# DTC U0100-U0299

## **Diagnostic Instructions**

- Perform the **Diagnostic System Check Vehicle** prior to using this diagnostic procedure.
- Review Strategy Based Diagnosis for an overview of the diagnostic approach.
- Diagnostic Procedure Instructions provides an overview of each diagnostic category.

## DTC Descriptors

DTC U0100 00: Lost Communication With ECM/PCM

DTC U0100 75: Lost Communication With ECM/PCM

DTC U0100 7F: Lost Communication With ECM/PCM

DTC U0101 00: Lost Communication With TCM

DTC U0102 00: Lost Communication With Transfer Case Control Module

DTC U0104 00: Lost Communication With Cruise Control Module

DTC U0104 7F: Lost Communication With Cruise Control Module

DTC U0106 00: Lost Communication With Glow Plug Control Module

DTC U0109 00: Lost Communication With Fuel Pump Control Module

DTC U0117 00: Lost Communication With Electrical PTO Control Module

DTC U0121 00: Lost Communication With Anti-Lock Brake System (ABS) Control Module

DTC U0122 00: Lost Communication With Vehicle Dynamics Control Module

DTC U0131 00: Lost Communication With Power Steering Control Module

DTC U0132 00: Lost Communication With Ride Level Control Module

DTC U0134 00: Lost Communication With Power Steering Control Module - Rear

DTC U0136 00: Lost Communication With Differential Control Module - Rear

DTC U0137 00: Lost Communication With Trailer Brake Control Module

DTC U0140 00: Lost Communication With Body Control Module

DTC U0141 00: Lost Communication With Body Control Module A

DTC U0151 00: Lost Communication With Restraints Control Module

DTC U0151 71: Lost Communication With Restraints Control Module Invalid Serial Data Received © 2013 General Motors Corporation. All rights reserved. DTC U0151 7F: Lost Communication With Restraints Control Module Erratic DTC U0155 00: Lost Communication With Instrument Panel Cluster (IPC) Control Module DTC U0156 00: Lost Communication With Information Center A (DIC) DTC U0158 00: Lost Communication With Head Up Display DTC U0159 00: Lost Communication With Parking Assist Control Module DTC U0160 00: Lost Communication With Audible Alert Control Module DTC U0164 00: Lost Communication With HVAC Control Module DTC U0165 00: Lost Communication With HVAC Control Module - Rear DTC U0168 00: Lost Communication With Vehicle Security Control Module DTC U0170 00: Lost Communication With Restraints System Sensor A (PPS) DTC U0172 00: Lost Communication With Rollover Sensor DTC U0184 00: Lost Communication With Radio DTC U0186 00: Lost Communication With Audio Amplifier DTC U0291 00: Lost Communication With Television DTC U0194 00: Lost Communication With Digital Radio Receiver (DRR) DTC U0198 00: Lost Communication With Telematic Control Module DTC U0199 00: Lost Communication With Door Control Module A (DDM) DTC U0200 00: Lost Communication With Door Control Module B (PDM) DTC U0208 00: Lost Communication With Seat Control Module A (DSM/MSM) DTC U0209 00: Lost Communication With Seat Control Module B (HVSM) DTC U0210 00: Lost Communication With Seat Control Module C (RHVSM) DTC U0214 00: Lost Communication With Remote Function Actuation DTC U0230 00: Lost Communication With Rear Gate Module DTC U0232 00: Lost Communications With Side Object Detection (SOD) Module - Left DTC U0233 00: Lost Communications With Side Object Detection (SOD) Module - Right DTC U0236 00: Lost Communications With Column Locking Module (CLM) DTC U0241 00: Lost Communication With Headlamp Control Module A DTC U0249 00: Lost Communication With Entertainment Control Module - Rear B

DTC U0255 00: Lost Communication With Front Display Interface Module

DTC U0256 00: Lost Communication With Front Controls Interface Module

DTC U0257 00: Lost Communication With Front Controls/Display Interface Module

#### **Diagnostic Fault Information**

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Module B+	U0100- U0299	U0100-U0299		
Ignition	U0100- U0299	U0100-U0299		
Module Ground	U0100- U0299	U0100-U0299		
Accessory Wake Up Serial Data	U1814	U0100-U0299		
High Speed GMLAN Serial Data Wake Up	U2099	U0100-U0299		
High Speed GMLAN Serial Data (+)	2	U0100-U0299	2	
High Speed GMLAN Serial Data (-)	2	U0100-U0299	2	
Low Speed GMLAN Serial Data	1	U0100-U0299	1	
1. Scan tool does not communicate with low speed GMLAN device				
2. Scan tool does not communicate with high speed GMLAN device				

#### Circuit/System Description

Modules connected to the high and low speed GMLAN serial data circuits monitor for serial data communications during normal vehicle operation. Operating information and commands are exchanged among the modules.

The body control module (BCM) activates the serial data communication enable and the accessory wakeup serial data circuits by applying voltage when the ignition key is in ACC, ON or START. Only the modules using high speed GMLAN serial data are connected to the enable or wakeup circuits. To determine which modules are activated using the enable or wakeup circuits refer to <u>Data</u> <u>Communication Schematics</u>.

#### Conditions for Running the DTC

The system voltage is between 9-16 volts.

## Conditions for Setting the DTC

A supervised periodic message that includes the transmitter module availability has not been received.

#### Action Taken When the DTC Sets

Specific subsystems will not function.

