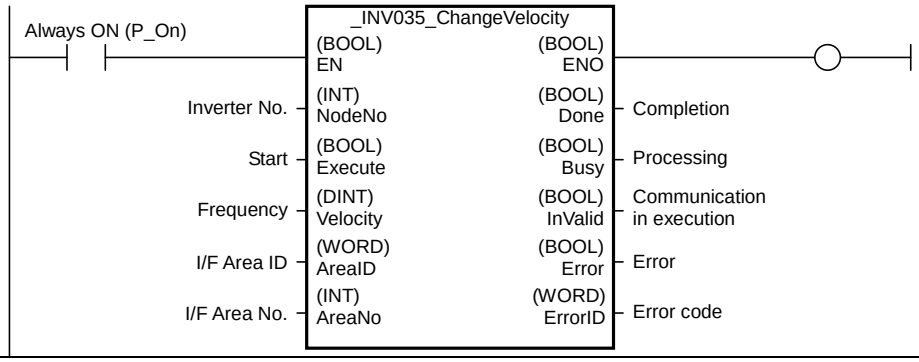
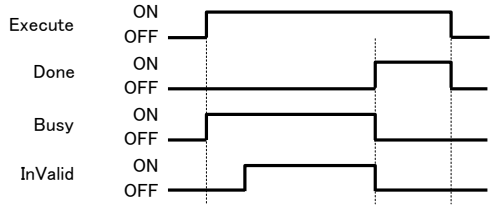
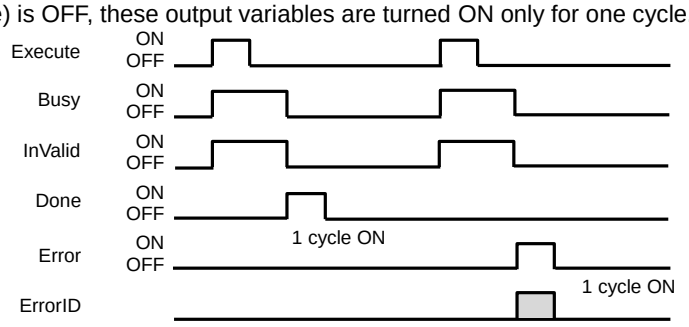
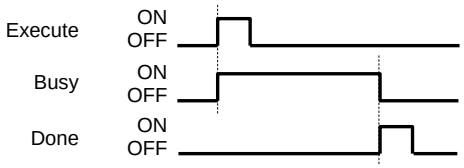
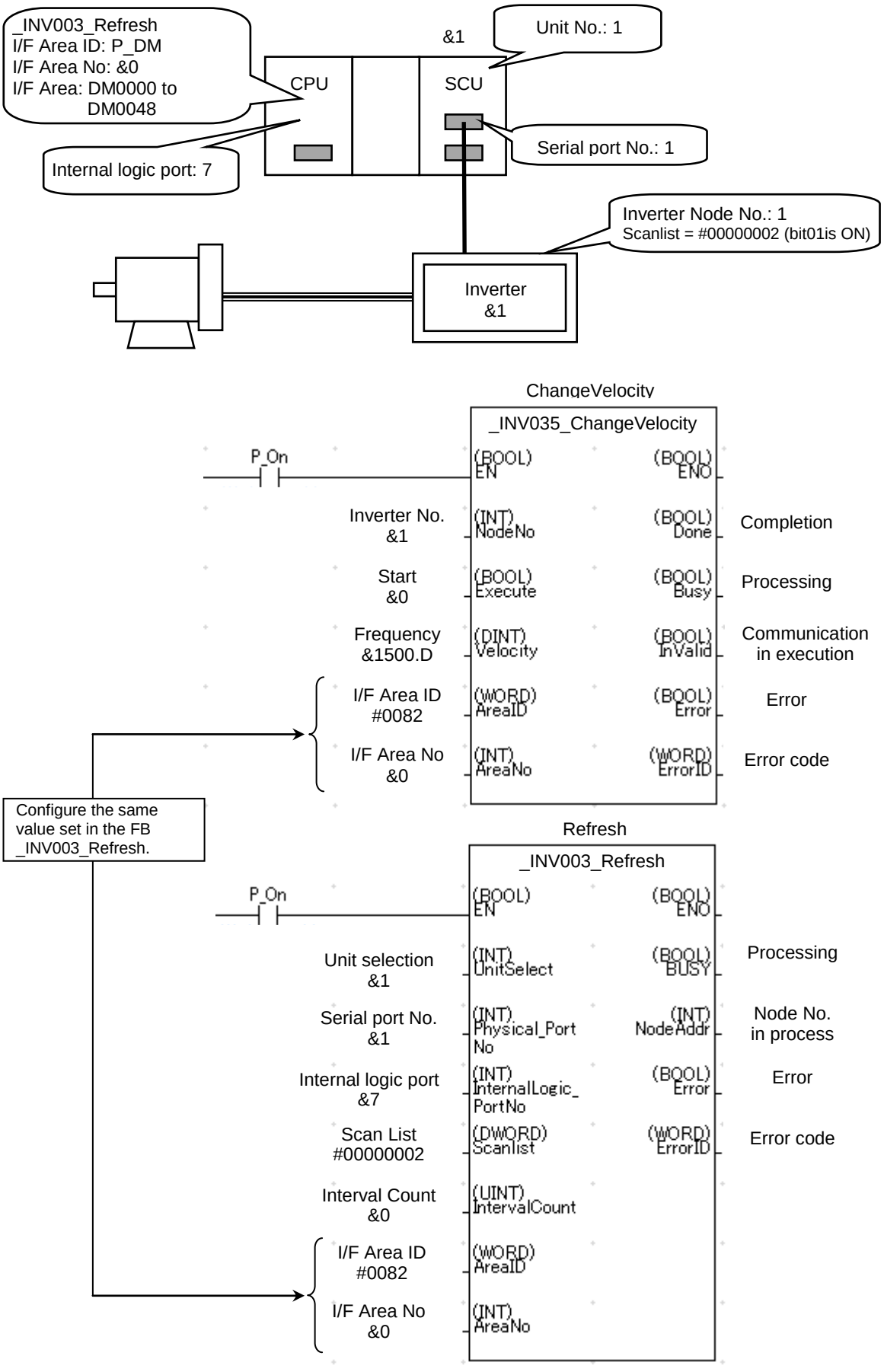
INV 035	Frequency Change: _INV035_ChangeVelocity

