NCF 060	Deceleration Stop _NCF060_Stop

Basic function	Decelerates an operating axis to a stop.
Symbol	
File name	Lib\FBL\omronlib\PositionController\NCF_NCF060_Stop11.cxf
Applicable models	Position 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.

The symbol block in the table contains:

Always ON (P_On)

_NCF060_Stop

(BOOL) EN	(BOOL) ENO
(INT) UnitNo — Unit No.	(BOOL) Done — Deceleration stop completed flag
(INT) Axis — Axis No.	(BOOL) CommandAborted — Abort
(BOOL) Execute — Start	(BOOL) Error — Error flag
	(WORD) ErrorID — Error code

Function Block Memory Allocation [NewPLC1]

FB Instance Area	Start Address	End Address	Size
No Retain	H512	H1407	896
Retain	H1408	H1535	128
Timers	T3072	T4095	1024
Counters	C3072	C4095	1024

OK / Cancel / Edit / Default

Specify unused area.
The required size varies depending on the used FB and the number of FBs. If an area being used in the ladder program is specified or sufficient free space cannot be found, the CX-Programmer will display a compile error.

Function Block Memory Allocation [NewPLC...]

FB Instance Area	Start Address	End Address	S...
No Retain	D32020	D32767	748
Retain	H1408	H1535	128
Timers	T3072	T4095	1024
Counters	C3072	C4095	1024

OK / Cancel / Edit / Default / Advanced

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

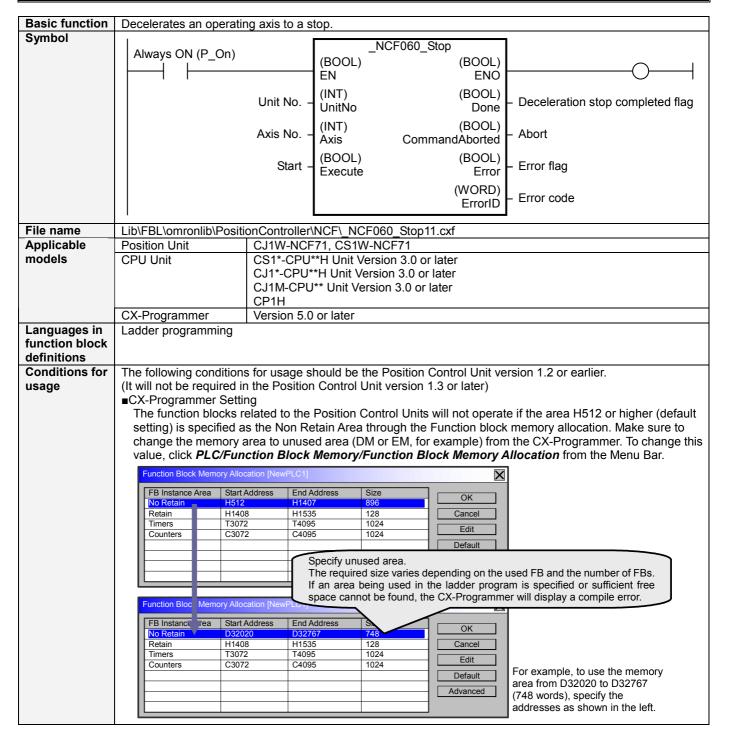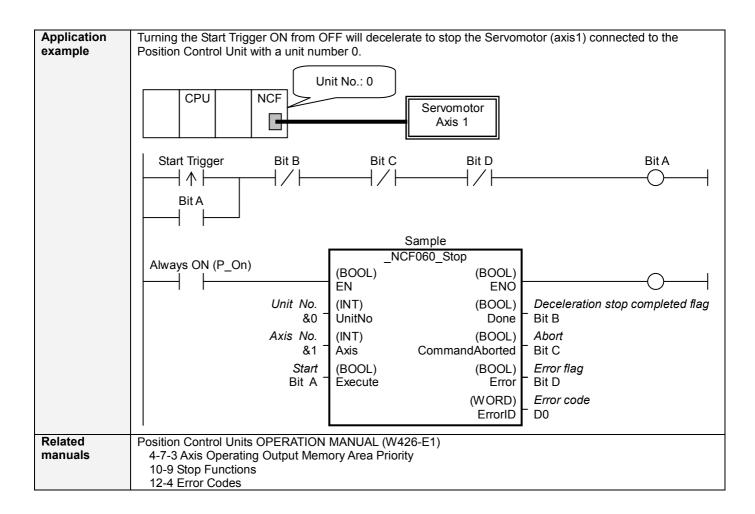| Function description	When the Start (Execute) turns ON, the Deceleration Stop operation for the axis of the specified Unit No. (UnitNo) and Axis No. (Axis) is started. The operation command is not accepted while the Start (Execute) is ON. Refer to the manual in Related manuals for details. The Deceleration stop completed flag (Done) is turned ON when the deceleration stop has been completed for this FB. 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 operation has been completed, the status will be set for at least one cycle when supporting conditions have occurred. Note: The Deceleration Stop of Position Control Units is used in this FB. Refer to the manual in Related manuals for details.

