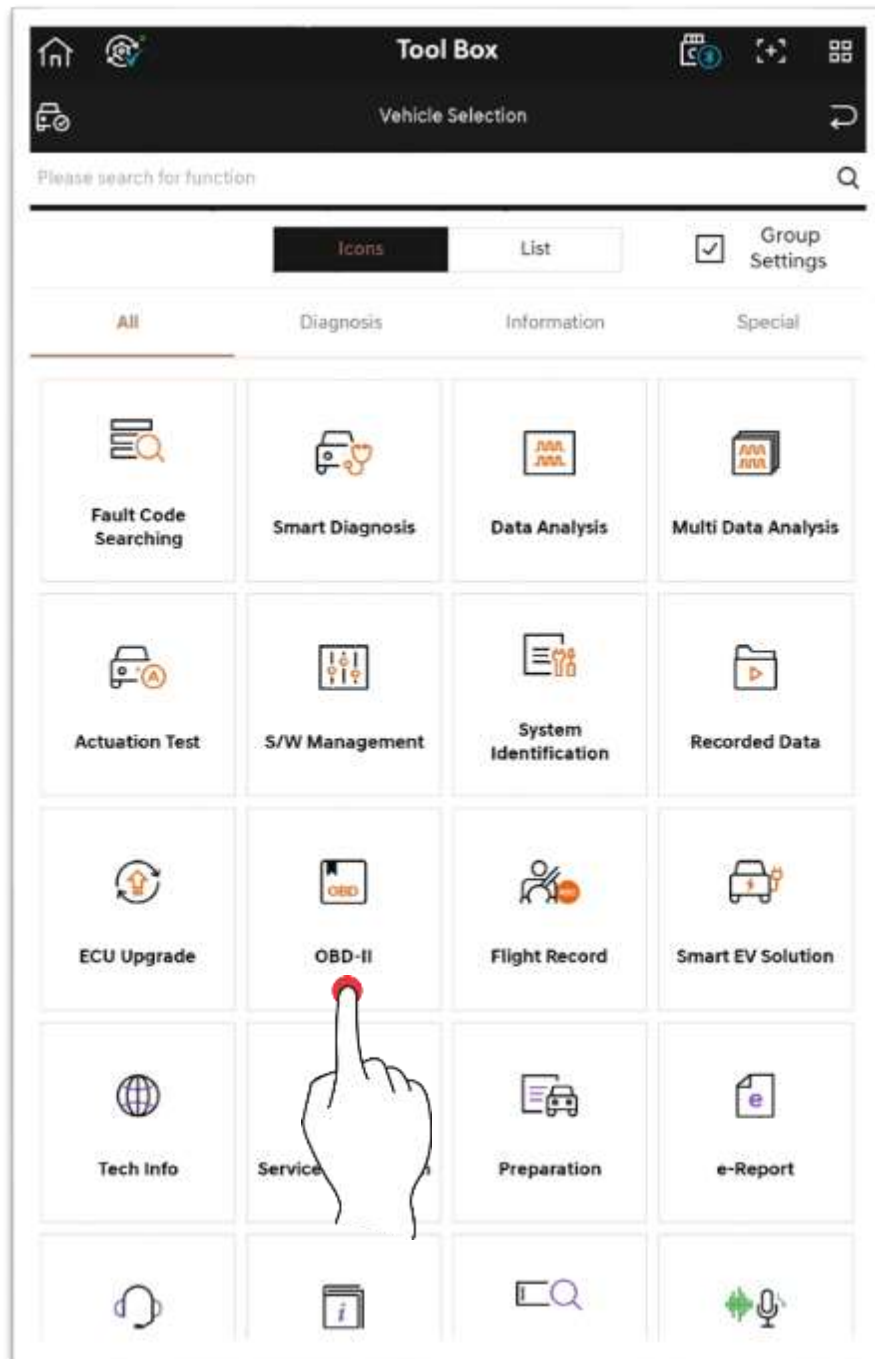


Tool Box – OBD-II


OBD-II mode is used to display generic vehicle powertrain diagnostic data.



Monitoring Status

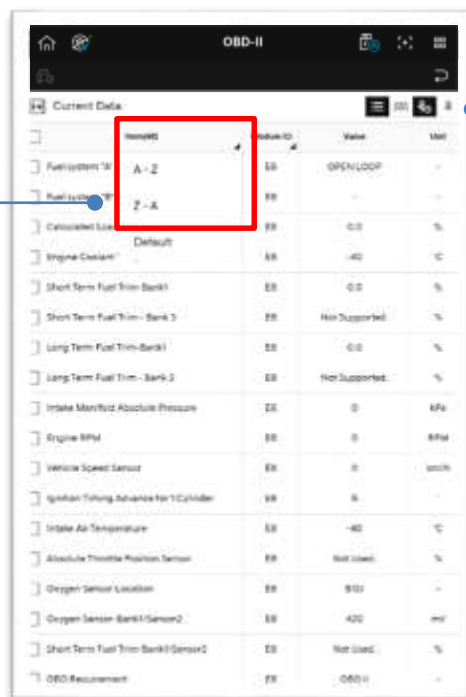
It indicates overall monitoring status on each module of the vehicle depending on OBD-II method. It indicates the status based on each item such as number of fault codes and warning light status, etc.

