NC2x 010	Move Absolute _NC2x010_MoveAbsolute

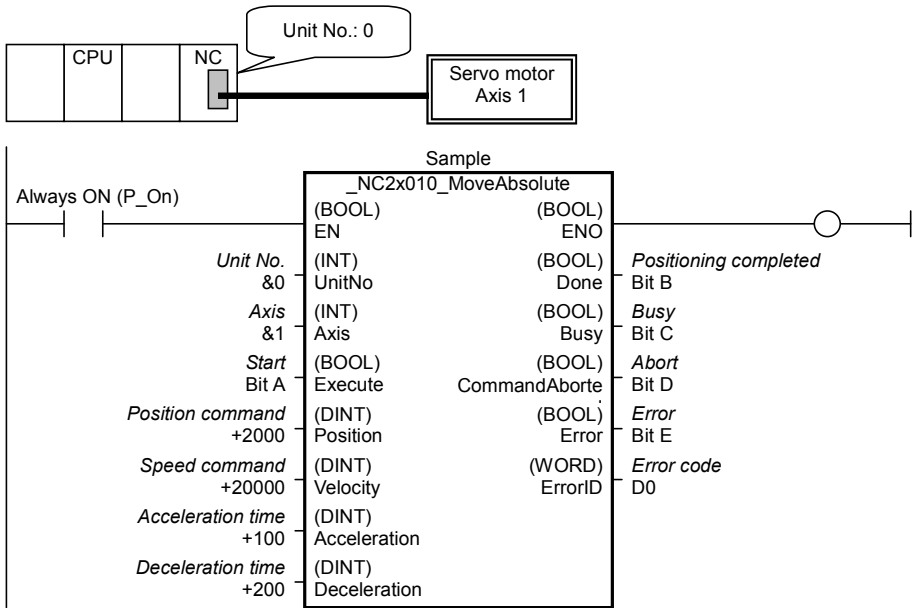| Basic function	Executes positioning with the absolute movement.
Symbol	
File name	Lib\FBL\omronlib\PositionController\NC2x_NC2x010_MoveAbsolute10.cxf
Applicable models	Position Control Units	CJ1W-NC214/234/414/434
	CPU Unit	CJ1*-CPU**H Version 3.0 or later CJ1M-CPU** Version 3.0 or later CP1H CJ2H-CPU**(-EIP)
	CX-Programmer	Version 5.0 or later
Languages in function block definitions	Ladder programming
Conditions for usage	None.
Function description	・ When "Start (Execute)" turns ON, the positioning operation for the axis specified in "Unit No. (UnitNo)" and "Axis (Axis)" is started using the specified "Position command (Position)", "Speed command (Velocity)", "Acceleration time (Acceleration)" and "Deceleration time (Deceleration)". ・ "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. ・ "Busy (Busy)" will be set when "Start (Execute)" is turned ON. "Busy (Busy)" will be reset when any of "Positioning completed (Done)", "Abort (CommandAborted)", or "Error (Error)" is turned ON. Even if an error occurs when the input variable is out of the range, etc., "Busy (Busy)" will be set for at least one cycle. ・ "Error (Error)" will be turned ON and "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 "Start (Execute)" turns OFF. If "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. The 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 "Related manuals" for details. ・ Target axes cannot be changed when a duplicate start is executed by the same instance.
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	· This FB does not recognize the existence of the axis specified in "Unit No. (UnitNo)" and "Axis (Axis)". If these input variables have not been set correctly, the FB may not work normally. · A duplicate start by the same instance cannot be executed until the Position Control Unit detects "Absolute movement received". In the meantime, turning ON "Start (Execute)" will be ignored. · This FB uses bits of the Position Control Unit. Therefore, do not turn these bits ON or OFF. For the same reason, do not use these bits for coil outputs (OUT commands). Refer to the "■Used bits list" for the bits used by this FB.
Application example	Turning the bit A ON from OFF will operate the axis (Axis 1) connected to the Position Control Unit with a unit number 0 using the absolute movement command.
Related manuals	CJ-series Position Control Unit Operation Manual (W477) 6 Direct Operation 12-6 Error Code List

