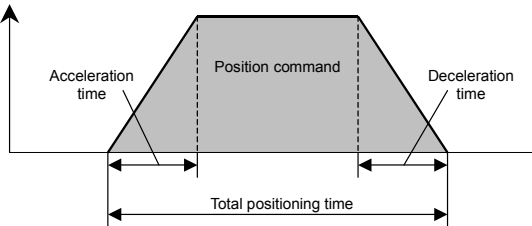
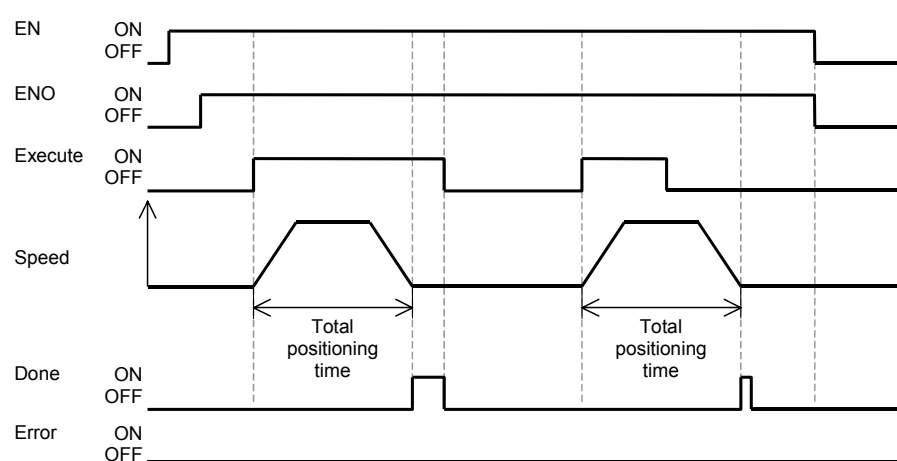
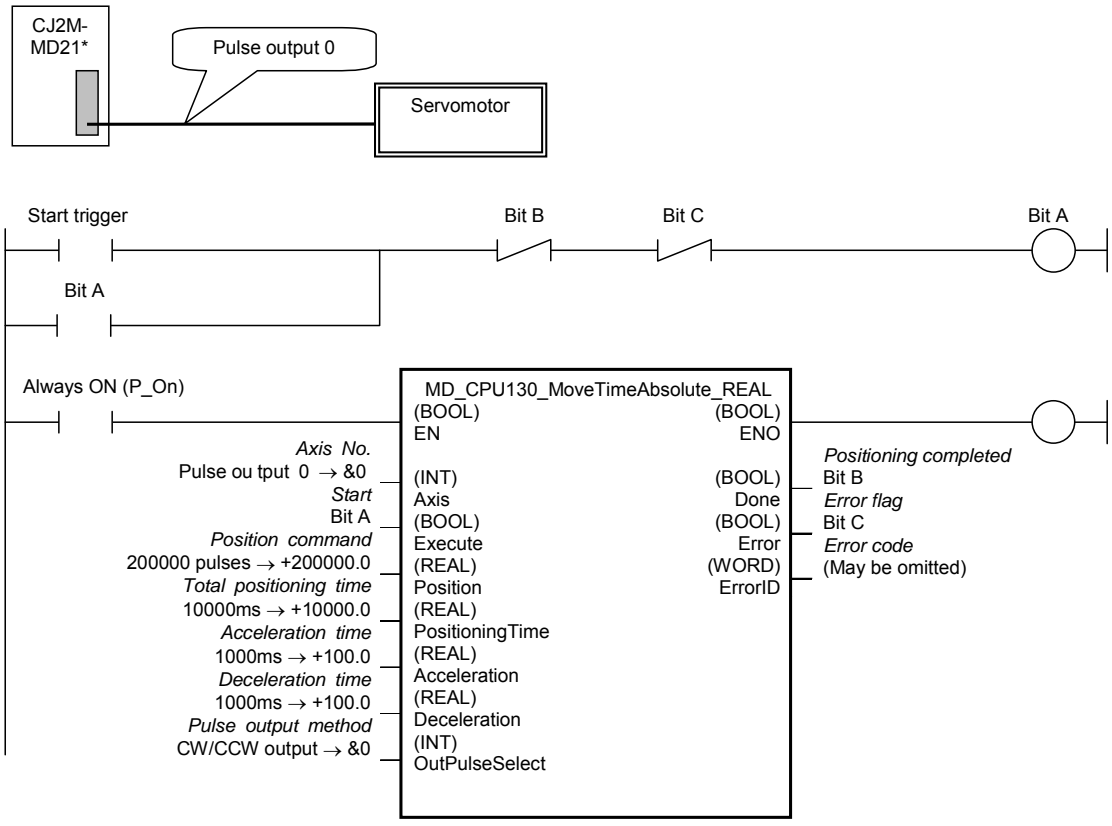


