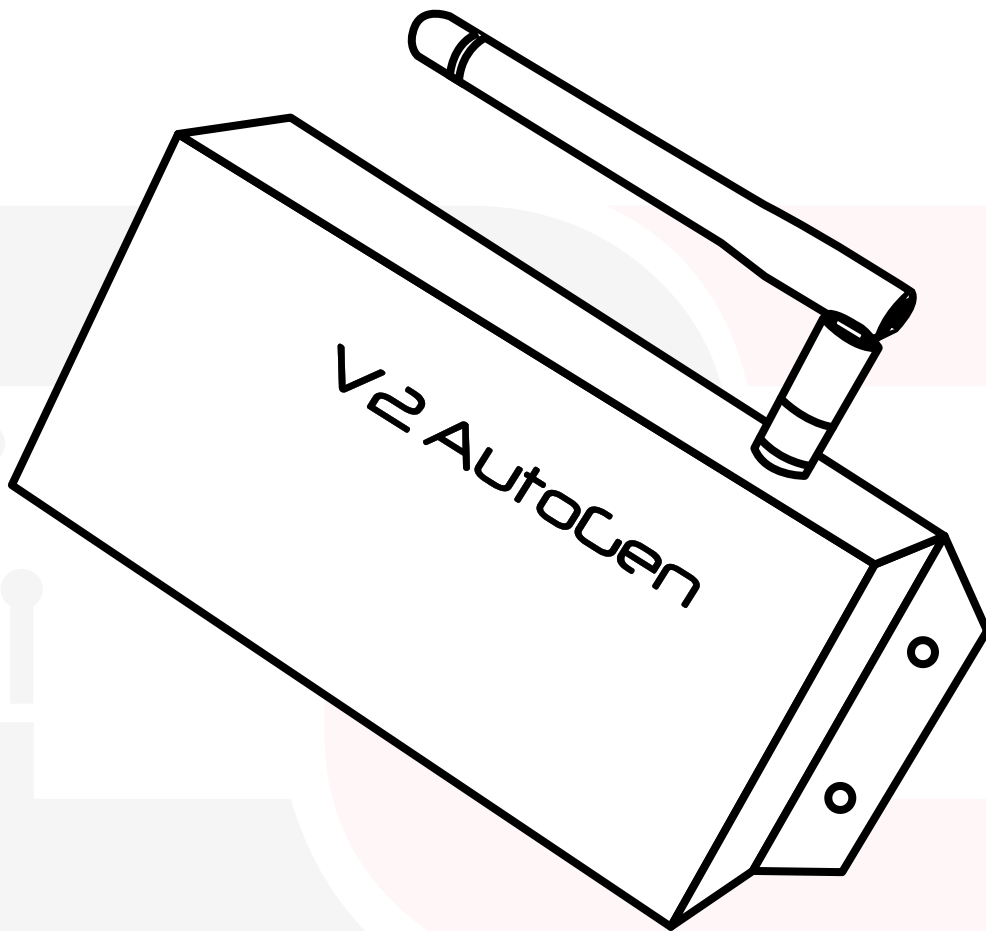




DC GENERATORS

Installation notes V2 - 12/24/48v controller
Version **3.14**



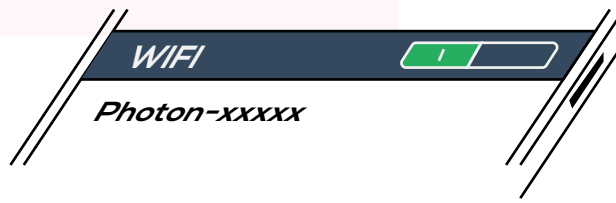
To connect V2 AutoGen 12V/24v/48V controller to the internet, follow the steps below

1. Connect **+12vdc** to Connector **1** and **-12vdc(Ground)** to connector **2**. View the Wiring Diagram on page 2 for your reference. This will power the V2 controller.