Spread/fold



Readiness Test	Name/ID	Value
Monitor Status (I/M Readiness) Since DTCs Cleared		
Monitor Status (I/M Readiness)	Number of DTC	0
Monitor Status (I/M Readiness)	Malfunction Indicator Lamp (MIL)	OFF
Current Data	Active Monitoring	COMPLETED
Passive Routine	Monitoring	NOT COMPLETED
ETC	Power Component	COMPLETED
Monitoring Test Results	Monitoring (SMHC)	NOT COMPLETED
Oxygen Sensor Monitor Bank1	Primary Monitoring	NOT APPLICABLE
Oxygen Sensor Monitor Bank2	Primary Monitoring	NOT COMPLETED
Catalyst Monitor Bank1	Secondary Air System Monitoring	NOT APPLICABLE
VVT Monitor Bank1	Gasoline Particulate Filter Monitoring	NOT APPLICABLE
EVAP Monitor (Cap Off)	Oxygen Sensor Monitoring	NOT COMPLETED
EVAP Monitor (0.090)	Oxygen Sensor Heater Monitoring	NOT COMPLETED
EVAP Monitor (0.040)	EVAP and/or VVT System Monitoring	NOT COMPLETED
EVAP Monitor (0.020)	Number of DTC	0
Purge Flow Monitor	Malfunction Indicator Lamp (MIL)	OFF
Oxygen Sensor Heater Monitor Bank1	Active Monitoring	NOT APPLICABLE
Oxygen Sensor Heater Monitor Bank2	Fuel System Monitoring	NOT APPLICABLE
Multiple Monitor General Data	Comprehensive Component	COMPLETED

Arrangement



Item ID	Item ID	Value	Unit
Full system	A - 2	00	OPEN/LOOP
Full system	Z - 6	00	-
Calculated Load	Default	0.0	%
Engine Coolant Temp	00	-40	°C
Short Term Fuel Trim - Bank1	00	0.0	%
Short Term Fuel Trim - Bank 2	00	Not Supported	%
Long Term Fuel Trim - Bank1	00	0.0	%
Long Term Fuel Trim - Bank 2	00	Not Supported	%
Intake Manifold Absolute Pressure	00	0	kPa
Engine RPM	00	0	RPM
Vehicle Speed Sensor	00	0	km/h
Ignition Timing Advance for 1 Cylinder	00	0	-
Intake Air Temperature	00	-40	°C
Absolute Throttle Position Sensor	00	Not Used	%
Oxygen Sensor Location	00	000	-
Oxygen Sensor Bank1/Sensor2	00	400	mV
Short Term Fuel Trim Bank1 Sensor2	00	Not Used	%
OBD Requirement	00	OBD II	-

View type setting

- View the entire items
- View only fixed items

Current Data

It indicates the current sensor data and actuator based on OBD-II method.

Spread/fold



The screenshot shows the 'Current Data' screen of the OBD-II app. A hand icon is shown spreading the table. The table has the following data:

ItemID	Value
Monitor Status (O/N Readiness)	Fuel system "A" status
Monitor Status (O/N Readiness)	Fuel system "B" status
Current Data	Calculated Load Value
Engine Coolant Temperature	-40
Short Term Fuel Trim - Bank1	0.0
Short Term Fuel Trim - Bank 2	Not Supported
Long Term Fuel Trim - Bank1	0.0
Long Term Fuel Trim - Bank 2	Not Supported
Intake Manifold Absolute Pressure	0
Engine RPM	0
Vehicle Speed Sensor	0
Ignition Timing Advance for 1 Cylinder	0
Intake Air Temperature	-40
Absolute Throttle Position Sensor	Not Used
Oxygen Sensor Location	0101
Oxygen Sensor Bank1/Sensor1	420
Short Term Fuel Trim - Bank1/Sensor2	Not Used
OBD Requirement	OBD II

View type setting



The screenshot shows the 'Current Data' screen of the OBD-II app with view type settings. The table has the following data:

