

MDrive/MForce Motion Control firmware change summaries

Version MDI3.014

- Fixed display problem of VI and VM when EE=1 and result is divided by fEE_Ratio, by adding a round up to the equation.
- Fixed display problem of V when EE=1.
- Fixed display problem of V when EE=0.
- Fixed Fix to test EE_Flg.
- Added error (41) if try to List while program running.
- Fixed Tr with holds for time.
- Added line delay for listing with IP. (50mSec if option set for Ethernet).

Version MDI3.013

- Corrects an issue where a slew 0 (SL 0) command has no effect during a "move on move"

Version MDI3.012

NOTE: This update only impacts MDrivePlus models with Ethernet communications

- Added forcing BaudRate to 115K when EtherNet option set and disallowed user access to it.
- Added limited functions for CE and ES (no party mode features) when EtherNet Option Active.
- Added disallowing user access to PARTY, QUEUED, CKSUM
- Removed test for RXIF at end of receive routine in UART_isr to eliminate error 63's
- Added DG (disable global response) to ethernet disable list.

Version MDI3.011

- Added work around for negative Velocity and Fixed small move at hi accl and decel with direction change problem.
- Removed LE (Logo Enable) mnemonic.
- Set Stack Overflow to 1 less than stack size, allows OE On Error) to be called.
- Added code to help from getting Character Overflow Error 63.
- Fixed setting PWM's in MFI drives.
- Improved Move On Move capability.
- Updated sign-on copyright message.

Version MDI3.010

- Fixed swapped characters at 115200 baud.
- Fixed problem where CkSum, of received command, was incorrect when Stall occurred.
- Added Clearing of CheckSum, of received command, after ESC.
- Fixed up moving reporting while Slewing.
- Updated Copyright dates.
- Fixed problem where pressing ESC while in motion and trying to Save causes error.
- Added test for char overrun when receiving commands. Will generate and Error 63 when overrun occurs.
- Added "CRLF?" when overrun occurs.
- Fixed Trip counter for overflow.
- Fixed Stack over flow.
- Added second parameter to CP, new form is CP addr, clrvars
addr: if 0 or blank clears entire program, else from addr to next RT or E
clrvars: if 0 or blank leaves user variables untouched, else 1 = clear user variables.

Version MDI3.009

- Fixed Move on Move issues
- Fixed when Slewing at less than VI, then slewing to 0 causing a jump to VI.
- Fixed ESC type not Initialized in Exec_Init.
- Added converting SN to number when setting Rx or VA to SN.
- Fixed: CM=0 followed by a MA/MR followed by CM=1 doesn't start moving again.
- Added test of STAT/FAULT in main loop, generates EXT_FAULT (75).
- Set CURRDLY when going into Follower mode.
- Fixed: Jog then Jog off then jog on while decelerating causes sudden stop. Cleared STOPPING bit in Drv_Status when new jog in same direction called for.
- Added Numeric Enable flag (NE = 0 or 1, default = 1).

Version MDI3.008

- Modified CP and PG to copy variables and flags from prev. to new flash sector.
- Fixed ES to clear to 1 on FD.
- Added new variable, PWMregs, to support MForce PWM Motor Registers.
- Fixed multiple Jog plus Motion problems.
- Fixed MSEL Reported incorrectly if EE=1.
- Changed so that CM is only disabled when IOs 7 & 8 set as inputs.
- Changed, when setting IOS 7 or 8 that they track each other.
- Added TR (Trip Relative) function.
- Added test for OT to limit value to ≤ 255 .
- Added Stall Testing when in Following Mode.
- Added Test for trying to set PM=1 while in following mode, its not allowed.
- Added Test to setting CM=1 to turn off PM if enabling Following Mode.
- Modified to allow setting of VARs while INPUT pending.
- Fixed TC's setting of PC (Position Capture).
- Fixed setting user variables that end in a number.
- Fixed OH.
- Added a reset of the TP register when EE is changed to 0 or 1.
- Fixed Stall problems.
- Fixed problem of missing echoed characters.
- Eliminated wait time when program is starting up and the IO settings becoming valid.
- Fixed Slewing again while ramping down to a SL 0.
- Added error (74) for trying to do IP or CP while in motion.
- Added error (41) for trying to do IP while PGM Running.
- Added: Resume will not start while in motion.
- Fixed Run-away condition while doing a move on a move.
- Added Queued Flag (QD = 0/1), Allows for queued communications.
- Added tests for acceptable values of VI and VM.
- Updated Copyright dates.
- Added error correction, at end of a move, count, limit is three tries to correct, then error (92) issued.
- Fixed HOMING when home sw. activated and released before motion stops.
- In MForce, Limited PWM settings to first three.
On a read, the fourth parameter is the number of PWM writes available.
On a write, the fourth parameter is the 2's complement check sum of the first three parameters.
Must be valid in order to be able to write the PWM settings to flash.

