

## DATA LIST/ACTIVE TEST

### 1. DATA LIST

#### NOTICE:

- The DATA LIST values may vary significantly if there are slight differences in measurement, differences in the environment in which the measurements are obtained, or the aging of the vehicle. Thus, definite standards or judgment values are unavailable. Therefore, there may be a malfunction even if a measured value is within the reference range.
- In the event of intricate symptoms, collect sample data from another vehicle of the same model operating under identical conditions, in order to reach an overall judgment by comparing all the items of DATA LIST.

#### HINT:

Using the DATA LIST displayed on the hand-held tester, you can read the values including those of the switches, sensors, actuators, without removing any parts. Reading the DATA LIST as the first step of troubleshooting is one method to shorten diagnostic time.

- Connect the hand-held tester to the DLC3.
- Turn the power switch ON (IG).
- Turn the hand-held tester ON.
- Select the following menu items: DIAGNOSIS / OBD/MOBD / HV BATTERY / DATA LIST.
- Check the results by referring to the following table.

Hand-held Tester Display	Measurement Item/Range (Display)	Reference Range	Diagnostic Note
MIL status	MIL status/ ON or OFF	MIL ON: ON	Constant ON: Repair in accordance with detected DTCs
DRIVING MILEAGE	Accumulated driving mileage after the malfunction occurrence/ Min.: 0 km, Max.: 65,535 km	—	—
BATTERY SOC	Battery state of charge/ Min.: 0 %, Max: 100 %	Always: 0 to 100 %	—
DELTA SOC	Difference between maximum and minimum values of SOC/ Min.: 0 %, Max.: 100 %	READY lamp ON, engine stopped and no electrical load: 0 to 60 %	—
IB BATTERY	Current value of battery pack/ Min.: -327.68 A, Max.: 327.67 A	<ul style="list-style-type: none"> <li>Instant soon after a full-load acceleration with the engine stopped: Maximum 140 A (room temperature)</li> <li>When shifting into N position 1 second has elapsed after automatically engine started with P position, engine stopped, head lamp ON, A/C fan high, and READY lamp ON: Maximum 30 A</li> </ul>	—
BATT INSIDE AIR	Temperature of inhalation ambient air into battery pack/ Min.: -327.68°C, Max.: 327.67°C	Undisturbed for 1 day: same as ambient air temperature	—
VMF FAN VOLTAGE	Battery blower motor monitoring voltage/ Min.: -25.6 V, Max.: 25.4 V	Fan mode 1 with READY lamp ON and P position: 9.5 to 11.5 V	—
AUX. BATT V	Auxiliary battery voltage/ Min.: 0 V, Max.: 25.4 V	Equivalent to auxiliary battery voltage	—
WIN	Charge control wattage which is sent from battery ECU to HV control ECU/ Min.: -64 kW, Max.: 0 kW	-25 kW or more	—

## DIAGNOSTICS - HYBRID BATTERY SYSTEM

Hand-held Tester Display	Measurement Item/Range (Display)	Reference Range	Diagnostic Note
WOUT	Discharge control wattage which is sent from battery ECU to HV control ECU/ Min.: 0 kW, Max.: 63.5 kW	21 kW or less	—
COOLING FAN SPD	Battery blower motor actuation mode / Min.: 0, Max.: 6	Stopped: 0 Low to high speed actuation: 1 to 6	—
ECU CTRL MODE	ECU control mode/ Min.: 0, Max.: 4	—	—
SBLW RQST	Battery blower motor stop control request (standby blower)	ON/OFF	—
BATT TEMP 1 to 3	Temperature of HV battery/ Min.: -327.68°C, Max.: 327.67°C	Undisturbed for 1 day: Same as ambient air temperature	—
NUM OF BATT	The number of battery blocks/ Min.: 0, Max.: 255	Always: 14	—
BAT BLOCK MIN V	Battery block minimum voltage/ Min.: -327.68 V, Max.: 327.67 V	SOC 50 to 60 %: 12 V or more	—
MIN BAT BLOCK #	Battery block number with minimum voltage	One of numbers 0 to 13	—
BAT BLOCK MAX V	Battery block maximum voltage/ Min.: -327.68 V, Max.: 327.67 V	SOC 55 to 60 %: 23 V or less	—
MAX BAT BLOCK #	Battery block number with maximum voltage	One of numbers 0 to 13	—
V1 to V14 BATT BLOCK	Battery block voltage/ Min.: -327.68 V, Max.: 327.67 V	SOC 60 %: 12 to 20 V	—
1 to 14 INTNL RESIST	Internal resistance of each battery block/ Min.: 0 Ω, Max.: 0.255 Ω	Always: 0.01 to 0.1 Ω	—
REGULATION	Compliance regulation	OBD2 (CARB)	—
#CODES	The number of emission related powertrain DTCs/ Min.: 0, Max.: 127	—	—
DTC	The number of stored DTCs/ Min.: 0, Max.: 255	—	—

## 2. ACTIVE TEST

### NOTICE:

**Beware that if the connector to the hand-held tester becomes disconnected or a communication error occurs during the ACTIVE TEST, the vehicle could become inoperative (READY lamp OFF).**

### HINT:

Performing an ACTIVE TEST using the hand-held tester enables components including the relay, VSV, and actuator, to be operated without removing any parts. Performing an ACTIVE TEST as the first step of troubleshooting is one method to shorten diagnostic time.

It is possible to display items in the DATA LIST during the ACTIVE TEST.

- (a) Connect the hand-held tester to the DLC3.
- (b) Turn the power switch ON (IG).
- (c) Turn the hand-held tester ON.
- (d) Select the following menu items: DIAGNOSIS / OBD/MOBD / HV BATTERY / ACTIVE TEST.
- (e) According to the display on the tester, perform ACTIVE TEST.

Hand-held Tester Display	Purpose	Test Details	Test Condition
COOLING FAN SPD	To check the operation and the speed of the battery blower motor	Stops the battery blower motor in mode 0 or operates it in modes 1 to 6	Disabled when a DTC is detected