MELSEC-L Positioning Module FB Library (CC-Link IE Field compatible) Reference Manual

Applicable module:

LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4

<CONTENTS>

Reference Manual Revision History

Reference Manual Number	Date	Description
FBM-M055-A	2011/06/30	First edition
FBM-M055-B	2013/01/25	1) Applicable module is added to CONTENTS. 2) The following modules are added to Applicable module. • LD75P1 • LD75P2 • LD75D1 • LD75D2 3) The module diagram of System Configuration is changed. 4) The description style of Applicable hardware and software is changed. 5) FB Version Upgrade History for the following FBs is added. • M+LD75-IEF_CPUReady (PLC ready signal ON) • M+LD75-IEF_StartPosi (Positioning start) • M+LD75-IEF_JOG (JOG/inching operation) • M+LD75-IEF_MPG (Manual pulse generator operation) • M+LD75-IEF_ChgSpeed (Speed change) • M+LD75-IEF_ChgAccDecTime (Acceleration/deceleration time setting value change) • M+LD75-IEF_ChgPosi (Target position change) • M+LD75-IEF_Restart (Restart) • M+LD75-IEF_ErrorOperation (Error operation) • M+LD75-IEF_InitParam (Parameter initialization) • M+LD75-IEF_WriteFlash (Flash ROM writing) 6) List of devices of FB Library Application Examples is changed. 7) The figure in FB Library Application Examples for the following FB is changed. • M+LD75-IEF_CPUReady (PLC ready signal ON) 8) Each processing timing is modified in "Timing chart".
FBM-M055-C	2015/11/20	1) Added applicable GX Works2 Version. • This FB is able to install on GX Works2 of all language versions.

1. Overview

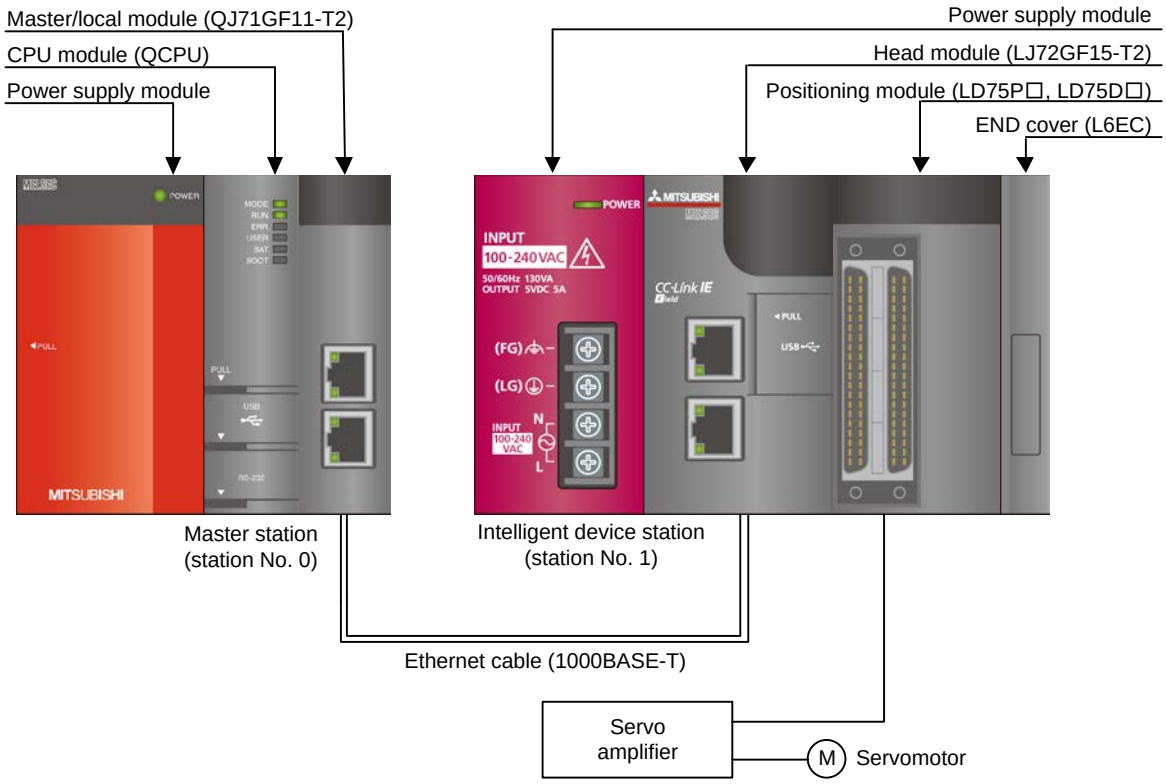
1.1. Overview of the FB Library

This FB library is for using the MELSEC-L LD75P/LD75D positioning module through the MELSEC CC-Link IE field.

1.2. Function of the FB Library

Item	Description
M+LD75-IEF_SetBPARAM1	Sets basic parameters 1 (Pr.1 to Pr.7).
M+LD75-IEF_SetBPARAM2	Sets basic parameters 2 (Pr.8 to Pr.10).
M+LD75-IEF_SetDPARAM1	Sets detailed parameters 1 (Pr.11 to Pr.24, and Pr.150).
M+LD75-IEF_SetDPARAM2	Sets detailed parameters 2 (Pr.25 to Pr.42).
M+LD75-IEF_SetZBPARAM	Sets OPR basic parameters (Pr.43 to Pr.48).
M+LD75-IEF_SetZDPARAM	Sets OPR detailed parameters (Pr.49 to Pr.57).
M+LD75-IEF_PosiDataSet	Sets positioning data (Da.1 to Da.10).
M+LD75-IEF_CPUReady	Outputs the PLC ready signal.
M+LD75-IEF_StartPosi	Starts positioning.
M+LD75-IEF_JOG	Carries out JOG and inching operation.
M+LD75-IEF_MPG	Carries out manual pulse generator operation.
M+LD75-IEF_ChgSpeed	Performs speed change.
M+LD75-IEF_ChgOverride	Performs override.
M+LD75-IEF_ChgAccDecTime	Changes the setting value of the acceleration/deceleration time.
M+LD75-IEF_ChgPosi	Changes the target position.
M+LD75-IEF_Restart	Performs restart.
M+LD75-IEF_ErrorOperation	Monitors errors and warnings, and performs error reset.
M+LD75-IEF_InitParam	Initializes parameters.
M+LD75-IEF_WriteFlash	Writes the setting data to the flash ROM.

1.3. System Configuration Example

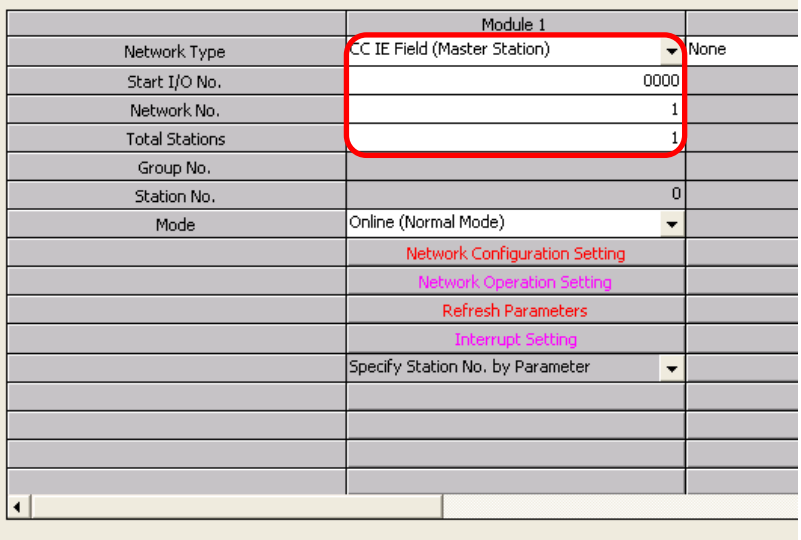


1.4. Setting the CC-Link IE Field Network Master/Local Module

This section explains the settings of CC-Link IE field network master/local module based on Section 1.3 "System Configuration Example". Set the following items using GX Works2.

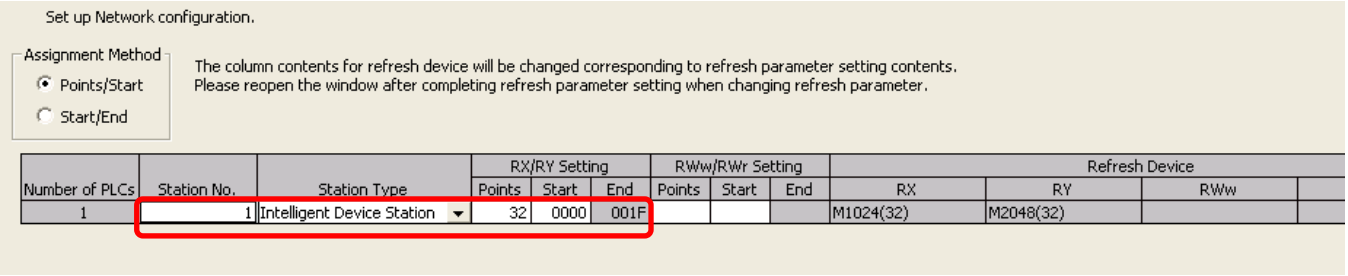
(1) Network parameters

Item	Description
Network Type	Select the CC IE Field (Master Station).
Start I/O No.	Set the start I/O number of the master/local module in increments of 16 points. Set "0000".
Network No.	Set the network number of the master/local module. Set "1".
Total Stations	Set the number of slave stations connected to the master station. Include the number of reserved slave stations. Set "1".



(2) Network configuration setting

Item	Description
Station No.	Set the station number of the slave connected to the master station. Set "1".
Station Type	Set the station type of the slave connected to the master station. Set "Intelligent Device Station".
RX/RY setting	Set assignment for RX/RY for the slave station connected to the master station. (a) Points Set "32". (b) Start Set "0000".

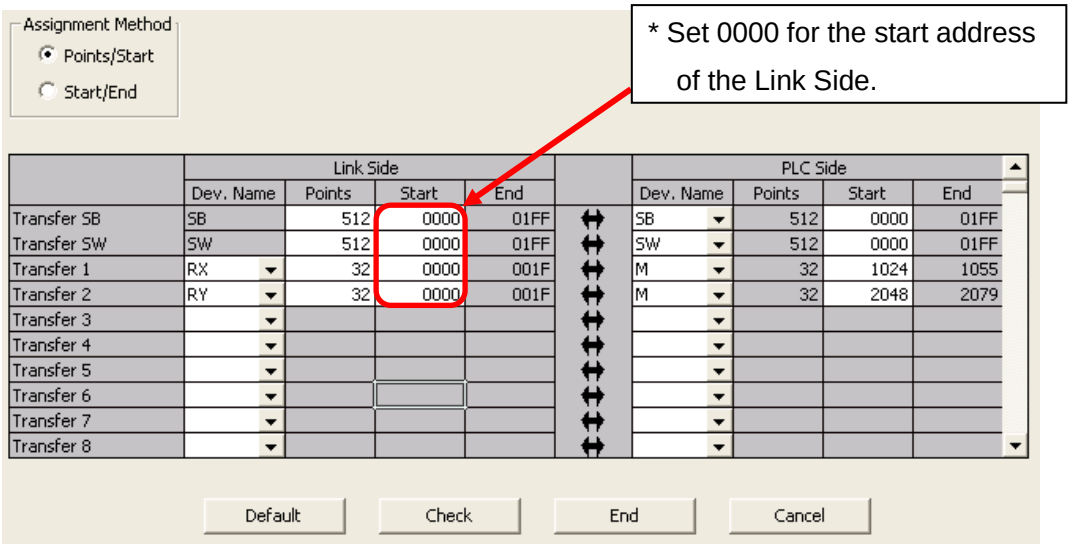


(3) Refresh Parameters

Item	Description	Setting value
Transfer SB	Select the link refresh range of SB device.	• "Link Side Points" : 512 • "Link Side Start" : 0000 • "PLC Side Dev. Name": SB • "PLC Side Start" : 0000
Transfer SW	Select the link refresh range of SW device.	• "Link Side Points" : 512 • "Link Side Start" : 0000 • "PLC Side Dev. Name": SW • "PLC Side Start" : 0000
Transfer 1	Select the link refresh range of RX device.	• "Link Side Dev. Name": RX • "Link Side Points" : 32 • "Link Side Start" : 0000 • "PLC Side Dev. Name": M • "PLC Side Start" : 1024
Transfer 2	Select the link refresh range of RY device.	• "Link Side Dev. Name": RY • "Link Side Points" : 32 • "Link Side Start" : 0000 • "PLC Side Dev. Name": M • "PLC Side Start" : 2048

* Make sure to set "0000" for the Start of the Link side.

* Change the Points of the Link Side and Dev. Name and Start of the PLC Side according to the system.
They must be the same as for "M_F_RX" and "M_F_RY" devices of the global label setting.



1.5. Setting Global Labels

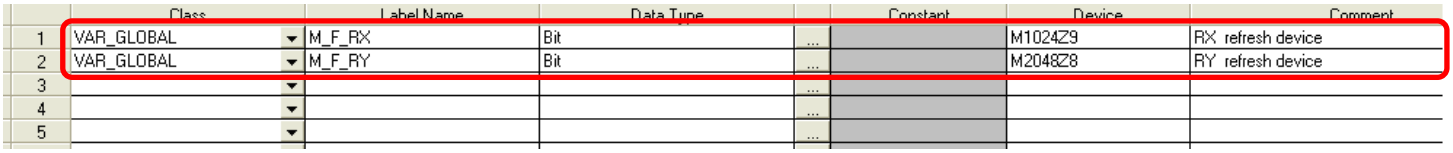
Global labels must be set before using this FB. This section explains global label settings.

(1) M_F_RX Set remote input (RX).

Item	Description
Class	Select "VAR_GLOBAL".
Label Name	Enter "M_F_RX".
Data Type	Select "Bit".
Device	Enter the refresh device set for the refresh parameter with a "Z9" prefix.

(2) M_F_RY Set remote output (RY).

Item	Description
Class	Select "VAR_GLOBAL".
Label Name	Enter "M_F_RY".
Data Type	Select "Bit".
Device	Enter the refresh device set for the refresh parameter with a "Z8" prefix.



	Class	Label Name	Data Type		Constant	Device	Comment
1	VAR_GLOBAL	M_F_RX	Bit	...		M1024Z9	RX refresh device
2	VAR_GLOBAL	M_F_RY	Bit	...		M2048Z8	RY refresh device
3				...			
4				...			
5				...			

1.6. Creating Interlock Programs

Interlock programs must be created for the FBs. The following are examples of interlock programs.

Set one interlock program to each cyclic transmission and transient transmission.

(Set a corresponding FB between MC and MCR instructions.)

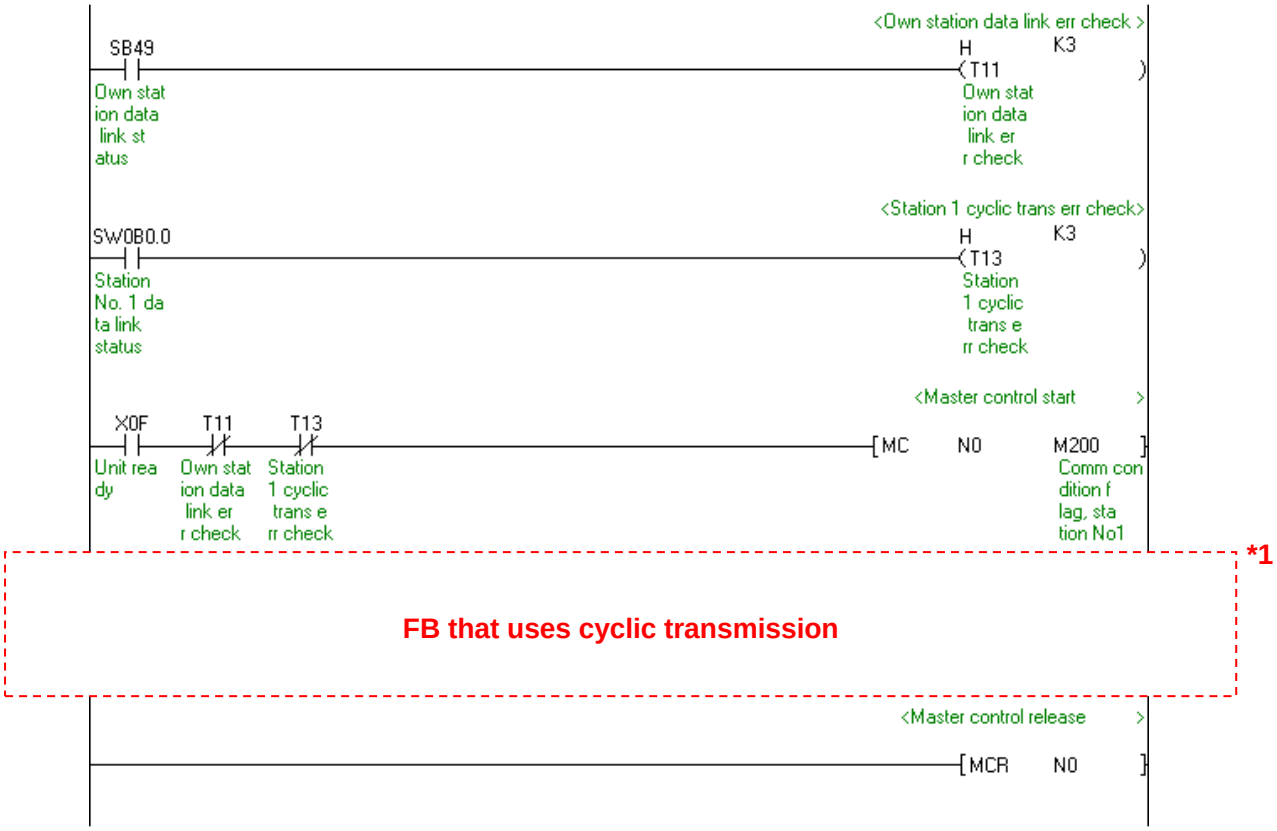
(For FBs that use both cyclic and transient transmission, refer to the application example.)

1.6.1. Cyclic Transmission Program

Use link special relay (SB) and link special register (SW) to create an interlock for cyclic transmission program.

- Own station data link status (SB0049)
- Each station data link status (SW00B0 to SW00B7)

Example: Interlock (station No.1)



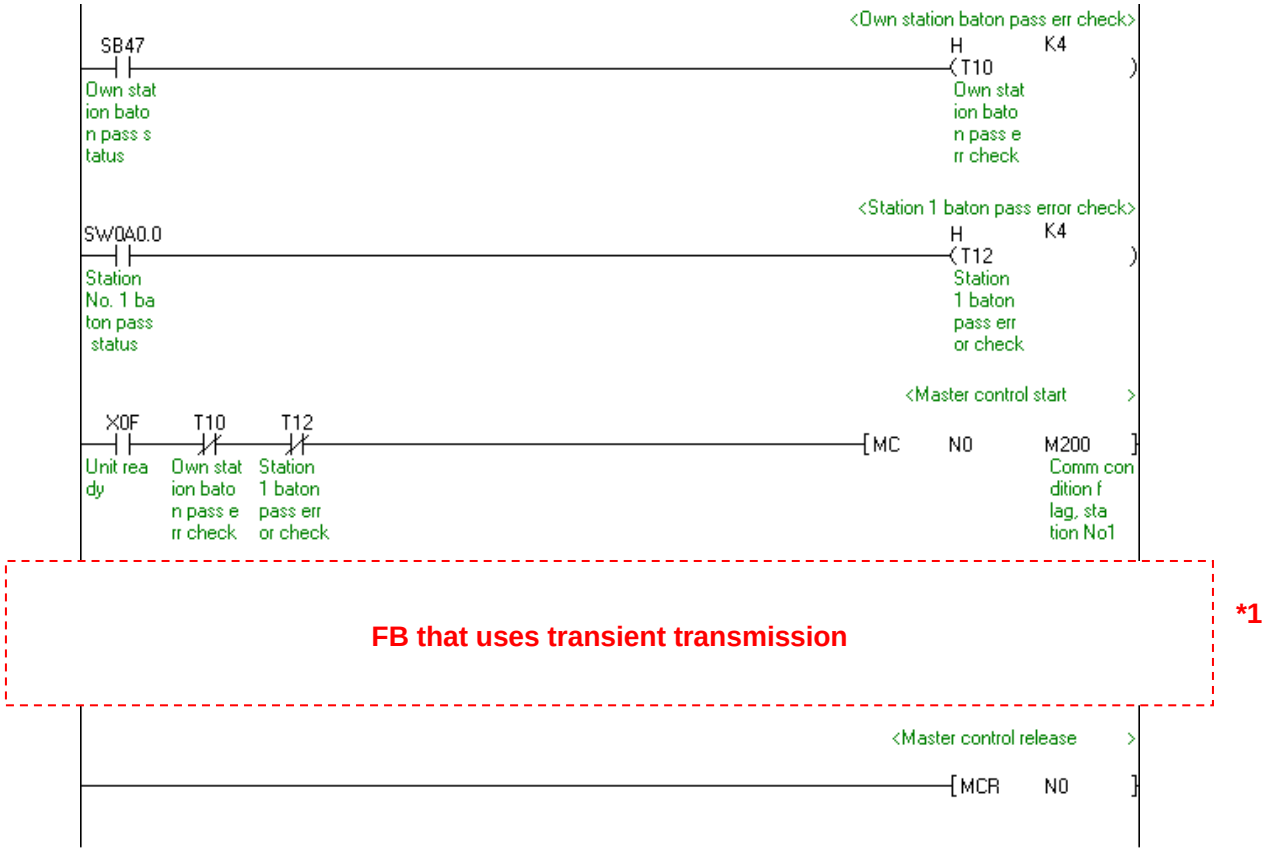
*1 For FB library that uses cyclic transmission, refer to 1.6.3 FB Transmission List.

1.6.2. Transient Transmission Program

Use link special relay (SB) and link special register (SW) to create an interlock for transient transmission program.

- Own station baton pass status (SB0047)
- Each station baton pass status (SW00A0 to SW00A7)

Example: Interlock (Station No.1)



*1 For FB library that uses transient transmission, refer to 1.6.3 FB Transmission List.

1.6.3. FB Transmission List

This table lists transmission types used for FBs.

FB name	Cyclic transmission	Transient transmission
M+LD75-IEF_SetBPARAM1	-	o
M+LD75-IEF_SetBPARAM2	-	o
M+LD75-IEF_SetDPARAM1	-	o
M+LD75-IEF_SetDPARAM2	-	o
M+LD75-IEF_SetZBPARAM	-	o
M+LD75-IEF_SetZDPARAM	-	o
M+LD75-IEF_PosiDataSet	-	o
M+LD75-IEF_CPUReady	o	-
M+LD75-IEF_StartPosi	o	o
M+LD75-IEF_JOG	o	o
M+LD75-IEF_MPG	o	o
M+LD75-IEF_ChgSpeed	o	o
M+LD75-IEF_ChgOverride	-	o
M+LD75-IEF_ChgAccDecTime	-	o
M+LD75-IEF_ChgPosi	o	o
M+LD75-IEF_Restart	o	o
M+LD75-IEF_ErrorOperation	o	o
M+LD75-IEF_InitParam	o	o
M+LD75-IEF_WriteFlash	o	o

-: Not used

o: Used

1.7. Relevant manuals

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

MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual

MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual

MELSEC-L CC-Link IE Field Network Head 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)

1.8. Note

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

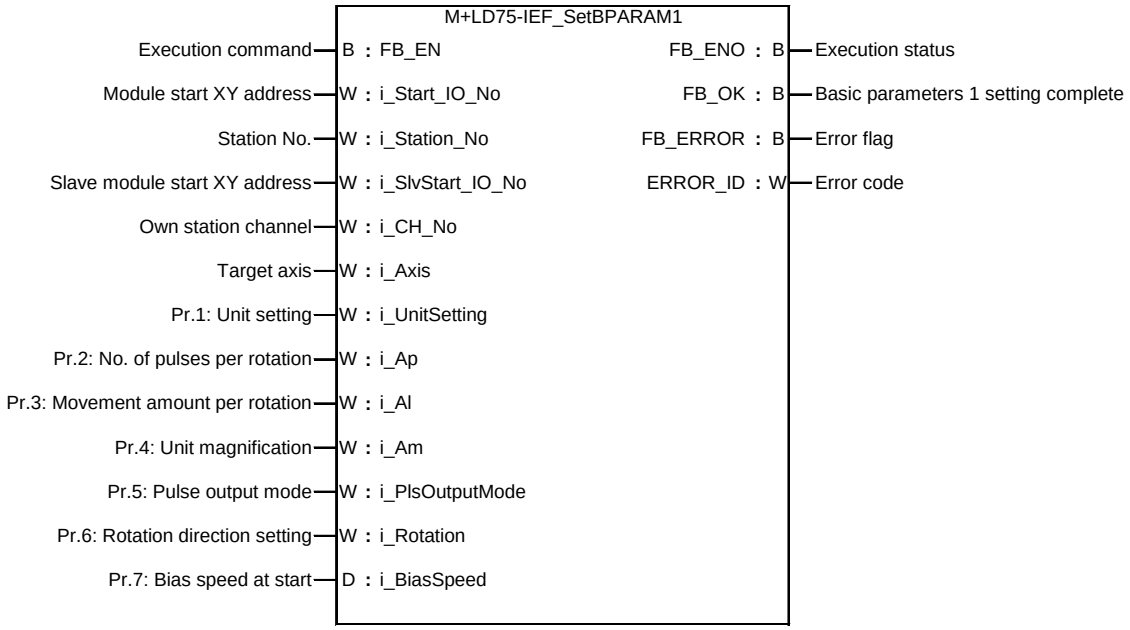
2. Details of the FB Library

2.1. M+LD75-IEF_SetBPARAM1 (Basic parameters 1 setting)

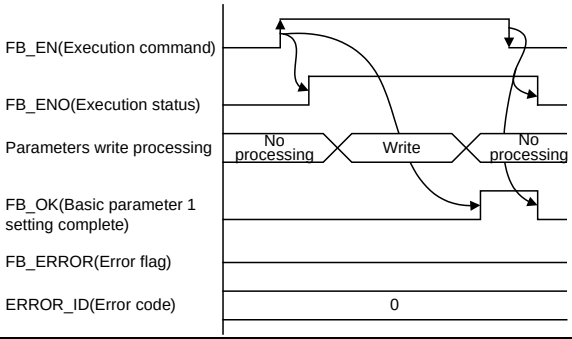
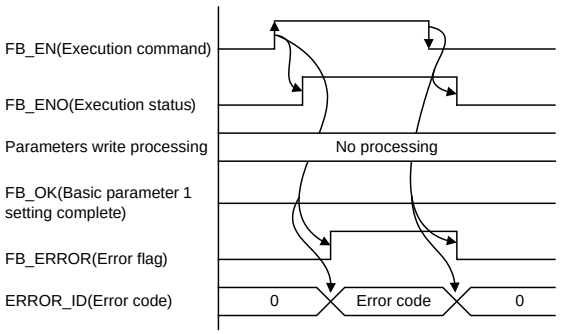
FB Name

M+LD75-IEF_SetBPARAM1

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Sets basic parameters 1 (Pr.1 to Pr.7).</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="3">Applicable hardware and software</td><td>Positioning module</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
<tr><td>CC-Link IE module</td><td>CC-Link IE field network master/local module
CC-Link IE field network head module</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series *1</td><td>Universal model QCPU *2</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU *3</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
*2 The first five digits of the serial number are "12012" or later
*3 The first five digits of the serial number are "13012" or later.
</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">For universal model CPU: 341 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 in multiple scans.
4) Parameters are validated when the PLC ready signal (Y signal) 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 10 (Decimal) is stored in ERROR_ID (Error code).
Refer to the error code explanation section for details.
6) When a CC-Link IE field network error occurs, 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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel 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 Z5 to Z7. 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) If the parameters are set using GX Configurator-QP or the configuration function of GX Works 2, using this FB is unnecessary. 9) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 10) This FB uses transient transmission. Therefore, an interlock program for transient transmission is required. 11) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 12) Set the global label setting according to Section "1.5 Setting Global Labels". 13) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 2. - FB Library Application Examples".
Timing chart	[When operation completes without error]  [When an error occurs] 

Item	Description
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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.
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.
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 this parameter is the data at the moment when the PLC ready signal (Y signal) 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: 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	2011/06/30	First edition

Note

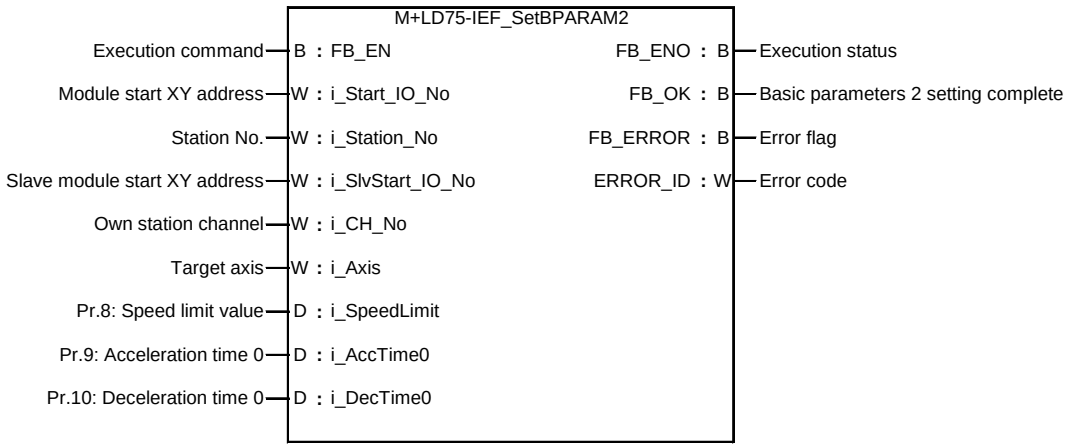
This chapter includes information related to this function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.2. M+LD75-IEF_SetBPARAM2 (Basic parameters 2 setting)

FB Name

M+LD75-IEF_SetBPARAM2

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Sets basic parameters 2 (Pr.8 to Pr.10).</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
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<tr><td>Programming language</td><td colspan="2">Ladder</td></tr>
<tr><td>Number of steps</td><td colspan="2">For universal model CPU: 332 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 in multiple scans.
4) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code 10 (Decimal) is stored in ERROR_ID (Error code).
Refer to the error code explanation section for details.
5) When a CC-Link IE field network error occurs, the FB_ERROR output turns ON, processing is interrupted, and the error code is stored in ERROR_ID (Error code).
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<tr><td>Compiling method</td><td colspan="2">Macro type</td></tr>
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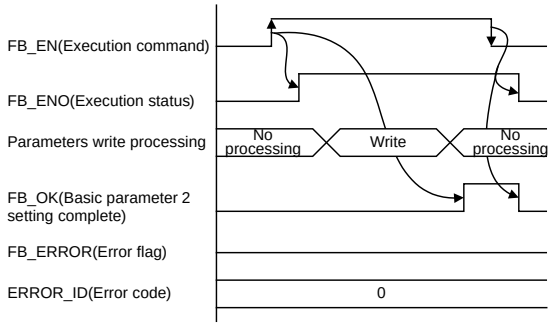
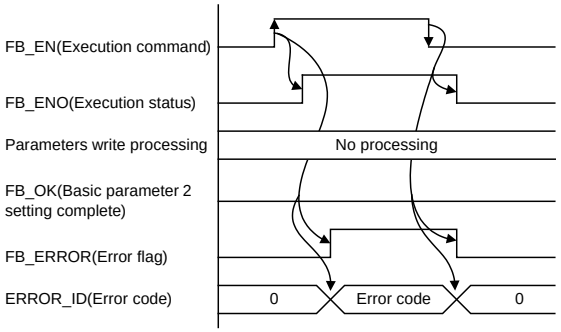
Item	Description
Restrictions and precautions	1) The FB does not include error recovery processing. Program the error recovery processing separately in accordance with the required system operation. 2) The FB cannot be used in an interrupt program. 3) Please ensure that the FB_EN signal is capable of 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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel 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 Z5 to Z7. 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) If the parameters are set using GX Configurator-QP or the configuration function of GX Works 2, using this FB is unnecessary. 9) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 10) This FB uses transient transmission. Therefore, an interlock program for transient transmission is required. 11) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 12) Set the global label setting according to Section "1.5 Setting Global Labels". 13) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 2. - FB Library Application Examples".
Timing chart	[When operation completes without error]  [When an error occurs] 

