Manuals+ — User Manuals Simplified.

CGSULIT SC301 Car Code Reader User Manual

Contents

CGSULIT SC301 Car Code Reader

Safety Precautions and Warnings

1. Always perform automotive testing in a safe environment.
2. Wear safety eye protection that meets ANSI standards.
3. Keep clothing, hair, hands, tools, test equipment, etc. away from all moving or hot engine parts.
4. Operate the vehicle in a well-ventilated work area: Exhaust gases are poisonous.
5. Put blocks in front of the drive wheels and never leave the vehicle unattended while running tests.
6. Use extreme caution when working around the ignition coil, distributor cap, ignition wires, and spark plugs. These components create hazardous voltages when the engine is running.
7. Keep a fire extinguisher suitable for gasoline/chemical/electrical fires nearby.
8. Don't connect or disconnect any test equipment while the ignition is on or the engine is running.
9. Put the transmission in PARK (for automatic transmission) or NEUTRAL (for manual transmission) and make sure the parking brake is engaged.
10. Keep the code reader dry, clean, and free from oil/water or grease. Use a mild detergent on a clean cloth to clean the outside of the code reader, when necessary.

Welcome

Thank you for purchasing the CGSULIT SC301 OBD2 scan tool. Please patiently read and understand this User Manual before operating this product.

About CGSULIT SC301

As specially designed for DIY users and small service workshops, CGSULIT SC301 works with OBDII (CAN) compliant vehicles for a complete 10 modes of OBDII diagnostics, with built-in DTC lookup library, LED for different

DTC types, and printability. Diagnosing and repairing is now easier than ever!

Package List

1. CGSULIT SC301
2. USB Cable
3. User Manual

Compatibility

CGSULIT SC301 is compatible with the following protocols:

- J1859-41.6
- J1850-10.4
- KWP2000 (ISO 14230)
- ISO9141
- CAN (Control Area Network ISO 11898)

Applicable Functions

- Read Code / Erase Code
- Live Data / Freeze Frame Data
- I/M Readiness / O2 Sensor Test
- On-board Monitor Test / Component Test
- Vehicle Information / Modules Present
- Record/Playback/Print Data / DTC Guide

General Information of OBDIL (On-Board Diagnostics II)

