

Four-Quadrant Dynamometer/Power Supply or 4 Quadrant Power Supply and Dynamometer Controller

FESTO

Device Firmware Upgrade or Function Set(s) Activation Procedure

IMPORTANT NOTE

To upgrade the firmware to the latest version, always try the Firmware Update Wizard before using this procedure. The wizard appears after the LVDAC-EMS Start-Up window when it detects firmware version is outdated. To activate function set(s), always try the Function Set(s) Activation Wizard before using this procedure. In LVDAC-EMS, access the Wizard under the Tools menu along the top menu bar. Make sure you have the latest version of LVDAC-EMS downloaded from the LabVolt Series by Festo Didactic website (www.labvolt.com) under the Downloads section for the Four-Quadrant Dynamometer/Power Supply or the 4 Quadrant Power Supply and Dynamometer Controller webpage.

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Note: LVDAC-EMS version 1.00 need to be uninstall manually prior to install the latest version of LVDAC-EMS.

INTRODUCTION

The following procedure provides step-by-step instructions to install and use LVDFU application on a host computer. This application allows to upload the firmware or function set(s) DFU file to the Four-Quadrant Dynamometer/Power Supply or the 4 Quadrant Power Supply and Dynamometer Controller (DIN A4 format). The procedure steps should be performed in the order they appear. Administrator rights are required to perform the procedure.

PROCEDURE

Setting up the Equipment

- 1. Make sure that the main power switch on the Power Supply is set to the O (off) position. Make sure that the Four-Quadrant Dynamometer/Power Supply or the 4 Quadrant Power Supply and Dynamometer Controller is turned off. If a Data Acquisition and Control Interface is used, turn it off.
- 2. Connect the USB port of the unit to a USB port of the host computer using the provided USB Cable.

Note: *It must be connected directly to the host computer (i.e., do not connect it through an external USB hub).*

- 3. Depending on the form factor of the unit, follow the corresponding step. For the DIN A4 format, go to step b. Otherwise, follow step a.
- a. Press and hold the Function button (see Figure 1), then power on the Four-Quadrant Dynamometer/Power Supply. Wait for 3 seconds and then release the Function button.



Figure 1: Four-Quadrant Dynamometer/Power Supply - Function Button

- b. Press and hold the Function button (see Figure 2), then power on the 4 Quadrant Power Supply and Dynamometer Controller. Wait for 3 seconds and then release the Function button.



Figure 2: 4 Quadrant Power Supply and Dynamometer Controller - Function Button

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- 4. When the unit is connected to the computer in DFU mode for the first time, the “Driver Software Installation” window may appear for Windows 7 (Figure 3). If so, follow the USB installation procedure in appendix A. Otherwise, go directly to step 5.

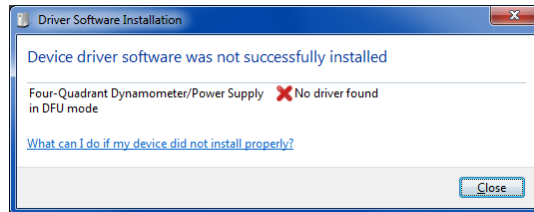


Figure 3: Windows 7 – Driver Software Installation

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Update with LVDFU application

- 5. Locate LVDFU application in the following directory:
 - a. 64bits OS: C:\Program Files (x86)\Festo Didactic\LVDAC-EMS\Firmwares\LVDFU
 - b. 32bits OS: C:\Program Files\Festo Didactic\LVDAC-EMS\Firmwares\LVDFU

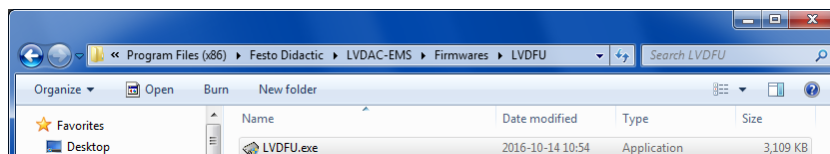


Figure 4: LVDFU application directory

- 6. Run the executable file LVDFU.exe.

Note: If prompted by UAC, click Yes to continue.

