Smart DLogger

[CVCI-301]

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Introduction

■ Read First

We show our gratitude to customers who purchased Smart DLogger released by GIT (Global Information Technology) Co., Ltd.

CVCI is an electronic device suitable for diagnosing vehicles. For using the device safely and appropriately, please read and get used to this user manual.

■ Copyrights

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■ Limit of Liability

- All contents and images used in this user's manual can be modified without notice due to improvement/development of product functions and specifications.
- The user manual in the Smart DLogger program is updated frequently when changes are applied, so please update the Smart DLogger program to the latest always.
- For products not manufactured by GIT, such as information terminals (laptops) and printers, the manufacturer's A/S standards are complied with.
- This product is a device that supports diagnosis of vehicles' malfunctions through communication and measurement with electronic devices of the vehicles, and may not be able to display accurate data depending on the vehicle's condition, communication situation with the product, and measurement conditions. The vehicle diagnosis and repair method must be determined by the user's judgmentt and the manufacturer and sellers are not responsible for the results of the diagnosis failure and repair methods.

■ Cautions on Trademarks

1. Manufacturer : G.I.T CO.,LTD
2. KR(South Korea)
3. 056655, GIT Building, 87, Machoen-ro, Songpa-gu, Seoul
4. Approprite Voltage: DC9 - 3~~0V=~~ 1A

   Di~~rect~~ Current

   ※ Equipment for marking on the nameplate is only suitable for direct current.
5. This product is CE marked according to the provisions of the RED Directive (99 / 5 / EC).

   Hereby, G.I.T co.,LTD certifies that this product conforms to the essential requirements and other relevant provisions of Directive 99 / 5 / EC.

Summary

CVCI-301 sets the measurement parameters suitable for phenomena of each system and records the data. Smart DLogger program provides the function to perform smooth analysis of recorded files.

Specifications

Long-time recording of maximum 2 hours is available with increased storage capacity and improved data processing capability, and wireless transmission and reception of the saved large event data file are avilable.

- Added Driving Data Recording Mode
- Improved Event Storage Time (User Modification)
- Real-time monitoring function of received CAN data to check CAN BUS connection consistency

Components

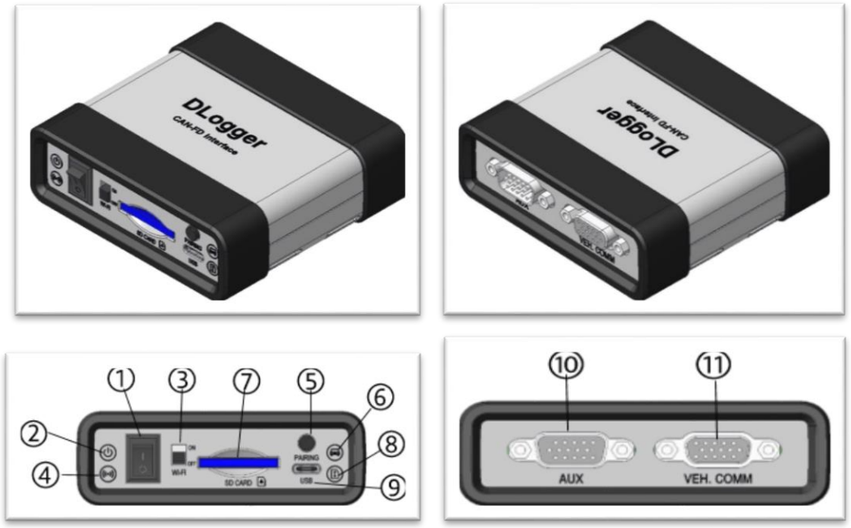
Components Name	Image	Component No.	Amount
CVCI-301 Main Part		G1DDDMD002	1
SD Card		A2MDTDSD16G	1
OBD to D-SUB Cable		G1DTDCB011	1
Wired Trigger Module		G1DTDCB012	1
20 Pin Cable		G1DTDCB013	1
Main 4ch Cable		G1DTDCB001	1
6 Pin Connector (CCP-6P)		G1DTDCB022	1
Extension Cable (4PM-4PF)		G1DTDCB024	1

POWER Extension Cable		G1DTDCB002	1
DLC CAN&POWER Cable		G1DTDCB016	1
MICRO Dual Fuse Adapter		G1DTDCB003	2
MINI Dual Fuse Adapter		G1DTDCB004	2
MINI-LP Dual Fuse Adapter		G1DTDCB007	2
O-Ring GROUND		G1DTDCB008	2
Banana Jack Extension		G1DTDCB005	2

USB Cable (TYPE-A,TYPE-C)		G1WDDCA011	1
Embedded 4ch Cable		G1DTDCB015	1
Probe Cable (4P-B2P)		G1DTDCB021	2
ADAP(4P-BF)		G1DTDCB023	1
Probe		G2SDDED001	4
EXT Wire (BM-BF)		G1DTDCB014	1

CVCI -301 Main Part Function Description

[Front] [Behind]



Part	Content
1	Main Power Switch
2	Main Power LED (Red)
3	Wi-Fi Switch : ON when connecting to a wireless network for remote support
4	Wi-Fi LED (Red), Bluetooth (Green)
5	Bluetooth Connection Switch : Wireless Trigger
6	Vehicle Communication LED (Blue)
7	SD CARD Slot : External Memory SD CARD 16G Installed (Maximum 32G Support) * CLASS 10 of SD Memory must be used.
8	SD CARD LED (Green)
9	USB Cable Port : C-Type USB Cable Connection (5V) (Moving SD CARD Data to PC)
10	Wired Trigger Switch Connection Port
11	Vehicle Communication CAN Logging Cable Connection Port

CVCI -301 Main Body Specification

Part		Standard
Central Processing Unit		ARM 32-bit Cortex™-M7 Core / 400MHz
Internal Memory	RAM	1Mbyte
	Flash	2Mbyte
External Memory	SD-Card	16GByte (Class 10)
Applicable Voltage		9V ~ 30VDC
Applicable Temperature	Operating Temperature	-20℃ ~ 60℃
	Storage Temperature	-30℃ ~ 80℃
Wireless Communication	Bluetooth	B/T Class1
Indicator		LED, Buzzer

CVCI-301 Label Paper Specification

CVCI-301 Behind Product Label

[Cautions for Use]

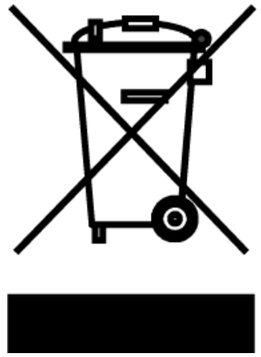
1. Applicable temperature of the product is -20 ℃ ~ 60 ℃, and it could affect the function of the product when the temperature is out of this range.
2. The product must be stored in the temperature -30 ℃ ~ 80 ℃. It could affect the function of the product when the temperature is out of this range.
3. We encourage to use basic accessories wrapped in the same box with the product. When the product is used with accessaries from elsewhere, it could make interference signals that might damage other electronic products nearby, and the product may also not work properly.
4. We encourage to use other accessories wrapped in the same box with the product. When the product is used with accessaries from elsewhere, it could make interference signals that might damage other electronic products nearby, and the product may also not work properly.
5. The product's wireless conduction power all comply with the related RF standards, and if the product's voltage and temperature are too low or too high, or if there are abnormal operations, the wireless conduction power of the product may become unstable and affect the function of the product.
6. The product must be used with accessories provided with CVCI-301. If the product is used with accessaries from elsewhere or if the voltage or temperature are too low or too high, there are abnormal operations and it may affect the function of the product with unstable wireless conduction power.
7. Wireless communication antenna of the product has 20cm of affordable length and meet the standard of EN62311, so SAR test is not required.
8. The safety/ RF/ EMC of this product has already been tested with a validated test evaluation and received a pass report, but abnormal operations or conditions may cause the product to stop working or to cause malfunctions.

[Module Credentials]

Changes or modifications not approved by the party of compliance liability could make invalidity of the authorization of users who operate the equipment.
This device complies with Part 15 of the FCC Rules, and operations follow these conditions.

(1) This device may not cause interference.
(2) This device must accept any interference including interference that may cause unwanted operations.
※ This device has been tested according to Part 15 of the FCC Rules and it is checked that the device comply with the limits for a Class B digital device. These limits are designed to provide appropriate protection against harmful interference when it is installed in the residential areas. This device can generate, use, radiate wireless frequency energy. If it is not installed in accordance with the instructions, it may cause harmful interference that affects wireless communication. However, there is no guarantee that interference will not occur in a particular installation. If this device cause harmful interference to wireless communication or TV reception that can be checked by turing on and off, the user is encouraged to try to solve the interference issue by conducting one or more of the following measures.

- Change the direction or the position of the receiving antenna.
- Extend the gap between the device and the receiver.
- Connect the device to the outlet on the different circuit from the one which is connected to the receiver.
- Ask assistance from the dealer or an experienced radio/TV technician.



WEEE Symbol

If you see this symbol on old disposed electrical/electronic devices or packages, do not treat these products as household waste. Instead, it must be delivered to the proper collection places for recycling electrical/electronic devices. Check this product to be disposed to prevent potential bad impacts on environment or public health. Otherwise, this product may be disposed improperly. Recycling products help preservation of natural resources The details of the recycling this product can be informed by your local government office, household waste disposal service, or the store where you purchased the product.

This product is CE marked according to the provision of the R&TTE Directive (99/5/EC).
Hereby G.I.T co., Ltd.. declares that this product is in compliance with the essential Requirements and other relevant provisions of Directive 1999/5/EC

CE 0678

Trigger Module Operation Description

Wired Trigger Switch

The wired trigger switch applied to 'CVCI-301' is connected to the AUX terminal of the Smart DLogger Main Body, and it performs a function to forcibly Wake up CVCI-301 in sleep mode and trigger signals that save the data through switch movement.

Furthermore, you can check the status of Ready, Recording, Sleep, Error of CVCI-301 through the LED lighting status.

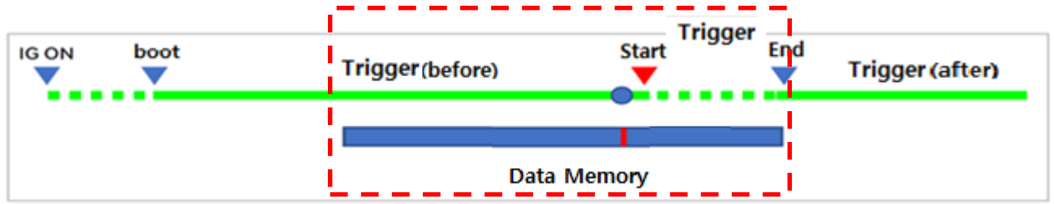
By applying a wired trigger, the users can forcibly Wake up CVCI-301 at the initial start-up before IG Key operation, so it is advantageous for securing start-up data, and it secures data reliability against Bluetooth pairing delays and errors.

[LED Light Status]

L E D Lighting Area Switch Press Area

Light	**Status of Monitoring Data with normal event setting and waiting for trigger**
OFF	**[Status of Entering Sleep Mode]** **- After IG OFF, when the vehicle communication signal is not detected for a certain period of time, it enters the sleep mode, and when the communication signal is detected or the trigger switch is pressed, it Wake up.**
OFF after Lighting Once	**Status of Error or there is no event file in SD memory**
Flickering for several seconds after On once	**Initial boot process after applying event file**

[Default/Custom Setting Trigger Mode Movement] -



When a problem occurs in the trigger standby state, Default/Custom Setting Mode saves the data before/after the setting time when the trigger switch button ( ) is pressed.

.

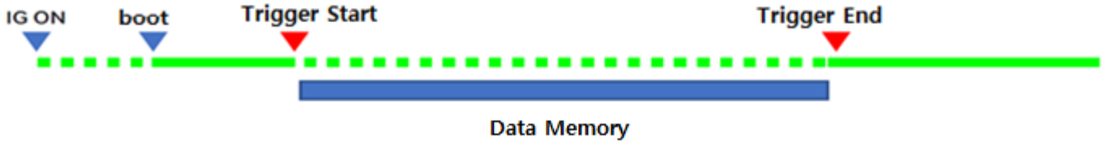
- Smart DLogger(CVCI-301) can change the trigger time through the 'Custom Setting' according to the user's needs.

[Save Driving Record Data]

The driving record setting is saved by controlling the trigger switch button and it works as follows.

- Press Trigger Switch No.1 : Trigger Start
- Press Trigger Switch No.2 : Trigger End

If there is no Trigger End, it is automatically saved every 2 hours.



Wireless Trigger Switch (Option)

CVCI-301 does not include a wireless trigger switch as standard, but it is compatible with the wireless trigger switch provided in CVCI-201 and VCI II.

※ Wireless trigger switch for CVCI is not compatible

Through simple paring movement, you can use the wireless trigger switch.

When an event occurs while the pairing is complete, press ENTER button to save the data.

[How to pair wireless trigger switch]

- Press the PAIRING button for 2 seconds after turning the CVCI-301 power on. (Beep~ Beep Sounds)

- [Before Paring] Attach it to the wireless trigger switch cigar socket or power outlet and press ENTER button for 2 seconds after the power is turned on.
  - A.B LED of the wireless trigger switch lights up sequentially, and paring is in progress.

- [After Paring] When pairing is complete, the ENTER part lights up in green, and the LED on the connected channel (A or B) lights up.

※ Simultaneous recording is available by paring two CVCI-301s using a wireless trigger switch.