Basic function	Changes a reference frequency for the inverter.	
Symbol		
File name	Lib\FBL\omronlib\Inverter\INVRT(MX2_RX)\Serial_INV035_ChangeVelocity.cxf	
Applicable models	Inverters	3G3MX2-*****-V1 3G3RX-*****-V1
	CPU Unit	CJ2H-CPU** Unit version 1.4 or later CJ2M-CPU** Unit version 2.0 or later CP1H Unit version 1.2 or later CP1L (except 10 points CPU) Unit version 1.0 or later
	Serial Communications Unit	CJ1W-SCU41-V1 Unit version 1.3 or later CJ1W-SCU42 Unit version 2.0 or later CJ1W-SCU31-V1 Unit version 1.3 or later CJ1W-SCU32 Unit version 2.0 or later
	RS-422A/485 Option Board	CP1W-CIF11 CP1W-CIF12
	CX-Programmer	Version 9.0 or higher
	Combination FB	_INV003_Refresh Version 1.0 or higher
Language	Ladder programming language	
Conditions for usage	■ Precondition for Usage This FB communicates with the inverter via a serial port which is controlled by the FB _INV003_Refresh. Start up the FB _INV003_Refresh to use this FB. Configure the same value set in the FB _INV003_Refresh for I/F Area ID (AreaID) and I/F Area No (AreaNo) in this FB. ■ Shared Resources I/F Area used for the FB _INV003_Refresh ■ Settings For the settings of communications port and inverter, refer to the FB _INV003_Refresh.	
Function description	Changes a reference frequency for the inverter specified in Inverter No. (NodeNo). When Start (Execute) is turned ON, the value set in Frequency (Velocity) is written into the inverter. Use this FB to change a reference frequency after executing the FB _INV034_MoveVelocity. ■ Output Variables Behavior Completion (Done) is turned ON when the frequency has been written into the inverter. Processing (Busy) is turned ON when the input variable, Start (Execute) is turned ON, and turned OFF when Completion (Done) or Error (Error) is turned ON. Error (Error) is turned ON when an error has occurred on this FB, and not turned ON due to errors in other FB or Instances. Completion (Done) and Error (Error) are turned OFF when the input variable, Start (Execute) is turned OFF. 	