ItemID	Monitor ID	Value	Unit
Fuel system "A" status	00	OPEN LOOP	-
Fuel system "B" status	00	-	-
Calculated Load Value	00	0.0	%
Engine Coolant Temperature	00	-40	°C
Short Term Fuel Trim - Bank1	00	0.0	%
Short Term Fuel Trim - Bank 2	00	Not Supported	%
Long Term Fuel Trim - Bank1	00	0.0	%
Long Term Fuel Trim - Bank 2	00	Not Supported	%
Intake Manifold Absolute Pressure	00	0	kPa
Engine RPM	00	0	rpm
Vehicle Speed Sensor	00	0	km/h
Ignition Timing Advance for 1 Cylinder	00	0	-
Intake Air Temperature	00	-40	°C
Absolute Throttle Position Sensor	00	Not Used	%
Oxygen Sensor Location	00	0101	-
Oxygen Sensor Bank1/Sensor1	00	420	mV
Short Term Fuel Trim - Bank1/Sensor2	00	Not Used	%
OBD Requirement	00	OBD II	-

- List
- Graph
- View the entire items
- View only fixed items

Fault Situation Data

It indicates the sensor data value stored in ECU at the time when a fault code is generated.

DTC

It indicates the fault codes stored in ECU.

Spread/fold



Monitor Status (M Readiness) Since DTCs Cleared	Item	Value
Readiness Test	Readiness	0
Monitor Status (M Readiness) Since DTCs Cleared	Number of DTC	0
Monitor Status (M Readiness) Since DTCs Cleared	Malfunction Indicator Lamp (MIL)	OFF
Current Data	Malfunction Monitoring	COMPLETED
Pretest Phase	Fuel System Monitoring	NOT COMPLETED
DTC	Comprehensive Component Monitoring	COMPLETED
Monitoring Test Results	Catalyst Monitoring (Bank 1)	NOT COMPLETED
Oxygen Sensor Monitor Bank 1	Heated Catalyst Monitoring	NOT APPLICABLE
Oxygen Sensor Monitor Bank 2	Heated Catalyst Monitoring	NOT COMPLETED
Catalyst Monitor Bank 1	Heated Catalyst Monitoring	NOT APPLICABLE
VVT Monitor Bank 1	Variable Valve Timing (VVT) System Monitoring	NOT APPLICABLE
EVP Monitor (Cap-Off)	Evaporative Emission (EVAP) System Monitoring	NOT COMPLETED
EVP Monitor (S-D40)	Oxygen Sensor Heater Monitoring	NOT COMPLETED
EVP Monitor (S-D40)	Heater/VVT System Monitoring	NOT COMPLETED
EVP Monitor (S-D40)	Number of DTC	0
Purge Flow Monitor	Malfunction Indicator Lamp (MIL)	OFF
Oxygen Sensor Heater Monitor Bank 1	Malfunction Monitoring	NOT APPLICABLE
Oxygen Sensor Heater Monitor Bank 2	Fuel System Monitoring	NOT APPLICABLE
Malfunction Monitor General Data	Comprehensive Component Monitoring	COMPLETED



DTC	Module ID	DTC status
P0222	08	Pending
P0108	08	Pending
P0123	08	Pending
P0110	08	Pending
P0131	08	Pending
P0132	08	Pending
P0137	08	Pending
P0134	08	Pending
P0141	08	Pending
P0198	08	Pending
P0001	08	Pending

Monitoring Test Results

Monitoring test performs monitoring of operating status of each sensor related to exhaust gases, and its results accordingly.

※ It may not be supported depending on the type of vehicle.

Spread/fold



Monitor Status (DTC Readiness) Since DTCs Cleared

Readiness Test	Readiness	Value
Monitor Status (DTC Readiness)	Number of DTC	0
Monitor Status (DTC Readiness)	Malfunction Indicator Lamp (MIL)	OFF
Current Data	Mixture Monitoring	COMPLETED
Freeze Frame	Fuel System Monitoring	NOT COMPLETED
DTC	Comprehensive Component Monitoring	COMPLETED
Monitoring Test Results	Catalyst Monitoring (MHC)	NOT COMPLETED
Oxygen Sensor Monitor (S1)	Heated Catalyst Monitoring	NOT APPLICABLE
Oxygen Sensor Monitor (S2)	EVAP System Monitoring	NOT COMPLETED
Catalyst Monitor (Bank 1)	Secondary Air System Monitoring	NOT APPLICABLE
VVT Monitor (Bank 1)	Exhaust Filter	NOT APPLICABLE
EVAP Monitor (S1)	EVAP Monitoring	NOT COMPLETED
EVAP Monitor (S2)	EVAP Monitor (S2)	NOT COMPLETED
EVAP Monitor (S3)	EVAP Monitor (S3)	NOT COMPLETED
EVAP Monitor (S4)	EVAP Monitor (S4)	NOT COMPLETED
EVAP Monitor (S5)	EVAP Monitor (S5)	NOT COMPLETED
Purge Flow Monitor	Malfunction Indicator Lamp (MIL)	OFF
Oxygen Sensor Heater Monitor (S1)	Mixture Monitoring	NOT APPLICABLE
Oxygen Sensor Heater Monitor (S2)	Fuel System Monitoring	NOT APPLICABLE
Mixture Monitor General Data	Comprehensive Component Monitoring	COMPLETED

