FORD TRUCKS

FODIT User Manual

Vehicle	Title	Document No:	Date of Issue	Language
F-MAX	FODIT User Manual		26.10.2021	EN

Updates:

Version	Date	Name	Revision
AA	23/09/2021	C.YILMAZ	

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PREFACE

This manual contains required information and methods of applications for vehicle identification, error code read, test identification and implementation, analysis of road test metering, installing software to the vehicle modules for F-MAX (H625) Ford Heavy Vehicles.

Defined connections and applications must be performed by competent and trained personnel.

The license authentications that allow logging in to the program must be followed up by the related personnel in the service and licenses that are due must be renewed before expiring.

During application, the necessary precautions must be taken by the technician for worker health and safety. Service management should allow taking necessary precautions and should check them. No operation should be started without necessary safety measures being taken. No union, interface and computers without usage information should be used. The module programming operations that are deemed necessary during the checks performed must be conducted by experienced and trained personnel. Data other than the vehicle fabrication information should not be entered.

Ford Otomotiv San. Tic. A.Ş. reserves the right to make changes on this operation manual.

The data and information present in this document may not be updated due to the changes made by Ford Otosan Otomotiv San. Tic. A.Ş. at any time because of technical or commercial reasons or for the need to conform the vehicle to legal obligation in various.

FORD OTOMOTİV SANAYİ TİC. A.Ş.

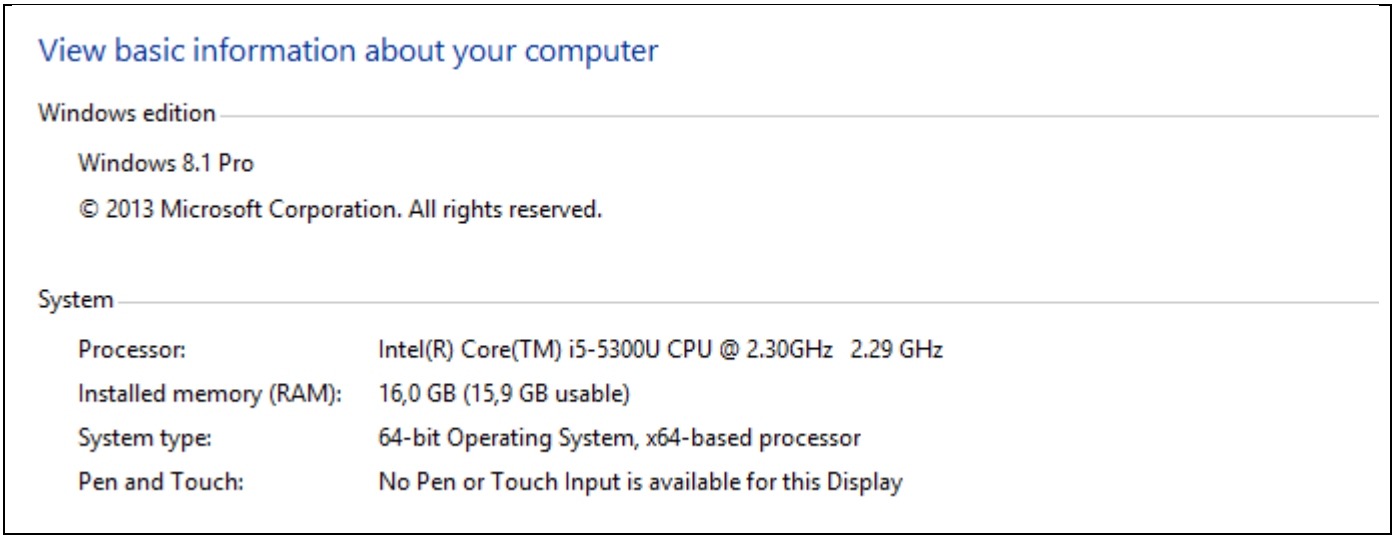
System Requirements:

Operating System	Windows 10
RAM	8GB
CPU	Intel Core i5 8th gen
Architecture (32/64)	32 / 64
Disc Space	2GB Software + Diagnostic Data
Video card	Integrated Graphics

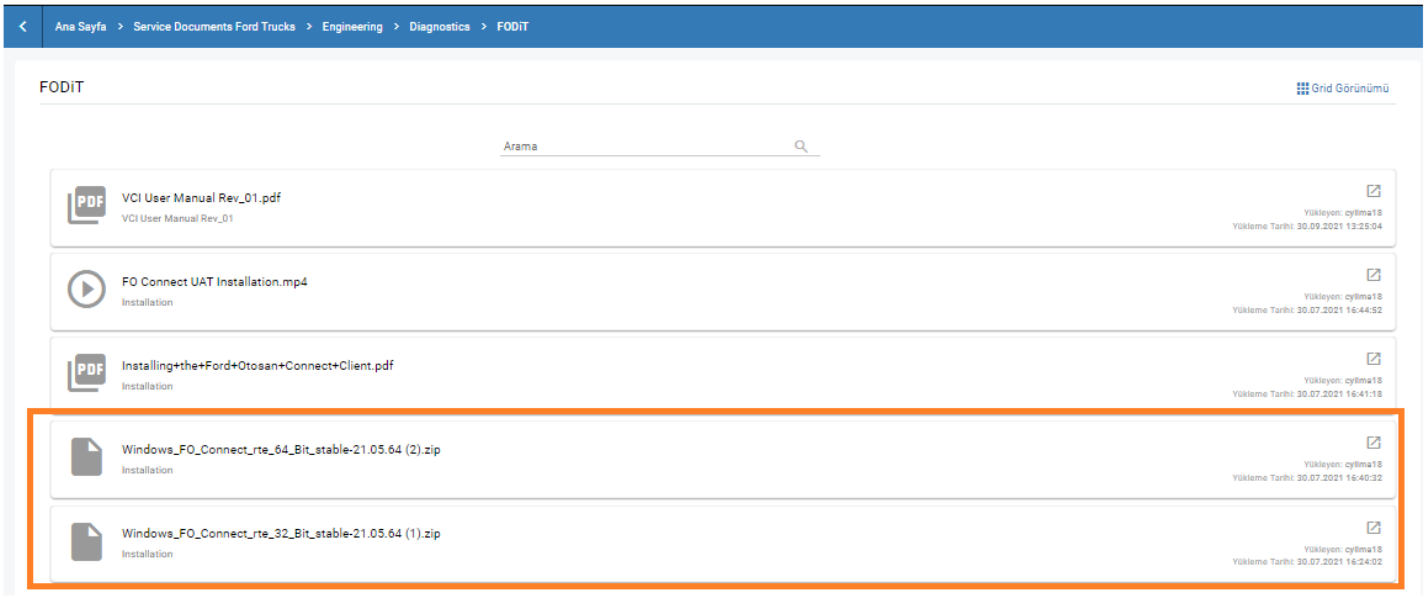
FODiT Installation Processes

For the installation of the program, it should be performed according to the System Type: 32bit/64bit status of the Windows operating system used via the link below. Please click right on mouse.

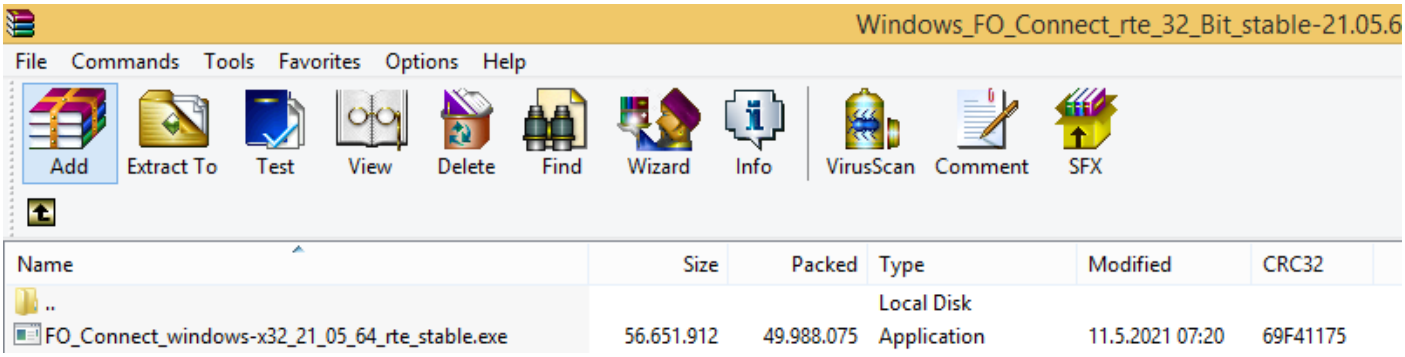
Click the right mouse button on the "This PC" icon on the desktop and select "Properties". As seen in the screenshot below, the installation should be performed according to the system type.



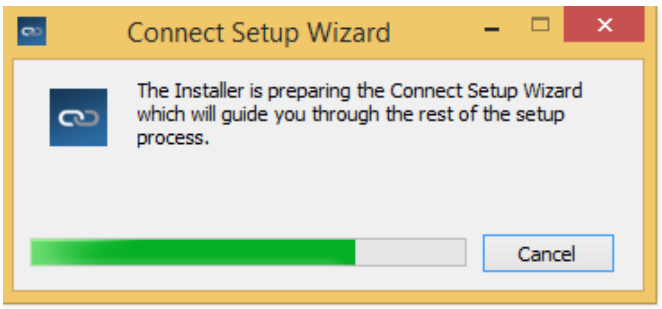
Please click for installation:



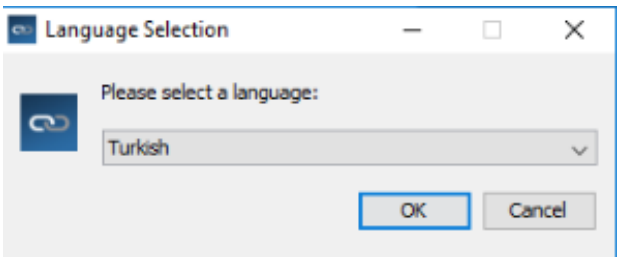
- Double click 1.0.0_Full.rar file to extract .rar files. Check your computer specifications (X32 or X64) and run the appropriate Setup.exe file.



- Installation starts.

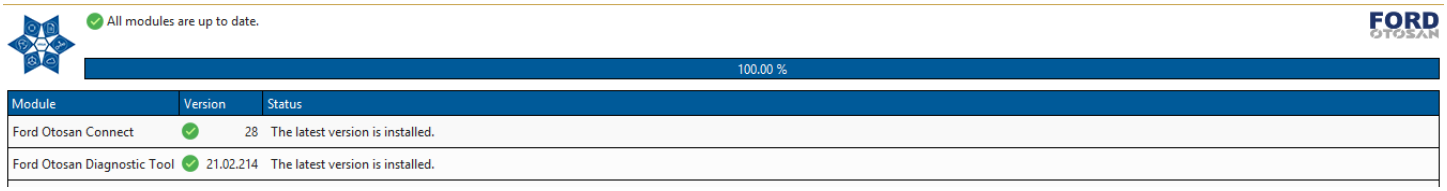


- Select the language you prefer and click ‘’OK’ and go on installation.

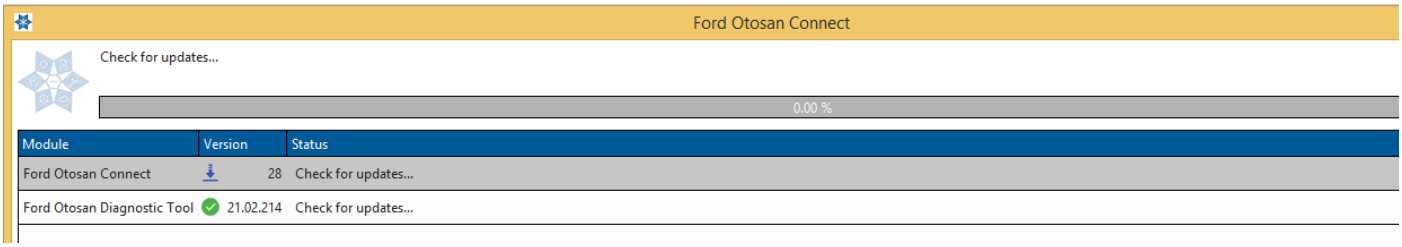


- Click ‘Finish’ in order to complete the installation and to proceed to the updating process.

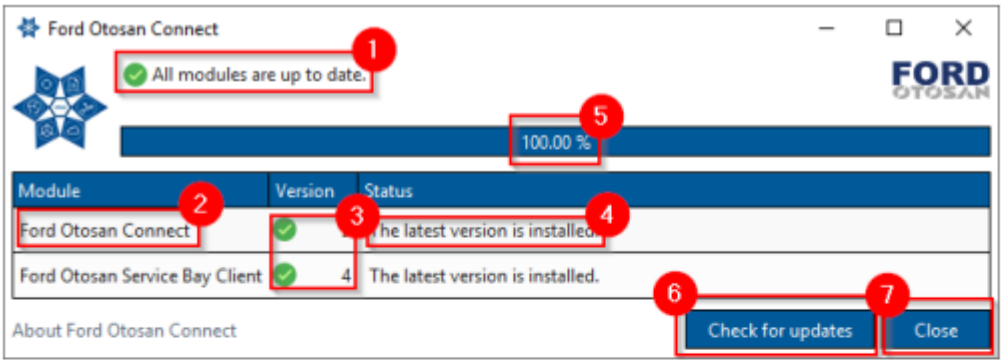
- Control the updates.



- Download the updated files.



- Choose the option ‘Install Now’ after downloading and finish the updating process.



1. Complete Summary, if all Modules are up to date
2. Name of the Modules
3. Defines the current Version, and if it is up to date
4. Module Status
    1. Error, when no internet connection is available, or if something different is gone wrong
    2. Warning, when there are pending updates available, or if an update is performed right now
    3. Ok, when there is nothing to do, because all updates are installed properly
5. Update percentage (shows the progress of installing and downloading packages
6. Trigger a manual update check
7. Close the UI (nevertheless it will stay running in the tray bar)

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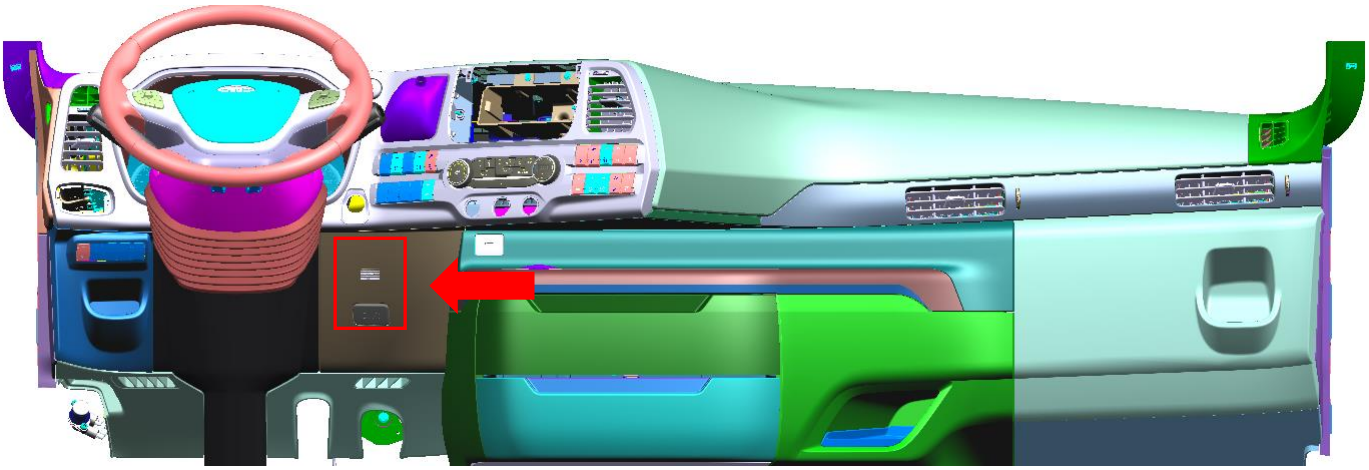
- Module Connection

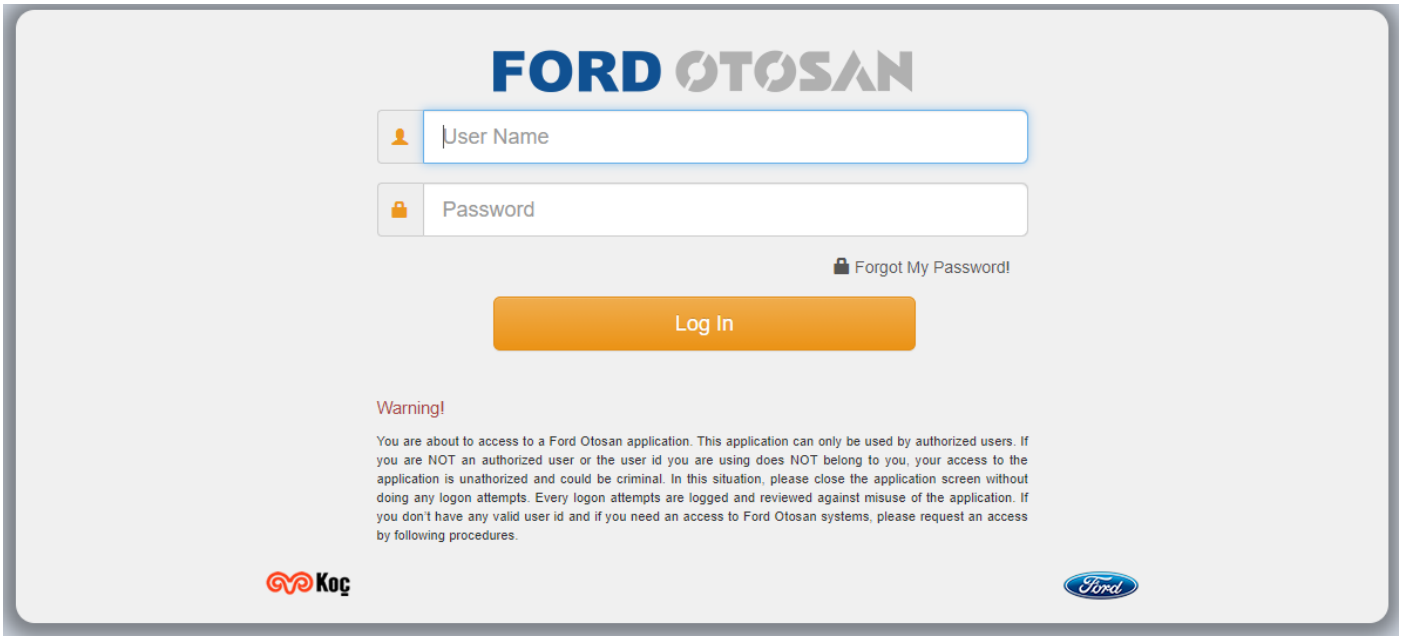
The connection between the FODiT program and the vehicle is established via using the VCI Kit (KTJC46-INTER-FACE). Connection can be established with this kit between F-MAX vehicles and FODiT.

- F-MAX Diagnostics Port Location on Vehicle:

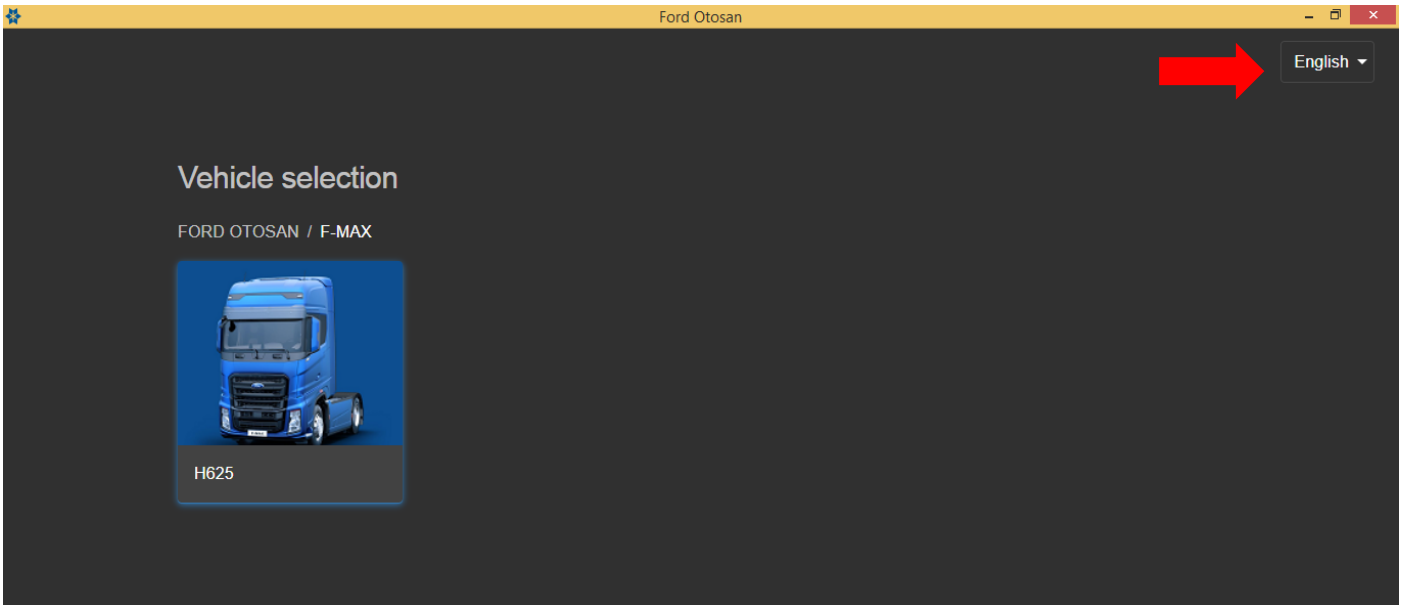


- Click on the ‘FODIT’ icon on the desktop.

- You can start the program with your username and password.

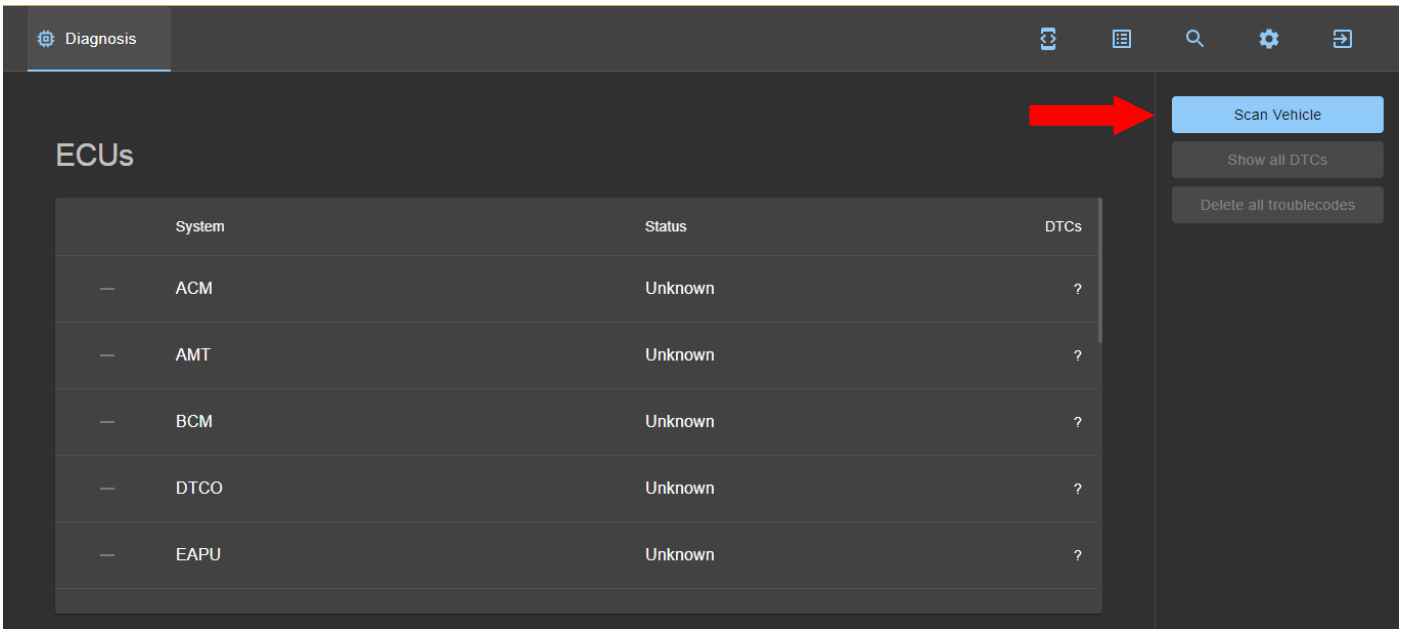


- You can set the preferred language by pressing the language selection icon in the upper right corner of the window.

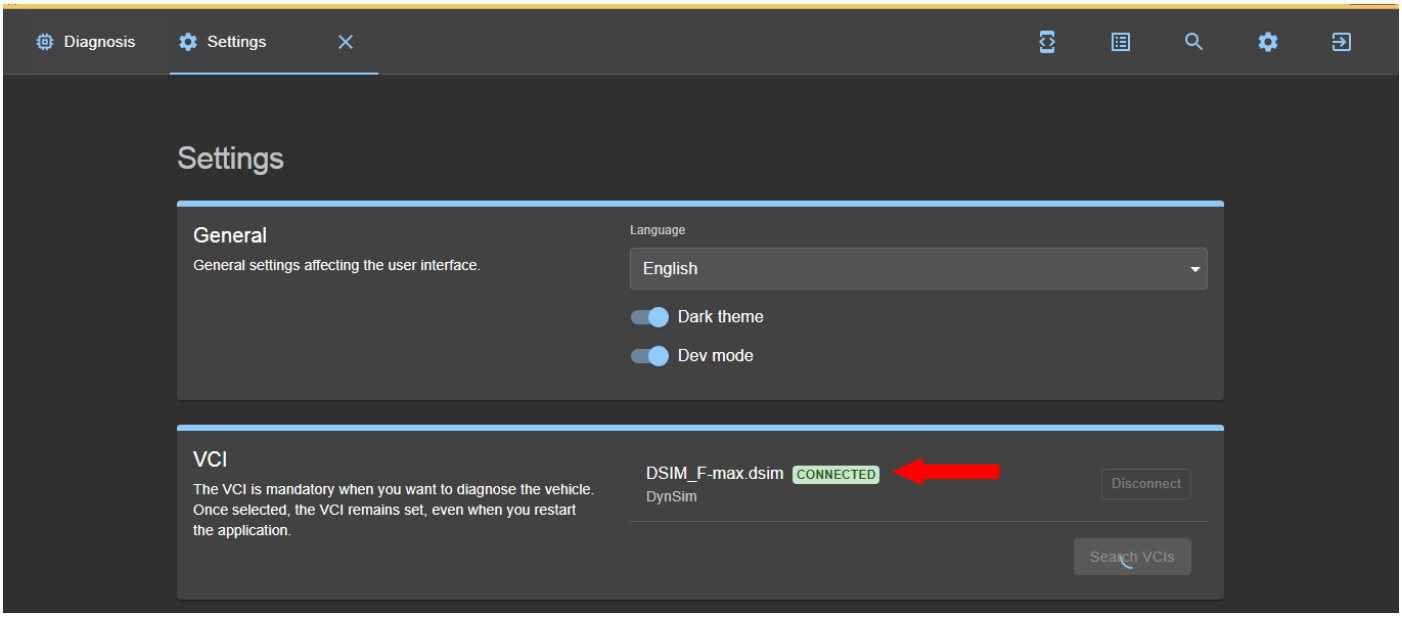


- You can perform the vehicle selection as demonstrated below.

- Click on the ‘Scan Vehicle’ button in order to find the Modules on the Window.

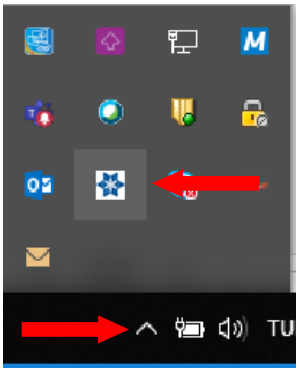


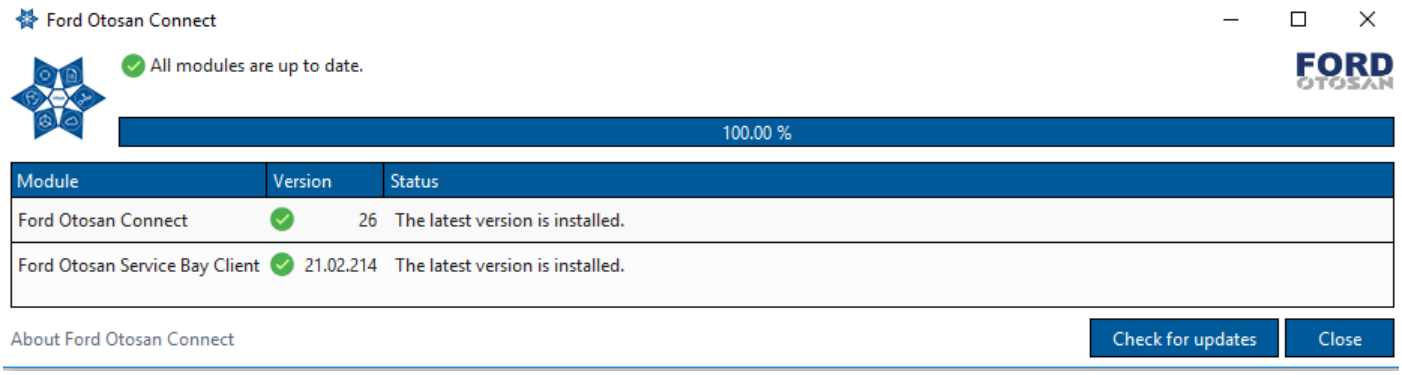
- Connection status, background theme and language options can be changed in the Settings Menu. (Details are included in the VCI user book for making Wi-Fi and Bluetooth connections)



- Version Information Menu ;

You can check the version of the program from this Menu by clicking on the ''Ford Otosan Connect'' icon.





The update/installation window shown above is opened automatically when there is an updated version of the FODIT program, and the update process starts.

