Kinetix 7000 High Power Servo Drives, Version 17, Firmware Revision 1.105

Catalog Numbers 2099-BM06-S, 2099-BM07-S, 2099-BM08-S, 2099-BM09-S, 2099-BM10-S, 2099-BM11-S, 2099-BM12-S

About This Publication

This publication contains release notes for Kinetix 7000 drives firmware revision 1.101, 1.104, and 1.105 when used with RSLogix 5000 software, version 17.

The -S in the catalog number indicates Kinetix 7000 high-power servo drives 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.

Enhancement with Firmware Revision 1.104

These enhancements correspond to Kinetix 7000 drives firmware revision 1.104 or later when used with RSLogix 5000 software, version 17.

- Support for the 2090-K7CK-KENDAT EnDat to Hiperface feedback module has been added for the 2099-BM*xx*-S drives.

IMPORTANT Use of the 2090-K7CK-KENDAT feedback module requires motion database version 5.14 or later.

- The Current Low Pass Filter limits have been modified. By setting the Current Low Pass Filter Override IDN (16 bit, P00065) to a value of 1, the filter value can now be set to any value in the range of 0…8000 radians/second.

Corrected Anomalies

This correction applies to firmware revision 1.101 or later.

- The feedback communication detection was corrected to reduce incorrect auxiliary feedback loss faults.

This correction applies to firmware revision 1.105 or later.

- The absolute reference status in the drive is no longer cleared if control power is cycled without the DC bus being present.

Known Anomalies

These anomalies apply to all Kinetix 7000 drives:

- 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.
- 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 the axis is operating in one of the position servo-loop configurations (without velocity feed-forward gain), the position error value is being incorrectly reported as negative, when the drive polarity is set negative and positive motion is commanded.
- 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-M*xx*SE (ControlLogix), 1769-M04SE (CompactLogix), or 1784-PM16SE (SoftLogix) SERCOS module, and Kinetix 7000 servo drives:

- 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 will cause a configuration error when downloaded.
- An E19 or E05 fault may occur if an MSO instruction is executed and 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 an 8720SM or HPK-Series induction motor.

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 Rockwell Automation distributor or sales representative.

www.rockwellautomation.com

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