

# CODESYS MOTION CNC ROBOTICS

**CODESYS Feature Briefing, March 2024**  
**Georg Seidel, Head of Application Technology**

**1**

**Override for Single Axis Movements**

**2**

**Outlook**

**1**

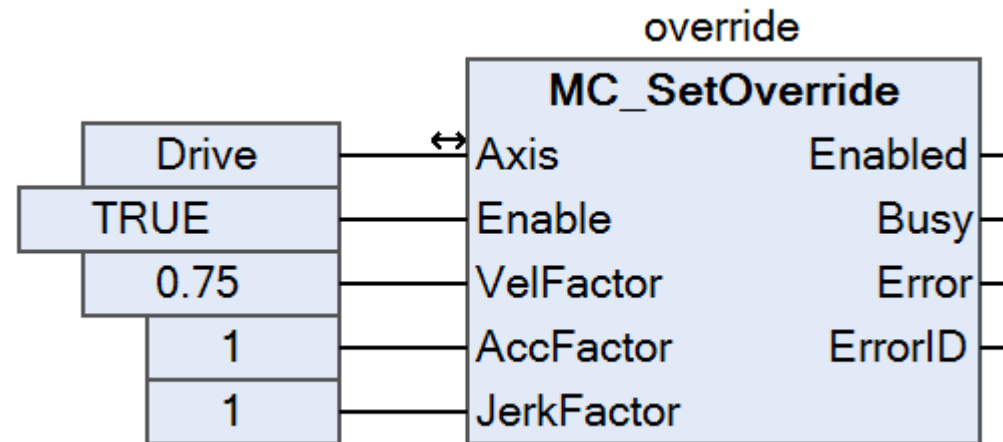
**Override for Single Axis Movements**

**2**

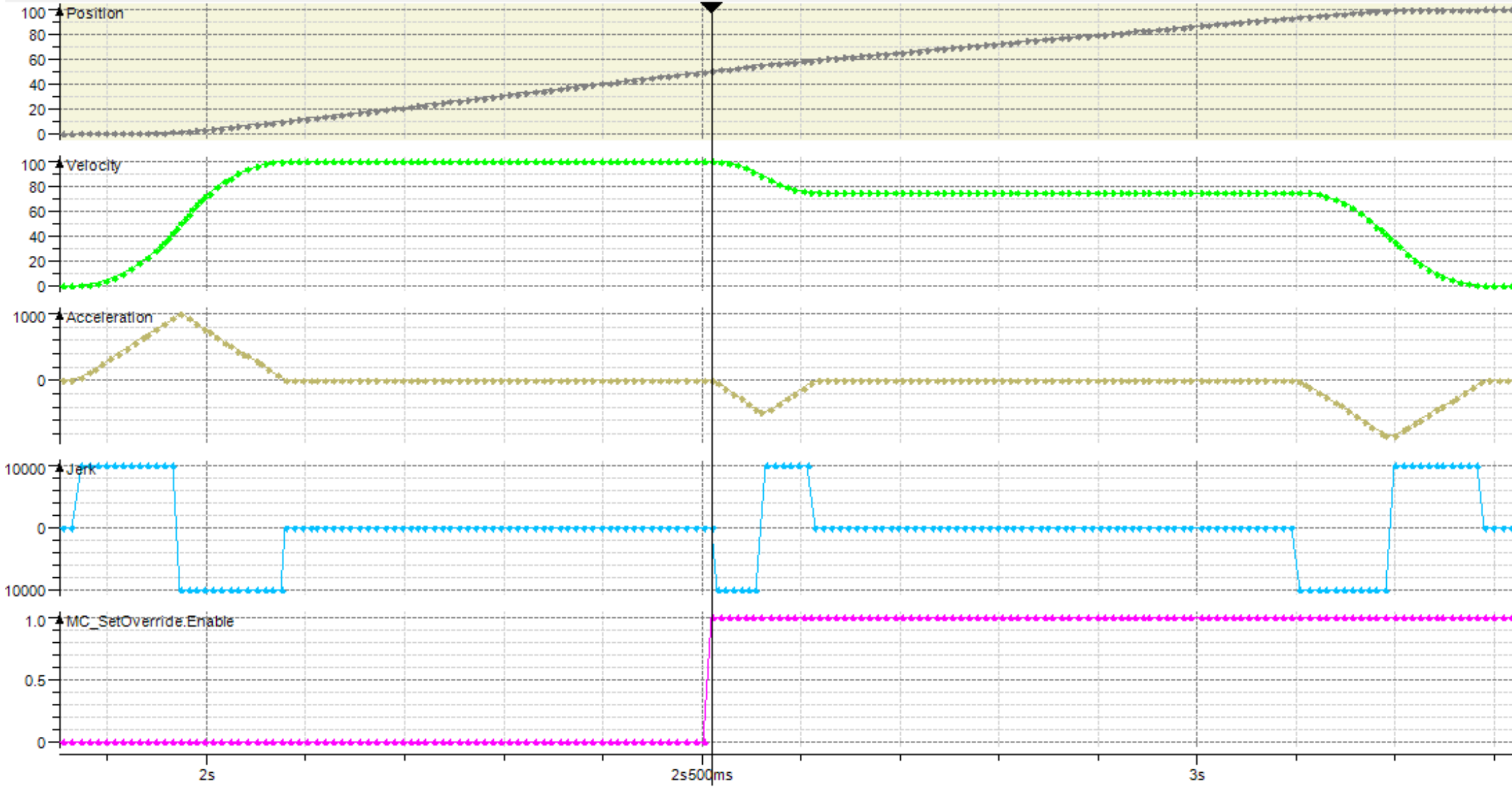
**Outlook**

## Override for Single Axis Function Blocks (PLCopen MC Part 1)

- Support for function block `MC_SetOverride`



- Example: movement from position 0 to position 100 with override

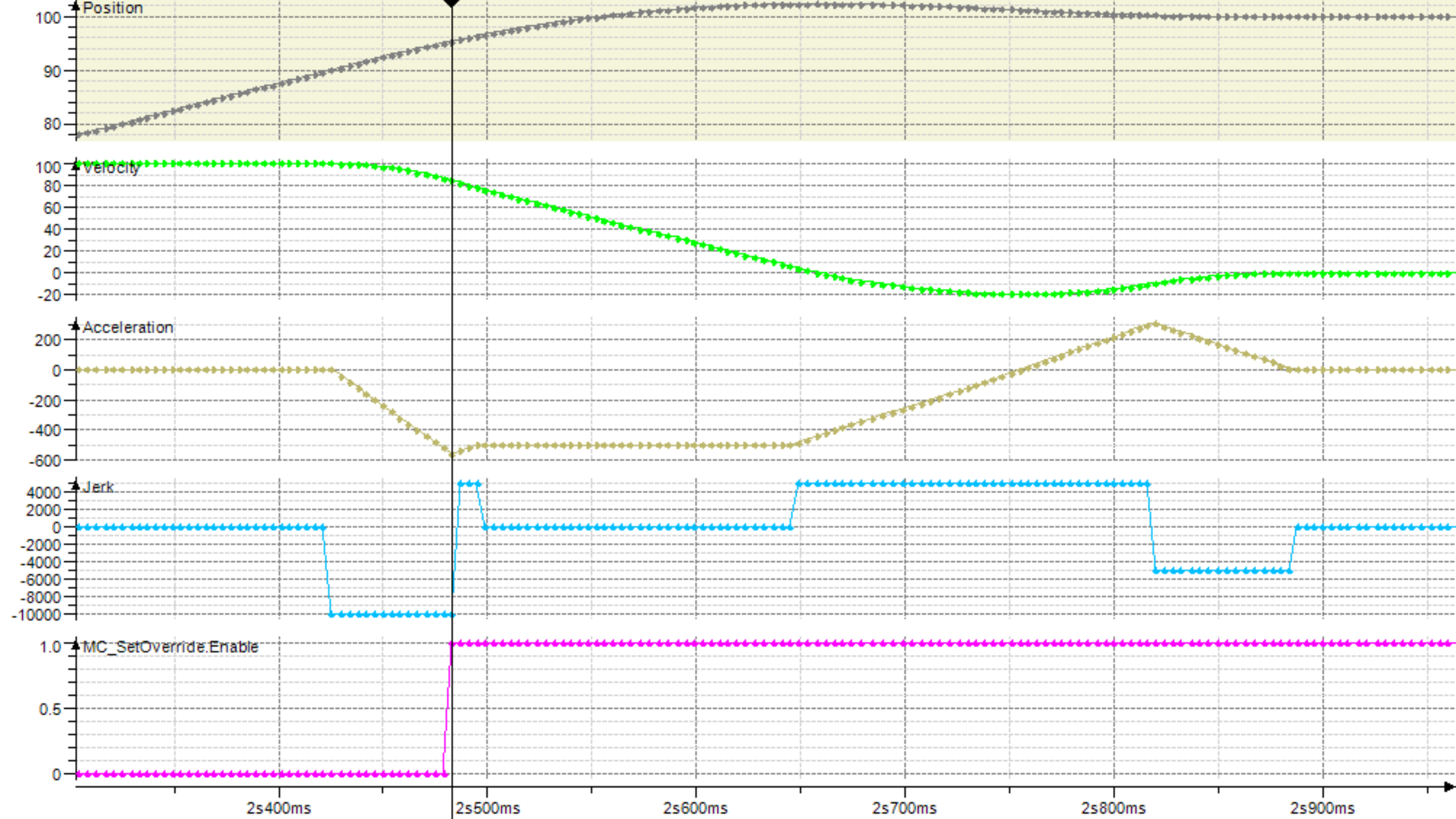


## Applies to all single axis movements with a few exceptions

- **MC\_Stop** is not affected.
- **MC\_PositionProfile**, **MC\_VelocityProfile**, and **MC\_AccelerationProfile** are not affected. (Will be deprecated, **MC\_CamIn** should be used.)