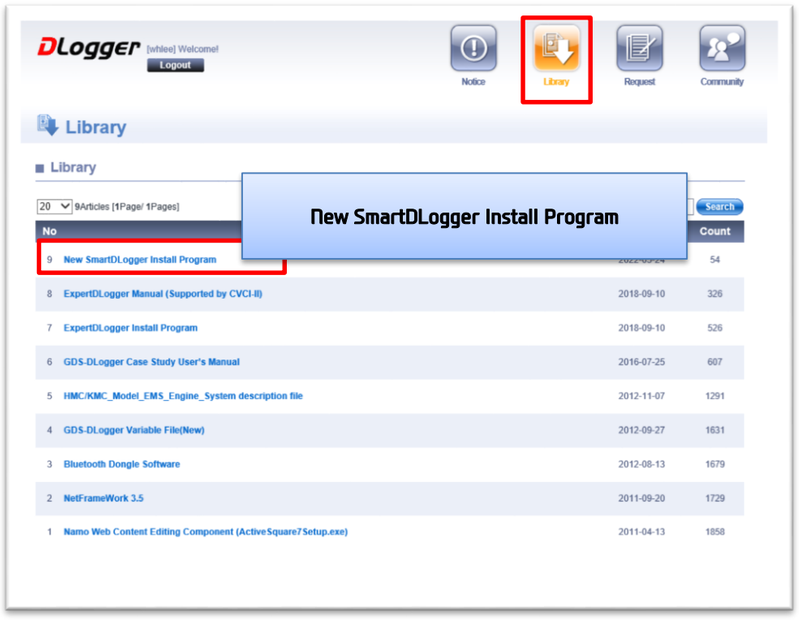
- Among two CVCI-301s, one of them acquires EMS data and the other requires CAN logging
- Among two CVCI-301s, each requires CAN logging of 2 channels, 4 channels in total

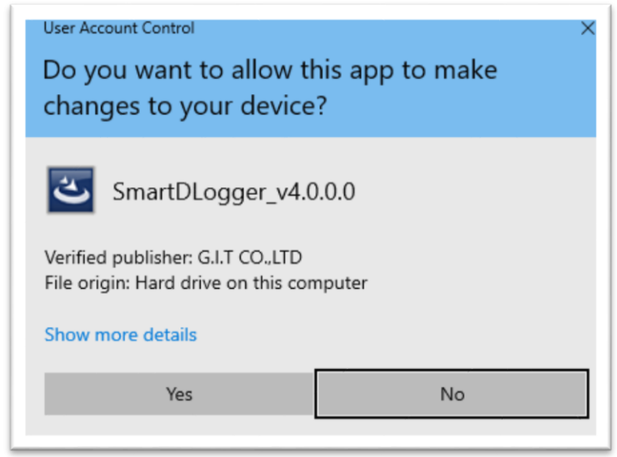
⚠ **Acquiring data of two controllers at the same time such as EMS and TMS simultaneous recording is not recommended because data error occurs due to the increase of CAN BUS addition.**

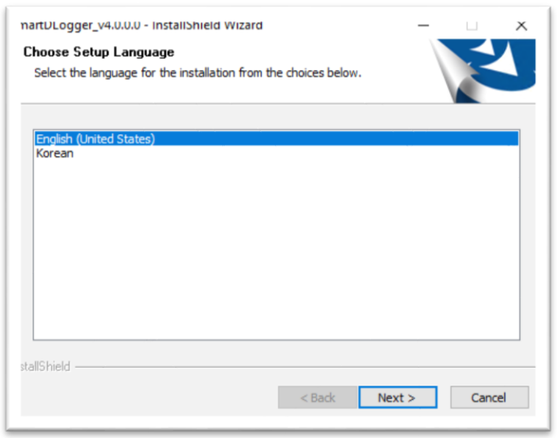
Program Download and Installation

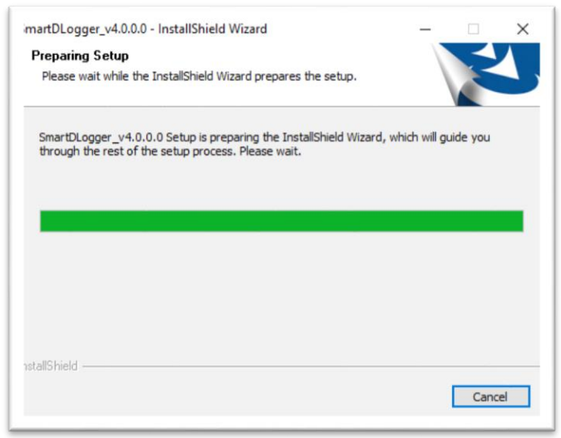
Smart DLogger Program Download

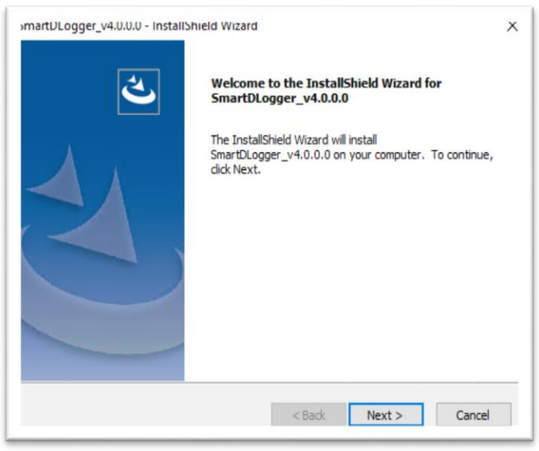
To install the Smart DLogger program, log in to the user site http://inside.globalserviceway.com/ and download the file “SmartDLogger v4.0 Program” from the data archive, decompress it and run it.

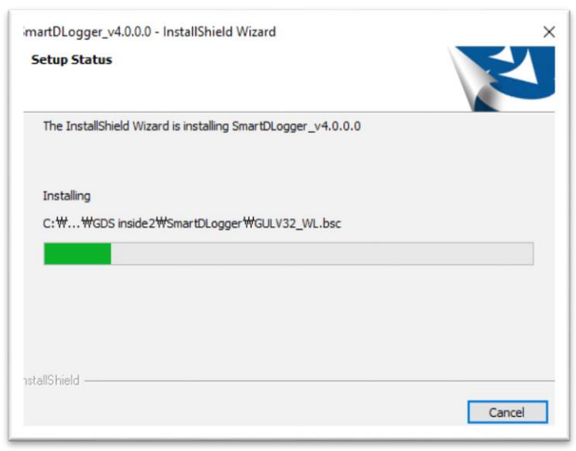


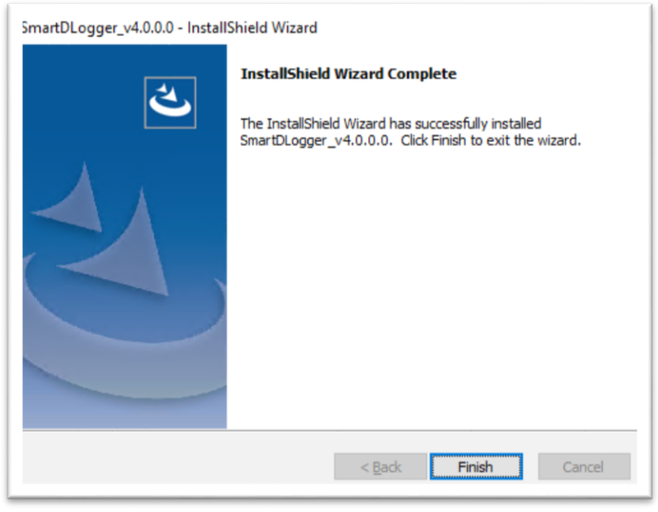



Choose Setup Language
Select the language for the installation from the choices below.
English (United States)
Korean
< Back
Next >
Cancel


Preparing Setup
Please wait while the InstallShield Wizard prepares the setup.
SmartDLogger_v4.0.0.0 Setup is preparing the InstallShield Wizard, which will guide you through the rest of the setup process. Please wait.
Cancel


Welcome to the InstallShield Wizard for SmartDLogger_v4.0.0.0
The InstallShield Wizard will install SmartDLogger_v4.0.0.0 on your computer. To continue, click Next.
< Back
Next >
Cancel

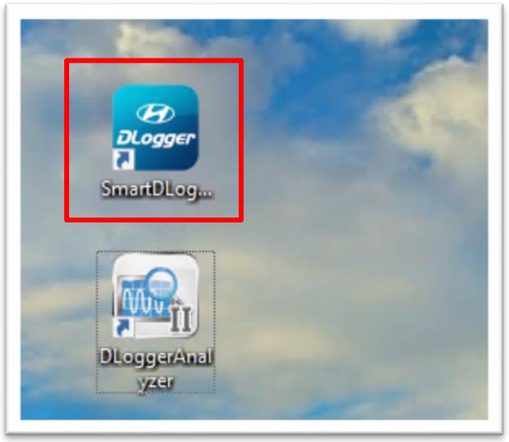

Setup Status
The InstallShield Wizard is installing SmartDLogger_v4.0.0.0
Installing
C:₩...₩GDS inside2₩SmartDLogger₩GULV32_WL.bsc
Cancel


SmartDLogger_v4.0.0.0 - InstallShield Wizard
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed SmartDLogger_v4.0.0.0. Click Finish to exit the wizard.
< Back
Finish
Cancel

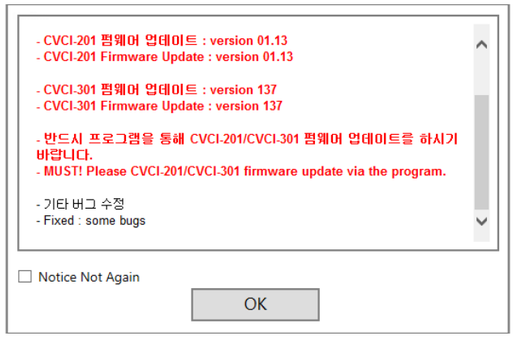
Start & Log-In Procedure

Smart DLogger Start

After installing the software, launch the program by double clicking the icon on the desktop as shown in the picture below.



When you log in, Internet update history is displayed in a pop-up box



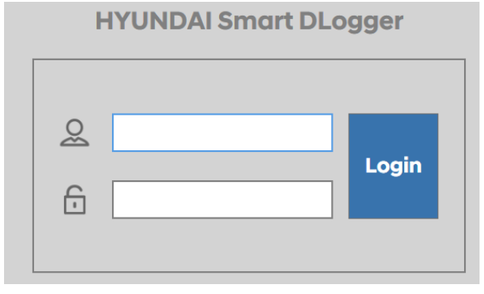
[Update History Screen]

Smart DLogger Log-In

When Smart DLogger is run, the Log-in screen is displayed.

If you log in by entering your ID and Password, you will go to the main screen.

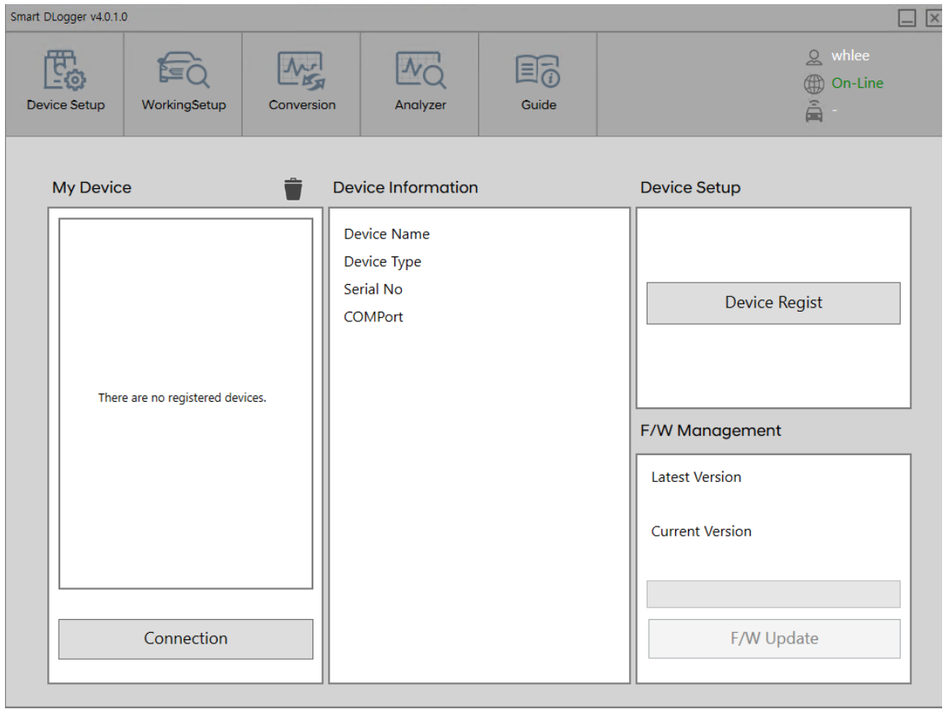
※ You can log in only when the network is online, so make sure to check the internet.



Main Screen Layout

The main screen of Smart DLogger consists of menus for users to perform various functions.

- The upper menu functions provide ‘Device Setting, Working Setup, Data Conversion, Analysis Program, Guide.’
- Information bar displays information of functions such as ‘My Device, Device Information, Device Setting, Firmware Management.’



Top Menu Function Description

- Device Setting

  The device Setting screen supports the registration of Smart DLogger program and the firmware update.

- Working Setup

  The device setting is the step to enter the vehicle information of the vehicle such as vehicle ID number/Driven Distance/Rom ID before communicating with server.

- Data Conversion

  This is a function that converts data to search the saved data whose event setup is completed and to analyze them in the ‘analysis program.’

  Data can be transmitted using C-TYPE USB or Bluetooth.

