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2001 LEXUS IS Sport Cross OEM Service and Repair Workshop Manual

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- A sub bus monitoring ECU outputs DTCs for its respective ECUs and sensors. Identify the malfunctioning ECU or sensor using the output DTCs.
- ECUs or sensors that are not installed to the vehicle will not be displayed. Do not mistake these for ECUs or sensors that are not communicating.
- When using the combo box, it may be possible to select a sub bus from the drop down list that does not have any connected ECUs or sensors. This is not a malfunction and occurs when there is no optional device connected to a sub bus which is monitored by a sub bus monitoring ECU (gateway function equipped ECU).

HINT:

- For details on how to read the "Communication Bus Check" screen, refer to Description of "Communication Bus Check" screen.

  Click here INFO
- If there is an ECU or sensor whose connection status changes intermittently while checking the "Communication Bus Check" screen, there may be an open circuit in one of the wires of a branch line of an ECU or sensor in the bus. If an open occurs in one of the wires of a CAN branch line, it may interfere with the communication of other ECUs or sensors resulting in an incorrect state being displayed.
- The central gateway ECU (network gateway ECU) displays the connection status of ECUs and sensors connected to the central bus on the GTS.
- Sub bus monitoring ECUs display the connection status of ECUs and sensors connected to their respective sub bus on the GTS.
- If a CAN commutation DTC is output for an ECU connected to the sub bus, refer to the corresponding diagnostic procedure.

  Click here INFO

RESULT	PROCEED TO
No ECUs or sensors are displayed as not communicating	A
ECUs or sensors are displayed as not communicating	B

B ▶ **GO TO STEP 8**

A ▼

6.	CHECK DTC (HEALTH CHECK)

(a) Using the GTS, perform Health Check to read current and history DTCs and record them.

NOTICE:

- CAN communication DTCs are output when there is an open or short in any of the communication lines. Any problems with the power source of a corresponding ECU or sensor, or problems in the ECU or sensor itself also cause these DTCs to be output.
- If a CAN communication line connector is disconnected with the ignition switch ON or ACC, the ECUs of the corresponding system and related systems store a DTC.

HINT:

If an open occurs in just one of the wires of a CAN branch line, DTCs which are not related to malfunctioning parts may be output (DTCs may be displayed randomly), or a message indicating a communication error may be displayed.

RESULT	PROCEED TO
DTCs are not output.	A
Output DTCs are listed in the Diagnostic Trouble Code Chart for CAN Communication System.	B
Output DTCs are not listed in the Diagnostic Trouble Code Chart for CAN Communication System.	C

- If the CAN bus main line is normal and there is an ECU or sensor whose connection status changes intermittently while checking the "Communication Bus Check" screen, there may be an open circuit in one of the wires of a branch line of an ECU or sensor in the bus. If an open occurs in one of the wires of a CAN branch line, it may interfere with the communication of other ECUs or sensors resulting in an incorrect state being displayed.

Performing the bus inspection again may help in determining the suspected area.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
CANH - CANL of a suspected bus	Cable disconnected from negative (-) battery terminal	54 to 69 Ω
CANH - body ground of a suspected bus	Cable disconnected from negative (-) battery terminal	200 Ω or higher
CANL - body ground of a suspected bus	Cable disconnected from negative (-) battery terminal	200 Ω or higher
CANH - +B of a suspected bus	Cable disconnected from negative (-) battery terminal	6 kΩ or higher
CANL - +B of a suspected bus	Cable disconnected from negative (-) battery terminal	6 kΩ or higher

