MELSEC-Q/L Positioning Module FB Library Reference Manual

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

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Reference Manual Revision History

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



1. Overview

1.1 Overview of the FB Library

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

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

1.2 Function of the FB Library



1.3 System Configuration Examples

The application examples of D75FB are shown below.

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

(1) Q series system configuration example



(2) L series system configuration example





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

1.5 Note

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



2. Details of the FB Library

2.1 M+D75_SetBPARAM1 (Basic parameters 1 setting)

FB Name

M+D75_SetBPARAM1

Item	Description			
Function overview	Sets basic parameters 1 (Pr.1 to Pr.7).			
Symbol	Execution commar Module start XY addres	M+D75_Se B : FB_EN ss W : i_Start_IO_No	EPARAM1 FB_ENO : B — Executi FB_OK : B — Basic p	ion status parameters 1 setting complete
	Pr.1: Unit settir Pr.2: No. of pulses per rotatio Pr.3: Movement amount per rotatio Pr.4: Unit magnificatio Pr.5: Pulse output moo	ng W : i_UnitSetting yn W : i_Ap yn W : i_Al yn W : i_Al yn W : i_Am de W : i_PIsOutputMode		ode
	Pr.6: Rotation direction settir Pr.7: Bias speed at sta	ngW : i_Rotation ntD : i_BiasSpeed		
Applicable hardware	Positioning	ing		
and software	Module	Series	Model	
		MELSEC-Q Series	QD75P1N, QD75P2N, QD	075P4N,
			QD75D1N, QD75D2N, QD	075D4N,
			QD75P1, QD75P2, QD75P	P4, QD75D1,
			QD75D2, QD75D4	
		MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1,	
			LD75D2, LD75D4	
	CPU module			
		Series	Model	
		MELSEC-Q Series *1	Basic model	
			High performance model	
			Universal model	
		MELSEC-L Series	LCPU	
		*1 Not applicable to QC	PU (A mode)	



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



Item	Description					
Restrictions and	1) The FB does not include error recovery processing. Program the error recovery					
precautions	processing separately in accordance with the required system operation.					
	2) The FB cannot be used in an interrupt program.					
	3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do					
	not use this FB in programs that are only executed once such as a subroutine,					
	FOR-NEXT loop, etc. because it is impossible to turn OFF.					
	4) When two or more of these FBs are used, precaution must be taken to avoid repetition of					
	the target axis.					
	5) This FB uses index registers Z8 and Z9. Please do not use these index registers in an interrupt program.					
	6) Every input must be provided with a value for proper FB operation.					
	7) If the parameter is set using GX Configurator-QP or the configuration function of GX					
	Works 2, using this FB is unnecessary.					
	8) The pulse output mode and external I/O signal logic, etc. must be properly configured to					
	match devices and systems connected to the QD75 or LD75. Configure these settings					
	by making the GX Works2 switch setting according to the application.					
	For details on how to use the intelligent function module switch setting, refer to GX					
	Works2 Operating Manual (Common).					
FB operation type	Pulsed execution (1 scan execution type)					
Application example	Refer to "Appendix 1 - FB Library Application Examples"					
Timing chart	[When operation completes without error] [When an error occurs]					
	FB_EN (Execution command)					
	FB_ENO(Execution					
	Basic parameters 1 setting No processing Write processing Write processing Vite processing Vit					
	FB_OK(Basic parameters 1 setting complete) FB_OK(Basic parameters 1 setting complete)					
	FB_ERROR(Error flag)					
	ERROR_ID(Error code) 0 ERROR_ID(Error code) 0 Error code 0					
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual					
	•MELSEC-L LD75P/LD75D Positioning Module User's Manual					
	•QCPU User's Manual (Hardware Design, Maintenance and Inspection)					
	•MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection)					
	•GX Works2 Version 1 Operating Manual (Common)					
	•GX Works2 Version 1 Operating Manual (Simple Project, Function Block)					



Error code list

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

Labels

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



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

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



FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_SetBPARAM1 function block.

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

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



2.2 M+D75_SetBPARAM2 (Basic parameters 2 setting)

FB Name

M+D75_SetBPARAM2

Item	Description			
Function overview	Sets basic parameters 2 (Pr.8 to Pr.10).			
Symbol				
	Execution command——	B : FB_EN	FB_ENO : B Execution status	
	Module start XY address	W : i_Start_IO_No	FB_OK : B Basic parameters 2 setting complete	
	Target axis ——	-W : i_Axis	FB_ERROR : B Error flag	
	Pr.8: Speed limit value	D : i_SpeedLimit	ERROR_ID : W Error code	
	Pr.9: Acceleration time 0	D : i_AccTime0		
	Pr.10: Deceleration time 0	D : i_DecTime0		
Applicable hardware	Positioning			
and software	Module	Series	Model	
		MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N,	
			OD75D1N $OD75D2N$ $OD75D4N$	
			0075P1 $0075P2$ $0075P4$ $0075D1$	
			OD75D2 $OD75D4$	
		MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1,	
			LD75D2, LD75D4	
	CPU module			
		Series	Model	
		MELSEC-Q Series *1	Basic model	
			High performance model	
			Universal model	
		MELSEC-L Series	LCPU	
		*1 Not applicable to QC	PU (A mode)	



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



Item	Description			
Restrictions and	1) The FB does not include error recovery processing. Program the error recovery			
precautions	processing separately in accordance with the required system operation.			
	2) The FB cannot be used in an interrupt program.			
	3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do			
	not use this FB in programs that are only executed once such as a subroutine,			
	FOR-NEXT loop, etc. because it is impossible to turn OFF.			
	4) When two or more of these FBs are used, precaution must be taken to avoid repetition of			
	the target axis.			
	5) This FB uses index registers Z8 and Z9. Please do not use these index registers in an interrupt program.			
	6) Every input must be provided with a value for proper FB operation.			
	7) If the parameter is set using GX Configurator-QP or the configuration function of GX			
	Works 2, using this FB is unnecessary.			
	8) The pulse output mode and external I/O signal logic, etc. must be properly configured to			
	match devices and systems connected to the QD75 or LD75. Configure these settings			
	by making the GX Works2 switch setting according to the application.			
	For details on how to use the intelligent function module switch setting, refer to GX			
	Works2 Operating Manual (Common).			
FB operation type	Pulsed execution (1 scan execution type)			
Application example	Refer to "Appendix 1 - FB Library Application Examples"			
Timing chart	[When operation completes without error] [When an error occurs]			
	FB_EN (Execution command)			
	FB_ENO(Execution			
	Basic parameters 2 setting Write processing Write processing Write processing			
	FB_OK(Basic parameters 2 setting complete) FB_OK(Basic parameters 2 setting complete)			
	FB_ERROR(Error flag)			
	ERROR_ID(Error 0 ERROR_ID(Error code) 0 Error code 0			
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual			
	•MELSEC-L LD75P/LD75D Positioning Module User's Manual			
	 QCPU User's Manual (Hardware Design, Maintenance and Inspection) 			
	•MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection)			
	•GX Works2 Version 1 Operating Manual (Common)			
	•GX Works2 Version 1 Operating Manual (Simple Project, Function Block)			



Error code list

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

Labels

nput	labe	ls

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



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

FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_SetBPARAM2 function block.

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

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



2.3 M+D75_SetDPARAM1 (Detailed parameters 1 setting)

FB Name

M+D75_SetDPARAM1

Function overview Sets detailed parameters 1 (Pr.11 to Pr.24, and Pr.150). Symbol M+D75_SetDPARAM1 Execution command B : FB_EN Module start XY address W : i_Start_IO_No	mplete
Symbol M+D75_SetDPARAM1 Execution command B : FB_EN FB_ENO : B Module start XY address W : i_Start_IO_No FB_OK : B	mplete
Execution command B : FB_EN FB_ENO : B Execution status Module start XY address W : i_Start_IO_No FB_OK : B Detailed parameters 1 setting co	mplete
Module start XY address W : i_Start_IO_No FB_OK : B Detailed parameters 1 setting co	mplete
Target axis W : i_Axis FB_ERROR : B Error flag	
Pr.11: Backlash compensation amount — W: i_Backlash ERROR_ID: W — Error code	
Pr.12: Software stroke limit upper limit value — D : i_SSLimitUpper	
Pr.13: Software stroke limit lower limit value D : i_SSLimitLower	
Pr.14: Software stroke limit selection — W : i_SSLimitSelect	
Pr.15: Software stroke limit valid/invalid setting — W : i_SSLimitSetting	
Pr.16: Command in-position width — D : i_InPosition	
Pr.17: Torque limit setting value — W : i_TorqueLimit	
Pr.18: M code ON signal output timing — W : i_MCodeTiming	
Pr.19: Speed switching mode	
Pr.20: Interpolation speed designation method — W : i_InterpolaSpeed	
Pr.21: Current feed value during speed control — W : i_SpeedCntValue	
Pr.22: Input signal logic selection — W : i_InputSigLogic	
Pr.23: Output signal logic selection — W : i_OutputSigLogic	
Pr.24: Manual pulse generator input selection — W : i_MPGInputSelect	
Pr.150: Speed-position function selection	
Applicable bardware Positioning	
and software Module Series Model	
	-
MELSEC-Q Series QD75P1N, QD75P2N, QD75P4N,	
QD75D1N, QD75D2N, QD75D4N,	
QD75P1, QD75P2, QD75P4, QD75D1,	
QD75D2, QD75D4	
MELSEC-L Series LD75P1, LD75P2, LD75P4, LD75D1,	7
LD75D2, LD75D4	



Item	Description				
	CPU module				
		Series		Model	
		MELSEC-Q Series *1	Basic	model	
			High p	erformance model	
			Univer	sal model	
		MELSEC-L Series	LCPU		
		*1 Not applicable to QC	PU (A m	node)	
	Engineering	GX Works2 *1			
	software	Language		Software version	
		Japanese version		Version1.86Q or later	
		English version		Version1.24A or later	
		Chinese (Simplified) ve	ersion	Version1.49B or later	
		Chinese (Traditional) v	ersion	Version1.49B or later	
		Korean version		Version1.49B or later	
		*1 For software versions	s applica	able to the modules used, refer to	
		"Relevant manuals".			
Programming	Ladder				
language					
Number of steps	313 steps (for MELSEC-Q series universal model CPU)				
	*The number of steps of the FB in a program depends on the CPU model that is used and				
	input and output definition.				
Function description	1) By turning ON FB_EN (Execution command), the set detailed parameters 1 is written to				
	the buffer memory.				
	2) FB operation is one-shot only, triggered by the FB_EN signal.				
	3) After FB_EN (Execution command) is turned ON, the FB is completed by one scan.				
	4) Parameters are validated when the PLC ready signal (Yn0) turns from OFF to ON.				
	5) When the target a	5) When the target axis setting value is out of range, the FB_ERROR output turns ON,			
	processing is inte	rrupted, and the error coo	de is sto	red in ERROR_ID (Error code).	
	Refer to the error code explanation section for details.				
Compiling method	Macro type				



Item	Description			
Restrictions and	1) The FB does not include error recovery processing. Program the error recovery			
precautions	processing separately in accordance with the required system operation.			
	2) The FB cannot be used in an interrupt program.			
	3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do			
	not use this FB in programs that are only executed once such as a subroutine,			
	FOR-NEXT loop, etc. because it is impossible to turn OFF.			
	4) When two or more of these FBs are used, precaution must be taken to avoid repetition of			
	the target axis.			
	5) This FB uses index registers Z8 and Z9. Please do not use these index registers in an			
	interrupt program.			
	6) Every input must be provided with a value for proper FB operation.			
	7) If the parameter is set using GX Configurator-QP or the configuration function of GX			
	Works 2, using this FB is unnecessary.			
	8) The pulse output mode and external I/O signal logic, etc. must be properly configured to			
	match devices and systems connected to the QD75 or LD75. Configure these settings			
	by making the GX Works2 switch setting according to the application.			
	For details on how to use the intelligent function module switch setting, refer to GX			
	Works2 Operating Manual (Common).			
FB operation type	Pulsed execution (1 scan execution type)			
Application example	Refer to "Appendix 1 - FB Library Application Examples"			
Timing chart	[When operation completes without error] [When an error occurs]			
	FB_EN (Execution command)			
	FB_ENO(Execution Command)			
	status)			
	Write processing Write Wr			
	parameters 1 setting complete)			
	FB_ERROR(Error flag)			
	ERROR_ID(Error 0 ERROR_ID(Error code) 0 Error code)			
	Tupe ODZED/ODZED Desitioning Medule Llear's Menual			
Relevant manuals	• Type QD/5F/QD/5D Fositioning Module User's Manual			
	•OCPLUser's Manual (Hardware Design, Maintonance and Inspection)			
	• MELSEC-L CPLI 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)			
	•GX Works2 Version 1 Operating Manual (Simple Project, Function Block)			



Error code list

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

Labels

Input labels	•In	put	lab	els
--------------	-----	-----	-----	-----

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



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



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



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

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

FB Version Upgrade History

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



Note

This chapter includes information related to the M+D75_SetDPARAM1 function block.

