



## **INSTALLING UPDATES QUICK GUIDE**

Home screen



Connect to the internet

In order to check for and install updates, the DG-1000 must be connected to the internet in one of two ways

- WiFi (Join Network)
- Ethernet

1. From the Home screen, touch Settings to configure the DG-1000 network settings for updating the software.

Network configuration

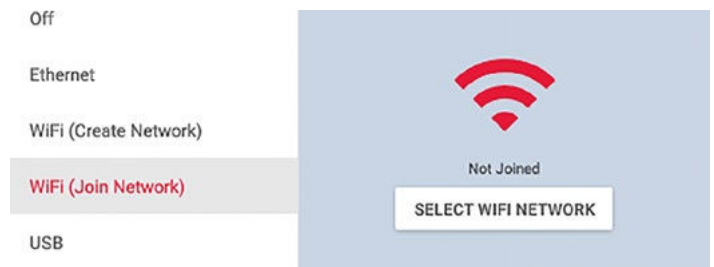
4. If connecting to the internet via Ethernet

- Connect one end of an Ethernet cord to the Ethernet port on top of the DG-1000, then connect the other end to a router with an internet connection.
- Once the Ethernet cord is connected, touch Ethernet on the DG-1000 screen.
- Once an internet connection has been established, the word Connected will appear below the Ethernet icon, along with an IP address.



5. If connecting to the internet via WiFi (Join Network)

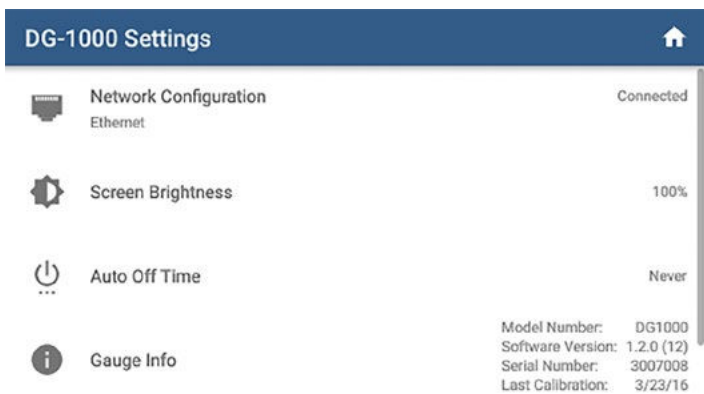
- Touch WiFi (Join Network) on the DG-1000 Network Configuration Screen.
- Touch Select WiFi Network



- A list of available networks will populate. Select which WiFi network you want to connect to, and then enter in the password when prompted.



Settings screen use



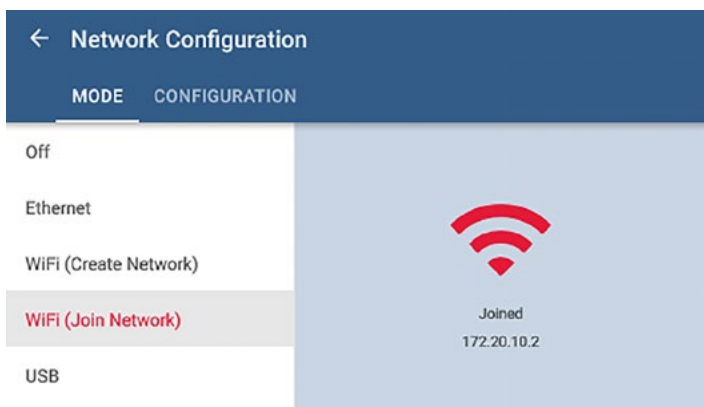
2. Touch Network Configuration
3. Select either WiFi (Join Network) or Ethernet

**Network configuration continued**

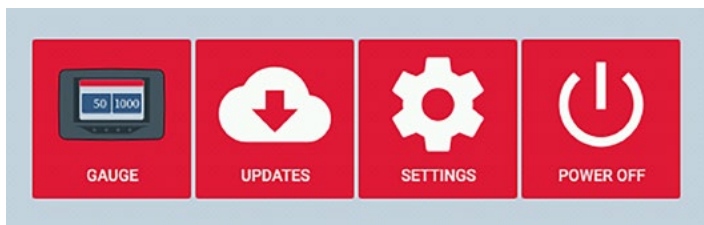
- After typing in the password using the on-screen keyboard, touch Connect in the lower right corner.



6. The Network Configuration screen should say Joined beneath the WiFi icon. If it does not say Joined, check the settings and try again.



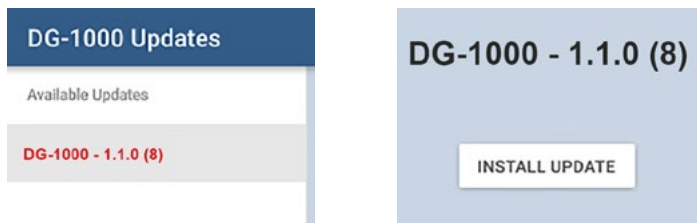
7. Once an internet connection has been established, return to the Home screen and then touch Updates.



**Updates screen use**

8. Any available updates will be listed on the left side of the Updates screen. To install an update, select the update from the list and touch the Install button. (The gauge needs to be charging using the fast charger during the update process.)

Please note that the screenshots shown below are just an example and are not showing the most current update.



9. After touching Install, the following message will appear: *"Install package? The current package will be removed and replaced with 'package name.' A device reboot will be required. Please ensure the gauge is plugged into its charger before continuing."* Touch OK to proceed. When the update is complete a message will appear that says *"Power off. The device will power off to complete the update."* Touch Power Off to complete the update process.

10. If the Updates app is able to connect to the internet and no updates are available, the app will show a green checkmark and it will say *"Your DG-1000 is up to date."*

11. If the updates app is not able to reach the internet, a message will appear that says *"Fetching updates failed. Please check your internet connection and try again."*

Check that the DG-1000 successfully updated by going to the Settings screen and checking the software version, which should be the version you just installed.

Please note that the screenshot shown below is just an example and is not showing the most current update.



### Important Information

- When installing an update, please connect to a high-speed, stable internet connection.
- The DG-1000 must establish an internet connection in order to update. The ONLY ways the DG-1000 can establish this internet connection are through the WiFi (Join Network) mode or the ethernet mode (as explained on page 2). Connecting the DG-1000 to a computer or router using a USB cord will NOT establish an internet connection and updates can NOT be installed using a USB cord.
- Should you change your network connection mode to ethernet without restarting your gauge you may receive a warning message after attempting to download the update that the connection failed. If this happens, make sure the network connection mode is set to ethernet, then restart the gauge. Once the gauge boots back up, try installing the update again.
- Should your SSID or password require a character that is not part of the keyboard on the gauge such as %, ^, or @, you will need to connect a keyboard using the USB port on the gauge and enter the info using the external keyboard.
- The DG-1000 will remember the connect settings so you don't need to enter them again.
- The DG-1000 does not have a username screen that may be required by some networks. You will need to connect to an alternate network that does not require a username.
- If the internet connection is stable, the update process should go smoothly. If for any reason the process fails, attempt to repeat it, making sure to use a stable internet connection. If you are still unable to successfully update, or if your gauge becomes unresponsive, you will need to reset your gauge to the factory settings by using the recovery disk provided in the DG-1000 case. To do this, turn off the gauge by holding down the power button. If the power button is not responding, remove the batteries. Insert the micro SD card (recovery disk), text side up, into the slot on the side of the gauge (you may need to use small object, such as a paper clip, to insert it). The SD card will click into place. Power the gauge on and let it boot up. You will be asked if you want to install version 1.0.0 (220) of the software onto the DG-1000. Touch yes to continue the process, which may take a couple of minutes. Once the software is loaded onto the gauge, touch ok to turn off the gauge. The gauge will power down on its own. Remove the SD card by using a small object, such as a paper clip, to gently push the SD card in and then it will pop out. Turn the gauge back on and repeat the steps previously mentioned to try to update your gauge again. For guidance resetting your gauge, please call TEC tech support at 612-827-1117.

### More DG-1000 Guides

All DG-1000 guides are available online at [energyconservatory.com/dg1000guides](http://energyconservatory.com/dg1000guides)

Please refer to the guides listed below for further instructions.

- [DG-1000 Overview Booklet](#)
- [DG-1000 Basic Use Quick Guide](#)
- [DG-1000 Ports and Networking Basics Quick Guide](#)
- [Connecting a Single DG-1000 Quick Guide](#)
- [Connecting Multiple DG-1000's Quick Guide](#)
- [Using the DG-1000 with the Minneapolis Blower Door](#)
- [Using the DG-1000 with the Minneapolis Duct Blaster \(coming soon\)](#)



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**OVERVIEW**

## **ENERGY CONSERVATORY WARRANTY**

### **EXPRESS LIMITED WARRANTY**

Seller warrants that this product, under normal use and service as described in the operator's manual, shall be free from defects in workmanship and material for a period of 24 months, or such shorter length of time as may be specified in the operator's manual, from the date of shipment to the Customer.

### **LIMITATION OF WARRANTY AND LIABILITY**

This limited warranty set forth above is subject to the following exclusions:

- With respect to any repair services rendered, Seller warrants that the parts repaired or replaced will be free from defects in workmanship and material, under normal use, for a period of 90 days from the date of shipment to the Purchaser.
- Seller does not provide any warranty on finished goods manufactured by others. Only the original manufacturer's warranty applies.
- Unless specifically authorized in a separate writing, Seller makes no warranty with respect to, and shall have no liability in connection with, any goods which are incorporated into other products or equipment by the Purchaser.
- All products returned under warranty shall be at the Purchaser's risk of loss. The Purchaser is responsible for all shipping charges to return the product to The Energy Conservatory. The Energy Conservatory will be responsible for return standard ground shipping charges. The Customer may request and pay for the added cost of expedited return shipping.

The foregoing warranty is in lieu of all other warranties and is subject to the conditions and limitations stated herein. No other express or implied warranty IS PROVIDED, AND THE SELLER DISCLAIMS ANY IMPLIED WARRANTY OF FITNESS for particular purpose or merchantability.

The exclusive remedy of the purchaser FOR ANY BREACH OF WARRANTY shall be the return of the product to the factory or designated location for repair or replacement, or, at the option of The Energy Conservatory, refund of the purchase price.

The Energy Conservatory's maximum liability for any and all losses, injuries or damages (regardless of whether such claims are based on contract, negligence, strict liability or other tort) shall be the purchase price paid for the products. In no event shall the Seller be liable for any special, incidental or consequential damages. The Energy Conservatory shall not be responsible for installation, dismantling, reassembly or reinstallation costs or charges. No action, regardless of form, may be brought against the Seller more than one year after the cause of action has accrued.

The Customer is deemed to have accepted the terms of this Limitation of Warranty and Liability, which contains the complete and exclusive limited warranty of the Seller. This Limitation of Warranty and Liability may not be amended or modified, nor may any of its terms be waived except by a writing signed by an authorized representative of the Seller.

### **TO ARRANGE A REPAIR**

Please call The Energy Conservatory at 612-827-1117 before sending any product back for repair or to inquire about warranty coverage. All products returned for repair should include a return shipping address, name and phone number of a contact person concerning this repair, and the purchase date of the equipment.

## **Safety, warnings and troubleshooting information**

- Follow all safety instructions provided when used with any TEC products.
- Do not operate the gauge if any liquid gets inside the gauge.
- If the inside of the gauge gets wet, immediately turn off the gauge and remove the batteries.
- Leave the battery compartment cover off to allow for drying.
- Dry the batteries with a towel and allow the batteries to air dry for at least 12 hours.
- Allow the gauge to air dry for at least 12 hours before inserting the batteries and powering back on.
- If a liquid gets inside the pressure ports, contact TEC at 612-827-1117.
- Do not attempt to dry any of the electrical connectors with a Q-Tip or similar item.