OK ▶ **GO TO DIAGNOSIS PROCEDURE FOR RESPECTIVE COMMUNICATION STOP**

ECU OR SENSOR DISPLAYED ON GTS AS NOT COMMUNICATING	LINK	ECU OR SENSOR DISPLAYED ON GTS AS NOT COMMUNICATING	LINK
Skid Control (ABS/VSC/TRAC)	INFO	Trailer Brake Controller	INFO
Suspension Control (Air Suspension)	INFO	Stabilizer Control (KDSS/E-KDSS) / Suspension Control	INFO
Clearance Warning (Intuitive Parking Assist)	INFO	Air Conditioning Amplifier	INFO
Power Steering (EPS)	INFO	Spiral cable (Steering Angle Sensor)	INFO
ECM (Engine)	INFO	TCM	INFO
Main Body	INFO	Combination Meter	INFO
Certification (Smart) and/or Power Management	INFO	Airbag	INFO
Headlight Control (Sub)	INFO	Headlight Control	INFO
Four Wheel Drive Control	INFO	Display and Navigation (AVN)	INFO
Blind Spot Monitor "B"	INFO	Active Noise Control	INFO

Last Modified: 10-07-2024	6.11:8.1.0	**Doc ID:** RM100000002HABZ
Model Year Start: 2024	**Model:** GX550	**Prod Date Range:** [12/2023 -]
Title: NETWORKING: CAN COMMUNICATION SYSTEM: UTILITY; 2024 MY GX550 [12/2023 -]		

UTILITY

INITIALIZE THE CONNECTION INFORMATION OF A GATEWAY FUNCTION EQUIPPED ECU (BUS MONITOR ECU)

(a) Initialize the ECU.

Body Electrical > Central Gateway > Utility

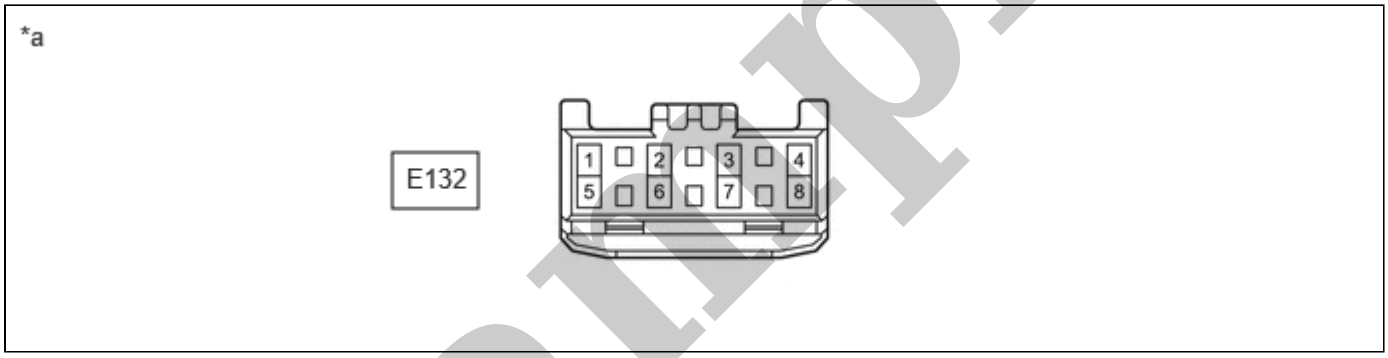
TESTER DISPLAY
Initialization

Body Electrical > Main Body > Utility

TESTER DISPLAY
Initialization

TERMINAL NO. (SYMBOL)	WIRING COLOR	CONNECTED TO
E130-1 (CANH)	V	No. 10 global CAN junction connector
E130-7 (CANL)	W	
E130-2 (CANH)	R	Position control ECU assembly LH (for Front Seat)*1
E130-8 (CANL)	W	
E130-3 (CANH)	G	Outer mirror control ECU assembly LH
E130-9 (CANL)	W	
E130-4 (CANH)	P	Multiplex tilt and telescopic ECU*2
E130-10 (CANL)	W	
E130-5 (CANH)	B	Certification ECU (smart key ECU assembly)
E130-11 (CANL)	W	
E130-6 (CANH)	GR	Central gateway ECU (network gateway ECU)
E130-12 (CANL)	W	
*1: w/ Seat Position Memory System *2: w/ Power Tilt and Power Telexcopic Steering System		