Supported Modules and Controlled Features:

The modules that you can connect with FODIT and the operations that can be controlled in these modules are as below:

Acronym	**Description**
ECM	Engine Control Unit
HVAC	A/C Control Unit
EAPU	Electronic Air Drying Unit
BCM	Body Control Unit
IC	Instrument Panel (Cluster)
SSL	Multi-functional Handle (LH)
SSR	Gear Selecting Lever (RH)
TCU	Era-Glonass Module
FLR	Radar (AEBS-Emergency Brake System)
FLC	Camera (LDWS-Lane Departure Warning System)

EBS	Electronic Braking System
AMT	Automatic Transmission Control Unit
Retarder	Retarder
DTCO	Digital Tachograph
ACM	Multimedia Unit (2 DIN)
PCCM	Predictive Cruise Control Module
TPMS	Tire Pressure Monitoring Unit

Features Controlled in Modules:

EMS **Engine Control Unit**	Reading ECUID VIN Reading/Writing DTC Code Reading/Deleting Engine Code Reading/Writing Module Programming Injector Code IQA Reading/Writing Special Tests Configuration Reading/Writing SBD (Symptom Based Diagnostics) PTO Speed Reading/Writing CALID Parameter Reading/Writing Road Data (Flight Recorder) • Regen Statistics • Urea Quality History Oil Reset Low Iddle Shutdown ECM Template • AFTT (Exhaust Emission Removal) • Engine Template • Driver Interaction Template • Air Path Template Exteended Configuration Parameters Clutch Reset	Manual Regen Service Regeneration for Deposit Cleaning Air Heater Test Injector Shut-Off Test DPM Priming Test Engine Compression Test Engine Brake Test Engine Start and Stop Urea Dosing Test ATS Test Routine Compression Test Two Speed Water Pump Test Misfire Detection Fan Test Soot Load Reset PRV Reset Routine Fuel Rail Pressure Exceed Reset

HVAC **A/C Control Unit**	Reading ECUID VIN Reading/Writing DTC Reading/Deleting Module Programming Special Tests • Prepare A/C Evaluation • On-Demand Self- Test • Assembly Test • Actuator Calibration Configuration Reading/Writing

EAPU **Electronic Air Drying Unit**	Reading ECUID VIN Reading/Writing DTC Reading/Deleting

F-MAX BCU **Vehicle Control Unit**	Reading ECUID VIN Reading/Writing DTC Reading/Deleting Module Programming Configuration Reading/Writing ECAS Height Sensor Calibration ECAS Pressure Sensor Calibration Key Programming RLSM Calibration Reset Drive Mode

F-MAX IC **Instrument Panel**	Reading ECUID VIN Reading/Writing DTC Reading/Deleting Module Programming Read Odometer Read Keys Configuration Reading/Writing PATS a. Cluster or Cluster & ECM Change b. Erase Programmed Keys c. Only ECM Change Vehicle Guardian Buzzer Test

EBS **Electronic Braking System**	Reading ECUID VIN Reading/Writing DTC Reading/Deleting Module Programming SAS & YRS Calibration Configuration Reading/Writing

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DTCO Stoneridge **Digital Tachograph**	Reading ECUID VIN Reading/Writing DTC Reading/Deleting Configuration Reading/Writing

FLR Radar **Active Emergency Brake System**	Reading ECUID VIN Reading/Writing DTC Reading/Deleting

FLC Camera **Lane Departure Warning System**	Reading ECUID VIN No Reading/Writing DTC Reading/Deleting Configuration Reading

PCCM **Cruise Control Module**	Reading ECUID VIN Reading/Writing DTC Reading/Deleting Module Programming Configuration Reading/Writing Device Registration Device Replacement

AMT	Reading ECUID VIN Reading/Writing DTC Reading/Deleting Slope Sensor Calibration Clutch Installation Clutch Touch Point Module Programming Configuration Reading/Writing

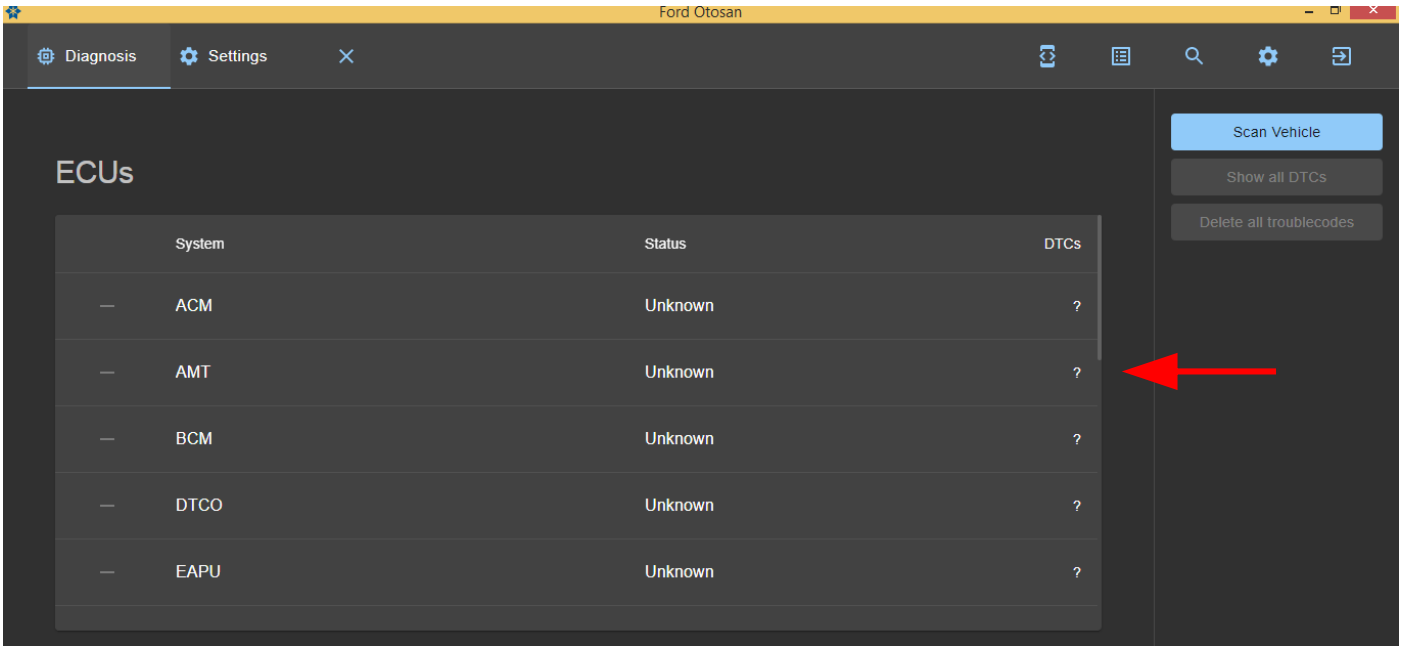
ACM **Multimedia Unit (2 DIN)**	Reading ECUID DTC Reading/Deleting Speaker Walkaround test

Retarder	Reading ECUID VIN Reading/Writing DTC Reading/Deleting Configuration Reading

TPMS **Tire Pressure Monitoring Unit**	Reading ECUID VIN Reading/Writing DTC Reading/Deleting Configuration Reading/Writing Write Sensor ID Location

FODiT Module Information

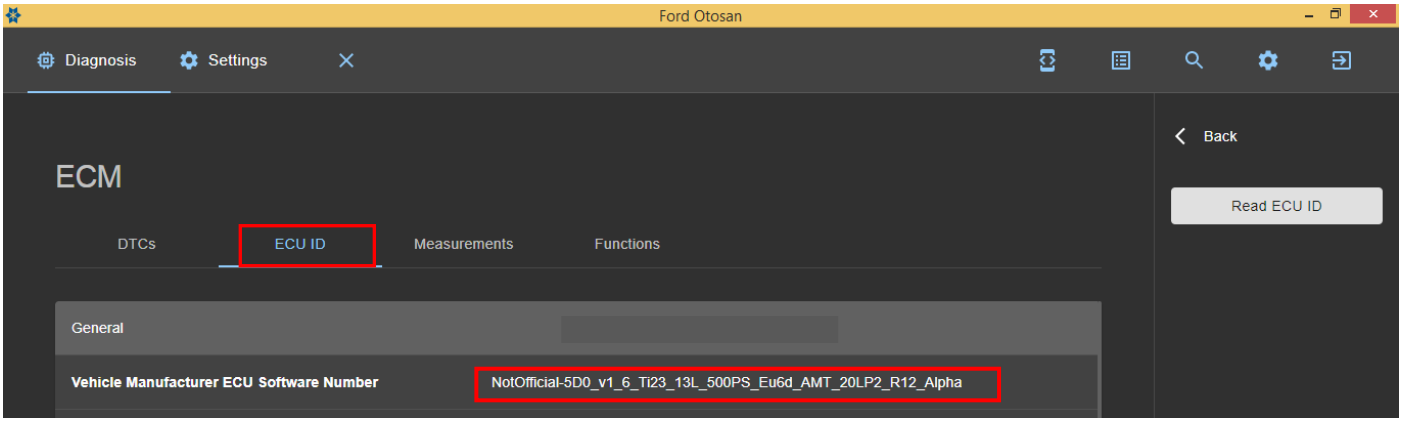
After running the program, “Scan the Vehicle” button is clicked on the opening window and the “**Module Selection Menu**” appears where the modules in the vehicle are being introduced .



EMS – Engine Control Unit (ECU):

Reading ECUID:

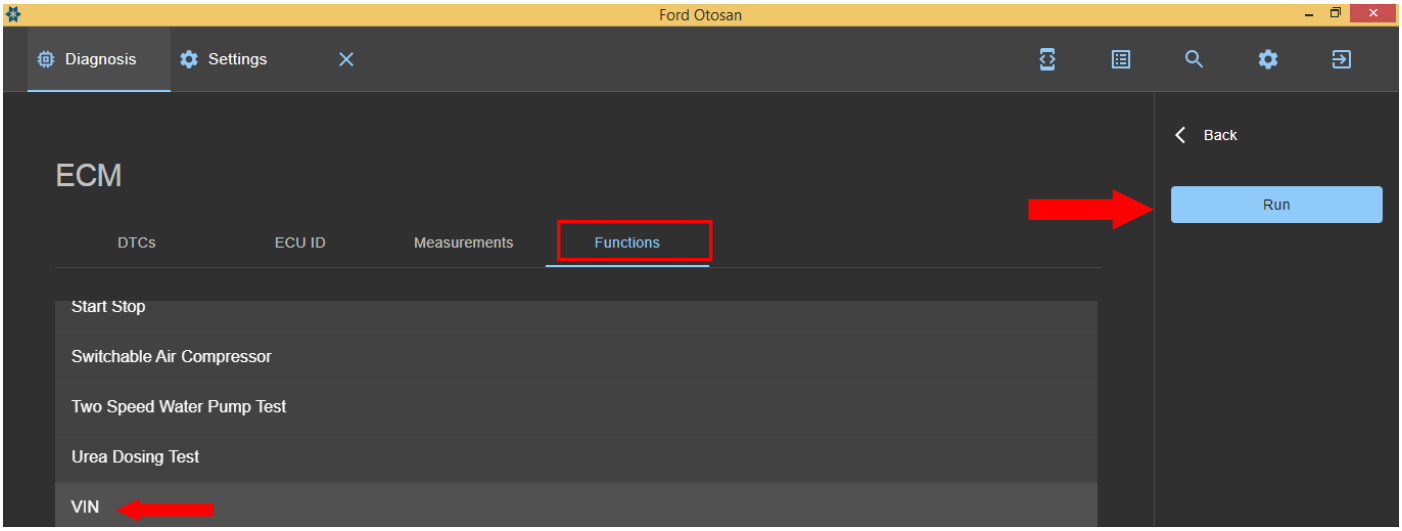
You can make it read by pressing the ECU ID button. You can also see the software information recorded in ECU.

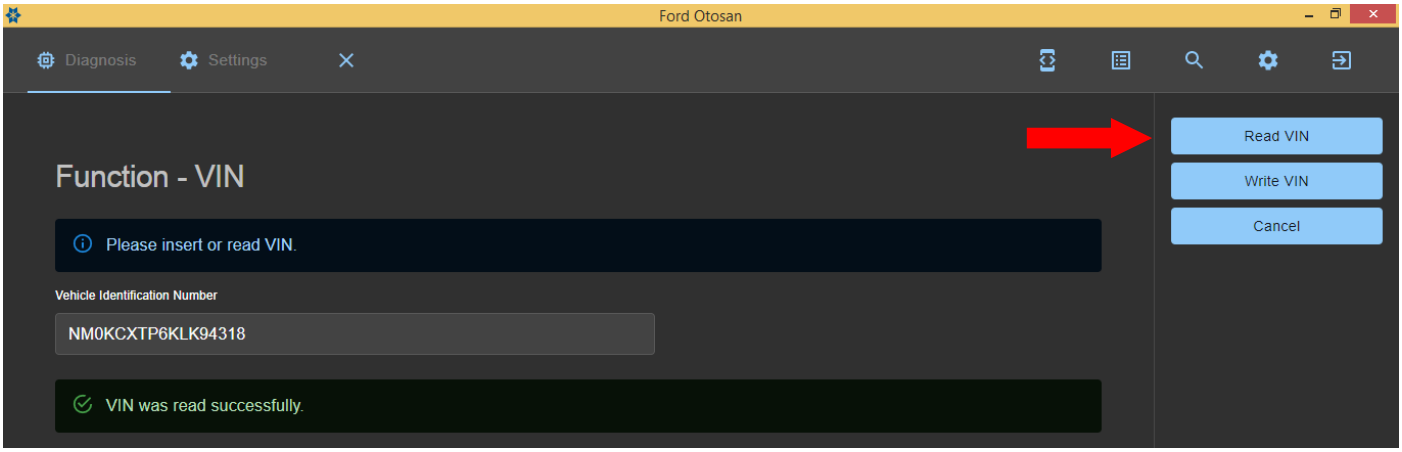


VIN Reading/Writing:

You can perform the operations of reading the vehicle chassis number recorded in the ECU module and writing chassis number into the ECU module from the functions tab.

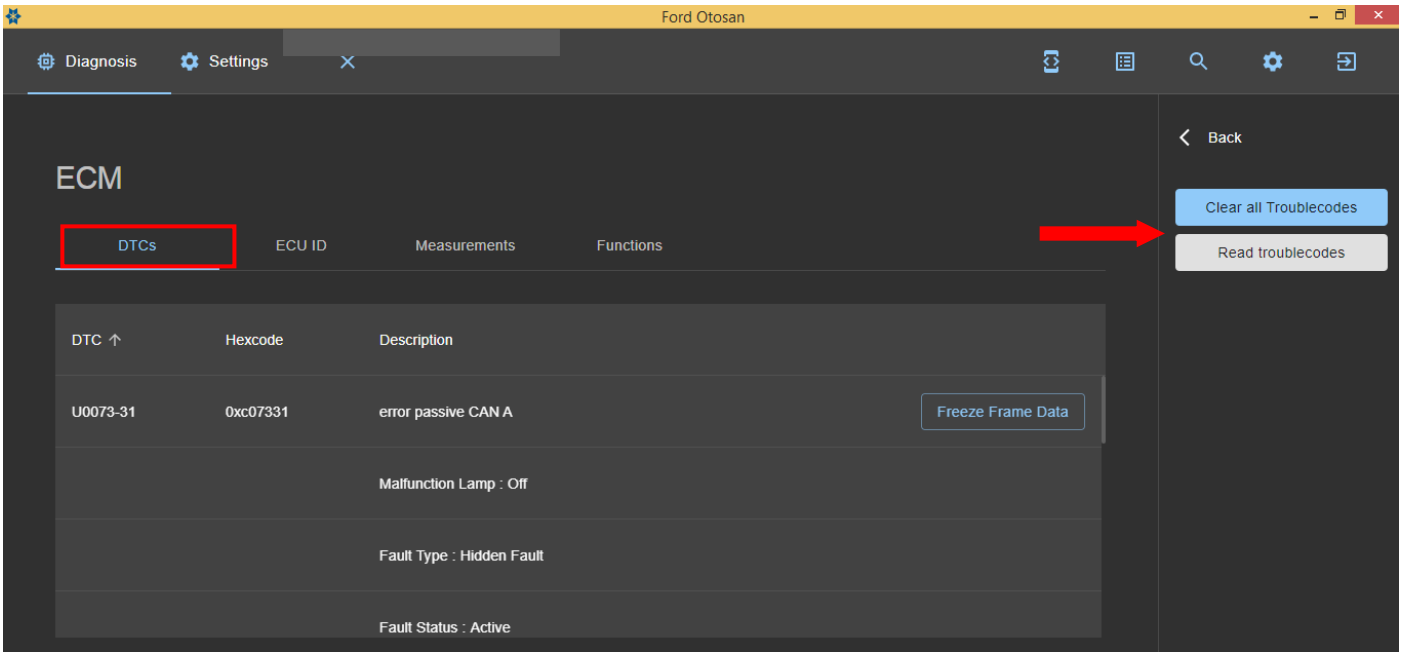
When the vehicle's ECM module is replaced or an ECM is installed from another vehicle, the Chassis number must be written to the new ECM module.





DTC Reading/Deleting:

Clear & Read DTC Codes: It is the screen where the error codes received from the vehicle are read/deleted. Reading is performed from the DTCs tab. It is important to convey the error codes received to the Technical Support Form in vehicle malfunctions where support shall be requested.



Error status	**Gives the information whether the error continues or it has been fixed.**
Error has been fixed	Error has been already detected, but it has been inspected during the last drive and no error has been found.
Not tested	The status of this fault has not been inspected yet.
The error occurred during this drive but at the moment the fault does not exist.	The fault has been detected during the last drive but it is not active at the moment.
Error active	The error has been detected during the last drive and is still active.

Error Type	**Errors that flash MIL are classified as approved errors after being detected in 3 drives. The first time they are detected they are classified as “pending”. Errors that do not flash MIL are classified as approved upon first detection.**
Approved	Error has been detected during 3 drives for emission affecting errors.
Pending	No error has been detected yet during 3 drives.

Fault Indicator Light	Is the fault indicator light on because of this fault?
Not on	No. (Even the fault indicator light is on, the reason is not this fault code)
On	Yes (The fault indicator light is on because of this fault)

OHM: Gives information about the received DTC, possible causes and gives recommendation steps to solve the problem.

Header Information

Project: H625 Module: BCM DTC: 9FB092

DTC Information

ECAS_Height Sensor Calibration is not completed

Possible Causes

1. Check the ECAS calibration block type according to suspension type.
2. Check the air pressure on the vehicle via cluster screen.

Vehicle Reaction

Yellow ECAS warning is seen on the cluster. Chassis height cannot be adjusted to ride height level. Axle load information is not seen on the cluster.

Recurrence Prevention

Troubleshooting

3. Check if B1FE1-92 or B1FE2-92 DTCs are active. If they are active, solve these DTCs first. 4. Make sure the engine is running during calibration process.

5. Make sure ECAS parameters are set correctly according to suspension type. 6. Check if there is any active DTC starting with ECAS_QF. If they are active, solve these DTCs first.

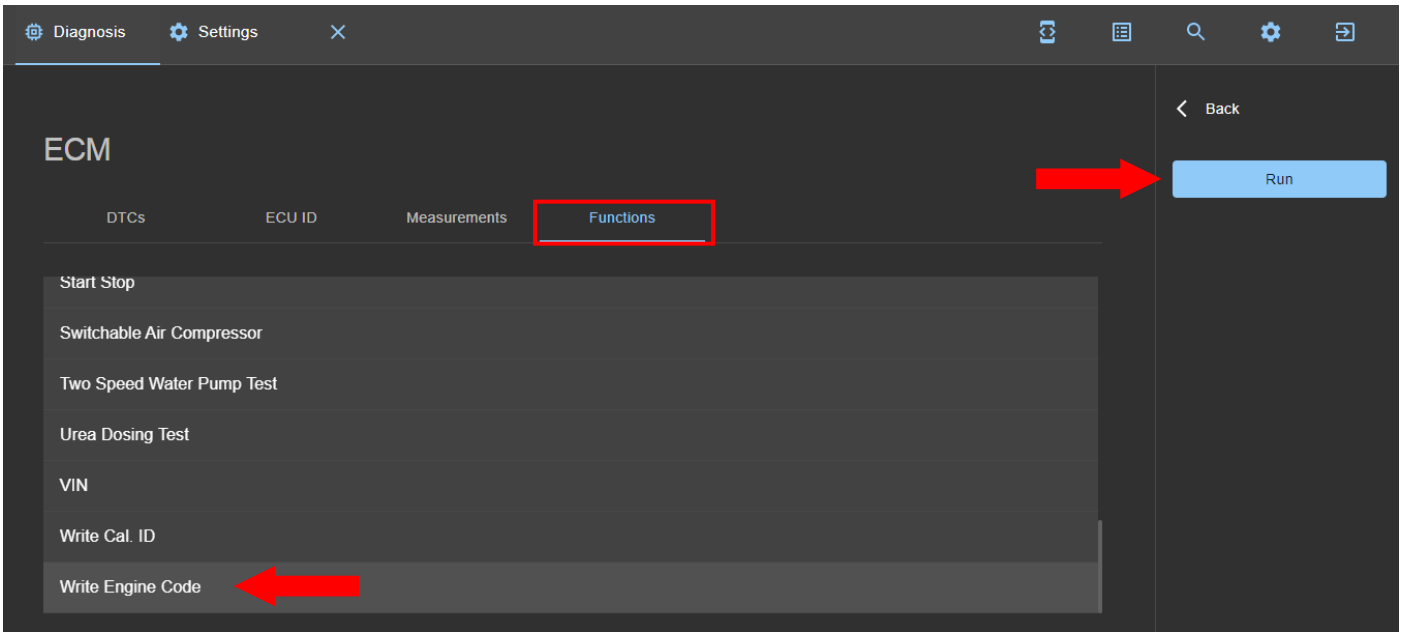
7. Check the sensor arms assembled correctly.

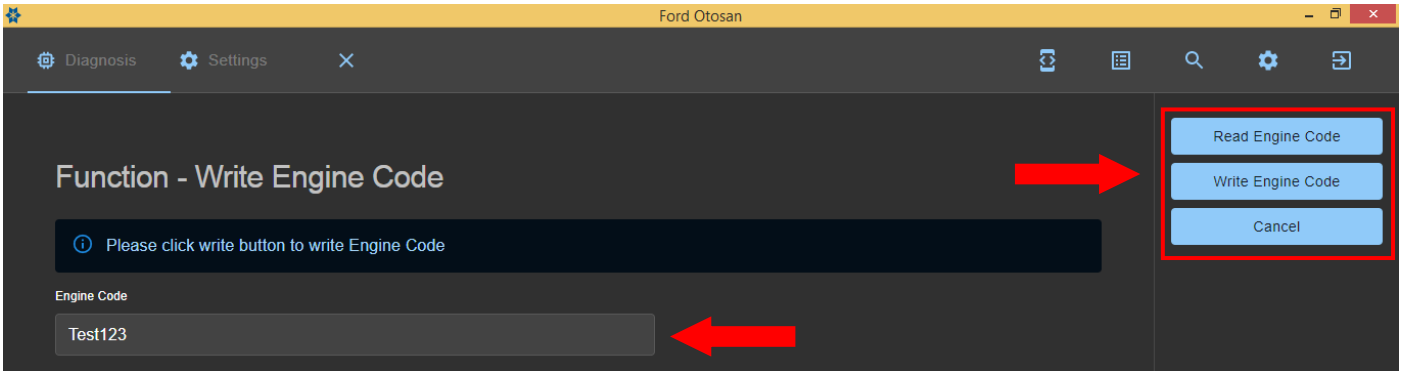
*

Write Engine Code:

You can perform the operations of reading the vehicle engine code recorded in the ECU module and writing engine code into the ECU module from the functions tab.

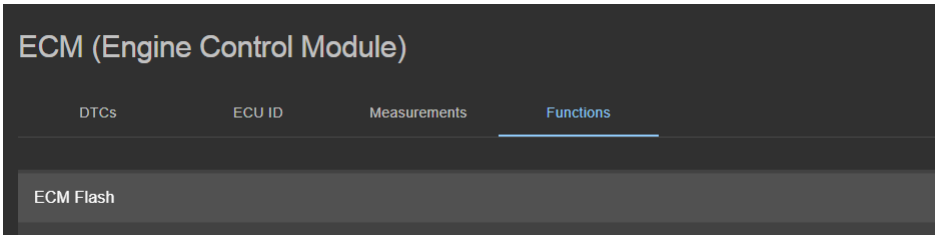
- When the vehicle ECU module is changed or programmed, it is required to write the engine code to the ECU module.

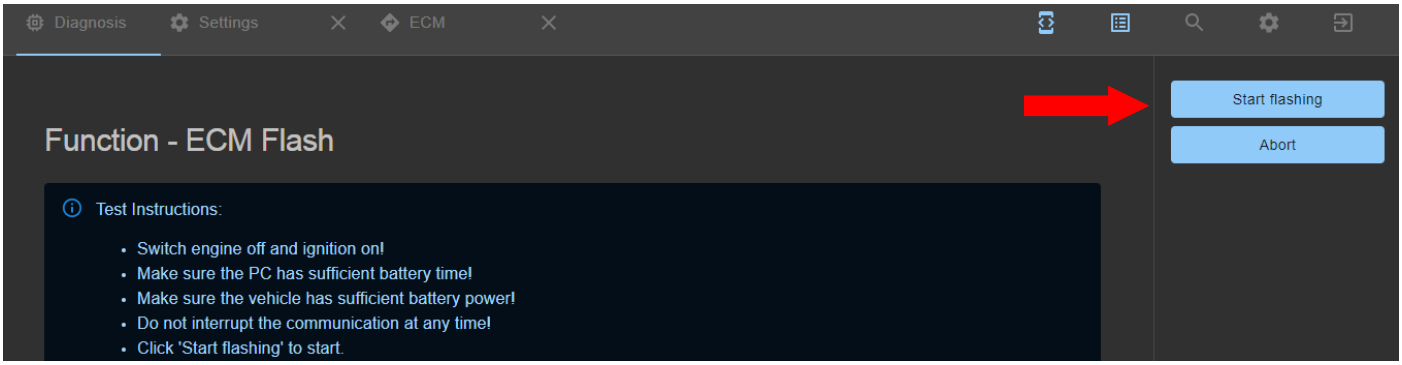




Module Programming:

ECU programming (Flashing) is performed through this option.





Situations for ECU Programming (Flashing)

• If there are any campaigns specified for the subject vehicle flashing must be performed.

• If a new ECU is fitted to the vehicle, ECU flashing must be performed.

Issues to Consider During ECU Programming (Flashing)

• No operations must be performed on the vehicle during flashing.
Example: No removal/installation, pressing on buttons, removing/plugging sockets must be performed on the vehicle.

When a new ECU is installed, the **Chassis Number must be written** into the module before the programming (Flashing) process, and then the operations listed below **must** be performed.

Module Programming (Flashing)
Writing Engine Code
Writing Injector Code
Writing Configuration
Writing Additional Configuration Parameter
CALID

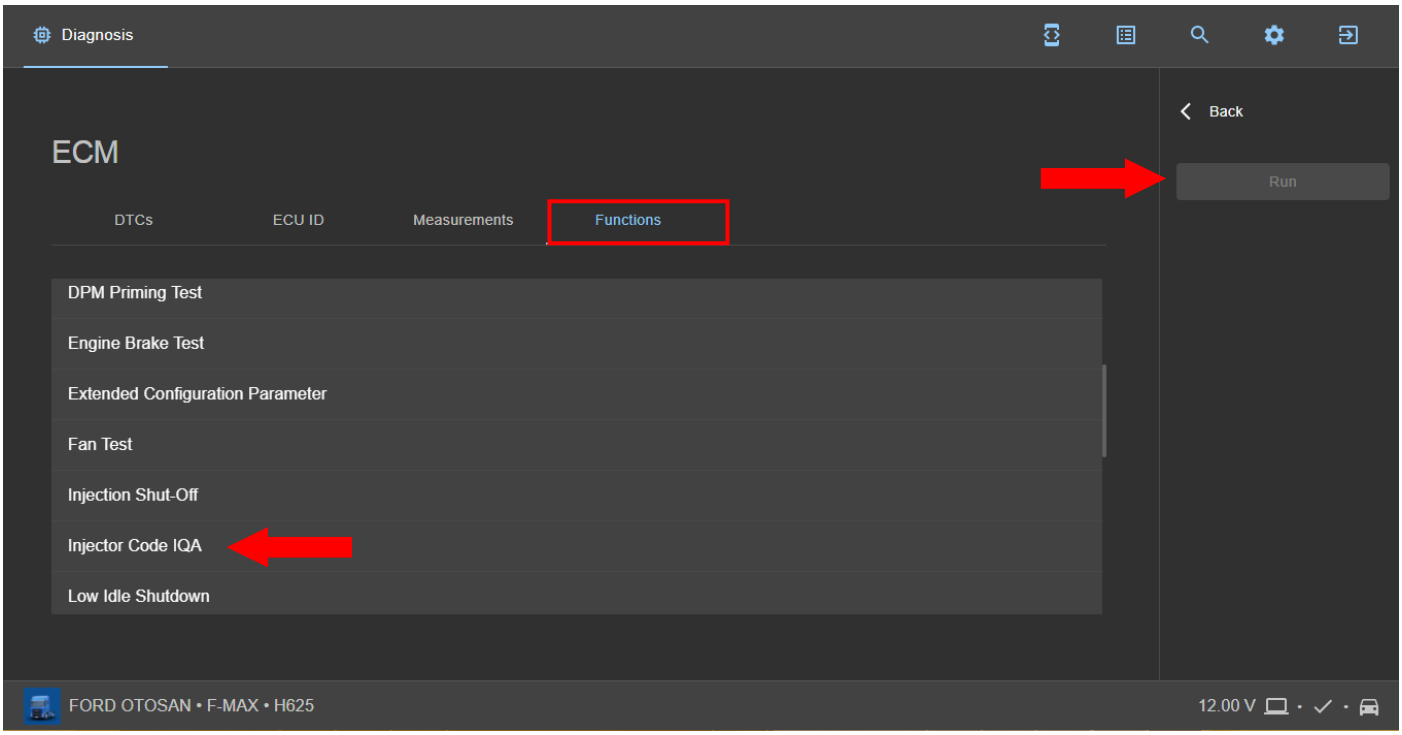
Note:

After these operations, an Immobilizer warning will be  displayed. **PATS (Key) Activation must be done from the IC module** (Instrument Panel).

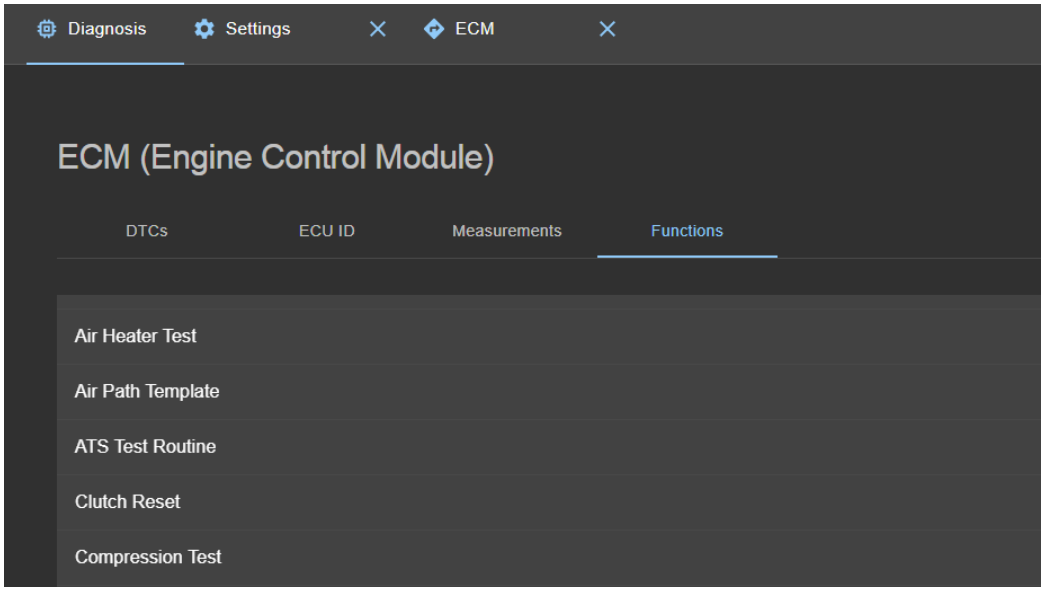
Injector Code Reading/Writing:

You can perform the operations of reading the injector code recorded in the ECU module and writing injector code into the ECU module from this tab.

- When the vehicle ECU module, injectors are changed or programmed, it is required to write the injector code to the ECU module.



