MELSEC-Q/L High-Speed Counter Module FB Library Reference Manual

Applicable module:

QD62, QD62E, QD62D, LD62, LD62D

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Reference Manual Revision History

Reference Manual Number	Date	Description
FBM-M032-A	2010/08/06	First edition
FBM-M032-B	2011/04/30	Added "Reference Manual Revision History", "Overview", "Chinese version of GX Works2".
FBM-M032-C	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 MELSEC-Q QD62(E/D) or MELSEC-L LD62(D) high-speed counter module.

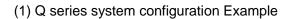
1.2 Function of the FB Library

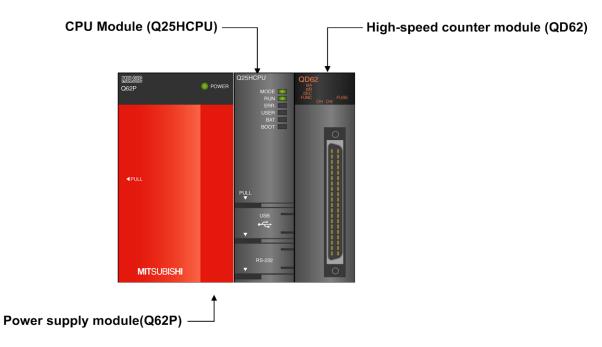
Item	Description
M+D62_SetRingCounter	Sets the ring counter upper limit and lower limit for a specified channel.
M+D62_CountEnable	Performs count operation (count start/stop) for a specified channel or all
	channels.
M+D62_PresentValueStorage	Monitors the present value for a specified channel.
M+D62_AllPresentValueStorage	Monitors the present value for all channels.
M+D62_SetCoincidenceOutput	Sets a coincidence output point and resets counter value coincidence for a
	specified channel.
M+D62_CoincidenceOutputEnable	Enables external coincidence output for a specified channel or all channels.
M+D62_PresetOperation	Performs a preset of present value.
M+D62_CountDisableOperation	Executes disable count function for a specified channel or all channels.
M+D62_LatchCounterOperation	Executes latch counter function.
M+D62_SamplingOperation	Executes sampling counter function.
M+D62_PeriodicPulseCounter	Executes periodic pulse counter function.
M+D62_OverflowDetection	Detects overflow.



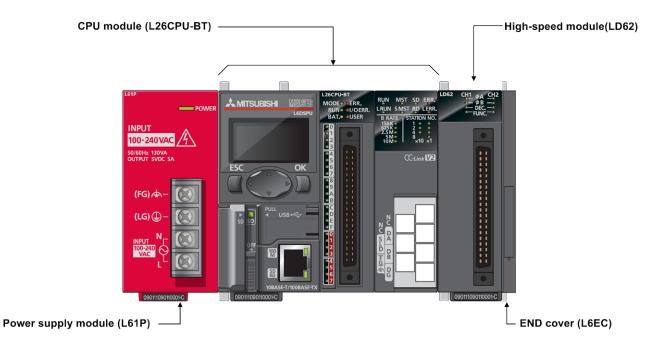
1.3 System Configuration Example

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





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1.4 Relevant manual

- •MELSEC-Q High-Speed Counter Module User's Manual
- •MELSEC-L High-Speed Counter Module User's Manual
- •QCPU User's Manual (Hardware Design, Maintenance and Inspection)
- •GX Works2 Version 1 Operating Manual (Common)
- •GX Works2 Version 1 Operating Manual (Simple Project, Function Block)

1.5 Note

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



2. Details of the FB Library

2.1 M+D62_SetRingCounter (Ring counter setting)

FB Name

M+D62_SetRingCounter

Item	Description					
Function overview	Sets the ring counter upper limit and lower limit for a specified channel.					
Symbol		M+D62_SetRingCounter				
	Execution comma	ind — B :	FB_EN	FB_ENO : B	Execution status	
	Module start XY addre	ess — W :	i_Start_IO_No	FB_OK : B	Completed without error	
	Target (сн — _ w :	i_CH	FB_ERROR : B	—— Error flag	
	Ring counter upper li	mitD :	i_RingUpperLimit	ERROR_ID : W	Error code	
	Ring counter lower li	mitD :	i_RingLowerLimit			
Applicable hardware	High-Speed					
and software	Counter Module		Series	Model		
		MELSE	C-Q Series	QD62, QD62E, QD62D		
		MELSE	C-L Series	LD62, LD62D		
	CPU module					
			Series	Model		
		MELSE	C-Q Series	Basic model		
				High performance model *		
				Universal model		
		MELSEC-L Series		LCPU		
		* Not app	plicable for QC	PU (A mode)		



Item	Description					
	Engineering	GX Works2 *1				
	software	Language	Software version			
		Japanese version	Version 1.86Q or later			
		English version	Version 1.24A or later			
		Chinese (Simplified) version	Version 1.49B or later			
		Chinese (Traditional) version	Version 1.49B or later			
		Korean version	Version 1.49B or later			
		*1 For software versions appl	icable to the modules used, refer to			
		"Relevant manuals".				
Programming	Ladder					
language						
Number of steps	128 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, the set ring counter lower and upper					
	value are stored in the buffer memory.					
	2) FB operation is one-shot only, triggered by the FB_EN signal.					
	3) When the target CH 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 CH.					
	5) This FB uses index registers Z6 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) When count enable command (Y signal) is ON, the FB does not complete its execution					
	until turned OFF. (Please turn OFF count enable command (Y signal).)					
	8) If the parameter is set using GX Configurator-CT or the configuration function of GX					
	Works 2, using this FB is unnecessary.					
	9) The pulse input mode, counting speed setting, and counter format must be properly					
	configured to match systems and devices connected to the QD62(E/D) or LD62(D).					
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 status) FB_ENO(Execution status) Ring counter value write processing No processing Write No processing					
	Count enable command					
	(Y signal) FB_OK (Completed without error)					
	(Completed without error) FB_ERROR(Error flag) FB_ERROR(Error flag)					
	ERROR ID(Error code) 0 ERROR ID(Error code) 0 Error code 0					
Relevant manuals	•MELSEC-Q High-Speed Counter Module User's Manual					
	MELSEC-L High-Speed Counter Module User's Manual					
	•QCPU 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 channel is not valid.	Please try again after confirming the setting.					
	The target channel is not within the						
	range of 1 to 2.						

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 D62 module is	
				mounted. (For example,	
				enter H10 for X10.)	
Target CH	i_CH	Word	1 to 2	Specify the CH number.	
Ring counter upper	i_RingUpperLimit	Double	-2,147,483,648 to	Specify the ring counter	
limit		Word	2,147,483,647	upper limit.	
Ring counter lower	i_RingLowerLimit	Double	-2,147,483,648 to	Specify the ring counter	
limit		Word	2,147,483,647	lower limit.	



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.
Completed without	FB_OK	Bit	OFF	When ON, it indicates that the setting of ring
error				counter upper and lower 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	

Note

This chapter includes information related to the M+D62_SetRingCounter function block.

It does not include information on restrictions of use such as combination with high-speed counter modules or programmable controller CPUs.



2.2 M+D62_CountEnable (Count enable operation)

FB Name

M+D62_CountEnable

Item	Description						
Function overview	Performs count operation (count start/stop) for a specified channel or all channels.						
Symbol	M+D62_CountEnable						
	Execution command	I ——	B : FB_EN	FB_ENO : B	Execution status		
	Module start XY address	. —	W : i_Start_IO_No	o_CountStart : B -	Count operating flag		
	Target CH		W : i_CH	FB_ERROR : B	—— Error flag		
				ERROR_ID : W	Error code		
Applicable hardware	High-Speed						
and software	Counter Module		Series	Model			
		MELSEC-Q Series		QD62, QD62E, QD62	2D		
		ME	ELSEC-L Series	LD62, LD62D			
	CPU module						
			Series	Model			
		ME	ELSEC-Q Series	Basic model			
				High performance model *			
				Universal model			
		MELSEC-L Series		LCPU			
		* No	ot applicable for QCF	PU (A mode)			



Item	Description					
	Engineering	GX Works2 *1				
	software	Language	Software version			
		Japanese version	Version 1.86Q or later			
		English version	Version 1.24A or later			
		Chinese (Simplified) version	Version 1.49B or later			
		Chinese (Traditional) version	Version 1.49B or later			
		Korean version	Version 1.49B or later			
		*1 For software versions appli	cable to the modules used, refer to			
		"Relevant manuals".				
Programming	Ladder					
language						
Number of steps	137 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) By turning ON/OF	F FB_EN (Execution command),	the count operation is started or			
	stopped.					
	2) FB operation is or	ne-shot only, triggered by the FB_	_EN signal.			
	3) When the target CH 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 CH.					
	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) When this FB is used in two or more places, a duplicated coil warning will occur during					
	compile operation due to the Y signal being operated by index modification. However					
	this is not a problem and the FB will operate without error.					
	8) The pulse input mode, counting speed setting, and counter format must be properly					
	configured to match systems and devices connected to the QD62(E/D) or LD62(D).					
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 FB_EN					
	(Execution command)					
	FB_ENO(Execution status) FB_ENO(Execution status)					
	Count enable command (Y signal) Count enable command (Y signal)					
	o_CountStart (Count operating flag)					
	FB_ERROR(Error flag)					
	ERROR_ID(Error code) 0 ERROR_ID(Error code) 0 Error code					
Relevant manuals	MELSEC-Q High-Speed Counter Module User's Manual					
	•MELSEC-Q High-Speed Counter Module User's Manual					
	•QCPU 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 channel is not valid.	Please try again after confirming the setting.
	The target channel is not within the	
	range of 1 to 2 or 15.	