## **Lithium Ion battery safety and warnings**

- Do not leave the batteries in direct sunlight or in an area heated by sunlight. The battery could generate heat, smoke or flames.
- Do not use the batteries when there is rust present, the batteries have a bad smell or if the batteries are damaged in any other way.
- Keep the batteries out of the reach of children and animals.
- If fluid from the battery leaks out and makes contact with skin, wash with soap and water. The fluid may cause irritation. If that happens please see a doctor immediately.
- Do not expose the batteries to extreme heat, flames or liquids.
- Do not modify or disassemble the batteries as this could result in leakage or explosion.
- When replacing the batteries in the gauge, use identical, fresh batteries.
- Always charge both batteries at the same time.

## **Touch screen use and care**

- A screen protector is included with the DG-1000. Replacement screen protectors can be purchased from TEC.
- To clean the screen, use the microfiber cloth included with the DG-1000.
- Do not clean the screen with flux, water, acetone, ethanol, isopropyl alcohol, toluene or ammonia (glass cleaner).

## **Introduction**

The DG-1000 is a two channel low pressure gauge that is intended to be used with equipment manufactured by The Energy Conservatory, or as a manometer.

## Kit components

A standard DG-1000 kit includes

- Carrying case
- Two Lithium Ion batteries (installed)
- Micro USB cable
- Charger
- Parts bag with fan control cable, digital gauge extension tube and plastic hose connectors
- Screen protector
- 15' green hose
- 10' red hose
- Ground cable kit
- Recovery disk
- Overview booklet

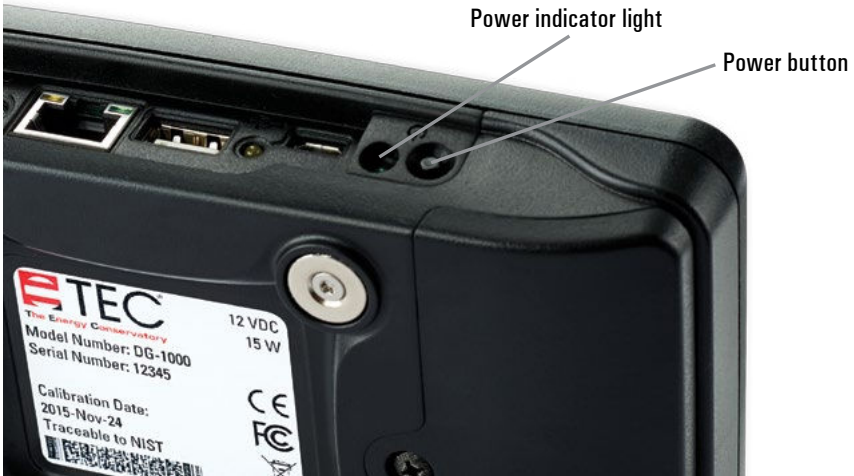
## Parts of the DG-1000





## Power on the DG-1000

Turn on the DG-1000 by pressing and holding the power button until the green power indicator light turns on. The bootup process may take up to 40 seconds to complete, and the gauge is ready to be used when the Home screen appears (shown below).



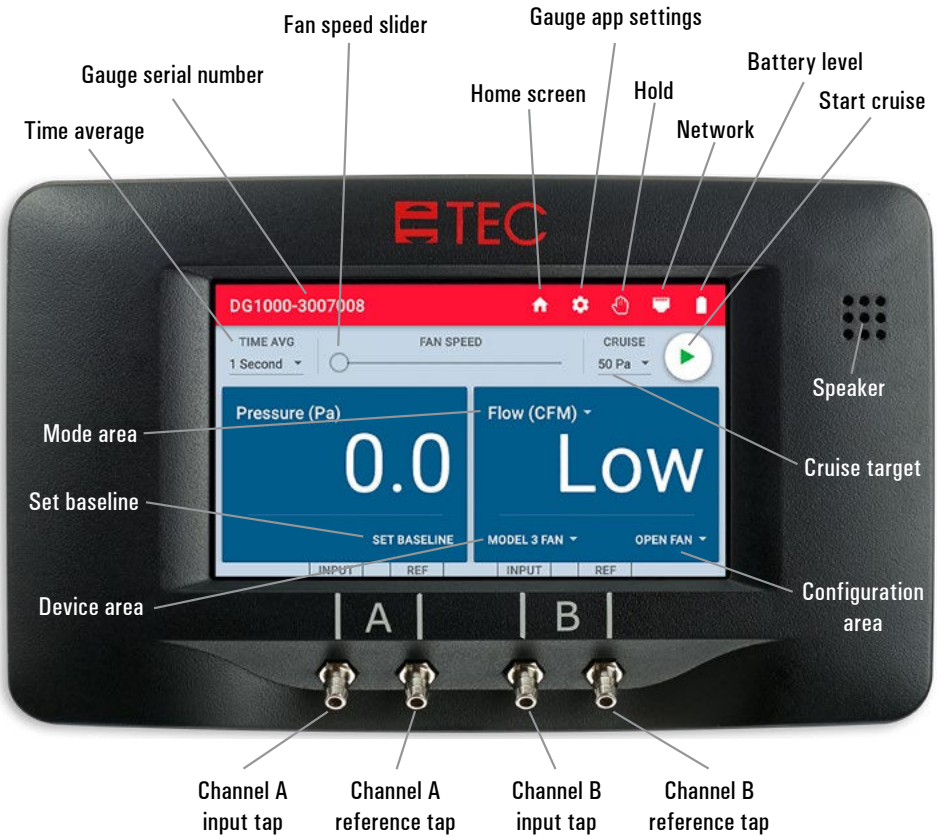
## Launch the Gauge app

Touch the gauge icon to start the Gauge app. See the [DG-1000 Basic Use Quick Guide](#) to learn more about the Home screen (shown below).



## Gauge app screen and pressure taps overview

To learn more about how to use the Gauge app, download the DG-1000 Basic Use Quick Guide at [energyconservatory.com/dg1000guides](http://energyconservatory.com/dg1000guides)



The function of Channel A is to measure a differential pressure between two locations. The Function of Channel B is to measure pressure at a device and convert it to an air flow.

To learn how to hook up the tubing to the pressure taps for a blower door or duct leakage test, download the Using the DG-1000 with the Minneapolis Blower Door Guide or the Using the DG-1000 with the Minneapolis Duct Blaster Guide. Both guides can be found at [energyconservatory.com/dg1000guides](http://energyconservatory.com/dg1000guides).

### Battery information

The DG-1000 uses two lithium-ion batteries that are rechargeable and replaceable. TEC recommends using only protected batteries with a button on one end, as seen here:



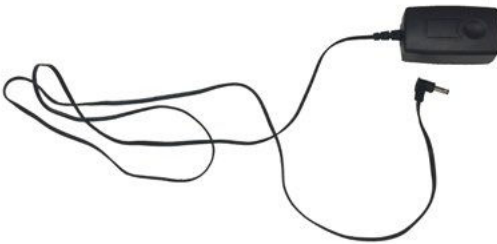
TEC recommends the Tenergy Li-Ion battery, model number 2600mAh, size 18650, 3.7v protected. Do not use unprotected batteries.

### Battery run time and storage

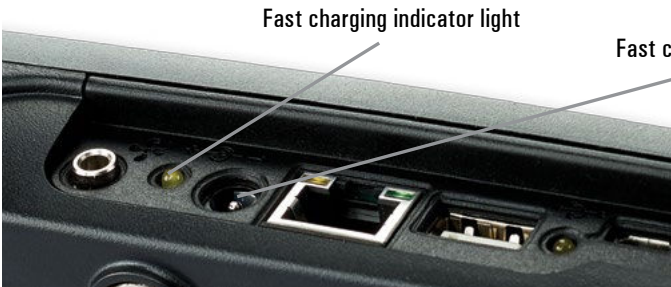
Battery run time is 15 hours, depending on WiFi use and screen brightness. To help preserve the battery run time, TEC recommends keeping the screen brightness at or below 40% and to turn off WiFi when not needed. All batteries self-discharge over time. TEC recommends charging the batteries for a few hours once every three months using the fast charger regardless of battery level. Batteries should be charged in temperatures between 32 degrees F and 105 degrees F.

### Charging instructions

The batteries can be fully charged in about three hours using the fast charging port and included charger.\* When the batteries are charging the fast charging indicator light will be on. The light will turn off when the batteries are fully charged. The gauge can be used during charging.



TEC recommends that only the included charger, the MEGA Electronics model FJ-SW1201500N, is used to charge the DG-1000.



Fast charging indicator light

Fast charging port

\* Charge the batteries overnight for optimal battery performance.

In addition to the fast charging port, the DG-1000 can also be slowly charged when connected to a computer via the micro USB port. When the gauge is connected, the micro USB charging indicator light will be on. It will take about 12 hours to fully charge the batteries using this port.



Micro USB charging indicator light

Micro USB port/charging port

### Calibration information

The DG-1000 should be calibrated at the TEC calibration lab once every two years. A calibration label is located on the back of the gauge that includes the gauge serial number and the date it was last calibrated. This information is also available in the DG-1000 settings screen (see the Basic Use Quick Guide to learn more).



Calibration label

### Temperature thresholds

The DG-1000 should be stored in a dry place with temperatures between -4 degrees F and 140 degrees F. Operating temperatures are between 42 degrees F and 105 degrees F.

### Recovery disk



The recovery disk is a micro-SD card that should be used only if you need to reset the DG-1000 to the factory settings. If a situation arises where the recovery disk may need to be used, consult with TEC technical support first by calling 612-827-1117.

### WiFi Password

The password for the networking setting WiFi (Create Network) is dg1000pw. To learn more about the DG-1000 networking settings, see the [Ports and Networking Basics Quick Guide](#).

## DG-1000 specifications

COMPONENT	SPECIFICATIONS
No. of Independent Pressure Channels	Two
Pressure Range	-2,500 to +2,500 Pa (-10 to +10 in. H <sub>2</sub> O)
Display Resolution	0.1 Pa for readings 0 - 999.9 Pa 1 Pa for readings 1000 Pa and larger
Accuracy at Typical Use Conditions <sup>1,2</sup>	0.9% of pressure reading or 0.12 Pa, whichever is greater
Units of Measure	Channel A - Pa (Future addition - in. H <sub>2</sub> O) Channel B - Pa, CFM, CFM@75, CFM@50, CFM@25, ACH50, CFM@25/ft <sup>2</sup> , CFM@25/100 ft <sup>2</sup> , CFM@50/ft <sup>2</sup> , CFM@50/100 ft <sup>2</sup> , CFM@75/ft <sup>2</sup> , CFM@75/100 ft <sup>2</sup> (Future additions - in. H <sub>2</sub> O and equivalent metric units)
Auto-zero	On start up and then once every 10 seconds. Tilt and motion compensation between auto-zeros.
Time Averaging	1, 5, 10 seconds and long-term (continuous update)
Operating Temperature Range <sup>3</sup>	42° F to 105° F (5.5° C to 40° C)
Storage Temperature Range	-4° F to 140° F (-20° C to 60° C)
Display	480 x 272 pixels, 3.75 x 2.125 inches, capacitive touch screen
Display Backlight	User adjustable (default 40%)
Power	Two 18650 Lithium Ion batteries (replaceable) with AC charger/power adapter included
Battery Life	Over 15 hours of continuous use with default settings 13 hours of continuous use with default settings and wifi active
Auto-Off	Adjustable from 10 minutes to 2 hours
Dimensions	7.0 x 4.2 x 1.4 inches

## DG-1000 specifications continued

COMPONENT	SPECIFICATIONS
Weight	15.7 oz
Calibration	Meets ASTM Standard E779-03, E1554-07, CGSB-149.10-M86, EN 13829, ATTMA Technical Standard 1 and NFPA 2001, RESNET and US ACE
Recommended calibration interval	Two years

<sup>1</sup> Typical Conditions are a temperature range of 54° to 90° F, and a two year calibration interval.

<sup>2</sup> As Calibrated Accuracy is +/- (0.4% of reading + 0.045 Pa) under controlled conditions of 67° to 77° F, four month calibration interval, and pressure readings averaged for five seconds. All gauges are verified to meet this specification at all calibration pressures.