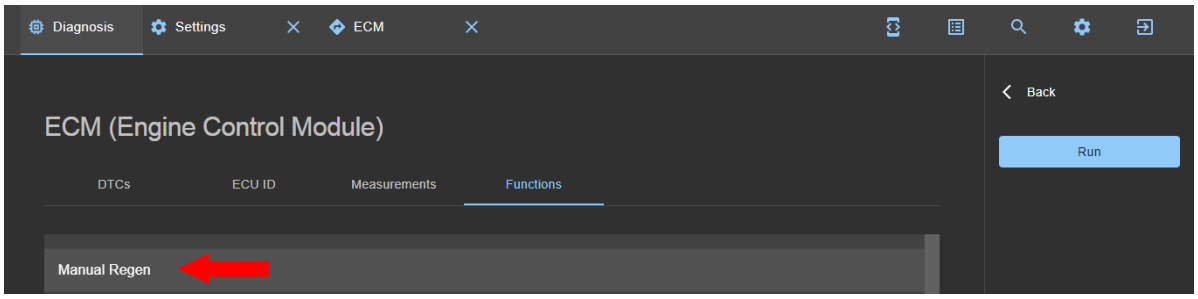
Special Tests:



- Manual Regen
- Service Regeneration for Deposit Cleaning
- Air Heater Test
- Injector Shut-Off Test
- DPM Priming Test
- Engine Compression Test
- Engine Brake Test
- Engine Start and Stop
- Urea Dosing Test
- ATS Test Routine
- Compression Test
- Two Speed Water Pump Test
- Misfire Detection
- Fan Test
- Soot Load Reset
- PRV Reset Routine
- Fuel Rail Pressure Exceed Reset

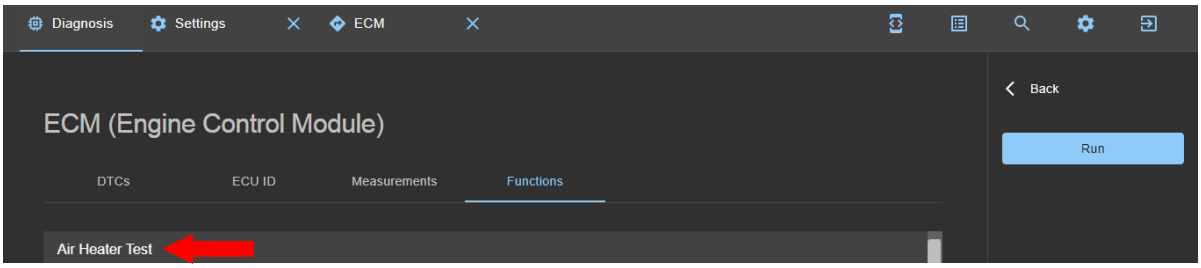
Manual Regen:

The same regen procedure performed via test screen, not manually inside the cab



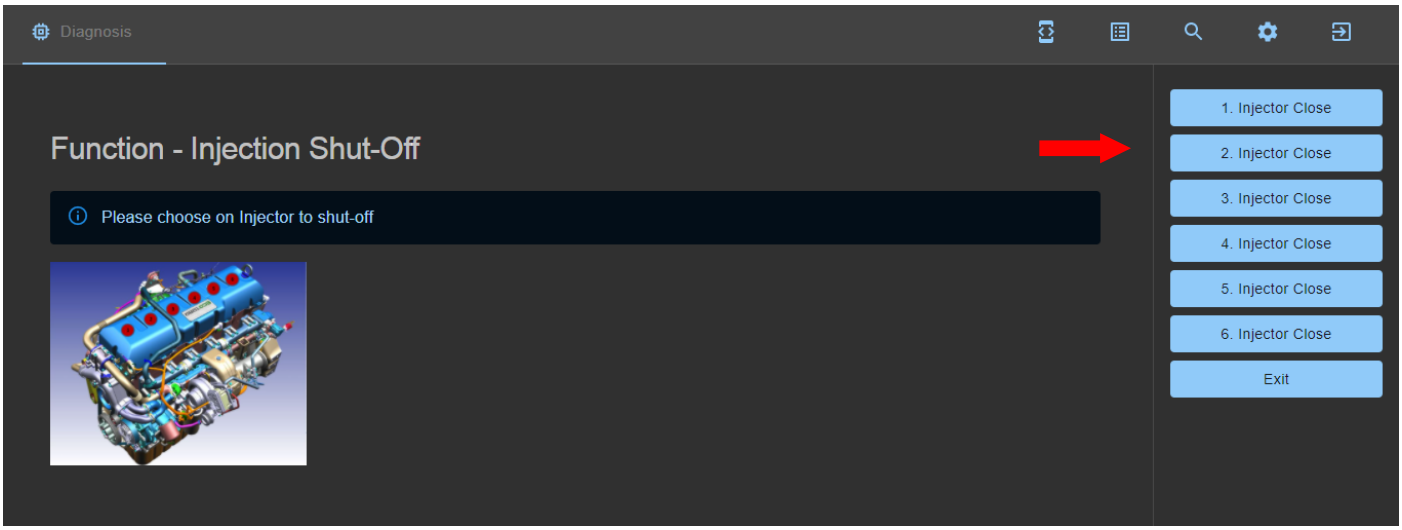
Air Heater Test:

The performance test of the air heater in the 12.7L Ecotorq engine



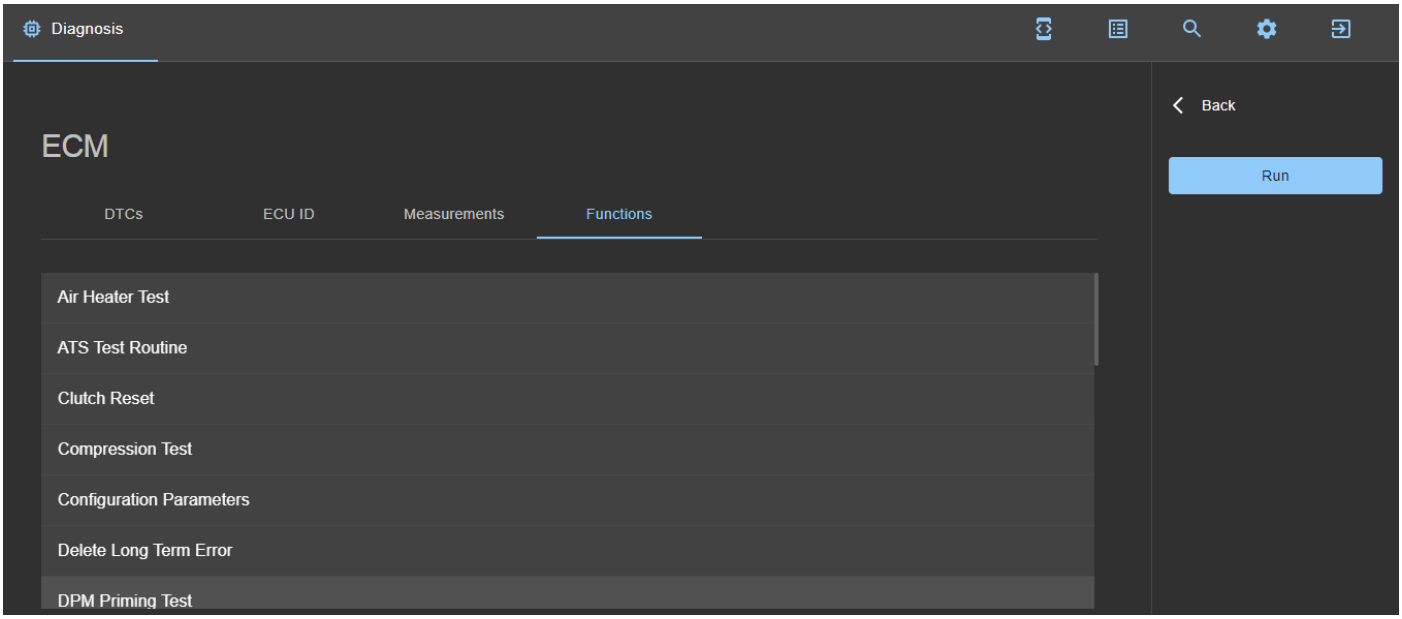
Injector Shut-off Test:

In this test, injectors are shut down by one by in order to observe the operation of injectors based on the chanhe of engine operation pattern.



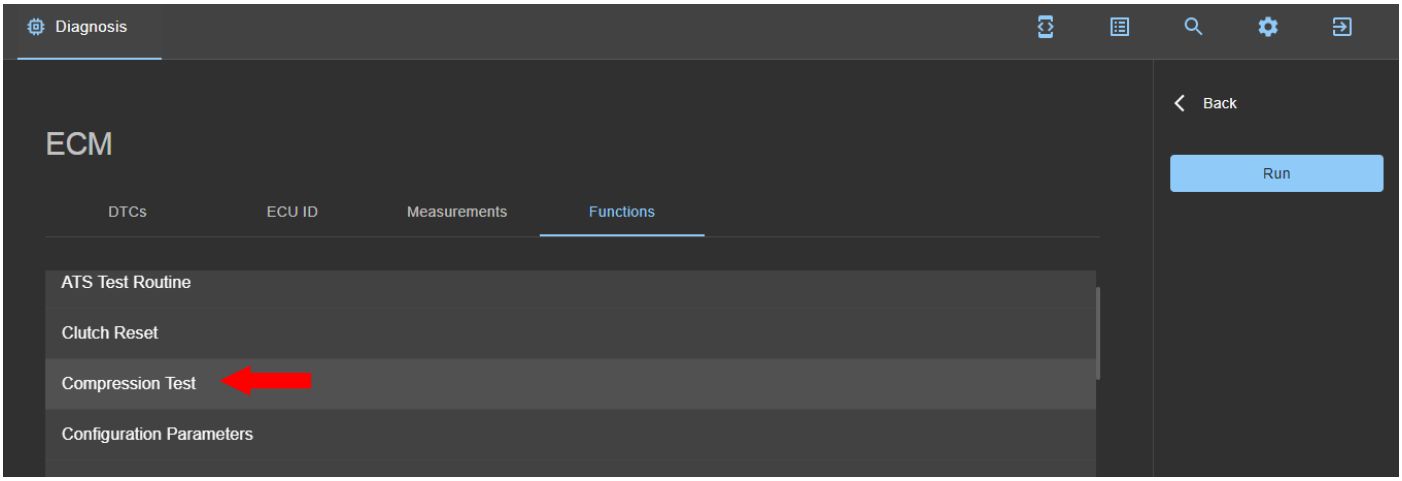
DPM Priming Test: (Departronic Module Dosage Procedure)

This dosage procedure must be performed absolutely by the service when the line between the departronic module, injector module on the exhaust outlet and two modules is modified.



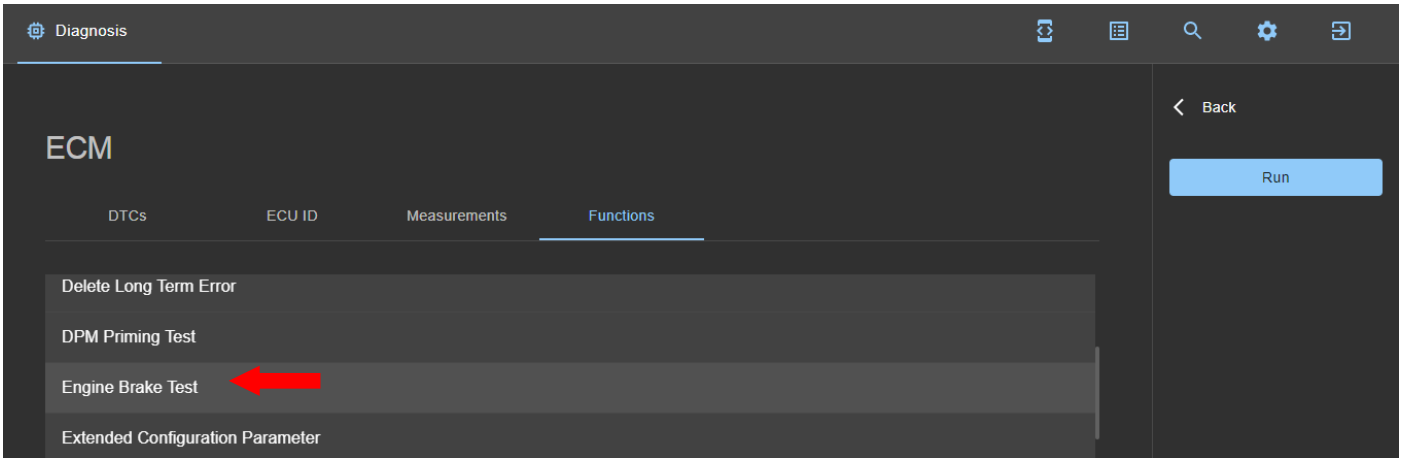
Engine Compression Test:

The performance of engine cylinder inner pressure can be observed with this test.



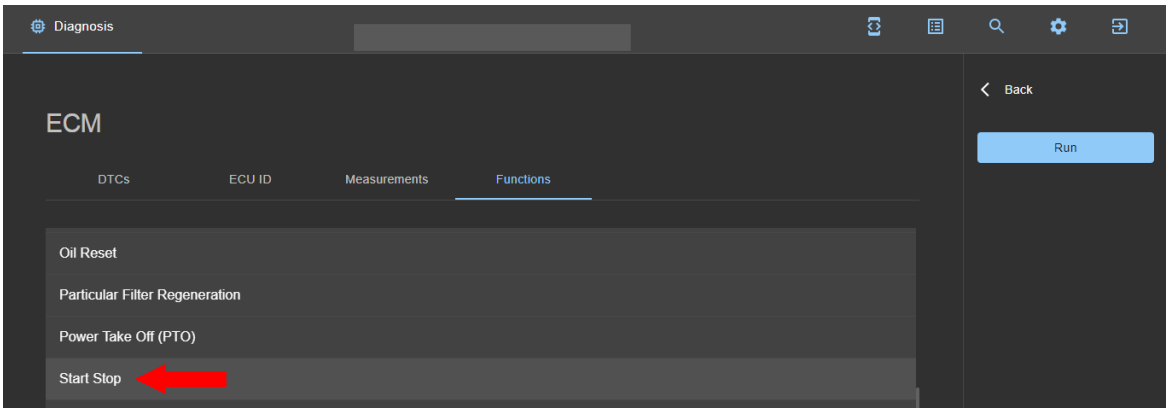
Engine Brake Test:

Measures the function of the engine brake. The test starts upon selection of the engine displacement.



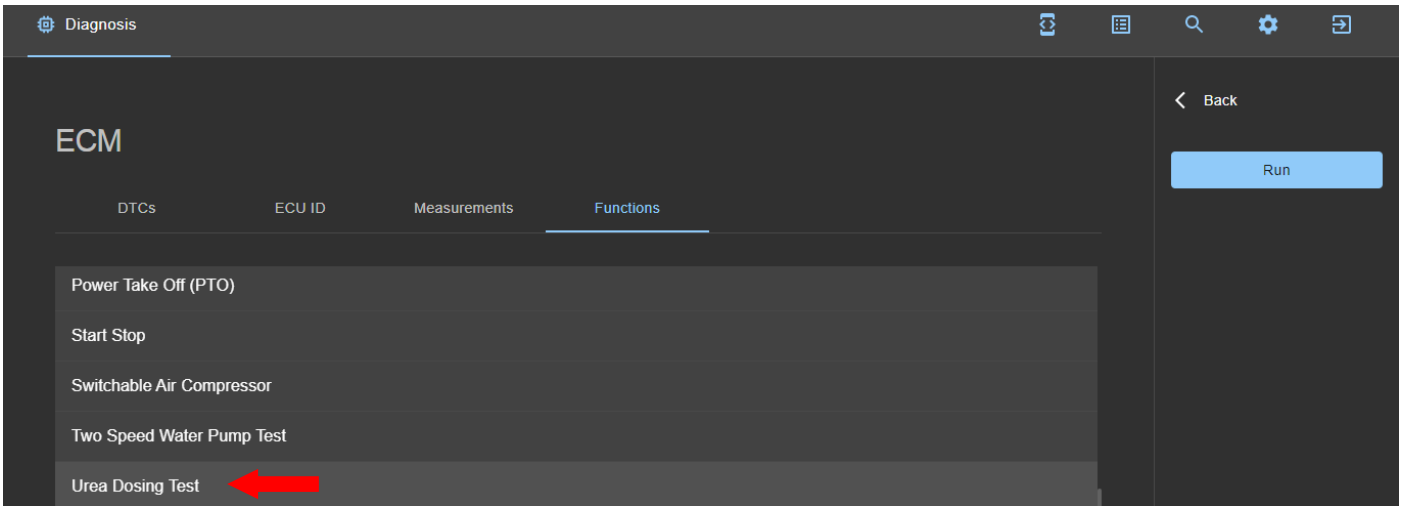
Engine Start and Stop:

Without interfering the ignition, the engine is started and stopped remotely. It is used actively for reading active-passive error codes.



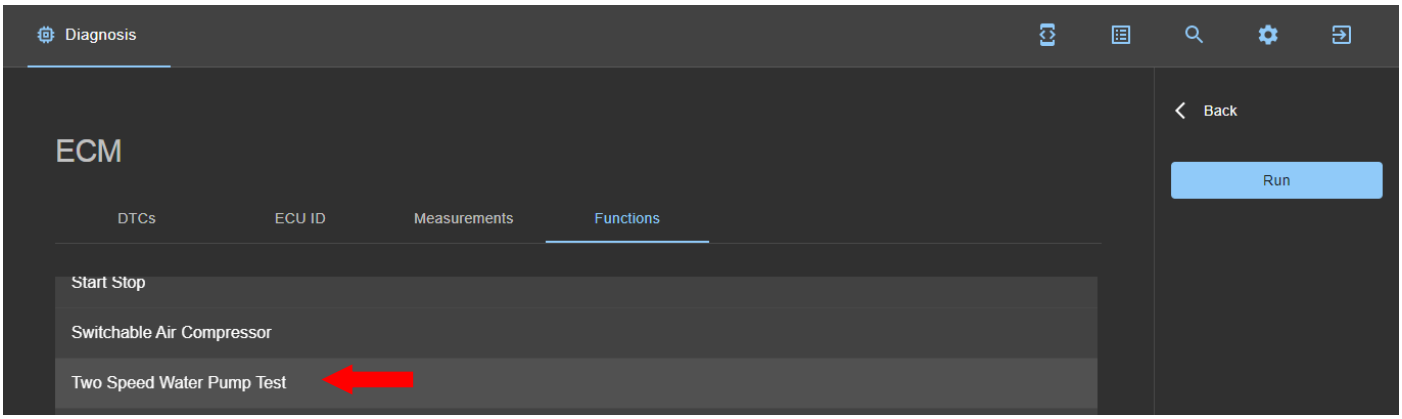
Urea DosingTest:

Performs the test of the complete SCR system which includes Adblue tank, Adblue pump, heater valve, adblue line and injector. If there is DTC in the system it won't start the test. Directs the test via directives.



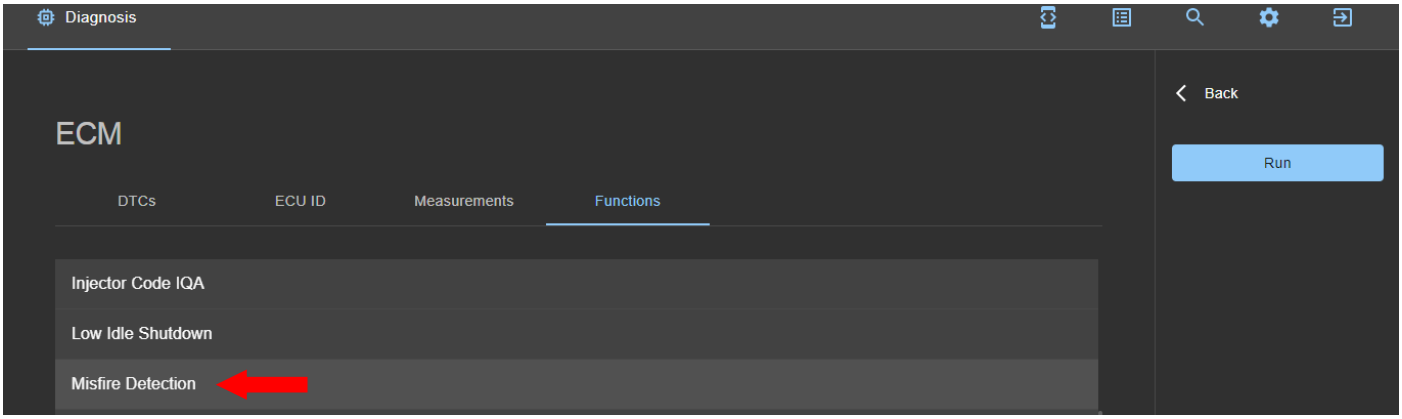
Test Speed Water Pum Test:

The test performed in vehicles equipped with two-speed water pump to measure the performance of the two-speed water pump to measure.



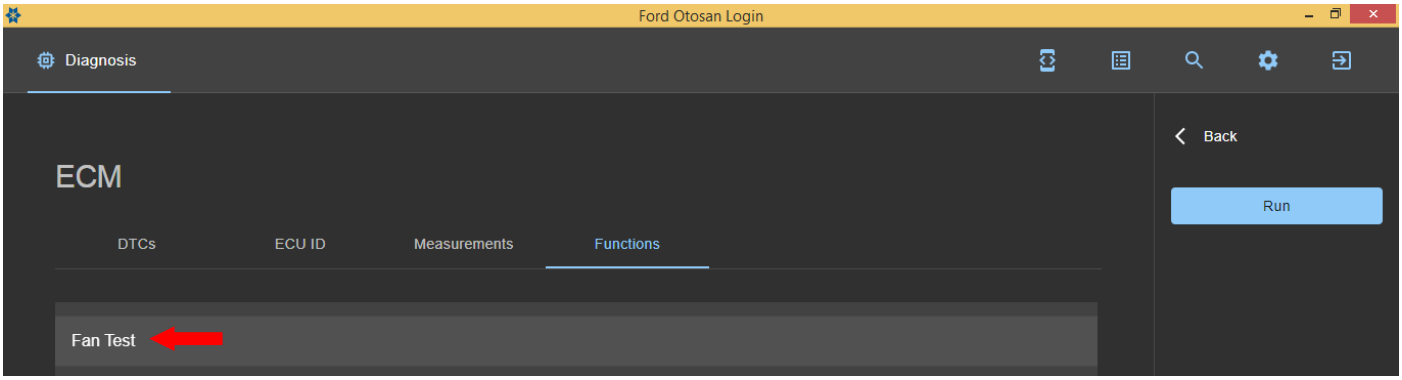
Cylinder Misfiring Detection Test:

Run this test, if the cylinder is misfiring in the vehicle. Action must be taken according to the conclusion.



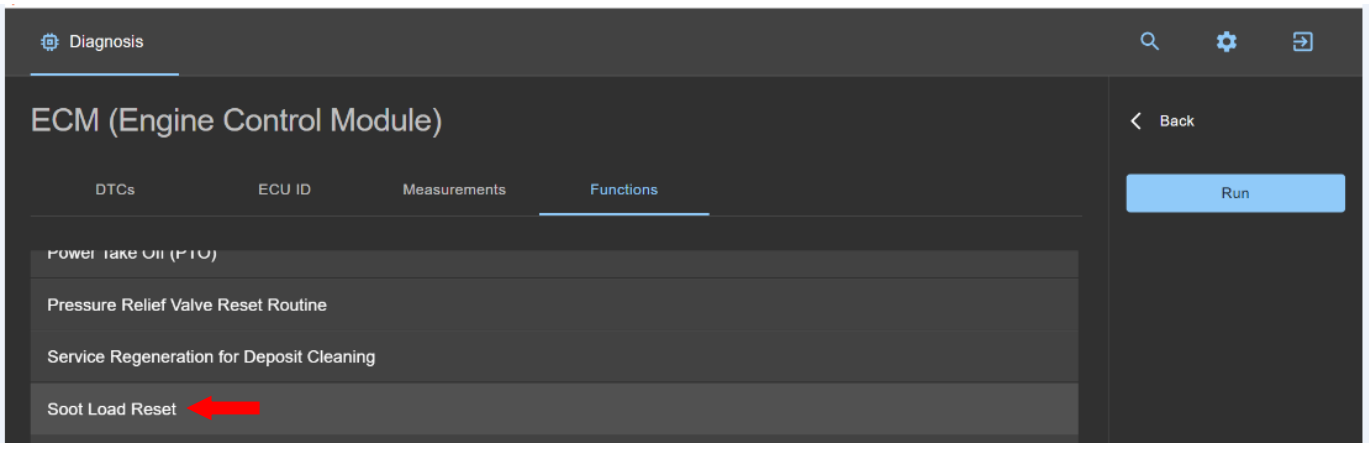
Fan Test:

Run this test, if the cooling fan switch has Electrical and Cooling Performance errors.



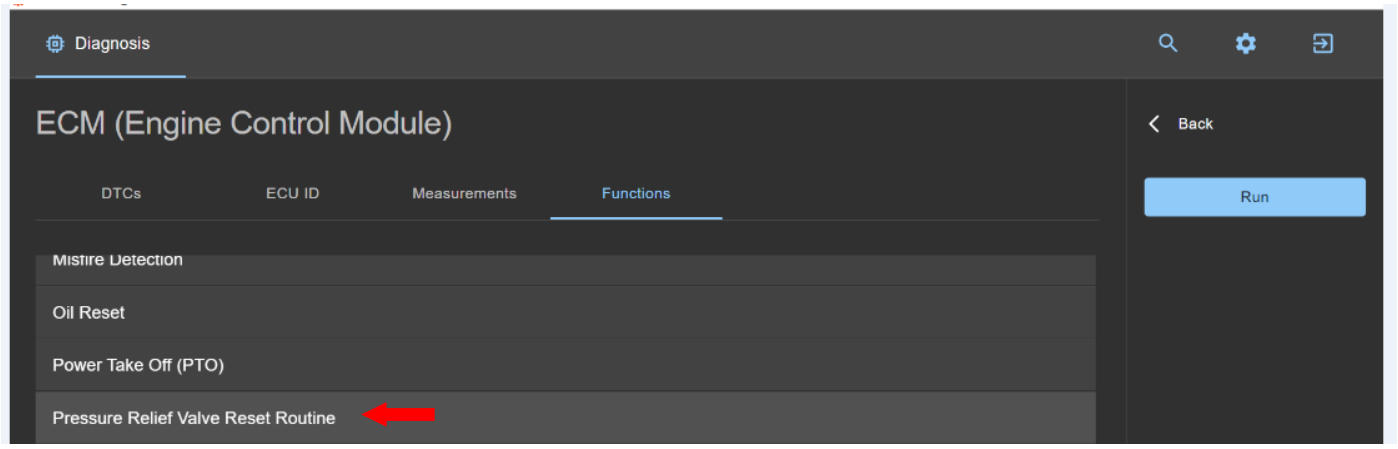
Soot Load Reset:

When the DPF filter of this test is overfilled, the P246300 error code is displayed in the FODiT and cannot be deleted. This procedure is used to perform the reset procedure from this menu after DPF filter replacement.



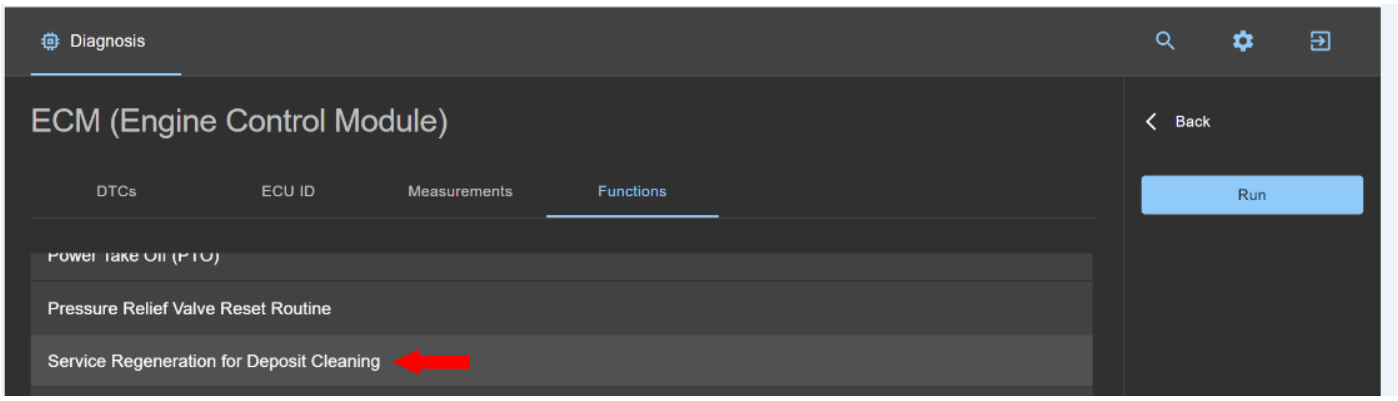
-PRV Reset Routine

The mechanical lifetime of the fuel rail pressure valve is recorded in the memory of the EMS module. P000F-05/04 error codes appear on the screen when it reaches a certain measurement limit. After PRV replacement, lifetime reset procedure is performed with this test.



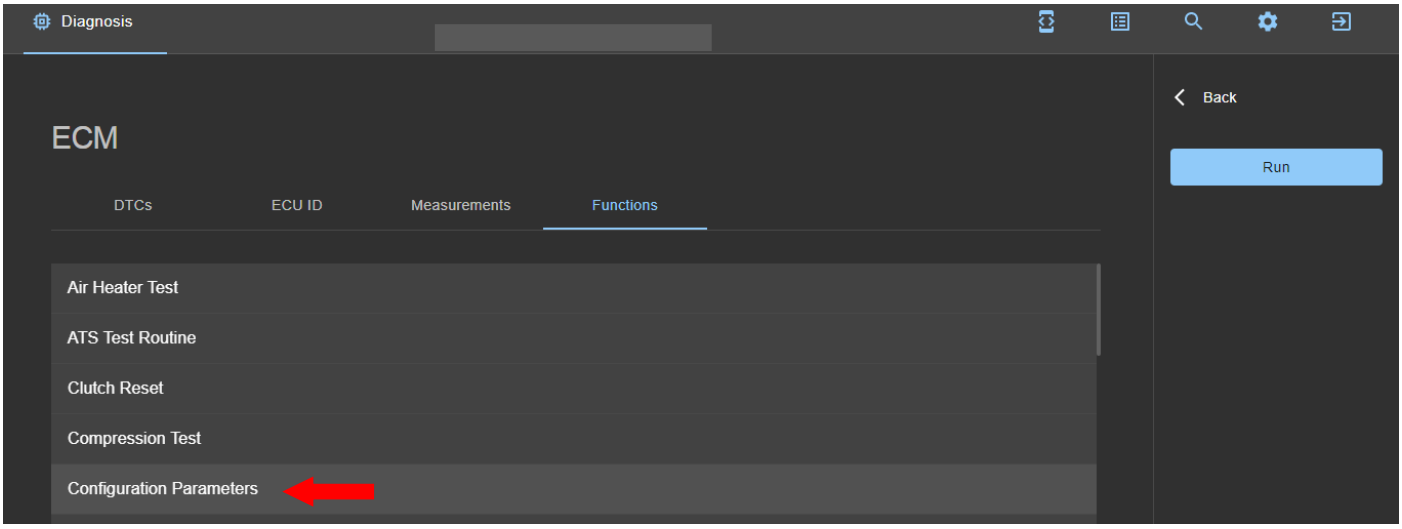
Service Regeneration for Deposit Cleaning

The purpose of this test is to dissolve the urea residues accumulated in the muffler at high temperature (650C). During the test, the engine speed will increase and the exhaust will be heated to remove any urea clogging of the muffler. Test lasts for about 1 hour.



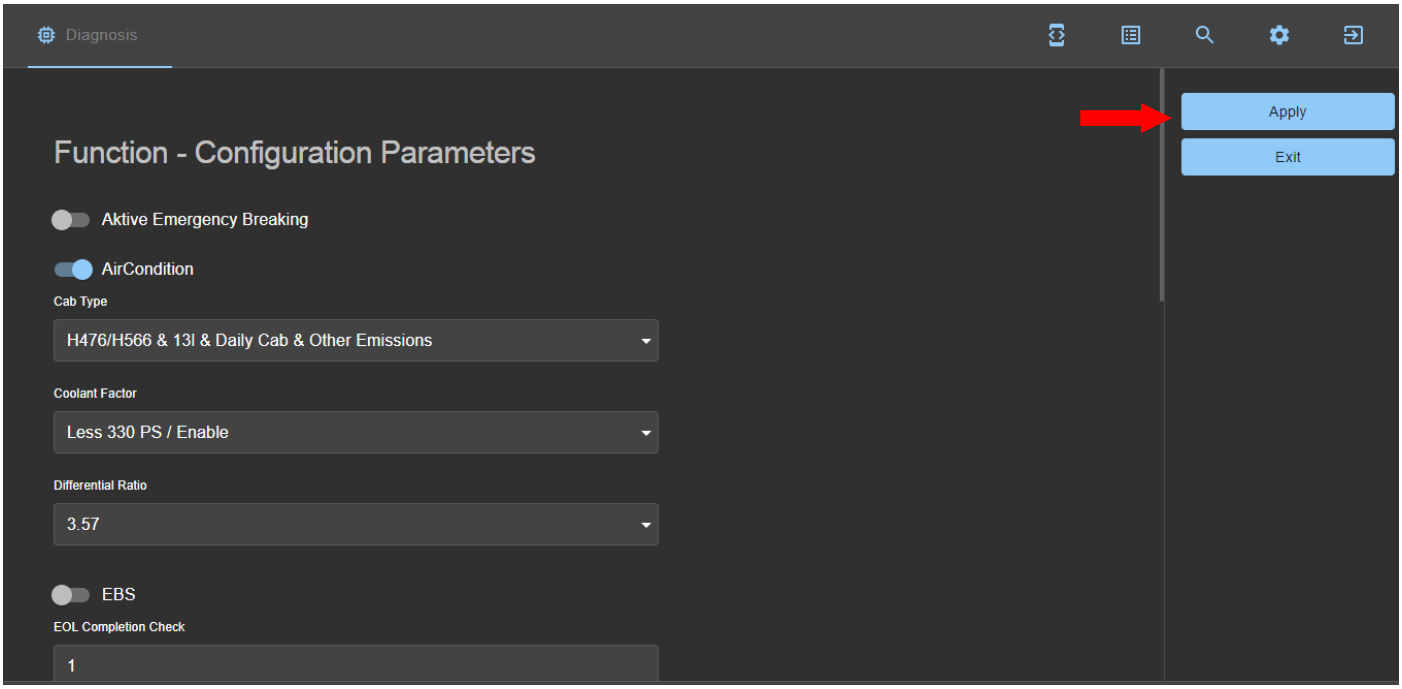
Configuration Parameters:

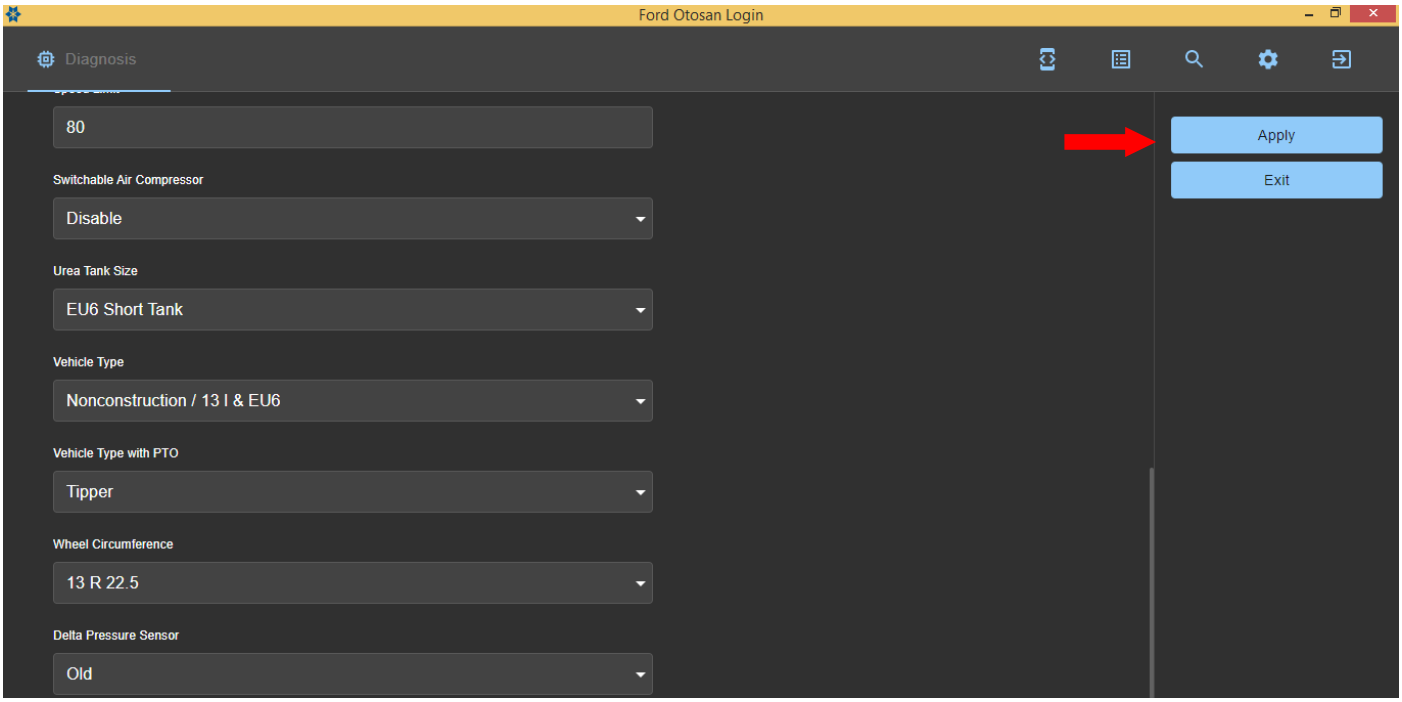
This screen enables viewing the configurations on the connected vehicle or suitable configuration can be written depending on vehicle properties.



