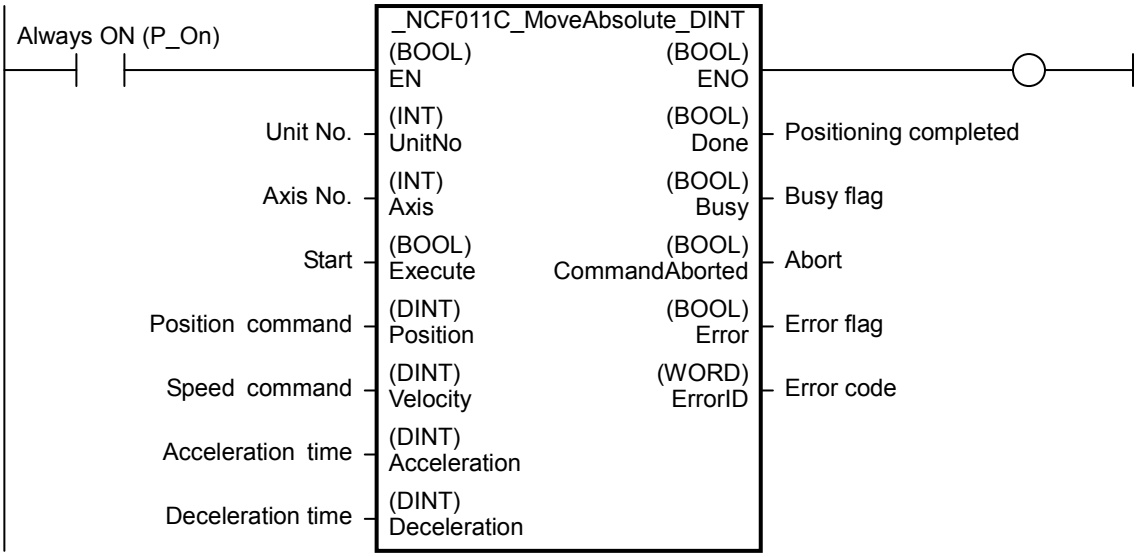
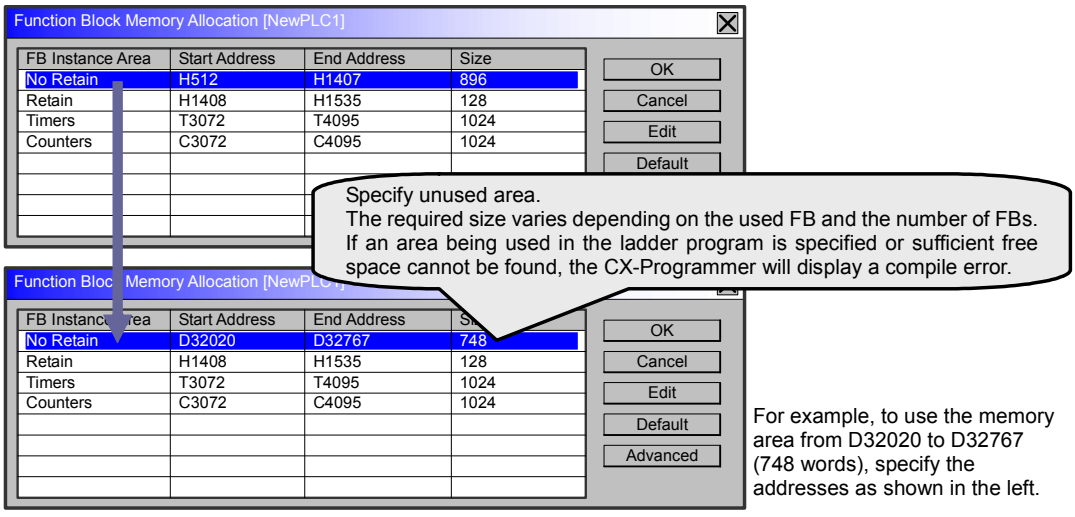
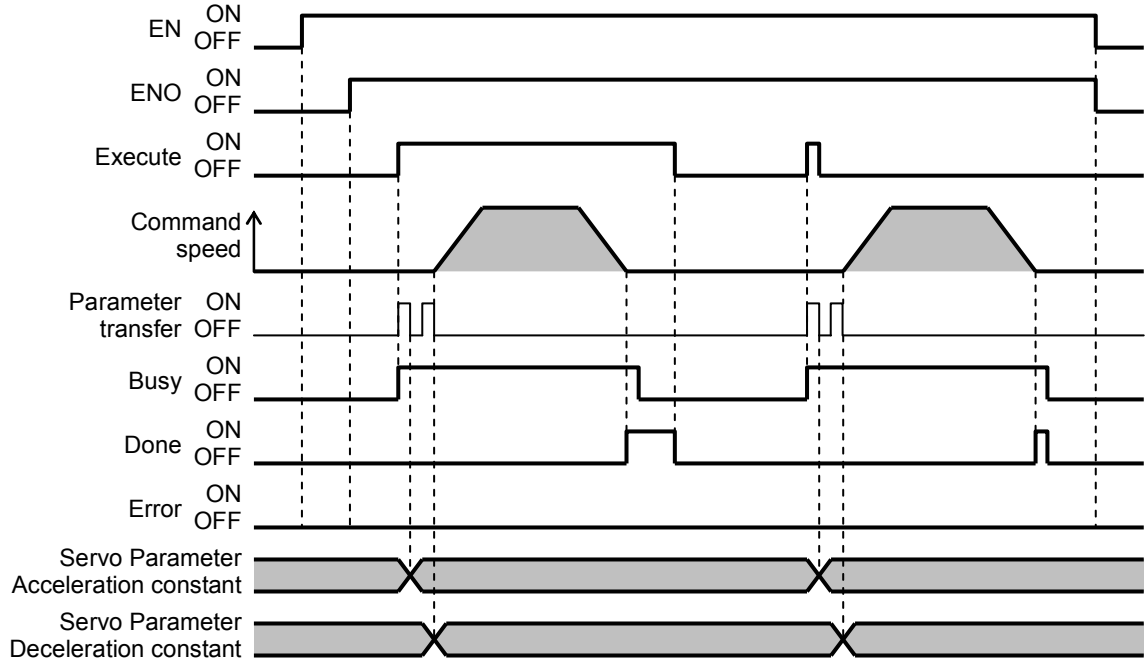
NCF 011C	Move Absolute (DINT) _NCF011C_MoveAbsolute_DINT