NO. 6 GLOBAL CAN JUNCTION CONNECTOR



*a	Front view of wire harness connector (to No. 6 Global CAN Junction Connector)	-	-

TERMINAL NO. (SYMBOL)	WIRING COLOR	CONNECTED TO
E132-1 (CANH)	P	Rack and pinion power steering gear assembly (power steering ECU)
E132-5 (CANL)	W	
E132-2 (CANH)	R	Airbag ECU assembly
E132-6 (CANL)	W	
E132-3 (CANH)	V	No. 12 global CAN junction connector
E132-7 (CANL)	W	

NO. 7 GLOBAL CAN JUNCTION CONNECTOR

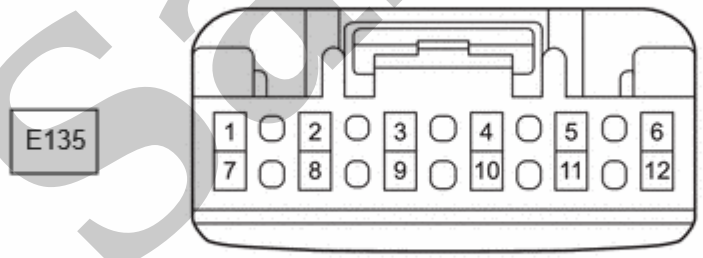
	(to No. 8 Global CAN Junction Connector)		

NO. 8 GLOBAL CAN JUNCTION CONNECTOR

TERMINAL NO. (SYMBOL)	WIRING COLOR	CONNECTED TO
E134-1 (CANH)	SB	Headlight ECU sub-assembly RH
E134-12 (CANL)	W	
E134-2 (CANH)	P	4 wheel drive control ECU
E134-13 (CANL)	W	
E134-3 (CANH)	V	Air conditioning amplifier assembly
E134-14 (CANL)	W	
E134-5 (CANH)	GR	No. 9 global CAN junction connector
E134-16 (CANL)	W	
E134-6 (CANH)	B	Central gateway ECU (network gateway ECU)
E134-17 (CANL)	W	
E134-7 (CANH)	R	Radio and display receiver assembly
E134-18 (CANL)	W	
E134-8 (CANH)	B	No. 11 global CAN junction connector
E134-19 (CANL)	W	
E134-10 (CANH)	LG	Central gateway ECU (network gateway ECU)
E134-21 (CANL)	W	

NO. 9 GLOBAL CAN JUNCTION CONNECTOR

*a



*a	Front view of wire harness connector (to No. 9 Global CAN Junction Connector)	-	-