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

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



2.4 M+D75_SetDPARAM2 (Detailed parameters 2 setting)

FB Name

M+D75_SetDPARAM2

Item	Description							
Function overview	Sets detailed parameters 2 (Pr.25 to Pr.42).							
Symbol	Execution	command—	M+D75	5_SetDPARAM2 FB_ENO : B	Execution status			
	Module start X	Y address —		FB_OK : B	Detailed parameters 2 setting complete			
	Pr 25: Accelerat	tion time 1 —	D : i AccTime1	FB_ERROR : B	Error code			
	Pr.26: Accelerat	tion time 2	D : i AccTime2					
	Pr.27: Accelerat	tion time 3—	D : i_AccTime3					
	Pr.28: Decelerat	tion time 1 —	D : i_DecTime1					
	Pr.29: Decelerat	tion time 2 —	D : i_DecTime2					
	Pr.30: Decelerat	tion time 3 —	D : i_DecTime3					
	Pr.31: JOG speed	limit value —	D : i_JogSpeedLimit					
	Pr.32: JOG operation acceleration time	me selection —— W : i_JogAccTimeSel						
	Pr.33: JOG operation deceleration time	time selection — W : i_JogDecTimeSel						
	Pr.34: Acceleration/deceleration proces	cess selection — W : i_AccDecProcess						
	Pr.35: S-	S-curve ratio W : i_S_curveRatio						
	Pr.36: Sudden stop deceler	eleration time — D : i_SuddenStopTime						
	Pr.37: Stop group 1 sudden stop) selection —						
	Pr.36: Stop group 2 sudden stop	selection —	W : i_StopGroup2					
	Pr 40: Positioning complete signal o	utput time —	W : i PosiCmpSignal					
	Pr.41: Allowable circular interpolation	error width —	D : i ArcErrPermit					
	Pr.42: External command function	n selection —	- W : i_ExtComFuncSel					
Applicable hardware	Positioning				1			
and software	Module		Series	M	odel			
		MELSEC-Q Series		QU/5P1N, QU/5P2N, QU/5P4N,				
				QD75D1N, QD75D	2N, QD75D4N,			
				QD75P1, QD75P2,	QD75P4, QD75D1,			
				QD75D2, QD75D4				
		MELS	SEC-L Series	LD75P1, LD75P2, I	_D75P4, LD75D1,			
				LD75D2, LD75D4				



Item	Description					
	CPU module					
		Series		Model		
		MELSEC-Q Series *1	Basic I	model		
			High p	erformance model		
			Univer	sal model		
		MELSEC-L Series	LCPU			
		*1 Not applicable to QC	PU (A m	node)		
	Engineering	GX Works2 *1				
	software	Language		Software version		
		Japanese version		Version1.86Q or later		
		English version		Version1.24A or later		
		Chinese (Simplified) ve	ersion	Version1.49B or later		
		Chinese (Traditional) v	ersion	Version1.49B or later		
		Korean version		Version1.49B or later		
		*1 For software versions applicable to the modules used, refer to		able to the modules used, refer to		
		"Relevant manuals".				
Programming	Ladder	_ .				
language						
Number of steps	320 steps (for MELS	EC-Q series universal m	odel CP	U)		
	*The number of step	os of the FB in a program	depend	s on the CPU model that is used and		
	input and output d	lefinition.				
Function description	1) By turning on FB_	EN (Execution command	d), the s	et detailed parameters 2 is written to		
	the buffer memory	у.				
	2) FB operation is one-shot only, triggered by the FB_EN signal.					
	3) After FB_EN (Execution command) is turned ON, the FB is completed by one scan.					
	4) When the target axis setting value is out of range, the FB_ERROR output turns ON,					
	processing is interrupted, and the error code is stored in ERROR_ID (Error code).					
	Refer to the error	Refer to the error code explanation section for details.				
Compiling method	Macro type					



Item	Description						
Restrictions and	1) The FB does not include error recovery processing. Program the error recovery						
precautions	processing separately in accordance with the required system operation.						
	2) The FB cannot be used in an interrupt program.						
	3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do						
	not use this FB in programs that are only executed once such as a subroutine,						
	FOR-NEXT loop, etc. because it is impossible to turn OFF.						
	4) When two or more of these FBs are used, precaution must be taken to avoid repetition of						
	the target axis.						
	5) This FB uses index registers Z8 and Z9. Please do not use these index registers in an						
	interrupt program.						
	6) Every input must be provided with a value for proper FB operation.						
	7) If the parameter is set using GX Configurator-QP or the configuration function of GX						
	Works 2, using this FB is unnecessary.						
	8) The pulse output mode and external I/O signal logic, etc. must be properly configured to						
	match devices and systems connected to the QD75 or LD75. Configure these settings						
	by making the GX Works2 switch setting according to the application.						
	For details on how to use the intelligent function module switch setting, refer to GX						
	Works2 Operating Manual (Common).						
FB operation type	Pulsed execution (1 scan execution type)						
Application example	Refer to "Appendix 1 - FB Library Application Examples"						
liming chart	[When operation completes without error] [When an error occurs]						
	(Execution command)						
	FB_ENO(Execution status) FB_ENO(Execution status)						
	Detailed parameters 2 setting No Processing Write processing Write processing Write processing Use Processing Write processing Use Processing Write Processing						
	FB_OK(Detailed parameters 2 setting FB_OK(Detailed parameters 2 setting						
	complete) complete) FB_ERROR(Error flag) FB_ERROR(Error flag)						
	ERROR_ID(Error code) 0 ERROR_ID(Error code) 0 Error code 0						
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual						
	•MELSEC-L LD75P/LD75D Positioning Module User's Manual						
	•QCPU User's Manual (Hardware Design, Maintenance and Inspection)						
	•MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection)						
	•GX Works2 Version 1 Operating Manual (Common)						
	•GX Works2 Version 1 Operating Manual (Simple Project, Function Block)						



•Error code list

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

Labels

Input labels

Name (Comment)	Label name	Data	Setting range	Description
		type		
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	Specify the starting XY
			point range. For details,	address (in hexadecimal)
			refer to the CPU user's	where the D75 module is
			manual.	mounted. (For example,
				enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.
Pr.25: Acceleration time	i_AccTime1	Double	1~8,388,608 (ms)	Set the time for the speed
1		Word		to increase from zero to
Pr.26: Acceleration time	i_AccTime2			the Pr.8: speed limit
2				value.
Pr.27: Acceleration time	i_AccTime3			
3				
Pr.28: Deceleration time	i_DecTime1			Set the time for the speed
1				to decrease from the Pr.8:
Pr.29: Deceleration time	i_DecTime2			speed limit value to zero.
2				
Pr.30: Deceleration time	i_DecTime3			
3				



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



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

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



FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_SetDPARAM2 function block.

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

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



2.5 M+D75_SetZBPARAM (OPR basic parameters setting)

FB Name

M+D75_SetZBPARAM

Item	Description					
Function overview	Sets OPR basic parameters (Pr.43 to Pr.48).					
Symbol	Г	M+D75_SetZBPARAM				
	Execution command — E	3 : FB_EN	FB_ENO : B	——Execution status		
	Module start XY address — V	V : i_Start_IO_No	FB_OK : B	OPR basic parameters setting complete		
	Target axis——V	V : i_Axis	FB_ERROR [:] B	Error flag		
	Pr.43: OPR method V	V : i_OPRMethod	ERROR_ID : W	Error code		
	Pr.44: OPR direction V	V : i_OPRDirection				
	Pr.45: OP address — [):i_OPAddress				
	Pr.46: OPR speed — [) : i_OPRSpeed				
	Pr.47: Creep speed — [):i_CreepSpeed				
	Pr.48: OPR retry-V	V : i_OPRRetry				
Applicable hardware	Positioning					
and software	Module	Series		Model		
		MELSEC-Q Series	QD75P1N, QD	75P2N, QD75P4N,		
			QD75D1N, QD	75D2N, QD75D4N,		
			QD75P1, QD75	5P2, QD75P4, QD75D1,		
			QD75D2, QD75	5D4		
		MELSEC-L Series	LD75P1, LD75	P2, LD75P4, LD75D1,		
			LD75D2, LD75	D4		
	CPU module		•			
		Series		Model		
		MELSEC-Q Series *1	Basic model			
			High performar	nce model		
			Universal mode	9l		
		MELSEC-L Series	LCPU			
		*1 Not applicable to QC	PU (A mode)			



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



Item	Description						
Restrictions and	1) The FB does not include error recovery processing. Program the error recovery						
precautions	processing separately in accordance with the required system operation.						
	2) The FB cannot be used in an interrupt program.						
	3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do						
	not use this FB in programs that are only executed once such as a subroutine,						
	FOR-NEXT loop, etc. because it is impossible to turn OFF.						
	4) When two or more of these FBs are used, precaution must be taken to avoid repetition of						
	the target axis.						
	5) This FB uses index registers Z8 and Z9. Please do not use these index registers in an						
	interrupt program.						
	6) Every input must be provided with a value for proper FB operation.						
	7) If the parameter is set using GX Configurator-QP or the configuration function of GX						
	Works 2, using this FB is unnecessary.						
	8) The pulse output mode and external I/O signal logic, etc. must be properly configured to						
	match devices and systems connected to the QD/5 or LD/5. Configure these settings						
	by making the GX Works2 switch setting according to the application.						
	Works? Operating Manual (Comman)						
	Pulsed execution (1 scan execution type)						
FB operation type	Poter to "Appendix 1. EP Library Application Examples"						
Application example	Refer to "Appendix 1 - FB Library Application Examples"						
nming chart							
	FB_EN (Execution command)						
	FB_ENO(Execution status) FB_ENO(Execution status)						
	OPR basic parameters setting Write processing Write processing						
	FB_OK(OPR basic parameters setting complete) FB_OK(OPR basic parameters setting complete)						
	FB_ERROR(Error flag)						
	ERROR ID(Error code) 0 ERROR ID(Error code) 0 Error code						
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual						
	•MELSEC-L LD75P/LD75D Positioning Module User's Manual						
	•QCPU User's Manual (Hardware Design, Maintenance and Inspection)						
	•MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection)						
	•GX Works2 Version 1 Operating Manual (Common)						
	•GX Works2 Version 1 Operating Manual (Simple Project, Function Block)						



Error code list

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

Labels

nput	labe	ls

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



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

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


FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_SetZBPARAM function block.