The OBDII system is designed to monitor emission control systems and key engine components by performing either continuous or periodic tests of specific components and vehicle conditions, which will offer three pieces of such valuable information:
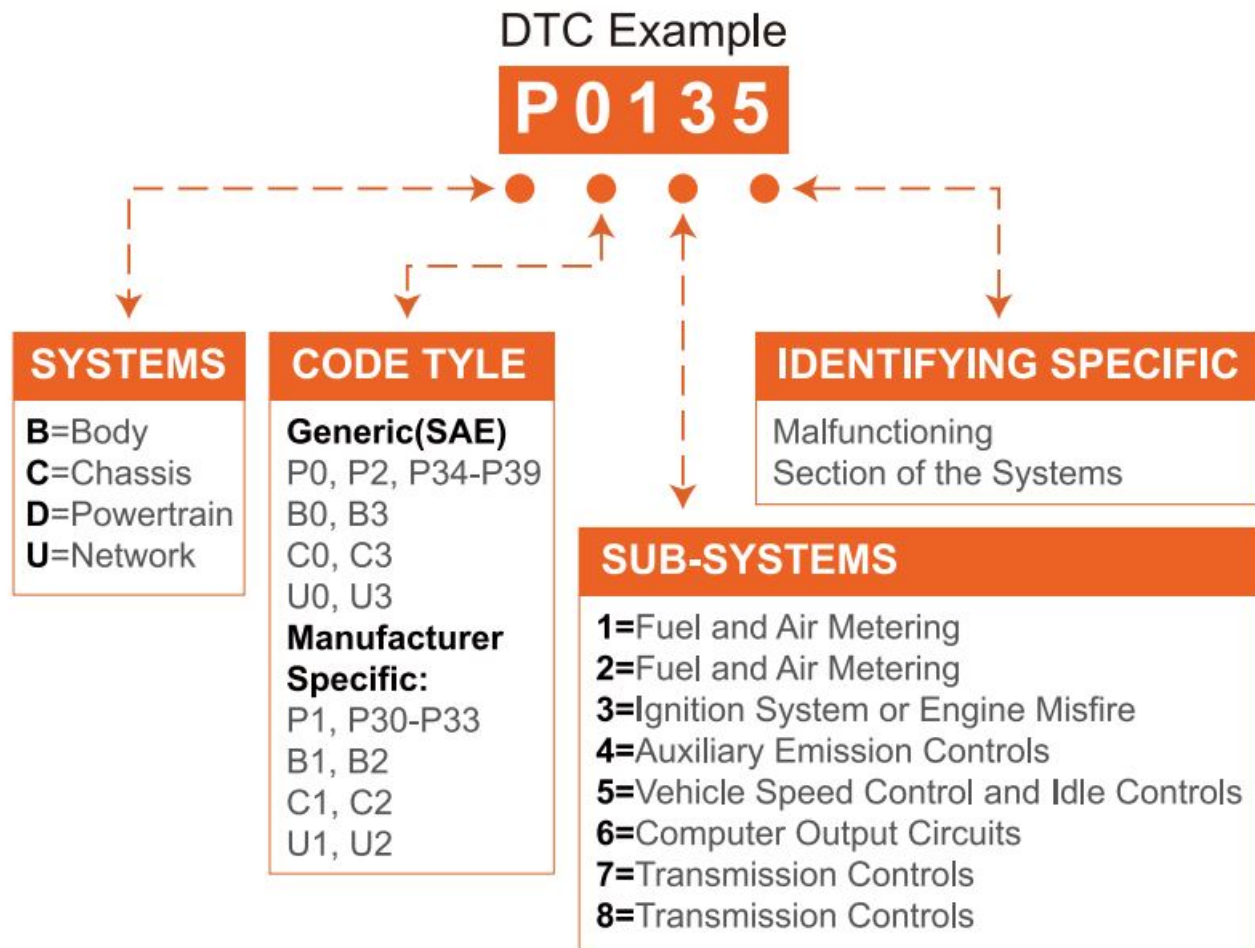
1. Whether the Malfunction Indicator Light (MIL) is commanded "on" or "off";
2. Which, if any Diagnostic Trouble Codes (DTCs) are stored;
3. Readiness Monitor status.
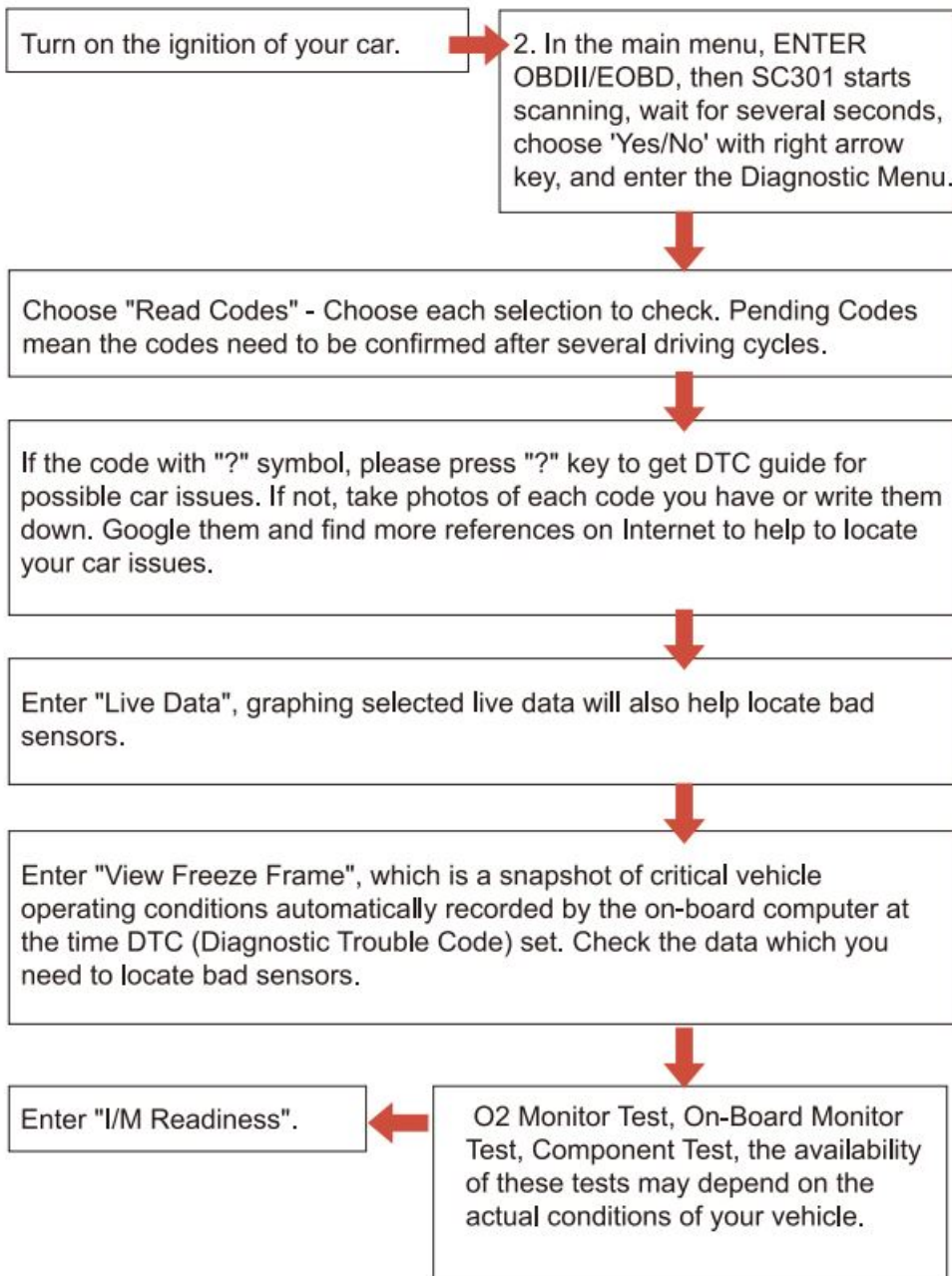
Code Reader Description
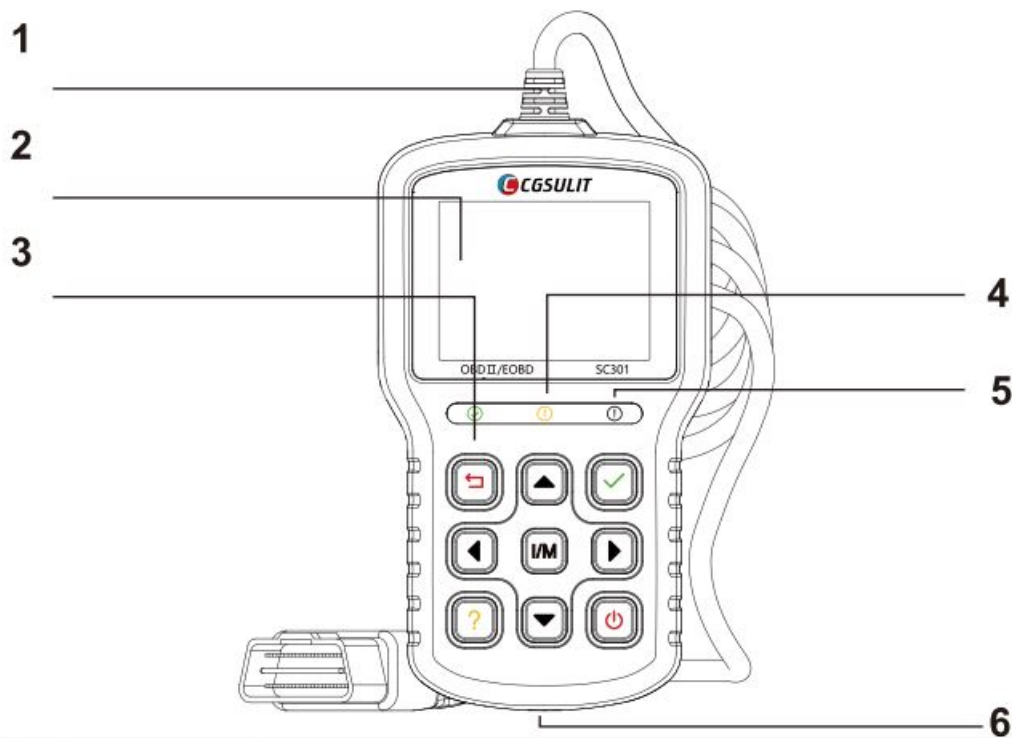
1	OBD-16 connector	To Connect to the vehicle's DLC (Data Link Connector).
2	LCD Display	Shows test results.
3	Green LED Display	Indicates the engine system is working normally (all monitors on the vehicles are active and performing their diagnostic testing), and no DTCs are found.
4	Yellow LED Display	Shows the tool finds a possible problem. Pending DTCs exist or/and some of the vehicle's emission monitors have not run their diagnostic testing.
5	Red LED Display	Indicates there are some problems in one or more of the vehicle's systems. In this case, the MIL lamp on the instrument panel is on.
6	USB Port	Connect the scanner to PC via USB cable for upgrade or printing.
7	▲	Move up for selection.
8	▼	Move down for selection.
9	◀	Move left for selection. Or skip to the previous page when more than one page is displayed.
10	▶	Move right for selection. Or skip to the next page when more than one page is displayed.
11	I/M	Just One Key to Check Emission-Related Systems.
12	⇆	Back to the previous page.
13	✓	To confirm the current operation.
14	⏻	Reboot the code reader.
15	?	Provides detailed descriptions/tips for diagnostics.

