

Failure Notice for fixed pulse or continuous pulse driving in S-curve acceleration/deceleration.

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Technical department

Items: Motion Control IC MCX302, MCX312, MCX304
Motion Control Board MC8080P, MC8082P, MC8082Pe, MC8042P and MC8022P.

[Symptom]

When using fixed pulse driving or continuous pulse driving in S-curve acceleration/deceleration, driving is performed at an initial speed without acceleration.

[Occurrence Condition]

1. When fixed pulse driving or continuous pulse driving is performed in S-curve acceleration / deceleration mode (WR3/D2=1),
2. The value of (Drive speed V - Initial speed SV) is lower than the half value of (V-SV) which is driven just before.
3. And in the driving just before, when ACC counter (which is used in S-curve acceleration / deceleration driving in the IC) is not returned to 0 at the end of driving.

[Cause]

ACDSND signal remains for 1SCLK so that JK in CSPD.3 circuit won't be cleared by DR1REQ signal because the timing of clearing speed accumulative counter in increasing of acceleration/deceleration delays 1SCLK in CACC.2 circuit.

[Workaround]

Before start of driving, use following steps to workaround this behavior, with an inspection command to clear the internal ACC counter. This command is not described in the manual.

When fixed pulse driving or continuous pulse driving is performed in S-curve acceleration/ deceleration mode (WR3/D2=1), write 44h command just before all the drive commands are written.

(Example)

Set mode for S-curve acceleration/deceleration
Set Range (R)
Set Jerk (K)
Set Acceleration (A)
Set Initial speed (SV)
Set Drive speed (V)
Set Output pulse number (P)

WR0 ← Axis assignment+44h ;Command for workaround

WR0 ← Axis assignment+20h ;Fixed pulse drive in the +direction

Waits for termination of driving

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Set Output pulse number (P)

WR0 ← Axis assignment+44h ;Command for workaround

WR0 ← Axis assignment+21h ;Fixed pulse drive in the –direction

Waits for termination of driving

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Change Drive speed (V)

WR0 ← Axis assignment+44h ;Command for workaround

WR0 ← Axis assignment+22h ;Continuous pulse drive in the +direction

Waits for termination of driving

We're very sorry for any inconvenience this may have cause you.

It's an absolute assurance for us to keep producing the products as better hereafter.

If you have any suggestions or comments please contact us at

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