Labels

Input 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 D62 module is	
				mounted. (For example,	
				enter H10 for X10.)	
Target CH	i_CH	Word	1 to 2 or 15	1 to 2: Specify the CH	
				number.	
				15: Specify all CHs.	

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.
Count operating flag	o_CountStart	Bit	OFF	When ON, it indicates that count enable
				command (Y signal) is ON.
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

Note

This chapter includes information related to the M+D62_CountEnable function block.

It does not include information on restrictions of use such as combination with high-speed counter modules or programmable controller CPUs.



2.3 M+D62_PresentValueStorage (Present value monitoring)

FB Name

M+D62_PresentValueStorage

Item	Description				
Function overview	Monitors the present value for a specified channel.				
Symbol		M+D62_Prese	ntValueStorage		
	Execution command	B : FB_EN	FB_ENO : B	Execution status	
	Module start XY address	W : i_Start_IO_No	FB_OK : B	Completed without error	
	Target CH		o_PresentValue:D	Present value	
			FB_ERROR : B	Error flag	
			ERROR_ID : W	Error code	
Applicable hardware	High-Speed				
and software	Counter Module	Series	Model		
		MELSEC-Q Series	QD62, QD62E, QI	D62D	
		MELSEC-L Series	LD62, LD62D		
	CPU module				
		Series		Model	
		MELSEC-Q Series	Basic model		
			High performance model * Universal model LCPU		
		MELSEC-L Series			
		* Not applicable for QC	PU (A mode)		



Item	Description						
	Engineering	GX Works2 *1					
	software	Language	Software version				
		Japanese version	Version 1.86Q or later				
		English version	Version 1.24A or later				
		Chinese (Simplified) version	Version 1.49B or later				
		Chinese (Traditional) version	Version 1.49B or later				
		Korean version	Version 1.49B or later				
		*1 For software versions appli	cable to the modules used, refer to				
		"Relevant manuals".					
Programming	Ladder						
language							
Number of steps	97 steps (for MELSE	C-Q series universal model CPU)				
	* The number of step	os of the FB in a program depend	ls on the CPU model that is used and				
	input and output de	finition.					
Function description	1) When FB_EN (Execution command) is turned ON, the present value is read from the						
	buffer memory.						
	2) When the target CH setting value is out of range, the FB_ERROR output turns ON,						
		rrupted, and the error code is sto					
	Refer to the error	code explanation section for deta	ails.				
Compiling method	Macro type						
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					
		programs that are only executed					
	-	FOR-NEXT loop, etc. because it is impossible to turn OFF.					
	-	e of these FBs are used, precaution	on must be taken to avoid repetition of				
	the target CH.						
	,	5) This FB uses index registers Z7 to Z9. Please do not use these index registers in an					
		interrupt program.					
		be provided with a value for prop					
		7) The pulse input mode, counting speed setting, and counter format must be properly configured to match systems and devices connected to the QD62(E/D) or LD62(D).					
ER operation type	-	ch systems and devices connecto					
FB operation type	Real-time execution	ED Librony Application Events	oc"				
Application example	Refer to "Appendix 1 - FB Library Application Examples".						



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Item	Description			
Timing chart	[When operation completes without error] [When an error occurs]			
	FB_EN (Execution command) FB_EN (Execution command) FB_ENO(Execution status)			
Relevant manuals	•MELSEC-Q High-Speed Counter Module User's Manual			
	 MELSEC-L High-Speed Counter Module User's Manual 			
	 QCPU 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 channel is not valid.	Please try again after confirming the setting.
	The target channel is not within the	
	range of 1 to 2.	

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 D62 module is
				mounted. (For example,
				enter H10 for X10.)
Target CH	i_CH	Word	1 to 2	Specify the CH 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.
Completed without	FB_OK	Bit	OFF	When ON, it indicates that the present value
error				is being read.
Present value	o_PresentValue	Double	0	Store the present value.
		Word		
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

Note

This chapter includes information related to the M+D62_PresentValueStorage function block.

It does not include information on restrictions of use such as combination with high-speed counter modules or programmable controller CPUs.



2.4 M+D62_AllPresentValueStorage (Present value monitoring (All CHs))

FB Name

M+D62_AllPresentValueStorage

Item	Description					
Function overview	Monitors the present value for all channels.					
Symbol		M+D62_AllPresentValueStorage				
	Execution command	B : FB_EN	FB_ENO : B	Execution status		
	Module start XY address		FB_OK : B	Completed without error		
			o_PresentValue1:D	—— CH1 present value		
			o_PresentValue2:D			
			FB_ERROR : B	—— Error flag		
			ERROR_ID : W	Error code		
Applicable hardware	High-Speed					
and software	Counter Module	Series Model		lodel		
		MELSEC-Q Series	QD62, QD62E, QD	62D		
		MELSEC-L Series	LD62, LD62D			
	CPU module					
		Series	Ν	lodel		
		MELSEC-Q Series	Basic model			
			High performance	model *		
			Universal model			
		MELSEC-L Series	LCPU			
		* Not applicable for QC	PU (A mode)			



Item	Description	escription				
	Engineering	GX Works2 *1				
	software	Language	Software version			
		Japanese version	Version 1.86Q or later			
		English version	Version 1.24A or later			
		Chinese (Simplified) version	Version 1.49B or later			
		Chinese (Traditional) version	Version 1.49B or later			
		Korean version	Version 1.49B or later			
		*1 For software versions appli	cable to the modules used, refer to			
		"Relevant manuals".				
Programming	Ladder					
language						
Number of steps	64 steps (for MELSE	C-Q series universal model CPL	J)			
	* The number of step	os of the FB in a program depend	s on the CPU model that is used and			
	input and output definition.					
Function description	1) When FB_EN (Execution command) is turned ON, the present value is read from the					
	buffer memory.					
Compiling method	Macro type					
Restrictions and		nclude error recovery processing	•			
precautions		ately in accordance with the requ	ired system operation.			
		used in an interrupt program.				
		•	being turned OFF by the program. Do			
		programs that are only executed				
	-	etc. because it is impossible to tu				
	-	e of these FBs are used, precaution	on must be taken to avoid repetition of			
	the target CH.					
	5) This FB uses inde	-	o not use these index registers in an			
	6) Every input must I	be provided with a value for prop	er FB operation.			
	7) The pulse input m	ode, counting speed setting, and	counter format must be properly			
	configured to mate	ch systems and devices connect	ed to the QD62(E/D) or LD62(D).			
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] FB_EN (Execution command) FB_ENO(Execution status) o_PresentValue1 (CH1 present value) o_PresentValue2 (CH1 present value) FB_OK (Completed without error) FB_EROR(Error flag) ERROR_ID(Error code)
Relevant manuals	 MELSEC-Q High-Speed Counter Module User's Manual MELSEC-L High-Speed Counter Module User's Manual QCPU 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

Error code	Description	Action
None	None	None

Label

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 D62 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.
Completed without	FB_OK	Bit	OFF	When ON, it indicates that the present value
error				is being read.
CH1 present value	o_PresentValue1	Double	0	Store the present value of CH1.
		Word		
CH2 present value	o_PresentValue2	Double	0	Store the present value of CH2.
		Word		
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

Note

This chapter includes information related to the M+D62_AllPresentValueStorage function block.

It does not include information on restrictions of use such as combination with high-speed counter modules or programmable controller CPUs.