Diagnostic Trouble Codes (DTCs)

DTC Example
P 0 1 3 5

SYSTEMS

B=Body
C=Chassis
D=Powertrain
U=Network

CODE TYLE

Generic(SAE)
P0, P2, P34-P39
B0, B3
C0, C3
U0, U3
Manufacturer Specific:
P1, P30-P33
B1, B2
C1, C2
U1, U2

IDENTIFYING SPECIFIC

Malfunctioning
Section of the Systems

SUB-SYSTEMS

1=Fuel and Air Metering
2=Fuel and Air Metering
3=Ignition System or Engine Misfire
4=Auxiliary Emission Controls
5=Vehicle Speed Control and Idle Controls
6=Computer Output Circuits
7=Transmission Controls
8=Transmission Controls

Operation Introduction

| Turn on the ignition of your car. | → | 2. In the main menu, ENTER OBDII/EOBD, then SC301 starts scanning, wait for several seconds, choose 'Yes/No' with right arrow key, and enter the Diagnostic Menu. |

Choose "Read Codes" - Choose each selection to check. Pending Codes mean the codes need to be confirmed after several driving cycles.

If the code with "?" symbol, please press "?" key to get DTC guide for possible car issues. If not, take photos of each code you have or write them down. Google them and find more references on Internet to help to locate your car issues.

Enter "Live Data", graphing selected live data will also help locate bad sensors.

Enter "View Freeze Frame", which is a snapshot of critical vehicle operating conditions automatically recorded by the on-board computer at the time DTC (Diagnostic Trouble Code) set. Check the data which you need to locate bad sensors.

| Enter "I/M Readiness". | ← | O2 Monitor Test, On-Board Monitor Test, Component Test, the availability of these tests may depend on the actual conditions of your vehicle. |

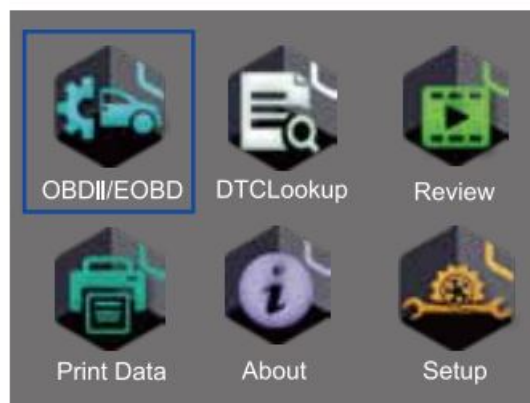**Diagnostic Menu**

- After properly connecting the tool to the vehicle's DLC port, Select [OBDII/EOBD] in the Main Menu and press [√].
- The scanner will automatically check the vehicle's computer and display a diagnostic menu.
- Select [YES] and press [√], to enter the Diagnostic Menu.