Basic function	Executes positioning with the absolute movement. (Acceleration/Deceleration time setting, Busy attachment)	
Symbol		
File name	Lib\FBL\omronlib\PositionController\NCF_NCF011C_MoveAbsolute_DINT10.cxf	
Applicable models	Position Control Unit	CJ1W-NCF71, CS1W-NCF71
	CPU Unit	CS1*-CPU**H Unit Version 3.0 or later CJ1*-CPU**H Unit Version 3.0 or later CJ1M-CPU** Unit Version 3.0 or later CP1H
	CX-Programmer	Version 5.0 or later
Languages in function block definitions	Ladder programming	
Conditions for usage	The following conditions for usage should be the Position Control Unit version 1.2 or earlier. (It will not be required in the Position Control Unit version 1.3 or later) ■CX-Programmer Setting The function blocks related to the Position Control Units will not operate if the area H512 or higher (default setting) is specified as the Non Retain Area through the Function block memory allocation. Make sure to change the memory area to unused area (DM or EM, for example) from the CX-Programmer. To change this value, click ***PLC/Function Block Memory/Function Block Memory Allocation*** from the Menu Bar.	



For example, to use the memory area from D32020 to D32767 (748 words), specify the addresses as shown in the left.

Function description	The acceleration/deceleration time setting and Busy output are added to the _NCF011_MoveAbsolute_DINT in this FB. When the Start (Execute) turns ON, a positioning operation for the axis of the specified the Unit No. (UnitNo) and Axis No. (Axis) is started using the specified Position command (Position) and Speed command (Velocity), Acceleration time (Acceleration) and Deceleration time (Deceleration). When the Start (Execute) turns ON, the value set in Acceleration time (Acceleration) and Deceleration time (Deceleration) is written to “Acceleration constant” and “Deceleration constant” using the Transferring Servo Parameter function. Refer to the *Restrictions Other* for the details of Servo Parameter “Acceleration constant” and “Deceleration constant”. Changing the Speed command (Velocity) during positioning by this FB will change the actual operation speed. The Positioning completed (Done) is turned ON when the positioning operation for the FB has been completed. This flag will not be turned ON if the positioning operation is canceled because another operation has been started from a different instance, for a deceleration stop, or because an error has occurred. The Busy flag (Busy) will be set when the Start (Execute) is turned ON. The Busy flag (Busy) will be reset when any of the Positioning completed (Done), Abort (CommandAborted), or Error flag (Error) is turned ON. Even if an error occurs when the input variable is out of the range, etc., the Busy flag (Busy) will be set for at least one cycle. The Error flag (Error) will be turned ON and the Error code (ErrorID) will be output if an error occurs for the FB. This will not occur for error in other FBs or other instances of the FB. These statuses (Done/CommandAborted/Error/ErrorID) will be reset when the Start (Execute) turns OFF. If the Start (Execute) turns OFF before the positioning operation has been completed, the status will be set for at least one cycle when corresponding conditions have occurred. 
Kind of FB definition	Always execution type. Connect the EN input to the Always ON Flag (P_On). The same instance cannot be used in two or more places
FB precautions	・Executing this FB during the positioning operation will cause a duplicate start. Positioning operation will be performed to the absolute position specified in Position command (Position) from the point at which the last execution was started. Refer to the *Related Manuals* for details.
EN input condition	・Connect the EN input to the Always ON Flag (P_On). If another bit is connected to EN, the FB outputs will be held when the connected bit turns OFF.

