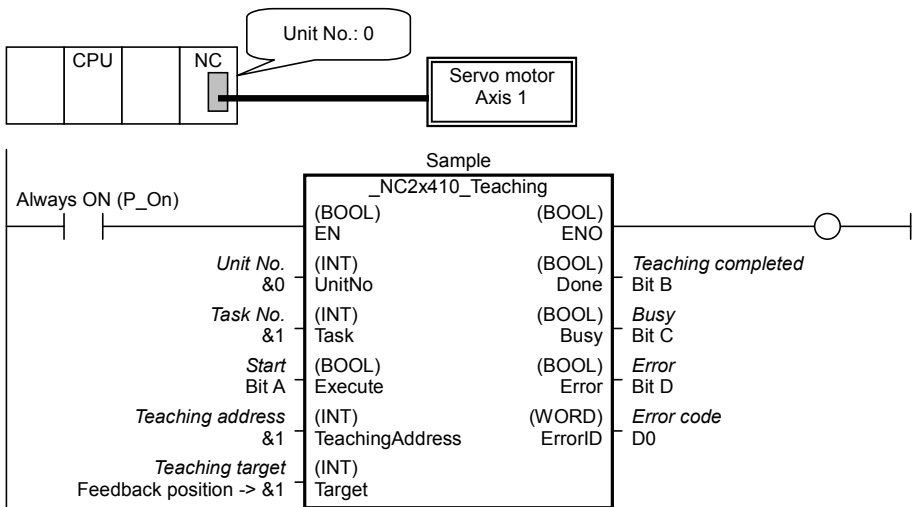


<b>NC2x410</b>	<b>Teaching _NC2x410_Teaching</b>
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<b>Basic function</b>	Executes teaching of the position data.	
<b>Symbol</b>		
<b>File name</b>	Lib\FBL\omronlib\PositionController\NC2x\ NC2x410_Teaching10.cxf	
<b>Applicable models</b>	Position Control 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
<b>Languages in function block definitions</b>	Ladder programming	
<b>Conditions for usage</b>	None.	
<b>Function description</b>	<ul style="list-style-type: none"> <li>• When "Start (Execute)" turns ON, the teaching for the task specified in "Unit No. (UnitNo)" and "Task No. (Task)" is started.</li> <li>• The teaching target (command position/feedback position/both) will be specified in "Teaching target (Target)".</li> <li>• "Teaching completed (Done)" is turned ON when the teaching operation for the FB has been completed.</li> <li>• "Busy (Busy)" will be set when the "Start (Execute)" is turned ON. "Busy (Busy)" will be reset when any of "Teaching completed (Done)" 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.</li> <li>• "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.</li> <li>• These statuses (Done/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.</li> </ul>	
<b>Kind of FB definition</b>	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.	
<b>EN input condition</b>	• 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.	
<b>Restrictions Other</b>	<ul style="list-style-type: none"> <li>• This FB does not recognize the existence of the task specified in "Unit No. (UnitNo)" and "Task (Task)". If these input variables have not been set correctly, the FB may not work normally.</li> <li>• 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.</li> </ul>	

<p><b>Application example</b></p>	<p>Turning the bit A ON from OFF will start teaching for the task 1 connected to the Position Control Unit with a unit number 0.</p> 
<p><b>Related manuals</b></p>	<p>CJ-series Position Control Unit Operation Manual (W477)            9-5 Teaching            12-6 Error Code List</p>

**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.
Task No.	Task	INT	&1	&1 to &4	Specify the task number.
Start	Execute	BOOL	0(OFF)		↑ : Starts the teaching.
Teaching address	TeachingAddress	INT	&1	&1 to &500	Specifies the teaching address.
Teaching target	Target	INT	&0	&0, &1	Select the command position or feedback position for the teaching target. &0: Command position &1: Feedback position

**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
Teaching completed	Done	BOOL		Turns ON when the teaching operation has been completed.
Busy	Busy	BOOL		Turns ON when FB is in the process.
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.
Parameter setting error	#1100	Parameter transfer via the data transfer command has not been completed normally.	Check that the Position Control Unit status and parameter set values are within the range of the specifications.
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.
Command disabled	#2300	FB commands have not been accepted.	Execute the FB after putting the unit in status that can accept commands.
Teaching	#3305	"Teaching" of the Memory 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
Memory Operation Command Memory area	Teaching	BOOL	D+00.05	
	Teaching address	INT	D+02	

### ■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.