Overview over the changes and new functionality of Motion Controller V3.0 firmware revision L3 (compared to K).

Changes and fixes

No.	Affected Component	Change Description
1	CSP & round table (0x60F2)	When CSP is used in round table mode (position option code 0x60F2.00 = 0x00C0 and a non-integer reduction ratio of a gearhead is scaled into the factor group the quantization errors are now accumulated and even after numerous turns a move to e.g. 3 o clock will end at the correct position.
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New Functions

No.	Affected Component	Description
1	Target values in CSx modes	An interpolation rate for target position (0x607A), target speed (0x60FF) or target torque (0x6071) can now be configured in multiples of 100µs. The entry in 0x2332.00. This can be used to avoid stepwise setting new target values and is recommended to be set to the communication cycle time of either CANopen or EtherCAT when CSP, CSV or CST is used.
2	Torque filter	Torque actual value (0x6077) can now be filtered by a filter time configured in 0x234B.02. This is used to remove measurement noise from the signal. Default value is 2ms filter time.
3	Sine Commutation	Commutation rate is now 20kHz
4	BiSS-C Encoder	For a BiSS-C encoder addional error codes and improved error handling has been added. Error code for a Fault signaled from the encoder is 0x7320. Error code for an CRC error is 0x7321. In case of an CRC error the actual position is estimated out of the last one and the last speed value.
5	BiSS-C Absolute Encoder	For BiSS-C based multi turn absolute encoder the position can either be interpreted as a signed value or an unsigned one.
6	BiSS-C Encoder	Preliminary compensation of encoder errors added.