<sup>3</sup> For use at temperature conditions outside the typical conditions in Note 1, or the as-calibrated range in Note 2, add an additional 0.037% of pressure reading per degree F that you are outside the stated range.

Specifications subject to change without notice.

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Stylized images of the Blower Door is also a Registered Trademark.

## Software Information

The Energy Conservatory (TEC) offers a variety of Windows-based programs. These programs can be found and downloaded for free at [software.energyconservatory.com](http://software.energyconservatory.com).

TEC also offers driver support for the DG-500, DG-700 and DG-1000. The drivers are designed to work with Windows-based computers with the following operating systems:

- Windows 7
- Windows 8
- Windows 8.1
- Windows 10

The drivers are available through Windows Update, and the DG-500 and DG-700 drivers can be downloaded from TEC at [software.energyconservatory.com](http://software.energyconservatory.com).

TEC also offers mobile apps for Apple and Android devices that can be found in the Apple App Store or the Google Play Store.

## Instructional Videos

The Energy Conservatory (TEC) offers a variety of online instructional videos, including

- Minneapolis Blower Door™ Quick Guide
- Minneapolis Duct Blaster® Quick Guide
- Field Calibration Checks for Gauges
- Pressure and Airflow Basics
- Exhaust Fan Flow Meter
- TECLOG3
- TECTITE 4.0
- And many more

Visit [www.YouTube.com/EnergyConservatory](http://www.YouTube.com/EnergyConservatory) to see all of TEC's instructional videos.

## More DG-1000 Guides

All DG-1000 guides are available online at [energyconservatory.com/dg1000guides](http://energyconservatory.com/dg1000guides)

Please refer to the guides listed below for further instructions.

- [DG-1000 Basic Use Quick Guide](#)
- [DG-1000 Ports and Networking Basics Quick Guide](#)
- [Connecting a Single DG-1000 Quick Guide](#)
- [Connecting Multiple DG-1000's Quick Guide](#)
- [Using the DG-1000 with the Minneapolis Blower Door](#)
- Using the DG-1000 with the Minneapolis Duct Blaster (coming soon)



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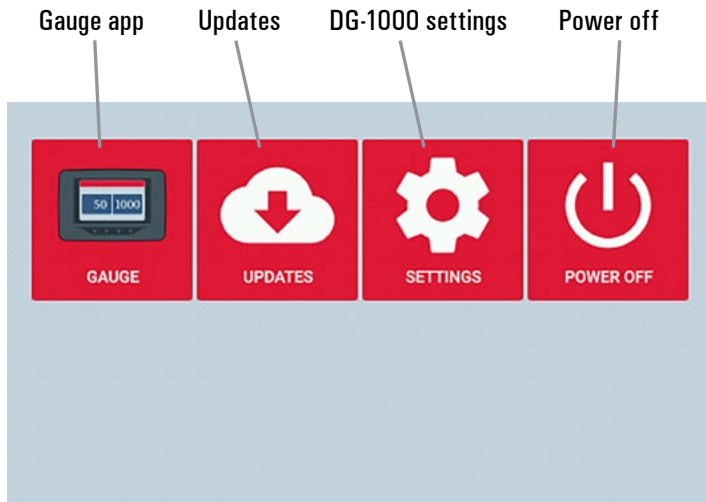
[info@energyconservatory.com](mailto:info@energyconservatory.com)  
[energyconservatory.com](http://energyconservatory.com)



## BASIC USE QUICK GUIDE



**Home screen use**



**Gauge**

Touch Gauge to launch the Gauge app

**Updates**

Touch Updates to see any available software updates

**Settings**

Touch settings to view and adjust the DG-1000 settings

**Power off**

Powers down the DG-1000. The gauge can also be powered down by pressing and holding the power button on top of the gauge for a few seconds.

**Updates screen use continued**

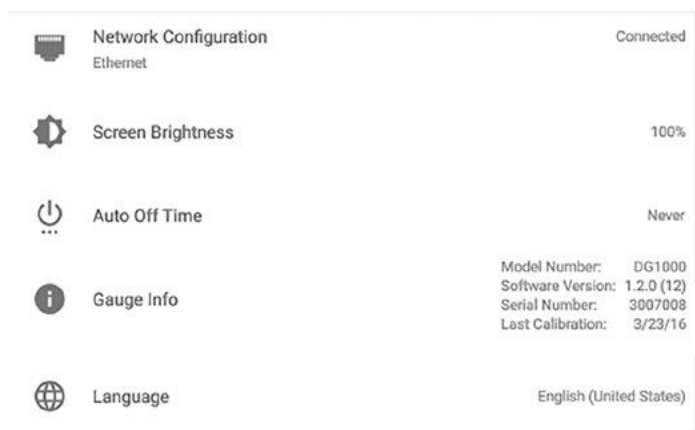
After touching Install, the following message will appear: *“Install package? The current package will be removed and replaced with ‘package name.’ A device reboot will be required. Please ensure the gauge is plugged into its charger before continuing.”* Touch OK to proceed. When the update is complete a message will appear that says *“Power off. The device will power off to complete the update.”* Touch Power Off to complete the update process.

If the Updates app is able to connect to the internet and no updates are available, the app will show a green checkmark and it will say *“Your DG-1000 is up to date.”*

If the updates app is not able to reach the internet, a message will appear that says *“Fetching updates failed. Please check your internet connection and try again.”*

Please see the [Updating the DG-1000 Quick Guide](#) to learn more about updating the DG-1000.

**Settings screen use**



**Network configuration**

Touch Network Configuration to select how you’d like to remotely connect to the DG-1000 using TEC software and apps. The options are Ethernet, WiFi (Create Network), WiFi (Join Network) and USB. The selected option and network status will be displayed on the settings screen. To learn more about these options, please see the [DG-1000 Ports and Networking Basics Quick Guide](#).

**Updates screen use**

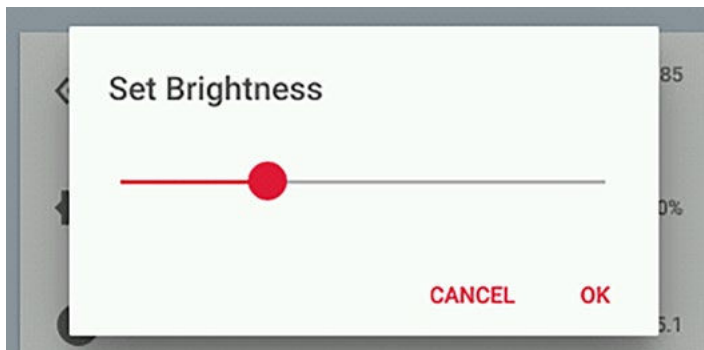
Touch Updates to check if any updates are available. An internet connection is required to do this. Networking modes that allow for an internet connection are Ethernet and WiFi (Join Network). Once an internet connection has been established, any available updates will be listed on the left side of the Updates screen. To install an update, select the update from the list and touch the Install button. (The gauge needs to be charging using the fast charger during the update process.)



**Settings screen use continued**

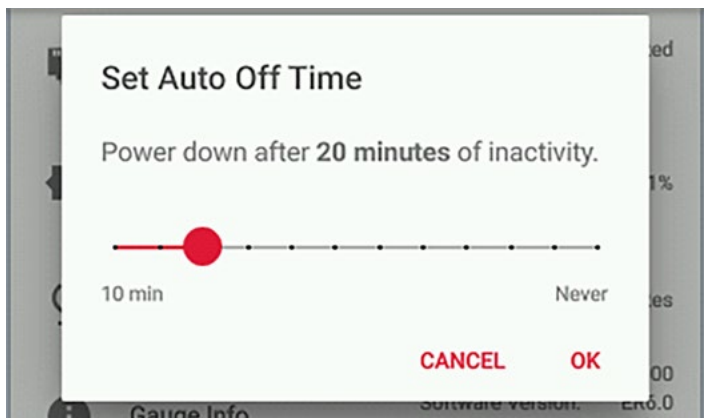
**Screen brightness**

The default brightness level is 40%. To adjust this, touch Screen Brightness, then adjust the slider to the desired brightness. Touch ok to save your setting and go back to the DG-1000 Settings screen. (Increasing screen brightness will decrease battery life.)



**Auto Off Time**

The default auto off time is 30 minutes. To change this, touch Auto Off Time and adjust the slider to the time needed. Options range from 10 minutes to never. This feature will not shut down the gauge if the screen is touched, the gauge is charging, any software or app is remotely connected to the gauge and reading pressure, or if cruise is active in the Gauge app.



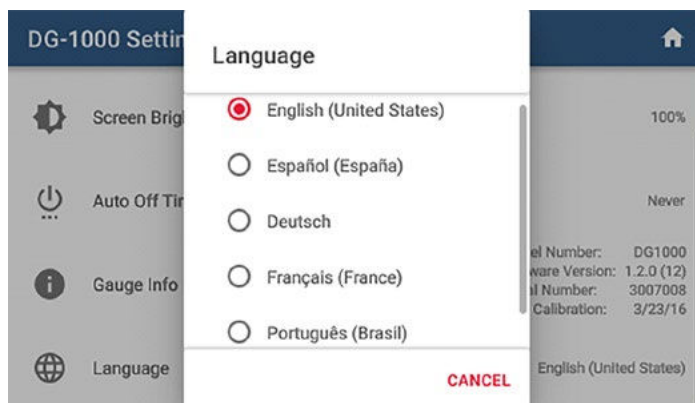
**Gauge Info**

Gauge Info displays the model number, software version, serial number and last calibration date on the right side of the screen. Touching Gauge Info will bring up the software licensing information. Reading and/or accepting the licensing information is not required to use the gauge. To exit the software licensing screen and return to the settings screen, touch OK in the lower right corner of the screen.

**Settings screen use continued**

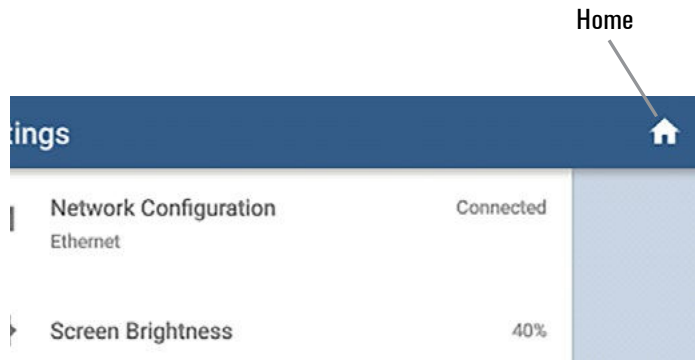
**Language**

The default language is English. To change the language in the DG-1000, touch Language, then select what language is needed. (From the Settings screen, you will need to scroll down to find Language, which is below Gauge Info.) The language options are English, Spanish, German, French and Portuguese. The DG-1000 will need to be restarted for the new language setting to go into effect.



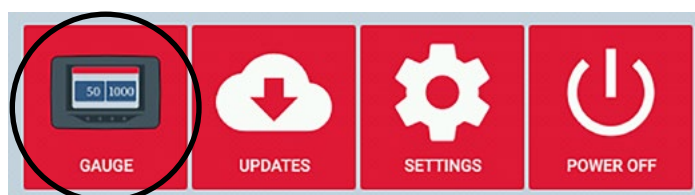
**Return home**

Return to the home screen by touching the home icon in the upper right corner of the screen.



**Launch Gauge app**

From the home screen, touch gauge to launch the Gauge app.