Wrong configuration parameters in ECU can light up a warning lamp on the panel. Thus, it must be ensured that correct information is entered.

Parameters that are read over the configuration writing screen are to be confirmed **<u>through the vehicle</u>** and written accordingly. If a change is made in the configuration, it should be specified in the remarks section.





Description of the parameters which are going to be written to the module:

Active Emergency Brake System:
If there is AEBS (Aktif Emniyet Fren Sistemi) i.e. Radar Module available in the vehicle, it should be selected as **Active**.

A/C:
If there is A/C available in the vehicle, it should be selected as **Active**.

Cab Type:
Selection should be made according to the bed type in the cab.
For double cab, **CrewCab** is to be selected.

Coolant Factor:
If the vehicle is 9.0 l. 330ps; **330PS**
If the vehicle is 9.0 l. 330 ps external (12.7 l. 480-420Ps) and without air compressor with clutch:, **330PS External / N/A**
If the vehicle is 9.0 l. 330 ps external (12.7 l. 480-420Ps) and with air compressor with clutch:, **330PS External / Available** must be selected.

Final Drive Ratio (FDR):
Selection should be made according to the differential gear ratio. Selection is to be made over the plate on the differential or sales sheet belonging to the vehicle model.

EBS:
If there is an EBS module available in the vehicle, it should be selected as **Active**.

ESP:
If there is ESP available in the vehicle, it should be selected as **Active**. (The instrument cluster indicates slippery road warning.)

Fuel Tank Volume:
Selection should be made according to the RH (passenger side) fuel tank volume.

Intarder:
If there is an Intarder available in the vehicle, it should be selected as **Active**. Visual inspection over transmission

Low idle shutdown:
Activates the shut off feature of the vehicle at idle operation without interfering Selected upon customer's request

Overheat Warning:
It's the Overheat Warning for the Clutch. If there is double clutch lining available in the vehicle this parameter should be selected as Deactivated.

Predictive Cruise Control:
This screen is used entering the maximum speed for the Cruise Control.

Switchable Air Compressor:
If the air compressor of the vehicle is with clutch, it should be selected as **Active**.

Urea Tank Size:
Should be selected according to the dimensions of the urea tank on the vehicle and Emission Info available on the Sales sheet

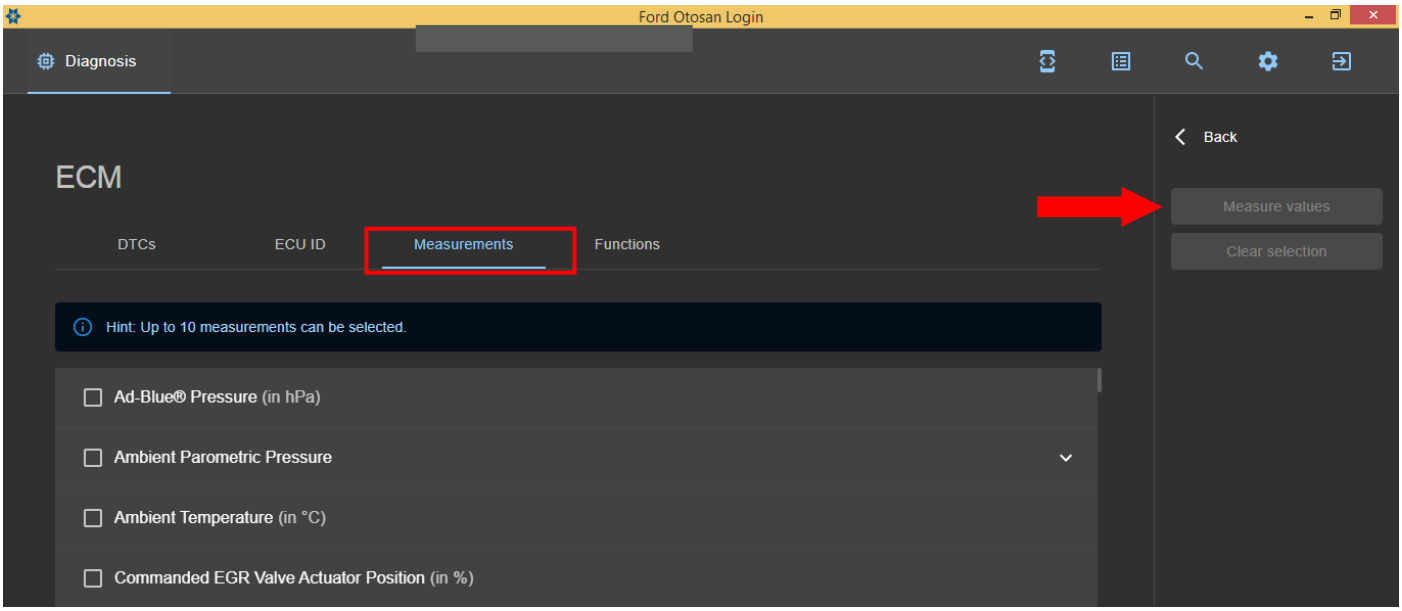
Vehicle type: (Very Important)
This parameter affects the vehicle's oil maintenance algorithm. It must be written absolutely correct. Should be selected according to the vehicle's engine displacement and the way the engine is being used.

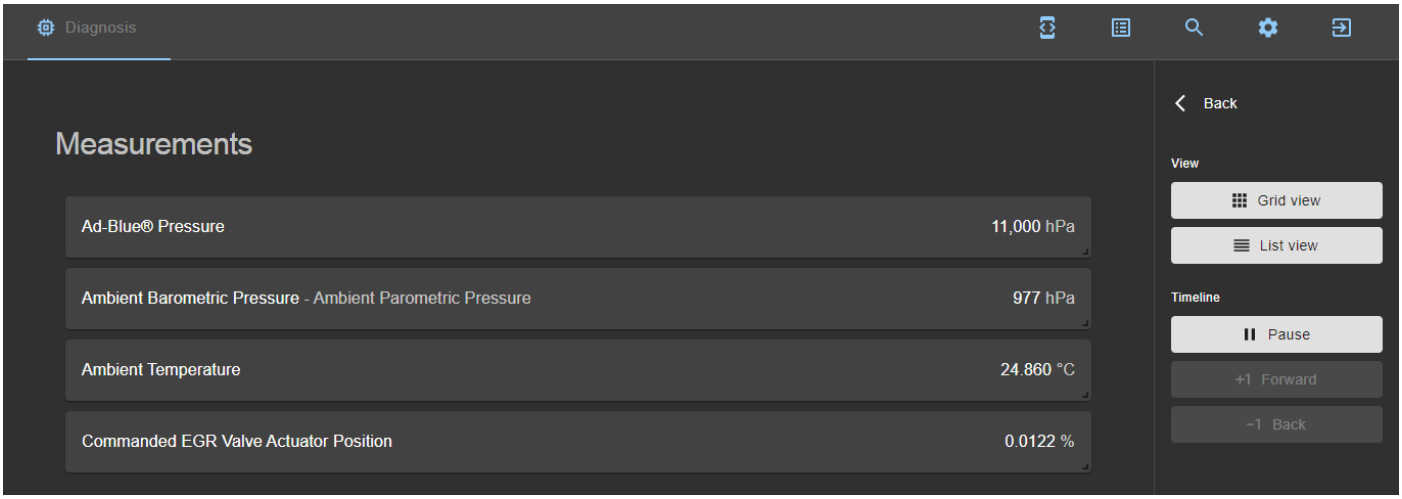
Vehicle Type with PTO:
Selection should be made according to the PTO type in the vehicle.
For all vehicle types without Concrete Pump and Damper, **Other Type** needs to selected.

Wheel Circumference:
Wheel size should be entered from the list on the vehicle.

Measurements:

Data passing through the CAN data line are being observed and kept in the road tests for the remedy based on the customer complaint. The cause is fixed with the help of the analysis of the received data.



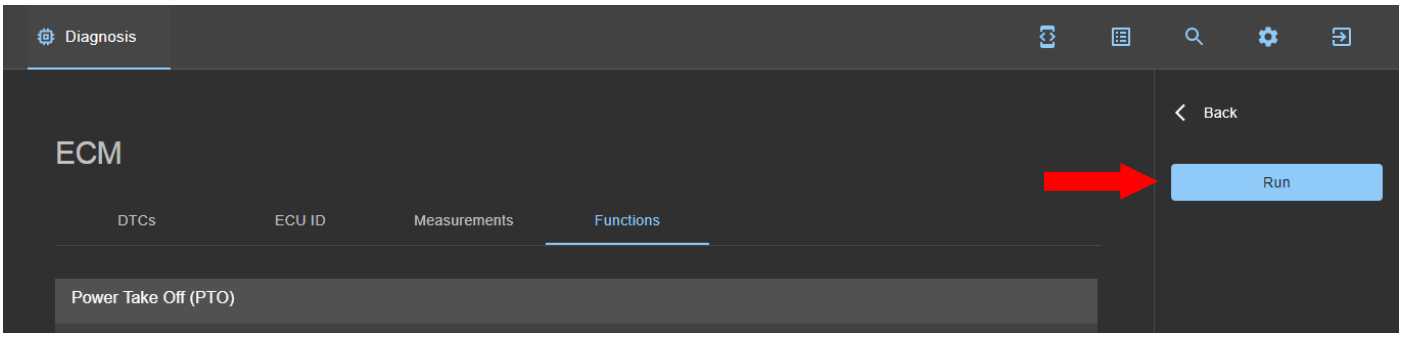


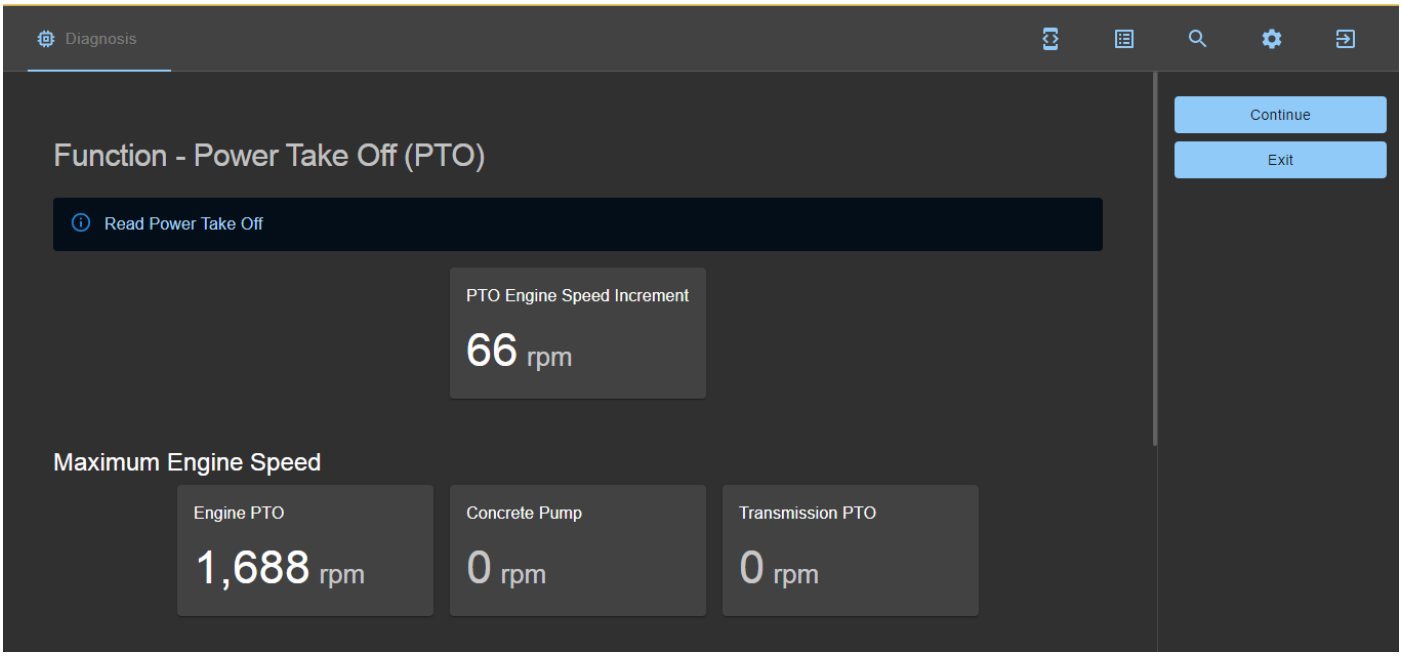
PTO Reading/Writing:

The written PTO speed is read on the PTO speed reading screen. Desired PTO speed is written on the writing screen.

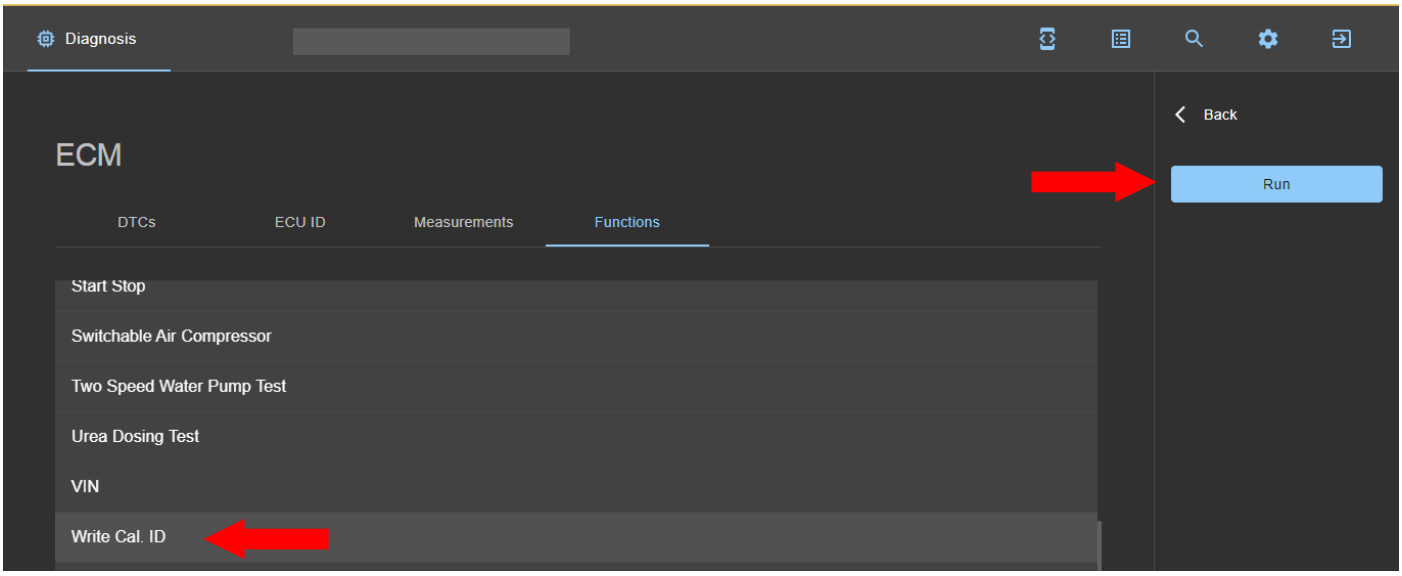
Maximum PTO Speed: Shows the speed PTO is limited to rise to. (Approx. :1300-1400 rpm)
Starting PTO Speed: Shows the speed PTO is being activated at. (Idle speed: 600 rpm)

<u>At concrete pump superstructured vehicles, selection is made according to Gear Series (High-Low) requested by the PTO manufacturer.</u>



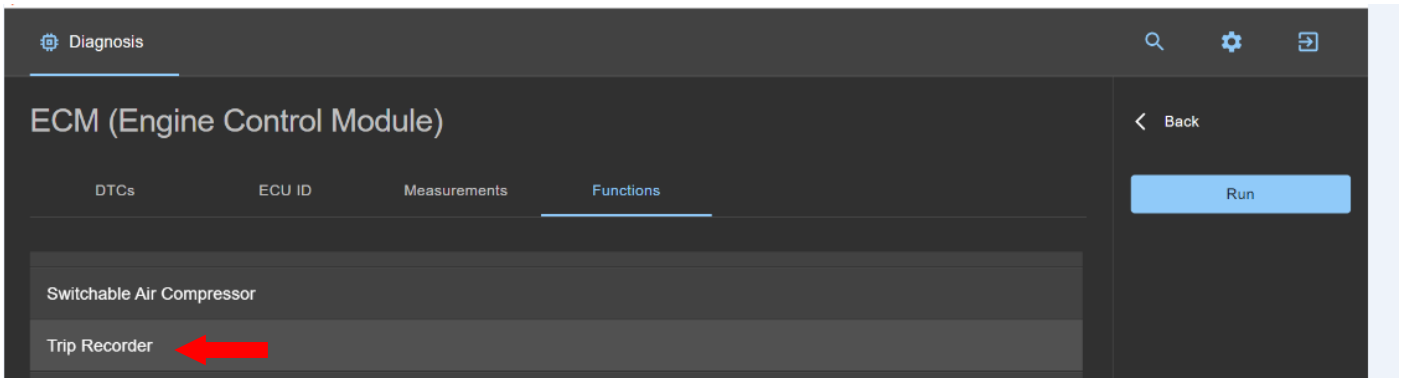


CALID:
Following the ECU (EMS) module programming CALID writing should be performed.

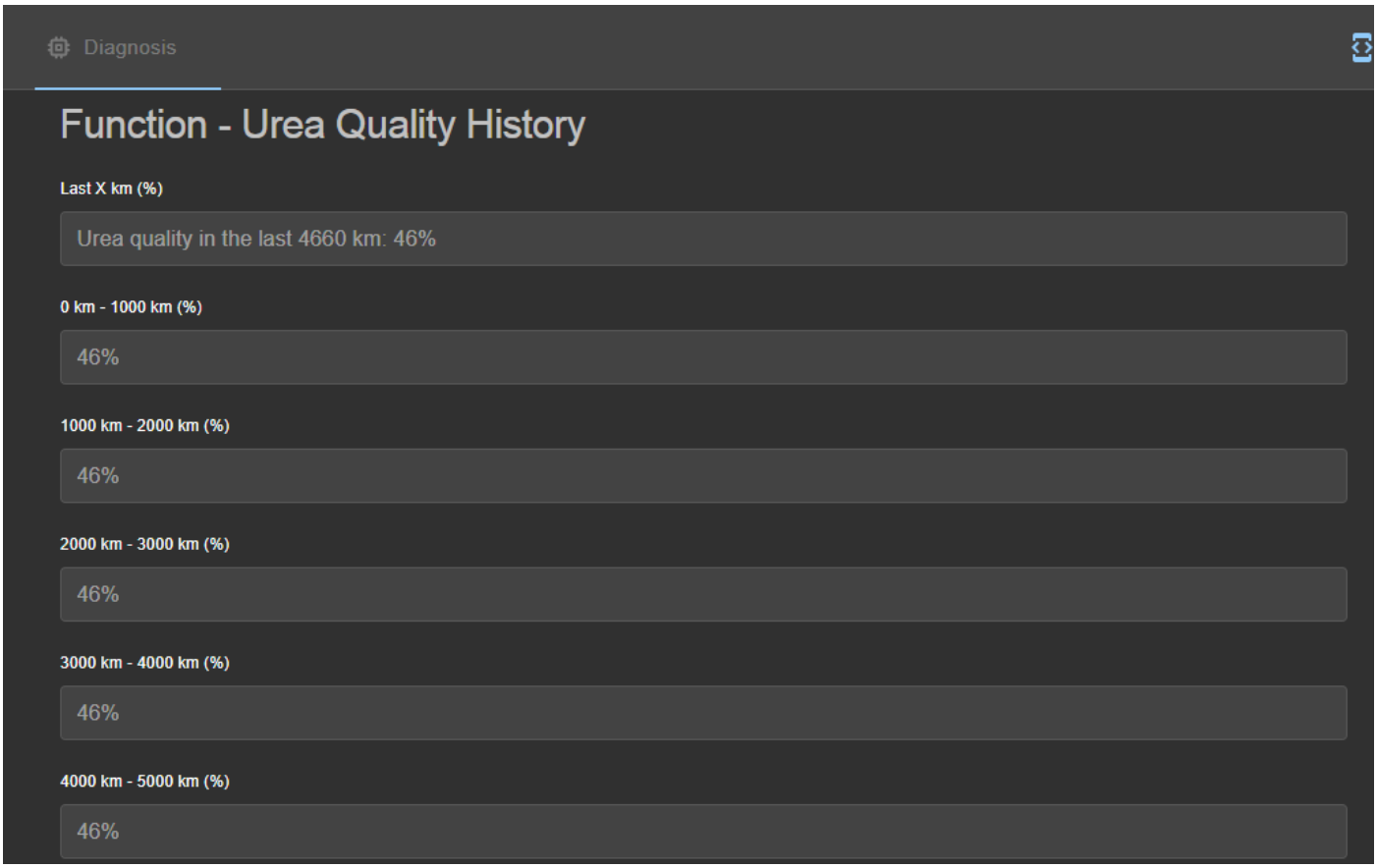


Road Data (Trip Recorder):

In this menu, the data collected by the ECU (Engine Control Unit) is shared in diagrams from the day the vehicle comes out of the factory. With the help of service interpretation power in the light of the information in these tables, information is being obtained about vehicle's past use and vehicle characteristics. **The road data of the vehicle is recorded upon pressing the button indicated with the red arrow and the file is shared when it is requested by the FO Service Engineering**.

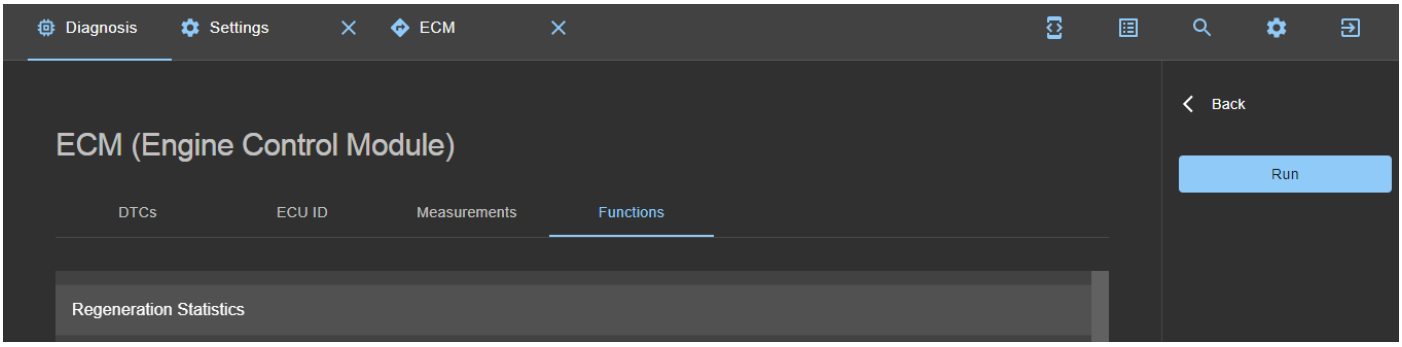


Urea Quality History:

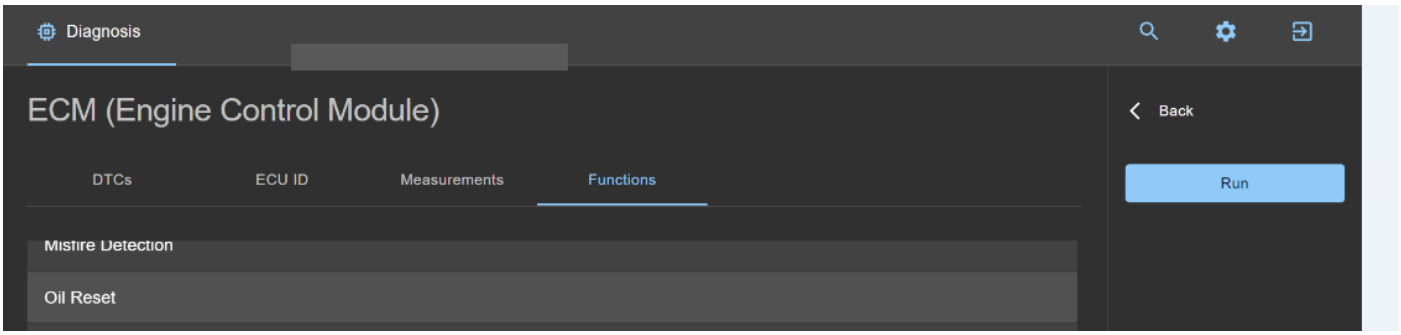


Regen Statistics:

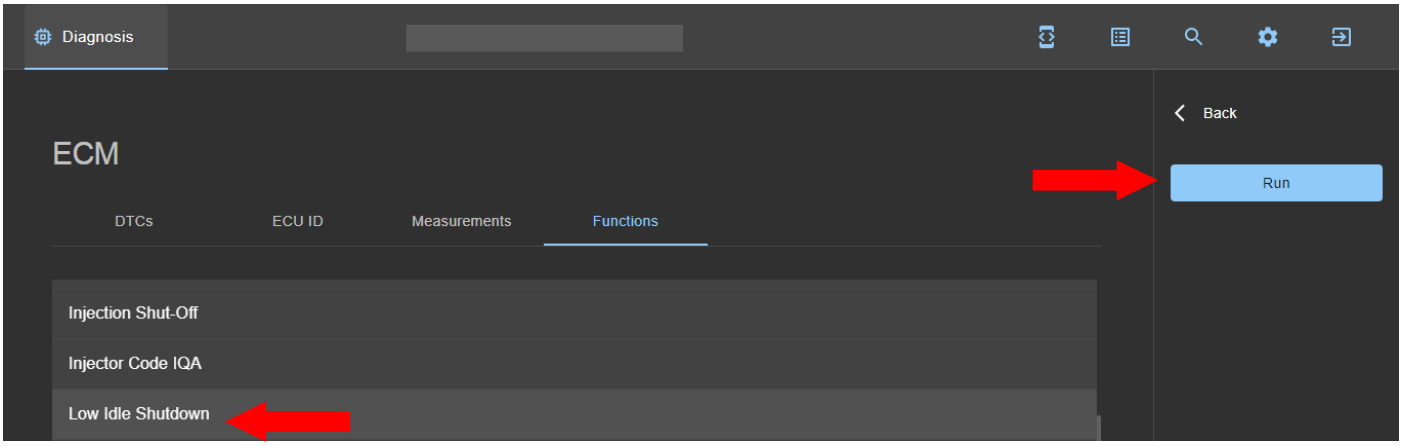
You may read regeneration statistics and see how many time regeneration required and canceled by driver.

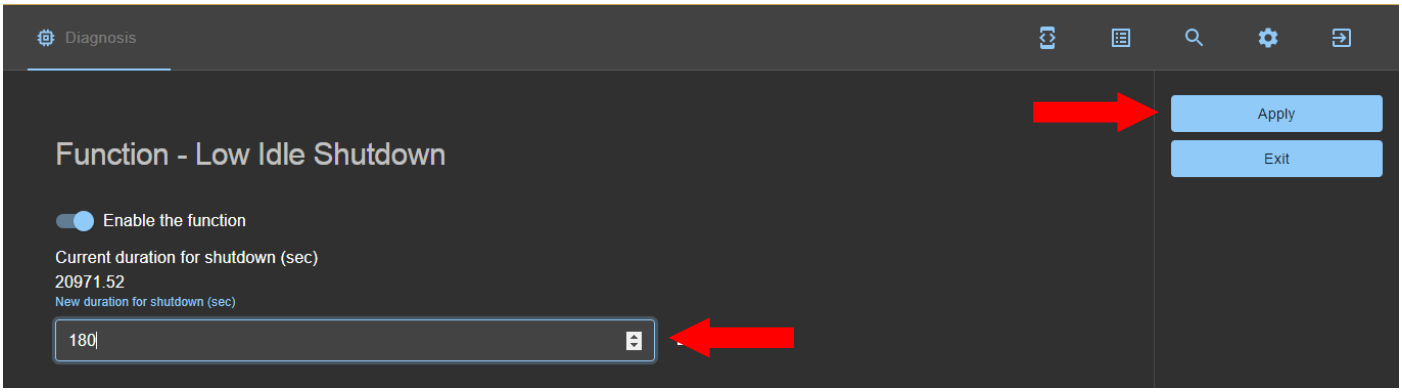


Oil Reset:
Distance remaining () for the Oil change warning given in the Cluster (Display) is displayed. This warning will be resetted via **Oil change Warning Reset** icon after oil has been changed in the service

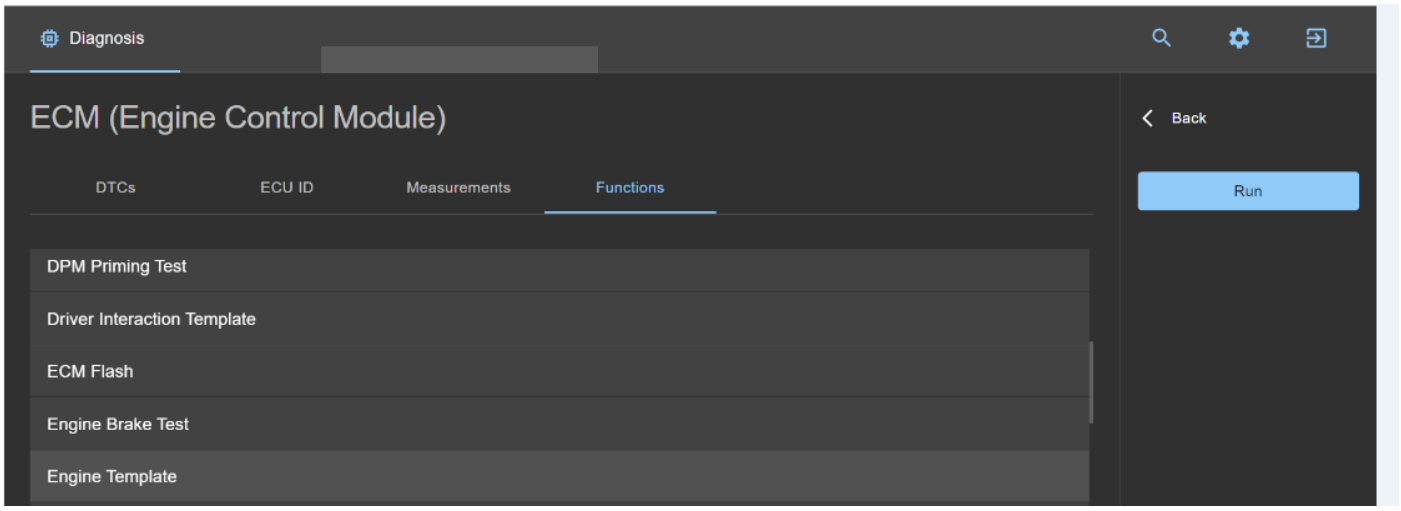


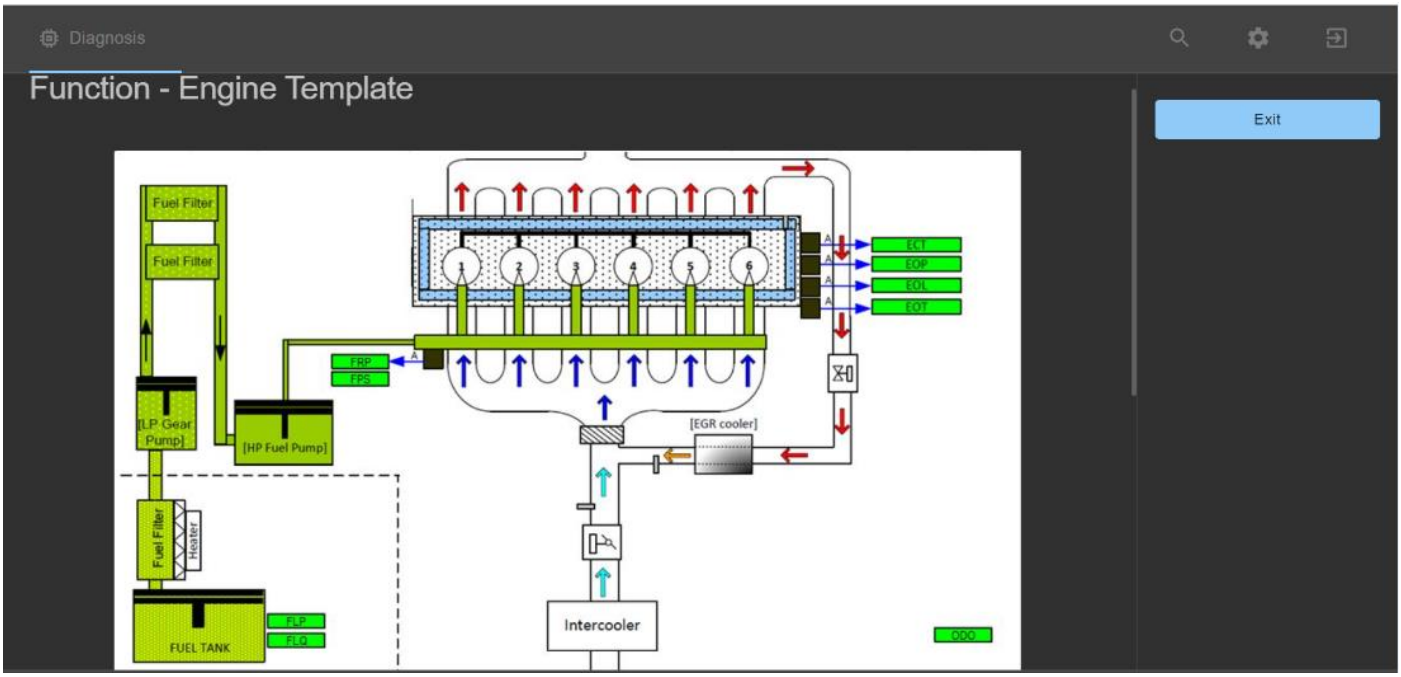
Low Idle Shutdown:
The shutt-off time at idle can be adjusted over this screen according to the customer request.