- Analysis Program

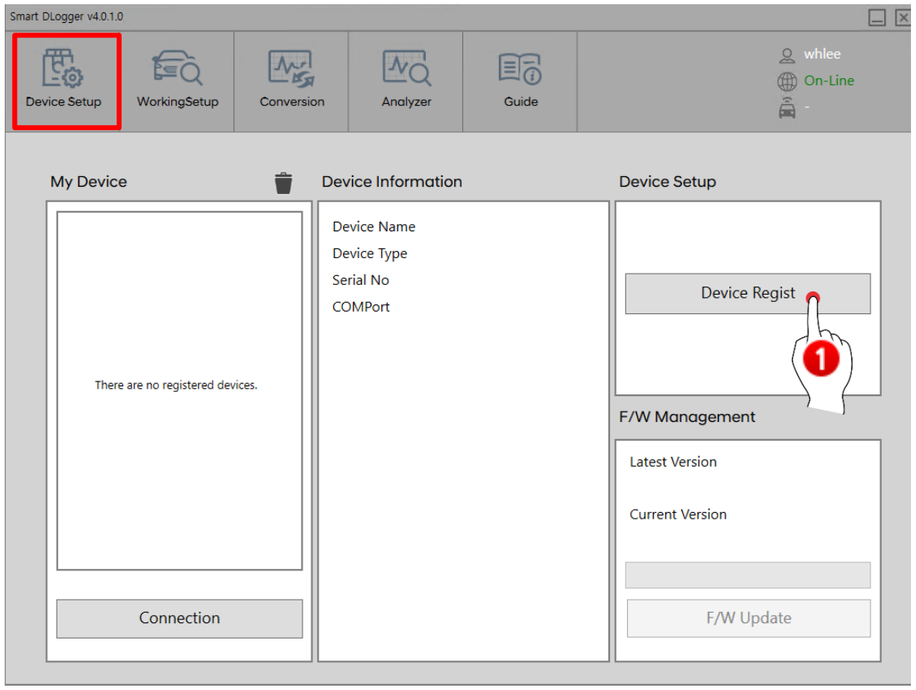
  The analysis program is an offline program that displays and analyzes recorded measurement data.

  To analyze the phenomena and causes of the recorded data using DLogger analysis program, measurement variables is being set and tasks are performed until it analyzes the data.

Device Registration

Device Setting Setup

The device setting screen supports registration in Smart DLogger program and firmware update.



1 **Device Registration**

This is a function to register new devices to the Smart DLogger program

If you click [Device Regist] button, a device registration pop-up is displayed,

and you can register the CVCI device that you want to use.

Device registration is performed by selecting one of three Smart DLogger devices.

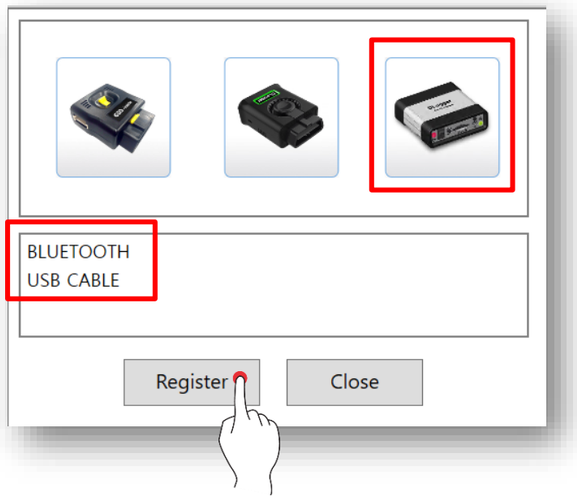
< Supported Module Types >

Icon	Connecting Method
	Bluetooth Connection
	Bluetooth & USB Cable Connection
	Bluetooth & USB Cable Connection

- To register a device, select the device (CVCI main body) to be connected as shown below and click the Registration button.

  ※ The picture below is the CVCI -301 selection screen.

  Furthermore, CVCI -1 or CVCI-201 devices can also be selected, so use it after checking the device you have.



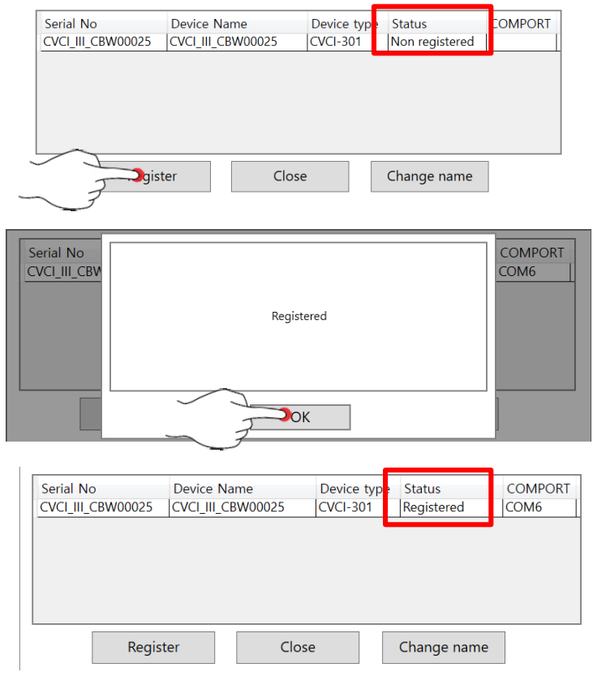
◆ Before registering the product in the Smart DLogger program, make sure to apply power to the CVCI main body.

※ **How to apply power to CVCI-301**

① Connect CVCI-301 to the vehicle self-diagnosis connector.
But, the vehicle and the PC must be within Bluetooth communication range.

② Connect the USB Type-C charging port to the CVCI-301 USB port.

● When the Bluetooth & USB cable is connected to the CVCI body, the list of 'product numbers' is searched as shown below. (Refer to the image below)
Select the device you want to use and click 'Register' for the product.
When registration is complete, the status display changes **<u>from 'Not Registered' to 'Registered.'</u>**



[Device Registration Completed]

※ 'Change Device Name' Function

- This is the function to change the name of the device that is currently on display

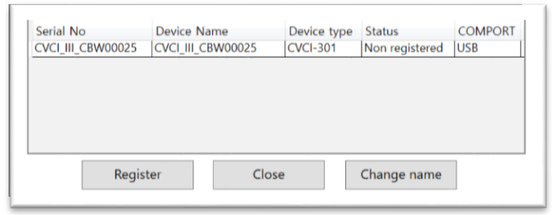
<How to Register Bluetooth & USB Cable >

[Bluetooth Connection]

1) Check if the Bluetooth device is mounted on the PC in progress, then check if device search is activated.
2) Select CVCI-301 in the device selection, and select the Bluetooth connection method, then select 'Register.'
3) After power is applied to CVCI-301, turn 'ON' the power switch
4) If CVCI-301 is found on the PC, it is displayed in the result box. After selecting the device, select 'Register.'
5) When the registration is complete, the serial number and Bluetooth icon of the CVCI-301 are added to My Device list.

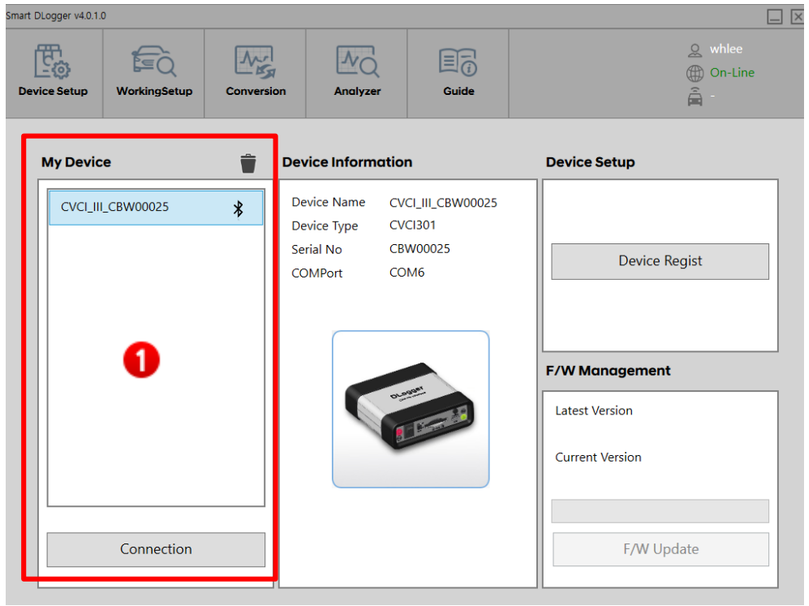
[USB Cable Connection]

1) Connect the CVCI-301 to the PC in the registration process with a USB cable.
2) Turn the power switch 'ON' to activate CVCI-301.
3) On the device selection, select CVCI-301, and select the connection method 'USB,' then click 'Registration'

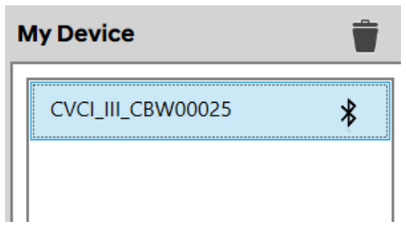


1) When registration is completed, the CVCI-301 serial number and USB icon are added in My Device list.

- When device registration is completed, click the serial number from the list displayed in ‘My Device’ to check the information of the device.

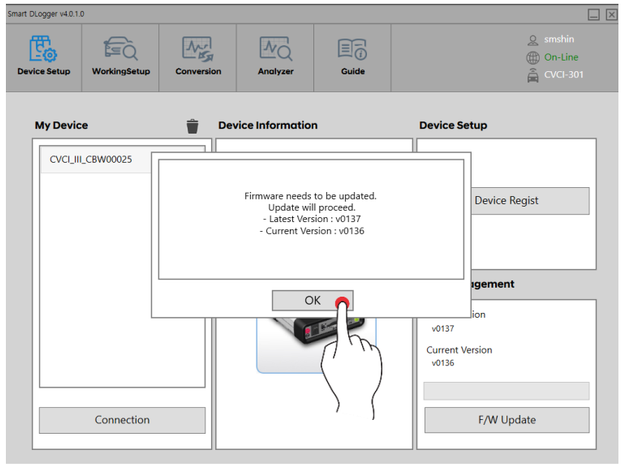


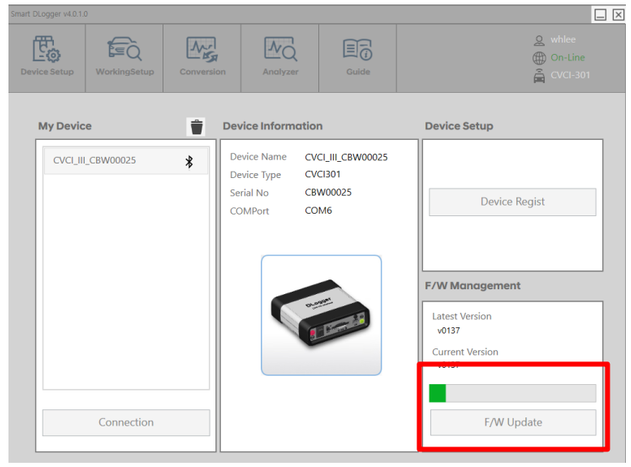
1 ‘My Device’ is screen to display the registered devices with their connection status as shown in the picture below.

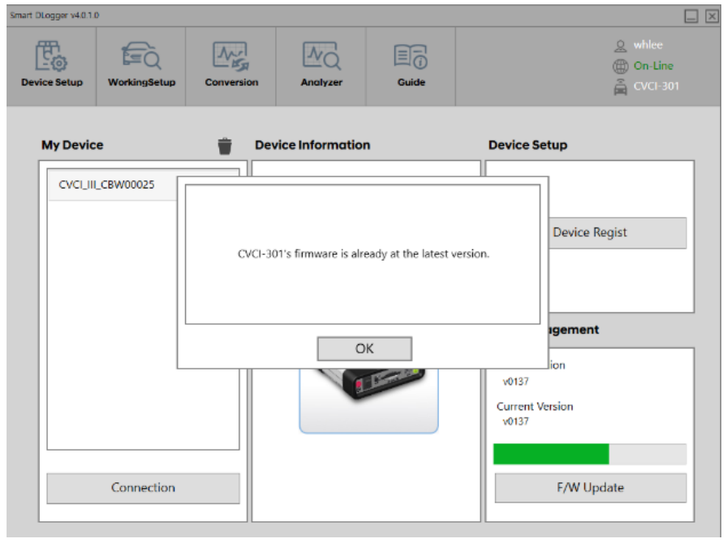


- Click Connection button to connect with CVCI device.

When the device is connected, check the firmware update information to notify any update to the user. Click ‘OK’ button to progress the update.





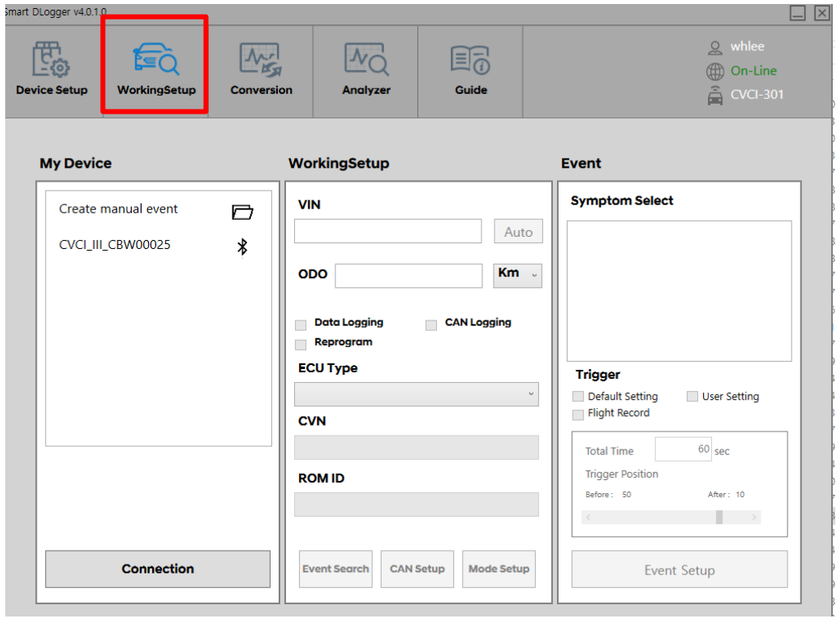

Smart DLogger v4.0.1.0
Device Setup
WorkingSetup
Conversion
Analyzer
Guide
whlee
On-Line
CVCI-301
My Device
Device Information
Device Setup
CVCI_III_CBW00025
CVCI-301's firmware is already at the latest version.
OK
Device Regist
v0137
Current Version
v0137
Connection
F/W Update

Working Setup

- **It creates event files automatically through VIN search when it is connected to the vehicle.**

Device Setting is the step of entering vehicle information such as vehicle ID number, driven distance, Rom ID before communicating with the server.

