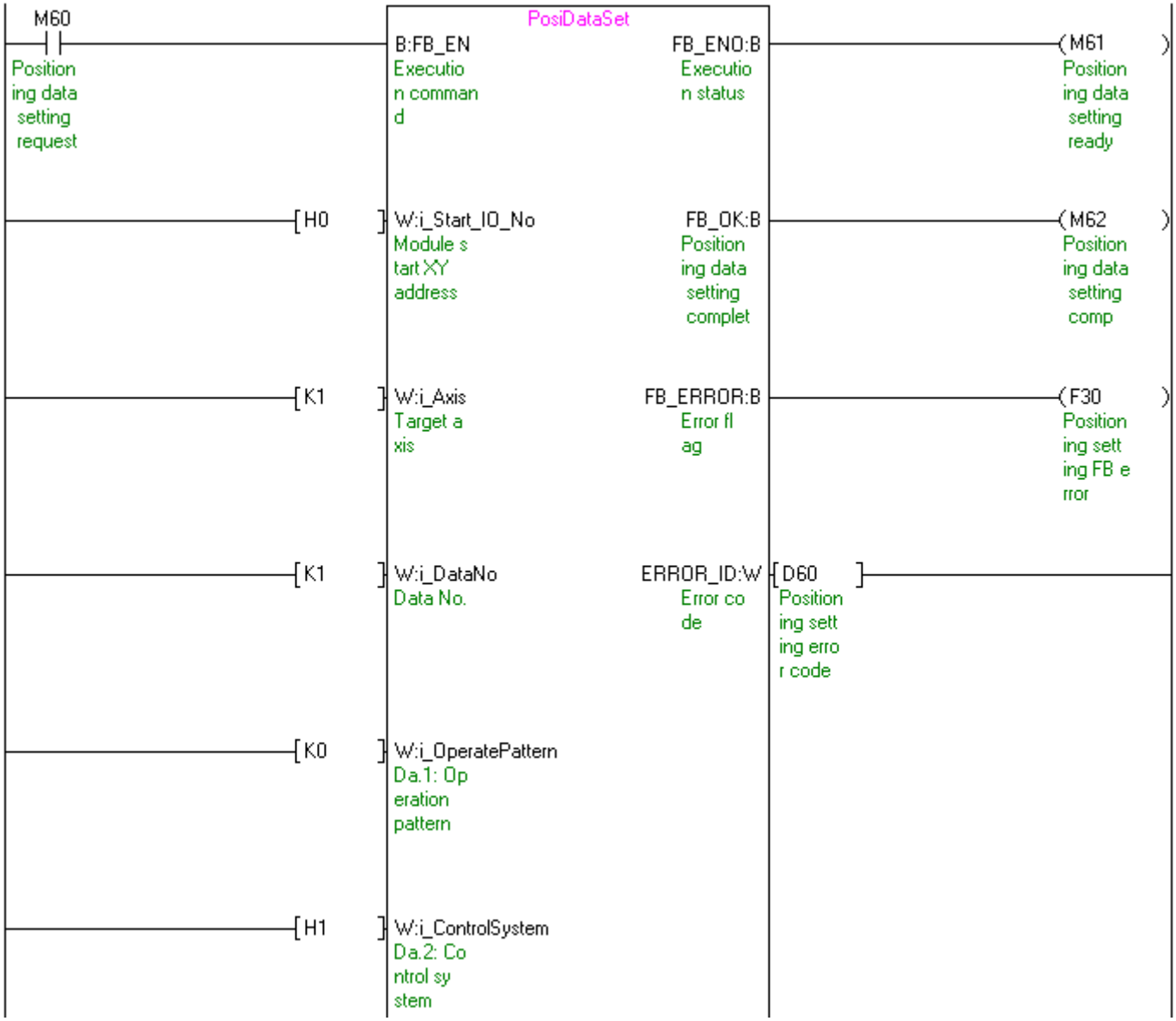

K1
W:i_OPRDecTimeSel
Pr.52: O
PR decel
eration
time sel
K0
D:i_OPShift
Pr.53: O
P shift
amount
K100
W:i_OPRTorqueLim
Pr.54: O
PR torqu
e limit
value
K11
W:i_DevCntClr
Pr.55: D
eviation
counter
clear s
K0
W:i_ShiftSpeed
Pr.56: S
peed des
ignation
during
K100
W:i_OPRRetryDwell
Pr.57: D
well tim
e during
OPR ret

M+D75_PosiDataSet (Positioning data setting)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_DataNo	K1	Set the positioning data No. to 1.
i_OperatePattern	K0	Set the operation pattern to "Positioning complete".
i_ControlSystem	H1	Set the control system to "ABS1 1-axis linear control (ABS)".
i_AccTimeNo	K0	Set the acceleration time No. to "Acceleration time 0".
i_DecTimeNo	K0	Set the deceleration time No. to Deceleration time 0.
i_InterpolatedAx	K0	Set the axis to be interpolated to "Axis 1".
i_Mcode	K0	Set the M code to 0.
i_DwellTime	K0	Set the dwell time to 0.
i_CommandSpeed	K10000	Set the command speed to 10,000.
i_PosiAddr	K300000	Set the position/movement amount to 300,000.
i_ArcAddr	K0	Set the arc address to 0.

By turning ON M60, the positioning data setting for axis 1 is written to the buffer memory.



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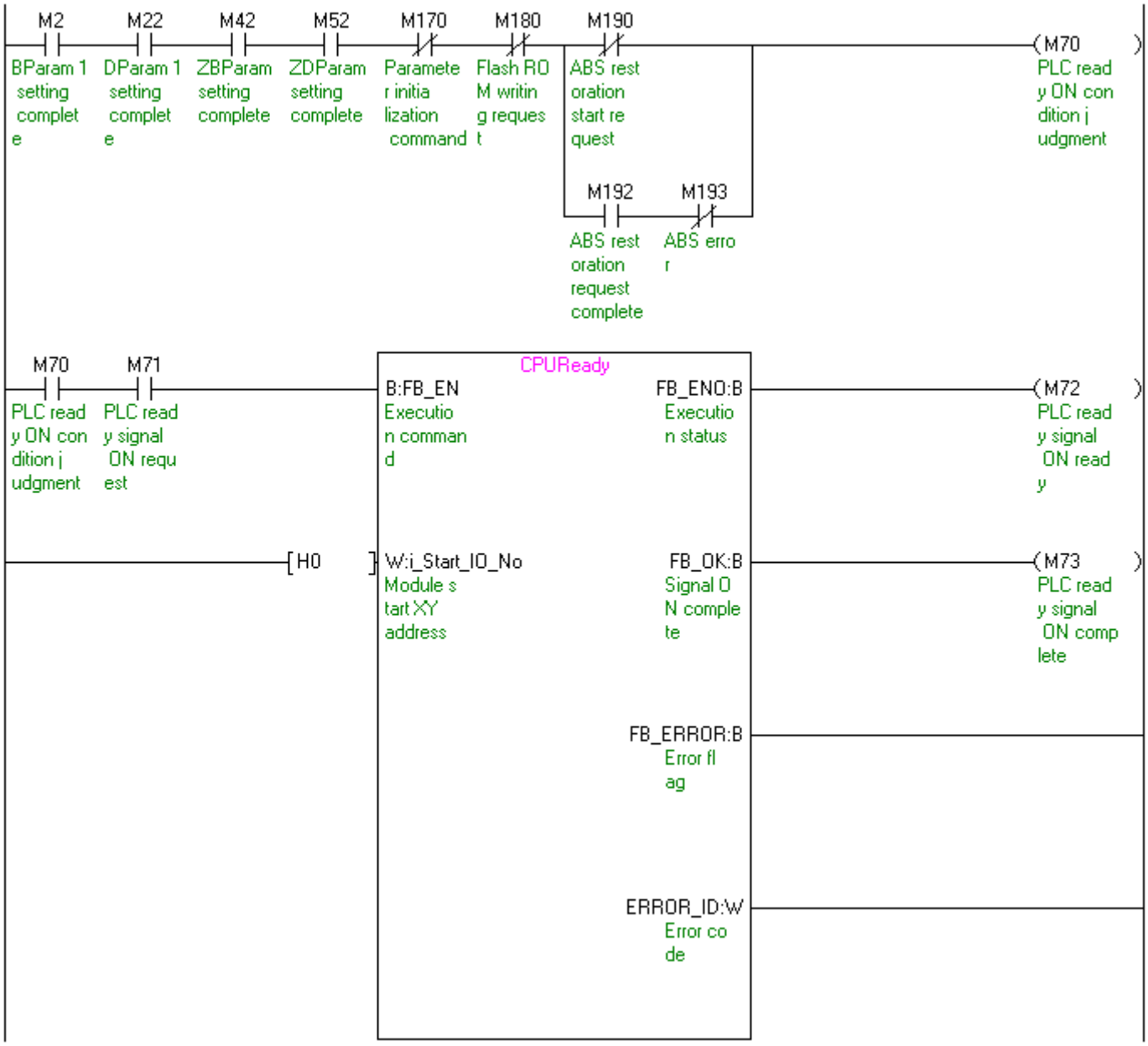
K0
W:i_AccTimeNo
Da.3: Ac
celerati
on time
No.
K0
W:i_DecTimeNo
Da.4: De
celerati
on time
No.
K0
W:i_InterpolatedAx
Da.5: Ax
is to be
interpo
lated
K0
W:i_Mcode
Da.10: M
code
K0
W:i_DwellTime
Da.9: Dw
ell time
K10000
D:i_CommandSpeed
Da.8: Co
mmand sp
eed
K300000
D:i_PosiAddr
Da.6: Po
sitionin
g addres
s
K0
D:i_ArcAddr
Da.7: Ar
c addres
s