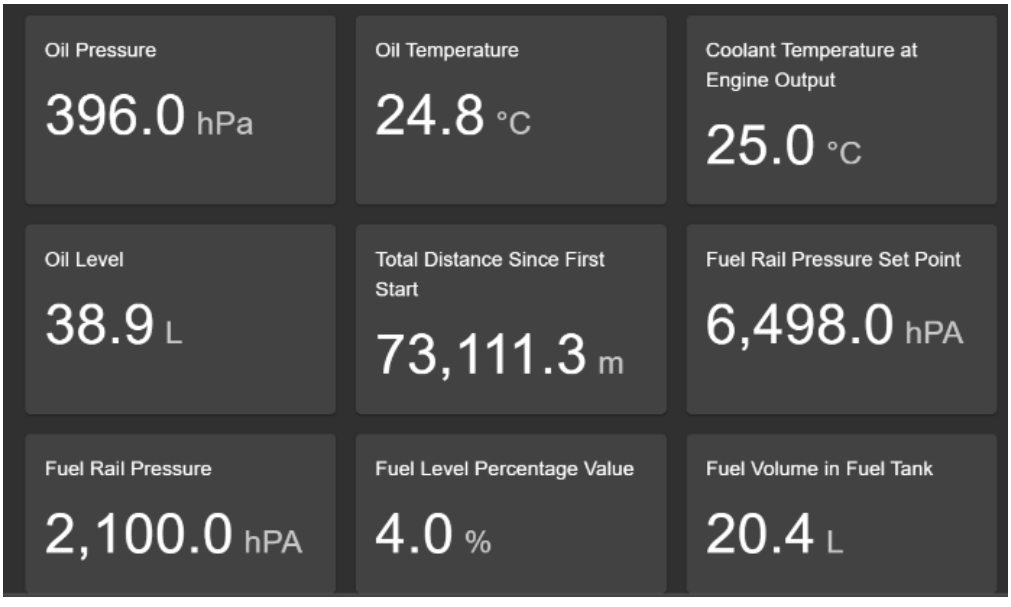




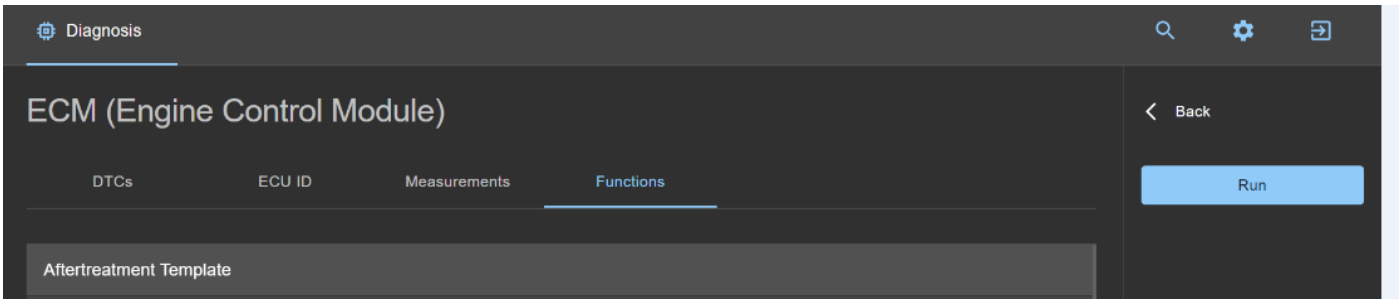
Engine Template:
We see real-time values of sensors and valves on the vehicle. In particular, these screens must be used in the related sensor faults.

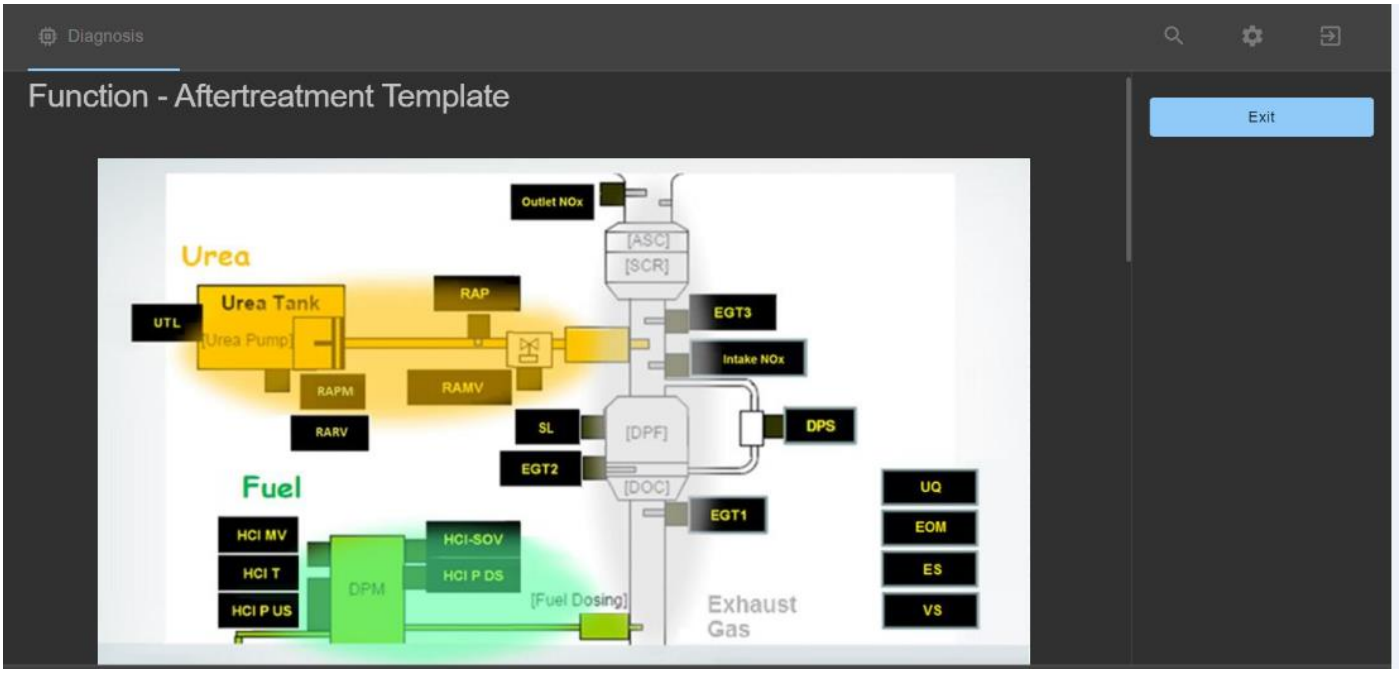


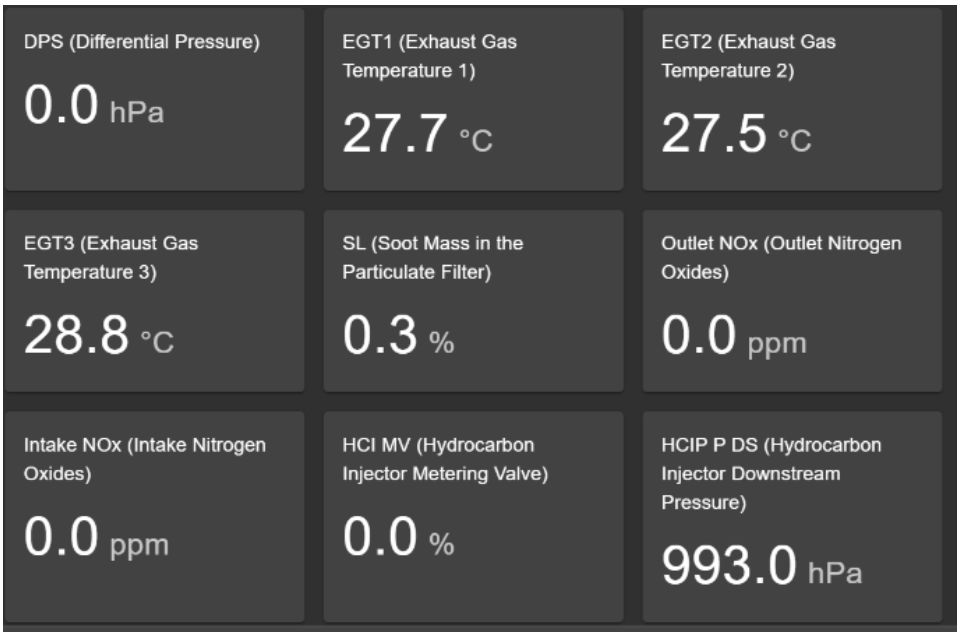




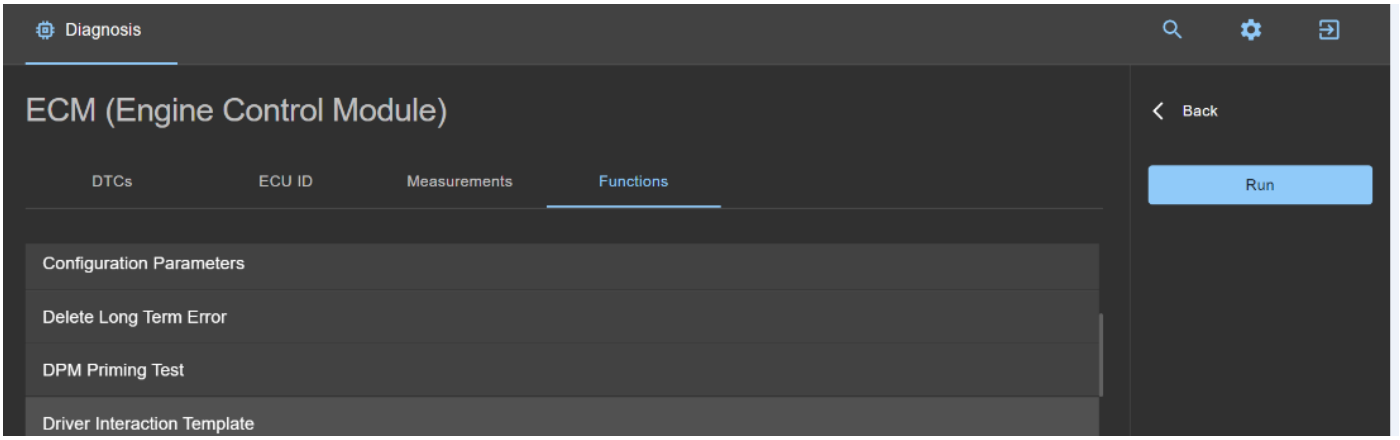
AFTT:
This menu shows the real-time measured values of sensors and valves on the Departronic module, SCR System and Exhaust.

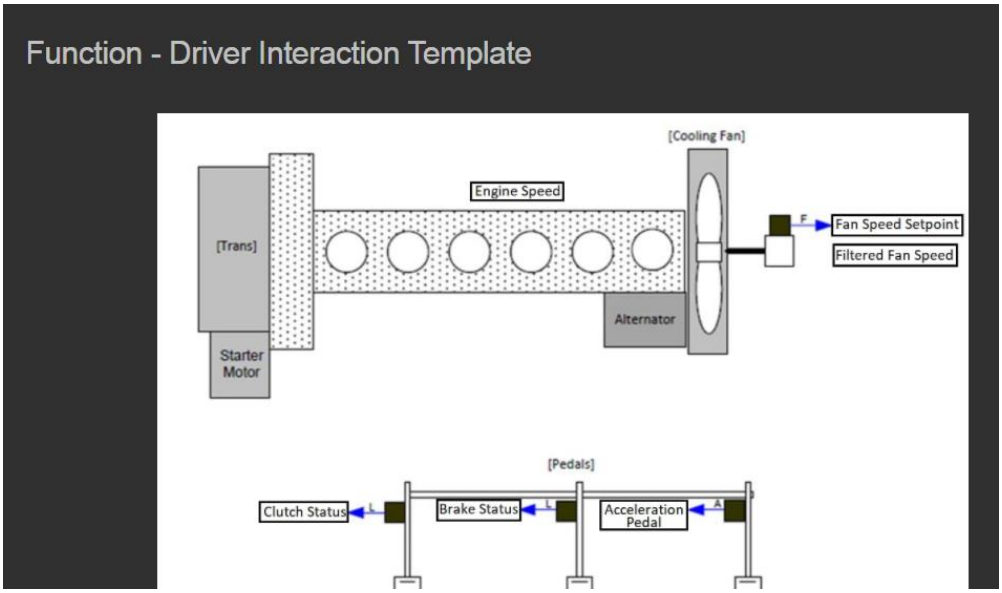




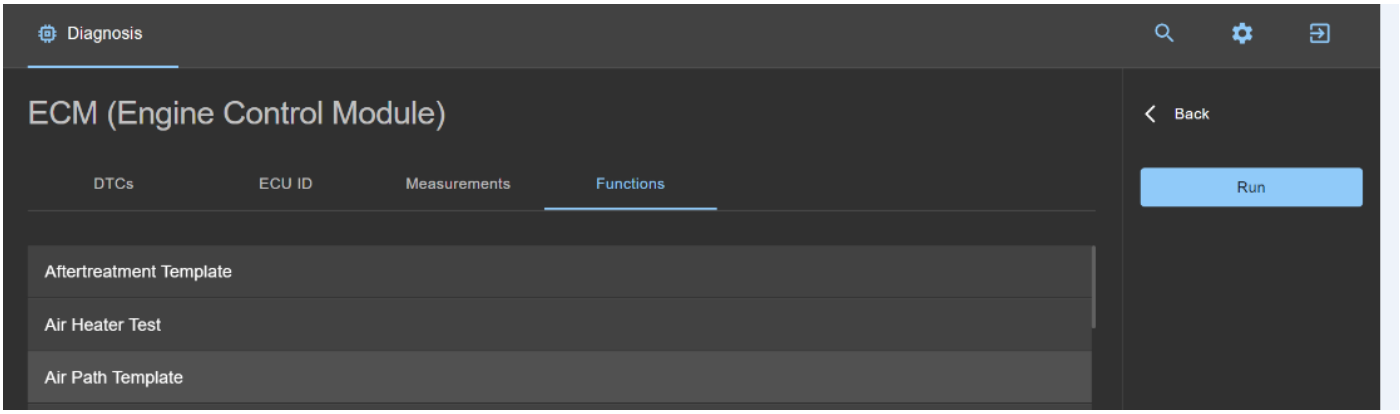


Driver Interaction Template:
This menu shows pedal positions, real-time measured values engine and fan speed.





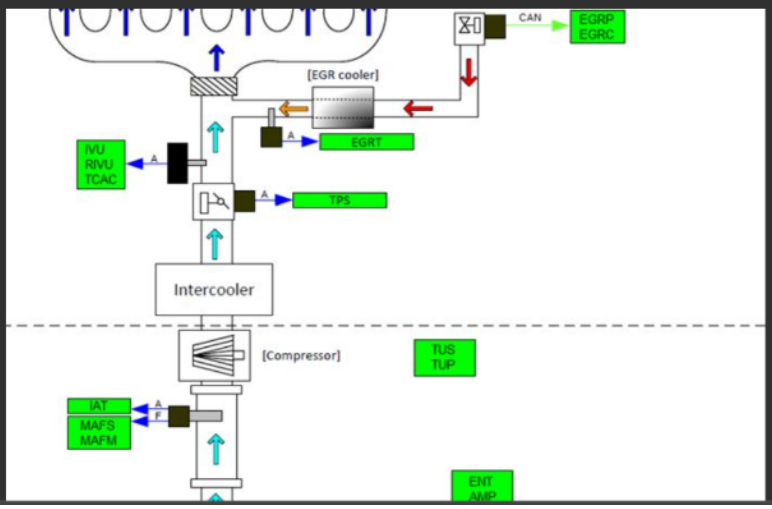
Air Path Template:
This menu shows the real-time measured values of sensors and valves of air line (turbo-cooler-throttle-manifold-egr).



Diagnosis

Function - Air Path Template

Exit



IVU (Intake valve upstream pressure)
994.0 hPA

RIVU (Raw ADC value of air pressure upstream of the intake valve)
1,065.0 mV

TCAC (Sensed inlet air temperature)
27.8 deg C

IAT (Sensed air temperature at HFM position)
27.9 deg C

MAFS (Processed air mass flow signal of the HFM sensor)
0.0 Kg/h

MAFM (Exhaust-gas mass flow downstream of the exhaust manifold)
0.0 Kg/h

EGRP (EGR valve actuator position)
2.8 %

EGRC (Commanded EGR valve actuator position)
2.3 %

EGRT (Sensed value of EGR cooler downstream temperature)
27.3 deg C

TPS (Commanded value of actuator position)
0.0 %

TUS (Turbo speed)
0.0 RPM

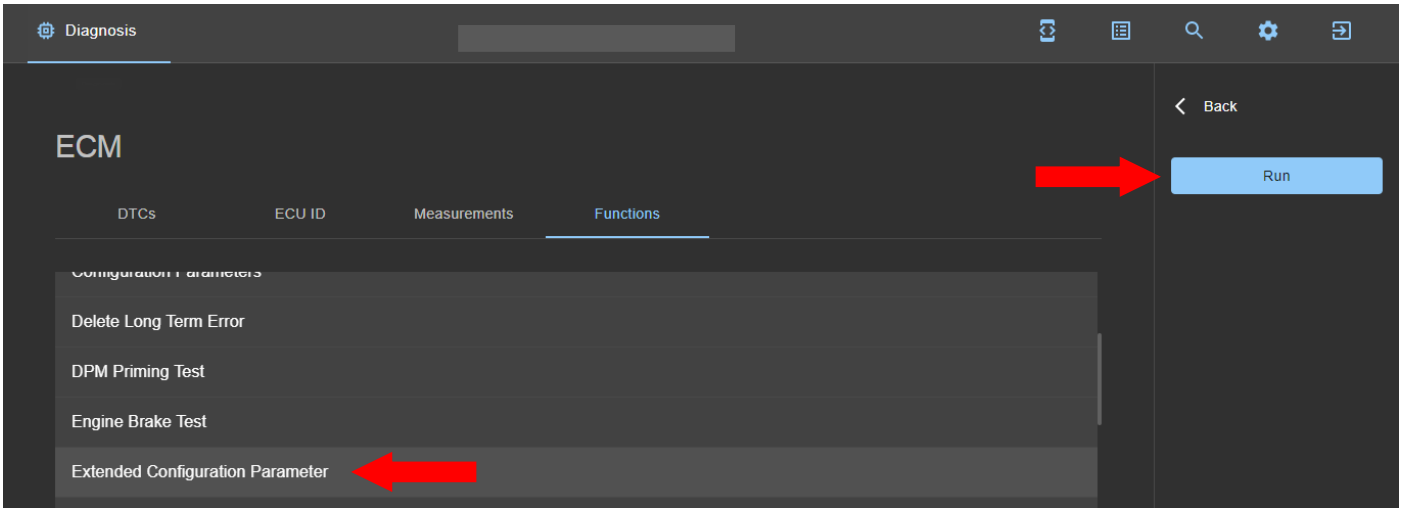
TUP (Turbo position)
5.0 %

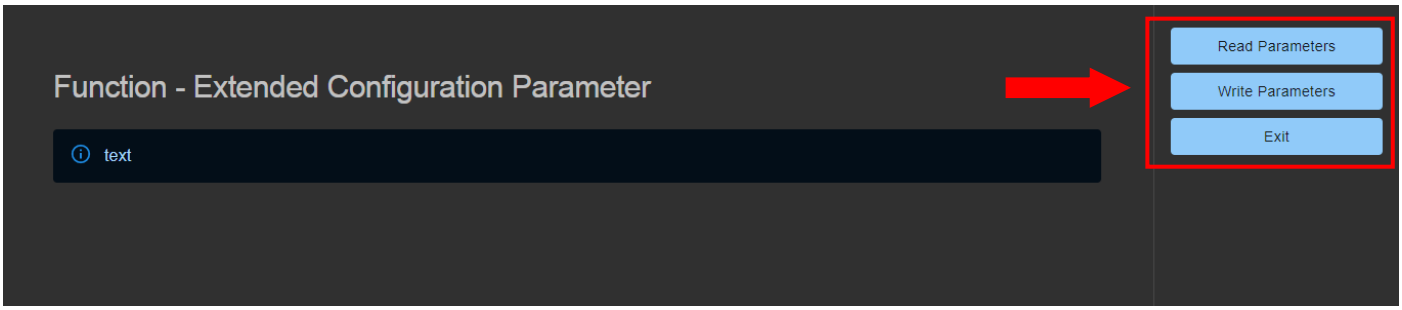
ENT (Ambient temperature)
24.6 deg C

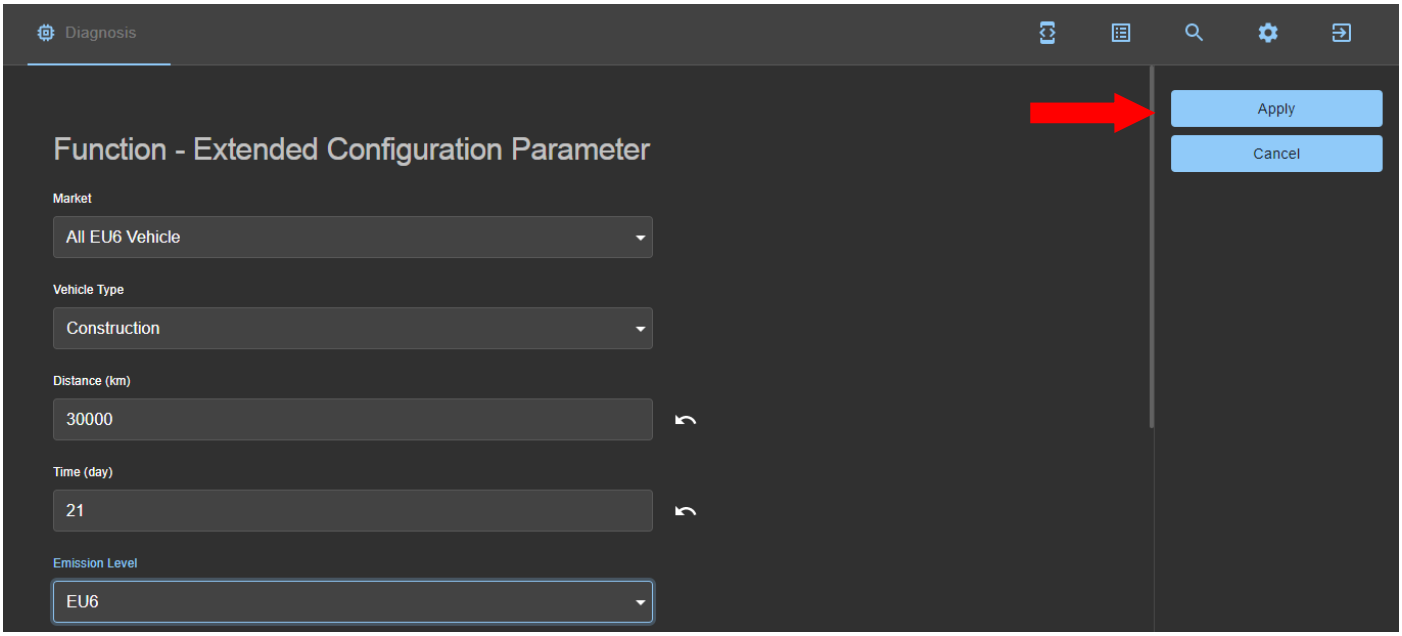
AMP (Ambient barometric pressure)
991.0 hPA

Extended Configuration Parameters:

Extended Configuration parameters in theEMS Module left-hand must be checked absolutelymust be checked following Update / Module Programming .







Market:
Market should be selected according to the Emission level.

Vehicle Type:
Excluding the Construction series option must be selected for Road trucks and tow trucks.

Distance (km) and Time (days):
Distance and time must be entered according to Market info and Vehicle Type.

Additional Configuration Parameter			
12.7L Ecotorq			
		KM Info	**Day**
All EU6 vehicles	**Construction Series**	120000KM	83
	Excluding Construction	150000KM	-
9L Ecotorq			
		KM Info	**Day**
All EU6 vehicles	**Construction Series**	60000KM	62
	Excluding Construction	60000KM	-

Emission Level:
Selection according to emission level

Engine Power:
Selection according to engine power (330-420-430-480ps)

Project Type:

H476	Road Trucks (garbage truck, sewage truck, firefighting truck etc)
H476C	Construction series (Damper, Mixer, Pump)
H566	Tractor
H625	F-max vehicles

Transmission Type:
Selection according to transmission type on vehicle

Application Type:
If the truck is tow truck select Towing, if it is from the Construction series select Others.

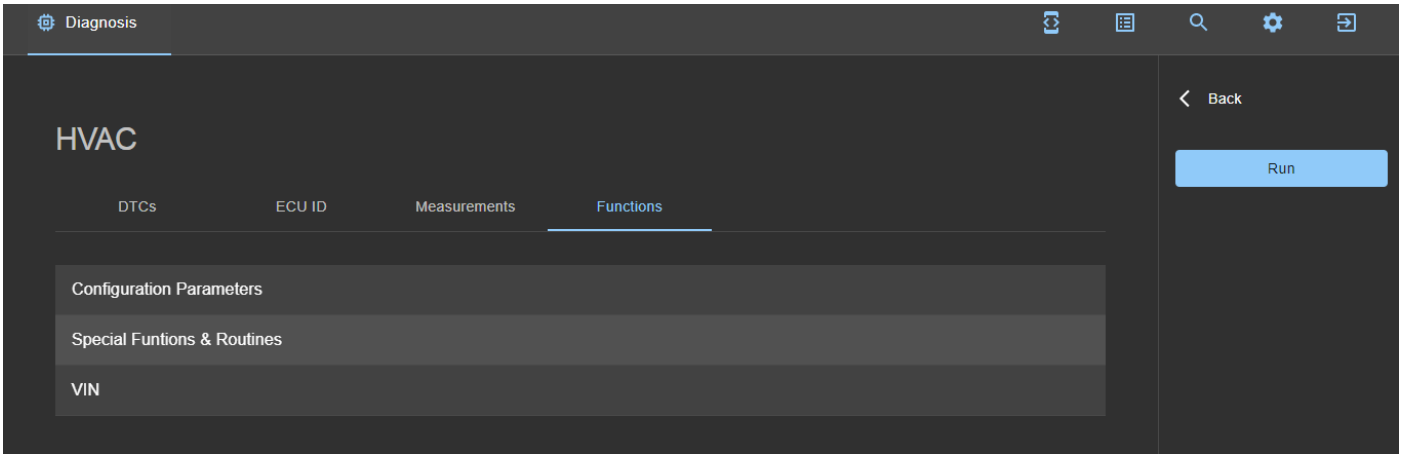
Drive Type:
Selection according to traction system of the vehicle

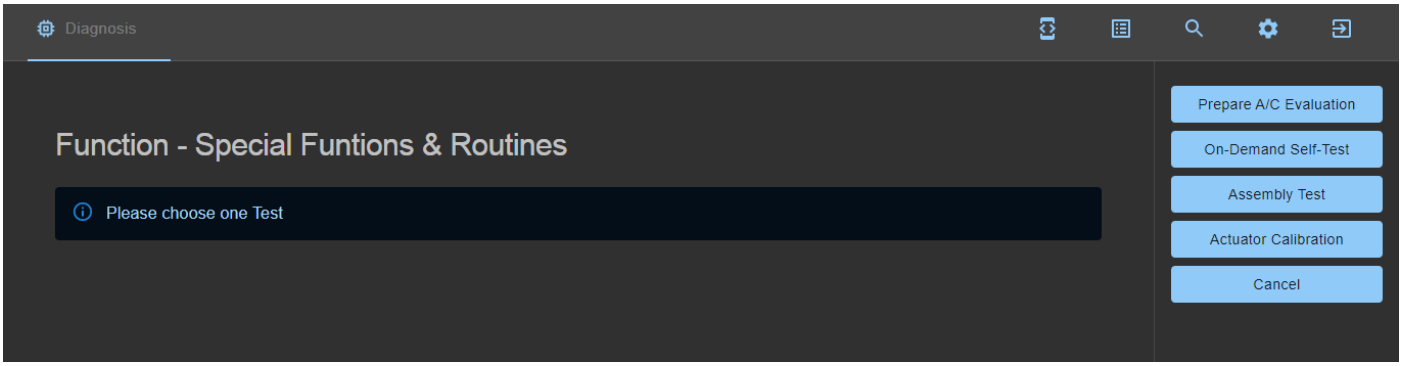
HVAC - A/C Control Unit:

- Reading ECUID
- VIN Reading/Writing
- DTC Reading/Deleting
- Module Programming
- Configuration Reading/Writing

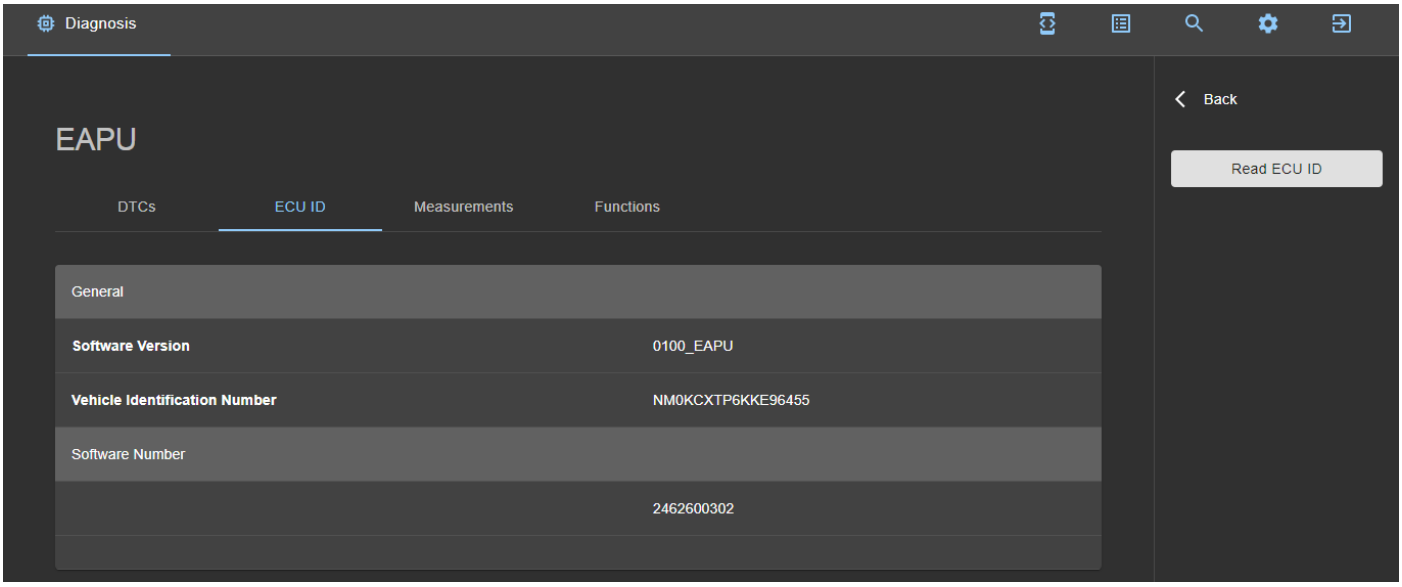
The above-mentioned features are the same as those described in EMS (Engine Control Unit).