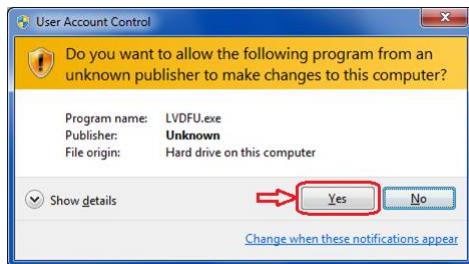


Figure 5: User Account Control

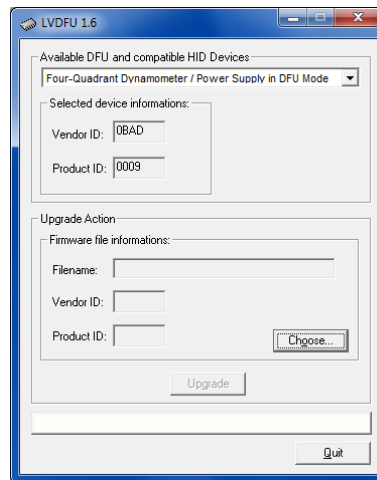


Figure 6 : LVDFU application

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- 7. Click on *Choose...* button to view the *Open File* dialog box. Select the DFU file:
 - a. For the current firmware release, check in the following directory:
 - i. 64 bits OS: C:\Program Files (x86)\Festo Didactic\LVDAC-EMS\Firmwares\8960-2x
 - ii. 32 bits OS: C:\Program Files\Festo Didactic\LVDAC-EMS\Firmwares\8960-2x
 - b. For a function set(s) activation, you should have received by email the appropriate DFU file which is **associated for a specific serial number**.

- 8. Make sure that the *Four-Quadrant Dynamometer/Power Supply in DFU Mode* is selected in the *Available DFU and compatible HID Devices* combo box. Also make sure that the *Vendor ID* and *Product ID* of the selected device are the same as those of the DFU file.

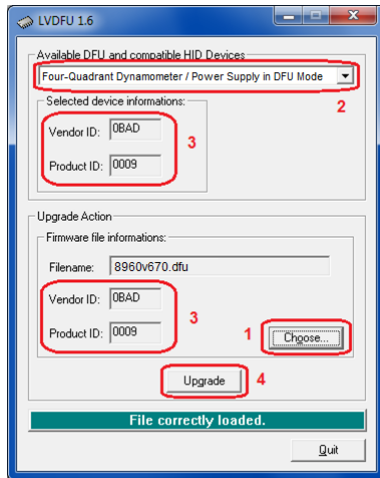


Figure 7: DFU file loading

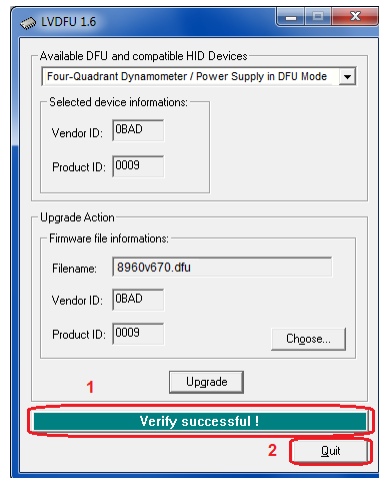


Figure 8: Update successful

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- 9. Click on Upgrade to start updating the unit.
- 10. Do not turn off the unit until the update is completed.

Note: *The process takes about a minute. It begins with an erase phase, then a download phase and finally a verify phase.*

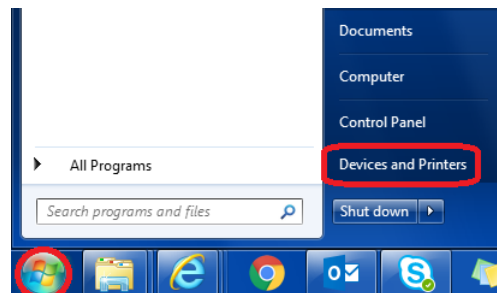
- 11. When the progress bar indicates *Verify successful !*, click on *Quit* to close LVDFU application.
- 12. Turn off the unit, then turn on again to reboot in normal operating mode.
- 13. The Four-Quadrant Dynamometer/Power Supply or the 4 Quadrant Power Supply and Dynamometer Controller is now updated and ready for use.
- 14. End of procedure

Appendix A

FESTO

USB INSTALLATION UNDER WINDOWS 7 64 BITS

- 1. To manually install the Four-Quadrant Dynamometer/Power Supply or the 4 Quadrant Power Supply and Dynamometer Controller in DFU mode, go to *Start Menu*, then on *Devices and Printers*.