M+D75_CPUReady (PLC ready signal ON)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.

By turning ON M71 while M70 is ON, the PLC ready signal is turned ON.

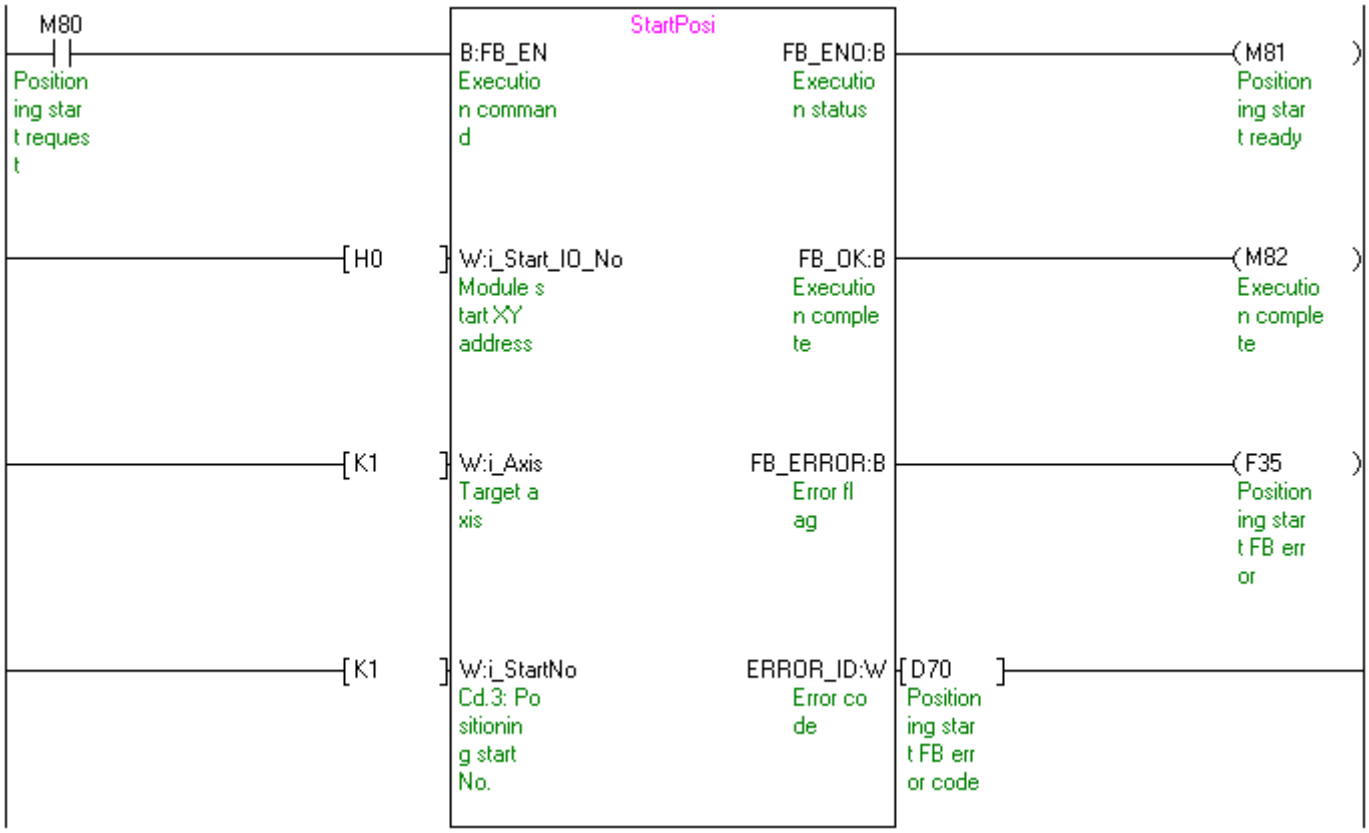
*Contacts of M2, M22, M42 and M52 are not required if initial parameters are set not with the parameter setting FB but with GX Configurator-QP or the configuration function of GX Works 2.



M+D75_StartPosi (Positioning start)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_StartNo	K1	Set the positioning start No. to "Positioning data No.1".

