

## Software release document

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**Firmware for Product(s):** MAC00-ESx, MIS/MIL 17/23/34/43 with ES option, SMC 66/85 with ES option.

### **SERCOS**

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**Latest version:** 3.16  
**Date:** January 11, 2022  
**Build:** 10263

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### **Descriptions:**

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**Version 3.16 (build 10263, January 11, 2022) KB:**

*Requires at least version 2.19 of MAC400+ firmware*

*Requires at least version 5.04 of MIS firmware*

*Requires at least version 1.70.027 of Mactalk, to use all features.*

*The present MAC050-141 series is NOT supported.*

### **Improvements:**

- MIS CSP mode activates "Position control with motor encoder" text in S95.
- Set "STO sets error bit" in MIS motor at powerup if not already set. This ensures that STO activation will be detected by Sercos master.

### **Bugfixes:**

- MIS motor error bits 8-32 including STO triggered error was not transferred to Sercos master. Fixed.
- MIS motor unsupported error bits will activate a Sercos general error.

**Version 3.14 (build 10258, September 23, 2021) KB:**

***Requires at least version 2.19 of MAC400+ firmware***

***Requires at least version 5.04 of MIS firmware***

***Requires at least version 1.70.027 of Mactalk, to use all features.***

***The present MAC050-141 series is NOT supported.***

**New features:**

- Support for new RM4 CPU type in MAC motors, when NOT using FSPDrive.
- Block/unblock cyclic PLC data from Mactalk possible.
- Added new commands for delayed reset etc. Please refer the Ethernet manual.
- Support for WiFi module in MIS motors, BUT WiFi is not recommended for Sercos because of lack of determinism in WiFi.
- If bit 13 is set in setup bits (register 6) then is used an alternative cyclic setup under FSPDrive suitable for MST-motors with external encoder.
- S92 now also used in MIS motors for limiting torque. ***!! Change of running current directly in motor register 7 will no longer have any effect, as it will be overwritten by the Sercos profile !!***
- Modulo functionality is now NOT enabled in MIS motors, as it has to be setup and flashed directly in motor, in order to avoid position wrap-around issues. ***So required to setup modulo/Turntable in MIS motor directly.***

**Improvements:**

- Actual position (S-0-0051), is now fetched from motor encoder position (reg.16), if MIS motor.

**Bugfixes:**

- Fixed issue with Mactalk Register workspace pad not working with command register.
- Better handling of MIS motor warnings.
- Possible write of wrong registers when intensively using non-cyclic data solved.
- Follow error now not truncated to  $\pm 28^\circ$ .
- Scaling of P\_NEW when set from S447.
- Disables modulo(turntable) correctly in MIS motors.
- Default torque limit in MIS motors changed from 300 to 100%.

**Version 3.12 (build 10190, October 10, 2019) KB:**

***Requires at least version 2.19 of MAC400+ firmware***

***Requires at least version 4.10 of MIS firmware***

***Requires at least version 1.70.027 of Mactalk, to use all features.***

***The present MAC050-141 series is NOT supported.***

New features:

- New "Homning done in life time" bit in MIS motors used for IDN S-0-0403 feedback status if absolute encoder present.
- FG set absolute position added. Including IDN's S-0-0447 (Set absolute position procedure command), S-0-0448 (Set absolute position control word) and S-0-0175 (Displacement feedback value encoder 1).
- Added IDN S-0-0191 (Cancel reference point procedure command).

**Version 3.10 (build 10152, February 8, 2019) KB:**

***Requires at least version 2.19 of MAC400+ firmware***

***Requires at least version 4.06 of MIS firmware***

***Requires at least version 1.70.027 of Mactalk, to use all features.***

***First official release of the SERCOS protocol.***

***This firmware works in all new MIS/MIL 17/23/34/43 motors. But NOT in MIS/MIL 34/43 motors delivered before August 2017.***

***And it works in MAC00-Exx modules if installed in MAC400-MAC3000 motors.***

***The present MAC050-141 series is NOT supported.***