Read Code

- This option identifies which section of the emission control system has malfunctioned.

Diagnostic Menu 1/11	Read Codes 1/2
Read Codes	Stored Codes
Erase Codes	Pending Codes
Live Data	Permanent Codes
View Freeze Frame	
I/M Readiness	
O2 Monitor Test	
On-Board Monitor Test	

1/1

P0125 ?

Insufficient Coolant
Temperature for Closed Loop
Fuel Control
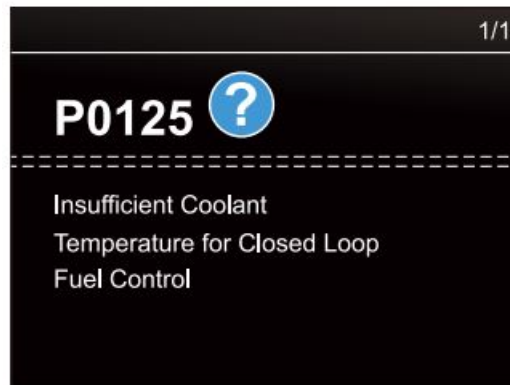
- Use the [Up/Down] button to select [Read Codes] and press [√].
- Use the [Up/Down] button to select [Current Codes]/[Pending Codes]/[Permanent Codes] and press [√].
- The DTC with its definition will be displayed on the screen. Press [Left/Right] to scroll back and forth through different screens of data.
- **Tips:** The vehicle's code is defined by the manufacturer, please enter to select the manufacturer.

Erase Code

- This option erases the codes from the vehicle after retrieving codes from the vehicle and certain repairs have been carried out.

Diagnostic Menu 2/11	Erase Codes	Erase Codes
Read Codes		
Erase Codes		
Live Data	Erase previously codes!	Erase Done!
View Freeze Frame	Are you sure	
I/M Readiness		
O2 Monitor Test		
On-Board Monitor Test	Yes No	

- Use the [Up/Down] button to select [Erase Codes] and press [√].
- Follow the on-screen instructions and answer questions about the vehicle being tested to complete the procedure.
- Check the codes again, if any code remains, repeat the erase code steps.
- **Note:** Clearing DTCs does not fix the problem(s) that caused the code(s) to be set.
- If proper repairs to correct the problem that caused the code(s) to be set are not made, the code(s) will appear again and the check engine light will illuminate as soon as the problem that caused the DTC to set manifests

itself.

Live Data

- The Live Data menu lets you view, record, and playback real-time data from the electronic control module.

Menu options include:

- View Data
- Record Data
- Playback Data

View Data

- This option retrieves and displays live data and parameters from the vehicle's ECU, including sensor data, and operation of switches, solenoids, and relays.

- Use the [Up/Down] button to select [Live Data] and press [V].
- Select [View Data] and press [V].
- Select an option and press [V]. The result will be displayed on the screen.

Record Data

- Select [Record Data] and press [V].
- Select an option and press [V].
- Select [Manual Trigger] or [DTC Trigger] and press [V].

Live Data	2/3		Record Data	1/3
View Data	OFF		**Complete Data Set**	
Record Data			**Custom Data Set**	
Playback Data			**Unit of Measure**	

Pick Trigger Mode	1/2
Manual Trigger	
DTC Trigger	

- There are two types of trigger methods used.
- **Manual Trigger** – triggers recording whenever operators press the [V] key.
- **DTC trigger** – automatically triggers recording when a code is detected by a vehicle. DTC Trigger is not available on all vehicles. Some vehicles need to be driven for a long period to store a code after a drivability fault occurs.
- If the DTC trigger is selected to make a recording, there might not be a drastic change in the data before and after the trigger.
- Use the [Up/Down] key to select a memory location and press [V].
- If an area with an asterisk (*) was picked, a message prompting to erase data displays.
- If the recording is to be overwritten, select [Yes]; if data is not to be overwritten, pick [No] to return to the Select Memory screen and choose another one.

Select Memory	1/3		Select Memory
Location #1 *			
Location #2			**A previous recording exists! Do you want to overwrite it?**
Location #3			
			Yes No

- If [Manual Trigger] is selected, the following screen displays:

Manual Trigger

Ready to record!
Press [Enter] to
start recording....
Press [Back] to exit
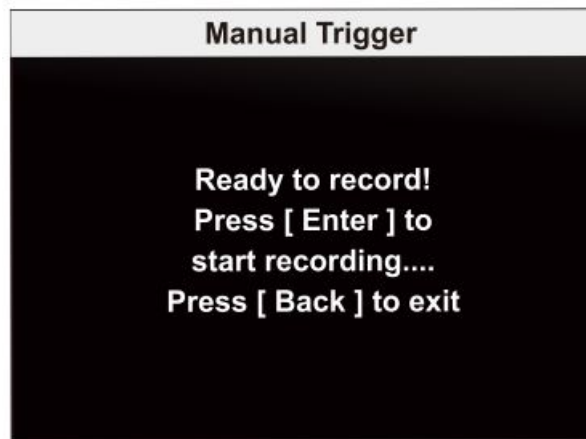
- If [DTC Trigger] is picked, the following screen displays:

DTC Trigger

Waiting for DTC to
trigger recording...

