

# INSTRUCTION MANUAL



**KEPCO** An ISO 9001 Company.

**BOP-USB  
1kW, 2kW,  
KIT 219-0665**

## BOP 1kW, 2kW USB PROGRAMMING CAPABILITY

### 1. DESCRIPTION

Kepeco KIT 219-0665 allows 1kW and 2kW BOP power supplies to be controlled via a USB port.

### 2. APPLICABILITY

- A. This KIT applies only to BOP 1kW and 2kW models.
- B. Windows 10 operating system required for controlling computer.

### 3. INSTALLATION INSTRUCTIONS

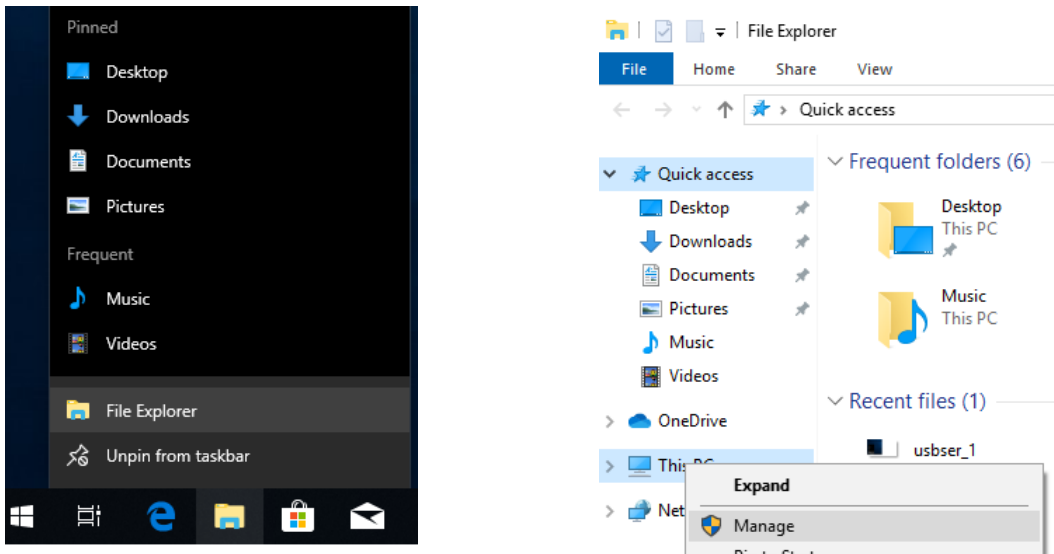
#### 3.1 MATERIAL REQUIRED (See Table 1.)

**TABLE 1. MATERIAL REQUIRED**

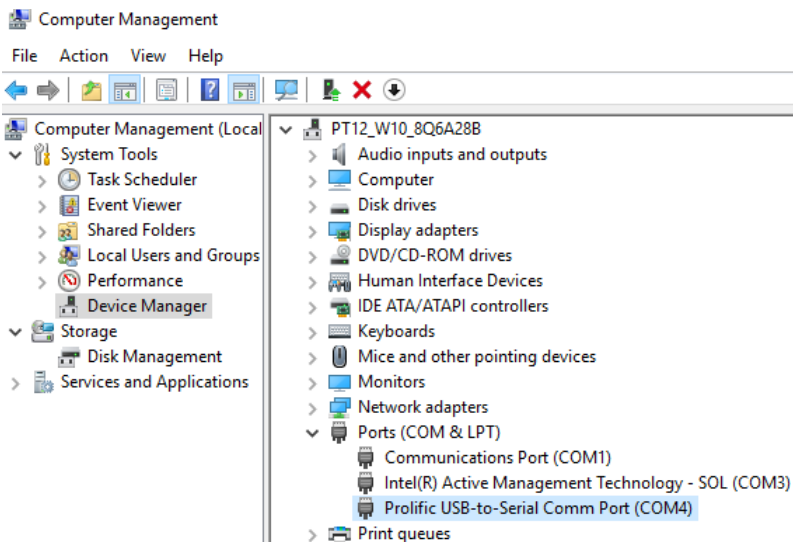
MATERIAL	LOCATION	QUANTITY
USB to Serial adapter cable P/N 118-1394	Provided in this Kit	1
Instruction Manual Kepeco P/N 228-2004	Provided in this Kit	1
RJ45 Patch Cable P/N 118-1164	Provided in this Kit	1
RJ45 to DB9 Adapter P/N 142-0506	Provided in this Kit	1

