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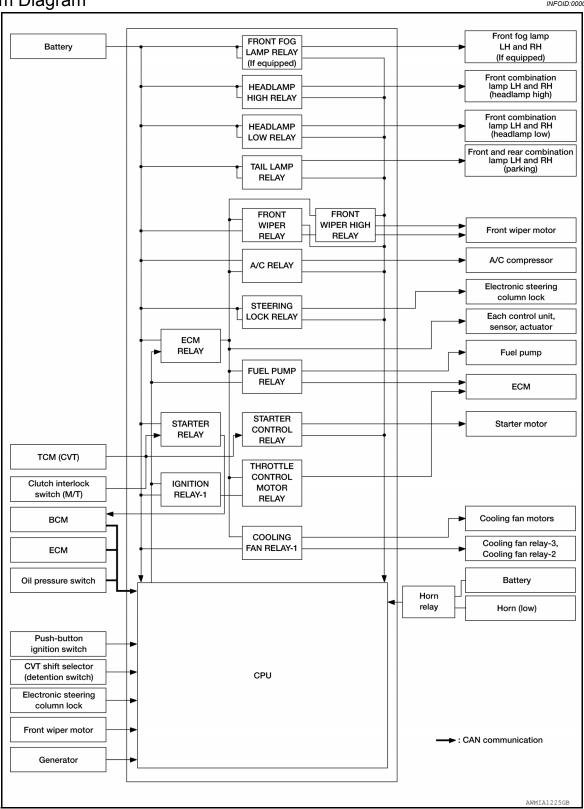
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SYSTEM DESCRIPTION

RELAY CONTROL SYSTEM

System Diagram



[IPDM E/R]

System Description

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IPDM E/R activates the internal control circuit to perform the relay ON-OFF control according to the input signals from various sensors and the request signals received from control units via CAN communication.

CAUTION:

IPDM E/R integrated relays cannot be removed.

Control relay	Input/output	Transmit unit	Control part	Reference page
Headlamp low relay Headlamp high relay	Low beam request signal High beam request signal	BCM (CAN)	Headlamp low Headlamp High	EXL-38, or EXL-39, or EXL-36
Front fog lamp relay (if equipped)	Front fog light request signal	BCM (CAN)	Front fog lamp	EXL-43
Tail lamp relay	Position light request signal	BCM (CAN)	Parking lamp License plate lamp Tail lamp Illuminations	EXL-48
Front wiper relay	Front wiper request signal	BCM (CAN)	Frankridasa	\A/\A/\ 00
 Front wiper high relay 	Front wiper auto stop signal	Front wiper motor	Front wiper	<u>WW-20</u>
	Starter control relay signal	BCM (CAN)		
Starter relay ^{NOTE}	Electronic steering column lock unit condition signal	Electronic steering column lock unit		STR-38,
Starter control relay		TCM (CVT model)	Starter motor	STR-9
	Starter relay control signal	Clutch interlock switch (M/T model)		
	Steering lock relay signal	BCM (CAN)		STR-38, STR-9
Steering lock relay	Electronic steering column lock unit condition signal	Electronic steering column lock unit	Electronic steering col- umn lock unit	
	CVT shift selector (Detention switch) signal	CVT shift selector (Detention switch)		
A/C relay	A/C compressor request signal	ECM (CAN)	A/C compressor (magnet clutch)	HAC-52
	Ignition switch ON signal	BCM (CAN)		BCS-6
Ignition relay - 1	Vehicle speed signal	Combination meter (CAN)	Ignition relay - 1	
	Push-button ignition switch	Push-button ignition switch		
Fuel pump relay	Fuel pump request signal	uel pump request signal ECM Fuel pump		EC-250, EC-618
ECM relay	ECM relay control signal	ECM	ECM relay	EC-115, EC-437
Throttle control motor relay	Throttle control motor relay signal	ECM	Throttle control motor re- lay	EC-198 (QR mod- els) EC-579 (VQ mod- els)
Cooling fan relay - 1	ng fan relay - 1 Cooling fan request signal		Cooling fan relay 1	EC-168 (QR mod- els) EC-527 (VQ mod- els)

NOTE:

BCM controls the starter relay.

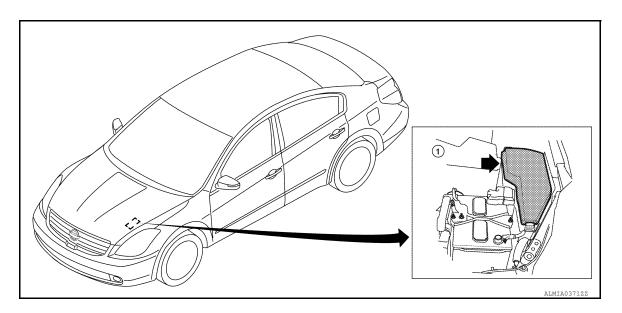
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Component Parts Location

INFOID:0000000007421461



1. IPDM E/R E16, E17, E18, E200, E201, F10

POWER CONTROL SYSTEM

< SYSTEM DESCRIPTION >

[IPDM E/R]

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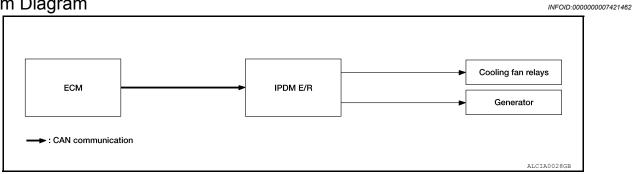
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POWER CONTROL SYSTEM

System Diagram



System Description

COOLING FAN CONTROL

IPDM E/R controls cooling fans according to the status of the cooling fan speed request signal received from ECM via CAN communication.

GENERATOR CONTROL

IPDM E/R outputs power generation command signal (PWM signal) to the generator according to the status of the power generation command value signal received from ECM via CAN communication. Refer to PCS-7. <a href="System Description".

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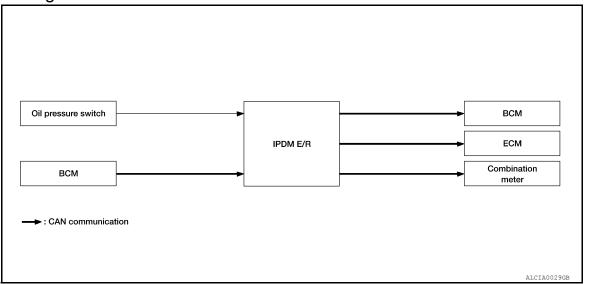
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[IPDM E/R]

SIGNAL BUFFER SYSTEM

System Diagram

INFOID:0000000007421464



System Description

INFOID:0000000007421465

- IPDM E/R reads the status of the oil pressure switch and transmits the oil pressure switch signal to BCM via CAN communication. Refer to PCS-8, "System Description".
- IPDM E/R receives the rear window defogger status signal from BCM via CAN communication and transmits it to ECM via CAN communication. Refer to PCS-8, "System Description".

[IPDM E/R]

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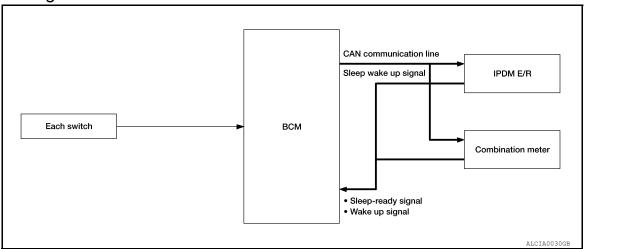
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POWER CONSUMPTION CONTROL SYSTEM

System Diagram



System Description

INFOID:0000000007421467

OUTLINE

- IPDM E/R incorporates a power consumption control function that reduces the power consumption according to the vehicle status.
- IPDM E/R changes its status (control mode) with the sleep wake up signal received from BCM via CAN communication.

Normal mode (wake-up)

- CAN communication is normally performed with other control units.
- Individual unit control by IPDM E/R is normally performed.

Low power consumption mode (sleep)

- Low power consumption control is active.
- CAN transmission is stopped.

SLEEP MODE ACTIVATION

- IPDM E/R judges that the sleep-ready conditions are fulfilled when the ignition switch is OFF and none of the conditions below are present. Then it transmits a sleep-ready signal (ready) to BCM via CAN communication.
- Front wiper fail-safe operation
- Outputting signals to actuators
- Switches or relays operating
- Auto active test is starting
- Emergency OFF
- Output requests are being received from control units via CAN communication.
- IPDM E/R stops CAN communication and enters the low power consumption mode when it receives a sleep wake up signal (sleep) from BCM and the sleep-ready conditions are fulfilled.

WAKE-UP OPERATION

- IPDM E/R changes from the low power consumption mode to the normal mode when it receives a sleep wake-up signal (wake up) from BCM or any of the following conditions is fulfilled. In addition, it transmits a sleep-ready signal (not-ready) to BCM via CAN communication to report the CAN communication start.
- Ignition switch ON
- An output request is received from a control unit via CAN communication.

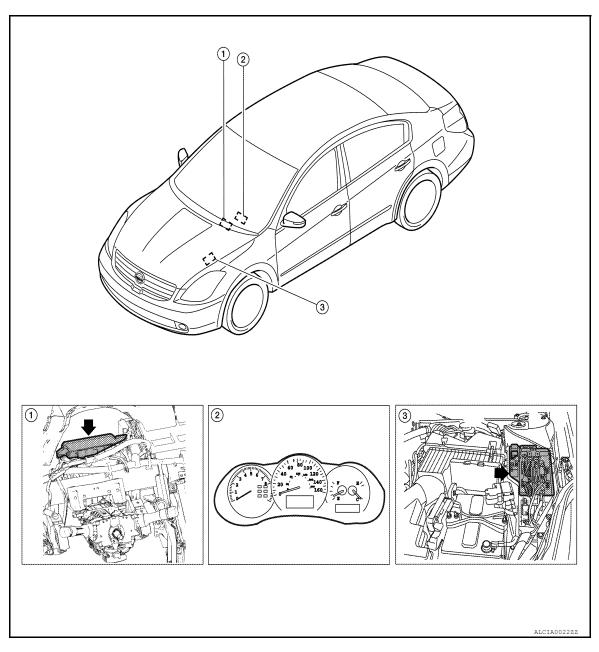
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Component Parts Location

INFOID:0000000007421468



- BCM M16, M17, M18, M19, M20, M21 (view with instrument panel removed)
- . Combination meter M24
- 3. IPDM E/R E16, E17, E18, E200, E201, F10

DIAGNOSIS SYSTEM (IPDM E/R) [IPDM E/R] < SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (IPDM E/R) Α Diagnosis Description INFOID:0000000007421469 **AUTO ACTIVE TEST** В Description In auto active test mode, the IPDM E/R sends a drive signal to the following systems to check their operation. Oil pressure warning lamp Front wiper (LO, HI) Parking lamps License plate lamps D Tail lamps Front fog lamps (if equipped) Headlamps (LO, HI) Е A/C compressor (magnet clutch) · Cooling fans Operation Procedure 1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation) NOTE: When auto active test is performed with hood opened, sprinkle water on windshield beforehand. Turn ignition switch OFF. Turn the ignition switch ON, and within 20 seconds, press the front door switch LH 10 times. Then turn the Н ignition switch OFF. **CAUTION:** Close front door RH. 4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.

5. The oil pressure warning lamp starts blinking when the auto active test starts.

After a series of the following operations is repeated 3 times, auto active test is completed.

NOTE:

When auto active test mode has to be cancelled halfway through test, turn ignition switch OFF.

CAUTION:

 If auto active test mode cannot be actuated, check door switch system. Refer to DLK-289, "Descrip- tion".

Do not start the engine.

Inspection in Auto Active Test Mode

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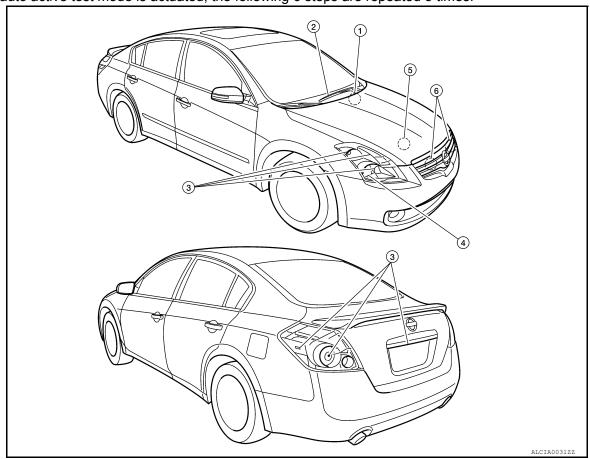
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PCS-11 Revision: February 2013 2012 Altima GCC **PCS**

When auto active test mode is actuated, the following 6 steps are repeated 3 times.



Operation sequence	Inspection Location	Operation	
1	Oil pressure warning lamp	Blinks continuously during operation of auto active test	
2	Front wiper	LO for 5 seconds → HI for 5 seconds	
 Parking lamps License plate lamps Tail lamps Front fog lamps (if equipped) 		10 seconds	
4	Headlamps	LO ⇔ HI 5 times	
5	A/C compressor (magnet clutch)	ON ⇔ OFF 5 times	
6 [*]	Cooling fans	MID for 5 seconds → HI for 5 seconds	

^{*:} Outputs duty ratio of 50% for 5 seconds \rightarrow duty ratio of 100% for 5 seconds on the cooling fan control module.

[IPDM E/R]

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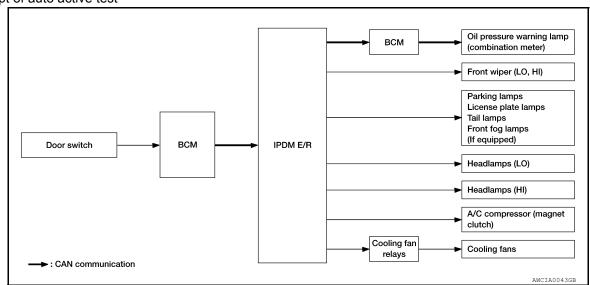
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Concept of auto active test



- IPDM E/R starts the auto active test with the door switch signals transmitted by BCM via CAN communication. Therefore, the CAN communication line between IPDM E/R and BCM is considered normal if the auto active test starts successfully.
- The auto active test facilitates troubleshooting if any systems controlled by IPDM E/R cannot be operated.

Diagnosis chart in auto active test mode

Symptom	Inspection contents		Possible cause
		YES	BCM signal input circuit
Any of the following components do not operate Parking lamps License plate lamps Tail lamps Front fog lamps (if equipped) Headlamp (HI, LO) Front wiper	Perform auto active test. Does the applicable system operate?	NO	Lamp or motor Lamp or motor ground circuit Harness or connector between IPDM E/R and applicable system IPDM E/R
A/C compressor does not operate	Perform auto active test. Does the magnet clutch operate?	YES	Combination meter signal input circuit CAN communication signal between combination meter and ECM CAN communication signal between ECM and IPDM E/R
		NO	Magnet clutch Harness or connector between IPDM E/R and magnet clutch IPDM E/R

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2012 Altima GCC

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[IPDM E/R]

Symptom	Inspection contents		Possible cause
Oil pressure warning lamp does not operate	Perform auto active test. Does the oil pressure warning lamp blink?	YES	Harness or connector between IPDM E/R and oil pressure switch Oil pressure switch IPDM E/R
		NO	CAN communication signal between IPDM E/R and BCM CAN communication signal between BCM and combination meter Combination meter
		YES	ECM signal input circuit CAN communication signal between ECM and IPDM E/R
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	NO	Cooling fan Harness or connector between cooling fan and cooling fan relays Cooling fan relays Harness or connector between IPDM E/R and cooling fan relays IPDM E/R

CONSULT Function (IPDM E/R)

INFOID:0000000007421470

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with IPDM E/R.

Diagnosis mode	Description
ECU Identification	Allows confirmation of IPDM E/R part number.
Self Diagnostic Result	Displays the diagnosis results judged by IPDM E/R.
Data Monitor	Displays the real-time input/output data from IPDM E/R input/output data.
Active Test	IPDM E/R can provide a drive signal to electronic components to check their operations.
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.

SELF DIAGNOSTIC

Refer to PCS-29, "DTC Index".

DATA MONITOR

Monitor item

Monitor Item [Unit]	MAIN SIG- NALS	Description
MOTOR FAN REQ [%]	×	Displays the value of the cooling fan speed signal received from ECM via CAN communication.
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN communication.
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN communication.

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[IPDM E/R]

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Monitor Item [Unit]	MAIN SIG- NALS	Description
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper auto stop signal judged by IPDM E/R.
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.
GN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.
NTER/NP SW Off/On]		Displays the status of the clutch interlock switch (M/T models) or CVT shift position (CVT models) judged by IPDM E/R.
ST RLY CONT Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.
HBT RLY -REQ Off/On]		Displays the status of the starter control relay signal received from BCM via CAN communication.
ST/INHI RLY Off/ ST /INHI]		Displays the status of the starter relay and starter control relay judged by IPDM E/R.
DETENT SW Off/On]		Displays the status of the CVT shift selector (detention switch) judged by IPDM E R.
S/L RLY -REQ Off/On]		Displays the status of the steering lock relay request received from BCM via CAN communication.
S/L STATE LOCK/UNLK/UNKWN]		Displays the status of the electronic steering column lock judged by IPDM E/R.
OIL P SW (Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.
THFT HRN REQ Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN communication.

ACTIVE TEST

Test item

Test item	Operation	Description
HORN	On	Operates horn relay 1 and horn relay 2 for 20 ms.
	Off	OFF
FRONT WIPER Lo	Lo	Operates the front wiper relay.
	Hi	Operates the front wiper relay and front wiper high relay.
	1	OFF
MOTOR FAN	2	Outputs 50% pulse duty signal (PWM signal) to the cooling fan control module.
	3	Outputs 80% pulse duty signal (PWM signal) to the cooling fan control module.
4		Outputs 100% pulse duty signal (PWM signal) to the cooling fan control module.

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DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[IPDM E/R]

Test item	Operation	Description
	Off	OFF
	TAIL	Operates the tail lamp relay.
EXTERNAL LAMPS	Lo	Operates the headlamp low relay.
· - · · · ·	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.
	Fog	Operates the front fog lamp relay.

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R]

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DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description INFOID:000000007421471

Refer to LAN-6, "System Description".

DTC Logic

DTC DETECTION LOGIC

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DTC	CONSULT display de- scription	DTC Detection Condition	Possible cause	
U1000	CAN COMM CIRCUIT	When IPDM E/R cannot communicate CAN communication signal continuously for 2 seconds or more	In CAN communication system, any item (or items) of the following listed below is malfunctioning. Transmission Receiving (ECM) Receiving (BCM) Receiving (Combination meter)	E F

DTC CONFIRMATION PROCEDURE

Diagnosis Procedure

INFOID:0000000007421473

1. PERFORM SELF DIAGNOSTIC

- 1. Turn ignition switch ON and wait for 2 second or more.
- Check "Self Diagnostic Result" of IPDM E/R.

Is "CAN COMM CIRCUIT" displayed?

YES >> Refer to LAN-24, "CAN Communication Signal Chart".

NO >> Refer to GI-42, "Intermittent Incident".

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Revision: February 2013 PCS-17 2012 Altima GCC

B2098 IGNITION RELAY ON STUCK

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R]

B2098 IGNITION RELAY ON STUCK

Description INFOID:000000007421474

 IPDM E/R operates the ignition relay when it receives an ignition switch ON signal from BCM via CAN communication.

- Turn the ignition relay OFF by pressing the push-button ignition switch once when the vehicle speed is 4 km/h (2.5 MPH) or less.
- Turn the ignition relay OFF with the following operation when the vehicle speed is more than 4 km/h (2.5 MPH) or when an abnormal condition occurs in CAN communication from the unified meter (Emergency OFF)
- Press and hold the push-button ignition switch for 2 seconds or more.
- Press the push-button ignition switch 3 time within 1.5 seconds.

NOTE

The ignition relay does not turn ON for 3 seconds after emergency OFF even if the push-button ignition switch is pressed.

DTC Logic

DTC DETECTION LOGIC

DTC	CONSULT display description	DTC Detection Condition	Possible causes
B2098	IGN RELAY ON	The ignition relay ON is detected for 1 second at ignition switch OFF (CPU monitors the status at the contact and excitation coil circuits of the ignition relay inside it)	

Diagnosis Procedure

INFOID:0000000007421476

1. PERFORM SELF DIAGNOSIS

- 1. Turn the ignition switch ON.
- Erase "Self Diagnostic Result" of IPDM E/R.
- 3. Turn ignition switch OFF, and wait for 1 second or more.
- 4. Turn the ignition switch ON. Check "Self Diagnostic Result" again.

Is "IGN RELAY ON" displayed?

YES >> Replace IPDM E/R. Refer to PCS-45, "Removal and Installation".

NO >> Refer to GI-42, "Intermittent Incident".

B2099 IGNITION RELAY OFF STUCK

< DTC/CIRCUIT DIAGNOSIS >

[IPDM E/R]

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B2099 IGNITION RELAY OFF STUCK

Description INFOID:000000007421477

• IPDM E/R operates the ignition relay when it receives an ignition switch ON signal from BCM via CAN com-

- Turn the ignition relay OFF by pressing the push-button ignition switch once when the vehicle speed is 4 km/h (2.5 MPH) or less.
- Turn the ignition relay OFF with the following operation when the vehicle speed is more than 4 km/h (2.5 MPH) or when an abnormal condition occurs in CAN communication from the unified meter (Emergency OFF)
- Press and hold the push-button ignition switch for 2 seconds or more.
- Press the push-button ignition switch 3 time within 1.5 seconds.

NOTE

The ignition relay does not turn ON for 3 seconds after emergency OFF even if the push-button ignition switch is pressed.

DTC Logic

DTC DETECTION LOGIC

DTC	CONSULT display description	DTC Detection Condition	Possible causes
B2099	IGN RELAY OFF	The ignition relay OFF is detected for 1 second at ignition switch ON (CPU monitors the status at the contact and excitation coil circuits of the ignition relay inside it)	

Diagnosis Procedure

INFOID:0000000007421479

1. PERFORM SELF DIAGNOSIS

- 1. Turn the ignition switch ON.
- 2. Erase "Self Diagnostic Result".
- 3. Turn ignition switch OFF.
- 4. Turn the ignition switch ON. Check "Self Diagnostic Result" again.

Is "IGN RELAY OFF" displayed?

YES >> Replace IPDM E/R. Refer to PCS-45, "Removal and Installation".

NO >> Refer to GI-42, "Intermittent Incident".

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[IPDM E/R]

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000007421480

Regarding Wiring Diagram information, refer to <u>PCS-31, "Wiring Diagram - Coupe"</u> or <u>PCS-37, "Wiring Diagram - Sedan"</u>.

1. CHECK FUSES AND FUSIBLE LINK

Check that the following IPDM E/R fuses or fusible link are not blown.

Terminal No.	Signal name	Fuses and fusible link No.
1, 2		B, D
	Battery power supply	42
<u>—</u>		43

Is the fuse blown?

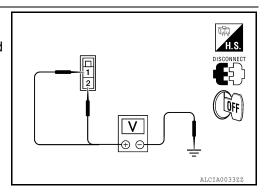
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

$2.\,$ CHECK POWER SUPPLY CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect IPDM E/R connectors.
- 3. Check voltage between IPDM E/R harness connector and ground.

	Terminals		
(+)	(-)	Voltage (V)
IPDI	M E/R	(-)	(Approx.)
Connector	Terminal		
E16	1	Ground	Battery voltage
E10	2		Ballery Vollage



Is the measurement value normal?

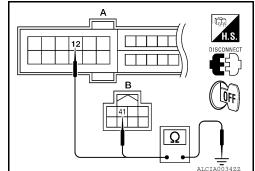
YES >> GO TO 3

NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

Check continuity between IPDM $\ensuremath{\mathsf{E/R}}$ harness connectors and ground.