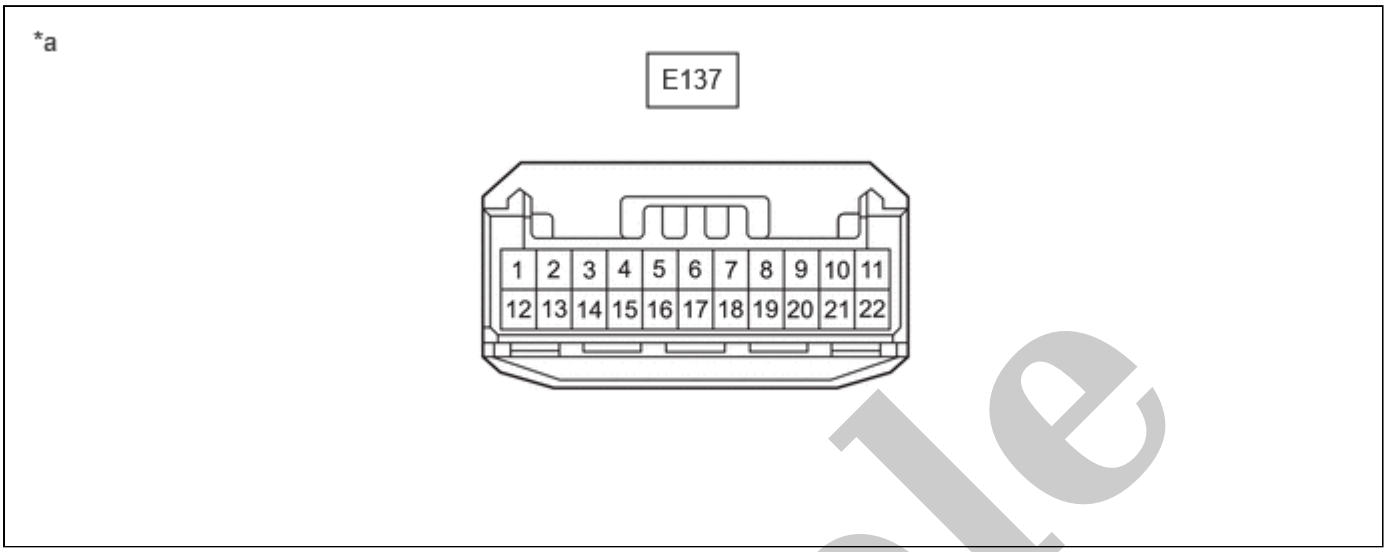
TERMINAL NO. (SYMBOL)	WIRING COLOR	CONNECTED TO
E135-1 (CANH)	B	Central gateway ECU (network gateway ECU)

*1: w/ Electronic-kinetic Dynamic Suspension System

*2: w/ Adaptive Variable Suspension System

TERMINAL NO. (SYMBOL)	WIRING COLOR	CONNECTED TO
E136-12 (CANL)	W	
*: w/ Seat Vibration System		

NO. 11 GLOBAL CAN JUNCTION CONNECTOR

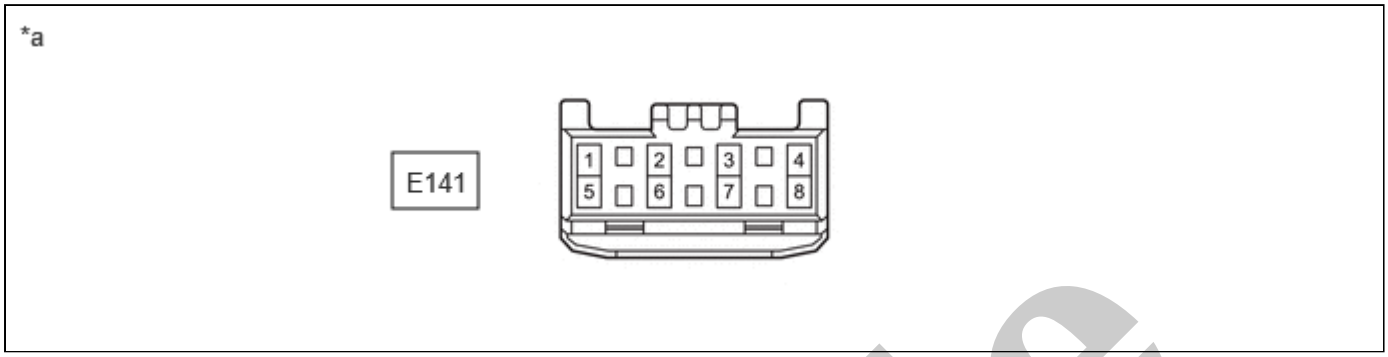


*a	Front view of wire harness connector (to No. 11 Global CAN Junction Connector)	-	-