#### 3.2 PROCEDURE

1. Download the zip file for the Kepeco interactive demo program from:  
<https://www.kepcopower.com/drivers/drivers-dl3.htm#bit4886>  
  
The link is labeled: "Interactive Demo Program Including Labview Version 2010 Runtime and Generic Visa Version to operate standalone on a Windows XP and above PC."
2. Clicking on Setup in the zip file will install the program on the windows 10 computer.
3. Connect one end of the USB to Serial adaptor cable (P/N 118-1394, supplied) to a USB port on a Windows 10 computer. The first time the adapter cable is connected, a message will indicate that the driver has been installed.
4. To check which port is being used by the adapter cable, proceed as follows:
  - a. Open File Explorer from the task bar (see Figure 1).
  - b. Find the **This PC** icon on the left and right mouse click on it.
  - c. From the popup menu select **Manage**. The Computer Management window will appear (see Figure 2).

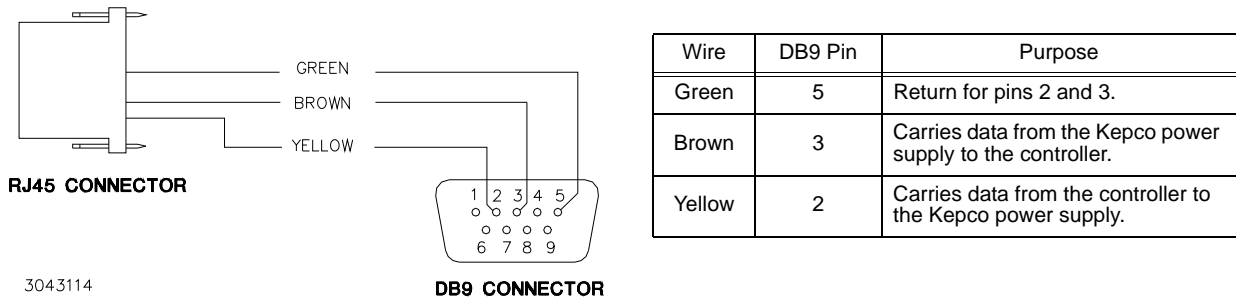


**FIGURE 1. OPEN FILE EXPLORER AND SELECT MANAGE**



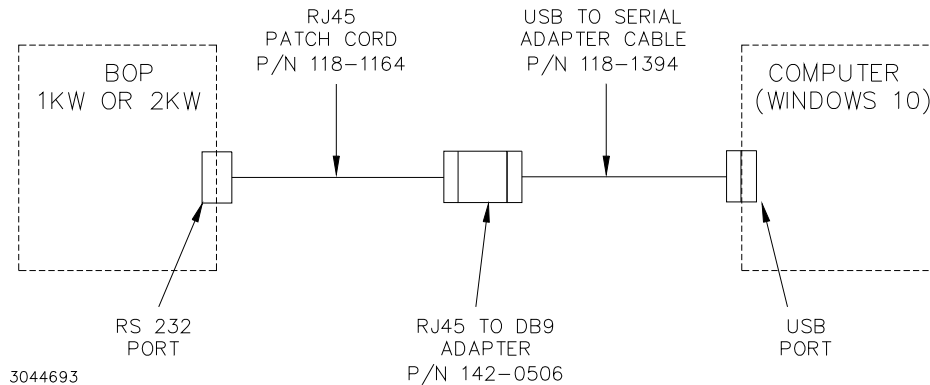
**FIGURE 2. COMPUTER MANAGEMENT WINDOW**

- d. From the Computer Management window click on **Device Manager**. A list will appear on the right.
  - e. select **Ports** to see the installed port numbers.
  - f. Note the port number used for the Prolific USB to Serial device. In the example shown in Figure 2 the port is COM4.
5. The RJ45 to DB9 adapter must be assembled before it can be used. Figure 3 shows the connections for this application.
    - a. Snap in pins connected to the green, brown and yellow wires pins 5, 3 and 2 of the DB9 connector.
    - b. Fold the unused wires out of the way and snap the connector into the plastic housing.



**FIGURE 3. RJ45 TO DB9 ADAPTER WIRING**


6. With the BOP powered off, complete connections as shown in Figure 4.
  - a. Connect RJ 45 patch cable P/N 118-1164 (supplied with this kit) to RS 232 Serial port of BOP.
  - b. Connect other end of RJ 45 patch to RJ 45 to DB9 Adapter P/N 142-0506 which has been configured per step 5 above
  - c. Connect DB9 connector of RJ45 to DB9 adapter P/N 142-0506 to USB to Serial Adapter P/N 118-1394. The other end of USB to Serial Adapter is already plugged into a USB port on the computer.