IPDM I	E/R		Continuity
Connector	Terminal	Ground	Continuity
A: E18	12	Giodila	Yes
B: E17	41		165



Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

Reference Value INFOID:0000000007421481

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	(Condition	Value/Status			
RADFAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	0 - 100 %			
		A/C switch OFF	Off			
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On			
TAIL OCL D. DEC	Lighting switch OFF	Lighting switch OFF				
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or	AUTO (Light is illuminated)	On			
III I O DEO	Lighting switch OFF		Off			
HL LO REQ	Lighting switch 2ND HI or AUTO	(Light is illuminated)	On			
LII LII DEO	Lighting switch OFF		Off			
HL HI REQ	Lighting switch HI		On			
FR FOG REQ	Lighting switch 2ND or	Front fog lamp switch OFF	Off			
FR FUG KEU	AUTO (Light is illuminated)	Front fog lamp switch ON	On			
	Front wiper switch OFF		STOP			
ED W//D DEO	Ignition switch ON	Front wiper switch INT		1LOW		
FR WIP REQ		Front wiper switch LO	Low			
		Front wiper switch HI	Hi			
		Front wiper stop position	STOP P			
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P			
		Front wiper operates normally	Off			
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe operation	BLOCK			
ION DIVA DEO	Ignition switch OFF or ACC		Off			
IGN RLY1 -REQ	Ignition switch ON		On			
ION DLV	Ignition switch OFF or ACC		Off			
IGN RLY	Ignition switch ON		On			
DUCH CW	Release the push-button ignition	switch	Off			
PUSH SW	Press the push-button ignition sv	vitch	On			
INTED/ND CW	Ignition switch ON	CVT selector lever in any position other than P or N (CVT models)	Off			
		Release clutch pedal (M/T models)				
INTER/NP SW	Ignition switch ON	CVT selector lever in P or N position (CVT models)	On			
		Depress clutch pedal (M/T models)				
ST RLY CONT	Ignition switch ON		Off			
OT INCLUDING	At engine cranking		On			

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Monitor Item	Co	Value/Status			
IUDT DIV DEO	Ignition switch ON	Off			
IHBT RLY -REQ	At engine cranking	On			
	Ignition switch ON		Off		
	At engine cranking		ST →INHI		
ST/INHI RLY		r control relay cannot be recognized by c. when the starter relay is ON and the	UNKWN		
DETENT SW	Ignition switch ON	Press the selector button with CVT selector lever in Proceition			
	Release the CVT selector button NOTE: The lever is fixed ON for M/T	On			
	None of the conditions below are	Off			
S/L RLY -REQ	 Open the driver door after the ig seconds) Press the push-button ignition sed Depress the clutch pedal when 	On			
	Steering lock is activated		LOCK		
S/L STATE	Steering lock is deactivated		UNLK		
	[DTC B210A] is detected		UNKWN		
OIL P SW	Ignition switch OFF, ACC or engin	Open			
OIL I SVV	Ignition switch ON		Close		
	Not operated		Off		
THFT HRN REQ	Panic alarm is activated Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM		On		
HORN CHIRP	Not operated		Off		
TORN CHIRP	Door locking with Intelligent Key (On			

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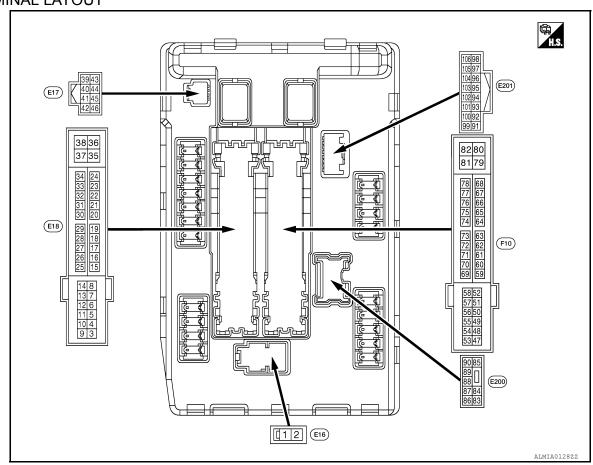
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< ECU DIAGNOSIS INFORMATION >

TERMINAL LAYOUT



PHYSICAL VALUES

							J
Terminal		Description				Value	
(Wire col	or) _	Signal name	Input/ Output		Condition	(Approx.)	K
1 (R)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage	_
2 (L)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage	_ L
4	Cround	Front winer I O	Output	Ignition	Front wiper switch OFF	0 V	
(LG)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage	PCS
5	0	Frank win and U	0	Ignition	Front wiper switch OFF	0 V	_
(Y)	Ground	Front wiper HI	Output	switch ON	Front wiper switch HI	Battery voltage	N
7	Cround	Tail, license plate lamps &	Output	Ignition	Lighting switch OFF	0 V	_
(GR)	Ground	interior lamps	Output	switch ON	Lighting switch 1ST	Battery voltage	_
10				Ignition swi (For a few s switch OFF	seconds after turning ignition	0 V	0
(BR)	Ground	ECM relay power supply	Output	Ignition s (More that	witch ON witch OFF an a few seconds after turn- on switch OFF)	Battery voltage	P

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Terminal	-	Description				Value
(Wire co	— — — — — — — — — — — — — — — — — — —	Signal name	Input/ Output		Condition	(Approx.)
				Ignition switch OFF	A few seconds after opening the driver door	Battery voltage
11 (O)	Ground	Electronic steering column lock power supply	Output	Ignition switch LOCK	Press the push-button ig- nition switch	Battery voltage
			Ignition switch A		itch ACC or ON	0 V
12 (B)	Ground	Ground	_	Ignition sw	itch ON	0 V
13					tely 1 second or more after ignition switch ON	0 V
(SB)	Ground	Fuel pump power supply	Output		nately 1 second after turning on switch ON unning	Battery voltage
15	Ground	Ignition relay-1 power sup-	Output	Ignition sw	itch OFF	0 V
(W)	Ground	ply	Output	Ignition sw	itch ON	Battery voltage
16 (R)	Ground	Front wiper auto stop	Input	Ignition switch ON	Front wiper stop position Any position other than front wiper stop position	0 V Battery voltage
19		J Ignition relay-1 power sup-	_	Ignition sw	itch OFF	0 V
(Y)	Ground	ply	Output	Ignition sw	itch ON	Battery voltage
20 (L)	Ground	Ambient sensor ground	_	Ignition sw	itch ON	0V
21 (LG)	Ground	Ambient sensor	_	Ignition sw	itch ON	5V
22 (W/R)	Ground	Refrigerant pressure sensor ground	_	Ignition sw	itch ON	0V
23 (B/R)	Ground	Refrigerant pressure sensor	_	Both A/C	switch ON (READY) C switch and blower motor N (electric compressor oper-	1.0 - 4.0V
24 (BR/W)	Ground	Refrigerant pressure sensor power supply	_	Ignition sw	itch ON	5V
25	Ground	Ignition relay-1 power sup-	Output	Ignition sw	itch OFF	0 V
(GR)	Ground	ply	Output	Ignition sw	itch ON	Battery voltage
27	Ground	Ignition relay monitor	Input	Ignition sw	itch OFF or ACC	Battery voltage
(W)	Signia	.gon	put	Ignition sw		0 V
28	Ground	Push-button ignition	Input		oush-button ignition switch	0 V
(SB)		switch		Release th	e push-button ignition switch	Battery voltage
30 (R)				CVT mod-	CVT selector lever in any position other than P or N (ignition switch ON)	0 V
(with M/T) 30 (BR) (with CVT)	Ground	Starter relay control	Input	GIO	CVT selector lever P or N (ignition switch ON)	Battery voltage
(WILLI OVI)				M/T mod-	Release the clutch pedal	0 V
				els	Depress the clutch pedal	Battery voltage

Terminal (Wire co		Description			Condition	Value													
+	-	Signal name	Input/ Output		Condition	(Approx.)													
32	0	Electronic steering column	1	Electronic s	steering column lock is acti-	0 V													
(P)	Ground	lock unit condition-1	Input	Electronic s	steering column lock is deac-	Battery voltage													
33		Electronic steering column		Electronic s	steering column lock is acti-	Battery voltage													
(G)	Ground	lock unit condition-2	Input	Electronic s	steering column lock is deac-	0 V													
34				Ignition swi	tch OFF or ACC	0 V													
(O)	Ground	Cooling fan relay-3 control	Input	Ignition swi	tch ON	0.7 V													
35				-	tch OFF or ACC	0 V													
(P)	Ground	Cooling fan motor control	Output	Ignition swi		0.7 V													
36 (G)	Ground	Battery power supply	Input	Ignition swi		Battery voltage													
38		On alian for some	0.1.1	Ignition swi	tch OFF or ACC	0 V													
(GR)	Ground	Cooling fan motor control	Output	Ignition swi	tch ON	0.7 V													
39 (P)	_	CAN - L	Input/ Output		_	_													
40 (L)	_	CAN - H	Input/ Output		_	_													
41 (B)	Ground	Ground	_	Ignition swi	tch ON	0 V													
42	Cround	Cooling fan relay-2 control	lan. it	Ignition swi	tch OFF or ACC	0 V													
(SB)	Ground	Cooling lan relay-2 control	Input	Ignition swi	tch ON	0.7 V													
					Press the CVT selector button (CVT selector lever P)	Battery voltage													
43 (Y)	Ground	CVT shift selector (Detention switch)	Input	Input	Input	Input	Input	Input	Input	Input	Input	Input	Input	Input	Input	Input	Ignition switch ON	CVT selector lever in any position other than P	0 V
					Release the CVT selector button (CVT selector lever P)	U V													
44	Ground	Horn relay control	Innut	The horn is	deactivated	Battery voltage													
(W)	Ground	Horn relay control	Input	The horn is	activated	0 V													
45	Crown	Anti thaff harn relay control	lnnt	The horn is	deactivated	Battery voltage													
(GR)	Ground	Anti theft horn relay control	Input	The horn is	activated	0 V													
					CVT selector lever in any position other than P or N (ignition switch ON)		0 V												
46 (BR)	Ground	Starter relay control	Input	els	CVT selector lever P or N (ignition switch ON)	Battery voltage													
				M/T mod-	Release the clutch pedal	0 V													
				els	Depress the clutch pedal	Battery voltage													
					A/C switch OFF	0 V													
48 (W)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is operating)	Battery voltage													

Terminal I		Description				Value
(Wire cole	or) _	Signal name	Input/ Output		Condition	(Approx.)
				Ignition sw (For a few s switch OFF	seconds after turning ignition	0 V
49 (V)	Ground	ECM relay power supply	Output	Ignition s (More the	switch ON switch OFF an a few seconds after turn- on switch OFF)	Battery voltage
51	Ground	Ignition relay power supply	Output	Ignition sw	itch OFF	0 V
(SB)	Orodria	ignition roley power supply	Odipat	Ignition sw	itch ON	Battery voltage
52	Ground	Ignition relay power supply	Output	Ignition sw	itch OFF	0 V
(Y)	Oround	ignition relay power supply	Output	Ignition sw	itch ON	Battery voltage
53 (V) with QR25DE)				Ignition sw (For a few s switch OFF	seconds after turning ignition	0 V
53 (G) (with VQ35DE)	Ground	ECM relay power supply	Output	,		Battery voltage
				Ignition sw (For a few s switch OFF	seconds after turning ignition	0 V
54 (GR)	Ground	Throttle control motor re- lay power supply	Output	Ignition s (More th	switch ON switch OFF an a few seconds after turn- on switch OFF)	Battery voltage
55 (LG)	Ground	ECM power supply	Output	Ignition sw	itch OFF	Battery voltage
56	Craund	lanitian ralau naucar aunahu	Outout	Ignition sw	itch OFF	0 V
(R)	Ground	Ignition relay power supply	Output	Ignition sw	itch ON	Battery voltage
57	Ground	Ignition relay power supply	Output	Ignition sw	itch OFF	0 V
(O)	Ground	ignition relay power supply	Output	Ignition sw	itch ON	Battery voltage
58	0	La de la companya de	0 1: 1	Ignition sw	itch OFF	0 V
(BR) (with CVT)	Ground	Ignition relay power supply	Output	Ignition switch ON		Battery voltage
				Ignition switch OFF (For a few seconds after turning ignition switch OFF)		Battery voltage
69 (SB)	Ground	ECM relay control	Output	Ignition s (More the	switch ON switch OFF an a few seconds after turn- on switch OFF)	0 - 1.5 V
						0 -1.0 V
70 (G)	Ground	Throttle control motor re- lay control	Output	Ignition sw	itch ON $ ightarrow$ OFF	↓ Battery voltage ↓ 0 V
				Ignition sw	itch ON	0 - 1.0 V
72		Transmission range switch		Ignition	CVT selector lever in P or N position	Battery voltage
(W)	Ground	Transmission range switch signal	Input	switch ON	CVT selector lever in any position other than P or N position	0 V

Terminal		Description				Value	
(Wire col	lor) _	Signal name	Input/ Output		Condition	Value (Approx.)	1
74			<u> </u>	Ignition swi	tch OFF	0 V	
(L)	Ground	Ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage	
75	Ground	Oil pressure switch	Input	Ignition	Engine stopped	0 V	
(LG)	Oround	On pressure switch	Прис	switch ON	Engine running	Battery voltage	(
				Ignition swi	tch ON	(V) 6 4 2 0 	
76 (Y)	Ground	Power generation command signal	Output		on "Active test", "ALTERNA- " of "ENGINE"	(V) 6 4 2 0 2ms JPMIA0002GB	(
					on "Active test", "ALTERNA- " of "ENGINE"	3.8 V (V) 6 4 2 0 JPMIA0003GB 1.4 V	
77	Ground	Fuel pump relay control	Output		nately 1 second after turning on switch ON unning	0 - 1.0 V	
(B/R)			·		tely 1 second or more after ignition switch ON	Battery voltage	
80 (R)	Ground	Starter motor	Output	At engine of	eranking	Battery voltage	Ρ
83	C=2:	Headlems LO (DLI)	O : 14 mr : -14	Ignition	Lighting switch OFF	0 V	
(R/Y)	Ground	Headlamp LO (RH)	Output	switch ON	Lighting switch 2ND	Battery voltage	
84	Ground	Headlamp LO (LH)	Output	Ignition	Lighting switch OFF	0 V	
(L)	Giodila	Headianip LO (LH)	Output	switch ON	Lighting switch 2ND	Battery voltage	
86	C=2:	Front fog lamp (RH)	O. 14m . 14	Lighting	Front fog lamp switch ON	Battery voltage	(
(W/R)	Ground	(If equipped)	Output	switch 2ND	Front fog lamp switch OFF	0 V	
87		Front fog lamp (LH)		Lighting	Front fog lamp switch ON	Battery voltage	
(L/Y)	Ground	(If equipped)	Output	switch 2ND	Front fog lamp switch OFF	0 V	
88 (R/W)	Ground	Washer pump power supply	Output	Ignition swi	tch ON	Battery voltage	

< ECU DIAGNOSIS INFORMATION >

Terminal		Description				Value
(Wire col	or) _	Signal name	Input/ Output		Condition	(Approx.)
89 (L/W)	Ground	Headlamp HI (RH)	Output	Ignition switch ON	Lighting switch HI lighting switch PASS	Battery voltage
(L/VV)				SWILCH ON	Lighting switch OFF	0 V
90 (G)	Ground	Headlamp HI (LH)	Output	Ignition switch ON	Lighting switch HI Lighting switch PASS	Battery voltage
(G)				SWILCH ON	Lighting switch OFF	0 V
91	Ground	Parking lamp (RH)	Output	Ignition	Lighting switch 1ST	Battery voltage
(LG/R)	Ground	Faiking lamp (IXII)	Output	switch ON	Lighting switch OFF	0 V
92	Ground	Parking lamp (LH)	Output	Ignition	Lighting switch 1ST	Battery voltage
(LG/B)	Ground	raiking lamp (LH)	Output	switch ON	Lighting switch OFF	0 V
99 (BR/W)	Ground	Ambient sensor ground	_	Ignition sw	itch ON	0V
100 (SB)	Ground	Ambient sensor	_	Ignition sw	itch ON	5V
101 (O/L)	Ground	Refrigerant pressure sensor ground	_	Ignition sw	itch ON	0V
102 (R/B)	Ground	Refrigerant pressure sensor	_	Both A/C	switch ON (READY) Switch and blower motor N (electric compressor oper-	1.0 - 4.0V
103 (P)	Ground	Refrigerant pressure sensor power supply	_	Ignition sw	itch ON	5V

Fail Safe INFOID:0000000007421482

CAN COMMUNICATION CONTROL

When CAN communication with ECM and BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With ECM

Control part	Fail-safe in operation
Cooling fan	 Signals cooling fans ON when the ignition switch is turned ON Signals cooling fans OFF when the ignition switch is turned OFF
A/C compressor	A/C relay OFF
Generator	Outputs the power generation command signal (PWM signal) 0%

If No CAN Communication Is Available With BCM

Control part	Fail-safe in operation
Headlamp	 Turns ON the headlamp low relay when the ignition switch is turned ON Turns OFF the headlamp low relay when the ignition switch is turned OFF Headlamp high relay OFF
Parking lampsLicense plate lampsIlluminationTail lamps	 Turns ON the tail lamp relay when the ignition switch is turned ON Turns OFF the tail lamp relay when the ignition switch is turned OFF
Front wiper	 The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed. The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.

< ECU DIAGNOSIS INFORMATION >

Control part	Fail-safe in operation
Front fog lamps (if equipped)	Front fog lamp relay OFF
Horn	Horn OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter control relay OFF
Electronic steering column lock unit	Steering lock relay OFF

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors the voltage at the contact circuit and excitation coil circuit of the ignition relay inside it.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the excitation coil circuit.
- · If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

DTC	Ignition switch	Ignition relay	Tail lamp relay
_	ON	ON	_
_	OFF	OFF	_
B2098: IGN RELAY ON	OFF	ON	ON (10 minutes)
B2099: IGN RELAY OFF	ON	OFF	_

NOTE:

The tail lamp turns OFF when the ignition switch is turned ON.

FRONT WIPER CONTROL

IPDM E/R detects front wiper stop position by a front wiper auto stop signal.

When a front wiper auto stop signal is in the conditions listed below, IPDM E/R stops power supply to wiper after repeating a front wiper 10 second activation and 20 second stop five times.

Ignition switch	Front wiper switch	Auto stop signal
ON	OFF	Front wiper stop position signal cannot be input 10 seconds.
	ON	The signal does not change for 10 seconds.

NOTE:

This operation status can be confirmed on the IPDM E/R "Data Monitor" that displays "BLOCK" for the item "WIP PROT" while the wiper is stopped.

STARTER MOTOR PROTECTION FUNCTION

IPDM E/R turns OFF the starter control relay to protect the starter motor when the starter control relay remains active for 90 seconds.

DTC Index INFOID:0000000007421483

CONSULT display	Fail-safe	TIME	NOTE	Refer to
No DTC is detected. further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	×	CRNT	1 – 39	PCS-17
B2098: IGN RELAY ON	×	CRNT	1 – 39	PCS-18
B2099: IGN RELAY OFF	_	CRNT	1 – 39	PCS-19
B2108: STRG LCK RELAY ON	_	CRNT	1 – 39	<u>SEC-255</u>
B2109: STRG LCK RELAY OFF	_	CRNT	1 – 39	SEC-256
B210A: STRG LCK STATE SW	_	CRNT	1 – 39	<u>SEC-257</u>
B210B: START CONT RLY ON	_	CRNT	1 – 39	SEC-262
B210C: START CONT RLY OFF	_	CRNT	1 – 39	SEC-263

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Fail-safe

< ECU DIAGNOSIS INFORMATION >

B210D: STARTER RELAY ON

B210E: STARTER RELAY OFF

CONSULT display

B210F: INTRLCK/TRANSMISSION RANGE SW ON

B2110: INTRLCK/TRANSMISSION RANGE SW OFF

	[2 =]
ΓΕ	Refer to
1 – 39	<u>SEC-264</u>
1 – 39	SEC-266

SEC-269

SEC-275

TIMENOTE

1 - 39

1 - 39

CRNT

CRNT

CRNT

CRNT

NOTE:

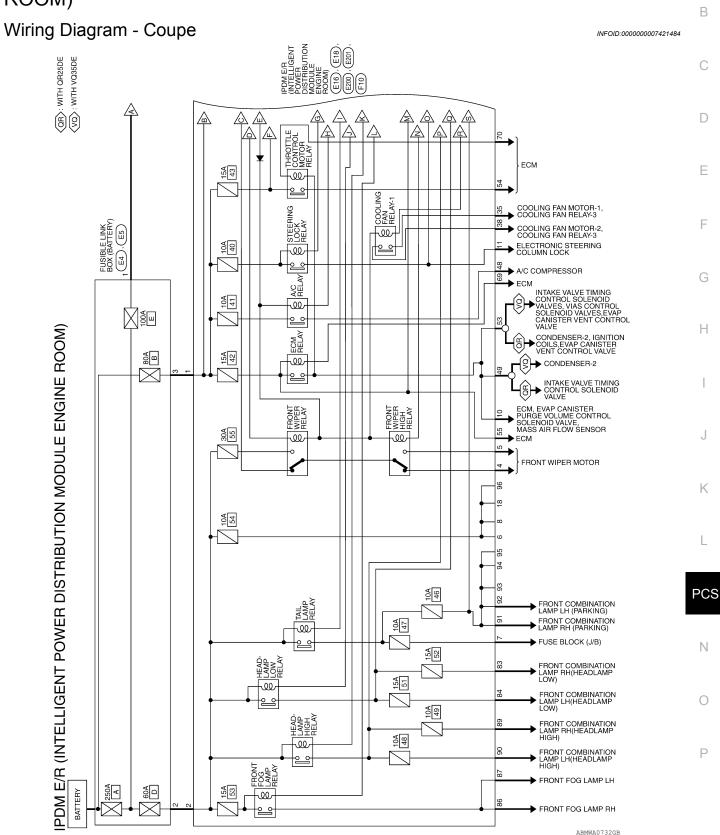
The details of TIME display are as follows.

- CRNT: The malfunctions that are detected now
- 1 39: The number is indicated when it is normal at present and a malfunction was detected in the past. It increases like $0 \to 1 \to 2 \cdots 38 \to 39$ after returning to the normal condition whenever IGN OFF \to ON. It is fixed to 39 until the self-diagnosis results are erased if it is over 39. It returns to 0 when a malfunction is detected again in the process.

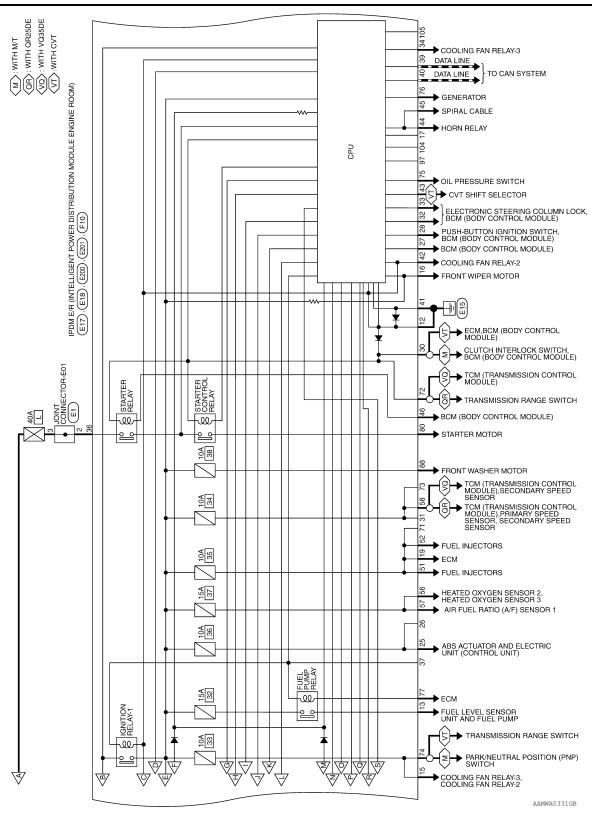
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WIRING DIAGRAM

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)



< WIRING DIAGRAM > [IPDM E/R]



IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) < WIRING DIAGRAM > [IPDM E/R]

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В C D Е F G AMBIENT SENSOR Н REFRIGERANT PRESSURE SENSOR ECM COMBINATION METER K **PCS** Ν 0 ABMWA0246GB Р

Revision: February 2013 PCS-33 2012 Altima GCC

FUSIBLE LINK BOX (BATTERY)

Connector Name

Connector No.

GRAY

Connector Color

3 4

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) CONNECTORS

Connector No.	E1	Connector No.	E4
Connector Name	Connector Name JOINT CONNECTOR-E01	Connector Name FUS	Ξį
Connector Color MHITE	THE WALLE		8 (R

Connector No.	E4
Connector Name	Connector Name FUSIBLE LINK BOX (BATTERY)
Connector Color	BROWN



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Signal Name	ı	1
Color of Wire	9	9
al No.		

Color of Wire	B/W	Т
Terminal No.	-	2

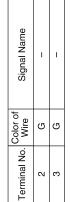
Signal Name

Color of Wire

Terminal No. က

Signal Name

1



Connector No.	E17
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION
Connector Color WHITE	WHITE

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

Connector Name Connector Color

E16

Connector No.

BLACK

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Signal Name F/L_MAIN F/L_USM

Color of Wire α

Terminal No.

N

Signal Name	CAN-L	CAN-H	GND (SIGNA	MOTOR_FAN_RL	NO THEFT
Color of Wire	Ь	٦	В	SB	>
erminal No.	39	40	41	42	42

Terminal No.	Wire	Signal Name
39	Д	CAN-L
40	_	CAN-H
41	В	GND (SIGNAL)
42	SB	MOTOR_FAN_RLY_MID
43	У	DETENT_SW
44	Μ	HORN_RLY
45	GR	HORN_SW
46	BB	START_CONT

ABMIA3248GB

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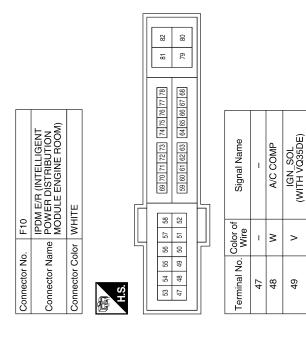
[IPDM É/R] < WIRING DIAGRAM >

Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color WHITE H.S. 10 11 12 13 14 5 6 7 8 15 16 17 18 19 202122324 Terminal No. Wire Signal Name 3	88 98 38 38	8 8 9 9 9 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1		ECM_VB ESCL GND (POWER) FUEL_PUMP - START_IG-E/R WIPER_AUTOSTOP - BCM_IGNSW AMB_SENS_GND-E/R			B/R BR/W GR	PD_SENS_SIG-E/R
MODULE ENGINE HO		9 10 10 10 10 11 11 11 11 11 11 11 11 11		ECM_VB ESCL GND (POWER) FUEL_PUMP - START_IG-E/R WIPER_AUTOSTOP - BCM_IGNSW AMB_SENS_GND-E/R			BR/W GR	מים מיאים מואדמ הם
WHI E		10 11 12 13 13 19 10 10 10 10 10 10 10 10 10 10 10 10 10		ECM_VB ESCL GND (POWER) FUEL_PUMP START_IG-E/R WIPER_AUTOSTOP		25	GR	PD_SENS PWR-E/R
12 13 14		11 12 13 13 14 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	O B B I S E I I > -	ESCL GND (POWER) FUEL_PUMP START_IG-E/R WIPER_AUTOSTOP BCM_IGNSW AMB_SENS_GND-E/R				ABS_ECU
12 13 14		12 13 14 15 16 17 17 18 18 19 20 20 22 22 22 22 22 22 22 22 22 22 22	M M M M M M M M M M	GND (POWER) FUEL_PUMP		56	1	ı
12 13 14		13 14 16 16 17 17 18 19 19 20 20 22 22 22 22 22 22 22 22 22 22 22	88 1 8 8 1 1 > -	FUEL_PUMP START_IG-E/R WIPER_AUTOSTOP - BCM_IGNSW AMB_SENS_GND-E/R		27	8	IGN_SIGNAL
12 13 14		15 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		START_IG-E/R WIPER_AUTOSTOP BCM_IGNSW AMB_SENS_GND-E/R		28	SB	PUSH_START_SW
12 13 14	- - 	15 16 17 17 18 18 19 20 22 22 22	≥ m 1 1 > -	START_IG-E/R WIPER_AUTOSTOP - BCM_IGNSW AMB_SENS_GND-E/R		59	ı	I
6 7 8 15 15 17 18 19	 	16 17 18 19 19 20 22 22	m > -	WIPER_AUTOSTOP - BCM_IGNSW AMB_SENS_GND-E/R		30	Œ	CLUTCH_I/L_SW (WITH_M/T)
Color of Wire		17 18 18 20 21 22 22	>	- BCM_IGNSW AMB_SENS_GND-E/R		Co	0	(F/C) ITIMO MOL
Color of Wire –		22 22	>	BCM_IGNSW AMB_SENS_GND-E/R		8 8	<u> </u>	ECIM (WITH CV.)
Color of Wire –		20 21 22 22	> _	BCM_IGNSW AMB_SENS_GND-E/R		ج ج	1 0	- CONDITION 1
P		22	_	AMB_SENS_GND-E/R		33 65	د رو	SI CONDITION 2
re		22	-			34	0	OR FAN RLY
		7.7	בַּלְ	AIMIB_SEINS_SIG-E/R		35	۵	MOTOR FAN LO
5 Y FR_WIPER_HI			ĭ N	PU_SENS_GND-E/R		36	G	F/L_IGNSW
- 9						37	1	1
7 GR TAIL/ILLUMI						38	GR	F/L_MOTOR_FAN
Connector No. E200	0	Connector No.	E201		T T	Terminal No	Color of	
IPDM E/R (INTELLIGENT Connector Name POWER DISTRIBUTION	<u> </u>	Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION	5		Wire	Oigilai Nailie
-			_	OLE ENGINE ROOM)		26	1	1
Connector Color WHITE	<u></u>	Connector Color	or WHILE			86	ı	ı
[3						66	BR/W	AMB_SENS_GND-FEM
88 84 83 90 89 88 87 86			96 26 86	95 94 93 92 91		100	SB	AMB_SENS_SIG-FEM
, de la companya de l		ć E	106 105 104	106 105 104 103 102 101 100 99		101	O/L	PD_SENS_GND-FEM
Terminal No. Wire Signal Name	L	,				102	B/B	PD_SENS_SIG-FEM
83 R/Y HEADLAMP_LO_RH	<u> </u>	Terminal No.	Color of Wire	Signal Name		103	۵	PD_SENS_PWR-FEM
84 L HEADLAMP_LO_LH		91	LG/R	CLEARANCE_RH		40 2	1 1	1 1
85 – –		95	LG/B	CLEARANCE_LH		2 90		1
W/R FR FOG LAMP I		93	1	1		3		ı
5		94	1	ı				
88 R/W WASHER_MTR		95	1	1				
89 L/W HEADLAMP_HI_RH	J							
90 G HEADLAMP_HI_LH								