■**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 &94	Specify the unit number.
Axis	Axis	INT	&1	&1 to &4	Specify the axis number.
Start	Execute	BOOL	0(OFF)		⤒: Starts the absolute movement.
Position command	Position	DINT	+0	-2147483648 to +2147483647	Specify the target position. Unit: Command units.
Speed command	Velocity	DINT	+1	+1 to +2147483647	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 +250000	Specify the acceleration time. Unit: ms. Changing the value while this FB is in operation will change the actual operating acceleration time.
Deceleration time	Deceleration	DINT	+0	+0 to +250000	Specify the deceleration time. Unit: ms. Changing the value while this FB is in operation will change the actual operating deceleration time.

Output Variables

Name	Variable name	Data type	Range	Description
ENO	ENO	BOOL		1(ON): FB operating normally 0(OFF): FB not started / FB ended with error
Positioning completed	Done	BOOL		Turns ON when the positioning operation has been completed.
Busy	Busy	BOOL		Turns ON when FB is in the process.
Abort	CommandAborted	BOOL		Turns ON when an abort has occurred in the FB. Refer to "Error code (ErrorID)" for details.
Error	Error	BOOL		Turns ON when an error has occurred in the FB. Refer to "Error code (ErrorID)" for details.
Error code	ErrorID	WORD		Returns the error code when an error occurred in the FB. Refer to "■Error code list" for details.

■Error code list

Error name	Error code	Probable cause	Clearing method
Input variable out of range	#0001	The value of input variable of this FB is out of valid range.	Set the value of input variable within the specified range.
Operating memory area allocation out of range	#0002	The allocation of Axis Operating Memory Area of Common Parameter is out of allowable setting range.	Correct the allocation of Axis Operating Memory Area of Common Parameter so that it falls within the allowable setting range of data.
Unit error	#1001	An error in individual unit has occurred.	Check "Unit common error code". Identify the error cause from the Operation Manual of the Position Control Unit.
Axis error	#1002	An error in individual axis has occurred.	Check "Axis error code". Identify the error cause from the Operation Manual of the Position Control Unit.
Unit setup	#2000	The Position Control Unit is not in unit ready status.	Execute the FB after putting the Position Control Unit in unit ready status.
Interrupt feeding	#2002	"Interrupt feeding specification" of the Direct Operation Command Memory area was ON when MoveAbsolute, MoveRelative or MoveVelocity was executed.	Turn OFF "Interrupt feeding specification" of the Direct Operation Command Memory area. Execute MoveAbsolute, MoveRelative or MoveVelocity.
Deceleration stop	#2100	The deceleration stop (Deceleration stop / Synchronous group stop Selection / All Synchronous Unit stop) or the Error counter reset output was executed while the FB was active.	Due to the deceleration stop command, the active FB was interrupted. But this is normal operation. Check that the deceleration stop command has started correctly.
Servo unlock	#2102	The Servo unlock was executed while the FB was active.	Due to the servo unlock command, the active FB was interrupted. But this is normal operation. Check that the servo unlock command has started correctly.
Duplicate start of "Absolute movement"	#2200	A duplicate start of "Absolute movement" interrupted the active FB. (Excluding absolute movement by high-speed PTP.)	The operation command different from the active FB was executed and the active FB was interrupted.
Duplicate start of "Relative movement"	#2201	A duplicate start of "Relative movement" interrupted the active FB.	Check that other operation commands started correctly.
Duplicate start of "Speed control"	#2202	A duplicate start of "Speed control" interrupted the active FB.	
Command disabled	#2300	FB commands have not been accepted.	Execute the FB after putting the unit in status that can accept commands.
Absolute movement	#3200	"Absolute movement" of the Direct Operation Command Memory area has been operated by the outside of the FB.	Do not operate each bit which the active FB is operating, by the external unit of the FB. Do not use it on OUT command.

■Used bits list

Memory area	Name	Data type	Address	Note
Direct Operation Command Memory Area	Absolute movement	BOOL	B+00.00	
	Command position	DINT	B+02	
	Command speed	DINT	B+04	
	Acceleration time	DINT	B+08	
	Deceleration time	DINT	B+10	

■Version History

Version	Date	Contents
1.00	2009.06.	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.