Press [Back] to exit

- Press the [V] to start recording or wait for codes to trigger.

Recording...2/31	1
DTC_CNT	7
FUELSYS1	--
FUELSYS2	--
LOAD_PCT(%)	0.0
ECT(℃)	-12
SHRTFT1(1%)	0.0
LINGFT1(%)	2.3

Playback Data

- The Playback Data is used to playback recorded data.

| View Data |
| Record Data |
| Playback Data |

| Location #1 * |
| Location #2 |
| Location #3 |

DTC_CNT	0
FUELSYS1	OL
FUELSYS2	N/A
LOAD_PCT(%)	0.0
ECT(℃)	-40
SHRTFT1(1%)	99.2

- Select [Playback Data] and press [V].
- Use the [Up/Down] key to select a memory area that is marked with an asterisk (*) and press [V].
- Press the [Up/Down] key to view recorded data.

View Freeze Frame

- This option takes a snapshot of the operating conditions when an emission-related fault occurs.

| Read Coders |
| Eease Codes |
| Live Data |
| View Freeze Frame |
| I/M Readiness |
| O2 Monitor Test |
| On-Board Monitor Test |

BARO(psi)	14.6
VPWR(V)	12.226
LOAD_ABS%	0. 0
EQ_RAT	0.995
TP_R(%)	0. 0
AAT(°F)	-40
TP_B(%)	0. 0

- Use the [Up/Down] button select [View Freeze Frame] and press [V]. The result will be displayed on the screen.
- If no freeze frame is detected, the message "No freeze frame data stored!" is displayed.
- **Note:** If DTCs were erased, Freeze Data may not be stored in vehicle memory depending on the vehicle.

I/M Readiness

- This option checks whether or not the various emissions-related systems on the vehicle are operating properly, and are ready for

- Inspection and Maintenance testing.It also can be used to confirm that the repair has been performed correctly, and/or to check for
- Monitor Run Status after the repair of a fault has been performed.
- There are two ways to retrieve the I/M Readiness Status Data.

A. I/M Hotkey.

- Press the [I/M] button, the result will be displayed on the screen.
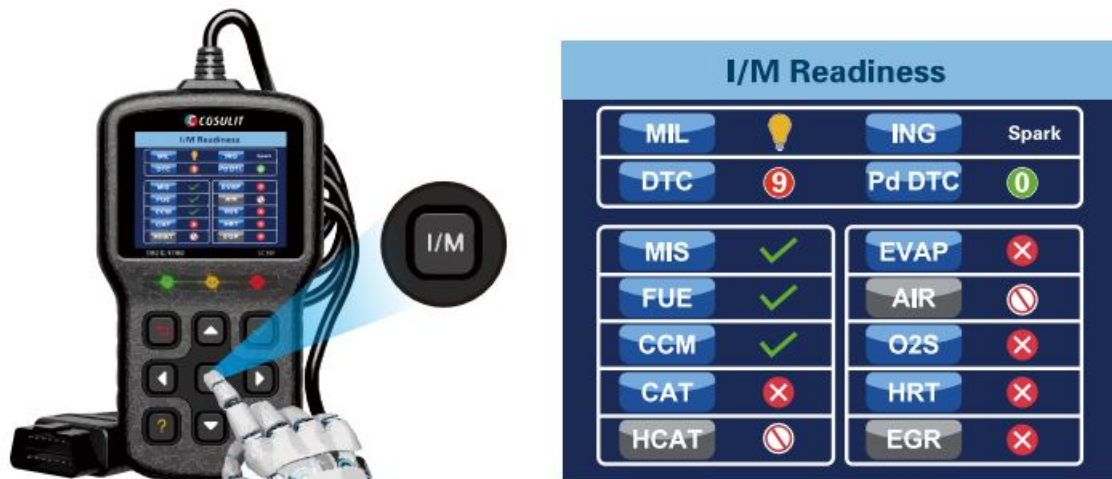
Explanation of terms

- MIL – Malfunction Indicator Light
- **IGN** – The Ignition Method of the Vehicle
- **DTC** – Diagnostic Trouble Code
- **Pd DTC** – Pending Diagnostic Trouble Code
- **MIS** – Misfire Monitor
- **FUE** – Fuel System Monitor
- **CCM** – Comprehensive Components Monitor
- **EGR** – Exhaust Gas Recirculation System Monitor
- **HCAT** – Heated Catalyst Monitor
- **EVAP** – Evaporative System Monitor
- **AIR** – Secondary Air Monitor
- **O2S** – 02 Sensors Monitor
- **HRT** – O2 Sensor Heater Monitor

B. Select [I/M Readiness] from Diagnostic Menu

- Use the [Up/Down] buttons to select [I/M Readiness] and press [V].
- If the vehicle being tested supports both types of monitors, the following screen displays.

