INSTRUCTION MANUAL

KEPCO An ISO 9001 Company.

BOP 100W, 200W, 400W
USB PROGRAMMING CAPABILITY

1. DESCRIPTION

Kepco KIT 219-0630 allows 100W, 200W or 400W BOP power supplies to be controlled via a USB port. The BOP power supply must have a BIT 4886 card installed.

2. APPLICABILITY

A. This KIT applies only to BOP models with BIT 4886 card installed (not supplied in this Kit).

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 Kepco P/N 228-1918	Provided in this Kit	1
BIT 4886 Card	Not Supplied	N/A
RJ45 Patch Cable P/N 118-1164 (supplied with BIT 4886 card)	Not Supplied	N/A
RJ45 to DB9 Adapter Cable P/N 142-0506 (supplied with BIT 4886 card)	Not Supplied	N/A

3.2 PROCEDURE

1. Download the zip file for the Kepco 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.

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c. From the popup menu select **Manage**. The Computer Management window will appear (see Figure 2).
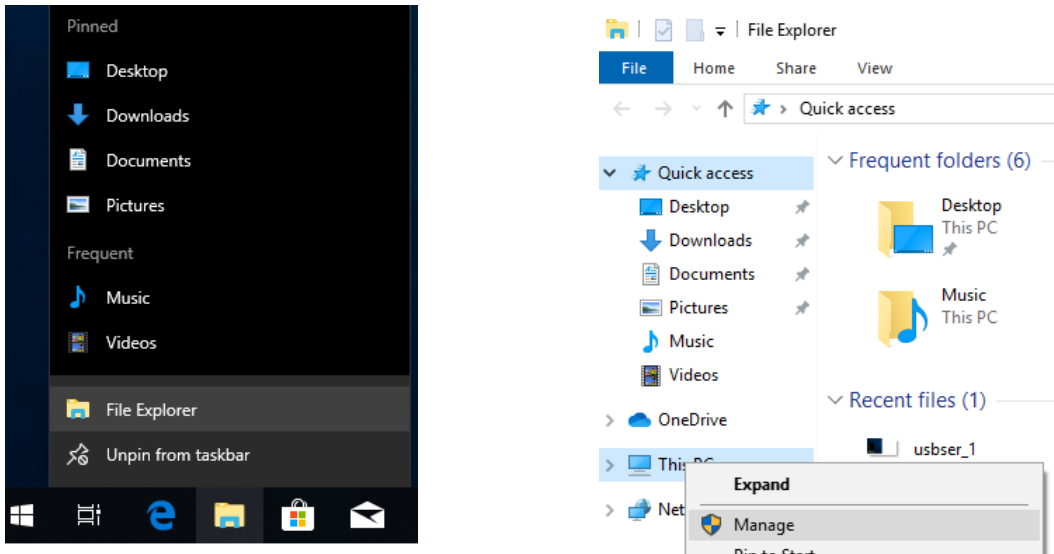
FIGURE 1.   OPEN FILE EXPLORER AND SELECT MANAGE
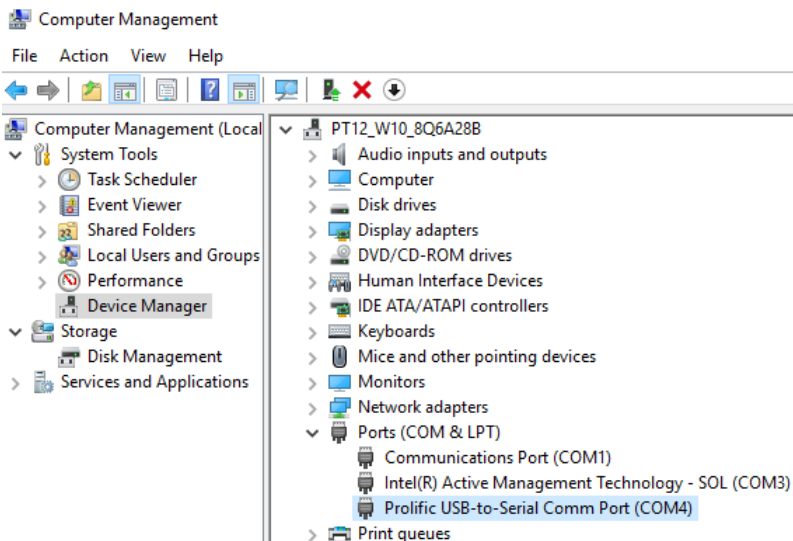
FIGURE 2.   COMPUTER MANAGEMENT WINDOW

d. From the Computer Management window click on **Device Manager**. A list will appear on the right.
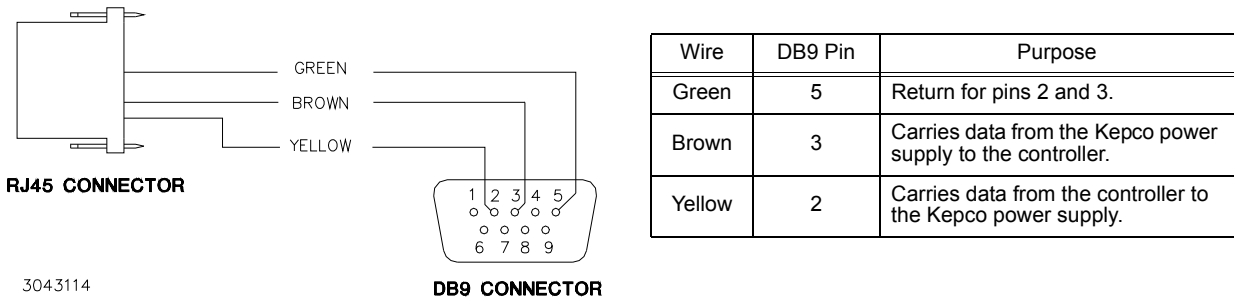
e. select **Ports** to see the installed port numbers.