Item	Description
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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.
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)

Name(Comment)	Label name	Data type	Setting range	Description
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.
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: 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	2011/06/30	First edition

Note

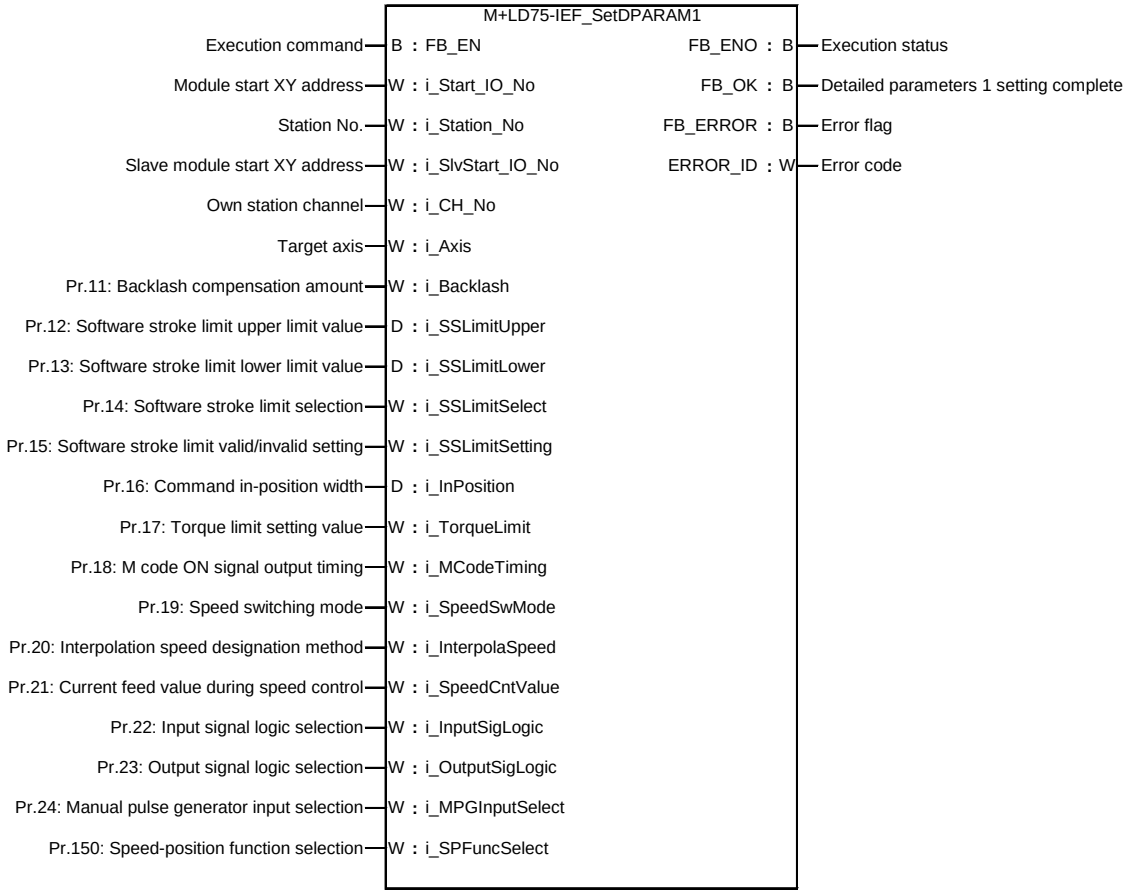
This chapter includes information related to this function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.3. M+LD75-IEF_SetDPARAM1 (Detailed parameters 1 setting)

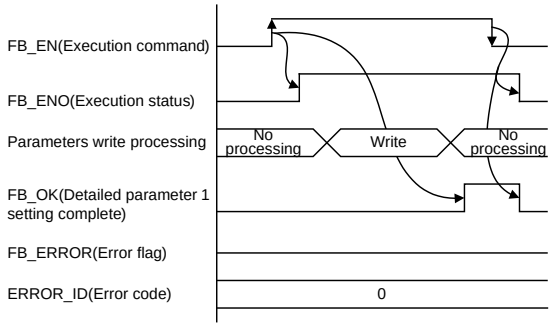
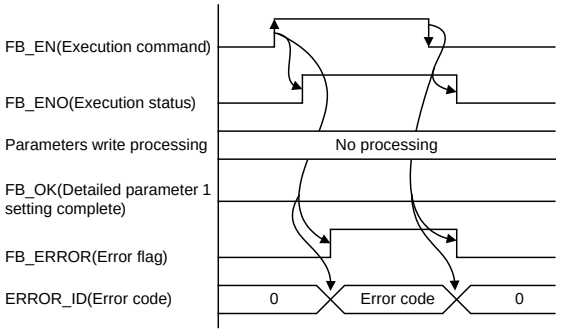
FB Name

M+LD75-IEF_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	LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4
	CC-Link IE module	CC-Link IE field network master/local module CC-Link IE field network head module

<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>MELSEC-Q Series *1</td><td>Universal model QCPU *2</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU *3</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
*2 The first five digits of the serial number are "12012" or later
*3 The first five digits of the serial number are "13012" or later.
</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">For universal model CPU: 464 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 are 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 in multiple scans.
4) Parameters are validated when the PLC ready signal (Y signal) 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 10 (Decimal) is stored in ERROR_ID (Error code).
Refer to the error code explanation section for details.
6) When a CC-Link IE field network error occurs, 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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel 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 Z5 to Z7. 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) If the parameters are set using GX Configurator-QP or the configuration function of GX Works 2, using this FB is unnecessary. 9) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 10) This FB uses transient transmission. Therefore, an interlock program for transient transmission is required. 11) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 12) Set the global label setting according to Section "1.5 Setting Global Labels". 13) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 2. - FB Library Application Examples".
Timing chart	[When operation completes without error]  [When an error occurs] 

Item	Description
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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.
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)

Name(Comment)	Label name	Data type	Setting range	Description
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.
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: 0~35,999,999	Set the upper limit for the machine's movement range during positioning control.
Pr.13: Software stroke limit lower limit value	i_SSLimitLower	Double Word		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".

Name(Comment)	Label name	Data type	Setting range	Description
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.
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.

Name(Comment)	Label name	Data type	Setting range	Description
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".
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	2011/06/30	First edition

Note

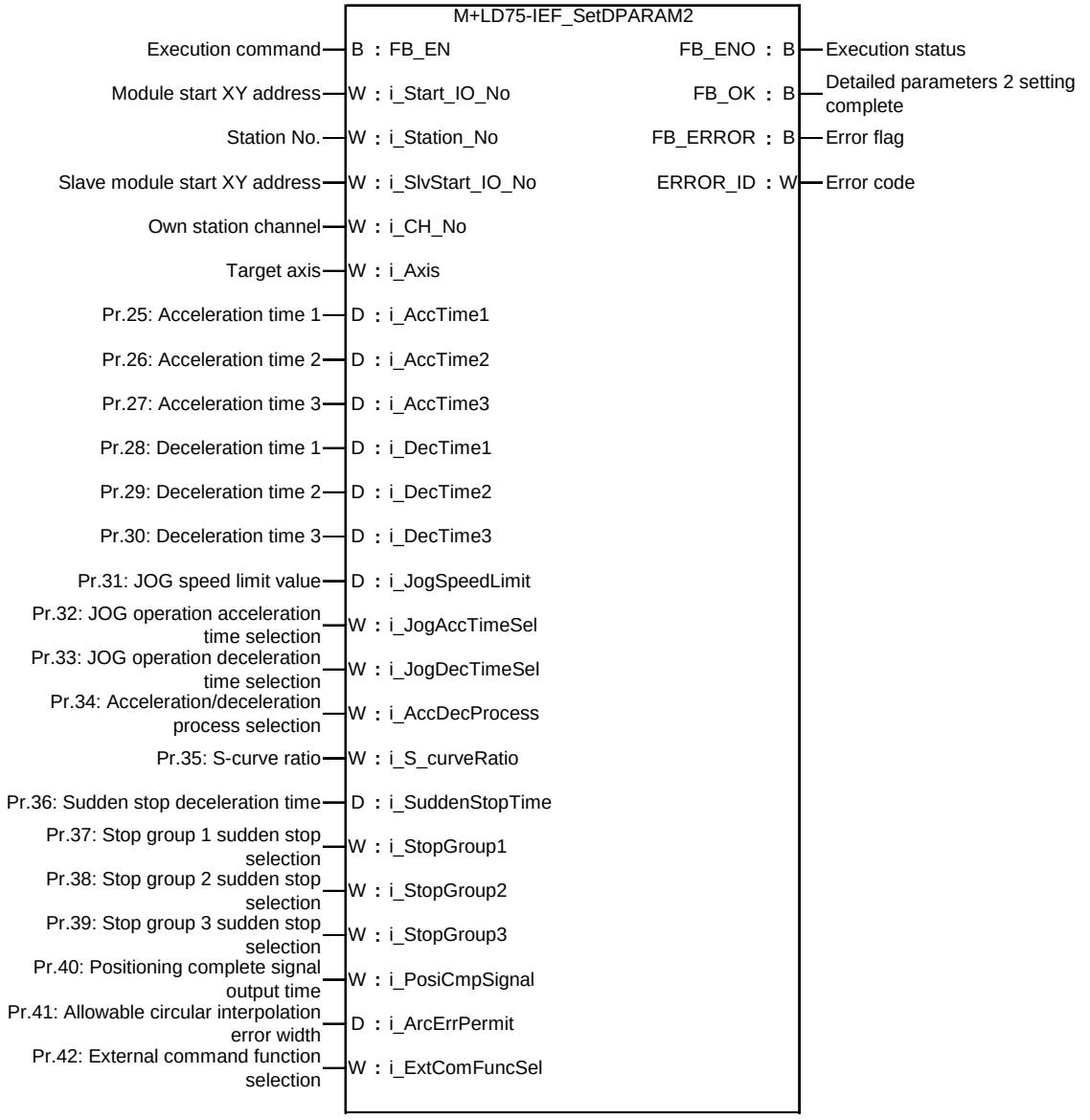
This chapter includes information related to this function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.4. M+LD75-IEF_SetDPARAM2 (Detailed parameters 2 setting)

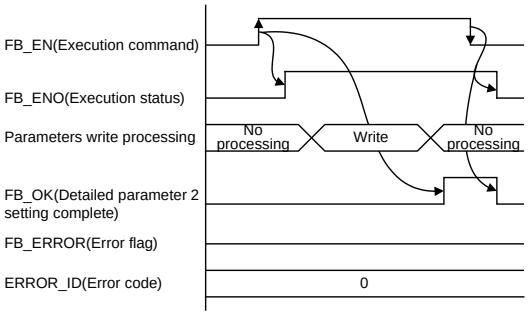
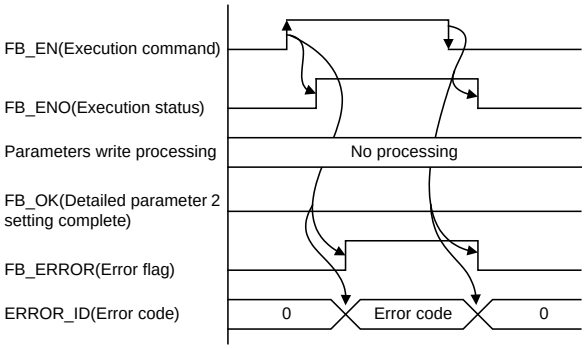
FB Name

M+LD75-IEF_SetDPARAM2

Function Overview

Item	Description
Function overview	Sets detailed parameters 2 (Pr.25 to Pr.42).
Symbol	

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td rowspan="3">Applicable hardware and software</td><td>Positioning module</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
<tr><td>CC-Link IE module</td><td>CC-Link IE field network master/local module
CC-Link IE field network head module</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series *1</td><td>Universal model QCPU *2</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU *3</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
*2 The first five digits of the serial number are "12012" or later
*3 The first five digits of the serial number are "13012" or later.
</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">For universal model CPU: 390 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 are 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 in multiple scans.
4) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code 10 (Decimal) is stored in ERROR_ID (Error code).
Refer to the error code explanation section for details.
5) When a CC-Link IE field network error occurs, 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>
</table>

Item	Description
Compiling method	Macro type
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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel. 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 Z5 to Z7. 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) If the parameters are set using GX Configurator-QP or the configuration function of GX Works 2, using this FB is unnecessary. 9) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 10) This FB uses transient transmission. Therefore, an interlock program for transient transmission is required. 11) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 12) Set the global label setting according to Section "1.5 Setting Global Labels". 13) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 2. - FB Library Application Examples".
Timing chart	[When operation completes without error]  [When an error occurs] 

Item	Description
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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.
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.
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	Double Word		
Pr.27: Acceleration time 3	i_AccTime3	Double Word		
Pr.28: Deceleration time 1	i_DecTime1	Double Word		Set the time for the speed to decrease from the Pr.8: speed limit value to zero.
Pr.29: Deceleration time 2	i_DecTime2	Double Word		
Pr.30: Deceleration time 3	i_DecTime3	Double Word		

Name(Comment)	Label name	Data type	Setting range	Description
Pr.31: JOG speed limit value	i_JogSpeedLimit	Double Word	1) Pr.1: JOG speed limit value = 0~2: 1~2,000,000,000 2) Pr.1: JOG speed limit value = 3: 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/deceleration process 1: S-curve acceleration/deceleration 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	2011/06/30	First edition

Note

This chapter includes information related to this function block.

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

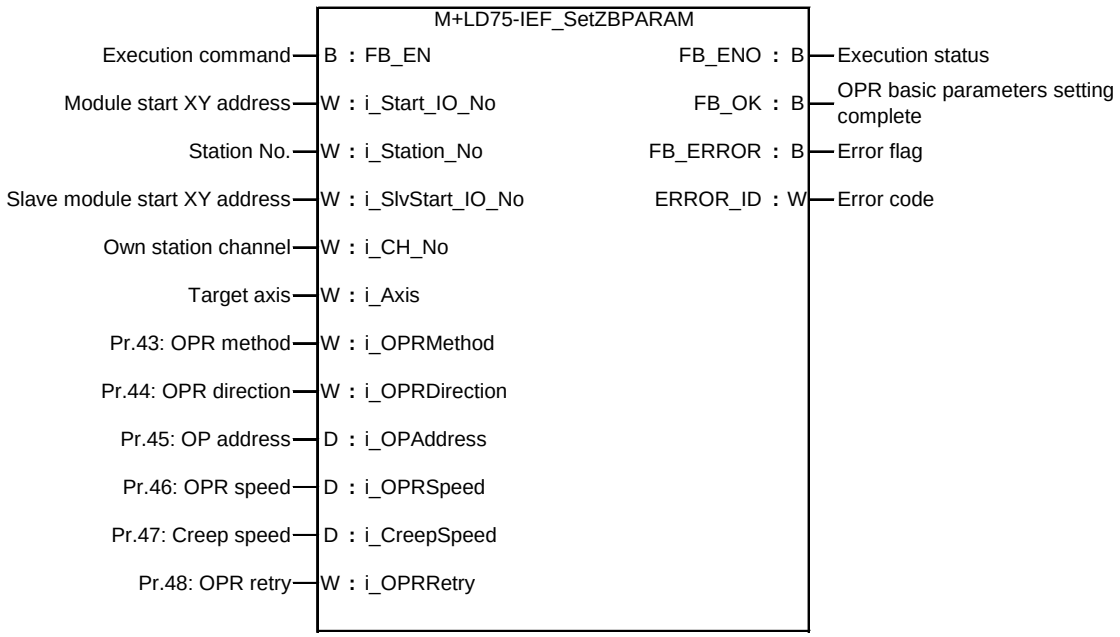
Before using any Mitsubishi products, please read all the relevant manuals.

2.5. M+LD75-IEF_SetZBPARAM (OPR basic parameters setting)

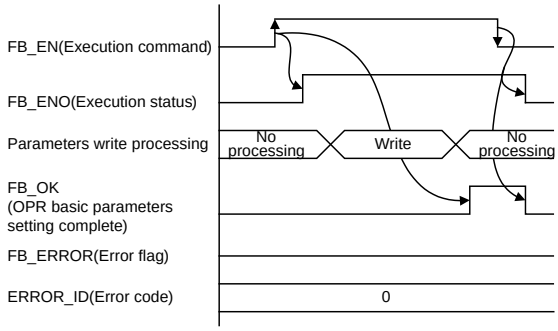
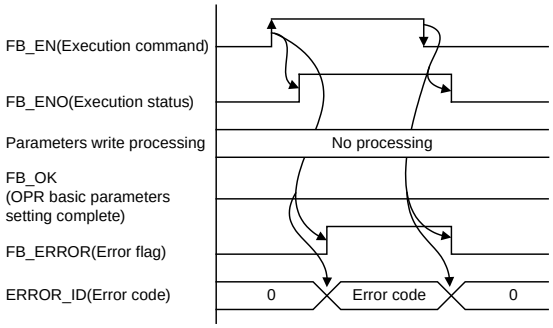
FB Name

M+LD75-IEF_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="3">Applicable hardware and software</td><td>Positioning module</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
<tr><td>CC-Link IE module</td><td>CC-Link IE field network master/local module
CC-Link IE field network head module</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series *1</td><td>Universal model QCPU *2</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU *3</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
*2 The first five digits of the serial number are "12012" or later
*3 The first five digits of the serial number are "13012" or later.
</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">For universal model CPU: 344 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 are 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 in multiple scans.
4) Parameters are validated when the PLC ready signal (Y signal) 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 10 (Decimal) is stored in ERROR_ID (Error code).
Refer to the error code explanation section for details.
6) When a CC-Link IE field network error occurs, 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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel 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 Z5 to Z7. 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) If the parameters are set using GX Configurator-QP or the configuration function of GX Works 2, using this FB is unnecessary. 9) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 10) This FB uses transient transmission. Therefore, an interlock program for transient transmission is required. 11) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 12) Set the global label setting according to Section "1.5 Setting Global Labels". 13) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 2. - FB Library Application Examples".
Timing chart	[When operation completes without error]  [When an error occurs] 

Item	Description
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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.
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)

Name(Comment)	Label name	Data type	Setting range	Description
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.
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.
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: 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: 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	2011/06/30	First edition

Note

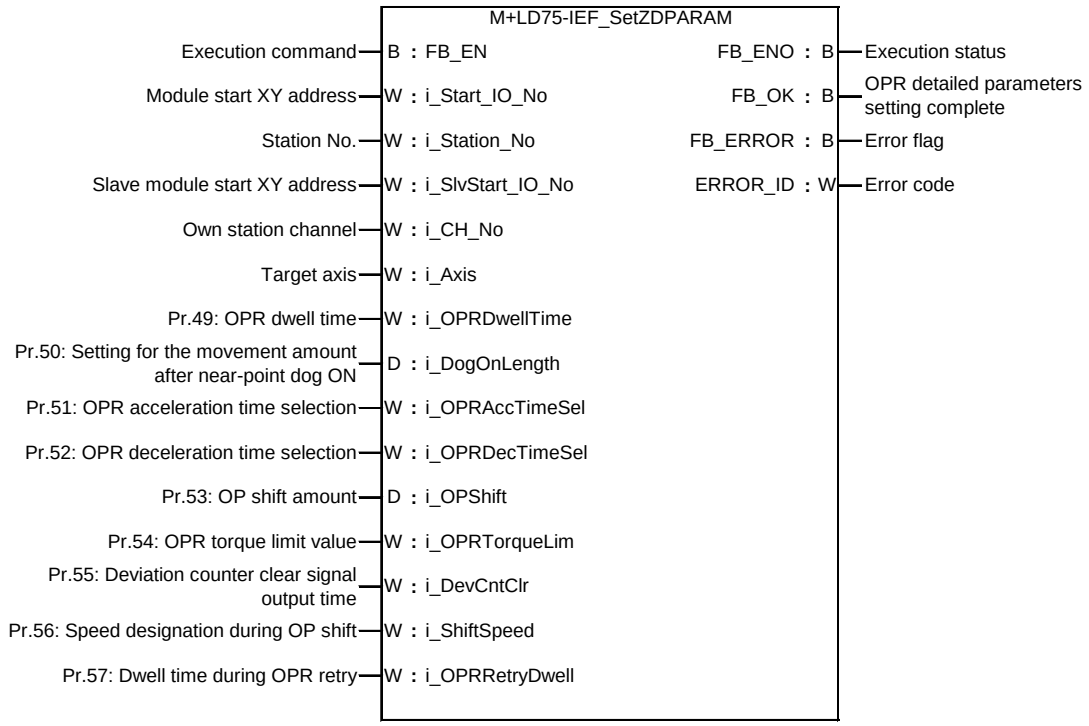
This chapter includes information related to this function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.6. M+LD75-IEF_SetZDPARAM (OPR detailed parameters setting)

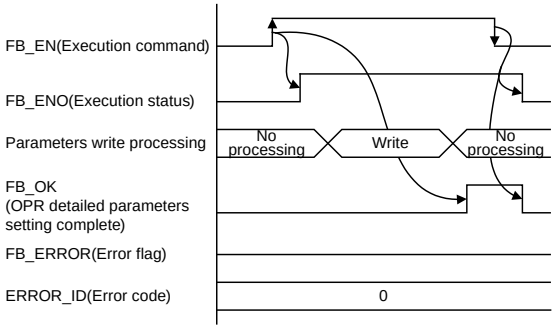
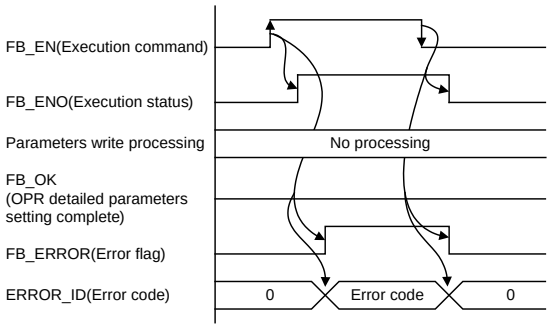
FB Name

M+LD75-IEF_SetZDPARAM

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Sets OPR detailed parameters (Pr.49 to Pr.57).</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="3">Applicable hardware and software</td><td>Positioning module</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
<tr><td>CC-Link IE module</td><td>CC-Link IE field network master/local module
CC-Link IE field network head module</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series *1</td><td>Universal model QCPU *2</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU *3</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
*2 The first five digits of the serial number are "12012" or later
*3 The first five digits of the serial number are "13012" or later.
</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">For universal model CPU: 357 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 are 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 in multiple scans.
4) Parameters are validated when the PLC ready signal (Y signal) 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 10 (Decimal) is stored in ERROR_ID (Error code).
Refer to the error code explanation section for details.
6) When a CC-Link IE field network error occurs, 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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel 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 Z5 to Z7. 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) If the parameters are set using GX Configurator-QP or the configuration function of GX Works 2, using this FB is unnecessary. 9) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 10) This FB uses transient transmission. Therefore, an interlock program for transient transmission is required. 11) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 12) Set the global label setting according to Section "1.5 Setting Global Labels". 13) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 2. - FB Library Application Examples".
Timing chart	[When operation completes without error]  [When an error occurs] 

Item	Description
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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.
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)

Name(Comment)	Label name	Data type	Setting range	Description
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.
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.
Pr.50: Setting for the 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	2011/06/30	First edition

Note

This chapter includes information related to this 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+LD75-IEF_PosiDataSet (Positioning data setting)

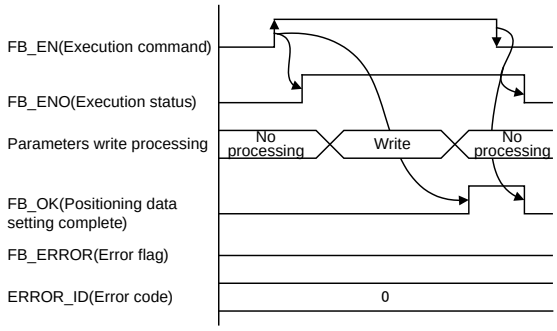
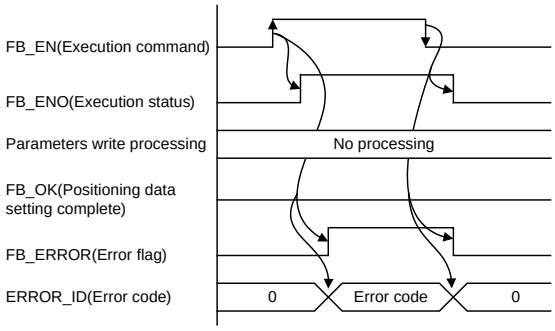
FB Name

M+LD75-IEF_PosiDataSet

Function Overview

Item	Description	
Function overview	Sets positioning data (Da.1 to Da.10).	
Symbol		
Applicable hardware and software	Positioning module	LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4
	CC-Link IE module	CC-Link IE field network master/local module CC-Link IE field network head module

<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>MELSEC-Q Series *1</td><td>Universal model QCPU *2</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU *3</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
*2 The first five digits of the serial number are "12012" or later
*3 The first five digits of the serial number are "13012" or later.
</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">For universal model CPU: 464 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 in multiple scans.
4) When the target axis setting value is out of range, the FB_ERROR output turns ON, processing is interrupted, and the error code 10 (Decimal) is stored in ERROR_ID (Error code).
Refer to the error code explanation section for details.
5) When a CC-Link IE field network error occurs, 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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel 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 Z5 to Z7. 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) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 9) This FB uses transient transmission. Therefore, an interlock program for transient transmission is required. 10) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 11) Set the global label setting according to Section "1.5 Setting Global Labels". 12) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 2. - FB Library Application Examples".
Timing chart	[When operation completes without error]  [When an error occurs] 

Item	Description
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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.
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)

Name(Comment)	Label name	Data type	Setting range	Description
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.
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.)
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)	Set the "control system" for carrying out positioning control.

Name(Comment)	Label name	Data type	Setting range	Description
			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 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	

Name(Comment)	Label name	Data type	Setting range	Description
			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) 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	

Name(Comment)	Label name	Data type	Setting range	Description
			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.)
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.)

Name(Comment)	Label name	Data type	Setting range	Description
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.
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.

Name(Comment)	Label name	Data type	Setting range	Description
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: 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.
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,08h, 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".

Name(Comment)	Label name	Data type	Setting range	Description
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	2011/06/30	First edition

Note

This chapter includes information related to this function block.

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

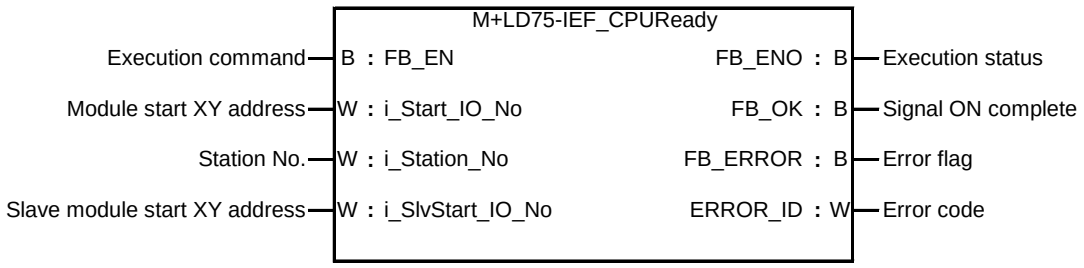
Before using any Mitsubishi products, please read all the relevant manuals.

2.8. M+LD75-IEF_CPUReady (PLC ready signal ON)

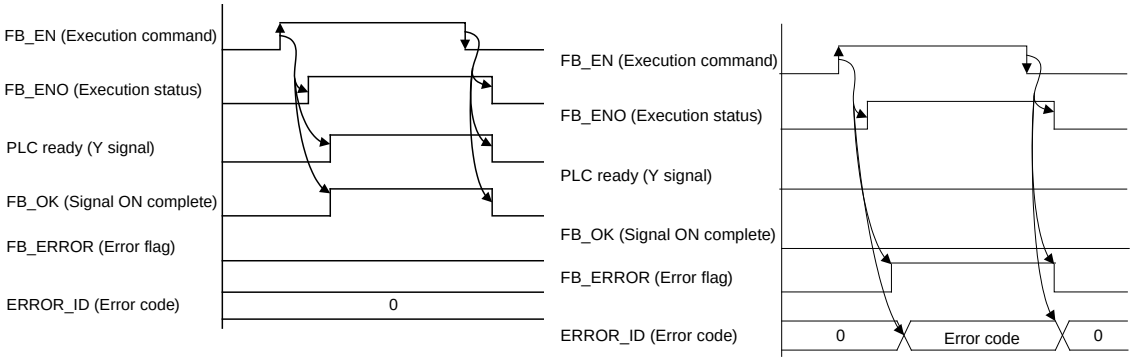
FB Name

M+LD75-IEF_CPUReady

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Outputs the PLC ready signal.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="3">Applicable hardware and software</td><td>Positioning module</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
<tr><td>CC-Link IE module</td><td>CC-Link IE field network master/local module
CC-Link IE field network head module</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series *1</td><td>Universal model QCPU *2</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU *3</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
*2 The first five digits of the serial number are "12012" or later
*3 The first five digits of the serial number are "13012" or later.
</td></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>
</table>

Item	Description
Number of steps	For universal model CPU: 310 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.
Function description	1) By turning ON FB_EN (Execution command), the PLC ready signal (Y signal) is turned ON. 2) After FB_EN (Execution command) is turned ON, the FB is completed in multiple scans. 3) When the network configuration setting of the station number specified by i_Station_No is incorrect, FB_ERROR is turned ON and the processing is interrupted, and the error code 40 (decimal) is stored in ERROR_ID. Refer to the error code explanation section for details.
Compiling method	Macro type
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 Z7 to Z9. Please do not use these index registers in an interrupt program. 5) When this FB is used, 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. 6) Every input must be provided with a value for proper FB operation. 7) When FB_EN (Execution command) is turned ON from OFF, the OFF time should be set to 100 ms or longer. 8) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 9) This FB uses cyclic transmission. Therefore, an interlock program for cyclic transmission is required. 10) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 11) Set the global label setting according to Section "1.5 Setting Global Labels". 12) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Real-time execution
Application example	Refer to "Appendix 2. - FB Library Application Examples".

Timing chart	[When operation completes without error] [When an error occurs] 
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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
40 (Decimal)	The network configuration setting of the station number specified by i_Station_No is incorrect.	Review the following setting. •Network configuration setting Refer to (2) in Section 1.4 Setting the CC-Link IE Field Network Master/Local Module. •The value entered in i_Station_No

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 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 PLC ready signal ON 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	2011/06/30	First edition
1.01B	2013/01/25	When the network configuration setting of specified station No. is incorrect, Error flag (Error code: 40) is turned ON.