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	・The deceleration stop status is hold when the Start (Execute) is ON while the Deceleration stop completed flag (Done) is ON. In the deceleration stop status, operations other than Servo Unlock, Deviation Counter Reset and Emergency Stop are disabled. Refer to the manual in Related manuals for details.
	・The deceleration stop status will be released by this FB when the following conditions are satisfied.
	  When "Deceleration stop completed flag (Done)" turns OFF
	  When "Abort (Command Aborted)", or "Error flag (Error)" turns ON

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 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 Deceleration Stop 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). 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 ON from OFF will decelerate to stop the Servomotor (axis1) connected to the Position Control Unit with a unit number 0.
	Unit No.: 0 CPU / NCF — Servomotor Axis 1 **Start Trigger** (↑) — **Bit B** (/) — **Bit C** (/) — **Bit D** (/) — **Bit A** (○) **Bit A** **Always ON (P_On)** Sample _NCF060_Stop (BOOL) EN — (BOOL) ENO (○) *Unit No.* &0 — (INT) UnitNo — (BOOL) Done — *Deceleration stop completed flag* Bit B *Axis No.* &1 — (INT) Axis — (BOOL) CommandAborted — *Abort* Bit C *Start* Bit A — (BOOL) Execute — (BOOL) Error — *Error flag* Bit D (WORD) ErrorID — *Error code* D0
Related manuals	Position Control Units OPERATION MANUAL (W426-E1) 4-7-3 Axis Operating Output Memory Area Priority 10-9 Stop Functions 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 deceleration stop.

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
Deceleration stop completed flag	Done	BOOL		Turns ON when the deceleration stop operation has been completed.
Abort	CommandAborted	BOOL		1 (ON): Aborted It will be aborted when any of the following conditions is met during operation ・Stopped with Emergency Stop. ・Executed Servo Unlock, Deviation Counter Reset on an operating axis. ・Attempted to execute FB while Servo Unlock, Emergency Stop or Deviation Counter Reset Bit is ON. ・Executed this FB during Servo OFF. ・The Deceleration Stop Bit is changed by the other FB during Deceleration Stop 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.

■**Version History**

Version	Date	Contents
1.00	2004.06.	Original production
1.10	2005.01.	Limitation about the setting timing with " Unit No. " and " Axis No. " was removed.

■ **The detailed contents of the upgrading**

Version	Detailed Contents
1.10	In version 1.00, " Unit No. " and " Axis No. " must be set when EN was ON and " Start (Execute) " was OFF. This means not sometimes working normally when " Unit No. " and " Axis No. " are changed simultaneously with ON of " Start (Execute) ". In version 1.10, this limitation was 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.