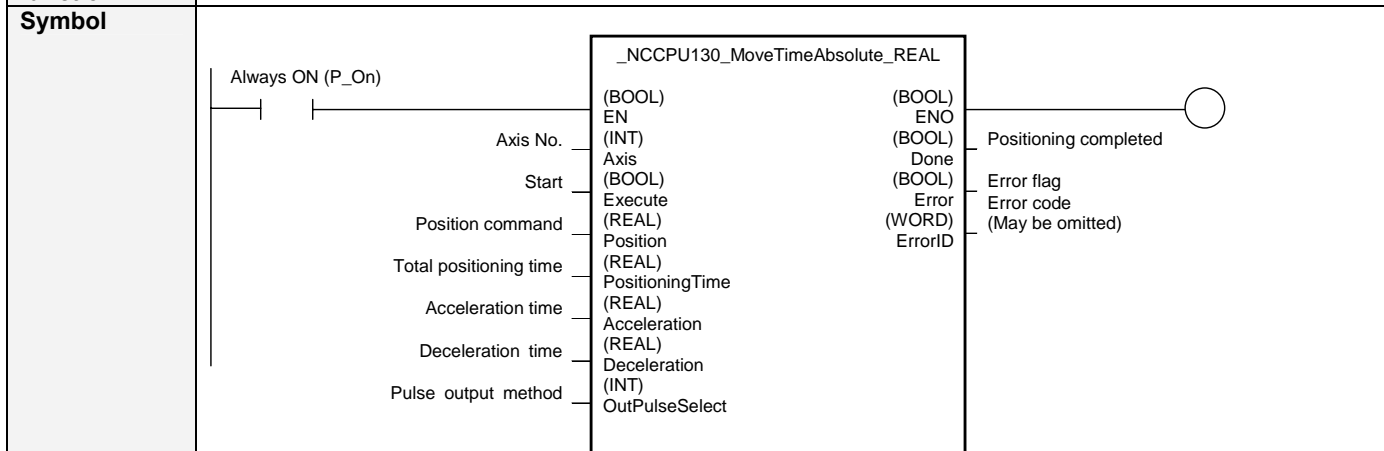


|                      |  |
|----------------------|--|
| <b>NCCPU<br/>130</b> | <b>Time-specified Move Absolute(REAL):<br/>_NCCPU130_MoveTimeAbsolute_REAL</b> |
|----------------------|--|

|                       |   |
|-----------------------|---|
| <b>Basic function</b> | Positioning is performed with absolute movement in a specified time period. |
|-----------------------|---|



|                  |  |
|------------------|--|
| <b>File name</b> | Lib\FBL\omronlib\PositionController\NC-CPU(CJ1MCP2x)\_NCCPU130_MoveTimeAbsolute_REAL10.cxf |
|------------------|--|

|                   |   |          |   |  |              |  |               |
|-------------------|---|----------|---|--|--------------|--|---------------|
| <b>Applicable</b> | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">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-*   |          |   |  |              |  |               |

|               |   |               |                       |
|---------------|---|---------------|-----------------------|
| <b>models</b> | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">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   |               |                       |

|                             |      |
|-----------------------------|------|
| <b>Conditions for usage</b> | None |
|-----------------------------|------|

|                             |   |
|-----------------------------|---|
| <b>Function description</b> | <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). Speed command values are automatically determined based on Position command (Position), 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> |
|-----------------------------|---|

|                              |  |
|------------------------------|--|
| <b>Kind of FB definition</b> | <p>Connect Always ON type<br/>         Connect the EN input to the Always ON Flag (P_ON).<br/>         The same instance cannot be used in two or more places.</p> |
|------------------------------|--|

