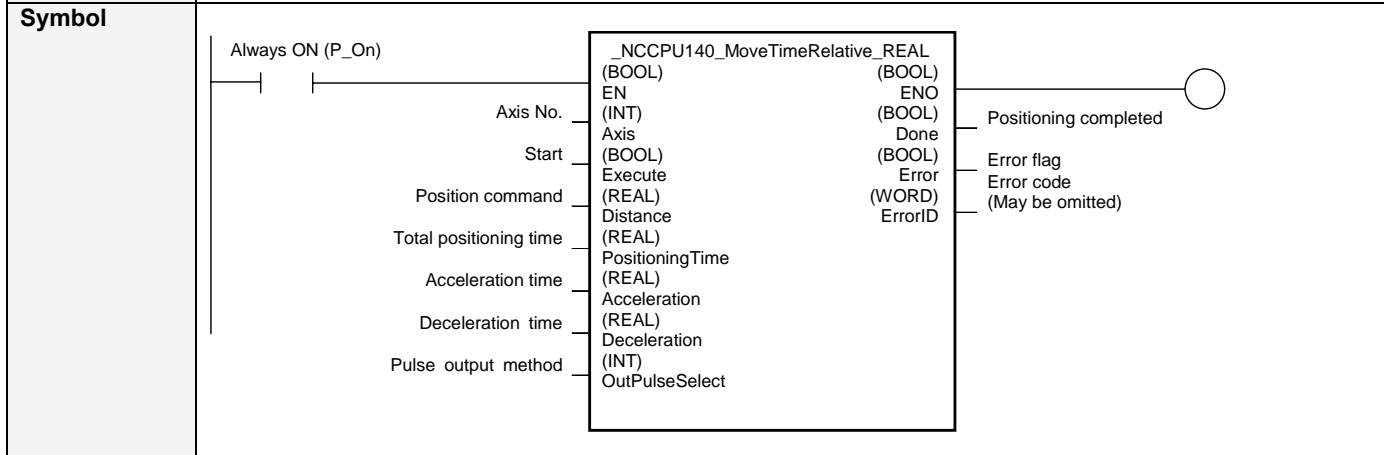


NCCPU 140	Time-specified Move Relative(REAL): _NCCPU140_MoveTimeRelative_REAL
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Basic function	Positioning is performed with relative movement in a specified time period.
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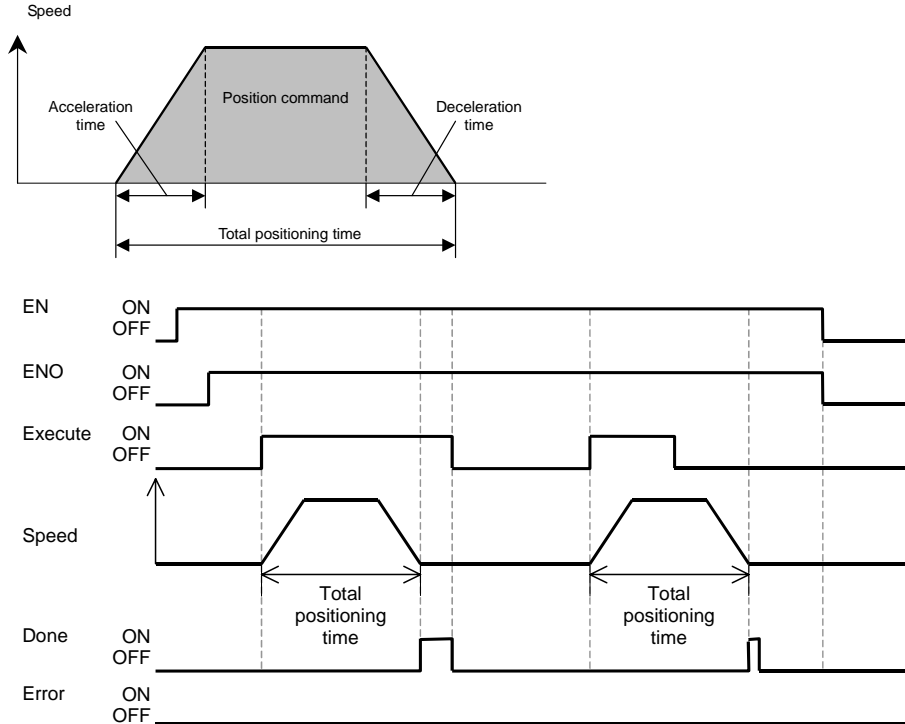
File name	Lib\FBL\omronlib\PositionController\NC-CPU(CJ1M-CPU2x)_NCCPU020_MoveTimeRelative_REAL10.cxf
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Applicable	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">CPU Unit</td> <td>CJ1M-CPU21/22/23 Unit version 3.0 or higher</td> </tr> <tr> <td></td> <td>CP1L-***DT-*</td> </tr> <tr> <td></td> <td>CP1L-***DT1-*</td> </tr> </table>	CPU Unit	CJ1M-CPU21/22/23 Unit version 3.0 or higher		CP1L-***DT-*		CP1L-***DT1-*
CPU Unit	CJ1M-CPU21/22/23 Unit version 3.0 or higher						
	CP1L-***DT-*						
	CP1L-***DT1-*						