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



2.6 M+D75_SetZDPARAM (OPR detailed parameters setting)

FB Name

M+D75_SetZDPARAM

Item	Description						
Function overview	Sets OPR detailed parameters (Pr.49 to Pr.57)						
Symbol	Execution o Module start X ^o T Pr.49: OPR o Pr.50: Movement amount after near-poi Pr.51: OPR acceleration time Pr.52: OPR deceleration time Pr.52: OPR deceleration time Pr.53: OP shi Pr.54: OPR torque I Pr.55: Deviation counter clear signal o Pr.56: Speed designation during Pr.57: Dwell time during 0	command — (address — arget axis — dwell time — t dog ON — selection — ft amount — imit value — utput time — g OP shift — DPR retry —	M+D75 B : FB_EN W : i_Start_IO_No W : i_Axis W : i_OPRDwellTime D : i_OopRLength W : i_OPRAccTimeSel W : i_OPRDecTimeSel D : i_OPShift W : i_OPRTorqueLim W : i_OPRTorqueLim W : i_DevCntClr W : i_ShiftSpeed W : i_OPRRetryDwell	_SetZDPARAM FB_ENO : B FB_OK : B FB_ERROR : B ERROR_ID : W	Execution status OPR detailed parameters setting complete Error flag Error code		
Applicable hardware	Positioning						
and software	Module		Series	Model			
		MELS	EC-Q Series	QD75P1N, QD75P2N, QD75P4N,			
				QD75D1N, QD75D	D2N, QD75D4N,		
				QD75P1. QD75P2	. QD75P4. QD75D1.		
				QD75D2, QD75D4	L		
		MELS	SEC-L Series	LD75P1. LD75P2. LD75P4. LD75D1.			
				LD75D2, LD75D4			
	CPU module						
			Series	N	lodel		
		MELS	SEC-Q Series *1	Basic model			
				High performance model			
				Universal model			
		MELS	SEC-L Series	LCPU			
		*1 Not	applicable to QC	PU (A mode)			



Item	Description					
	Engineering	GX Works2 *1				
	software	Language Software version				
		Japanese version	Version1.86Q or later			
		English version	Version1.24A or later			
		Chinese (Simplified) version	Version1.49B or later			
		Chinese (Traditional) version	Version1.49B or later			
		Korean version	Version1.49B or later			
		*1 For software versions applica	able to the modules used, refer to			
		"Relevant manuals".				
Programming	Ladder					
language						
Number of steps	286 steps (for MELS	36 steps (for MELSEC-Q series universal model CPU)				
	*The number of step	s of the FB in a program depends on the CPU model that is used and				
	input and output d	efinition.				
Function description	1) By turning ON FB_EN (Execution command), the set OPR detailed parameters is written					
	to the buffer mem	ory.				
	2) FB operation is or	ne-shot only, triggered by the FB_	_EN signal.			
	3) After FB_EN (Exe	cution command) is turned ON, t	he FB is completed by one scan.			
	4) Parameters are va	alidated when the PLC ready sigr	nal (Yn0) turns from OFF to ON.			
	5) When the target a	ixis setting value is out of range,	the FB_ERROR output turns ON,	ı		
	processing is inte	rrupted, and the error code is sto	red in ERROR_ID (Error code).			
	Refer to the error	Refer to the error code explanation section for details.				
Compiling method	Macro type					



Item	Description						
Restrictions and	1) The FB does not include error recovery processing. Program the error recovery						
precautions	processing separately in accordance with the required system operation.						
	2) The FB cannot be used in an interrupt program.						
	3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do						
	not use this FB in programs that are only executed once such as a subroutine,						
	FOR-NEXT loop, etc. because it is impossible to turn OFF.						
	4) When two or more of these FBs are used, precaution must be taken to avoid repetition of						
	the target axis.						
	5) This FB uses index registers Z8 and Z9. Please do not use these index registers in an						
	interrupt program.						
	6) Every input must be provided with a value for proper FB operation.						
	7) If the parameter is set using GX Configurator-QP or the configuration function of GX						
	Works 2, using this FB is unnecessary.						
	8) The pulse output mode and external I/O signal logic, etc. must be properly configured to						
	match devices and systems connected to the QD75 or LD75. Configure these settings						
	by making the GX Works2 switch setting according to the application.						
	For details on how to use the intelligent function module switch setting, refer to GX						
	Works2 Operating Manual (Common).						
FB operation type	Pulsed execution (1 scan execution type)						
Application example	Refer to "Appendix 1 - FB Library Application Examples"						
Timing chart	[When operation completes without error] [When an error occurs]						
	FB_EN						
	EB ENQ(Execution						
	Status) OPR detailed parameters						
	setting Write processing Write processing Write processing Write processing Urite processing Write processin						
	parameters setting complete)						
	FB_ERROR(Error flag)						
	ERROR_ID(Error code) 0 ERROR_ID(Error code) 0 0 Error code 0						
Delevent menuela							
Relevant manuals	• Type QD/5P/QD/5D Positioning Module User's Manual						
	• WELSEC-L LD/SF/LD/SD Fositioning Wodule User's Manual						
	• WELSEC L CPLL Modulo Lloor's Manual (Hardware Design, Maintenance and Inspection)						
	•GX Works2 Version 1 Operating Manual (Common)						
	•GX Works2 Version 1 Operating Manual (Simple Project Function Plack)						



Error code list

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

Labels

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



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



Name (Comment)	Label name	Data	Setting range	Description
		type		
Pr.55: Deviation	i_DevCntClr	Word	1~65,535 (ms)*1	Set the duration of the
counter clear				deviation counter clear
signal output time				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	i_ShiftSpeed	Word	0: OPR speed	Set the operation speed
designation during			1: Creep speed	for when a value other
OP shift				than 0 is set for Pr.53:
				OP shift amount.
Pr.57: Dwell time	i_OPRRetryDwell	Word	0~65,535 (ms)*1	When setting Pr.48:
during OPR retry				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.



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

FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_SetZDPARAM function block.

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



2.7 M+D75_PosiDataSet (Positioning data setting)

FB Name

M+D75_PosiDataSet

Function Overview

Item	Description					
Function overview	Sets positioning data	a (Da.1 to Da.10).				
Symbol		M+D75 Posi	DataSet			
	Execution command—	B : FB_EN	FB_ENO : B	——Execution status		
	Module start XY address—	W : i_Start_IO_No	FB_OK : B	Positioning data setting complete		
	Target axis—	— W : i_Axis	FB_ERROR : B	——Error flag		
	Data No.—	— W : i_DataNo	ERROR_ID : W	Error code		
	Da.1: Operation pattern—	──W :i_OperatePattern				
	Da.2: Control system—					
	Da.3: Acceleration time No.—	W : i_AccTimeNo				
	Da.4: Deceleration time No.—					
	Da.5: Axis to be interpolated —					
	Da.10: M code	──VV : i_Mcode				
	Da.9: Dwell time—					
	Da.8: Command speed—	D : i_CommandSpeed				
	Da.6: Positioning address—	D : i_PosiAddr				
	Da.7: Arc address—	D : i_ArcAddr				
Applicable hardware	Positioning					
and software	Module	Series	Series Model			
		MELSEC-Q Series	QD75P1N, QD75P	2N, QD75P4N,		
			QD75D1N, QD75D	2N, QD75D4N,		
			QD75P1, QD75P2,	QD75P4, QD75D1,		
			QD75D2, QD75D4			
		MELSEC-L Series	LD75P1, LD75P2,	LD75P4, LD75D1,		
			LD75D2, LD75D4			
		Carias		a dal		
		Selles				
		MELSEC-Q Series ^1	Basic model			
			High performance	model		
			Universal model			
		MELSEC-L Series	LCPU			
		*1 Not applicable to QCPU (A mode)				



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Item	Description						
	Engineering	GX Works2 *1	GX Works2 *1				
	software	Language	Software version				
		Japanese version	Version1.86Q or later				
		English version	Version1.24A or later				
		Chinese (Simplified) version	Version1.49B or later				
		Chinese (Traditional) version Version1.49B or later					
		Korean version	Version1.49B or later				
		*1 For software versions application	able to the modules used, refer to	o			
		"Relevant manuals".					
Programming	Ladder						
language							
Number of steps	333 steps (for MELSEC-Q series universal model CPU)						
	*The number of steps of the FB in a program depends on the CPU model that is used and						
	input and output definition.						
Function description	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 (Exe	cution command) is turned ON, t	he FB is completed by one scan	۱.			
	4) When the target a	exis setting value is out of range,	the FB_ERROR output turns ON	١,			
	processing is inte	processing is interrupted, and the error code is stored in ERROR_ID (Error code).					
	Refer to the error	code explanation section for deta	ails.				
Compiling method	Macro type						



Item	Description						
Restrictions and	1) The FB does not include error recovery processing. Program the error recovery						
precautions	processing separately in accordance with the required system operation.						
	2) The FB cannot be used in an interrupt program.						
	3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do						
	not use this FB in programs that are only executed once such as a subroutine,						
	FOR-NEXT loop, etc. because it is impossible to turn OFF.						
	4) When two or more of these FBs are used, precaution must be taken to avoid repetition of						
	the target axis.						
	5) This FB uses index registers Z8 and Z9. Please do not use these index registers in an						
	C) Even vinput must be provided with a value for proper EB exercise						
	6) Every input must be provided with a value for proper FB operation.						
	7) The pulse output mode and external I/O signal logic, etc. must be properly conligured to						
	hy making the GX Works? switch setting according to the application						
	For details on how to use the intelligent function module switch setting refer to GX						
	Works2 Operating Manual (Common)						
	Pulsed execution (1 scan execution type)						
Application example	Poter to "Appendix 1. EP Library Application Examples"						
Timing chart	[When operation completes without error] [When an error occurs]						
-							
	(Execution command)						
	FB_ENO(Execution status)						
	Positioning data setting Write processing Write Write processing Write pro						
	FB_OK(Positioning data						
	FB_ERROR(Error flag) FB_ERROR(Error flag)						
	ERROR_ID(Error 0 Error code)						
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual						
	•MELSEC-L LD75P/LD75D Positioning Module User's Manual						
	•QCPU User's Manual (Hardware Design, Maintenance and Inspection)						
	•MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection)						
	•GX Works2 Version 1 Operating Manual (Common)						
	•GX Works2 Version 1 Operating Manual (Simple Project, Function Block)						



Error code list

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

Labels

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



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



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



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Name (Comment)	Label name	Data	Setting range Description	
		type		
			1Ah: ABS4 4-axis linear	
			interpolation control	
			(ABS)	
			1Bh: INC4 4-axis linear	
			interpolation control	
			(INC)	
			1Ch: FEED4 fixed-feed	
			control by 4-axis	
			linear interpolation	
			control	
			1Dh: VF4 4-axis speed	
			control (forward run)	
			1Eh: VR4 4-axis speed	
			control (reverse run)	
			80h: NOP NOP instruction	
			81h: POS current value	
			changing	
			82h: JUMP JUMP	
			instruction	
			83h: LOOP declares the	
			beginning of LOOP	
			to LEND section	
			84h: LEND declares the	
			end of LOOP to	
			LEND section	
Da.3: Acceleration	i_AccTimeNo	Word	0: Acceleration time 0	Set which of "acceleration
time No.			1: Acceleration time 1	time 0 to 3" to use for the
			2: Acceleration time 2	acceleration time during
			3: Acceleration time 3	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	Setting range	Description
		type		
Da.4: Deceleration	i_DecTimeNo	Word	0: Deceleration time 0	Set which of "deceleration
time No.			1: Deceleration time 1	time 0 to 3" to use for the
			2: Deceleration time 2	deceleration time during
			3: Deceleration time 3	positioning.
				*If the invalid range of 4 or
				higher is set, bit 0 and 1
				will be used. (For
				instance, when 4 is set,
				the operation will be
				performed under 0.)
Da.5: Axis to be	i_InterpolatedAx	Word	0: Axis 1	Set the target axis for
interpolated			1: Axis 2	operations under the
			2: Axis 3	2-axis interpolation
			3: Axis 4	control.
				Do not specify the own
				axis number or any
				number except the
				numbers in the setting
				range.
				Set "0" for operations
				under no interpolation, or
				3 or 4-axis interpolation.



Name (Comment)	Label name	Data	Setting range	Description
		type		
Da.10: M code	I_Mcode	Word	Da.2: Control system =	Set the "condition data
			82h: JUMP	No.", "number of
			instruction	repetitions", or "M code"
			0~10	depending on how the
			Da.2: Control system =	"control system" is set.
			83h: LOOP	*1: Setting method
			1~65,535*1	•1~32,767: Set in decimal.
			Da.2: Control system =	•32,768~65,535: Set after
			other than above	converted into
			0~65,535*2	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 =	Set the "positioning data
			82h: JUMP	No." or "dwell time"
			instruction	corresponding to the
			1~600	"control system".
			Da.2: Control system =	*1: Setting method
			82h: other than	•0~32,767: Set in decimal.
			JUMP instruction	•32,768~65,535: Set after
			0~65,535*1	converted into
				hexadecimal.
Da.8: Command	i_CommandSpeed	Double	1) Pr.1: Unit setting = $0 \sim 2$:	Set the command speed
speed		Word	1~2,000,000,000	for positioning.
			2) Pr.1: Unit setting = 3:	*1: The speed set for
			QD75: 1~1,000,000	previous positioning
			QD75N: 1~4,000.000	data No. will be used for
			LD75: 1~4.000.000	positioning control.
			-1: Current speed*1	
			(Speed set for previous	
			positioning data No.)	