	■ Output Variables Security Behavior for One Cycle When the output variable, Completion (Done) or Error (Error) is turned ON, if the input variable, Start (Execute) is OFF, these output variables are turned ON only for one cycle. 
FB definition	Several cycles execution type This FB takes several cycles to finish processing after starting up. It is impossible to use the same Instance in several areas at the same time because the status is held internally.
FB precautions	This FB takes several cycles to finish processing. It is possible to confirm whether the processing has been executed or not with the output variable, Processing (Busy). ■ Timing Chart 
EN input condition	・ Connect the EN input to the Always ON flag (P_ON). If the EN is connected to a contact, this FB output is held by turning OFF the contact.
Restrictions Others	・ Do not change relays in I/F Area during this FB operation because this FB uses them. ・ Use this FB in combination with FB _INV003_Refresh. For how to use, refer to usage examples.

Application example	
Reference	It is possible to allocate and use some FB _INV035_ChangeVelocity in order to issue a command for some axes.
Related manuals	For the programming with variables, refer to CHAPTER 4 Reference in PART 1: CX-Programmer, CX-Programmer Operation Manual (Cat. No. W446).

■ **Variable Table**

Input Variables

Name	Variable name	Data type	Default	Range	Description
EN	EN	BOOL	0 (OFF)	ON/OFF	1 (ON): Starts FB 0 (OFF): Does not start FB
Inverter No.	NodeNo	INT	&1	&1 to &31	Specifies the node No. of the inverter.
Start	Execute	BOOL	0 (OFF)	ON/OFF	Starts up the FB when this variable is turned ON.
Frequency	Velocity	DINT	&0	&0, starting frequency to maximum frequency	Specifies the reference frequency. Unit: 0.01 [Hz]
I/F Area ID	AreaID	WORD	#0082	Refer to the right column	The work area is shared by configuring the same Area specified for the FB _INV003_Refresh that controls the applicable serial port.
I/F Area No	AreaNo	INT	&0	Refer to the right column	

Output Variables

Name	Variable name	Data type	Range	Description
ENO	ENO	BOOL	ON/OFF	1 (ON): FB operating normally 0 (OFF): FB not operating normally
Completion	Done	BOOL	ON/OFF	When this variable is 1 (ON), the FB processing has been completed.
Processing	Busy	BOOL	ON/OFF	When this variable is 1 (ON), the FB is in process.
Communication in execution	InValid	BOOL	ON/OFF	When this variable is 1 (ON), FB accesses the message communications area in I/F Area and the command communication with the inverter is in execution.
Error	Error	BOOL	ON/OFF	When this variable is 1 (ON), an error has occurred in the FB. For details on the error, refer to Error code (ErrorID).
Error code	ErrorID	WORD	0x0000 to 0xFFFF	Returns the code for the error which occurred in the FB. For details on the error, refer to “Error/Abort Condition List”.

■ **Error/Abort Condition List**

Name	Error code	Probable error cause	Corrective measure
Normal completion	#0000	-	-
Response error	#0001 to #7FFF	A response error of the communications command occurred.	Identify an error cause from the FINS Commands End Codes List in Communications Command Reference Manual (W342).
Modbus exception response	#8001 to #9FFF	An exception response was returned via Modbus communication.	Identify an error cause from the Exception Response in Multi-function Compact Inverter MX2 Series Type V1 User's Manual (I585) and High-function General-purpose Inverter 3G3RX Series Type V1 User's Manual (I578). The exception response and code are respectively output to upper double digits (xx) and lower double digits (yy) of an error code “#xxyy”.
Out of the input variable	#A000	The input variable in this FB is out of range.	Set an input variable value within the specified range.
Communications stop	#A010	The specified node does not communicate.	Set the node in the scan list of FB _INV003_Refresh.
Communications error	#A011	A communications error occurred in the specified node.	Remove the error cause and then execute the command again.
		The value of the input variable, Frequency (Velocity) is out of range.	Set a value of the input variable, Frequency (Velocity) within the setting range.
Inverter error	#A100	An inverter error occurred.	Refer to Multi-function Compact Inverter MX2 Series Type V1 User's Manual (I585) and High-function General-purpose Inverter 3G3RX Series Type V1 User's Manual (I578) to identify an error cause.
External operation (Response area)	#A210	“Response area” in I/F Area was operated from outside the FB.	Do not operate I/F Area outside the FB. Moreover, do not use I/F Area with OUT instructions.

■ **Revision History**

Version	Date	Contents
1.00	2013.4.1	Original production

■ Note

This document explains the function of the function block.
It does not provide information of restrictions on the use of Units and Components or combination of them. For actual applications, make sure to read the operation manuals of the applicable products.