



**BUDS**   
BRP UTILITY & DIAGNOSTIC SOFTWARE

# BUDS3 MANUAL

Navigation & Key features

Version A

# CALIFORNIA PROPOSITION 65 WARNING

## **WARNING**

Operating, servicing and maintaining a recreational marine vessel can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, service your vessel in a well-ventilated area and wear gloves or wash your hands frequently when servicing this vessel. For more information go to: [www.p65warnings.ca.gov/marine](http://www.p65warnings.ca.gov/marine)

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# OBJECTIVES

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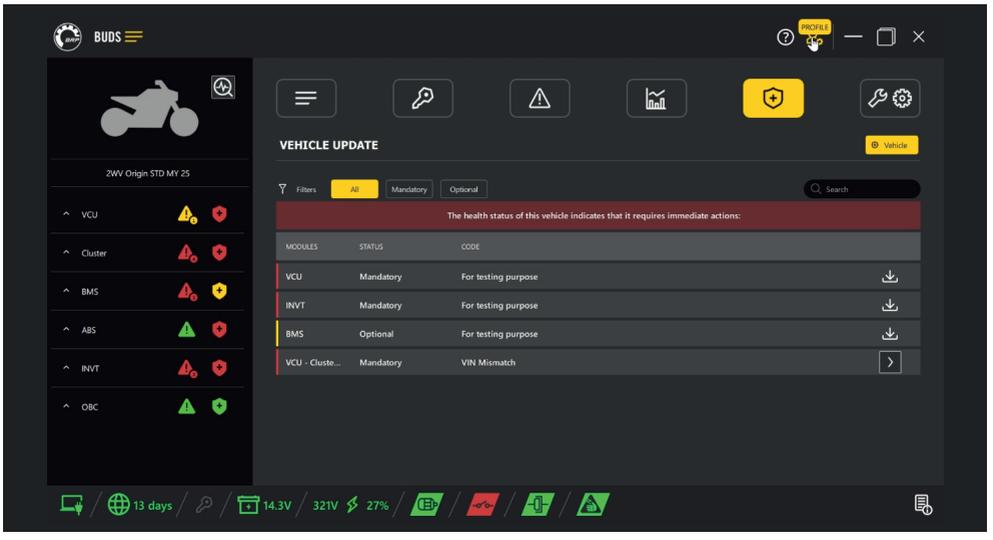
## OBJECTIVES

- Identify the key features of BUDS 3 Interface.
- Navigate within the different pages of BUDS 3.

# PROFILE AND SETTINGS

# PROFILE AND SETTINGS LANGUAGES, UNIT AND OTHERS INFORMATIONS

In the main menu, select the **PROFILE** icon in the upper right corner.



## Profile Page

This page provides information and settings for languages, unit and mouse over.

The screenshot displays the BUDS application interface with the following sections:

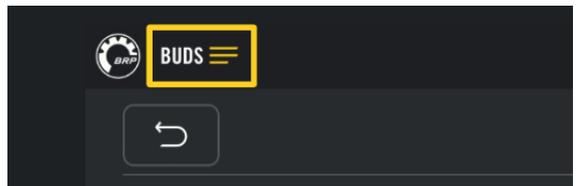
- Informations:**
  - Checksum: 2024-09-25a\_33EB
  - Dealer number: 100008
  - Dealer name: 0000100008
  - Technician name: BUDS3 DT1
  - Profile: TechnicalServiceRep
- Software:**
  - Version: 0.04.026
  - Update: UPDATE AVAILABLE
  - Buttons: INSTALL NOW, SCHEDULE UPDATE
- Temporary Privileges:**
  - ManageModel
  - BRPViewer\_Statistics
  - BRPViewer\_VehicleUpdate
- Settings:**
  - Language: English
  - Unit: Imperial (Metric)
  - Mouse over: On (Off)
  - Disclaimer: Read disclaimer
- VCI:**
  - VCI: Simulation
  - Serial#: Not yet supported
  - Firmware: Not yet supported
  - Driver: Not yet supported

### Informations

- This is information about your user profile.

### Settings Languages & Unit

- You must log out and log back in by pressing the BUDS icon in the upper right corner, close the window by pressing the X on the left upper corner for the change to take effect.



### Software

- This is information about the software version and available updates.

### VCI

- This is information about the Vehicle Communication Interface (VCI).

### Temporary privileges

This is information about the temporary privileges granted to your account.

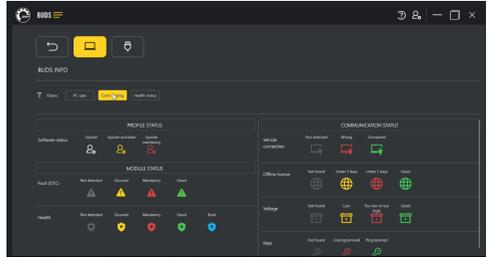
# PROFILE AND SETTINGS

## BUDS INFO

Open **BUDS INFO** in the right upper corner to reach to the Menu page ;

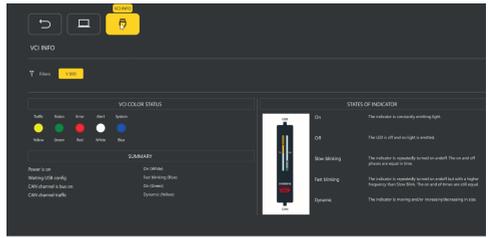


**Icons Description:** Selecting this page allows quick access to all color codes icons and descriptions.



**VCI Info :** Selecting this page allows quick access to general information relatives to the VCI is provide.

- VCI Color Status.
- Summary.
- States of indicator.