This function proceeds in automatic mode through the vehicle's VIN search.



◆ Click the ‘Device Connection’ button to link with Smart DLogger program

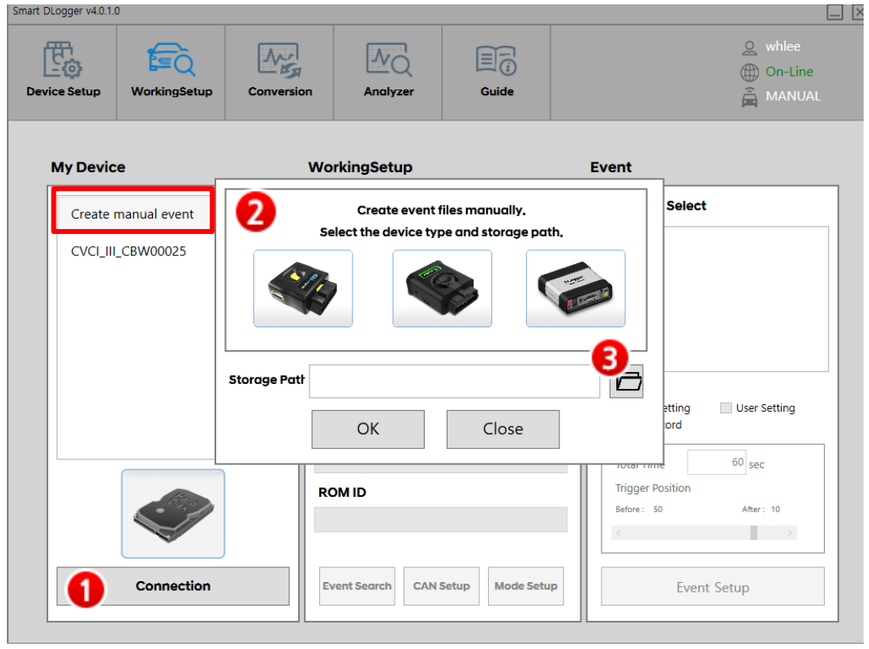
- **It creates event files manually if there is no CVCI main body.**

Event files can be created manually even when only events need to be created or when event files need to be supported externally.

However, we need information about the vehicle such as ROM ID, VIN, and phenomena.

Manual events can be created in the desired location by clicking **Create manual event** .

- There are no specific functional problems or differences between Automatical and Manual, except different locations where the 'Event Creation' files are saved in the CVCI main body (SD card) or in the PC local.



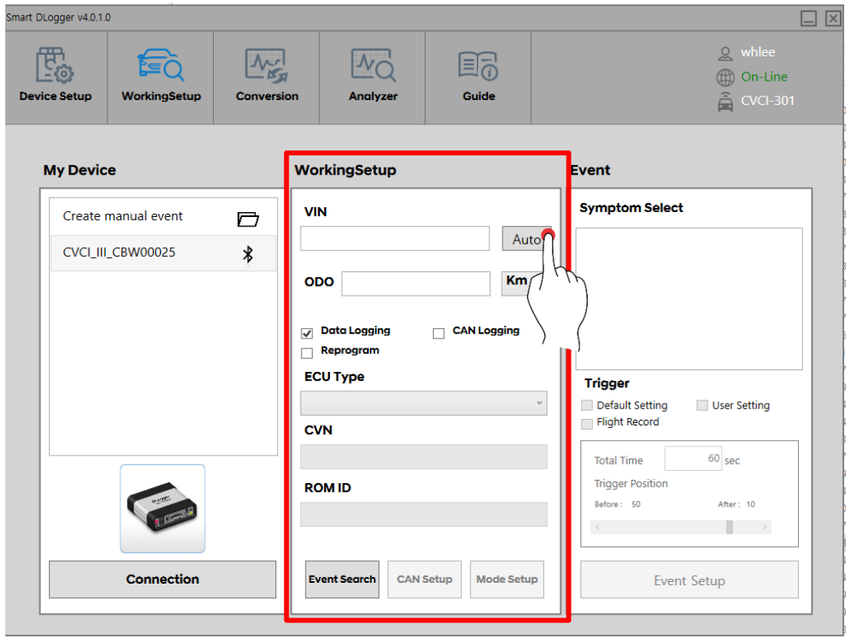
No.	Content
1	Select [Working Setup → Manual Event Creation], then select ‘Device Connection’
2	Select CVCI main body that event files perform (CVCI-1, CVCI-201, CVCI-301)
3	Select the location path of the event file cration

[Data Logging]

1. Event File Creation (Working Setup)

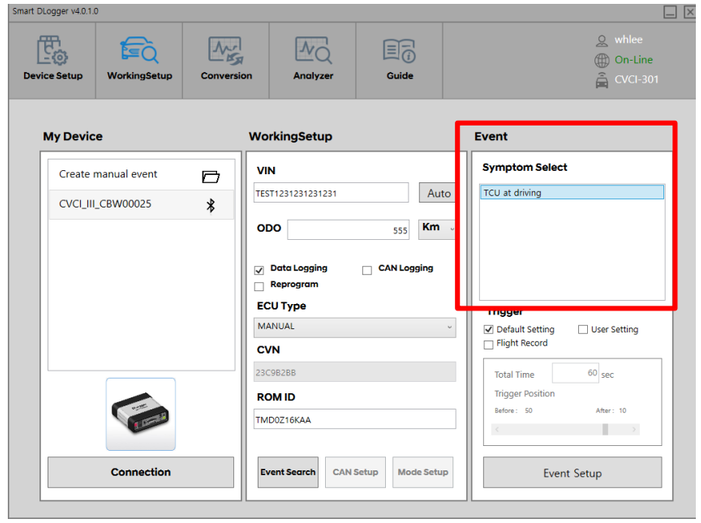
- If you click **‘Auto’** button, VIN, CVN, ROM ID Information is automatically transmitted through vehicle communication.
- Enter **‘Driven Distance,’** and check the ‘**Data Logging**’ checkbox.
- Check whether ECU is selected in ‘**ECU TYPE.’**

  But, when logging TCU data, TCU is selected, and the ROM ID is changed into TCU ROM.



2. Event File Creation (Event)

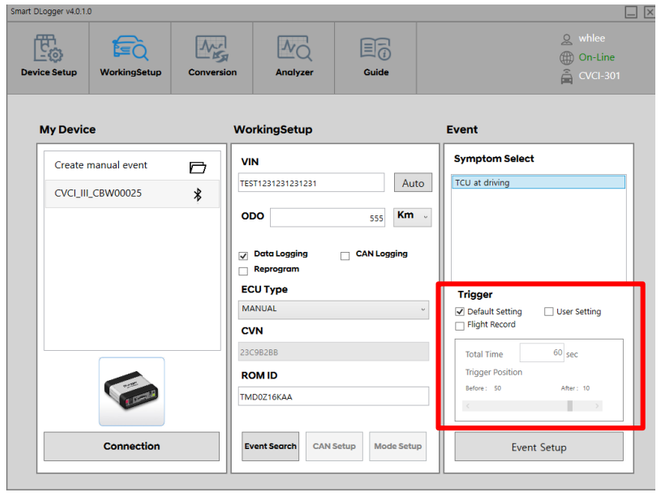
- ‘Phenomenon Selection’ displays the searched event.
- Select a suitable event for the vehicle phenomenon.



3. Event File Creation (Trigger)

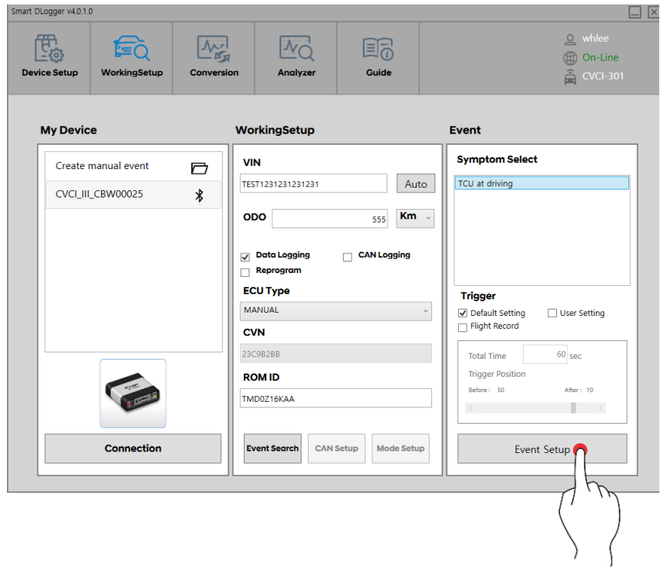
Function	Content
Default	The default setting is 60 seconds of data saving time with 50 seconds before the trigger point, and 10 seconds after the trigger point.
Custom	It is a customized setting by users. As shown in the picture below, 'total time' is set in seconds, then points of before/after trigger are set (Maximum 2 hours saving)
Driven Distance	It is changed to driving record mode, and the record time is controlled according to the movement of the user trigger switch.

◆ Trigger button (Push 1 time : Start , 2 times : End) Maximum 2 hours of Saving is available



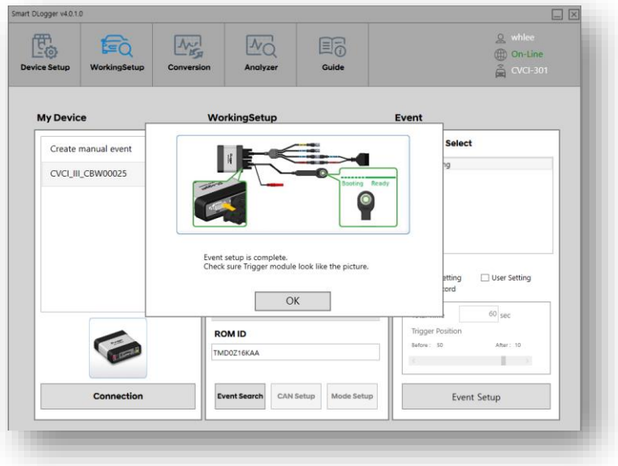
4. Event File Save

Click ‘Event Set Up’ to save the event files to the designated storage.



5. Complete Event Set Up

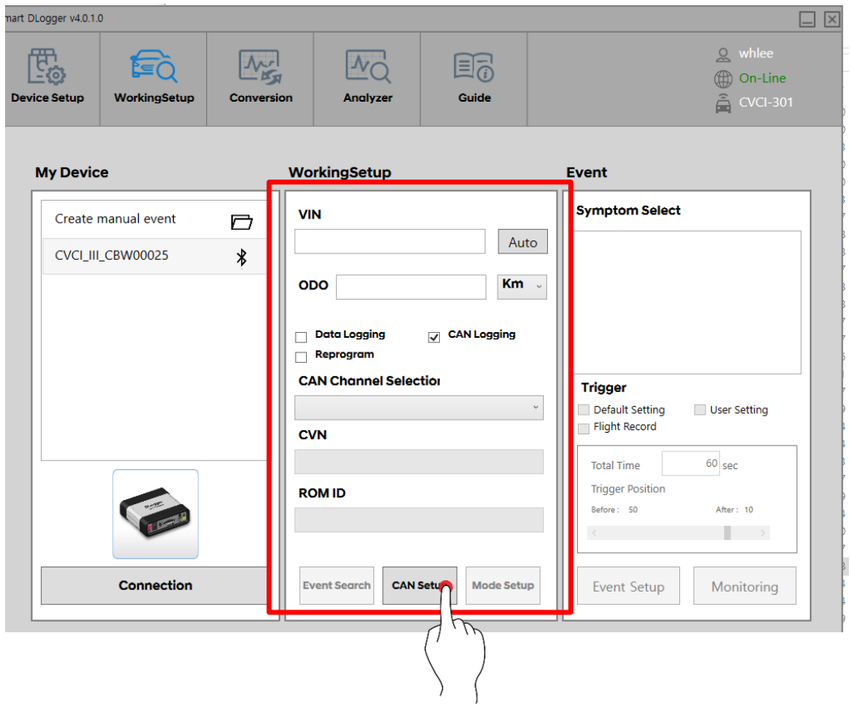
➢ Connect the CVCI main body to the vehicle.
(※ Refer to page 13~15 for connection method)
When an event occurs, it creates data record through trigger switch.



[CAN Logging]

1. Event File Creation (Working Setup)

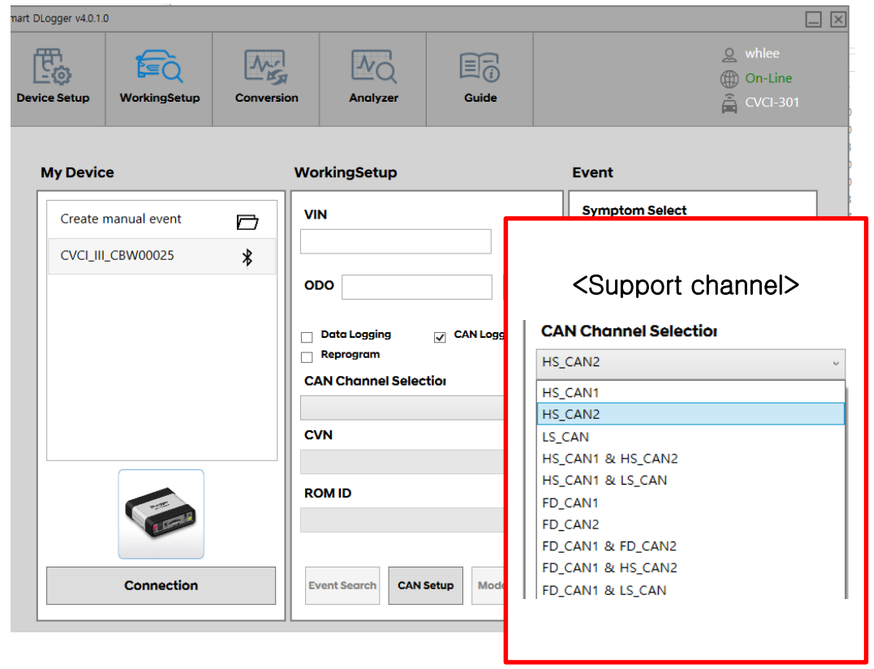
- If '**Auto**' button is clicked, the information of VIN, CVN, ROM ID is automatically transmitted through vehicle communication.
- Enter 'Driven Distance,' then check the '**CAN Channel Selection**' checkbox



- Select [CAN Channel Selection], then click 'CAN Set Up' to proceed to next step.