Note

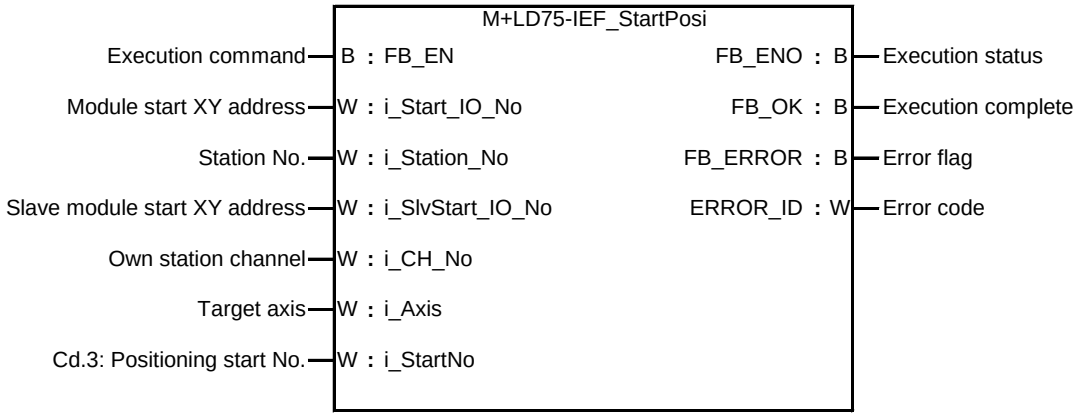
This chapter includes information related to this function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.9. M+LD75-IEF_StartPosi (Positioning start)

FB Name

M+LD75-IEF_StartPosi

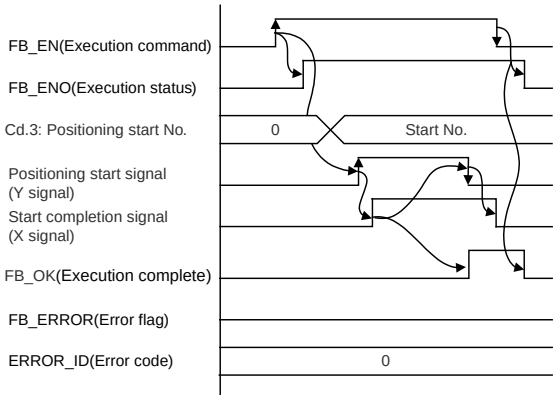
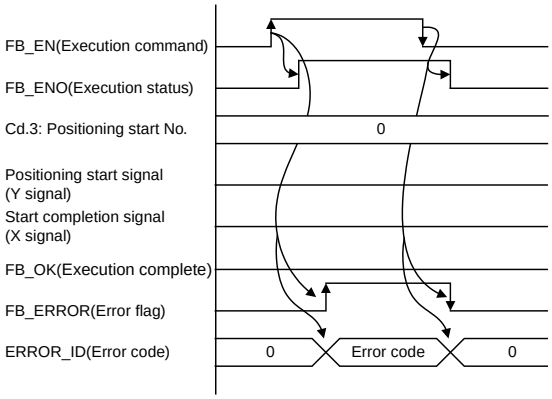
Function Overview

<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="3">Applicable hardware and software</td><td>Positioning module</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
<tr><td>CC-Link IE module</td><td>CC-Link IE field network master/local module
CC-Link IE field network head module</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series *1</td><td>Universal model QCPU *2</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU *3</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
*2 The first five digits of the serial number are "12012" or later
*3 The first five digits of the serial number are "13012" or later.
</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">For universal model CPU: 557 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>
</table>

Item	Description
Function description	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 (Y signal) 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 (Y signal). When the following conditions are not satisfied, the positioning start signal (Y signal) is not turned ON, but FB_OK (Execution complete) is turned ON. (In this case, warnings at start will not occur.) [Conditions] PLC ready signal (X signal): ON, Positioning start signal (Y signal): OFF, Start complete signal (X signal): OFF, BUSY signal (X signal): OFF 4) After FB_EN (Execution command) is turned ON, the FB is completed in multiple scans. 5) When the start complete signal (X signal) is ON or FB_EN (Execution command) is OFF, the positioning start signal (Y signal) 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 10 (Decimal) is stored in ERROR_ID (Error code). Refer to the error code explanation section for details. 7) When the network configuration setting of the station number specified by i_Station_No is incorrect, FB_ERROR is turned ON and the processing is interrupted, and the error code 40 (decimal) is stored in ERROR_ID. Refer to the error code explanation section for details. 8) When a CC-Link IE field network error occurs, 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.
Compiling method	Macro type

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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel 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 Z5 to Z9. Please do not use these index registers in an interrupt program. 7) 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. 8) 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. 9) Every input must be provided with a value for proper FB operation. 10) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 11) This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required. 12) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 13) Set the global label setting according to Section "1.5 Setting Global Labels". 14) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 2. - FB Library Application Examples".

Item	Description
Timing chart	[When operation completes without error (axis 1)]  [When an error occurs (axis 1)] 
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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.
40 (Decimal)	The network configuration setting of the station number specified by i_Station_No is incorrect.	Review the following setting. •Network configuration setting Refer to (2) in Section 1.4 Setting the CC-Link IE Field Network Master/Local Module. •The value entered in i_Station_No
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.
Target axis	i_Axis	Word	1~4	Specify the axis number.
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	2011/06/30	First edition
1.01B	2013/01/25	When the network configuration setting of specified station No. is incorrect, Error flag (Error code: 40) is turned ON.

Note

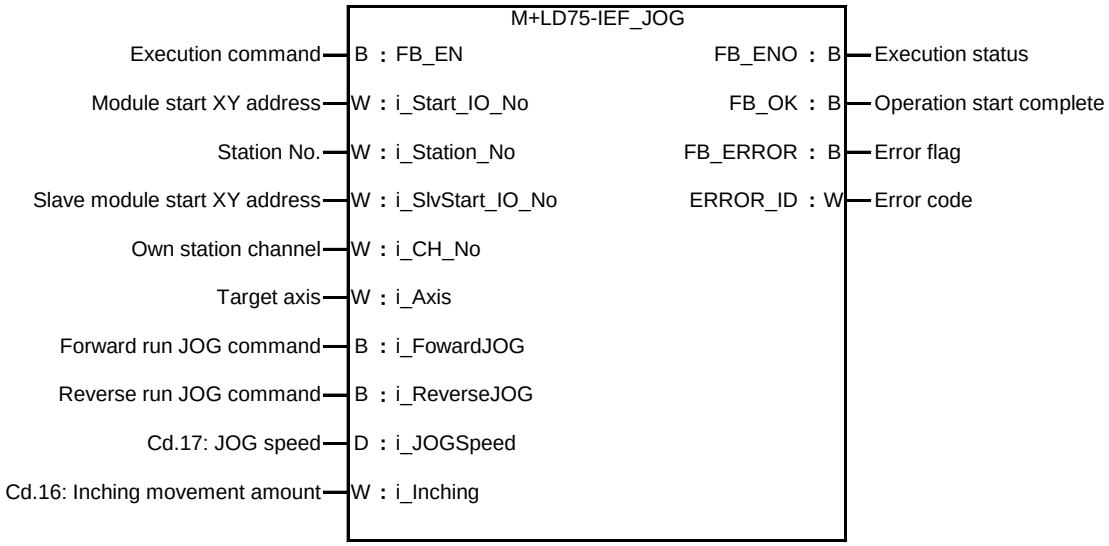
This chapter includes information related to this function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.10. M+LD75-IEF_JOG (JOG/inching operation)

FB Name

M+LD75-IEF_JOG

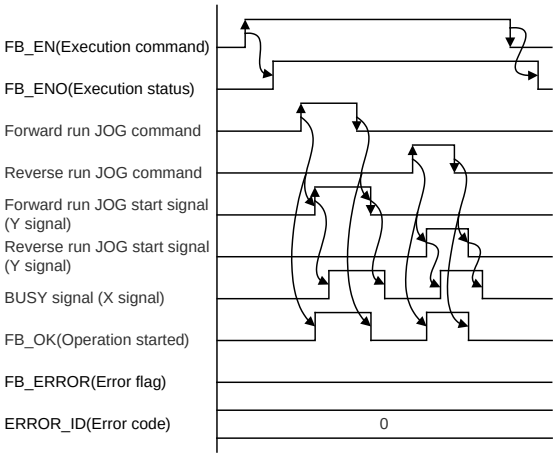
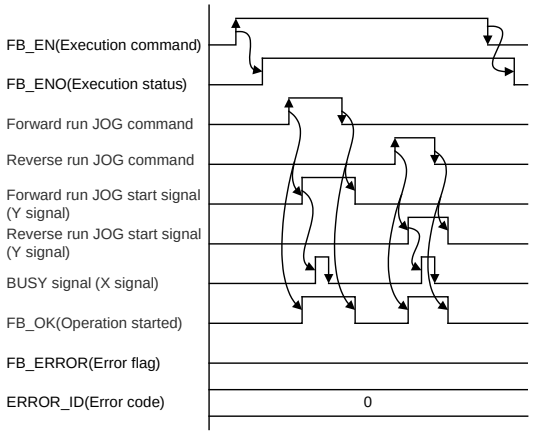
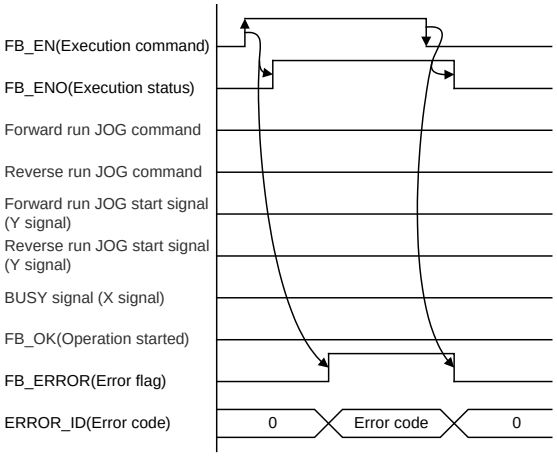
Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Carries out JOG and inching operation.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="3">Applicable hardware and software</td><td>Positioning module</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
<tr><td>CC-Link IE module</td><td>CC-Link IE field network master/local module
CC-Link IE field network head module</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series *1</td><td>Universal model QCPU *2</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU *3</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
*2 The first five digits of the serial number are "12012" or later
*3 The first five digits of the serial number are "13012" or later.
</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">For universal model CPU: 567 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>
</table>

Item	Description
Function description	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 10 (Decimal) is stored in ERROR_ID (Error code). Refer to the error code explanation section for details. 7) When the network configuration setting of the station number specified by i_Station_No is incorrect, FB_ERROR is turned ON and the processing is interrupted, and the error code 40 (decimal) is stored in ERROR_ID. Refer to the error code explanation section for details. 8) When a CC-Link IE field network error occurs, 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.
Compiling method	Macro type

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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel 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 Z5 to Z9. Please do not use these index registers in an interrupt program. 7) 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. 8) 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. 9) 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. 10) Every input must be provided with a value for proper FB operation. 11) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 12) This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required. 13) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 14) Set the global label setting according to Section "1.5 Setting Global Labels". 15) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Real-time execution
Application example	Refer to "Appendix 2. - FB Library Application Examples".

Item	Description
Timing chart	[When operation completes without error] **Forward run JOG operation (Inching movement amount 0)**  **Forward inching operation (inching movement amount other than 0)**  [When an error occurs] 
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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.)
40 (Decimal)	The network configuration setting of the station number specified by i_Station_No is incorrect.	Review the following setting. •Network configuration setting Refer to (2) in Section 1.4 Setting the CC-Link IE Field Network Master/Local Module. •The value entered in i_Station_No
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.
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: 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	2011/06/30	First edition
1.01B	2013/01/25	When the network configuration setting of specified station No. is incorrect, Error flag (Error code: 40) is turned ON.

Note

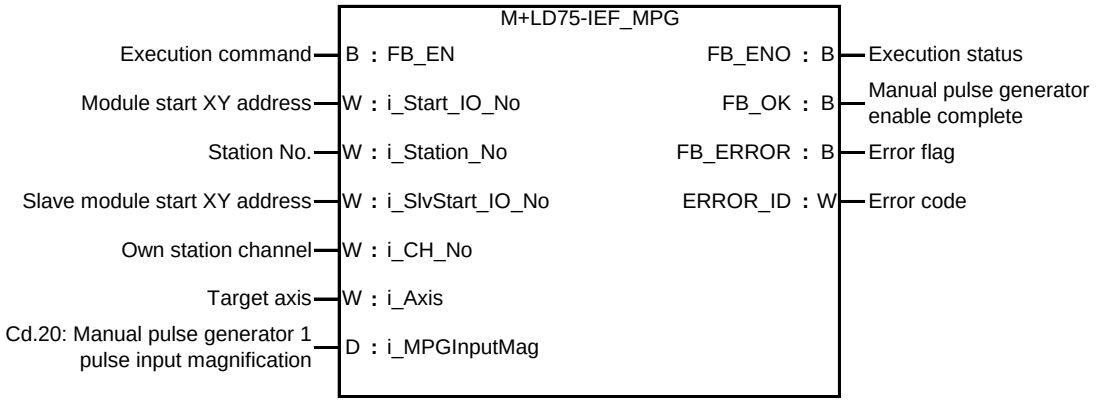
This chapter includes information related to this function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.11. M+LD75-IEF_MPG (Manual pulse generator operation)

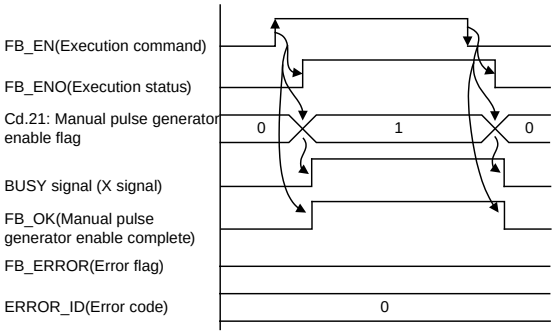
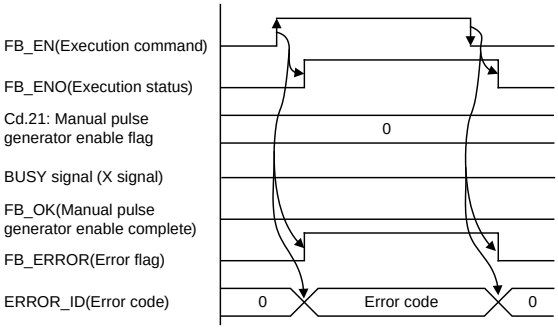
FB Name

M+LD75-IEF_MPG

Function Overview

Item	Description	
Function overview	Carries out manual pulse generator operation.	
Symbol		
Applicable hardware and software	Positioning module	LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4
	CC-Link IE module	CC-Link IE field network master/local module CC-Link IE field network head module
	CPU module	Series: MELSEC-Q Series *1 — Model: Universal model QCPU *2 Series: MELSEC-L Series — Model: LCPU *3 *1 Not applicable to QCPU (A mode) *2 The first five digits of the serial number are "12012" or later *3 The first five digits of the serial number are "13012" or later.

<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">For universal model CPU: 471 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 10 (Decimal) is stored in ERROR_ID (Error code).
Refer to the error code explanation section for details.
5) When the network configuration setting of the station number specified by i_Station_No is incorrect, FB_ERROR is turned ON and the processing is interrupted, and the error code 40 (decimal) is stored in ERROR_ID.
Refer to the error code explanation section for details.
6) When a CC-Link IE field network error occurs, 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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel 6) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target axis. 7) This FB uses index registers Z5 to Z9. Please do not use these index registers in an interrupt program. 8) Every input must be provided with a value for proper FB operation. 9) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 10) This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required. 11) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 12) Set the global label setting according to Section "1.5 Setting Global Labels". 13) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Real-time execution
Application example	Refer to "Appendix 2. - FB Library Application Examples".
Timing chart	[When operation completes without error (axis 1)]  [When an error occurs (axis 1)] 

Item	Description
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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.
40 (Decimal)	The network configuration setting of the station number specified by i_Station_No is incorrect.	Review the following setting. •Network configuration setting Refer to (2) in Section 1.4 Setting the CC-Link IE Field Network Master/Local Module. •The value entered in i_Station_No
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.
Target axis	i_Axis	Word	1~4	Specify the axis number.
Cd.20: Manual pulse generator 1 pulse input magnification	i_MPGInputMag	Double Word	1~1000	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	2011/06/30	First edition
1.01B	2013/01/25	When the network configuration setting of specified station No. is incorrect, Error flag (Error code: 40) is turned ON.

Note

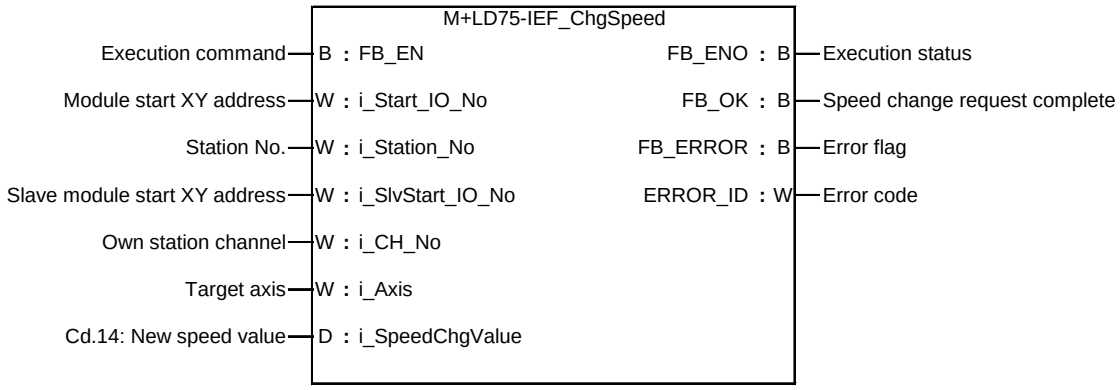
This chapter includes information related to this function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.12. M+LD75-IEF_ChgSpeed (Speed change)

FB Name

M+LD75-IEF_ChgSpeed

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Performs speed change.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="3">Applicable hardware and software</td><td>Positioning module</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
<tr><td>CC-Link IE module</td><td>CC-Link IE field network master/local module
CC-Link IE field network head module</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series *1</td><td>Universal model QCPU *2</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU *3</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
*2 The first five digits of the serial number are "12012" or later
*3 The first five digits of the serial number are "13012" or later.</td></tr>
<tr><td>Engineering software</td><td>GX Works2 *1
<table>
<tr><th>Language</th><th>Software version</th></tr>
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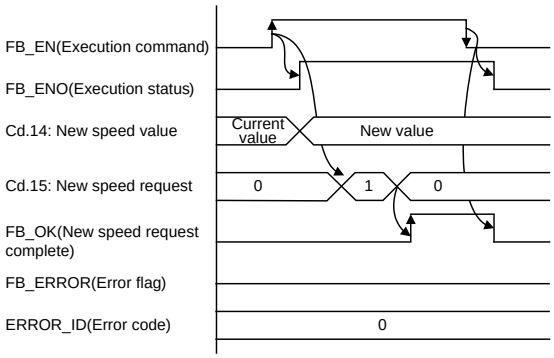
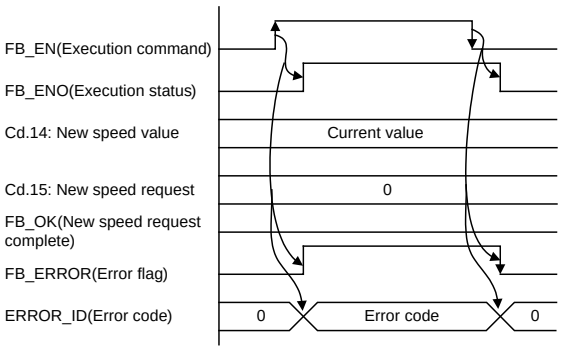
<tr><td>Korean version</td><td>Version1.49B or later</td></tr>
</table>
*1 For software versions applicable to the modules used, refer to "Relevant manuals".</td></tr>
</table>

Item	Description
Programming language	Ladder
Number of steps	For universal model CPU: 471 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.
Function description	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 10 (Decimal) is stored in ERROR_ID (Error code). Refer to the error code explanation section for details. 4) When the network configuration setting of the station number specified by i_Station_No is incorrect, FB_ERROR is turned ON and the processing is interrupted, and the error code 40 (decimal) is stored in ERROR_ID. Refer to the error code explanation section for details. 5) When a CC-Link IE field network error occurs, 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.
Compiling method	Macro type

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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel 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 Z5, Z6, Z7 and 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) 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 (Speed change request complete) is not turned ON. 9) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 10) This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required. 11) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 12) Set the global label setting according to Section "1.5 Setting Global Labels". 13) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 2. - FB Library Application Examples".

Item	Description
Timing chart	[When operation completes without error (axis 1)]  [When an error occurs (axis 1)] 
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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.
40 (Decimal)	The network configuration setting of the station number specified by i_Station_No is incorrect.	Review the following setting. •Network configuration setting Refer to (2) in Section 1.4 Setting the CC-Link IE Field Network Master/Local Module. •The value entered in i_Station_No
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.
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: 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	2011/06/30	First edition
1.01B	2013/01/25	When the network configuration setting of specified station No. is incorrect, Error flag (Error code: 40) is turned ON.

Note

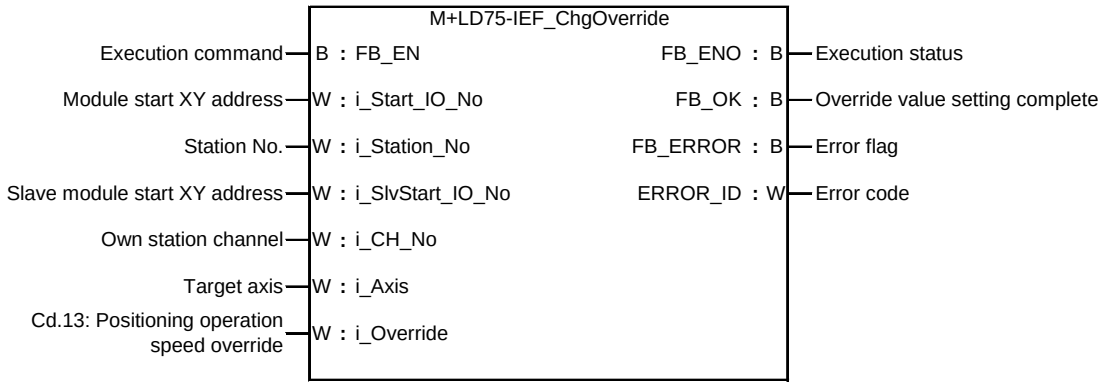
This chapter includes information related to this function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.13. M+LD75-IEF_ChgOverride (Override)

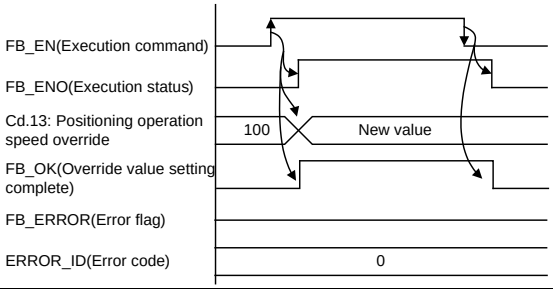
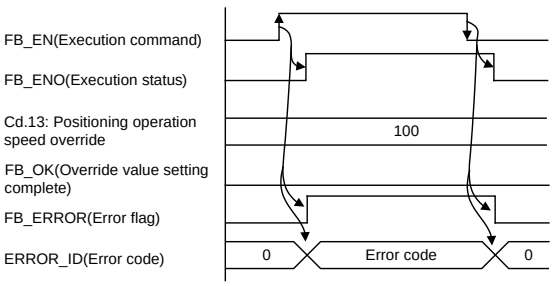
FB Name

M+LD75-IEF_ChgOverride

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></tr>
<tr><td>Function overview</td><td colspan="2">Performs override.</td></tr>
<tr><td>Symbol</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="3">Applicable hardware and software</td><td>Positioning module</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
<tr><td>CC-Link IE module</td><td>CC-Link IE field network master/local module
CC-Link IE field network head module</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series *1</td><td>Universal model QCPU *2</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU *3</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
*2 The first five digits of the serial number are "12012" or later
*3 The first five digits of the serial number are "13012" or later.</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>
</table>

Item	Description
Programming language	Ladder
Number of steps	For universal model CPU: 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.
Function description	1) By turning ON FB_EN (Execution command), the speed is changed for all controls to be executed at the percentage specified with i_Override (Cd.13: Positioning operation speed override). 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 10 (Decimal) is stored in ERROR_ID (Error code). Refer to the error code explanation section for details. 4) When a CC-Link IE field network error occurs, 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.
Compiling method	Macro type

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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel 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 Z5 to Z7. 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) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 9) This FB uses transient transmission. Therefore, an interlock program for transient transmission is required. 10) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 11) Set the global label setting according to Section "1.5 Setting Global Labels". 12) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 2. - FB Library Application Examples".
Timing chart	[When operation completes without error (axis 1)]  [When an error occurs (axis 1)] 

Item	Description
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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.
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.
Target axis	i_Axis	Word	1~4	Specify the axis number.
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	2011/06/30	First edition

Note

This chapter includes information related to this function block.

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

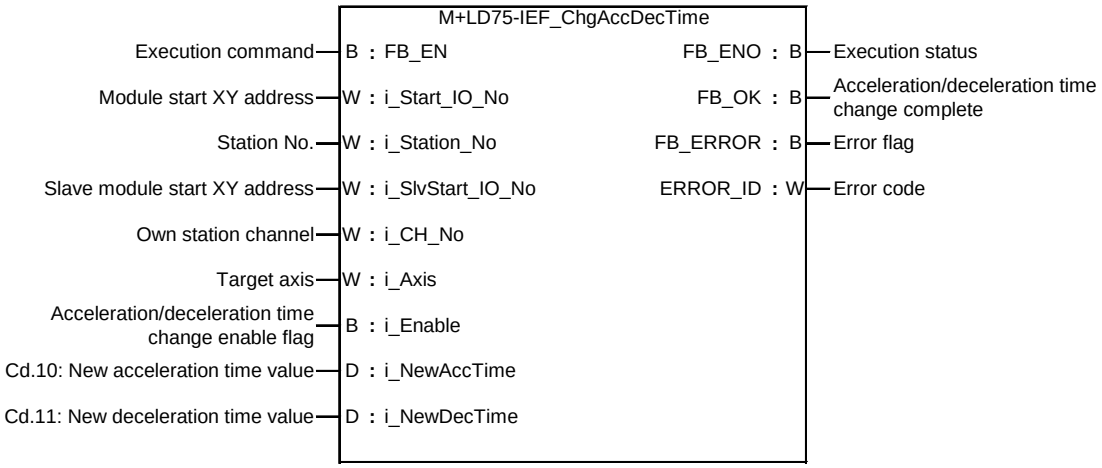
Before using any Mitsubishi products, please read all the relevant manuals.

2.14. M+LD75-IEF_ChgAccDecTime (Acceleration/deceleration time setting value change)

FB Name

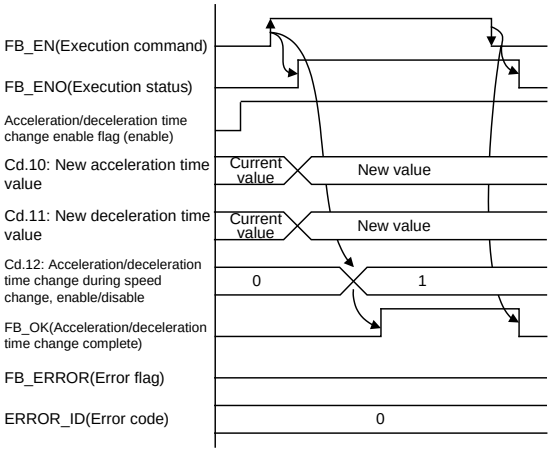
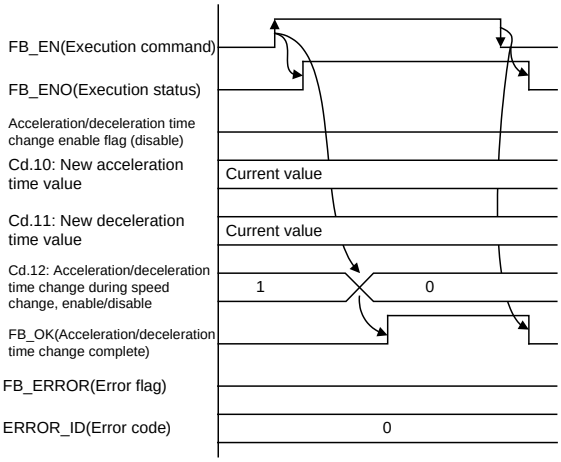
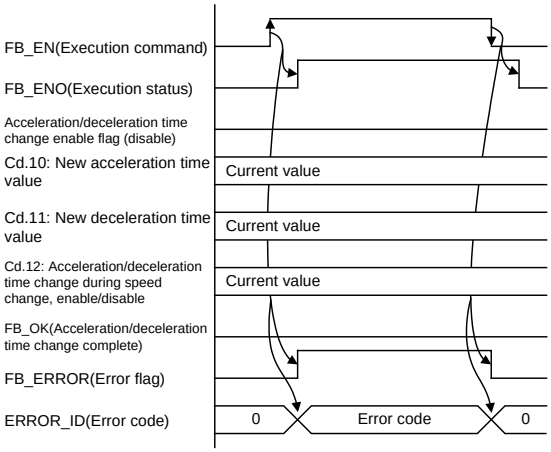
M+LD75-IEF_ChgAccDecTime

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="3">Applicable hardware and software</td><td>Positioning module</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
<tr><td>CC-Link IE module</td><td>CC-Link IE field network master/local module
CC-Link IE field network head module</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series *1</td><td>Universal model QCPU *2</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU *3</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
*2 The first five digits of the serial number are "12012" or later
*3 The first five digits of the serial number are "13012" or later.
</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">For universal model CPU: 395 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 10 (Decimal) is stored in ERROR_ID (Error code).
Refer to the error code explanation section for details.
3) When a CC-Link IE field network error occurs, 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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel 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 Z5 to Z7. Please do not use these index registers in an interrupt program. 7) 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. 8) Every input must be provided with a value for proper FB operation. 9) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 10) This FB uses transient transmission. Therefore, an interlock program for transient transmission is required. 11) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 12) Set the global label setting according to Section "1.5 Setting Global Labels". 13) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 2. - FB Library Application Examples".

Item	Description
Timing chart	[When operation completes without error (axis 1)] (When enabling the acceleration/ deceleration time change during speed change, enable/disable selection)  (When disabling the acceleration/ deceleration time change during speed change, enable/disable selection)  [When an error occurs (axis 1)] 
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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.
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.
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.

Name(Comment)	Label name	Data type	Setting range	Description
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, the control is performed with the preset acceleration time.
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	2011/06/30	First edition
1.01B	2013/01/25	The timing for turning ON FB_OK of when the acceleration/deceleration time change is disabled is modified.

Note

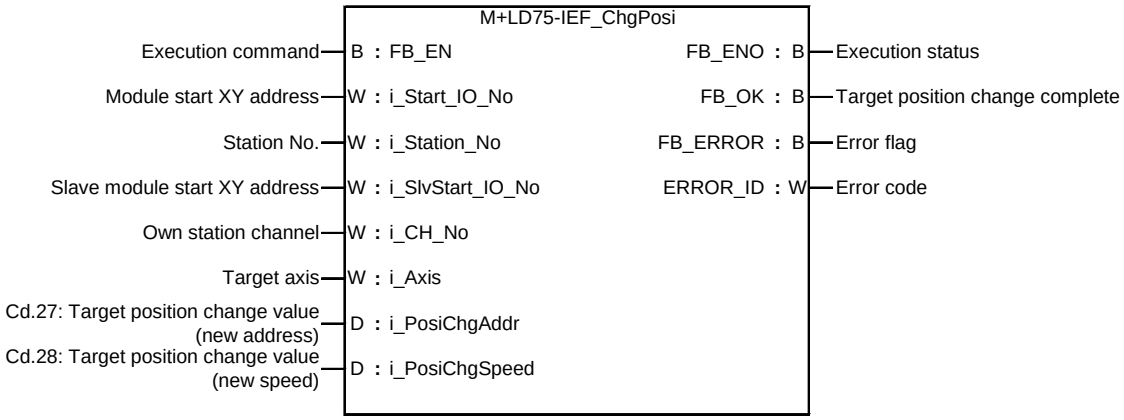
This chapter includes information related to this function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.15. M+LD75-IEF_ChgPosi (Target position change)

FB Name

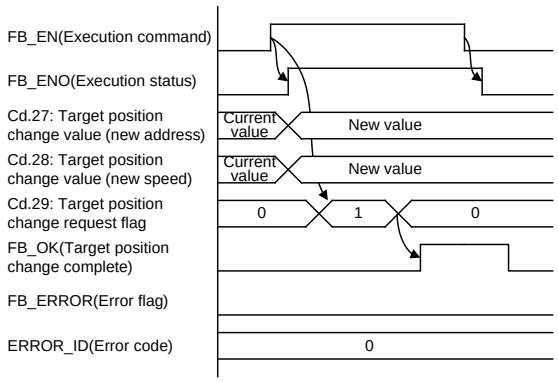
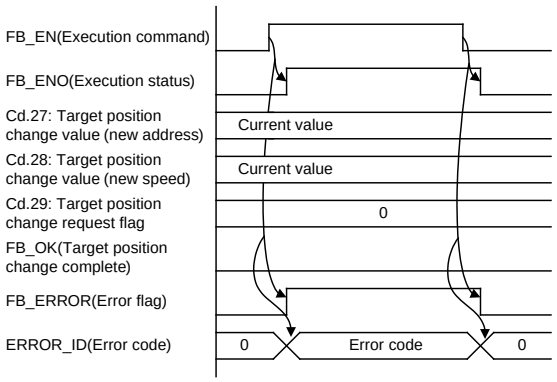
M+LD75-IEF_ChgPosi

Function Overview

<table>
<tr><th>Item</th><th colspan="2">Description</th></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="3">Applicable hardware and software</td><td>Positioning module</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
<tr><td>CC-Link IE module</td><td>CC-Link IE field network master/local module
CC-Link IE field network head module</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series *1</td><td>Universal model QCPU *2</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU *3</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
*2 The first five digits of the serial number are "12012" or later
*3 The first five digits of the serial number are "13012" or later.
</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>
</table>

Item	Description
Programming language	Ladder
Number of steps	For universal model CPU: 504 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.
Function description	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)). The command speed is also 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 10 (Decimal) is stored in ERROR_ID (Error code). Refer to the error code explanation section for details. 4) When the network configuration setting of the station number specified by i_Station_No is incorrect, FB_ERROR is turned ON and the processing is interrupted, and the error code 40 (decimal) is stored in ERROR_ID. Refer to the error code explanation section for details. 5) When a CC-Link IE field network error occurs, 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.
Compiling method	Macro type

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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel 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 Z5, Z6, Z7, and 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) 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 (Target position change complete) is not turned ON. 9) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 10) This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required. 11) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 12) Set the global label setting according to Section "1.5 Setting Global Labels". 13) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 2. - FB Library Application Examples".