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Figure 9: Windows Start Menu

- 2. With the cursor on the Four-Quadrant Dynamometer/Power Supply icon, right-click and select *Properties*.

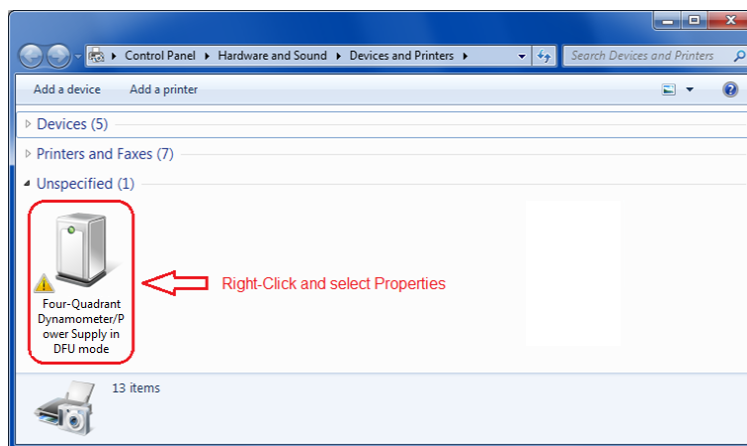


Figure 10: Devices and Printers window

- 3. In the *Hardware* tab, click on *Properties*. Then, click on *Change settings* button.

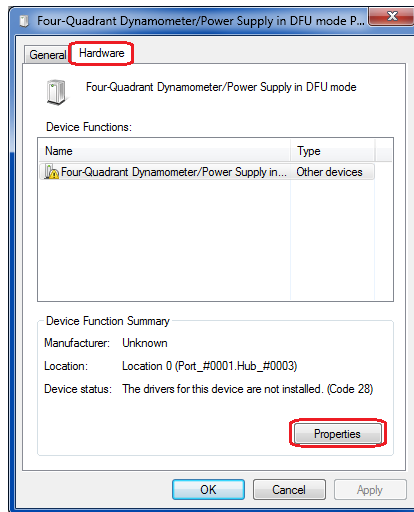


Figure 11: Hardware properties

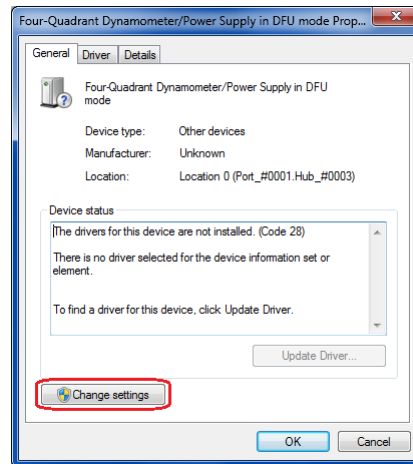


Figure 12: Change settings

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- 4. In the *General* tab, click on *Update Driver...*

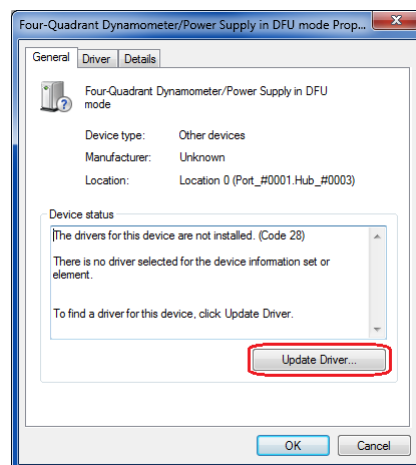


Figure 13: Update Driver

- 5. Click on *Browse my computer for driver software*.