2. Event File Creation (Event)

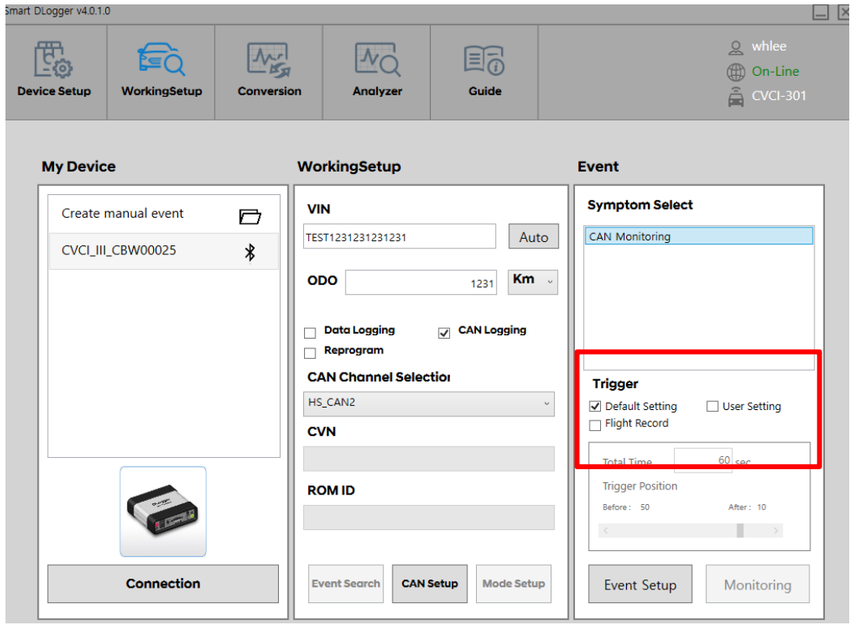
- 'Phenomenon Selection' displays the searched event.
- Select an Event <Support Channel> suitable for the vehicle phenomenon.



3. Event File Creation (Trigger)

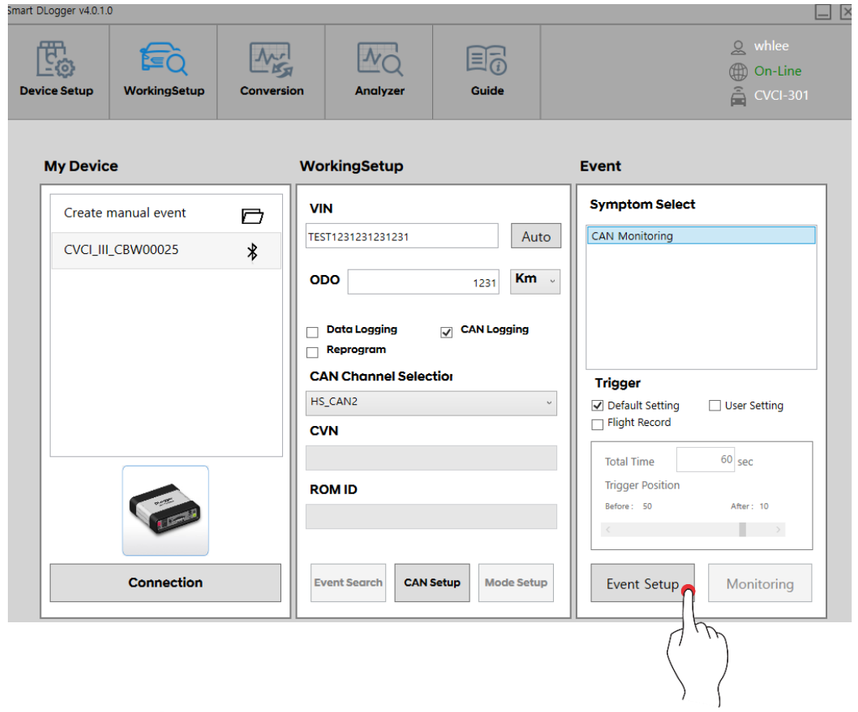
Function	Content
Default	The default setting is 60 seconds of data saving time with 50 seconds before the trigger point, and 10 seconds after the trigger point.
Custom	It is a customized setting by users. As shown in the picture below, 'total time' is set in seconds, then points of before/after trigger are set (Maximum 2 hours saving)
Driven Distance	It is changed to driving record mode, and the record time is controlled according to the movement of the user trigger switch.

◆ Trigger button (Push 1 time : Start , 2 times : End) Maximum 2 hours of Saving is available



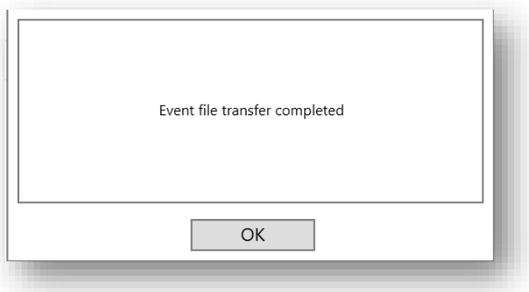
4. Event File Save

Click ‘Event Set Up’ to save event files to the designated storage.



5. Event Set Up Complete

- After connecting CVCI main body to the vehicle, run the vehicle.
  (※ Refer to page 22~24 for connection method)
- When an event occurs, it creates data record through trigger switch.

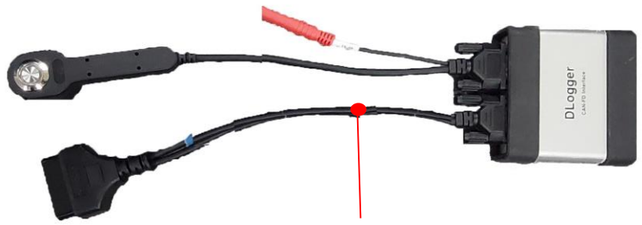


Connection Method

- **Connect to Vehicle Self-Diagnosis Connector (OBD terminal).**
- **Data, CAN logging can be acquired by supplying power to CVCI-301 main body and by searching the vehicle information.**
- **If C-CAN supports the self-diagnosis connector, it is connected in the way shown below. (During CAN Connection)**

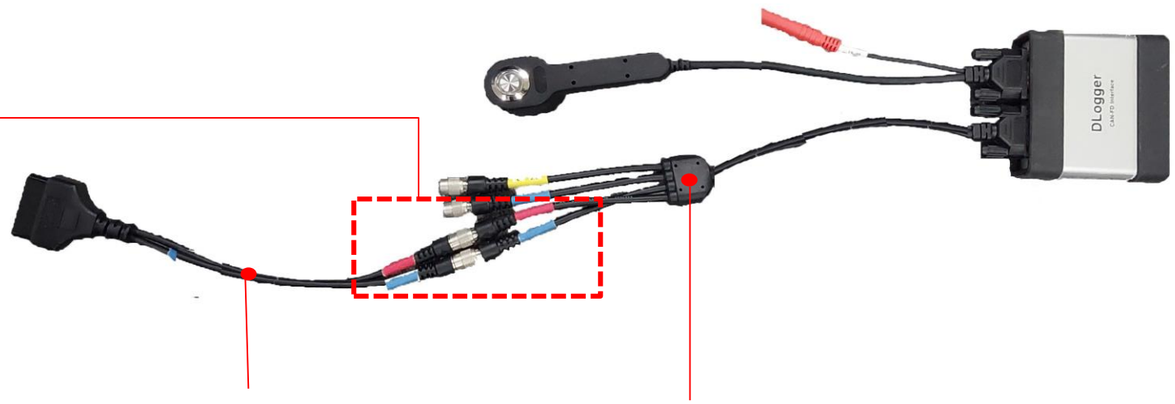
☞ Self-Diagnosis Connector (OBD Connector) CAN1 Connection

1. When using ‘OBD to D-SUB Cable’



OBD to D-SUB Cable

2. When using ‘EXT WIRE(BM-BF) +Main 4ch Cable’



DLC CAN & POWER Cable

Main 4ch Cable

Power is supplied to DLogger main body through the vehicle's self-diagnosis connector (OBD connector). Even if the vehicle information is available to be acquired, but CCP CAN must be connected through different CAN2 port for acquiring EMS data.

EMS data is acquired by connection CAN2 to CCP CAN BUS for the vehicles that cannot acquire data through CAN1 (D-CAN).

The connection method of CCP CAN may differ depending on the vehicle model. Connection method referring to circuit diagram and CCP CAN probe point are used.

☞ **Self-Diagnosis Connector (OBD Connector) CAN1 + CAN2 (CCP) Connection**

In general, the engine room 20P multi-purpose connector can be used, but there are cases without an inspection connector depending on the vehicle model due to the trend of minimizing/deleting the inspection connector.

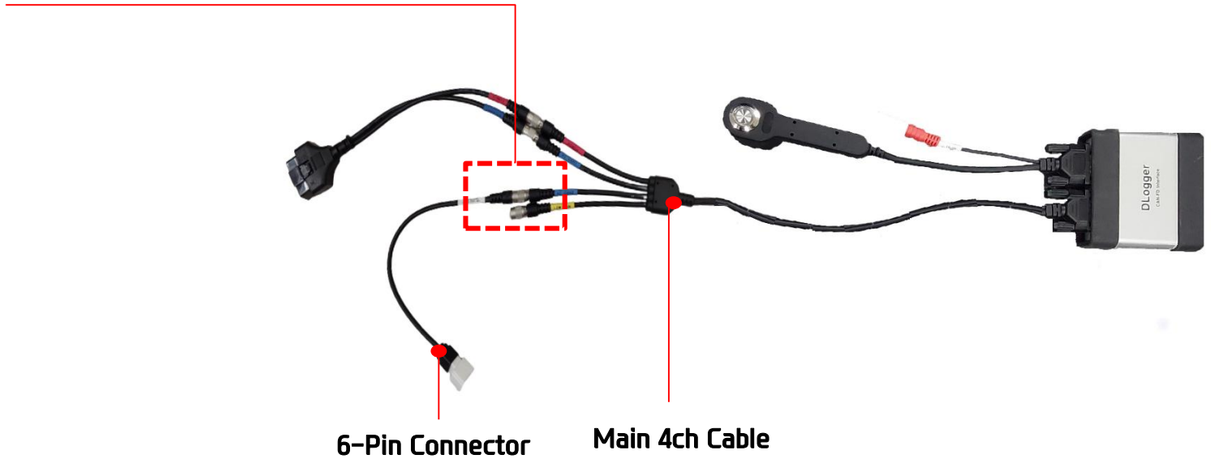
1. When using ‘6 Pin Cable (CCP-6P) '

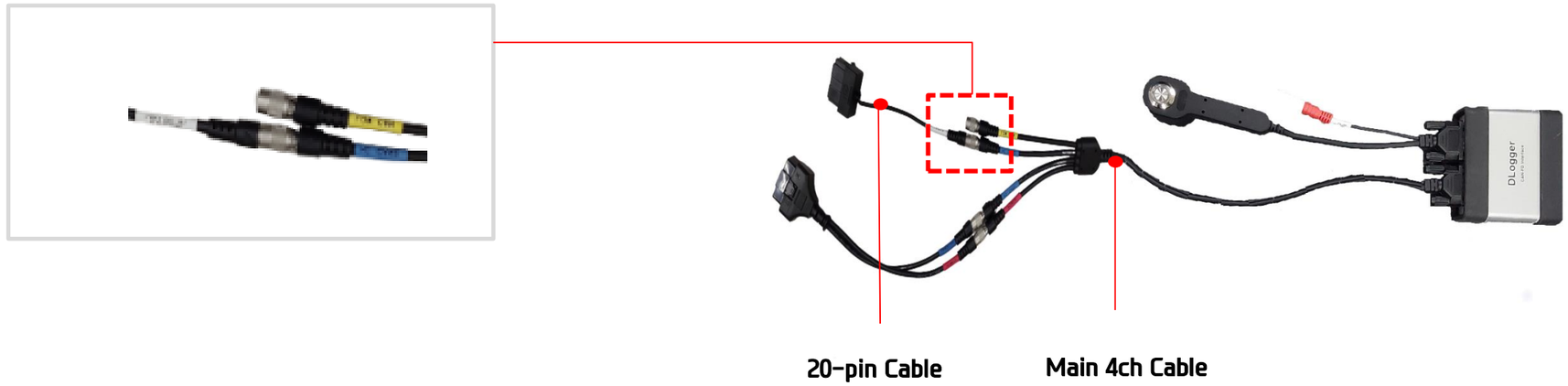
- If the cable is short, an extension cable can be used. [Extension Cable : EXT CABLE(4PM-4PF)]

[Reference]