2. Notice the status led is blinking Blue

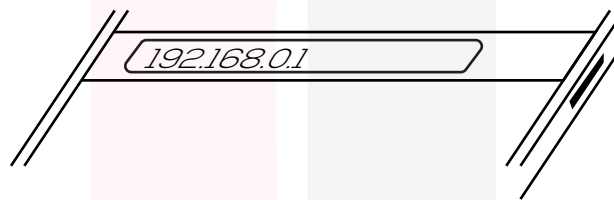


3. Navigate to your wifi settings from any smartphone and search for wifi with name **Photon-xxxxx**



4. Connect to the **Photon-xxxxx**. No password is required.

5. Open any web browser ( ) from your smartphone and navigate to 192.168.0.1 and follow the instructions on the page.



After scanning for the available networks and providing network password, the V2 AutoGen will restart and connect to the internet. Status led should now be breathing Cyan



To connect V2 AutoGen controller and link your unique QR Code to AutoGen app.

1. Download our app AutoGen .

For Android.

<https://dcautogen.com/android>

For IOS.

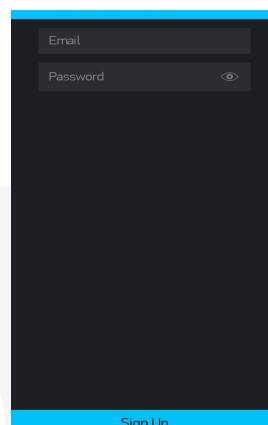
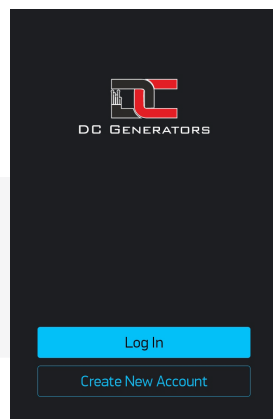
<https://dcautogen.com/ios>



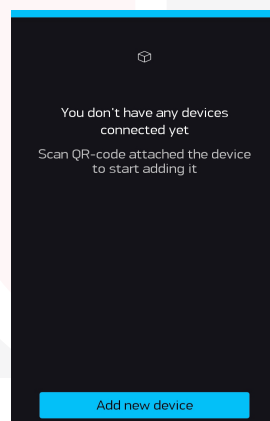
AutoGen

DOWNLOAD ↓

2. Create an account



3. Scan the qr code placed under the AutoGen controller.



Please confirm you are able to view the monitor once you have completed this step.

This is your monitoring software with remote start or stop.

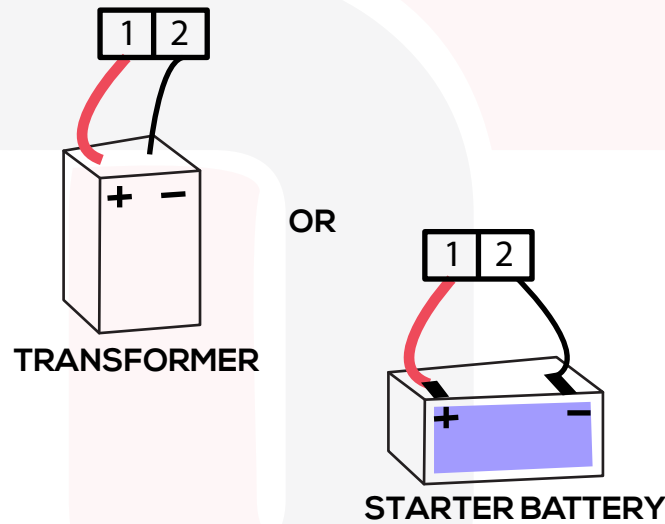
Wiring Diagram

1. +12vdc
2. -12vdc(ground)
3. Stop relay(internally grounded)
4. Start relay +12vdc
5. Prime relay +12vdc
6. +3.3vdc
7. +5vdc
8. Choke Servo
9. Current Sensor
10. +12v/24v/48v Battery bank
11. Generator Running signal
12. +12vdc trigger from external source

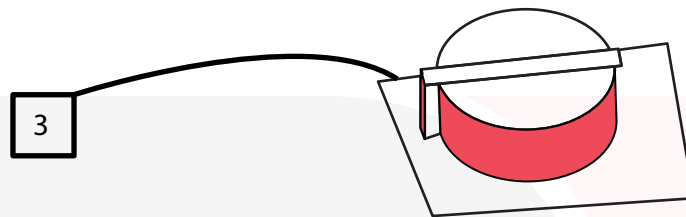
1	2	3	4	5	6	7	8	9	10	11	12
---	---	---	---	---	---	---	---	---	----	----	----

