

# Reference Value

**note**

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to M.U.T.-III SE display items.

**M.U.T.-III SE MONITOR ITEM**

Monitor Item	Condition	Value/Status
SET AIR PRESSURE 1 FL	Displays the standard air pressure of front left tire	mBar
SET AIR PRESSURE 1 FR	Displays the standard air pressure of front right tire	
SET AIR PRESSURE 1 RR	Displays the standard air pressure of rear right tire	
SET AIR PRESSURE 1 RL	Displays the standard air pressure of rear left tire	
Set temperature-FL	Displays the standard temperature of front left tire	°C
Set temperature-FR	Displays the standard temperature of front right tire	
Set temperature-RR	Displays the standard temperature of rear right tire	
Set temperature-RL	Displays the standard temperature of rear left tire	
TPMS SET SWITCH	Tire pressure monitor system reset switch not depressed	Off
	Tire pressure monitor system reset switch depressed	On
Tire status-FL	Displays the front left tire status	Normal
		MALF 1
		MALF 2
		MALF 3
		MALF 4
Tire status-FR	Displays the front right tire status	Normal
		MALF 1
		MALF 2
		MALF 3
		MALF 4
Tire status-RR	Displays the rear right tire status	Normal
		MALF 1
		MALF 2
		MALF 3
		MALF 4
Tire status-RL	Displays the rear left tire status	Normal
		MALF 1
		MALF 2
		MALF 3
		MALF 4
Paddle shift switch (-)	paddle shifter (shift-down switch) not depressed	Off
	paddle shifter (shift-down switch) depressed	On
Paddle shift switch (+)	paddle shifter (shift-up switch) not depressed	Off
	paddle shifter (shift-up switch) depressed	On