**FIGURE 4. HOW TO CONNECT BOP TO WINDOWS 10 COMPUTER**

7. Start the Kepco interactive demo program that was installed in step 2. The file named KepcoDCPwr Interactive Example.vi is located in program files\national Instruments\labview\drivers\kepco. Either double-click on the file or open the file using File > Open from within LabView. When the program is opened, the Front Panel (Figure 5) is displayed.
8. At the Front Panel (Figure 5), click the **Power** switch to show **Off - 0**.
9. At the Front Panel, below the logo, is the VISA Resource Name field. With the application stopped, click on this field to display a drop-down menu. Refreshing the window causes the LabView program to initiate a new search and provide an updated list of all devices found on the GPIB, Serial ports and network connections. Enter the visa resource name as COMx where x is the number noted in step 4f.
10. At the BOP set the AC POWER switch to ON.
11. At the BOP after the power up sequence, configure the BOP for RS 232 operation with baud rate set to 38400. Refer to associated BOP Operator Manual, available for download from the Kepco website.

[www.kepcopower.com/support/opmanls.htm#bop-1k](http://www.kepcopower.com/support/opmanls.htm#bop-1k)

12. At the computer, above the panel, click the run button .
13. The software will connect to the BOP and when initialization is complete the legends on the voltage and current adjusters will show the rated values for the BOP connected. For example a BOP 50-20MG or 50-20ME will show  $\pm 50$  on the voltage adjuster and  $\pm 20$  on the current adjuster.
14. The BOP can now be remotely controlled from the computer via the Front Panel window. Details on using the Interactive Demo program can be found in the Kepco's Labview Driver Manual that can be downloaded from the kepcos website at:  
<https://www.kepcopower.com/support/opmanls.htm#dvr>

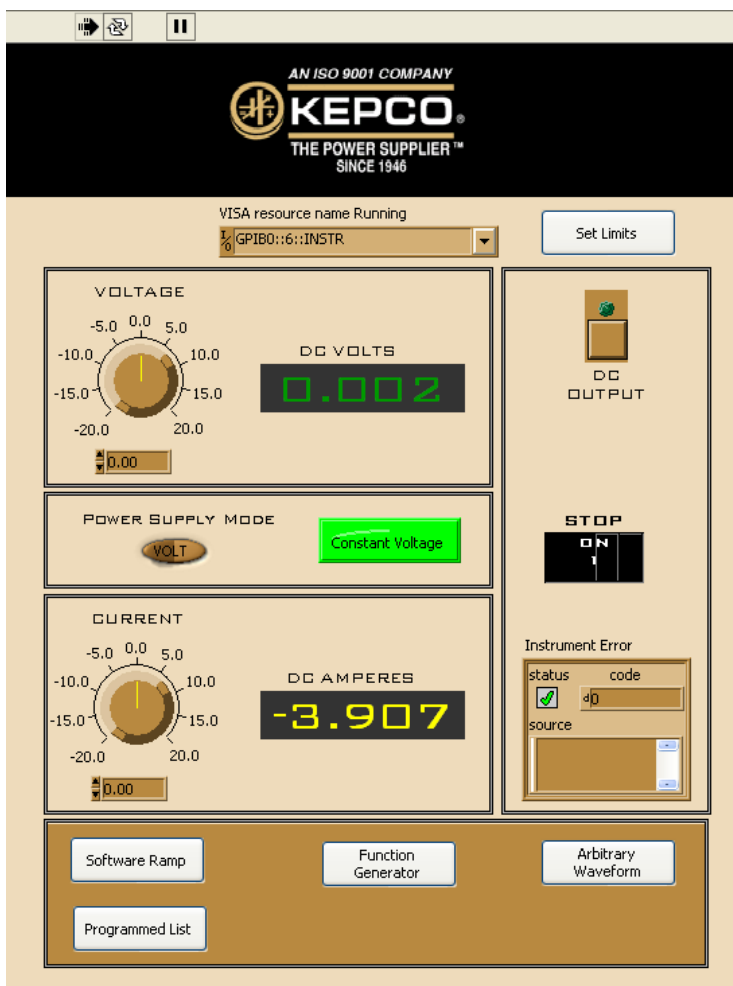


FIGURE 5. FRONT PANEL WINDOW