***PLEASE READ ALL INSTRUCTIONS CAREFULLY PRIOR TO CONNECTIONS**

2



Connections **1** and **2** are for powering the controller from a 12v dc source. You can use the 12v starter battery as the power source or an external 12v - 2000mA transformer. A small 12v trickle charger connected to mains for keeping starter battery full is best practise. Connector **1** is +12v and Connector **2** is -12v (ground also to generator)



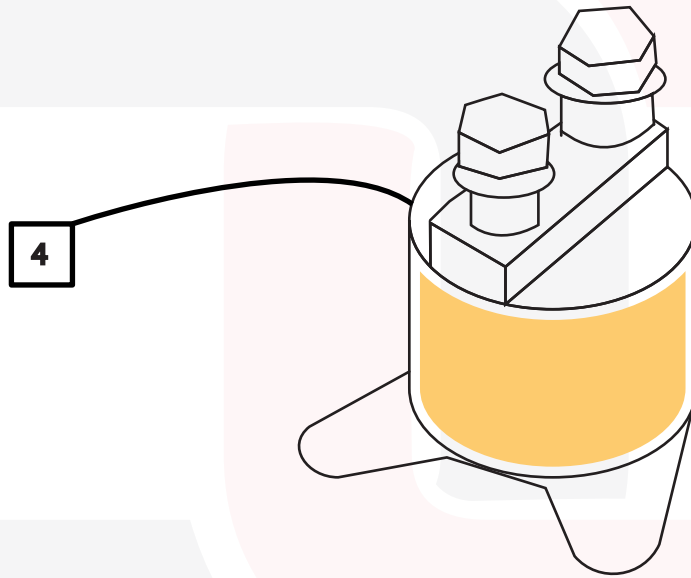
Connector 3 must be connected to Kill Switch wire on generator. Usually this is the Off position of Key Switch or Stop button on generator. Key switch can be bypassed or by tapping into and connecting kill wire from generator to connector 3. Please read further important note before connecting kill wire.

IMPORTANT

This **closes the circuit to Ground** to kill generator when battery bank level is FULL(signal provided from solar inverter/charger etc), or by manually stopping generator via App.

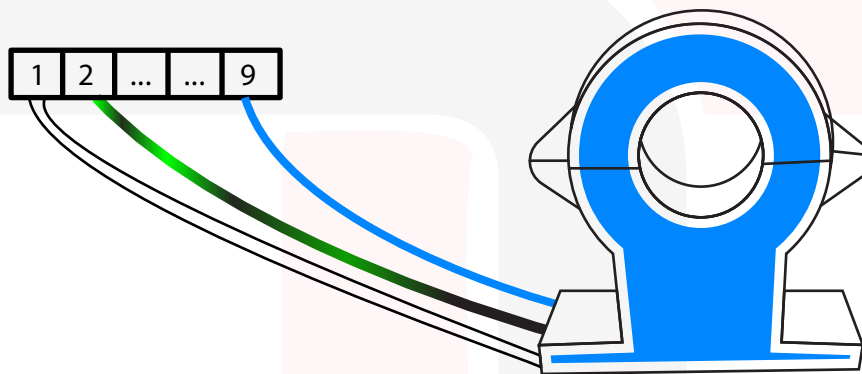
If your kill wire has a 12v signal and you connect it to connector 3, this will permanently destroy the controller. Please contact us if unsure and we can supply you with further instructions if you believe your kill wire has a 12v signal.