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Signal Name	ı	ı	ı	ı	SSOF	MOTRLY	ı	NPSW	_	START_IG-EGI	OIL_PRESSURE_SW	ALT_C	FPR	-	_	STARTER_MOTOR	ı	ı
Color of Wire	_	1	1	-	SB	g	-	×	1	٦	LG	>	B/R	_	_	В	_	1
ninal No.	92	99	29	89	69	70	71	72	73	74	75	76	77	78	62	80	81	82

Signal Name	-	INJECTOR_#1	INJECTOR_#2	ENG_SOL (WITH VQ35DE)	IGN COIL (WITH QR25DE)	ETC	ECM_BAT	O2_SENS_#1	O2_SENS_#2	AT_ECU	-	_	1	_	_	_
Color of Wire	ı	SB	٨	ŋ	^	GR	LG	œ	0	BR	-	_	1	-	I	1
Terminal No.	20	51	52	53	53	54	22	56	22	58	29	09	61	62	63	64



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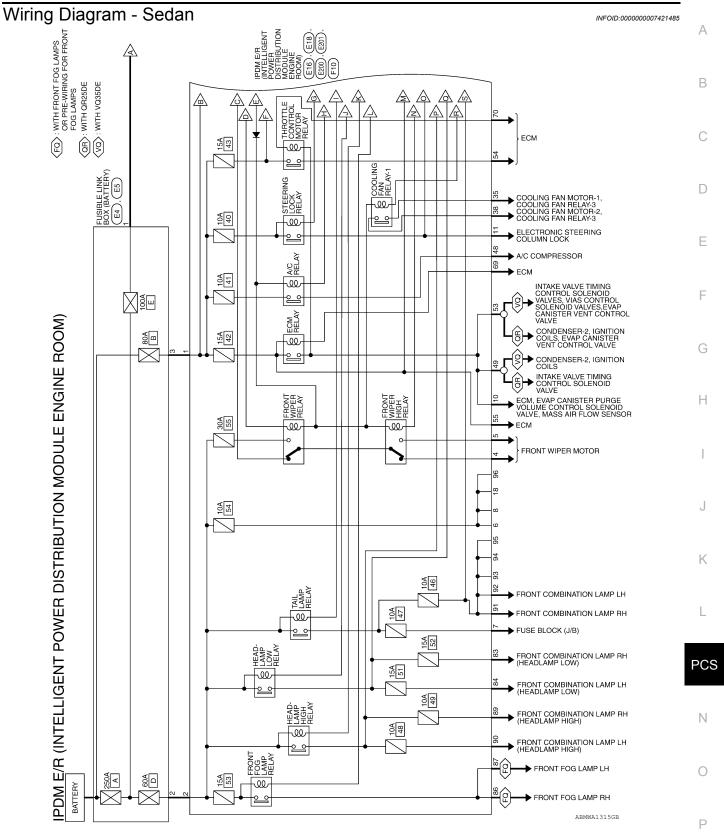
ENG COIL (WITH QR25DE)

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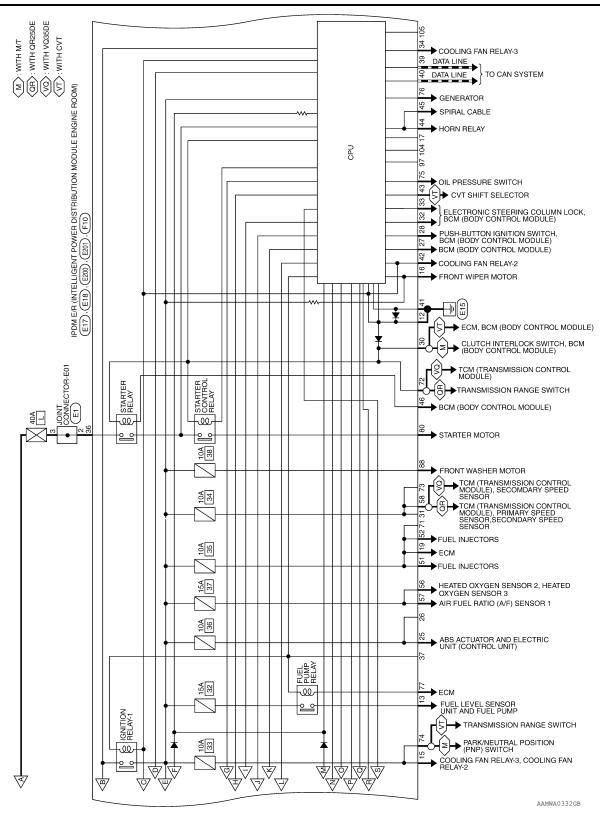
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

[IPDM E/R] < WIRING DIAGRAM >

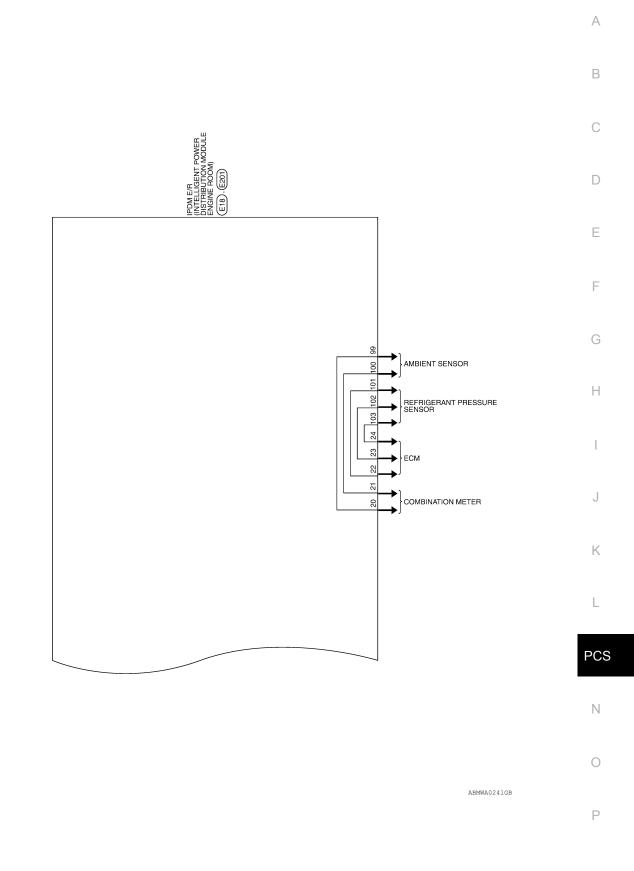


IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< WIRING DIAGRAM > [IPDM E/R



IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) < WIRING DIAGRAM > [IPDM E/R]



Revision: February 2013 PCS-39 2012 Altima GCC

FUSIBLE LINK BOX (BATTERY)

Connector Name

Connector No.

GRAY

Connector Color

3 4

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) CONNECTORS

onnector No. E4	Connector Name FUSIBLE LINK BOX
Con	Con
E1	Connector Name JOINT CONNECTOR-E01
Connector No.	Connector Name

	Connector No.
OINT CONNECTOR-E01	Connector Name
,	20,000,000

Connector Color

E4	Sonnector Name FUSIBLE LINK BOX (BATTERY)	BROWN
Connector No.	Connector Name	Connector Color



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Signal Name	I	ı
Color of Wire	5	9

Signal Name

Color of Wire

Terminal No. က

Signal Name

Color of Wire B/W

Terminal No.

N

Signal Name	ı	ı	
Color of Wire	ŋ	В	
Terminal No. Wire	2	3	

Connector No. E17 Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM Connector Color WHITE		
Connector Name POWER DISTRIBUTION MODULE ENGINE ROON Connector Color WHITE	Connector No.	E17
Connector Color WHITE	Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM
	Connector Color	WHITE

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

Connector Name Connector Color

E16

Connector No.

BLACK



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Sig	
Color of Wire	Ь
rminal No.	39

Signal Name F/L_MAIN F/L_USM

Color of Wire

Terminal No.

α

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Signal Name	CAN-L	CAN-H	GND (SIGNAL)	MOTOR_FAN_RLY_MID	WS_TNETED	HORN_RLY	MS_NAOH	START_CONT
Color of Wire	Ь	Г	В	SB	٨	Μ	GR	BR
Terminal No.	68	40	41	42	43	7 7	45	95

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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

II DIN E/I (III LEELIGEII I GWEILE	divided the triangle of the tr
< WIRING DIAGRAM >	[IPDM E/R]

Signal Name	PD_SENS_SIG-E/R	PD_SENS PWR-E/R	ABS_ECU	ı	IGN_SIGNAL	PUSH_START_SW	ı	ECM (WITH CVT)	CLUTCH_I/L_SW (WITH M/T)	ı	SL_CONDITION_1	SL_CONDITION_2	MOTOR_FAN_RLY_HI	MOTOR_FAN_LO	F/L_IGNSW	ı	F/L_MOTOR_FAN
Color of Wire	B/R	BR/W	GR	1	*	SB	1	BR	Я	1	Д	G	0	Ь	В	1	GR
Terminal No.	23	24	25	26	27	28	59	30	30	31	32	33	34	35	36	37	38

Signal Name	ı	ı	ECM_VB	ESCL	GND (POWER)	FUEL_PUMP	ı	START_IG-E/R	WIPER_AUTOSTOP	ı	ı	BCM_IGNSW	AMB_SENS_GND-E/R	AMB_SENS_SIG-E/R	PD_SENS_GND-E/R
Color of Wire	ı	ı	BR	0	В	SB	1	8	В	ı	-	\	Т	ГG	W/R
Terminal No.	8	0	10	1	12	13	14	15	16	17	18	19	20	21	22

				37 38	35 36						
	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	TE		25 26 27 28 29 30 31 32 33 34	15 16 17 18 19 20 21 22 23 24	Signal Name	1	FR_WIPER_LO	FR_WIPER_HI	-	TAIL/ILLUMI
E18		or WHITE		12 13 14	6 7 8	Color of Wire	1	LG	\	_	GR
Connector No.	Connector Name	Connector Color	原列 H.S.	9 10 11 1	3 4 5	Terminal No.	က	4	5	9	7

Signal Name	HEADLAMP_LO_RH	HEADLAMP_LO_LH	ı	FR_FOG_LAMP_RH	FR_FOG_LAMP_LH	WASHER_MTR	HEADLAMP_HI_RH	HEADLAMP_HI_LH
Color of Wire	R/Υ	_	1	W/R	₹	W.W	M	5
Terminal No.	83	84	82	98	87	88	89	06

Connector No.	E200
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	WHITE
S.T.	85



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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [IPDM E/R]

< WIRING DIAGRAM >

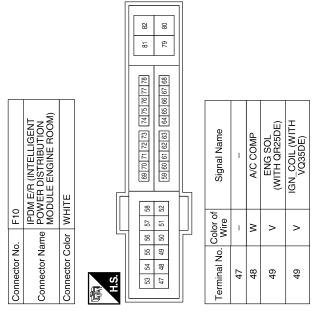
	_	_	_	_	_	_	_	_
Signal Name	AMB_SENS_GND-FEM	AMB_SENS_SIG-FEM	PD_SENS_GND-FEM	PD_SENS_SIG-FEM	PD_SENS_PWR-FEM	-	-	-
Color of Wire	BR/W	SB	O/L	R/B	Ь	1	1	ı
Terminal No.	66	100	101	102	103	104	105	106

	,							
Signal Name	CLEARANCE_RH	CLEARANCE_LH	I	1	ı	ı	ı	I
Color of Wire	LG/R	LG/B	ı	1	ı	ı	1	1
Terminal No. Wire	91	92	93	94	92	96	26	98

Connector No.	E201
Connector Name	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	WHITE
H.S. 106	98 (97 98 (94 93 92 91)

Terminal No.	Color of Wire	Signal Name
65	ı	I
99	ı	ı
29	ı	I
89	_	I
69	SB	SSOF
02	9	MOTRLY
71	1	ı
72	Μ	NPSW
73	_	I
74	٦	START_IG-EGI
75	Pl	OIL_PRESSURE_SW
92	λ	ALT_C
2.2	H/B	FPR
78	_	I
79	_	I
80	Н	STARTER_MOTOR
81	_	-
82	_	I

Signal Name	1	INJECTOR_#1	INJECTOR_#2	IGN_SOL (WITH QR25DE)	ENG_SOL (WITH VQ35DE)	ETC	ECM_BAT	O2_SENS_#1	O2_SENS_#2	AT_ECU	1	ı	1	ı	I	Í
Color of Wire	-	SB	\	>	G	GR	ГG	æ	0	BR	1	1	_	1	ı	ı
Terminal No.	09	51	25	53	53	54	99	99	25	28	29	09	19	79	63	64



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[IPDM E/R] < PRECAUTION >

PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRF-TFNSIONER"

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

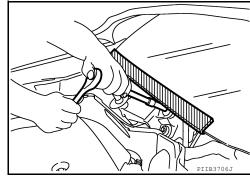
PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution for Procedure without Cowl Top Cover

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc.



Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

NOTE:

- Before removing and installing any control units, first turn the push-button ignition switch to the LOCK position, then disconnect both battery cables.
- · After finishing work, confirm that all control unit connectors are connected properly, then re-connect both battery cables.
- Always use CONSULT to perform self-diagnosis as a part of each function inspection after finishing work. If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.

This vehicle is equipped with a push-button ignition switch and a steering lock unit.

If the battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

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PRECAUTIONS

< PRECAUTION > [IPDM E/R]

If turning the steering wheel is required with the battery disconnected or discharged, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

Connect both battery cables.

NOTE:

- Supply power using jumper cables if battery is discharged.
- 2. Carry the Intelligent Key or insert it to the key slot and turn the push-button ignition switch to ACC position. (At this time, the steering lock will be released.)
- 3. Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
- 4. Perform the necessary repair operation.
- 5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)
- 6. Perform self-diagnosis check of all control units using CONSULT.

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [IPDM E/R]

< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

Removal and Installation

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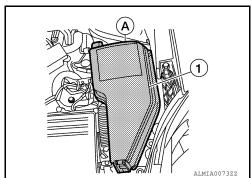
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CAUTION:

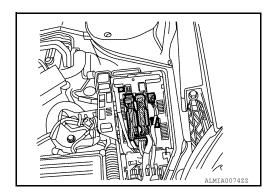
IPDM E/R integrated relays are not serviceable parts, and must not be removed from the unit.

REMOVAL

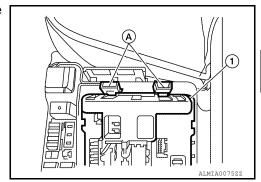
- 1. Disconnect the battery negative terminal.
- 2. Remove the IPDM E/R cover (1) while pressing the pawl (A) at the rear end of the IPDM E/R cover (1).



Disconnect the harness connectors from the IPDM E/R.



While depressing the tabs (A) remove the IPDM E/R (1) from the vehicle.



INSTALLATION

Installation is in the reverse order of removal.

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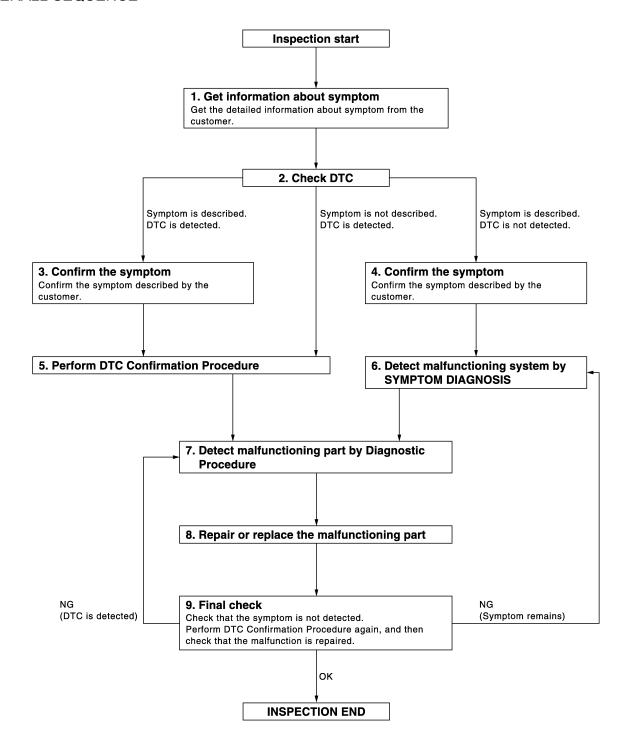
PCS-45 Revision: February 2013 2012 Altima GCC

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

OVERALL SEQUENCE



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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[POWER DISTRIBUTION SYSTEM]

1. GET INFORMATION FOR SYMPTOM

Get the detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred).

>> GO TO 2

$\mathbf{2}$. CHECK DTC

- Check DTC.
- Perform the following procedure if DTC is displayed.
- Record DTC and freeze frame data (Print them out with CONSULT.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.
- Check related service bulletins for information.

Is any symptom described and any DTC detected?

Symptom is described, DTC is displayed>>GO TO 3

Symptom is described, DTC is not displayed>>GO TO 4

Symptom is not described, DTC is displayed>>GO TO 5

3. CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT to the vehicle in "DATA MONITOR" mode and check real time diagnosis results.

Verify relation ship between the symptom and the condition when the symptom is detected.

>> GO TO 5

f 4 . CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT to the vehicle in "DATA MONITOR" mode and check real time diagnosis results.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6

PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again.

At this time, always connect CONSULT to the vehicle, and check diagnostic results in real time.

If two or more DTCs are detected, refer to BCS-65, "DTC Inspection Priority Chart" and determine trouble diagnosis order.

NOTE:

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC Confirmation Procedure is not included in Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check. If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC Confirmation Procedure.

Is DTC detected?

YES >> GO TO 7

NO >> Refer to GI-42, "Intermittent Incident".

O. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

Detect malfunctioning system according to PCS-135, "Symptom Table" based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

>> GO TO 7

/ . DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

NOTE:

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DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[POWER DISTRIBUTION SYSTEM]

The Diagnostic Procedure described based on open circuit inspection. A short circuit inspection is also required for the circuit check in the Diagnostic Procedure.

Is malfunctioning part detected?

YES >> GO TO 8

NO >> Check voltage of related BCM terminals using CONSULT.

f 8 . REPAIR OR REPLACE THE MALFUNCTIONING PART

- 1. Repair or replace the malfunctioning part.
- Reconnect parts or connectors disconnected during Diagnostic Procedure again after repair and replacement.
- 3. Check DTC. If DTC is displayed, erase it.

>> GO TO 9

9. FINAL CHECK

When DTC was detected in step 2, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunction have been fully repaired.

When symptom was described from the customer, refer to confirmed symptom in step 3 or 4 and check that the symptom is not detected.

Is the inspection result normal?

YES >> Inspection End.

NO (DTC is detected)>>GO TO 7

NO (Symptom remains)>>GO TO 6

Pre-Inspection for Multi-System Diagnostic

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The engine start function, door lock function, power distribution system and NATS-IVIS/NVIS are closely related to each other. Narrow down the system in question by performing this inspection to identify which system is malfunctioning. For example, the vehicle security system can operate only when the door lock and power distribution system are operating normally.

1. CHECK DOOR LOCK OPERATION

Check the door lock for normal operation with the Intelligent Key and door request switch.

Successful door lock operation with the Intelligent Key and request switch indicates that the remote keyless entry receiver and inside key antenna required for engine start are functioning normally.

Can the door be locked with the Intelligent Key and door request switch?

YES >> GO TO 2.

NO >> Refer to <u>DLK-187</u>, "Symptom Table" (coupe) or <u>DLK-423</u>, "Symptom Table" (sedan).

2.CHECK ENGINE STARTING

Check that the engine starts when the Intelligent Key is inserted into the key slot.

Does the engine start?

YES >> GO TO 3.

NO >> Refer to <u>SEC-214</u>, "Symptom Table" (coupe) or <u>SEC-437</u>, "Symptom Table" (sedan).

3.CHECK STEERING LOCK OPERATION

Check that the steering locks when operating the door switch after switching the power supply from ON position (or ACC position) to LOCK position.

If the door switch is malfunctioning, BCM cannot lock the steering. If BCM does not detect DTC, electronic steering column lock is normal.

Does steering lock?

YES >> GO TO 4.

NO >> Refer to <u>DLK-65</u>, <u>"Component Function Check"</u> (coupe) or <u>DLK-289</u>, <u>"Component Function Check"</u> (sedan).

4. CHECK POWER SUPPLY INDICATOR SWITCHING

Press push-button ignition switch and check that the position indicator switches from LOCK, through ACC to ON when steering is locked.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[POWER DISTRIBUTION SYSTEM]

is each	nosition	indicator	illuminating?
10 0001	poortion	mandator	manning :

YES >> GO TO 5.

NO >> Refer to PCS-79, "Component Function Check".

5. CHECK VEHICLE SECURITY SYSTEM

Refer to <u>SEC-11</u>, "Vehicle <u>Security Operation Check"</u> (coupe) or <u>SEC-225</u>, "Vehicle <u>Security Operation Check"</u> (sedan).

Are the inspection results normal?

YES >> Inspection End.

NO >> Repair vehicle security system as necessary.

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POWER DISTRIBUTION SYSTEM

< SYSTEM DESCRIPTION >

[POWER DISTRIBUTION SYSTEM]

SYSTEM DESCRIPTION

POWER DISTRIBUTION SYSTEM

System Description

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INPUT/OUTPUT SIGNAL CHART

Switch	Input Signal to BCM	BCM system	Actuator
Push-button ignition switch	Push switch		
CVT shift selector (CVT models)	P range		Ignition relay (IPDM E/R)
Transmission range switch (CVT models)	N, P range	Power distribution system	Ignition relay (fuse block)ACC relay-1
Clutch interlock switch (M/T models)	Clutch ON/OFF		Blower relay
Stop lamp switch	Brake ON/OFF		

SYSTEM DESCRIPTION

- PDS (POWER DISTRIBUTION SYSTEM) is the system that BCM controls with the operation of the pushbutton ignition switch and performs the power distribution to each power circuit. This system is used instead of the mechanical power supply changing mechanism with the operation of the conventional key cylinder.
- The push-button ignition switch can be operated when Intelligent Key is in the following condition. Refer to Engine Start Function for details.
- Intelligent Key is in the detection area of the interior antenna
- Insert Intelligent Key in to the key slot
- The push-button ignition switch operation is input to BCM as a signal. BCM changes the power supply position according to the status and operates the following relays to supply power to each power circuit.
- Ignition relay (inside IPDM E/R)
- Ignition relay (inside fuse block)
- ACC relay-1
- Blower fan relay

NOTE:

The engine switch operation changes due to the conditions of brake pedal, CVT selector lever and vehicle speed.

• The power supply position can be confirmed with the lighting of the indicators near the push-button ignition switch.

PUSH-BUTTON IGNITION SWITCH OPERATION PROCEDURE

The power supply position changing operation can be performed with the following operation.

NOTE:

- When an Intelligent Key is within the detection area of inside key antenna and when it is inserted in to the key slot, it is equivalent to the operations below.
- When starting the engine, the BCM monitors under the engine start conditions,
- Brake pedal operating condition (CVT models)
- CVT selector lever position (CVT models)
- Clutch pedal operating condition (M/T models)
- Vehicle speed
- Unless each start condition is fulfilled, the engine will not respond regardless of how many times the engine switch is pressed. At that time, illumination repeats the position in the order of LOCK→ACC→ON→OFF.

	Engine start/	stop condition	- Push-button ignition switch op-	
Power supply position	Brake pedal (CVT)/clutch pedal (M/T)	CVT selector lever position	eration frequency	
LOCK → ACC	Not depressed	Any position	1	
$LOCK \to ACC \to ON$	Not depressed	Any position	2	
$\begin{array}{c} LOCK \to ACC \to ON \to \\ OFF \end{array}$	Not depressed	Any position	3	

POWER DISTRIBUTION SYSTEM

< SYSTEM DESCRIPTION >

[POWER DISTRIBUTION SYSTEM]

	Engine start/s	Duch button ignition quitch on	
Power supply position	Brake pedal (CVT)/clutch pedal (M/T)	CVT selector lever position	Push-button ignition switch op- eration frequency
LOCK → START ACC → START ON → START (Engine start)	Depressed	P or N position (*1)	I [If the switch is pressed once, the engine starts from any power supply position (LOCK, ACC, and ON)]
Engine is running → OFF (Engine stop)	_	Any position	1
Engine is running → ACC (Engine stop)	_	Any position other than P (*2)	1
Engine stall return operation while driving	_	N position	1

^{*1:} When the CVT selector lever position is N position, the engine start condition is different according to the vehicle speed.

- · At vehicle speed of 4 km/h or less, the engine can start only when the brake pedal is depressed.
- At vehicle speed of 4 km/h or more, the engine can start even if the brake pedal is not depressed. (It is the same as "Engine stall return operation while driving".)
- *2: When the CVT selector lever position is in any position other than P position and when the vehicle speed is 5 km/h or more, the engine stop condition is different.
- Press and hold the push-button ignition switch for 2 seconds or more. (When the push-button ignition switch is pressed for too short a time, the operation may be invalid, so properly press and hold to prevent the incorrect operation.)
- Press the push-button ignition switch 3 times or more within 1.5 seconds. (Emergency stop operation)

Component Parts Location

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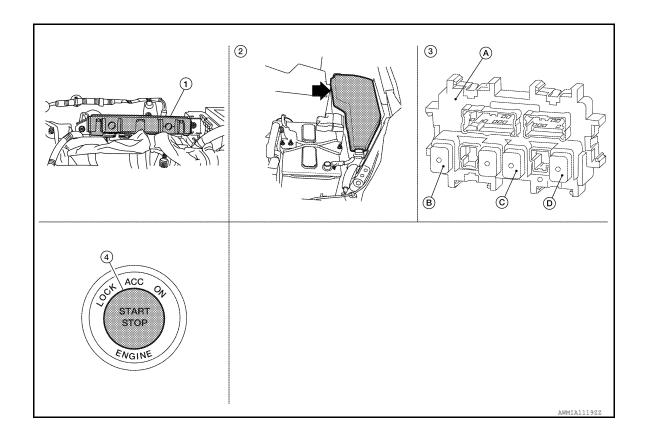
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Revision: February 2013 PCS-51 2012 Altima GCC

POWER DISTRIBUTION SYSTEM

< SYSTEM DESCRIPTION >

[POWER DISTRIBUTION SYSTEM]

1. BCM M16, M17, M18, M19, M21 (view 2. with instrument panel removed)

IPDM E/R E16, E17, E18 (contains IGN relay-1)

3. A. Fuse block (J/B) M3, M4, M5, E6

B. IGN relay-2

C. ACC relay-1
D. Blower motor relay

4. Push-button ignition switch M38

 \Leftarrow : Front

Component Description

INFOID:0000000007421494

BCM	Reference
IPDM E/R	PCS-4
Ignition relay-1 (Built-in IPDM E/R)	PCS-73
Ignition relay-2 (Built-in fuse block)	PCS-70
Accessory relay-1	PCS-62
Blower relay	PCS-67
Stop lamp	<u>SEC-73</u>
Transmission range switch	SEC-308
Push-button ignition switch	<u>SEC-294</u>

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[POWER DISTRIBUTION SYSTEM]

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM: Diagnosis Description

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BCM CONSULT FUNCTION

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
WORK SUPPORT	Changes the setting for each system function.
SELF-DIAG RESULTS	Displays the diagnosis results judged by BCM.
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.
ECU IDENTIFICATION	The BCM part number is displayed.
CONFIGURATION	This function is not used even though it is displayed.

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

It can perform the diagnosis modes except the following for all sub system selection items.

