

PRODEMAND

YMMS: 2001 Toyota Prius

Engine: 1.5L Eng

VIN:

Jun 11, 2021

License:

Odometer:

DTC P3125: Converter & Inverter Assembly Malfunction

Circuit Description

If driving the vehicle with the DCDC converter malfunctioning, the voltage of the auxiliary battery will drop, which will make it impossible to keep driving the vehicle. Therefore, HV ECU checks the operation of the DCDC converter and gives warning to the driver if malfunction is detected.

HINT:

- When using an OBDquest scan tool other than TOYOTA hand-held tester, check all the steps.
- When using TOYOTA hand-held tester, confirm the information code and check it.

DTC P3125 - Information code 263, 264, 265

Wiring Diagram

Inspection Procedure

1. Check for open, short and +B short in wire harness between HV ECU NODD terminal and converter & inverter NODD terminal. See HOW TO USE THE DIAGNOSTIC CHART AND INSPECTION PROCEDURE .

The converter has +B short if the battery voltage is always applied to the HV ECU NODD terminal with the ignition ON.

NG: Repair or replace wire harness.

OK: Replace converter & inverter assembly.

Circuit Description

The HV ECU checks the inverter voltage and detects malfunction.

DTC P3125 - Information code 266, 267, 268, 269, 270

Wiring Diagram

Inspection Procedure

1. Check for open, short and +B short in wire harness between HV ECU VB and MIVG terminals and converter & inverter assembly VB AND M-GINV terminal. See HOW TO USE THE DIAGNOSTIC CHART AND INSPECTION PROCEDURE .

NOTE: Confirm that there is no open circuit in the wire harness. If the voltage between the HV ECU VB or MIVG terminal and body ground is always more than 5V with the ignition ON, the inverter voltage signal circuit has +B short.

NG: Repair or replace wire harness.

OK: Go to Next Step

2. Is there DTC P3100 being output?

YES: Check applicable DTC.

NO: Replace converter & inverter assembly.

Circuit Description

The HV ECU detects faulty line connection inside the inverter.

DTC P3125 - Information code 272

Wiring Diagram

Inspection Procedure

1. **Check open and short in wire harness between HV ECU terminals (MUU, MVU, MWU) and inverter terminals.**

NG: Repair or replace wire harness.

OK: Go to Next Step

2. **Is there DTC P3100 being output?**

YES: Check applicable DTC.

NO: Replace converter & inverter assembly.

Circuit Description

The HV ECU detects faulty line connection inside the inverter.

DTC P3125 - Information code 273

Wiring Diagram

Inspection Procedure

1. **Check for open and short in wire harness between HV ECU MSDN terminal and converter & inverter M-SDOWN terminal.**

NG: Repair or replace wire harness.

OK: Replace converter & inverter assembly.

Circuit Description

The HV ECU checks the inverter temperature and controls the load limitation in order to prevent the inverter from overheating. Also, it detects the abnormality of the line connection of the inverter temperature sensor and the malfunction of the sensor itself.

DTC P3125 - Information code 274, 275, 276, 277

Wiring Diagram

Inspection Procedure

1. Check for open, short and +b short in wire harness between HV ECU MIT and MIVG terminals and converter & inverter M-INVT, M-GINV terminals. See HOW TO USE THE DIAGNOSTIC CHART AND INSPECTION PROCEDURE .

NOTE: *Confirm that there is no open circuit in the wire harness. If the voltage between the HV ECU MIT or MIVG terminal and body ground is always more than 5V with the ignition ON, the motor inverter temperature sensor circuit has +B short.*

NG: Repair or replace wire harness.

OK: Check for open in motor inverter temperature sensor and then replace converter & inverter assembly . Check Motor Inverter Temperature Sensor .

Circuit Description

The HV ECU checks the line connection of the motor inverter stop signal circuit and enters the fail safe mode (limited output driving) if malfunction is detected.

DTC P3125 - Information code 278, 280

Wiring Diagram

Inspection Procedure

1. Check for open, short and +b short in wire harness between HV ECU MSIV and MIVG terminals and converter & inverter assembly M-SINV AND M-GIVN terminals. See HOW TO USE THE DIAGNOSTIC CHART AND INSPECTION PROCEDURE .

