

SOFTWARE RELEASE NOTE

Elite Version 3.5 Software Release

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Elite Version 3.5 Software Release

This release note covers the release of software for the Elite series drives

Elite V3.5 software covers the product range:

400 Volt Elites from 2.5A to 660A

500 Volt Elites from 2.5A to 600A

The Elite V3.5 software can be used with Control PCBs (PDL Part No. 2001-270) Rev E-M using circuit diagram 0410-201 Rev F to Rev V and reporting H/W version 1.3 to 3.1 on screen Z2. Version 3.5 software will not work with earlier revision Control PCBs nor is it guaranteed to work with future revisions.

Changes from Previous Version Software:

1. Open Loop Vector has been replaced with a new algorithm that is considerably better.
2. Ground fault screens (L13, A6a) added.
3. Modbus function 6 & 8 added, and fixed some error codes on function 16.
4. Modbus lockup error with slow Modbus master fixed.
5. Brake release action improved under voltage limiting and bus low conditions.
6. Torque limit timeout accuracy improved.
7. LVDC fault, workaround for processor chip problem.
8. DeviceNet status corrected during local control.
9. Watchdog faults will always trip drive (sometimes were only in fault history).
10. L14 - Run at minimum speed screen added.
11. MFI mode 19 ASTOP (without reset) added.
12. Default switching frequency on 160-660Amp models now 4025Hz.
13. Auto tuning of Rr improved.
14. 500 Volt models added.
15. Inertia screen added for improved slip compensation and open loop performance.
16. Able to work with latest processor (GA Step).
17. Reduced power on glitch on Analogue outputs.

Notes for Vista Users:

1. Three new screens added (L13, L14 and A6a).
2. New variables available - Line currents.
3. Dbms write blocks to eeprom variables now save on power down.
4. New blocks - command speed, priority encoder (not available in Version 1.1.0.0 of Vista).

5. TLT on status line if torque limiting in V/Hz mode.
6. More ram is now available for Vista programs. Now more likely to be limited by processor speed or EEPROM memory.

Ground current detection changes

Due to continuing problems with nuisance ground faults screen L13 has been added which allows the user to disable ground faults. Some of these problems have been caused by faults in the DCCT circuits and these can be diagnosed by looking at screen A6a to check that equal currents are flowing in each of the three phases. Screen A3a displays the individual motor currents in U,V,W order.

New Screens

- 1) A6a Phase output currents
1.2A 1.2A 1.2A
This screen displays the individual phase currents of the drive.
- 2) I7c..I7h New MFI mode - ASTOP
19 Alternative Stop Closed
This mode is the same as mode 03 but without the reset.
- 3) L13 Ground current Limit
L13 GND ILT= 12A
Range OFF,1 to 100% of drive rated current.
Units Amps/Phase
Default 30% of Inverter rated current per phase
This screen sets the limit of ground current that is acceptable. If the ground current is measured higher than this limit then a F21 Ground current fault is generated. This value should not be set too low as there is a limit to the accuracy of the current sensors and thus false tripping is likely to occur at lower values of this limit.
- 4) X4k Inertia compensation screen
X4k INERTIA k= 1
Range 1 to 10
Units none
Default 1
This compensation factor for inertia is required for large inertia loads if slip compensation is used or open loop vector mode is used. It is used to enhance stability and not for tuning of the speed controller. Use larger factors for larger Inertia systems, or systems with large rotor time constants.
- 5) L14 Run at minimum speed
L14 MIN SP RUN=Y
Range Yes/No
Default Yes
If set to No then the Elite series will change to the READY state if the reference speed is reduced to below the minimum speed.

- 6) X4i,X4j Open loop flux boost screens.
Refer to Elite series technical manual Revision H.

Upgrading From Previous Version Software:

This software requires hardware revisions noted above. The PCB part number and circuit revision are marked on the PCB next to the 24 volt fuse (under display plate).

Upgrading from earlier versions **will** reset the customer settings to the default (factory) values. **Note:** Record all customer settings before upgrading.

If upgrading from a Control PCB of an earlier revision than Revision E, the Control PCB must be replaced. **Note:** Record all customer settings before installing a new control PCB.

New part number is No. 0410AA35

Software can be updated using PDL Drivelink Version 2 (PDL part number 0407AA) or LDELITE (PDL part number 0410ZA).

Loading software using the LDELITE software is described in document E000110 and requires special hardware.

Software checksum (For LDELITE program): E07D

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