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 (provided with BIT 4886 card) must be must be assembled before it can be used. Figure 3 shows the connections for this application.

a. Remove the metal connector from the plastic housing.

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b. Snap in pins connected to the green, brown and yellow wires pins 5, 3 and 2 of the DB9 connector.

c. Fold the unused wires out of the way and snap the connector into the plastic housing.

Wire	DB9 Pin	Purpose
Green	5	Return for pins 2 and 3.
Brown	3	Carries data from the Kepco power supply to the controller.
Yellow	2	Carries data from the controller to the Kepco power supply.

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 BIT 4886 card) to RS 232 Serial port of BIT 4886 card.

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 a dapter 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.
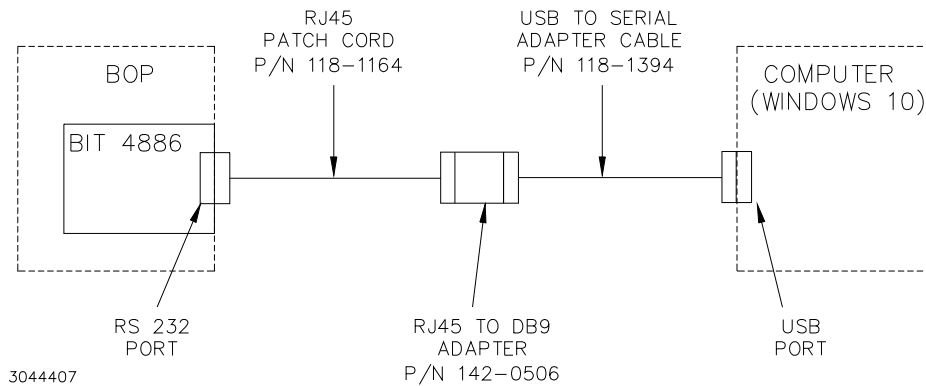
FIGURE 4.   HOW TO CONNECT BOP/BIT 4886 TO WINDOWS 10 COMPUTER

7. Set the BIT 4886 Address selection switches to 3: S1-1 and S1-2 set to 1 (away from card edge), S1-3, S1-4 and S1-5 set to 0 (nearest to card edge) to select 38400 baud rate.

8. Start the Kepco interactive demo program that was installed in step 2. The file named KepcoDCPwr Interactive Example.vi is located in program f iles\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.

9. At the Front Panel (Figure 5), click the **Power** switch to show **Off - 0**.

10. 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.

11. At the BOP set the AC POWER switch to ON.

12. At the computer, above the panel, click the run button .

13. The software will connect to the BOP/BIT 4886 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 50-2 will show ±50 on the voltage adjuster and ±2 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 kepco website at:
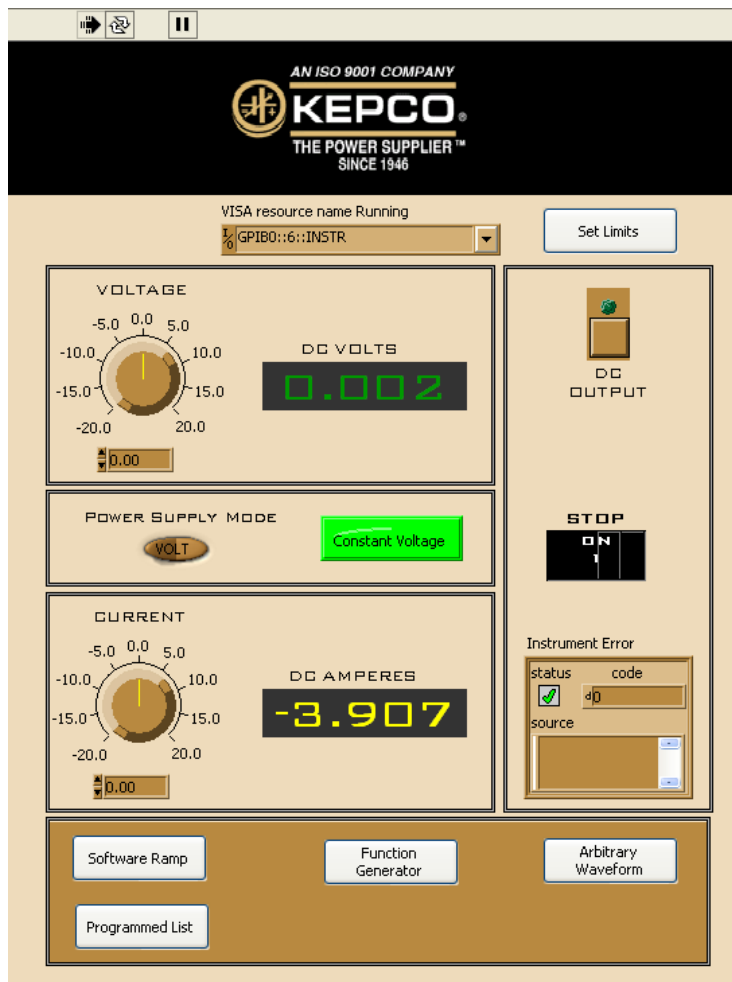
   https://www.kepcopower.com/support/opmanls.htm#dvr

FIGURE 5.   FRONT PANEL WINDOW

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