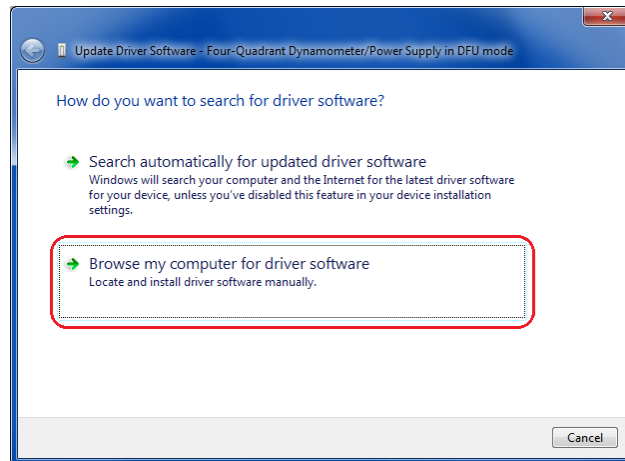


Figure 14: Driver software

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- 6. Click on *Browse...*

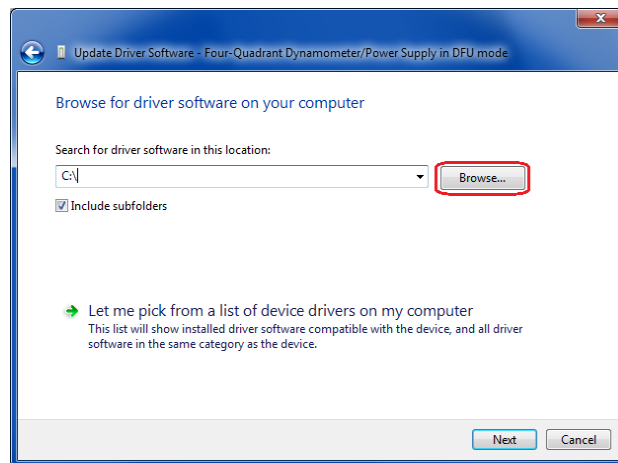


Figure 15: Browse driver software

- 7. Select the following folder *C:\Program Files (x86)\Festo Didactic\LVDAC-EMS\drivers\64-bit*.

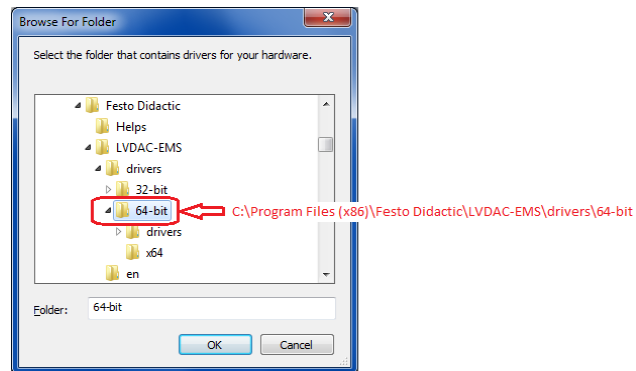


Figure 16: Browse For Folder

- 8. Click on *Next*. During the installation of the device software, a Windows Security dialog box may appear. Click on *Install* to continue the installation. When Windows has successfully updated the driver, click on *Close*.

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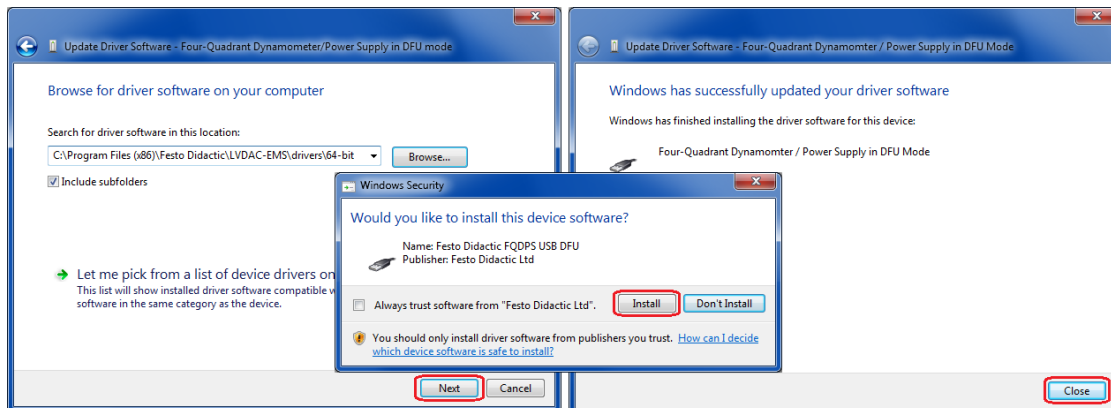


Figure 17: Driver software location

Figure 18: Driver successfully updated

- 9. Now that the Four-Quadrant Dynamometer/Power Supply or the 4 Quadrant Power Supply and Dynamometer Controller is properly configured in Windows, go back to step 5 to proceed to the update with LVDFU application.