System	Sub system selection item	Diagnosis mode			
System		WORK SUPPORT	DATA MONITOR	ACTIVE TEST	
Door lock	DOOR LOCK	×	×	×	
Rear window defogger	REAR DEFOGGER		×	×	
Warning chime	BUZZER		×	×	
Interior room lamp timer	INT LAMP		×	×	
Remote keyless entry system	MULTI REMOTE ENT		×		
Exterior lamp	HEAD LAMP	×	×	×	
Wiper and washer	WIPER	×	×	×	
Turn signal and hazard warning lamps	FLASHER	×	×	×	
Air conditioner	AIR CONDITONER		×		
Intelligent Key system	INTELLIGENT KEY	×	×	×	
Combination switch	COMB SW		×		
BCM	BCM	×			
Immobilizer	IMMU		×	×	
Interior room lamp battery saver	BATTERY SAVER	×	×		
Trunk open	TRUNK		×	×	
Vehicle security system	THEFT ALM	×	×	×	
RAP system	RETAINED PWR		×		
Signal buffer system	SIGNAL BUFFER		×	×	
TPMS	AIR PRESSURE MONITOR	×	×	×	

COMMON ITEM: CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000007421496

ECU IDENTIFICATION Displays the BCM part No.

SELF-DIAG RESULT

Refer to BCS-67, "DTC Index".

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INTELLIGENT KEY

INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:0000000009326303

WORK SUPPORT

Monitor item	Description
CONFIRM KEY FOB ID	It can be checked whether Intelligent Key ID code is registered or not in this mode.
AUTO LOCK SET	Auto door lock time can be changed in this mode. • MODE1: 1 minute • MODE2: 5 minutes • MODE3: 30 seconds • MODE4: 2 minutes
LOCK/UNLOCK BY I-KEY	Door lock/unlock function by door request switch mode can be changed to operate (ON) or not operate (OFF) in this mode.
ENGINE START BY I-KEY	Engine start function mode can be changed to operate (ON) or not operate (OFF) with this mode.
TRUNK/GLASS HATCH OPEN	Buzzer reminder function mode by trunk request switch can be changed to operate (ON) or not operate (OFF) with this mode.
PANIC ALARM SET	Panic alarm button pressing time on Intelligent Key remote control button can be selected from the following with this mode. • MODE1: 0.5 sec. • MODE2: Non-operation • MODE3: 1.5 sec.
PW DOWN SET	Unlock button pressing time on Intelligent Key button can be selected from the following with this mode. • MODE1: 3 sec. • MODE2: Non-operation • MODE3: 5 sec.
TRUNK OPEN DELAY	Trunk button pressing time on Intelligent Key button can be selected from the following with this mode. • MODE1: 0.5 sec. • MODE2: 1.5 sec. • MODE3: OFF: No delay
LO- BATT OF KEY FOB WARN	Intelligent Key low battery warning mode can be changed to operate (ON) or not operate (OFF) with this mode.
ANTI KEY LOCK IN FUNCTI	Key reminder function mode can be changed to operate (ON) or not operate (OFF) with this mode.
HAZARD ANSWER BACK	Hazard reminder function mode can be selected from the following with this mode. • LOCK ONLY: Door lock operation only • UNLOCK ONLY: Door unlock operation only • LOCK/UNLOCK: Lock/unlock operation • OFF: Non-operation
ANS BACK I-KEY LOCK	Buzzer reminder function (lock operation) mode by door request switch (driver side and passenger side) can be selected from the following with this mode. • Horn chirp: Sound horn • Buzzer: Sound Intelligent Key warning buzzer • OFF: Non-operation
ANS BACK I-KEY UNLOCK	Buzzer reminder function (unlock operation) mode by door request switch can be changed to operate (ON) or not operate (OFF) with this mode.
SHORT CRANKING OUTPUT	Starter motor can be forcibly activated.
INSIDE ANT DIAGNOSIS	This function allows inside key antenna self-diagnosis.
HORN WITH KEYLESS LOCK	Horn reminder function mode by Intelligent Key button can be changed to operate (ON) or not operate (OFF) with this mode.

SELF-DIAG RESULT Refer to <u>BCS-67</u>, "DTC Index".

DIAGNOSIS SYSTEM (BCM)

[POWER DISTRIBUTION SYSTEM]

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< SYSTEM DESCRIPTION >

DATA MONITOR

Monitor Item	Condition
REQ SW-DR	Indicates [ON/OFF] condition of door request switch (driver side).
REQ SW-AS	Indicates [ON/OFF] condition of door request switch (passenger side).
REQ SW-BD/TR	Indicates [ON/OFF] condition of trunk opener request switch.
PUSH SW	Indicates [ON/OFF] condition of push button ignition switch.
CLUTCH SW	Indicates [ON/OFF] condition of clutch switch.
IGN RLY2 -F/B	Indicates [ON/OFF] condition of ignition relay 2.
ACC RLY-F/B	Indicates [ON/OFF] condition of accessory relay-1.
BRAKE SW 1	Indicates [ON/OFF] condition of brake switch.
BRAKE SW 2	Indicates [ON/OFF] condition of brake switch.
DETE/CANCL SW	Indicates [ON/OFF] condition of P position.
SFT PN/N SW	Indicates [ON/OFF] condition of P or N position.
S/L -LOCK	Indicates [ON/OFF] condition of steering lock (LOCK).
S/L -UNLOCK	Indicates [ON/OFF] condition of steering lock (UNLOCK).
S/L RELAY-F/B	Indicates [ON/OFF] condition of ignition switch.
UNLK SEN-DR	Indicates [ON/OFF] condition of driver door UNLOCK status.
PUSH SW -IPDM	Indicates [ON/OFF] condition of push button ignition switch.
IGN RLY1 -F/B	Indicates [ON/OFF] condition of ignition relay 1.
DETE SW -IPDM	Indicates [ON/OFF] condition of P position.
SFT PN -IPDM	Indicates [ON/OFF] condition of P or N position.
SFT P -MET	Indicates [ON/OFF] condition of P position.
SFT N -MET	Indicates [ON/OFF] condition of N position.
ENGINE STATE	Indicates [STOP/STALL/CRANK/RUN] condition of engine states.
S/L LOCK-IPDM	Indicates [ON/OFF] condition of steering lock (LOCK) request.
S/L UNLOCK-IPDM	Indicates [ON/OFF] condition of steering lock (UNLOCK) request.
S/L RELAY-REQ	Indicates [ON/OFF] condition of steering lock relay.
VEH SPEED 1	Display the vehicle speed signal received from combination meter by numerical value [Km/h].
VEH SPEED 2	Display the vehicle speed signal received from ABS or VDC or CVT by numerical value [Km/h].
DOOR STAT-DR	Indicates [LOCK/READY/UNLK] condition of driver side door status.
DOOR STAT-AS	Indicates [LOCK/READY/UNLK] condition of passenger side door status.
ID OK FLAG	Indicates [SET/RESET] condition of key ID.
PRMT ENG STRT	Indicates [SET/RESET] condition of engine start possibility.
KEY SW -SLOT	Indicates [ON/OFF] condition of key slot.
RKE OPE COUN1	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing.
TRNK/HAT MNTR	Indicates [ON/OFF] condition of trunk lid.
RKE-LOCK	Indicates [ON/OFF] condition of LOCK signal from Intelligent Key.
RKE-UNLOCK	Indicates [ON/OFF] condition of UNLOCK signal from Intelligent Key.
RKE-TR/BD	Indicates [ON/OFF] condition of TRUNK OPEN signal from Intelligent Key.
RKE-PANIC	Indicates [ON/OFF] condition of PANIC button of Intelligent Key.
RKE-P/W OPEN	Indicates [ON/OFF] condition of P/W DOWN signal from Intelligent Key.
RKE-MODE CHG	Indicates [ON/OFF] condition of MODE CHANGE signal from Intelligent Key.
PRMT RKE STRT	Indicates [ON/OFF] condition of ENGINE START signal from Intelligent Key.

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DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[POWER DISTRIBUTION SYSTEM]

Monitor Item	Condition
RKE OPE COUN2	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing.
REVERSE SW	Indicates [ON/OFF] condition of R position.

ACTIVE TEST

Test item	Description		
BATTERY SAVER	This test is able to check interior room lamp operation. The interior room lamp is activated after "ON" on CONSULT screen is touched.		
PW REMOTO DOWN SET	This test is able to check power window down operation. The power window down is activated after "ON" on CONSULT screen is touched.		
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation. The Intelligent Key warning buzzer is activated after "ON" on CONSULT screen is touched.		
INSIDE BUZZER	This test is able to check warning chime in combination meter operation. • Take away warning chime sounds when "TAKE OUT" on CONSULT screen is touched. • Key warning chime sounds when "KEY" on CONSULT screen is touched. • OFF position warning chime sounds when "KNOB" on CONSULT screen is touched.		
INDICATOR	This test is able to check warning lamp operation. • "KEY" Warning lamp illuminates when "KEY ON" on CONSULT screen is touched. • "KEY" Warning lamp blinks when "KEY IND" on CONSULT screen is touched.		
INT LAMP	This test is able to check interior room lamp operation. The interior room lamp is activated after "ON" on CONSULT screen is touched.		
LCD	This test is able to check meter display information • Engine start information displays when "BP N" on CONSULT screen is touched. • Engine start information displays when "BP I" on CONSULT screen is touched. • Key ID warning displays when "ID NG" on CONSULT screen is touched. • P position warning displays when "SFT P" on CONSULT screen is touched. • Intelligent Key insert information displays when "INSRT" on CONSULT screen is touched. • Intelligent Key low battery warning displays when "BATT" on CONSULT screen is touched. • Take away through window warning displays when "NO KY" on CONSULT screen is touched. • Take away warning display when "OUTKEY" on CONSULT screen is touched. • OFF position warning display when "LK WN" on CONSULT screen is touched.		
FLASHER	This test is able to check hazard warning lamp operation. The hazard warning lamps are activated after "LH/RH/OFF" on CONSULT screen is touched.		
HORN	This test is able to check horn operation. The horn is activated after "ON" on CONSULT screen is touched.		
P RANGE	This test is able to check CVT shift selector power supply CVT shift selector power is supplied when "ON" on CONSULT screen is touched.		
ENGINE SW ILLUMI	This test is able to check push-ignition switch illumination operation. Push-ignition switch illumination illuminates when "ON" on CONSULT screen is touched.		
LOCK INDICATOR	This test is able to check LOCK indicator in push-ignition switch operation. LOCK indicator in push-ignition switch illuminates when "ON" on CONSULT screen is touched.		
ACC INDICATOR	This test is able to check ACC indicator in push-ignition switch operation. ACC indicator in push-ignition switch illuminates when "ON" on CONSULT screen is touched.		
IGNITION ON IND	This test is able to check ON indicator in push-ignition switch operation. ON indicator in push-ignition switch illuminates when "ON" on CONSULT screen is touched.		
KEY SLOT ILLUMI	This test is able to check key slot illumination operation. Key slot illumination blinks when "ON" on CONSULT screen is touched.		
TRUNK/BACK DOOR	This test is able to check trunk opener actuator open operation. This actuator opens when "OPEN" on CONSULT screen is touched.		

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description INFOID:000000007421498

Refer to LAN-6, "System Description".

DTC Logic

DTC DETECTION LOGIC

CONSULT dis- play description	DTC Detection Condition	Possible cause	
CAN COMM CIR- CUIT [U1000]	When IPDM E/R cannot communicate CAN communication signal continuously for 2 seconds or more	In CAN communication system, any item (or items) of the following listed below is malfunctioning. Transmission Receiving (ECM) Receiving (VDC/TCS/ABS) Receiving (METER/M&A) Receiving (TCM) Receiving (IPDM E/R)	F

Diagnosis Procedure

1.PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 second or more.

2. Check "Self Diagnostic Result".

Is "CAN COMM CIRCUIT" displayed?

YES >> Refer to LAN-15, "Trouble Diagnosis Flow Chart".

NO >> Refer to GI-42, "Intermittent Incident".

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Revision: February 2013 PCS-57 2012 Altima GCC

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

U1010 CONTROL UNIT (CAN)

DTC Logic

DTC DETECTION LOGIC

CONSULT display description	DTC Detection Condition	Possible cause
CAN COMM CIRCUIT [U1010]	BCM detected internal CAN communication circuit malfunction.	ВСМ

Diagnosis Procedure

INFOID:0000000007421502

1. REPLACE BCM

When DTC U1010 is detected, replace BCM.

>> Replace BCM. Refer to BCS-92, "Removal and Installation".

B2553 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B2553 IGNITION RELAY

Description INFOID:000000007421503

BCM turns ON the following relays to ignition power supply to each ECU when the ignition switch is turned ON.

- Ignition relay-1 (inside IPDM E/R)
- Ignition relay-2 (inside fuse block)
- Blower fan motor relay

BCM checks any ignition relay ON request for consistency with the actual ignition relay operation status.

DTC Logic

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2553	IGNITION RELAY	BCM detects a difference of signal for 2 seconds or more between the following information. Ignition relay-2 (fuse block) ON/OFF operation Ignition relay-2 (fuse block) feedback.	Harness or connectors (ignition relay-2 feedback circuit is open or short)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions, and wait for at least 2 seconds.
- CVT selector lever is in the P or N position.
- Release brake pedal.
- 2. Check "Self diagnostic result" with CONSULT.

Is DTC detected?

YES >> Go to PCS-59, "Diagnosis Procedure".

NO >> Inspection End.

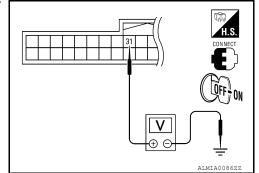
Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>PCS-121, "Wiring Diagram - Coupe"</u> or <u>PCS-128, "Wiring Diagram - Sedan"</u>.

1. CHECK IGNITION RELAY FEEDBACK INPUT SIGNAL

Check voltage between BCM harness connector and ground under the following conditions.

Terminals					
(+)		(-)	Condition		Voltage (V)
В	СМ		Condition		Voltage (V)
Connector	Terminal	Ground			
M18	31	Ground	Ignition	OFF	0
WITO	31		switch ON		Battery voltage



Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-92, "Removal and Installation".

NO >> GO TO 2

2. CHECK IGNITION RELAY FEEDBACK CIRCUIT

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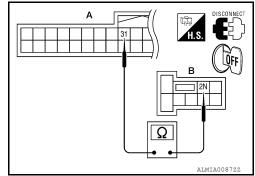
B2553 IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM and fuse block (J/B).
- 3. Check continuity between BCM harness connector and fuse block harness connector.

BCM		Fuse block		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
M18 (A)	31	M3 (B)	2N	Yes	



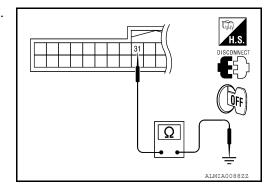
4. Check continuity between BCM harness connector and ground.

ВСМ			Continuity
Connector Terminal		Ground	Continuity
M18	31		No

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.



$\bf 3.$ CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

B260A IGNITION RELAY

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B260A IGNITION RELAY

Description INFOID:0000000007421506

BCM turns ON the following relays to ignition power supply to each ECU when the ignition switch is turned ON.

- Ignition relay-1 (inside IPDM E/R)
- Ignition relay-2 (inside fuse box)
- Blower fan motor relay

BCM checks any ignition relay ON request for consistency with the actual ignition relay operation status.

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B260A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-57, "DTC Logic".
- If DTC B260A is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>PCS-58, "DTC Logic"</u>.
- If DTC B260A is displayed with DTC B261A, first perform the trouble diagnosis for DTC B261A. Refer to <u>PCS-74, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260A	IGNITION RELAY	BCM detects a difference of signal for 2 second or more between the following information. • Ignition relay-1 (ON/OFF) operation • Ignition relay-1 feedback	Harness or connectors (Ignition relay-1 operation circuit is open or shorted.)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions, and wait for at least 2 seconds.
- CVT selector lever is in the P or N position.
- Release the brake pedal.
- 2. Check "Self diagnostic result" with CONSULT.

Is DTC detected?

YES >> Go to PCS-61, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

1. CHECK DTC WITH IPDM E/R

Check "Self diagnostic result" with CONSULT. Refer to PCS-29, "DTC_Index".

Is DTC detected?

YES >> Replace IPDM E/R. Refer to PCS-45, "Removal and Installation".

NO >> GO TO 2

2. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

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B2611 ACC RELAY

Description INFOID:000000007421509

BCM turns ON the ACC relay-1 to supply ACC power to each ECU when the power supply position changes to ACC.

BCM check ACC relay-1 ON request for consistency with the actual ACC relay-1 operation status.

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2611 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-57, "DTC Logic".
- If DTC B2611 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>PCS-58, "DTC Logic".</u>

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2611	ACC RELAY	BCM detects a difference of signal for 2 seconds or more between the following information. • ACC relay-1 ON/OFF operation • ACC relay-1 feedback.	Harness or connectors (ACC relay-1 feed back circuit is open or shorted)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn the power supply position to ACC under the following conditions, and wait for at least 2 seconds.
- CVT selector lever is in P or N position
- Brake not depressed
- 2. Check "Self diagnostic result" with CONSULT.

Is DTC detected?

YES >> Go to PCS-62, "Diagnosis Procedure".

NO >> Inspection End.

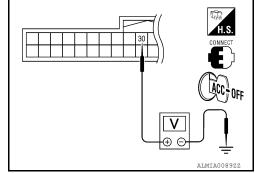
Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>PCS-121, "Wiring Diagram - Coupe"</u> or <u>PCS-128, "Wiring Diagram - Sedan"</u>.

1. CHECK ACC RELAY-1 FEED BACK INPUT SIGNAL

Check voltage between BCM harness connector and ground under the following conditions.

Terminals						
(+)		(-)	Condition		Voltage (V)	
BCM			Condition			
Connector	Terminal					
		Ground	Ignition	OFF	0	
M18	30		switch	ACC	Battery volt- age	



INFOID:0000000007421511

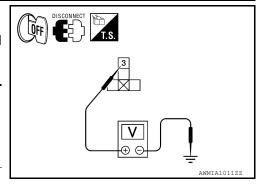
Is the inspection result normal?

YES >> GO TO 5 NO >> GO TO 2

$\overline{2}$.check acc relay-1 power supply circuit

- Turn ignition switch OFF.
- Disconnect ACC relay-1.
- Check voltage between ACC relay-1 harness connector and

Term			
(+)	(-)	Voltage (V)	
ACC relay-1			
Terminal	Ground		
3		Battery voltage	



Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK FUSE

Check 10A fuse [No. 19, located in the fuse block (J/B)].

Is the inspection result normal?

YES >> GO TO 4

NO >> Replace fuse.

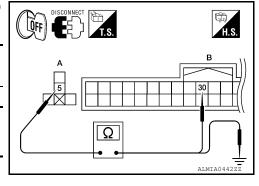
f 4 . CHECK ACC RELAY-1 FEEDBACK CIRCUIT

- Disconnect BCM harness connector.
- 2. Check continuity between ACC relay-1 harness connector (A) and BCM harness connector (B).

ACC relay-1	всм		Continuity
Terminal	Connector Terminal		Continuity
5	M18	30	Yes

Check continuity between ACC relay-1 harness connector and ground.

ACC relay-1		Continuity
Terminal	Ground	
5		No



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Is the inspection result normal?

YES >> GO TO 5

NO >> Repair or replace harness.

5. CHECK INTERMITTENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

B2614 ACC RELAY CIRCUIT

Description INFOID:000000007421512

BCM controls the various electrical components and simultaneously supplies power according to the power supply position.

BCM checks the power supply position internally.

DTC Logic

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2614	ACC relay circuit	An immediate operation of ACC relay-1 is requested by BCM, but there is no response for more than 1 second.	Harness or connectors (ACC relay-1 circuit is open or shorted) ACC relay-1

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn the power supply position to ACC under the following conditions, and wait for at least 1 second.
- CVT selector lever is in the P or N position.
- Release the brake pedal.
- 2. Check "Self diagnostic result" with CONSULT.

Is DTC detected?

YES >> Go to PCS-64, "Diagnosis Procedure".

NO >> Inspection End.

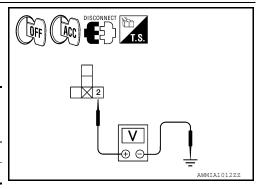
Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>PCS-121, "Wiring Diagram - Coupe"</u> or <u>PCS-128, "Wiring Diagram - Sedan"</u>.

1. CHECK ACCESSORY RELAY-1 POWER SUPPLY

- 1. Turn ignition switch OFF.
- 2. Disconnect accessory relay-1.
- Check voltage between accessory relay-1 harness connector and ground under the following conditions.

Accessory relay-	Ground	C	ondition	Voltage (V)
Terminal				
2	Ground	Ignition	OFF	0
	Giodila	igililion	ACC	Battery voltage



INFOID:0000000007421514

Is the inspection result normal?

YES >> GO TO 3 NO >> GO TO 2

2. CHECK ACCESSORY RELAY-1 POWER SUPPLY CIRCUIT-1

B2614 ACC RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

- Turn ignition switch OFF.
- 2. Disconnect BCM harness connector.
- 3. Check continuity between accessory relay-1 harness connector (A) and BCM harness connector (B).

Accessory relay-1 BCM		CM	Continuity
Terminal	Connector Terminal		Continuity
2	M19	83	Yes

Check continuity between accessory relay-1 harness connector and ground.

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Accessory relay-1	Ground	Continuity	
Terminal	Giodila		
2	Ground	No	

Is the inspection result normal?

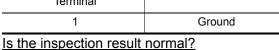
YES >> GO TO 6

NO >> Repair or replace harness.

3. CHECK ACCESSORY RELAY-1 GROUND CIRCUIT

- Turn ignition switch OFF.
- Check continuity between accessory relay-1 harness connector and ground.

Accessory relay-1	- Ground	Continuity	
Terminal			
1	Ground	Yes	



YES >> GO TO 4 NO >> Repair or replace harness.

4. CHECK ACCESSORY RELAY-1 POWER SUPPLY CIRCUIT-2

Check voltage between accessory relay-1 harness connector and ground.

Accessory relay-1	Ground	Voltage (V)	
Terminal		voltage (v)	
3	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 5

NO >> Repair or replace harness.

5. CHECK ACCESSORY RELAY-1

Refer to PCS-66, "Component Inspection (Accessory Relay-1)".

YES or NO

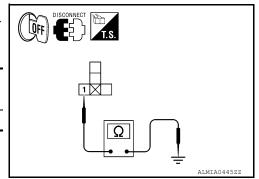
YES >> GO TO 6

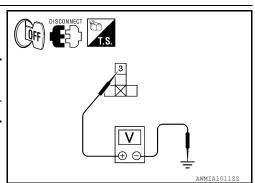
NO >> Replace accessory relay-1.

6. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.





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B2614 ACC RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

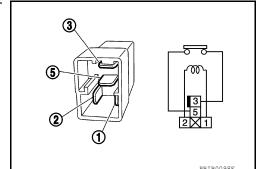
Component Inspection (Accessory Relay-1)

INFOID:0000000007421515

1. CHECK ACCESSORY RELAY-1

- 1. Turn ignition switch OFF.
- 2. Remove accessory relay-1.
- 3. Check the continuity between accessory relay-1 terminals under the following conditions.

Terminals	Condition	Continuity
3 and 5	12V direct current supply between terminals 1 and 2	Yes
	No current supply	No



Is the inspection result normal?

YES >> Inspection End.

NO >> Replace accessory relay-1.

B2615 BLOWER RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B2615 BLOWER RELAY CIRCUIT

Description INFOID:000000007421516

BCM controls the various electrical components and simultaneously supplies power according to the power supply position.

BCM checks the power supply position internally.

DTC Logic

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2615	Blower relay circuit	BCM detects a difference of signal for 1 second or more between the following information. • Blower relay ON/OFF request • Blower relay feedback	Harness or connectors (Blower relay circuit is open or shorted) Blower relay

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions, and wait for at least 1 second.
- CVT selector lever is in the P or N position.
- Release brake pedal.
- 2. Check "Self diagnostic result" with CONSULT.

Is DTC detected?

YES >> Go to PCS-67, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

Regarding Wiring Diagram information, refer to PCS-121, "Wiring Diagram - Coupe" or PCS-128, "Wiring Diagram - Sedan".

1. CHECK BLOWER RELAY POWER SUPPLY

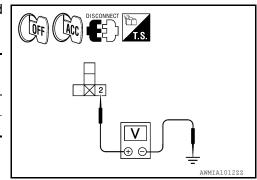
- Turn ignition switch OFF.
- 2. Disconnect blower relay.
- Check voltage between blower relay harness connector and ground under the following conditions.

Blower relay	Ground	Condition	Voltage (V)
Terminal	Ground	Condition	voitage (v)
2	2 Ground	OFF or ACC	0
2	Giodila	ON	Battery voltage

Is the inspection result normal?

YES >> GO TO 3 NO >> GO TO 2

2. CHECK BLOWER RELAY POWER SUPPLY CIRCUIT



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B2615 BLOWER RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

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- Turn ignition switch OFF.
- Disconnect BCM harness connector.
- Check continuity between blower relay harness connector (A) and BCM harness connector (B).

Blower relay	всм		Continuity
Terminal	Connector Terminal		Continuity
2	M19	90	Yes

4. Check continuity between blower relay harness connector (A) and ground.

Blower relay	Ground	Continuity	
Terminal	Ground	Continuity	
2	Ground	No	

Is the inspection result normal?

YES >> GO TO 6

NO >> Repair or replace harness.

$3.\,$ CHECK BLOWER RELAY GROUND CIRCUIT

- Turn ignition switch OFF.
- Check continuity between blower relay harness connector and ground.

Blower relay	Ground	Continuity	
Terminal		Continuity	
1	Ground	Yes	

Is the inspection result normal?

YFS >> GO TO 4

NO >> Repair blower relay ground circuit.

4. CHECK BLOWER RELAY POWER SUPPLY CIRCUIT-2

Check voltage between blower relay harness connector and ground.

Blower relay	Ground	Voltage (V)	
Terminal	Giouria	voltage (v)	
3	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 5

NO >> Repair or replace harness.

5. CHECK BLOWER RELAY

Refer to PCS-69, "Component Inspection (Blower Relay)".

Is the inspection result normal?

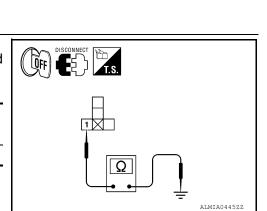
YES >> GO TO 6

NO >> Replace blower relay.

6. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.



B2615 BLOWER RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

Component Inspection (Blower Relay)

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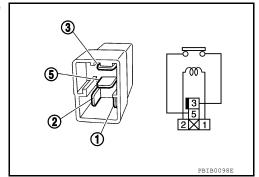
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1. CHECK BLOWER RELAY

- 1. Turn ignition switch OFF.
- 2. Remove blower relay.
- 3. Check the continuity between blower relay terminals under the following conditions.

Terminals	Condition	Continuity
3 and 5	12V direct current supply between terminals 1 and 2	Yes
<u> </u>	No current supply	No



Is the inspection result normal?

YES >> Inspection End.

NO >> Replace blower relay.

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B2616 IGNITION RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B2616 IGNITION RELAY CIRCUIT

Description INFOID:000000007421520

BCM controls the various electrical components and simultaneously supplies power according to the power supply position.

BCM checks the power supply position internally.