3

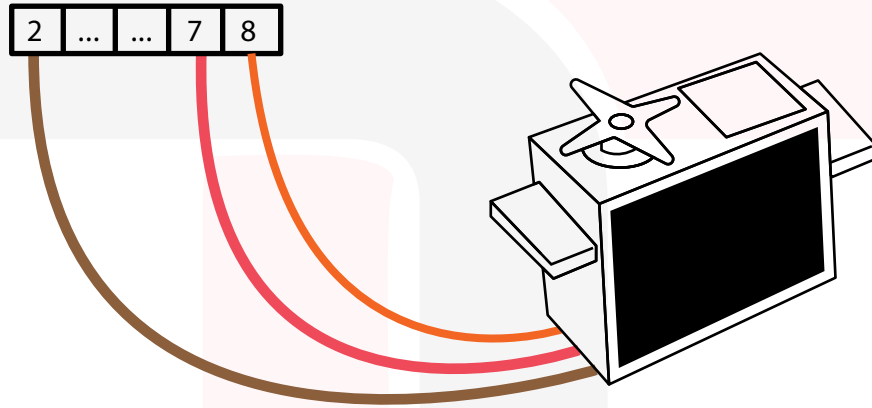


Connector **4** must be connected to generators starter motor solenoid relay. This sends a +12vdc signal to starter relay. Bypass or Tap into Start Switch or Key Switch on generator and connect starter motor relay signal wire directly to connector **4**.

Connections **5, 6, 7, 8, 9** can be left disconnected. These are Auxiliary connections. If you wish to measure current and display value in app, an additional Current Sensor needs to be installed and connected to **1, 2** and **9**.



Connector **1** is +12v (white wire) to number **1** of Current Sensor
Connector **2** is ground (green or black wire) to number **4** of Current Sensor
Connector **9** is Signal (blue wire) to number **3** of Current Sensor



Choke Servo Connectors are **2, 7, 8** on V2 AutoGen

Connector **2** is ground(**BROWN** wire)

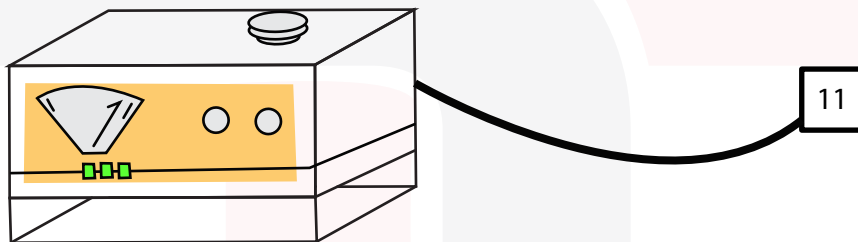
Connector **7** is +5v(**RED** wire)

Connector **8** is Signal (**ORANGE** wire)

*Upon powering the unit, the servo will move to its 0 degrees position. Choke servo will move to 30 degrees counterclockwise upon startup of engine and return to 0 degrees when engine is running. At this point you can adjust retrofit choke linkage and find correct movement.

If you require a different angle other than 30 degrees, let us know and we can alter the programming and update the V2 over the air(OTA).