# FOOTER SECTION

# FOOTER SECTION

## FOOTER ICONS

For all vehicles.

Vehicle connection status.	
Days remaining on the offline licence.	
Keys programming status.	
Low Voltage battery status.	

For Electric Vehicles only.

High Voltage battery status.	
E-motor status.	
Contact status.	

HVIL status.	
Isolation status.	

# FOOTER SECTION

## FOOTER ICONS FOR EV SAFETY

### Contactor status icon.

FOR TESTING	
<p>The <b>Contactor</b> icon must be <b>GREEN</b> when you want to test the high voltage components.</p>	

FOR WORKING	
<p>The <b>Contactor</b> icon must be <b>RED</b> when you want working the high voltage components.</p>	

### Isolation Monitoring Device status icon.

FOR WORKING	
<p>The <b>Isolation Monitoring Device</b> icon must be <b>GREEN</b> before you begin working on the vehicle. Meaning that the high voltage battery is isolated.</p>	

<div style="background-color: red; color: white; padding: 5px; text-align: center;">  <b>DANGER</b> </div> <p>If the Isolation status icon is <b>RED</b>, the high voltage battery is making contacts with external surfaces. And their a risk of electrocution, if you don't have your personal equipment on before touching the vehicle.</p>	
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------

<div style="background-color: blue; color: white; padding: 5px; text-align: center;"> <b>NOTICE</b> </div> <p>The High Voltage Battery may have up to 280 Volts even when the status indicates 0% state of charge. Follow EV safety procedure to avoid injury.</p>	<p style="text-align: center;">280V ⚡ 0%</p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------

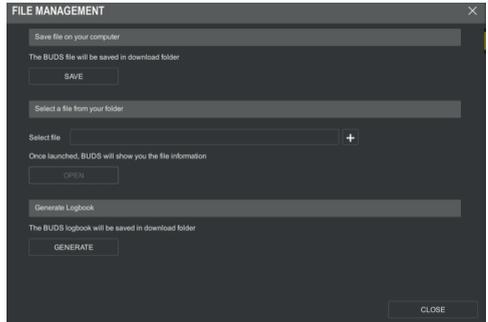
# FILES MANAGEMENT ICON

BUDS3 generates BUDS files after each vehicle scan.



File Management options.

- Save the file.
- You can previously open saved files.
- Generate logbook.



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# NAVIGATION MENU

# NAVIGATION MENU

## SUMMARY PAGE OVERVIEW

The Summary page displays general information about the vehicle. Informations change depending the vehicle.

- VIN
- Motor serial number
- Vehicle model number
- Delivery date
- Hour meter
- Odometer
- Maintenance information

### Landing page possibilities

In this case BUDS3 detects no updates or no health issues. This means that the vehicle is in good condition.

The screenshot displays the BUDS3 Summary page for a Can-Am Spyder RT LTD MY 20. The interface is dark-themed and includes a navigation menu at the top with icons for home, key, warning, statistics, shield, and settings. The main content area is divided into three sections: a left sidebar with component health indicators, a central summary table, and a right sidebar with maintenance information.

**Vehicle Information:**

- Can-Am Spyder RT LTD MY 20
- VINXXXXXXXXXXXX

**Component Health Indicators:**

- ECM: Green triangle, Green shield
- CLUSTER: Green triangle, Green shield
- DPS: Green triangle, Green shield
- VCM: Green triangle, Green shield

**Summary Table:**

VIN	jhd54646646
Engine Serial #	256161648
Vehicle Model #	N4P8
Delivery Date	12-08-2023
Engine Hour	52h04min
Odometer / Hour	360 km / 50h

**Maintenance Information:**

- Last maintenance performed: 202 km / 25h
- Last maintenance date: 2023/12/24
- Maintenance required in: 202 km / 25h
- Maintenance required: Yes

**Welcome message:** 123456789123456789123456789123456

**Footer:** 13 DAYS / 12.5V

## Updates or health issues detected

In this case, BUDS3 switch automatically to DTC page because updates and health issues have been detected.

