

# INSTRUCTION MANUAL



**KEPCO** An ISO 9001 Company.

**CONVERTER  
WR-OPT-FUA**

## FIRMWARE UPGRADE CONVERTER WR-OPT-FUA FOR KLN 5KW, 10KW, 15KW

### 1. DESCRIPTION.

The Converter WR-OPT-FUA is used to upgrade the firmware of KLN 5KW, 10KW, 15KW Models. It includes two cables: a USB cable to connect the converter to a computer that meets the minimum operating system requirements and an ethernet cable to connect the converter to the KLN power supply. After the converter connections are made, a driver for the converter must be downloaded and installed. Then the KLN Series Upgrade file containing the firmware upgrade (supplied separately by Kepco) must be executed. The detailed upgrade procedure is found in this Instruction Sheet; screen prompts guide the firmware upgrade process. Time to complete the upgrade varies by operating system.

### 2. EQUIPMENT SUPPLIED.

- Converter with USB cable and ethernet cable



### 3. ADDITIONAL REQUIREMENTS.

- Download driver for converter from  
<http://www.ftdichip.com/Drivers/D2XX.htm>  
Instructions for installing the driver can be downloaded from  
<http://www.ftdichip.com/Support/Documents/InstallGuides.htm>
- Obtain KLN Firmware Upgrade Utility (executable file containing the upgrade) from Kepco.
- The computer used for the upgrade must meet the following minimum requirements:
  - Microsoft Windows 7 or higher
  - 1 gigahertz (GHz) or faster 32-bit (x86) or 64-bit (x64) processor
  - 1 gigabyte (GB) RAM (32-bit) or 2 GB RAM (64-bit)
  - 16 GB available hard disk space (32-bit) or 20 GB (64-bit)
  - Microsoft .NET Framework 4.0
  - Microsoft .NET Framework 4.5

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## 4. UPGRADING THE KLN FIRMWARE

1. At the computer, run the executable KLN Series Upgrade file obtained from Kepco by double-clicking it. The Welcome screen shown in Figure 1.

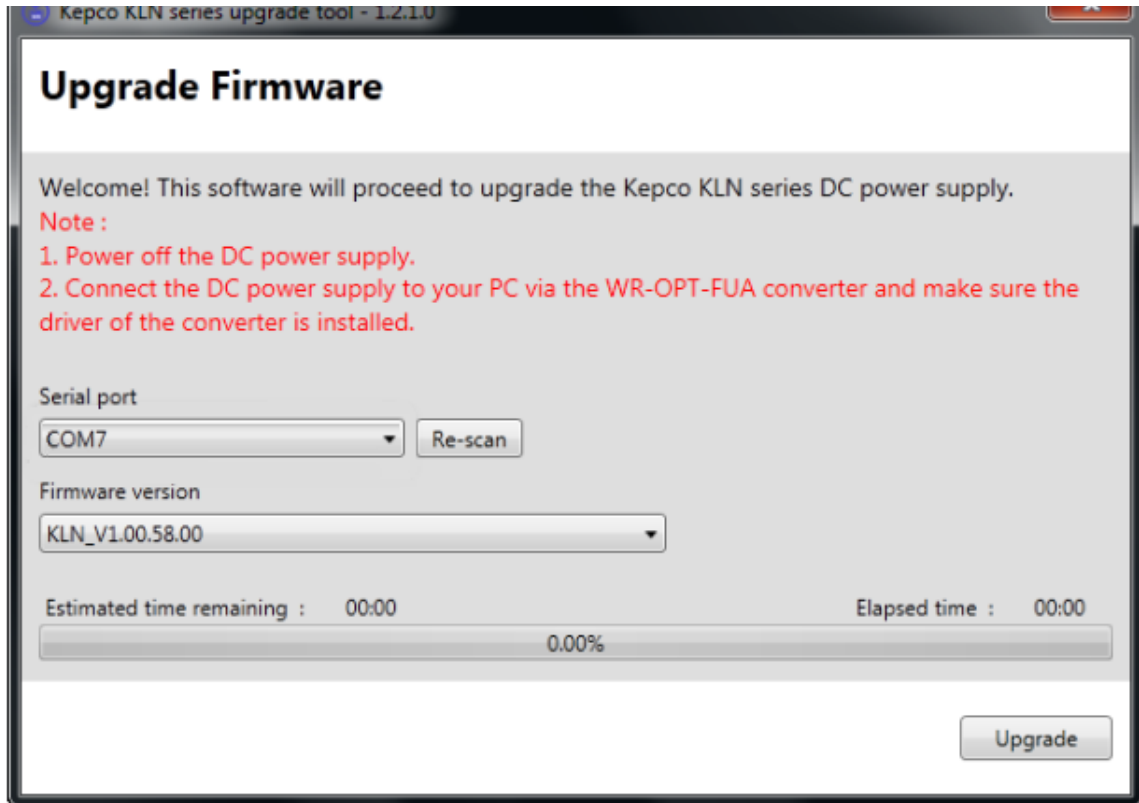


FIGURE 1. WELCOME SCREEN

2. Set the KLN power switch to off ( O ).
3. Connect the converter to a computer meeting the requirements of PAR. 3C above as shown in Figure 2 using the USB cable supplied with the converter.
4. Connect the converter to the KLN power supply SYSTEM IN connector as shown in Figure 2 using the ethernet cable supplied with the converter.