DTC Logic

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2616	Ignition relay circuit	An immediate operation of ignition relay (fuse block) is requested by BCM, but there is no response for more than 1 second	Harness or connectors (Ignition relay circuit is open or shorted) Ignition relay (Fuse block)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions, and wait for at least 1 second.
- CVT selector lever is in the P or N position
- Release brake pedal
- 2. Check "Self diagnostic result" with CONSULT.

Is DTC detected?

YES >> Go to PCS-70, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

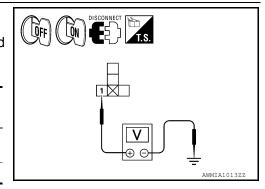
INFOID:0000000007421522

Regarding Wiring Diagram information, refer to <u>PCS-121, "Wiring Diagram - Coupe"</u> or <u>PCS-128, "Wiring Diagram - Sedan"</u>.

1. CHECK IGNITION RELAY POWER SUPPLY

- 1. Turn ignition switch OFF.
- 2. Disconnect ignition relay.
- 3. Check voltage between ignition relay harness connector and ground under the following conditions.

Ignition relay	Ground	Condition	Voltage (V)
Terminal	Glound	Condition	voltage (v)
1	Ground	Ignition switch OFF or ACC	0
		Ignition switch ON	Battery voltage



Is the inspection result normal?

YES >> GO TO 3 NO >> GO TO 2

2. CHECK IGNITION RELAY POWER SUPPLY CIRCUIT

B2616 IGNITION RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

- Turn ignition switch OFF.
- Disconnect BCM harness connector.
- Check continuity between ignition relay harness connector (A) and BCM harness connector (B).

Ignition relay	ВСМ		Continuity
Terminal	Connector Terminal		Continuity
1	M19	70	Yes

Check continuity between ignition relay harness connector (A) and ground.

Ignition relay	Ground	Continuity	
Terminal			
1	Ground	No	

Is the inspection result normal?

YES >> GO TO 6

NO >> Repair or replace harness.

${f 3}.$ CHECK IGNITION RELAY GROUND CIRCUIT

- Turn ignition switch OFF.
- Check continuity between ignition relay harness connector and ground.

Ignition relay	Ground	Continuity	
Terminal	Giodila		
2	Ground	Yes	

Is the inspection result normal?

YES >> GO TO 4

NO >> Repair or replace harness.

f 4 . CHECK IGNITION RELAY POWER SUPPLY CIRCUIT-2

Check voltage between ignition relay harness connector and ground.

Ignition relay	Ground	Voltage (V)	
Terminal	Oround		
5	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 5

NO >> Repair or replace harness.

5. CHECK IGNITION RELAY

Refer to PCS-72, "Component Inspection (Ignition Relay)".

Is the inspection result normal?

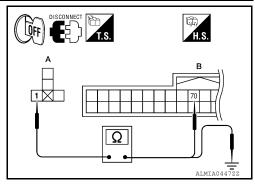
YES >> GO TO 6

NO >> Replace ignition relay.

$oldsymbol{6}$. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.



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B2616 IGNITION RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

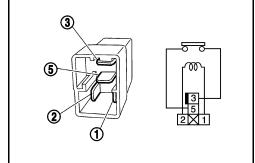
Component Inspection (Ignition Relay)

INFOID:0000000007421523

1. CHECK IGNITION RELAY

- 1. Turn ignition switch OFF.
- 2. Remove ignition relay.
- 3. Check the continuity between ignition relay terminals under the following conditions.

Terminals	Condition	Continuity
3 and 5	12V direct current supply between terminals 1 and 2	Yes
	No current supply	No



Is the inspection result normal?

YES >> Inspection End.

NO >> Replace ignition relay.

[POWER DISTRIBUTION SYSTEM]

B2618 BCM

Description INFOID:0000000007421524

BCM controls the various electrical components and simultaneously supplies power according to the power supply position.

BCM checks the power supply position internally.

DTC Logic INFOID:0000000007421525

DTC DETECTION LOGIC

NOTE:

- If DTC B2618 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-57, "DTC Logic".
- If DTC B2618 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to PCS-58, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2618	ВСМ	An immediate operation of ignition relay (IPDM E/R) is requested by BCM, but there is no response for more than 1 second	• BCM

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON under the following conditions, and wait for at least 1 second.
- CVT selector lever is in the P or N position
- Release brake pedal
- Check "Self diagnostic result" with CONSULT.

Is DTC detected?

YES >> Go to PCS-73, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

1. INSPECTION START

- Turn ignition switch ON.
- Select "Self diagnostic result" mode with CONSULT. 2.
- 3. Touch "ERASE".
- **Perform DTC Confirmation Procedure.**

See PCS-73, "DTC Logic".

Is the 1st trip DTC B2618 displayed again?

YES >> Replace BCM. Refer to BCS-92, "Removal and Installation".

NO >> Inspection End.

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PCS-73 Revision: February 2013 2012 Altima GCC **PCS**

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B261A PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

B261A PUSH-BUTTON IGNITION SWITCH

Description INFOID.000000007421527

BCM transmits the change in the power supply position with the push-button ignition switch to IPDM E/R via the CAN communication line. IPDM E/R transmits the power supply position status via CAN communication line to BCM.

DTC Logic

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B261A	PUSH-BUTTON IG- NITION SWITCH	BCM detects a difference of signal for 1 second or more between the following information. Power supply position by push-button ignition switch Power supply position from IPDM E/R (CAN)	Harness or connectors (Push-button ignition switch circuit is open or shorted.)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Press the push-button ignition switch under the following conditions, and wait for at least 1 second.
- CVT selector lever is in the P or N position.
- Release the brake pedal.
- 2. Check "Self diagnostic result" with CONSULT.

Is DTC detected?

YES >> Go to PCS-74, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

Regarding Wiring Diagram information, refer to PCS-121, "Wiring Diagram - Coupe" or PCS-128, "Wiring Diagram - Sedan".

1. CHECK PUSH-BUTTON IGNITION SWITCH OPERATION

Press push-button ignition switch and check if it turns to ON.

Does ignition switch turn to ON?

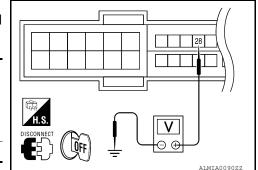
YES >> GO TO 2 NO >> GO TO 4

2. CHECK IGNITION SWITCH OUTPUT SIGNAL (IPDM E/R)

Disconnect push-button ignition switch.

2. Check voltage between IPDM E/R harness connector and ground.

(+)		(-)	Voltage (V)
IPDI	IPDM E/R		voltage (v)
Connector Terminal		Ground	
E18 28			Battery voltage
		·	



INFOID:0000000007421529

Is the inspection result normal?

YES >> GO TO 3

NO >> Replace IPDM E/R. Refer to PCS-45, "Removal and Installation".

B261A PUSH-BUTTON IGNITION SWITCH

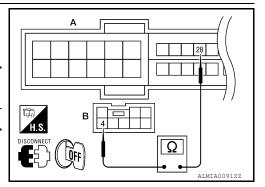
< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

3. CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT (IPDM E/R)

- 1. Disconnect IPDM E/R and BCM.
- 2. Check continuity between IPDM E/R harness connector (A) and push-button ignition switch harness connector (B).

IPDM E/R		Push-button ignition switch		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E18 (A)	28	M38 (B)	4	Yes



3. Check continuity between IPDM E/R harness connector and ground.

IPDI	M E/R		Continuity
Connector	Terminal	Ground	Continuity
E18	28		No

Is the inspection result normal?

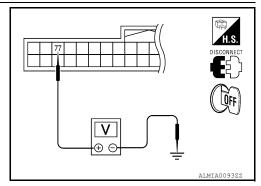
YES >> GO TO 6

NO >> Repair or replace harness.



- 1. Disconnect push-button ignition switch.
- 2. Check voltage between BCM harness connector and ground.

Terminals				
(-)	Voltage (V)			
	voltage (v)			
Ground				
7	Battery voltage			



Is the inspection result normal?

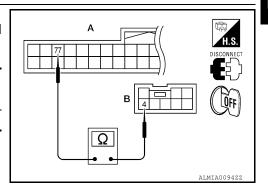
YES >> GO TO 5

NO >> Replace BCM. Refer to BCS-92, "Removal and Installation".

5. CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT (BCM)

- 1. Disconnect BCM and IPDM E/R.
- 2. Check continuity between BCM harness connector (A) and push-button ignition switch harness connector (B).

ВСМ		Push-button ignition switch		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M19 (A)	77	M38 (B)	4	Yes



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B261A PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

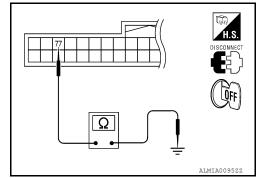
3. Check continuity between BCM harness connector and ground.

В	СМ		Continuity
Connector	Terminal	Ground	Continuity
M19	77		No

Is the inspection result normal?

YES >> GO TO 6

NO >> Repair or replace harness.



6. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

POWER SUPPLY AND GROUND CIRCUIT

BCM

BCM : Diagnosis Procedure

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Regarding Wiring Diagram information, refer to <u>BCS-70</u>, "Wiring Diagram - Coupe" or <u>BCS-79</u>, "Wiring Diagram - Sedan".

1. CHECK FUSE AND FUSIBLE LINK

Check if the following BCM fuse or fusible link are blown.

Terminal No.	Signal name	Fuse and fusible link No.
1	Battery power supply	Н
11	battery power supply	10

Is the fuse or fusible link blown?

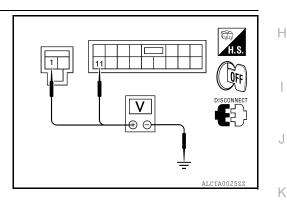
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect BCM.
- 3. Check voltage between BCM harness connector and ground.

(+)	(-)	Voltage (Approx.)
В	ВСМ		
Connector	Terminal	Ground	
M16	1	Giodila	Detter veltere
M17	11		Battery voltage



Is the measurement normal?

YES >> GO TO 3

NO >> Repair or replace harness.

CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

В	BCM		Continuity
Connector	Terminal	Ground	Continuity
M17	13		Yes

Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness.

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BCM: Special Repair Requirement

1. REQUIRED WORK WHEN REPLACING BCM

Initialize control unit. Refer to BCS-3, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) : Work Procedure".

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< DTC/CIRCUIT DIAGNOSIS >

>> Work End.

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) : Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>PCS-31, "Wiring Diagram - Coupe"</u> or <u>PCS-37, "Wiring Diagram - Sedan"</u>.

1. CHECK FUSES AND FUSIBLE LINK

Check that the following IPDM E/R fuses or fusible link are not blown.

Terminal No.	Signal name	Fuses and fusible link No.
1, 2		B, D
	Battery power supply	42
_		43

Is the fuse blown?

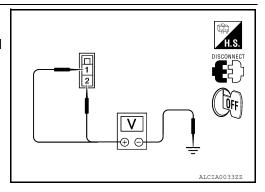
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect IPDM E/R connectors.
- Check voltage between IPDM E/R harness connector and ground.

	Terminals			
(+)	(-)	Voltage (V)	
IPDI	IPDM E/R		(Approx.)	
Connector	Connector Terminal			
E16	1	Ground	Battery voltage	
	2		Dattery Voltage	



Is the measurement value normal?

YES >> GO TO 3

NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

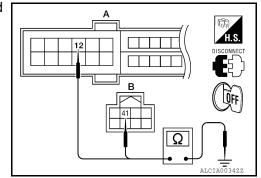
Check continuity between IPDM E/R harness connectors and ground.

IPDM E/R			Continuity	
Connector	Terminal	Ground	Continuity	
A: E18	12		Yes	
B: E17	41		165	

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.



PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR

Description INFOID:0000000007421533

The switch that changes the power supply position.

BCM maintains the power supply position status.

BCM changes the power supply position with the operation of the push-button ignition switch.

Component Function Check

CHECK FUNCTION

(II) With CONSULT

Check push-button ignition switch ("LOCK INDICATOR", "ACC INDICATOR" and "IGNITION ON IND") in Active Test Mode with CONSULT.

Test in	tem	Desc	ription
LOCK INDICATOR ON		5	: Illuminate
ACC INDICATOR IGNITION ON IND	OFF	Position indicator	: Not illuminate

Is the inspection result normal?

YES >> Inspection End..

>> Refer to PCS-79, "Diagnosis Procedure". NO

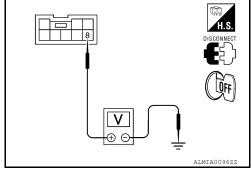
Diagnosis Procedure

Regarding Wiring Diagram information, refer to PCS-121, "Wiring Diagram - Coupe" or PCS-128, "Wiring Diagram - Coupe" or P gram - Sedan".

1. CHECK PUSH-BUTTON IGNITION SWITCH INPUT SIGNALS

- Turn ignition switch OFF.
- 2. Disconnect push-button ignition switch.
- Check voltage between push-button ignition switch harness connector and ground.

Terminals		
(+)		
Push-button ignition switch		Voltage (V)
Connector Terminal		
M38 8		
١	vitch	(-)



Is the inspection result normal?

YES >> GO TO 2

NO >> Check the following.

- 10A fuse [No. 9, located in fuse block (J/B)]
- Harness for open or short between push-button ignition switch and fuse.

2. CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT

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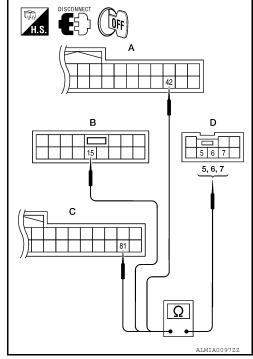
PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

- 1. Disconnect BCM and push-button ignition switch.
- Check continuity between BCM harness connector and pushbutton ignition switch harness connector.

Indicator	BCM Con- nector	Terminal	Push-button ignition switch connector	Terminal	Continuity
LOCK	M18 (A)	42		5	
ACC	M17 (B)	15	M38 (D)	6	Yes
ON	M19 (C)	81		7	



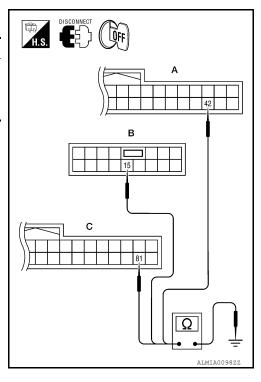
3. Check continuity between BCM harness connector and ground.

Indicator	BCM connector	Terminal		Continuity
LOCK	M18 (A)	42	Ground	
ACC	M17 (B)	15	Giodila	No
ON	M19 (C)	81		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.



$\bf 3.$ CHECK PUSH-BUTTON IGNITION SWITCH

Refer to PCS-81, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4

NO >> Replace push-button ignition switch. Refer to PCS-140, "Removal and Installation".

4. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> Inspection End.

PUSH-BUTTON IGNITION SWITCH POSITION INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

Component Inspection

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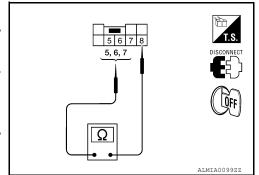
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1. CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch.

Tern	ninal	Push-button ignition switch	Continuity	
Push-button i	gnition switch	position		
	5	LOCK		
8	Push-button ignition switch	ACC	Yes	
	7	ON		



Is the inspection result normal?

YES >> Inspection End.

NO >> Replace push-button ignition switch. Refer to <u>PCS-140.</u> "Removal and Installation".

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< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
ED WIDED HI	Other than front wiper switch HI	OFF
FR WIPER III	Front wiper switch HI	ON
ED WIDED LOW	Other than front wiper switch LO	OFF
FR WIPER LOW	Front wiper switch LO	ON
ED WACHED OW	Front washer switch OFF	OFF
FR WIPER INT FR WIPER STOP INT VOLUME TURN SIGNAL R TURN SIGNAL L TAIL LAMP SW HI BEAM SW HEAD LAMP SW 1 HEAD LAMP SW 2	Front washer switch ON	ON
ED WIDED INT	Other than front wiper switch INT	OFF
FR WIPER INT	Front wiper switch INT	ON
ED WIDED STOD	Front wiper is not in STOP position	OFF
FR WIPER STOP	Front wiper is in STOP position	ON
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 6	Wiper intermittent dial position
TUDNI CICNIAL D	Other than turn signal switch RH	OFF
FR WIPER HI FR WIPER LOW FR WASHER SW FR WIPER INT FR WIPER STOP INT VOLUME TURN SIGNAL R TURN SIGNAL L TAIL LAMP SW HI BEAM SW HEAD LAMP SW 1 HEAD LAMP SW 2 PASSING SW AUTO LIGHT SW FR FOG SW DOOR SW-DR	Turn signal switch RH	ON
FR WIPER HI FR WIPER LOW FR WASHER SW FR WIPER INT FR WIPER STOP INT VOLUME TURN SIGNAL R TURN SIGNAL L TAIL LAMP SW HI BEAM SW HEAD LAMP SW 1 HEAD LAMP SW 2 PASSING SW AUTO LIGHT SW FR FOG SW DOOR SW-DR DOOR SW-AS	Other than turn signal switch LH	OFF
TURN SIGNAL L	Turn signal switch LH	ON
TAIL LAMP SW HI BEAM SW	Other than lighting switch 1ST and 2ND	OFF
	Lighting switch 1ST or 2ND	ON
TAIL LAMP SW HI BEAM SW HEAD LAMP SW 1	Other than lighting switch HI	OFF
	Lighting switch HI	ON
TAIL LAMP SW HI BEAM SW HEAD LAMP SW 1	Other than lighting switch 2ND	OFF
HEAD LAWF SW T	Lighting switch 2ND	ON
HEAD LAMP SW 2	Other than lighting switch 2ND	OFF
FILAD LAWF SW 2	Lighting switch 2ND	ON
FR WASHER SW FR WIPER INT FR WIPER STOP NT VOLUME FURN SIGNAL R FURN SIGNAL L FAIL LAMP SW HEAD LAMP SW 1 HEAD LAMP SW 2 PASSING SW AUTO LIGHT SW FR FOG SW DOOR SW-DR DOOR SW-AS	Other than lighting switch PASS	OFF
FASSING SW	Lighting switch PASS	ON
FR WIPER LOW FR WASHER SW FR WIPER INT FR WIPER STOP INT VOLUME TURN SIGNAL R TURN SIGNAL L TAIL LAMP SW HI BEAM SW HEAD LAMP SW 1 HEAD LAMP SW 2 PASSING SW AUTO LIGHT SW FR FOG SW DOOR SW-DR DOOR SW-AS	Other than lighting switch AUTO	OFF
FR WIPER HI FR WIPER LOW FR WASHER SW FR WIPER INT FR WIPER STOP INT VOLUME TURN SIGNAL R TURN SIGNAL L TAIL LAMP SW HI BEAM SW HEAD LAMP SW 1 HEAD LAMP SW 2 PASSING SW AUTO LIGHT SW FR FOG SW DOOR SW-DR DOOR SW-AS DOOR SW-RR	Lighting switch AUTO	ON
ER FOG SW	Front fog lamp switch OFF	OFF
11(100 SW	Front fog lamp switch ON	ON
FR WIPER LOW Front wiper in Front washer in Front washer in Front washer in Front washer in Front wiper in Turn signal in Tur	Driver door closed	OFF
DOOK SW-DK	Driver door opened	ON
DOOP SW AS	Passenger door closed	OFF
DOOK SW-AS	Passenger door opened	ON
DOOR SW PP	Rear RH door closed	OFF
DOOK GW-KK	Rear RH door opened	ON
DOOR SW-PI	Rear LH door closed	OFF
	Rear LH door opened	ON

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

Monitor Item	Condition	Value/Status	_
CDL LOCK SW	Other than power door lock switch LOCK	OFF	_
DDL LOCK SW	Power door lock switch LOCK	ON	_
CDL UNLOCK SW	Other than power door lock switch UNLOCK	OFF	
SDE GIVEOGR SVV	Power door lock switch UNLOCK	ON	_
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	OFF	_
KLI OIL LK-3W	Driver door key cylinder LOCK position	ON	
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	OFF	
KET CTE ON-SW	Driver door key cylinder UNLOCK position	ON	_
HAZARD SW	When hazard switch is not pressed	OFF	
HAZARD SW	When hazard switch is pressed	ON	
REAR DEF SW	When rear window defogger switch is pressed	ON	
FAN ON SIG	When AUTO switch or fan switch is pressed	ON	
AIR COND SW	When A/C switch is pressed	ON	
TD CANCEL CV	Trunk lid opener cancel switch OFF	OFF	_
TR CANCEL SW	Trunk lid opener cancel switch ON	ON	_
TD/DD ODEN OW	Trunk lid opener switch OFF	OFF	_
TR/BD OPEN SW	While the trunk lid opener switch is turned ON	ON	_
	Trunk lid closed	OFF	_
TRNK/HAT MNTR	Trunk lid opened	ON	
DKE LOCK	When LOCK button of Intelligent Key is not pressed	OFF	_
RKE-LOCK	When LOCK button of Intelligent Key is pressed	ON	_
	When UNLOCK button of Intelligent Key is not pressed	OFF	_
RKE-UNLOCK	When UNLOCK button of Intelligent Key is pressed	ON	_
	When TRUNK OPEN button of Intelligent Key is not pressed	OFF	_
RKE-TR/BD	When TRUNK OPEN button of Intelligent Key is pressed	ON	_
2/2 2/1/2	When PANIC button of Intelligent Key is not pressed	OFF	_
RKE-PANIC	When PANIC button of Intelligent Key is pressed	ON	_
	When UNLOCK button of Intelligent Key is not pressed and held	OFF	_
RKE-P/W OPEN	When UNLOCK button of Intelligent Key is pressed and held	ON	_
DVE MODE OUG	When LOCK/UNLOCK button of Intelligent Key is not pressed and held simultaneously	OFF	_
RKE-MODE CHG	When LOCK/UNLOCK button of Intelligent Key is pressed and held simultaneously	ON	
OPTICAL SENSOR	When outside of the vehicle is bright	Close to 5 V	
OI HOAL GLINGUR	When outside of the vehicle is dark	Close to 0 V	_
REQ SW-DR	When driver door request switch is not pressed	OFF	_
ILE GVV-DIX	When driver door request switch is pressed	ON	_
	When passenger door request switch is not pressed	OFF	_
REQ SW-AS	When passenger door request switch is pressed	ON	
DEO SW DD/TD	When trunk request switch is not pressed	OFF	_
REQ SW-BD/TR	When trunk request switch is pressed	ON	_
DUOLLOW!	When engine switch (push switch) is not pressed	OFF	_
PUSH SW	When engine switch (push switch) is pressed	ON	_
	Ignition switch OFF or ACC	OFF	_
IGN RLY -F/B	Ignition switch ON	ON	_

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
ACC RLY -F/B	Ignition switch OFF	OFF
ACCINET -17B	Ignition switch ACC or ON	ON
CLUTCH SW	When the clutch pedal is not depressed	OFF
OLO TOTTOW	When the clutch pedal is depressed	ON
BRAKE SW 1	When the brake pedal is not depressed	ON
BIVARL SW 1	When the brake pedal is depressed	OFF
DETE/CANCL SW	When selector lever is in P position	OFF
DETE/GANGE SW	When selector lever is in any position other than P	ON
SFT PN/N SW	When selector lever is in any position other than P or N	OFF
31 1 111/11 377	When selector lever is in P or N position	ON
S/L -LOCK	Electronic steering column lock LOCK status	OFF
3/L -LUCK	Electronic steering column lock UNLOCK status	ON
S/L -UNLOCK	Electronic steering column lock UNLOCK status	OFF
3/L -UNLOCK	Electronic steering column lock LOCK status	ON
S/L RELAY-F/B	Ignition switch OFF or ACC	OFF
3/L RELAT-F/D	Ignition switch ON	ON
UNLK SEN-DR	Driver door UNLOCK status	OFF
	Driver door LOCK status	ON
DUOLLOW IDDM	When engine switch (push switch) is not pressed	OFF
PUSH SW -IPDM	When engine switch (push switch) is pressed	ON
ION DI VA E/D	Ignition switch OFF or ACC	OFF
IGN RLY1 F/B	Ignition switch ON	ON
DETE CM IDDM	When selector lever is in P position	OFF
DETE SW -IPDM	When selector lever is in any position other than P	ON
CET DN IDDM	When selector lever is in any position other than P or N	OFF
SFT PN -IPDM	When selector lever is in P or N position	ON
OET D. MET	When selector lever is in any position other than P	OFF
SFT P -MET	When selector lever is in P position	ON
OFT N. MET	When selector lever is in any position other than N	OFF
SFT N -MET	When selector lever is in N position	ON
	Engine stopped	STOP
ENGINE OTATE	While the engine stalls	STALL
ENGINE STATE	At engine cranking	CRANK
	Engine running	RUN
0.11.1.0.014.10.014	Electronic steering column lock LOCK status	OFF
S/L LOCK-IPDM	Electronic steering column lock UNLOCK status	ON
0/1 11011 017 1551	Electronic steering column lock UNLOCK status	OFF
S/L UNLCK-IPDM	Electronic steering column lock LOCK status	ON
0# BEL 2/2=2	Ignition switch OFF or ACC	OFF
S/L RELAY-REQ	Ignition switch ON	ON
VEH SPEED 1	While driving	Equivalent to speedometer reading
VEH SPEED 2	While driving	Equivalent to speedometer reading

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

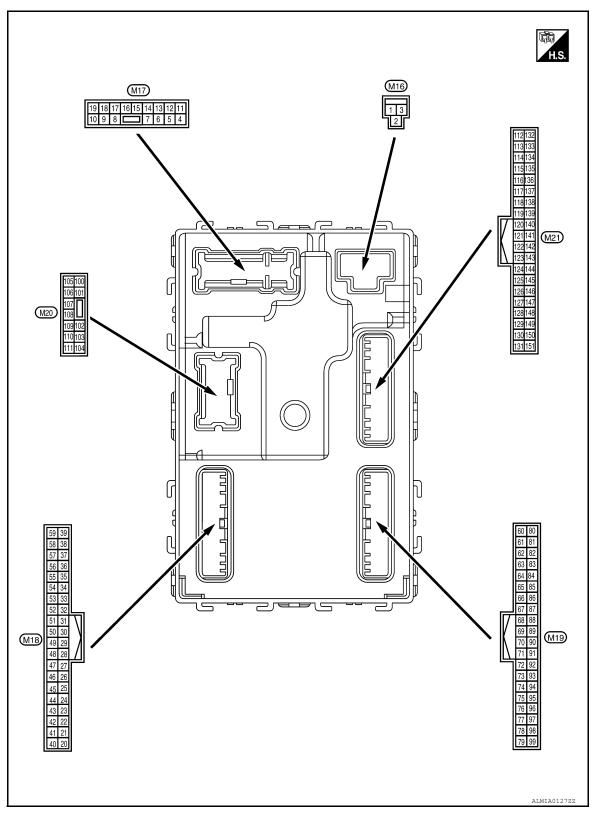
Monitor Item	Condition	Value/Status
	Driver door LOCK status	LOCK
DR DOOR STATE	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door UNLOCK status	UNLK
	Passenger door LOCK status	LOCK
AS DOOR STATE	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door UNLOCK status	UNLK
ID OK FLAG	Ignition switch ACC or ON	RESET
ID OK FLAG	Ignition switch OFF	SET
PRMT ENG STAT	When the engine start is prohibited	RESET
FINIT LING STAT	When the engine start is permitted	SET
KEN SW SLOT	When Intelligent Key is not inserted into key slot	OFF
KEY SW -SLOT	When Intelligent Key is inserted into key slot	ON
RKE OPE COUN1	During the operation of Intelligent Key	Operation frequency of Intelligent Key
AIR PRESS FL	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of rear LH tire
D DECOT EL 4	When ID of front LH tire transmitter is registered	DONE
ID REGST FL1	When ID of front LH tire transmitter is not registered	YET
ID DECCT ED4	When ID of front RH tire transmitter is registered	DONE
ID REGST FR1	When ID of front RH tire transmitter is not registered	YET
ID DECCE DD4	When ID of rear RH tire transmitter is registered	DONE
D REGST RR1	When ID of rear RH tire transmitter is not registered	YET
ID DECCT DI 4	When ID of rear LH tire transmitter is registered	DONE
ID REGST RL1	When ID of rear LH tire transmitter is not registered	YET
MANA DANIANO IL AMAD	Tire pressure indicator OFF	OFF
WARNING LAMP	Tire pressure indicator ON	ON