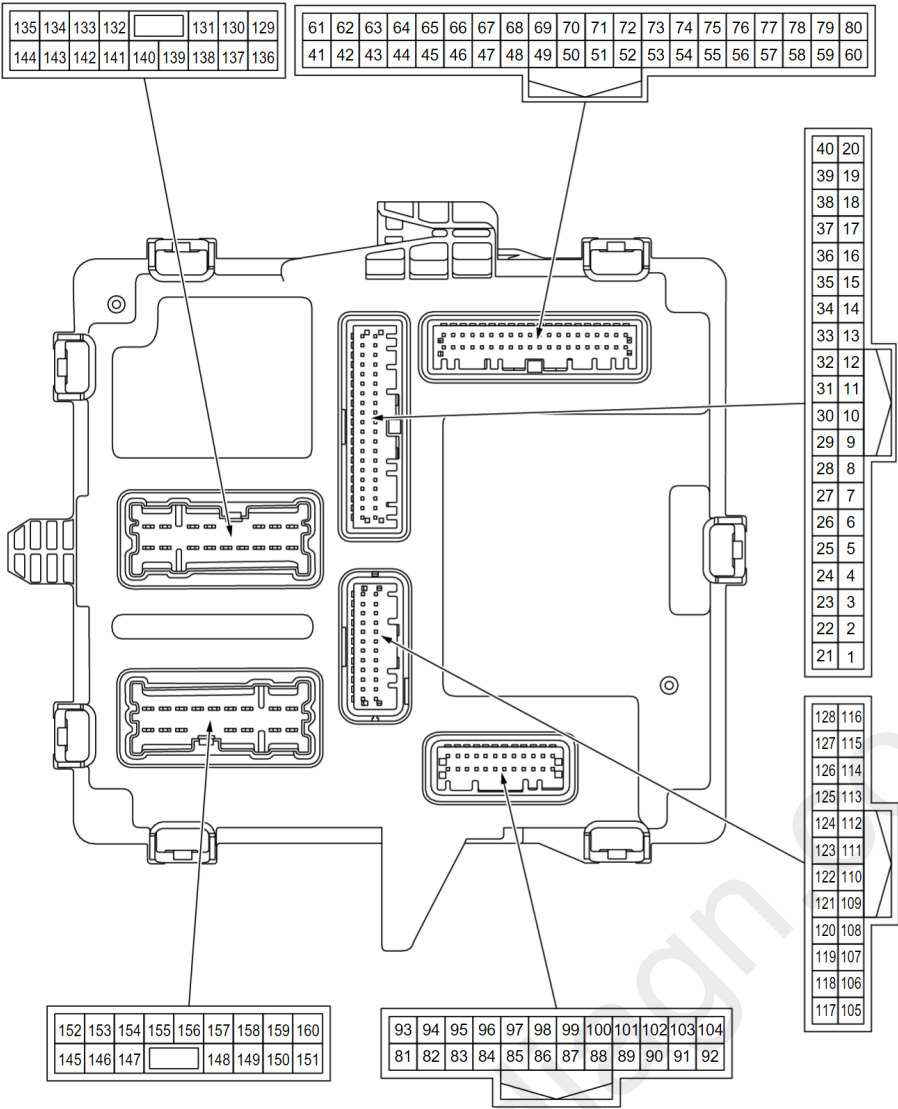
Monitor Item	Condition	Value/Status
HAZARD SW	hazard switch not depressed	Off
	hazard switch depressed	On
Door switch AS	Front door RH closed	Off
	Front door RH opened	On
Optical sensor	Display the value of outside brightness input from the optical sensor	—
Power liftgate/trunk opener switch	<b>note</b> This item is displayed, but cannot be monitored.	Off
Request switch BD/TR	Power liftgate opener switch not pressed	Off
	Power liftgate opener switch pressed	On
Power liftgate/trunk lid switch	Power liftgate closed	Off
	Power liftgate opened	On
Brake switch 1	Brake pedal depressed	Off
	Brake pedal not depressed	On
Brake switch 2	Brake pedal not depressed	Off
	Brake pedal depressed	On
Check diode 1	Combination switch check diode 1 OFF	Off
	Combination switch check diode 1 ON	On
High beam switch	Any position other than lighting switch HI	Off
	Lighting switch HI position	On
Passing switch	Any position other than lighting switch PASS	Off
	Lighting switch PASS position	On
Rear fog switch	<b>note</b> This item is displayed, but cannot be monitored.	Off
Front fog switch	Any position other than front fog light switch ON	Off
	Front fog light switch ON position	On
INT volume 1	Combination switch INT volume 1 OFF	Off
	Combination switch INT volume 1 ON	On
Check diode 2	Combination switch check diode 2 OFF	Off
	Combination switch check diode 2 ON	On
Low beam switch	Any position other than lighting switch 2ND	Off
	Lighting switch 2ND position	On
AUTO light switch*	Any position other than lighting switch AUTO	Off
	Lighting switch AUTO position	On
Tail light switch	Any position other than lighting switch 1ST	Off
	Lighting switch 1ST position	On
Front washer switch	Any position other than front washer switch ON	Off
	Front washer switch ON position	On
Rear washer switch	Any position other than rear washer switch ON	Off
	Rear washer switch ON position	On
Check diode 3	Combination switch check diode 3 OFF	Off
	Combination switch check diode 3 ON	On
Turn signal LH	Any position other than turn signal switch LH	Off
	Turn signal switch LH position	On

Monitor Item	Condition	Value/Status
Turn signal RH	Any position other than turn signal switch RH	Off
	Turn signal switch RH position	On
Front wiper LO	Any position other than front wiper switch LO	Off
	Front wiper switch LO position	On
Front wiper HI	Any position other than front wiper switch HI	Off
	Front wiper switch HI position	On
Front wiper INT	Any position other than front wiper switch INT	Off
	Front wiper switch INT position	On
Check diode 4	Combination switch check diode 4 OFF	Off
	Combination switch check diode 4 ON	On
Light OFF switch	<ul style="list-style-type: none"> <li>Any position other than lighting switch OFF (Except for Canada models)</li> <li>Any position other than lighting switch AUTO (For Canada models)</li> </ul>	Off
	<ul style="list-style-type: none"> <li>Lighting switch OFF position (Except for Canada models)</li> <li>Lighting switch AUTO position (For Canada models)</li> </ul>	On
INT volume 2	Combination switch INT volume 2 OFF	Off
	Combination switch INT volume 2 ON	On
INT volume 3	Combination switch INT volume 3 OFF	Off
	Combination switch INT volume 3 ON	On
Rear wiper INT	Any position other than rear wiper switch INT	Off
	Rear wiper switch INT position	On
Rear wiper ON	Any position other than rear wiper switch ON	Off
	Rear wiper switch ON position	On
Check diode 5	Combination switch check diode 5 OFF	Off
	Combination switch check diode 5 ON	On
Front wiper OFF	Any position other than front wiper switch OFF	Off
	Front wiper switch OFF position	On
Front wiper MIST	Any position other than front wiper switch MIST	Off
	Front wiper switch MIST position	On
CDL LOCK SW	Any position other than LOCK	Off
	Door lock/unlock switch LOCK position	On
CDL UNLOCK SW	Any position other than UNLOCK	Off
	Door lock/unlock switch UNLOCK position	On
DOOR SW-DR	Front door LH closed	Off
	Front door LH opened	On
Unlock sensor	Front door LH LOCK status	Off
	Front door LH UNLOCK status	On
ECO mode switch	Other than drive mode switch ECO mode position	Off
	Drive mode switch ECO mode position	On