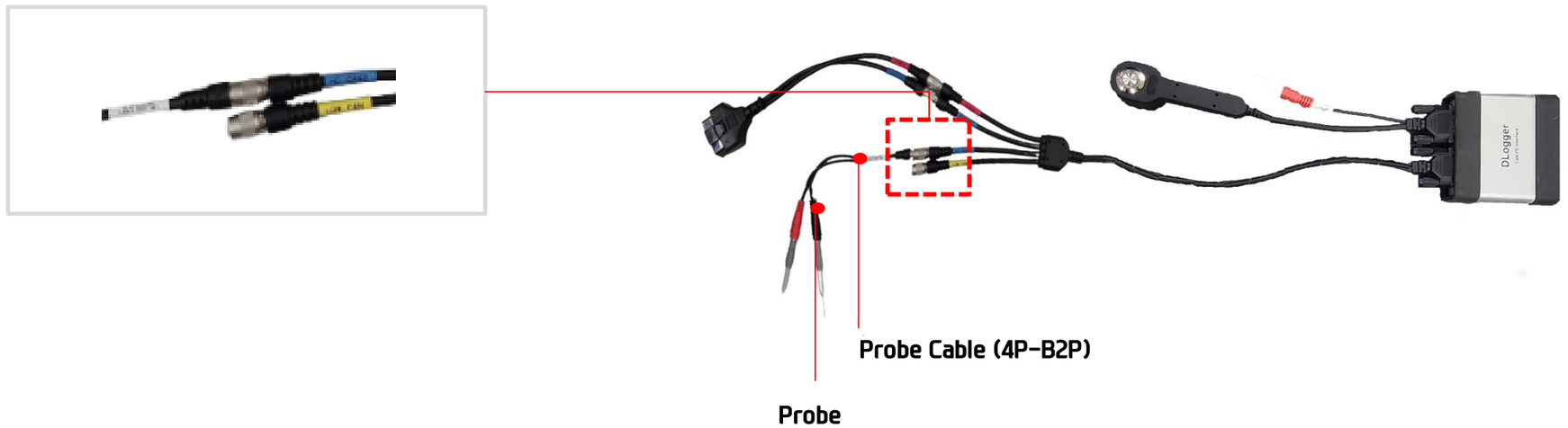
Depending on the channel setting, the 6-pin cable (CCP-6P) can also be connected to CAN1 of the Main 4ch cable.

- As shown in the image below, when connecting the 6-pin cable (CCP-6P) to CAN2 of the Main 4ch cable, if the channel setting of the event is ch1, data cannot be acquired.
- As shown in the image below, the channel setting of the event must be connected to ch2 to acquire data in the connected state.





2. When using Spring PIN + PROBE(4P-B2P)

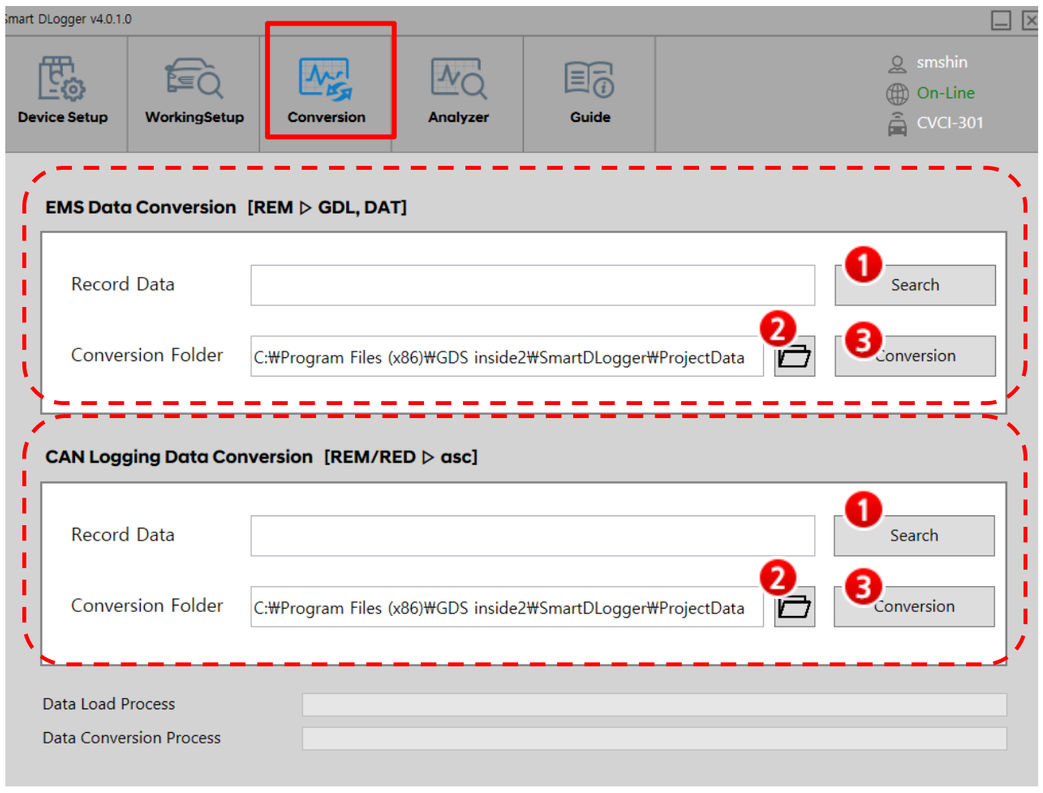


Data Conversion

Data Conversion and Main Function

If you click ‘Search’ button and designate the data storage device or 'Local Storage' path, the saved data are loaded and data Conversion is automatically performed.

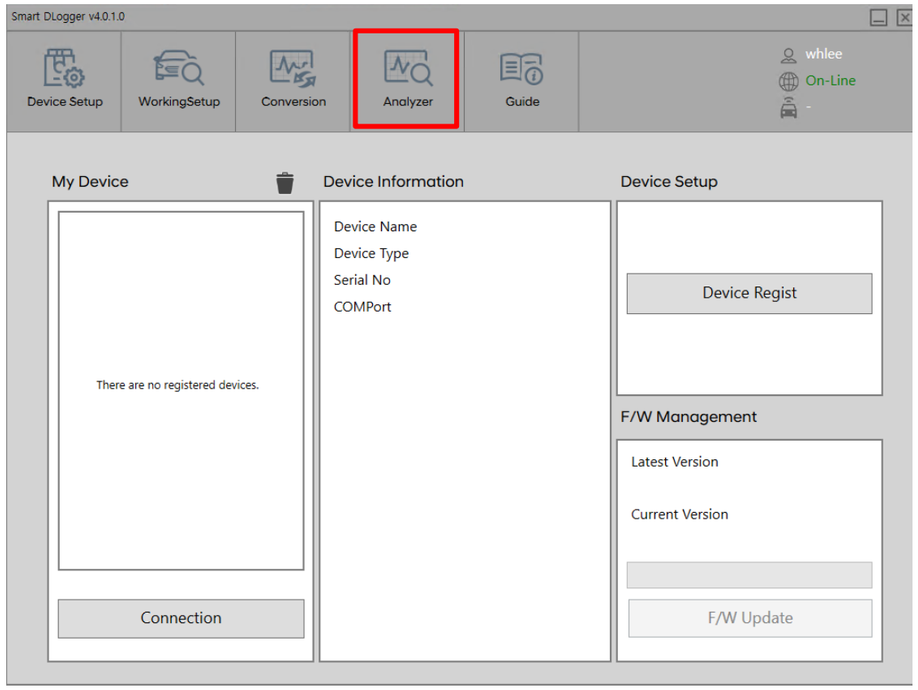
The path of transformed data can be designated by clicking icon.



Division	Data Conversion	CAN Logging Data Conversion
1	Search the Location of Saved Data	Search the Location of Saved Data
2	Designate the Path for Transformed Data	Designate the Path for Transformed Data
3	Perform the Data Conversion	Perform the Conversion of CAN Logging Data

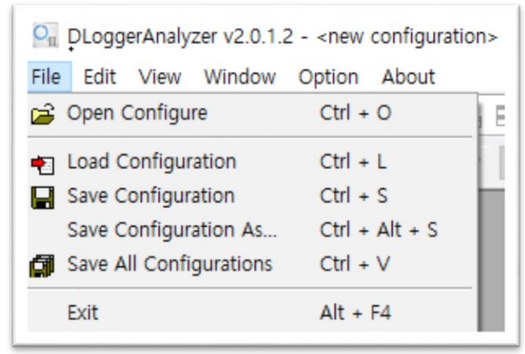
Analysis Program

The analysis program is an offline program that displays and analyzes recorded measurement data. Measurement variables are set, and tasks are performed until data are analyzed to analyze the phenomenon and the cause of the recorded data by using the Smart DLogger analysis program.



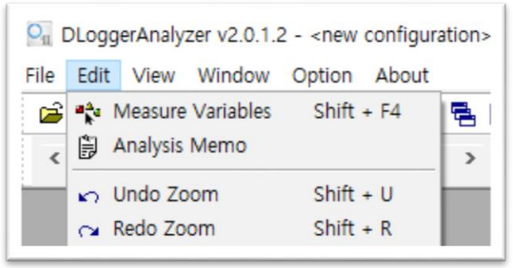
▣ Main Menu 6 Items (File, Edit, View, Window, Option, About)

- **Main Menu [File]**



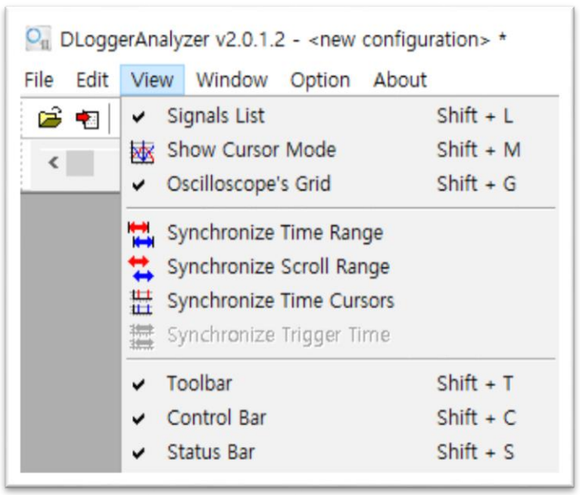
Icon	Description
Open Configure Ctrl + O	Load the saved file.
Load Configuration Ctrl + L	Load the environment file.
Save Configuration Ctrl + S	Save the current open file as an environment file.
Save Configuration As... Ctrl + Alt + S	Save the current file to the user's desired path.
Save All Configurations Ctrl + V	Save all open files as environment files.
Exit Alt + F4	End the program.

- **Main Menu [Edit]**



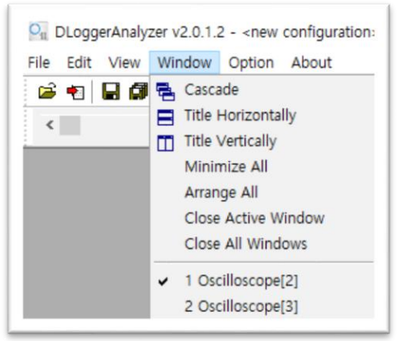
Icon	Description
Measure Variables Shift + F4	Load the dialog that selects variables.
Analysis Memo	This allows you to simply take notes about the analyzed data.
Undo Zoom Shift + U	This is go back function.
Redo Zoom Shift + R	This is return function.

- **Main Menu [View]**



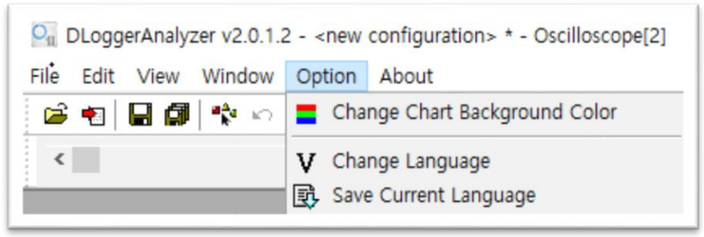
Icon	Description
Signals List Shift + L	Select whether the variable list is activated or not.
Show Cursor Mode Shift + M	Select whether the cursor mode is activated or not.
Oscilloscope's Grid Shift + G	Select whether graph grid mode is activated or not.
Synchronize Time Range	Synchronize time range.
Synchronize Scroll Range	Synchronize movement range.
Synchronize Time Cursors	Synchronize time cursor.
Synchronize Trigger Time	Synchronize trigger time.
Toolbar Shift + T	Select whether toolbar is activated or not.
Control Bar Shift + C	Select whether control bar is activated or not.
Status Bar Shift + S	Select whether state bar is activated or not.

- **Main Menu [Window]**



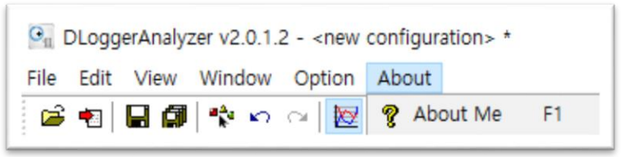
Icon	Description
Cascade	Displays in a cascading arrangement.
Title Horizontally	Displays in a horizontal tiles arrangement.
Title Vertically	Displays in a vertical tiles arrangement.
Minimize All	Minimize all windows.
Arrange All	Save all open files as environment files.
Close Active Window	Close the activated file.
Close All Windows	Close all files.
1 Oscilloscope[2]	Select an open file..

- **Main Menu [Option]**



Icon	Description
Change Chart Background Color	Change the graph background color.
Change Language	Change language.
Save Current Language	Save the currently selected language option.

- **Main Menu [About]**

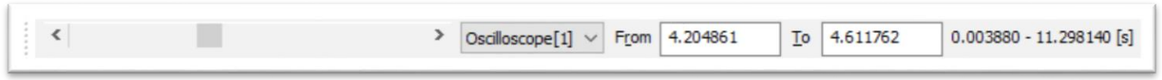


Icon	Description
About Me F1	Displays Information of Analyzer.