2.5 M+D62_SetCoincidenceOutput (Coincidence output function setting)

FB Name

M+D62_SetCoincidenceOutput

Item	Description				
Function overview	Sets a coincidence output point and resets counter value coincidence for a specified				
	channel.				
Symbol	M+D62_SetCoincidenceOutput				
	Execution command — B : FB_EN FB_END : B — Execution status				
	Module start	t XY address —	W : i_Start_IO_No	FB_OK : B	Completed without error
		Target CH —	W : i_CH	FB_ERROR : B	— Error flag
	Coincidence output	No.1 enable —	B : i_OutEnable_N	lo1 ERROR_ID : W	— Error code
	Coincidence output	No.2 enable —	B : i_OutEnable_N	102	
	Coincidence output No.1 point setting — D : i_SetPoint_No1				
	Coincidence output No.2	point setting —	D : i_SetPoint_No	2	
Applicable hardware	High-Speed				
and software	Counter Module	Se	eries	Мос	lel
		MELSEC	-Q Series	QD62, QD62E, QD62	D
		MELSEC	-L Series	LD62, LD62D	
-					
	CPU module	6	eries	Moo	
		MELSEC		Basic model	
		WILLOLC.	- C Selles	High performance mo	del *
				Universal model	
		MELSEC	-L Series	LCPU	
			cable for QCF		



Item	Description		
	Engineering	GX Works2 *1	
	software	Language	Software version
		Japanese version	Version 1.86Q or later
		English version	Version 1.24A or later
		Chinese (Simplified) version	Version 1.49B or later
		Chinese (Traditional) version	Version 1.49B or later
		Korean version	Version 1.49B or later
		*1 For software versions appli	cable to the modules used, refer to
		"Relevant manuals".	
Programming	Ladder		
language			
Number of steps	199 steps (for MELS	EC-Q series universal model CP	U)
	* The number of step	os of the FB in a program depend	is on the CPU model that is used and
	input and output de	finition.	
Function description	1) After turning ON i_	_OutEnable_No1 (Coincidence o	utput No.1 enable), turn ON FB_EN
	(Execution comma	and) to enable i_SetPoint_No1 (0	Coincidence output No.1 point
	setting).		
		e_No1 (Coincidence output No.1	,
		Coincidence output No.1 point se	•
	_	-	and (Y signal) is not turned ON either.
		ion is applied to No.2)	
	_	utEnable_No1 (Coincidence outp	,
		(Coincidence output No.2 enable	
			tPoint_No1 (Coincidence output No.1
		ritten in the buffer memory and co	-
		,	alue coincidence (X signal) is turned signal) is turned OFF. (The same
	operation is applie	C	signal) is turned OFF. (The same
		,	coincidence output are turned ON
			and external coincidence output are
	-	while the present value is the co	
		ne-shot only, triggered by the FB_	
			he FB_ERROR output turns ON,
		rrupted, and the error code is sto	•
		code explanation section for deta	
	Reier to the error	code explanation section for deta	มแร



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Item	Description			
Compiling method	Macro type			
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 CH.			
	5) This FB uses index registers Z5 to Z9. Please do not use these index registers in an			
	interrupt program.			
	6) Every input must be provided with a value for proper FB operation.			
	7) When this FB is used in two or more places, a duplicated coil warning will occur during			
	compile operation due to the Y signal being operated by index modification. However			
	this is not a problem and the FB will operate without error.			
	8) The pulse input mode, counting speed setting, and counter format must be properly			
	configured to match systems and devices connected to the QD62(E/D) or LD62(D).			
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)			
	i OutEnable No1 (Coincidence output enable No. 1)			
	Coincidence output point No. 1 (buffer memory) No setting New value Coincidence output point No. 1 (buffer memory) No setting			
	Counter value coincidence Counter value coincidence (X signal)			
	Coincidence signal reset command (Y signal) Count enable command			
	(Y signal)			
	FB_OK FB_OK (Completed without error) (Completed without error) FB_ERROR(Error flag) FB_FRROR(Error flag)			
	FB_ERROR(Error flag) FB_ERROR(Error flag) ERROR ID(Error code) 0 ERROR ID(Error code) 0			
Relevant manuals	MELSEC-Q High-Speed Counter Module User's Manual			
	•MELSEC-L High-Speed Counter Module User's Manual			
	•QCPU User's Manual (Hardware Design, Maintenance and Inspection)			
	•GX Works2 Version 1 Operating Manual (Common)			
	•GX Works2 Version 1 Operating Manual (Simple Project, Function Block)			



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Error codes		
●Error code list		
Error code	Description	Action
10 (Decimal)	The specified target channel is not valid.	Please try again after confirming the setting.
	The target channel is not within the	
	range of 1 to 2.	

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 D62 module is
				mounted. (For example,
				enter H10 for X10.)
Target CH	i_CH	Word	1 to 2	Specify the CH number.
Coincidence output	i_OutEnable_No1	Bit	ON, OFF	ON: Coincidence output
No.1 enable				No.1 is used.
				OFF: Coincidence output
				No.1 is not used.
				When ON, the function is
				enabled by turning on
				FB_EN (Execution
				command).



Name (Comment)	Label name	Data	Setting range	Description
		type		
Coincidence output	i_OutEnable_No2	Bit	ON, OFF	ON: Coincidence output
No.2 enable				No.2 is used.
				OFF: Coincidence output
				No.2 is not used.
				When ON, the function is
				enabled by turning ON
				FB_EN (Execution
				command).
Coincidence output	i_SetPoint_No1	Double	-2,147,483,648 to	Specify the coincidence
No.1 point setting		Word	2,147,483,647	output No.1 point setting
				value.
Coincidence output	i_SetPoint_No2	Double	-2,147,483,648 to	Specify the coincidence
No.2 point setting		Word	2,147,483,647	output No.2 point setting
				value.

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.
Completed without	FB_OK	Bit	OFF	When ON, it indicates that counter value
error				coincidence (X signal) has been reset.
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

Note

This chapter includes information related to the M+D62_SetCoincidenceOutput function block.

It does not include information on restrictions of use such as combination with high-speed counter modules or programmable controller CPUs.



2.6 M+D62_CoincidenceOutputEnable (Coincidence output enable setting)

FB Name

M+D62_CoincidenceOutputEnable

Item	Description						
Function overview	Enables external coincidence output for a specified channel or all channels.						
Symbol		M+D0	32_Coincide	nceOutputEnable			
	Execution command	B : FB_EN		FB_ENO : B	Execution status		
	Module start XY address		No	FB_OK : B	Completed without error		
	Target CH	——W : i_CH		FB_ERROR : B	— Error flag		
				ERROR_ID : W	Error code		
Applicable hardware	High-Speed						
and software	Counter Module	Series		Model			
		MELSEC-Q Series		QD62, QD62E, QD	62D		
		MELSEC-L Series		LD62, LD62D			
	CPU module						
		Series	5	N	lodel		
		MELSEC-Q S	eries	Basic model			
				High performance model *			
				Universal model			
		MELSEC-L Series		LCPU			
		* Not applicabl	e for QCF	PU (A mode)			



Item	Description						
	Engineering	GX Works2 *1					
	software	Language	Software version				
		Japanese version	Version 1.86Q or later				
		English version	Version 1.24A or later				
		Chinese (Simplified) version	Version 1.49B or later				
		Chinese (Traditional) version	Version 1.49B or later				
		Korean version	Version 1.49B or later				
		*1 For software versions applicable to the modules used, refer to					
		"Relevant manuals".					
Programming	Ladder						
language							
Number of steps	139 steps (for MELSEC-Q series universal model CPU)						
(maximum value)	* 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/OF	1) By turning ON/OFF FB_EN (Execution command), the coincidence output is					
	enabled/disabled.	enabled/disabled.					
	2) FB operation is or	ne-shot only, triggered by the FB_	_EN signal.				
	3) When the target C	CH setting value is out of range, the	he FB_ERROR output turns ON,				
	processing is inter	rrupted, and the error code 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 CH.						
	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) When this FB is used in two or more places, a duplicated coil warning will occur during						
	compile operation due to the Y signal being operated by index modification. However						
	this is not a problem and the FB will operate without error.						
	8) The pulse input mode, counting speed setting, and counter format must be properly						
	configured to match systems and devices connected to the QD62(E/D) or LD62(D).						
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 status)						
	Coincidence signal enable						
	command (Y signal) FB_OK FB_OK						
	(Completed without error) FB_ERROR(Error flag) FB_ERROR(Error flag)						
	ERROR ID(Error code) 0 ERROR ID(Error code) 0 Error code 0						
Relevant manuals							
	MELSEC-L High-Speed Counter Module User's Manual						
	•QCPU 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 channel is not valid.	Please try again after confirming the setting.
	The target channel is not within the	
	range of 1 to 2 or 15.	