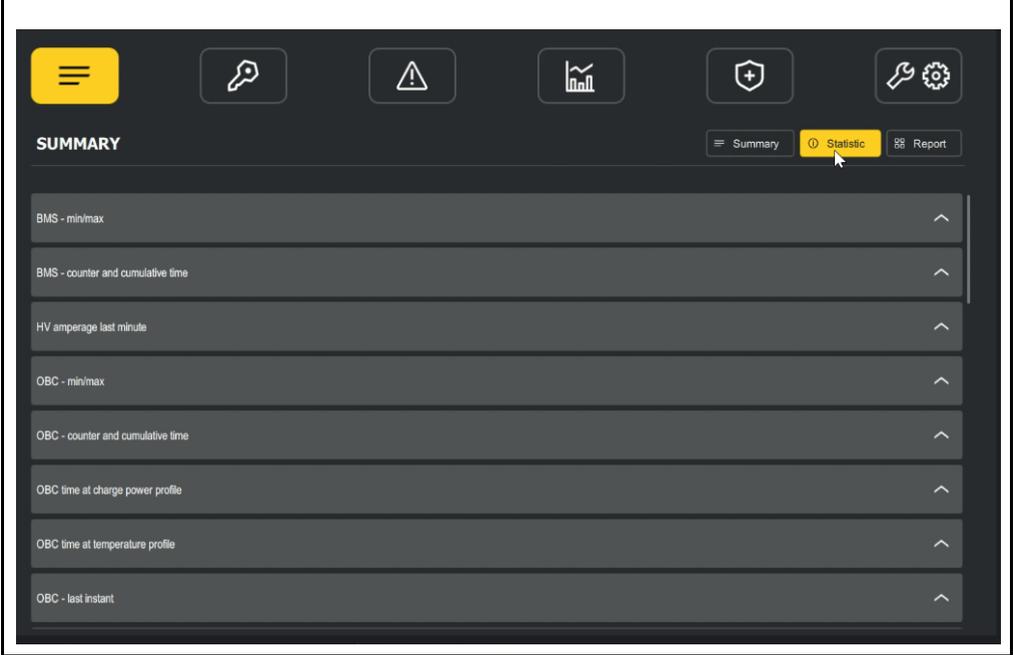
The screenshot displays the BUDS3 diagnostic software interface. At the top, the BUDS logo and user name 'BRUNO BELHOSTE | FBFO' are visible. The main navigation bar contains icons for menu, search, a prominent yellow warning triangle, a bar chart, a shield, and settings. The central section is titled 'FAULTS (DTC)' and includes a 'Vehicle' dropdown and 'Possible DTC' button. Below this, there are filter tabs for 'All', 'ECM', 'CLUSTER', and 'DPS', along with module selection buttons 'Mod 4', 'Mod 5', and 'Mod 6'. A search bar is also present. The main area contains a table of fault codes:

MODULES	STATUS	CODE	
ECM	Active	C123456 - xxxxx - High level description	
CLUSTER	Active	C123456 - xxxxx - High level description	
DPS	Active	C123456 - xxxxx - High level description	
ECM	Occurred	C123456 - xxxxx - High level description	
CLUSTER	Occurred	C123456 - xxxxx - High level description	
DPS	Occurred	C123456 - xxxxx - High level description	
DPS	Occurred	C123456 - xxxxx - High level description	

On the left sidebar, the vehicle is identified as 'Can-Am Spyder RT LTD MY 20' with VIN 'VINXXXXXXXXXXXX'. Below this, a list of modules (ECM, CLUSTER, DPS, VCM) shows their health status with green (good) or yellow/red (warning/error) icons. At the bottom, there are navigation icons for home, globe, '13 DAYS', search, and '12.5V', along with user profile and document icons.

# Vehicle Statistics

Under the statistic Tab, you can get information such a Speed profile, RPM profile and more.



## Vehicle Reports

Under the report Tab, you can view all the data available on the vehicle. You have the option to print the data or export as PDF.

The screenshot displays a dark-themed user interface for vehicle reports. At the top, there is a navigation bar with several icons: a yellow menu icon, a key icon, a warning triangle icon, a bar chart icon, a shield with a plus sign icon, and a wrench and gear icon. Below the navigation bar, the word "SUMMARY" is displayed on the left, and three tabs are visible: "Summary", "Statistic", and "Report". The "Report" tab is highlighted in yellow. Below the tabs, there are two buttons: "Print" and "PDF". The main content area consists of a list of vehicle information categories, each with a right-pointing arrow icon:

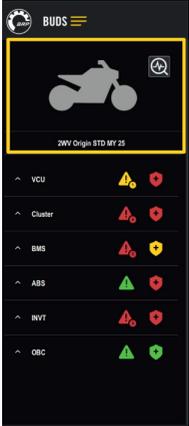
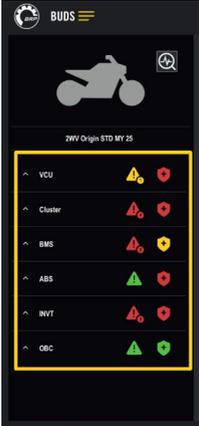
- VEHICLE
- VCU INFO
- CLUSTER INFO
- BMS INFO
- ABS INFO
- INVT INFO
- OBC INFO

# NAVIGATION MENU

## LEFT PANE SECTION (FAULTS)

This is the module status section, which provides you with the Fault (DTC) and flash status for each model.

### Scanned Modules Information

<p>Vehicle description and VIN</p>	<p>Vehicle scanned list modules, information and status.</p>	<p>Modules Information</p> <p>Expand drop-down menu to view modules information that you need to perform operations software, calibration numbers version and module serial numbers.</p>
		

## DTC and Health Icons

**DTC Icons** : These icons indicates the status of diagnostic trouble codes (DTC).

- Green : Good, no fault detected.
- Yellow : Occurred, fault has occurred but is not active.
- Red : Active fault detected.



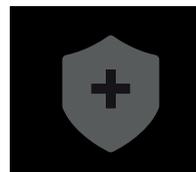
**Health Icons :** These icons indicates the modules updates.