|  |  |                 |        |         |        |     |        |                     |       |      |        |      |        |             |        |         |        |       |        |  |        |          |        |         |        |  |        |                 |        |  |  |                                   |        |              |        |  |  |                                   |        |              |       |  |  |  |       |                |  |  |  |
|--|--|-----------------|--------|---------|--------|-----|--------|---------------------|-------|------|--------|------|--------|-------------|--------|---------|--------|-------|--------|--|--------|----------|--------|---------|--------|--|--------|-----------------|--------|--|--|-----------------------------------|--------|--------------|--------|--|--|-----------------------------------|--------|--------------|-------|--|--|--|-------|----------------|--|--|--|
| <b>FB precautions</b>                      | <ul style="list-style-type: none"> <li>• When using the Pulse output 0 and 1 simultaneously, use the same Pulse output method for them.</li> <li>• 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).</li> </ul>  |                 |        |         |        |     |        |                     |       |      |        |      |        |             |        |         |        |       |        |  |        |          |        |         |        |  |        |                 |        |  |  |                                   |        |              |        |  |  |                                   |        |              |       |  |  |  |       |                |  |  |  |
| <b>EN input condition</b>                  | <ul style="list-style-type: none"> <li>• Connect the EN input to the Always ON Flag (P_ON).</li> <li>• If a different type of bit is connected to EN, the FB outputs will be maintained when the connected bit is turned OFF.</li> </ul>   |                 |        |         |        |     |        |                     |       |      |        |      |        |             |        |         |        |       |        |  |        |          |        |         |        |  |        |                 |        |  |  |                                   |        |              |        |  |  |                                   |        |              |       |  |  |  |       |                |  |  |  |
| <b>Restrictions Other</b>                  | <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> </ul>  |                 |        |         |        |     |        |                     |       |      |        |      |        |             |        |         |        |       |        |  |        |          |        |         |        |  |        |                 |        |  |  |                                   |        |              |        |  |  |                                   |        |              |       |  |  |  |       |                |  |  |  |
| <b>Application example</b>                 | <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 absolute movement in a specified time period.</p> <p>The diagram illustrates the hardware and logic for the positioning operation. A CJ1M-CPU2x is connected to a Servomotor via Pulse output 0. The ladder logic shows a Start trigger (Bit A) initiating the function. The function block, <code>_NCCPU130_MoveTimeAbsolute_REAL</code>, has the following parameters and outputs:</p> <table border="1"> <tr> <td>Axis No.</td> <td>(INT)</td> <td>EN</td> <td>(BOOL)</td> <td>ENO</td> <td>(BOOL)</td> </tr> <tr> <td>Pulse output 0 → &amp;0</td> <td>(INT)</td> <td>Axis</td> <td>(BOOL)</td> <td>Done</td> <td>(BOOL)</td> </tr> <tr> <td>Start Bit A</td> <td>(BOOL)</td> <td>Execute</td> <td>(REAL)</td> <td>Error</td> <td>(WORD)</td> </tr> <tr> <td>Position command 200000 pulses → +200000.0</td> <td>(REAL)</td> <td>Position</td> <td>(REAL)</td> <td>ErrorID</td> <td>(WORD)</td> </tr> <tr> <td>Total positioning time 1000ms → +10000.0</td> <td>(REAL)</td> <td>PositioningTime</td> <td>(REAL)</td> <td></td> <td></td> </tr> <tr> <td>Acceleration time 1000ms → +100.0</td> <td>(REAL)</td> <td>Acceleration</td> <td>(REAL)</td> <td></td> <td></td> </tr> <tr> <td>Deceleration time 1000ms → +100.0</td> <td>(REAL)</td> <td>Deceleration</td> <td>(INT)</td> <td></td> <td></td> </tr> <tr> <td>Pulse output method CW/CCW output → &amp;0</td> <td>(INT)</td> <td>OutPulseSelect</td> <td></td> <td></td> <td></td> </tr> </table> | Axis No.        | (INT)  | EN      | (BOOL) | ENO | (BOOL) | Pulse output 0 → &0 | (INT) | Axis | (BOOL) | Done | (BOOL) | Start Bit A | (BOOL) | Execute | (REAL) | Error | (WORD) | Position command 200000 pulses → +200000.0 | (REAL) | Position | (REAL) | ErrorID | (WORD) | Total positioning time 1000ms → +10000.0 | (REAL) | PositioningTime | (REAL) |  |  | Acceleration time 1000ms → +100.0 | (REAL) | Acceleration | (REAL) |  |  | Deceleration time 1000ms → +100.0 | (REAL) | Deceleration | (INT) |  |  | Pulse output method CW/CCW output → &0 | (INT) | OutPulseSelect |  |  |  |
| Axis No.                                   | (INT)  | EN              | (BOOL) | ENO     | (BOOL) |     |        |                     |       |      |        |      |        |             |        |         |        |       |        |  |        |          |        |         |        |  |        |                 |        |  |  |                                   |        |              |        |  |  |                                   |        |              |       |  |  |  |       |                |  |  |  |
| Pulse output 0 → &0                        | (INT)  | Axis            | (BOOL) | Done    | (BOOL) |     |        |                     |       |      |        |      |        |             |        |         |        |       |        |  |        |          |        |         |        |  |        |                 |        |  |  |                                   |        |              |        |  |  |                                   |        |              |       |  |  |  |       |                |  |  |  |
| Start Bit A                                | (BOOL)   | Execute         | (REAL) | Error   | (WORD) |     |        |                     |       |      |        |      |        |             |        |         |        |       |        |  |        |          |        |         |        |  |        |                 |        |  |  |                                   |        |              |        |  |  |                                   |        |              |       |  |  |  |       |                |  |  |  |
| Position command 200000 pulses → +200000.0 | (REAL)   | Position        | (REAL) | ErrorID | (WORD) |     |        |                     |       |      |        |      |        |             |        |         |        |       |        |  |        |          |        |         |        |  |        |                 |        |  |  |                                   |        |              |        |  |  |                                   |        |              |       |  |  |  |       |                |  |  |  |
| Total positioning time 1000ms → +10000.0   | (REAL)   | PositioningTime | (REAL) |         |        |     |        |                     |       |      |        |      |        |             |        |         |        |       |        |  |        |          |        |         |        |  |        |                 |        |  |  |                                   |        |              |        |  |  |                                   |        |              |       |  |  |  |       |                |  |  |  |
| Acceleration time 1000ms → +100.0          | (REAL)   | Acceleration    | (REAL) |         |        |     |        |                     |       |      |        |      |        |             |        |         |        |       |        |  |        |          |        |         |        |  |        |                 |        |  |  |                                   |        |              |        |  |  |                                   |        |              |       |  |  |  |       |                |  |  |  |
| Deceleration time 1000ms → +100.0          | (REAL)   | Deceleration    | (INT)  |         |        |     |        |                     |       |      |        |      |        |             |        |         |        |       |        |  |        |          |        |         |        |  |        |                 |        |  |  |                                   |        |              |        |  |  |                                   |        |              |       |  |  |  |       |                |  |  |  |
| Pulse output method CW/CCW output → &0     | (INT)  | OutPulseSelect  |        |         |        |     |        |                     |       |      |        |      |        |             |        |         |        |       |        |  |        |          |        |         |        |  |        |                 |        |  |  |                                   |        |              |        |  |  |                                   |        |              |       |  |  |  |       |                |  |  |  |
| <b>Related manuals</b>                     | <ul style="list-style-type: none"> <li>• CJ1M CPU Units Operation Manual (W395)<br/>5-7 PULSE OUTPUT: PLS2(887)<br/>6-3-3 Origin Search Error Processing (Pulse Output Stop Error Codes)</li> <li>• SYSMAC CP Series CP1L CPU Unit Operation Manual (W462)</li> </ul>  |                 |        |         |        |     |        |                     |       |      |        |      |        |             |        |         |        |       |        |  |        |          |        |         |        |  |        |                 |        |  |  |                                   |        |              |        |  |  |                                   |        |              |       |  |  |  |       |                |  |  |  |