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 D62 module is
				mounted. (For example,
				enter H10 for X10.)
Target CH	i_CH	Word	1 to 2 or 15	1 to 2: Specify the CH
				number.
				15: Specify all CHs.

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.
Completed without	FB_OK	Bit	OFF	When ON, it indicates that coincidence
error				signal enable command (Y signal) is ON.
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

Note

This chapter includes information related to the M+D62_CoincidenceOutputEnable function block.

It does not include information on restrictions of use such as combination with high-speed counter modules or programmable controller CPUs.



2.7 M+D62_PresetOperation (Preset function operation)

FB Name

M+D62_PresetOperation

Item	Description					
Function overview	Performs a preset of	pres	sent value.			
Symbol			M+D62_Pres	setOperation		
	Execution command		B : FB_EN	FB_ENO : B	Execution status	
	Module start XY address		W : i_Start_IO_No	FB_OK : B	Completed without error	
	Target CH		W : i_CH	FB_ERROR : B	Error flag	
	Preset value		W : i_PresetValue	ERROR_ID : W	Error code	
Applicable hardware	High-Speed					
and software	Counter Module	Series		Model		
		MELSEC-Q Series		QD62, QD62E, QD62D		
		MELSEC-L Series		LD62, LD62D		
	CPU module					
			Series	1	Model	
		MELSEC-Q Series Basic model				
		High performance model *		model *		
				Universal model		
		MELSEC-L Series		LCPU		
		* No	ot applicable for QCI	PU (A mode)		



Item	Description						
	Engineering	GX Works2 *1					
	software	Language	Software version				
		Japanese version	Version 1.86Q or later				
		English version	Version 1.24A or later				
		Chinese (Simplified) version	Version 1.49B or later				
		Chinese (Traditional) version	Version 1.49B or later				
		Korean version	Version 1.49B or later				
		*1 For software versions applicable to the modules used, refer to					
		"Relevant manuals".					
Programming	Ladder						
language							
Number of steps	139* 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 present value is rewritten to						
	i_PresetValue (Preset value).						
	2) FB operation is one-shot only, triggered by the FB_EN signal.						
	3) When the target CH 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		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 CH.			
	5) This FB uses index registers Z6 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) When this FB is used in two or more places, a duplicated coil warning will occur during			
	compile operation due to the Y signal being operated by index modification. However			
	this is not a problem and the FB will operate without error.			
	8) The pulse input mode, counting speed setting, and counter format must be properly			
	configured to match systems and devices connected to the QD62(E/D) or LD62(D).			
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 status)			
	Preset value (buffer memory) No setting New value (buffer memory) No setting (buffer memory)			
	Preset command (Y signal)			
	Present value (buffer memory) Present value (buffer memory) Present value Present valu			
	FB_OK (Completed without error)			
	FB_ERROR(Error flag)			
	ERROR_ID(Error code) 0 Error code 0 Error code			
Relevant manuals	•MELSEC-Q High-Speed Counter Module User's Manual			
	•MELSEC-L High-Speed Counter Module User's Manual			
	 QCPU 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 channel is not valid.	Please try again after confirming the setting.
	The target channel is not within the	
	range of 1 to 2.	

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 D62 module is
				mounted. (For example,
				enter H10 for X10.)
Target CH	i_CH	Word	1 to 2	Specify the CH number.
Preset value	i_PresetValue	Double	-2,147,483,648 to	Specify the preset value.
		Word	2,147,483,647	

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.
Completed without	FB_OK	Bit	OFF	When ON, it indicates that preset command
error				(Y signal) is ON.
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

Note

This chapter includes information related to the M+D62_PresetOperation function block.

It does not include information on restrictions of use such as combination with high-speed counter modules or programmable controller CPUs.

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



2.8 M+D62_CountDisableOperation (Disable count function operation)

FB Name

M+D62_CountDisableOperation

Function Overview

Description				
Executes disable count function for a specified channel or all channels.				
	M+D62_CountDisableOperation			
Execution command	B : FB_EN		FB_ENO : B	Execution status
Module start XY address	s	o_Di	isableStart : B-	—— Disable count operating flag
Target CH	I — W : i_CH	F	B_ERROR : B	—— Error flag
			ERROR_ID : W-	—— Error code
High-Speed				
Counter Module	Series			Model
	MELSEC-Q Series	QD62,	QD62E, Q[D62D
	MELSEC-L Series	LD62,	LD62D	
CPU module	-			
		Model		Model
	MELSEC-Q Series			
		High performance model *		
			sai modei	
Engineering		PU (A mo	Dae)	
• •			S	oftware version
Soltware				
		ersion		
	· · · · ·			.49B or later
				.49B or later
		ns applie		
	"Relevant manuals".		-	,
	Executes disable con Execution command Module start XY address Target CH High-Speed	Executes disable count function for a specifie M+D62_CountD Execution command B : FB_EN W : i_Start_IO_No Target CH W : i_CH High-Speed Counter Module CPU	Executes disable count function for a specified chann Execution command Execution command B : FB_EN W : i_Start_IO_No o_D Target CH W : i_CH High-Speed Counter Module CPU module Series MELSEC-Q Series QD62, MELSEC-L Series LD62, CPU module Series MELSEC-Q Series Basic r High p Univers MELSEC-L Series LCPU * Not applicable for QCPU (A mod Series) Software Engineering Software Chinese (Simplified) version Chinese (Simplified) version Chinese (Traditional) version Korean version *1 For software versions applice	Executes disable count function for a specified channel or all char M+D62_CountDisableOperation B : FB_EN FB_ENO : B Module start XY address Target CH B: CH FB_ERROR : B ERROR.ID : W High-Speed Counter Module CPU module CPU module CPU module Series MELSEC-Q Series MELSEC-Q Series MELSEC-Q Series MELSEC-Q Series MELSEC-Q Series MELSEC-Q Series MELSEC-Q Series MELSEC-Q Series MELSEC-Q Series CPU module Series MELSEC-Q Series MELSEC-Q Series MELSEC-Q Series MELSEC-Q Series Series MELSEC-Q Series MELSEC-Q Series MELSEC-Q Series MELSEC-Q Series CPU * Not applicable for QCPU (A mode) Engineering software CRW orks2 *1 Software Series Series Series CPU * Not applicable for QCPU (A mode) CN oresion 1 Chinese (Simplified) version Version 1 Chinese (Simplified) version Version 1 Chinese (Traditional) version Version 1 Korean version *1 For software versions applicable to the



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Item	Description
Programming	Ladder
language	
Number of steps	174 steps (for MELSEC-Q series universal model CPU)
(maximum value)	* 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 disable count function is executed.
	2) FB operation is one-shot only, triggered by the FB_EN signal.
	3) When the target CH 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
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) Turn OFF the counter function selection start command (Y signal) signal when using the
	FB. When the signal is ON, the disable count function of the target channel will not be executed.
	5) When two or more of these FBs are used, precaution must be taken to avoid repetition of the target CH.
	 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) When this FB is used in two or more places, a duplicated coil warning will 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) The pulse input mode, counting speed setting, and counter format must be properly
	configured to match systems and devices connected to the QD62(E/D) or LD62(D).
FB operation type	Pulsed execution (1 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) Counter function selection setting (buffer memory) Counter function selection start command (Y signal) o_DisableStart(Disable count operating flag) FB_ERROR(Error flag) ERROR_ID(Error code)	FB_EN (Execution command) FB_ENO(Execution status) Counter function selection setting (buffer memory) Counter function selection start command (Y signal) o_DisableStart(Disable count operating flag) FB_ERROR(Error flag) ERROR_ID(Error code)
Relevant manuals	•MELSEC-Q High-Speed Counter Module Use •MELSEC-L High-Speed Counter Module Use •QCPU User's Manual (Hardware Design, Ma •GX Works2 Version 1 Operating Manual (Con •GX Works2 Version 1 Operating Manual (Sim	er's Manual aintenance and Inspection) mmon)

Error Codes Error code list Error code Description Action

Error code	Description	Action
10 (Decimal)	The specified target channel is not valid.	Please try again after confirming the setting.
	The target channel is not within the	
	range of 1 to 2 or 15.	



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 D62 module is
				mounted. (For example,
				enter H10 for X10.)
Target CH	i_CH	Word	1 to 2 or 15	1 to 2: Specify the CH
				number.
				15: Specify all CHs.