Special Functions & Routines





EAPU:



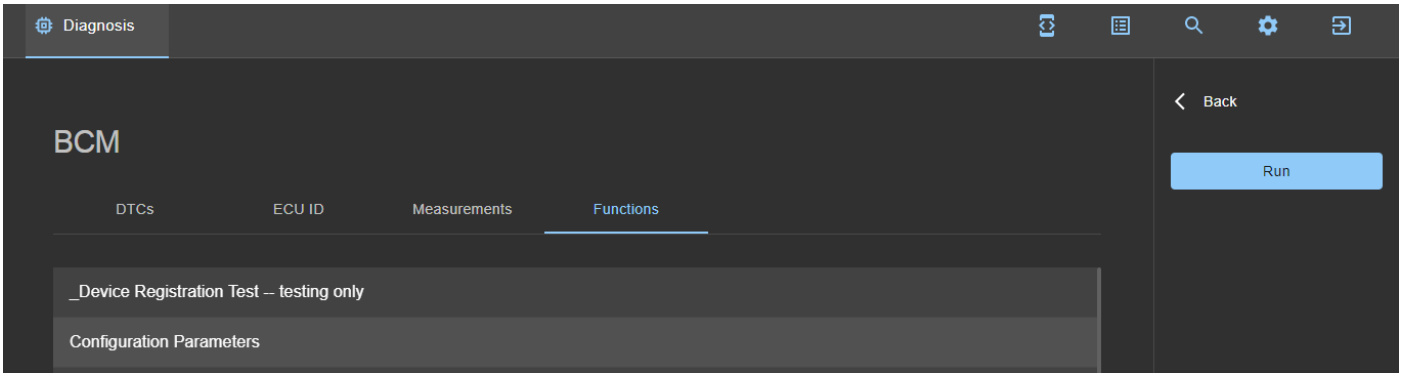
- Reading ECUID
- VIN Reading/Writing
- DTC Reading/Deleting

The above-mentioned features are the same as those described in EMS (Engine Control Unit).

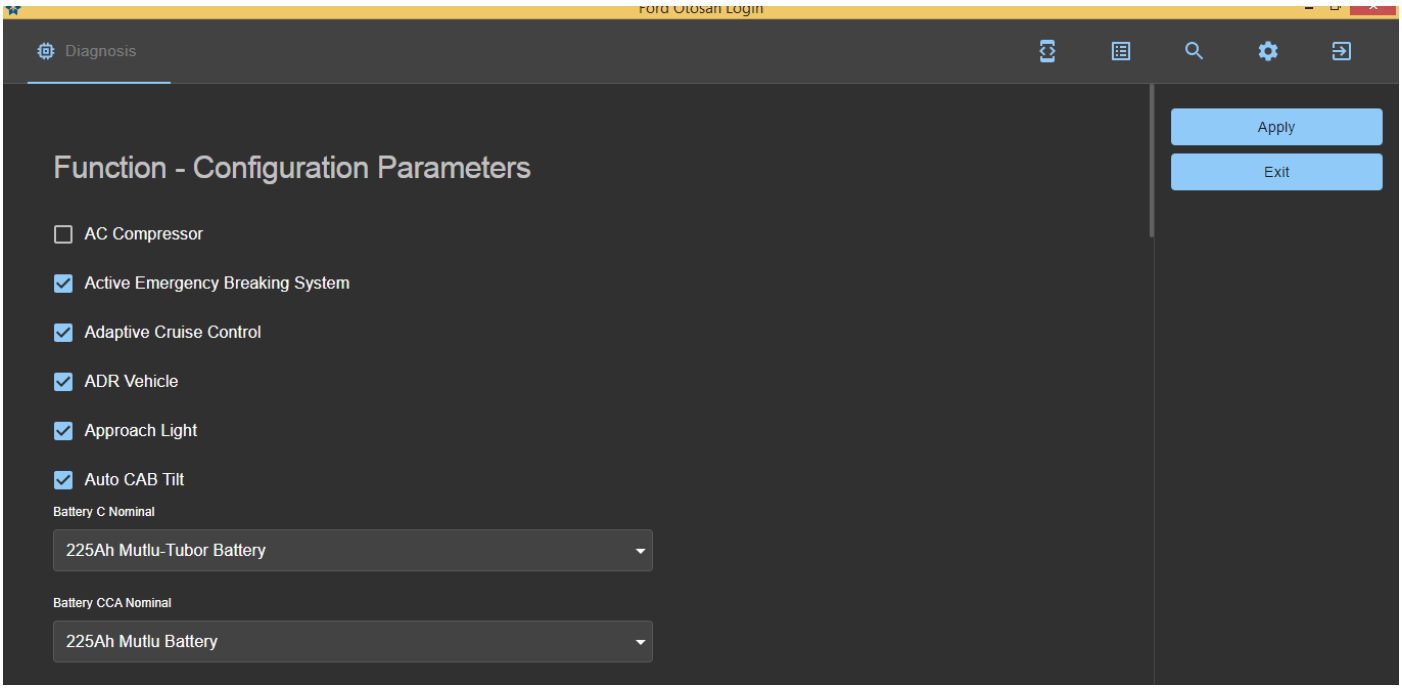
BCU - Vehicle Control Unit:

- Module ECUID
- VIN Read/Write
- DTC Read/Write
- Module Programming
- Calibration Read/Write

The above-mentioned features are the same as those described in EMS (Engine Control Unit).

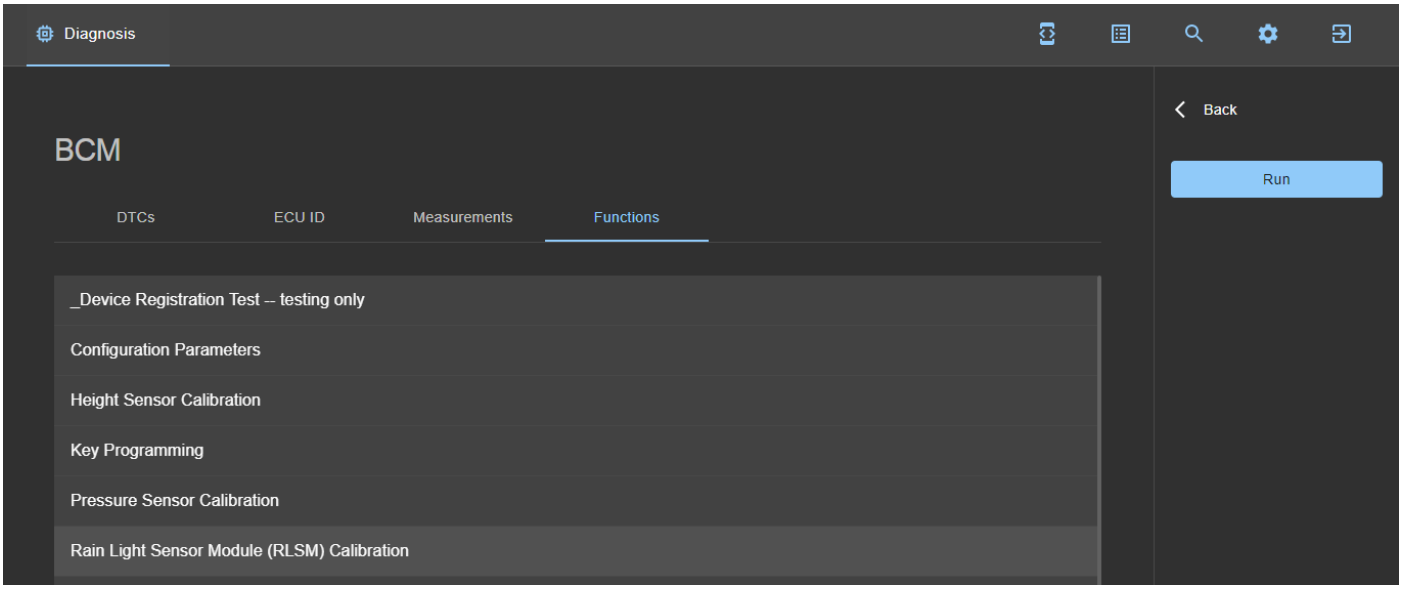


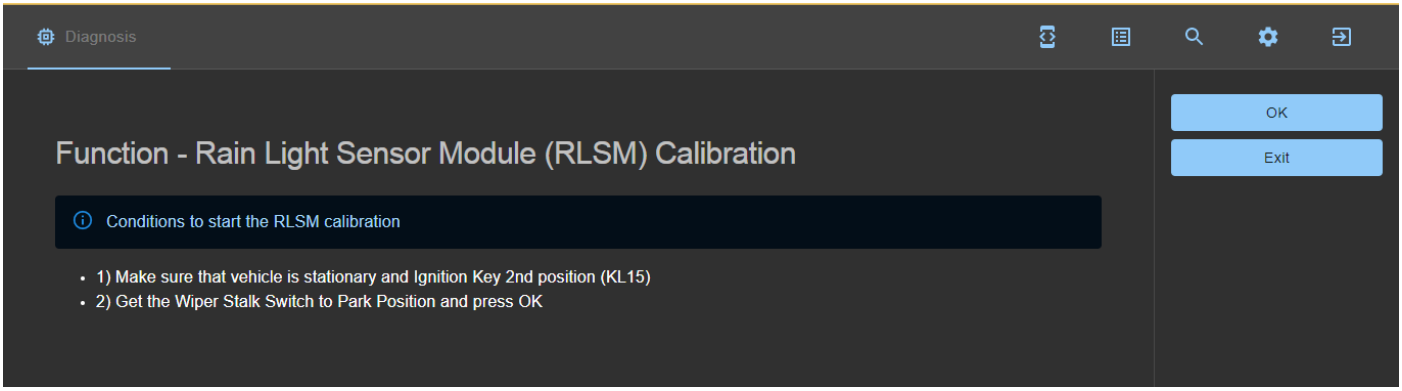
BCU Configuration Parameters:



Rail Light Sensor Module Calibration

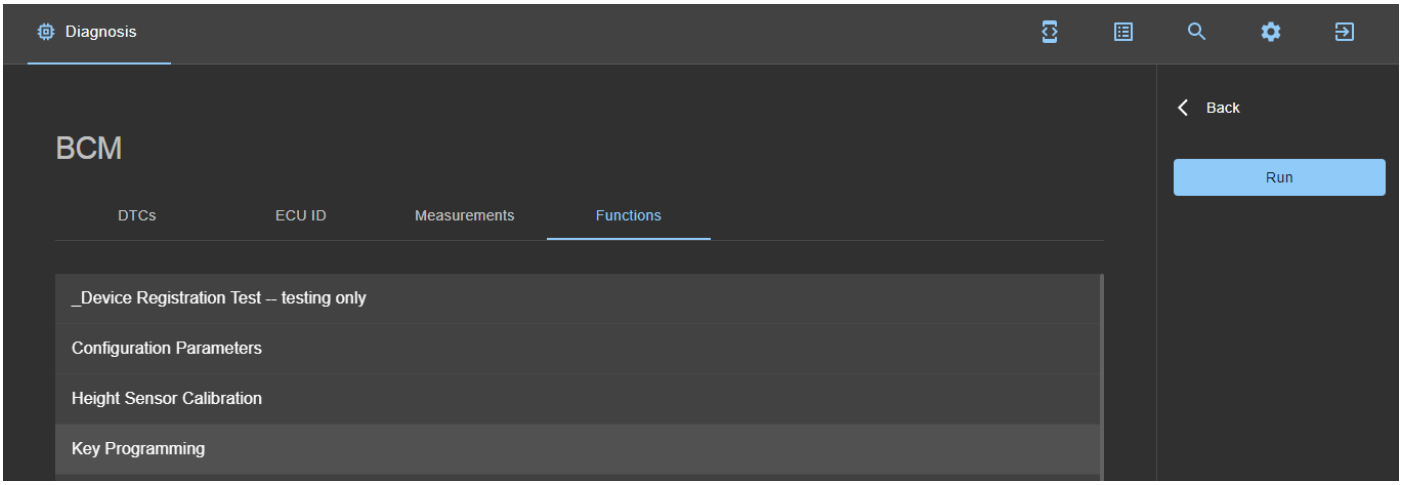
Sensor calibration shall be performed when a replacement done.



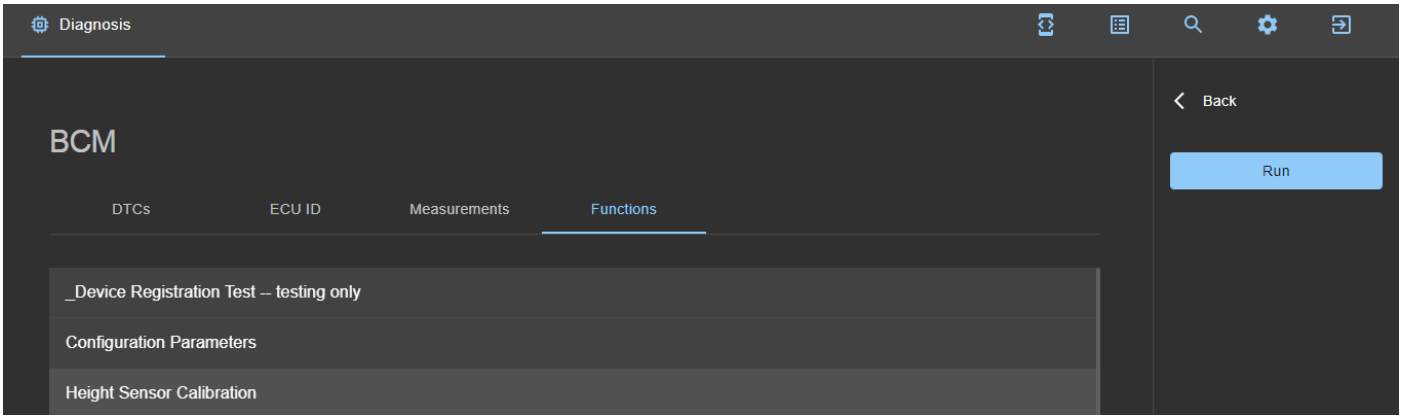


Key Programming

This programming is used due to recognizing vehicle remote control key with body control unit.



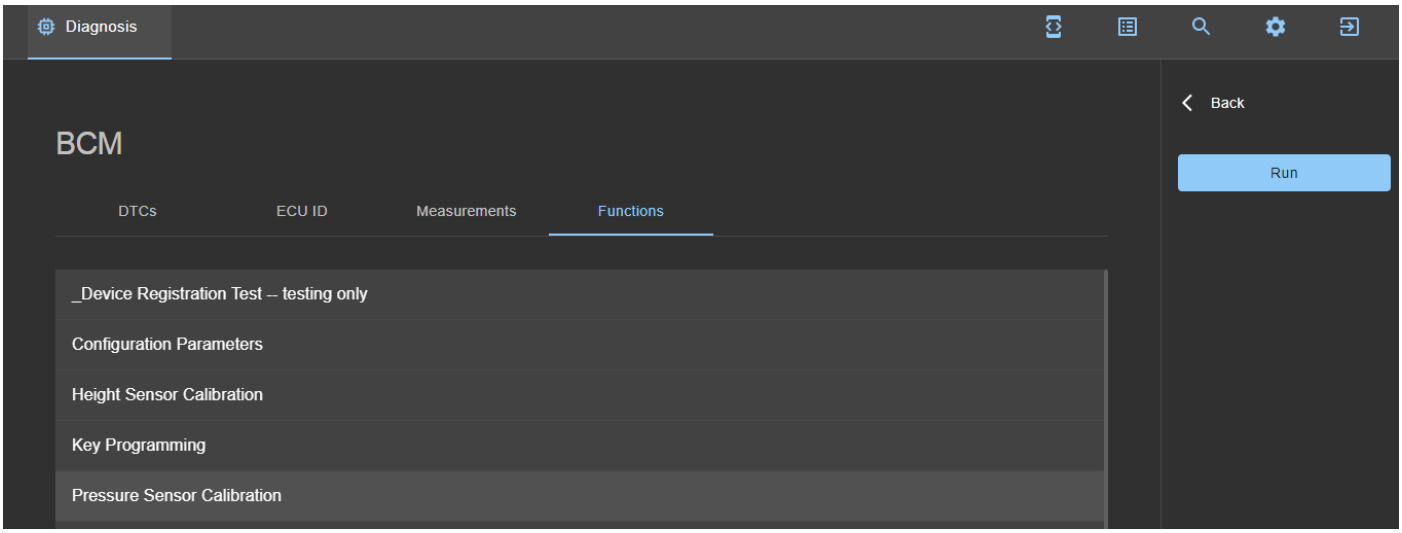
Height Sensor Calibration



That should be applied when ECAS warning lamp activated or any ECAS relevant parts replaced.

- Run engine
- ECAS does not operate under 6.5 bar pressure. Thus, it must be confirmed that the system has min. 6.5 bar pressure.
- First step is bringing the vehicle to the top position.
- Chock the wheels according to vehicle type by placing calibration wedges (C2AS, C4AS regular, C4AS low liner. C6AS).
- Lower the vehicle so it seats on the wedge. Save the ride level
- Bring the vehicle to the top position. Save the top level. Remove the wedge.
- Bring the vehicle to the bottom position. Save the bottom level.
- If there is no other fault in the vehicle, the instruction is performed automatically with the command «complete calibration». Do not interfere with the vehicle and the software meanwhile.

Pressure Sensor Calibration



- Run engine
- ECAS does not operate under 6.5 bar pressure. Thus, it must be confirmed that the system has min. 6.5 bar pressure.
- Bring the vehicle to bottom position prior to «Start calibration» command.
- Click the «Start calibration» button.
- Calibration is completed in 100 seconds.

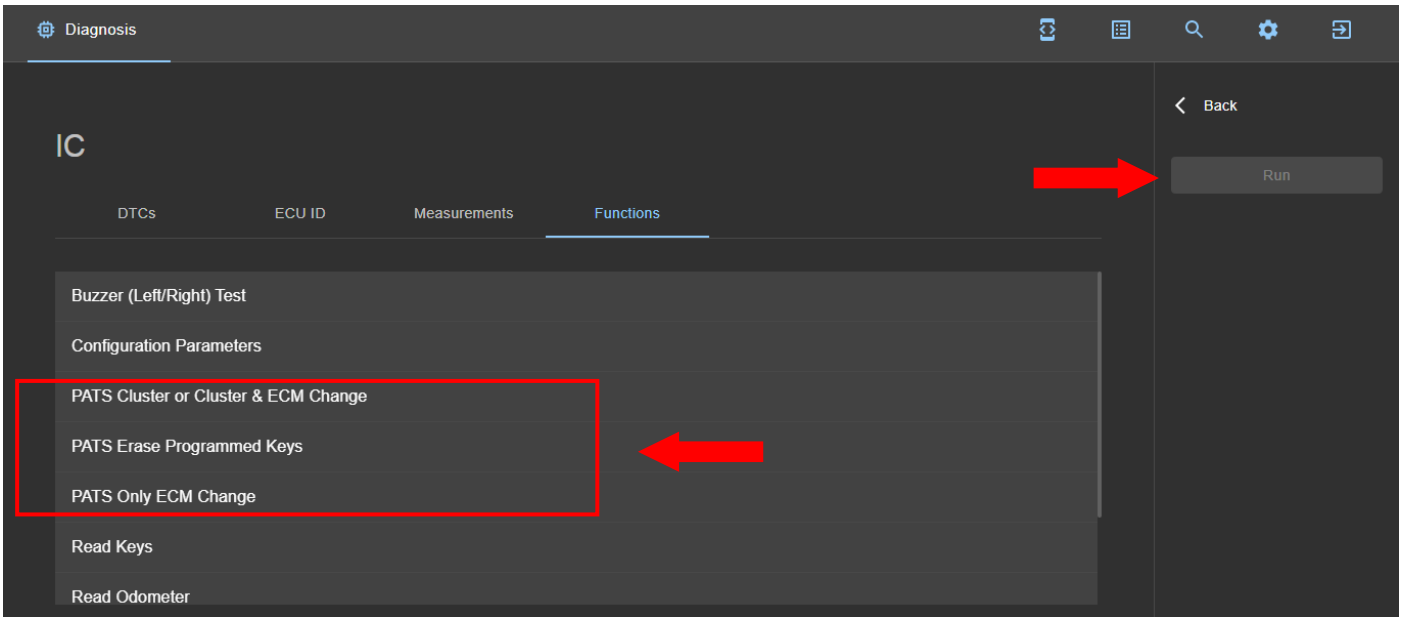
T-Cluster/Cluster /IC– Display:

- Reading ECUID
- VIN Reading/Writing
- DTC Reading/Deleting
- Module Programming
- Configuration Reading/Writing

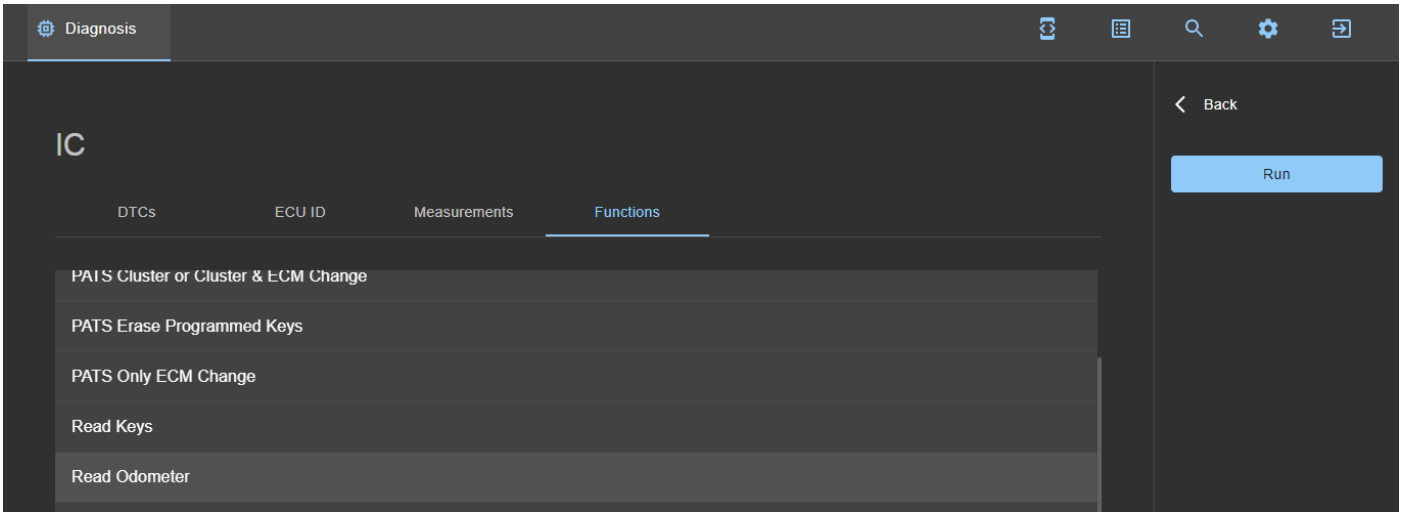
The above-mentioned features are the same as those described in EMS (Engine Control Unit).

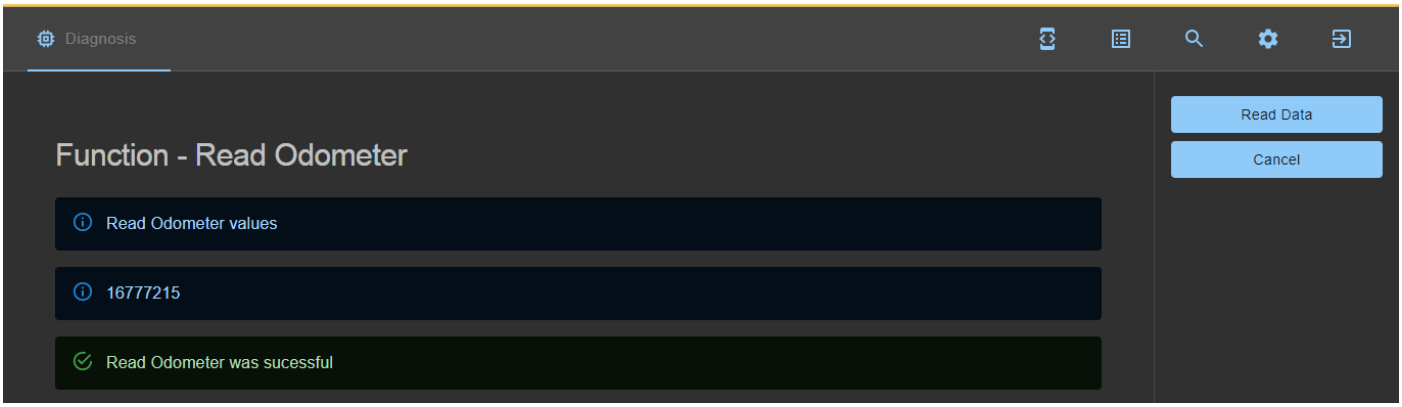
PATS:

Key pair count needs to be done when the module or vehicle keys are changed because of immobilizer function. This is done through the PATS tab under Cluster menu. The operation needs Ford Otosan Service Engineering approval and ticket must be raised. To start the operation, “Pats timed Access” needs to be clicked.

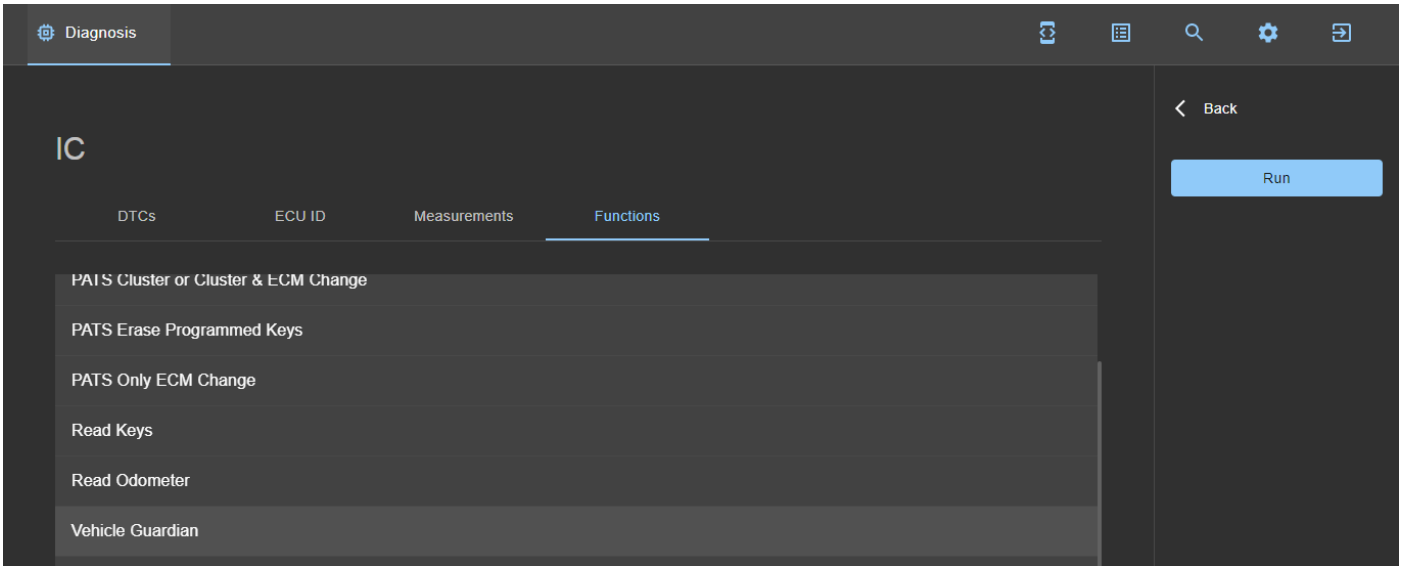


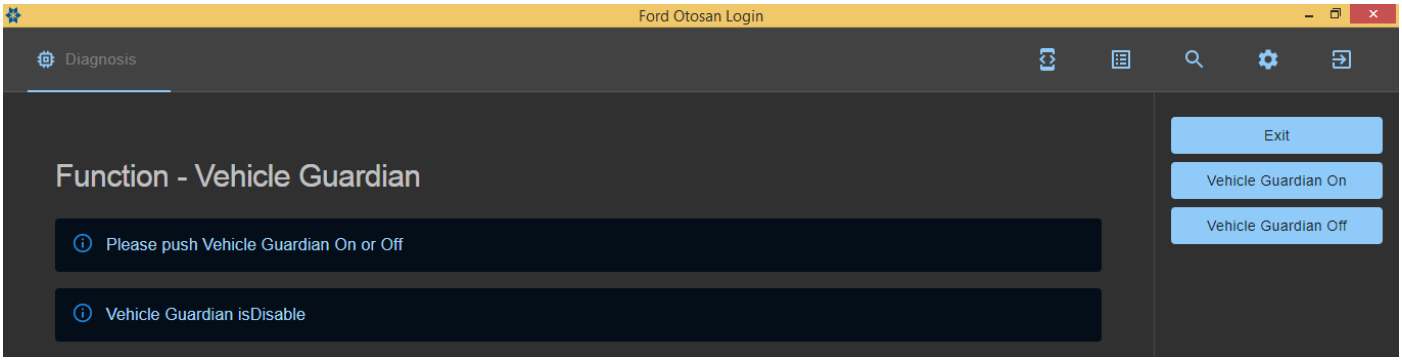
Read Odometer





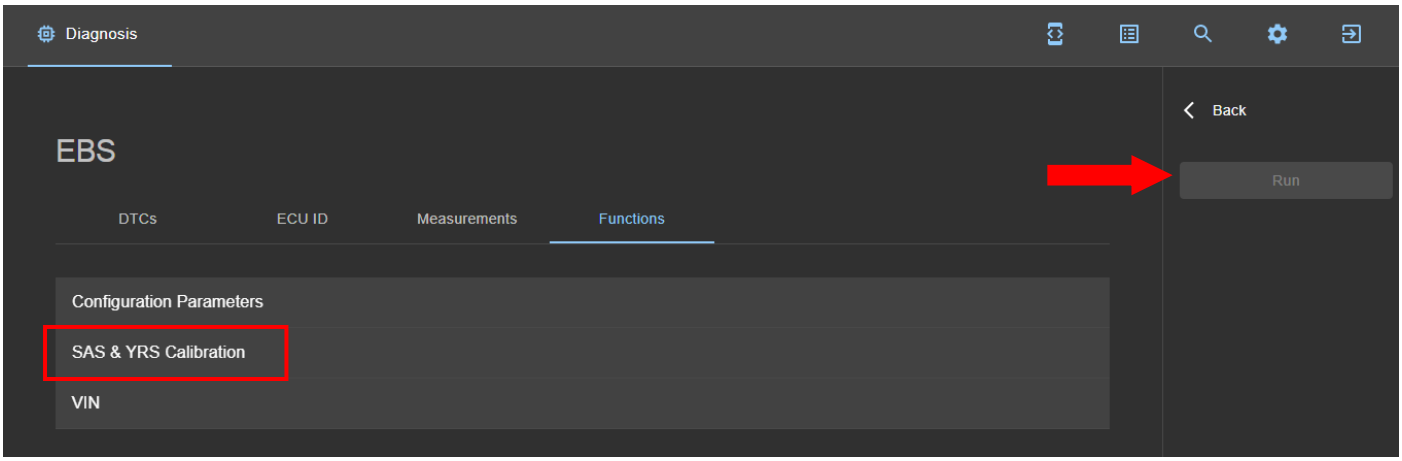
Vehicle Guardian





EBS - Electronic Brake System:

Sensor Calibration:
Sensor calibration must be done if steering angle sensor (SAS) or yaw rate sensor (YRS) are replaced. Sensor calibration must be done on a flat surface while the wheels are parallel to each other at forward direction. If programming is done, then a certain mileage needs to be done to see that the ESP lamp blinking is stopped.



WARNING!: If the EBS/ESP lamps are on on the panel even though the EBS Module "Sensor Calibration" is successfully completed, the vehicle is driven on straight road until the lamp turns off.

DTCO Stoneridge - Digital Tachograph:

- Reading ECUID
- VIN Reading/Writing
- DTC Reading/Deleting
- Configuration Reading/Writing

Retarder

- Reading ECUID
- VIN Reading/Writing
- DTC Reading/Deleting
- Configuration Reading

ACM 2 DIN - Multimedia Unit (2 DIN):

- Reading ECUID
- DTC Reading/Deleting

The above-mentioned features are the same as those described in EMS (Engine Control Unit).