MD_CPU130	Time-specified Move Absolute(REAL): MD_CPU130_MoveTimeAbsolute_REAL
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Basic function	Positioning is performed with absolute movement in a specified time period.		
Symbol	<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <p>Always ON (P_On)</p> <p>Axis No.</p> <p>Start</p> <p>Position command</p> <p>Total positioning time</p> <p>Acceleration time</p> <p>Deceleration time</p> <p>Pulse output method</p> </div> <div style="border: 1px solid black; padding: 5px; margin-right: 20px;"> <p style="text-align: center; margin: 0;">MD_CPU130_MoveTimeAbsolute_REAL</p> <p>(BOOL) EN</p> <p>(INT) Axis</p> <p>(BOOL) Execute</p> <p>(REAL) Position</p> <p>(REAL) PositioningTime</p> <p>(REAL) Acceleration</p> <p>(REAL) Deceleration</p> <p>(INT) OutPulseSelect</p> </div> <div style="margin-left: 20px;"> <p>(BOOL) ENO</p> <p>(BOOL) Done</p> <p>(BOOL) Error</p> <p>(WORD) Error code</p> <p>ErrorID</p> </div> <div style="margin-left: 20px;"> <p>Positioning completed</p> <p>Error flag</p> <p>Error code (May be omitted)</p> </div> </div>		
File name	MD_CPU130_MoveTimeAbsolute_REAL.cxf		
Applicable	<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:25%; border-right: 1px solid black; padding: 2px 5px;">CPU Unit</td> <td style="padding: 2px 5px;">CJ2M-CPU Unit version 2.0 or higher with max. two CJ2M-MD211 (NPN) or CJ2M-MD212 (PNP)</td> </tr> </table>	CPU Unit	CJ2M-CPU Unit version 2.0 or higher with max. two CJ2M-MD211 (NPN) or CJ2M-MD212 (PNP)
CPU Unit	CJ2M-CPU Unit version 2.0 or higher with max. two CJ2M-MD211 (NPN) or CJ2M-MD212 (PNP)		
models	<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:25%; border-right: 1px solid black; padding: 2px 5px;">CX-Programmer</td> <td style="padding: 2px 5px;">Version 9.1.2 or higher</td> </tr> </table>	CX-Programmer	Version 9.1.2 or higher
CX-Programmer	Version 9.1.2 or higher		
Conditions for usage	None		
Function description	<p>Executes positioning on the axis of the specified Axis No. (Axis) with the specified Position command (Position), Total positioning time (PositioningTime), Acceleration time (Acceleration), and Deceleration time (Deceleration) when Start (Execute) is turned ON (using the selected Pulse output method).</p> <p>Speed command values are automatically determined based on Position command (Position), Total positioning time (PositioningTime), Acceleration time (Acceleration), and Deceleration time (Deceleration).</p> <p>The Positioning completed (Done) is turned ON when positioning by this FB is completed (i.e., target position reached).</p> <p>The Error flag (Error) will be turned ON and Error code (ErrorID) will be output when an error related to this FB occurs.</p> <p>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> <div style="margin-top: 10px;"> <p>Speed</p>  <p style="font-size: small;">The diagram shows a trapezoidal speed profile. The y-axis is labeled 'Speed' and the x-axis is labeled 'Total positioning time'. The profile starts with an 'Acceleration time' ramp, followed by a constant 'Position command' section, and ends with a 'Deceleration time' ramp.</p> </div> <div style="margin-top: 10px;">  <p style="font-size: small;">The timing diagram shows the relationship between various signals. EN and ENO are always ON/OFF. Execute is a pulse that starts the positioning cycle. Speed shows two trapezoidal profiles corresponding to two positioning cycles. Done is a pulse that occurs at the end of each positioning cycle. Error is a pulse that occurs during the positioning cycle.</p> </div>		
Kind of FB definition	<p>Connect Always ON type</p> <p>Connect the EN input to the Always ON Flag (P_ON).</p> <p>The same instance cannot be used in two or more places.</p>		

FB precautions	<ul style="list-style-type: none"> • When using the Pulse output 0&1 or 2&3 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).
EN input condition	<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.
Restrictions Other	<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.
Application example	<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 CJ2M-MD21* Unit with absolute movement in a specified time period.</p>  <p>The diagram illustrates the application of the MD_CPU130_MoveTimeAbsolute_REAL function block. It shows a CJ2M-MD21* unit connected to a Servomotor via Pulse output 0. The function block is triggered by a Start trigger (Bit A) and is controlled by Bit B and Bit C. The function block outputs Positioning completed (Bit A), Error flag (Bit B), Error code (Bit C), and ErrorID. The function block also outputs Done (Bit A) and Error (Bit C).</p> <p>Inputs to MD_CPU130_MoveTimeAbsolute_REAL (BOÖL):</p> <ul style="list-style-type: none"> EN <p>Outputs from MD_CPU130_MoveTimeAbsolute_REAL (BOÖL):</p> <ul style="list-style-type: none"> ENO Done Error ErrorID <p>Parameters for MD_CPU130_MoveTimeAbsolute_REAL:</p> <ul style="list-style-type: none"> Axis No. (INT) Pulse output 0 → &0 Start Bit A (BOOL) Position command (REAL): 200000 pulses → +200000.0 Total positioning time (REAL): 10000ms → +10000.0 Acceleration time (REAL): 1000ms → +100.0 Deceleration time (REAL): 1000ms → +100.0 Pulse output method (INT): CW/CCW output → &0 OutPulseSelect
Related manuals	<p>CJ2M Pulse I/O User Manual (W486)</p> <p>CJ2 Hardware Manual (W472)</p>

■ 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 &3	&0: Pulse output 0, &1: Pulse output 1 &2: Pulse output 2, &3: Pulse output 3
Start	Execute	BOOL	0 (OFF)		↑ : Start positioning with absolute movement
Position command	Position REAL		+0.0	-2.147483e+009 to +2.147483e+009	Specify a target position. 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, #0 000 will be output.

Revision History

Version	Date	Contents
1.00	2012.2.	Based on Function Block: _NCCPU130_MoveTimeAbsolute_REAL

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.