NOTE: *The motor inverter stop signal circuit has +B short if the voltage between the HV ECU MSIV or MIGV terminal and body ground is always more than 13 V with the ignition ON ("READY" light OFF).*

NG: Repair or replace wire harness.

OK: Replace converter & inverter assembly.

Circuit Description

DTC P3125 - Information code 279, 281, 282

Inspection Procedure

If the information code 279 or 281 is output, check if other DTC or information codes are recorded. If they are recorded, check and repair those codes first.

If the information code 279 or 281 alone is recorded, replace the converter & inverter assembly.

If the information code 282 is output, replace the converter & inverter assembly.

Circuit Description

The HV ECU checks the line connection of the motor inverter fail signal circuit and detects malfunction.

DTC P3125 - Information code 283, 285

Wiring Diagram

Inspection Procedure

1. Check for open, short and +B short in wire harness between HV ECU MFIV AND MIVG terminals and converter & inverter assembly M-FINV AND M-GINV terminals. See HOW TO USE THE DIAGNOSTIC CHART AND INSPECTION PROCEDURE .

NOTE: *The motor inverter fail signal circuit has +B short if the voltage between the HV ECU MIVG or MFIV terminal and body*

ground is always more than 13 V with the ignition ON ("READY" light OFF).

NG: Repair or replace wire harness.

OK: Replace converter & inverter assembly.

Circuit Description

DTC P3125 - Information code 284, 286, 287

Inspection Procedure

If the information code 284 or 287 is output, check if other DTC or information codes are recorded. If they are recorded, check and repair those codes first.

If the information code 284 or 287 alone is recorded, replace the converter & inverter assembly.

If the information code 286 is output, replace the converter & inverter assembly.

Circuit Description

The HV ECU detects the malfunction of the motor inverter current sensor. It detects the malfunction of the sensor system, not of the high voltage system.

DTC P3125 - Information code 288, 289, 290, 292, 294, 296, 297, 298, 300, 302,

Wiring Diagram

Inspection Procedure

1. Check continuity of wire harness between HV ECU and converter & inverter assembly. See HOW TO USE THE DIAGNOSTIC CHART AND INSPECTION PROCEDURE .

OK: Continuity: Less than 1 Ω

TERMINALS FOR CHECKING CONTINUITY DTC P3125 INFORMATION CODE 288, 289, 290, 292, 294, 296, 297, 298, 300, 302

HV ECU Terminals	Inverter Terminals
MIVA	M-IVA
MIVB	M-IVB
MIWA	M-IWA
MIWB	M-IWB
MIVG	M-GINV

NG: Repair or replace wire harness.

OK: Replace converter & inverter assembly.

Circuit Description

The HV ECU detects the malfunction of the motor inverter current sensor. It detects the malfunction of the sensor system, not of the high voltage system.

DTC P3125 - Information code 291, 293, 295, 299, 301, 303

Wiring Diagram

Inspection Procedure

1. Check continuity of wire harness between HV ECU and converter & inverter assembly. See HOW TO USE THE DIAGNOSTIC CHART AND INSPECTION PROCEDURE .

OK: Continuity: Less than 1 Ω

TERMINALS FOR CHECKING CONTINUITY DTC P3125 INFORMATION CODE 291, 293, 295, 299, 301, 303

HV ECU Terminals	Inverter Terminals
MIVA	M-IVA
MIVB	M-IVB
MIWA	M-IWA
MIWB	M-IWB
MIVG	M-GINV

NG: Repair or replace wire harness.

OK: Go to Next Step

2. Is there DTC P3100 being output?

NG: Check applicable DTC.

NO: Replace converter & inverter assembly.

Circuit Description

The HV ECU detects the malfunction of the motor inverter current sensor. It detects the malfunction of the sensor system, not of the high voltage system.

DTC P3125 - Information code 306, 307

Inspection Procedure

If the information code 306 or 307 is output, check if other DTC or information codes are recorded. If they are recorded, check and repair those codes first.