- Green : Good, no updates required.
- Yellow : Optional updates available.
- Red : Mandatory updates.



**Greys Icons.**

- If the grey color DTC or Health icons appears, this means that the modules or the vehicle was not read properly and not detected.



**NOTICE**

In this case, you may need to verified the connection between the Vehicle / VCI / Computer. Then rescan the vehicle.

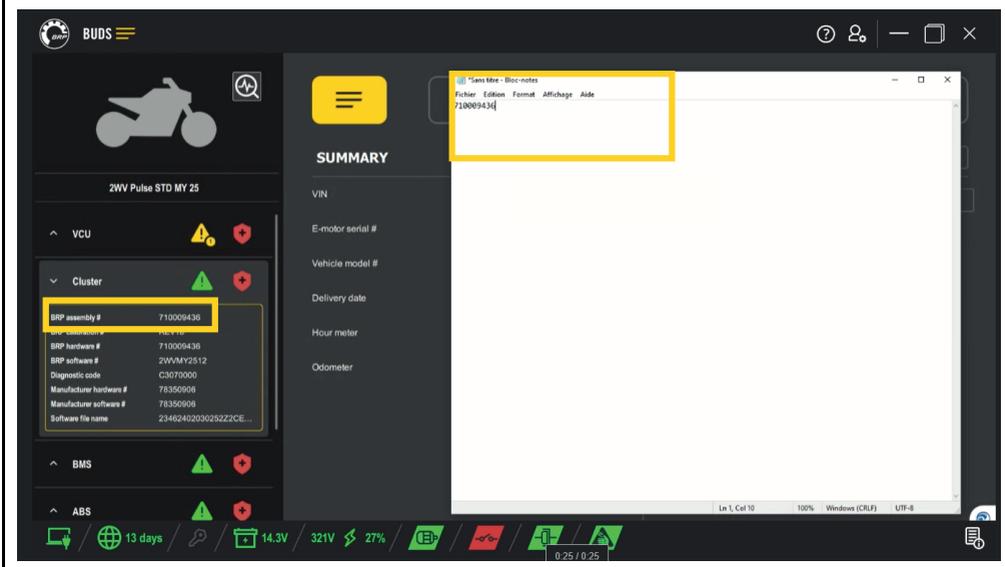


# Clipboard Feature

Highlighting a line of information with a left-click to copy any information in the modules or on the Summary Page to the clipboard.

To be able to copy :

1. Pass over the field you want to copy.
2. Arrow will change for a hand.
3. Left click (it's copied).



# FAULTS PAGE (DTC)

These page information concerning Diagnostic trouble Codes (DTC) related to the vehicle. There are two main menus

- **Vehicle menu** : The DTCs currently on the vehicle.
- **Possible DTC** : Displays all the possible DTCs that could occur on the vehicle.

The screenshot shows the BUOS interface for a 2017 Origin STD MY 25 motorcycle. The main content area is titled "FAULTS (DTC)" and displays a list of diagnostic trouble codes (DTCs) for the vehicle. The interface includes a navigation menu on the left, a top bar with the BUOS logo and user settings, and a bottom status bar with various vehicle metrics.

**Vehicle Information:** 2017 Origin STD MY 25

**Navigation Menu (Left):**

- VCU (Warning icon)
- Cluster (Warning icon)
- BMS (Warning icon)
- ABS (Warning icon)
- INVT (Warning icon)
- OBC (Warning icon)

**FAULTS (DTC) Table:**

MODULES	STATUS	CODE	Actions
Cluster	Active	P0461 - Fuel sender range/performance	Trash, Check
Cluster	Active	B2A24 - Input Connector pin 24 voltage - out of range	Trash, Check
Cluster	Active	B2A25 - Input Connector pin 25 voltage - out of range	Trash, Check
Cluster	Active	U0100 - Lost communication with ECM (lost of CAN ID's)	Trash, Check
INVT	Active	P0AEE - Electric Motor temperature sensor - 1 - out of range	Trash, Check
INVT	Active	P0AF3 - Electric Motor temperature sensor - 2 - out of range	Trash, Check
VCU	Occured	U0288 - Loss of communication with Inverter	Trash, Check

**Bottom Status Bar:**

- 13 days
- 14.3V
- 321V
- 27%
- 0.52 / 0.52

# Vehicle Faults (DTC)

1. Colors codes of the DTC. (Yellow for Occurred and Red for active)
2. DTC status (Occurred and Active).
3. Option to select by module.
4. Searching bar for specific module.
5. To delete DTC, check in the box and select the Delete icon. The Active Faults can't be deleted.

The screenshot shows the 'FAULTS (DTC)' screen. At the top, there is a navigation bar with a menu icon, a key icon, a yellow 'FAULTS (DTC)' button with a warning icon, a bar chart icon, a shield icon, and a settings icon. Below this, the title 'FAULTS (DTC)' is displayed next to 'Vehicle' and 'Possible DTC' filters. A 'Filters' section contains buttons for 'All', 'Cluster', 'INVT', and 'VCU'. A search bar is labeled 'Search'. The main table lists DTCs with columns for 'MODULES', 'STATUS', and 'CODE'. Each row has a delete icon and a checkbox. Callout 1 points to the filter buttons, callout 2 to the status column, callout 3 to the 'VCU' filter, callout 4 to the search bar, and callout 5 to the delete icon and checkbox of a row.