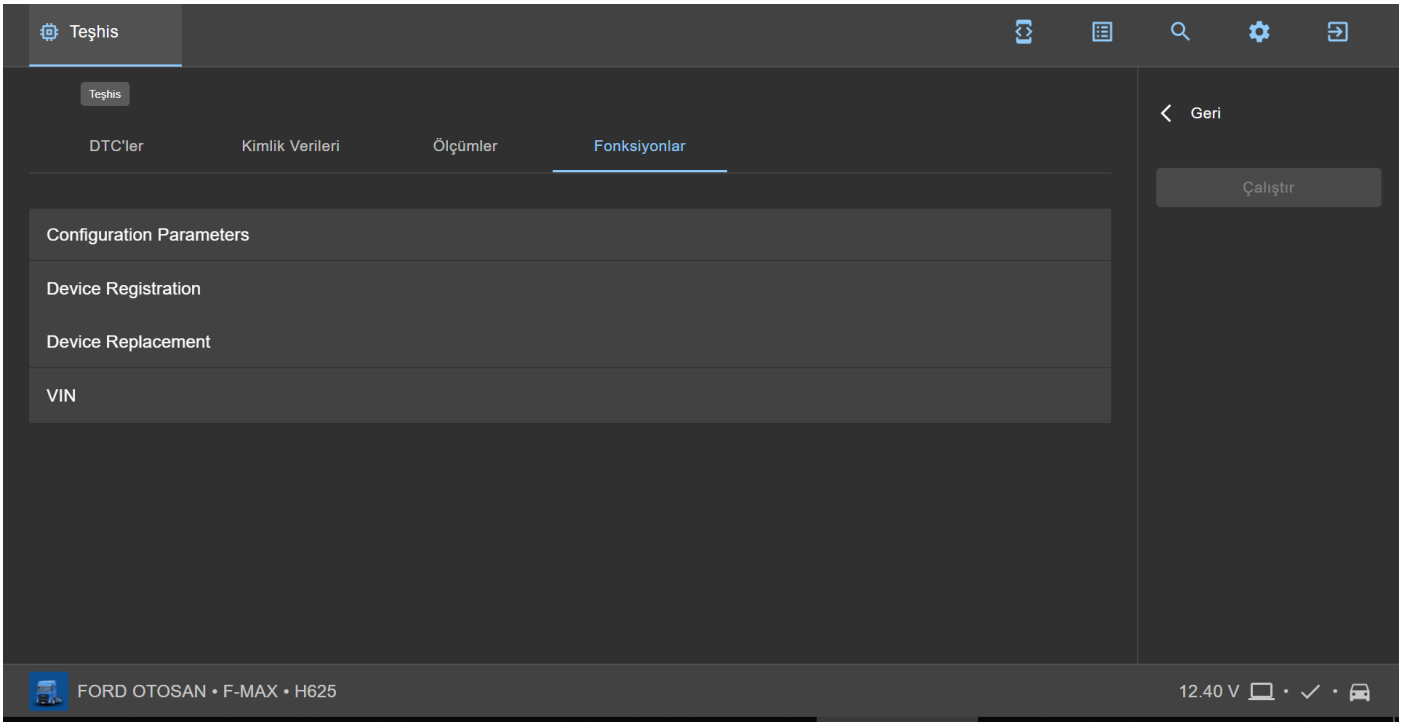
PCCM - Cruise Control Module

- Device Replacement
- VIN Read/Write
- DTC Read/Write
- Flash Programming
- Calibration Read/Write
- Device Registration

The above-mentioned features are the same as those described in EMS (Engine Control Unit).

Device Register:

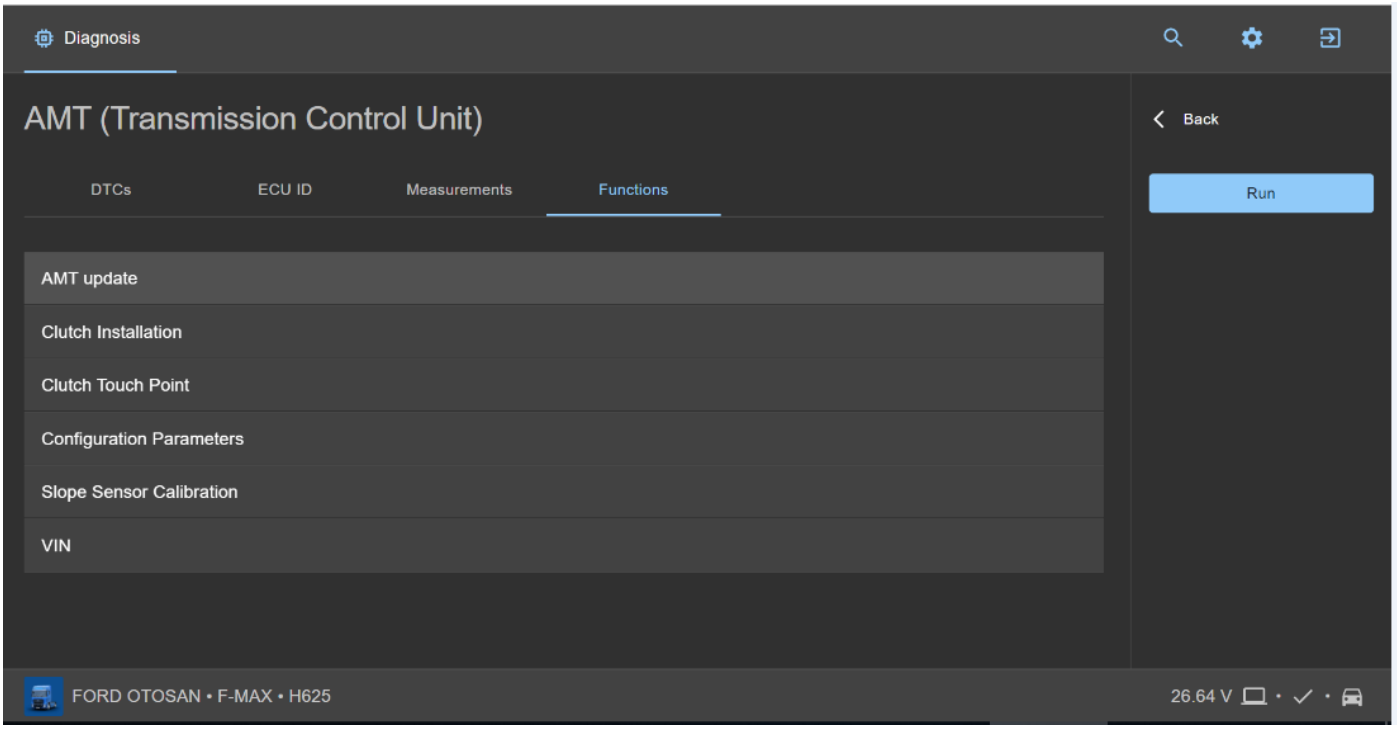
In vehicles with a PCCM module replaced for any reason, this operation is performed following the device replacement (30 minutes after the successful result of the previous operation). If the process is successfully completed, ConnecTruck services will continue to work with the new PCCM and SIM card.



Device Replacement:

For vehicles that have previously been paired with PCCM - vehicle (chassis number) and the PCCM module has been changed for any reason, this process must be done via FODiT. If the result of the transaction is successful based on the approval of the relevant electronic ticket request for this process and if a new device is to be registered, at least 30 minutes should be waited for the information to be updated on the ConnecTruck services before the new device is registered.

AMT :



- Reading ECUID
- VIN Reading/Writing
- DTC Reading/Deleting

The above-mentioned features are the same as those described in EMS (Engine Control Unit).

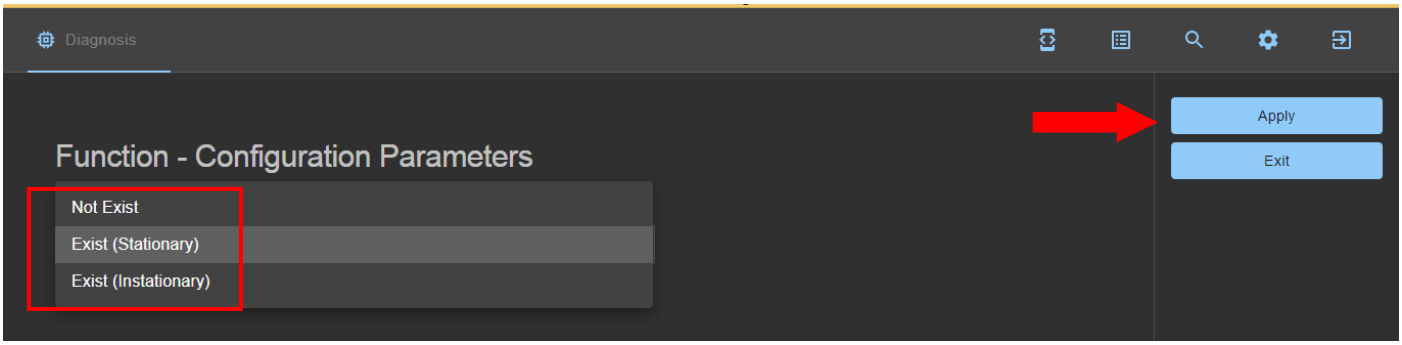
Module Programming:

When the following screen is displayed;

For construction series vehicles: Construction
For non-construction series vehicles (Road Truck and Tractor): Non Construction

Writing Configuration:

If there is a PTO application in automatic transmission vehicles, the **PTO option** must be selected from the AMT Module configuration writing process.

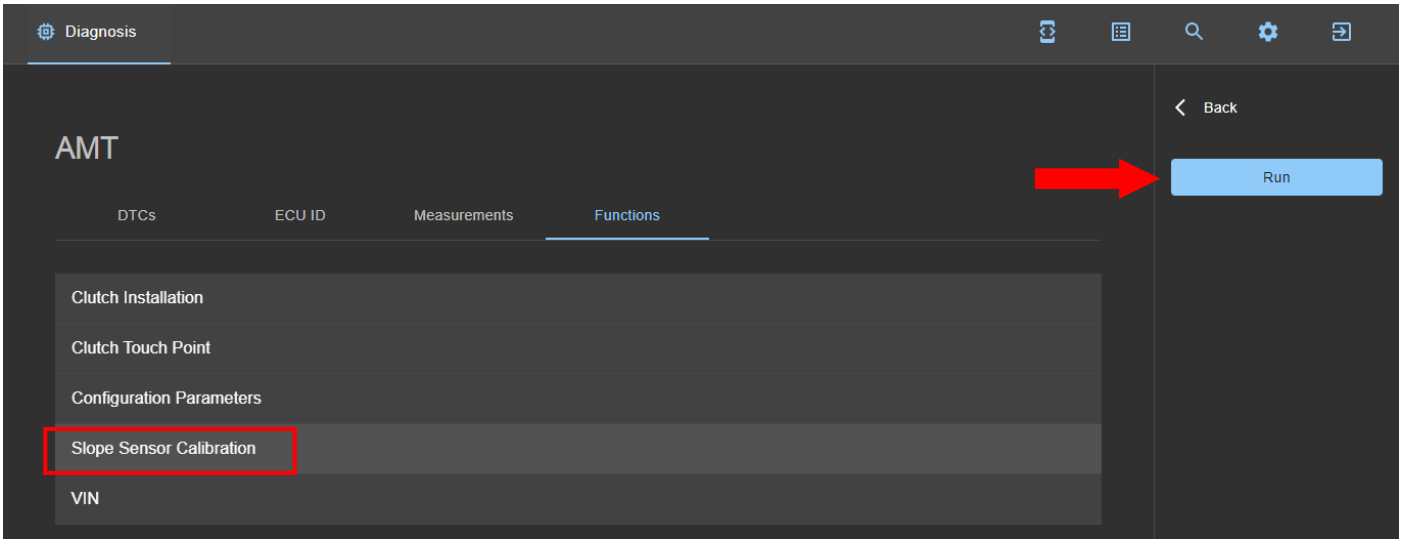


Slope Sensor Calibration:

- Uploading current level calibration to the transmission with FODiT
- On vehicles with air suspension, take the vehicle height to the Driving Position (run the vehicle until air tank pressure is full) until the vehicle is started up (as if the moment when driver's seat is lifted) With the ECAS control, the chassis will be brought to the driving position when the vehicle is completely on even ground.
- The ignition is turned off, FODiT is connected, and then the ignition is turned off again at the II position following Slope Sensor writing procedure, the vehicle is kept at the sleep mode for 10 sec.
- When the ignition is turned on again, the writing process will be completed.

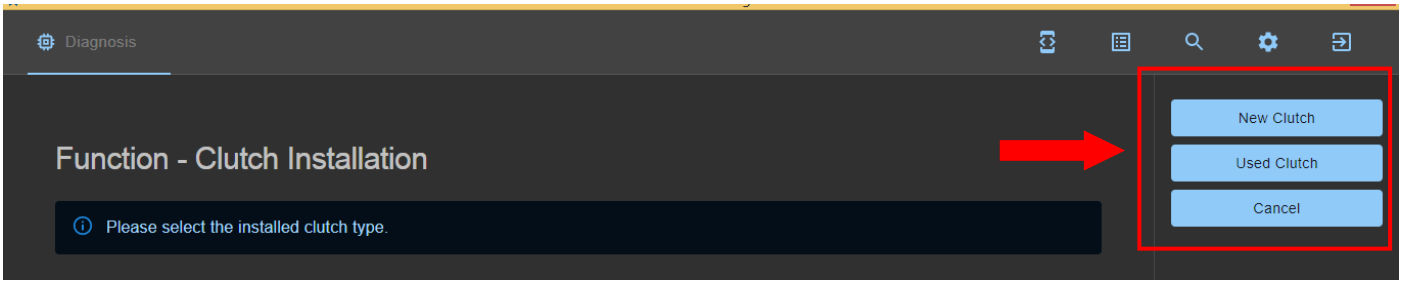
- In vehicles with mechanical suspension, when the vehicle is on flat ground, the parameter will be printed with the FODiT in the ignition II position, and the system will be closed and opened.

The requirement for this operation on the service side will be after any software update.
In an external case; if the software in the vehicle is already up-to-date and only the slope sensor is wanted to be written:
First the error code needs to be read and deleted, then the vehicle must be set to sleep mode, and then the vehicle is restarted so the procedures above can be performed.



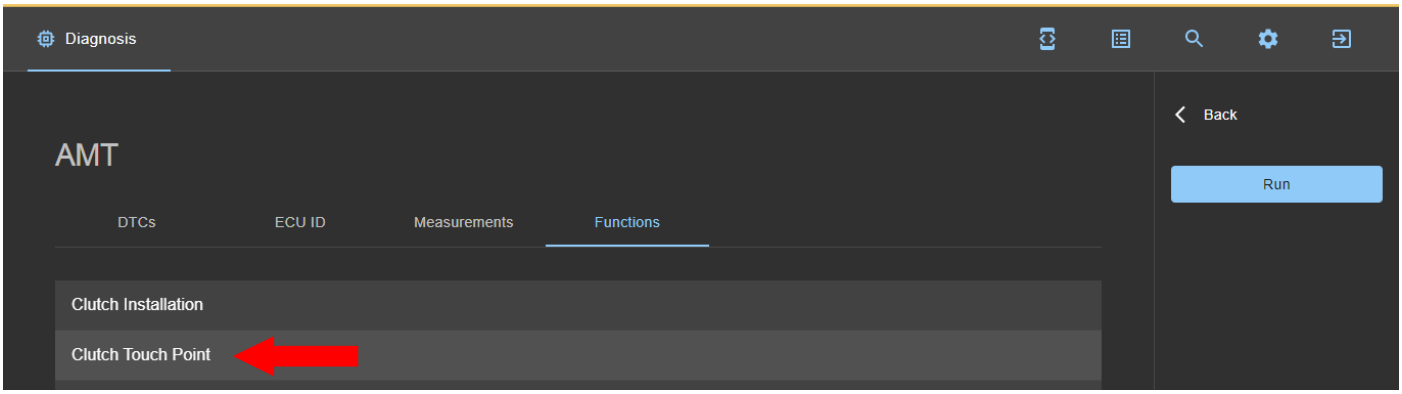
Clutch Installation

In order to Conact (Clutch middle Center) show the pad status correctly following Clutch Installation procedure has to be performed.

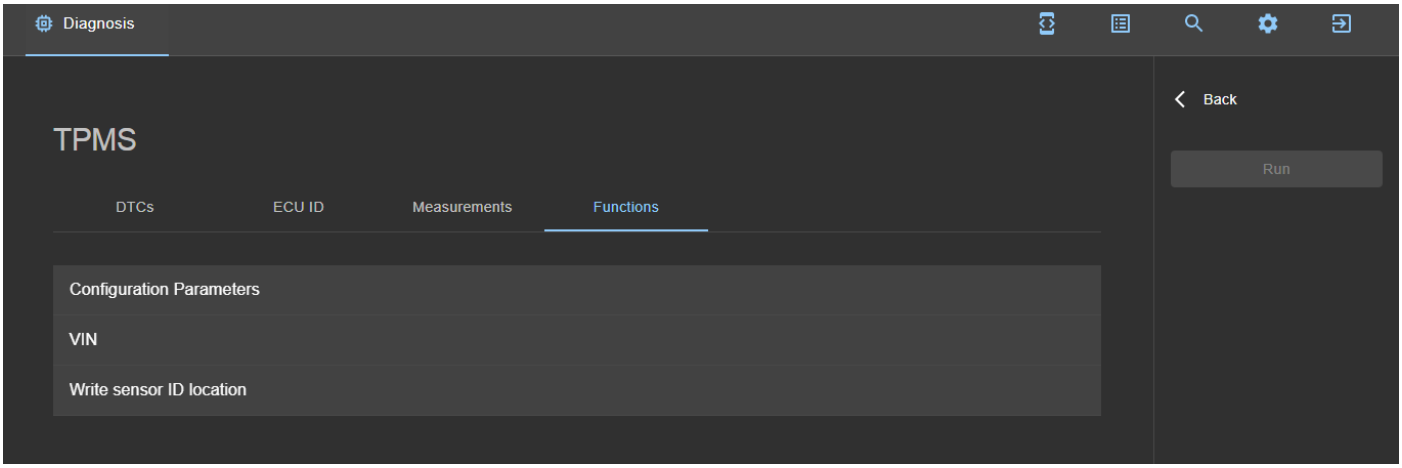


Clutch Touch Point:

Clutch sensor identification is required **by following the instructions described below**.



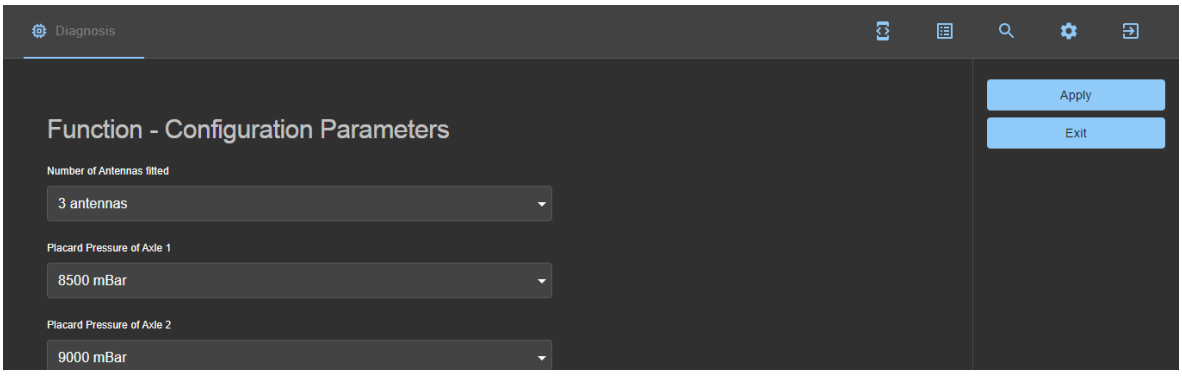
TPMS - Tire Pressure Monitoring Unit



- Reading ECUID
- VIN Reading/Writing
- DTC Reading/Deleting

The above-mentioned features are the same as those described in EMS (Engine Control Unit).

Configuration Reading/Writing:

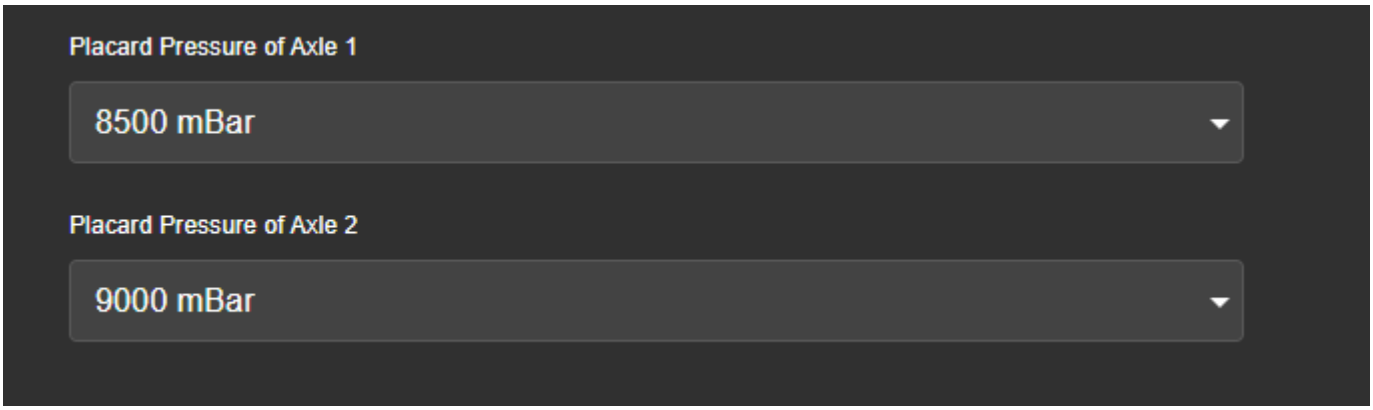


Configuration of the Number of Antennas:

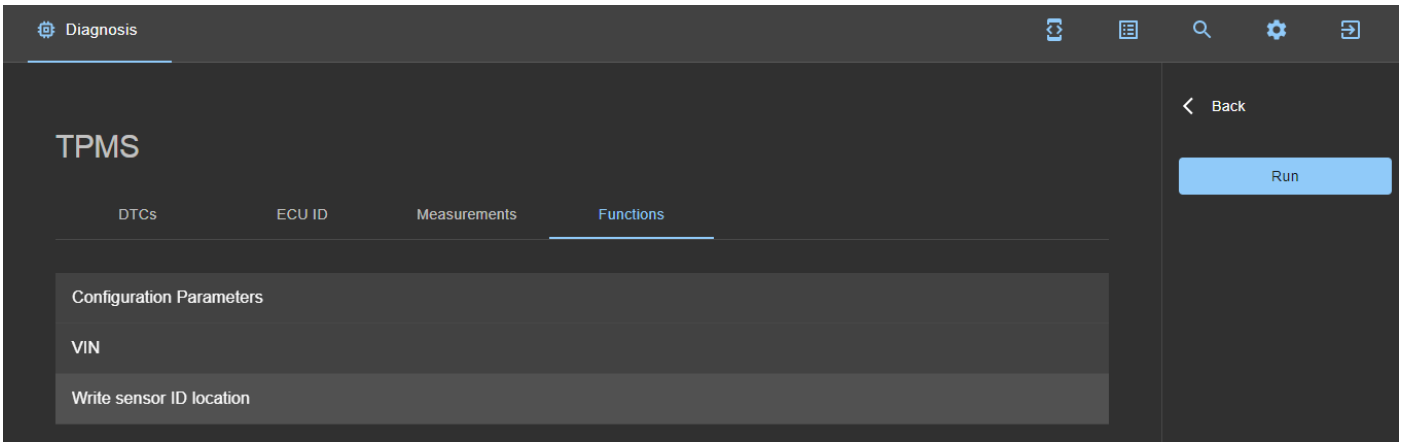
To Be selected.

1 and 2: Axle Reference Pressure:

To Be selected.



Write Sensor ID Location

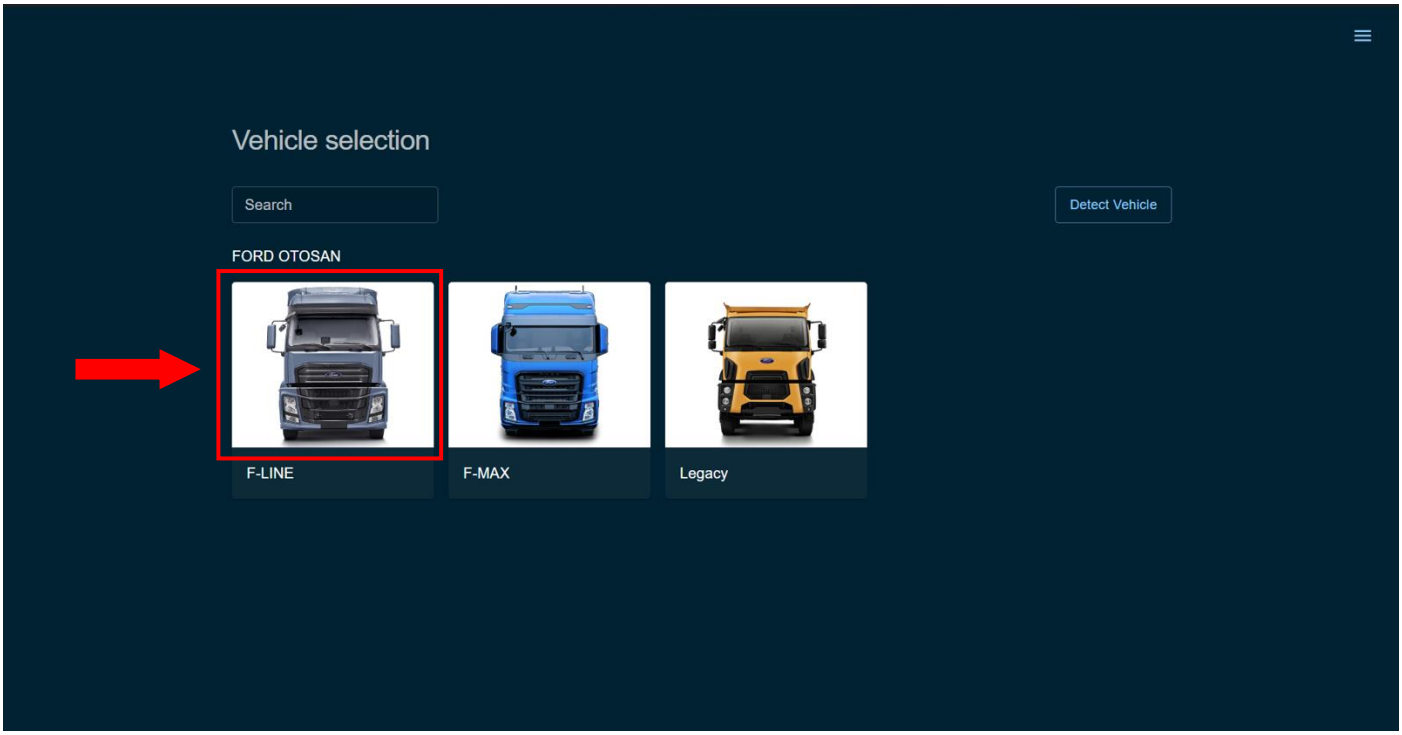


FLINE / ADAS

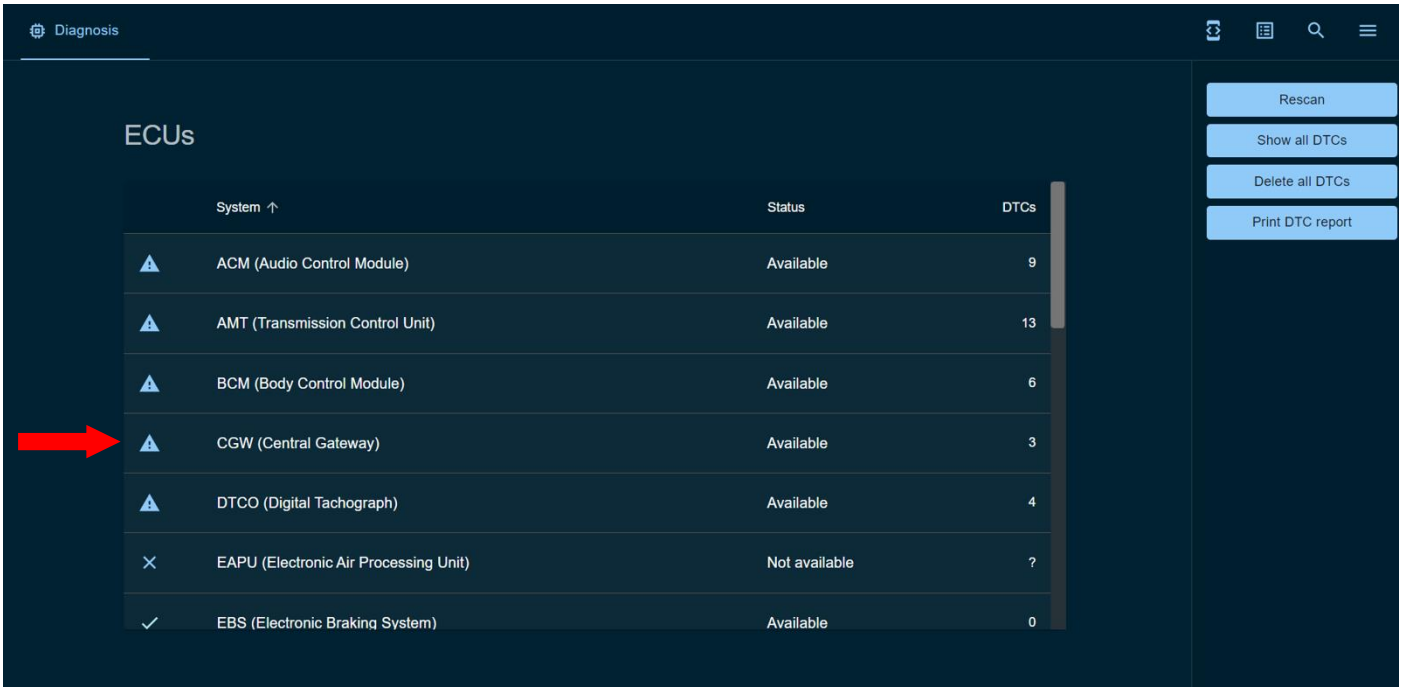
The new modules added with the new truck are as follows:

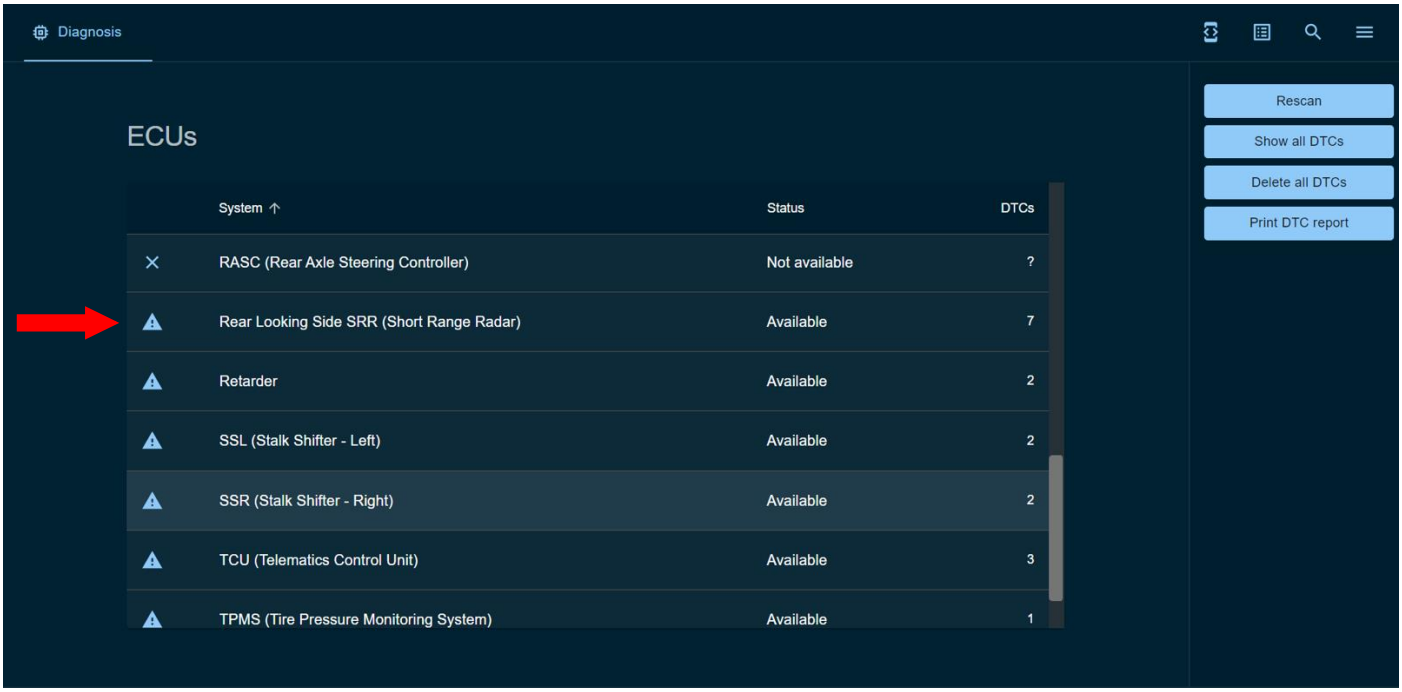
- **CGW – Central Gateway**
- **FLC – Forward Looking Camera**
- **Front Looking Side SRR – Short Range Radar**
- **Front SRR – Front Short Range Radar**
- **Rear Looking Side SRR – Short Range Radar**
- **LRR – Long Range Radar**
- **VCU – Vehicle Control Unit**

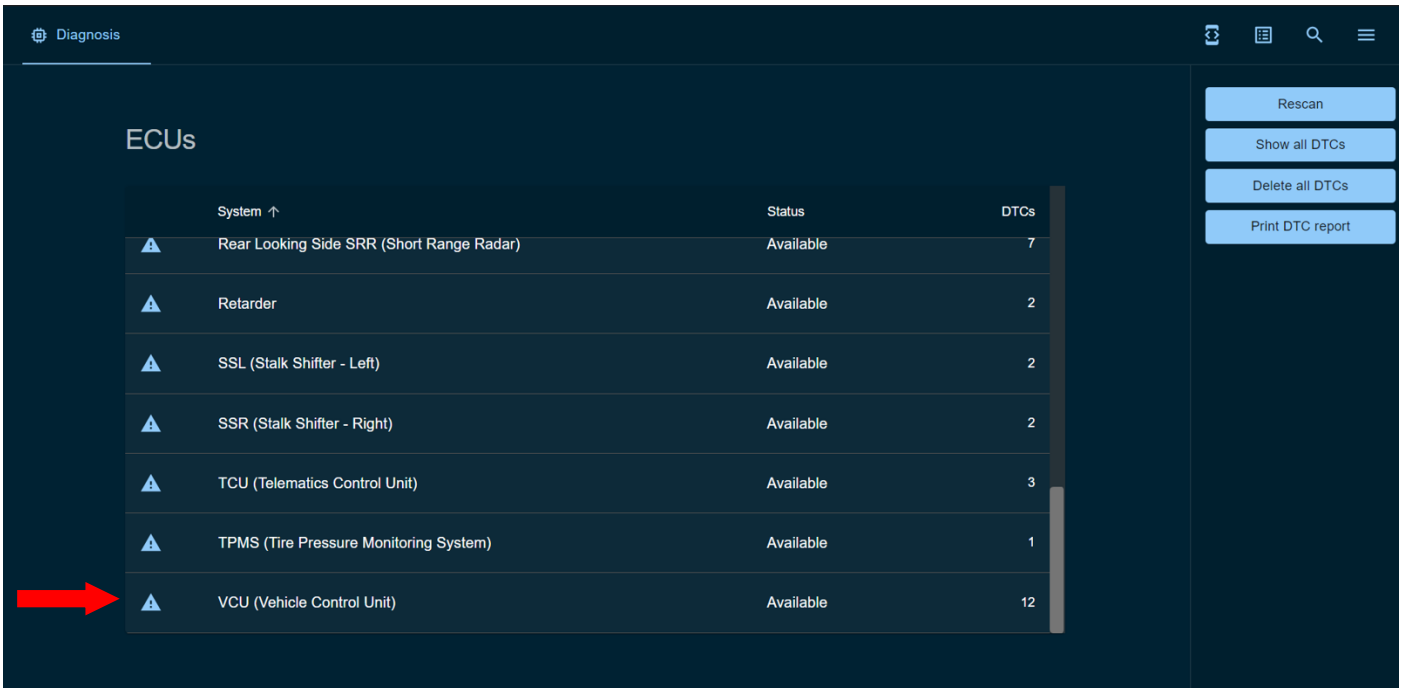
When the FODIT application is opened, the following category should be selected to connect to the vehicle.



