



Kinetix 7000 High-power Servo Drives, Firmware Revision 1.106

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About This Publication

These release notes describe hardware and software enhancements, anomalies, restrictions, and other usage considerations for Kinetix® 7000 drive firmware revisions 1.101, 1.104, 1.105, and 1.106 when used with RSLogix™ 5000 software, version 17.

The -S at the end of the catalog number indicates a Kinetix 7000 High-power Servo Drive with the safe-off feature.

IMPORTANT For Kinetix 7000 safe-off (SO) connector wiring and troubleshooting information, refer to the Kinetix Safe-off Feature Safety Reference Manual, publication [GMC-RM002](#).

IMPORTANT Using the Kinetix 7000 drives with the Motor Feedback Noise fault-action set to Status Only may result in absolute position offset due to the loss of feedback information. For applications requiring precise absolute positioning or axis synchronization, verify the Motor Feedback Noise Status Only setting.

IMPORTANT If you currently use a custom RSLogix 5000 motion database in RSLogix 5000 software, version 12...16, you will need an updated motion database to use RSLogix 5000 software, version 17. To initiate the process of getting the database updated, email your request to raeptechsupport@ra.rockwell.com. If your current database includes non-Rockwell Automation motors, include any prior technical support case numbers.

Enhancements

These enhancements are effective in Kinetix 7000 drive firmware revision 104.

Enhancement	Description
EnDat to Hiperface feedback added	Support for the 2090-K7CK-KENDAT EnDat to Hiperface feedback module has been added for the 2099-BMxx-S drives. IMPORTANT: Use of the 2090-K7CK-KENDAT feedback module requires motion database version 5.14 or later.
Current Low Pass Filter Limits modified	Setting the Current Low Pass Filter Override IDN (16 bit, P00065) to a value of 1 permits the filter values to be set to any value in the range of 0...8000 radians/second.

Anomalies

These anomalies are corrected or documented in Kinetix 7000 drive firmware revisions 1.101, 1.105, and 1.106.

Table 1 - Corrected Anomalies

Firmware Revision	Anomaly
1.106	CORRECTED: The Kinetix 7000 will eventually post an E71 Memory Init fault when attempting a homing operation with the DC bus down if it had previously been up since the last power cycle.
1.105	CORRECTED: The absolute reference status in the drive is no longer cleared if control power is cycled without the DC bus being present.
1.101	CORRECTED: The feedback communication detection was corrected to reduce incorrect auxiliary feedback loss faults.

These anomalies exist in Kinetix 7000 drive firmware revisions 1.101, 1.104, 1.105, and 1.106

Table 2 - Known Anomalies

Anomaly
If a Motion Axis Home (MAH) command with Mode = Absolute and Sequence = Immediate is executed while the drive is in a faulted state with Regen_PS_OK fault (E111), the absolute reference status is initially set, then cleared during the next drive power-up cycle.
In a system where the rated current of the drive is less than the rated current of the motor, certain torque attributes (torque limits and motor torque feedback) are incorrect. RSLogix 5000 software assumes that 100% current is always motor rated current, but in the case of a drive limiting the rated current, the values are incorrect.
The Test Command and Feedback Hook-up Test will fail with a missing feedback error when used on dual-loop configurations.

Table 2 - Known Anomalies

Anomaly
If dual-position servo-loop configuration is selected and auxiliary feedback is set to none, an Encoder Feedback Loss fault (E07) is displayed rather than an Auxiliary Feedback fault (E62) following the drive enable command.
When using an induction motor, a program should wait approximately 200 ms after a Motion Servo On (MSO) command before commanding an aggressive move profile. Not doing so could result in an Excess Following Error (E19). Also, Autotune may not produce accurate results. Manual tuning may be necessary. This is due to the time it takes to flux the field on the motor producing full torque.
Home to Torque Level in Forward Bi-directional or Reverse Bi-directional mode should reverse direction and move until Homing Torque Above Threshold status is low. Then the process complete (PC) bit should set. However, when the torque level is reached, the PC bit is set and the motor remains at that torque level. If the Peak Torque/Force Limit value is not reduced, the motor will remain at the dynamic torque-limit value.

Restrictions

These restrictions apply when using RSLogix 5000 software in conjunction with a 1756-MxxSE (ControlLogix®), 1769-M04SE (CompactLogix™), or 1784-PM16SE (SoftLogix™) sercos module, and Kinetix 7000 servo drives.

Restrictions
When removing an axis association on the Associated Axes tab of the Module Properties dialog box, control power to the drive must be cycled to clear the previous associations. Failing to do so will result in the Kinetix 7000 drive reporting a Sercos Ring fault (E38).
When changing from a dual-loop configuration (dual-position servo, dual-command servo, aux dual-command servo, and dual-command/ feedback servo) to a single-loop configuration (position servo, aux position servo, velocity servo, and torque servo), control power to the drive must be cycled to clear out the previous loop-configuration setting. Failing to do so will result in the Kinetix 7000 drive reporting an Auxiliary Feedback fault (E62) when the auxiliary feedback device is removed.
When using a dual-loop configuration, the resolution units setting (Rev, Inch, and Millimeter) on the Motor Feedback and Aux Feedback tabs of the Axis Properties dialog box must be the same.
After issuing a Set System Variable (SSV) on a drive parameter, wait at least 3 ms after the ConfigUpdateComplete bit is set before acting on the result of the setting.
The auxiliary encoder channel does not generate a marker from any sine/cosine device, including SRS/SRM feedback.
Setting the low-pass output filter bandwidth to a value greater than 3183 Hz causes a configuration error when downloaded.
An E19 or E05 fault may occur if a Motion Servo On (MSO) command is executed when the motor shaft is still rotating.
When in the Position Servo mode, the Kinetix 7000 drive will not execute a Motion Axis Jog command above 80 revolutions per second to a Bulletin 8720SM or HPK-Series™ induction motor.

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Additional Resources

These documents contain additional information concerning related Rockwell Automation® products.

Resource	Description
Kinetix 7000 High Power Servo Drives Installation Instructions, publication 2099-IN003	Information on installing, setting up with RSLogix 5000 software, applying power, and troubleshooting your Kinetix 7000 drive.
Kinetix 7000 High Power Servo Drives User Manual, publication 2099-UM001	Detailed mounting, wiring, setting up with RSLogix 5000 software, applying power, and troubleshooting information with an appendix to support firmware upgrades.
Home to Torque Level Application Note, publication MOTION-AT001	Information on the use and restrictions of the Home to Torque Level feature.

You can view or download publications at <http://www.rockwellautomation.com/literature>. To order paper copies of technical documentation, contact your local Allen-Bradley® distributor or Rockwell Automation sales representative.

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Rockwell Otomasyon Ticaret A.Ş., Kar Plaza İş Merkezi E Blok Kat:6 34752 İçerenköy, İstanbul, Tel: +90 (216) 5698400

www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

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