MODULES	STATUS	CODE	DELETE	CHECKBOX
Cluster	Active	P0461 - Fuel sender range/performance	🗑️	<input type="checkbox"/>
Cluster	Active	B2A24 - Input Connector pin 24 voltage - out of range	🗑️	<input type="checkbox"/>
Cluster	Active	B2A25 - Input Connector pin 25 voltage - out of range	🗑️	<input type="checkbox"/>
Cluster	Active	U0100 - Lost communication with ECM (lost of CAN ID's)	🗑️	<input type="checkbox"/>
INVT	Active	P0AEE - Electric Motor temperature sensor - 1 - out of range	🗑️	<input type="checkbox"/>
INVT	Active	P0AF3 - Electric Motor temperature sensor - 2 - out of range	🗑️	<input type="checkbox"/>
VCU	Occurred	U0288 - Loss of communication with Inverter	🗑️	<input type="checkbox"/>

## Active Faults (DTC)

### Open Active Fault.

- To view details of DTC, select the faults in this menu or the faults icons on the left pane and this popup window will appear.

Elements	FIRST OCCURRENCE		LAST OCCURRENCE	
	Value	Unit	Value	Unit
Switch supply	On		On	
Odometer	1.20	km	1.20	km
System state	Engine off		Engine off	
Vehicle time	0:00	HH:MM	0:00	HH:MM
Target power cycle	39		39	
Battery supply	11.75	V	11.75	V
Engine speed	0	rpm	0	rpm
Post drive active	Off		Off	
Vehicle velocity	0	km/h	0	km/h
Time	2021-1-1 10:0.3		2021-1-1 10:0.3	

### Freeze Frame.

- Under this selection, you can view the code definition as well as the details related to the first and the last occurrences of the DTC depending the impact of the vehicle.

### Cause & Action.

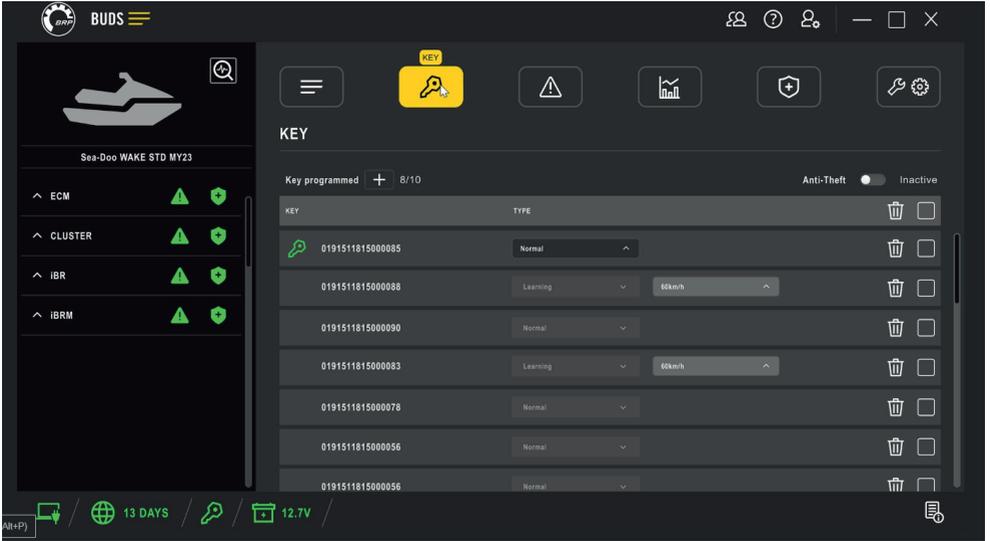
- Under this selection, you can view the causes of the DTC and service action to take.

CAUSE	ACTION
Damaged sender, damaged circuit wires, damaged connector or damaged cluster pins.	Perform an inspection of the areas mentioned in the possible causes. Verify continuity of the fuel level sensor circuit between the fuel pump and cluster connectors. Expected result <2 00ms. If no circuit issues are found by a known good fuel level sensor.

# NAVIGATION MENU

## KEYS PAGE

The keys page allows you to program various type of keys to a specific vehicle.



The **Green key icon** means that the key on the post, and indicates when the key is programmed.

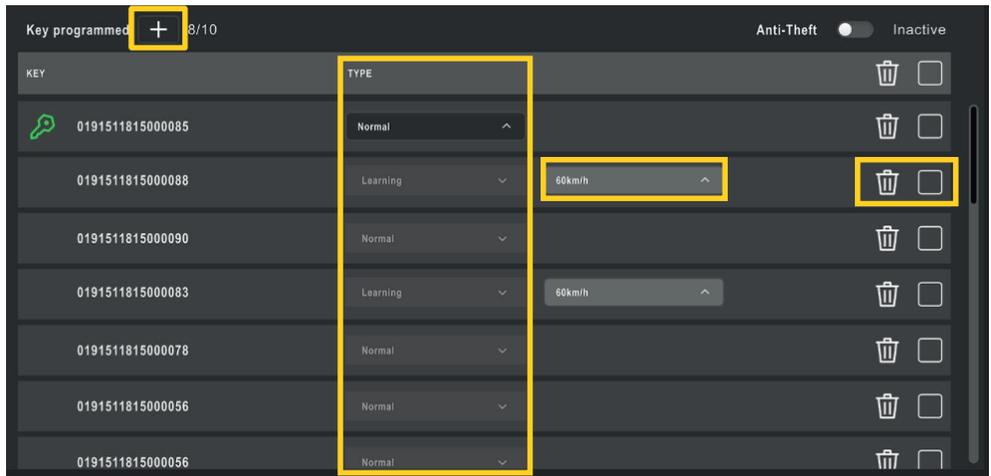


The **Red key icon** means that the key is not programmed.