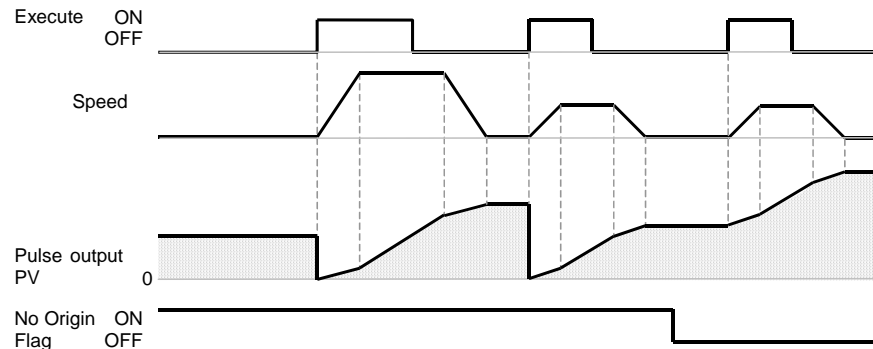
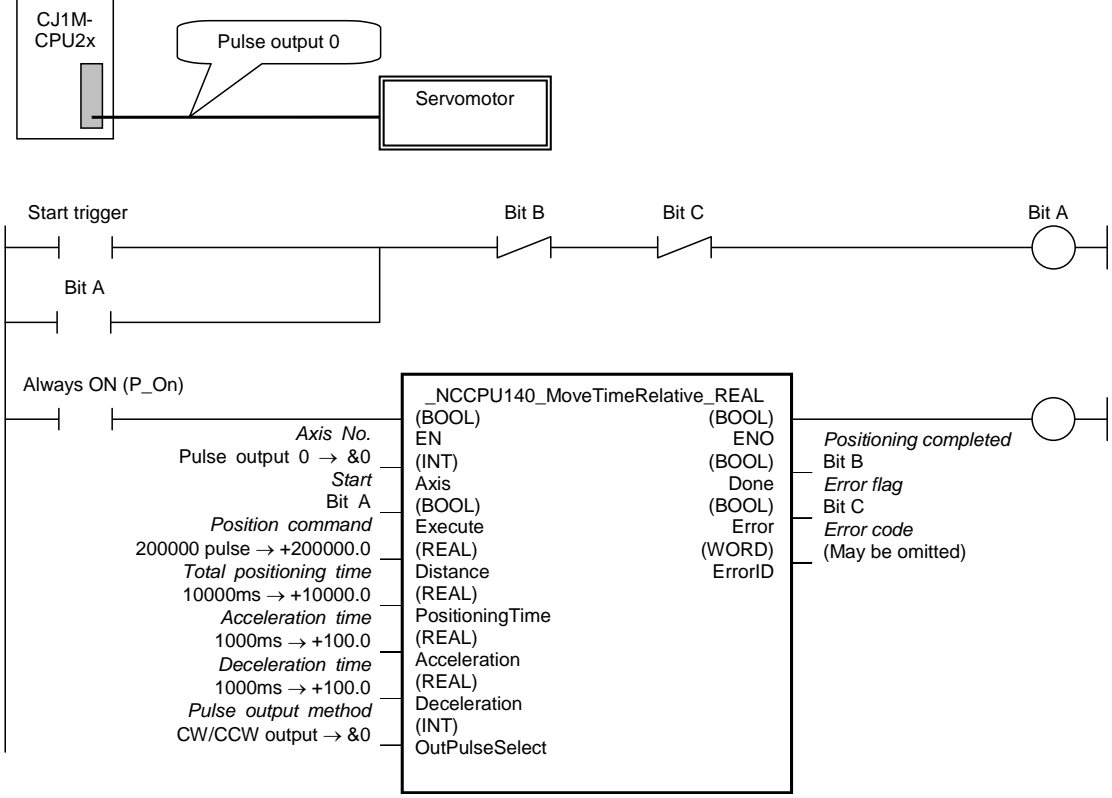
models	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">CX-Programmer</td> <td>Version 5.0 or higher</td> </tr> </table>	CX-Programmer	Version 5.0 or higher
CX-Programmer	Version 5.0 or higher		