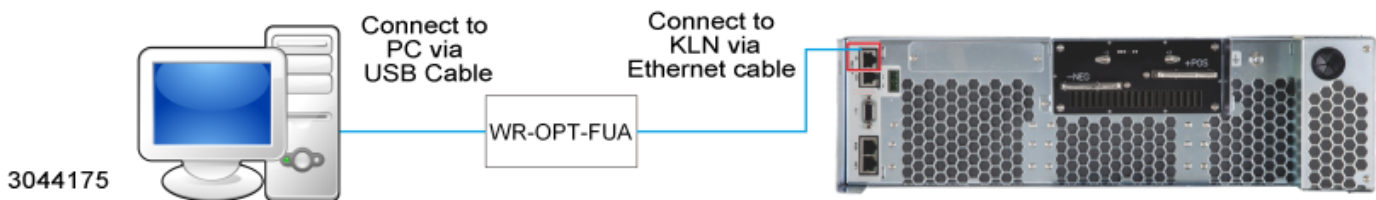
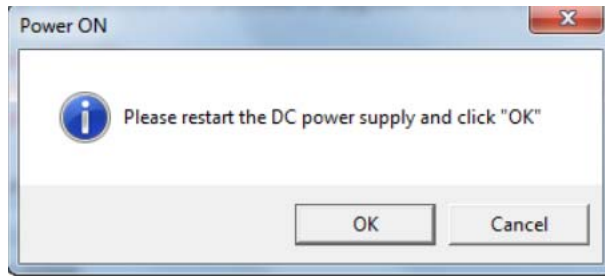


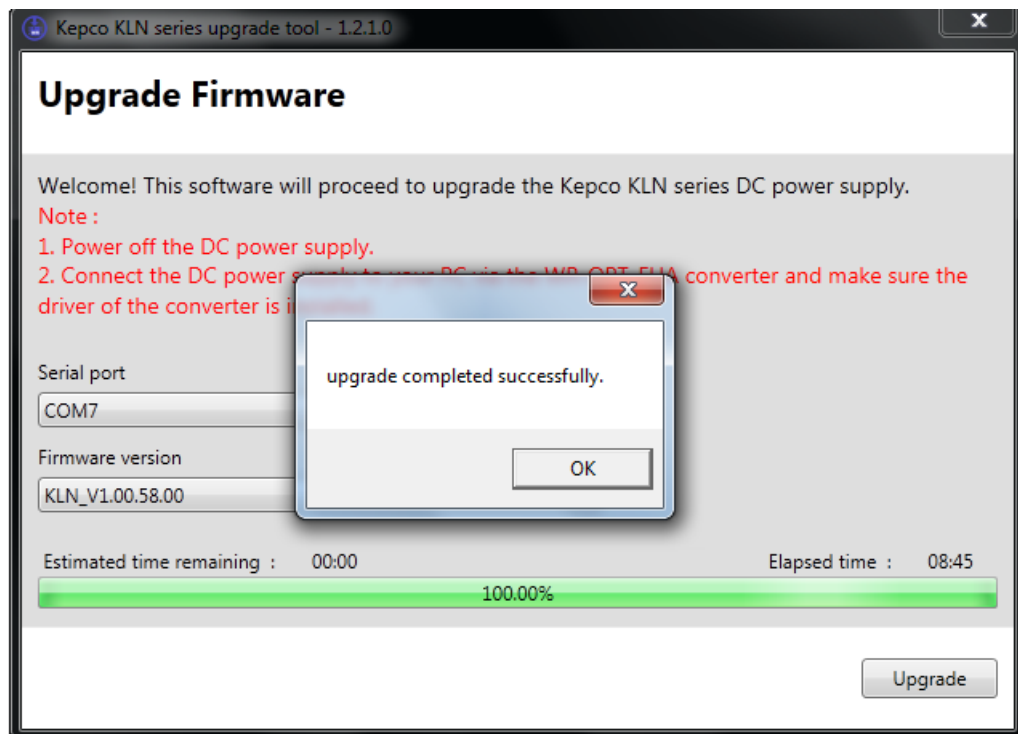
FIGURE 2. WR-OPT-FUA CONVERTER CONNECTIONS

5. Set the KLN power switch to on ( I ).
6. Click the **Serial Port** drop-down menu (Figure 1) and select the COM port connected to the WR-OPT-FUA converter. If the COM port is not shown in the drop-down menu, click the **Re-scan** button. Figure 1 shows the converter connected to COM 7.

7. Click the **Upgrade** button to begin the upgrade process. The following Dialog box is displayed:



8. Set the KLN power switch to off (O), wait four (4) seconds and then restart the unit. When powered up, the KLN display and all indicator lights are not lit.
9. Once the unit is powered on, click **OK** to begin the upgrade. Progress is noted by Estimated Time Remaining Elapsed Time and the percent complete bar. When complete the completion notice (Figure 3) is displayed.



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**FIGURE 3. COMPLETION NOTICE**

10. Click **OK**, then Set KLN power switch to off (O), disconnect converter from KLN power supply and computer, and restart the unit.