**Gauge app use: Status bar**

**Status bar**

The status bar contains the following

**Home**

Touch to return to the home screen

**Gauge app settings**

Touch to open the Gauge app settings

**Hold**

Touch to freeze the screen

**Network**

Touch to view the current network settings (will appear at the bottom of the screen)

**Battery level**

Touch to view the current battery level (will appear at the bottom of the screen)

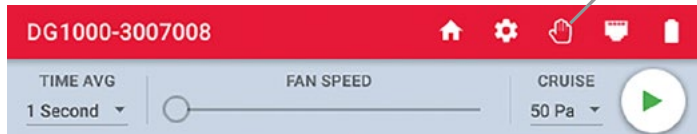


**Gauge app use: Hold**

Hold can be activated one of two ways

- Touch the Hold icon in the Status Bar
- Double-tap the screen in Channel A or Channel B

Hold



When Hold is activated, it will be indicated in two ways

- A pop-up will appear at the bottom of the screen saying Hold is activated
- The Hold icon in the status bar will turn yellow and blink



**Gauge app use: Hold continued**

When Hold is activated, the Gauge app screen will freeze and hold all current settings and readings until Hold is canceled.

Hold can be canceled one of two ways

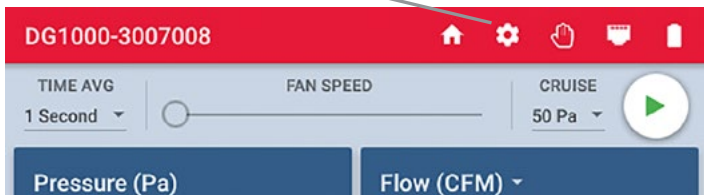
- By touching the Hold icon in the status bar
- By double-tapping the screen in Channel A or Channel B

When Hold is canceled a pop-up will appear at the bottom of the screen saying Hold is canceled, and the Hold icon in the status bar will return to its normal state.

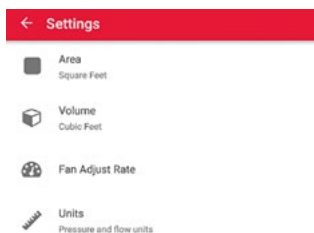
**Gauge app use: Gauge app settings**

**Gauge app settings**

Touch Gauge app settings to set the area and volume of the building or unit being tested, to set the fan adjust rate and to change the units.



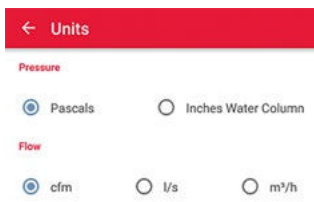
Touch Area or Volume to enter the area and volume of the building or room being tested.



Touch Fan Adjust Rate to change the setting. The Fan Adjust Rate controls how quickly the fan speeds up when using the cruise feature. The default setting is 1.0.



Touch Units to change pressure from Pascals to Inches of Water Column, or to change flow from CFM to metric units. (Inches of Water Column will put the DG-1000 in Pressure mode.)



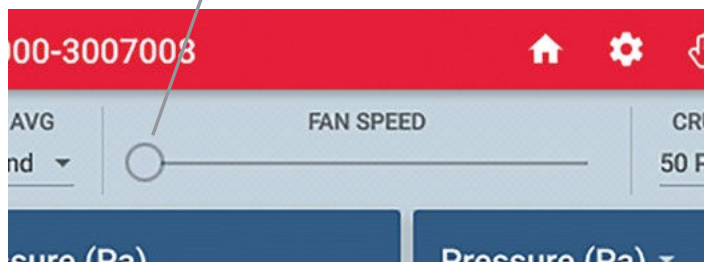
**Gauge app use: Time average**

Touch Time Avg to display the selections and to change the time average value. The options are 1 second, 5 seconds, 10 seconds and long term.



**Gauge app use: Fan speed slider**

To manually adjust the speed of the fan, touch and drag the circle to the desired fan speed.

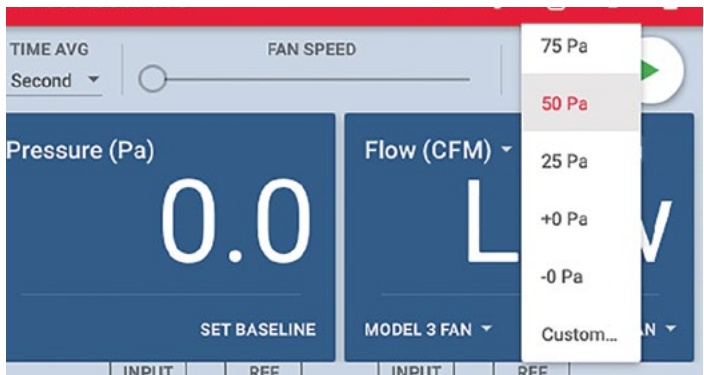


**Gauge app use: Cruise**

Touch Cruise to display the selections.



Select the desired cruise pressure from the cruise menu.

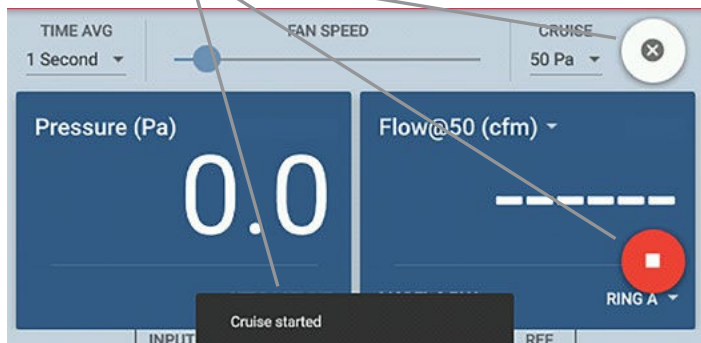


Touch the green play icon to start cruise.

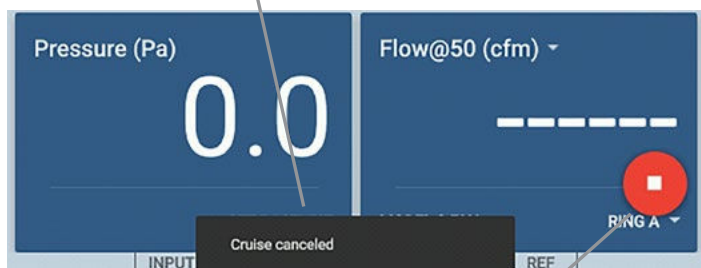


**Gauge app use: Cruise continued**

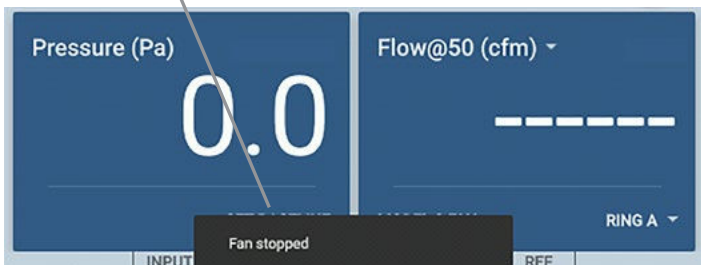
Once cruise is started, the fan speed slider will move on it's own. The green play icon will change to an X, and a red stop icon will appear in the lower right of the screen. A pop-up will appear at the bottom of the screen to indicate that cruise has started.



Cruise will turn off when the X is touched, but the fan will continue running. When the X is touched, a pop-up will appear at the bottom of the screen that says "Cruise canceled."



Touch the red stop icon in the bottom right corner of the screen to stop the fan. When the fan is stopped a pop-up will appear at the bottom of the screen that says "Fan stopped."



**Note:** The red stop icon will appear on all screens within the Gauge app during cruise, so the fan can be stopped from any screen within the Gauge app. If the Home screen is opened during cruise, the fan will automatically stop.

**Gauge app use: Channel A**

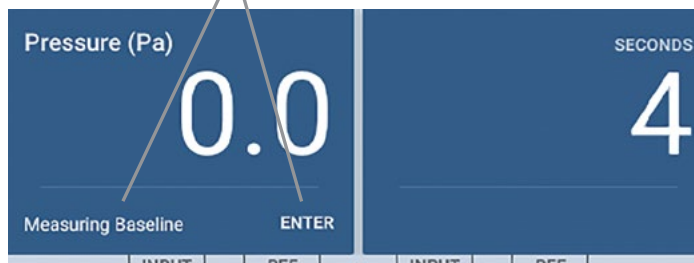
**Set baseline**

Touch Set Baseline to begin measuring the baseline.



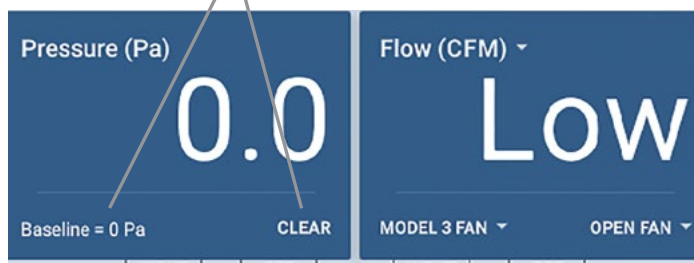
**Enter baseline**

"Measuring Baseline" will appear in the lower left corner of Channel A once Set Baseline is touched. To enter the baseline, touch Enter in the lower right corner of Channel A.



**Baseline**

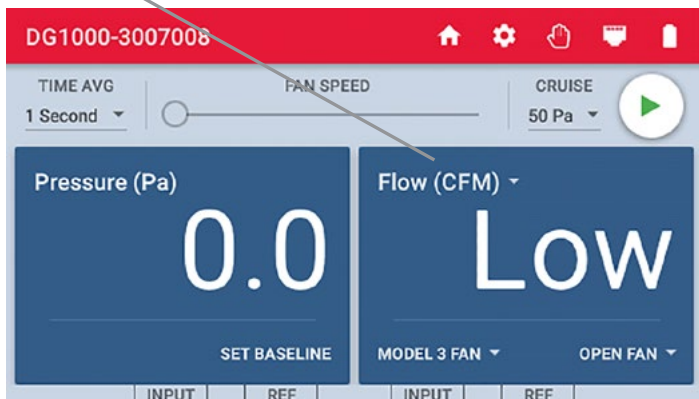
After touching Enter the baseline value will be displayed in the lower left corner of Channel A, and Channel A will display a baseline adjusted pressure reading. To clear the baseline value, touch Clear in the lower right corner of Channel A.



**Gauge app use: Channel B**

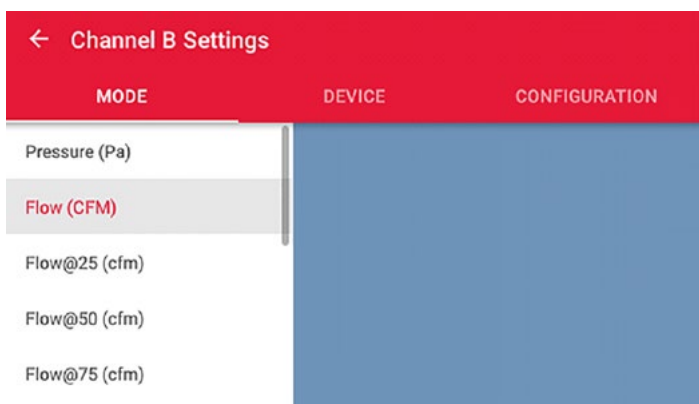
**Set mode**

Touch the mode area to open the Channel B Settings menu.



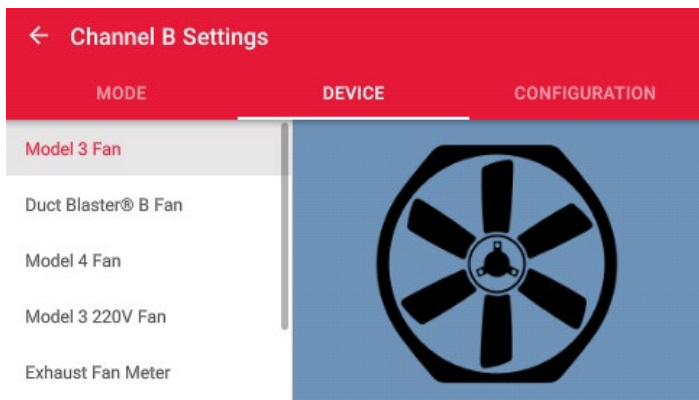
**Set mode**

Select the appropriate measurement mode from the menu options. Touch and drag the menu to scroll and see more options.