Monitor Item	Condition	Value/Status
Clutch end SW	<b>note</b> This item is displayed, but cannot be monitored.	Off
IGN SW	Any position other than ON	Off
	Ignition switch ON position	On
Battery voltage (door lock 1)	Front door lock battery power supply OFF	Off
	Front door lock battery power supply ON	On
Battery voltage (door lock 2)	Rear door lock battery power supply OFF	Off
	Rear door lock battery power supply ON	On
Battery voltage (ECU)	Display the BCM battery power supply	—
Battery voltage (flasher)	Flasher battery power supply OFF	Off
	Flasher battery power supply ON	On
Battery voltage (stop light)	Stop light battery power supply OFF	Off
	Stop light battery power supply ON	On
Battery voltage (wiper)	Rear wiper battery power supply OFF	Off
	Rear wiper battery power supply ON	On
DOOR SW-RL	Rear door LH closed	Off
	Rear door LH opened	On
DOOR SW-RR	Rear door RH closed	Off
	Rear door RH opened	On
Seat belt switch (driver)	Front seat belt LH is released	Off
	Front seat belt LH is fastened	On
Sport mode switch	Other than drive mode switch SPORT mode position	Off
	Drive mode switch SPORT mode position	On
Clutch start SW	<b>note</b> This item is displayed, but cannot be monitored.	Off
START SW	<b>note</b> This item is displayed, but cannot be monitored.	Off
STOP/START SW	<b>note</b> This item is displayed, but cannot be monitored.	Off
Detention/Cancel switch	<b>note</b> This item is displayed, but cannot be monitored.	Off
Rear wiper auto stop switch	Any position other than rear wiper stop position	Off
	When rear wiper stop position	On
Vehicle speed	Display the vehicle speed	—
AIR PRESS FL	Displays the air pressure of front left tire	—
AIR PRESS FR	Displays the air pressure of front right tire	
AIR PRESS RR	Displays the air pressure of rear right tire	
AIR PRESS RL	Displays the air pressure of rear left tire	
TIRE TEMPERATURE FL	Displays the temperature of front left tire	°C
TIRE TEMPERATURE FR	Displays the temperature of front right tire	
TIRE TEMPERATURE RR	Displays the temperature of rear right tire	
TIRE TEMPERATURE RL	Displays the temperature of rear left tire	

Monitor Item	Condition	Value/Status
SET AIR PRESSURE 2 FL	Displays the standard air pressure of front left tire	—
SET AIR PRESSURE 2 FR	Displays the standard air pressure of front right tire	
SET AIR PRESSURE 2 RR	Displays the standard air pressure of rear right tire	
SET AIR PRESSURE 2 RL	Displays the standard air pressure of rear left tire	
WARNING AIR PRESSURE FL	Displays the warning air pressure of front left tire	mBar
WARNING AIR PRESSURE FR	Displays the warning air pressure of front right tire	
WARNING AIR PRESSURE RR	Displays the warning air pressure of rear right tire	
WARNING AIR PRESSURE RL	Displays the warning air pressure of rear left tire	
note	*: This item is displayed, but cannot be monitored. (For Canada models)	