DONT REVERSE SERVO CONNECTOR . PLEASE NOTE THE COLOR CODE

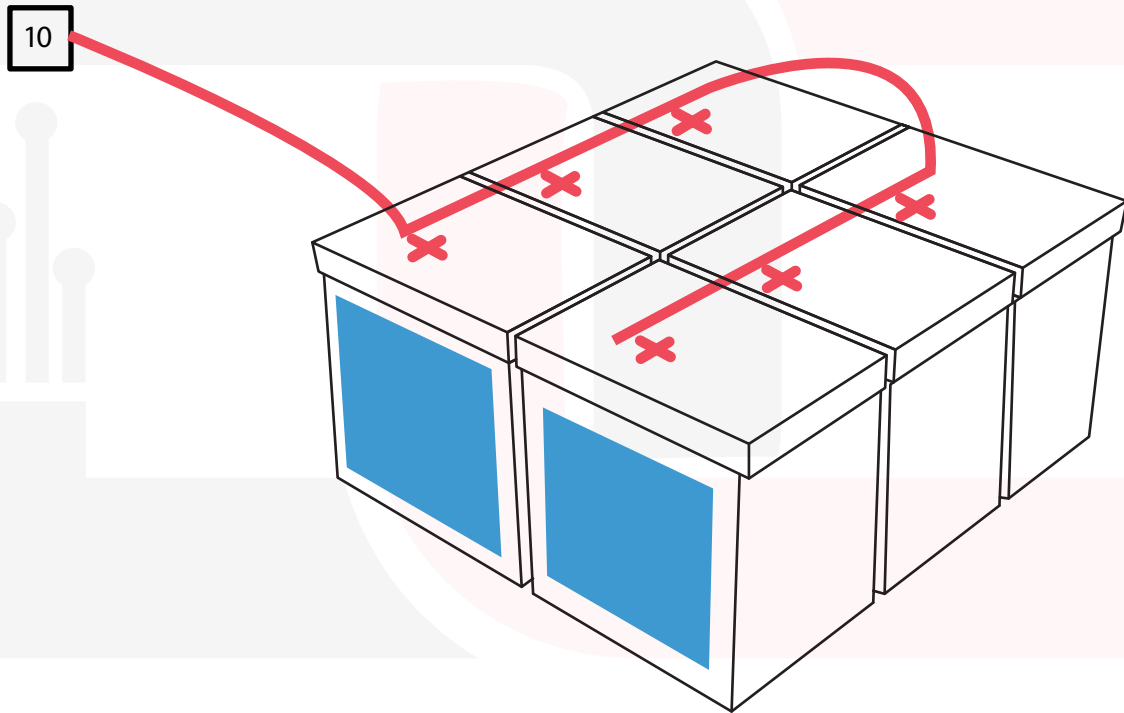


Connector **11** must be connected to Generators 12vdc output or to charging wire for generators starter battery. If you are receiving a +12v signal while engine is **NOT** running on this connector, a blocking diode must be placed between charging wire and starter battery positive terminal.

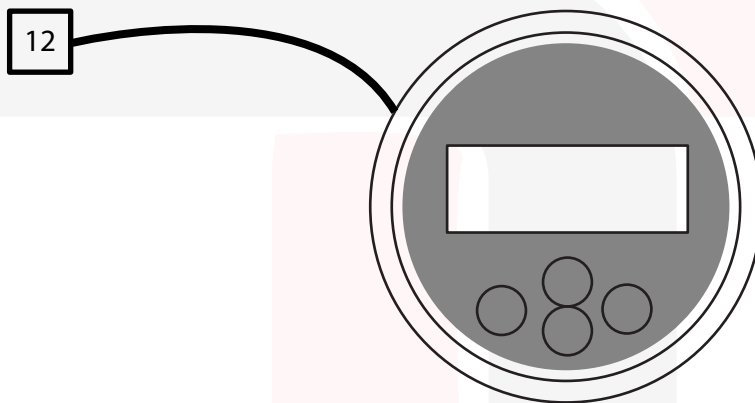
Current needs to flow from charging wire to battery only when the engine is running.

Another safer practise (**due to very unstable 12v DC voltage output from majority of cheap generators**), is to use a 12v dc transformer connected to generators 110/240 AC output and connect +12v to connector **11** and -12v to connector **2** or Ground. When generator has started and is running, a +12v signal is received by connector **11**.

5



Connector **10** must be connected directly to the positive terminal of battery bank. Best practise is to connect directly on positive battery terminal to avoid any voltage drop.



Connector **12** must be connected for example: to BMV-700 relay output or from majority of chargers/inverters with programmable AUX output to signal Charged Battery Status.

This connection needs a +12v signal to trigger 100%SOC. V2 AutoGen Controller will then Kill the generator as battery bank is fully charged.

As a protection it is wise to use 2 inline 1000mA fuses before connectors 1 and 10

Important notes:

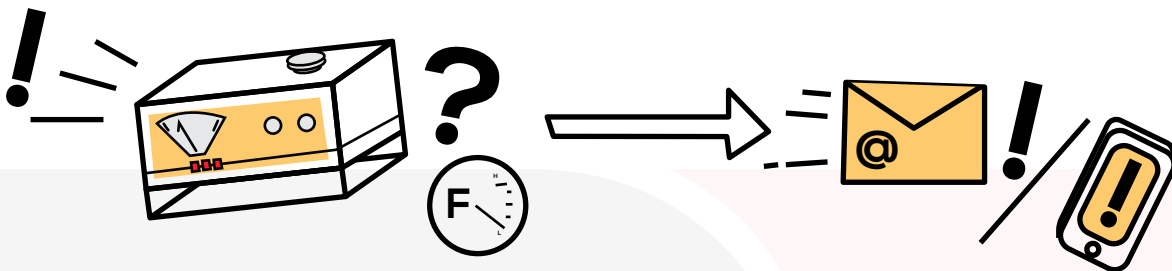
Connector **2** (negative -12vdc from starter battery or other power source) **MUST** also be connected to the negative terminal of the 12v/24v/48v battery bank and to negative 12v generators output or ground. This is a Ground reference point and is essential for the correct operation of the V2 AutoGen controller.