The modules that come after the vehicle is scanned are as follows. New modules are shown with red arrow.




Diagnosis
ECUs
Rescan
Show all DTCs
Delete all DTCs
Print DTC report
System
Status
DTCs
RASC (Rear Axle Steering Controller)
Not available
?
Rear Looking Side SRR (Short Range Radar)
Available
7
Retarder
Available
2
SSL (Stalk Shifter - Left)
Available
2
SSR (Stalk Shifter - Right)
Available
2
TCU (Telematics Control Unit)
Available
3
TPMS (Tire Pressure Monitoring System)
Available
1


Diagnosis
ECUs
Rescan
Show all DTCs
Delete all DTCs
Print DTC report
System
Status
DTCs
Rear Looking Side SRR (Short Range Radar)
Available
7
Retarder
Available
2
SSL (Stalk Shifter - Left)
Available
2
SSR (Stalk Shifter - Right)
Available
2
TCU (Telematics Control Unit)
Available
3
TPMS (Tire Pressure Monitoring System)
Available
1
VCU (Vehicle Control Unit)
Available
12

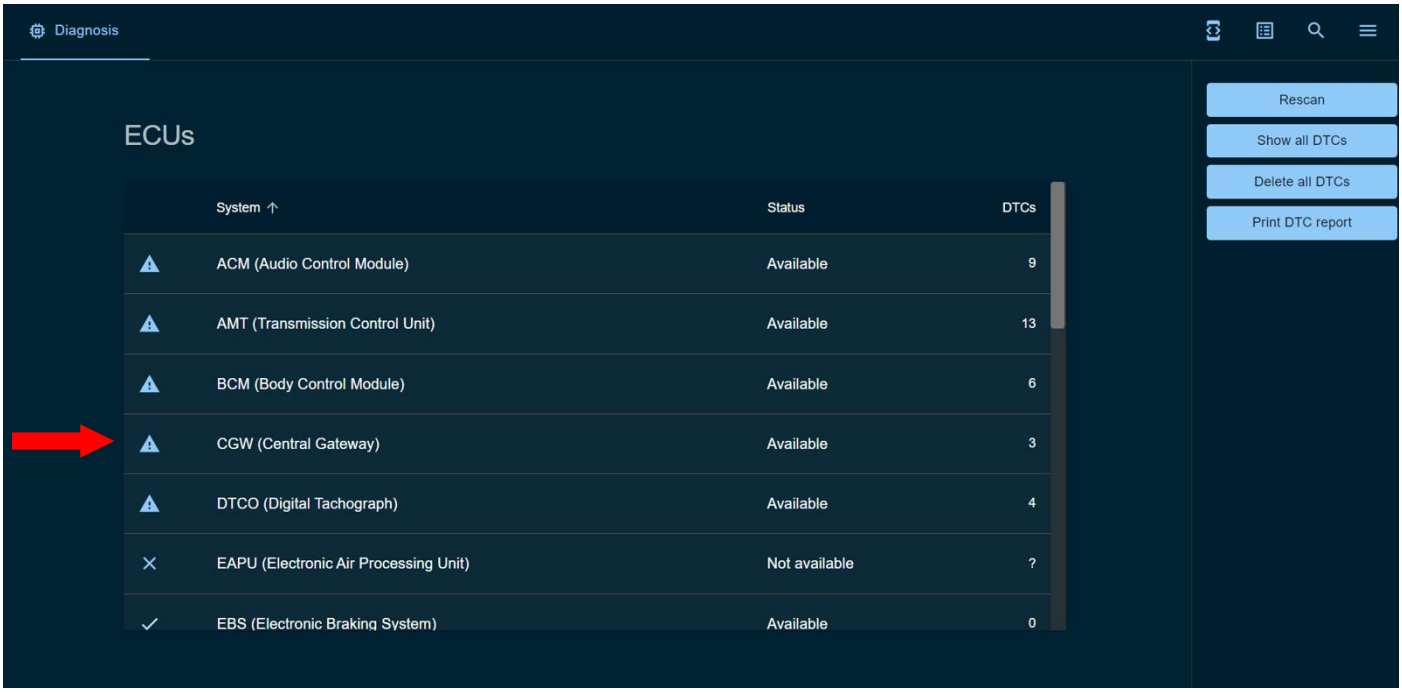
CGW – Central Gateway

CGW is the central communication node, acts as a router and is the first gate for all data coming into the vehicle. It supports various bus systems (Ethernet, CAN, LIN).

The features of Central Gateway Module are as below:

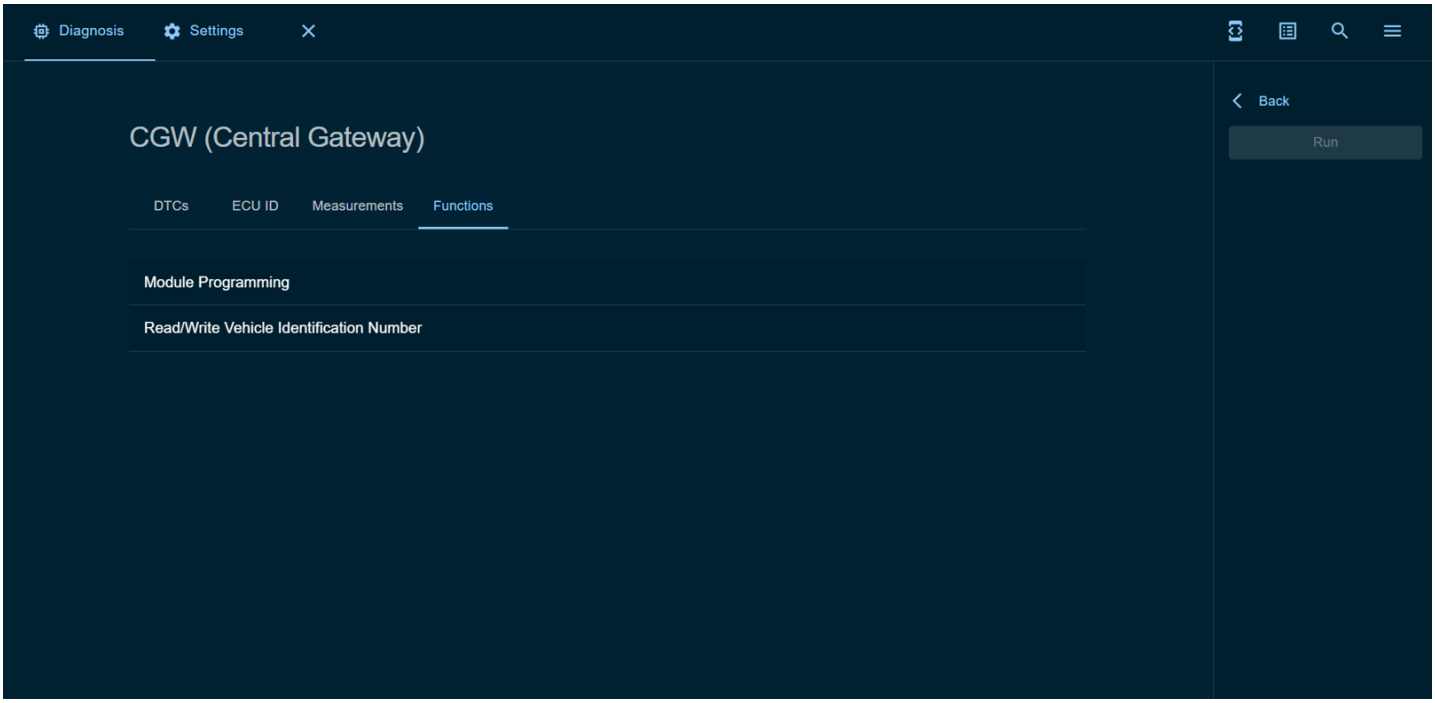
- **Data Routing and Management**
- **Network Security**
- **Inter-System Communication**
- **Diagnostics and Troubleshooting**
- **Data Collection and Storage**
- **External Communication**
- **Update and Upgrade Capabilities (OTA)**

You can enter the module by clicking on the module indicated by the red arrow below.



There are two functions in the module:

- **Module programming**
- **Read/Write Vehicle Identification Number**



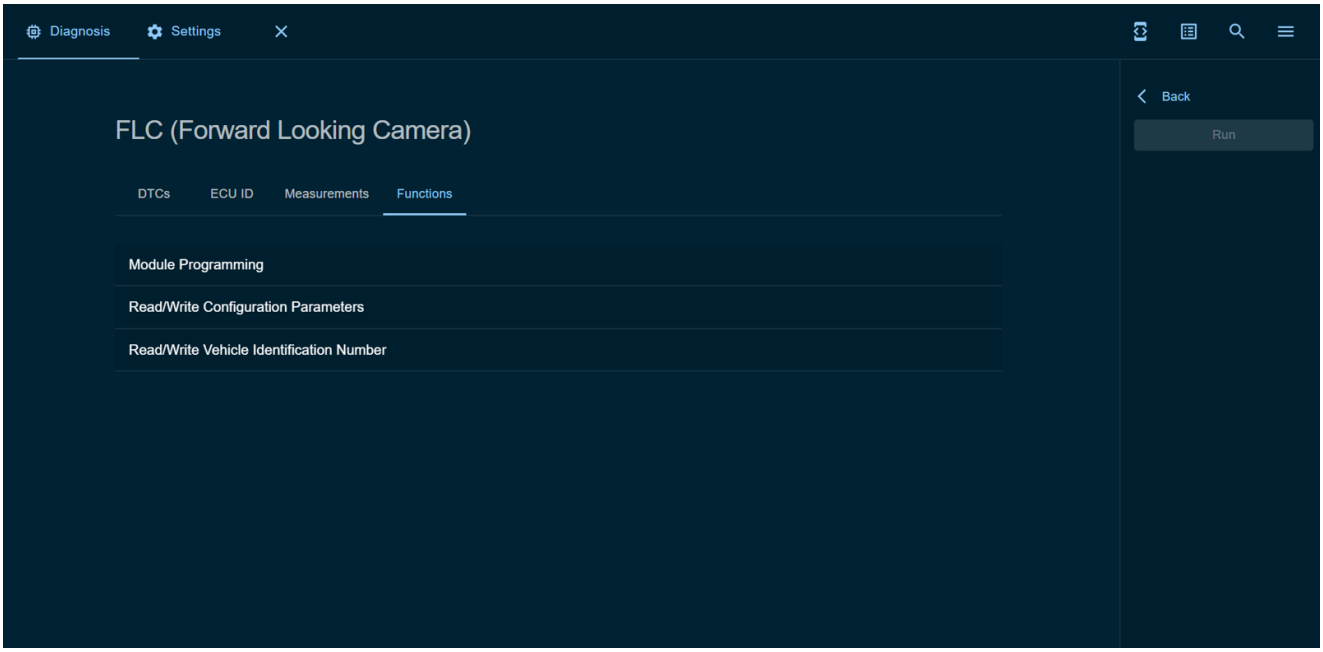
FLC – Forward Looking Camera

The camera is a one box system design with a RCCB filter and Real Time CPU. The image sensor combines high resolution, high sensitivity and high-quality color separation.

You can enter the module by clicking on the module indicated by the red arrow below.

There are three functions in the module:

- **Module programming**
- **Read/Write Vehicle Configuration Parameters**
- **Read/Write Vehicle Identification Number**



Front Looking Side SRR, Front SRR, Rear Looking Side SRR – Short Range Radar

The sensor is a 77 GHz short range radar sensor with a digital beam-forming scanning antenna.

The features of the module are as below:

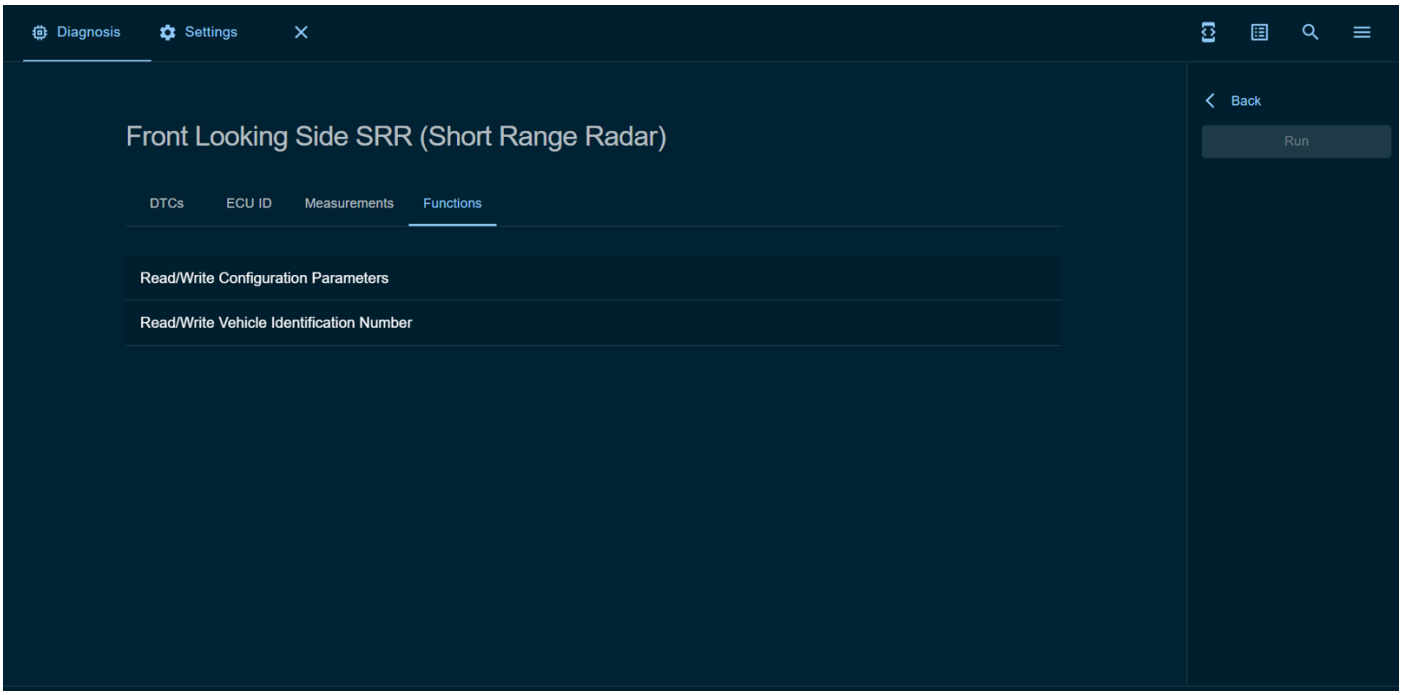
- **Symmetric beam pattern in elevation.**
- **High speed CAN Interface**
- **Continuous alignment capability / misalignment detection during normal operation**
- **Sensor blockage detection**
- **Radar Interference Detection and Mitigation (RIM)**
- **Auto Service Alignment without special tools for service stations (the radar calibrates itself while driving)**

Front Looking Side SRR – Short Range Radar

You can enter the module by clicking on the module indicated by the red arrow below.

There are two functions in the module:

- **Read/Write Configuration Parameters**
- **Read/Write Vehicle Identification Number**

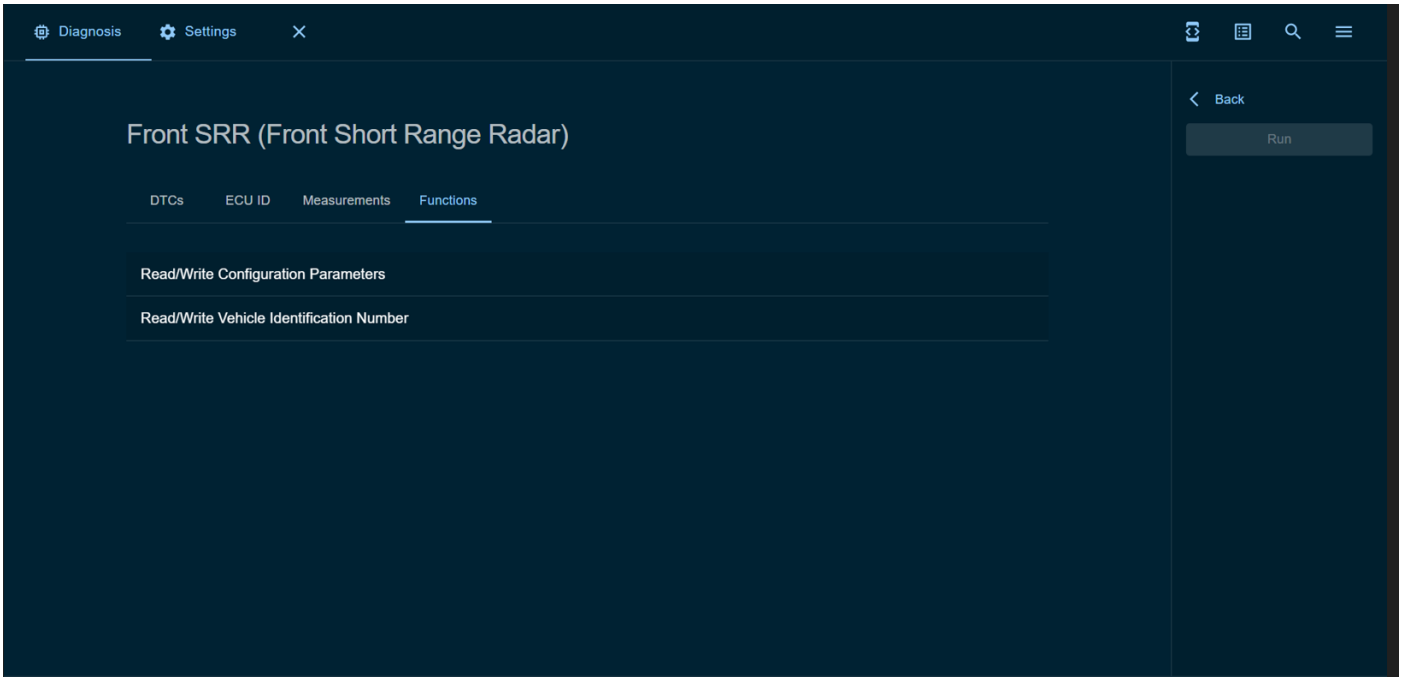


Front SRR – Front Short Range Radar

You can enter the module by clicking on the module indicated by the red arrow below.

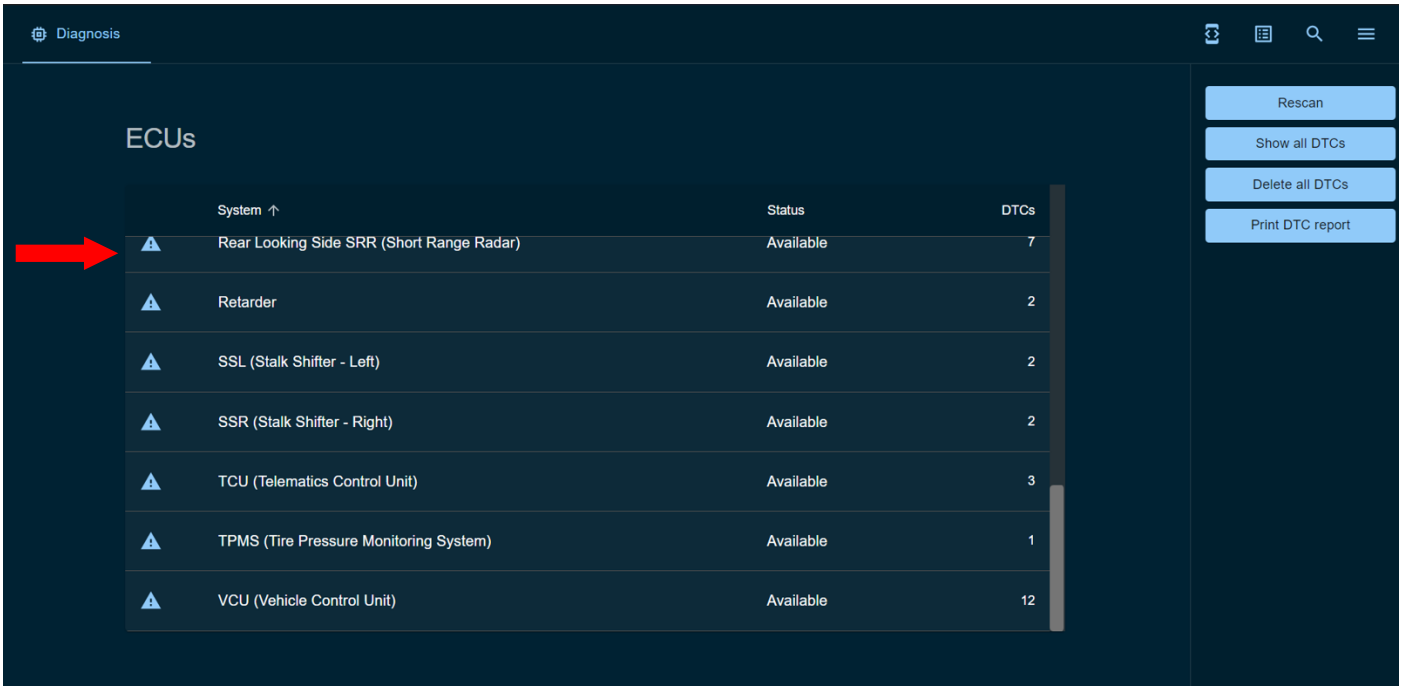
There are two functions in the module:

- **Read/Write Configuration Parameters**
- **Read/Write Vehicle Identification Number**



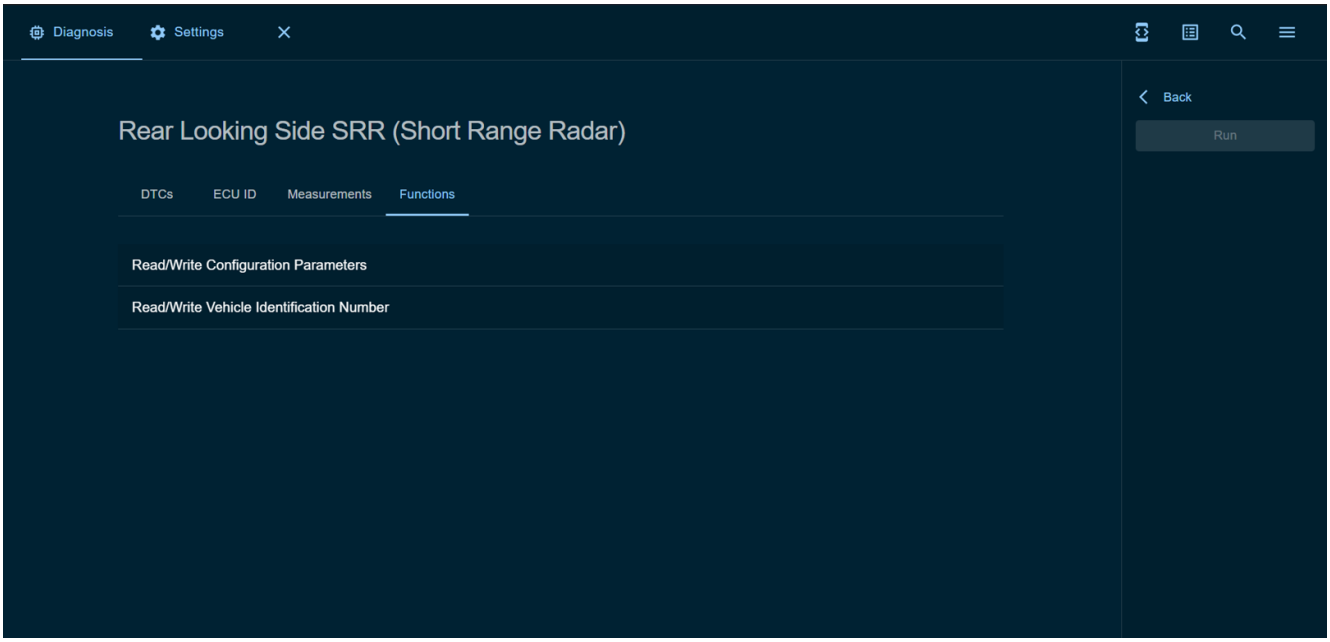
Rear Looking Side SRR – Short Range Radar

You can enter the module by clicking on the module indicated by the red arrow below.



There are two functions in the module:

- **Read/Write Configuration Parameters**
- **Read/Write Vehicle Identification Number**



LRR – Long Range Radar

The radar sensor is a 77 GHz radar sensor with digital beam-forming scanning antenna which offers two independent scans for far and short range.

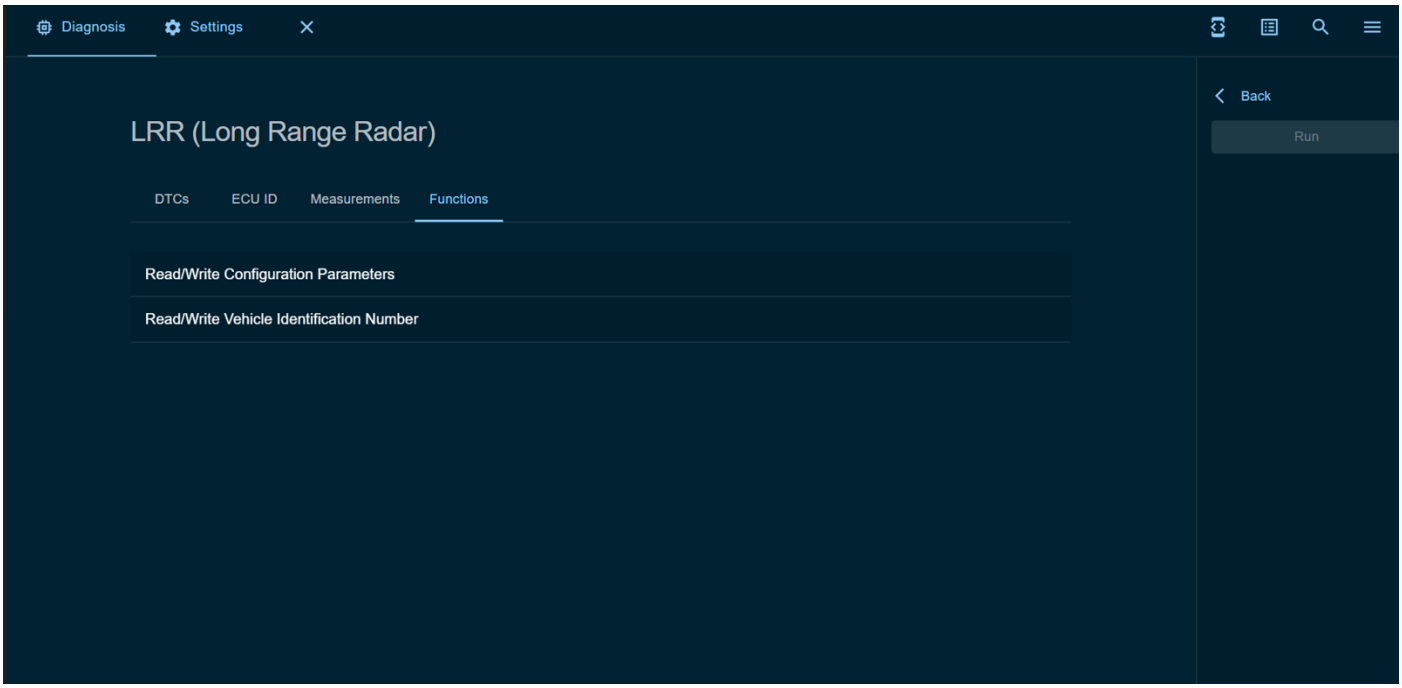
The features of the module are as below:

- **Software to operate the sensor and the desired functions.**
- **Auto Service Alignment without special tools for service stations (the radar calibrates itself while driving)**
- **Elevation measurement feature (ability to detect objects)**

You can enter the module by clicking on the module indicated by the red arrow below.

There are two functions in the module:

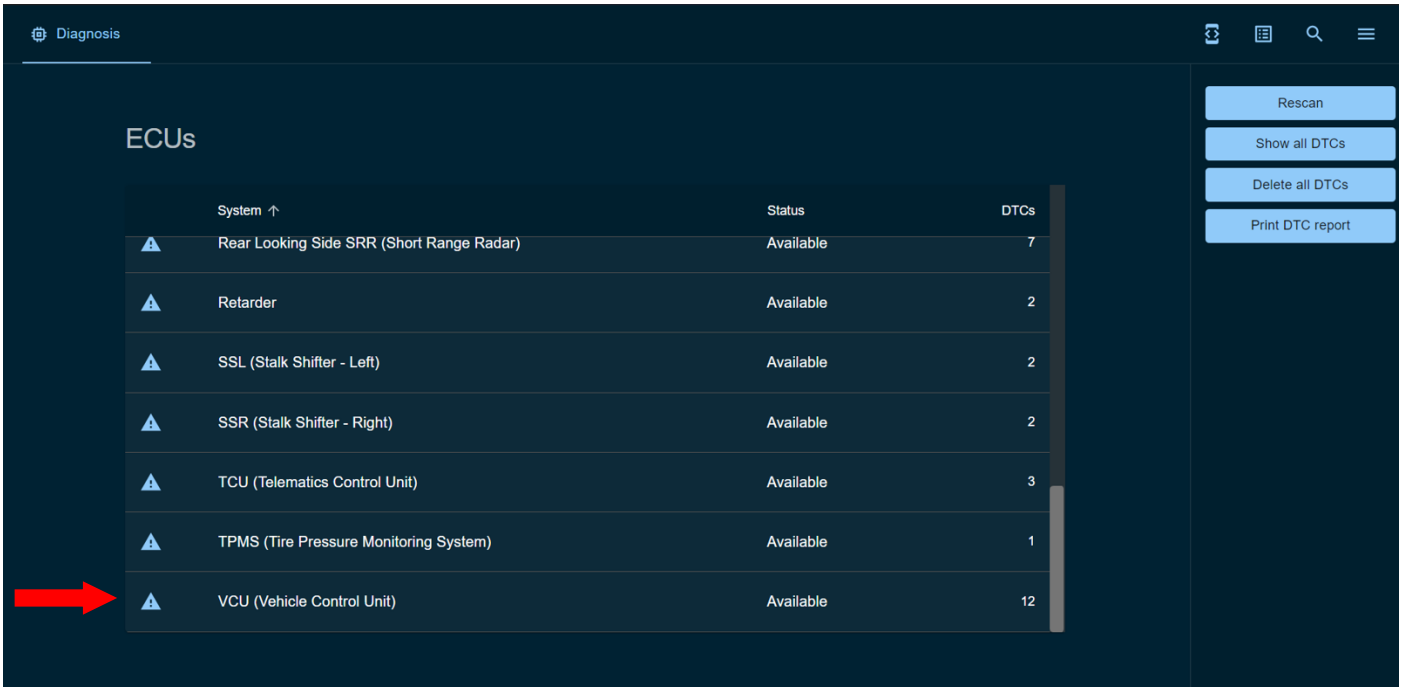
- **Read/Write Configuration Parameters**
- **Read/Write Vehicle Identification Number**



VCU – Vehicle Control Unit

Due to the large number of functions managed by the BCM, a new Vehicle Control Unit (VCU) has been integrated into the module structure of F-LINE vehicles to reduce the load on the module and ensure smoother vehicle operation.

You can enter the module by clicking on the module indicated by the red arrow below.



There are five functions in the module:

- **Auto Drop Calibrations**
- **Height Sensor Calibration**
- **Module Programming**
- **Pressure Sensor Calibration**
- **Read/Write Vehicle Identification Number**