DriveControlSuite V 6.7-C

With this release, the **SX6** safety module is now also available for drive controllers from the SB6 series and enables the Safe Brake Test (SBT) for all compatible series. The new **profile generator** also enables even more precise axis movements now and the new **Script mode V2** offers increased user convenience when automating your drive projects. In addition, the **Drive Based Center Winder** application has been enhanced with a number of minor updates. Firmware-related updates and optimizations are only available for the EtherCAT fieldbus variant.

- **SX6 safety module**
  SB6, SC6, SI6: The SX6 safety module now enables you to use extended safety technology via Safety over EtherCAT (FSoE) for drive controllers from the SB6 series. The SX6 safety module now also supports the Safe Brake Test (SBT) for all compatible series.
  - **PASmotion Safety Configurator**
    SE6, SX6: The new PASmotion Safety Configurator version v1.6.0 is now included in DriveControlSuite for the configuration of extended safety technology.
- **Profile generator**
  SB6, SC6, SI6: The new profile generator with clever calculation of motion profiles now enables you to achieve even higher precision for axis movements.
  - **Motion profile calculation**
    The new profile generator ensures smoother axis target entry and a more seamless transition to the subsequent motion command, thanks to clever calculation for reaching the set position. The optimized calculation of motion profiles reduces axis lag, is noticeable through smoother motion during velocity override, and ensures softer catching when released onto a moving axis.
  - **Motion plausibility check**
    For quality assurance, the profile generator has been expanded to include new plausibility checks: for example, if actual values must be used to calculate the motion profile. For example, the axis now triggers a fault if it is no longer possible to stop in the current direction of motion by reducing jerk or acceleration and the target is in the opposite direction (event: 90: Motion block; cause: 3: Plausibility).
  - **Acceleration, deceleration, jerk**
    If the set jerk is too low, the new profile generator now uses an internally calculated minimum jerk to achieve the specified set acceleration within 2 s. In addition, the settings for acceleration, deceleration and jerk can now be changed while the axis is in motion.
- **Script mode V2**
  The Script mode offers the following new features for you. For detailed information, refer to the online help at DriveControlSuite (Menu: Help for DS6 > Help for DS6; Key: [F1]).
  - **Commands**
    In Script mode, the basic functionality of the commands remains the same, but there were numerous optimizations to the attributes and return codes, as well as the associated documentation. The command for adding a direct connection has been omitted (command: `connect`). Instead, 2 new commands have been added. You can use them to initialize the DriveControlSuite and transfer additional IP addresses or establish an online connection in accordance with the last assignment (commands: `init`, `setOnlineAssigned`).
  - **Command script (*.ds6s)**
    In Script mode V1, the actual command script (*.json) had to be transferred to DriveControlSuite with an additional batch file (*.bat) and executed. The command script (*.ds6s) can now be executed directly via double-click using the new file extension of the script file; the additional batch file (*.bat) is no longer required. From DS6 V 6.7-C, it is also necessary to specify the version of the Script mode and a directory for creating a log file in the `settings` script section of the command script (*.ds6s) (attributes: `version`, `logFilePath`).

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- **Convert command script (V1 → V2)**
  To make the transition to the new version of the Script mode easier for you, you can convert existing script files using DriveControlSuite (V1 → V2). You can access the Convert command script window either via the menu bar (menu: File > Script mode > Convert command script) or automatically by executing an outdated command script with DriveControlSuite V 6.7-C or higher.

- **Drive Based Center Winder**
  The Drive Based Center Winder application offers the following new features for you. For detailed information, refer to the corresponding Drive Based Center Winder manual in version 04 or higher.
  - **Calculate frictional torque**
    Based on the operating points you determined, DriveControlSuite now calculates frictional torques M_{Rstat} and M_{Rdyn} to compensate the static and dynamic friction of the axis (parameters: L110, L120; Wizard: Compensation).
  - **Mute material tear monitoring**
    Material tear monitoring can now be muted either manually or automatically by activating the center winder for the duration of a start delay (source: L383; Start delay: L384).
  - **Scale winding diameter**
    SB6, SD6: If an analog input is used as the source, you can define a value range for the analog input for scaling the winding diameter according to your application via L22[0] – L22[1] from which the winding diameter is linearly interpolated in accordance with L23[0] – L23[1] (unit: % → mm).
  - **Display of actual material tensile force, actual dancer position**
    The actual material velocity is now calculated for all winding methods in the same way as the calculated actual material tensile force (display: L471). The filtered actual dancer position is now displayed in L99.