Restrictions Other

・The Acceleration/deceleration constants are calculated based on “Speed command (Velocity)” “Acceleration time (Acceleration)” and “Deceleration time (Deceleration)” in this FB. If the calculated value is out of Servo Parameter range, it will be adjusted to be within the range (1 to 65535). In this case, the specified acceleration/deceleration time may be altered.

(Reference) Acceleration/Deceleration constant setting range of Servo Drive

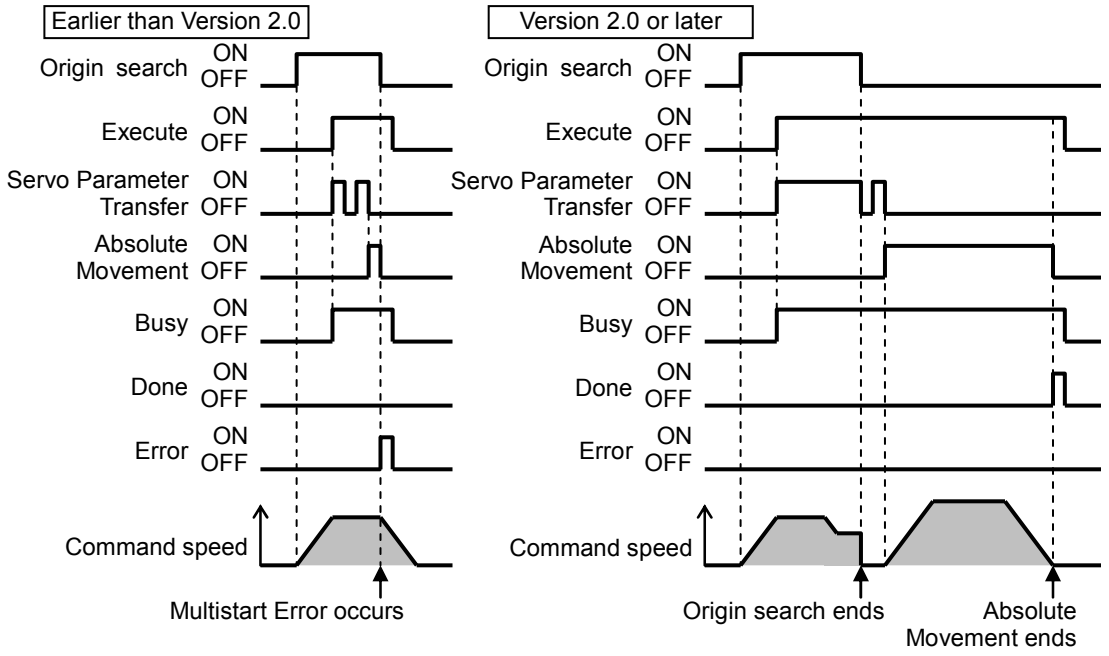
Drive	PRM No.	Parameter name	Size	Unit	Setting range
W-Series	Pn80B	Second-step linear acceleration constant	2	×10000 command units/s^2	1 to 65535
	Pn80E	Second-step linear deceleration constant	2	×10000 command units/s^2	1 to 65535
G-Series	Pn107 (80B)	Linear Acceleration constant	2	×10000 command units/s^2	0 to 65535 (Note)
	Pn10A (80E)	Linear deceleration constant	2	×10000 command units/s^2	0 to 65535 (Note)

(Note) Setting 0 automatically changes to 1.

