Rockwell Automation

Serial Flash Firmware Kit

Installation Instructions

PowerFlex 400 AC Drives for Fan & Pump Applications
Catalog Number AK-U9-FLSH1

What's in These Instructions

These installation instructions describe how to update drive firmware using a direct serial flashing process.

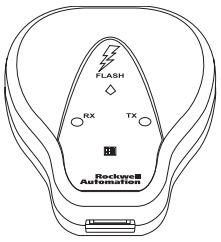
Important: This kit is not for use with drives which can be flash updated using DriveExplorer™ or DriveExecutive™ software.

The drive's current firmware version can be verified by accessing parameter d320 [Control SW Ver].

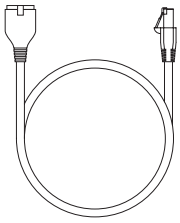
What the Kit Contains

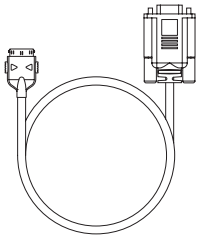
The Serial Flash Firmware update kit includes:

- Flash module
- 1 meter DSI cable with an RJ45 connector and 10-pin double row connector
- 2 meter Serial cable with a locking low profile connector and a 9-pin sub-miniature D-shell female connector
- These Installation Instructions



Flash Module


DSI Cable


Serial Cable

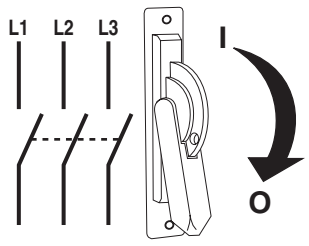
What You Will Need

- This Serial Flash Firmware Kit
- A field flashable DSI drive
- A PC computer with a free serial communications port and Internet connection
- The DSI_DriveFlash.exe program and the appropriate Flash file for the drive, available online at: **www.ab.com/support/abdrives**

Connect Hardware

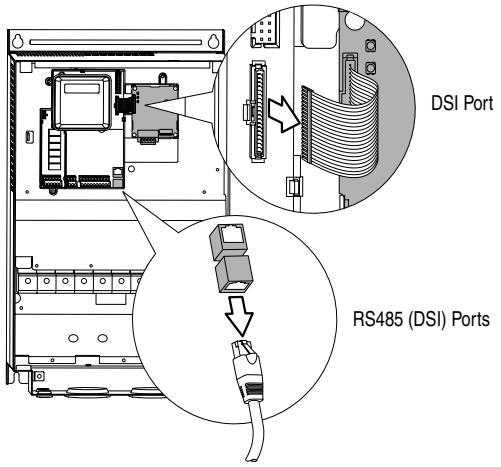
1. Remove all power to the drive including any externally supplied control power.

ATTENTION: To avoid an electric shock hazard, verify that the voltage on the bus capacitors has discharged before performing any work on the drive. Measure the DC bus voltage at the +DC & –DC terminals of the Power Terminal Block. The voltage must be zero.

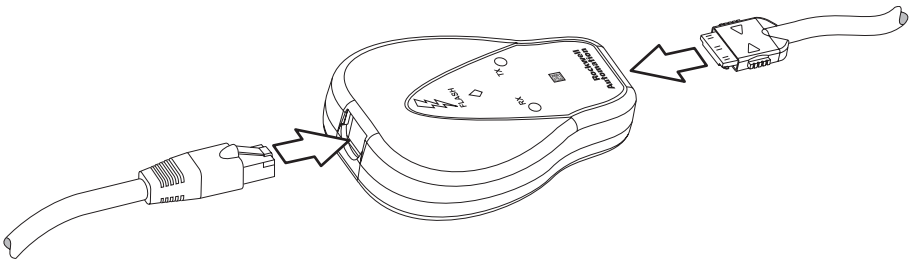


2. Disconnect all options connected to DSI ports on the drive.

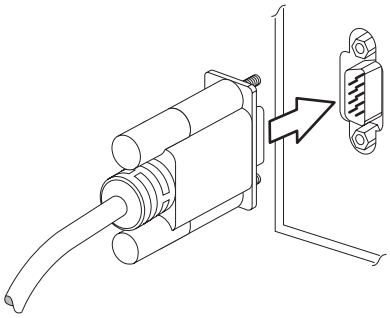
Important: Connected communication options can interfere with the flash process.