More new features

- **Synchronous servomotors: One Cable Solution**
  SB6, SC6, SI6: When configuring a synchronous servomotor with One Cable Solution (EnDat 3, HIPERFACE DSL), the function of the X4 encoder connection is now taken from the motor library. Manual parameterization is no longer required (encoder connection: H00).

- **Reconfigure motor: X4 function**
  In the configuration dialog, you can now select whether you want to adopt the value from the motor library for the function of the encoder connection X4 or retain the current setting if the motor has been reconfigured after the fact (selection: H00 X4 function).

- **Projecting third-party motors**
  The configuration dialog now has a new motor library, Template for third-party motors, to make it easier for you to project third-party motors. For detailed information on configuring third-party motors and motor libraries, see the online help at DriveControlSuite (Menu: Help for DS6 > Help for DS6; Key: [F1]).

- **Retrofit ES synchronous servomotors**
  The new STOBER Archive motor library allows you to conveniently configure synchronous servo motors from the ES series, eliminating the need for time-consuming manual parameterization. STOBER System Support will be happy to provide you with the STOBER Archive motor library on request.

- **Asynchronous motor: Calibrate sensorless vector control**
  In addition to the observer and the speed estimate, the Calibrate sensorless vector controller action now measures the saturation coefficients of the magnetization at the nominal point of the asynchronous motor (saturation coefficient: B55; Action: B45).

- **Process data mapping: Event cause**
  The cause of the active event E82 can now be included in the process data mapping (cause: E43, E44).

- **Synchronous operation: Master position measurement**
  SB6, SC6, SI6: In applications of type Drive Based Synchronous, the additional master position measurement function is now available for all STOBER drive controllers of the 6th generation.

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- **Graphical programming: Change log**
  In addition to the Structure check tab, there is a new Change log tab that logs the last changes made in edit mode and allows you to repeat or undo specific changes.
- **Parameter switching**
  SB6: Parameter switching is now also available for drive controllers from the SB6 series.

Optimizations

- **Operating unit: Acknowledge fault**
  SB6: When using the CiA 402 device control, a fault can now be acknowledged via the operating unit without having to activate local operation first (operating unit: [ESC] button).
- **Multi-axis scope**
  SC6, SI6: With dual-axis controllers, the scope image for axis B can now be updated, i.e. overwritten with a new scope image, if axis A is not participating in the scope image.
- **MC_MoveSpeed command**
  The 8: MC_MoveSpeed motion command is now denied if it is parameterized with an acceleration or deceleration of 0 m/s^2.
- **EtherCAT: DC-Sync, PDO configuration**
  PLL latching during node synchronization in the EtherCAT network via distributed clocks has been optimized for special combinations of cycle times of the controller and the drive controller. In addition, the total length of the process data is now also recalculated in the A255 = 2: Pre operational state state if the process data mapping is changed via the controller during device start-up.
- **CiA 402: Status word, device state machine**
  In applications of type CiA 402 with control-based operating mode csp, csv or cst, for active limitation (A516, bit 11) the status word now also indicates that the axis is following the set value (A516, bit 12). In addition, when changing from a drive-based operating mode (pp, vl, pv, pt) to a control-based operating mode (ip, csp, csv or cst), the stop signal no longer needs to be reset manually.
- **Drive Based Center Winder: MC_Stop**
  In applications of type Drive Based Center Winder, the 5: MC_Stop motion command is only triggered with the Execute signal now, instead of being triggered immediately when the command is selected.
- **Drive Based: Buffered subsequent motion block**
  SB6, SC6, SI6: In applications of type Drive Based, in motion block operating mode the revolution length can now be exceeded for axes with an endless travel range by buffered subsequent motion blocks with relative positioning commands without triggering a fault (event: 90: Motion block, cause 2: Target Position in reverse direction; travel range: I00 = 1: Endless; command: I401 = 2: MC_MoveRelative, 3: MC_MoveAdditive).
- **Graphical programming: Structure check**
  In the structure check, there is a new entry for subsequently changing the connection type from input to output for connections that have already been connected.

