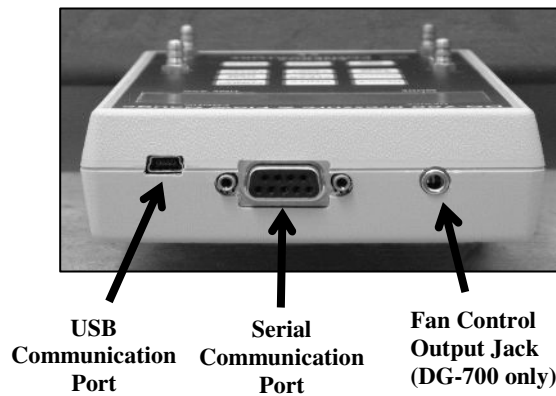


Using the Communication Ports on the DG-700 and DG-500 Digital Pressure Gauges

1. USB and Serial Communication Ports:

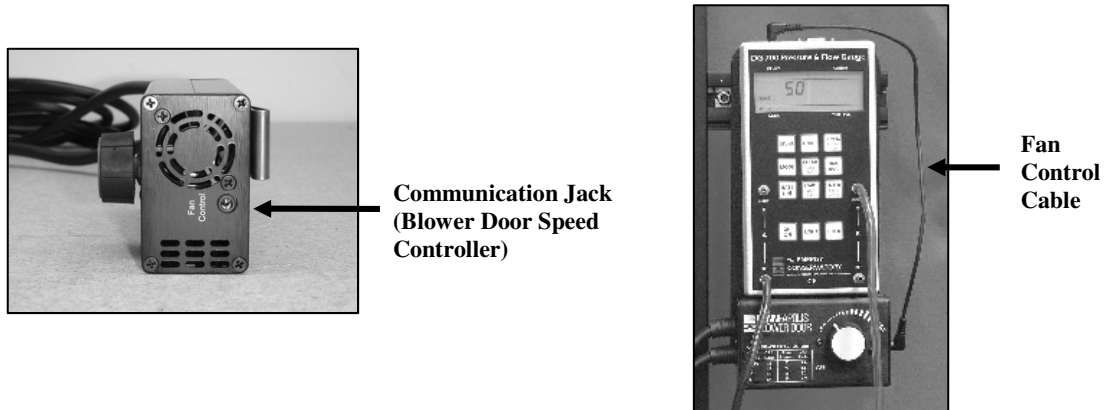
Newer DG-700 and DG-500 gauges contain both a USB and a DB-9 Serial Communication Port, either of which can be used to create a 2-way communication link between the gauge and a computer. This communication link can be used (along with TEC software) to conduct automated Blower Door tests and to data log both pressure channels.

- Fully automated Blower Door testing requires a DG-700 gauge, TECTITE software, a Blower Door fan speed controller with a communication jack (standard equipment since September 2004), a fan control cable, and a communication cable (either USB or 9 pin serial) to connect the DG-700 to a user supplied laptop computer.
- Data logging of pressure measurements requires the TECLOG software (available from www.energyconservatory.com), and a communication cable (either USB or 9 pin serial) to connect the DG-700 or DG-500 to a user supplied laptop computer.



2. Fan Control Output Jack (DG-700 only):

The fan control output jack on the DG-700 provides a speed control signal which is used to control a Blower Door fan during an automated Blower Door test, or with the DG-700's built-in Cruise Control feature. A fan control cable is used to connect the fan control output jack to the communication jack on the side of the Blower Door speed controller.



3. Installing the USB Drivers for the USB Communication Port:

In order to use the USB communication port on your gauge, you will need a USB (A-mini B) cable, and you will need to install the necessary USB drivers onto your computer. There are 3 ways to install the USB drivers:

Option 1 for Installing USB Drivers (recommended):

- Insert the installation CD labeled “USB Drivers for DG-500 and DG-700 Digital Pressure Gauges” into a CD drive on your computer (this CD should have been provided with all DG-700 and DG-500 gauges equipped with a USB Communication Port). Your computer should automatically run the file “autoinstall.bat” from the CD which will install the necessary USB drivers onto your computer.
- Once the USB drivers are installed, plug the “A” (larger) end of the USB communication cable into an open USB port on your computer. Plug the “B” (smaller) end of the cable into the USB Communication Port on top of the gauge.
- The computer operating system should find the gauge and perform the final driver setup on your computer.