- **Main Toolbar**

Icon	Description
	Open files
	Open environment files
	Save
	Save all
	Select variables
	Go back
	Return
	Whether to activate variable list mode
	Whether to activate cursor mode
	Whether to activate chart grid mode
	Cascading arrangement
	Horizontal tiles arrangement.
	Vertical tiles arrangement.
	Set time range
	Set scroll range
	Set time cursor mode
	Set trigger time mode
	Change chart background color
	Change language
	Save the current language state
	Load memos
	Help

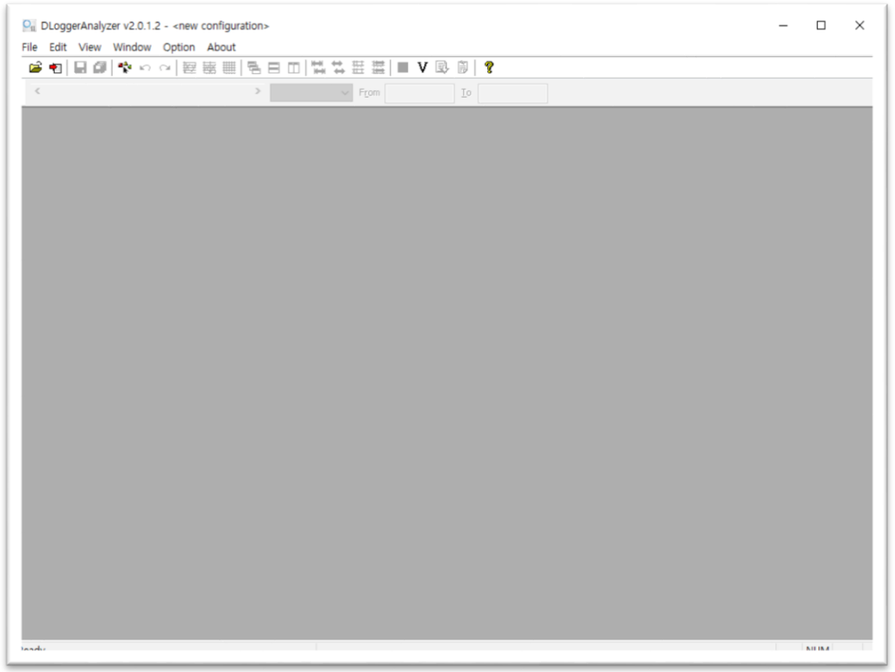
- **Control Toolbar**



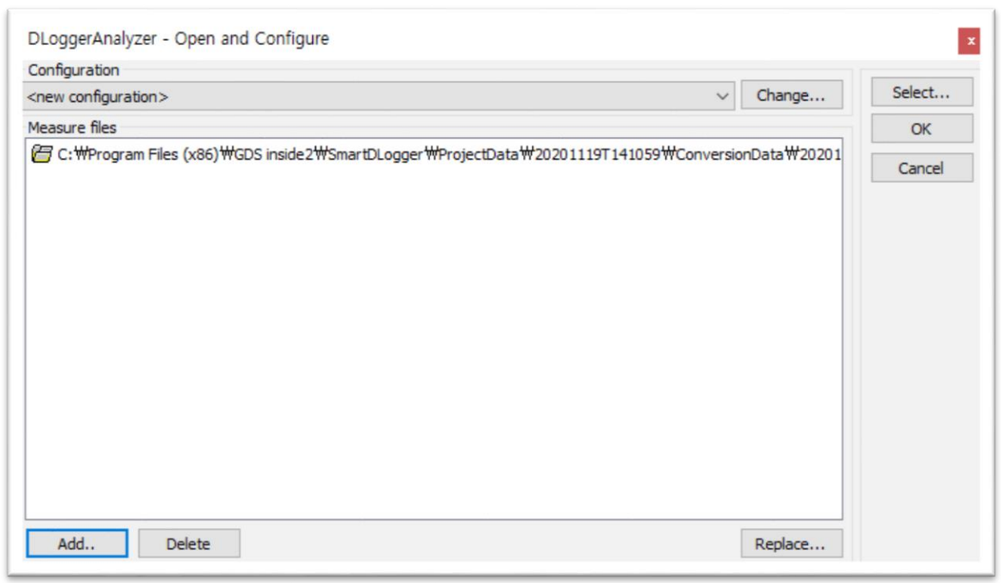
Icon	Description
	Scroll area
Oscilloscope[1]	Select open window
From 4.204861	Start time
To 4.611762	End time

▣ Load Analysis Program Files

1. **Select the open folder button at the top of the screen of the program.**

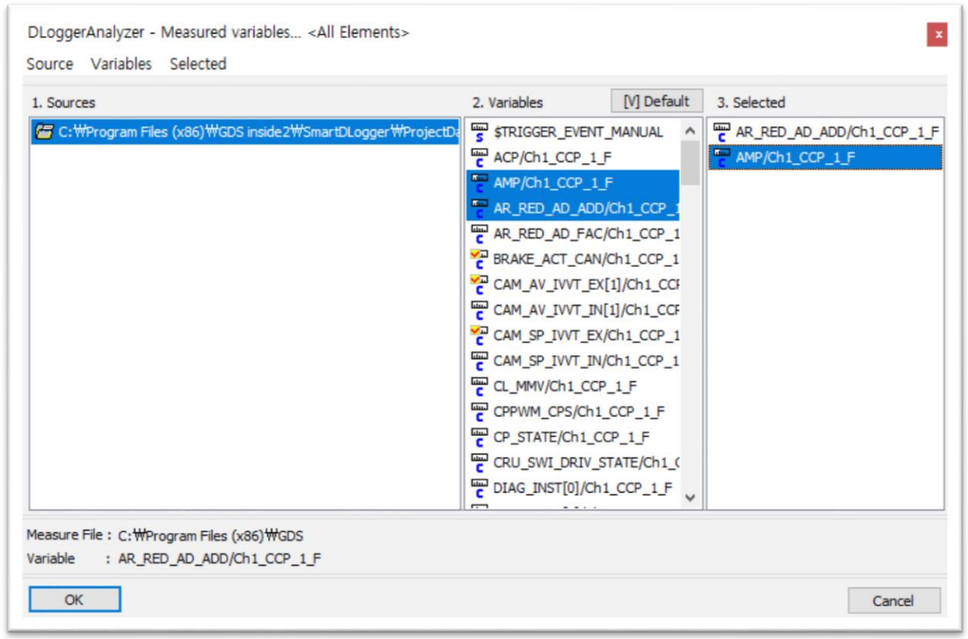


- **Open and Configure – Select the files to load.**



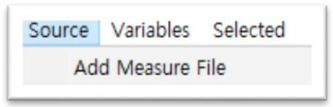
Icon	Description
Change…	Load the previous saved environment files.
Add..	Load files.
Delete	Delete the loaded files.
Replace…	Change the loaded files.
Select…	Select files.
OK	Select files.
Cancel	Cancel

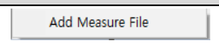
2. **Measured variables – Select the variables to load.**



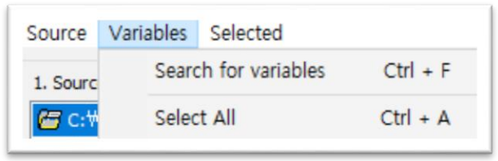
Icon	Description
1. Sources	These are loaded files.
2. Variables	These are listed variables of loaded files
[V] Default	Button to change language
3. Selected	List of the selected variables

- **Main Menu [Source]**



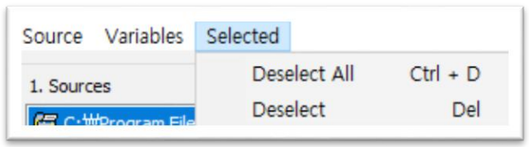
Icon	Description
	Add new files.

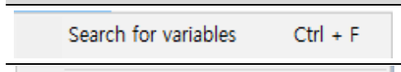
- **Main Menu [Variables]**



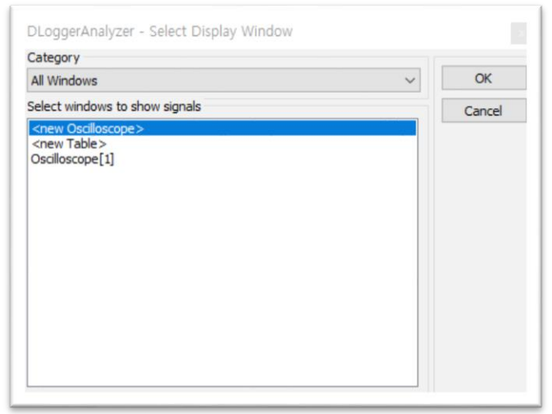
Icon	Description
	Search variables.
	Select all.

- **Main Menu [Selected]**

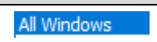
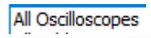
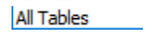


Icon	Description
	Search variables.
	Select all.

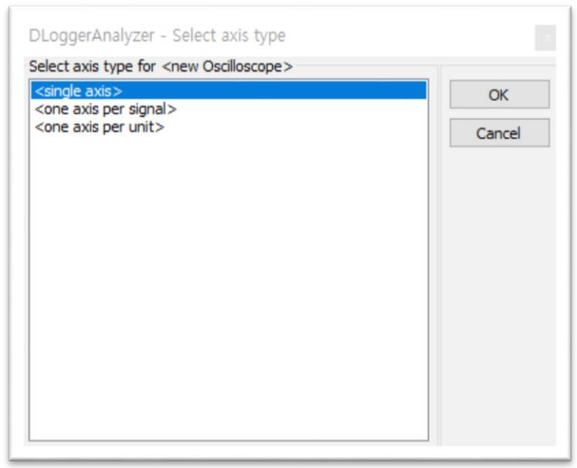
3. **Select Display Window – Select windows to display.**

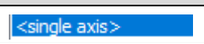
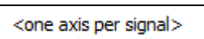
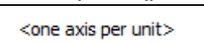


- **Main Menu [Category]**

Icon	Description
	Displays all in window.
	Displays all in graph.
	Displays all in chart.

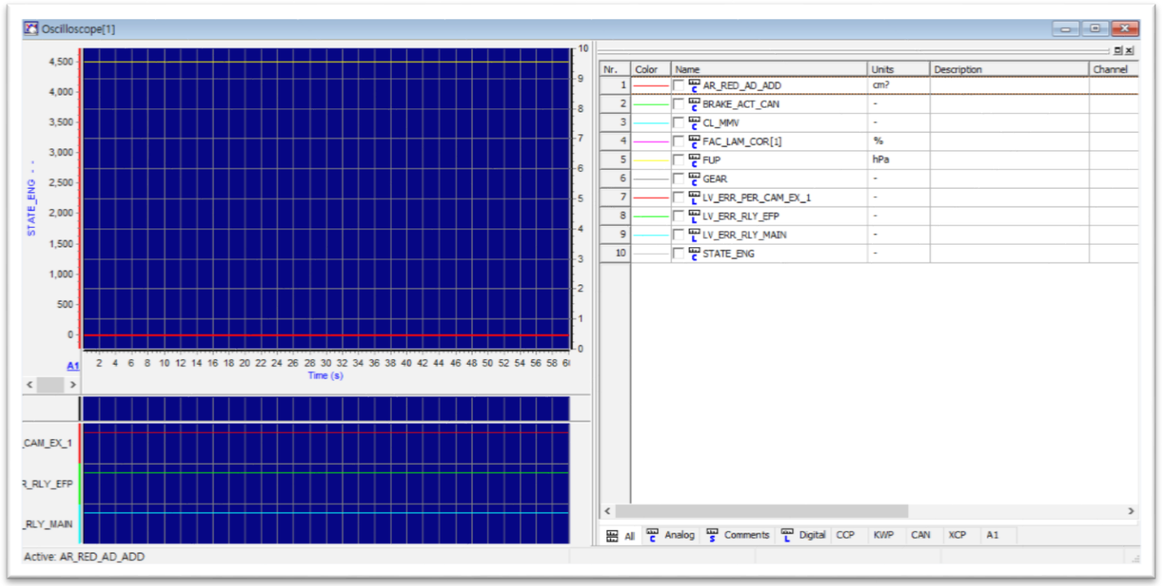
4. **Select Axis type – If graph is displayed, this selects axis.**



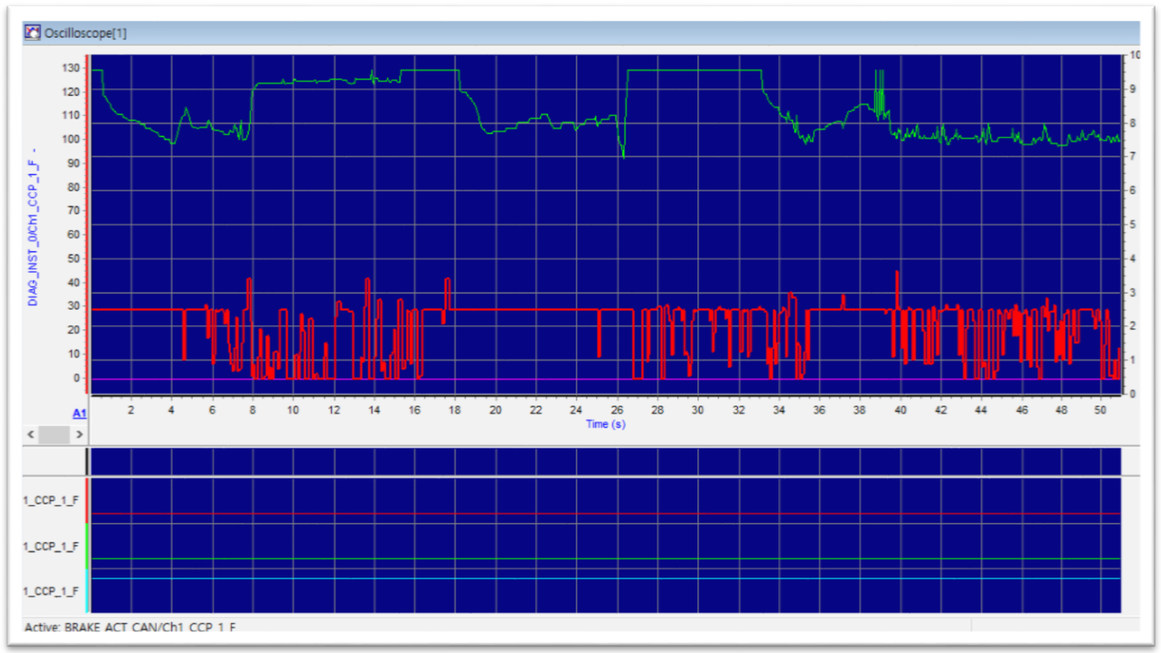
Icon	Description
	Displays variables in axis.
	Displays one axis per variable.
	Displays one axis per unit.

