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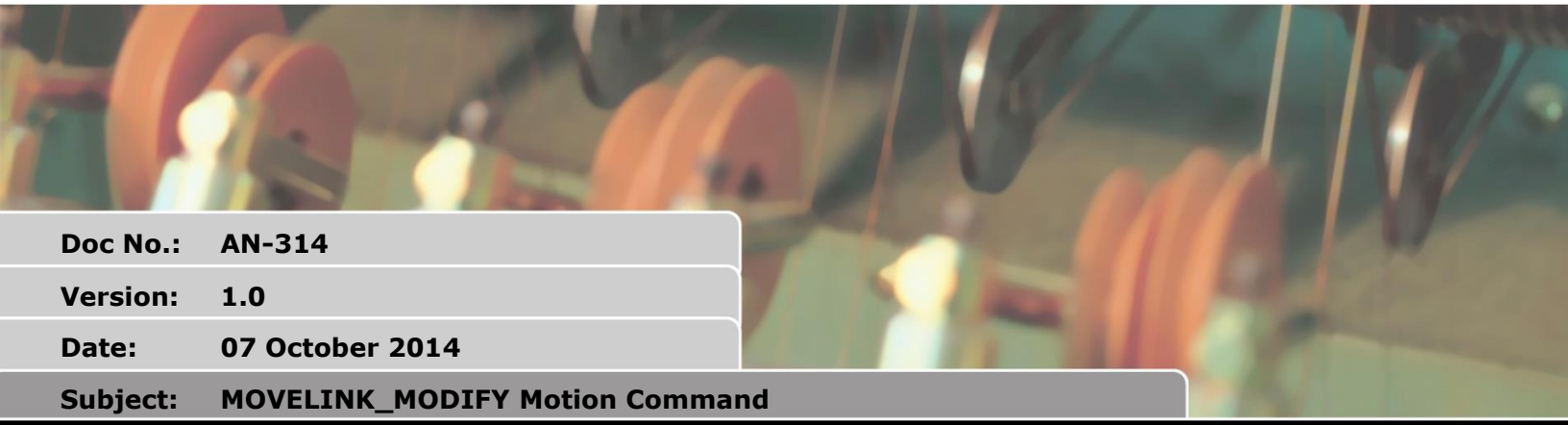


Doc No.: AN-314

Version: 1.0

Date: 07 October 2014

Subject: MOVELINK_MODIFY Motion Command

1. Version history

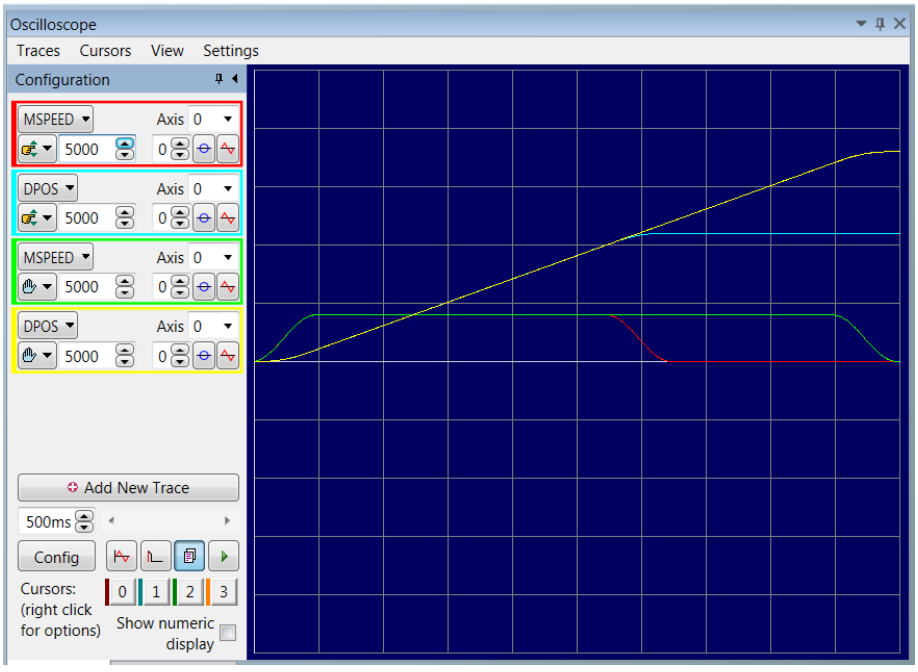
Version 1.0	6 Oct 2014	First release

2. Scope

1. The MOVELINK_MODIFY is available in system software versions 2.0248 onwards

3. Overview

MOVELINK_MODIFY is a new axis parameter that allows MOVELINK motion commands to be modified whilst they are running. A typical example of using MOVELINK_MODIFY is for stopping product relative to a registration mark when using MOVELINK commands which link motion to a conveyor.



In the example above the originally planned MOVELINK is shown using the green (speed) and yellow (position) traces. In this example the MOVELINK was cut short to terminate the move early by a programmable amount.

4. MOVELINK_MODIFY Axis Parameter

The following Trio BASIC statements show an example usage of MOVELINK_MODIFY. The target end position for the axis is adjusted (+ve or -ve) by the amount specified in the MOVELINK_MODIFY axis parameter.

```
MOVELINK_MODIFY=0 ' ensure any earlier adjustments are cleared
DEFPOS(0,0) ' makes the adjustment easier TO understand
MOVELINK(18000,10000,1000,1000,1,16)
TRIGGER
WAIT LOADED
PRINT ENDMOVE ' prints 18000
WAIT UNTIL MPOS AXIS(1)>2000 ' Wait for some condition
MOVELINK_MODIFY=-7000 ' reduce the target by 7000
WAIT UNTIL MOVELINK_MODIFY=0 ' Wait until offset applied
PRINT ENDMOVE ' prints 11000
```

Notes on MOVELINK_MODIFY:

- The MOVELINK_MODIFY adjustment will only be applied if the MOVELINK has NOT already started decelerating and if there is sufficient time to make the adjustment without specified deceleration having to be faster than specified.
- If MOVELINK_MODIFY cannot be applied for the reasons specified the parameter will remain at the requested adjustment value.

5. MOVELINK_MODIFY with zero length moves

MOVELINK is sometimes used to simply achieve a delay by a distance. In this case the length of the MOVELINK is zero. In this special case only the Motion Coordinator will modify the LINK AXIS distance by the MOVELINK_MODIFY distance:

```
MOVELINK_MODIFY=0 ' ensure any earlier adjustments are cleared
DEFPOS(0,0) ' makes the adjustment easier to understand
MOVELINK(0,5000,0,0,1) ' delay for 5000 on axis 1
WAIT UNTIL MPOS AXIS(1)>1000

MOVELINK_MODIFY=-1500
WAIT UNTIL MOVELINK_MODIFY=0
WAIT IDLE
PRINT MPOS AXIS(1) ' prints 3500 approx
```

6. MOVELINK_MODIFY with registration

MOVELINK_MODIFY can be used with registration to "park" a motion axis whilst remaining synchronised. This program "parks" the axis at a position 5000 pulses after the registration position, whilst remaining in sync:

```
MOVELINK_MODIFY=0
REGIST(3)
MOVELINK(19000,20000,1000,1000,1,16)
WAIT LOADED
WAIT UNTIL MARK OR IDLE
IF MARK THEN
    MOVELINK_MODIFY = REG_POS + 5000 - ENDMOVE
ENDIF
```