#### Conditions for Clearing the DTC

- A current DTC clears when the malfunction is no longer present.
- A history DTC clears when the module ignition cycle counter reaches the reset threshold of 50, without a repeat of the malfunction.

#### **Diagnostic Aids**

- Sometimes, while diagnosing a specific customer concern or after a repair, you may notice a
  history U-code present. However, there is no associated "current" or "active" status. Loss-ofcommunication U-codes such as these can set for a variety of reasons. Many times, they are
  transparent to the vehicle operator and technician, and/or have no associated symptoms.
  Eventually, they will erase themselves automatically after a number of fault-free ignition
  cycles. This condition would most likely be attributed to one of these scenarios:
  - A control module on the data communication circuit was disconnected while the communication circuit is awake.
  - Power to one or more modules was interrupted during diagnosis.
  - A low battery condition was present, so some control modules stop communicating when battery voltage drops below a certain threshold.
  - Battery power was restored to the vehicle and control modules on the communication circuit did not all re-initialize at the same time.
  - If a loss-of-communication U-code appears in history for no apparent reason, it is most likely associated with one of the scenarios above. These are all temporary conditions and should never be interpreted as an intermittent fault, causing you to replace a part.
- A control module may have a U code stored in history that does not require any repairs. Issues with late or corrupted messages between control modules can be temporary with no apparent symptom or complaint; this does not mean the control module is faulty. Do not replace a control module based only on a history U code.
- Do not replace a control module reporting a U-code. The U-code identifies which control module needs to be diagnosed for a communication issue.
- Communication may be available between the BCM and the scan tool with either the low or high speed GMLAN serial data system inoperative. This condition is due to the BCM using both the low and high speed GMLAN systems.
- Use to determine if the module uses high or low speed GMLAN serial data communications.
- Some control modules may not have internal protection for specific control circuits and may open a B+ or ignition fuse. If a fuse is open and the B+ or ignition circuit is not shorted to ground, ensure none of the control circuits are shorted to ground before replacing the control module.
- This diagnostic can be used for any control module that is not communicating, regardless of the type of serial data circuit it is connected to, providing the vehicle is equipped with the control module.

## **Reference Information**

#### Schematic Reference

- Data Communication Schematics
- <u>Control Module References</u>

**Connector End View Reference** 

Component Connector End Views

**Description and Operation** 

Data Link Communications Description and Operation

#### **Electrical Information Reference**

- <u>Circuit Testing</u>
- <u>Connector Repairs</u>
- <u>Testing for Intermittent Conditions and Poor Connections</u>
- <u>Wiring Repairs</u>

#### Scan Tool Reference

Control Module References for scan tool information

#### **Circuit/System Verification**

- 1. Verify that following BCM DTCs are not present:
  - U1814
  - U2099
  - B1428
  - B1370
  - B1380
  - B1440
  - B1441

If any listed DTC is present, refer to <u>Diagnostic Trouble Code (DTC) List - Vehicle</u> to diagnose that DTC prior to this diagnostic.

2. Verify that at least 1 module that communicates on high speed GMLAN serial data communicates with the scan tool.

If no module communicates on high speed GMLAN serial data, refer to <u>Scan Tool Does Not</u> <u>Communicate with High Speed GMLAN Device</u>.

3. Verify that at least 1 module, excluding BCM, that communicates on low speed GMLAN serial data communicates with the scan tool.

If no module communicates on low speed GMLAN serial data, excluding BCM, refer to <u>Scan</u> <u>Tool Does Not Communicate with Low Speed GMLAN Device</u>.

### Circuit/System Testing

- 1. Using the DTC Descriptor and Diagnostic Aids above, determine the module that is not communicating.
- 2. Ignition OFF, disconnect the necessary harness connector of the module that is not communicating.
- 3. Test for less than 1 ohm between the module ground circuits and ground.

If greater than the specified range, test the ground circuit for an open/high resistance.

**Important:** Only the high speed GMLAN modules have a serial data communication enable circuit OR an accessory wakeup serial data circuit, and the BCM is the output for these circuits. Refer to the module schematics to identify which modules have these circuits. If the module that is not communicating is the BCM or does not have one of these circuits, proceed to step 5.

4. Ignition ON, verify that a test lamp illuminates between the serial data communication enable circuit OR the accessory wakeup serial data circuit and ground.

If the test lamp does not illuminate, test the circuit for an open/high resistance. If the circuits test normal, replace the BCM.

5. Ignition ON, verify that a test lamp illuminates between all battery positive voltage circuits and ground.

If the test lamp does not illuminate, test the circuit for a short to ground or an open/high resistance. If the circuit fuse is open, also test the positive voltage outputs of the module for a short to ground. If the circuits test normal, replace the module.

6. Verify that a test lamp illuminates between all ignition voltage circuits and ground.

If the test lamp does not illuminate, test the circuit for a short to ground or an open/high resistance. If the circuit fuse is open, also test the positive voltage outputs of the module for a short to ground. If the circuits test normal, replace the module.

7. Test for less than 1 ohm on the GMLAN serial data circuits between the non-communicating module and the module that displays the DTC.

If greater than the specified range, test the serial data circuit for open/high resistance.

8. If all circuits test normal, replace the module that is not communicating.

#### **Repair Instructions**

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- GMLAN Wiring Repairs
- Control Module References for module replacement, setup, and programming