Conditions for usage	None
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Function description	<p>Executes positioning on the axis of the specified Axis No. (Axis) with the specified Position command (Distance), Total positioning time (PositioningTime), Acceleration time (Acceleration), and Deceleration time (Deceleration) when Start (Execute) is turned ON (using the selected Pulse output method). Speed command values are automatically determined based on Position command (Distance), Total positioning time (PositioningTime), Acceleration time (Acceleration), and Deceleration time (Deceleration). The Positioning completed (Done) is turned ON when positioning by this FB is completed (i.e., target position reached). The Error flag (Error) will be turned ON and Error code (ErrorID) will be output when an error related to this FB occurs. These statuses, Positioning completed (Done)/ Error flag (Error)/ Error code (ErrorID), will be reset when Start (Execute) is turned OFF. If Start (Execute) was turned OFF before positioning is completed, the status will be set for at least one cycle when a corresponding condition occurs.</p>
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Kind of FB definition	<p>Connect Always ON type Connect the EN input to the Always ON Flag (P_ON). The same instance cannot be used in two or more places.</p>
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<p>FB precautions</p>	<ul style="list-style-type: none"> • CW output is taken as + direction and CCW output is taken as – direction. • When using the Pulse output 0 and 1 simultaneously, use the same Pulse output method for them. • Set the Total positioning time (PositioningTime) for Acceleration time (Acceleration) and Deceleration time (Deceleration), so that the sum of the Acceleration time (Acceleration) and Deceleration time (Deceleration) would not exceed the Total positioning time (PositioningTime). • If Start (Execute) is turned ON with no origin defined, the present value of output pulse counts will be cleared to 0 and the next positioning operation is started with the present value of 0. (See the diagram below.)  <p>The diagram shows four signals over time: Execute (ON/OFF), Speed (ramp up/down), Pulse output PV (0 to positive value), and No Origin Flag (ON/OFF). Vertical dashed lines indicate the start of each positioning operation.</p>																																																																						
<p>EN input condition</p>	<ul style="list-style-type: none"> • Connect the EN input to the Always ON Flag (P_ON). • If a different type of bit is connected to EN, the FB outputs will be maintained when the connected bit is turned OFF. 																																																																						
<p>Restrictions Other</p>	<ul style="list-style-type: none"> • On CPU Unit, Acceleration and Deceleration rates are refreshed every 4ms. For this reason, there may be some variations in the actual Acceleration and Deceleration times depending on the settings of the input variables for this FB. • In low-speed operations (such as when a long Total positioning time (PositioningTime) is set for a small Position command (Position)), setting a long Acceleration time (Acceleration) and Deceleration time (Deceleration) may cause some variations in the actual Total positioning time. • An execution of this FB during an axis operation (i.e., the Multiple start function using this FB) will cause some variations in the actual Total positioning time. • Executions of another FB or instance during an execution of this FB (i.e., the Multiple start function using another FB or instance) will cause some variations in the actual Total positioning time (that is, positioning operation will not be performed in the specified time period). However, the Positioning completed (Done) will be output at completion of a positioning operation. 																																																																						
<p>Application example</p>	<p>When the Start trigger turns from OFF to ON, a positioning operation will be performed using the Servomotor connected to the Pulse output 0 on the CJ1M CPU Unit with relative movement in a specified time period.</p>  <p>The diagram shows a CJ1M-CPU2x connected to a Servomotor via Pulse output 0. A ladder logic circuit includes a Start trigger (Bit A), Bit B, Bit C, and Bit A. An Always ON (P_ON) input is connected to the FB. The FB block is configured with the following parameters:</p> <table border="1" data-bbox="742 1579 1141 1993"> <tr> <td>Axis No.</td> <td>(BOOL)</td> <td>EN</td> <td>(BOOL)</td> <td>Positioning completed</td> </tr> <tr> <td>Pulse output 0 → &0</td> <td>(INT)</td> <td>ENO</td> <td>(BOOL)</td> <td>Bit B</td> </tr> <tr> <td>Start</td> <td>Axis</td> <td>Done</td> <td>(BOOL)</td> <td>Error flag</td> </tr> <tr> <td>Bit A</td> <td>(BOOL)</td> <td>Bit C</td> <td>(BOOL)</td> <td>Bit C</td> </tr> <tr> <td>Position command</td> <td>Execute</td> <td>Error</td> <td>(WORD)</td> <td>Error code</td> </tr> <tr> <td>200000 pulse → +200000.0</td> <td>Distance</td> <td>ErrorID</td> <td>(WORD)</td> <td>(May be omitted)</td> </tr> <tr> <td>Total positioning time</td> <td>(REAL)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>10000ms → +10000.0</td> <td>PositioningTime</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Acceleration time</td> <td>(REAL)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>1000ms → +100.0</td> <td>Acceleration</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Deceleration time</td> <td>(REAL)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>1000ms → +100.0</td> <td>Deceleration</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Pulse output method</td> <td>(INT)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>CW/CCW output → &0</td> <td>OutPulseSelect</td> <td></td> <td></td> <td></td> </tr> </table>	Axis No.	(BOOL)	EN	(BOOL)	Positioning completed	Pulse output 0 → &0	(INT)	ENO	(BOOL)	Bit B	Start	Axis	Done	(BOOL)	Error flag	Bit A	(BOOL)	Bit C	(BOOL)	Bit C	Position command	Execute	Error	(WORD)	Error code	200000 pulse → +200000.0	Distance	ErrorID	(WORD)	(May be omitted)	Total positioning time	(REAL)				10000ms → +10000.0	PositioningTime				Acceleration time	(REAL)				1000ms → +100.0	Acceleration				Deceleration time	(REAL)				1000ms → +100.0	Deceleration				Pulse output method	(INT)				CW/CCW output → &0	OutPulseSelect			
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<p>Related manuals</p>	<ul style="list-style-type: none"> • CJ1M CPU Units Operation Manual (W395) 5-7 PULSE OUTPUT: PLS2(887) 6-3-3 Origin Search Error Processing (Pulse Output Stop Error Codes) • SYMAC CP Series CP1L CPU Unit Operation Manual (W462) 																																																																						