TERMINAL NO. (SYMBOL)	WIRING COLOR	CONNECTED TO
E137-1 (CANH)	B	No. 8 global CAN junction connector
E137-12 (CANL)	W	
E137-2 (CANH)	BE	Driver monitor ECU assembly*1
E137-13 (CANL)	W	
E137-3 (CANH)	GR	DCM (telematics transceiver)
E137-14 (CANL)	W	
E137-5 (CANH)	V	Stereo component equalizer assembly
E137-16 (CANL)	W	
E137-6 (CANH)	LG	Combination meter assembly
E137-17 (CANL)	W	
E137-8 (CANH)	B	No. 7 global CAN junction connector
E137-19 (CANL)	W	
E137-9 (CANH)	V	Absorber control ECU*2
E137-20 (CANL)	W	
E137-11 (CANH)	L	Central gateway ECU (network gateway ECU)
E137-22 (CANL)	W	
*1: w/ Driver Monitor Camera System *2: w/ Adaptive Variable Suspension System		

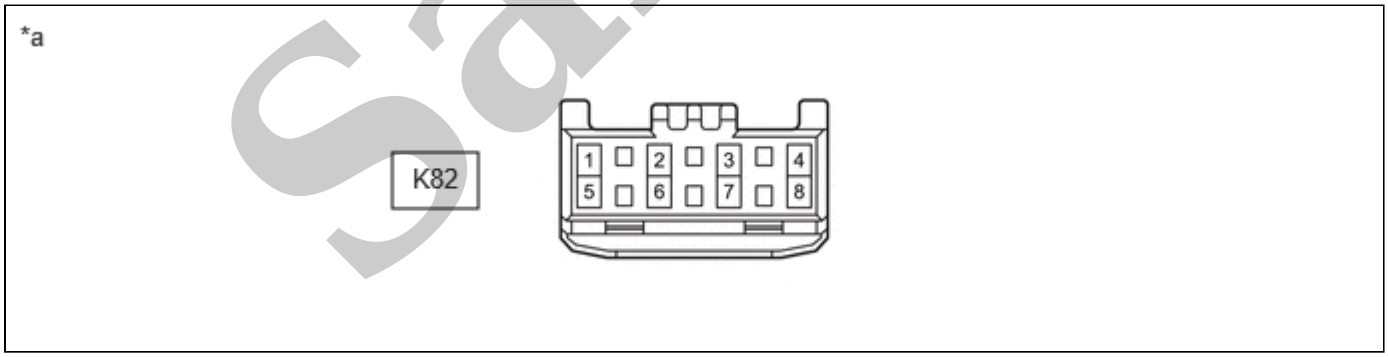
TERMINAL NO. (SYMBOL)	WIRING COLOR	CONNECTED TO
E140-4 (CANH)	LG	No. 14 global CAN junction connector
E140-8 (CANL)	W	
*: w/ Front Side Radar Sensor System		

NO. 14 GLOBAL CAN JUNCTION CONNECTOR



*a	Front view of wire harness connector (to No. 14 Global CAN Junction Connector)	-	-

TERMINAL NO. (SYMBOL)	WIRING COLOR	CONNECTED TO
E141-2 (CANH)	P	Parking assist ECU*
E141-6 (CANL)	W	
E141-3 (CANH)	R	No. 13 global CAN junction connector
E141-7 (CANL)	W	
E141-4 (CANH)	L	Millimeter wave radar sensor assembly
E141-8 (CANL)	W	
*: w/o Parking Assist Monitor System		



*a	Front view of wire harness connector (to No. 16 Global CAN Junction Connector)	-	-