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.
Disable count	o_DisableStart	Bit	OFF	When ON, it indicates that the execution
operating flag				command for disable count is ON.
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

Note

This chapter includes information related to the M+D62_CountDisableOperation function block.

It does not include information on restrictions of use such as combination with high-speed counter modules or programmable controller CPUs.

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



2.9 M+D62_LatchCounterOperation (Latch counter function operation)

FB Name

M+D62_LatchCounterOperation

Function Overview

Item	Description				
Function overview	Executes latch counter function.				
Symbol			M+D62_Latch0	CounterOperation	
	Execution command	k	B : FB_EN FB_ENO : B		Execution status
	Module start XY address	s ——	W : i_Start_IO_No	FB_OK : B	Completed without error
	Target CH	1	W : i_CH	o_LatchCount:D	Latch count value
				FB_ERROR : B	Error flag
				ERROR_ID : W	Error code
Applicable hardware	High-Speed				
and software	Counter Module		Series	N	lodel
		ME	ELSEC-Q Series	QD62, QD62E, QD	62D
		ME	ELSEC-L Series	LD62, LD62D	
	CPU module				
			Series	N	lodel
		ME	ELSEC-Q Series	Basic model	
				High performance r	nodel *
				Universal model	
		ME	ELSEC-L Series	LCPU	
		* No	ot applicable for QC	PU (A mode)	



Item	Description			
	Engineering GX Works2 *1			
	software	Language	Software version	
		Japanese version	Version 1.86Q or later	
		English version	Version 1.24A or later	
		Chinese (Simplified) version	Version 1.49B or later	
		Chinese (Traditional) version	Version 1.49B or later	
		Korean version	Version 1.49B or later	
		*1 For software versions applie	cable to the modules used, refer to	
		"Relevant manuals".		
Programming	Ladder			
language				
Number of steps	144 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 def	finition.		
Function description	1) By turning ON FB	1) By turning ON FB_EN (Execution command), the latch counter function is executed.		
	2) FB operation is on	e-shot only, triggered by the FB_	EN signal.	
	3) When the target C	H setting value is out of range, th	ne FB_ERROR output turns ON,	
	processing is inter	rupted, and the error code 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) Turn OFF the counter function selection start command (Y signal) signal when using the		
	FB. When the signal is ON, the latch counter function of the target channel will not be executed.		
	5) When two or more of these FBs are used, precaution must be taken to avoid repetition of		
	the target CH.		
	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) When this FB is used in two or more places, a duplicated coil warning will 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) The pulse input mode, counting speed setting, and counter format must be properly		
	configured to match systems and devices connected to the QD62(E/D) or LD62(D).		
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)		
	(Execution command) FB_ENO(Execution status)		
	Counter function selection setting (buffer memory)		
	Counter function selection		
	o_LatchCount ((_table_count_value) No setting Latch count_value LatchCount No setting		
	(Latch court value) FB_OK (Completed without error)		
	FB_ERROR(Error flag) FB_ERROR(Error flag)		
	ERROR_ID(Error code) 0 ERROR_ID(Error code) 0 Error code 0		



Item	Description
Relevant manuals	•MELSEC-Q High-Speed Counter Module User's Manual
	•MELSEC-L High-Speed Counter Module User's Manual
	•QCPU 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 channel is not valid.	Please try again after confirming the setting.
	The target channel is not within the	
	range of 1 to 2.	

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 D62 module is
				mounted. (For example,
				enter H10 for X10.)
Target CH	i_CH	Word	1 to 2	Specify the CH 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.
Completed without	FB_OK	Bit	OFF	When ON, it indicates that the execution
error				command for latch counter is ON.
Latch count value	o_LatchCount	Double	0	Store the latch count value.
		Word		
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

Note

This chapter includes information related to the M+D62_LatchCounterOperation function block.

It does not include information on restrictions of use such as combination with high-speed counter modules or programmable controller CPUs.

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



2.10 M+D62_SamplingOperation (Sampling counter function operation)

FB Name

M+D62_SamplingOperation

Function Overview

Item	Description			
Function overview	Executes sampling counter function.			
Symbol		M+D62_Sar	nplingOperation	
	Execution command	B : FB_EN	FB_ENO : B	Execution status
	Module start XY address		FB_OK : B	Completed without error
	Target CH	——W : i_CH	o_SamplingCount : D	Sampling count value
	Sampling time setting	───W : i_SamplingTime	FB_ERROR : B	Error flag
			ERROR_ID : W	Error code
Applicable hardware	High-Speed		_	
and software	Counter Module	Series	N	lodel
		MELSEC-Q Series	QD62, QD62E, QD	62D
		MELSEC-L Series	LD62, LD62D	
	CPU module			
		Series	N	lodel
		MELSEC-Q Series	Basic model	
			High performance n	nodel *
			Universal model	
		MELSEC-L Series	LCPU	
		* Not applicable for QC	PU (A mode)	



Item	Description				
	Engineering	GX Works2 *1			
	software	Language	Software version		
		Japanese version	Version 1.86Q or later		
		English version	Version 1.24A or later		
		Chinese (Simplified) version	Version 1.49B or later		
		Chinese (Traditional) version	Version 1.49B or later		
		Korean version	Version 1.49B or later		
		*1 For software versions appli	cable to the modules used, refer to		
		"Relevant manuals".			
Programming	Ladder				
language					
Number of steps	176 steps (for MELSEC-Q series universal model CPU)				
(maximum value)	* The number of steps of the FB in a program depends on the CPU model that is used and				
	input and output de	input and output definition.			
Function description	1) By turning ON FB_EN (Execution command), the sampling count starts with the preset				
	i_SamplingTime (Sampling time setting (unit: 10ms	s)), and the sampling count value is		
	read from the buff	er memory.			
	2) When the samplin	ig time period elapses, FB_OK (C	Completed without error) is turned ON,		
	and the processin	g is completed.			
	3) When the target C	CH setting value is out of range, the setting value is out of range.	he FB_ERROR output turns ON,		
	processing is inter	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 proce	essing. Program the error recovery	
precautions	processing separately in accordance with the	e required system operation.	
	2) The FB cannot be used in an interrupt progra	am.	
	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) Turn OFF the counter function selection start	command (Y signal) signal when using the	
	FB. When the signal is ON, the sampling coube executed.	unter function of the target channel will not	
	5) When two or more of these FBs are used, pre	ecaution must be taken to avoid repetition of	
	the target CH.		
	6) This FB uses index registers Z6 to Z9. Please interrupt program.	e do not use these index registers in an	
	7) Every input must be provided with a value for	r proper FB operation.	
	8) When this FB is used in two or more places, a duplicated coil warning will 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) The pulse input mode, counting speed setting, and counter format must be properly		
	configured to match systems and devices co	nnected to the QD62(E/D) or LD62(D).	
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	FB FN	
		FB_EN (Execution command)	
	Counter function selection		
	setting (buffer memory)	setting (buffer memory)	
	Sampling time setting (buffer memory) Counter function selection	(buffer memory) Counter function selection	
	o_SamplingCount Refreshing Refreshing	start command (Y signal) o_SamplingCount	
	(Sampling count value) stop refreshing stop	Openation No setting (Sampling count value)	
	(buffer memory) FB_OK	(buffer memory) V FB_OK	
	(Completed without error)	(Completed without error) FB_ERROR(Error flag)	
		EPBOD ID(Error code)	
	ERROR_ID(Error code) U	ERROR_ID(Error code)	



Item	Description
Relevant manuals	•MELSEC-Q High-Speed Counter Module User's Manual
	•MELSEC-L High-Speed Counter Module User's Manual
	•QCPU 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 channel is not valid.	Please try again after confirming the setting.
	The target channel is not within the	
	range of 1 to 2.	

Labels

Input la	bels
----------	------

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 D62 module is
				mounted. (For example,
				enter H10 for X10.)
Target CH	i_CH	Word	1 to 2	Specify the CH number.
Sampling time	i_SamplingTime	Word	1 to 65,535*1	Set the sampling time.
setting (unit: 10ms)				(unit: 10ms)
				*1: Setting method
				•1 to 32,767: Set in
				decimal.
				•32,768 to 65,535: Set
				after converted into
				hexadecimal.



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.
Completed without	FB_OK	Bit	OFF	When ON, it indicates that the sampling time
error				period elapses, and sampling counter
				function is ended.
Sampling count	o_SamplingCount	Double	0	Store the sampling count value.
value		Word		
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

Note

This chapter includes information related to the M+D62_SamplingOperation function block.

It does not include information on restrictions of use such as combination with high-speed counter modules or programmable controller CPUs.