## Programming Keys

To **Programs Keys**, execute the following steps :



1. Select the **+** **Icon** to add key.
2. a pop up will open to support you in the programming.
3. As the key is added you can change the type directly from the key page.
4. Select the key type and speed if require.
  - Normal key.
  - Performance key.
  - Work key.
  - Learning key with top speed customizable.

For already **Existing Keys**, you can program them according to the requirements.

To **Delete Keys**, check in the box and select the Delete icon or select them all from the top and delete in the same time.

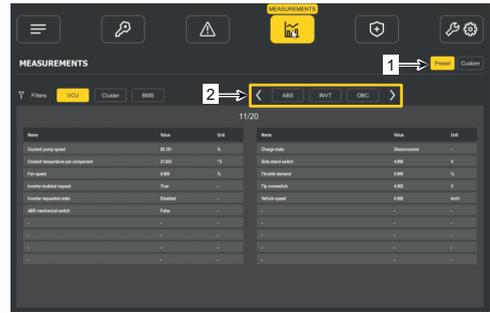
# NAVIGATION MENU

## MEASUREMENTS PAGE

The Measurements Page displays the **direct reading** for different modules on the vehicle.

### Preset Tab :

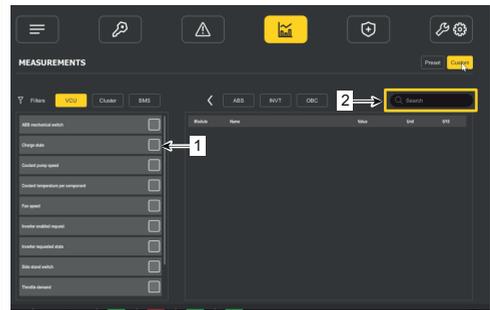
1. The Preset tab shows most common sensors that you want to read.
2. The carousel appears when the Preset tab is selected. More than 3 modules, the carousel is present to let you choose the module you want to look.



### Custom Tab :

Custom tab allows the access to specific reading.

1. Select the elements you want to read and compare from different modules in the same time.
2. Use the search bar to reach specific module.



# VEHICLE UPDATES PAGE (FLASH)

This is the first page you land on if BUDS3 require updates or detects health issues after the initial scan. This page displays functions and updates that need to be performed on the vehicle.

The screenshot shows the 'VEHICLE UPDATE' interface. At the top, there are navigation icons for menu, key, warning, graph, shield, and settings. Below the title, there are buttons for 'Vehicle' and 'BRP viewer'. A 'Filters' section includes 'All', 'Mandatory', and 'Optional' buttons, along with a search bar. The main content is a table with columns for 'MODULES', 'STATUS', and 'CODE'. The table lists several updates, with the first row highlighted in yellow. Numbered callouts point to specific elements: 1 points to the 'ECM' module, 2 points to the 'Mandatory' status, 3 points to the update code 'C123 - Program ECM to latest available configuration', and 4 points to the download icon.

MODULES	STATUS	CODE	
ECM	Mandatory	C123 - Program ECM to latest available configuration	Download
CLUSTER	Mandatory	C123 - Variant coding to be reconfigured	Download
DPS	Mandatory	C123456 - High level description	Download
ECM	Optional	C123456 - High level description	Download
CLUSTER	Optional	C123456 - High level description	Download
VCM	Optional	C123456 - High level description	Download

1. The Modules with require updates or health issues detected.
2. Status of the updates and health issues (Yellow for Optional and Red for Mandatory).
3. Code indicates what the updates is for.
4. Select the Download icon to install the last updates (Flash).

# NAVIGATION MENU

## FUNCTIONS & SETTING PAGE

This section allows you to activate certain vehicle components and configure them or test their input. The accessories that have just been installed can be activated here. Use the search bar for specific component.

Function and Setting page is divided in 3 parts:

- Configuration
- Option
- Test

**FUNCTIONS / SETTINGS**

Vehicle

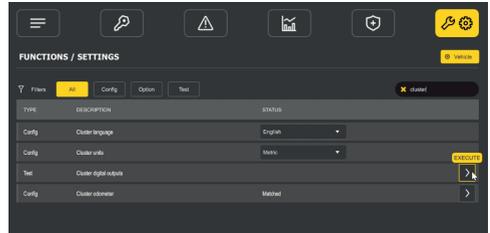
Filters: All Config Option Test

Search

TYPE	DESCRIPTION	STATUS
Test	Button and physical input	>
Config	VCU backup and restore	>
Config	E-motor serial number	00000000 >
Test	Component activation	>
Config	E-motor angle offset	4.1223 rad >
Config	Real time clock	2021/11/17 9:42 >
Config	Vehicle factory coding	>
Config	Cluster language	English >
Config	Cluster units	Metric >

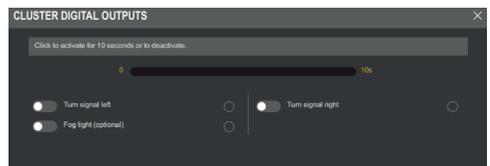
The cluster is being shown here to figure out how to test and configure it.