**Set flow device**

Next, touch Device in the middle of screen. Select the appropriate flow device from the menu options. Touch and drag the menu to scroll and see more options.



**Gauge app use: Channel B continued**

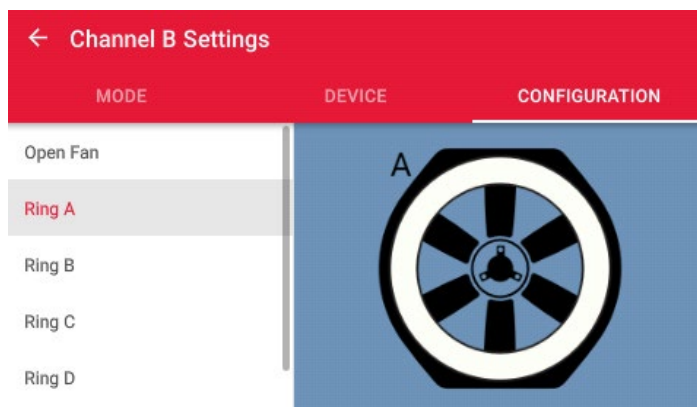
**Set device continued**

The DG-1000 works with all TEC devices and all devices are in the Gauge app. In some circumstances, certain flow devices will not be listed, depending on what mode has been selected. For example, if Flow@50 is the selected mode, then only flow devices that can be used in that mode will be listed under the device menu. Therefore, if Flow@50 is selected, then the Exhaust Fan Flow Meter and TrueFlow Meter will not be listed in the device menu.

If the mode is set to pressure (Pa), then both the device and configuration menus won't be accessible.

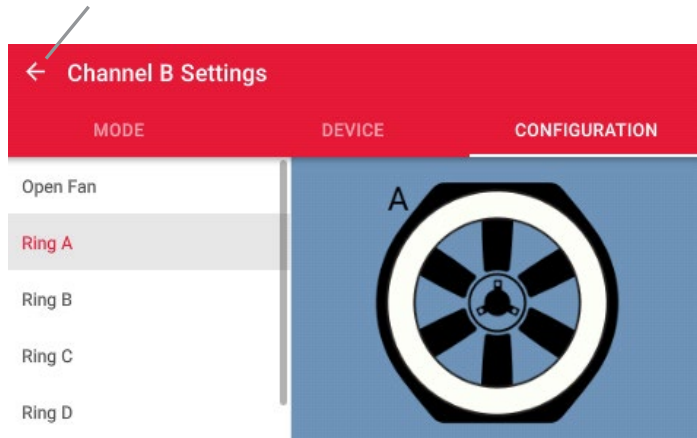
**Set configuration**

Lastly, touch Configuration on the right side of the screen. Select the appropriate configuration from the menu options. Touch and drag the menu to scroll and see more options.



**Return to Gauge app screen**

Touch the arrow in the upper left corner of the screen to return to the Gauge app screen.



### Software Information

The Energy Conservatory (TEC) offers a variety of Windows-based programs. These programs can be found and downloaded for free at [software.energyconservatory.com](http://software.energyconservatory.com).

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## **PORTS AND NETWORKING BASICS QUICK GUIDE**



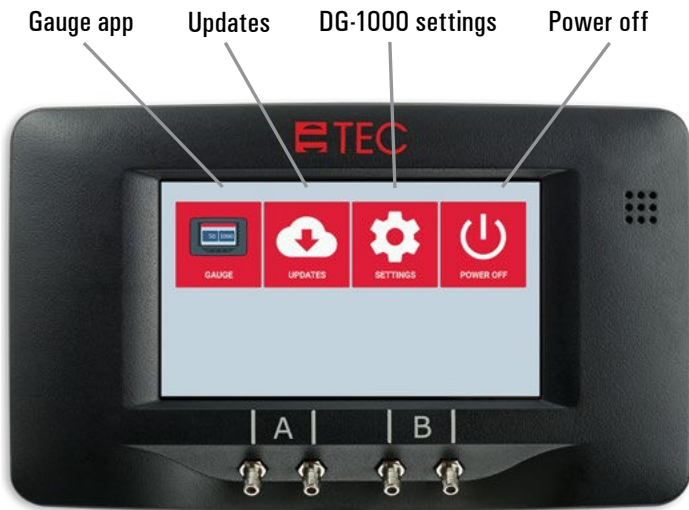
Ports and more



- |  |   |
|--|---|
| <b>1. Fan control jack</b>                   | Input for a mono cable to connect the gauge to the fan speed controller.  |
| <b>2. Fast charging indicator light</b>      | Lights up when the gauge is being charged via the fast charging port. Turns off when the gauge is fully charged.  |
| <b>3. Fast charging port</b>                 | Input for the gauge charger. The gauge can be used while being charged.   |
| <b>4. Ethernet port</b>                      | Port for connecting the gauge to a router or switch via an ethernet cable.  |
| <b>5. USB port</b>                           | Limited use: Can be used with USB keyboard or mouse.  |
| <b>6. Micro USB charging indicator light</b> | Lights up when the gauge is being charged via the micro USB cable.  |
| <b>7. Micro USB port/charging port</b>       | Port for connecting the gauge to a computer via a micro USB cable. When the gauge is connected to a computer via a micro USB cable, it will also receive a slow charge. Use of the micro USB port for remote connection to software and apps requires the installation of a driver. See "Installing the USB device driver" on page 4 to learn more. |
| <b>8. Power indicator light</b>              | Turns on to indicate the gauge is powered on.   |
| <b>9. Power button</b>                       | Push down and hold for a few seconds to power the gauge on and off.   |

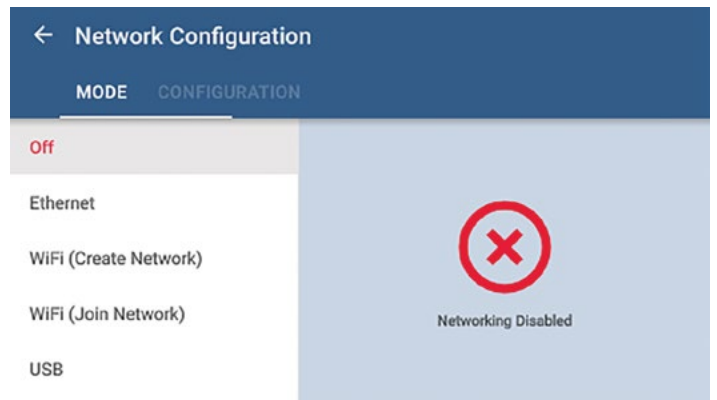
**Launch the Settings app**

Open the Settings app to view the DG-1000 settings, which include the networking options.



**Network Configuration menu**

Touch to select networking option



**Off**  
Networking is disabled

**Ethernet**  
The Ethernet port is used with a router or switch to connect the gauge to a computer or mobile device, or to create a network of multiple gauges that can connect to a Windows computer or mobile device.\*

**WiFi (Create Network)**  
The built-in WiFi adapter creates and broadcasts a wireless network that can be used to wirelessly connect the gauge to a computer or mobile device.

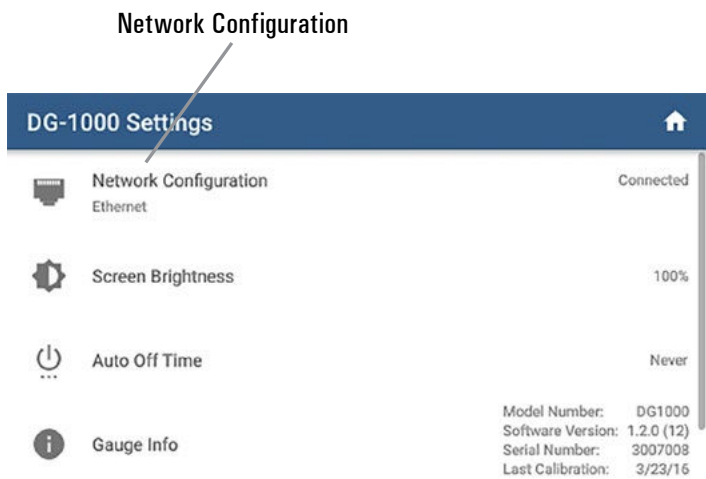
**WiFi (Join Network)**  
The built-in WiFi adapter can join an existing wireless network (typically a router). This option can be used to connect the gauge to computer or mobile device, or to create a network of multiple gauges that can connect to a computer or mobile device.\*

**Micro-USB Port**  
This port is used to connect the gauge directly to a USB port on a Windows computer. This requires a device driver to be installed on the computer. See instructions in the USB driver installation section of this quick guide.

\* If the router or network has an internet connection, then the Update app can be used to check for and install available updates.

**Open the Network Configuration settings**

Touch Network Configuration to set the needed networking settings. Networking options are used to remotely connect to the DG-1000 using TEC software and apps, or to connect to the internet for updates.



**TEC software and the DG-1000**

TEC software that can be used to remotely connect to a DG-1000 includes:

**TECTITE and TECTITE Express (Windows)**

Conduct tests and generate reports on fully automated airtightness tests of buildings using a single fan.

**TECLOG3 (Windows)**

Conduct automated multi-fan airtightness tests of large buildings, and data log and graphically display pressure measurements from one or more gauges.

**TEC Gauge (Windows and mobile)**

Formerly named iTEC-700. Used to remotely display, control and capture readings from a single gauge.

**TEC Auto Test (mobile)**

Conduct tests and generate reports on fully automated airtightness tests of buildings and duct systems using a single fan.

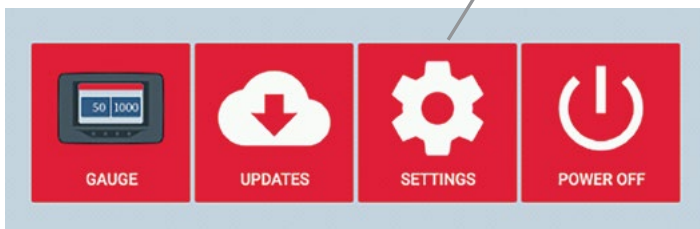
**Installing the USB device driver**

The DG-1000 USB device driver is compatible with

- Windows 7
- Windows 8
- Windows 10

1. Make sure the computer is connected to the internet.
2. The Windows Update service on the computer must be configured to allow downloading and installation of driver software.
3. Enable the USB networking port on the DG-1000 gauge.
  - Touch Settings on the home screen

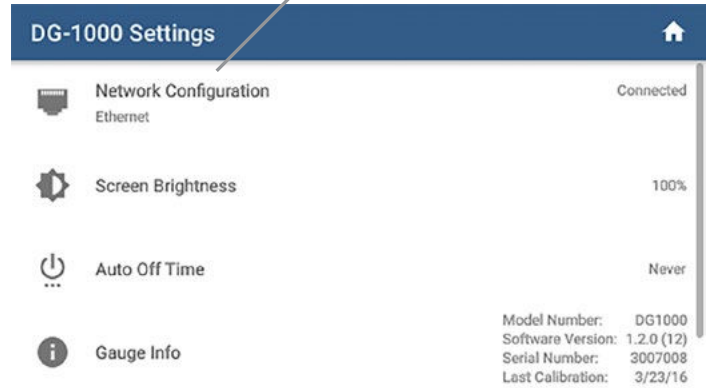
DG-1000 settings



**Installing the USB device driver continued**

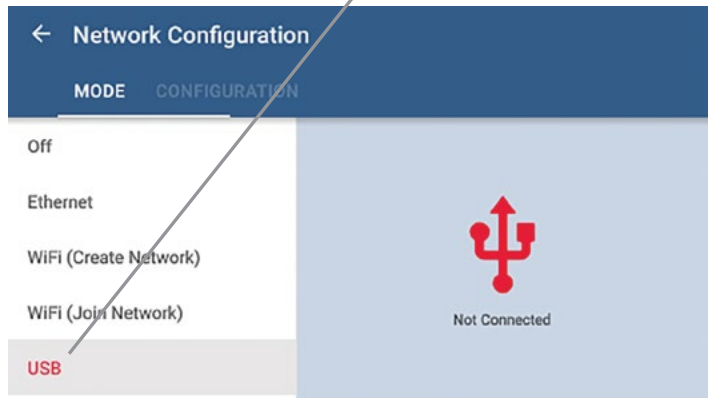
- Touch Network Configuration

Network Configuration



- Select USB from the Network Configuration options

USB



- The networking status in the Network Configuration screen will show "Not Connected."