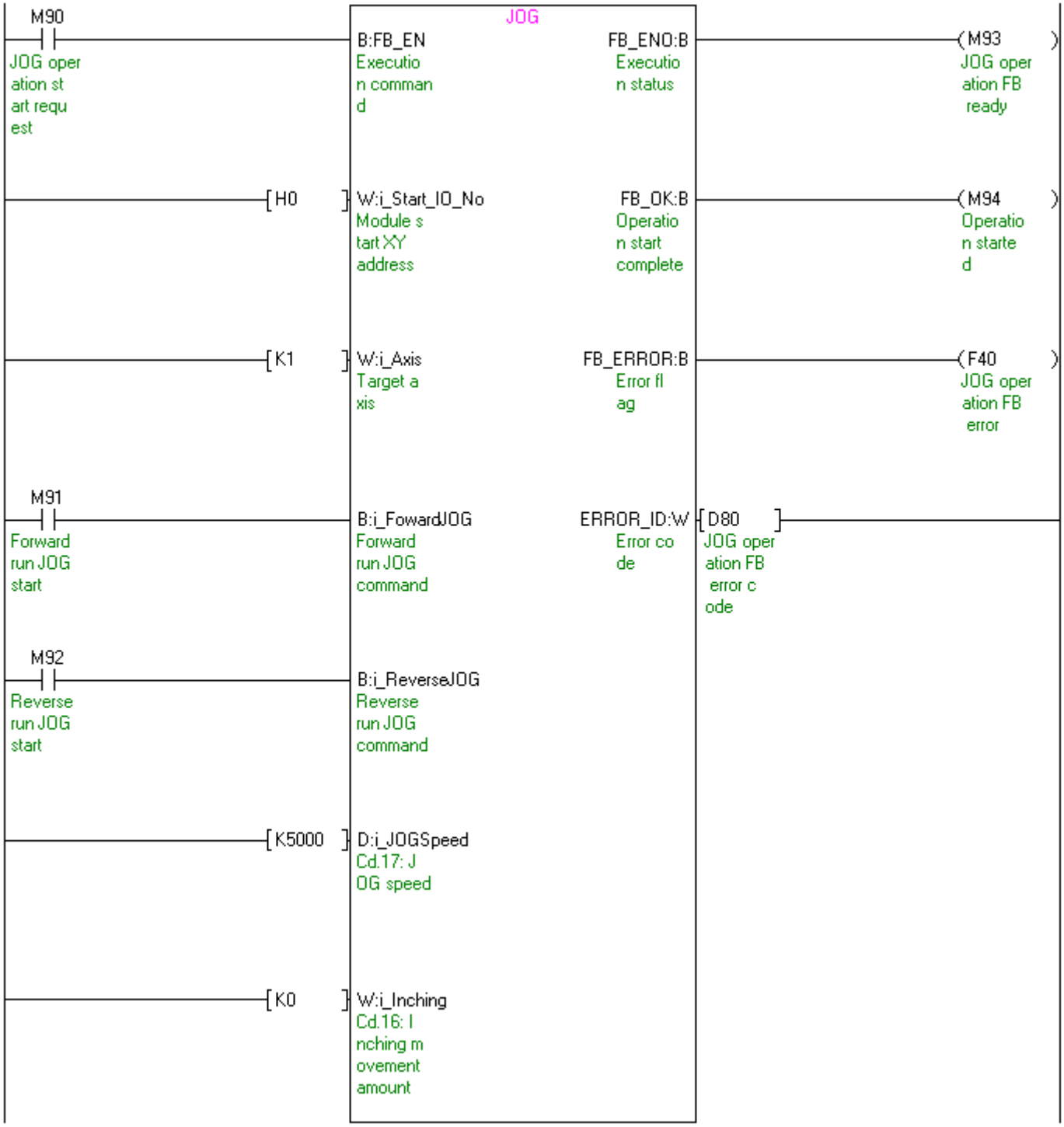
By turning ON M80, the positioning start number for axis 1 is written to the buffer memory.



M+D75_JOG (JOG/inching operation)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_FowardJOG	ON/OFF	Turn ON this parameter to start the forward run JOG.
i_ReverseJOG	ON/OFF	Turn ON this parameter to start the reverse run JOG.
i_JOGSpeed	K5000	Set the JOG speed to 5,000.
i_Inching	K0	Set the inching movement amount to 0.

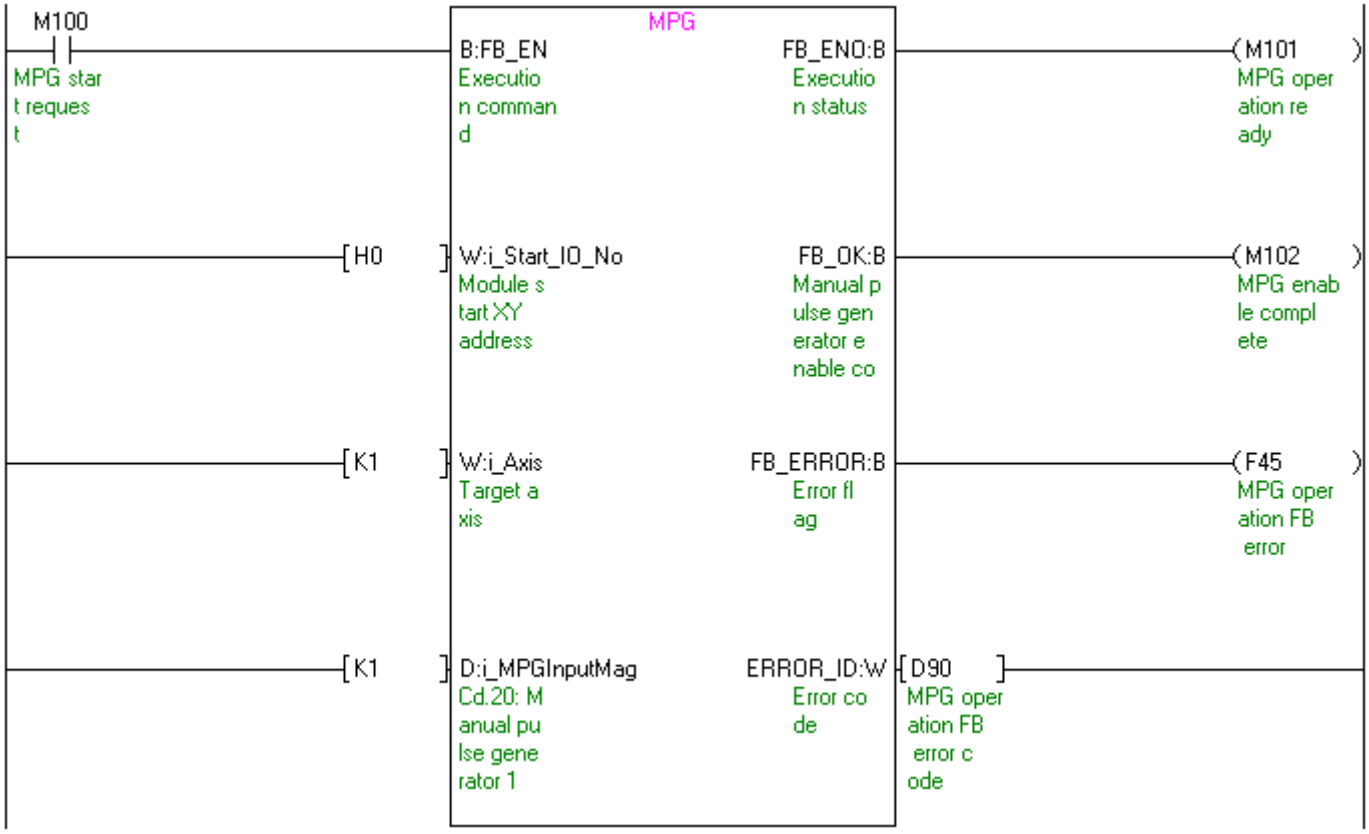
After turning ON M90, the forward run JOG is started by turning ON M91 and the reverse run JOG is started by turning ON M92.


JOG
M90
JOG operation start request
B:FB_EN
Execution command
FB_ENO:B
Execution status
M93
JOG operation FB ready
H0
W:i_Start_IO_No
Module start XY address
FB_OK:B
Operation start complete
M94
Operation started
K1
W:i_Axis
Target axis
FB_ERROR:B
Error flag
F40
JOG operation FB error
M91
Forward run JOG start
B:i_FowardJOG
Forward run JOG command
ERROR_ID:W
Error code
D80
JOG operation FB error code
M92
Reverse run JOG start
B:i_ReverseJOG
Reverse run JOG command
K5000
D:i_JOGSpeed
Cd.17: JOG speed
K0
W:i_Inching
Cd.16: Inching movement amount

M+D75_MPG (Manual pulse generator operation)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_MPGInputMag	K1	Set the manual pulse generator 1 pulse input magnification to 1.