Auto Start/Stop Mode

 **3 times
for 7secs**

The V2 AutoGen controller will start the generator 3 times, for a 7sec period each attempt, when battery bank has reached Low Set threshold from within the app..

Any other alterations to preset values, please email us with values so we can alter via an update.








If the generator fails to start due to a malfunction, no fuel or for any other reason preventing startup, the V2 controller will enter an Error State and send a notification via email to inform of the startup error. Controller must be reset(via app) or power cycled after inspection to continue Auto Start/Stop Mode.

Manual Start/Stop Mode

Manual start or stop via the app can only be accomplished when controller is in a **Standby State**.

Status LED Indicator

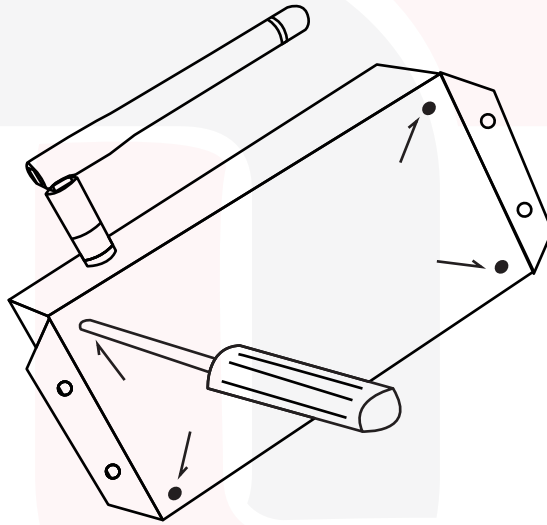
An RGB led can be observed through status hole on microcontroller.
The colors, blinking and steady breathing patterns are as followed.

	Blinking GREEN : Searching for wifi connection
	Blinking CYAN : Attempting to connect to server
	Breathing CYAN : Connected to internet and serve
	Blinking MAGENTA : Updating firmware
	Breathing White : Not connected to Access Point

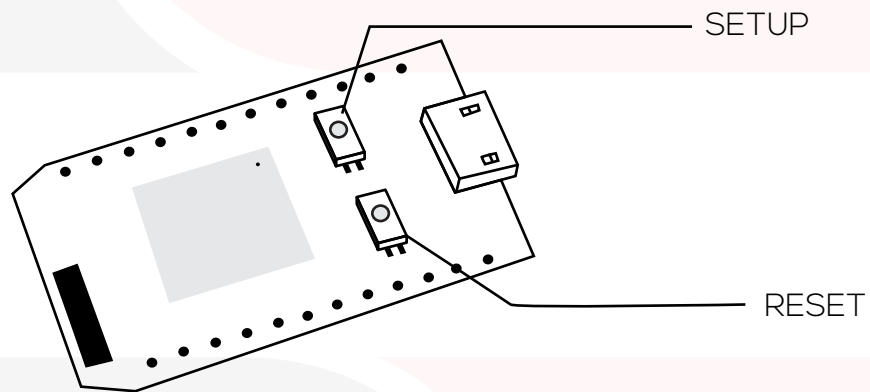
Only when Breathing **CYAN** can you access the monitoring app.
If there is no connection to internet or server, the V2 AutoGen Controller will continue to run in auto start/stop mode.

If you require any further assistance please do not hesitate to ask.

To enter safe mode and listening mode you will need to follow the below steps:



1. Remove the 4 screws of rear panel. Carefully open box not to dislodge the external wifi antenna cable.



2. Whilst connected to power, enter Safe Mode of onboard microcontroller
To put your device in Safe Mode:

- 1) Hold down BOTH buttons
- 2) Release only the RESET button, while holding down the SETUP button.
- 3) Wait for the LED to start blinking magenta
- 4) Release the SETUP button

3. Now enter Listening Mode

To put your device in Listening Mode:
Hold the SETUP button for three seconds until the LED begins blinking blue, then continue to hold it down for about ten seconds longer, until the LED blinks blue rapidly, then release.

If you require any further assistance please do not hesitate to ask.