PowerFlex® 700S Drive 2.04

These release notes correspond to major revision 2, minor revision 04 PowerFlex 700S drive firmware.

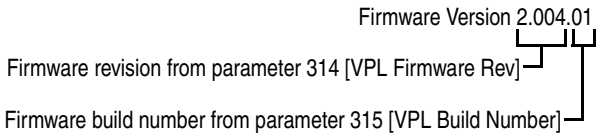
Introduction

These release notes provide the following information:

Determining Firmware Revision Level

To determine the firmware version for a PowerFlex 700S drive, view parameters 314 [VPL Firmware Rev] and 315 [VPL Build Number]. The firmware version is the combination of the data in these parameters.

Example:



Corrected Anomalies

This revision of firmware contains several corrections for anomalies.

Current Limit

This revision of firmware contains corrections to the Current Limit algorithms.

Fault 2 - *Vref Decel Fail*

This revision of firmware contains a correction which prevents nuisance occurrences of Fault 2, *Vref Decel Fail*, in drives with light inertia loads.

Run Inhibit Conditions

This revision of firmware contains a correction to the Run Inhibit logic for drives using velocity feedback control.

Torque Mode Initialization

This revision of firmware contains corrections to the Torque Mode intialization algorithms.

I^2T Function for Frame 6 Drives

This revision of firmware contains a correction to the motor overload I^2T function for frame 6 drives.

SynchLink

This revision of firmware contains a correction which allows the drive to establish Rx (receive) communications before declaring a fault.

24V dc Auxiliary Power Supply

This revision of firmware adds processes for voltage bus recovery and re-reading the Power Board EEPROM, to correct anomalies in the function of the 24V Auxiliary Power Supply input on high power drives.

Class Object - Get ASA Serial Number

This revision of firmware contains a correction.

Motion Registration for Hi-Resolution (Stegmann) Feedback Option

This revision of firmware contains a correction to motion registration algorithms which caused the register value to not return for drive using the Hi-Resolution (Stegmann) Feedback option.

Motion Registration in Rotary Mode

This revision of firmware contains a correction to motion registration algorithms which returned a negative value in rotary mode.

Position Offset Speed

This revision of firmware contains a correction to algorithms surrounding parameter 755 [Posit Offset Spd] which allows the velocity for making a position offset change, to be set to a value less than 8 RPM.

Enhancements

Power Board Temperature Monitor

This revision of firmware adds functionality for monitoring the temperature of power boards in high power drives. It also adds fault 75, *HiHP PwrBd OTemp*.

Software Reset for Hi-Resolution (Stegmann) Feedback and MDI Options

This revision of firmware adds software reset for the Hi-Resolution (Stegmann) Feedback and MDI Option boards.

Auto-Tune Enhancements

This revision of firmware contains enhancements to the Motor Control (MC) Auto-Tune functionality.

Torque Regulation

This revision of firmware contains enhancements to torque regulation algorithms which improve torque accuracy.

High Power Power Board Fault

This revision of firmware adds a new fault, “F75” which indicates an over-temperature condition on the Power Board of a high power drive (frame 9 and larger).

Changes

Table A, below details parameters differences between this revision and the last release revision of firmware. Refer to the revision E of publication 20D-UM001, *User Manual - PowerFlex 700S High Performance AC Drive*, for details.

Table A Parameter Changes

Parameter Number [Name]	What Changed
259 [Hi Res) Config]	The enumeration for this parameter has changed. Bit 6 [SW Reset] is new.
275 [Reslvr0 Type Sel]	The enumeration for this parameter has changed. Values 5 - 1326AB 230v and 12 - 1326AD 230v have been removed.
322 [Exeption Event3]	The enumeration for this parameter has changed. Bit 10 [HH PwrBdTemp] is new.
325 [Fault Status 3]	The enumeration for this parameter has changed. Bit 10 [HH PwrBdTemp] is new.
328 [Alarm Status 3]	The enumeration for this parameter has changed. Bit 10 [HH PwrBdTemp] is new.
347 [Drive OL TP Sel]	The enumeration for this parameter has changed. Value 44 - HH PwrBdTemp] is new.
511 [FOC2 Mode Config]	The enumeration for this parameter has changed. Bit 31 [LinrSnsr Dir] is new.
516 [FOC2 Tune Config]	The enumeration for this parameter has changed. Bit 9 [NoRotateTune] is new.
664 [Lgx Comm Format]	• The enumeration for this parameter has changed. Value 0 [Not Used] is new. • The default value for this value has changed to Value 0 - Not Used.

Restrictions

Upgrading from 2.03 to 2.04

Upgrading from firmware revision 2.03 to 2.04 requires use of the Change Configuration tool in DriveExecutive™ programming software. This requires version 2.02 or later of DriveExecutive programming software.

HIM Stop During Motion Move

If the HIM commands a stop while the drive is executing a motion move, the DriveLogix controller gets no indication the move has been stopped. The drive will complete the move when the HIM commands a start. This occurs because there is no position following error alarm in the controller. To avoid this situation, configure parameters 913 [Motn PositErrTol] and 944 [Positin Err Cnfg] to create an alarm when position error exceeds reasonable limits. Then configure the communication format so the controller consumes parameter 328 [Alarm Status 3] and write ladder logic that cancels motion commands when parameter 328 [Alarm Status 3] / bit 20 [Posit Err] turns on. In addition, configure parameter 694 [Start Mask] so the drive does not recognize a start command from the HIM.

Motion Registration Incompatible with Feedback Options

The registration functions of Logix based Motion Control are not compatible with the following feedback options: Hi-Resolution (Stegmann) Feedback Option Card, Resolver Feedback Option Card or Multi-Device Interface Option Card. New value and registration status information does not transfer from parameter 253 [Opt 0 Regis Ltch] to the status bits in the axis tag of the controller.

Motion Homing Incompatible with Resolver Feedback Option

The homing function of Logix based Motion Control is not compatible with the Resolver Feedback Option Card. Registration information does not properly transfer from the drive to the controller.

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