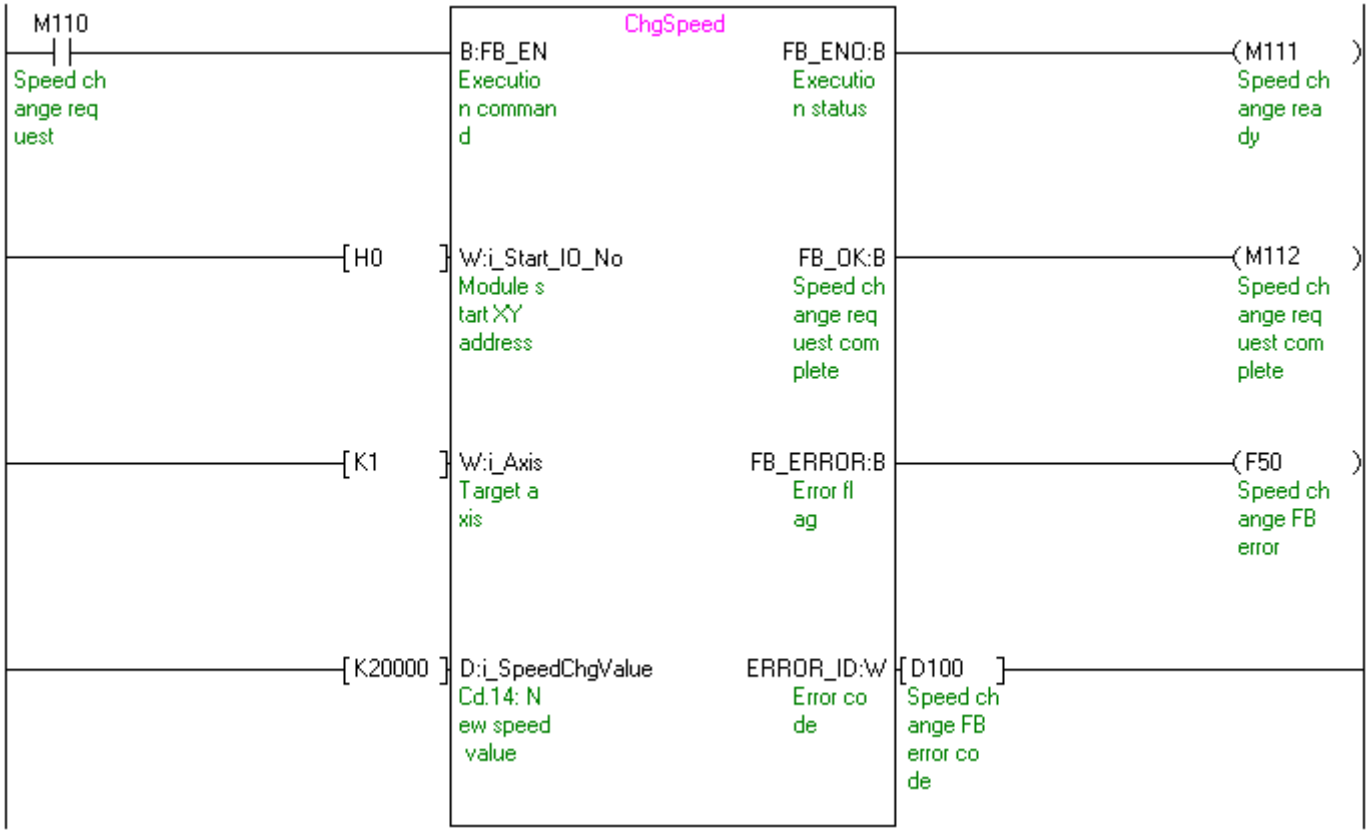
By turning ON M100, the manual pulse generator 1 pulse input magnification for axis 1 is written to the buffer memory and the manual pulse generator operation is enabled.



M+D75_ChgSpeed (Speed change)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_SpeedChgValue	K20000	Set the new speed value to 20,000.

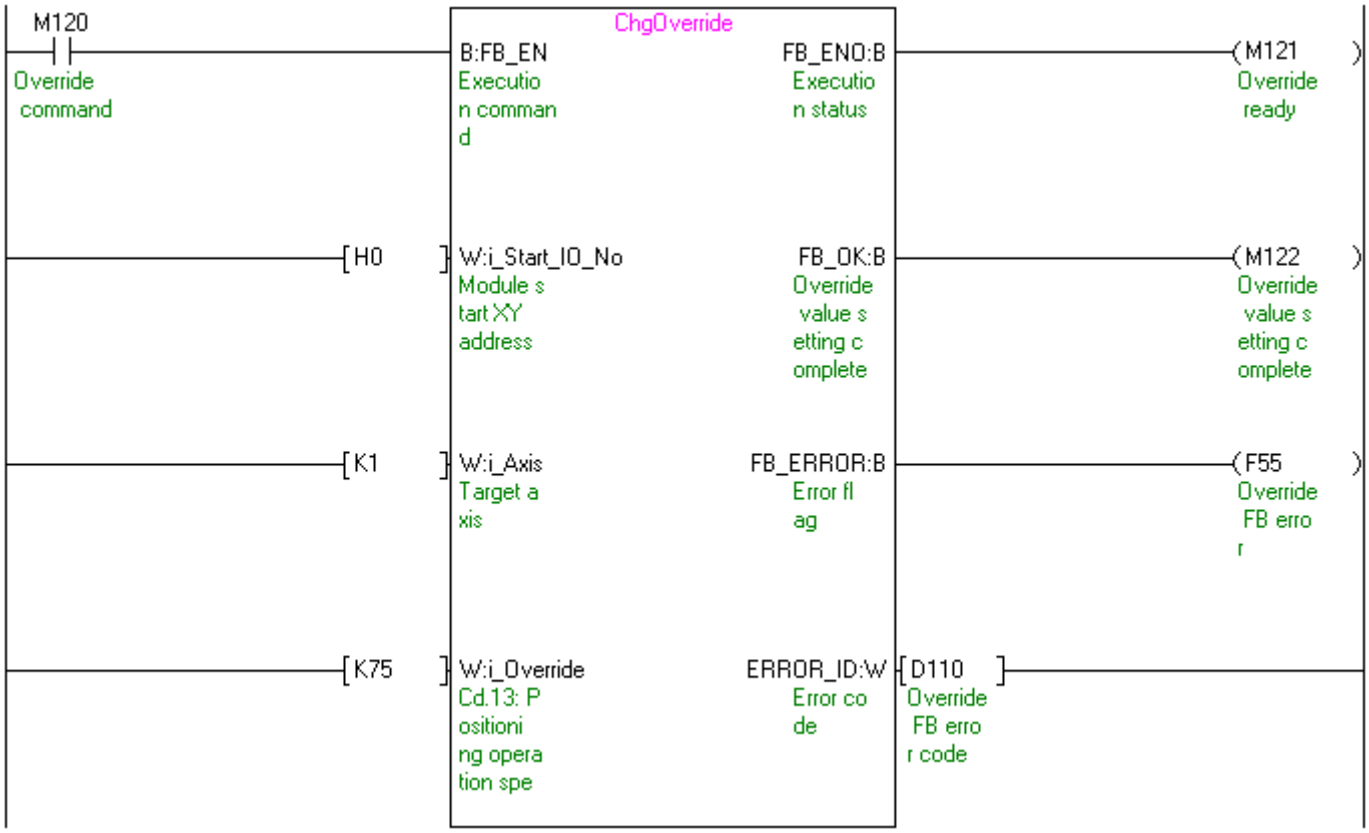
By turning ON M110, the speed for axis 1 that is being controlled is changed to the value set with the new speed value.



M+D75_ChgOverride (Override)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_Override	K75	Set the positioning operation speed override to 75%.