Option 2 for Installing USB Drivers:

- Plug the “A” (larger) end of the USB communication cable into an open USB port on your computer. Plug the “mini B” (smaller) end of the cable into the USB Communication Port on top of the gauge.
- The computer operating system should find the gauge and open the “New Hardware Wizard”.
- Follow the instructions in the Hardware Wizard (do not use the Windows Update Search option). Insert the installation CD labeled “USB Drivers for DG-500 and DG-700 Digital Pressure Gauges” when instructed. The computer operating system should perform the final driver setup on your computer.

Option 3 for Installing USB Drivers:

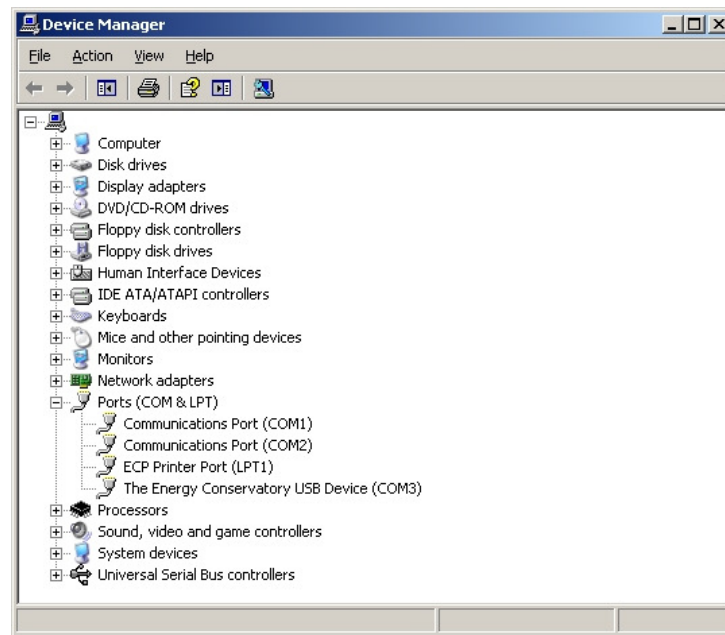
- Download the file “tecportinstaller.exe” to your computer from the following web address – www.energyconservatory.com/support4.htm - see User Tip #1.
- Run the program file by double clicking on it. The program will install the necessary USB drivers onto your computer.
- Once the USB drivers are installed, plug the “A” (larger) end of the USB communication cable into an open USB port on your computer. Plug the “mini B” (smaller) end of the cable into the USB Communication Port on top of the gauge.
- The computer operating system should find the gauge and perform the final driver setup on your computer.

4. Checking Your Computer for Installed Communication Ports:

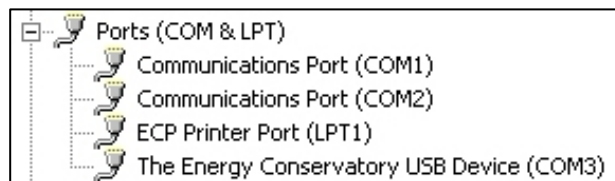
To check if the USB communication drivers have been properly installed on your computer, or to see if your computer has an available serial communication port for a 9 pin serial cable, you will need to access the **Device Manager** in your Windows operating system.

- To access the **Device Manager** in **Windows XP** or **2000**, click on **Start**, then right-click on the **My Computer** shortcut and select **Properties**. This will cause the **System Properties** window to appear. To open the **Device Manager**, click on **Hardware** and then **Device Manager**.
- To access the **Device Manager** in **Windows Vista**, click on **Start**, then right-click on the **Computer** shortcut and select **Properties**. This will cause the **System** window to appear. To open the **Device Manager**, click on **Device Manager**.

From the **Device Manager** window, open the Ports icon to show which communication ports are currently installed on your computer. In the case illustrated below, the computer has 3 installed communication ports which can be used to interface with a TEC digital gauge.