## TERMINAL LAYOUT



# PHYSICAL VALUES



note		Waveform reference				
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
1 (LA/GR)	Ground	Turn signal RH output (side)	Output	Ignition switch ON	Turn signal light [side turn signal light (right side)] ON	9 – 16 V (Blinking : 0 V <– > 9 – 16 V)
					Turn signal light [side turn signal light (right side)] OFF	0 V



Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
7 (LA/V)	Ground	Extended storage fuse switch	Input	Ignition switch OFF	Extended storage fuse switch push in	9 – 16 V
					Extended storage fuse switch pull out	0 V
8 (G)	Ground	Optical sensor	Input	Ignition switch ON	When bright outside of the vehicle	Close to 5 V
					When dark outside of the vehicle	Close to 0 V
10 (Y)	Ground	Door unlock sensor	Input	Ignition switch ON	Driver door LOCK status (unlock sensor switch OFF)	9 – 16 V
					Driver door UNLOCK status (unlock sensor switch ON)	0 V
11 (V)	Ground	Door lock/unlock switch (LOCK)	Input	Ignition switch ON	Door lock/unlock switch NEUTRAL position	9 – 16 V
					Door lock/unlock switch LOCK position	0 V
13 (LA/Y)	Ground	Hazard switch	Input	Ignition switch ON	Hazard switch not pressed	9 – 16 V
					Hazard switch pressed	0 V
14 (W)	Ground	Door lock/unlock switch (UNLOCK)	Input	Ignition switch ON	Door lock/unlock switch NEUTRAL position	9 – 16 V
					Door lock/unlock switch UNLOCK position	0 V

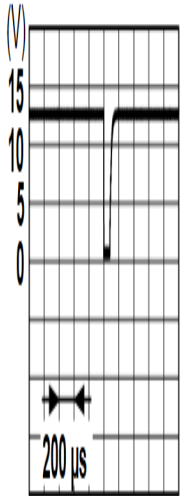
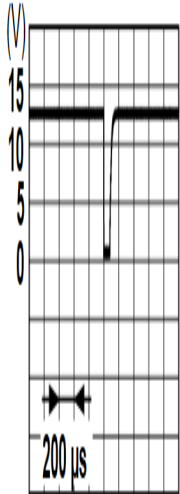
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
17 (W)	Ground	Seat belt buckle switch (front LH)	Input	Ignition switch ON	Front seat belt buckle switch LH ON (seat belt is fastened)	9 – 16 V
					Front seat belt buckle switch LH OFF (seat belt is released)	0 V
21 (LA/LG)	Ground	Turn signal LH output (side)	Output	Ignition switch ON	Turn signal light [side turn signal light (left side)] ON	9 – 16 V (Blinking : 0 V <– > 9 – 16 V)
					Turn signal light [side turn signal light (left side)] OFF	0 V
24 (BR)	Ground	LIN communication (power window)	Input/output	Ignition switch ON		
25 (BG)	Ground	LIN communication (drive mode switch)	Input/Output	Ignition switch ON		

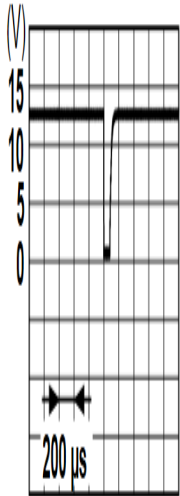
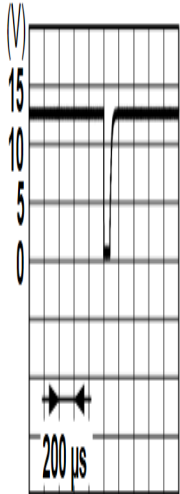