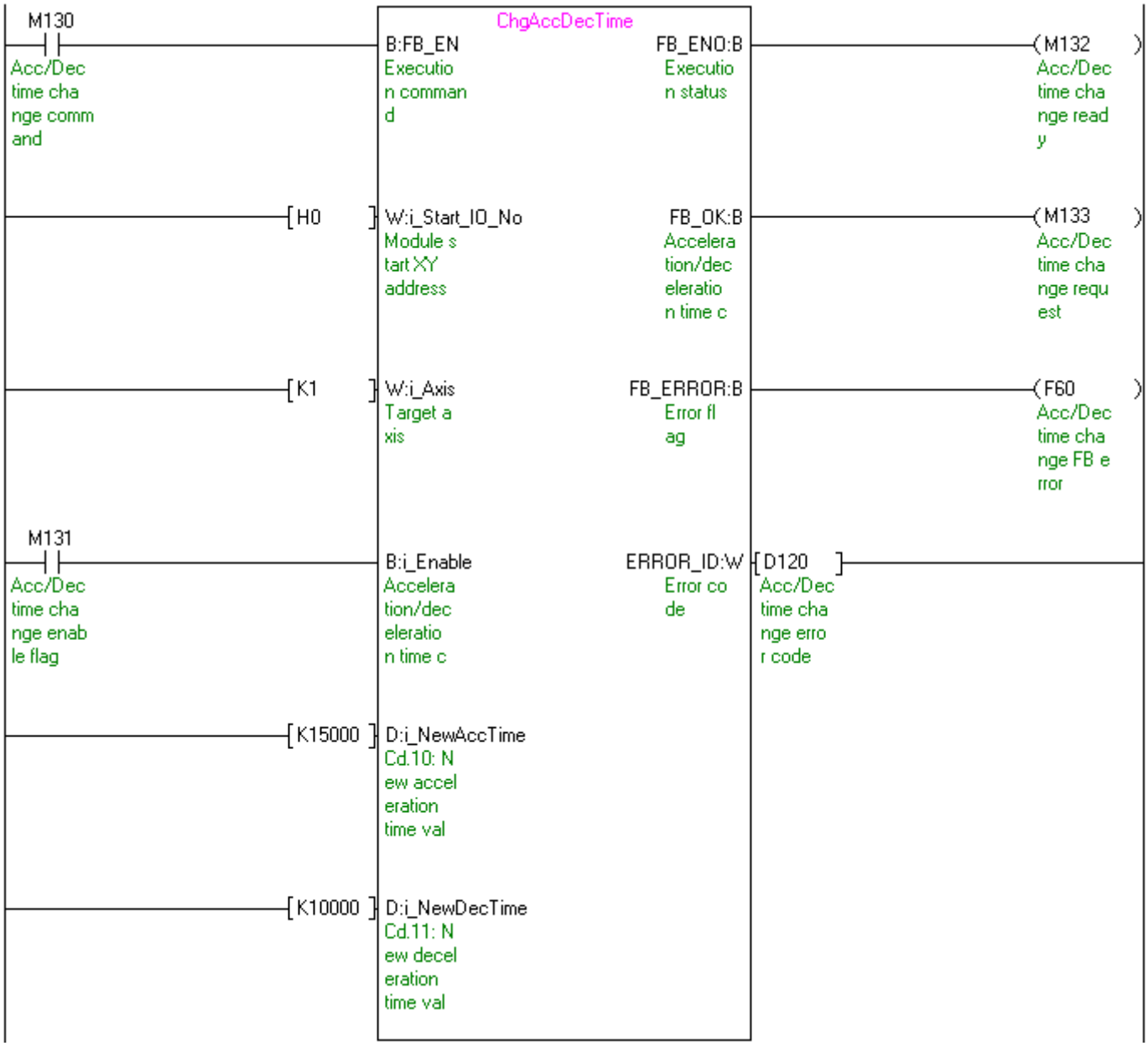
By turning ON M120, the positioning operation speed override for axis 1 is written to the buffer memory.



M+D75_ChgAccDecTime (Acceleration/deceleration time setting value change)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_Enable	ON/OFF	Turn ON this parameter to set acceleration/ deceleration time change enable flag to "Enabled".
i_NewAccTime	K15000	Set the new acceleration time value to 15,000.
i_NewDecTime	K10000	Set the new deceleration time value to 10,000.

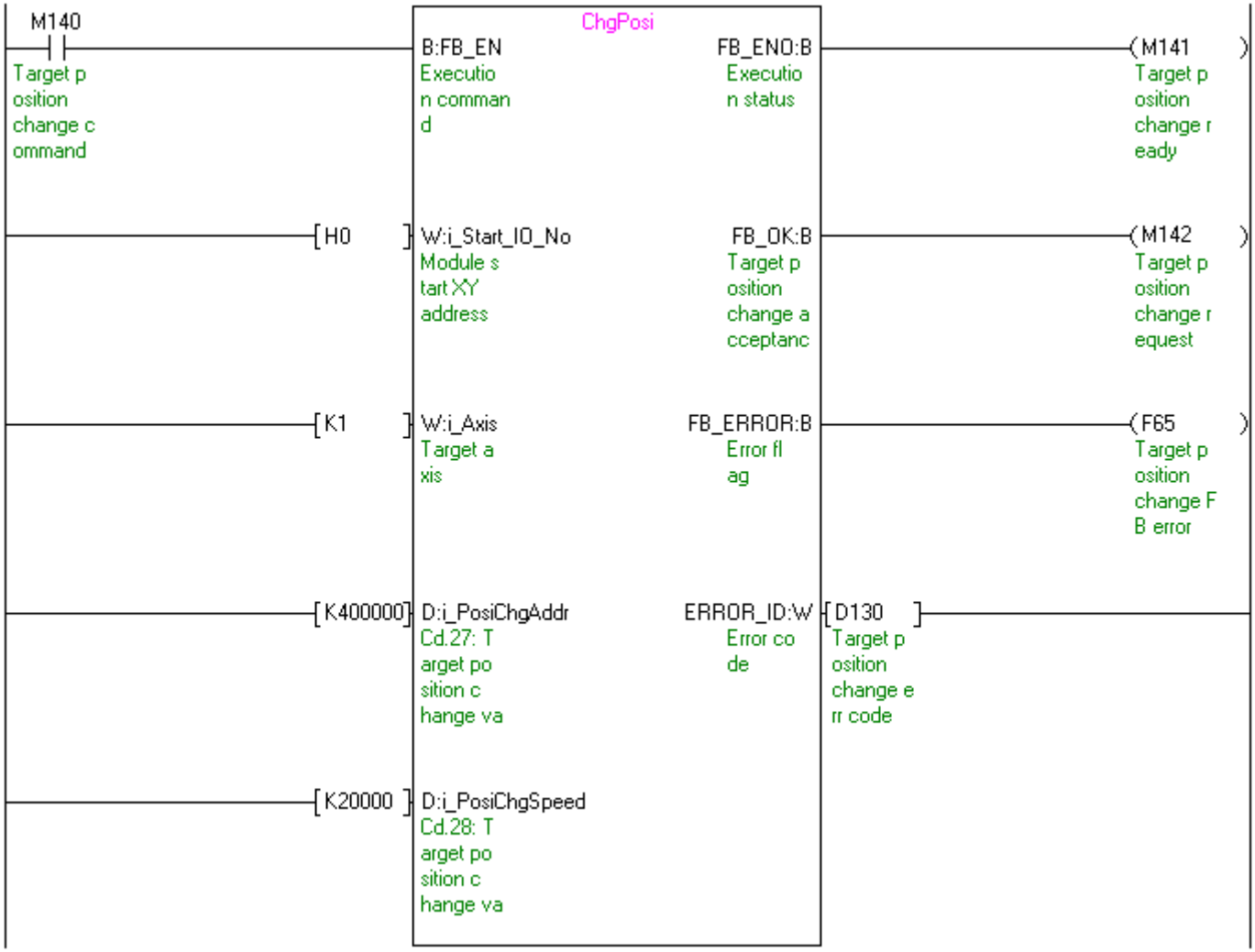
By turning ON M130, the new acceleration time value and new deceleration time value for axis 1 are written to the buffer memory. By turning ON M131, the acceleration/deceleration time change during speed change is enabled.



M+D75_ChgPosi (Target position change)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_PosiChgAddr	K400000	Set the target position change value (new address) to 400,000.
i_PosiChgSpeed	K20000	Set the target position change value (new speed) to 20,000.