・The following cannot be specified for this FB: “Acceleration/deceleration curve designation”, “Forward rotation current limit designation” and “Reverse rotation current limit designation” If any of these functions is required, specify them in advance outside the FB.

・This FB may act differently according to unit versions of the Position Control Units when executing this FB during the Origin Search operation.

Earlier than 2.0	A Multistart error occurs right after parameters are transferred. Do not execute this FB during the Origin search operation.
2.0 or later	The parameter transferring status is hold until the Origin search is completed. After the completion, the Move Absolute command is executed.



・This FB uses Unit Error Reset, Write Data, Read Data and Save Data Bits of the Position Control Unit (see Note). Therefore, do not turn these bits ON or OFF between the period from the rising edge of EN to the rising edge of ENO. For the same reason, do not use these bits for coil outputs (OUT commands).

・The output variable of FB may not change even if EN is turned ON. In that case, check if any of Unit Error Reset, Write Data, Read Data and Save Data Bit is left ON.

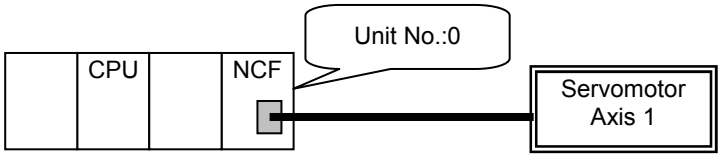
・This FB uses the Absolute Movement/ Write Servo Parameter Bit in the Axis Operating Output Memory Areas. Therefore, do not turn these bits ON or OFF until the operation is completed. For the same reason, do not use these bits for coil outputs (OUT commands).

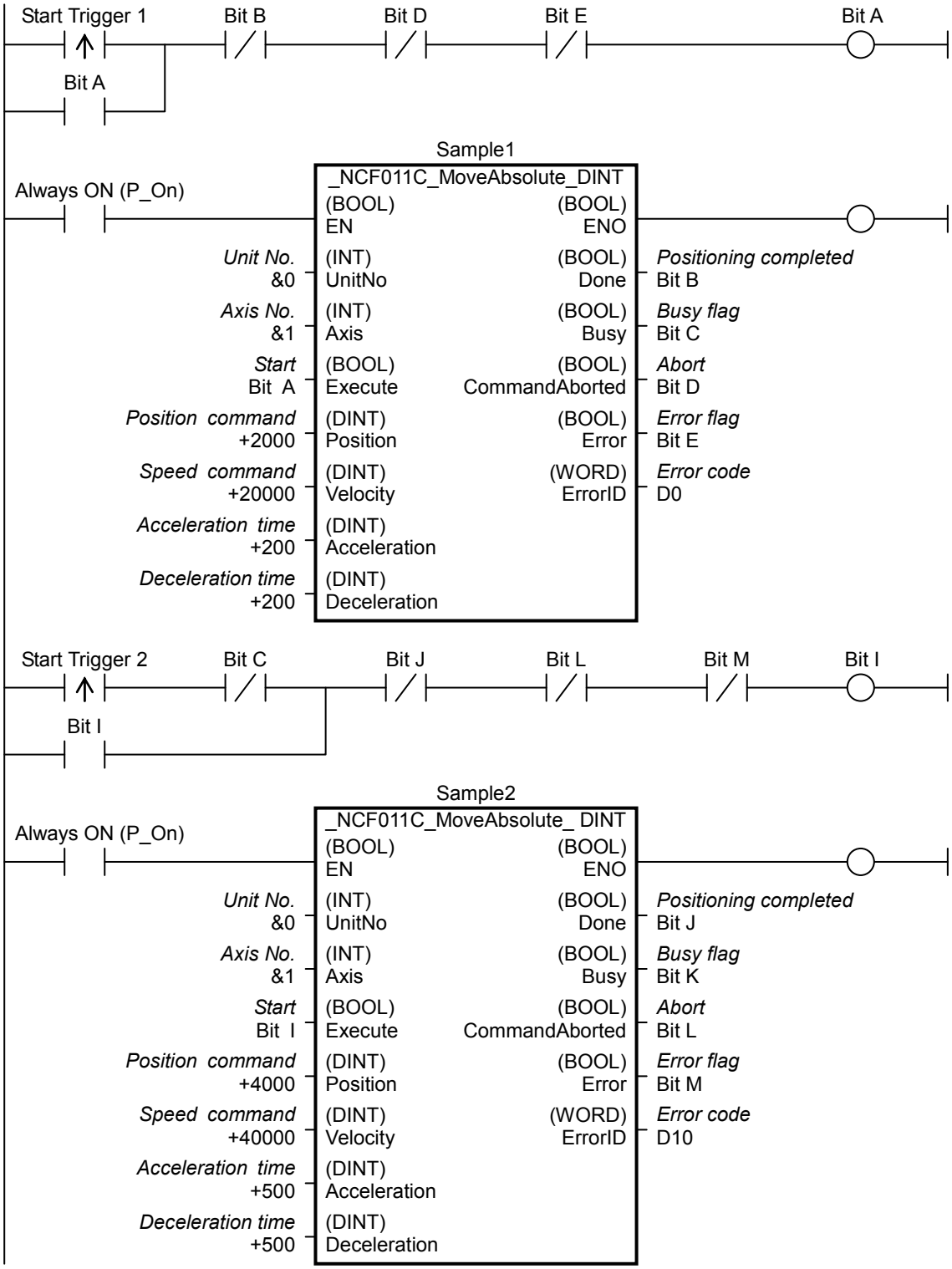
・Starting this FB while the Interrupt Feeding Bit of Axis Operating Output Memory Areas is ON will cause an error.