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



2.11 M+D62_PeriodicPulseCounter (Periodic pulse counter function operation)

FB Name

M+D62_PeriodicPulseCounter

Function Overview

Item	Description			
Function overview	Executes periodic pulse counter function.			
Symbol		M+D62_PeriodicPulseCounter		
	Execution command —	B : FB_EN	FB_ENO : B-	Execution status
	Module start XY address —	— W : i_Start_IO_No	FB_OK : B-	Completed without error
	Target CH —	— W∶i_CH	o_PreviousValue:D-	— Periodic pulse count previous value
	Periodic time setting—	— W : i_PeriodTime	o_PresentValue:D-	Periodic pulse count present value
			FB_ERROR : B-	—— Error flag
			ERROR_ID : W-	Error code
Applicable hardware	High-Speed			
and software	Counter Module	Series Model		Model
		MELSEC-Q Series	QD62, QD62E	, QD62D
		MELSEC-L Series	LD62, LD62D	
	CPU module			
		Series		Model
		MELSEC-Q Series	Basic model	
			High performance model *	
		Universal model		el
		MELSEC-L Series	LCPU	
		* Not applicable for QC	PU (A mode)	



Item	Description					
	Engineering	GX Works2 *1				
	software	Language	Software version			
		Japanese version	Version 1.86Q or later			
		English version	Version 1.24A or later			
		Chinese (Simplified) version	Version 1.49B or later			
		Chinese (Traditional) version	Version 1.49B or later			
		Korean version	Version 1.49B or later			
		*1 For software versions appli	cable to the modules used, refer to			
		"Relevant manuals".				
Programming	Ladder					
language						
Number of steps	169 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 periodic pulse count starts with the					
	preset i_PeriodTime (Periodic time setting (unit: 10ms)), and the periodic pulse count					
	previous value and periodic pulse count present value are read from the buffer memory.					
	2) When the target CH setting value is out of range, the FB_ERROR output turns ON,					
	processing is inter	rrupted, and the error code 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) Turn OFF the counter function selection start command (Y signal) signal when using the				
	FB. When the signal is turned ON, the periodic pulse counter function of the target				
	channel will not be executed.				
	5) When two or more of these FBs are used, precaution must be taken to avoid repetition of				
	the target CH.				
	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) When this FB is used in two or more places, a duplicated coil warning will 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) The pulse input mode, counting speed setting, and counter format must be properly				
	configured to match systems and devices connected to the QD62(E/D) or LD62(D).				
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)				
	(Execution command) FB_ENO(Execution status)				
	Counter function selection No setting 3 Counter function selection No setting				
	Periodic time setting No setting Value Periodic time setting No setting Value No setting No setting Value No setting No s				
	(buffer memory) Counter function selection start command (Y signal)				
	O_PreviousValue(Periodic No refreshing Refreshing O_PreviousValue(Periodic No refreshing				
	pulse count previous value) stop stop pulse count previous value) O.PresentValue(Periodic pulse count present value) Refreshing Refreshing				
	FB_OK (Completed without error)				
	FB_ERROR(Error flag) FB_ERROR(Error flag)				
	ERROR ID(Error code) 0 Error code 0 Error code 0				



Item	Description	
Relevant manuals	•MELSEC-Q High-Speed Counter Module User's Manual	
	•MELSEC-L High-Speed Counter Module User's Manual	
	•QCPU 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 channel is not valid.	Please try again after confirming the setting.	
	The target channel is not within the		
	range of 1 to 2.		

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 D62 module is
				mounted. (For example,
				enter H10 for X10.)
Target CH	i_CH	Word	1 to 2	Specify the CH number.
Periodic time setting	i_PeriodTime	Word	1 to 65,535*1	Set periodic time setting.
(unit: 10 ms)				(unit: 10ms)
				*1: Setting method
				•1 to 32,767: Set in
				decimal.
				•32,768 to 65,535: Set
				after converted into
				hexadecimal.



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.
Completed without	FB_OK	Bit	OFF	When ON, it indicates that the periodic pulse
error				counter function is started.
Periodic pulse count	o_PreviousValue	Double	0	Store the periodic pulse count previous
previous value		Word		value.
Periodic pulse count	o_PresentValue	Double	0	Store the periodic pulse count present
present value		Word		value.
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

Note

This chapter includes information related to the M+D62_PeriodicPulseCounter function block.

It does not include information on restrictions of use such as combination with high-speed counter modules or programmable controller CPUs.

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



2.12 M+D62_OverflowDetection (Overflow detection)

FB Name

M+D62_OverflowDetection

Function Overview

Item	Description				
Function overview	Detects overflow.				
Symbol		M+D62_Over	M+D62_OverflowDetection		
	Execution command—	B : FB_EN		FB_ENO : B	Execution status
	Module start XY address —			o_Overflow : B	Overflow occurrence flag
	Target CH —	— W : i_CH		FB_ERROR : B	—— Error flag
				ERROR_ID : W	Error code
Applicable hardware	High-Speed				
and software	Counter Module	Series		Ν	Nodel
		MELSEC-Q Series	QD62,	QD62E, QD	062D
		MELSEC-L Series	LD62,	LD62D	
	CPU module				
		Series		Model	
		MELSEC-Q Series	Basic model		
				erformance	model *
				sal model	
		MELSEC-L Series	LCPU		
		Not applicable for QCI	PU (A mo	ode)	
		X Works2 *1			
	software	Language			oftware version
		Japanese version			86Q or later
		English version		Version 1.24A or later	
		Chinese (Simplified) ve			
		Chinese (Traditional) v			
		Korean version			49B or later
			ns appli	cable to the	e modules used, refer to
	"	Relevant manuals".			



MELSEC-Q/L High-Speed Counter Module FB Library Reference Manual FBM-M032-C

Item	Description		
Programming	Ladder		
language			
Number of steps	100 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) While FB_EN (Execution command) is ON, o_Overflow (Overflow occurrence flag) turns		
	ON if overflow occurs.		
	2) When the target CH 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		
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 CH.		
	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 input mode, counting speed setting, and counter format must be properly		
	configured to match systems and devices connected to the QD62(E/D) or LD62(D).		
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)		
	(Execution command) FB_ENO(Execution status)		
	Overflow detection flag (buffer memory) 0 1 0 1 Overflow detection flag (buffer memory) 0 1 0 1		
	(Overflow cocurrence flag)		
	FB_ERROR(Error flag)		
	ERROR_ID(Error code) 0 ERROR_ID(Error code) 0 Error code 0		



MELSEC-Q/L High-Speed Counter Module FB Library Reference Manual FBM-M032-C

Item	Description
Relevant manuals	•MELSEC-Q High-Speed Counter Module User's Manual
	•MELSEC-L High-Speed Counter Module User's Manual
	•QCPU 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 channel is not valid.	Please try again after confirming the setting.
	The target channel is not within the	
	range of 1 to 2.	

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 D62 module is
				mounted. (For example,
				enter H10 for X10.)
Target CH	i_CH	Word	1 to 2	Specify the CH 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.
Overflow occurrence	o_Overflow	Bit	OFF	ON: Overflow being occurred.
flag				OFF: No overflow detected.
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

Note

This chapter includes information related to the M+D62_OverflowDetection function block.

It does not include information on restrictions of use such as combination with high-speed counter modules or programmable controller CPUs.

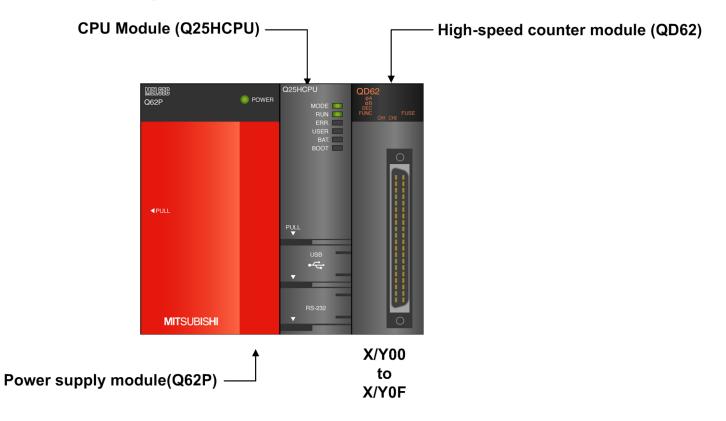
Before using any Mitsubishi products, please read all the relevant manuals.