If the information code 306 or 307 alone is recorded, replace the converter & inverter assembly.

Circuit Description

NOTE: When the vehicle collision occurs and the airbag is deployed, this information code will be recorded and the high voltage system will be shut down.

If the HV ECU detects the collision signal from the airbag or inverter, the HV ECU recognizes it as the destruction of the vehicle and then shuts down the high voltage system to ensure safety.

DTC P3125 - Information code 308

DTC P3125 INFORMATION CODE 308

INF. Code	Detecting Condition	Trouble Area
308	Input of collision signal from airbag or inverter

Circuit Description

The HV ECU checks the line connection of the motor gate shutdown signal circuit and detects malfunction.
DTC P3125 - Information code 304, 305

Wiring Diagram

Inspection Procedure

1. Check for open, short and +B short in wire harness between HV ECU MSDN Terminal and converter & inverter assembly M-SDOWN terminals. See HOW TO USE THE DIAGNOSTIC CHART AND INSPECTION PROCEDURE .

NOTE: *Confirm that there is no open circuit in the wire harness. The motor gate shutdown signal circuit has +B short if the battery voltage is always applied to the HV ECU MSDN terminal with the ignition ON.*

NG: Repair or replace wire harness.

OK: Replace converter & inverter assembly.

Circuit Description

The HV ECU detects faulty line connection inside the inverter.

DTC P3125 - Information code 309

Wiring Diagram

Inspection Procedure

1. **Check for open and short in wire harness between HV ECU terminals (GUU, GVU, GWU) and inverter terminals.**
NG: Repair or replace wire harness.
OK: Go to Next Step
2. **Is there DTC P3100 being output?**
YES: Check applicable DTC.
NO: Replace converter & inverter assembly.

Circuit Description

The HV ECU detects faulty line connection inside the inverter.

DTC P3125 - Information code 311

Wiring Diagram

Inspection Procedure

1. **Check for open and short in wire harness between HV ECU GSDN terminal and converter & inverter S-DOWN terminal.**
NG: Repair or replace wire harness.
OK: Replace converter & inverter assembly.

Circuit Description

The HV ECU checks the generator temperature and controls the load limitation in order to prevent the generator from overheating. Also, it detects the abnormality of the line connection of the generator temperature sensor and the malfunction of the sensor itself.

DTC P3125 - Information code 312, 313, 314, 315**Wiring Diagram****Inspection Procedure**

1. Check for open, short and +B short in wire harness between HV ECU GIT and GIVG terminals and converter & inverter G-GINV OR G-GINV TERMINALS. See HOW TO USE THE DIAGNOSTIC CHART AND INSPECTION PROCEDURE .

NOTE: *Confirm that there is no open circuit in the wire harness. The generator inverter temperature sensor circuit has +B short if the voltage between the HV ECU GIT or GIVG terminal and body ground is always more than 5V with the ignition ON.*

NG: Repair or replace wire harness.

OK: Check for open in generator inverter temperature sensor and then replace converter & inverter assembly . Check Generator Inverter Temperature Sensor .

Circuit Description

The HV ECU checks the line connection of the generator inverter stop signal circuit and enters the fail safe mode (limited driving) if malfunction is detected.

DTC P3125 - Information code 316, 318**Wiring Diagram****Inspection Procedure**

1. Check for open, short and +B short in wire harness between HV ECU GSIV and GIVG terminals and converter & inverter assembly G-SINV AND G-GINV terminals. See HOW TO USE THE DIAGNOSTIC CHART AND INSPECTION PROCEDURE .

NOTE: *The generator inverter stop signal circuit has +B short if the voltage between the HV ECU GSIV or GIVG terminal and body ground is always more than 13 V with the ignition ON ("READY" light OFF).*

NG: Repair or replace wire harness.

OK: Replace converter & inverter assembly.

Circuit Description**DTC P3125 - Information code 317, 319, 320****Inspection Procedure**

If the information code 317 or 319 is output, check if other information codes are recorded. If they are recorded, check and repair those codes first.

If the information code 317 or 319 alone is recorded, replace the converter & inverter assembly.

If the information code 320 is output, replace the converter & inverter assembly.