Item	Description
Timing chart	[When operation completes without error (axis 1)]  [When an error occurs (axis 1)] 
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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.
40 (Decimal)	The network configuration setting of the station number specified by i_Station_No is incorrect.	Review the following setting. •Network configuration setting Refer to (2) in Section 1.4 Setting the CC-Link IE Field Network Master/Local Module. •The value entered in i_Station_No
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.
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: 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 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	2011/06/30	First edition
1.01B	2013/01/25	When the network configuration setting of specified station No. is incorrect, Error flag (Error code: 40) is turned ON.

Note

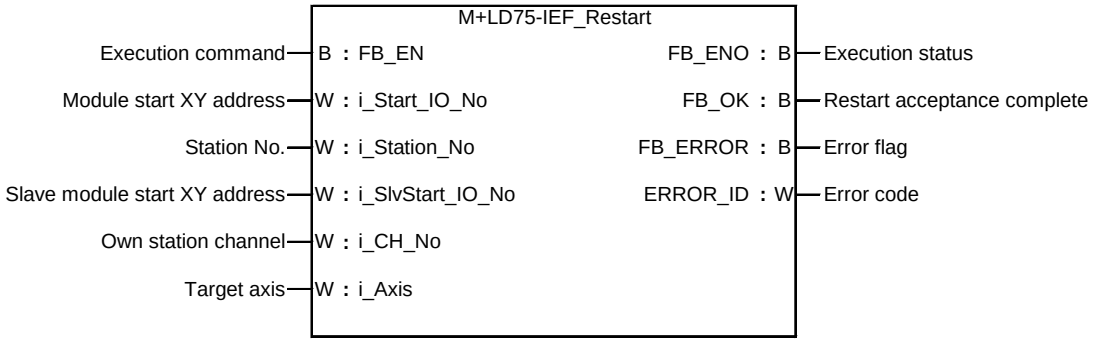
This chapter includes information related to this function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.16. M+LD75-IEF_Restart (Restart)

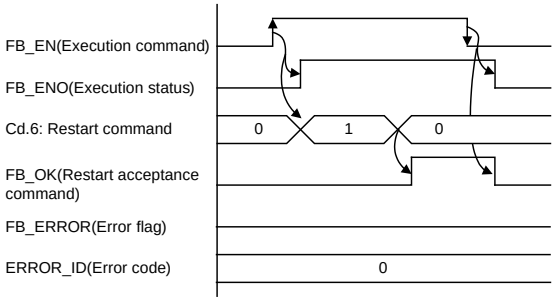
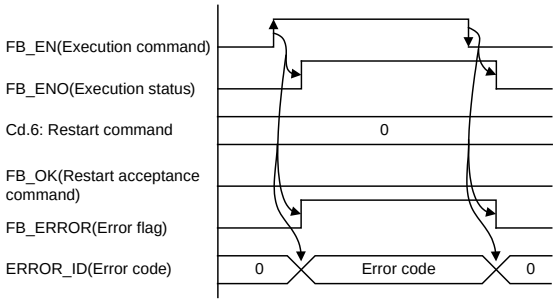
FB Name

M+LD75-IEF_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="3">Applicable hardware and software</td><td>Positioning module</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
<tr><td>CC-Link IE module</td><td>CC-Link IE field network master/local module
CC-Link IE field network head module</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series *1</td><td>Universal model QCPU *2</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU *3</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
*2 The first five digits of the serial number are "12012" or later
*3 The first five digits of the serial number are "13012" or later.</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>
</table>

Item	Description
Number of steps	For universal model CPU: 554 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.
Function description	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 10 (Decimal) is stored in ERROR_ID (Error code). Refer to the error code explanation section for details. 4) When the network configuration setting of the station number specified by i_Station_No is incorrect, FB_ERROR is turned ON and the processing is interrupted, and the error code 40 (decimal) is stored in ERROR_ID. Refer to the error code explanation section for details. 5) When a CC-Link IE field network error occurs, 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.
Compiling method	Macro type

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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel 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 Z5, Z6, Z7 and 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) If FB_EN (Execution command) is turned ON while Axis operation status is not Stopped, the request will be ignored. In this case, FB_OK (Restart acceptance complete) is not turned ON. 9) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 10) This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required. 11) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 12) Set the global label setting according to Section "1.5 Setting Global Labels". 13) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 2. - FB Library Application Examples".
Timing chart	[When operation completes without error (axis 1)]  [When an error occurs (axis 1)] 

Item	Description
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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.
40 (Decimal)	The network configuration setting of the station number specified by i_Station_No is incorrect.	Review the following setting. •Network configuration setting Refer to (2) in Section 1.4 Setting the CC-Link IE Field Network Master/Local Module. •The value entered in i_Station_No
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.
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	2011/06/30	First edition
1.01B	2013/01/25	When the network configuration setting of specified station No. is incorrect, Error flag (Error code: 40) is turned ON.

Note

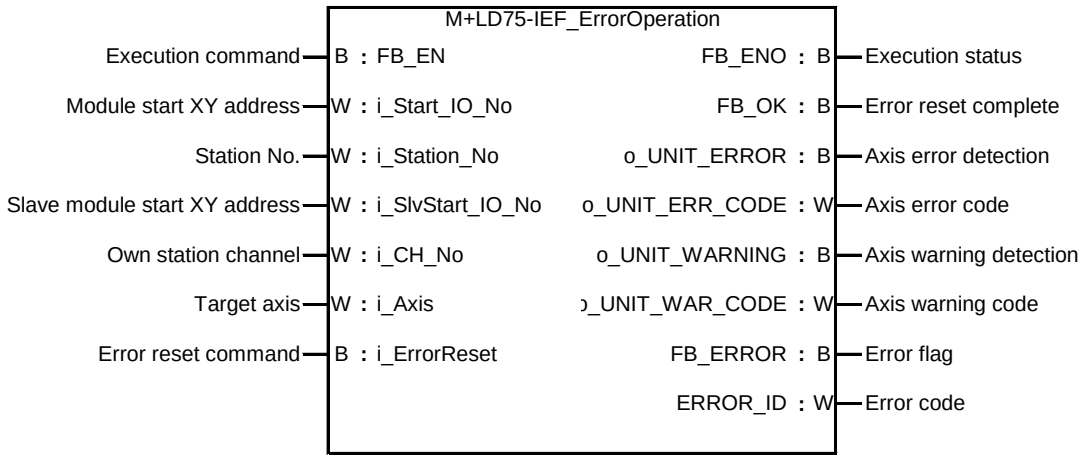
This chapter includes information related to this function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.17. M+LD75-IEF_ErrorOperation (Error operation)

FB Name

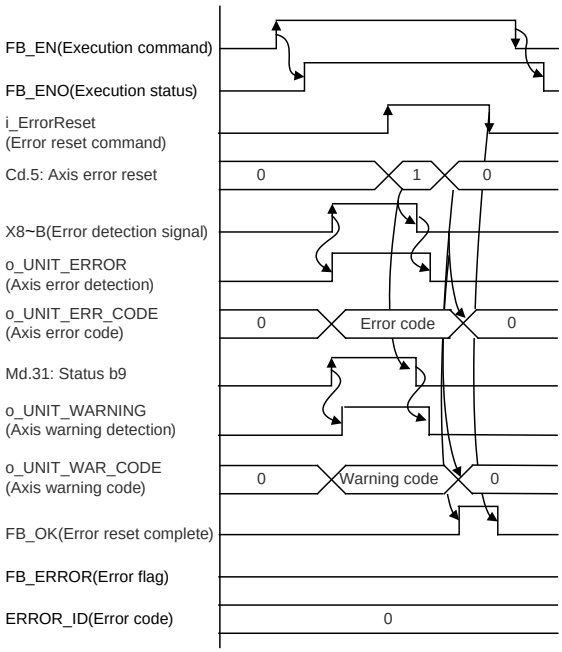
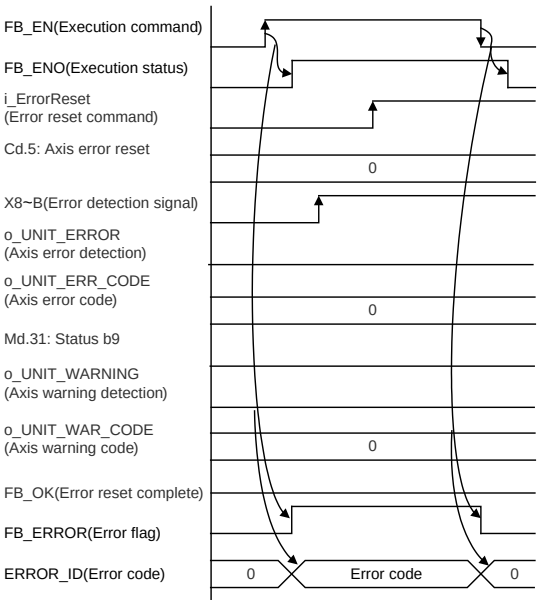
M+LD75-IEF_ErrorOperation

Function Overview

Item	Description	
Function overview	Monitors errors and warnings, and performs error reset.	
Symbol		
Applicable hardware and software	Positioning module	LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4
	CC-Link IE module	CC-Link IE field network master/local module CC-Link IE field network head module
	CPU module	Series: MELSEC-Q Series *1 — Model: Universal model QCPU *2 Series: MELSEC-L Series — Model: LCPU *3 *1 Not applicable to QCPU (A mode) *2 The first five digits of the serial number are "12012" or later *3 The first five digits of the serial number are "13012" or later.

<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">For universal model CPU: 635 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_UNIT_ERR_CODE (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 10 (Decimal) is stored in ERROR_ID (Error code).
Refer to the error code explanation section for details.
6) When the network configuration setting of the station number specified by i_Station_No is incorrect, FB_ERROR is turned ON and the processing is interrupted, and the error code 40 (decimal) is stored in ERROR_ID.
Refer to the error code explanation section for details.
7) When a CC-Link IE field network error occurs, 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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel 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 Z7 to Z9. Please do not use these index registers in an interrupt program. 7) Do not change i_Axis (Target axis) while FB_EN (Execution command) is turned ON. 8) Every input must be provided with a value for proper FB operation. 9) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 10) This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required. 11) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 12) Set the global label setting according to Section "1.5 Setting Global Labels". 13) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Real-time execution
Application example	Refer to "Appendix 2. - FB Library Application Examples".

Item	Description
Timing chart	[When operation completes without error (axis 1)]  [When an error occurs (axis 1)] 
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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.
40 (Decimal)	The network configuration setting of the station number specified by i_Station_No is incorrect.	Review the following setting. •Network configuration setting Refer to (2) in Section 1.4 Setting the CC-Link IE Field Network Master/Local Module. •The value entered in i_Station_No
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.
Target axis	i_Axis	Word	1~4	Specify the axis number.

Name(Comment)	Label name	Data type	Setting range	Description
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 complete	FB_OK	Bit	OFF	When ON, it indicates that an error reset is completed.
Axis error detection	o_UNIT_ERROR	Bit	OFF	When ON, it indicates that an axis error has occurred.
Axis error code	o_UNIT_ERR_CODE	Word	0	Return an error code for a target axis error occurred in the module.
Axis warning detection	o_UNIT_WARNING	Bit	OFF	When ON, it indicates that an axis warning has occurred.
Axis warning code	o_UNIT_WAR_CODE	Word	0	Return a warning 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	2011/06/30	First edition
1.01B	2013/01/25	When the network configuration setting of specified station No. is incorrect, Error flag (Error code: 40) is turned ON.

Note

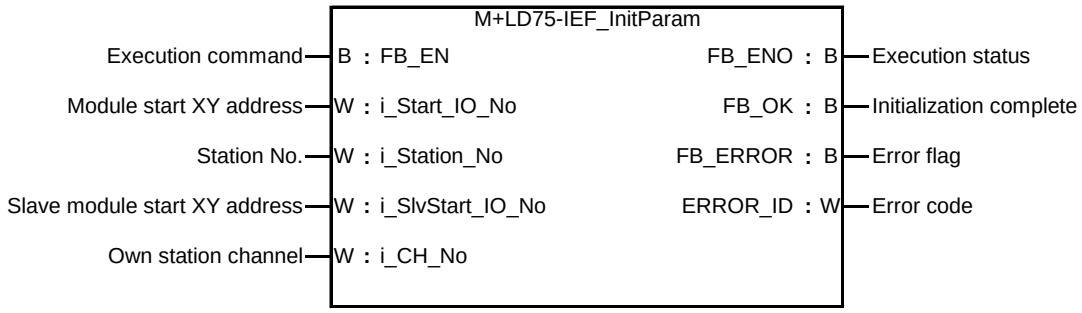
This chapter includes information related to this function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.18. M+LD75-IEF_InitParam (Parameter initialization)

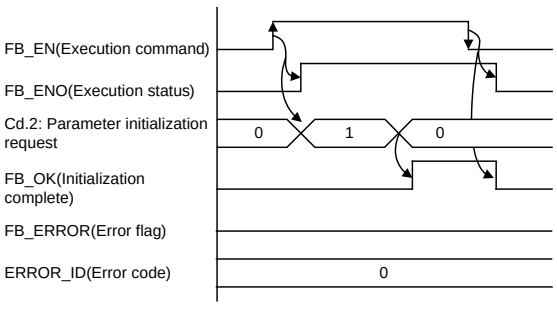
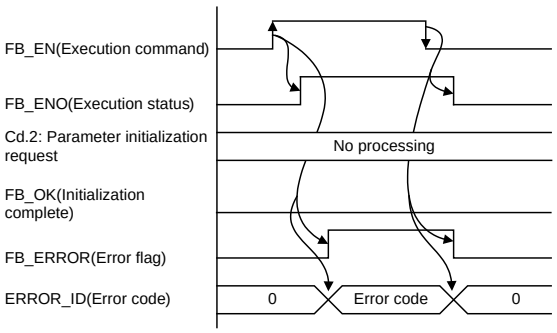
FB Name

M+LD75-IEF_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="3">Applicable hardware and software</td><td>Positioning module</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
<tr><td>CC-Link IE module</td><td>CC-Link IE field network master/local module
CC-Link IE field network head module</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series *1</td><td>Universal model QCPU *2</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU *3</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
*2 The first five digits of the serial number are "12012" or later
*3 The first five digits of the serial number are "13012" or later.</td></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>
</table>

Item	Description
Number of steps	For universal model CPU: 510 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.
Function description	1) By turning ON FB_EN (Execution command), the setting data stored in the buffer memory and in flash ROM of LD75 are returned to the factory-set initial value. 2) After FB_EN (Execution command) is turned ON, the FB is completed in multiple scans. 3) When the network configuration setting of the station number specified by i_Station_No is incorrect, FB_ERROR is turned ON and the processing is interrupted, and the error code 40 (decimal) is stored in ERROR_ID. Refer to the error code explanation section for details. 4) When a CC-Link IE field network error occurs, 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.
Compiling method	Macro type

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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel 5) This FB uses index registers Z5 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) PLC ready signal (Y signal) must be tuned OFF to use this FB. FB_EN (Execution command) must also be turned OFF if PLC ready signal (Y signal) is turned ON with M+LD75-IEF_CPUReady (PLC ready signal ON). 8) After completing the initialization of setting data, reset the CPU module or reboot the PLC power. 9) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 10) This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required. 11) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 12) Set the global label setting according to Section "1.5 Setting Global Labels". 13) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 2. - FB Library Application Examples".
Timing chart	[When operation completes without error]  [When an error occurs] 

Item	Description
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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
40 (Decimal)	The network configuration setting of the station number specified by i_Station_No is incorrect.	Review the following setting. •Network configuration setting Refer to (2) in Section 1.4 Setting the CC-Link IE Field Network Master/Local Module. •The value entered in i_Station_No
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.

●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	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	2011/06/30	First edition
1.01B	2013/01/25	When the network configuration setting of specified station No. is incorrect, Error flag (Error code: 40) is turned ON.

Note

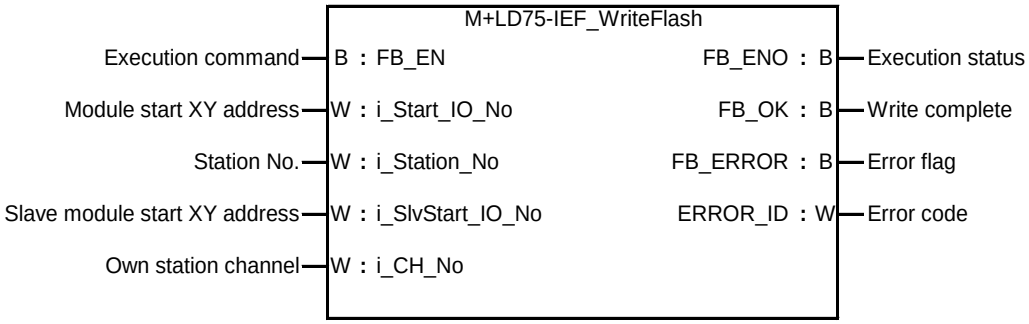
This chapter includes information related to this function block.
It does not include information on restrictions of use such as combination with positioning modules or programmable controller CPUs.
Before using any Mitsubishi products, please read all the relevant manuals.

2.19. M+LD75-IEF_WriteFlash (Flash ROM writing)

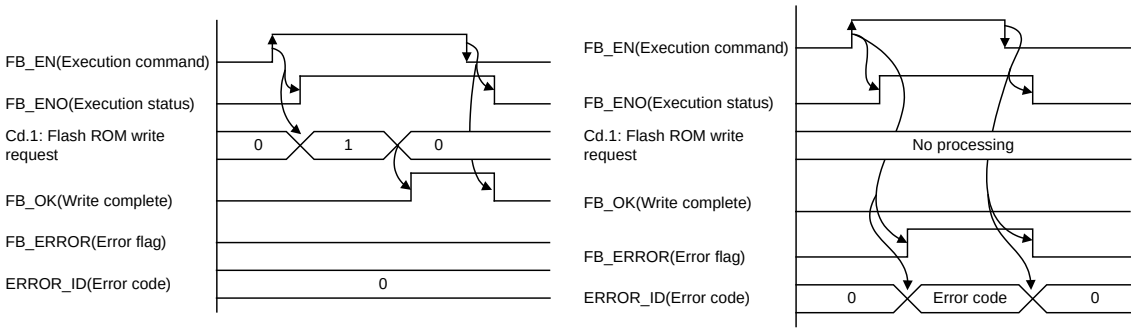
FB Name

M+LD75-IEF_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="3">Applicable hardware and software</td><td>Positioning module</td><td>LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4</td></tr>
<tr><td>CC-Link IE module</td><td>CC-Link IE field network master/local module
CC-Link IE field network head module</td></tr>
<tr><td>CPU module</td><td>
<table>
<tr><th>Series</th><th>Model</th></tr>
<tr><td>MELSEC-Q Series *1</td><td>Universal model QCPU *2</td></tr>
<tr><td>MELSEC-L Series</td><td>LCPU *3</td></tr>
</table>
*1 Not applicable to QCPU (A mode)
*2 The first five digits of the serial number are "12012" or later
*3 The first five digits of the serial number are "13012" or later.</td></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>
</table>

Item	Description
Number of steps	For universal model CPU: 503 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.
Function description	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. 3) When the network configuration setting of the station number specified by i_Station_No is incorrect, FB_ERROR is turned ON and the processing is interrupted, and the error code 40 (decimal) is stored in ERROR_ID. Refer to the error code explanation section for details. 4) When a CC-Link IE field network error occurs, 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.
Compiling method	Macro type

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 this FB and other FB are used at the same time, precaution must be taken to avoid repetition of the own station's channel 5) Every input must be provided with a value for proper FB operation. 6) PLC ready signal (Y signal) must be tuned OFF to use this FB. FB_EN (Execution command) must also be turned OFF if PLC ready signal (Y signal) is turned ON with M+LD75-IEF_CPUReady (PLC ready signal ON). 7) This FB uses index registers Z5 to Z9. Please do not use these index registers in an interrupt program. 8) Parameters such as the pulse output mode and external I/O signal logic must be properly configured to match devices and systems connected to the LD75. 9) This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required. 10) Set the refresh device of the network parameter setting according to 3) in Section "1.4 Setting the CC-Link IE Field Network Master/Local Module". 11) Set the global label setting according to Section "1.5 Setting Global Labels". 12) Only one master/local module can be controlled by the CC-Link IE Field system FB. To control 2 or more master/local modules by the FB, refer to "Appendix 1 When Using the FB for 2 or More Master/Local Modules".
FB operation type	Pulsed execution (multiple scan execution type)
Application example	Refer to "Appendix 2. - FB Library Application Examples".
Timing chart	[When operation completes without error] [When an error occurs] 

Item	Description
Relevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual •MELSEC-Q CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Master/Local Module User's Manual •MELSEC-L CC-Link IE Field Network Head 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
40 (Decimal)	The network configuration setting of the station number specified by i_Station_No is incorrect.	Review the following setting. •Network configuration setting Refer to (2) in Section 1.4 Setting the CC-Link IE Field Network Master/Local Module. •The value entered in i_Station_No
D000~DAF9 (Hexadecimal)	A CC-Link IE field network error occurs.	For details, refer to Error Code List in MELSEC-Q/L CC-Link IE Field Network Master/Local Module User's Manual.

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 of the CPU. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Station No.	i_Station_No	Word	1~120	Specify the target station number.
Slave module start XY address	i_SlvStart_IO_No	Word	Depends on the I/O point range of the head module. For details, refer to the head module user's manual.	Specify the starting XY address (in hexadecimal) where the LD75 module is mounted. (For example, enter H10 for X10.)
Own station channel	i_CH_No	Word	1~32	Specify the channel for own station.

●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	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	2011/06/30	First edition
1.01B	2013/01/25	When the network configuration setting of specified station No. is incorrect, Error flag (Error code: 40) is turned ON.

Note

This chapter includes information related to this 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. When Using the FB for 2 or More Master/Local Modules

To use 2 or more CC-Link IE field master/local modules and to use an FB for the second and subsequent CC-Link IE field master/local modules, it is necessary to create an FB for the second and subsequent modules from the MELSOFT Library CC-Link IE field master/local module FB using the following procedure.

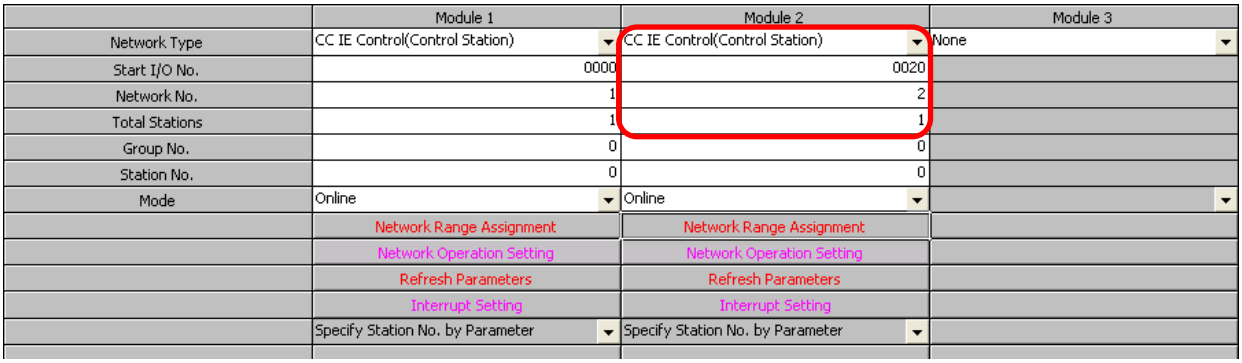
Four steps are required to create the FB for the second and subsequent modules, and the brief description is given as follows.

1) Enter network parameters
2) Set global labels
3) Copy MELSOFT Library to create the FB for the second module
4) Replace devices to create the FB for the second module

Appendix 1.1. Entering network parameters

1) Enter the network parameters for the second module.

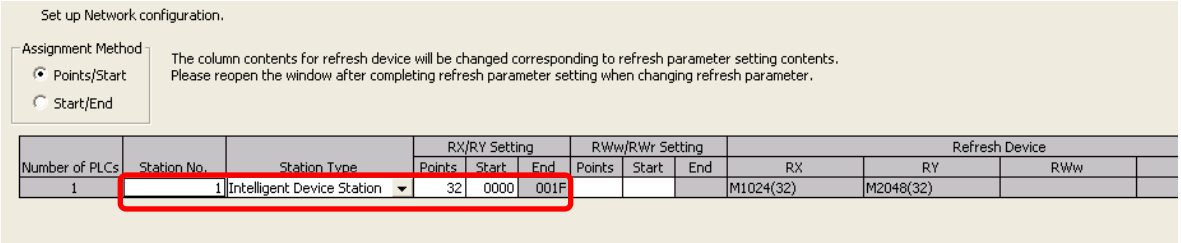
Item	Description
Network Type	Select CC IE Field (Master Station).
Start I/O No.	Set the start I/O number of the master/local module in increments of 16 points. Set "0020".
Network No.	Set the network number of the master/local module. Set "2".
Total Stations	Set the number of slave stations connected to the master station. Include the number of reserved slave stations. Set "1".



	Module 1	Module 2	Module 3
Network Type	CC IE Control(Control Station)	CC IE Control(Control Station)	None
Start I/O No.	0000	0020	
Network No.	1	2	
Total Stations	1	1	
Group No.	0	0	
Station No.	0	0	
Mode	Online	Online	
	Network Range Assignment	Network Range Assignment	
	Network Operation Setting	Network Operation Setting	
	Refresh Parameters	Refresh Parameters	
	Interrupt Setting	Interrupt Setting	
	Specify Station No. by Parameter	Specify Station No. by Parameter	

2) Set the network configuration setting for the second module.

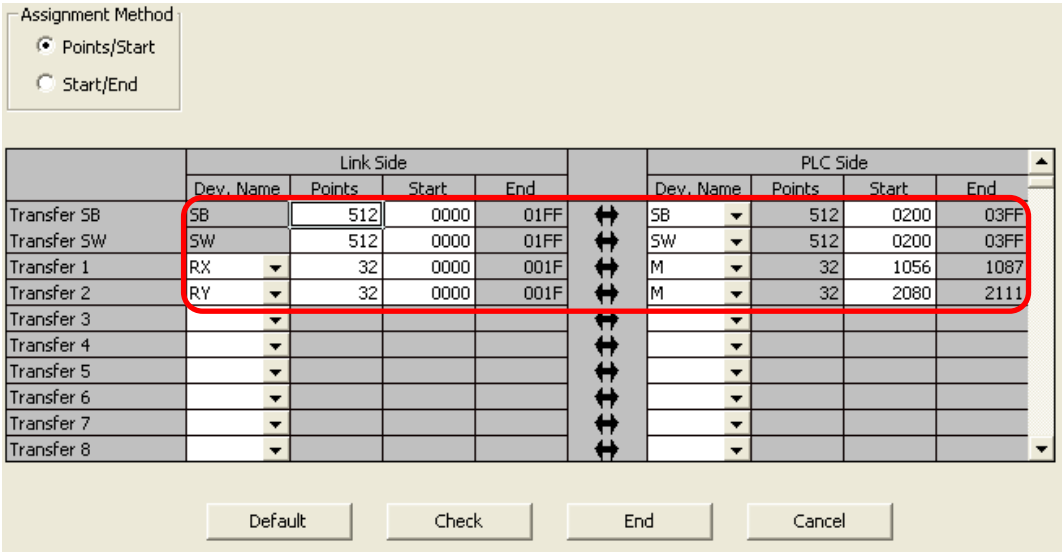
Item	Description
Station No.	Set the station number of the slave connected to the master station. Set "1".
Station Type	Set the station type of the slave connected to the master station. Set "Intelligent Device Station".
RX/RY Setting	Set assignment for RX/RY for the slave station connected to the master station. (a) Points Set "32". (b) Start Set "0000".



3) Enter the refresh parameters for the second module.

Item	Description	Setting value
Transfer SB	Set the link refresh range of SB device.	• "Link Side Points" : 512 • "Link Side Start" : 0000 • "PLC Side Dev. Name": SB • "PLC Side Start" : 0200
Transfer SW	Set the link refresh range of SW device.	• "Link Side Points" : 512 • "Link Side Start" : 0000 • "PLC Side Dev. Name": SW • "PLC Side Start" : 0200
Transfer 1	Set the link refresh range of RX device.	• "Link Side Dev. Name": RX • "Link Side Points" : 32 • "Link Side Start" : 0000 • "PLC Side Dev. Name": M • "PLC Side Start" : 1056
Transfer 2	Set the link refresh range of RY device.	• "Link Side Dev. Name": RY • "Link Side Points" : 32 • "Link Side Start" : 0000 • "PLC Side Dev. Name": M • "PLC Side Start" : 2080

* Change the Points of the Link Side and Dev. Name and Start of the PLC Side according to your system.



Appendix 1.2. Entering global labels

Enter the global labels for the second module.

Specify label names for the second module. The names must be different from the label names for the first module.

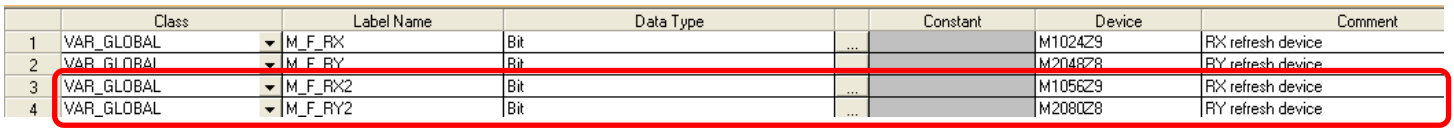
The following explains how to set the global label for the second module.

1) M_F_RX2　Set for remote input (RX).

Item	Description
Class	Select "VAR_GLOBAL".
Label Name	Enter "M_F_RX2".
Data type	Select "Bit".
Device	Enter the refresh device set for the refresh parameter with a prefix "Z9".

2) M_F_RY2　Set for remote output (RY).