Appendix 1. FB Library Application Examples D62 FB Application examples

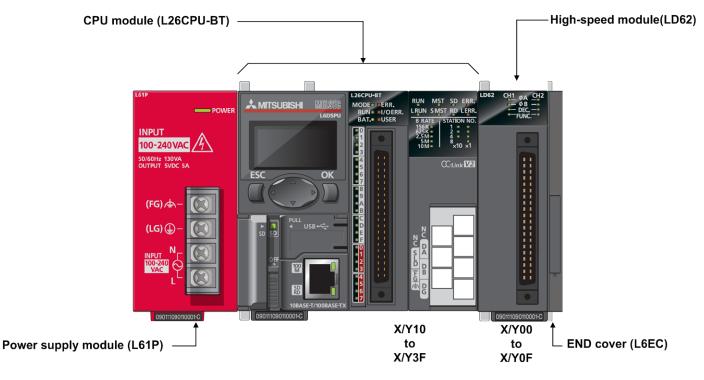
System Configuration Example

(1) Q series system configuration Example





(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)

ternai input (commands)			
Device	FB function name	Application(ON details)	
M0	Ring counter setting	Ring counter setting request	
M10	Count enable operation	Count enable command	
M20	Present value monitoring	Present value read request	
M30	Present value monitoring (All CHs)	Present value read request	
M40	Coincidence output function	Coincidence output set command	
M41	Coincidence output function setting	Coincidence output No.1 enable	
M42	setting	Coincidence output No.2 enable	
M50	Coincidence output enable setting	Coincidence enable command	
M60	Preset function operation	Preset function execution cmd	
M70	Disable count function operation	Disable count command	
M80	Latch counter function operation	Latch counter command	
M90	Sampling counter function operation	Sampling count command	
M100	Periodic pulse counter function operation	Periodic pulse count command	
M110	Overflow detection	Overflow detection command	

Data register

Device	FB function name	Application(ON details)
D0	Ring counter setting	Ring counter setting error code
D10	Count enable operation	Count enable FB error code
D20		Present value
D21	Present value monitoring	
D22		monitoring error code
D30		CH1 present value
D31	Present value monitoring	
D32	(All CHs)	CH2 present value
D33		
D40	Coincidence output function setting	setting FB error code
D50	Coincidence output enable setting	Coincidence enable set err code
D60	Preset function operation	Preset fcn execution error code
D70	Disable count function operation	Disable count execution err code
D80	Latch counter function	Latch count value
D81	operation	
D82	operation	Latch counter execution err code
D90	Sampling counter function	Sampling count value
D91	operation	
D92	operation	Sampling execution error code
D100		Periodic pls cnt previous value
D101	Periodic pulse counter	
D102	function operation	Periodic pls cnt present value
D103		
D104		Periodic pls counter error code
D110	Overflow detection	Overflow detection FB error code

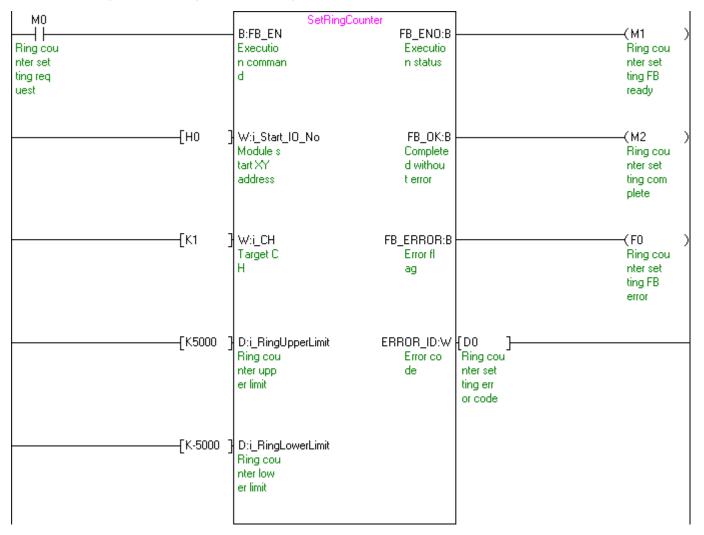
External output (checks)

	out (checks)	
Device	FB function name	Application(ON details)
M1		Ring counter setting FB ready
M2	Ring counter setting	Ring counter setting complete
F0		Ring counter setting FB error
M11		Count enable FB ready
M12	Count enable operation	Count operating flag
F5		Count enable FB error
M21		Present value monitoring ready
M22	Present value monitoring	Present value read OP complete
F10		Present value monitoring error
M31	Present value monitoring	Present value monitoring ready
M32	(All CHs)	Present value read OP complete
M43		Coincidence output fcn set ready
M44	Coincidence output function setting	Coincidence output fcn set comp
F15		Coincidence output fcn set error
M51		Coincidence enable set ready
M52	Coincidence output enable	Coincidence enable set complete
F20	setting	Coincidence enable set error
M61		Preset function execution ready
M62	Preset function operation	Preset function execution comp
F25		Preset function execution error
M71		Disable count execution ready
M72	Disable count function	Disable count operating flag
F30	operation	Disable count execution error
M81		Latch counter execution ready
M82	Latch counter function opera	Latch counter execution complete
F35	· ·	Latch counter execution error
M91		Sampling counter execution ready
M92	Sampling counter function operation	Sampling counter execution comp
F40		Sampling counter execution error
M101	Periodic pulse counter	Periodic pls counter ready
M102	function operation	Periodic pls counter complete
F45	1	Periodic pls counter error
M111		Overflow detection FB ready
M112	Overflow detection	Overflow being detected
F50		Overflow detection FB error
	1	



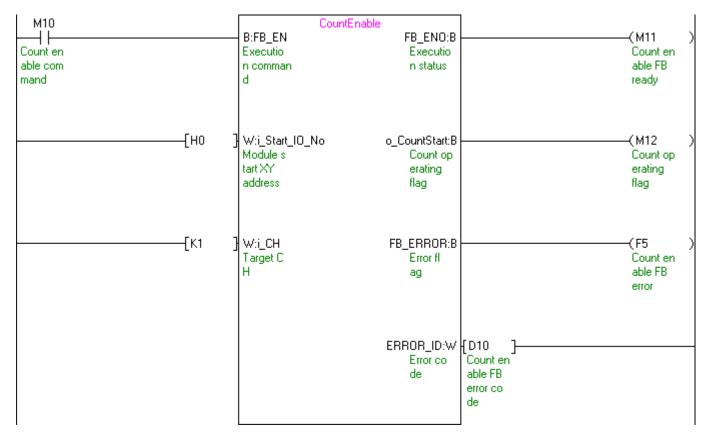
Program

M+D62_SetRingCounter (Ring counter setting)

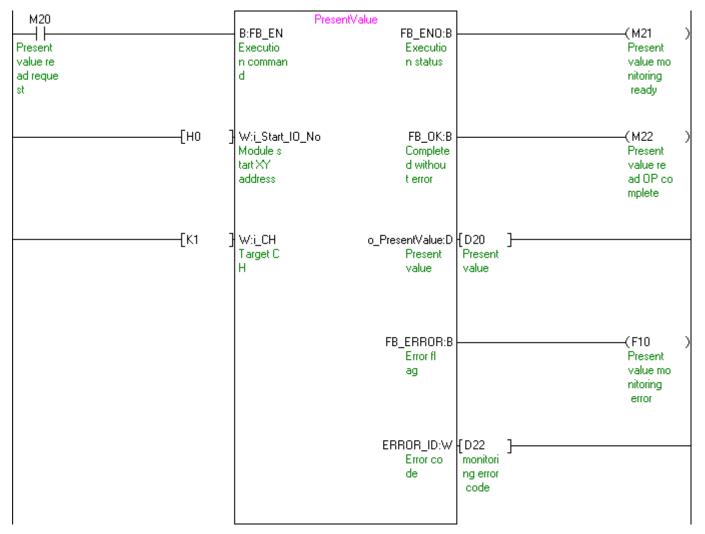




M+D62_CountEnable (Count enable operation)

