NCF 204A	Read Present Position (REAL) _NCF204A_ReadActualPosition_REAL

Basic function	Reads the present position of an axis. (Busy attachment)
Symbol	
File name	Lib\FBL\omronlib\PositionController\NCF_NCF204A_ReadActualPosition_REAL12.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.
Function description	The Busy Output is added to the _NCF204_ReadActualPosition_REAL in this FB. The present position of the axis of the specified Unit No. (UnitNo) and Axis No. (Axis) is continuously updated in the "Present position (Position)" while the Output enable bit (Enable) is ON. When the Output enable bit (Enable) turns OFF, the "Present position (Position)" is cleared to all zeros. The Normal end (Done) turns ON when the present position data is valid. The Busy flag (Busy) will be set when the Output enable bit (Enable) is turned ON. The Busy flag (Busy) will be reset when the Normal end (Done) or Error flag (Error) is turned ON. If the error is occurred when the input variables 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. (They will not be turned ON when axis errors occurs.) This status will be reset then the Output enable bit (Enable) turns OFF. These status(Done/Error/ErrorID) will be reset then the Output enable bit (Enable) turns OFF.

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.

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 Error Flag (Error) and Error code (ErrorID) for this FB reflect the status of the Memory Area in the Position Control Unit without alteration. ・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. 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 " Output Enable Bit (Enable)".
Application example	When turning the Bit A ON from OFF, the present position of axis 1 of the Servomotor connected to the Position Control Unit with unit number 0 is read and stored in D0.
Related manuals	Position Control Units OPERATION MANUAL (W426-E1) 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.
Output enable bit	Enable	BOOL	0(OFF)		Turn ON to enable output. Turn OFF to reset the output.

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
Normal end	Done	BOOL		Turns ON for a normal end.
Busy flag	Busy	BOOL		1 (ON) indicates that the FB is in progress.
Error flag	Error	BOOL		Turns ON for an error end.
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.
Present position	Position	REAL		The present position of the axis controlled by the Position Control Unit.

■ Version History

Version	Date	Contents
1.13	2006.01.	Original production
1.20	2007.11.	Limitation on reading "Present position (Position)" was removed.

■ Upgrade Details

Version	Detailed Contents
1.20	In the version 1.1x, "Present position (Position)" was not updated when an axis error occurred. Therefore, the accurate actual position could not be obtained when an axis was operated while an axis error occurred. In the version 1.20, this limitation has been removed.

■ 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.