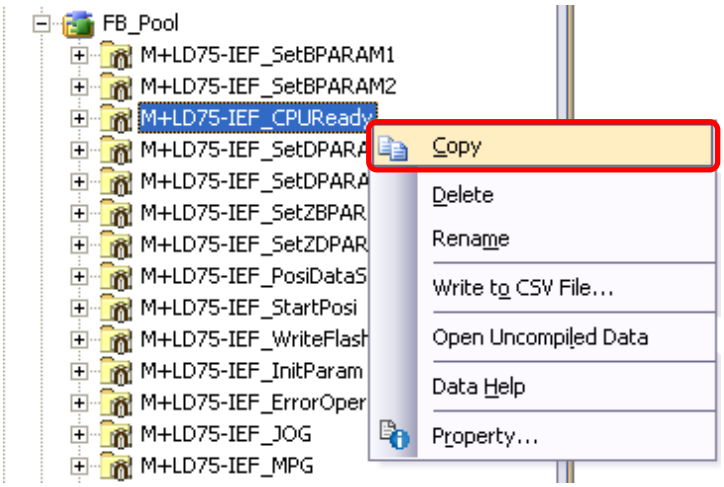
Item	Description
Class	Select "VAR_GLOBAL".
Label Name	Enter "M_F_RY2".
Data type	Select "Bit".
Device	Enter the refresh device set for the refresh parameter with a prefix "Z8".



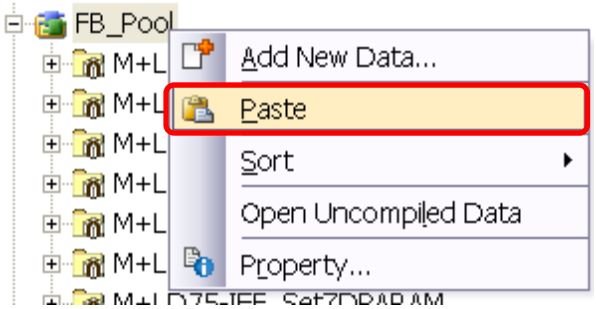
	Class	Label Name	Data Type		Constant	Device	Comment
1	VAR_GLOBAL	M_F_RX	Bit	...		M1024Z9	RX refresh device
2	VAR_GLOBAL	M_F_RY	Bit	...		M2048Z8	RY refresh device
3	VAR_GLOBAL	M_F_RX2	Bit	...		M1056Z9	RX refresh device
4	VAR_GLOBAL	M_F_RY2	Bit	...		M2080Z8	RY refresh device

Appendix 1.3. Copying MELSOFT Library to create an FB for the second module

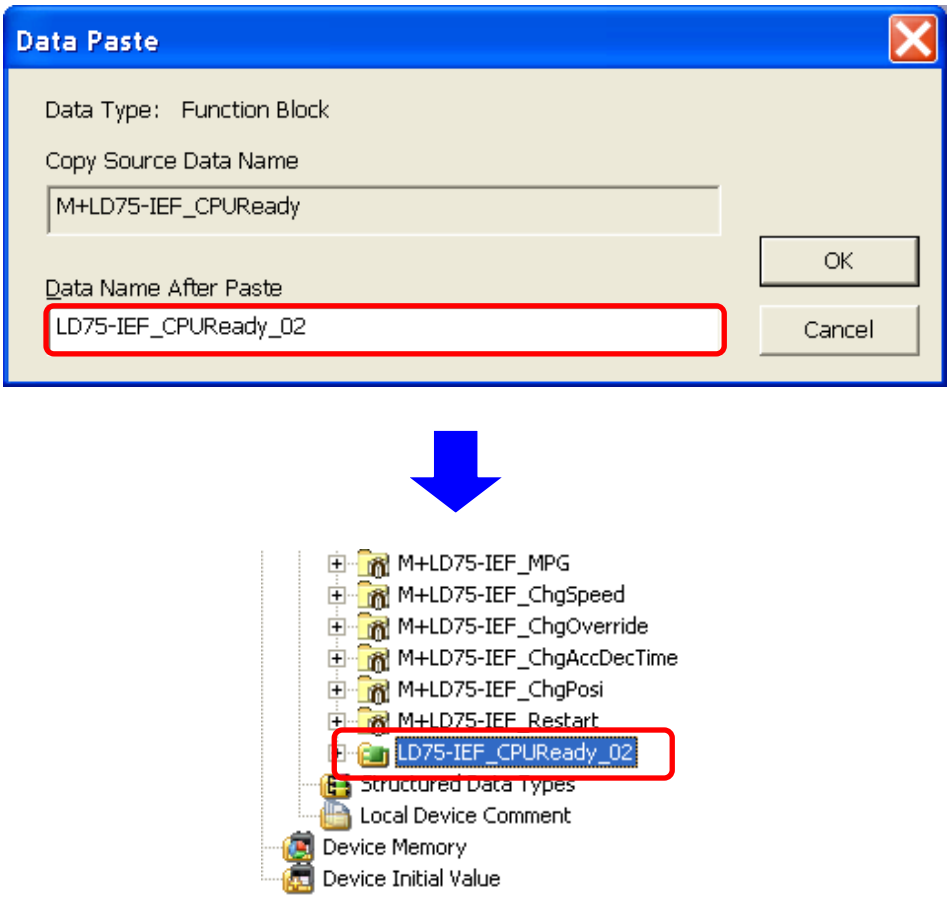
1) Select an FB necessary for the second module from the Project tab of the Navigation window. Execute the Copy command.



2) Paste the copied FB to "FB_Pool" on the Project tab of the Navigation window.

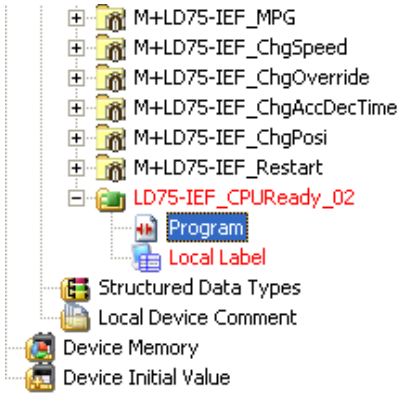


3) After selecting the paste command, a window appears to enter an FB name. Enter an FB name after paste.
(Example: LD75-IEF_CPUReady_02)
[Note] The character string "+" of M+··· cannot be entered.

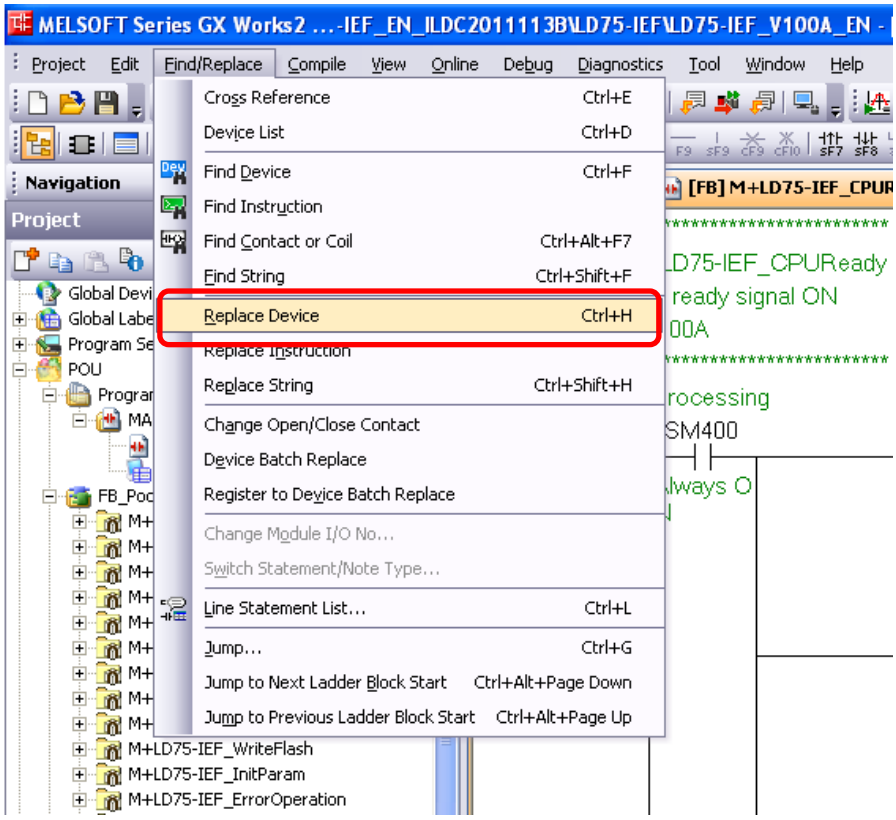


Appendix 1.4. Replacing Devices to Create the FB for the Second Module

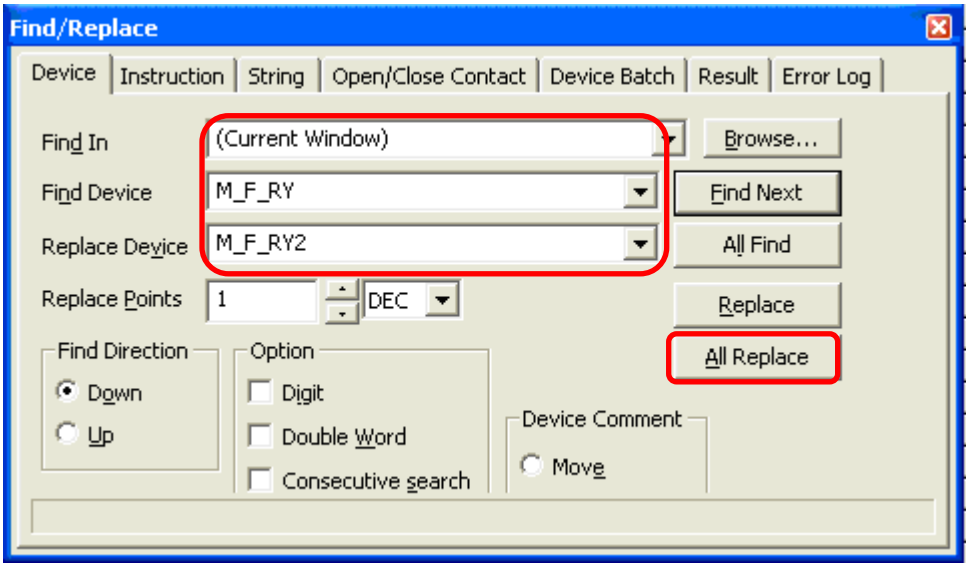
1) Open "Program" of the added FB.



2) Select "Find/Replace" menu and then select "Replace Device". "Find/Replace" window appears.



3) Select "Current Window" from Find In, "M_F_RY" from Find Device, and "M_F_RY2" from Replace Device. Then replace all devices. In the same way, replace "M_F_RX" by "M_F_RX2" all at once.



By performing the steps above, the CC-Link IE field master/local FB can be used for the second module.

[Point]

1) To use multiple FBs for the second CC-Link IE field master/local module, repeat the step (4).
2) To use an FB for third or subsequent CC-Link IE field master/local modules, make sure that the preset "Global label name", "Data Name After Paste" that was set when pasting FB data and "Replace Device" that was set when replacing devices are not duplicated for the first and second modules.

[Note]

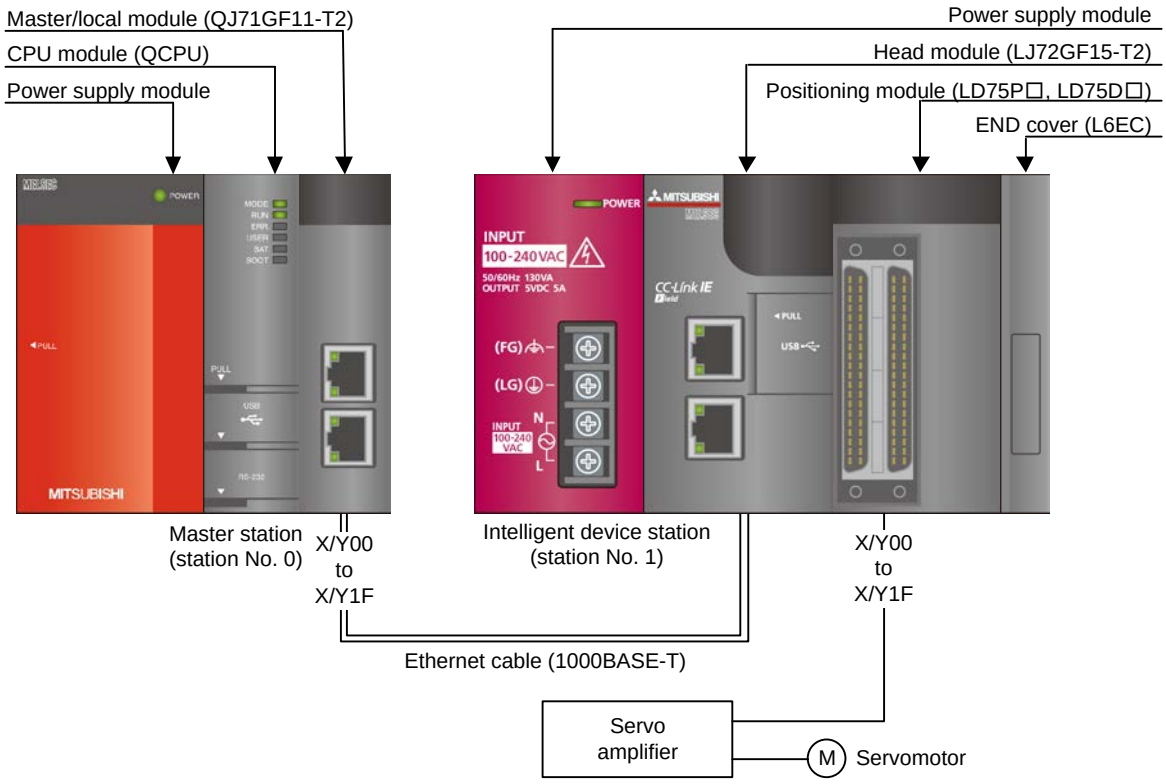
If MELSOFT Library is upgraded, MELSOFT Library FBs can be upgraded by importing them again. However, the FBs that were created by following these procedures for the second and subsequent modules are not upgraded even if the FBs are imported again.

Therefore, to upgrade FBs that were created by following these procedures, after upgrading MELSOFT Library, follow these procedures again.

Appendix 2. FB Library Application Examples

LD75-IEF FB application examples are as follows.

1) System configuration



Reminder

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

2) List of devices

a) External input (commands)

Device	FB name	Application (ON details)
M0	M+LD75-IEF_SetBPARAM1	Basic param 1 setting request
M10	M+LD75-IEF_SetBPARAM2	Basic param 2 setting request
M20	M+LD75-IEF_SetDPARAM1	Detailed param 1 setting request
M30	M+LD75-IEF_SetDPARAM2	Detailed param 2 setting request
M40	M+LD75-IEF_SetZBPARAM	OPR basic param setting request
M50	M+LD75-IEF_SetZDPARAM	OPR detailed param setting req
M60	M+LD75-IEF_PosiDataSet	Positioning data setting request
M70	M+LD75-IEF_CPUReady	PLC ready signal ON cond judge
M71		PLC ready signal ON request
M80	M+LD75-IEF_StartPosi	Positioning start request
M90	M+LD75-IEF_JOG	JOG operation start request
M91		Forward run JOG start
M92		Reverse run JOG start
M100	M+LD75-IEF_MPG	Manual pulse gen start request
M110	M+LD75-IEF_ChgSpeed	Speed change request
M120	M+LD75-IEF_ChgOverride	Override command
M130	M+LD75-IEF_ChgAccDecTime	Acc/dec time change command
M131		Acc/dec time change enable flag
M140	M+LD75-IEF_ChgPosi	Target position change command
M150	M+LD75-IEF_Restart	Restart command
M160	M+LD75-IEF_ErrorOperation	Error operation FB start
M161		Error reset request
M170	M+LD75-IEF_InitParam	Parameter initialization command
M180	M+LD75-IEF_WriteFlash	Flash ROM write request

b) External output (checks)

Device	FB name	Application (ON details)
M1	M+LD75-IEF_SetBPARAM1	Basic parameters 1 setting ready
M2		Basic param 1 setting complete
F0		Basic param 1 setting FB error
D0		Basic param 1 set FB error code
M11	M+LD75-IEF_SetBPARAM2	Basic parameters 2 setting ready
M12		Basic param 2 setting complete
F10	M+LD75-IEF_SetBPARAM2	Basic param 2 setting FB error
D10		Basic param 2 set FB error code
M21	M+LD75-IEF_SetDPARAM1	Detailed param 1 setting ready
M22		Detailed param 1 setting comp
F20		Detailed param 1 setting FB err
D20		Detailed param 1 set FB err code
M31	M+LD75-IEF_SetDPARAM2	Detailed param 2 setting ready
M32		Detailed param 2 setting comp
F30		Detailed param 2 setting FB err
D30		Detailed param 2 set FB err code
M41	M+LD75-IEF_SetZBPARAM	OPR basic param setting ready
M42		OPR basic param setting complete
F40		OPR basic param setting FB error
D40		OPR basic param FB error code
M51	M+LD75-IEF_SetZDPARAM	OPR detailed param setting ready
M52		OPR detailed param setting comp
F50		OPR detailed param set FB err
D50		OPR detailed param FB error code
M61	M+LD75-IEF_PosiDataSet	Positioning data setting ready
M62		Positioning data setting comp
F60		Positioning data setting FB err
D60		Pos data setting FB error code
M72	M+LD75-IEF_CPUReady	PLC ready signal ON ready
M73		PLC ready signal ON complete
F70		PLC ready signal ON FB error
D70		PLC ready signal ON FB err code

Device	FB name	Application (ON details)
M81	M+LD75-IEF_StartPosi	Positioning start ready
M82		Execution complete
F80		Positioning start FB error
D80		Positioning start FB error code
M93	M+LD75-IEF_JOG	JOG operation ready
M94		Operation start complete
F90		JOG operation FB error
D90		JOG operation FB error code
M101	M+LD75-IEF_MPG	Manual pulse gen OP ready
M102		Manual pulse gen enable complete
F100		Manual pulse gen OP FB error
D100	M+LD75-IEF_MPG	Manual pulse gen OP FB err code
M111	M+LD75-IEF_ChgSpeed	Speed change ready
M112		Speed change request complete
F110		Speed change FB error
D110		Speed change FB error code
M121	M+LD75-IEF_ChgOverride	Override ready
M122		Override value setting complete
F120		Override FB error
D120		Override FB error code
M132	M+LD75-IEF_ChgAccDecTime	Acc/dec time change ready
M133		Acc/dec time change request cmd
F130		Acc/dec time change FB error
D130		Acc/dec time change FB err code
M141	M+LD75-IEF_ChgPosi	Target position change ready
M142		Target position chg accept comp
F140		Target position change FB error
D140		Target position change err code
M151	M+LD75-IEF_Restart	Restart ready
M152		Restart acceptance complete
F150		Restart FB error
D150		Restart FB error code

Device	FB name	Application (ON details)
M162	M+LD75-IEF_ErrorOperation	Error reset ready
M163		Error reset complete
M164		Axis error detection
D160		Designated axis error code
M165		Axis warning detection
D161		Designated axis warning code
F160		Error operation FB error
D162		Error operation FB error code
M171	M+LD75-IEF_InitParam	Parameter initialization ready
M172		Parameter initialization comp
F170		Parameter initialization FB err
D170		Param initialization FB err code
M181	M+LD75-IEF_WriteFlash	Flash ROM write ready
M182		Flash ROM write complete
F180		Flash ROM writing FB error
D180		Flash ROM writing FB error code
T10	Interlock check	Own station baton pass err check
T11		Own station data link err check
T12		Station 1 baton pass error check
T13		Station 1 cyclic trans err check
M200		Comm condition flag, station No1

3) Global label settings

a) Common settings

Class	Label name	Data type	Device
VAR_GLOBAL	M_F_RX	Bit	M1024Z9
VAR_GLOBAL	M_F_RY	Bit	M2048Z8

4) Application example settings

a) Common settings

Item	Value	Description
Module start XY address	0	Specify the starting XY address where the CC-Link IE field system master/local module is mounted.

b) Network parameters

Item	Setting value
Network Type	CC IE Field (Master Station)
Start I/O No.	0000
Network No.	1
Total Stations	1
Mode	Online (Normal Mode)

c) Network configuration setting

Item		Setting value
Station No.		1
Station Type		Intelligent Device Station
RX/RY setting	Points	32
	Start	0000

d) Refresh Parameters

Item	Link Side			PLC Side	
	Dev. Name	Points	Start	Dev. Name	Start
Transfer SB	SB	512	0000	SB	0000
Transfer SW	SW	512	0000	SW	0000
Transfer 1	RX	32	0000	M	1024
Transfer 2	RY	32	0000	M	2048

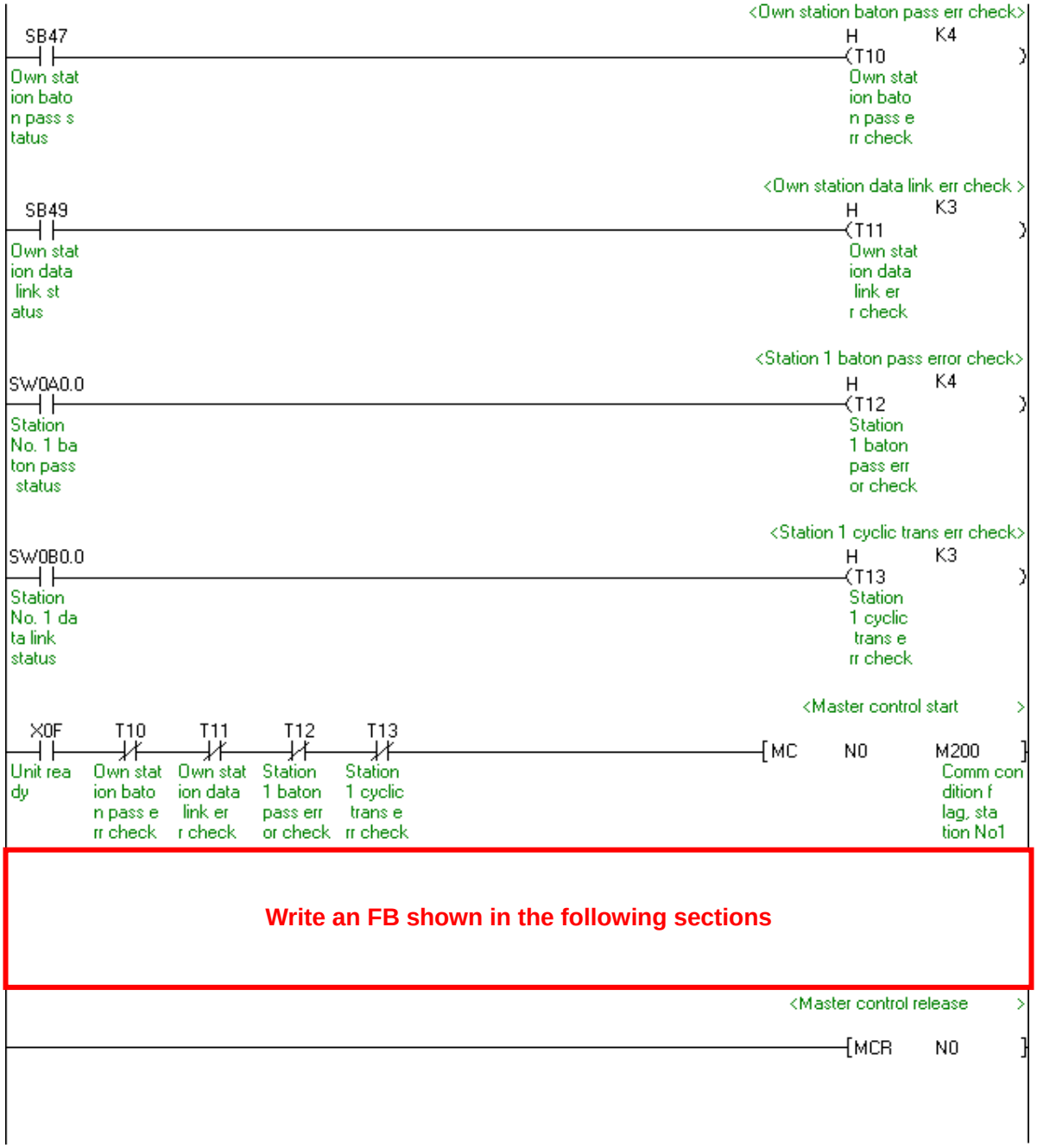
e) Slave Station Information

Item	Setting value
Mode	Online
Network No.	1
Station No.	1

5) Programs

Interlock program

* This is the interlock program for when using both cyclic and transient transmission.



M+LD75-IEF_SetBPARAM1 (Basic parameters 1 setting)

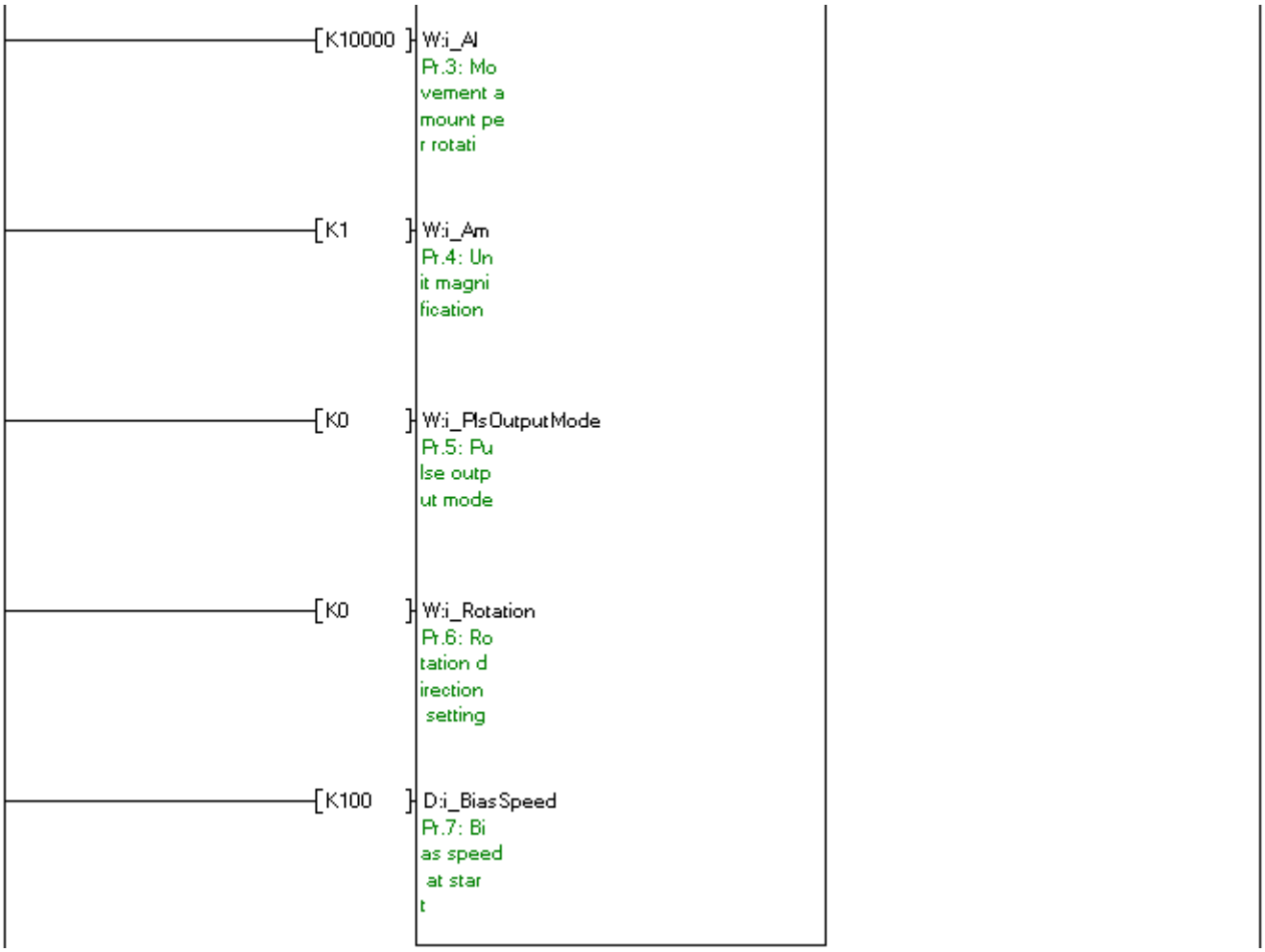
* It is recommended to use GX Configurator-QP or the configuration function of GX Works 2 to perform module initialization such as parameter setting. In this case, using this FB is unnecessary.
* The parameter setting complete (M2) contact is used for PLC ready signal ON FB (M+LD75-IEF_CPUReady).
* This FB uses transient transmission. Therefore, an interlock program for transient transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.
i_Axis	K1	Set axis 1.
i_UnitSetting	K3	Set the unit used for defining positioning operations to "pulse".
i_Ap	K10000	Set the number of pulses within a pulse train output to 10,000.
i_Al	K10000	Set the amount of movement required for a rotation within a pulse train output 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 relation of the motor rotation direction and current value address increment/decrement to "Current value increment with forward run pulse output".
i_BiasSpeed	K100	Set the minimum speed upon starting to 100.

By turning ON M0, the basic parameters 1 setting is written to the buffer memory.

(Please refer to next page.)


K10000
W:i_Al
Pr.3: Movement amount per rotati
K1
W:i_Am
Pr.4: Unit magnification
K0
W:i_PlsOutputMode
Pr.5: Pulse output mode
K0
W:i_Rotation
Pr.6: Rotation direction setting
K100
D:i_BiasSpeed
Pr.7: Bias speed at start

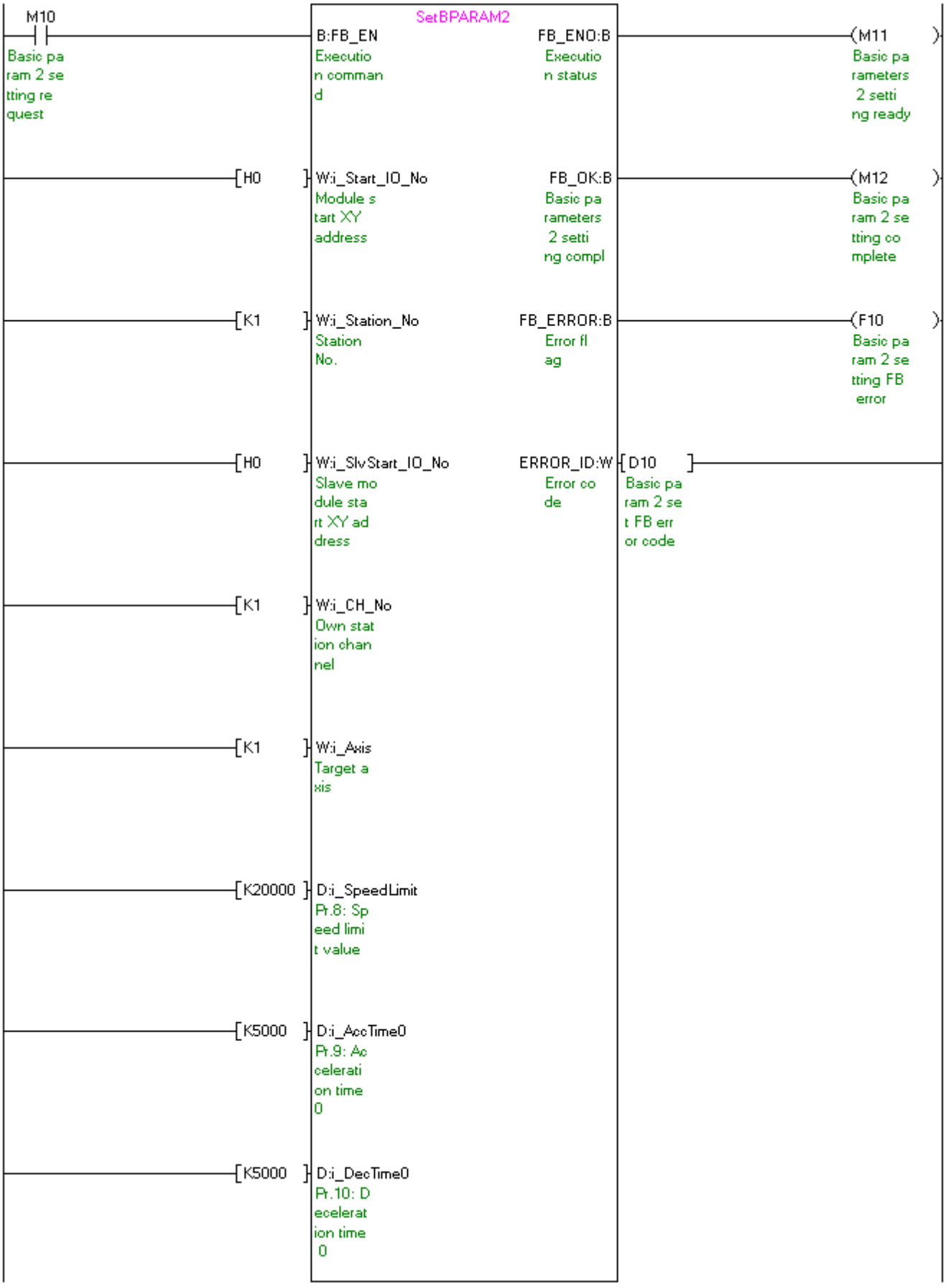
M+LD75-IEF_SetBPARAM2 (Basic parameters 2 setting)

* 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.
* This FB uses transient transmission. Therefore, an interlock program for transient transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.
i_Axis	K1	Set axis 1.
i_SpeedLimit	K20000	Set the maximum speed during positioning and OPR operations to 20,000.
i_AccTime0	K5000	Set the time for the speed to increase from zero to the Pr.8: speed limit value to 5,000 ms
i_DecTime0	K5000	Set the time for the speed to decrease from the Pr.8: speed limit value to zero to 5000 ms.

