## Step 1: F-950 software Installation

- 1. Launch F-950\_Package\_Setup.exe
- 2. Install will prompt for DfuSe tool (requires for firmware upgrade).



Click Next then enter your information into the window below

InstallShield Wizard	a community of		<b>X</b>
Customer Informat Please enter your in	i <b>on</b> formation.		No.
User Name:			
Company Name:			
Install this application	n for:		
	<ul> <li>Anyone who uses this computed</li> </ul>	uter (all users)	
	Only for me (dle)		
InstallShield			
	<	Back Next>	Cancel

Click *Next* in the next several steps.

- 3. Device drivers and Software package installation is completed. Under Windows's Start menu, you should be able to find shortcuts for Device's Controller and Firmware Upgrade Program.
  - Felix Instruments F-950 Controller F-950 Firmware Upgrade
- 4. F-950 Controller software requires Java runtime environment. Installer will check for appropriate version on your computer. Please download and install Java at http://www.java.com/ if requested.

## Step 2: Upgrade Firmware

- 1. Download latest firmware (.dfu file) from Felix Instruments website: http://www.felixinstruments.com/support/f-950-support/software
- 2. Open the *F-950 Firmware Upgrade* software
- 3. With the unit powered off, connect the F-950 to the computer using the mini-USB to USB cable.
- 4. Hold the *Down Arrow button* down on the F-950, then press the *Power button*, then release both buttons. This puts the F-950 in DFU mode.
- 5. On the DFU software, from the drop down menu under "Available DFU Devices", select "STM Device in DFU Mode". Note: when connecting device to your computer for the first time, it may take a minute for the device to show up in the drop down menu.

IfuSe Demo (v3.0.3)	
Available DFU Devices	
STM Device in DFU Mode	FU Mode:
✓       Supports Upload       Manifestation tolerant       Vendor ID:       Vendor ID:         ✓       Supports Download       Accelerated Upload (ST)       Procuct ID:       Procuct ID:         ✓       Can Detach       Version:       Version:       Version:	endor ID: 0483 rocuct ID: DF11 Version: 0200
Actions	
Select Iarget(s): Target Id Name Available Sectors (Dou	uble Click for more)
00 Internal Flash 12 sectors	
Upload Action       Upgrade or Verify Action         File:       Upload <u>Choose</u> Upload         Transferred data size       Vendor ID:         0 KB(0 Bytes) of 0 KB(0 Bytes)       Version:         Operation duration       Upgrade duration         00:00:00       Upgrade	ome FFs) ⊻erify
Abort	<u>Q</u> uit

- 6. At the bottom of the transfer software screen, click "Choose..."
- 7. A dialogue box labeled open will appear. Navigate to the desktop of your computer and select the new .dfu firmware file to download.

🧼 Open					<b>x</b>
Look <u>i</u> n:	퉬 F-950		•	⇐ 🗈 📸 🖬 ◄	
	Name	<u> </u>		Date modified	Туре
Recent Places	FW_950_v1.4.	5.0.dfu		5/6/2015 2:29 PM	DFU File
Desktop					
Libraries					
i,					
Computer					
Network	•				4
	File <u>n</u> ame:	FW_950_v1.4.5.0.dfu		•	<u>O</u> pen
	Files of type:	Dfu Files (*.dfu)		<b>~</b>	Cancel
		Open as read-only			

8. Click "Upgrade". A dialogue box will appear- click "Yes" to proceed.



- 9. The device is now being updated with the newest firmware. The green bar at the bottom of the screen tracks the progress of the upgrade. When the green bar reads "Upgrade successful" the process is complete.
- 10. Near the top of the DFU program, click "Leave DFU mode" to return the device to its normal mode of operation.

## Appendix: F-950 Controller Software

The F-950 Controller software offers real-time monitoring, controlling as well as calibrating multiple F-950/F-900 devices from standard USB connection.

🖆 Controller v1.15		x
F950-15008 USB HID disconnected! Server: Client lists: Remove F950-15008 connected in USBH:	ID mode client successfully! ID mode	*
1	N	Ŧ
Monitor Calibration	· · · · · · · · · · · · · · · · · · ·	
с2н4 0.0ppm согодо.01% (ppm) тогосос согосогососососососососососососос	100 - <u>C2H4 - CO2 - O2</u> 90 - 80 - 70 -	
Flow 71.8ml/min	60 - 50 -	
Manual           Manual         N/A         CH_IN           Stop         N/A         CH_OUT           Save         N/A         LOOP	40 - 30 - 20 - 10 -	
Poll Interval 3 (s) Output C:\Users\dle\Documents\data.csv	0 ]	

- 1. Open the F-950 Controller software
- 2. Connect the F-950 to the computer using the mini-USB to USB cable.
- 3. In F-950 device Setup>Mode>USB menu, select *Controller* mode.
- 4. In Controller software, the device series should show up in the device list at top-left corner. Click on the device series to select device. *Note: when connecting device to your computer for the first time, it may take a minute for the device to show up in the left panel.*
- 5. Monitoring information from your device should display in monitor tab.