Discontinuation

- **Electronic cam disk**
  The electronic cam disk has been completely removed from applications of type Drive Based Synchronous; the electronic gearbox is still available for synchronous operation.

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This release is a product update and includes general optimizations.

- **Brake control**
  SB6, SC6, SI6: An optimization has been implemented for axes with brake connection monitoring where event 49: Brake was falsely triggered in rare cases (setting: F105 ≠ 0: Inactive; event 49: Brake; cause: 12: Brake monitoring during engaging time or 13: Brake monitoring during release time).
- **Profile generator**
  SB6, SC6, SI6: The calculation of the motion profile has been optimized so that event 90: Motion block is no longer falsely triggered when there is significant signal noise during set value specification via an analog input or when there are excessive set value fluctuations during set value specification via a controller (event 90: Motion block; cause: 3: Plausibility).

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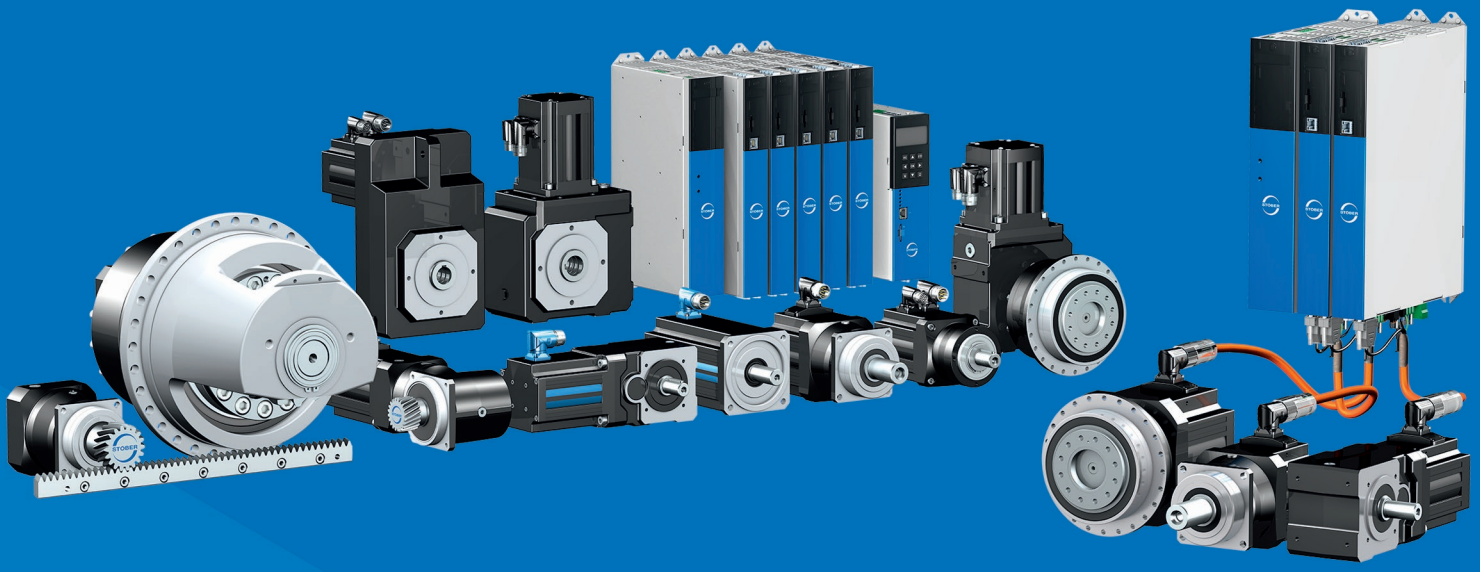

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