▣ Graph Screen Organization

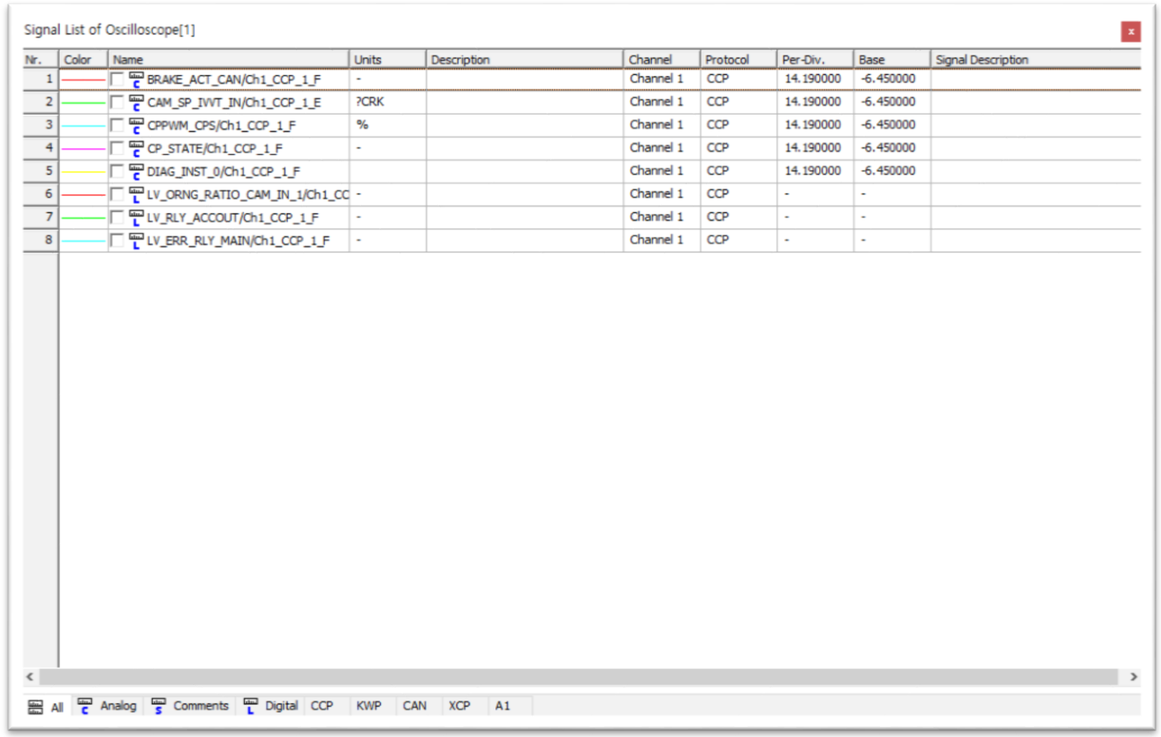
The graph screen is organized mainly with left side of analog/digital graph and right side of signal list.



[Graph Screen]



- **[Signal List of Oscilloscope]**

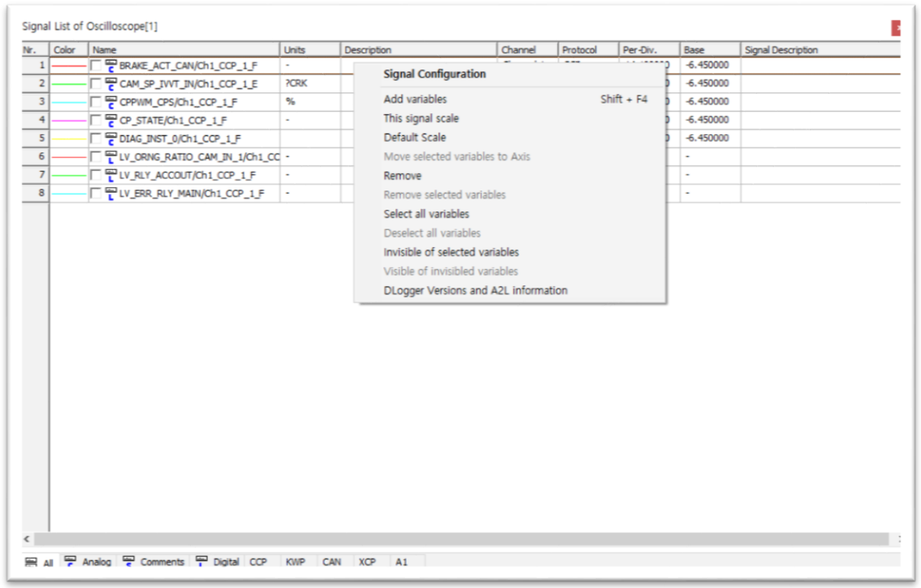


Icon	Description
Nr.	Order
Color	Graph color
Name	Name
Units	Unit
Description	Description
Channel	Channel
Protocol	Protocol
Per-Div.	Average Value
Base	Deviation
Signal Description	Description of variables

- **Bottom Tab Organization**

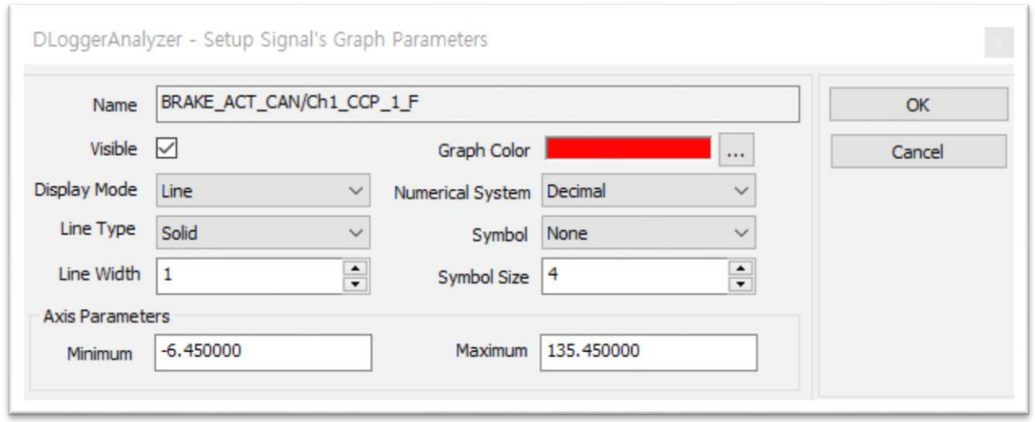
Icon	Description
All	Tab of all variables
Analog	Tab of analog variables
Comments	Tab of comment variables
Digital	Tab of digital variables
CCP	Tab of CCP variables
KWP	Tab of KWP variables
CAN	Tab of CAN variables
XCP	Tab of XCP variables
A1	Tab of each selected variables

- **Additional Functions**

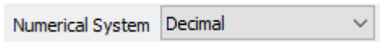
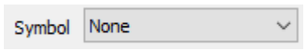
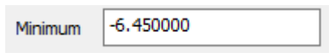
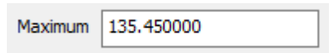
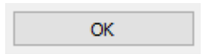
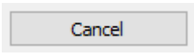


Icon	Description
Signal Configuration	Tab for editing the properties of the selected variables
Add variables	Add variables
This signal scale	Scale of the selected variables
Default Scale	Default scale
Move selected variables to Axis	Move the selected variables to axis.
Remove	Delete variables.
Remove selected variables	Delete the selected variables.
Select all variables	Select all variables.
Deselect all variables	Clear all the selected variables.
Invisible of selected variables	Tab to hide the selected variables
Visible of invisibled variables	Displays the hidden variables.
DLogger Versions and A2L information	Displays DLogger version and A2L information.

- **Signal Configuration - Editing screen for the properties of the selected variables**



Icon	Description
Name BRAKE_ACT_CAN/Ch1_CCP_1_F	Name of variables
Visible	Check variable activation
Display Mode Line	Display mode (Line/Step/Step None Connect)
Line Type Solid	Line type (Solid/Dash/Dot/Dash-Dot/Dash-Dot-Dot)

	Line thickness (0~8)
	Select graph color
	Numerical System (Decimal/Hexadecimal)
	Symbol (None/Square/Circle/Triangle/Down Triangle/Cross/Diagonal/Cross/Star/Diamond/ Left Triangle/Right Triangle/Hexagon)
	Symbol size (4~8)
	The minimum value of axis
	The maximum value of axis
	Apply the setup options.
	Cancel the setup options.

Product Warranty & Appendix

This product is manufactured through strict quality management and inspection process.
In accordance with the Regulations of Consumer Damage Compensation by Item (Notice by the Ministry of Finance and Economy), GIT Co., LTD provides the product warranty. In case of product failure, contact the dealer where you purchased it or the head office.

▣ Purchase Information

Name of Product			**Main Body Serial Number**	
Customer	**Business Name**		**Name**	
	Phone No.		**Address**	
Place of Purchase (Dealer)	**Business Name**		**Name**	
	Phone No.		**Address**	
Purchase Date	**Month: Date: Year:**		**Warranty Period**	**1 year**
Manufacturer (Warranty Liability)	**Business Name**	**GIT Co., LTD**	**Phone No.**	**1588-3665**
	Address	**GIT Building, 87, Macheon-ro, Songpa-gu, Seoul, South Korea**		

▣ Free Service

Only when a failure occurs under normal use within the warranty period (Refer to below) after the purchase, you can receive the service free of charge.
If you cannot check the purchase date, '90 days from the release date by the head office (Product Expiration Period)' will be determined as the warranty period.

1) Warranty Period by Items

(Refer to the Item Classification)

Items	Damage Type	First Purchase of Product SET	Single Item Purchase	Re-warranty after repair
Main Body Part	Malfunctions in Normal Use	1 year	1 year	3 months
Accessory Part		1 year	6 months	None
Consumables		None	6 months	None
Others		Comply with the A/S regulations the of the product manufacturers		

2) Item Classification

Classification	Items	Note
Main Body Part	CVCI-301(Main Body)	
Accessory Part	SD Card, OBD to D-SUB Cable, Wired Trigger Module/ADAP(MICRO FUSE), 20-pin Cable ADAP(MINI FUSE), Main 4ch Cable, 6-pin Connector (CCP-6P), Extension Cable (4PM-4PF), POWER Extension Cable, DLC CAN&POWER Cable, MICRO Duel Fuse Adapter, MINI Duel Fuse Adapter, O-ring GROUND, Banana Jack Extension Line, USB Cable (TYPE-A,TYPE-C), Embedded 4ch Cable, Probe Cable (4P-B2P), ADAP(4P-BF), Probe, EXT wire (BM-BF)	

※ The above items include optional products, and the component parts may differ depending on the selection of optional products.

3) Warranty Standard by Cases

Case		Within the Warranty Period	After the Warranty Period
When major repair is required within 10 days after the purchase		Exchange	None
When major repair is required within 1 month after the purchase		Free Repair	None
Repairable	Malfunctions during normal use	Free Repair	Paid Repair
	Malfunctions of the same part for 3 times	Exchange	Paid Repair
	Malfunctions due to intention, negligence of consumers	Paid Repair	Paid Repair
Cannot Repair	Malfunctions during normal use	Exchange	Depending on Company Rules
	Malfunctions due to intention, negligence of consumers	Depending on Company Rules	Depending on Company Rules
Damages caused by not having repair parts within the part possession period		Exchange	Depending on Company Rules
Damages during transportation and installation when purchasing products		Exchange	None

▣ Paid Service

If you request service in the following cases, a fee will be charged, so please check the content of the product warranty.
If the purchase date of the product cannot be confirmed, '90 days from the release date by the head office (Product Expiration Period)' is determined as the warranty period. The part possession period for A/S parts is up to 5 years from the date of the product termination.

This product is a device to support diagnosing malfunctions of vehicles through measurement function and communication with electric/electronic devices of the vehicles. It may not display accurate data depending on the vehicle state, the condition of communication with the product, and measurement conditions.
The diagnosis and repair method of the vehicle must be determined by users, and the manufacturer and sellers are not responsible for the result of the diagnosis of malfunctions and repair methods.

▼ If it is not malfunction
● **When the service is requested due to inexperienced operation of the customer** ● **When they need description of product functions or simple adjustments without dissembling the product** ● **When requiring program update** ● **When it is impossible to provide functions through wireless network due to the unstable wireless environment of users**
▼ If it is malfunction by consumer's negligence
● **Malfunctions due to consumer's careless handling (Falling, Impact, Damage, Excessive Operation)** ● **Malfunctions by not using the designated power** ● **Malfunctions due to the repair by a person who is not designated by GIT Co., LTD** ● **Malfunctions and Damage due to the use of parts that are not designated by GIT Co., LTD** ● **Malfunctions and Damage caused by changing/modifying diagnosis cable, adapter, and others**
▼ Other Cases
● **Malfunctions and Damage due to natural disasters (Fire, Salt Damage, Flood Damage)** ● **Malfunctions of wired/wireless communication due to the environment (Effect of Electromagnetic Field or Others) of the places performing it** ● **When consumable parts are expired**

GIT Co., LTD