4. Connect the micro-USB end of the cable to the gauge, and the USB end to the computer.



**Installing the USB device driver continued**

- Windows Update will now search for the appropriate device driver to install. Once the device driver is found, Windows will install the driver on the computer, and may display the message “USB Ethernet/RNDIS Gadget. Device driver software installed successfully.”

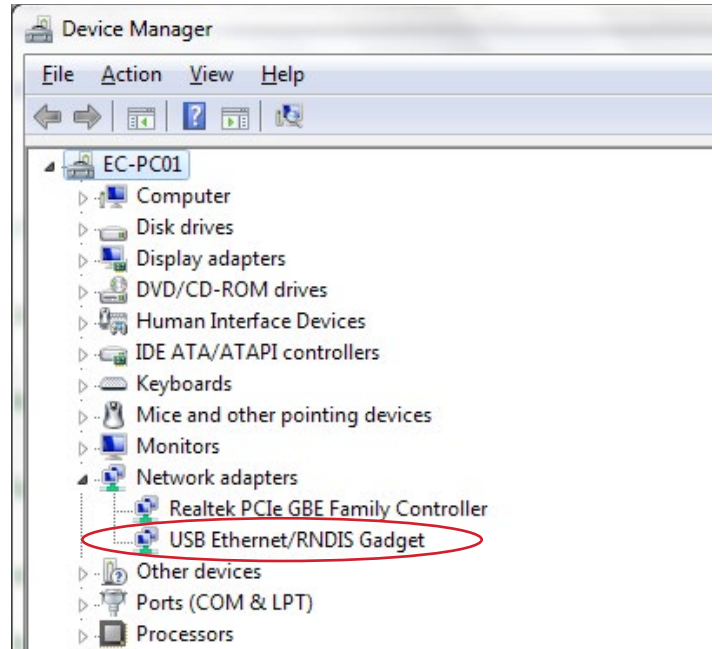


- Once the driver is installed, the networking status in the Network Configuration screen of the gauge will update to say “Connected.”

**Installing the USB device driver continued**

**Optional**

- With the USB cable plugged into the gauge and computer, open the Device Manager on the computer and look at the network adapters section (you may need to click on the arrow next to network adapters to show the current active devices). You should see USB Ethernet/RNDIS Gadget in the network adapters section. (Device Manager is available from the Control Panel menu.)



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ACH50  
Flow (cfm)  
Fan Pressure (Pa)  
DG1000 - 3007008 Ch B  
Bldg Pressure (Pa)  
DG1000 - 3007008 Ch A  
Bldg Baseline (Pa)  
Completed Tests  
# Samples

Edit Environmental Data Start Test

Pause Cruise

5 6 7 8 9 10 20  
Building Pressure (Pa)  
Idle - Monitoring

Previous Next  
to Test Settings

**CONNECTING A SINGLE DG-1000 QUICK GUIDE**

Based on software version 1.2.0 (12)

**Wired connection options**

**Micro USB**

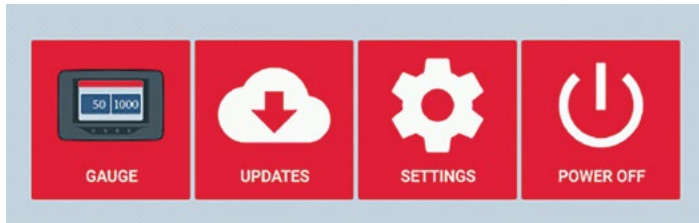


The micro USB port on the DG-1000 can be used to create a wired two-way communication link between the gauge and a Windows computer. Use of the micro USB port requires you to first download and install the appropriate USB Device Driver to the computer using the Windows Update service.

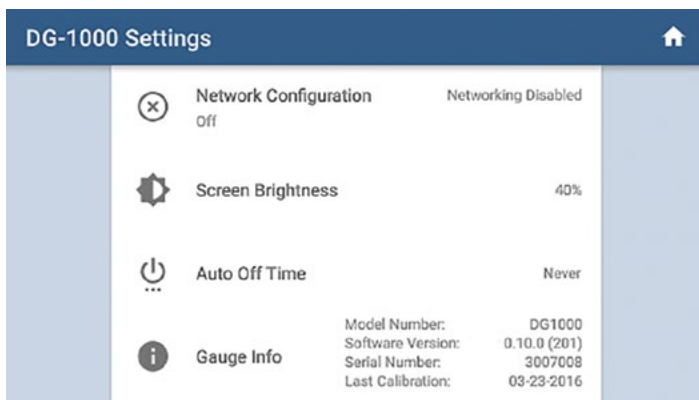
See the [DG-1000 Ports and Networking Basics Quick Guide](#) for instructions on downloading and installing the appropriate device driver.

**Enable the micro USB port**

1. From the Home screen, touch Settings.

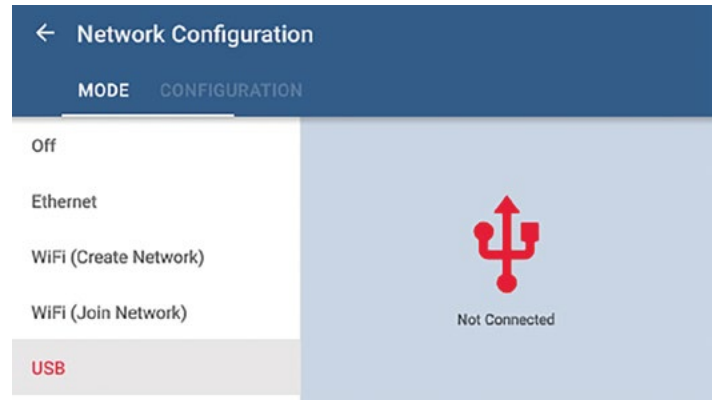


2. Touch Network Configuration.



**Wired connection options continued**

3. Touch USB. USB should show Not Connected on the right half of the screen.



4. Plug the micro USB cable into the gauge and computer after installing the USB device driver as previously mentioned. After the cable is plugged in the status should change to Connected.



TEC software installed on the PC will now be able to detect the gauge and create a communication link. The gauge and computer can be located up to 16 feet from each other when using a USB cable.

**Ethernet**



The Ethernet port on the gauge can be used to create a wired two-way communication link with a router or switch (the router or switch must be running DHCP Server).

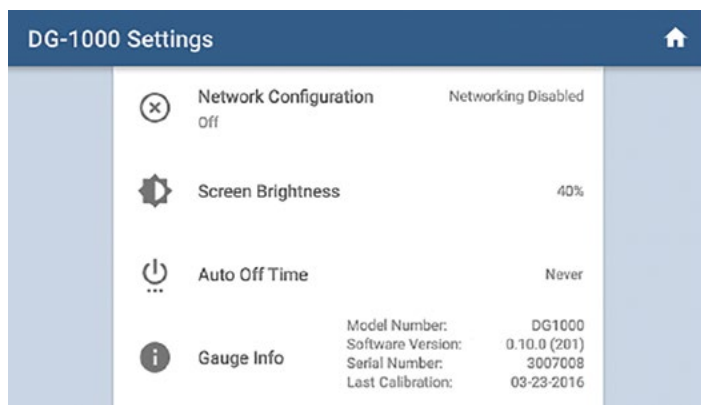
Wired connection options continued

Enable the Ethernet port

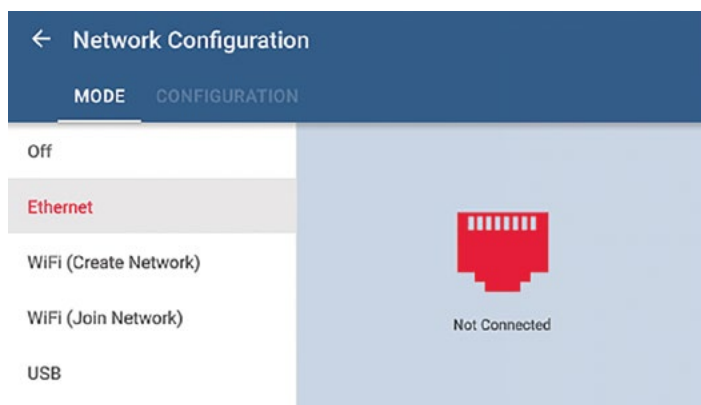
1. From the Home screen, touch Settings.



2. Touch Network Configuration.



3. Touch Ethernet. Ethernet should show Not Connected on the right half of the screen.

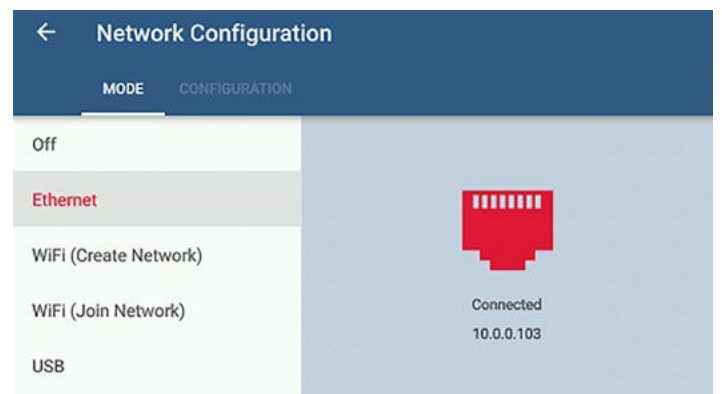


Wired connection options continued

4. Plug in one end of the Ethernet cord into the DG-1000 Ethernet port and the other end into the Ethernet port on a router or switch.



5. The Network Configuration status should update to show "Connected."



If the status continues to show "Not Connected" after two minutes, make sure the cables have been installed correctly and that the router or switch is powered and running DHCP Server.

6. Connect the computer to the same router or switch, using either an additional Ethernet cable, or through a wireless connection. Once this connection is made, TEC software installed on the computer should be able to detect the DG-1000 and create a communication link. Ethernet cables can be up to 328 feet long and still provide a robust communication link.



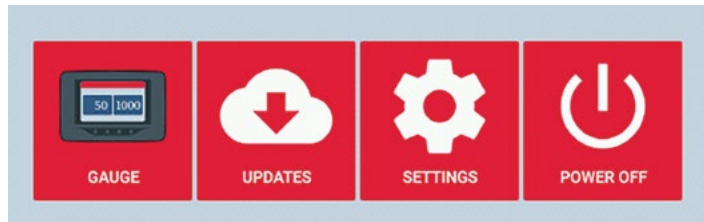
**Wireless connection options**

**WiFi (Create Network)**

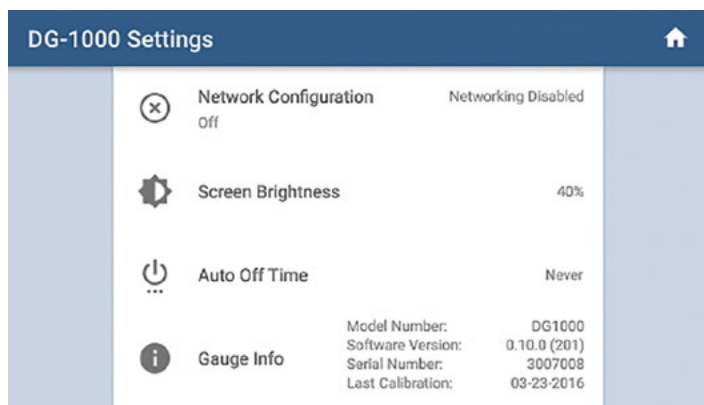
The DG-1000’s built-in WiFi module can be configured to create and broadcast a wireless network that can be connected to directly from a computer or mobile device.