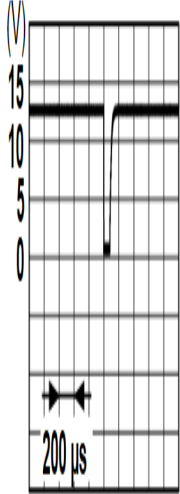
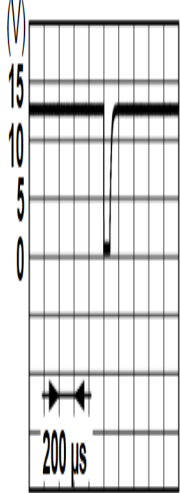
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
26 (LA/L)	Ground	CAN-H (CAN communication circuit)	Input/Output	Ignition switch ON		—
27 (LA/P)	Ground	CAN-L (CAN communication circuit)	Input/Output	Ignition switch ON		—
28 (R)	Ground	Optical sensor power supply	Output	Ignition switch ON		4.65 – 5.5 V
29 (BR)	Ground	Optical sensor ground	Output	Ignition switch ON		0 V
30 (LA/G)	Ground	Luggage room light control	Output	Ignition switch ON	Luggage room light OFF (when power liftgate is closed)	9 – 16 V
					Luggage room light ON (when power liftgate is opened)	0 V
32 (GR)	Ground	Power window relay control	Output	Ignition switch OFF (retained power finished)		9 – 16 V
				Ignition switch OFF (auto ACC status) or ON		0 V
33 (BG)	Ground	Ignition relay-2 [FUSE BLOCK (J/B)] control	Output	Ignition switch	OFF	9 – 16 V
					ON	0 V
34 (LG)	Ground	Accessory relay control	Output	Ignition switch OFF (not auto ACC status)		9 – 16 V
				Ignition switch OFF (auto ACC status) or ON		0 V
37 (Y)	Ground	Interior room light relay control	Output	Interior room light battery saver is activated		9 – 16 V
				Interior room light battery saver is not activated		0 V
40 (LA/BR)	Ground	Ignition relay-3 [FUSE BLOCK (J/B)] control	Output	Other than following		9 – 16 V
				Engine running		0 V
45 (L)	Ground	CAN-H (CAN communication circuit)	Input/Output	Ignition switch ON		—
46 (P)	Ground	CAN-L (CAN communication circuit)	Input/Output	Ignition switch ON		—

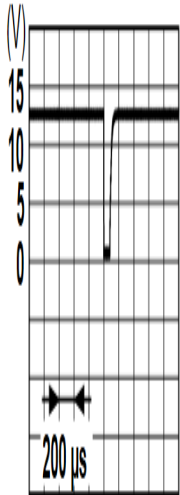
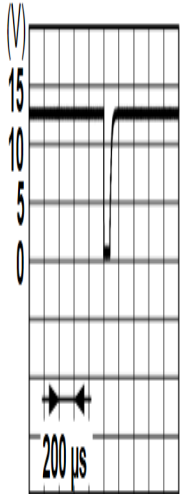
Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
48 (SB)	Ground	Combination switch OUTPUT 1	Output	Ignition switch ON	
49 (BR)	Ground	Combination switch OUTPUT 2	Output	Ignition switch ON	

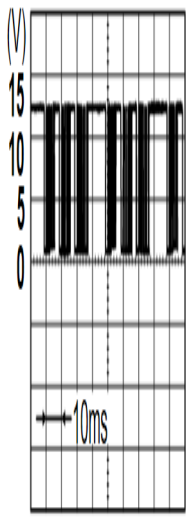
Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
50 (Y)	Ground	Combination switch OUTPUT 5	Output	Ignition switch ON	
51 (V)	Ground	Combination switch OUTPUT 6	Output	Ignition switch ON	

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
52 (BG)	Ground	Combination switch OUTPUT 4	Output	Ignition switch ON		
53 (GR)	Ground	Combination switch OUTPUT 3	Output	Ignition switch ON		
57 (W)	Ground	Drive mode switch (SPORT)	Input	Ignition switch ON	Other than following Drive mode switch SPORT position	9 – 16 V 0 V
63 (LA/SB)	Ground	Rear window defogger relay control	Output	Engine running	Rear window defogger is not active Rear window defogger is active	9 – 16 V 0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
67 (R)	Ground	Combination switch INPUT 1	Input	Ignition switch ON	All combination switches OFF	
68 (W)	Ground	Combination switch INPUT 2	Input	Ignition switch ON	All combination switches OFF (Wiper volume dial 3)	

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
69 (G)	Ground	Combination switch INPUT 3	Input	Ignition switch ON	All combination switches OFF	
70 (P)	Ground	Combination switch INPUT 4	Input	Ignition switch ON	Lighting switch 2ND	