Diagnostic Menu	5/11
Read Codes	
Erase Codes	
Live Data	
View Freeze Frame	
I/M Readiness	
O2 Monitor Test	
On-Board Monitor Test	

I/M Readiness	2/11
Since DTCs cleared	
This driving cycle	

- **Since DTCs Cleared** – Shows the status of the monitors since the Diagnostic Trouble Codes were last erased.
- **This Driving Cycle** – Shows the status of monitors since the start of the current drive cycle.

Since DTCs cleared	1
MIL	ON
MIS	OK
FUEL	OK
CCM	OK
CAT	INC
HCAT	N/A
EVAP	N/A

This driving cycle	1
MIS	OK
FUEL	OK
CCM	OK
CAT	INC
HCAT	N/A
EVAP	OK
AIR	N/A

When the monitor status is:

- **OK"-** vehicle has been driven enough for function.
- **INC"** (incomplete) – the vehicle was not driven enough to complete the monitor.
- **N/A"** (not applicable) – the vehicle does not support that monitor.

Monitor Test

- This option retrieves 02 sensor monitor test results of the most recently completed tests from your vehicle's onboard computer.

Diagnostic Menu	6/11
Read Codes	
Erase Codes	
Live Data	
View Freeze Frame	
I/M Readiness	
O2 Monitor Test	
On-Board Monitor Test	

O2 Monitor Test	1/4
O2 Bank1 Sensor1	
O2 Bank1 Sensor2	
O2 Bank2 Sensor1	
O2 Bank2 Sensor2	

- Use the [Up/Down] button to select [02 Monitor Test] and press [✓]. Select an option and press [✓].
- Select an option and press [✓].

O2 Bank1 Sensor1	1/8
Rich-Lean Threshd(V)	
Lean-Rich Threshd(V)	
Min for test Cyc(V)	
Max for test Cyc(V)	
O2 Transition(S)	
$30(S)	
$31(S)	

- **Tips:** Use the [Up/Down] button to scroll through data to select lines and use the [⬑] to return the diagnostic menu.

On-board Monitor Test

- This option retrieves test results for emission-related powertrain components and systems that are not continuously monitored. The tests available are determined by the vehicle manufacturer.
- Use the [Up/Down] button to select [On-board Monitor Test] and press [✓]. Depending on the protocol the vehicle used, one of these 2 screens shows. For Non-CAN vehicles, the test screen is illustrated below:

For CAN vehicles, the test screen is illustrated below:

Component Test {EVAP System Test)

This option initiates a leak test for the vehicle's EVAP system.

Component Test	
Vehicle Information	
Modules Present	
Unit of Measure	

1 EVAP Sys. Leak test

- Select [Component Test] and press [✓].
- Select [EVAP Sys. Leak Test] and press [✓].
- If the vehicle supports the EAVP test, the message "Command Sent!" will be displayed on the screen.
- **Note:** Before using the system test function, refer to the vehicle's service repair manual to determine the necessary procedure.

Vehicle Information

- This option retrieves a list of information (provided by the vehicle manufacturer) from the vehicle's on-board computer.

This information may include:

VIN (Vehicle Identification Number).   In-use Perform Track.

CID (Calibration ID).   ECU Name.

CVN (Calibration Verification Number).

Com ponent Test	
Vehicle Information	
Modules Present	
Unit of Measure	

Vehicle ID Number	
Calibration ID	
Cal Verf Number	
In-use Perform Track	
ECU Name	