- **Synchronized movements (MC\_CamIn, MC\_GearIn, MC\_Phasing)**: Slave axes are only affected during ramping in.
- **MC\_GearInPos** is not affected.

## Caveats

- **Velocity ramp types  $\sin^2$  and `quadratic_smooth` should not be used with `MC_SetOverride`. (Overshoot issues may occur.)**
- **Changing the acceleration and/or jerk override may lead to position overshoot**
- **Example: movement to position 100, acceleration and jerk override reduced to 50% while decelerating**





**1**

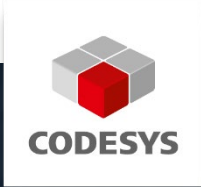
**Override for Single Axis Movements**

**2**

**Outlook**

## Improvements of MC\_CamIn

- **Distance based ramping in (inputs MasterStartDistance and MasterSyncPosition)**
- **API for creating cam tables programmatically**
- **More cam segment types (polynomials of degree 7, inclined and modified sine segments)**
- **Tappets with sub-cycle timing accuracy**



# Thank you for your attention!

Follow us. Stay up to date!



[codesys.com/YouTube](https://codesys.com/YouTube)



[codesys.com/LinkedIn](https://codesys.com/LinkedIn)

**CODESYS® is a registered trademark. Technical specifications are subject to change. Errors and omissions excepted. No reproduction or distribution, in whole or in part, without prior permission.**

**Note: Not all CODESYS features are available in all territories.**

**For more information on geographic restrictions, please contact [sales@codesys.com](mailto:sales@codesys.com).**