NO. 16 GLOBAL CAN JUNCTION CONNECTOR

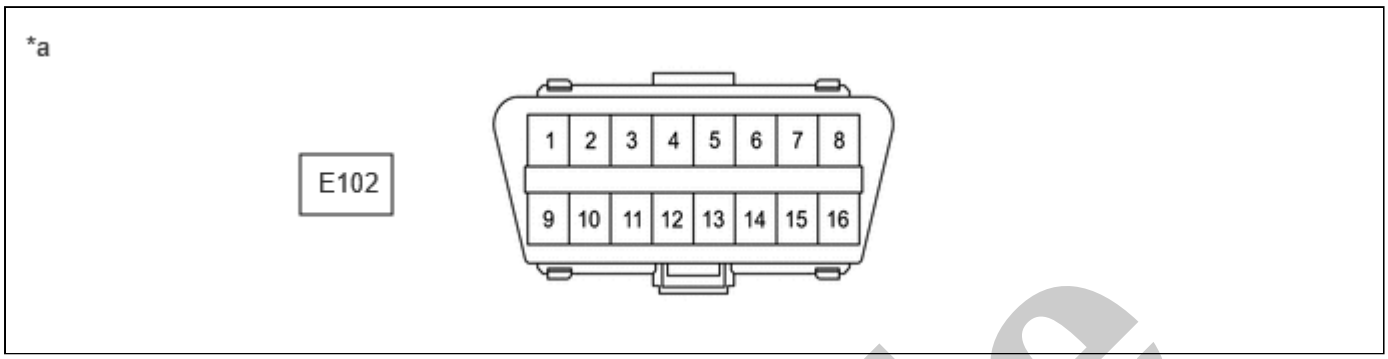
TERMINAL NO. (SYMBOL)	WIRING COLOR	CONNECTED TO
K82-3 (CANH)	SB	No. 17 global CAN junction connector
K82-7 (CANL)	W	
K82-4 (CANH)	SB	Rear television camera assembly*
*: w/ Parking Assist Monitor System		

TERMINAL NO. (SYMBOL)	WIRING COLOR	CONNECTED TO
K84-7 (CANL)	W	

DLC3

(a) Disconnect the cable from the negative (-) battery terminal.

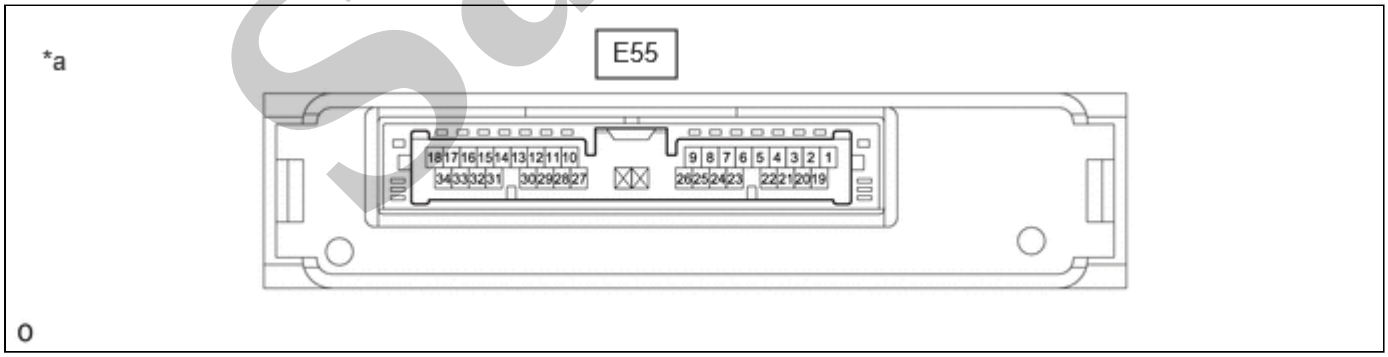
(b) Measure the resistance according to the value(s) in the table below.



*a	DLC3	-	-

Standard Resistance:

TERMINAL NO. (SYMBOL)	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
E102-6 (CANH) - E102-14 (CANL)	HIGH-level CAN bus line - LOW-level CAN bus line	Cable disconnected from negative (-) battery terminal	54 to 69 Ω
E102-6 (CANH) - Body ground	HIGH-level CAN bus line - Body ground	Cable disconnected from negative (-) battery terminal	200 Ω or higher
E102-14 (CANL) - Body ground	LOW-level CAN bus line - Body ground	Cable disconnected from negative (-) battery terminal	200 Ω or higher
E102-6 (CANH) - Positive (+) battery terminal	HIGH-level CAN bus line - Positive (+) battery terminal	Cable disconnected from negative (-) battery terminal	6 kΩ or higher
E102-14 (CANL) - Positive (+) battery terminal	LOW-level CAN bus line - Positive (+) battery terminal	Cable disconnected from negative (-) battery terminal	6 kΩ or higher



*a	Component without harness connected (Central Gateway ECU (Network Gateway ECU))	-	-

CENTRAL GATEWAY ECU (NETWORK GATEWAY ECU)

(a) Disconnect the cable from the negative (-) battery terminal.