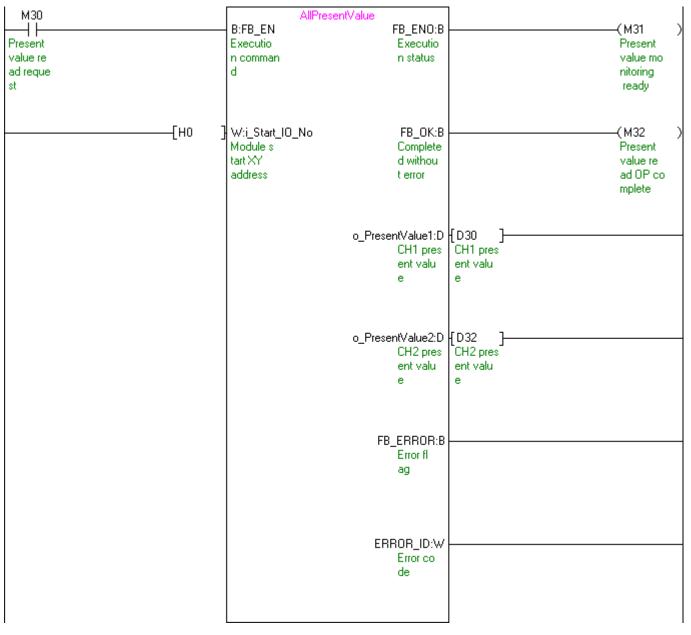






M+D62_PresentValueStorage (Present value monitoring)





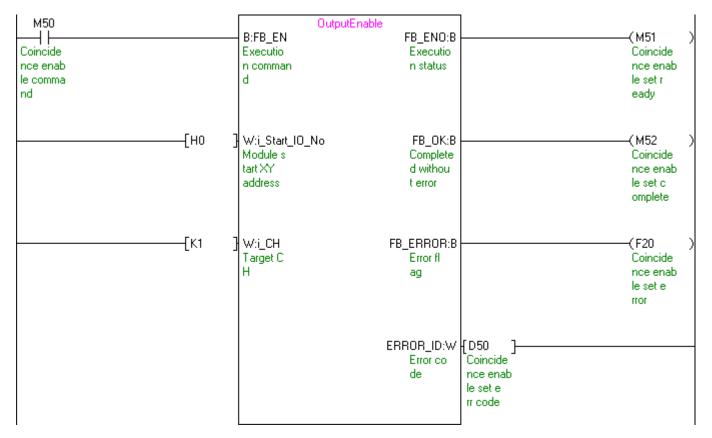
M+D62_AllPresentValueStorage (Present value monitoring (All CHs))



M40		SetOutp B:FB_EN	FB_ENO:B		(M43
Coincide nce outp ut set c ommand		Executio n comman d	Executio n status		Coincide nce outp ut fcn s et ready
	[НО]	W:i_Start_IO_No Module s tart XY address	FB_OK:B Complete d withou t error		(M44 Coincide nce outp ut fcn s et comp
	[К1]	W:i_CH Target C H	FB_ERROR:B Error fl ag		F15 Coincide nce outp ut fcn s et error
M41 Coincide nce outp ut No.1 enable		B:i_OutEnable_No1 Coincide nce outp ut No.1 enable	ERROR_ID:W - Error co de	{D40 } setting FB error code	
M42 Coincide nce outp ut No.2 enable		B:i_OutEnable_No2 Coincide nce outp ut No.2 enable			
	[K1000]	D:i_SetPoint_No1 Coincide nce outp ut No.1 point se			
	[K1000]	D:i_SetPoint_No2 Coincide nce outp ut No.2 point se			

M+D62_SetCoincidenceOutput (Coincidence output function setting)

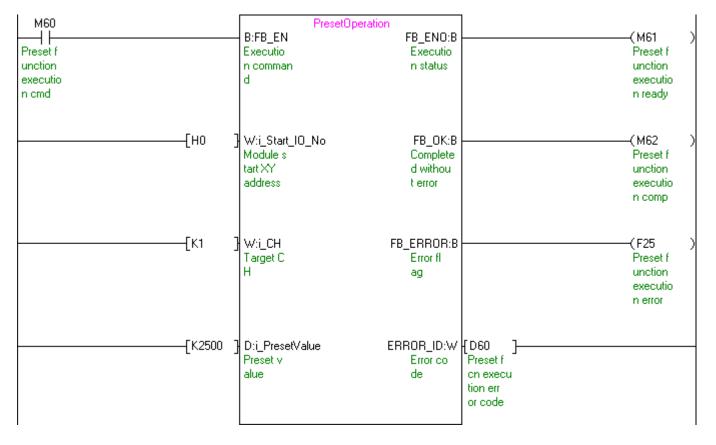




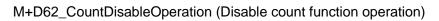
M+D62_CoincidenceOutputEnable (Coincidence output enable setting)

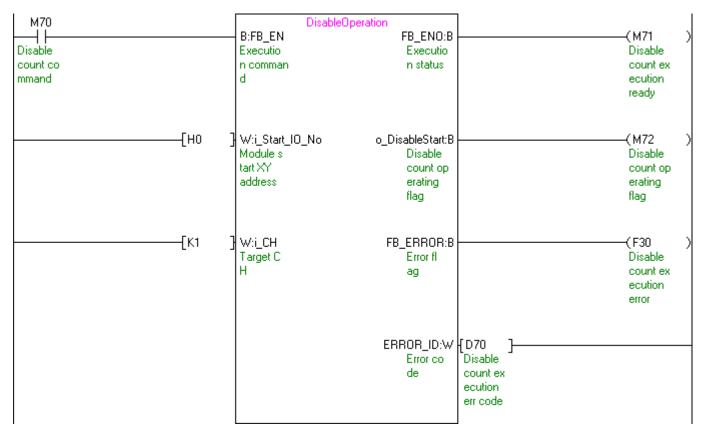


M+D62_PresetOperation (Preset function operation)

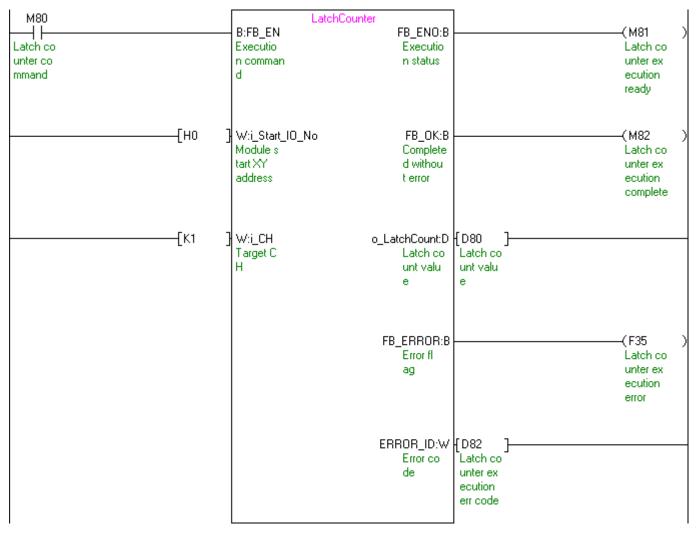






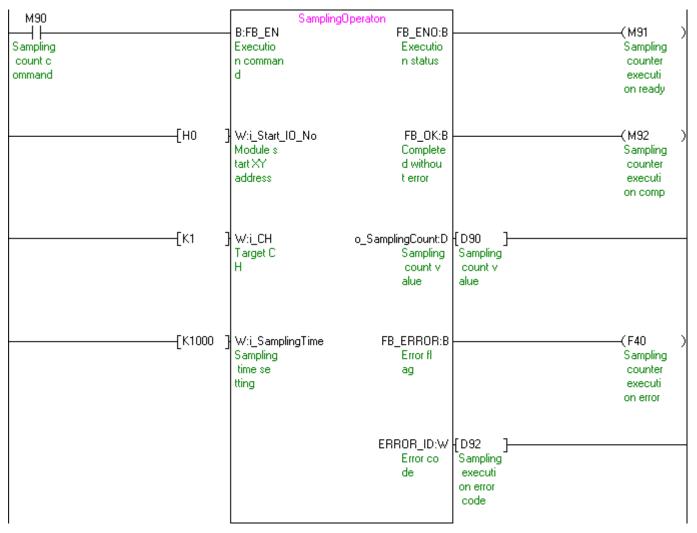






M+D62_LatchCounterOperation (Latch counter function operation)





M+D62_SamplingOperation (Sampling counter function operation)



Periodic Executio Executio pulse c n status n comman ount com d mand -[но FB_OK:B W:i_Start_IO_No Module s Complete tart XY d withou address t error -[K1 W:i_CH o_PreviousValue:D FD100] Target C Periodic Periodic Н pulse c pls ont ount pre previou vious va s value -[K500 W:i_PeriodTime o_PresentValue:D [D102] Periodic Periodic Periodic pls ont time se pulse c tting ount pre present sent val value

PeriodicCounter

FB_ENO:B

FB_ERROR:B

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Error fl

ERROR_ID:W ∦ D104

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Periodic

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M+D62_PeriodicPulseCounter (Periodic pulse counter function operation)

B:FB_EN



M100

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M+D62_OverflowDetection (Overflow detection)