1. Selecting the arrow to the right opening a popup to description what the function will do.



**CLUSTER VIEW IS SHOWN (SETTING FOR LANGUAGES AND UNITS)**

2. Follow the screen instruction to execute the function sequence.



This page is intentionally blank

# **ADVANCED FUNCTIONS AND TROUBLESHOOTING**

# ADVANCED FUNCTIONS AND TROUBLESHOOTING PROCEDURE

## Powering the Vehicle When Using B.U.D.S.

### NOTICE

Make sure the unit's battery is fully charged before undertaking this operation. Never use a battery charger to temporarily substitute the battery as it may cause the ECM to function erratically, or not at all.

### NOTICE

Continuous power to the computer is mandatory while performing this operation.

## Reset the ECM as a Service Part

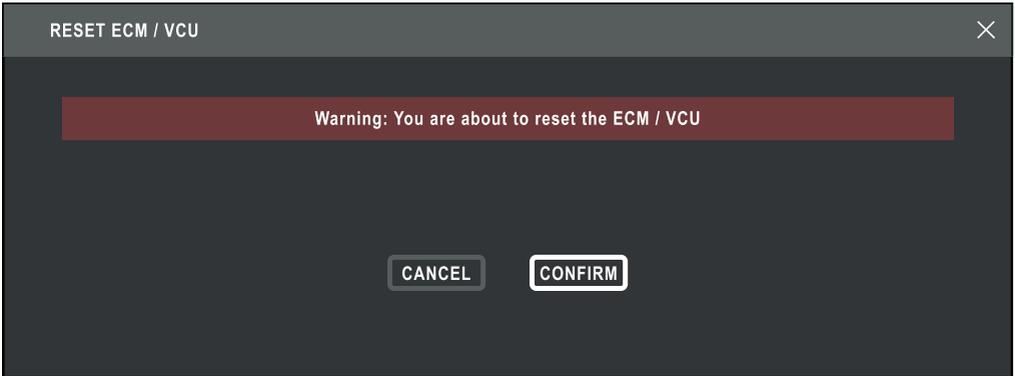
1. Connect one of the following tools to keep the vehicle energized:

<p><b>Power Interface</b>  (P/N 515177223)</p>	 A small black rectangular device with three cables extending from one side.
--------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------

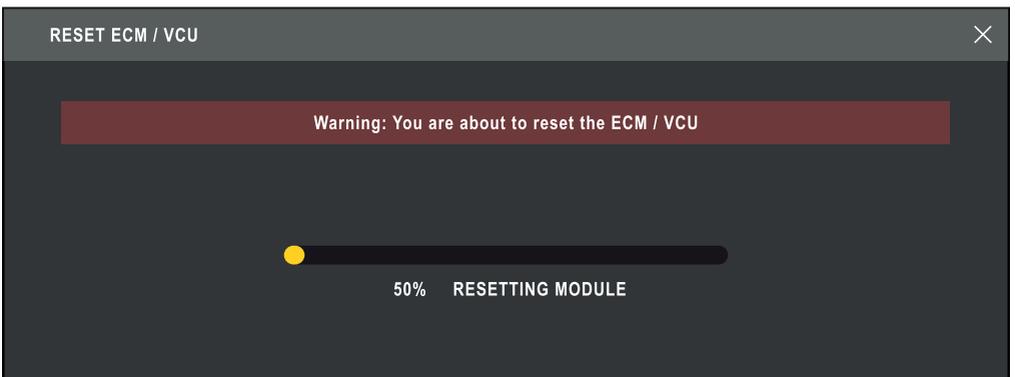
2. Connect the cables V800 VCI.

<p><b>B.U.D.S. V800 VCI</b>  (P/N 529036613)</p>	 A small black rectangular device with a coiled cable and a connector.
<p><b>B.U.D.S. Hardware V800 VCI</b>  (P/N 529036614)</p>	 A black cable with a connector and a coiled section.

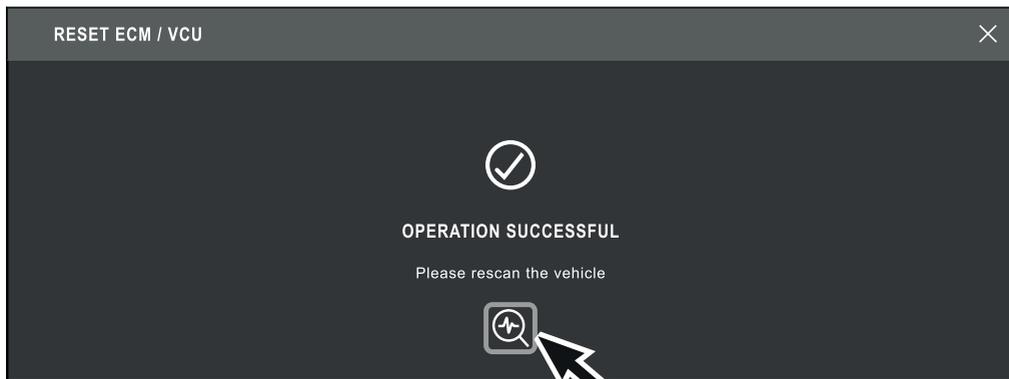
3. Connect the vehicle to the latest version of the BRP diagnostic software (B. U. D. S.).
4. In B.U.D.S., go to:
  - **Functions / Settings** page
  - **Reset ECM / VCU config**
5. Open the sequence.
6. **With no Health Issue :**
  - Click on **CONFIRM** to reset the ECM / VCU.