(b) Disconnect the central gateway ECU (network gateway ECU) connector.

TERMINAL NO. (SYMBOL)	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
E55-26 (CA4H) - Body ground	HIGH-level CAN bus line - Body ground	Cable disconnected from negative (-) battery terminal	200 Ω or higher
E55-25 (CA4L) - Body ground	LOW-level CAN bus line - Body ground	Cable disconnected from negative (-) battery terminal	200 Ω or higher
E55-26 (CA4H) - Positive (+) battery terminal	HIGH-level CAN bus line - Positive (+) battery terminal	Cable disconnected from negative (-) battery terminal	6 kΩ or higher
E55-25 (CA4L) - Positive (+) battery terminal	LOW-level CAN bus line - Positive (+) battery terminal	Cable disconnected from negative (-) battery terminal	6 kΩ or higher

Bus 3 Main Lines

TERMINAL NO. (SYMBOL)	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
E55-30 (CA3H) - E55-29 (CA3L)	HIGH-level CAN bus line - LOW-level CAN bus line	Cable disconnected from negative (-) battery terminal	108 to 132 Ω
E55-30 (CA3H) - Body ground	HIGH-level CAN bus line - Body ground	Cable disconnected from negative (-) battery terminal	200 Ω or higher
E55-29 (CA3L) - Body ground	LOW-level CAN bus line - Body ground	Cable disconnected from negative (-) battery terminal	200 Ω or higher
E55-30 (CA3H) - Positive (+) battery terminal	HIGH-level CAN bus line - Positive (+) battery terminal	Cable disconnected from negative (-) battery terminal	6 kΩ or higher
E55-29 (CA3L) - Positive (+) battery terminal	LOW-level CAN bus line - Positive (+) battery terminal	Cable disconnected from negative (-) battery terminal	6 kΩ or higher

Bus 4 Main Lines

TERMINAL NO. (SYMBOL)	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
E55-24 (CA2H) - E55-23 (CA2L)	HIGH-level CAN bus line - LOW-level CAN bus line	Cable disconnected from negative (-) battery terminal	108 to 132 Ω
E55-24 (CA2H) - Body ground	HIGH-level CAN bus line - Body ground	Cable disconnected from negative (-) battery terminal	200 Ω or higher
E55-23 (CA2L) - Body ground	LOW-level CAN bus line - Body ground	Cable disconnected from negative (-) battery terminal	200 Ω or higher
E55-24 (CA2H) - Positive (+) battery terminal	HIGH-level CAN bus line - Positive (+) battery terminal	Cable disconnected from negative (-) battery terminal	6 kΩ or higher
E55-23 (CA2L) - Positive (+) battery terminal	LOW-level CAN bus line - Positive (+) battery terminal	Cable disconnected from negative (-) battery terminal	6 kΩ or higher

Bus 5 Main Lines

TERMINAL NO. (SYMBOL)	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
E55-7 (CA5H) - E55-8 (CA5L)	HIGH-level CAN bus line - LOW-level CAN bus line	Cable disconnected from negative (-) battery terminal	108 to 132 Ω
E55-7 (CA5H) - Body ground	HIGH-level CAN bus line - Body ground	Cable disconnected from negative (-) battery terminal	200 Ω or higher
E55-8 (CA5L) - Body ground	LOW-level CAN bus line - Body ground	Cable disconnected from negative (-) battery terminal	200 Ω or higher