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
71 (LG)	Ground	Combination switch INPUT 5	Input	Ignition switch ON	All combination switches OFF (Wiper volume dial 3)	
72 (L)	Ground	Combination switch INPUT 6	Input	Ignition switch ON	Front wiper switch INT	
78 (G)	Ground	Puddle shifter (shift-up)	Input	Ignition switch ON	Puddle shifter (shift-up switch) not pressed	9 – 16 V
					Puddle shifter (shift-up switch) pressed	0 V
79 (V)	Ground	Puddle shifter (shift-down)	Input	Ignition switch ON	Puddle shifter (shift-down switch) not pressed	9 – 16 V
					Puddle shifter (shift-down switch) pressed	0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
80 (LG)	Ground	Drive mode switch (ECO)	Input	Ignition switch ON	Other than following	9 – 16 V
					Drive mode switch ECO position	0 V
81 (LA/SB)	Ground	Door switch (front LH)	Input	Ignition switch ON	Door switch (front LH) OFF (when door is closed)	9 – 16 V
					Door switch (front LH) ON (when door is opened)	0 V
83 (LA/GR)	Ground	LIN communication (hands free sensor control unit)	Input/Output	Ignition switch ON		
86 (LA/R)	Ground	CAN-L (CAN communication circuit)	Input/Output	Ignition switch ON		—
87 (LA/L)	Ground	CAN-H (CAN communication circuit)	Input/Output	Ignition switch ON		—
93 (GR)	Ground	Door switch (front RH)	Input	Ignition switch ON	Door switch (front RH) OFF (when door is closed)	9 – 16 V
					Door switch (front RH) ON (when door is opened)	0 V



Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
94 (R)	Ground	Door switch (rear LH)	Input	Ignition switch ON	Door switch (rear LH) OFF (when door is closed)	9 – 16 V
					Door switch (rear LH) ON (when door is opened)	0 V
95 (P)	Ground	Door switch (rear RH)	Input	Ignition switch ON	Door switch (rear RH) OFF (when door is closed)	9 – 16 V
					Door switch (rear RH) ON (when door is opened)	0 V
96 (BG)	Ground	Door switch (power liftgate)	Input	Ignition switch ON	Door switch (power liftgate) OFF (when power liftgate closed)	9 – 16 V
					Door switch (power liftgate) ON (when power liftgate opened)	0 V
98 (Y)	Ground	Power liftgate opener switch	Input	Ignition switch ON	Power liftgate opener switch (outside) not pressed	9 – 16 V
					Power liftgate opener switch (outside) pressed	0 V
103 (LA/G)	Ground	Rear wiper stop position	Output	Ignition switch ON	Any position other than rear wiper stop position	9 - 16 V
					Rear wiper stop position	0 V
105 (LA/Y)	Ground	Ignition relay-1 [FUSE BLOCK (J/B)] control	Output	Ignition switch	OFF	9 – 16 V
					ON	0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
110 (LG)	Ground	Stop light switch 2	Input	Ignition switch ON	Stop light switch 2 ON (brake pedal is depressed)	9 – 16 V
					Stop light switch 2 OFF (brake pedal is not depressed)	0 V
111 (W)	Ground	Stop light switch 1	Input	Ignition switch ON	Stop light switch 1 ON (brake pedal is not depressed)	9 – 16 V
					Stop light switch 1 OFF (brake pedal is depressed)	0 V
116 (G)	Ground	Turn signal RH output (front)	Output	Ignition switch ON	Turn signal light (front right side) ON	9 – 16 V (Blinking : 0 V <– > 9 – 16 V)
					Turn signal light (front right side) OFF	0 V
117 (LA/R)	Ground	CAN-L (CAN communication circuit)	Input/Output	Ignition switch ON		—
118 (LA/L)	Ground	CAN-H (CAN communication circuit)	Input/Output	Ignition switch ON		—
119 (BR)	Ground	Back-up light relay control	Output	Engine running	Other than following	9 – 16 V
					Selector lever in “R” position	0 V
123 (R)	Ground	Starter cut relay control	Output	Other than following		9 – 16 V
				At engine cranking		0 V
125 (V)	Ground	PTC heater relay 1 control	Output	Active test of AIR CONDITONER (PTC RELAY- 1)	Off	9 – 16 V
					On	0 V
126 (L)	Ground	PTC heater relay 3 control	Output	Active test of AIR CONDITONER (PTC RELAY- 3)	Off	9 – 16 V
					On	0 V
127 (BG)	Ground	PTC heater relay 2 control	Output	Active test of AIR CONDITONER (PTC RELAY- 2)	Off	9 – 16 V
					On	0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
128 (P)	Ground	Turn signal LH output (front)	Output	Ignition switch ON	Turn signal light (front left side) ON	9 – 16 V (Blinking : 0 V <– > 9 – 16 V)
					Turn signal light (front left side) OFF	0 V
129 (B)	Ground	Ground	—	Ignition switch ON		0 V
130 (LA/Y)	Ground	Interior room light control	Output	Ignition switch ON	When all doors are closed [map light and room light (Door position) are turned OFF]	9 – 16 V
					Any doors opens [map light and room light (Door position) are turned ON]	0 V
132 (LA/L)	Ground	Front door RH UNLOCK	Output	Ignition switch ON	Front door RH UNLOCK (actuator is activated)	9 – 16 V
					Other than above (actuator is not activated)	0 V
133 (LA/Y)	Ground	Battery power supply (FUSE)	Input	Ignition switch ON		9 – 16 V
134 (LA/G)	Ground	Front door LH UNLOCK	Output	Ignition switch ON	Front door LH UNLOCK (actuator is activated)	9 – 16 V
					Other than above (actuator is not activated)	0 V
135 (LA/P)	Ground	Battery power supply (front door lock actuator)	Input	Ignition switch ON		9 – 16 V
136 (LA/L)	Ground	Battery power supply (turn signal light)	Input	Ignition switch ON		9 – 16 V
137 (B)	Ground	Ground	—	Ignition switch ON		0 V
138 (LG)	Ground	Battery power supply (rear wiper)	Input	Ignition switch ON		9 – 16 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
139 (LA/LG)	Ground	Battery power supply (stop light)	Input	Ignition switch ON		9 – 16 V
142 (V)	Ground	Front/rear doors LH LOCK	Output	Front/rear doors LH LOCK (actuator is activated)		9 – 16 V
				Other than above (actuator is not activated)		0 V
144 (LA/GR)	Ground	Battery power supply (rear door lock actuator)	Input	Ignition switch ON		9 – 16 V
145 (V)	Ground	Power liftgate opener actuator	Output	Ignition switch ON	Power liftgate opener switch pressed (actuator is activated)	9 – 16 V
					Other than above (actuator is not activated)	0 V
148 (LA/R)	Ground	Rear wiper motor	Output	Ignition switch ON	Rear wiper activated	9 – 16 V
					Rear wiper stopped	0 V
150 (LA/B)	Ground	Mood light control	Output	Ignition switch ON	When all doors are closed (mood lamps are turned OFF)	9 – 16 V
					Any doors opens (mood lamps are turned ON)	0 V
151 (LA/GR)	Ground	Turn signal LH output (rear)	Output	Ignition switch ON	Turn signal light (rear left side) ON	9 – 16 V (Blinking : 0 V <– > 9 – 16 V)
					Turn signal light (rear left side) OFF	0 V
154 (L)	Ground	Front/rear doors RH LOCK	Output	Ignition switch ON	Front/rear doors RH LOCK (actuator is activated)	9 – 16 V
					Other than above (actuator is not activated)	0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
155 (G)	Ground	Rear doors UNLOCK	Output	Ignition switch ON	Rear doors UNLOCK (actuator is activated)	9 – 16 V
					Other than above (actuator is not activated)	0 V
157 (LA/W)	Ground	Stop light RH output	Output	Ignition switch ON	Brake pedal depressed	9 – 16 V
					Brake pedal not depressed	0 V
159 (V)	Ground	Turn signal RH output (rear)	Output	Ignition switch ON	Turn signal light (rear right side) ON	9 – 16 V (Blinking : 0 V <– > 9 – 16 V)
					Turn signal light (rear right side) OFF	0 V
160 (LA/Y)	Ground	Stop light LH and high- mounted stop light output	Output	Ignition switch ON	Brake pedal depressed	9 – 16 V
					Brake pedal not depressed	0 V