## ■ Variable Tables

### Input Variables

| Name                   | Variable name   | Data type | Default | Range                            | Description                                       |
|------------------------|-----------------|-----------|---------|----------------------------------|---|
| EN                     | EN              | BOOL      |         |                                  | 1 (ON): Starts FB<br>0 (OFF): Does not start FB   |
| Axis No.               | Axis            | INT       | &0      | &0 to &1                         | &0: Pulse output 0<br>&1: Pulse output 1          |
| 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.<br>Unit: pulse         |
| Total positioning time | PositioningTime | REAL      | +1.0    | +1.0 to +65535.0                 | Specify a positioning time.<br>Unit: ms           |
| Acceleration time      | Acceleration    | REAL      | +1.0    | +1.0 to +65535.0                 | Specify an acceleration time.<br>Unit: ms         |
| Deceleration time      | Deceleration    | REAL      | +1.0    | +1.0 to +65535.0                 | Specify a deceleration time.<br>Unit: ms          |
| Pulse output method    | OutPulseSelect  | INT       | &0      | &0 to &1                         | &0: CW/CCW output<br>&1: Pulse + direction output |

### Output Variables

| Name                        | Variable name | Data type | Range | Description   |
|-----------------------------|---------------|-----------|-------|---|
| ENO                         | ENO           | BOOL      |       | 1 (ON): FB operating normally<br>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.