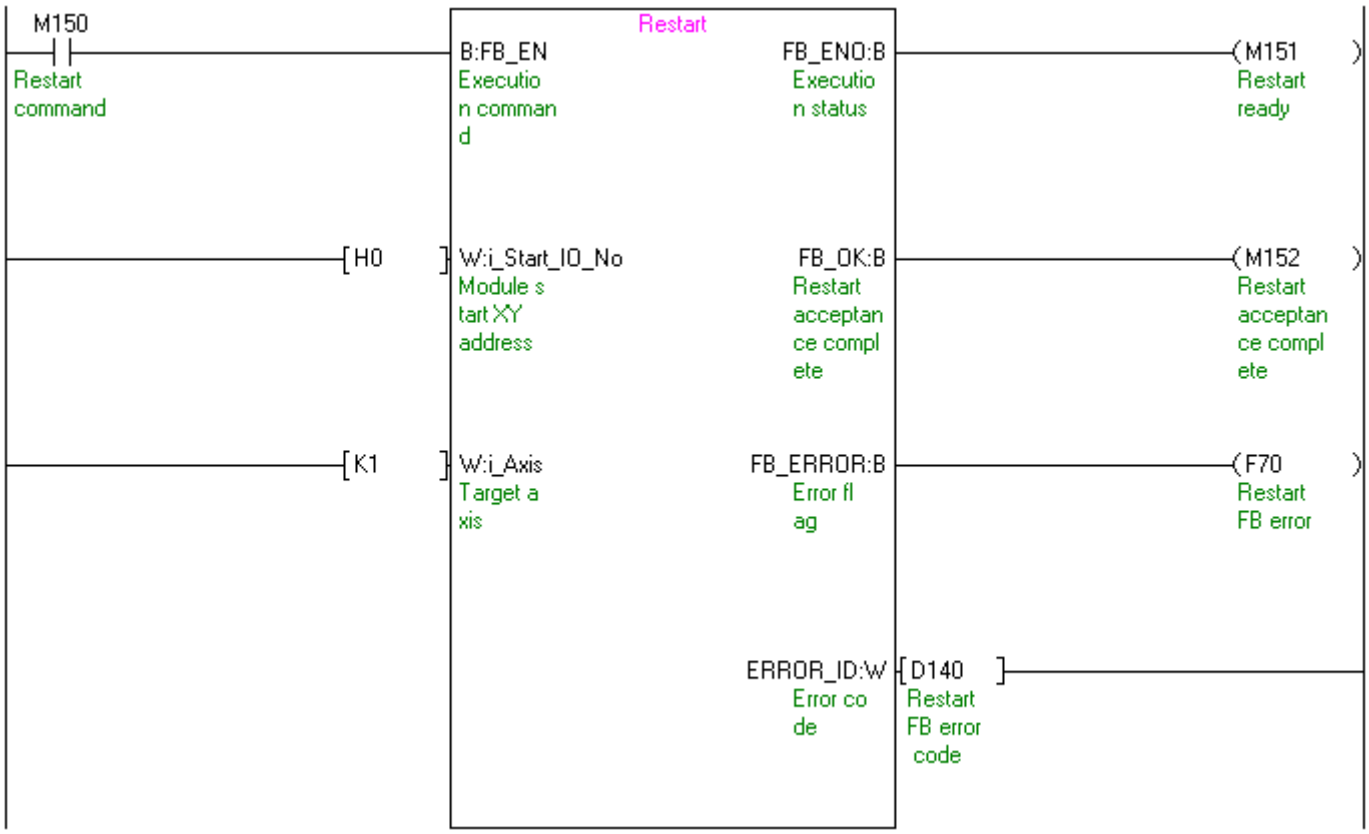
By turning ON M140, the target position change value (new address) and target position change value (new speed) for axis 1 are written to the buffer memory and the target position is changed.



M+D75_Restart (Restart)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.

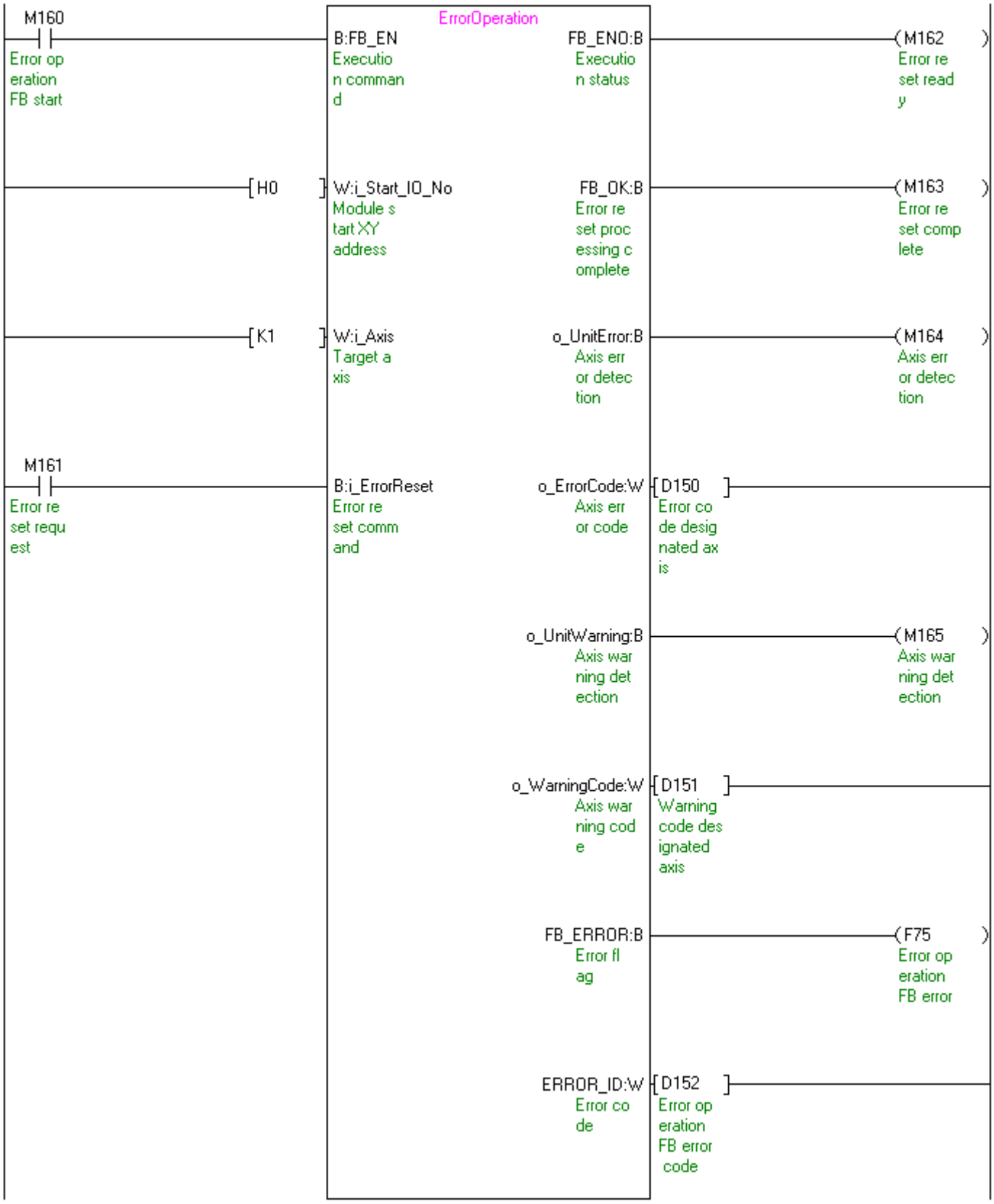
By turning ON M150, the positioning operation for axis 1 that stopped when a stop cause has occurred restarts.