■ Variable Tables

Input Variables

Name	Variable name	Data type	Default	Range	Description
EN	EN	BOOL			1 (ON): Starts FB 0 (OFF): Does not start FB
Axis No.	Axis	INT	&0	&0 to &1	&0: Pulse output 0 &1: Pulse output 1
Start	Execute	BOOL	0 (OFF)		↑ : Starts positioning with relative movement
Position command	Distance	REAL	+0.0	-2.147483e+009 to +2.147483e+009	Specify a distance for relative movement. Unit: pulse
Total positioning time	PositioningTime	REAL	+1.0	+1.0 to +65535.0	Specify a positioning time. Unit: ms
Acceleration time	Acceleration	REAL	+1.0	+1.0 to +65535.0	Specify an acceleration time. Unit: ms
Deceleration time	Deceleration	REAL	+1.0	+1.0 to +65535.0	Specify a deceleration time. Unit: ms
Pulse output method	OutPulseSelect	INT	&0	&0 to &1	&0: CW/CCW output &1: Pulse + direction output

Output Variables

Name	Variable name	Data type	Range	Description
ENO	ENO	BOOL		1 (ON): FB operating normally 0 (OFF): FB not operating normally
Positioning completed	Done	BOOL		1 (ON) indicates that positioning is completed.
Error flag	Error	BOOL		1 (ON) indicates that an error has occurred in the FB.
Error code (May be omitted)	ErrorID	WORD		The error code of the error occurred in the FB will be output. For details of the errors, refer to the sections of the manual listed in the Related manuals above. When the specified Axis No. is out of the range, #0000 will be output.

Revision History

Version	Date	Contents
1.00	2005.2.	Original production

Note

This manual is a reference that explains the function block functions.

It does not explain the operational limitations of Units, components, or combinations of Units and components. Always read and understand the Operation Manuals for the system's Units and other components before using them.