View type setting



Monitor Status (DTC Readiness) Since DTCs Cleared

Readiness Test	Readiness	Value	Unit
Number of DTC	A - Z	03	0
Malfunction Ind	Z - A	05	OFF
Mixture Monitor	Default	05	COMPLETED
Fuel System Mon		05	NOT COMPLETED
Comprehensive Component Monitoring		05	COMPLETED
Catalyst Monitoring (MHC)		05	NOT COMPLETED
Heated Catalyst Monitoring		05	NOT APPLICABLE
EVAP System Monitoring		05	NOT COMPLETED
Secondary Air System Monitoring		05	NOT APPLICABLE
Exhaust Particulate Filter Monitoring		05	NOT APPLICABLE
Oxygen Sensor Monitoring		05	NOT COMPLETED
Oxygen Sensor Heater Monitoring		05	NOT COMPLETED
EVAP and/or VVT System Monitoring		05	NOT COMPLETED
Number of DTC		03	0
Malfunction Indicator Lamp (MIL)		05	OFF
Mixture Monitoring		05	NOT APPLICABLE
Fuel System Monitoring		05	NOT APPLICABLE
Comprehensive Component Monitoring		05	COMPLETED

- List
- Graph
- View the entire items
- View only fixed items

Vehicle Information

It indicates information on the vehicle.

Spread/fold



The screenshot shows the OBD-II application interface. The top bar displays 'OBD-II' and various icons. The left sidebar contains a list of options, with 'Vehicle Information' selected and highlighted in red. A hand icon points to this option. A blue line connects the text 'Spread/fold' to the top of the sidebar.

Item	Module ID	Value
198(Vehicle Identification Number)	198	5X0D4447X00042559
198(Vehicle Identification Number)	198	10348558
198(Vehicle Identification Number)	198	15M0C24V00
198(Vehicle Identification Number)	198	27044855
198(Vehicle Identification Number)	198	44444444
ECU Name	198	ECM-EngineControl
ECU Name	198	TCM-TransmisCyl

In Use Performance Ratio

It proceeds the test using all conditions necessary to detect parts of the vehicle or system fault status, etc. in accordance with OBD-II regulation.

In addition, the user can also check number of abnormal operations of the system under a designated condition.

Monitoring items specified in OBD-II

- ✓ Catalyst (Catalyst bank1, bank2)
- ✓ Oxygen sensor (Primary oxygen sensor bank1, bank2)
- ✓ Evaporative gas leak detecting system
(Evaporative 0.020" leak detecting system)
- ✓ Exhaust gas recirculation system (EGR system)
- ✓ Secondary air supply system (Secondary air system)

The left screenshot shows the 'Oxygen Sensor Monitor Bank1-Sensor' screen. It has a sidebar menu with the following items: Readiness Test, Monitor Status (I/M Readiness) S, Monitor Status (I/M Readiness) T, Current Data, Freeze Frame, EPC, Monitoring Test Results, Oxygen Sensor Monitor Bank1-Sensor, Oxygen Sensor Monitor Bank2-Sensor, Catalyst Monitor-Bank1, VVT Monitor-Bank1, EVAP Monitor (Cap Off), EVAP Monitor (0.090), EVAP Monitor (0.040), EVAP Monitor (0.020), Purge Flow Monitor, Oxygen Sensor Heater Monitor Bank1, Oxygen Sensor Heater Monitor Bank2, and Malfunction Indicator Lamp Data. The main area shows a table with columns 'ItemID', 'Status', and 'Value'. The table contains three rows of data for Test ID \$B8, Test ID \$B9, and Test ID \$B0.

The right screenshot shows the same screen with a more detailed table of test results. The table has columns: ItemID, Monitor ID, MIN, MAX, Value, Unit, and Results (diagnosis). The table contains four rows of data for Test ID \$B8, Test ID \$B9, Test ID \$B0, and Test ID \$B1.

ItemID	Status	Value
Test ID \$B8	Pass	0.000
Test ID \$B9	Pass	0.000
Test ID \$B0	Pass	0.000

ItemID	Monitor ID	MIN	MAX	Value	Unit	Results (diagnosis)
Test ID \$B8	18	0.000	0.000	0.000	-	PASS
Test ID \$B9	19	0.000	0.000	0.000	-	PASS
Test ID \$B0	18	0.000	0.000	0.000	-	PASS