M+D75_ErrorOperation (Error operation)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_ErrorReset	ON/OFF	Turn ON this parameter to perform an error reset.

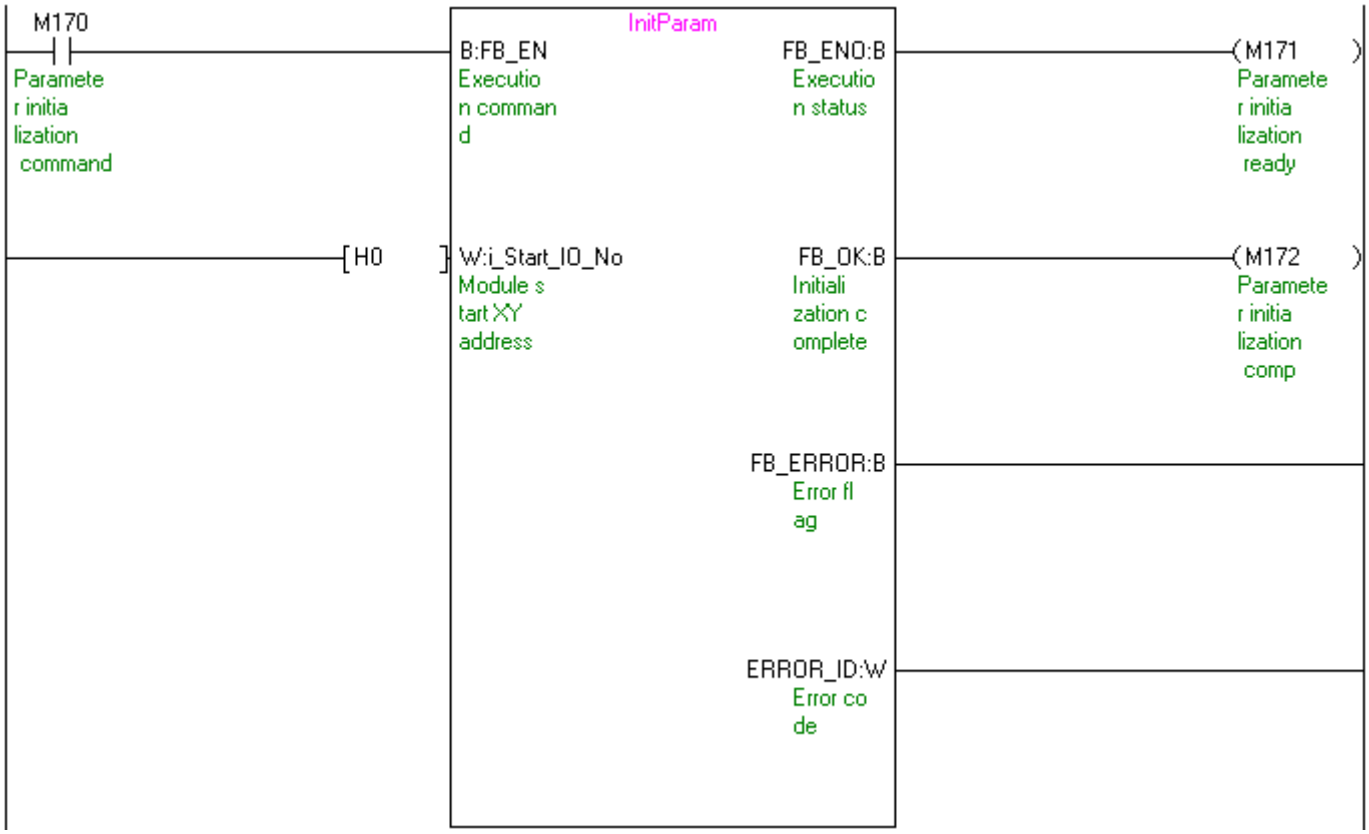
By turning ON M160, the error code is output if an error occurs and the warning code is output if a warning occurs.
After an error output is performed, by turning ON M161, an error reset is performed.


M160
Error operation FB start
ErrorOperation
B:FB_EN
Execution command
FB_ENO:B
Execution status
M162
Error reset ready
H0
W:i_Start_IO_No
Module start XY address
FB_OK:B
Error reset processing complete
M163
Error reset complete
K1
W:i_Axis
Target axis
o_UnitError:B
Axis error detection
M164
Axis error detection
M161
Error reset request
B:i_ErrorReset
Error reset command
o_ErrorCode:W
Axis error code
D150
Error code designated axis
o_UnitWarning:B
Axis warning detection
M165
Axis warning detection
o_WarningCode:W
Axis warning code
D151
Warning code designated axis
FB_ERROR:B
Error flag
F75
Error operation FB error
ERROR_ID:W
Error code
D152
Error operation FB error code

M+D75_InitParam (Parameter initialization)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.

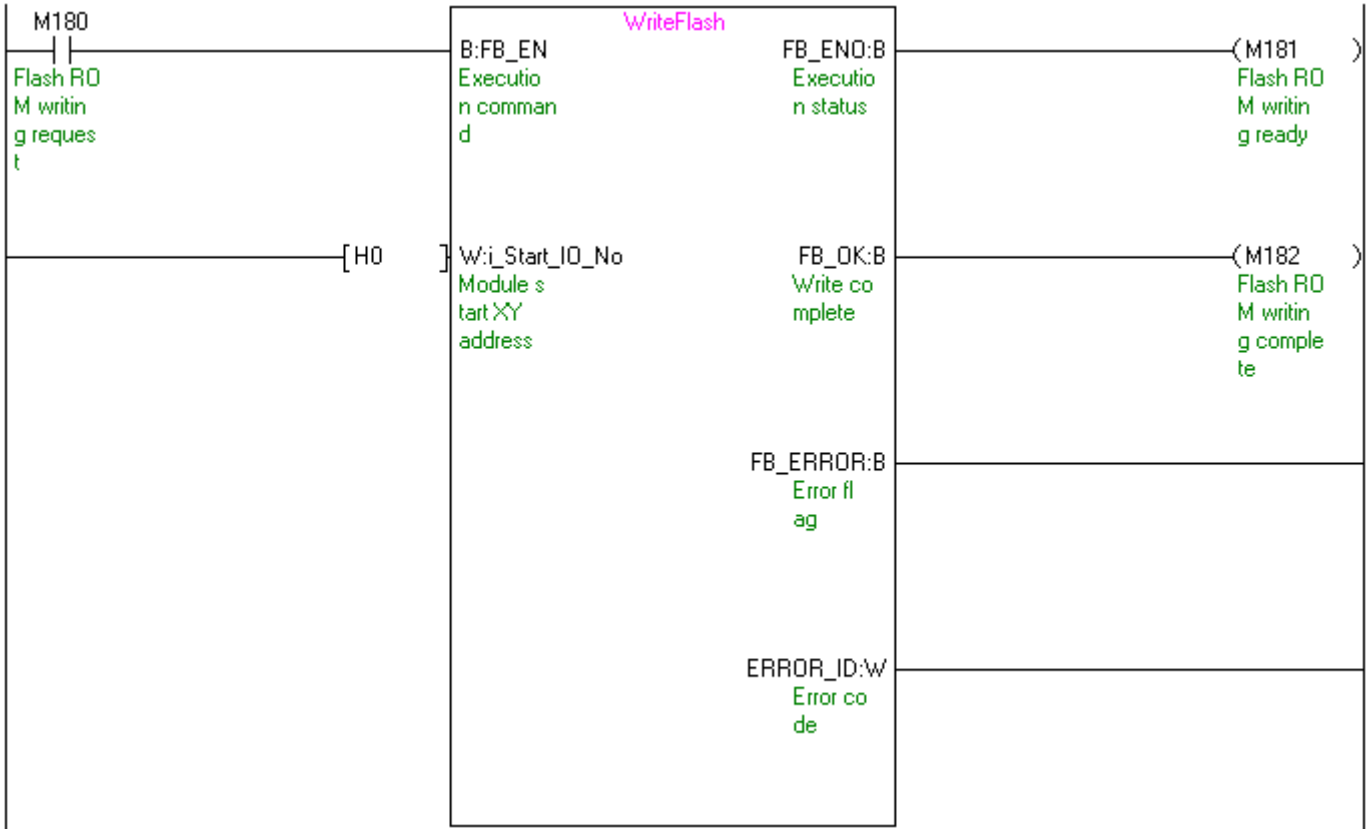
By turning ON M170, the setting data that is stored in the buffer memory and flash ROM are returned to the factory-set initial value.



