

Description

The Subaru CVG-3 communicates through a vehicle's OBDII port to verify in-vehicle batteries are delivered from the plant with proper State of Charge (SoC) and updates the vehicle record via **Battery Management Information System (BMIS)** software.

CVG



Top View

- ① **Mode Selector**
 - ① = Pass Through Mode
 - ② = Standalone Mode
- ② **On/Off/Reset**
- ③ **Function LEDs**
See table on back page for descriptions.



Bottom View

- ④ **OBD Connector Plug**
Normal storage position. Held in place using molded pins and a magnetic connection.
- ⑤ **Dock Communication Connection**
Connection point when the CVG is mounted on the included cradle.



Cradle



CVG-3 Mounted On Cradle



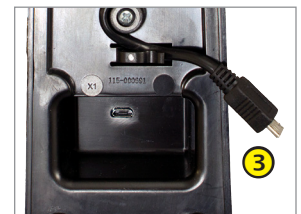
Top View

- ① **Dock Communication Connection**
Connection point when the CVG is mounted on the cradle.



Bottom View

- ② **USB Cable**
- ③ **USB Cable Micro-connector**



WiFi Requirements

- 802.11b/g/n (2.4 GHz) wireless network protocol support
- WEP, WPA, or WPA2 wireless network security algorithms
- For a WiFi network requiring Layer 3 routing, use the setup tools in the "IP Setup" menu. If necessary, contact the network administrator or technician for the required settings.

- For a WiFi network requiring Layer 2 routing, contact Customer Support for the setup procedure.
- Allow a few minutes for the tool to establish a connection to the WiFi network upon power up (after network connection has been successfully established).

WiFi Setup

1. Place the CVG-3 in the cradle.



NOTE: Verify that the CVG is firmly seated in the dock. The tool will beep when connected.

2. Remove all other removable storage devices (like USB sticks or other data cards) from the PC.

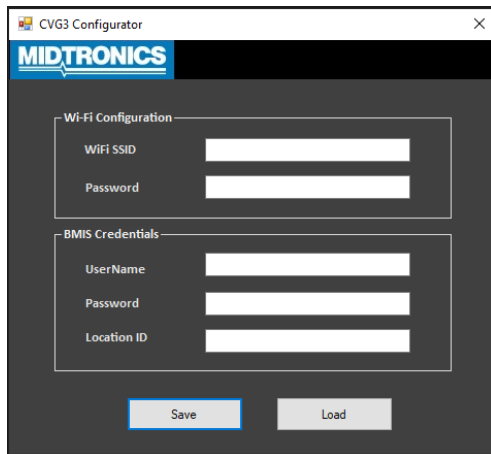


NOTE: If multiple removable disks or data cards are detected by the PC, the program will prompt for the removal of all other devices/data card first.

3. Using the USB connection, connect the cradle to a Windows based computer.

The cradle will appear as a jump drive labeled “CVG-3” on the Windows computer.

4. Open the jump drive and click on the ‘CVG3_Configurator’ application. The CVG-3 Configurator Tool screen will display.



5. Enter the appropriate data into each of the displayed fields.

The network configuration settings will be determined by the network administrator or technician (fields are case sensitive).



NOTE: If the WiFi connection failed, check the SSID and password or try another network. Also check the router setting or if necessary get the network administrator.

If the BMIS connection failed, check for Internet access. Use a laptop or cell phone and attempt to access a website.

6. Enter the BMIS log-in information from the following table. (Fields are case sensitive)

Location ID	Username	Password
(Port location ID number)	Subaru@CVG3.com	SubaruMDX1!

Click on **Save** to save the data on the CVG-3 or **Load** to display the current configuration data.

7. The tool will then reboot and beep when it powers back up. The CVG-3 (D:) file save location will close when the tool powers down and reappear when it powers back up. Confirm that the file save location shows the ‘Config’ file listed.
8. Once the flashing blue light on the CVG turns to a solid blue light, the tool is now connected to Wifi and BMIS and is ready to be used for battery testing.

Testing Procedure

1. Move the CVG-3 Mode Selector to the 2 position.
2. Connect the CVG-3 to the OBD port on the vehicle.
3. Turn vehicle key position to ON. Blue light illumination indicates that the CVG-3 is successfully communicating with the vehicle.























NOTE: Prior to OBD protocol standardization, the CVG-3 may not be able to communicate with vehicle built prior to 2007.

4. When the test is complete, the function LEDs on the bottom of the CVG-3 will blink according to the status of the battery. See the “LED Diagnostic Indicators” chart on the next page for a full description.
5. Turn the vehicle off and disconnect the CVG-3 from the OBD port.
6. Return the CVG-3 to the Cradle with power on. The CVG-3 will then transmit the test data to the BMIS software via the connected WiFi network.