Version MDI3.006

- Added LIMIT Current to 67% MAX, when OPS_100_CUR option = 0.
- Added D5 to be Analog Filter. (running filter \gg $\text{runavg} = ((\text{runavg} * (D5-1)) + \text{currdg}) / D5$).
- Fixed condition where if IOs set to STOP and LIMITs, then LIMITs are not level sensitive.
- Fixed Trips so that they work when pgm is not running.
- Fixed directional problem with Move on Move.
- Fixed Problem with TC.
- Fixed Limit Sw. problem when PM=1.
- Fixed problem with short moves.
- Fixed Stop Sw causing running at VI.

- Fixed Moving Flag not waiting for motion to stop when stopping due to IO set as Stop Sw.
- Fixed problem with ESC causing motion when PM=1.
- Allows trips to continue when user program ends.
- Fixed problem with comments starting after the last character of command (no space separator).
- Fixed the restoring of SF from non-volatile memory.
- Added setting POS to current position after EE is set to 1.
- Reduce the time it takes to start PG mode.
- Fixed problem with Homing/Hold followed by MOVE Command.
- Fixed problem with a MOVE command while SL in progress.
- Fixed VC flag operation.
- Added disabling MOVEs (MA or MR) during Homing.
- Now allow a SL 0 when over an active limit sw.
- Added a test to prevent FD, PG or S while in motion, generates error 73
- Prevented On Error routine from executing when programming.
- Added parameter separators to stored program if entered by user.
- Cleaned up the appearance of List.
- Added: Resume will not start while in motion.

Version MDI3.004

- Added ability to do a Move while in motion.
- Added error if VI or VM set to ZERO.
- Added Flag to enable a global command to respond.
- Fixed problem with CE not showing correct value.
- HM doesn't work if OPS_INDEX set to 0.
- Fixed problem where unable to re-enabled trips when trip settings have changed.
- Added the disabling of a trip when its settings have changed.
- Fixed problem of printing, where characters are switched.
- Added ability to set a BreakPoint, (BP addr,ct), while tracing or single stepping.
- Reduced the program space that a User's Program takes up.
- Added ability to put a plus in front of number: SL +12345.
- Fixed OnError when routine ENDS a program, not just RET.
- Added Fix for Hold not detecting Homing in progress.
- Added more Address tests for Flash Writes.
- Added Clearing of ucMODE when homing.
- Stopped Global Labels from writing to flash as they are entered.
- Fixed problem with POSCAP when using TC.
- Fixed program hang when Ht and Mt are set to zero.
- Early firmware MDrivePlus units required a space between the command and value with motion commands while variable assignments needed an equal sign. Users can now have either a space or equal sign between the command or variable and the value.
- Fixed problem with dropped characters in TX response

Version MDI3.003

- Changed FD to stop any motion before doing the return to Factory Defaults.
- Set TX_EN low on power up.

Version MDI3.002

- Fixed trip functions.
- Clk Md Ratio not being set at initialization.

Source: <http://motion.schneider-electric.com/downloads/firmware.html>