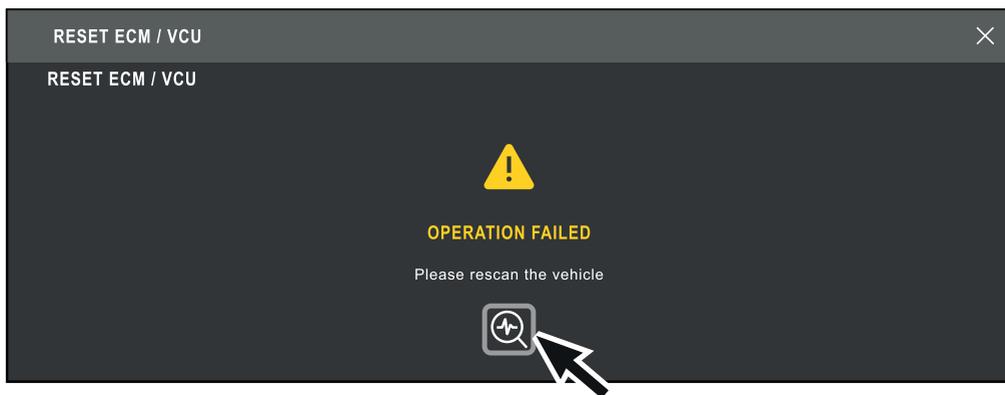
- Resetting the ECM as a Service Part processing.



- From the reset process you will receive a status **OPERATION SUCCESSFUL** or **OPERATION FAIL**. On both situation you will have to press the **scan** button in the popup.

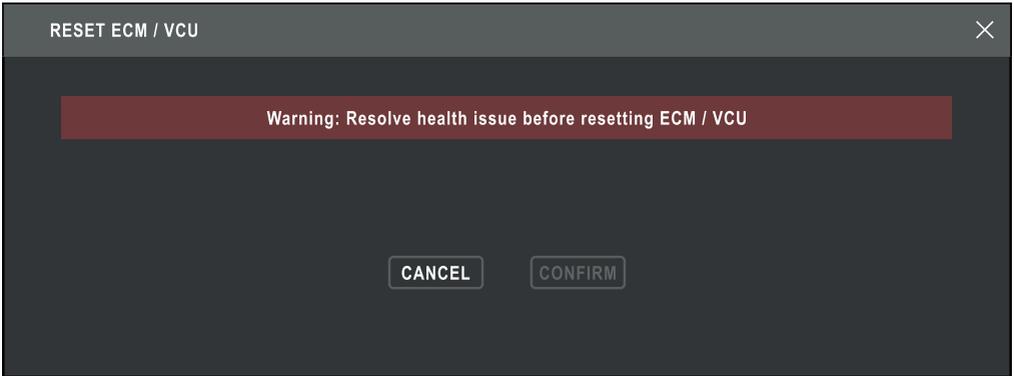


- If the operation fails, you must re-**scan** the vehicle



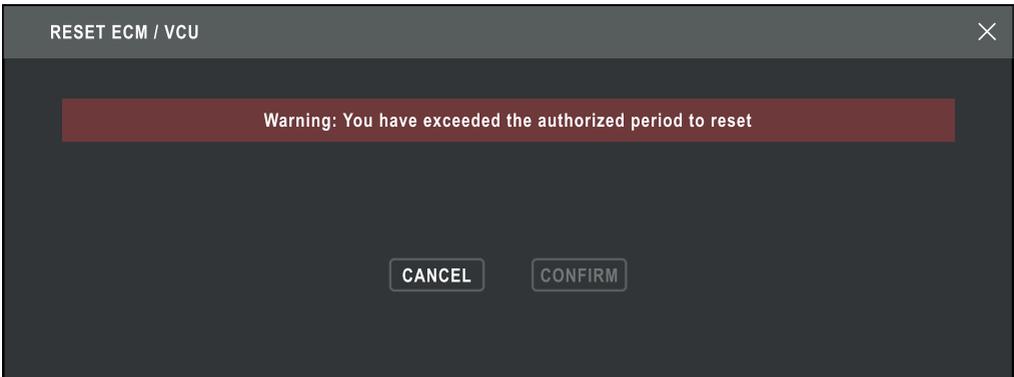
7. **With Health Issue :**

- The **confirmation** button is not active, the system ask you to **cancel** it.



### 8. Expired Authorization to Reset.

- You have exceeded the authorized period to reset.
- The **confirmation** button is not active, the system ask you to **cancel** it.



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