By turning ON M10, the basic parameters 2 setting is written to the buffer memory.


M10
Basic pa ram 2 se tting re quest
SetBPARAM2
B:FB_EN
Executio n comman d
FB_ENO:B
Executio n status
M11
Basic pa rameters 2 setti ng ready
H0
W:i_Start_IO_No
Module s tart XY address
FB_OK:B
Basic pa rameters 2 setti ng compl
M12
Basic pa ram 2 se tting co mplete
K1
W:i_Station_No
Station No.
FB_ERROR:B
Error fl ag
F10
Basic pa ram 2 se tting FB error
H0
W:i_SlvStart_IO_No
Slave mo dule sta rt XY ad dress
ERROR_ID:W
Error co de
D10
Basic pa ram 2 se t FB err or code
K1
W:i_CH_No
Own stat ion chan nel
K1
W:i_Axis
Target a xis
K20000
D:i_SpeedLimit
Pr.8: Sp eed limi t value
K5000
D:i_AccTime0
Pr.9: Ac celerati on time 0
K5000
D:i_DecTime0
Pr.10: D ecelerat ion time 0

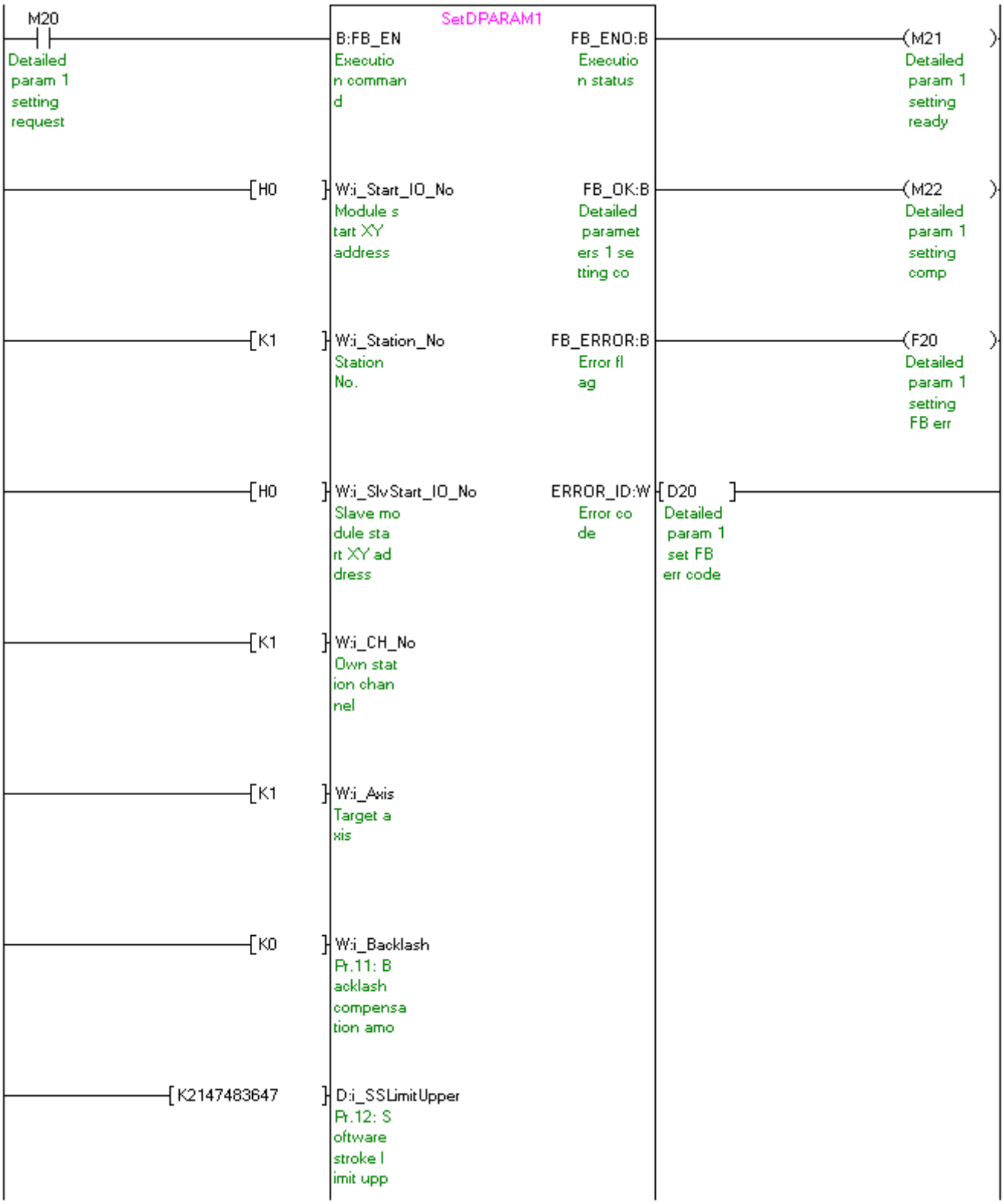
M+LD75-IEF_SetDPARAM1 (Detailed parameters 1 setting)

* 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 parameter setting complete (M22) contact is used for PLC ready signal ON FB (M+LD75-IEF_CPUReady).
* This FB uses transient transmission. Therefore, an interlock program for transient transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.
i_Axis	K1	Set axis 1.
i_Backlash	K0	Set the compensation amount of the error that occurs due to backlash when moving the machine via gears to 0.
i_SSLimitUpper	K2147483647	Set the upper limit for the machine's movement range during positioning control to 2,147,483,647.
i_SSLimitLower	K-2147483648	Set the lower limit for the machine's movement range during positioning control to -2,147,483,648.
i_SSLimitSelect	K0	Set "Apply software stroke limit on current feed value".
i_SSLimitSetting	K0	Set "Software stroke limit valid during JOG operation, inching operation, and manual pulse generator operation".
i_InPosition	K100	Set the remaining distance that turns the command in-position ON to 100.
i_TorqueLimit	K100	Set the limit value of the torque generated by the servomotor 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 all input signal logics to "Negative logic".
i_OutputSigLogic	H0	Set all output signal logics to "Negative logic".
i_MPGInputSelect	K0	Set the manual pulse generator input pulse mode to "A-phase/B-phase; multiplied by 4".
i_SPFuncSelect	K0	Set "Speed-positioning switching control (INC mode)".

By turning ON M20, the detailed parameters 1 setting is written to the buffer memory.



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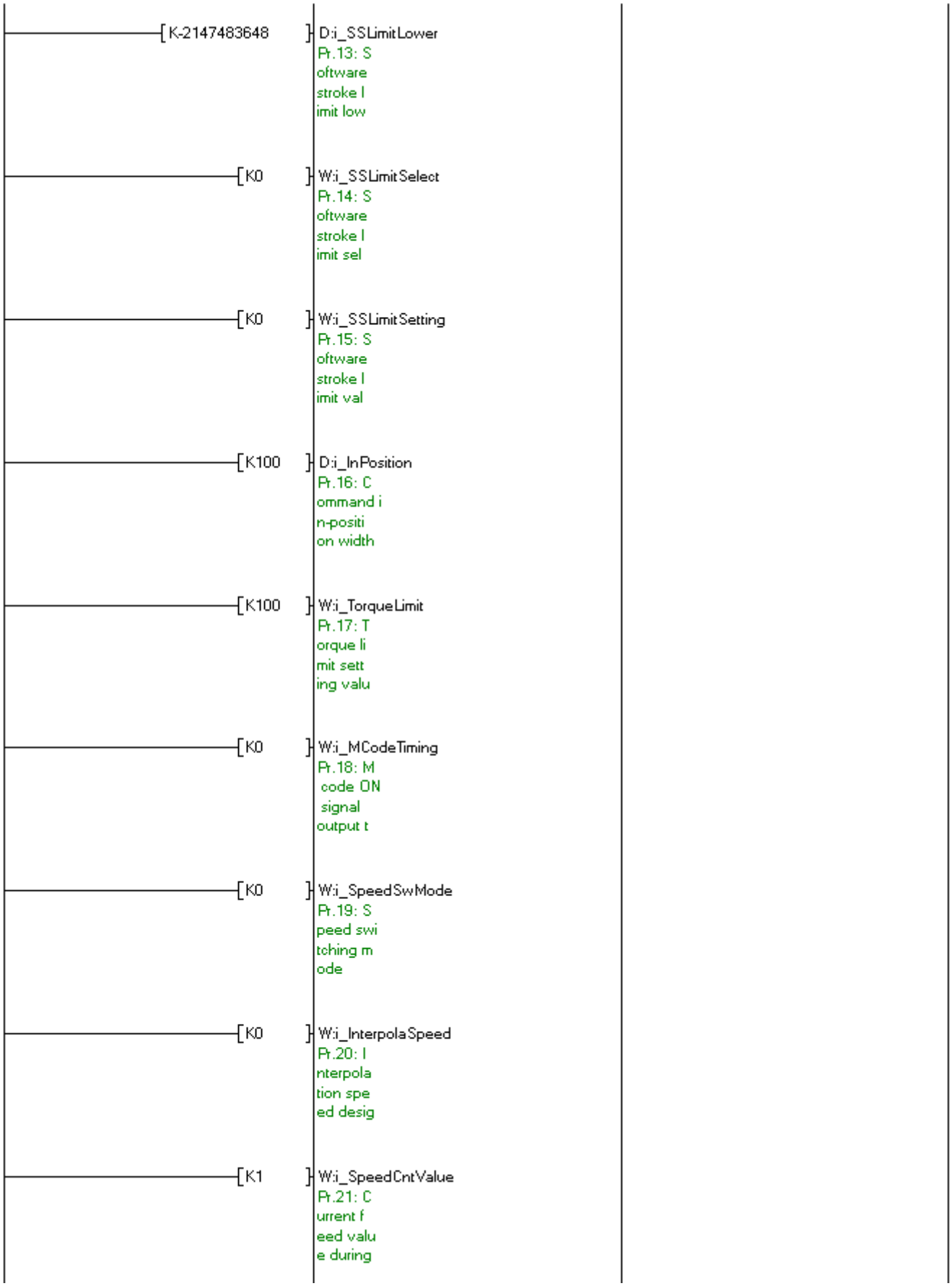
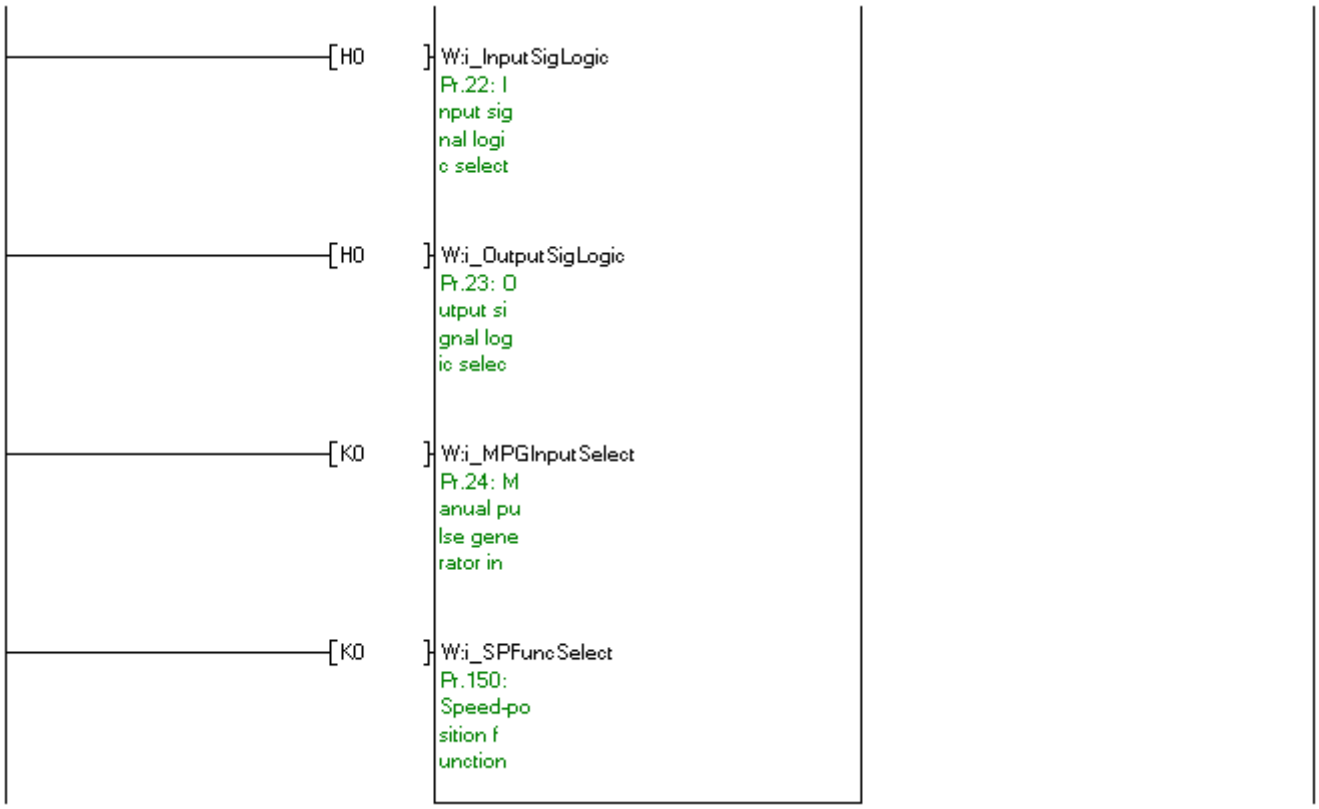


(Please refer to next page.)


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+LD75-IEF_SetDPARAM2 (Detailed parameters 2 setting)

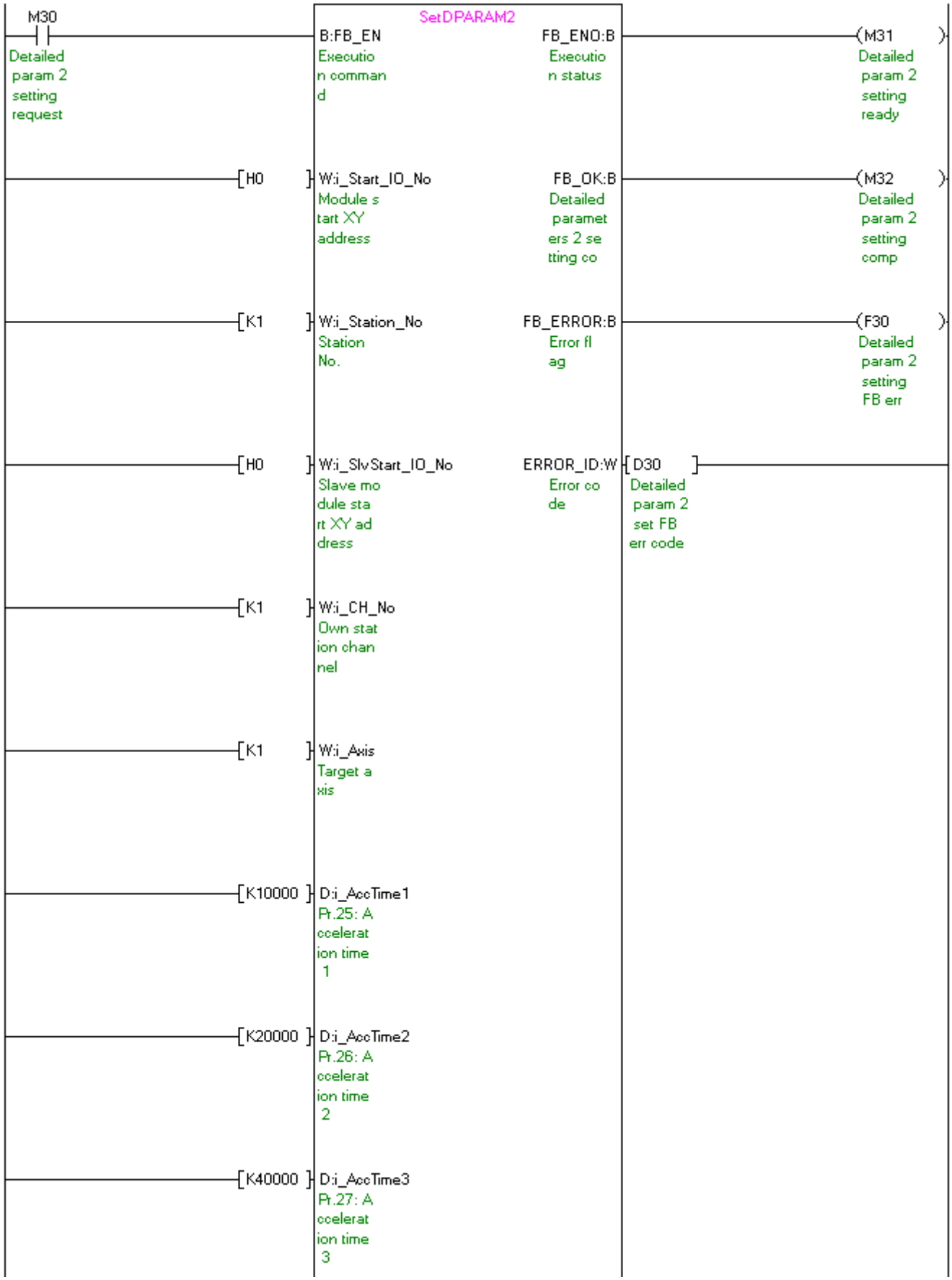
* It is recommended to use GX Configurator-QP or the configuration function of GX Works 2 to perform module initialization such as parameter setting. In this case, using this FB is unnecessary.
* This FB uses transient transmission. Therefore, an interlock program for transient transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.
i_Axis	K1	Set axis 1.
i_AccTime1	K10000	Set the acceleration time 1 to 10,000 as the time for the speed to increase from zero to the Pr.8: speed limit value.
i_AccTime2	K20000	Set the acceleration time 2 to 10,000 as the time for the speed to increase from zero to the Pr.8: speed limit value.
i_AccTime3	K40000	Set the acceleration time 3 to 10,000 as the time for the speed to increase from zero to the Pr.8: speed limit value.
i_DecTime1	K10000	Set the deceleration time 1 to 10,000 as the time for the speed to decrease from zero to the Pr.8: speed limit value.
i_DecTime2	K20000	Set the deceleration time 2 to 10,000 as the time for the speed to decrease from zero to the Pr.8: speed limit value.
i_DecTime3	K40000	Set the deceleration time 3 to 10,000 as the time for the speed to decrease from zero to the Pr.8: speed limit value.
i_JogSpeedLimit	K10000	Set the maximum speed for JOG operation to 10,000.
i_JogAccTimeSel	K0	Set the acceleration time during JOG operation to "Acceleration time 0".
i_JogDecTimeSel	K0	Set the deceleration time during JOG operation to "Deceleration time 0".
i_AccDecProcess	K0	Set the acceleration/deceleration process to "Trapezoid acceleration/deceleration process".
i_S_curveRatio	K50	Set the S-curve ratio for carrying out the S-curve acceleration/deceleration process to 50%.
i_SuddenStopTime	K1000	Set the time to reach speed 0 from the Pr.8: speed limit value during the sudden stop to 1,000 ms.
i_StopGroup1	K0	Set the method to stop when the stop causes in the stop group 1 occur to "Normal deceleration stop".
i_StopGroup2	K0	Set the method to stop when the stop causes in the stop group 2 occur to "Normal deceleration stop".

Label name	Setting value	Description
i_StopGroup3	K0	Set the method to stop when the stop causes in the stop group 3 occur to "Normal deceleration stop".
i_PosiCmpSignal	K100	Set the output time of the positioning complete signal to 100 ms.
i_ArcErrPermit	K1000	Set the allowable error range of the calculated arc path and end point address to 1,000.
i_ExtComFuncSel	K0	Set the command with which the external command signal is associated to "External positioning start".

By turning ON M30, the detailed parameters 2 setting is written to the buffer memory.



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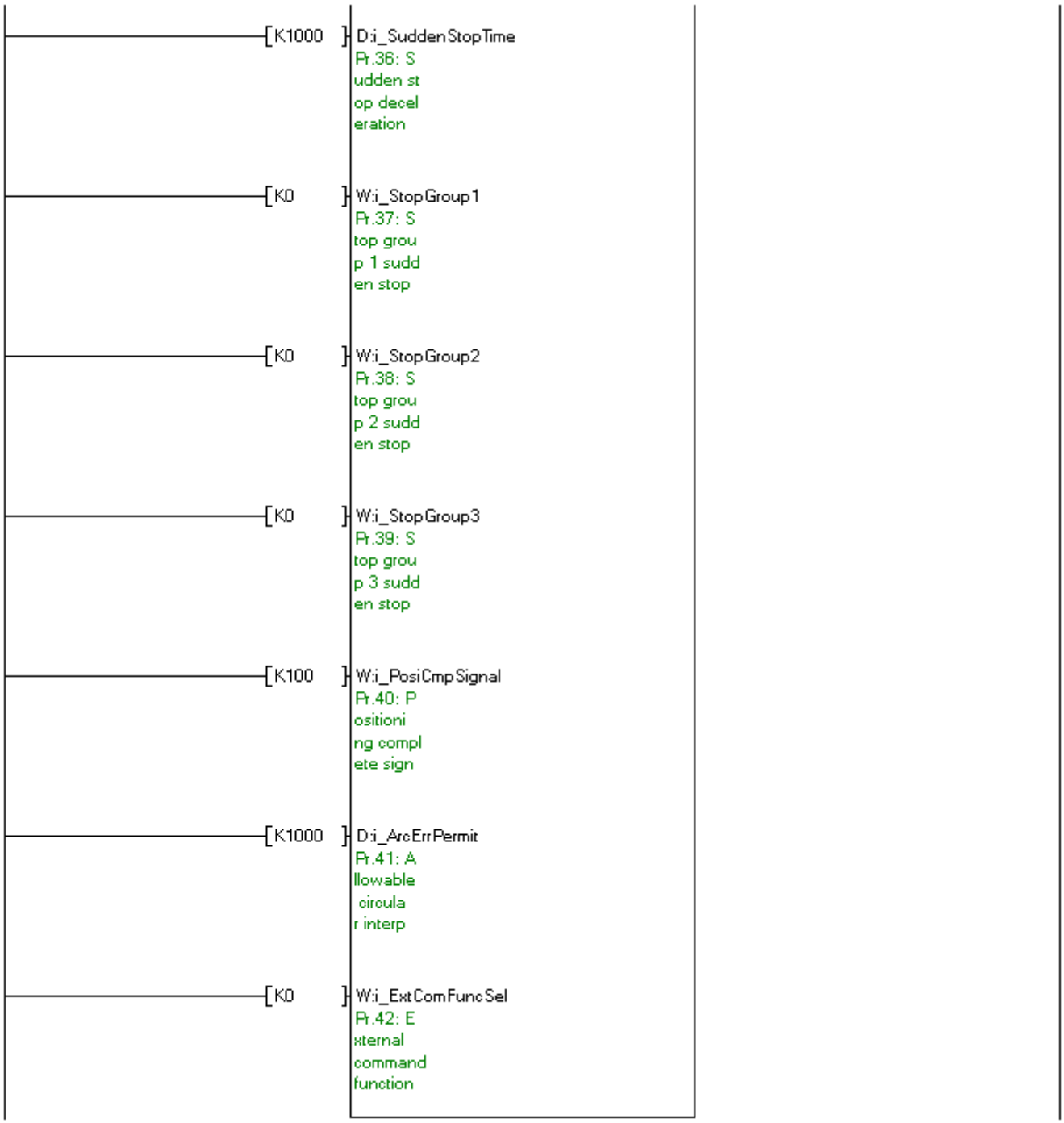

K1000
D:i_SuddenStopTime
Pr.36: S
udden st
op decel
eration
K0
W:i_StopGroup1
Pr.37: S
top grou
p 1 sudd
en stop
K0
W:i_StopGroup2
Pr.38: S
top grou
p 2 sudd
en stop
K0
W:i_StopGroup3
Pr.39: S
top grou
p 3 sudd
en stop
K100
W:i_PosiCmpSignal
Pr.40: P
ositioni
ng compl
ete sign
K1000
D:i_ArcErrPermit
Pr.41: A
llowable
circula
r interp
K0
W:i_ExtComFuncSel
Pr.42: E
xternal
command
function

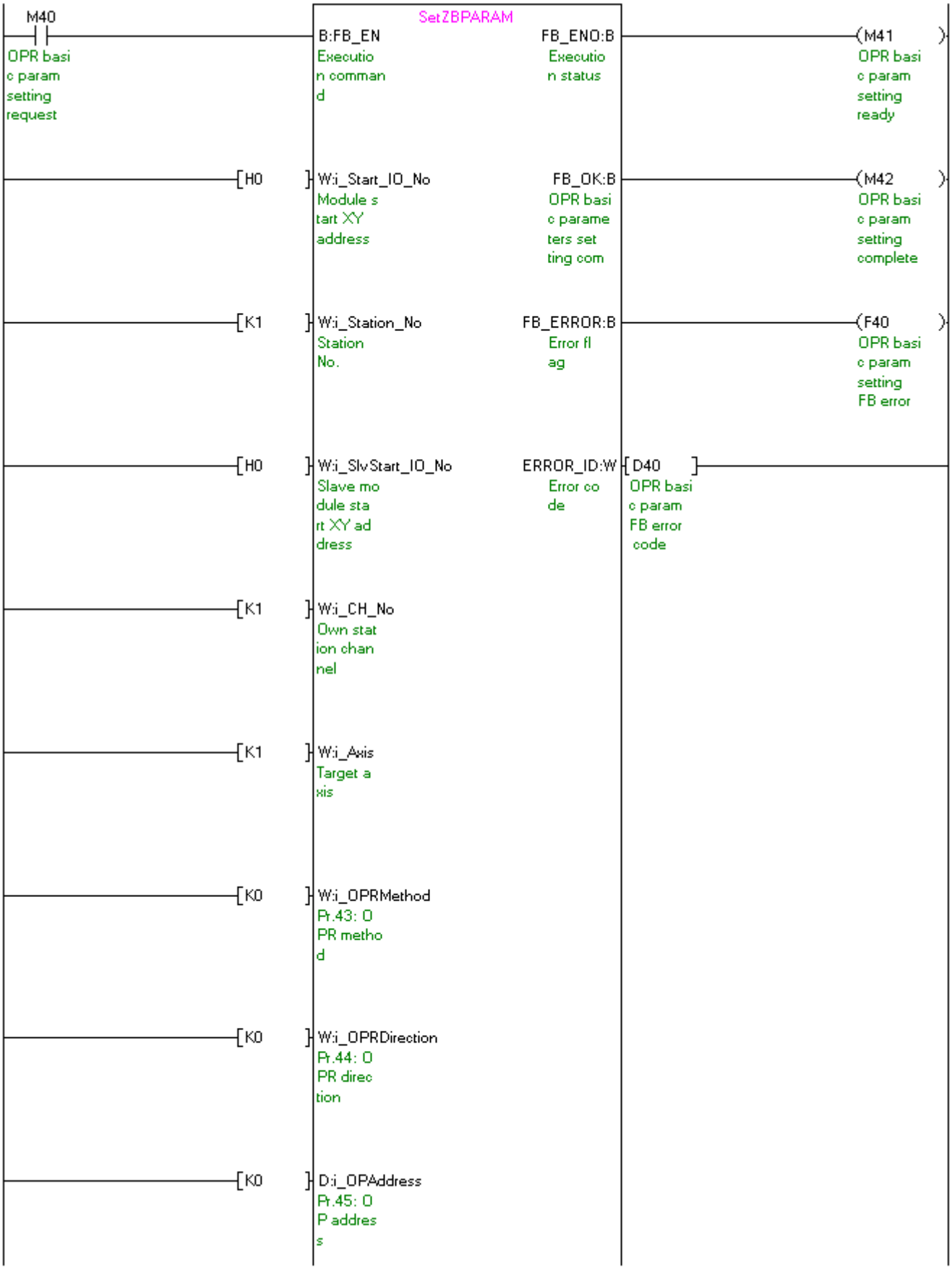
M+LD75-IEF_SetZBPARAM (OPR basic parameters setting)

* 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 parameter setting complete (M42) contact is used for PLC ready signal ON FB (M+LD75-IEF_CPUReady).
* This FB uses transient transmission. Therefore, an interlock program for transient transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.
i_Axis	K1	Set axis 1.
i_OPRMethod	K0	Set the OPR method for carrying out machine OPR to "Near-point dog method".
i_OPRDirection	K0	Set the direction to start movement when starting machine OPR to "Positive direction (address increment direction)".
i_OPAddress	K0	Set the address used as the reference point for positioning control (ABS system) to 0.
i_OPRSpeed	K20000	Set the speed for OPR to 20,000.
i_CreepSpeed	K1000	Set the creep speed after near-point dog ON to 1000.
i_OPRRetry	K1	Set the OPR retry to "Retry OPR with limit switch".

By turning ON M40, the OPR basic parameters setting is written to the buffer memory.