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



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

FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_PosiDataSet function block.

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



2.8 M+D75_CPUReady (PLC ready signal ON)

FB Name

M+D75_CPUReady

Item	Description		
Function overview	Outputs PLC ready signal.		
Symbol		M+D75_	CPUReady
	Execution command—	B : FB_EN	FB_ENO : B Execution status
	Module start XY address —	W : i_Start_IO_No	FB_OK : B —— Signal ON complete
			FB_ERROR : B Error flag
			ERROR_ID : W Error code
Applicable hardware	Positioning Module		
and software		Series	Model
		MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N,
			QD75D1N, QD75D2N, QD75D4N,
			QD75P1, QD75P2, QD75P4, QD75D1,
			QD75D2, QD75D4
		MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1,
			LD75D2, LD75D4
	CPU module		
		Series	Model
		MELSEC-Q Series *1	Basic model
			High performance model
			Universal model
		MELSEC-L Series	LCPU
		*1 Not applicable to QC	PU (A mode)



Item	Description			
	Engineering	GX Works2 *1		
	software	Language	Software version	
		Japanese version	Version1.86Q or later	
		English version	Version1.24A or later	
		Chinese (Simplified) version	Version1.49B or later	
		Chinese (Traditional) version	Version1.49B or later	
		Korean version	Version1.49B or later	
		*1 For software versions applicabl	e to the modules used, refer to	
		"Relevant manuals".		
Programming	Ladder			
language				
Number of steps	245 steps (for MELSE	C-Q series universal model CPU)		
	*The number of steps	of the FB in a program depends of	n the CPU model that is used and	
	input and output de	finition.		
Function description	1) By turning ON FB_EN (Execution command), the CPU ready signal (Yn0) is turned ON.			
	2) After FB_EN (Exec	2) After FB_EN (Execution command) is turned ON, the FB is completed by one scan.		
Compiling method	Macro type			
Restrictions and	1) The FB does not include error recovery processing. Program the error recovery			
precautions	processing separat	ely 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, e	tc. because it is impossible to turn	OFF.	
	4) This FB uses index	register Z9. Please do not use this	s index register in an interrupt	
	program.			
	5) Every input must be	e provided with a value for proper I	B operation.	
	6) When FB_EN (Exe	cution command) is turned ON fror	n OFF, the OFF time should be set	
	to 100 ms or longer	r.		
	7) The pulse output mode and external I/O signal logic, etc. must be properly configured to			
	match devices and	systems connected to the QD75 o	r LD75. Configure these settings	
	by making the GX \	Norks2 switch setting according to	the application.	
	For details on how	to use the intelligent function modu	le switch setting, refer to GX	
	Works2 Operating	Manual (Common).		
FB operation type	Real-time execution			
Application example	Refer to "Appendix 1 -	FB Library Application Examples"		



Item	Description
Timing chart	FB_EN (Execution command) FB_ENO(Execution status) PLC ready (Yn0) FB_OK(Signal ON complete) FB_ERROR(Error flag) ERROR_ID(Error code)
Relevant manuals	 Type QD75P/QD75D Positioning Module User's Manual MELSEC-L LD75P/LD75D Positioning Module User's Manual QCPU User's Manual (Hardware Design, Maintenance and Inspection) MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

•Error code list

Error code	Description	Action
None	None	None

Labels

Input labels

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



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

FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_CPUReady function block.

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



2.9 M+D75_StartPosi (Positioning start)

FB Name

M+D75_StartPosi

Item	Description		
Function overview	Starts positioning.		
Symbol			
	Execution command—		5_StartPosi
	Module start XY address —	W : i Start IO No	
	Target axis		
	Cd.3: Positioning start No.—		
Applicable hardware	Positioning		
and software	Module	Series	Model
		MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N,
			QD75D1N, QD75D2N, QD75D4N,
			QD75P1, QD75P2, QD75P4, QD75D1,
			QD75D2, QD75D4
		MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1,
			LD75D2, LD75D4
	CPU module		
		Series	Model
		MELSEC-Q Series *1	Basic model
			High performance model
			Universal model
		MELSEC-L Series	LCPU
		*1 Not applicable to QC	PU (A mode)



Item	Description			
	Engineering	GX Works2 *1		
	software	Language	Software version	
		Japanese version	Version1.86Q or later	
		English version	Version1.24A or later	
		Chinese (Simplified) version	Version1.49B or later	
		Chinese (Traditional) version	Version1.49B or later	
		Korean version	Version1.49B or later	
		*1 For software versions applicat	ble to the modules used, refer to	
		"Relevant manuals".		
Programming	Ladder			
language				
Number of steps	320 steps (for MELS	EC-Q series universal model CPL	J)	
	*The number of step	s of the FB in a program depends	on the CPU model that is used and	
	input and output d	efinition.		
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 (Yn10) is turned ON.	
	3) When FB_EN (Ex	ecution command) is turned ON, t	the following conditions must be	
	satisfied to turn O	N the positioning start signal (Yn1	0).	
	When the following conditions are not satisfied, the positioning start signal (Yn10) is not			
	turned ON, but FB_OK (Execution complete) is turned ON. (In this case, warnings at			
	start will not occur.)			
	[Conditions]			
	QD75/LD75 ready signal (Xn0): ON, Positioning start signal (Yn10): OFF, Start complete			
	signal (Xn10): OFF, BUSY signal (XnC): OFF			
	4) After FB_EN (Execution command) is turned ON, the FB is completed in multiple scans.			
	5) When the start complete signal (Xn10) is ON or FB_EN (Execution command) is OFF,			
	the positioning sta	art signal (Yn10) is turned OFF.		
	6) When the target a	xis setting value is out of range, the	THE FB_ERROR OUTput turns ON,	
	Processing is intel	processing is interrupted, and the error code is stored in ERROR_ID (Error code).		
Compiling reath ad		coue explanation section for detail	15.	
Compliing method	імасто туре			



Item	Description		
Restrictions and	1) The FB does not include error recovery processing. Program the error recovery		
precautions	processing separately in accordance with the required system operation.		
	2) The FB cannot be used in an interrupt program.		
	3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do		
	not use this FB in programs that are only executed once such as a subroutine,		
	FOR-NEXT loop, etc. because it is impossible to turn OFF.		
	4) When two or more of these FBs are used, precaution must be taken to avoid repetition of		
	the target axis.		
	5) This FB uses index registers Z6 to Z9. Please do not use these index registers in an		
	interrupt program.		
	6) When this FB is used in two or more places, a duplicated coil warning may occur during		
	compile operation due to the Y signal being operated by index modification. However		
	this is not a problem and the FB will operate without error.		
	7) The data is not set at start in the FB. Data necessary for each control of start No. must be		
	set in the parameters and buffer memory beforehand.		
	8) Every input must be provided with a value for proper FB operation.		
	s) The pulse output mode and external I/O signal logic, etc. must be properly configured to match devices and systems connected to the ODZ5 or LDZ5. Configure these settings		
	match devices and systems connected to the QD/5 or LD/5. Configure these settings		
	by making the GX Works2 switch setting according to the application.		
	For details on now to use the intelligent function module switch setting, refer to GX		
	Pulsed execution (multiple scen execution type)		
	Polsed execution (multiple scan execution type)		
Timing chart	[When operation completes without error] [When an error occurs]		
Thining chart			
	(Execution command)		
	status)		
	Cd.3: Positioning start 0 Start No. Cd.3: Positioning start 0 No. Positioning start signal No. No. No.		
	(Yn10) Start complete signal		
	(Xn10) EB_OK(Execution		
	complete) FB_ERROR(Error flag)		
	ERROR ID(Error 0 Error code 0		
	code)		



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

O E	rror	code	list
-		0000	

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

Labels

Input labels

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



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

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

FB Version Upgrade History

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

Note

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

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



2.10 M+D75_JOG (JOG/inching operation)

FB Name

M+D75_JOG

Item	Description				
Function overview	Carries out JOG and inching operation.				
Symbol			M	+D75 JOG	
	Execution comma	nd ——	B : FB_EN	- FB_ENO : B	——Execution status
	Module start XY addre	ss——	W : i_Start_IO_No	FB_OK : B	
	Target a	xis ——	W : i_Axis	FB_ERROR : B	——Error flag
	Forward run JOG comma	nd ——	B : i_FowardJOG	ERROR_ID : W	Error code
	Reverse run JOG comma	nd ——	B : i_ReverseJOG		
	Cd.17: JOG spe	ed——	D : i_JOGSpeed		
	Cd.16: Inching movement amou	unt	W : i_Inching		
Applicable hardware	Positioning				
and software	Module		Series	Model	
		ME	LSEC-Q Series	QD75P1N, QD75P2N, QD75P4N,	
				QD75D1N, QD75D2N, QD75D4N,	
				QD75P1, QD75P2, QD7	75P4, QD75D1,
				QD75D2, QD75D4	
		ME	LSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1,	
				LD75D2, LD75D4	
	CPU module				
			Series	Model	
		ME	LSEC-Q Series *1	Basic model	
				High performance model	
				Universal model	
		ME	LSEC-L Series	LCPU	
		*1 N	ot applicable to QC	PU (A mode)	



Item	Description					
	Engineering	GX Works2 *1				
	software	Language	Software version			
		Japanese version	Version1.86Q or later			
		English version	Version1.24A or later			
		Chinese (Simplified) version	Version1.49B or later			
		Chinese (Traditional) version	Version1.49B or later			
		Korean version	Version1.49B or later			
		*1 For software versions applica	ble to the modules used, refer to			
		"Relevant manuals".				
Programming	Ladder					
language						
Number of steps	383 steps (for MELS	EC-Q series universal model CP	U)			
	*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) 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_FowardJ0	DG (Forward run JOG command)	and i_ReverseJOG (Reverse run			
	JOG command) a	re simultaneously turned ON, the	e operation stops.			
	4) After FB_EN (Exe	cution command) is turned ON, t	he operation will stop if FB_EN			
	(Execution comma	and) is turned OFF during i_Fowa	ardJOG (Forward run JOG command)			
	or i_ReverseJOG	(Reverse run JOG command) op	peration.			
	5) The operation will	stop if i_ReverseJOG (Reverse	run JOG command) is turned ON			
	during the forward	I run JOG operation. When i_Rev	verseJOG (Reverse run JOG			
	command) is turn	ed OFF from ON, the forward run	JOG operation will start again. (Work			
	in the same way f	or the opposite operation.)				
	6) When the target a	xis setting value is out of range,	the FB_ERROR output turns ON,			
	processing is interrupted, and the error code is stored in ERROR_ID (Error code).					
	Refer to the error	Refer to the error code explanation section for details.				
Compiling method	Macro type					



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



Item	Description				
Timing chart	[When operation completes without error]				
	(When 1-axis operation is performed)				
	Forward run JOG operation (Inching movement amount 0) 0) Forward run inching operation(Inching movement amount other than 0)				
	FB_EN (Execution command) 0) FB_EN (Execution command) FB_EN(Execution status) FB_EN(Execution status) Forward run JOG command FB_EN(Execution status) Forward run JOG command FB_EN(Execution status) Forward run JOG start signal (Yn8) FB_EN(Execution status) Reverse run JOG start signal (Yn9) FB_EN(Execution status) BUSY signal (XnC) FB_ERROR(Error flag) FB_ERROR(Error flag) FB_ERROR(Error flag) ERROR_ID(Error code) 0 (When an error occurs] FB_EN (Execution command)				
	FB_ENO(Execution status) Forward run JOG command Reverse run JOG command Forward run JOG start signal (Yn8) Reverse run JOG start signal (Yn9) BUSY signal (XnC) FB_OK(Operation started) FB_ERROR(Error flag) ERROR_ID(Error code)				
Relevant manuals	•Type OD75P/OD75D Positioning Module User's Manual				
Refevant manuals	•MELSEC-L LD75P/LD75D Positioning Module User's Manual				
	•QCPU User's Manual (Hardware Design, Maintenance and Inspection)				
	•MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection)				
	•GX Works2 Version 1 Operating Manual (Common)				
	•GX Works2 Version 1 Operating Manual (Simple Project, Function Block)				



Error code list

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

Labels

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



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

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

FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_JOG function block.