**Enable WiFi (Create Network)**

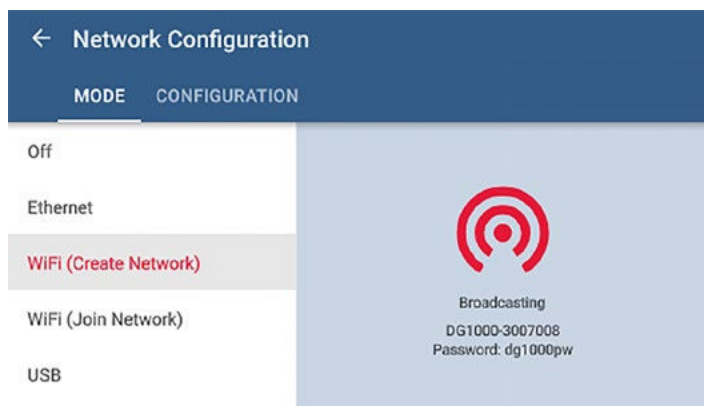
1. From the Home screen, touch Settings



2. Touch Network Configuration



3. Touch WiFi (Create Network)



**Wireless connection options continued**

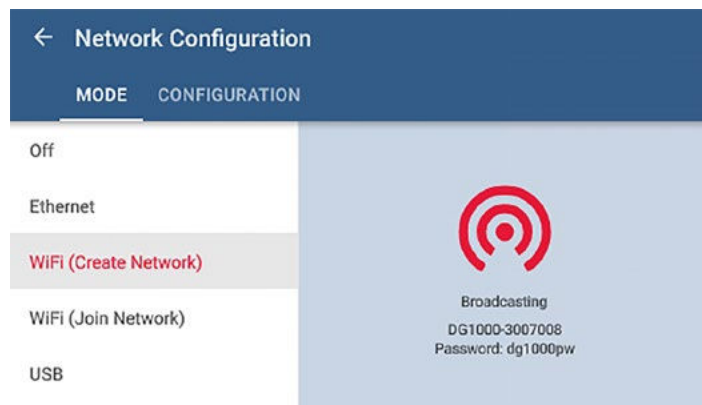
4. The DG-1000 will begin broadcasting a secured wireless network with the following settings

**SSID:** DG1000-(serial # of gauge)  
**Password:** dg1000pw  
**WiFi Network Channel Setting:** 1

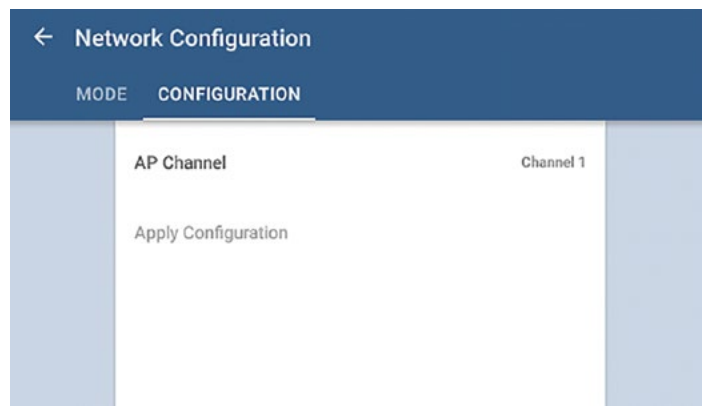
Select and connect to the DG-1000’s wireless network on a computer or mobile device. TEC software installed on the computer or mobile device should now be able to detect the gauge and create a communication link.

If interference on WiFi Channel 1 is suspected, follow these steps to broadcast on a different AP Channel

- Select WiFi (Create Network). Then select Configuration



- Touch AP Channel and enter in a different number between 1 and 11



## Wireless connection options continued

### WiFi (Join Network)

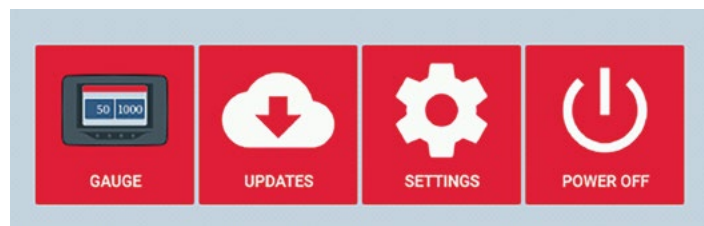
The DG-1000 can join a wireless network using one of these methods.

1. The DG-1000 can search for nearby wireless networks and populate a list so one can be selected and joined.
2. A wireless network name (SSID) can be manually typed in, searched for and then joined.

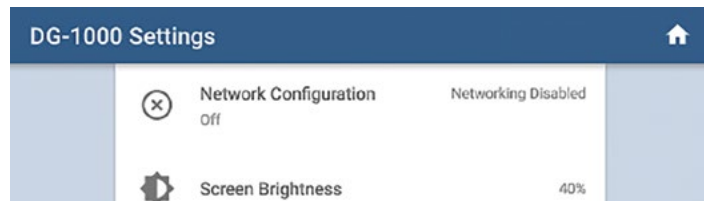
Once the DG-1000 joins a wireless network, the gauge can be accessed using TEC software if the computer or mobile device running the software is also connected to the same network.

### Enable WiFi (Join Network)

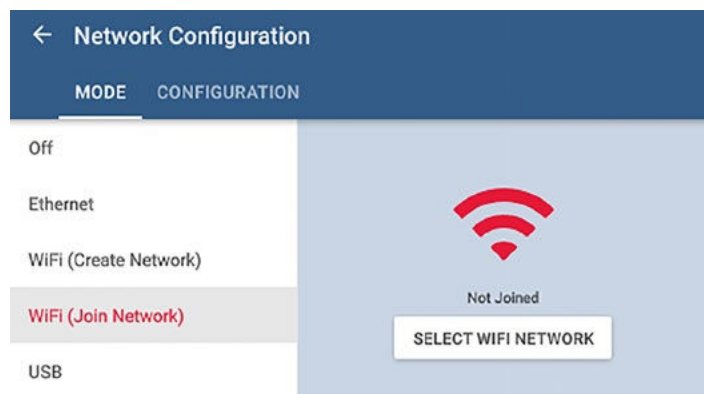
1. From the Home screen, touch Settings



2. Touch Network Configuration

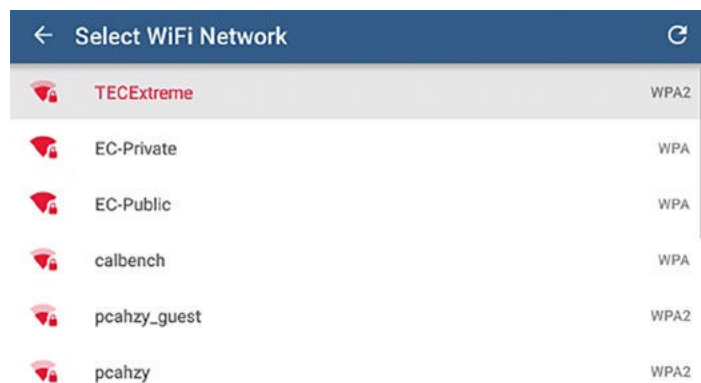


3. Touch WiFi (Join Network), then touch Select WiFi Network

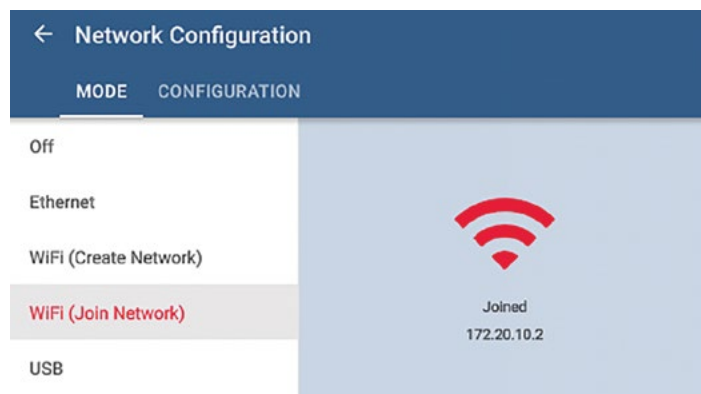


## Wireless connection options continued

4. Select which WiFi network the DG-1000 should connect to from the populated list. A screen will popup asking for the password. Use the keypad provided to enter the password, then touch Connect.
  - Notes: Should the password require a character that is not part of the keyboard on the gauge, connect a keyboard using the USB port on the gauge and enter the info using the external keyboard. In addition, the DG-1000 does not have an option for entering a username, so WiFi networks that require a username can't be connected to by the DG-1000. Older software versions may need to manually enter the WiFi network SSID. To do this, touch the Configure tab after touching WiFi (Join Network) and provide the required information.



5. The status on the Mode screen will say Joined if the DG-1000 was able to connect.



6. Connect the computer or mobile device to the same wireless network. Once the computer or mobile device is connected to the network, TEC software installed on the device should be able to detect the gauge and create a communication link.

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**CONNECTING MULTIPLE DG-1000'S QUICK GUIDE**

**Wired connection**

**Ethernet**

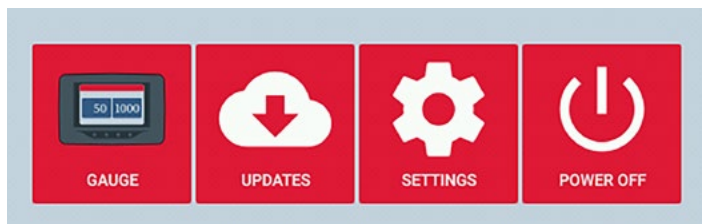


The Ethernet port on the DG-1000 can be used to create a network of gauges that can be used for specialized testing applications, such as big building airtightness testing. Using the gauge's Ethernet port to create a wired multi-gauge network requires a router. A standard

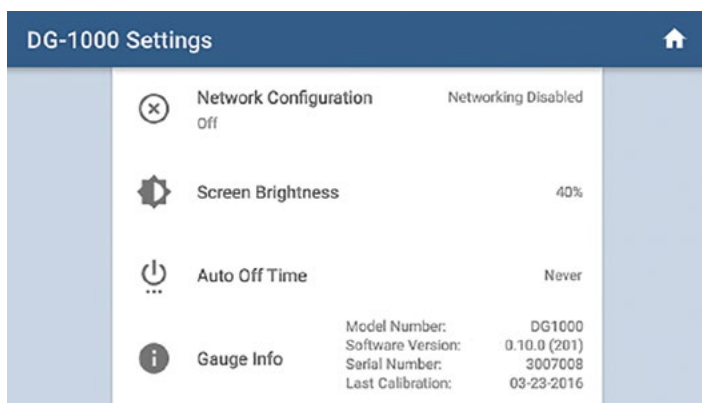
Ethernet switch can also be used as long as it is connected to a device running DHCP Server.

**Enable the Ethernet port**

1. From the Home screen, touch Settings

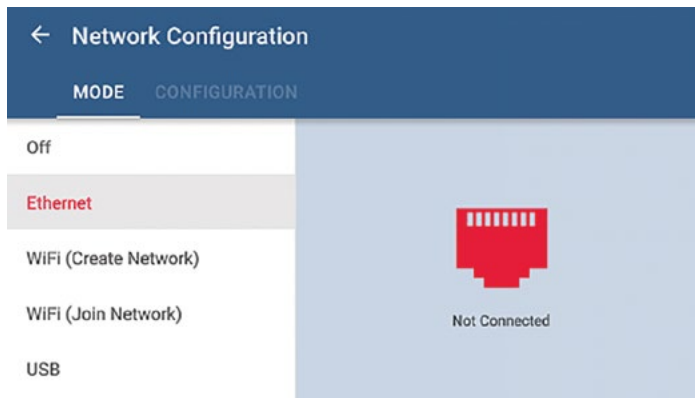


2. Touch Network Configuration



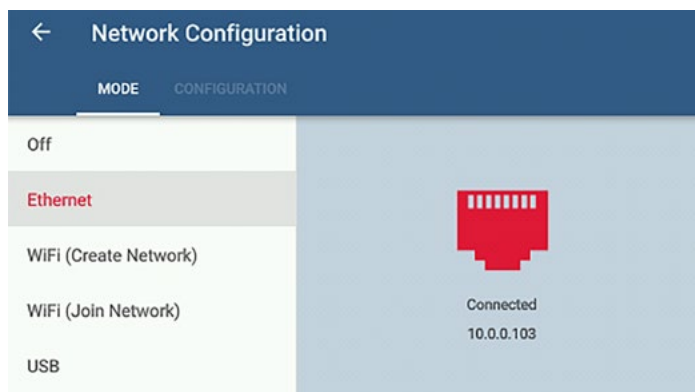
**Wired connection continued**

3. Ethernet should show Not Connected on the right half of the screen



4. Plug in one end of the Ethernet cord into the DG-1000 Ethernet port and the other end into the Ethernet port on a router or switch.