Vehicle ID Number

VIN: SALAE25456A411919

DTC Lookup

- This function enables you to view the detailed definition of the retrieved OTC.
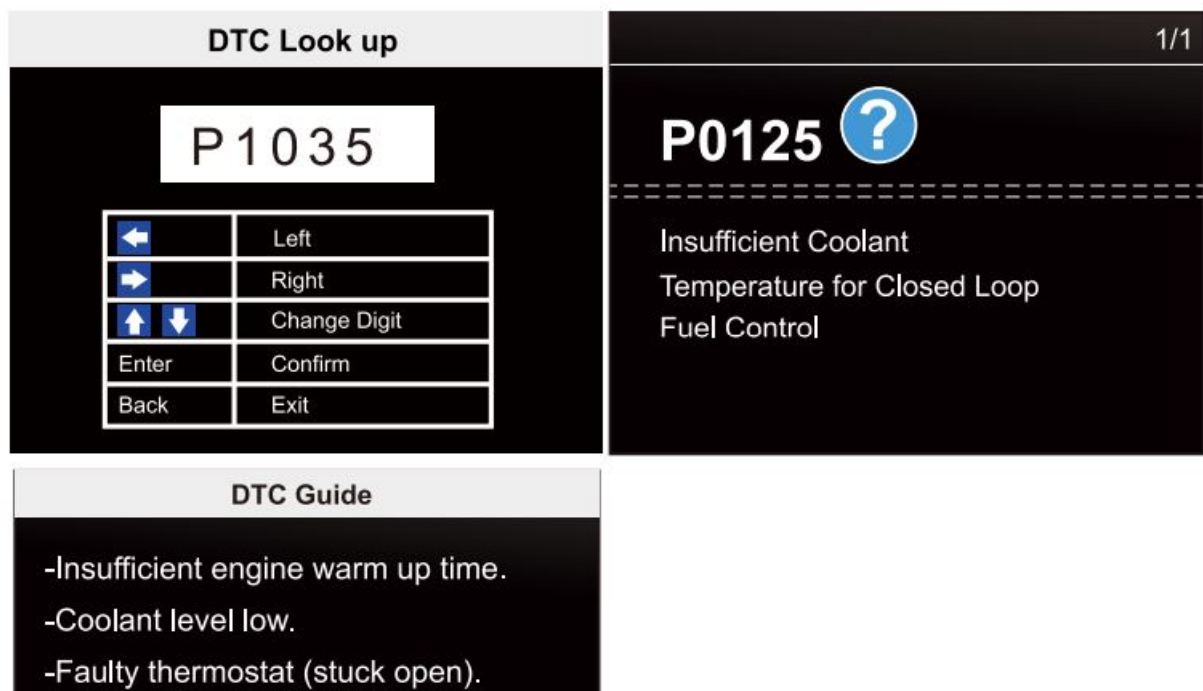
- Select [DTC Lookup] in the Main Menu and press [✓). The following screen will appear.
- After you input the DTC, press [✓]to view its detailed definition.
- You can press the [?] button to view the diagnostic tips/solutions related to the DTC.
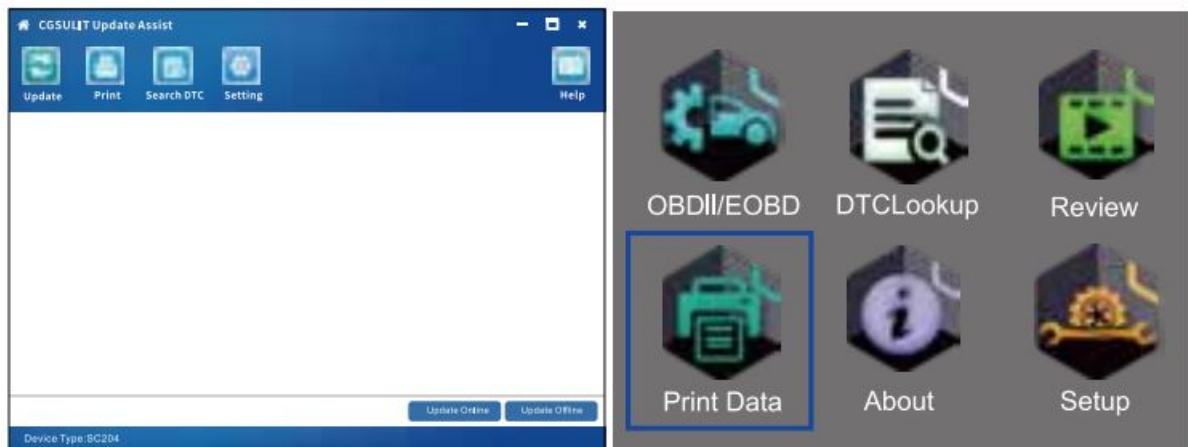
Review Data

- This option is designed to review or delete the recorded Liva Data, Freeze Frame, etc, as follows.
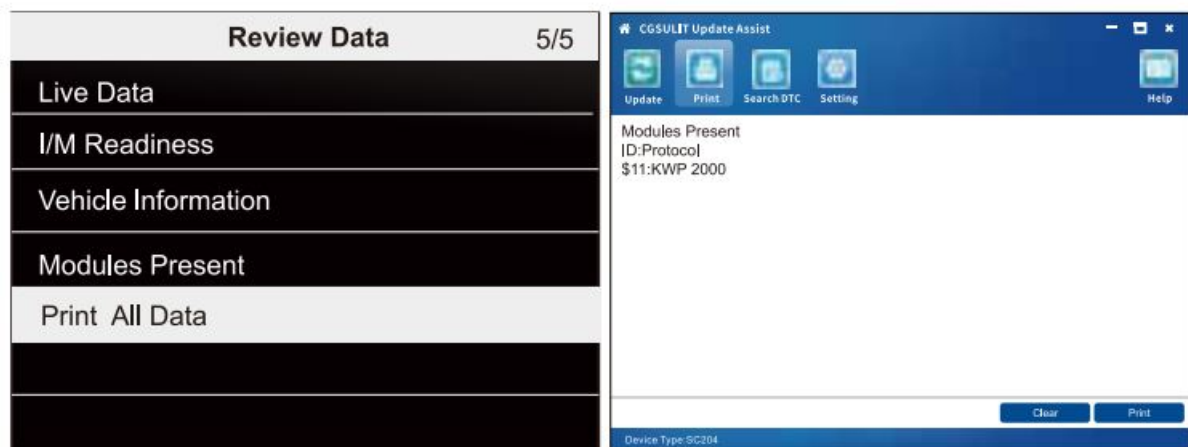

- **Note:** The message "No Data Available!" is displayed if no data is recorded.

Print Data

- The Print Data function is used to print test results through the computer.

- Connect the scanner to the computer via a USB cable to power it on.
- Run the Update Tool on your computer. Select [Print].
- Select [Print Data] on the OBDII scanner.

- Select the desired data to print. If all recorded data is to be printed, select [Print All Data]. Then press the [✓]key.
- The selected file will be uploaded to your computer, and displayed on the print manager. also allows the users to edit the text by moving the cursor to the edit box.
- With the printer correctly connected, use the [Print] key to print the testing data.