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Terminal Layout



Physical Values

< ECU DIAGNOSIS INFORMATION >

inal No.	Description				Value	1
e color)	Signal name	Input/ Output		Condition	(Approx.)	
Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage	
Ground	Battery power supply output	Output	Ignition switch OF	F	Battery voltage	
Ground	Ignition power supply output	Output	Ignition switch ON		Battery voltage	
Craund	Interior room lamp	Output	After passing the ir er operation time	nterior room lamp battery sav-	0V	
Ground	power supply	Output			Battery voltage	
Cround	Front door RH UN-	Cutnut	Front door DU	UNLOCK (actuator is activated)	Battery voltage	
Ground	LOCK	Output	Front door RH	Other than UNLOCK (actuator is not activated)	0V	
Granad	Ston Jamp	Outout	Stop James	ON	0V	
Giouria	Step tamp	Output	эсер гаптр	OFF	Battery voltage	
Cround	All deers LOCK	Output All deers	LOCK (actuator is activated)	Battery voltage		
Ground	All doors LOCK	Output	All doors	Other than LOCK (actuator is not activated)	0V	
O a sure d	Front door LH UN-	0	Output Front door LH vated) Other than UNLO	UNLOCK (actuator is activated)	Battery voltage	
Ground	LOCK	Output		Other than UNLOCK (actuator is not activated)	ov	
Cround	Rear door RH and	Output	Rear door RH	UNLOCK (actuator is activated)	Battery voltage	
Ground	LOCK	Output	and rear door LH	Other than UNLOCK (actuator is not activated)	0V	
Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage	
Ground	Ground	_	Ignition switch ON		0V	
				OFF	0V	
Ground	Engine switch (push switch) illumination ground	Input	Tail lamp	ON	NOTE: When the illumination brightening/dimming level is in the neutral position (V) 10 0	P
	e color) (-) Ground	Ground Battery power supply output Ground Ignition power supply output Ground Interior room lamp power supply Ground Step lamp Ground Step lamp Ground Front door RH UNLOCK Ground All doors LOCK Ground Rear door LH UNLOCK Ground Rear door LH UNLOCK Ground Rear door LH UNLOCK Ground Battery power supply Ground Battery power supply Ground Battery power supply Ground Ground Engine switch (push switch) illumination	Signal name Input/ Output Ground Battery power supply Input Ground Battery power supply Output Ground Ignition power supply Output Ground Interior room lamp power supply Output Ground Front door RH UNLOCK Output Ground Step lamp Output Ground All doors LOCK Output Ground Front door LH UNLOCK Output Ground Ground LH UNLOCK Output Ground Rear door LH UNLOCK Output Ground Ground LH UNLOCK Output Ground Ground LH UNLOCK Output Ground Battery power supply Input Ground Ground Ground Input Ground Engine switch (push switch) illumination Input Ground Input Input Ground Input	Signal name Input/Output	Signal name Input/ Output Condition	Signal name Input Output Input Input

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
					OFF	0V
14 ⁸ (R/Y)	Ground	Engine switch (push switch) illumination ground	Input	Tail lamp	ON	NOTE: When the illumination brightening/dimming level is in the neutral position (V) 10 0 JSNIA0010GB
15	Ground	ACC indicator lamp	Output	Ignition switch	OFF	Battery voltage
(Y/L)	Ground	ACC indicator lamp	Output	igilition switch	ACC	OV
					Turn signal switch OFF	0V
17 (G/B)	Ground	Turn signal (RH)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 1 s PKID0926E
					Turn signal switch OFF	0V
18 (G/Y)	Ground	Turn signal (LH)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 s PKID0926E
19		Room lamp timer		Interior room	OFF	Battery voltage
(Y)	Ground	control	Output	lamp	ON	0V
21	Ground	Optical sensor signal	Input	Ignition switch	When outside of the vehi- cle is bright	Close to 5V
(P/B)		3,777	, ,	ON	When outside of the vehi- cle is dark	Close to 0V
22 ²	Ground	Clutch interlock	Input	Clutch interlock	OFF (clutch pedal is not depressed)	0V
(R/Y)	Cround	switch	IIIput	switch	ON (clutch pedal is depressed)	Battery voltage
24 (R/W)	Ground	Stop lamp switch 1	Input		_	Battery voltage
26	Ground		Input		OFF (brake pedal is not depressed)	0V
(O/L)	2.3und		put		ON (brake pedal is depressed)	Battery voltage

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description			• ""	Value
(+)	e color)	Signal name	Input/ Output		Condition	(Approx.)
27 (G/W)	Ground	Front door lock assembly LH (unlock sensor)	Input	Front door LH	LOCK status	(V) 15 10 5 0 10 ms JPMIA0011GB
					UNLOCK status	11.8V
				When Intelligent K	ey is inserted into key slot	Battery voltage
29 (Y)	Ground	Key slot switch	Input	_	ey is not inserted into key slot	0V
				Whom menigent R	OFF	0
30 (V/Y)	Ground	ACC feedback signal	Input	Ignition switch	ACC or ON	Battery voltage
31		Rear window defog-		Rear window de-	OFF	0V
(G)	Ground	ger feedback signal	Input	fogger switch	ON	Battery voltage
32 (R/B)	Ground	Front door RH switch	Input	Front door RH switch	OFF (when front door RH closes)	(V) 15 10 5 0 10 ms 11.8 V
					ON (when front door RH opens)	0V
33 (SB)	Ground	Compressor ON sig- nal	Input	A/C switch	OFF ON	9V - 12V 0V
		Front door lock as-		Front door lock	OFF (neutral)	Battery voltage
34 ³ (L/R)	Ground	sembly LH (key cylinder switch) (unlock)	Input	assembly LH (key cylinder switch)	ON (unlock)	0V
36 ³ (GR)	Ground	Lock switch signal	Input	Door lock/unlock switch	Lock Unlock	Battery voltage 0V
37 (O)	Ground	Trunk lid opener cancel switch	Input	Trunk lid opener cancel switch	CANCEL	(V) 15 10 5 0 10 ms JPMIA0012GB
					ON	1.1V 0V
38					OFF	Battery voltage
(GR/ W)	Ground	Rear window defog- ger ON signal	Input	Rear window de- fogger switch	ON	0V
39 ³				Door look/uplock	Unlock	Battery voltage
(GR/	Ground	Unlock switch signal	Input	Door lock/unlock switch	Lock	0V

< ECU DIAGNOSIS INFORMATION >

Common		inal No. e color)	Description			Condition	Value
Ground Fower window serial Input			Signal name	Input/ Output		Condition	(Approx.)
A1 (W) Ground Engine switch (push switch) illumination Output switch) OFF		Ground			Ignition switch ON		10 5 0 10 ms JPMIA0013GB
Common C					Ignition switch OF	F or ACC	0V
A Ground Coronad C		Ground		Output	Engine switch	ON	5.5V
Common	(W)	Giodila	switch) illumination	Output	mination	OFF	0V
45 Ground Receiver & sensor ground Input gnition switch ON OV		Ground	LOCK indicator lamp	Output			
Ground G				•	ıamp	OFF	Battery voltage
Common C		Ground		Input	Ignition switch ON		0V
ACC or ON 5.0V ACC or ON Standby state		Ground		Output	lanition switch		0V
Standby state Arrow Ground Tire pressure receiver signal Input Input	(V/W)	Cround	power supply output	Оигриг	ignition switch	ACC or ON	5.0V
When receiving the signal from the transmitter When receiving the signal from the transmitter P or N position Except P and N positions ON ON Security indicator signal Output Security indicator Blinking When receiving the signal from the transmitter P or N position Except P and N positions OV Is Is Input Security indicator Is Is Input Security indicator Is Input Input Security indicator Is Input Input		Ground				Standby state	6 4 2 0
(R/G) Ground position signal Input Selector lever Except P and N positions 0V ON ON Ground Security indicator signal Output Security indicator Blinking Security indicator Blinking JPMIA0014GB 11.3V	(G/O)				ON		0 0.2s
49 (L/O) Ground Security indicator signal Output Security indicator Blinking ON ON OV 15 10 15 10 11.3V		Ground		Input	Selector lever	-	
49 (L/O) Ground Security indicator signal Output Security indicator Blinking Security indicator signal Security indicator Blinking 11.3V			· ·				
OFF Battery voltage		Ground		Output	Security indicator		(V) 15 10 5 0 1 s
						OFF	Battery voltage

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

	inal No.	Description				Value
	e color)	Signal name	Input/		Condition	(Approx.)
(+)	(-)		Output		All switch OFF	0V
					Lighting switch 1ST	0 0
					Lighting switch high-beam	(V)
50		0 1: " "		Combination	Lighting switch 2ND	15
(LG/	Ground	Combination switch OUTPUT 5	Input	switch (Wiper intermit-	Lighting switch zivid	10 5 0
B)				tent dial 4)		→
					Turn signal switch RH	2 ms
						JPMIA0031GB 10.7V
					All switch OFF	0.7
					(Wiper intermittent dial 4)	0V
					Front wiper switch HI	
- 4					(Wiper intermittent dial 4)	(V) 15
51 (L/W)	Ground	Combination switch OUTPUT 1	Input	Combination switch	Any of the conditions below with all switch OFF	10
, ,					Wiper intermittent dial 1 Wiper intermittent dial 2	0
					Wiper intermittent dial 2Wiper intermittent dial 3	2 ms
					Wiper intermittent dial 6	JPMIA0032GB
					Wiper intermittent dial 7 All switch OFF	10.7V
					(Wiper intermittent dial 4)	0V
					Front washer switch ON	
					(Wiper intermittent dial 4)	(V)
52 (G/B)	Ground	Combination switch OUTPUT 2	Input	Combination switch	Any of the conditions below	10
(0/0)				SWITCH	with all switch OFF	0 1
					Wiper intermittent dial 1Wiper intermittent dial 5	2 ms
					Wiper intermittent dial 6	JPMIA0033GB
						10.7V
					All switch OFF	0V
					Front wiper switch INT	(V)
53		Combination		Combination	Front wiper switch LO	(V) 15 10
(LG/	Ground	Combination switch OUTPUT 3	Input	switch (Wiper intermit-		10 5 0
R)				tent dial 4)	Lighting switch AUTO	
						2 ms
						JPMIA0034GB 10.7V
					All switch OFF	0V
					Front fog lamp switch ON	
				Combination	Lighting switch 2ND	(V) 15
54	Ground	Combination switch	Input	switch	Lighting switch flash-to-	10
(G/Y)	Cround	OUTPUT 4	input	(Wiper intermit- tent dial 4)	pass	0 1
				tont didi 1/		2 ms
					Turn signal switch LH	JPMIA0035GB
						10.7V
55 (BR/	Ground	Front blower monitor	Input	Front blower mo-	ON	Battery voltage
W)		The state of the s		tor switch	OFF	0V

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
	,	Front door lock as-	•	Front door lock	OFF (neutral)	Battery voltage
56 ³ (L/B)	Ground	sembly LH (key cylin- der switch) (lock)	Input	assembly LH (key cylinder switch)	ON (lock)	0V
57 (W)	Ground	Tire pressure warning check switch	Input		_	Battery voltage
58 (SB)	Ground	Front door LH switch	Input	Front door LH switch	OFF (front door LH CLOSE)	(V) 15 10 5 0 JPMIA0011GB 11.8V
					ON (front door LH OPEN)	0V
59	Ground	Rear window defog-	Output	Rear window de-	Active	Battery voltage
(G/R)	Cround	ger relay	Output	fogger	Not activated	0V
60		Front console antenna 2 (-)	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 11 1 s JMKIA0062GB
(B/R)	Ground			OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB
61 (W/R)	Ground	Center console antenna 2 (+)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	(V) 15 10 5 11 1 s JMKIA0062GB
(W/R)					When Intelligent Key is not in the passenger compartment	(V) 15 10 1

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire (+)	e color)	Signal name	Input/ Output		Condition	(Approx.)
62		Front outside handle	Output	When the front door RH request	When Intelligent Key is in the antenna detection area	(V) 15 10 1
(B/Y)	Ground	RH antenna (-)		switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB
63	Ground	Front outside handle RH antenna (+)	Output	When the front door RH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA0062GB
(LG)	Glound			switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB
64 (V)	0	Front outside handle LH antenna (-)	Output	When the front door LH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
	Ground			switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 1 s JMKIA0063GB

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(+)	e color)	Signal name	Input/ Output		Condition	(Approx.)
65	Ground	Front outside handle LH antenna (+)	Output	When the front door LH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA0062GB
(P)	Ground			switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 11 1 s JMKIA0063GB
68 (G/O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
69 (O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
70 (R/B)	Ground	Ignition relay-2 con- trol	Output	Ignition switch	OFF or ACC	0V
(R/B)		troi	-		ON	Battery voltage
71	Ground	Remote keyless entry receiver signal	Input/ Output	During waiting		(V) 15 0 1 ms 1 ms
(L/O)	Ground			When operating ei	ither button on Intelligent Key	(V) 15 10 5 0 1 ms JMKIA0065GB

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

	ninal No.	Description				Value	,
(Wir	e color)	Signal name	Input/ Output		Condition	(Approx.)	F
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 JPMIA0041GB 1.4V	E (
75 (R/Y)	Ground	Combination switch INPUT 5	Output	Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB	E
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 10 5 0 2 ms JPMIA0040GB	∃I

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Condition Cond		inal No.	Description				Value
All switch OFF (Wiper intermittent dial 4) Combination switch NPUT 3		1	Signal name			Condition	
Combination switch Combination switch Combination switch NPUT 3 Combination switch Combination switch NPUT 3 Combination switch Combination Com				Output			15 10 2 ms JPMIA0041GB
Lighting switch 2ND (Wiper intermittent dial 4) Any of the conditions below with all switch OFF Wiper intermittent dial 1 Wiper intermittent dial 2 Wiper intermittent dial 3 77 (BR) Ground Engine switch (push switch) Republic Switch (push sw	76	Ground					15 10 5 0 2 ms
Any of the conditions below with all switch OFF Wiper intermittent dial 1 Wiper intermittent dial 2 Wiper intermittent dial 2 Wiper intermittent dial 2 Wiper intermittent dial 3 To wiper intermittent dial 3 Regine switch (push switch) Regin	(R/G)		INPUT 3				15 10 5 2 ms JPMIA0037GB
Ground Switch S						with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2	15 10 5 0 2 ms
(BR) switch) (push switch) Not pressed Battery voltage 78 (P) Ground CAN-L Input/ Output — — — — — — — — — — — — — — — — — — —		Ground		Input	Engine switch	Pressed	0V
(P) Ground CAN-L Output — — — — — — — — — — — — — — — — — — —			switch)		(push switch)	Not pressed	Battery voltage
(L) Ground CAN-H Output OFF OV Rey slot illumination Output Key slot illumination Output Francisco Ground (R/L) Ground Key slot illumination Output Francisco Ground (R/L) Ground Key slot illumination Output Francisco Ground Fr	(P)	Ground	CAN-L	Output		_	_
80 (R/L) Ground Key slot illumination Output Key slot illumination Output Figure Blinking Blinking Output 6.5V		Ground	CAN-H			_	_
80 (R/L) Ground Key slot illumination Output Key slot illumination Blinking Blinking Blinking JPMIA0015GB 6.5V						OFF	0V
		Ground	Key slot illumination	Output		Blinking	15 10 5 0 1 s JPMIA0015GB
						ON	

< ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description	I		0 1""	Value	
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)	
81	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	Battery voltage	- - В
(LG)	Ground	ON Indicator lamp	Output	igilition switch	ON	0V	
83	Ground	ACC relay-1 control	Output	Ignition switch	OFF	0V	_
(L)	Crodina	7.00 Tolay Toollar	Оигриг	igintion owner	ACC or ON	Battery voltage	С
84 ⁵ (Y/R)	Ground	CVT shift selector	Output		<u> </u>	Battery voltage	
85	0	Electronic steering	la a d	Electronic steer-	Lock status	0V	D
(L/O)	Ground	column lock condition No. 1	Input	ing column lock	Unlock status	Battery voltage	
86		Electronic steering		Electronic steer-	Lock status	Battery voltage	Е
(G/R)	Ground	column lock condition No. 2	Input	ing column lock	Unlock status	0V	_
87 ⁵	Cra	Selector lever P posi-	lan: ·4	Colootor lours	P position	0V	- F
(G/B)	Ground	tion switch	Input	Selector lever	Any position other than P	Battery voltage	- '
					ON (pressed)	0V	=
88 (P/L) Gro	Ground	Front door RH request switch	Input	Front door RH request switch	OFF (not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB	F
					ON (pressed)	0V	- - 1
89 (B/W)	Ground	Front door LH request switch	Input	Front door LH request switch	OFF (not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB	K
90	Ground	Blower fan motor re-	Output	Ignition switch	OFF or ACC	0V	PC
(Y)	Sibulia	lay control	Output	iginuon switch	ON	Battery voltage	
91 (L/R)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OF	F	Battery voltage	N
94		Electronic steering			OFF or ACC	Battery voltage	-
(G/Y) Ground	column lock power supply	Output	Ignition switch	ON	0V		

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(+)	e color)	Signal name	Input/ Output		Condition	(Approx.)
		Combination switch INPUT 1			All switch OFF	(V) 15 10 5 0 2 ms JPMIA0041GB
95 (R/W)	Ground				Turn signal switch LH	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3V
			Output	Combination switch (Wiper intermittent dial 4)	Turn signal switch RH	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3V
					Front wiper switch LO	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3V
					Front washer switch ON	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3V

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

	inal No.	Description				Value	А
(VVIr	e color)	Signal name	Input/ Output		Condition	(Approx.)	A
	· · ·	Combination switch INPUT 4		Combination switch	All switch OFF (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0041GB 1.4V	ВС
96 (P/B)	Ground				Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3V	E F
			Output		Lighting switch 1ST (Wiper intermittent dial 4)	(V) 15 10 5 0 JPMIA0036GB 1.3V	G H
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3V	J K L

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	inal No.	Description				Value	
(Wire	e color)	Signal name	Input/ Output	Condition		(Approx.)	
					All switch OFF	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4V	
					Lighting switch flash-to- pass	(V) 15 10 5 0 2 ms JPMIA0037GB	
97 (R/B)	Ground	Combination switch INPUT 2	Output	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	(V) 15 10 2 ms JPMIA0036GB 1.3V	
					Front wiper switch INT	(V) 15 10 2 ms 1.3V	
					Front wiper switch HI	10	
					Pressed	0 V	
98 (G/O)	Ground	Hazard switch	Input	Hazard switch	Not pressed	(V) 15 10 5 0 10 ms JPMIA0012GB	

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

	inal No. e color)	Description	I		O a differen	Value	А
(+)	(-)	Signal name	Input/ Output	Condition		(Approx.)	7.
					LOCK status	Battery voltage	В
99 (L/Y)	Ground	Electronic steering column lock unit communication	Input/ Output	Electronic steer- ing column lock	LOCK or UNLOCK	(V) 15 10 50 50 ms	C D
					For 15 seconds after UN- LOCK	Battery voltage	Е
					15 seconds or later after UNLOCK	0V	_
103	Ground	Trunk lid opening	Output	Trunk lid	Open (trunk lid opener actuator is activated)	Battery voltage	F
(V)	Giodila	Trunk ild opening	Output	Train lia	Close (trunk lid opener actuator is not activated)	0V	G
110	Ground	Trunk room lamp	Output	Trunk room lamp	ON	0V	_
(V/W)	Ground	Trank room lamp	Output	Trunk room lamp	OFF	Battery voltage	Н
114		Trunk room antenna		Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 JMKIA0062GB	J
(B)	Ground	1 (-)	Output	OFF	When Intelligent Key is not	(V) 15 10 5	K
					in the passenger compartment	U → J S JMKIA0063GB	PCS

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< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
(Wire	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)	
115	Ground	Trunk room antenna	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB	
(W)	Glouliu	1 (+)	Cutput	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB	
118	Ground	Rear bumper anten-	Output	When the trunk lid request switch	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA0062GB	
(L/O)	Giodile	na (-)	Guipai	is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	
119 (BR/	Ground	Rear bumper anten-	Output	When the trunk lid request switch	When Intelligent Key is in the antenna detection area	(V) 15 10 5 11 1 s JMKIA0062GB	
(BR/ W)	Cround	na (+)	Curput	is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	15 10 5 0	

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value							
(Wire	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)							
127	.,	Ignition relay (IDDM	•		OFF or ACC	Battery voltage							
(BR/ W)	Ground	Ignition relay (IPDM E/R) control	Output	Ignition switch	ON	OV							
130 (Y/G)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (trunk is closed)	(V) 15 10 5 0 10 ms JPMIA0011GB							
					ON (trunk is onen)	11.8V							
					ON (trunk is open) When the clutch pedal is								
				Ignition switch	depressed	Battery voltage							
				OFF (M/T vehi- cle)	When the clutch pedal is not depressed	OV							
132 (R)	Ground	Starter motor relay control		Output Ignition switch ON (other than M. T vehicle)	Output	Output	Output	Output	Output	Output		When selector lever is in P or N position and the brake is depressed	Battery voltage
					When selector lever is in P or N position and the brake is not depressed	ov							
					ON (pressed)	0V							
141 (G/R)	Ground	Trunk request switch	Input	Trunk request switch	OFF (not pressed)	(V) 15 10 10 ms JPMIA0016GB 1.0V							
144	Ground	Request switch buzz-	Output	Request switch	Sounding	0V							
(GR)	Giound	er	Output	buzzer	Not sounding	Battery voltage							
147	Ground	Trunk lid opener	Input	Trunk lid opener	Pressed	0V							
(L/R)	2.300	switch		switch	Not pressed	Battery voltage							
148 ¹ (R/W)	Ground	Rear door RH switch	Input	Rear door RH switch	OFF (when rear door RH closes)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8V							
					ON (when rear door RH opens)	0V							

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

	inal No.	Description				Value
(Wire color)		Signal name	Input/		Condition	(Approx.)
(+)	(-)	3	Output			
149 ¹ (R/B)	Ground	Rear door LH switch	Input	Rear door LH switch	OFF (when rear door LH closes)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8V
					ON (when rear door LH opens)	0V

- 1: Sedan only
- 2: M/T only
- 3: With LH front window anti-pinch
- 4: With LH and RH front window anti-pinch.
- 5: CVT only
- 6: With auto lights
- 7: With low tire pressure warning system
- 8: Coupe only

Fail Safe

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit engine cranking	Erase DTC
B2014: CHAIN OF S/L-BCM	Inhibit engine cranking	Erase DTC
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI-SCANNING	Inhibit engine cranking	Erase DTC
B2557: VEHICLE SPEED	Inhibit electronic steering column lock	When normal vehicle speed signals have been received from ABS actuator and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent • Starter control relay signal • Starter relay status signal
B2562: LO VOLTAGE	Inhibit engine cranking Inhibit electronic steering column lock	100 ms after the power supply voltage increases to more than 8.8 V
B2601: SHIFT POSITION	Inhibit electronic steering column lock	 500 ms after the following signal reception status becomes consistent Selector lever P position switch signal P range signal (CAN)
B2602: SHIFT POSITION	Inhibit electronic steering column lock	5 seconds after the following BCM recognition conditions are ful- filled Ignition switch is in the ON position Selector lever P position switch signal: Except P position (battery voltage) Vehicle speed: 4 /h or more

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

Display contents of CONSULT	Fail-safe	Cancellation
B2603: SHIFT POSI STATUS	Inhibit electronic steering column lock	 500 ms after the following BCM recognition conditions are fulfilled Ignition switch is in the ON position Selector lever P position switch signal: Except P position (battery voltage) Selector lever P/N position signal: Except P and N positions (0 V)
B2604: PNP SW	Inhibit electronic steering column lock	 500 ms after any of the following BCM recognition conditions is fulfilled Status 1 Ignition switch is in the ON position Selector lever P/N position signal: P and N position (battery voltage) P range signal or N range signal (CAN): ON Status 2 Ignition switch is in the ON position Selector lever P/N position signal: Except P and N positions (0 V) P range signal and N range signal (CAN): OFF
B2605: PNP SW	Inhibit electronic steering column lock	500 ms after any of the following BCM recognition conditions is fulfilled • Ignition switch is in the ON position - Power position: IGN - Selector lever P/N position signal: Except P and N positions (0 V) - Interlock/transmission switch signal (CAN): OFF • Status 2 - Ignition switch is in the ON position - Selector lever P/N position signal: P or N position (battery voltage) - transmission switch signal (CAN): ON
B2606: S/L RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent • Electronic steering column lock relay signal (Request signal) • Electronic steering column lock relay signal (Condition signal)
B2607: S/L RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent • Electronic steering column lock relay signal (Request signal) • Electronic steering column lock relay signal (Condition signal)
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent • Starter motor relay control signal • Starter relay status signal (CAN)
B2609: S/L STATUS	Inhibit engine cranking Inhibit electronic steering column lock	When the following electronic steering column lock conditions agree BCM electronic steering column lock control status Electronic steering column lock condition No. 1 signal status Electronic steering column lock condition No. 2 signal status
B260A: IGNITION RELAY	Inhibit engine cranking	 500 ms after the following conditions are fulfilled IGN relay (IPDM E/R) control signal: OFF (Battery voltage) Ignition ON signal (CAN to IPDM E/R): OFF (Request signal) Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions is fulfilled • Power position changes to ACC • Receives engine status signal (CAN)
B2612: S/L STATUS	Inhibit engine cranking Inhibit electronic steering column lock	When any of the following conditions is fulfilled Electronic steering column lock unit status signal (CAN) is received normally The BCM electronic steering column lock control status matches the electronic steering column lock status recognized by the electronic steering column lock unit status signal (CAN from IPDM E/R)
		1 second after the starter motor relay control inside BCM becomes

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< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

Display contents of CONSULT	Fail-safe	Cancellation
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal
B2619: BCM	Inhibit engine cranking	1 second after the electronic steering column lock unit power supply output control inside BCM becomes normal
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization
B26E1: ENG STATE NO RECIV	Inhibit engine cranking	When any of the following conditions is fulfilled • Power position changes to ACC • Receives engine status signal (CAN)
B26E8: CLUTCH SW	Inhibit engine cranking	When any of the following BCM recognition conditions are fulfilled • Status 1 - Clutch switch signal (CAN from ECM): ON - Clutch interlock switch signal: OFF (0 V) • Status 2 - Clutch switch signal (CAN from ECM): OFF - Clutch interlock switch signal: OFF (Battery voltage)
B26E9: S/L STATUS	Inhibit engine cranking Inhibit electronic steering column lock	When BCM transmits the LOCK request signal to the steering lock unit and receives LOCK response signal from steering lock unit, the following conditions are fulfilled • Steering condition No 1 signal: LOCK (0V) • Steering condition No 2 signal: LOCK (Battery voltage)

DTC Inspection Priority Chart

INFOID:0000000007630914

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	DTC
1	B2562: LOW VOLTAGE
2	U1000: CAN COMM CIRCUIT U1010: CONTROL UNIT (CAN)
3	B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2195: ANTI SCANNING

< ECU DIAGNOSIS INFORMATION >

Priority	DTC	
	B2013: ID DISCORD BCM-S/L	
	B2014: CHAIN OF S/L-BCM POSES JONITION RELAY	
	B2553: IGNITION RELAY B2555: STOP LAMP	
	B2556: PUSH-BTN IGN SW	
	B2557: VEHICLE SPEED	
	B2560: STARTER CONT RELAY	
	B2601: SHIFT POSITION	
	B2602: SHIFT POSITION	
	B2603: SHIFT POSI STATUS B2604: PNP SW	
	B2605: PNP SW	
	• B2606: S/L RELAY	
	• B2607: S/L RELAY	
	B2608: STARTER RELAY	
	• B2609: S/L STATUS	
	B260A: IGNITION RELAY B260B: STEERING LOCK UNIT	
4	B260C: STEERING LOCK UNIT	
7	B260D: STEERING LOCK UNIT	
	B260F: ENG STATE SIG LOST	
	B2611: ACC RELAY	
	B2612: S/L STATUS	
	B2614: ACC RELAY CIRC B2645: B1 CMED B51 AV CIRC B265: B1 CMED B51 AV CI	
	B2615: BLOWER RELAY CIRC B2616: IGN RELAY CIRC	
	B2617: STARTER RELAY CIRC	
	• B2618: BCM	
	• B2619: BCM	
	B261A: PUSH-BTN IGN SW	
	B261E: VEHICLE TYPE B261	
	B26E1: ENG STATE NO RECIV B26E8: CLUTCH SW	
	B26E9: S/L STATUS	
	B26EA: KEY REGISTRATION	
	C1729: VHCL SPEED SIG ERR	
	U0415: VEHICLE SPEED SIG	
	C1704: LOW PRESSURE FL	
	C1705: LOW PRESSURE FR	
	C1706: LOW PRESSURE RR C1707: LOW PRESSURE RI	
	C1707: LOW PRESSURE RL C1708: [NO DATA] FL	
	• C1709: [NO DATA] FR	
	C1710: [NO DATA] RR	-
	• C1711: [NO DATA] RL	F
	C1712: [CHECKSUM ERR] FL	
	C1713: [CHECKSUM ERR] FR C1744: [CHECKSUM ERR] PR	_
	C1714: [CHECKSUM ERR] RR C1715: [CHECKSUM ERR] RL	
5	C1716: [PRESSDATA ERR] FL	
Ü	C1717: [PRESSDATA ERR] FR	
	C1718: [PRESSDATA ERR] RR	
	C1719: [PRESSDATA ERR] RL	
	C1720: [CODE ERR] FL C1720: [CODE ERR	
	• C1721: [CODE ERR] FR	
	C1722: [CODE ERR] RR C1723: [CODE ERR] RL	
	C1723: [CODE ERR] RL C1724: [BATT VOLT LOW] FL	
	C1725: [BATT VOLT LOW] FR	
	C1726: [BATT VOLT LOW] RR	
	C1727: [BATT VOLT LOW] RL	
	C1734: CONTROL UNIT	
6	B2622: INSIDE ANTENNA	
0	B2623: INSIDE ANTENNA	

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

DTC Index

NOTE:

Details of time display

- CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF → ON again.
- 1 39: Displayed if any previous malfunction is present when current condition is normal. It increases like 1
 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The counter
 remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch
 OFF → ON after returning to the normal condition if the malfunction is detected again.