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



2.11 M+D75_MPG (Manual pulse generator operation)

FB Name

M+D75_MPG

Item	Description			
Function overview	Carries out manual pulse generator operation.			
Symbol	Execution con Module start XY a Targ Cd.20: Manual pulse generator 1 puls magnif	M+D M+D B : FB_EN ddress W : i_Start_IO_No let axis W : i_Axis e input D : i_MPGInputMag	75_MPG FB_ENO : B — Execution status FB_OK : B — Manual pulse generator enable complete FB_ERROR : B — Error flag ERROR_ID : W — Error code	
Applicable hardware	Positioning			
and software	Module	Series	Model	
		MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N,	
			QD75D1N, QD75D2N, QD75D4N,	
			QD75P1, QD75P2, QD75P4, QD75D1,	
			QD75D2, QD75D4	
		MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1,	
			LD75D2, LD75D4	
	CPU module			
		Series	Model	
		MELSEC-Q Series *1 Basic model High performance model		
			Universal model	
		MELSEC-L Series	LCPU	
		*1 Not applicable to QCPU (A mode)		



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


Item	Description				
Restrictions and	1) The FB does not include error recovery processing. Program the error recovery				
precautions	processing separately in accordance with the required system operation.				
	2) The FB cannot be used in an interrupt program.				
	3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do				
	not use this FB in programs that are only executed once such as a subroutine,				
	FOR-NEXT loop, etc. because it is impossible to turn OFF.				
	4) Do not change i_Axis (Target axis) while FB_EN (Execution command) is turned ON.				
	5) When two or more of these FBs are used, precaution must be taken to avoid repetition of				
	the target axis.				
	6) This FB uses index registers Z6 to Z9. Please do not use these index registers in an				
	interrupt program.				
	7) Every input must be provided with a value for proper FB operation.				
	8) The pulse output mode and external I/O signal logic, etc. must be properly configured to				
	match devices and systems connected to the QD75 or LD75. Configure these settings				
	by making the GX Works2 switch setting according to the application.				
	For details on how to use the intelligent function module switch setting, refer to GX				
	Works2 Operating Manual (Common).				
FB operation type	Real-time execution				
Application example	Refer to "Appendix 1 - FB Library Application Examples"				
Timing chart	[When operation completes without error] [When an error occurs]				
	(When 1-axis operation is performed)				
	FB_EN (Execution command)				
	FB_ENO(Execution status)				
	status) status) Cd.21: Manual pulse 0 0 1 0 Cd.21: Manual pulse				
	generator enable flag 0 BUSY signal (XnC) BUSY signal (XnC)				
	FB_OK(Manual pulse generator enable complete)				
	FB_ERROR(Error flag) FB_ERROR(Error flag)				
	ERROR_ID(Error 0 Error code 0 Error code 0				
Delevent menuels					
Relevant manuals	Type QD75P/QD75D Positioning Module User's Manual				
	•MELSEC-L LD75P/LD75D Positioning Module User's Manual				
	•QCPU User's Manual (Hardware Design, Maintenance and Inspection)				
	•WELSEC-L CPO Woodule User's Manual (Hardware Design, Maintenance and Inspection)				
	•GA Works2 Version 1 Operating Manual (Common)				
	•GX vvorks2 version 1 Operating Manual (Simple Project, Function Block)				



Error Codes

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

Labels

Input labels

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

Output labels

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



FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_MPG function block.

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



2.12 M+D75_ChgSpeed (Speed change)

FB Name

M+D75_ChgSpeed

Item	Description			
Function overview	Executes speed change.			
Symbol				
		M+D75_Chg	Speed	
	Execution command	B : FB_EN	FB_ENO : B Execution status	
	Module start XY address ——	W : i_Start_IO_No	FB_OK : B Speed change request complete	
	Target axis	W : i_Axis	FB_ERROR : B Error flag	
	Cd.14: New speed value	D : i_SpeedChgValue	ERROR_ID : W Error code	
Applicable hardware	Positioning			
and software	Module	Series	Model	
		MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N,	
			QD75D1N, QD75D2N, QD75D4N,	
			QD75P1, QD75P2, QD75P4, QD75D1,	
		QD75D2, QD75D4		
		MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1,	
			LD75D2, LD75D4	
	CPU module			
		Series	Model	
		MELSEC-Q Series *1	Basic model	
			High performance model	
			Universal model	
		MELSEC-L Series	LCPU	
		*1 Not applicable to QCPU (A mode)		



Item	Description				
	Engineering	GX Works2 *1			
	software	Language	Software version		
		Japanese version	Version1.86Q or later		
		English version	Version1.24A or later		
		Chinese (Simplified) version	Version1.49B or later		
		Chinese (Traditional) version	Version1.49B or later		
		Korean version	Version1.49B or later		
		*1 For software versions applicable to the modules used, refer to			
		"Relevant manuals".			
Programming	Ladder				
language					
Number of steps	286 steps (for MELSEC-Q series universal model CPU)				
	*The number of steps of the FB in a program depends on the CPU model that is used and				
	input and output definition.				
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 (Exe	cution command) is turned ON, the	e FB is completed in multiple scans.		
	3) When the target axis setting value is out of range, the FB_ERROR output turns ON,				
	processing is interrupted, and the error code is stored in ERROR_ID (Error code).				
	Refer to the error code explanation section for details.				
Compiling method	Macro type				



Item	Description				
Restrictions and	1) The FB does not include error recovery processing. Program the error recovery				
precautions	processing separately in accordance with the required system operation.				
	2) The FB cannot be used in an interrupt program.				
	3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do				
	not use this FB in programs that are only executed once such as a subroutine,				
	FOR-NEXT loop, etc. because it is impossible to turn OFF.				
	4) When two or more of these FBs are used, precaution must be taken to avoid repetition of				
	the target axis.				
	5) This FB uses index registers Z7 to Z9. Please do not use these index registers in an				
	interrupt program.				
	6) Every input must be provided with a value for proper FB operation.				
	7) If FB_EN (Execution command) is turned ON while the BUSY signal (XnC) is OFF, the				
	request will be ignored. In this case, FB_OK (Speed change request complete) is not				
	turned ON.				
	8) The pulse output mode and external I/O signal logic, etc. must be properly configured to				
	match devices and systems connected to the QD75 or LD75. Configure these settings				
	by making the GX Works2 switch setting according to the application.				
	For details on how to use the intelligent function module switch setting, refer to GX				
	Works2 Operating Manual (Common).				
FB operation type	Pulsed execution (multiple scan execution type)				
Application example	Refer to "Appendix 1 - FB Library Application Examples"				
Timing chart	[When operation completes without error] [When an error occurs]				
	FB_EN (Execution command)				
	FB_ENO(Execution status) FB_ENO(Execution status)				
	Cd.14: New speed value				
	Cd.15: Speed change 0 1 0 Cd.15: Speed change 0				
	FB_OK(Speed change request complete) FB_OK(Speed change request complete)				
	FB_ERROR(Error flag) FB_ERROR(Error flag)				
	ERROR_ID(Error 0 Error code 0 Error code 0				
Relevant manuals	•Type OD75P/OD75D Positioning Module User's Manual				
	•MELSEC-LLD75P/LD75D Positioning Module User's Manual				
	•OCPULIser's Manual (Hardware Design, Maintenance and Inspection)				
	•MELSEC-L CPLL 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	Description	Action
10 (Decimal)	The specified target axis is not valid.	Please try again after confirming the setting.
	The target axis is not within the range of	
	1 to 4.	

Labels

Input labels

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

Output labels

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



FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_ChgSpeed function block.

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



2.13 M+D75_ChgOverride (Override)

FB Name

M+D75_ChgOverride

Item	Description				
Function overview	Makes an override.				
Symbol					
			M+D	75_ChgOverride]
	Execution c	command B	: FB_EN	FB_ENO : E	B Execution status
	Module start XY	′address——W	:i_Start_IO_No	FB_OK : E	Override value setting complete
	Ta	arget axis — W	: i_Axis	FB_ERROR : E	B Error flag
	Cd.13: Positioning operation speed	d override — W	: i_Override	ERROR_ID : WError code	
Applicable hardware	Positioning				
and software	Module	Series		Мос	lel
		MELSE	C-Q Series	QD75P1N, QD75P2N, QD75P4N,	
		MELSEC-L Series		QD75D1N, QD75D2N, QD75D4N,	
				QD75P1, QD75P2, QD75P4, QD75D1,	
				QD75D2, QD75D4	
				LD75P1, LD75P2, LD75P4, LD75D1,	
				LD75D2, LD75D4	
	CPU module				
		Ś	Series	Мос	lel
		MELSEC-Q Series *1 B H U MELSEC-L Series Lu *1 Not applicable to QCPU		Basic model	
				High performance model	
				Universal model	
				-L Series LCPU	
				PU (A mode)	



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



Description				
1) The FB does not include error recovery processing. Program the error recovery				
processing separately in accordance with the required system operation.				
2) The FB cannot be used in an interrupt program.				
3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do				
not use this FB in programs that are only executed once such as a subroutine,				
FOR-NEXT loop, etc. because it is impossible to turn OFF.				
4) When two or more of these FBs are used, precaution must be taken to avoid repetition of				
the target axis.				
5) This FB uses index registers Z7 to Z9. Please do not use these index registers in an				
interrupt program.				
6) Every input must be provided with a value for proper FB operation.				
7) The pulse output mode and external I/O signal logic, etc. must be properly configured to				
match devices and systems connected to the QD75 or LD75. Configure these settings				
by making the GX Works2 switch setting according to the application.				
For details on how to use the intelligent function module switch setting, refer to GX				
Works2 Operating Manual (Common).				
Pulsed execution (1 scan execution type)				
Refer to "Appendix 1 - FB Library Application Examples"				
[When operation completes without error] [When an error occurs]				
FB_EN (Execution command)				
FB_ENO(Execution status)				
Co. 1.3: Positioning operation speed override FB_OK 100 New value Cd. 13: Positioning operation speed override FB_OK (Override value acting 0				
(Overlide value setting complete) (Overlide value setting complete) FB_ERROR(Error flag) FB_ERROR(Error flag)				
ERROR_ID(Error code) ERROR_ID(Error code) ERROR_ID(Error code) Error code				
•Type OD75P/OD75D Positioning Module User's Manual				
•MELSEC-LLD75P/LD75D Positioning Module User's Manual				
•OCPLUser'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.	Please try again after confirming the setting.
	The target axis is not within the range of	
	1 to 4.	

Labels

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



Output labels

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

FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_ChgOverride function block.