5. The Network Configuration status should update to show "Connected."



6. Configure and connect additional gauges to the same router or switch.

**Wired connection continued**

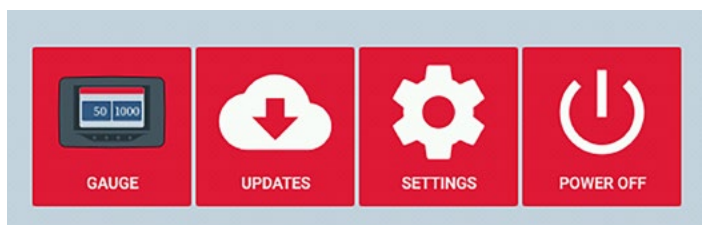
7. Connect the computer to this same router or switch. This can be done by connecting the Ethernet port on the computer to the router or switch, or by wirelessly connecting the computer to the wireless network being broadcast by the router. Once the computer is connected to the network, TEC software installed on the computer should be able to detect all gauges on the network and create the necessary communication links. Ethernet cables in the network can be up to 328 feet long and still provide a robust communication link.

**Wireless connection**

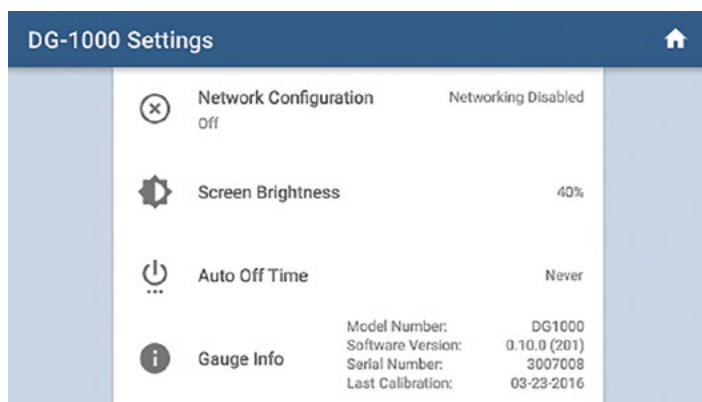
The DG-1000's built-in WiFi module can be configured to join an existing wireless network (typically created by a router). By setting up multiple gauges to join the same wireless network, a network of gauges can be created that can be accessed from a single computer and used for specialized testing applications, such as big building airtightness testing.

**Enable WiFi (Join Network)**

1. From the Home screen, touch Settings

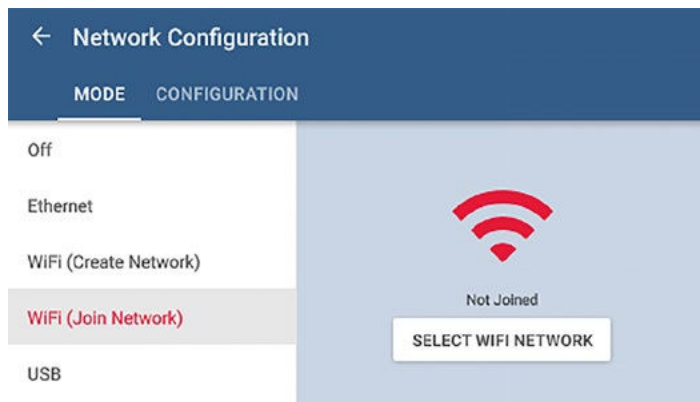


2. Touch Network Configuration



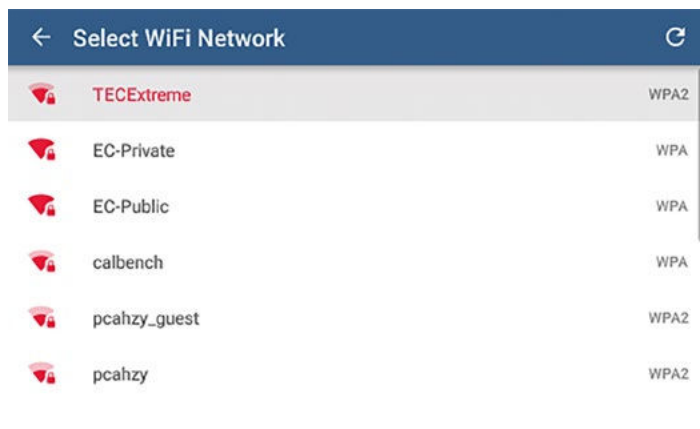
**Wireless connection continued**

3. Touch WiFi (Join Network), then touch Select WiFi Network



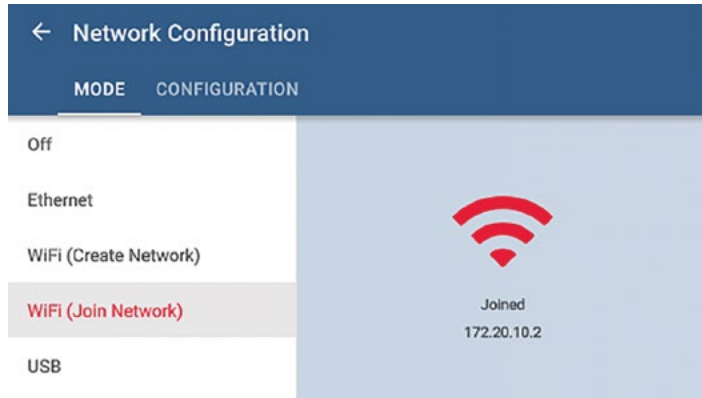
4. Select which WiFi network the DG-1000 should connect to from the populated list. A screen will popup asking for the password. Use the keypad provided to enter the password, then touch Connect.

- Notes: Should the password require a character that is not part of the keyboard on the gauge, connect a keyboard using the USB port on the gauge and enter the info using the external keyboard. In addition, the DG-1000 does not have an option for entering a username, so WiFi networks that require a username can't be connected to by the DG-1000. Older software versions may need to manually enter the WiFi network SSID. To do this, touch the Configure tab after touching WiFi (Join Network) and provide the required information.



**Wireless connection continued**

- The status on the Mode screen will say Joined if the DG-1000 was able to connect.

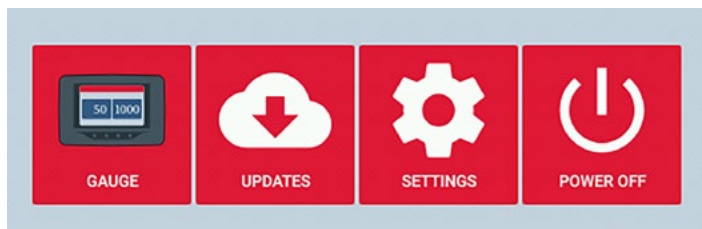


- Configure additional gauges to join the same network.
- Connect the computer or mobile device to the same wireless network. Once the computer or mobile device is connected to the network, TEC software installed on the device should be able to detect all gauges on the network and create the necessary communication links.

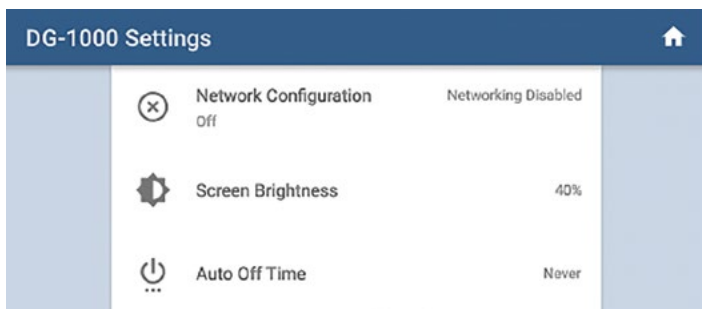
**WiFi (Create Network)**

The DG-1000's built-in WiFi module can be configured to create and broadcast a wireless network that can serve as a router in order to create a network of gauges.

- From the Home screen, touch Settings

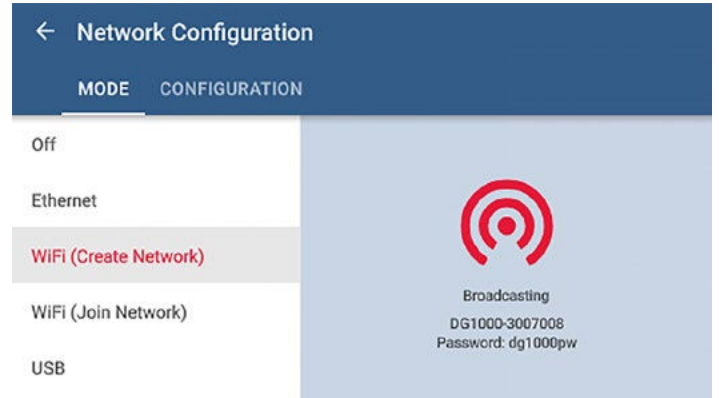


- Touch Network Configuration



**Wireless connection options continued**

- Touch WiFi (Create Network)



- The DG-1000 will begin broadcasting a secured wireless network with the following settings

**SSID:** DG1000-(serial # of gauge)

**Password:** dg1000pw

**WiFi Network Channel Setting:** 1

Select and connect to the DG-1000's wireless network on a computer, mobile device or other DG-1000s. If connecting additional DG-1000s to this network, follow the steps described in the Join Network section starting on page 3.

### Software Information

The Energy Conservatory (TEC) offers a variety of Windows-based programs. These programs can be found and downloaded for free at [software.energyconservatory.com](http://software.energyconservatory.com).

TEC also offers driver support for the DG-500, DG-700 and DG-1000. The drivers are designed to work with Windows-based computers with the following operating systems:

- Windows 7
- Windows 8
- Windows 8.1
- Windows 10

The drivers are available through Windows Update, and the DG-500 and DG-700 drivers can be downloaded from TEC at [software.energyconservatory.com](http://software.energyconservatory.com).

TEC also offers mobile apps for Apple and Android devices that can be found in the Apple App Store or the Google Play Store.

### Instructional Videos

The Energy Conservatory (TEC) offers a variety of online instructional videos, including

- Minneapolis Blower Door Quick Guide
- Minneapolis Duct Blaster Quick Guide
- Field Calibration Checks for Gauges
- Pressure and Airflow Basics
- Exhaust Fan Flow Meter
- TECLOG3
- TECTITE 4.0
- And many more

Visit [www.YouTube.com/EnergyConservatory](http://www.YouTube.com/EnergyConservatory) to see all of TEC's instructional videos.

### More DG-1000 Guides

All DG-1000 guides are available online at [energyconservatory.com/dg1000guides](http://energyconservatory.com/dg1000guides)

Please refer to the guides listed below for further instructions.

- [DG-1000 Overview Booklet](#)
- [DG-1000 Basic Use Quick Guide](#)
- [DG-1000 Ports and Networking Basics Quick Guide](#)
- [Connecting a Single DG-1000 Quick Guide](#)
- [Using the DG-1000 with the Minneapolis Blower Door](#)
- Using the DG-1000 with the Minneapolis Duct Blaster (coming soon)



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