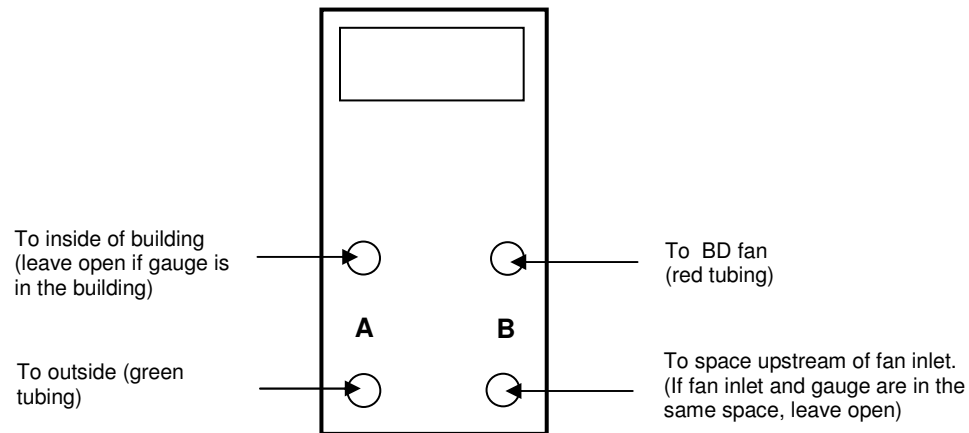
- **COM1** and **COM2** are existing serial communication ports which can be used to communicate with a DG-700 or DG-500 gauge using a standard 9 pin serial cable.
- **COM3** is a custom communication port created by successfully installing the USB drivers for the DG-700 and DG-500 gauges. (Note: In order for a custom device communication port to be listed under the **Ports** icon, the DG-700 or DG-500 gauge must be connected to your computer.)



If no **COM** ports are listed (or a **Ports** icon does not exist), then either the computer does not have installed serial communication ports, you have not properly installed the USB drivers to create a custom USB Device communication port, or a DG-700 or DG-500 gauge is not connected to the computer.

5. Conducting Fully Automated Blower Door Tests (DG-700 only):

- Install the TECTITE software onto your computer. Once the software is installed, run the TECTITE program and access the TECTITE Operation Manual directly from the program’s Help Menu. Refer to this manual on how to operate the TECTITE software.
- Install the Blower Door system as described in the Blower Door operation manual.
- Connect the DG-700 to your computer using either a USB cable or a 9-pin serial communication cable.
- Connect the DG-700 to the Blower Door fan speed controller using the fan control cable. Plug one end of the cable into the 3.5 mm fan control output jack on the top of the DG-700, and plug the other end of the cable into the communication jack on the side of the fan speed controller box.
- Connect tubing between the DG-700 and the Blower Door system (tubing connections are detailed in the Blower Door operation manual).



- Now turn on the Blower Door fan speed controller to the “just on” position (the fan should not be turning in this position). The speed control knob should be turned all the way down, without being clicked into the “off” position.
- Turn on the DG-700 gauge.
- Refer to the TECTITE and Blower Door manuals for instructions on how to conduct the Blower Door test.

6. Data Logging Using a DG-700 or DG-500:

- Install the TECLOG software onto your computer. Once the software is installed, run the program and access the TECLOG Help menu.
- Connect the DG-700 or DG-500 gauge to your computer using either a USB cable or a 9-pin serial communication cable.
- Turn on the gauge.
- Refer to the TECLOG help menu on how to begin data logging.

7. Changing the Assigned COM Port for your custom USB Device communicating port.

If necessary, you can change the COM port assigned to your custom USB Device communication port.

Follow these steps to change the assigned COM port:

- From the Device Manager window open up the Ports icon.
- Right-click on the The Energy Conservatory USB Device (COMX) icon.
- Click on Properties.
- Click on the Port Settings tab.
- From the Port Settings window click on the Advanced button.
- In the Advanced Setting window, use the COM Port Number field to change the assigned COM port.
- Click on OK.

Call The Energy Conservatory at 612-827-1117 for more information.