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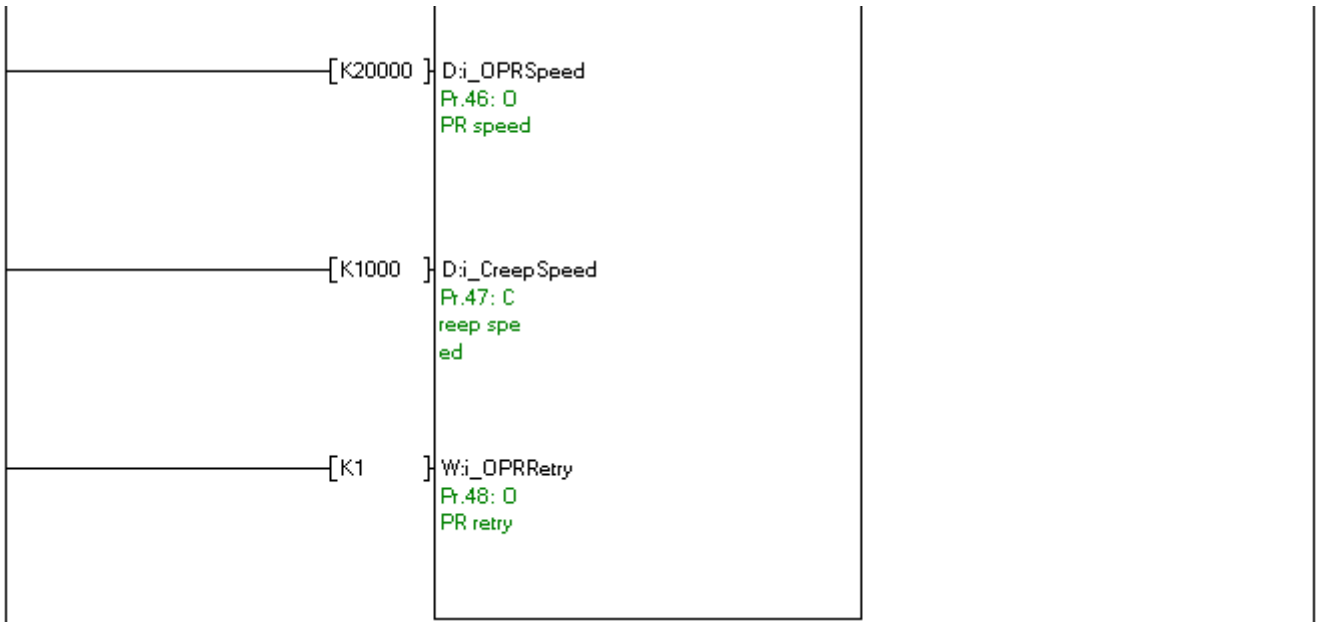

K20000
D:i_OPRSpeed
Pr.46: O
PR speed
K1000
D:i_CreepSpeed
Pr.47: C
reep spe
ed
K1
W:i_OPRRetry
Pr.48: O
PR retry

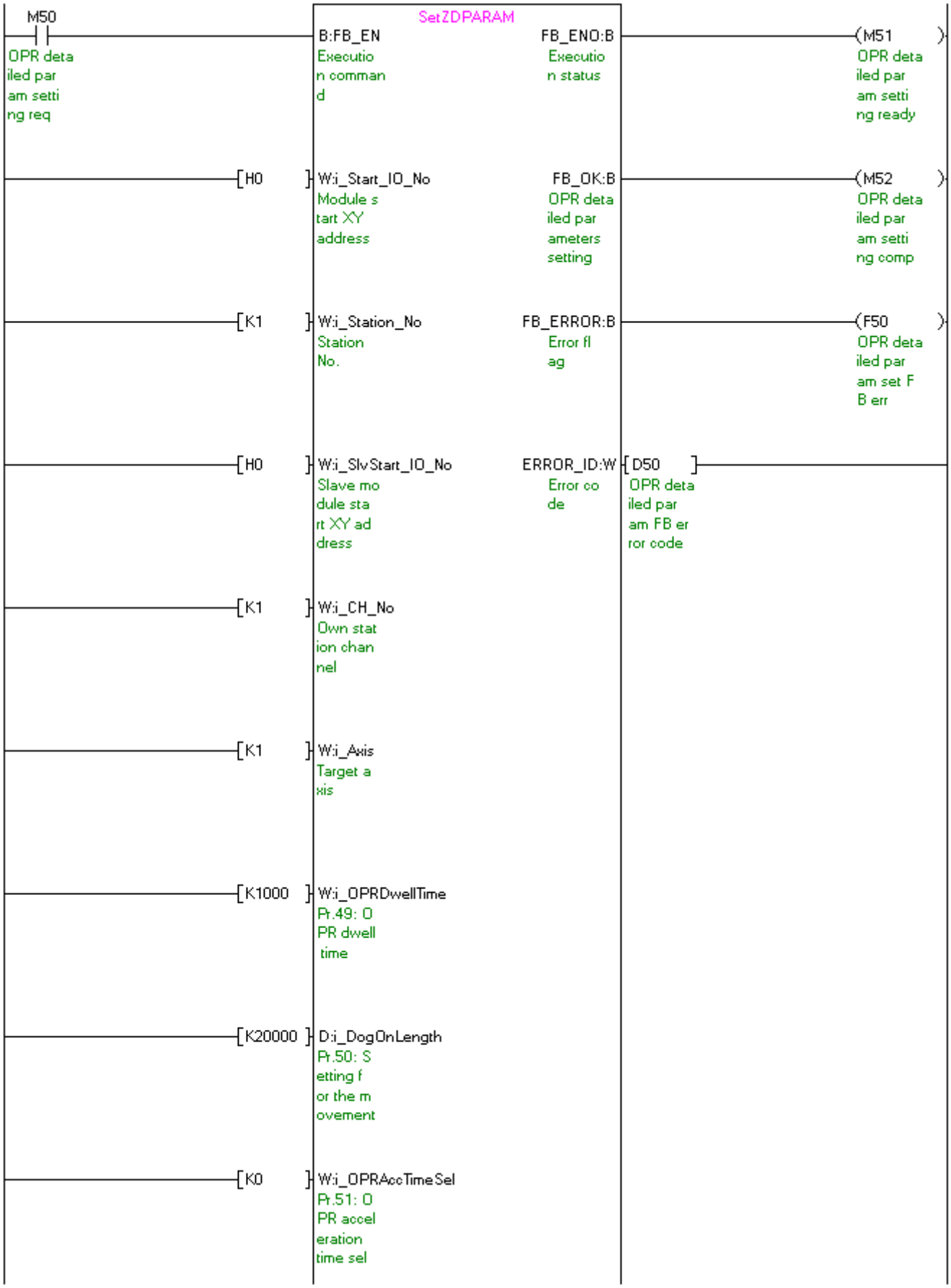
M+LD75-IEF_SetZDPARAM (OPR detailed parameters setting)

* 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 parameter setting complete (M52) contact is used for PLC ready signal ON FB (M+LD75-IEF_CPUReady).
* This FB uses transient transmission. Therefore, an interlock program for transient transmission is required.

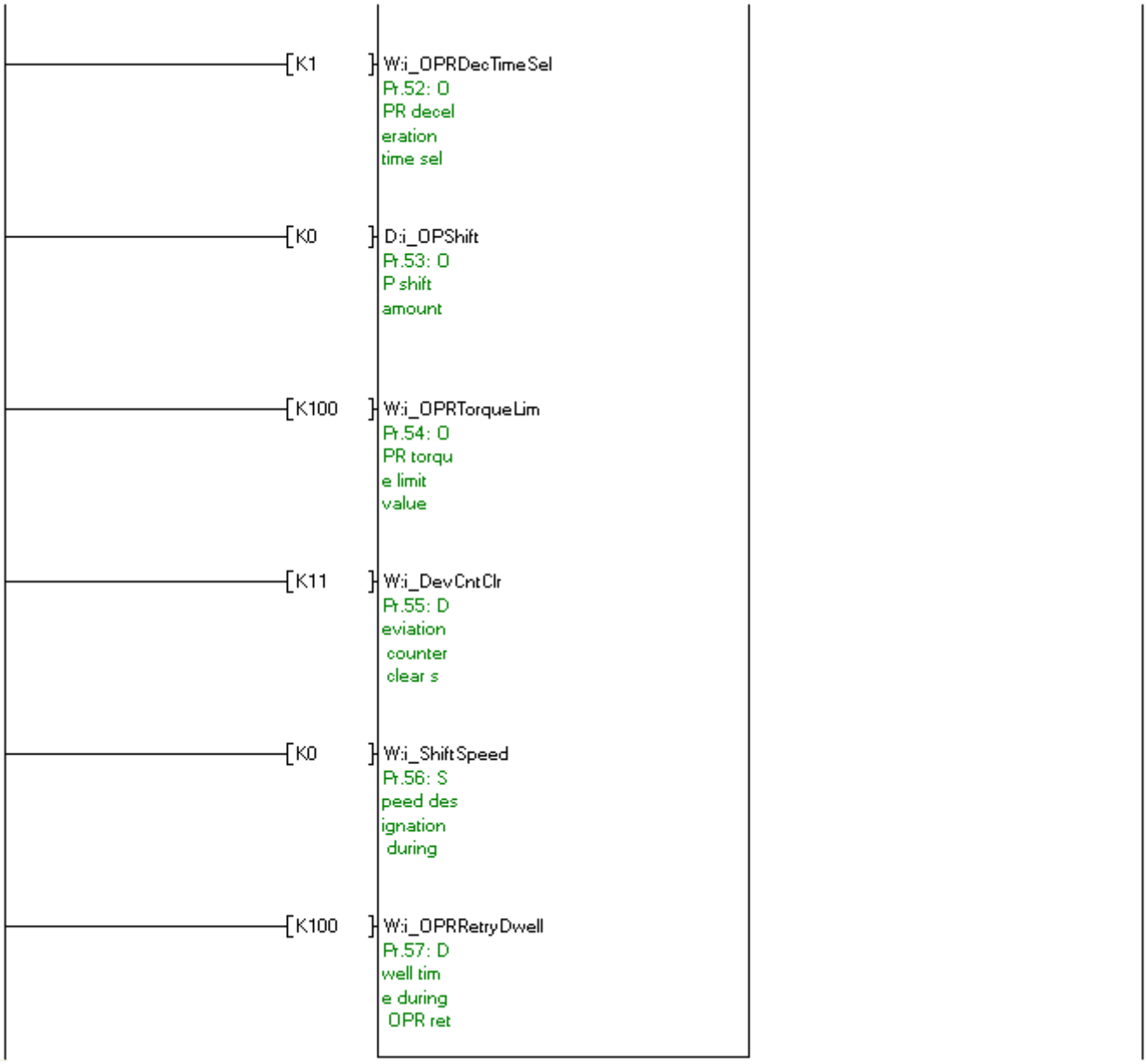
The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.
i_Axis	K1	Set axis 1.
i_OPRDwellTime	K1000	When stopper method 1) is set in Pr.43: OPR method, set the time for the machine OPR to complete after the near-point dog signal turns ON to 1,000 ms.
i_DogOnLength	K20000	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 to 20,000.
i_OPRAccTimeSel	K0	Set the acceleration time during OPR to "Acceleration time 0".
i_OPRDecTimeSel	K1	Set the deceleration time during OPR to "Deceleration time 1".
i_OPShift	K0	Set the shift amount from the position stopped at with machine OPR to 0.
i_OPRTorqueLim	K100	Set the value to limit the servomotor torque after reaching the creep speed during machine OPR to 100%.
i_DevCntClr	K11	Set the duration of the deviation counter clear signal output during a machine OPR operation using any of the near-point dog method, stopper methods 1) to 3), or count method 1) to 11 ms.
i_ShiftSpeed	K0	Set the operation speed for when a value other than 0 is set in Pr.53: OP shift amount to "OPR speed".
i_OPRRetryDwell	K100	When setting Pr.48: OPR retry, set the stop time during the retry to 100 ms.

By turning ON M50, the OPR detailed parameters setting is written to the buffer memory.



(Please refer to next page.)


K1
W:i_OPRDecTimeSel
Pr.52: 0
PR decel
eration
time sel
K0
D:i_OPShift
Pr.53: 0
P shift
amount
K100
W:i_OPRTorqueLim
Pr.54: 0
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

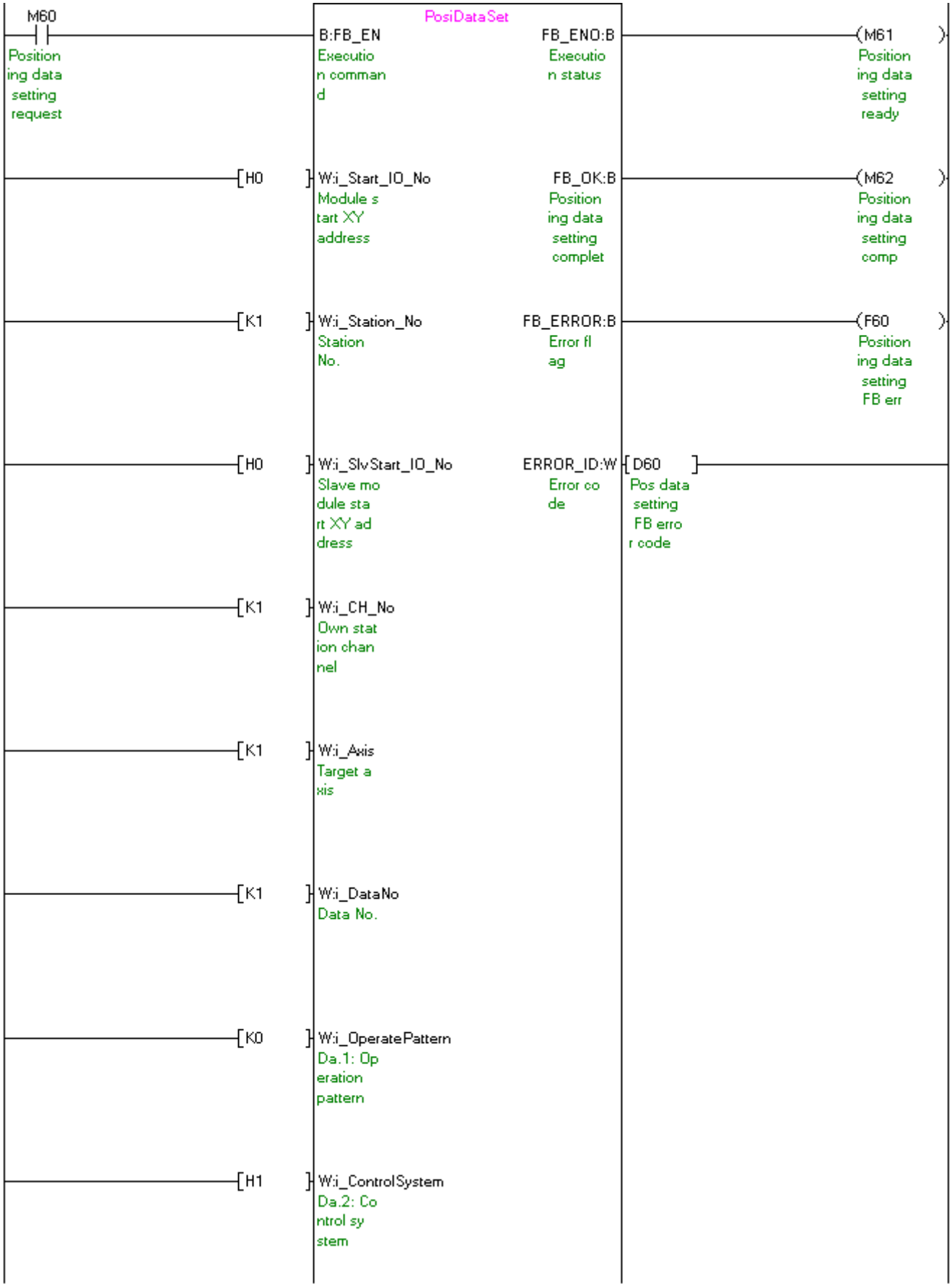
M+LD75-IEF_PosiDataSet (Positioning data setting)

* This FB uses transient transmission. Therefore, an interlock program for transient transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.
i_Axis	K1	Set axis 1.
i_DataNo	K1	Set the positioning data No. to 1.
i_OperatePattern	K0	Set the operation pattern 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 to "Positioning complete".
i_ControlSystem	H1	Set the control system for carrying out positioning control to "ABS1 1-axis linear control (ABS)".
i_AccTimeNo	K0	Set the acceleration time during positioning to "Acceleration time 0".
i_DecTimeNo	K0	Set the deceleration time during positioning to "Deceleration time 0.
i_InterpolatedAx	K0	Set the target axis for operations under the 2-axis interpolation control to "Axis 1".
i_Mcode	K0	Set the "condition data No.", "number of repetitions", or "M code" corresponding to the "control system" to 0.
i_DwellTime	K0	Set the "positioning data No." or "dwell time" corresponding to the "control system" to 0.
i_CommandSpeed	K10000	Set the command speed for positioning to 10,000.
i_PosiAddr	K300000	Set the target position/movement amount for positioning control to 300,000.
i_ArcAddr	K0	Set the arc address to 0 when carrying out circular interpolation control.

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



(Please refer to next page.)


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

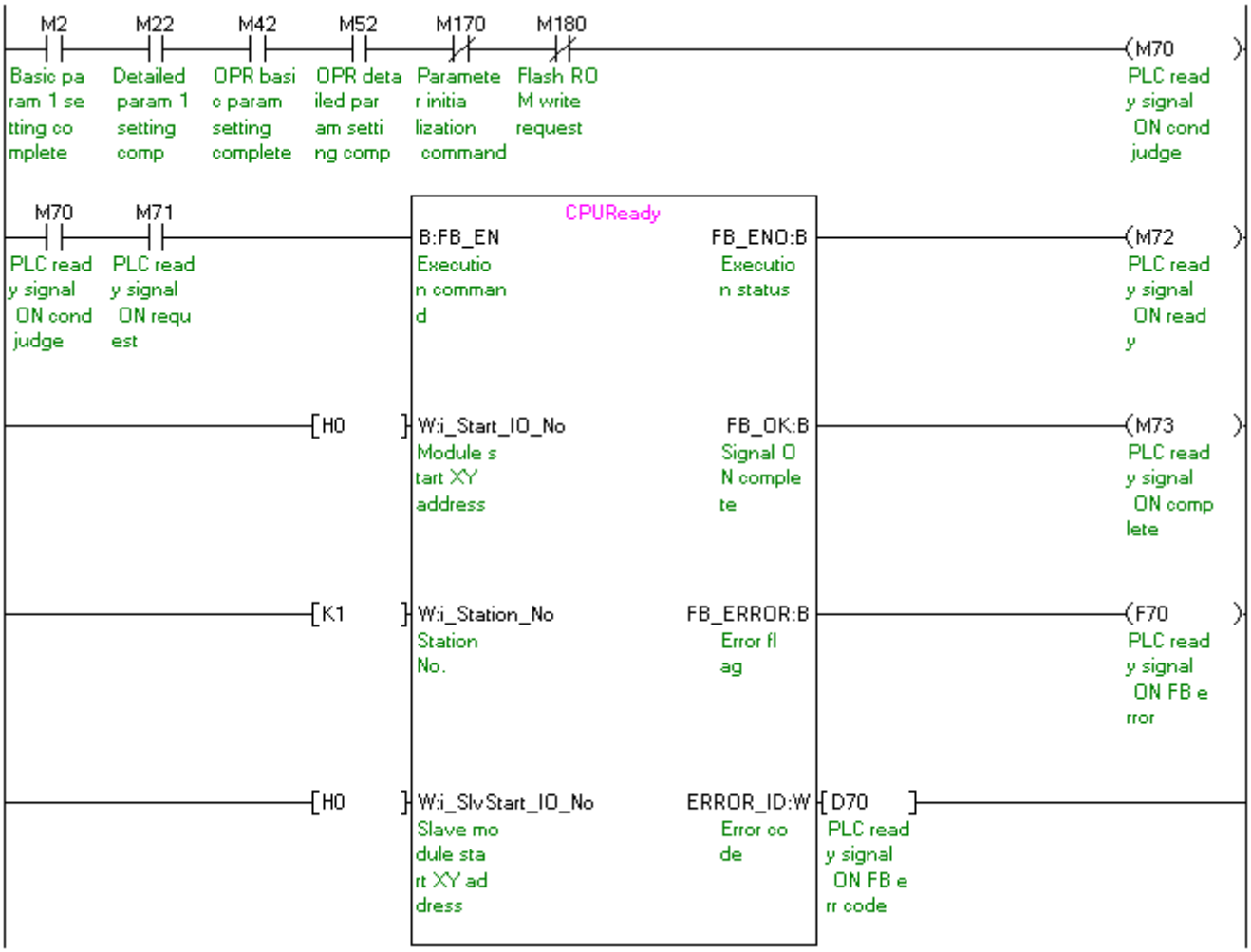
M+LD75-IEF_CPUReady (PLC ready signal ON)

* 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.
* This FB uses cyclic transmission. Therefore, an interlock program for cyclic transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.

By turning ON M71, the PLC ready signal (Y signal) is turned ON.



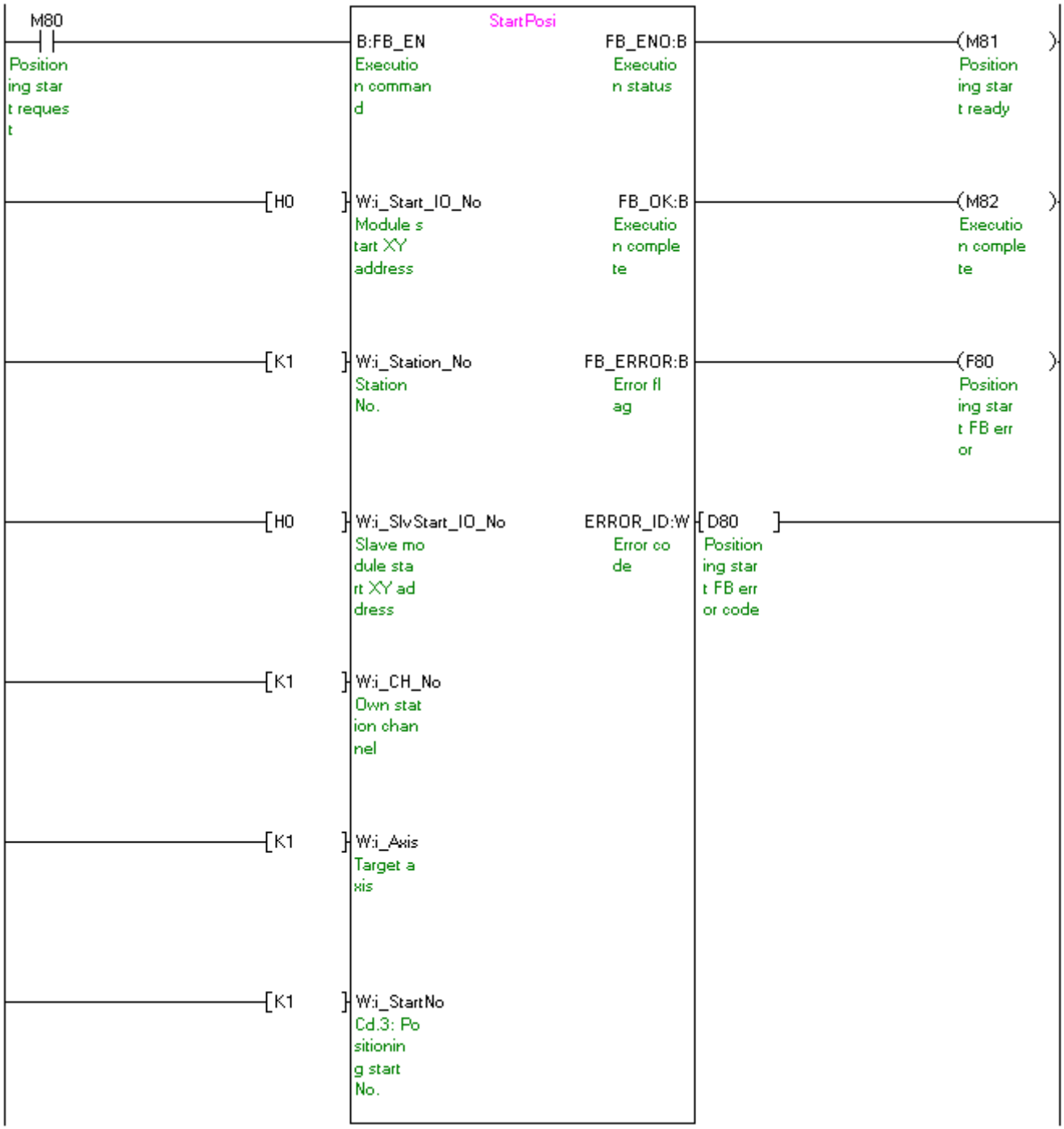
M+LD75-IEF_StartPosi (Positioning start)

* This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.
i_Axis	K1	Set axis 1.
i_StartNo	K1	Set Cd.3: Positioning start No. to "Positioning data No.1".

By turning ON M80, the positioning start number "Positioning data No.1" is started.


M80
Positioning start request
StartPosi
B:FB_EN
Execution command
FB_ENO:B
Execution status
M81
Positioning start ready
H0
W:i_Start_IO_No
Module start XY address
FB_OK:B
Execution complete
M82
Execution complete
K1
W:i_Station_No
Station No.
FB_ERROR:B
Error flag
F80
Positioning start FB error
H0
W:i_SlvStart_IO_No
Slave module start XY address
ERROR_ID:W
Error code
D80
Positioning start FB error code
K1
W:i_CH_No
Own station channel
K1
W:i_Axis
Target axis
K1
W:i_StartNo
Cd.3: Positioning start No.

M+LD75-IEF_JOG (JOG/inching operation)

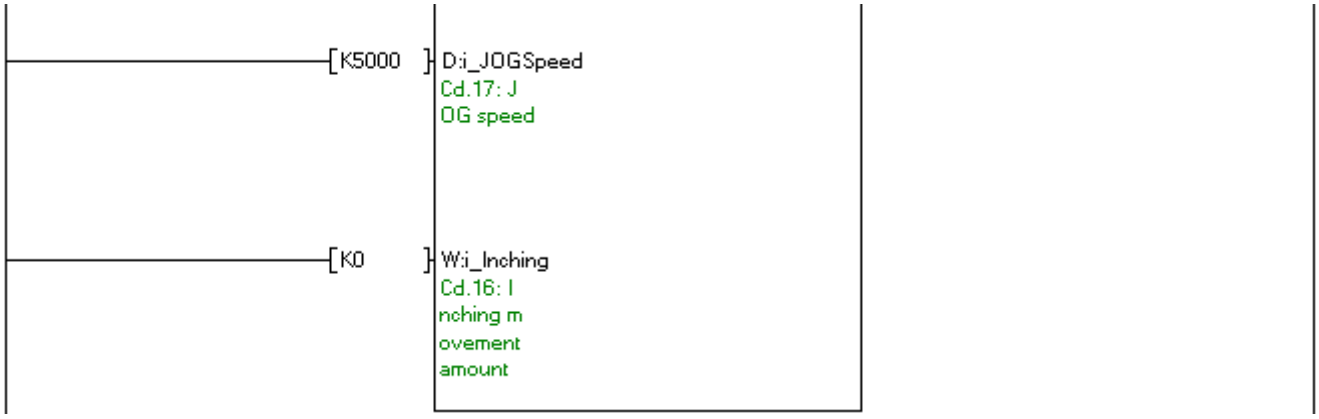
* This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.
i_Axis	K1	Set axis 1.
i_JOGSpeed	K5000	Set the JOG speed to 5,000.
i_Inching	K0	Set the inching movement amount to 0. Set 0 for JOG operation.

By turning ON M90, and then by turning ON M91 (Forward run JOG command) or M 92 (Reverse run JOG command), JOG operation is performed.

(Please refer to next page.)


K5000
D:i_JOGSpeed
Cd.17: J
OG speed
K0
W:i_Inching
Cd.16: I
nching m
ovement
amount

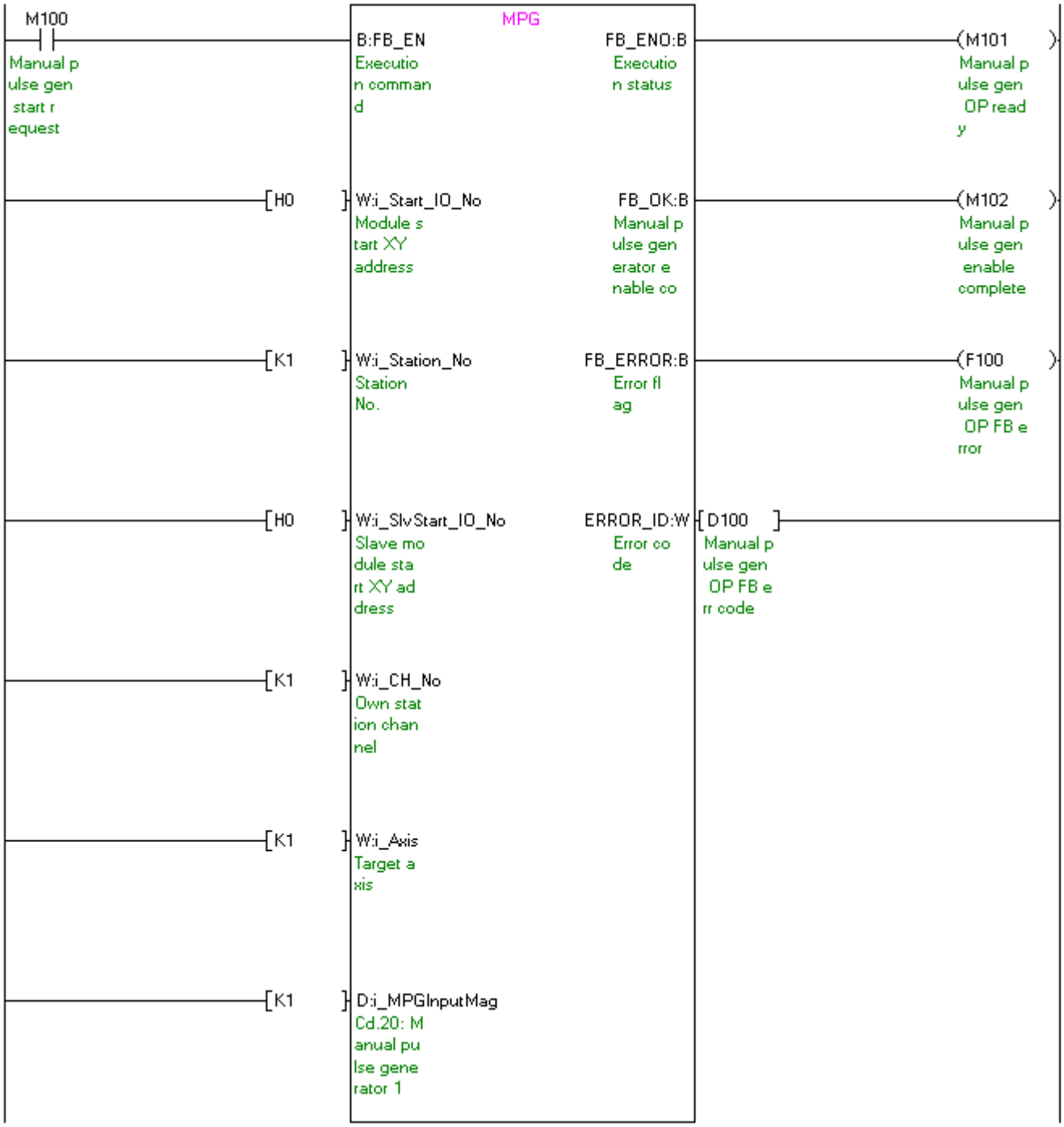
M+LD75-IEF_MPG (Manual pulse generator operation)

* This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.
i_Axis	K1	Set axis 1.
i_MPGInputMag	K1	Set the manual pulse generator 1 pulse input magnification to 1

By turning ON/OFF M100, the manual pulse generator operation is enabled/disabled.