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



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

FB Name

M+D75_ChgAccDecTime

Item	Description			
Function overview	Changes the setting value of the acceleration/deceleration time.			
Symbol	Execution com Module start XY ac Targ Acceleration/deceleration time change ena Cd.10: New acceleration time Cd.11: New deceleration time	M+D75_ChgA Imand B : FB_EN Idress W : i_Start_IO_No et axis W : i_Axis ble flag B : i_Enable evalue D : i_NewAccTime evalue D : i_NewDecTime	ccDecTime FB_ENO : B Execution status FB_OK : B Acceleration/deceleration time change complete FB_ERROR : B Error flag ERROR_ID : W Error code	
Applicable hardware	Positioning			
and software	Module	Series	Model	
		MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N,	
			QD75D1N, QD75D2N, QD75D4N,	
			QD75P1, QD75P2, QD75P4, QD75D1,	
			QD75D2, QD75D4	
		MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1,	
			LD75D2, LD75D4	
			J	
	CPU module			
		Series	Model	
		MELSEC-Q Series *1	Basic model	
			High performance model	
			Universal model	
		MELSEC-L Series	LCPU	
		*1 Not applicable to QC	PU (A mode)	



Item	Description				
	Engineering	GX Works2 *1			
	software	Language	Software version		
		Japanese version	Version1.86Q or later		
		English version	Version1.24A or later		
		Chinese (Simplified) version	Version1.49B or later		
		Chinese (Traditional) version	Version1.49B or later		
		Korean version	Version1.49B or later		
		*1 For software versions applicab	le to the modules used, refer to		
		"Relevant manuals".			
Programming	Ladder				
language					
Number of steps	307 steps (for MELS	EC-Q series universal model CPU)		
	*The number of step	s 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 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 (C	d.10: New acceleration time value) and i_NewDecTime (Cd.11: New		
	deceleration time	value) are set, and Cd.12: Acceler	ation/deceleration time change		
	during speed char	nge, enable/disable selection is ch	anged to 1:		
	Acceleration/dece	eleration time change enable.			
	When i_Enable (A	Acceleration/deceleration time char	nge enable flag) is OFF, both		
	i_NewAccTime (C	2d.10: New acceleration time value) and i_NewDecTime (Cd.11: New		
	deceleration time	value) are not changed, and Cd.12	2: Acceleration/deceleration time		
	change during spo	eed change, enable/disable selecti	on is changed to 0:		
	Acceleration/dece	eleration time change disable.			
	2) When the target axis setting value is out of range, the FB_ERROR output turns ON,				
	processing is inte	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	1) The FB does not include error recovery processing. Program the error recovery				
precautions	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 e	executed once such as a subroutine,			
	FOR-NEXT loop, etc. because it is impossible to turn OFF.				
	4) When two or more of these FBs are used, precaution must be taken to avoid repetition of				
	the target axis.	the target axis.			
	5) This FB uses index registers Z7 to Z9. Plea	ase do not use these index registers in an			
	interrupt program.				
	6) A duplicated coil warning may occur with the	nis FB during compile operation. However this			
	is not a problem and the FB will operate wi	ithout error.			
	7) Every input must be provided with a value	for proper FB operation.			
	8) The pulse output mode and external I/O sig	gnal logic, etc. must be properly configured to			
	match devices and systems connected to t	the QD75 or LD75. Configure these settings			
	by making the GX Works2 switch setting according to the application.				
	For details on how to use the intelligent function module switch setting, refer to GX				
	Works2 Operating Manual (Common).				
FB operation type	Pulsed execution (1 scan execution type)				
Application example	Refer to "Appendix 1 - FB Library Application Examples"				
Timing chart	[When operation completes without error]				
	(Cd.12: When enabling the acceleration/ (Cd.12: When disabling the acceleration/				
	deceleration time change during speed	deceleration time change during speed			
	change, enable/disable selection)	change, enable/disable selection)			
	FB_EN (Execution command)	FB_EN (Execution command)			
	FB_ENO(Execution status)	FB_ENO(Execution status)			
	Acceleration/deceleration time change enable flag (enable)	Acceleration/deceleration time change enable flag (enable)			
	Cd.10: New acceleration time value	Cd.10: New acceleration time value			
	Cd.11: New deceleration time value New value	Cd.11: New deceleration time value			
	Cd.12: Acc/Dec time change during speed change, enable/ directle calection 1	Cd.12: Acc/Dec time change			
	FB_OK(Acc/Dec time change complete)	FB_OK(Acc/Dec time change complete)			
	FB_ERROR(Error flag)	FB_ERROR(Error flag)			
	ERROR_ID(Error code) 0	ERROR_ID(Error code) 0			



Item	Description		
	[When an error occurs] FB_EN (Execution command) FB_ENO(Execution status) Acceleration/deceleration time change enable flag (disable) Cd.10: New acceleration time value Cd.11: New deceleration time value Cd.11: New deceleration time value Cd.12: Acc/Dec time change during speed change, enable/ change complete) FB_ERROR(Error flag) FB_ERROR(Error code) ERROR_ID(Error code)		
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual		
	•MELSEC-L LD75P/LD75D Positioning Module User's Manual		
	 QCPU User's Manual (Hardware Design, Maintenance and Inspection) 		
	•MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection)		
	•GX Works2 Version 1 Operating Manual (Common)		
	•GX Works2 Version 1 Operating Manual (Simple Project, Function Block)		



Error Codes

Error code list

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

Labels

	npu	t la	be	ls
•	i ipu		20	5

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



Name (Comment)	Label name	Data	Setting range	Description
		type		
Cd.11: New	i_NewDecTime	Double	0~8,388,608(ms)	Set the new deceleration
deceleration time		Word		time.
value				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	Initial	Description
		type	value	
Execution status	FB_ENO	Bit	OFF	ON: Execution command is ON.
				OFF: Execution command is OFF.
Acceleration/deceleration	FB_OK	Bit	OFF	When ON, it indicates that the setting of
time change complete				Acceleration/deceleration time change is
				completed.
Error flag	FB_ERROR	Bit	OFF	When ON, it indicates that an error has
				occurred.
Error code	ERROR_ID	Word	0	FB error code output.

FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_ChgAccDecTime function block.

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



2.15 M+D75_ChgPosi (Target position change)

FB Name

M+D75_ChgPosi

Item	Description		
Function overview	Changes the target position.		
Symbol	Execution of Module start X1 T: Cd.27: Target position change value (ne Cd.28: Target position change value (ne	M+D7 B : FB_EN V address W : i_Start_IO_No arget axis W : i_Axis v address) D : i_PosiChgAddr w speed) D : i_PosiChgSpeed	5_ChgPosi FB_ENO : B — Execution status FB_OK : B — Target position change acceptance complete FB_ERROR : B — Error flag ERROR_ID : W — Error code
Applicable hardware	Positioning		
and software	Module	Series	Model
		MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N,
			QD75D1N, QD75D2N, QD75D4N,
			QD75P1, QD75P2, QD75P4, QD75D1,
			QD75D2, QD75D4
		MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1,
			LD75D2, LD75D4
			·
	CPU module		
		Series	Model
		MELSEC-Q Series *1	Basic model
			High performance model
			Universal model
		MELSEC-L Series	LCPU
		*1 Not applicable to QC	PU (A mode)



Item	Description			
	Engineering	GX Works2 *1		
	software	Language	Software version	
		Japanese version	Version1.86Q or later	
		English version	Version1.24A or later	
		Chinese (Simplified) version	Version1.49B or later	
		Chinese (Traditional) version	Version1.49B or later	
		Korean version	Version1.49B or later	
		*1 For software versions applica	ble to the modules used, refer to	
		"Relevant manuals".		
Programming	Ladder			
language				
Number of steps	315 steps (for MELSEC-Q series universal model CPU)			
	*The number of step	s of the FB in a program depends	s on the CPU model that is used and	
	input and output d	efinition.		
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)). Also the command speed is changed to the value set for i_PosiChgSpeed			
	(Cd.28: Target po	(Cd.28: Target position change value (new speed)) simultaneously.		
	2) After FB_EN (Execution command) is turned ON, the FB is completed in multiple scans.			
	3) When the target axis setting value is out of range, the FB_ERROR output turns ON,			
	processing is interrupted, and the error code is stored in ERROR_ID (Error code).			
	Refer to the error	code explanation section for deta	ails.	
Compiling method	Macro type			



Item Description				
Restrictions and 1) The FB does not include error recovery processing. Program the error recovery	1) The FB does not include error recovery processing. Program the error recovery			
precautions processing separately in accordance with the required system operation.	processing separately in accordance with the required system operation.			
2) The FB cannot be used in an interrupt program.	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 proc	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,	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.	FOR-NEXT loop, etc. because it is impossible to turn OFF.			
4) When two or more of these FBs are used, precaution must be taken to avoid rep	etition of			
the target axis.				
5) This FB uses index registers Z7 to Z9. Please do not use these index registers i	in an			
interrupt program.				
6) Every input must be provided with a value for proper FB operation.				
7) If FB_EN (Execution command) is turned ON while the BUSY signal (XnC) is O	FF, the			
request will be ignored. In this case, FB_OK (Target position change complete)	is not			
turned ON.				
8) The pulse output mode and external I/O signal logic, etc. must be properly confi	8) The pulse output mode and external I/O signal logic, etc. must be properly configured to			
match devices and systems connected to the QD75 or LD75. Configure these s	match devices and systems connected to the QD75 or LD75. Configure these settings			
by making the GX Works2 switch setting according to the application.				
For details on how to use the intelligent function module switch setting, refer to	GX			
Works2 Operating Manual (Common).				
FB operation type Pulsed execution (multiple scan execution type)				
Application example Refer to "Appendix 1 - FB Library Application Examples"				
Timing chart [When operation completes without error] [When an error occurs]				
FB_EN (Execution command)	•			
FB_ENO(Execution status)				
Cd.27: Target position change value (new value Current value New value Cd.27: Target position change value (new value				
address) address) Cd.28: Target position Current Value Cd.28: Target position				
Cd.29: Target position				
change request flag FB_OK				
acceptance complete) FB_ERROB(Error flag)				
ERROR_ID(Error 0 ERROR_ID(Error 0 Error cod	e 0			
code)	<			



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

Error codes

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

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	i_Start_IO_No	Word	Depends on the I/O point	Specify the starting XY
address			range. For details, refer to	address (in hexadecimal)
			the CPU user's manual.	where the D75 module is
				mounted. (For example,
				enter H10 for X10.)
Target axis	i_Axis	Word	1~4	Specify the axis number.
Cd.27: Target	i_PosiChgAddr	Double	1) Pr.1: Unit setting=2	When changing the target
position change		Word	ABS mode	position during a
value (new address)			0~35,999,999	positioning operation,
			INC mode	specify a new positioning
			-2,147,483,648~	address.
			2,147,483,647	
			2) Pr.1: Unit setting=Other	
			than 2	
			-2,147,483,648~	
			2,147,483,647	



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

Output labels

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

FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_ChgPosi function block.

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



2.16 M+D75_Restart (Restart)

FB Name

M+D75_Restart

Item	Description		
Function overview	Performs restart.		
Symbol		M.D76.D	
	Execution command—		FB ENO : B Execution status
	Module start XY address	-W:i_Start_IO_No	FB_OK : B Restart acceptance complete
	Target axis	-W : i_Axis	FB_ERROR : B Error flag
Applicable hardware	Positioning		
and software	Module	Series	Model
		MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N,
			QD75D1N, QD75D2N, QD75D4N,
			QD75P1, QD75P2, QD75P4, QD75D1,
			QD75D2, QD75D4
		MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1,
			LD75D2, LD75D4
	CPU module		
		Series	Model
		MELSEC-Q Series *1	Basic model
			High performance model
			Universal model
		MELSEC-L Series	LCPU
		*1 Not applicable to QC	PU (A mode)



Item	Description					
	Engineering	GX Works2 *1				
	software	Language	Software version			
		Japanese version	Version1.86Q or later			
		English version	Version1.24A or later			
		Chinese (Simplified) version	Version1.49B or later			
		Chinese (Traditional) version	Version1.49B or later			
		Korean version	Version1.49B or later			
		*1 For software versions application	able to the modules used, refer to			
		"Relevant manuals".				
Programming	Ladder					
language						
Number of steps	276 steps (for MELS	EC-Q series universal model CP	٧U)			
	*The number of step	s of the FB in a program depend	s on the CPU model that is used and			
	input and output d	efinition.				
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 is stored in ERROR_ID (Error code).					
	Refer to the error code explanation section for details.					
Compiling method	Macro type					



Item	Description					
Restrictions and	1) The FB does not include error recovery processing. Program the error recovery					
precautions	processing separately in accordance with the required system operation.					
	2) The FB cannot be used in an interrupt program.					
	3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do					
	not use this FB in programs that are only executed once such as a subroutine,					
	FOR-NEXT loop, etc. because it is impossible to turn OFF.					
	4) When two or more of these FBs are used, precaution must be taken to avoid repetition of					
	the target axis.					
	5) This FB uses index registers Z7 to Z9. Please do not use these index registers in an					
	interrupt program.					
	6) Every input must be provided with a value for proper FB operation.					
	7) If FB_EN (Execution command) is turned ON while the BUSY signal (X signal) is OFF,					
	the request will be ignored. In this case, FB_OK (Restart acceptance complete) is not					
	turned ON.					
	8) The pulse output mode and external I/O signal logic, etc. must be properly configured to					
	match devices and systems connected to the QD75 or LD75. Configure these settings					
	by making the GX Works2 switch setting according to the application.					
	For details on how to use the intelligent function module switch setting, refer to GX					
	Works2 Operating Manual (Common).					
FB operation type	Pulsed execution (multiple scan execution type)					
Application example	Refer to "Appendix 1 - FB Library Application Examples"					
Timing chart	[When operation completes without error] [When an error occurs]					
	FB_EN (Execution command)					
	FB_ENO(Execution status)					
	Cd.6: Restart command 0 1 0 Cd.6: Restart command 0					
	FB_OK(Restart acceptance complete) FB_OK(Restart acceptance complete)					
	FB_ERROR(Error flag)					
	ERROR_ID(Error code) ERROR_ID(Error code) Error code					
	Turne ODZED/ODZED Desitioning Medule Llear's Menuel					
Relevant manuals	• Type QD75P/QD75D Positioning Module User's Manual					
	•OCPLULser's Manual (Hardware Design, Maintenance and Inspection)					
	•MELSEC-I 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 Action 10 (Decimal) The specified target axis is not valid. The target axis is not within the range of 1 to 4. Please try again after confirming the setting.