Note:
For calculation of bit addresses, these bits are referenced in this FB in the first execution of each instance, and when changing "Unit No. (UnitNo)", "Axis No. (Axis)" of the input variable and set "Start (Execute) ".

Application example

Turning the Start Trigger 1 ON from OFF will operate the Servomotor (axis1) connected to the Position Control Unit with a unit number 0 using the Move Absolute command.
The Busy flag(Busy) can be used for not to operate the FB of the “Sample2” during the FB operation of the “Sample1”





Related manuals

Position Control Units OPERATION MANUAL (W426-E1)
5-3 Transferring Servo Parameters
SECTION 9 Positioning
12-4 Error Codes

■Variable Tables

Input Variables

Name	Variable name	Data type	Default	Range	Description
EN	EN	BOOL			1 (ON): FB started 0 (OFF): FB not started
Unit No.	UnitNo	INT	&0	&0 to &15	Specify the unit number.
Axis No.	Axis	INT	&1	&1 to &16	Specify the axis number.
Start	Execute	BOOL	0(OFF)		↑: Starts the absolute move.
Position command	Position	DINT	+0	-2,147,483,648 to +2,147,483,647	Specify the target position. Unit: Command units/s
Speed command	Velocity	DINT	+0	+0 to +2,147,483,647	Specify the target speed. Unit: Command units/s Changing the value while this FB is in operation will change the actual operating speed.
Acceleration time	Acceleration	DINT	+0	+0 to +65,535	Specify the acceleration time for the speed specified in ”Speed command (Velocity)”. Unit: ms
Deceleration time	Deceleration	DINT	+0	+0 to +65,535	Specify the deceleration time for the speed specified in ”Speed command (Velocity)”. Unit: ms

Output Variables

Name	Variable name	Data type	Range	Description
ENO	ENO	BOOL		1 (ON): FB operating normally 0 (OFF): FB not operating normally ・FB not started ・Input variable out of the range ・FB ended with error ・Common Parameters could not be read
Positioning completed	Done	BOOL		Turns ON when the positioning operation has been completed.
Busy flag	Busy	BOOL		1 (ON) indicates that the FB is in progress.
Abort	CommandAborted	BOOL		1 (ON): Aborted It will be aborted when any of the following conditions is met during operation ・Turns ON when the other Move command done (Duplicate Move). ・Stopped with Decleration Stop or Emergency Stop. ・Executed Servo Unlock, Deviation Counter Reset on an operating axis. ・Attempted to execute FB while Servo Unlock, Deceleration Stop, Emergency Stop or Deviation Counter Reset Bit is ON. ・Detected the Stop Execution Flag is ON. ・The Absolute Movement Bit is changed by the other FB during Absolute Movement in operation.
Error flag	Error	BOOL		Turns ON when an error has occurred in the FB.
Error code	ErrorID	WORD		Returns the error code when an error has occurred in the FB. Refer to the *Related Manuals* for details on errors. A code of #0000 will be returned if any of the following conditions is satisfied. ・Input variable is out of range. ・The common parameters of the Position Control Units are out of range. ・Not established communications with a specified axis. ・The Interrupt Feeding Bit of Axis Operating Output Memory Areas is ON before Absolute Movement is executed by this FB. ・The Write Servo Parameter Bit is changed by the other FB during writing Servo parameters.

■Version History

Version	Date	Contents
1.01	2007.11.	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.