Circuit Description

The HV ECU checks the line connection of the generator inverter fail signal circuit and detects malfunction.

DTC P3125 - Information code 321, 323

Wiring Diagram

Inspection Procedure

1. Check for open, short and +B short in wire harness between HV ECU GFIV and GIVG terminals and converter & inverter assembly G-FINV and G-GINV terminals. HOW TO USE THE DIAGNOSTIC CHART AND INSPECTION PROCEDURE .

NOTE: The generator inverter fail signal circuit has +B short if the voltage between the HV ECU GFIV or GIVG terminal and body ground is always more than 13 V with the ignition ON ("READY" light OFF).

NG: Repair or replace wire harness.

OK: Replace converter & inverter assembly.

Circuit Description

DTC P3125 - Information code 322, 324, 325

Inspection Procedure

If the information code 322 or 325 is output, check if other information codes are recorded. If they are recorded, check and repair those codes first.

If the information code 322 or 325 alone is recorded, replace the converter & inverter assembly.

If the information code 324 is output, replace the converter & inverter assembly.

Circuit Description

The HV ECU detects the malfunction of the generator inverter current sensor. It detects the malfunction of the sensor system, not of the high voltage system.

DTC P3125 - Information code 326, 327, 328, 330, 332, 334, 335, 336, 338, 340

Wiring Diagram

Inspection Procedure

1. Check continuity of wire harness between HV ECU and converter and inverter assembly. See HOW TO USE THE DIAGNOSTIC CHART AND INSPECTION PROCEDURE .

OK: Continuity: Less than 1 Ω

TERMINALS FO CHECKING CONTUINITY DTC P3125 INFORMATION CODE 326, 327, 328, 330, 332, 334, 335, 336, 338, 340

HV ECU Terminals	Inverter Terminals
GIVA	G-IVA
GIVE	G-IVB
GIWA	G-IWA

GIWB	G-IWB
GIVG	G-GINV

NG: Repair or replace wire harness.

OK: Replace converter & inverter assembly.

Circuit Description

The HV ECU detects the malfunction of the generator inverter current sensor. It detects the malfunction of the sensor system, not of the high voltage system.

DTC P3125 - Information code 329, 331, 333, 337, 339, 341

Wiring Diagram

Inspection Procedure

1. Check continuity of wire harness between HV ECU and converter & inverter assembly. See HOW TO USE THE DIAGNOSTIC CHART AND INSPECTION PROCEDURE .

OK: Continuity: Less than 1 Ω

TERMINALS FOR CHECKING CONTINUITY DTC P3125 INFORMATION CODE 329, 331, 333, 337, 339, 341

HV ECU Terminals	Inverter Terminals
GIVA	G-IVA
GIVE	G-IVB
GIWA	G-IWA
GIWB	G-IWB
GIVG	G-GINV

NG: Repair or replace wire harness.

OK: Go to Next Step

2. Is there DTC P3100 being output?

NG: Replace converter & inverter assembly.

NO: Check applicable DTC.

Circuit Description

The HV ECU detects the malfunction of the generator inverter current sensor. It detects the malfunction of the sensor system, not of the high voltage system.

DTC P3125 - Information code 344, 345

Inspection Procedure

If the information code 344 or 345 is output, check if other DTC or information codes are recorded. If they are recorded, check and repair those codes first.

If the information code 344 or 345 alone is recorded, replace the converter & inverter assembly.

Circuit Description

The HV ECU checks the line connection of the generator gate shutdown signal circuit and detects malfunction.

DTC P3125 - Information code 342, 343

Wiring Diagram

Inspection Procedure

1. Check for open, short and +B short in wire harness between HV ECU GSDN terminal and converter & inverter assembly G-SDOWN terminals. See HOW TO USE THE DIAGNOSTIC CHART AND INSPECTION PROCEDURE .

NOTE: *Confirm that there is no open circuit in the wire harness. The generator gate shutdown signal circuit has +B short if the battery voltage is always applied to the HV ECU GSDN terminal with the ignition ON.*

NG: Repair or replace wire harness.

OK: Replace converter & inverter assembly.

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