Labels

Input labels

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



Output labels

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

FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_Restart function block.

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



2.17 M+D75_ErrorOperation (Error operation)

FB Name

M+D75_ErrorOperation

Item	Description			
Function overview	Monitors errors and	warnings, and performs e	error reset.	
Symbol	Execution command	M+D75_ErrorOperation B : FB_EN FB_ENO : B Execution status		
	Module start XY address	W : i_Start_IO_No	FB_OK : B Error reset processing complete	
	Target axis	W : i_Axis	o_UnitError : B Axis error detection	
	Error reset command——	B : i_ErrorReset	o_ErrorCode : W —— Axis error code	
			o_UnitWarning : B ——Axis warning detection	
			o_WarningCode : W Axis warning code	
			FB_ERROR : B Error flag	
			ERROR_ID : WError code	
Applicable hardware	Positioning			
and software	Module	Series	Model	
		MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N,	
			QD75D1N, QD75D2N, QD75D4N,	
			QD75P1, QD75P2, QD75P4, QD75D1,	
			QD75D2, QD75D4	
		MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1,	
			LD75D2, LD75D4	
	CPU module			
		Series	Model	
		MELSEC-Q Series *1	Basic model	
			High performance model	
			Universal model	
		MELSEC-L Series	LCPU	
		*1 Not applicable to QC	PU (A mode)	



Item	Description				
	Engineering	GX Works2 *1			
	software	Language	Software version		
		Japanese version	Version1.86Q or later		
		English version	Version1.24A or later		
		Chinese (Simplified) version	Version1.49B or later		
		Chinese (Traditional) version	Version1.49B or later		
		Korean version	Version1.49B or later		
		*1 For software versions applica	ble to the modules used, refer to		
		"Relevant manuals".			
Programming	Ladder				
language					
Number of steps	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) When FB_EN (Execution command) is turned ON, an error in the target axis is				
	monitored.				
	2) An error code is stored in o_ErrorCode (Axis error code) when a module error occurs.				
	3) After FB_EN (Execution command) is turned ON, an error is reset when i_ErrorReset				
	(Error reset command) is turned ON during error occurrence.				
	4) A warning can be reset by turning ON i_ErrorReset (Error reset command) even when a				
	module warning is occurring.				
	5) When the target axis setting value is out of range, the FB_ERROR output turns ON,				
	processing is interrupted, and the error code is stored in ERROR_ID (Error code).				
	Refer to the error code explanation section for details.				
Compiling method	Macro type				



Item	Description				
Restrictions and	1) The FB does not include error recovery processing. Program the error recovery				
precautions	processing separately in accordance with the required system operation.				
	2) The FB cannot be used in an interrupt program.				
	3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do				
	not use this FB in programs that are only executed once such as a subroutine,				
	FOR-NEXT loop, etc. because it is impossible to turn OFF.				
	4) When two or more of these FBs are used, precaution must be taken to avoid repetition of				
	the target axis.				
	5) This FB uses index registers Z7 to Z9. Please do not use these index registers in an				
	6) Do not change i_Axis (Target axis) while FB_EN (Execution command) is turned ON.				
	7) Every input must be provided with a value for proper FB operation.				
	8) The pulse output mode and external I/O signal logic, etc. must be properly configured to				
	match devices and systems connected to the QD75 or LD75. Configure these settings				
	by making the GX Works2 switch setting according to the application.				
	For details on how to use the intelligent function module switch setting, refer to GX				
	Works2 Operating Manual (Common).				
FB operation type	Real-time execution				
Application example	Refer to "Appendix 1 - FB Library Application Examples"				
Timing chart	[When operation completes without error] [When an error occurs]				
	FB_EN (Execution command) FB_EN([Execution status)) FB_EN([Execution status)) i_ErrorReset (Error reset command) Image: FB_EN (Execution command) Cd.5: Axis error reset X8 [*] B (error detection) Image: FB_EN (Execution command) 0_unitError (Axis error detection) Image: FB_EN (Error reset command) 0_unitError (Axis error detection) Image: FB_EN (Error reset command) 0_unitError (Axis error detection) Image: FB_EN (Error code) Md.31: status b9 Image: FB_EN (Error reset processing complete) FB_EROR(Error flag) Image: FB_EN (Execution command) FB_EN(Execution status) Image: FB_EN (Execution command) 0_unitWarning (Axis warning code) Image: FB_EN (Error reset processing complete) FB_ERROR(Error flag) Image: FB_ERROR(Error flag) ERROR_ID(Error code) Image: FB_ERROR(Error flag)				



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

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



Labels

Input labels

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

Output labels

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



FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_ErrorOperation function block.

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



2.18 M+D75_InitParam (Parameter initialization)

FB Name

M+D75_InitParam

Item	Description			
Function overview	Initializes parameters.			
Symbol	M+D75 InitParam			
	Execution command—	B : FB_EN	FB_ENO : B Execution status	
	Module start XY address—		FB_OK : BInitialization complete	
			FB_ERROR : B Error flag	
Applicable hardware	Positioning			
and software	Module	Series	Model	
		MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N,	
			QD75D1N, QD75D2N, QD75D4N,	
			QD75P1, QD75P2, QD75P4, QD75D1,	
			QD75D2, QD75D4	
		MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1,	
			LD75D2, LD75D4	
	CPU module	0		
		Series	Model	
		MELSEC-Q Series *1	Basic model	
			High performance model	
			Universal model	
		MELSEC-L Series	LCPU	
		*1 Not applicable to QCPU (A mode)		


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



Item	Description					
Restrictions and	1) The FB does not include error recovery processing. Program the error recovery					
precautions	processing separately in accordance with the required system operation.					
	2) The FB cannot be used in an interrupt program.					
	3) Please ensure that the FB_EN signal is capable of being turned OFF by the program. Do					
	not use this FB in programs that are only executed once such as a subroutine,					
	FOR-NEXT loop, etc. because it is impossible to turn OFF.					
	4) This FB uses index registers Z8 and Z9. Please do not use these index registers in an					
	interrupt program.					
	5) Every input must be provided with a value for proper FB operation.					
	6) PLC ready signal (Yn0) must be tuned OFF to use this FB. FB_EN (Execution					
	command) must also be turned OFF if PLC ready signal (Yn0) is turned ON with					
	M+D75_CPUReady (PLC ready signal ON).					
	7) After completing the initialization of setting data, reset the CPU unit or reboot the PLC					
	power.					
	8) The pulse output mode and external I/O signal logic, etc. must be properly configured to					
	match devices and systems connected to the QD75 or LD75. Configure these settings					
	by making the GX Works2 switch setting according to the application.					
	For details on now to use the intelligent function module switch setting, refer to GX					
	vvorks2 Operating Manual (Common).					
FB operation type	Pulsed execution (multiple scan execution type)					
Application example	Refer to "Appendix 1 - FB Library Application Examples"					
Timing chart	FB_EN (Execution command)					
	FB_ENO(Execution status)					
	Cd.2: Parameter 0 1 0					
	FB_OK (Initialization complete)					
	FB_ERROR(Error flag)					
	ERROR_ID(Error 0					
Relevant manuals	•Type QD75P/QD75D Positioning Module User's Manual					
	•MELSEC-L LD75P/LD75D Positioning Module User's Manual					
	•QCPU User's Manual (Hardware Design, Maintenance and Inspection)					
	•MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection)					
	•GX Works2 Version 1 Operating Manual (Common)					
	•GX Works2 Version 1 Operating Manual (Simple Project, Function Block)					



Error Codes

•Error code list

Error code	Description	Action
None	None	None

Labels

Input labels

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

Output labels

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



FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_InitParam function block.

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

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



2.19 M+D75_WriteFlash (Flash ROM writing)

FB Name

M+D75_WriteFlash

Function Overview

Item	Description			
Function overview	Writes the setting data to the flash ROM.			
Symbol				
	Even tion command		75_WriteFlash	
	Execution command—			
	Module start XY address —	W : i_Start_IO_No	FB_OK : B Write complete	
			FB_ERROR : B Fror flag	
			ERROR_ID : W Error code	
Applicable hardware	Positioning			
and software	Module	Series	Model	
		MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N,	
			QD75D1N, QD75D2N, QD75D4N,	
			QD75P1, QD75P2, QD75P4, QD75D1,	
			QD75D2, QD75D4	
		MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1,	
			LD75D2, LD75D4	
			·	
	CPU module			
		Series	Model	
		MELSEC-Q Series *1	Basic model	
			High performance model	
			Universal model	
		MELSEC-L Series	LCPU	
		*1 Not applicable to QC	PU (A mode)	



Item	Description					
	Engineering	GX Works2 *1				
	software	Language	Software version			
		Japanese version	Version1.86Q or later			
		English version	Version1.24A or later			
		Chinese (Simplified) version	Version1.49B or later			
		Chinese (Traditional) version	Version1.49B or later			
		Korean version	Version1.49B or later			
		*1 For software versions applica	ble to the modules used, refer to			
		"Relevant manuals".				
Programming	Ladder					
language						
Number of steps	207 steps (for MELS	EC-Q series universal model CP	U)			
	*The number of step	s of the FB in a program depends	s on the CPU model that is used and			
	input and output d	efinition.				
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 (Exe	cution command) is turned ON, t	he FB is completed in multiple scans.			
Compiling method	Macro type					
Restrictions and	1) The FB does not include error recovery processing. Program the error recovery					
precautions	processing separa	processing separately in accordance with the required system operation.				
	2) The FB cannot be	used in an interrupt program.				
	3) Please ensure that	t the FB_EN signal is capable of	being turned OFF by the program. Do			
	not use this FB in	TOT USE THIS FB IN PROGRAMS THAT ARE ONLY EXECUTED ONCE SUCH AS A SUBROUTINE,				
	FOR-NEXT loop, etc. because it is impossible to turn OFF.					
	4) Every input must be provided with a value for proper FB operation.					
	5) PLC ready signal	(Yn0) must be tuned OFF to use	this FB. FB_EN (Execution			
	command) must a	Ilso be turned OFF if PLC ready	signal (Yn0) is turned ON with			
	M+D75_CPURea	dy (PLC ready signal ON).				
	6) This FB uses inde	ex registers Z8 and Z9. Please do	not use these index registers in an			
	7) The pulse output mode and external I/O signal logic, etc. must be properly configured to					
	hu making the CV	Worke? awitch actting according	to the application			
	Eor details on how	who use the intelligent function m	adula switch sotting refer to GX			
	Works2 Operating	Manual (Common)	oddie switch setting, refer to GA			
EB operation type	Pulsed execution (m	ultiple scap execution type)				
Application example	Refer to "Annendiv 1	- FB Library Application Evample	PC"			
, ppiloation chample						



Item	Description
Timing chart	FB_EN (Execution command) FB_ENO(Execution status) Cd.1: Flash ROM writing request FB_OK(Write complete) FB_ERROR(Error flag) ERROR_ID(Error code)
Relevant manuals	 Type QD75P/QD75D Positioning Module User's Manual MELSEC-L LD75P/LD75D Positioning Module User's Manual QCPU User's Manual (Hardware Design, Maintenance and Inspection) MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection) GX Works2 Version 1 Operating Manual (Common) GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

Error Codes

•Error code list

Error code	Description	Action
None	None	None

Labels

Input labels

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



Output labels

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

FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_WriteFlash function block.