3. Connect the DSI cable and the Serial cable to the Flash Module.



4. Connect the 9-pin sub-miniature D-shell female connector of the Serial cable to a serial communications port on a PC computer.



5. Verify that the drive is Enabled. The drive is Enabled if:

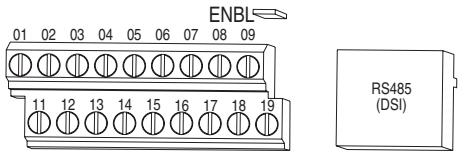
- ENBL Enable Jumper is installed

OR

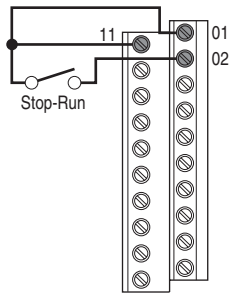
- A valid input is supplied to I/O Terminal 01

Important: The drive must be enabled during the flash process.

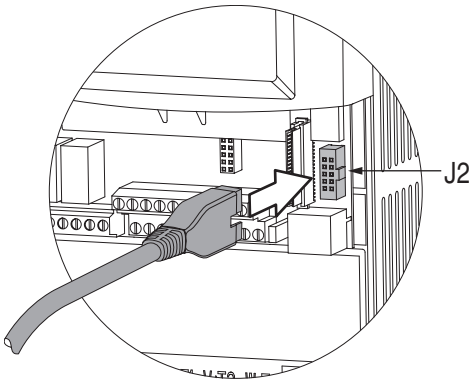
Enable Jumper Installed on Control Board



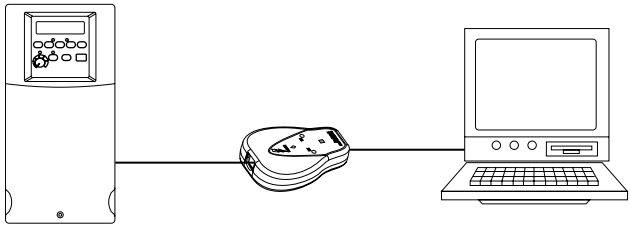
Input at I/O Terminal 01
(2 Wire Control Example Shown)



6. With all power removed from the drive, attach the 10-pin connector on the DSI cable to port J2 on the drive control board.

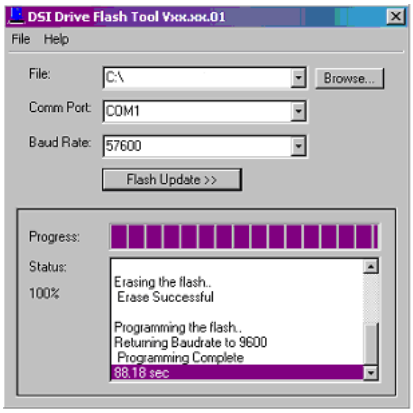


You are now ready to flash update the drive firmware.



Flash The Drive

1. Obtain the latest DSI Drive Flash Tool (DSI_DriveFlash.exe) and Flash Update File (*.mot) by connecting to: **www.ab.com/support/abdrives**.
   - Under **Support Options**, click on **Web Updates**.
   - Follow the links for your drive product to download the flash tool and desired flash update file.
2. Power up the drive and verify that the Green LED on the Flash Module lights.
3. Double click DSI_DriveFlash.exe file to run the DSI Drive Flash Tool.
   - Review and accept the licence agreement.
4. From the DSI Drive Flash Tool's main window:
   - Click Browse and select the desired flash update file.
   - Select the correct serial communications port.
   - Select the desired baud rate. The default baud rate is 57600. If problems occur during the flash routine, this rate can be reduced.
5. To begin the Flash Update routine, click the Flash Update button.
6. When programming is complete, Exit the DSI Drive Flash Tool.



Return Drive to Service

1. Remove power to the drive and wait for the Green LED on the Flash Module to go out.

Important: If power is reapplied to the drive too quickly, the drive can remain locked in the flash state. If this occurs, remove power to the drive and wait 3 minutes before reapplying power.

2. Disconnect the DSI cable from port J2 on the drive control board.

3. Reconnect communication option if applicable.

4. Restore power to the drive.

- If the drive displays a F100 “Parameter Checksum” fault, cycle power to the drive. Repeat if the fault occurs a second time.

5. Reset parameters to factory defaults. Access parameter P041 [Reset To Defalts] and set to “1”.

6. Access parameter d320 [Control SW Ver] and verify that the updated firmware version is installed.

7. Reprogram the drive for your application.

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