Reconfigure Wifi or Location ID

1. Delete the current “Config” file from the tool file storage location, wait for the tool to reboot, then repeat WIFI and BMIS setup.

LED Diagnostic Indicators

Blue	Green	Red	Audio	Function/Fault	Description
●	Off	Off	1 Pulse 	Function	CVG-3 Powered On
 1s on/1s off cycling	Off	Off	Off	Function	Connecting To WiFi
●	Off	Off	Off	Function	Connected State
●	 1s pulse/1s pause	Off	Off	Function	BMIS Test Record Upload in progress
Off	●	●	1 Pulse 	Function	Timeout Connecting To Vehicle
 1s pulse / 1s pause	 1s pulse/1s pause	 1s on/1s off cycling	Off	Function	Software Update in progress
 1s on/1s off cycling	Off	Off	Off	Function	Communicating With Vehicle
●	●	Off	1 Pulse 	Function	Battery Test Good
●	Off	●	1 Pulse 	Function	Battery Test Bad
Off	Off	●	1 Long Pulse 	Fault	Software Update FAIL
 1s on/1s off cycling	Off	 1s pulse/1s pause	Off	Fault	WiFi and BMIS Configuration Unavailable
 1s on/1s off cycling	 1s pulse/1s pause	 1s on/1s off cycling	Off 	Fault	CVG3 Memory Full
Off	Off	●	1 Long Pulse 	Fault	CVG3 Hardware Error
●	 1s pulse/1s pause	●	1 Pulse 	Fault	BMIS Test Record Upload Fail

Technical Specifications

Model: CVG - 3

Vehicle Interface: OBD-II male connector 16-pin (2x8) J1962 connector with one meter cable & magnetic connection

Weight (without handle and base): 0.34lb (0.15kg)

Operating Parameters

External Battery Voltage Range: 8V to 32V

Operating Current: <300 A

Dimensions: Length (without cables): 8.875" (225.4 mm)
Width 2.25" (57.2 mm)
Height: 1.25" (31.75mm)

Temperature

Operating Range: -20°C to +50°C (-4°F to 122°F)

Storage Range: -40°C to +70°C (-40°F to 158°F)

Humidity: 95% R.H. non-condensing

Connectivity

WiFi: 802.11 b/g/n 2.4GHz

Security: WEP, WPA, WPA-2 Enterprise

Bluetooth: 2.0, BTLE

USB: 2.0 connection (dock)

Connector: J1962

Protocol

CAN: 250/500 Kbps with 11/29 bit headers

ISO9141-2: 9.6/10.4 Kbps w/ Fast Initialization

KWP-2000: 10.4/9.6 Kbps w/ Fast/Slow Initialization

J1850-VPW: 10.4 Kbps

J1850-PWM: 41.6 Kbps

PATENTS

This product is made by Midtronics, Inc., and is protected by one or more U.S. and foreign patents. For specific patent information, contact Midtronics, Inc. at +1 630 323-2800.

LIMITED WARRANTY

Midtronics products are warranted to be free of defects in materials and workmanship for a period of one (1) year from date of purchase. Midtronics will, at our option, repair or replace the unit with a re-manufactured unit. This limited warranty applies only to Midtronics products, and does not cover any other equipment, static damage, water damage, overvoltage damage, dropping the unit, or damage resulting from extraneous causes including owner misuse. Midtronics is not liable for any incidental or consequential damages for breach of this warranty. The warranty is void if owner attempts to disassemble the unit or to modify the cable assembly.

SERVICE

To obtain service, contact Midtronics at 866-592-8052. Have your model and serial numbers ready. This first step is critical as we will trouble-shoot the problem(s) over the phone, and many problems are resolved during this step. If the problem cannot be resolved, then the Customer Service Agent will issue you a Return Material Authorization (RMA). This number becomes your tracking number. The final step is to return the unit to Midtronics freight prepaid (you pay), to the attention of the RMA number obtained.

In USA:

Midtronics, Inc.
Attn: RMA # xxxxx (this is the RMA number that you must obtain from Midtronics)
7000 Monroe St.
Willowbrook, IL 60527

In Canada:

Midtronics c/o FTN (FTN is Fed-ex Trade Networks –this is NOT a Midtronics facility)
Attn: RMA # xxxxx (this is the RMA number that you must obtain from Midtronics)
7075 Ordan Drive
Mississauga, ON L5T1K6

Midtronics will service and return the unit using the same type of service as received. If Midtronics determines that the failure was caused by misuse, alteration, accident, or abnormal condition of operation or handling, purchaser will be billed for the repaired product and it will be returned freight prepaid with shipping & handling charges added to the invoice. Midtronics products beyond the warranty period are subject to the repair charges in place at that time. Optional re-manufacturing service is available to return our products to like-new condition. Out-of-warranty repairs carry a 3-month warranty. Re-manufactured units purchased from Midtronics are covered by a 6-month warranty.



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