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

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



2.20 M+D75_ABRST (Absolute position restoration)

FB Name

M+D75_ABRST

Function Overview

Item	Description		
Function overview	Executes absolute position restoration.		
Symbol	Execution command — F	M+D75_ABRST B : FB_EN V : i_Start_IO_No	FB_ENO : B ——Execution status FB_OK : B ——Absolute position restoration request complete
	Target axis —— V ABS data 0 —— E ABS data 1 —— E Transmission data ready —— E	W : i_Axis B : i_AbsBit0 B : i_AbsBit1 B : i_TrDataComplete	o_ServoON : B Servo ON signal o_AbsTrMode : B ABS transmission mode o_AbsRequest : B ABS request flag o_AbsNG : B ABS error o_AbsErrorCode : W ABS error code FB ERROR : B Error flag
Applicable bardware	Positioning		ERROR_ID : W Error code
and software	Module	Series	Model
		MELSEC-Q Series	QD75P1N, QD75P2N, QD75P4N, QD75D1N, QD75D2N, QD75D4N, QD75P1, QD75P2, QD75P4, QD75D1, QD75D2, QD75D4
		MELSEC-L Series	LD75P1, LD75P2, LD75P4, LD75D1, LD75D2, LD75D4
	CPU module		
		Series	Model
		MELSEC-Q Series *1	Basic model
			High performance model
			Universal model
		MELSEC-L Series	LCPU
		*1 Not applicable to QC	PU (A mode)



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



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



Item	Description
Timing chart	[When operation completes without error]
	FB_EN (Execution command) FB_ENO(Execution status) Absolute position restoration instruction FB_OK(Absolute position restoration request complete) o_AbsNG(ABS error) o_AbsErrorCode (ABS error code) FB_ERROR(Error flag) ERROR_ID(Error code)
	[When an error occurs][When an error occurs](When the target axis setting is out of range)(When absolute position restoration command completed abnormally)
	FB_EN (Execution command) FB_ENO(Execution status) Absolute position restoration instruction FB_OK(Absolute position restoration request complete) No processing o_AbsIG(ABS error) O_AbsErrorCode (ABS error code) o_AbsErrorCode (ABS error code) O_Error code FB_EROR(Error flag) O_Error code ERROR_ID(Error code) O_Error code
Relevant manuals	 Type QD75P/QD75D Positioning Module User's Manual
	•MELSEC-L LD75P/LD75D Positioning Module User's Manual
	•QCPU User's Manual (Hardware Design, Maintenance and Inspection)
	•MELSEC-L CPU Module User's Manual (Hardware Design, Maintenance and Inspection)
	•GX Works2 Version 1 Operating Manual (Common)
	 GX Works2 Version 1 Operating Manual (Simple Project, Function Block)



Error Codes

Error code list

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

Labels

np	ut	lat	bel	s
 				-

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

Output labels

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



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

FB Version Upgrade History

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

Note

This chapter includes information related to the M+D75_ABRST function block.

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

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



Appendix 1. FB Library Application Examples

D75FB Application examples are as follows.

System Configuration Examples

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







(2) L series system configuration example



Reminder

1) Every input must be provided with a value for proper FB operation.

If not set, the values will be unspecified.

2) Abbreviations may be used in the label comments due to the limitation on the number of the characters to display in GX Works2.



List of devices

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

Data register

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

External	output (checks)	
Device	FB function name	Application(ON details)
M1		BParam 1 setting ready
M2	Basic parameters 1 setting	BParam 1 setting complete
F0		BParam 1 setting FB error
M11		BParam 2 setting ready
M12	Basic parameters 2 setting	BParam 2 setting complete
F5		BParam 2 setting FB error
M21		DParam 1 setting ready
M22	Detailed parameters 1 setting	DParam 1 setting complete
F10		DParam 1 setting FB error
M31		DParam 2 setting ready
M32	Detailed parameters 2 setting	DParam 2 setting compete
F15		DParam 2 setting FB error
IVI41		ZBParam setting ready
M42	OPR basic parameters setting	ZBParam setting complete
F20		ZBParam setting FB error
M51	OPR detailed parameters	ZDParam setting ready
M52	setting	ZDParam setting complete
F25	5	ZDParam setting FB error
M61		Positioning data setting ready
M62	Positioning data setting	Positioning data setting comp
F30		Positioning setting FB error
M72	PLC ready signal ON	PLC ready signal ON ready
M73		PLC ready signal ON complete
1/18/1	Desitioning start	Positioning start ready
IVI82	Positioning start	Execution complete
F35		Positioning start FB error
IVI93	IOC/inching operation	Operation started
E40	50G/inching operation	
F40 M101		MPG operation ready
M107	Manual pulse generator	MPC opable complete
F45	operation	MPG operation FB error
M111		Speed change ready
M112	Speed change	Speed change request complete
F50	opood ondrigo	Speed change FB error
M121		Override ready
M122	Override	Override value setting complete
F55		Override EB error
M132		Acc/Dec time change ready
M133	Acceleration/deceleration time	Acc/Dec time change request
	setting value change	
F60	5 5	Acc/Dec time change FB error
M141		larget position change ready
M142	Target position change	rarget position change request
F65		Target position change FB error
M151		Restart ready
M152	Restart	Restart acceptance complete
F70		Restart FB error
M162		Error reset ready
M163		Error reset complete
M164	Error operation	Axis error detection
M165		Axis warning detection
F/5		Error operation FB error
IVI1/1	Parameter initialization	Parameter Initialization ready
IVI172		Farameter initialization comp
MICT	Flash ROM writing	
IVI182	-	
M102		ABS restoration request complete
M102		ABS error
V20	Absolute position restoration	Servo ON signal
V21		ABS transmission mode
V22		ABS request flag
F80		ABS restoration EB error
100		



MELSEC-Q/L Positioning Module FB Library Reference Manual FBM-M033-D

Program

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

M+D75_SetBPARAM1 (Basic parameters 1 setting)

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

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

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











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

M+D75_SetBPARAM2 (Basic parameters 2 setting)

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

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







Label name	Setting value	Description
i_Start_IO_No	HO	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_Backlash	К0	Set the backlash compensation amount to 0.
i_SSLimitUpper	K2147483647	Set the software stroke limit upper limit value to 2,147,483,647.
i_SSLimitLower	K-2147483648	Set the software stroke limit lower limit value to -2,147,483,648.
i_SSLimitSelect	К0	Set the software stroke limit selection to "Apply software stroke limit on
		current feed value".
i_SSLimitSetting	К0	Set the software stroke limit valid/invalid setting to "Software stroke limit
		valid during JOG operation, inching operation, and manual pulse
		generator operation".
i_InPosition	K100	Set the command in-position width to 100.
i_TorqueLimit	K100	Set the torque limit setting value to 100%.
i_MCodeTiming	К0	Set the M code ON signal output timing to "WITH mode".
i_SpeedSwMode	К0	Set the speed switching mode to "Standard speed switching mode".
i_InterpolaSpeed	К0	Set the interpolation speed designation method to "Composite speed".
i_SpeedCntValue	K1	Set the current feed value during speed control to "Update current feed
		value".
i_InputSigLogic	H0	Set the all input signals to negative logic.
i_OutputSigLogic	HO	Set the all output signals to negative logic.
i_MPGInputSelect	К0	Set the manual pulse generator input selection to "A-phase/B-phase;
		multiplied by 4".
i_SPFuncSelect	К0	Set the speed-position function selection to "Speed-positioning switching
		control (INC mode)".

M+D75_SetDPARAM1 (Detailed parameters 1 setting)

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

- *It is recommended to use GX Configurator-QP or the configuration function of GX Works 2 to perform module initialization such as parameter setting. In this case, using this FB is unnecessary.
- *The detailed parameters 1 setting complete (M22) contact is used for PLC ready signal ON FB (M+D75_CPUReady).















Label name	Setting value	Description
i_Start_IO_No	HO	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_AccTime1	K10000	Set the acceleration time 1 to 10,000.
i_AccTime2	K20000	Set the acceleration time 2 to 20,000.
i_AccTime3	K40000	Set the acceleration time 3 to 40,000.
i_DecTime1	K10000	Set the deceleration time 1 to 10,000.
i_DecTime2	K20000	Set the deceleration time 2 to 20,000.
i_DecTime3	K40000	Set the deceleration time 3 to 40,000.
i_JogSpeedLimit	K10000	Set the JOG speed limit value to 10,000.
i_JogAccTimeSel	К0	Set the JOG operation acceleration time selection to "Acceleration time 0".
i_JogDecTimeSel	К0	Set the JOG operation deceleration time selection to "Deceleration time 0".
i_AccDecProcess	K0	Set the acceleration/deceleration process selection to "Trapezoid
		acceleration/deceleration process".
i_S_curveRatio	K50	Set the S-curve ratio to 50%.
i_SuddenStopTime	K1000	Set the sudden stop deceleration time to 1,000.
i_StopGroup1	К0	Set the stop group 1 sudden stop selection to "Normal deceleration stop".
i_StopGroup2	К0	Set the stop group 2 sudden stop selection to "Normal deceleration stop".
i_StopGroup3	K0	Set the stop group 3 sudden stop selection to "Normal deceleration stop".
i_PosiCmpSignal	K100	Set the positioning complete signal output time to 100.
i_ArcErrPermit	K1000	Set the allowable circular interpolation error width to 1,000.
i_ExtComFuncSel	К0	Set the external command function selection to "External positioning start".

M+D75	SetDPARAM2	Detailed	parameters	2 settina)
		(Dotanoa	paramotoro	_ 00

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

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



















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

M+D75_SetZBPARAM (OPR basic parameters setting)

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

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

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











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

M+D75_SetZDPARAM (OPR detailed parameters setting)

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

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

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










Label name	Setting value	Description
i_Start_IO_No	HO	Set the starting XY address where the D75 module is mounted to 0H.
i_Axis	K1	Set the target axis to channel 1.
i_DataNo	K1	Set the positioning data No. to 1.
i_OperatePattern	К0	Set the operation pattern to "Positioning complete".
i_ControlSystem	H1	Set the control system to "ABS1 1-axis linear control (ABS)".
i_AccTimeNo	К0	Set the acceleration time No. to "Acceleration time 0".
i_DecTimeNo	К0	Set the deceleration time No. to Deceleration time 0.
i_InterpolatedAx	К0	Set the axis to be interpolated to "Axis 1".
i_Mcode	К0	Set the M code to 0.
i_DwellTime	К0	Set the dwell time to 0.
i_CommandSpeed	K10000	Set the command speed to 10,000.
i_PosiAddr	K300000	Set the position/movement amount to 300,000.
i_ArcAddr	K0	Set the arc address to 0.

M+D75_PosiDataSet (Positioning data setting)

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





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M+D75_CPUReady (PLC ready signal ON)

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

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

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





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

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





M+D75_JOG (JOG/inching operation)

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

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







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

M+D75_MPG (Manual pulse generator operation)

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





M+D75_ChgSpeed (Speed change)

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

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





M+D75_ChgOverride (Override)

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

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





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

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

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





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

M+D75_ChgPosi (Target position change)

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





M+D75_Restart (Restart)

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

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





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

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







M+D75_InitParam (Parameter initialization)

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

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

M170 Paramete r initia lization command	InitParam B:FB_EN Executio n comman d	FB_ENO:B Executio n status	(M171) Paramete r initia lization ready
(HO]	W:i_Start_IO_No Module s tart XY address	FB_OK:B Initiali zation c omplete	(M172) Paramete r initia lization comp
		FB_ERROR:B Error fl ag	
		ERROR_ID:W Error co de	



M+D75_WriteFlash (Flash ROM writing)

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

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

M180 Flash RO M writin g reques t	WriteFlash B:FB_EN Executio n comman d	FB_ENO:B Executio n status	(M181) Flash RO M writin g ready
{H0]	W:i_Start_IO_No Module s tart XY address	FB_OK:B Write co mplete	(M182) Flash RO M writin g comple te
		FB_ERROR:B Error fl ag	
		ERROR_ID:W Error co de	



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

By turning ON M190, the absolute position is restored.

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



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