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	_	_	_	BCS-32
U1010: CONTROL UNIT (CAN)	_	_	_	BCS-33
U0415: VEHICLE SPEED SIG	_	_	_	BCS-34
B2013: ID DISCORD BCM-S/L	×	_	_	SEC-36 (Coupe), SEC-250 (Sedan)
B2014: CHAIN OF S/L-BCM	×	_	_	SEC-37 (Coupe), SEC-251 (Sedan)
B2190: NATS ANTENNA AMP	×	_	_	SEC-65 (Coupe), SEC-281 (Sedan)
B2191: DIFFERENCE OF KEY	×	_	_	SEC-69 (Coupe), SEC-285 (Sedan)
B2192: ID DISCORD BCM-ECM	×	_	_	SEC-70 (Coupe), SEC-286 (Sedan)
B2193: CHAIN OF BCM-ECM	×	_	_	SEC-71 (Coupe), SEC-287 (Sedan)
B2195: ANTI-SCANNING	_	_	_	<u>SEC-72</u>
B2553: IGNITION RELAY	_	_	_	PCS-59
B2555: STOP LAMP	_	_	_	SEC-73 (Coupe), SEC-289 (Sedan)
B2556: PUSH-BTN IGN SW	_	×	_	SEC-78 (Coupe), SEC-294 (Sedan)
B2557: VEHICLE SPEED	×	×	_	SEC-80 (Coupe), SEC-296 (Sedan)
B2560: STARTER CONT RELAY	×	×	_	SEC-81 (Coupe), SEC-297 (Sedan)
B2562: LOW VOLTAGE	_		_	BCS-35
B2601: SHIFT POSITION	×	×	_	SEC-82 (Coupe), SEC-298 (Sedan)
B2602: SHIFT POSITION	×	×		SEC-86 (Coupe), SEC-302 (Sedan)
B2603: SHIFT POSI STATUS	×	×	_	SEC-89 (Coupe), SEC-305 (Sedan)
B2604: PNP SW	×	×	_	SEC-92 (Coupe), SEC-308 (Sedan)
B2605: PNP SW	×	×	_	SEC-94 (Coupe), SEC-310 (Sedan)
B2606: S/L RELAY	×	×	_	SEC-96 (Coupe), SEC-312 (Sedan)

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

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В

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Е

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Н

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2607: S/L RELAY	×	×	_	SEC-97 (Coupe), SEC-313 (Sedan)
B2608: STARTER RELAY	×	×	_	SEC-99 (Coupe), SEC-315 (Sedan)
B2609: S/L STATUS	×	×	_	SEC-101 (Coupe), SEC-317 (Sedan)
B260A: IGNITION RELAY	×	×	_	PCS-61
B260B: STEERING LOCK UNIT	_	×	_	SEC-106 (Coupe), SEC-322 (Sedan)
B260C: STEERING LOCK UNIT	_	×	_	SEC-107 (Coupe), SEC-323 (Sedan)
B260D: STEERING LOCK UNIT	_	×	_	SEC-108 (Coupe), SEC-324 (Sedan)
B260F: ENG STATE SIG LOST	×	×	_	SEC-109 (Coupe), SEC-325 (Sedan)
B2611: ACC RELAY	_	_	_	PCS-62
B2612: S/L STATUS	×	×	_	SEC-110 (Coupe), SEC-331 (Sedan)
B2614: ACC RELAY CIRC	_	×	_	PCS-64
B2615: BLOWER RELAY CIRC	_	×	_	PCS-67
B2616: IGN RELAY CIRC	_	×	_	PCS-70
B2617: STARTER RELAY CIRC	×	×	_	SEC-115 (Coupe), SEC-336 (Sedan)
B2618: BCM	×	×	_	PCS-73
B2619: BCM	×	×	_	SEC-117 (Coupe), SEC-338 (Sedan)
B261A: PUSH-BTN IGN SW	_	×	_	SEC-118 (Coupe), SEC-339 (Sedan)
B261E: VEHICLE TYPE	×	× (Turn ON for 15 seconds)	_	<u>SEC-121</u>
B2622: INSIDE ANTENNA	_	_	_	DLK-282
B2623: INSIDE ANTENNA	_	_	_	DLK-285
B26E1: ENG STATE NO RES	×	×	_	SEC-326
B26E8: CLUTCH SW	×	×	_	SEC-123
B26E9: S/L STATUS	×	× (Turn ON for 15 seconds)	_	SEC-125
B26EA: KEY REGISTRATION	×	× (Turn ON for 15 seconds)	_	SEC-126
C1704: LOW PRESSURE FL	_	_	×	<u>WT-8</u>
C1705: LOW PRESSURE FR	_	_	×	<u>WT-8</u>
C1706: LOW PRESSURE RR	_	_	×	<u>WT-8</u>
C1707: LOW PRESSURE RL	_	_	×	<u>WT-8</u>
C1708: [NO DATA] FL			×	<u>WT-13</u>
C1709: [NO DATA] FR	_	_	×	<u>WT-13</u>
C1710: [NO DATA] RR	_	_	×	<u>WT-13</u>
C1711: [NO DATA] RL			×	<u>WT-13</u>
C1712: [CHECKSUM ERR] FL	_	_	×	<u>WT-15</u>

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[POWER DISTRIBUTION SYSTEM]

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
C1713: [CHECKSUM ERR] FR	_	_	×	<u>WT-15</u>
C1714: [CHECKSUM ERR] RR	_	_	×	<u>WT-15</u>
C1715: [CHECKSUM ERR] RL	_	_	×	<u>WT-15</u>
C1716: [PRESSDATA ERR] FL	_	_	×	<u>WT-17</u>
C1717: [PRESSDATA ERR] FR	_	_	×	<u>WT-17</u>
C1718: [PRESSDATA ERR] RR	_	_	×	<u>WT-17</u>
C1719: [PRESSDATA ERR] RL	_	_	×	<u>WT-17</u>
C1720: [CODE ERR] FL	_	_	×	<u>WT-15</u>
C1721: [CODE ERR] FR	_	_	×	<u>WT-15</u>
C1722: [CODE ERR] RR	_	_	×	<u>WT-15</u>
C1723: [CODE ERR] RL	_	_	×	<u>WT-15</u>
C1724: [BATT VOLT LOW] FL	_	_	×	<u>WT-15</u>
C1725: [BATT VOLT LOW] FR	_	_	×	<u>WT-15</u>
C1726: [BATT VOLT LOW] RR	_	_	×	<u>WT-15</u>
C1727: [BATT VOLT LOW] RL	_	_	×	<u>WT-15</u>
C1729: VHCL SPEED SIG ERR	_	_	×	<u>WT-18</u>
C1734: CONTROL UNIT	_	_	×	<u>WT-19</u>

< ECU DIAGNOSIS INFORMATION >

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

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Reference Value INFOID:0000000007630916

VALUES ON THE DIAGNOSIS TOOL

Monitor Item		Condition				
RADFAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	0 - 100 %			
		A/C switch OFF	Off			
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On			
TAIL OCUD DEO	Lighting switch OFF		Off			
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or	AUTO (Light is illuminated)	On			
111 1 0 DEO	Lighting switch OFF		Off			
HL LO REQ	Lighting switch 2ND HI or AUTC	(Light is illuminated)	On			
III III DEO	Lighting switch OFF		Off			
HL HI REQ	Lighting switch HI		On			
FD FOO DEO	Lighting switch 2ND or	Front fog lamp switch OFF	Off			
FR FOG REQ	AUTO (Light is illuminated)	Front fog lamp switch ON	On			
		Front wiper switch OFF	STOP			
	Ignition switch ON	Front wiper switch INT	1LOW			
FR WIP REQ		Front wiper switch LO	Low			
		Front wiper switch HI	Hi			
	Ignition switch ON	Front wiper stop position	STOP P			
WIP AUTO STOP		Any position other than front wiper stop position	ACT P			
		Front wiper operates normally	Off			
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe operation	BLOCK			
ION DIVA DEO	Ignition switch OFF or ACC		Off			
IGN RLY1 -REQ	Ignition switch ON	On				
ION DIV	Ignition switch OFF or ACC		Off			
IGN RLY	Ignition switch ON	On				
DUCLION	Release the push-button ignition	Release the push-button ignition switch				
PUSH SW	Press the push-button ignition s	On				
	Ignition switch ON	CVT selector lever in any position other than P or N (CVT models)	Off			
INTED/ND CM		Release clutch pedal (M/T models)				
INTER/NP SW	Ignition switch ON	CVT selector lever in P or N position (CVT models)	On			
		Depress clutch pedal (M/T models)				
ST RLY CONT	Ignition switch ON		Off			
OI KLI CONI	At engine cranking		On			
IHRT DIV DEO	Ignition switch ON	Off				
IHBT RLY -REQ	At engine cranking	On				

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< ECU DIAGNOSIS INFORMATION >

Monitor Item	Co	ndition	Value/Status		
	Ignition switch ON		Off		
	At engine cranking		ST →INHI		
ST/INHI RLY	,	The status of starter relay or starter control relay cannot be recognized by the battery voltage malfunction, etc. when the starter relay is ON and the starter control relay is OFF			
DETENT SW	Ignition switch ON	Press the selector button with CVT selector lever in P position CVT selector lever in any position other than P	Off		
	Release the CVT selector button w NOTE: The lever is fixed ON for M/T	On			
	None of the conditions below are p	Off			
S/L RLY -REQ	 Open the driver door after the ig seconds) Press the push-button ignition so ed Depress the clutch pedal when the seconds 	On			
	Steering lock is activated		LOCK		
S/L STATE	Steering lock is deactivated	UNLK			
	[DTC B210A] is detected	UNKWN			
OIL P SW	Ignition switch OFF, ACC or engine	e running	Open		
OIL F 3W	Ignition switch ON	Close			
	Not operated	Off			
THFT HRN REQ	Panic alarm is activatedHorn is activated with VEHICLE TEM	On			
HODN CHIDD	Not operated		Off		
HORN CHIRP	Door locking with Intelligent Key (h	orn chirp mode)	On		

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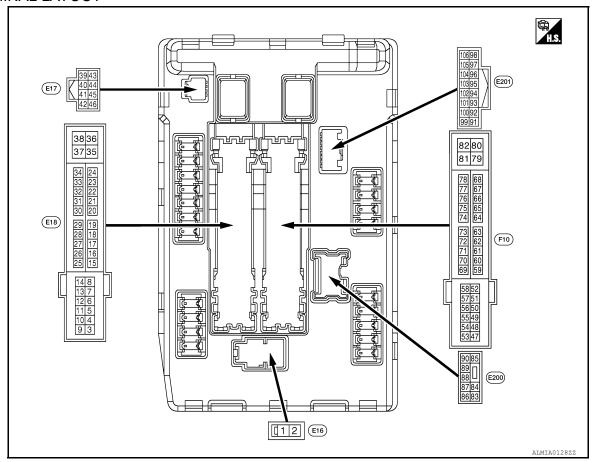
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< ECU DIAGNOSIS INFORMATION >

TERMINAL LAYOUT



PHYSICAL VALUES

							J									
Terminal		Description	Description			Value										
(Wire co	lor)	Signal name	Input/ Output		Condition	(Approx.)	K									
1 (R)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage	<u> </u>									
2 (L)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage	_ L									
4	Cround	Front winer I O	Output	Ignition	Front wiper switch OFF	0 V										
(LG)	G) Ground Front wiper LO	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage	PCS									
5	01	Foot Section	0.1.1	Ignition	Front wiper switch OFF	0 V										
(Y)	Ground	Front wiper HI	Output	switch ON	Front wiper switch HI	Battery voltage	N									
7	Cround	Tail, license plate lamps &	Output	Ignition	Lighting switch OFF	0 V										
(GR)	Ground	interior lamps	interior lamps	interior lamps	interior lamps	interior lamps	interior lamps	interior lamps	interior lamps	interior lamps	interior lamps	Output	switch ON	Lighting switch 1ST	Battery voltage	
40				Ignition swi (For a few s switch OFF	seconds after turning ignition	0 V	0									
10 (BR)	10 (BR) Ground ECM relay power supply	Output	Ignition s (More that	witch ON witch OFF an a few seconds after turn- on switch OFF)	Battery voltage	Р										

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< ECU DIAGNOSIS INFORMATION >

Terminal	-	Description				Value
(Wire co	ior) _	Signal name	Input/ Output		Condition	(Approx.)
				Ignition switch OFF	A few seconds after opening the driver door	Battery voltage
11 (O)	Ground	Electronic steering column lock power supply	Output	Ignition switch LOCK	Press the push-button ignition switch	Battery voltage
				Ignition sw	itch ACC or ON	0 V
12 (B)	Ground	Ground		Ignition sw	itch ON	0 V
40					tely 1 second or more after ignition switch ON	0 V
13 (SB)	Ground	Fuel pump power supply	Output		nately 1 second after turning on switch ON unning	Battery voltage
15	Ground	Ignition relay-1 power sup-	Output	Ignition sw	itch OFF	0 V
(W)	Ground	ply	Output	Ignition sw	itch ON	Battery voltage
16				Ignition	Front wiper stop position	0 V
(R)	Ground	Front wiper auto stop	Input	switch ON	Any position other than front wiper stop position	Battery voltage
19	Ground	Ignition relay-1 power sup-	Output	Ignition sw	itch OFF	0 V
(Y)	Cround	ply	Output	Ignition sw	itch ON	Battery voltage
20 (L)	Ground	Ambient sensor ground	1	Ignition switch ON		0V
21 (LG)	Ground	Ambient sensor	_	Ignition switch ON		5V
22 (W/R)	Ground	Refrigerant pressure sensor ground	_	Ignition sw	itch ON	0V
23 (B/R)	Ground	Refrigerant pressure sensor	_	Ignition switch ON (READY) Both A/C switch and blower motor switch ON (electric compressor operates)		1.0 - 4.0V
24 (BR/W)	Ground	Refrigerant pressure sensor power supply	_	Ignition sw	itch ON	5V
25	Ground	Ignition relay-1 power sup-	Output	Ignition sw	itch OFF	0 V
(GR)	Ground	ply	Output	Ignition sw	itch ON	Battery voltage
27	Ground	Ignition relay monitor	Input	Ignition sw	itch OFF or ACC	Battery voltage
(W)	Cround	ignition relay monto	iriput	Ignition sw	itch ON	0 V
28	Ground	Push-button ignition	Input	Press the p	oush-button ignition switch	0 V
(SB)	2.30	switch		Release th	e push-button ignition switch	Battery voltage
30 (R)		ound Starter relay control		CVT mod-	CVT selector lever in any position other than P or N (ignition switch ON)	0 V
(with M/T) 30 (BR) (with CVT)	Ground		Input		CVT selector lever P or N (ignition switch ON)	Battery voltage
(WILLI GVI)				M/T mod-	Release the clutch pedal	0 V
				els	Depress the clutch pedal	Battery voltage

< ECU DIAGNOSIS INFORMATION >

Termina (Wire c		Description			Condition	Value		
+	-	Signal name	Input/ Output		Condition	(Approx.)		
32	C*50.15d	Electronic steering column	lane of	Electronic steering column lock is activated		0 V		
(P)	Ground	lock unit condition-1	Input	Electronic s	steering column lock is deac-	Battery voltage		
33	Ground	Electronic steering column	Input	Electronic s	steering column lock is acti-	Battery voltage		
(G)	Ground	lock unit condition-2	iliput	Electronic stivated	steering column lock is deac-	0 V		
34	Cround	Cooling for roley 2 central	Innut	Ignition sw	itch OFF or ACC	0 V		
(O)	Ground	Cooling fan relay-3 control	Input	Ignition sw	itch ON	0.7 V		
35	01	0	0 1 1	Ignition sw	itch OFF or ACC	0 V		
(P)	Ground	Cooling fan motor control	Output	Ignition sw	itch ON	0.7 V		
36 (G)	Ground	Battery power supply	Input	Ignition sw	itch OFF	Battery voltage		
38	Ground	Cooling fan motor control	Output	Ignition sw	itch OFF or ACC	0 V		
(GR)	Giouna	Cooming fair motor control	σαιραι	Ignition sw	itch ON	0.7 V		
39 (P)	_	CAN - L	Input/ Output		_	_		
40 (L)	_	CAN - H	Input/ Output	_		_		
41 (B)	Ground	Ground	_	Ignition sw	itch ON	0 V		
42	Cround	Cooling for roley 2 central	Ignition swif		itch OFF or ACC	0 V		
(SB)	Ground	Cooling fan relay-2 control	Input	Ignition sw	itch ON	0.7 V		
					Press the CVT selector button (CVT selector lever P)	Battery voltage		
43 (Y)	Ground	CVT shift selector (Detention switch)	ind	Inniit	Input	Ignition switch ON	CVT selector lever in any position other than P Release the CVT selector button (CVT selector lever P)	0 V
44	Cround	Horn rolay control	Input	The horn is	deactivated	Battery voltage		
(W)	Ground	Horn relay control	Input	The horn is	s activated	0 V		
45	Ground	Anti theft horn relay control	Input	The horn is	s deactivated	Battery voltage		
(GR)	Giound	And their norm letay control	iriput	The horn is	s activated	0 V		
				CVT mod-	CVT selector lever in any position other than P or N (ignition switch ON)	0 V		
46 (BR)	Ground	Starter relay control	Input	els	CVT selector lever P or N (ignition switch ON)	Battery voltage		
				M/T mod-	Release the clutch pedal	0 V		
				els	Depress the clutch pedal	Battery voltage		
					A/C switch OFF	0 V		
48 (W)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is operating)	Battery voltage		

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< ECU DIAGNOSIS INFORMATION >

Terminal I	-	Description				Value
(Wire cole	or) _	Signal name	Input/ Output		Condition	(Approx.)
				Ignition swi (For a few s switch OFF	seconds after turning ignition	0 V
49 (V)	Ground	ECM relay power supply	Output	,		Battery voltage
51	0	120	0 1 1	Ignition swi	tch OFF	0 V
(SB)	Ground	Ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage
52	01	122	0 1: 1	Ignition swi	tch OFF	0 V
(Y)	Ground	Ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage
53 (V)				Ignition swi (For a few s switch OFF	seconds after turning ignition	0 V
(with QR25DE) 53 (G) (with VQ35DE)	Ground	ECM relay power supply	Output	,		Battery voltage
	Ground Throttle control motor relay power supply		switch OFF)		seconds after turning ignition	0 V
54 (GR)			Output	 Ignition switch ON Ignition switch OFF (More than a few seconds after turning ignition switch OFF) 		Battery voltage
55 (LG)	Ground	ECM power supply	Output	Ignition switch OFF		Battery voltage
56	Ground	lanition roley newer cumply	Output	Ignition swi	tch OFF	0 V
(R)	Giouna	Ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage
57	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
(O)	Giodila	igilition relay power supply	Output	Ignition swi	tch ON	Battery voltage
58				Ignition switch OFF		0 V
(BR) (with CVT)	Ground	Ignition relay power supply	Output	Ignition switch ON		Battery voltage
				Ignition swi (For a few s switch OFF	seconds after turning ignition	Battery voltage
(SB)	69 (SB) Ground ECM relay control Output	Output	,		0 - 1.5 V	
						0 -1.0 V
70		Throttle central mater re		lanition swi	tch ON → OFF	↓ Battery voltage
70 (G)	Ground	Throttle control motor re- lay control	Output	19.11071 341	511	Dattery Voltage ↓ 0 V
				Ignition swi	tch ON	0 - 1.0 V
		-			CVT selector lever in P or N position	Battery voltage
72 (W)	Ground	Transmission range switch signal	Input	Ignition switch ON	CVT selector lever in any position other than P or N position	0 V

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< ECU DIAGNOSIS INFORMATION >

Termina (Wire c		Description			Condition	Value		
+	-	Signal name	Input/ Output		Condition	(Approx.)		
74	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V		
(L)	Ground	ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage		
75	Cround	Oil processrs assitab	lan. it	Ignition	Engine stopped	0 V		
(LG)	Ground	Oil pressure switch	Input	switch ON	Engine running	Battery voltage		
				Ignition swi	tch ON	(V) 6 4 2 0 		
						6.3 V		
76 (Y)	Ground	Power generation command signal	Output	Output		on "Active test", "ALTERNA- " of "ENGINE"	(V) 6 4 2 0 	
				on "Active test", "ALTERNA- " of "ENGINE"	3.8 V (V) 6 4 2 0 1 42 2 2 2 2 3 2 3 3 3 3 3 4 4 4 4 4 4 4			
						JPMIA0003GB		
77 (B/R)	Ground	Fuel pump relay control	Output	the ignition the ignition that the ignition that is a second to the ignition of the ignition o	-	0 - 1.0 V		
. ,					tely 1 second or more after ignition switch ON	Battery voltage		
80 (R)	Ground	Starter motor	Output	At engine of	eranking	Battery voltage	F	
83	Ground	Headlamp LO (RH)	Output	Output	Ignition	Lighting switch OFF	0 V	
(R/Y)	Ciodila	Troductiff EO (1411)		switch ON	Lighting switch 2ND	Battery voltage		
84	Ground	Headlamp LO (LH)	Output	Ignition	Lighting switch OFF	0 V		
(L)	Giodila	Headianip LO (LH)	Output	switch ON	Lighting switch 2ND	Battery voltage		
86	_	Front fog lamp (RH)		Lighting	Front fog lamp switch ON	Battery voltage		
(W/R)	Ground	(If equipped)	Output	switch 2ND	Front fog lamp switch OFF	0 V		
87	_	Front fog lamp (LH)		Lighting	Front fog lamp switch ON	Battery voltage		
(L/Y)	Ground	(If equipped)	Output	switch 2ND	Front fog lamp switch OFF	0 V		
88 (R/W)	Ground	Washer pump power supply	Output	Ignition swi	tch ON	Battery voltage		

< ECU DIAGNOSIS INFORMATION >

Terminal		Description				Value	
(Wire col	or) _	Signal name	Input/ Output		Condition	(Approx.)	
89 (L/W)	Ground	Headlamp HI (RH)	Output	Ignition switch ON	Lighting switch HI lighting switch PASS	Battery voltage	
(L/VV)				SWILCH ON	Lighting switch OFF	0 V	
90 (G)	Ground	Headlamp HI (LH)	Output	Ignition switch ON	Lighting switch HI Lighting switch PASS	Battery voltage	
(G)				SWILCH ON	Lighting switch OFF	0 V	
91	Ground	Parking lamp (RH)	Output	Ignition	Lighting switch 1ST	Battery voltage	
(LG/R)	Ground	Faiking lamp (IXII)	Output	switch ON	Lighting switch OFF	0 V	
92	Ground	Parking lamp (LH)	Output	Ignition	Lighting switch 1ST	Battery voltage	
(LG/B)	Ground	raiking lamp (LH)	Output	switch ON	Lighting switch OFF	0 V	
99 (BR/W)	Ground	Ambient sensor ground	_	Ignition switch ON		0V	
100 (SB)	Ground	Ambient sensor	_	Ignition sw	itch ON	5V	
101 (O/L)	Ground	Refrigerant pressure sensor ground	_	Ignition switch ON		0V	
102 (R/B)	Ground	Refrigerant pressure sensor	_	Ignition switch ON (READY) Both A/C switch and blower motor switch ON (electric compressor operates)		1.0 - 4.0V	
103 (P)	Ground	Refrigerant pressure sensor power supply	_	Ignition switch ON		5V	

Fail Safe INFOID:0000000007630917

CAN COMMUNICATION CONTROL

When CAN communication with ECM and BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With ECM

Control part	Fail-safe in operation
Cooling fan	 Signals cooling fans ON when the ignition switch is turned ON Signals cooling fans OFF when the ignition switch is turned OFF
A/C compressor	A/C relay OFF
Generator	Outputs the power generation command signal (PWM signal) 0%

If No CAN Communication Is Available With BCM

Control part	Fail-safe in operation
Headlamp	Turns ON the headlamp low relay when the ignition switch is turned ON Turns OFF the headlamp low relay when the ignition switch is turned OFF Headlamp high relay OFF
Parking lampsLicense plate lampsIlluminationTail lamps	Turns ON the tail lamp relay when the ignition switch is turned ON Turns OFF the tail lamp relay when the ignition switch is turned OFF
Front wiper	 The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed. The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.