About

- Selecting [About] on the Main Menu to check this code reader information.
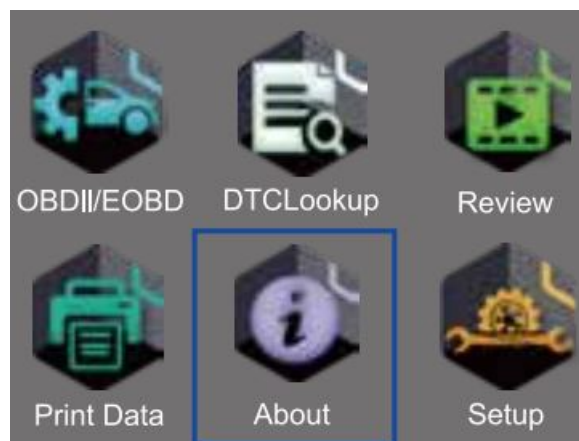
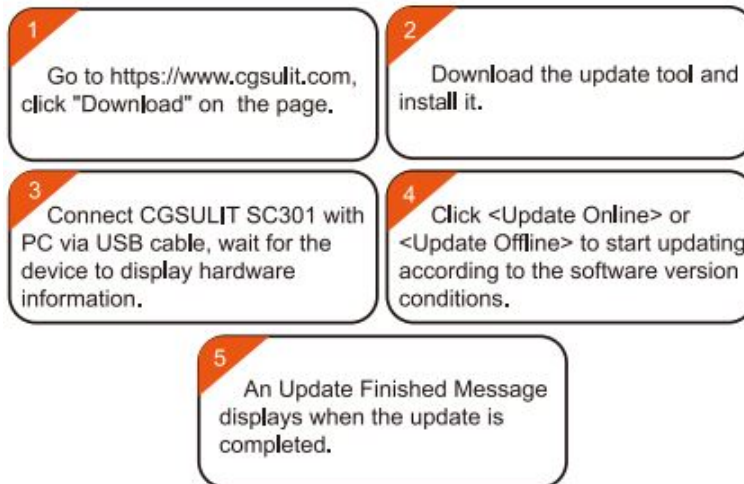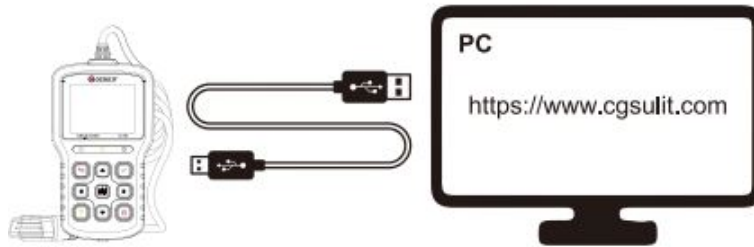- The result will be displayed on the screen.

Setup

- Select [Setup] in the Main menu and press the [✓] key. The following screen will appear.

Explanation of terms:

- **Language** – to set the user interface language.
- **Configure Monitors** – allows the users to configure the monitors required to test spark ignition and compression ignition, the number of monitors to pass diagnosis, and restore the default settings.
- **Key Beep Set** – to set key pressing beep On/Off.
- **Unit of Measure** – to set measurement unit.
- **Diag Beep Set** – to set the buzzer On/Off.
- **Tool Self-test** – to check if the LCD display and the operation of thekeyboard and LED Indicators are working correctly.

Update

1. Go to https://www.cgsulit.com, click "Download" on the page.
2. Download the update tool and install it.
3. Connect CGSULIT SC301 with PC via USB cable, wait for the device to display hardware information.
4. Click <Update Online> or <Update Offline> to start updating according to the software version conditions.
5. An Update Finished Message displays when the update is completed.

Technical Specitication

- **Display** : 2.8″ color LCD
- **Power Supply** : 8-18V
- **Working Temperature:** 0 to 60 °C (32 to 140 °F)
- **Storage Temperature:** -20 to 70 °c (-4 to 158 °F)
- **Dimensions** (L*W*H) : 145*94*32mm
- **Weight** : 0.5kg (18 oz)

Warranty

1. **CGSULIT One-Year Limited Warranty**
   - The CGSULIT Company warrants to its original purchaser that CGSULIT products will be free from defects in material and workmanship for 12 months from the date of purchase (Warranty Period).
   - For the defects reported during the Warranty Period,
   - CGSULIT will according to the technical support analysis and confirmation, either repair or replace the defective part or product.
2. **This limited warranty is void under the following conditions:**
   - Misused, disassembled, altered or repaired by a non-CGSULIT technical repair specialist.
   - Careless handling and violation of operation.

FQA

Q: System halts when reading data stream. What is the reason?

- **A:** It may be caused by a slackened connector. Please turn off the tool, firmly connect the connector; and switch it on again.

Q: There is no response when communicating with on-board computer?

- **A**: Please confirm the proper voltage of power supply and check if the throttle has been closed, the transmission is in the neutral position, and the water is at the proper temperature.

Q: Why are there so many fault codes?

- **A:** Usually, it's caused by poor connection or fault circuit grounding.

Q: Why can the DTCs not be erased?

1. **A:**Please confirm the malfunction related to DTCs has been adequately fixed.
2. Please switch the ignition OFF. Wait for 1~3 minutes, then start the vehicle. After that, try to run "Read Codes" again. (Some DTCs can only be erased in this way.)

Documents / Resources

	CGSULIT SC301 Car Code Reader [pdf] User Manual SC301 Car Code Reader, SC301, Car Code Reader, Code Reader, Reader

References

- **User Manual**