M+D75_WriteFlash (Flash ROM writing)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.

By turning ON M180, the data set in the buffer memory is written to the flash ROM.

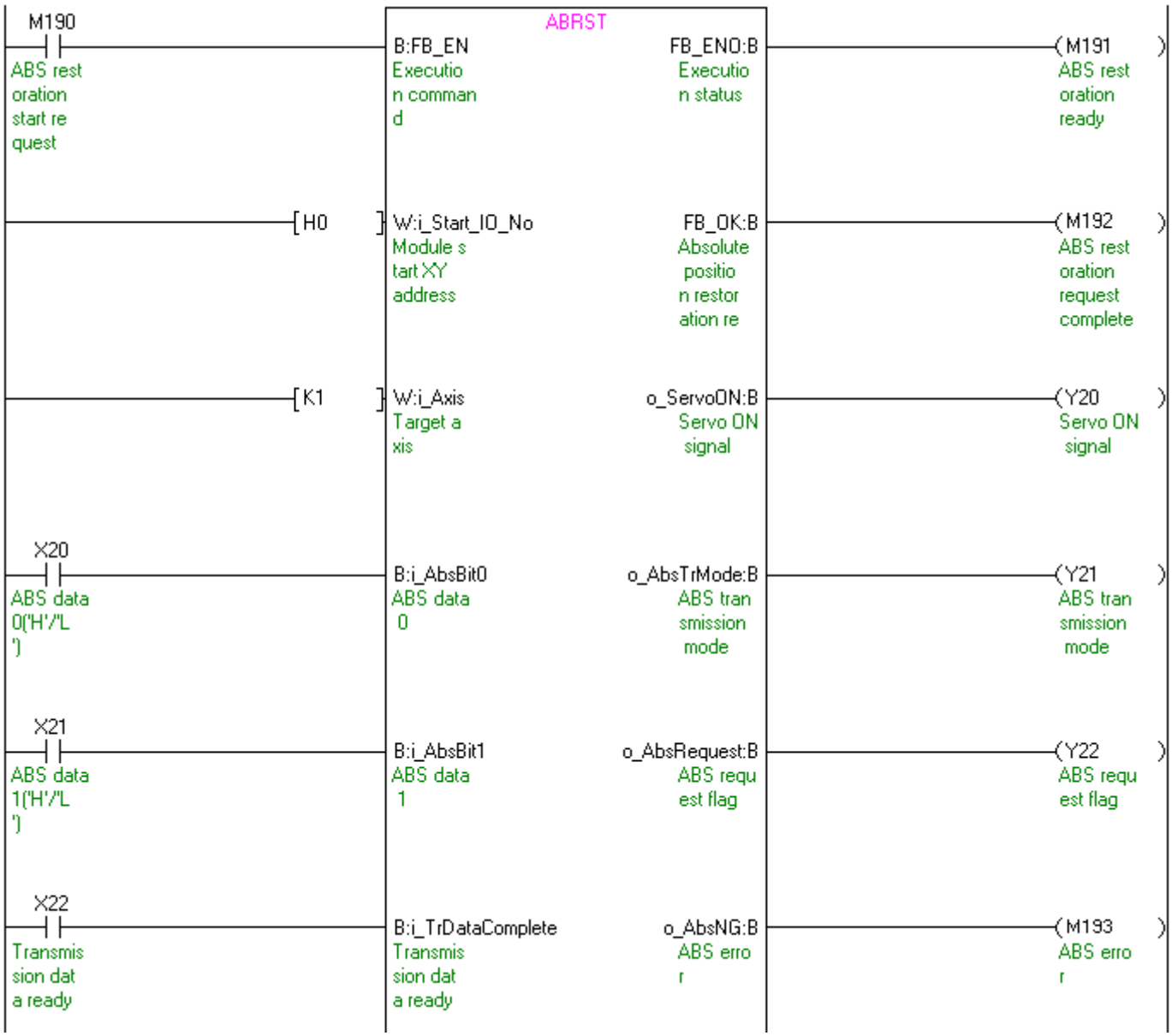


M+D75_ABRST (Absolute position restoration)

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.

By turning ON M190, the absolute position is restored.

*After completion of absolute position restoration, M190 must remain turned ON.



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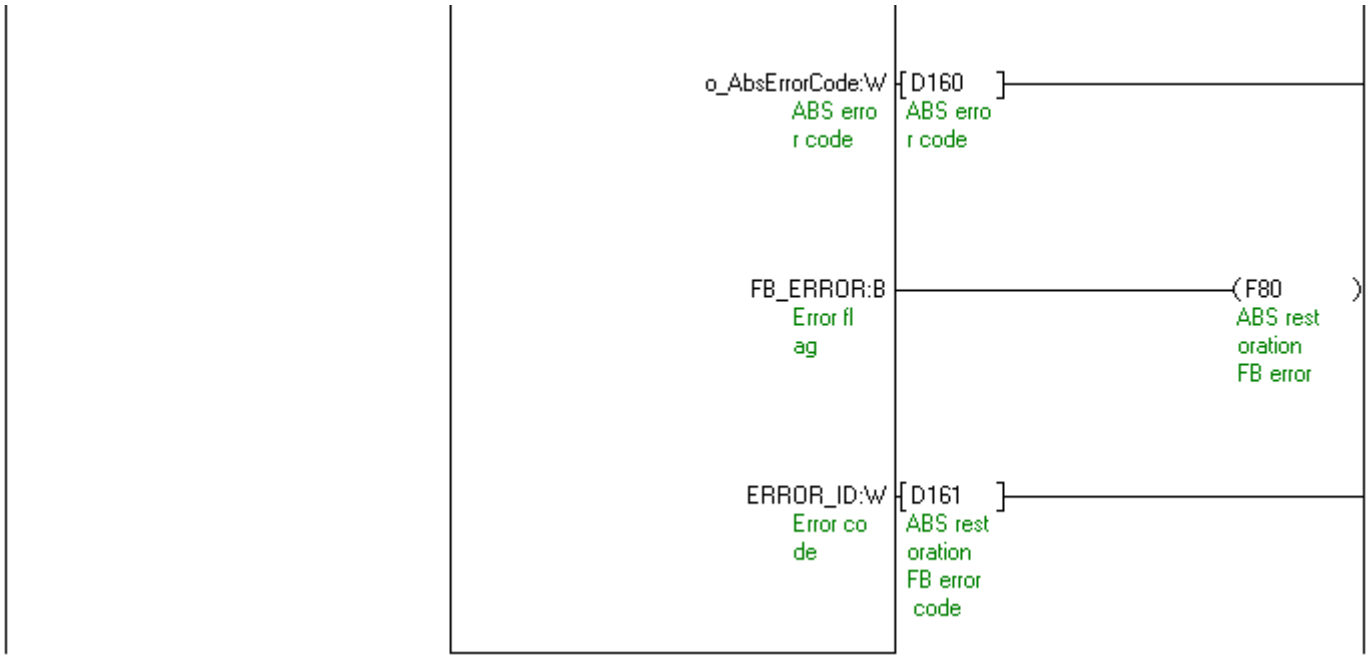

MELSOFT Library