< ECU DIAGNOSIS INFORMATION >

Control part	Fail-safe in operation
Front fog lamps (if equipped)	Front fog lamp relay OFF
Horn	Horn OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter control relay OFF
Electronic steering column lock unit	Steering lock relay OFF

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors the voltage at the contact circuit and excitation coil circuit of the ignition relay inside it.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the excitation coil circuit.
- · If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

DTC	Ignition switch	Ignition relay	Tail lamp relay
_	ON	ON	_
_	OFF	OFF	_
B2098: IGN RELAY ON	OFF	ON	ON (10 minutes)
B2099: IGN RELAY OFF	ON	OFF	_

NOTE:

The tail lamp turns OFF when the ignition switch is turned ON.

FRONT WIPER CONTROL

IPDM E/R detects front wiper stop position by a front wiper auto stop signal.

When a front wiper auto stop signal is in the conditions listed below, IPDM E/R stops power supply to wiper after repeating a front wiper 10 second activation and 20 second stop five times.

Ignition switch	Front wiper switch	Auto stop signal
ON	OFF	Front wiper stop position signal cannot be input 10 seconds.
	ON	The signal does not change for 10 seconds.

NOTE:

This operation status can be confirmed on the IPDM E/R "Data Monitor" that displays "BLOCK" for the item "WIP PROT" while the wiper is stopped.

STARTER MOTOR PROTECTION FUNCTION

IPDM E/R turns OFF the starter control relay to protect the starter motor when the starter control relay remains active for 90 seconds.

DTC Index INFOID:0000000007630918

CONSULT display	Fail-safe	TIME ^{NOTE}		Refer to
No DTC is detected. further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	×	CRNT	1 – 39	PCS-17
B2098: IGN RELAY ON	×	CRNT	1 – 39	PCS-18
B2099: IGN RELAY OFF	_	CRNT	1 – 39	PCS-19
B2108: STRG LCK RELAY ON	_	CRNT	1 – 39	SEC-255
B2109: STRG LCK RELAY OFF	_	CRNT	1 – 39	SEC-256
B210A: STRG LCK STATE SW	_	CRNT	1 – 39	<u>SEC-257</u>
B210B: START CONT RLY ON	_	CRNT	1 – 39	SEC-262
B210C: START CONT RLY OFF	_	CRNT	1 – 39	SEC-263

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< ECU DIAGNOSIS INFORMATION >

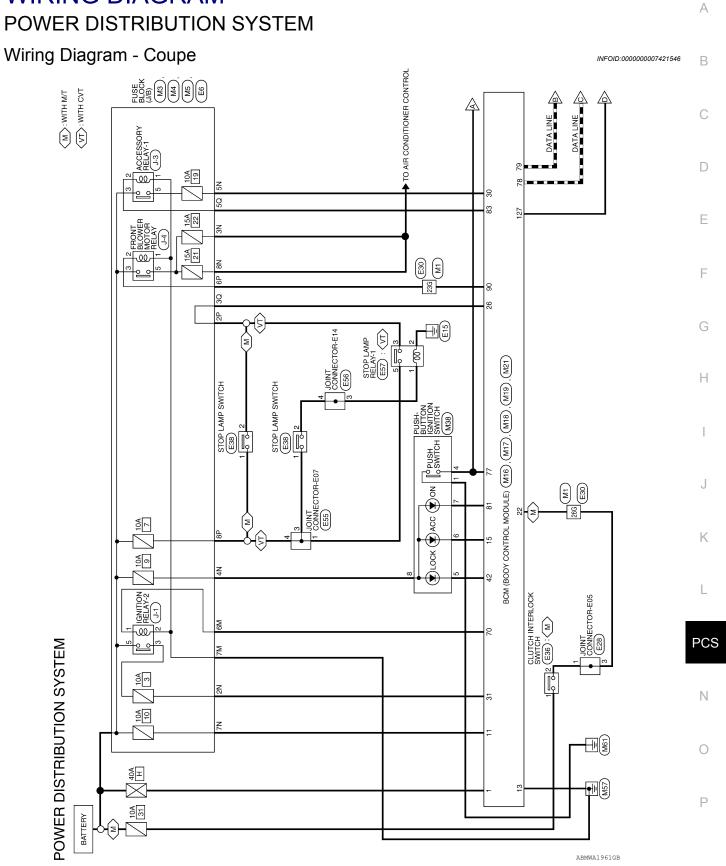
CONSULT display	Fail-safe	TIME	NOTE	Refer to
B210D: STARTER RELAY ON	_	CRNT	1 – 39	<u>SEC-264</u>
B210E: STARTER RELAY OFF	_	CRNT	1 – 39	<u>SEC-266</u>
B210F: INTRLCK/TRANSMISSION RANGE SW ON	_	CRNT	1 – 39	SEC-269
B2110: INTRLCK/TRANSMISSION RANGE SW OFF	_	CRNT	1 – 39	SEC-275

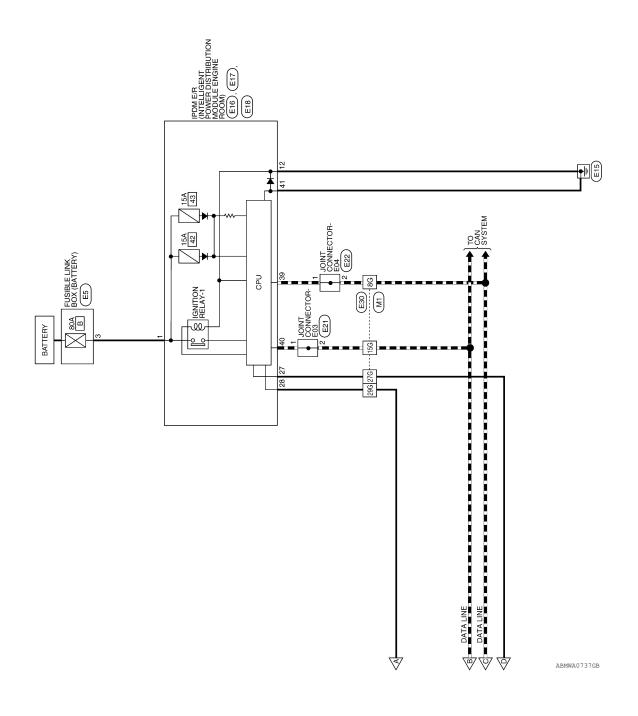
NOTE:

The details of TIME display are as follows.

- CRNT: The malfunctions that are detected now
- 1 39: The number is indicated when it is normal at present and a malfunction was detected in the past. It increases like $0 \rightarrow 1 \rightarrow 2 \cdots 38 \rightarrow 39$ after returning to the normal condition whenever IGN OFF \rightarrow ON. It is fixed to 39 until the self-diagnosis results are erased if it is over 39. It returns to 0 when a malfunction is detected again in the process.

WIRING DIAGRAM





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POWER DISTRIBUTION SYSTEM CONNECTORS

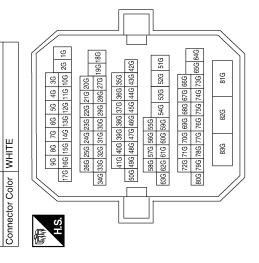
Connector Name WIRE TO WIRE

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Connector No.

M3					0						
onnector No. M3 onnector Name FUSS onnector Color WHIT NAME SN W/L 4N G/Y 5N V/R 7N Y/R 8N W/L		E BLOCK (J/B)	旦	SN SN SN	Signal Name	I	1	1	ı	1	ı
erminal No. 2N 3N 4N 4N 7N 8N			or WHI		Solor of Wire	ŋ	M/L	ĞΛ	٨/٨	Y/R	M/L
	Connector No.	Connector Nar	Connector Col	同 H.S.	Terminal No.	NS	NE SN	N4	2N	N.	N8

Signal Name	ı	I	I	1	1	I	I	
Color of Wire	۵	_	>	В/Υ	BR/W	BR	M/B	
Terminal No. Wire	98	15G	23G	26G	27G	29G	82G	



	Connector Name BCM (BODY CONTROL MODULE)	CK	13	Signal Name	BAT_POWER_F/L	
M16	ne BCN MOI	or BLA		Color of Wire	M/B	
Connector No.	Connector Nar	Connector Color BLACK	哥 H.S.	Terminal No.	1	

H.S.	SM 4M	Connector Color WHITE	Connector Name FUSE BLOCK (J/B)	Connector No. M5
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≥	5M 4M 12M 11N	
Connector Color	(S) H.S.	

Connector No.	M	
Connector Name		FUSE BLOCK (J/B)
Connector Color WHITE	lor WHI	IE
所 H.S.	40 100 90 100	40 30 20 10 100 90 80 70 80 50
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Terminal No.	30	5Q	

Signal Name

Terminal No.

R/B Ω

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Signal Name

Color of Wire

Terminal No.

Signal Name

Color of Wire

Terminal No.

H.S. 偃

START_SW

BR

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GND

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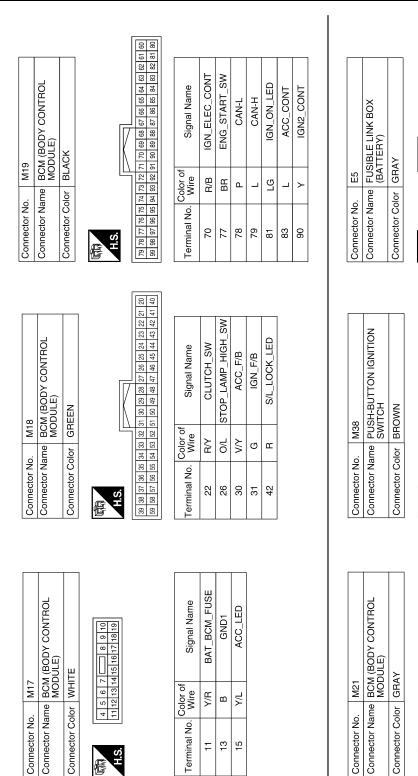
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	Connector Name BCM (BODY CONTROL MODULE)	٨٨		13) (30) (20) (20) (20) (22) (22) (22) (20) (20	Signal Name	IGN_USM_CONT1	
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						3 DM	r n 1 0 2

Color of Wire Y/R В χ Terminal No. Ξ 13 15

WHITE

Connector Color

M17

Connector No.

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POWER DISTRIBUTION SYSTEM

[POWER DISTRIBUTION SYSTEM]

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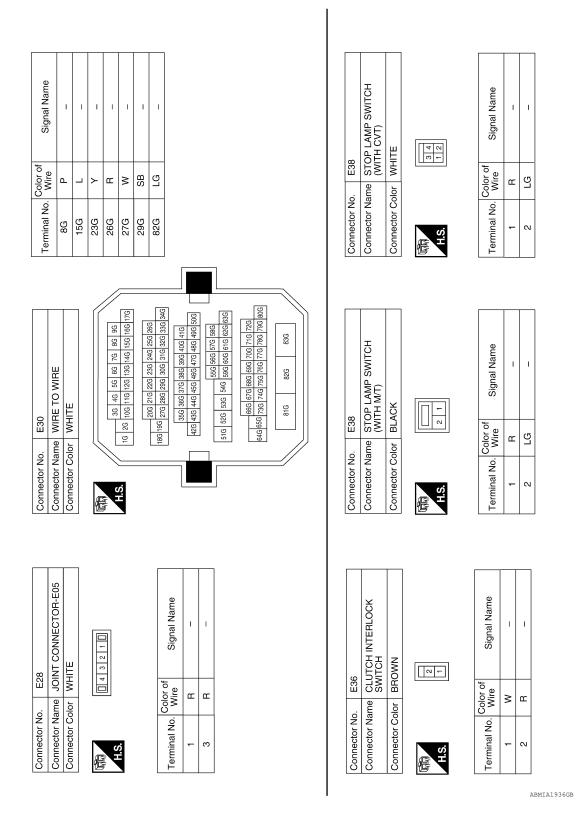
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< WIRING DIAGRAM >

Connector No. E16 Connector No. E16 Connector No. E17 Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color BLACK Connector Color WHITE TH.S. The state of the state	Terminal No. Wire Signal Name 1 F/L_MAIN Signal Name 39 P CAN-L 40 L CAN-H 41 B GND (SIGNAL)	Connector Name JOINT CONNECTOR-E03 Connector Name JOINT CONNECTOR-E04 Connector Color WHITE
Connector No. E6 Connector Color WHITE Connector Color WHITE The By sp 4p 3p 2p 1p 1p 2p 4p 1p 2p 2p 1p 1p 2p 2p 3p 2p 1p 1p 2p 3p 3p 2p 3p	Terminal No. Color of Wire Signal Name 2P Y - (WITH CVT) 2P LG - (WITH M/T) 6P Y - 8P R -	POWER DISTRIBUTION POWER DISTRIBUTION POWER DISTRIBUTION POWER DISTRIBUTION POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color WHITE Signal Name 12 8 GND (POWER) Signal Name Sign

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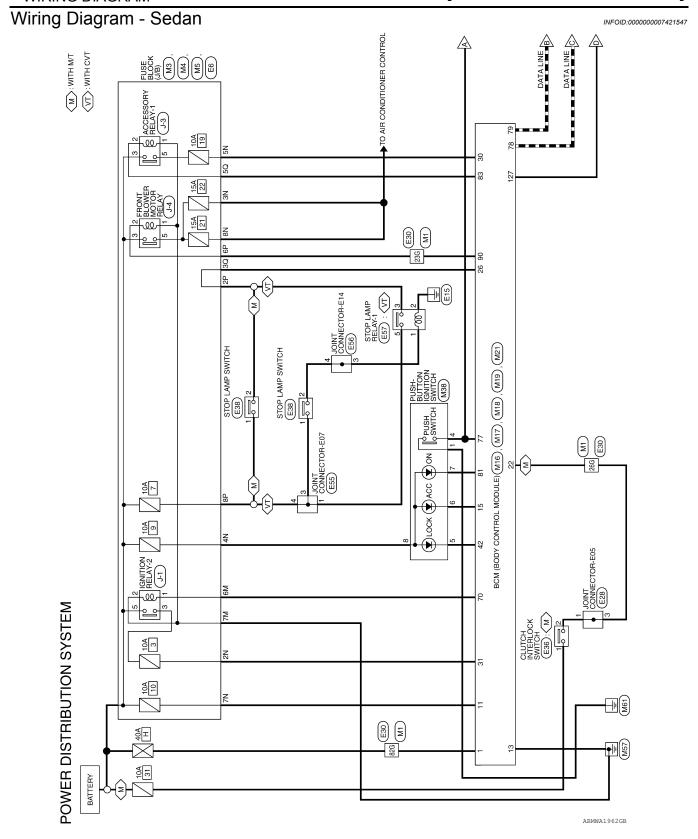


POWER DISTRIBUTION SYSTEM

[POWER DISTRIBUTION SYSTEM]

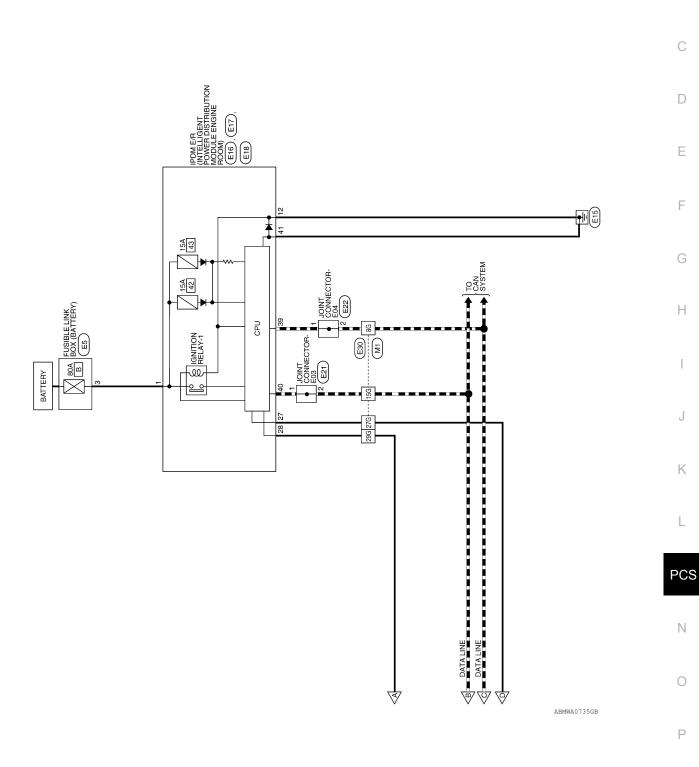
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Connector No. E57 Connector Name STOP LAMP RELAY-1	Connector No. J-4 Connector Name (FRONT BLOWER MOTOR PELAY) Connector Color - Connector Mame (FRONT BLOWER MOTOR MOTOR PELAY)	A B C D
Connector No. E56	Connector No. J-3 Connector Name FUSE BLOCK (J/B) (ACCESSORY RELAY-1) Connector Color - Li.S.	F G H I
Connector No. E55 Connector Name JOINT CONNECTOR-E07 Connector Color WHITE	Connector No. J-1 Connector No. J-1 Connector Name FUSE BLOCK (J/B) (GNITION RELAY-2) Connector Color — Connector No. J-1 Connector Name FUSE BLOCK (J/B) (GNITION RELAY-2) Connector No. J-1	K L PCS N O

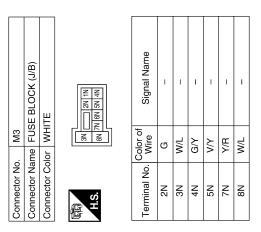


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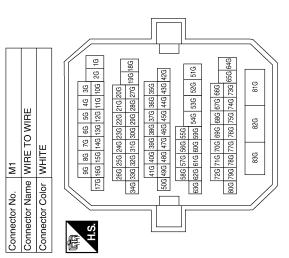
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POWER DISTRIBUTION SYSTEM CONNECTORS



Signal Name	ı	1	1	ı	ı	1	1
Color of Wire	Ь	Г	٨	В/Y	BR/W	BR	W/B
Terminal No. Wire	98	15G	23G	26G	27G	29G	82G



Connector No.	. M16	
Connector Na	me BCN MOI	Connector Name BCM (BODY CONTROL MODULE)
Connector Color	lor BLACK	CK
画 H.S.		
Terminal No.	Color of Wire	Signal Name
1	W/B	BAT_POWER_F/L

Connector No.	M5
Connector Name	Connector Name FUSE BLOCK (J/B)
Connector Color	WHITE
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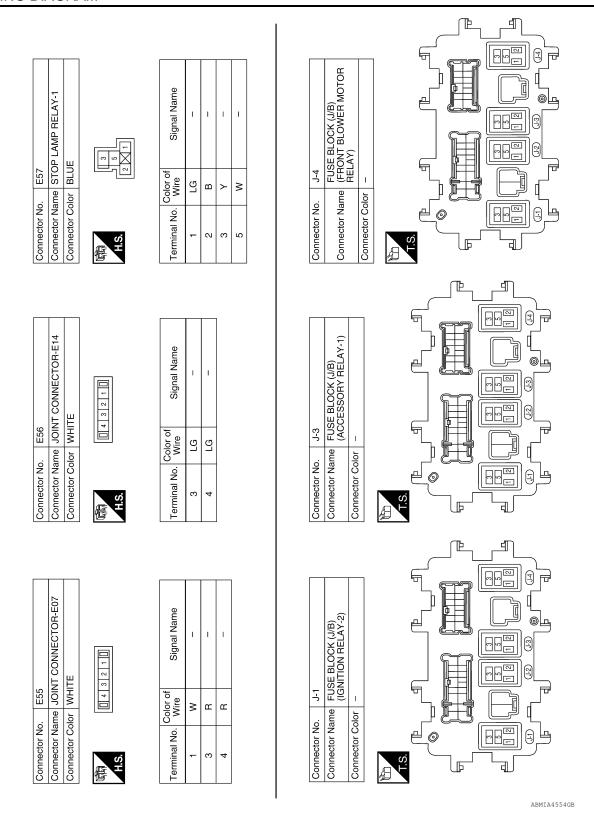
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No. Color of Signal Name Switch Switch	Connector Color WHITE	Connector Color GREEN	nal Name OC _ F/B SN _ F/B ON IGNITION	Connector Col	BLAC	Color BLACK BLAC
Terminal No. Terminal No. Connector No. MAS Terminal No. Color of the Colo	Terminal No. Color of Signal Name 11 Y/R BAT_BCM_FUSE 13 B GND1	#\$\text{ALS.}\$ Rest in the left of the left o		#5. 19 19 17 18 18 18 18 18 18 18	Color of Wire BR BR BR C LG LG LG LG LG LG LG LG	
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13 B	13 B GND1	SW SW B	MMP_HIGH_SW CC_F/B SIN_F/B LOCK_LED ON IGNITION	77 78 79 81 83 83 90		ENG_START_SW CAN-L CAN-H IGN_ON_LED ACC_CONT IGN2_CONT
15 Y/L ACC_LED 30 V/Y ACC_F/B 31 G IGN_E/B 42 R S/L_LOCK_LED 43 R S/L_LOCK_LED 44 R S/L_LO	15 Y/L ACC_LED		CC_F/B SN_F/B COCK_LED ON IGNITION	78 79 81 83 90		CAN-L CAN-H IGN_ON_LED ACC_CONT IGN2_CONT
SAL_LOCK_LED	Connector No. M21		ON IGNITION	79 81 83 90		CAN-H IGN_ON_LED ACC_CONT IGN2_CONT
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Dector No. M21	Connector No. M21		ON IGNITION	90 90 Ovanactor No		ACC_CONT IGN2_CONT
Connector No. M21	Connector No. M21		ON IGNITION	90 ON refraedors	>	IGN2_CONT
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Connector Color GRAY Connector Color BROWN Connector Color GRA Color of Col	Connector Color GRAY				(BAT	TERY)
Terminal No. Wire Signal Name Signal	H.S. [131] 130[128] 128[128] 124[128] 122[12] 120[13] 138[137] 136[135] 13	_		Connector Col		
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Terminal No. Color of Wire Signal Name Terminal No. 1 B GND 3 4 BR START_SW 3 5 R LOCK 6 Y/L ACC 7 LG ON				H.S.		
Terminal No. Wire Signal Name Terminal No. 1 B GND 3 4 BR START_SW 3 5 R LOCK 6 Y/L ACC 7 LG ON	151 150 149 148 147 146 145 144 143 142 141 140 139 138 137 135 135					
Color of Wire Signal Name 4 BR START_SW BR/W IGN_USM_CONT1 6 Y/L ACC 7 LG ON		Terminal No. Wire	ınal Name		Color of Wire	Signal Name
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BHW IGN_USM_CONIT 6 Y/L 7 LG	ב ב		LOCK			
PT	BH/W		ACC			
			NO			
G/Y		8 G/Y	B+			

Connector No. E17 Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color WHITE ##S ##S ##S ##S	ne Color of 39 Signal Name A 39 P CAN-L 40 L CAN-H 41 B GND (SIGNAL)	Connector No. E22 Connector Name JOINT CONNECTOR-E04 Connector Color WHITE	Terminal No. Wire Signal Name 1 P
Connector No. E16 PDM E/R (INTELLIGENT Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color BLACK	Terminal No. Color of Signal Name	Connector No. E21 Connector Color WHITE WHITE LAS	Terminal No. Wire Signal Name 2 L L
E6 FUSE BLOCK (J/B) WHITE	Signal Name - (WITH CVT) - (WITH M/T)	E18 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) WHITE	25 26 27 28 29 30 31 32 33 4 37 15 16 17 18 19 20 21 22 23 24 35 35 34 36 34

Signal Name	1	1	1 1	ı	1	I				E38 STOP LAMP SWITCH (WITH CVT)	8 - 1 4 2	Signal Name	1 1		В
Color of Wire	۵	; ر	- Œ	8	SB	P						Color of Wire	H LG		D
Terminal No.	8G	15G	26G	27G	29G	82G				Connector No. Connector Name Connector Color	H.S.	Terminal No.	- 2		Е
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E28	_					Color of Signal Nam	ш	r			N	Color of Wire	≥ «		L
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POWER DISTRIBUTION SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[POWER DISTRIBUTION SYSTEM]

SYMPTOM DIAGNOSIS

POWER DISTRIBUTION SYSTEM SYMPTOMS

Symptom Table

Before performing the diagnosis in the following table, check the contents of PCS-46, "Work Flow".

Symptom	Suspect Systems	Refer to
The power supply changing operation is normal. But the push-button ignition switch position indicator does not turn on.	Check push-button ignition switch position indicator.	PCS-79
	2. Check Intermittent Incident.	GI-42, "In- termittent Incident"

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PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution Necessary for Steering Wheel Rotation after Battery Disconnect

INFOID:0000000007421550

NOTE:

- Before removing and installing any control units, first turn the push-button ignition switch to the LOCK position, then disconnect both battery cables.
- After finishing work, confirm that all control unit connectors are connected properly, then re-connect both battery cables.
- Always use CONSULT to perform self-diagnosis as a part of each function inspection after finishing work. If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.

This vehicle is equipped with a push-button ignition switch and a steering lock unit.

If the battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

If turning the steering wheel is required with the battery disconnected or discharged, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

Connect both battery cables.

NOTE:

Supply power using jumper cables if battery is discharged.

- 2. Carry the Intelligent Key or insert it to the key slot and turn the push-button ignition switch to ACC position. (At this time, the steering lock will be released.)
- Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
- Perform the necessary repair operation.

PRECAUTIONS

< PRECAUTION >

[POWER DISTRIBUTION SYSTEM]

- 5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)
- 6. Perform self-diagnosis check of all control units using CONSULT.

Precaution for Work

- When removing or disassembling each component, be careful not to damage or deform it. If a component
 may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- · Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- · After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components.
- Water soluble dirt: Dip a soft cloth into lukewarm water, and wring the water out of the cloth to wipe the dirty area.
 - Then rub with a soft and dry cloth.
- Oily dirt: Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%), and wipe the dirty area.
 - Then dip a cloth into fresh water, and wring the water out of the cloth to wipe the detergent off. Then rub with a soft and dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol, or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

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PREPARATION

< PREPARATION >

[POWER DISTRIBUTION SYSTEM]

PREPARATION

PREPARATION

Commercial Service Tools

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Tool name		Description
Power tools		Loosening nuts, screws and bolts
	PIIB1407E	
One-way screw removal tool	_	Removing one-way screws
	ALMIA048622	

BCM (BODY CONTROL MODULE)

< REMOVAL AND INSTALLATION >

[POWER DISTRIBUTION SYSTEM]

REMOVAL AND INSTALLATION

BCM (BODY CONTROL MODULE)

Removal and Installation

For removal and installation of the BCM, refer to BCS-92, "Removal and Installation".

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PUSH BUTTON IGNITION SWITCH

< REMOVAL AND INSTALLATION >

[POWER DISTRIBUTION SYSTEM]

PUSH BUTTON IGNITION SWITCH

Removal and Installation

INFOID:0000000007421553

For removal and installation of the push button ignition switch, refer to <u>SEC-221, "Removal and Installation"</u> Coupe, or <u>SEC-444, "Removal and Installation"</u> Sedan.