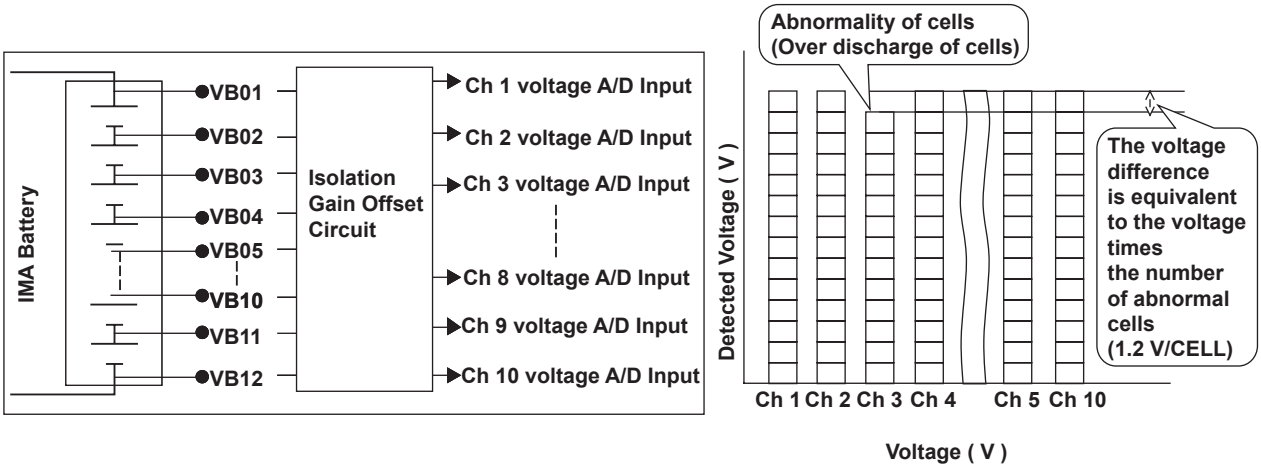
Advanced Diagnostics

DTC P1449 (74): Battery Module Individual Voltage Input Deviation



P1449-0073

General Description

The voltage difference between channels (12 cells/channel) is 0.61 V at the maximum within the allowable capacity range (15%). However, if one cell in a channel is abnormal, the voltage difference is 1.2 V.
Also, the voltage detection tolerance for the BCM (battery condition monitor) module is specified as ±0.12 V at 32 - 140° F (0 - 60°C). Therefore, if the difference between channels is 1.2 V or more, at least one cell is considered abnormal. If there is an offset problem or a gain problem in the voltage detection system, and the voltage detection error is out of the tolerance specified, a malfunction is detected and a DTC is stored.

Monitor Execution, Sequence, Duration, DTC Type

Execution	Continuous
Sequence	None
Duration	25.4 seconds or more
DTC Type	One drive cycle, MIL ON, IMA system indicator ON

Enable Conditions

Condition	Minimum	Maximum
Detected individual voltage (at ch1 through ch10)	14.5 V	—
Detected individual temperature (at ch1 through ch4)	77°F (25°C)	—
Battery input/output current amperage	-20 A	11 A
BCM module power-supply voltage	7.5 V	—
No active DTCs	BM, BCM	

Malfunction Threshold

The voltage difference between channels is 1.2 V or more for at least 25.4 seconds.

Driving Pattern

1. Reset the BCM module. (Disconnect the 12 V battery terminal once and reconnect it.)
2. Remove the No. 15 EPS (40 A) fuse from the under-dash fuse/relay box.
3. Raise the engine to a speed between 3,500 - 4,000 rpm in neutral until the IMA battery charge gauge indicates 19 segments.
4. Turn the ignition switch off.
5. Repeat driving Patterns 1 through 4 several times. (Increase the battery temperature and voltage to meet the Enable Conditions.)
6. Install the No. 15 EPS (40 A) fuse in the under-dash fuse/relay box.
7. Start the engine.
8. Let the engine idle for at least 3 minutes.

Diagnosis Details

Conditions for illuminating the MIL

When a malfunction is detected, the MIL comes on and the DTC and the freeze frame data are stored in the ECM memory.

Conditions for clearing the MIL

The MIL will be cleared if the malfunction does not recur during three consecutive trips in which the diagnostic runs.
The MIL, the DTC, and the freeze frame data can be cleared by using the scan tool Clear command or by disconnecting the battery.