M100
Manual p
ulse gen
start r
equest
MPG
B:FB_EN
Executio
n comman
d
FB_ENO:B
Executio
n status
(M101
Manual p
ulse gen
OP read
y
[H0
W:i_Start_IO_No
Module s
tart XY
address
FB_OK:B
Manual p
ulse gen
erator e
nable co
(M102
Manual p
ulse gen
enable
complete
[K1
W:i_Station_No
Station
No.
FB_ERROR:B
Error fl
ag
(F100
Manual p
ulse gen
OP FB e
rror
[H0
W:i_SlvStart_IO_No
Slave mo
dule sta
rt XY ad
dress
ERROR_ID:W
Error co
de
[D100
Manual p
ulse gen
OP FB e
rr code
[K1
W:i_CH_No
Own stat
ion chan
nel
[K1
W:i_Axis
Target a
xis
[K1
D:i_MPGInputMag
Cd.20: M
anual pu
lse gene
rator 1

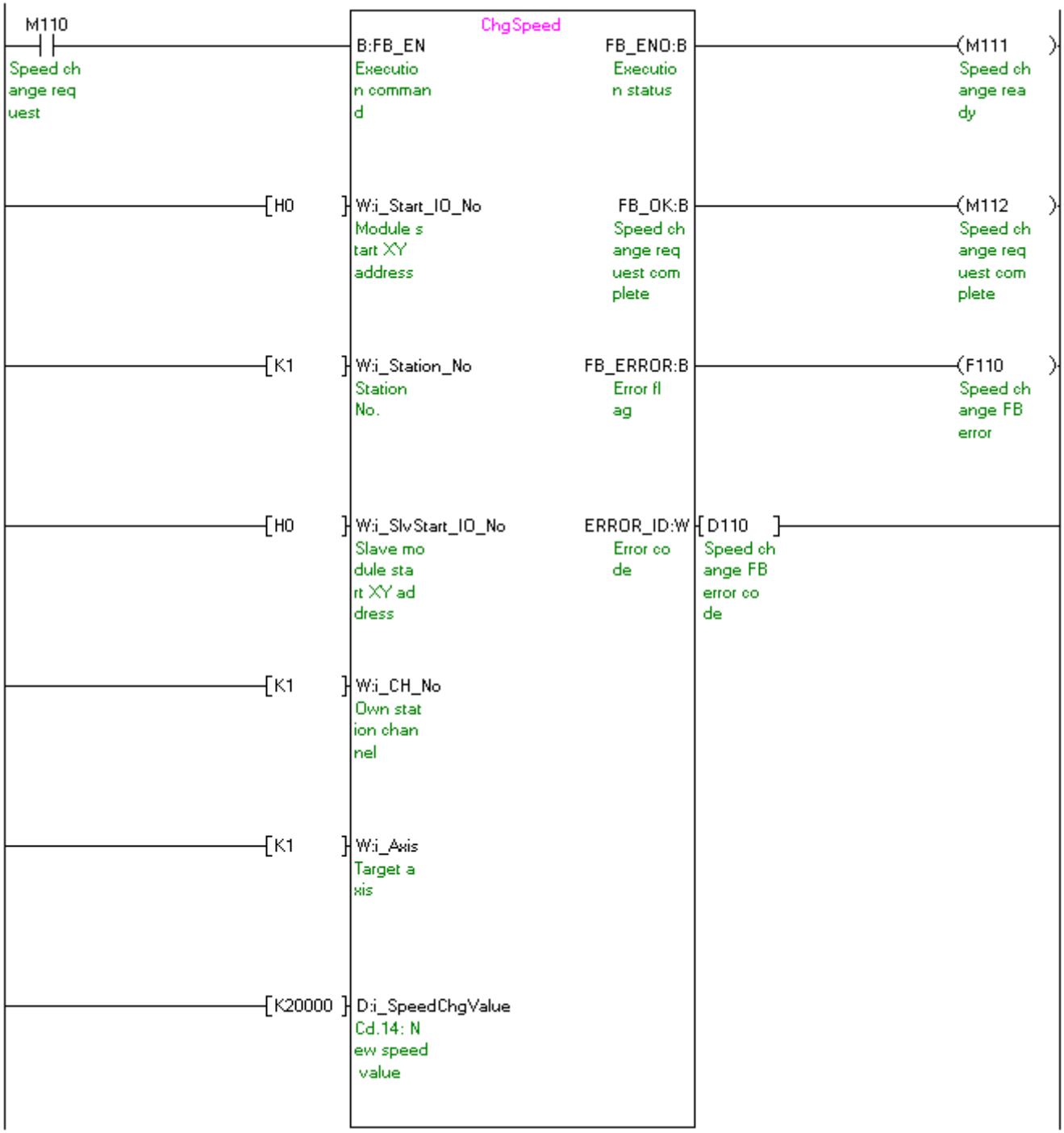
M+LD75-IEF_ChgSpeed (Speed change)

* This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.
i_Axis	K1	Set axis 1.
i_SpeedChgValue	K20000	Set the new speed to 20,000.

By turning ON M110, the speed during control is changed to a newly designated speed.


M110
Speed change request
ChgSpeed
B:FB_EN
Execution command
FB_ENO:B
Execution status
M111
Speed change ready
H0
W:i_Start_IO_No
Module start XY address
FB_OK:B
Speed change request complete
M112
Speed change request complete
K1
W:i_Station_No
Station No.
FB_ERROR:B
Error flag
F110
Speed change FB error
H0
W:i_SlvStart_IO_No
Slave module start XY address
ERROR_ID:W
Error code
D110
Speed change FB error code
K1
W:i_CH_No
Own station channel
K1
W:i_Axis
Target axis
K20000
D:i_SpeedChgValue
Cd.14: New speed value

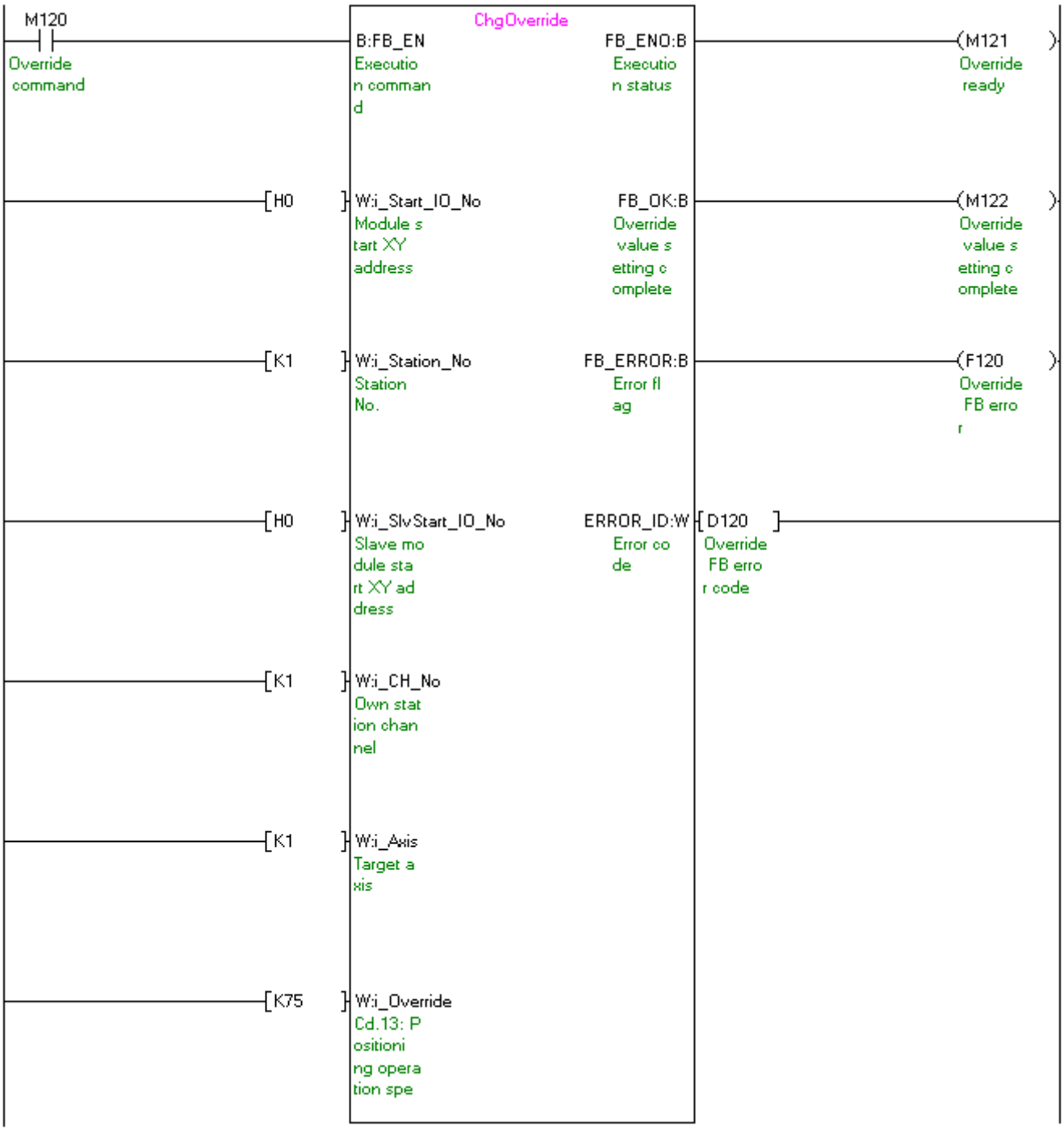
M+LD75-IEF_ChgOverride (Override)

* This FB uses transient transmission. Therefore, an interlock program for transient transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.
i_Axis	K1	Set axis 1.
i_Override	K75	Set the new speed to 75%.

By turning ON M120, the speed is changed for all controls to be executed at the percentage designated with the positioning operation speed override.


M120
Override command
ChgOverride
B:FB_EN
Executio n comman d
FB_ENO:B
Executio n status
M121
Override ready
H0
W:i_Start_IO_No
Module s tart XY address
FB_OK:B
Override value s etting c omplete
M122
Override value s etting c omplete
K1
W:i_Station_No
Station No.
FB_ERROR:B
Error fl ag
F120
Override FB erro r
H0
W:i_SlvStart_IO_No
Slave mo dule sta rt XY ad dress
ERROR_ID:W
Error co de
D120
Override FB erro r code
K1
W:i_CH_No
Own stat ion chan nel
K1
W:i_Axis
Target a xis
K75
W:i_Override
Cd.13: P ositioni ng opera tion spe

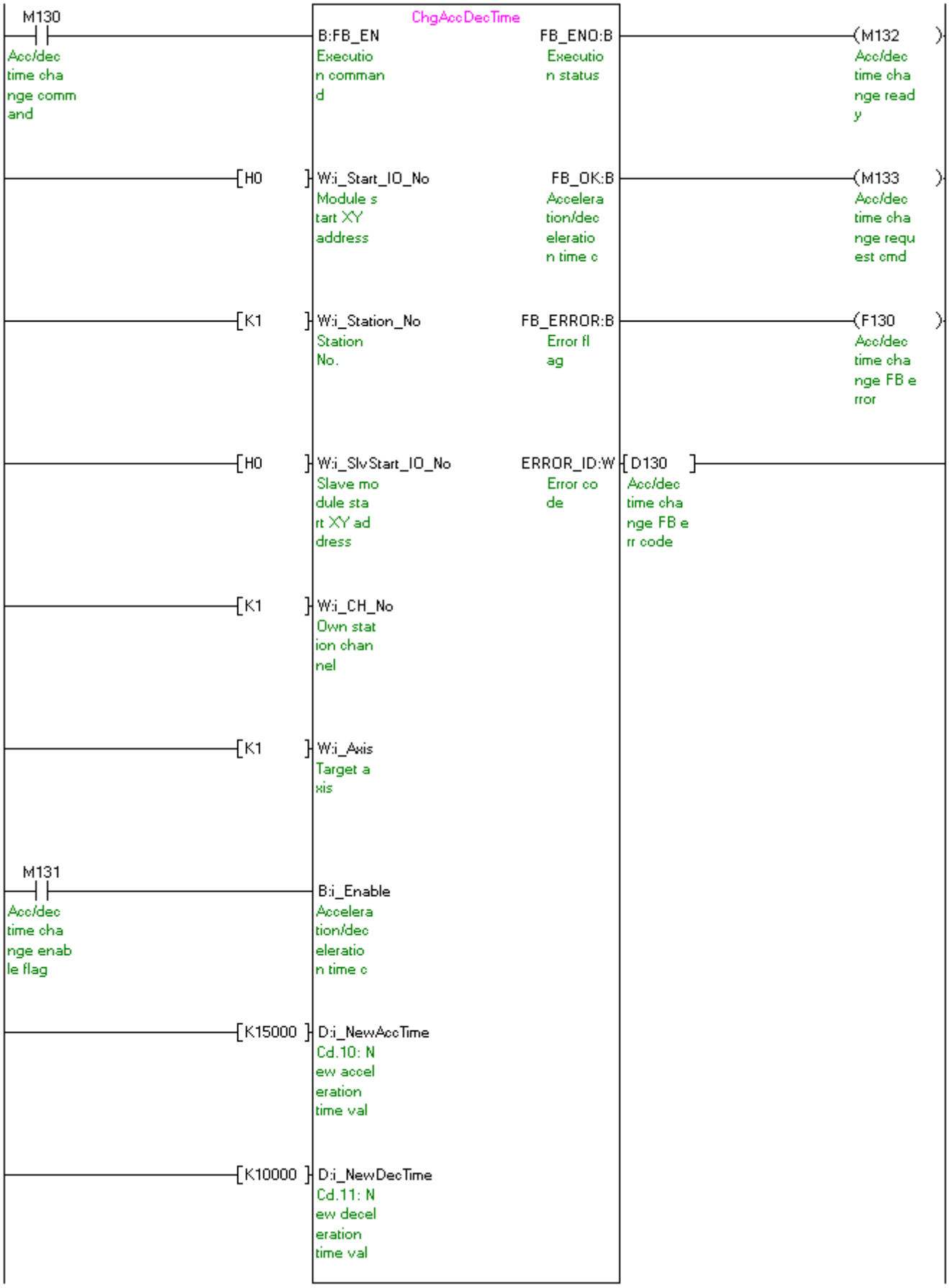
M+LD75-IEF_ChgAccDecTime (Acceleration/deceleration time setting value change)

* This FB uses transient transmission. Therefore, an interlock program for transient transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.
i_Axis	K1	Set axis 1.
i_NewAccTime	K15000	Set the new acceleration time to 15,000 ms.
i_NewDecTime	K10000	Set the new deceleration time to 10,000 ms.

By turning ON M130, the acceleration/deceleration time setting is changed according to M131 (Acceleration/deceleration time change enable flag).


M130
Acc/dec time change command
ChgAccDecTime
B:FB_EN
Execution command
FB_ENO:B
Execution status
M132
Acc/dec time change ready
H0
W:i_Start_IO_No
Module start XY address
FB_OK:B
Acceleration/deceleration time c
M133
Acc/dec time change request cmd
K1
W:i_Station_No
Station No.
FB_ERROR:B
Error flag
F130
Acc/dec time change FB error
H0
W:i_SlvStart_IO_No
Slave module start XY address
ERROR_ID:W
Error code
D130
Acc/dec time change FB err code
K1
W:i_CH_No
Own station channel
K1
W:i_Axis
Target axis
M131
Acc/dec time change enable flag
B:i_Enable
Acceleration/deceleration time c
K15000
D:i_NewAccTime
Cd.10: New acceleration time val
K10000
D:i_NewDecTime
Cd.11: New deceleration time val

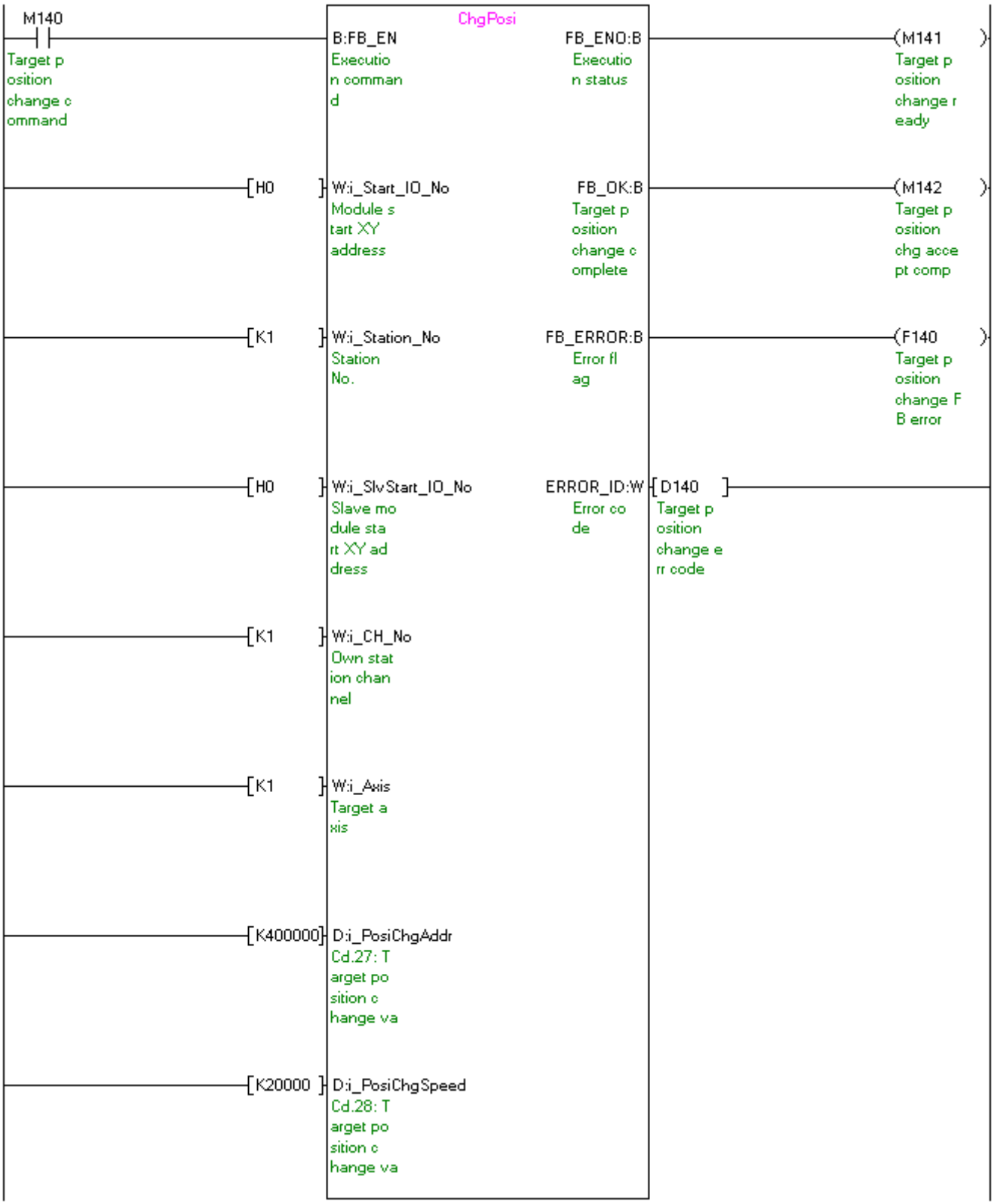
M+LD75-IEF_ChgPosi (Target position change)

* This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.
i_Axis	K1	Set axis 1.
i_PosiChgAddr	K400000	When changing the target position during a positioning operation, set the new positioning address to 400,000.
i_PosiChgSpeed	K20000	When changing the target position during a positioning operation, set the new speed to 20,000.

By turning ON M140, the target position under position control is changed to the value set in the target position change value (new address) and the command speed is changed to the value set in the target position change value (new speed) at the same time.


M140
Target position change command
ChgPosi
B:FB_EN
Execution command
FB_ENO:B
Execution status
M141
Target position change ready
H0
W:i_Start_IO_No
Module start XY address
FB_OK:B
Target position change complete
M142
Target position chg accept comp
K1
W:i_Station_No
Station No.
FB_ERROR:B
Error flag
F140
Target position change FB error
H0
W:i_SlvStart_IO_No
Slave module start XY address
ERROR_ID:W
Error code
D140
Target position change err code
K1
W:i_CH_No
Own station channel
K1
W:i_Axis
Target axis
K400000
D:i_PosiChgAddr
Cd.27: Target position change va
K20000
D:i_PosiChgSpeed
Cd.28: Target position change va

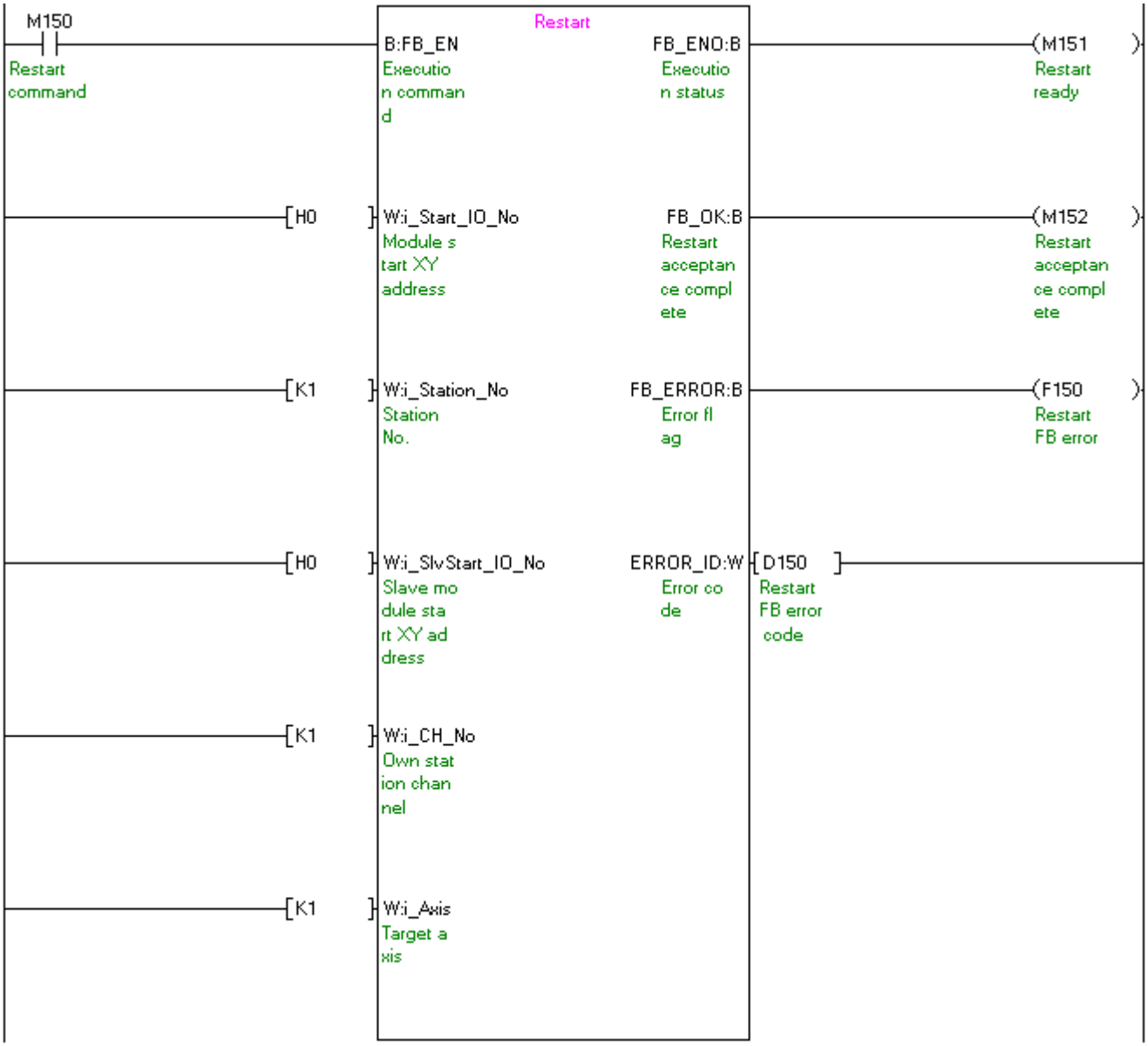
M+LD75-IEF_Restart (Restart)

* This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.
i_Axis	K1	Set axis 1.

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


M150
Restart command
Restart
B:FB_EN
Execution command
FB_ENO:B
Execution status
(M151)
Restart ready
[H0]
W:i_Start_IO_No
Module start XY address
FB_OK:B
Restart acceptance complete
(M152)
Restart acceptance complete
[K1]
W:i_Station_No
Station No.
FB_ERROR:B
Error flag
(F150)
Restart FB error
[H0]
W:i_SlvStart_IO_No
Slave module start XY address
ERROR_ID:W
Error code
[D150]
Restart FB error code
[K1]
W:i_CH_No
Own station channel
[K1]
W:i_Axis
Target axis

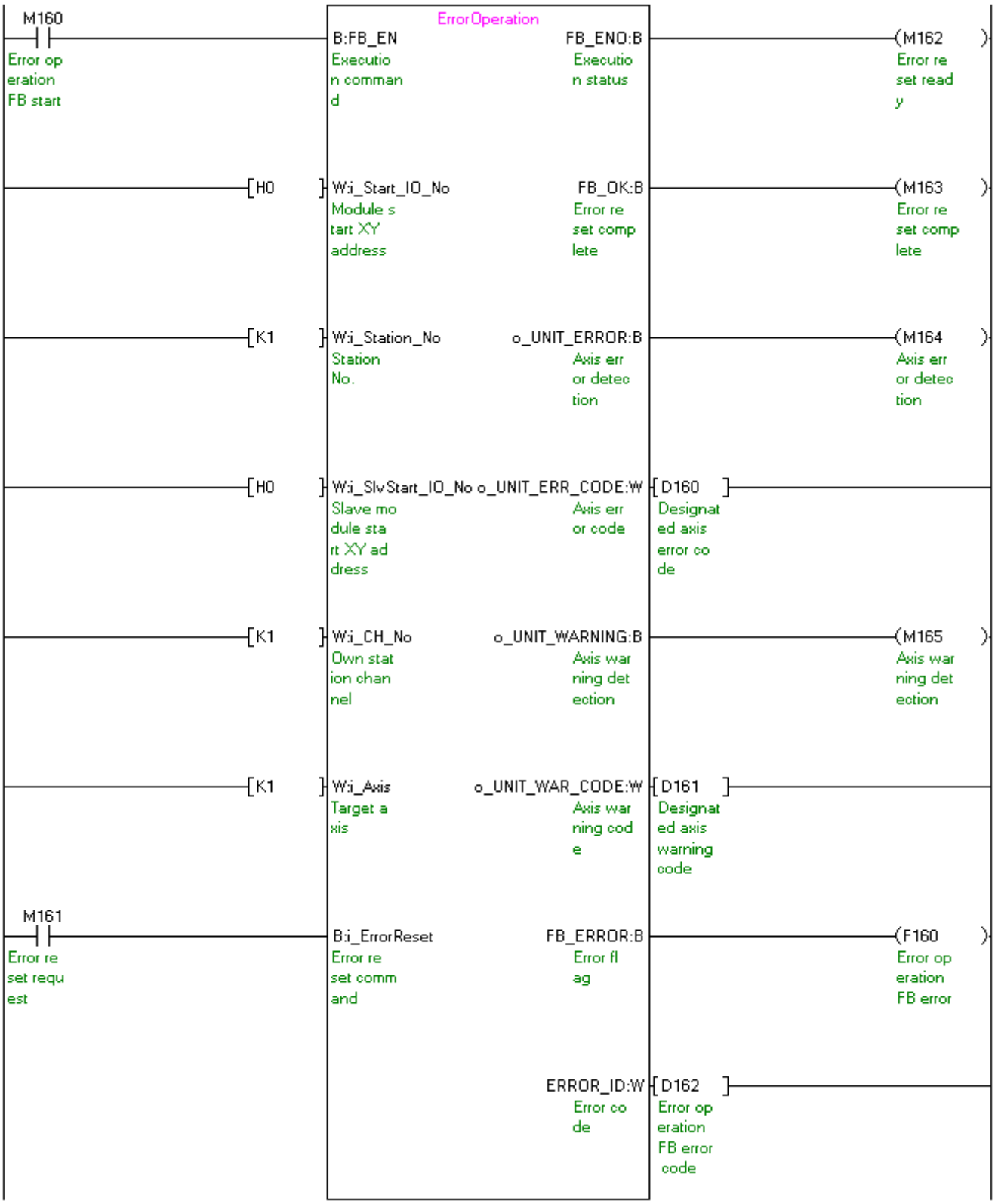
M+LD75-IEF_ErrorOperation (Error operation)

* This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.
i_Axis	K1	Set axis 1.

After turning ON M160, by turning ON M161 (error reset command) during error occurrence, the warning and error for the target axis are reset.


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 complete
M163
Error reset complete
K1
W:i_Station_No
Station No.
o_UNIT_ERROR:B
Axis error detection
M164
Axis error detection
H0
W:i_SlvStart_IO_No
Slave module start XY address
o_UNIT_ERR_CODE:W
Axis error code
D160
Designated axis error code
K1
W:i_CH_No
Own station channel
o_UNIT_WARNING:B
Axis warning detection
M165
Axis warning detection
K1
W:i_Axis
Target axis
o_UNIT_WAR_CODE:W
Axis warning code
D161
Designated axis warning code
M161
Error reset request
B:i_ErrorReset
Error reset command
FB_ERROR:B
Error flag
F160
Error operation FB error
ERROR_ID:W
Error code
D162
Error operation FB error code

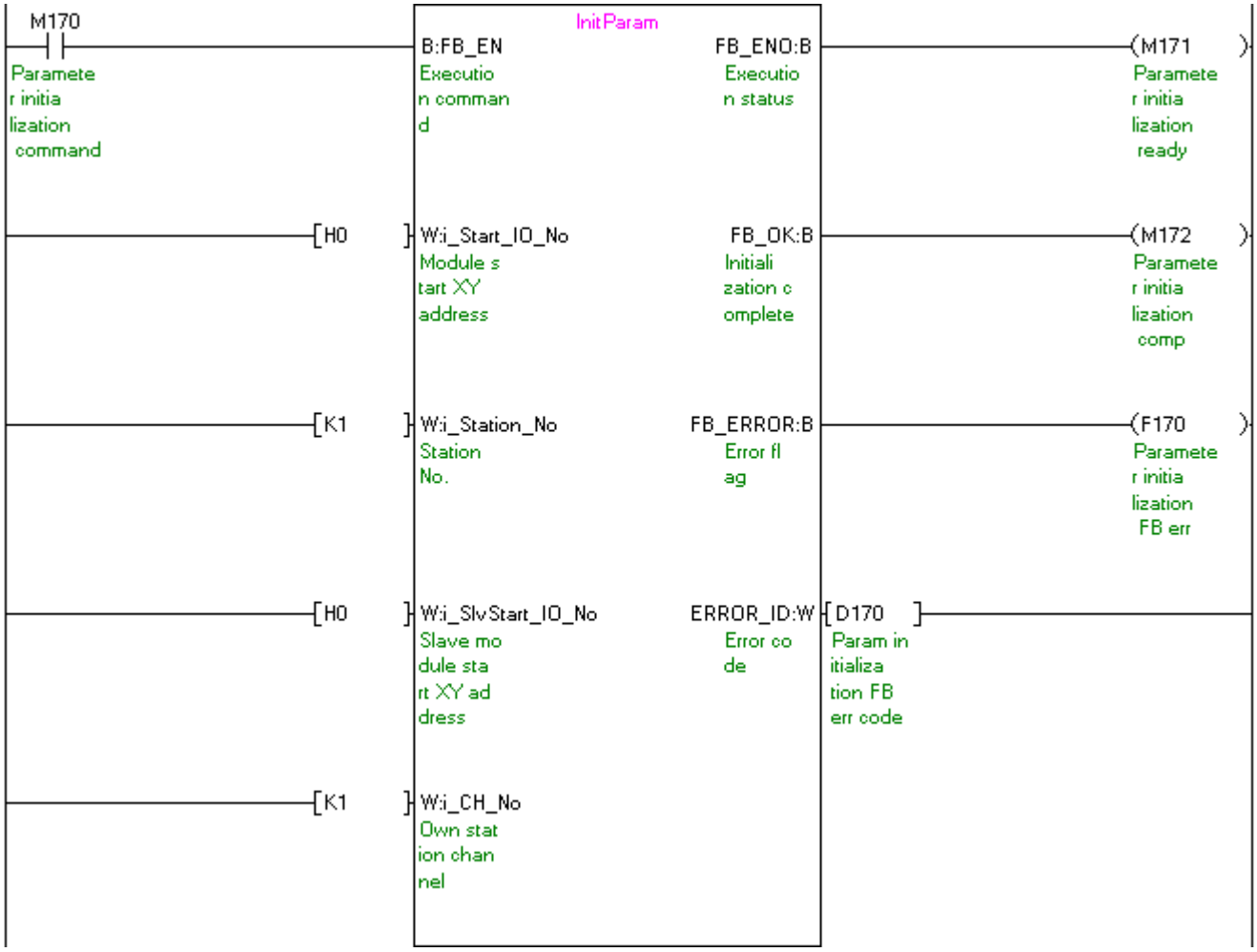
M+LD75-IEF_InitParam (Parameter initialization)

* This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.

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



M+LD75-IEF_WriteFlash (Flash ROM writing)

* This FB uses cyclic and transient transmission. Therefore, an interlock program for cyclic and transient transmission is required.

The example below shows a program with the following conditions.

Label name	Setting value	Description
i_Start_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_Station_No	K1	Set the target station number to 1.
i_SlvStart_IO_No	H0	Set the starting XY address where the LD75 module is mounted to 0H.
i_CH_No	K1	Set the own station channel to 1.

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