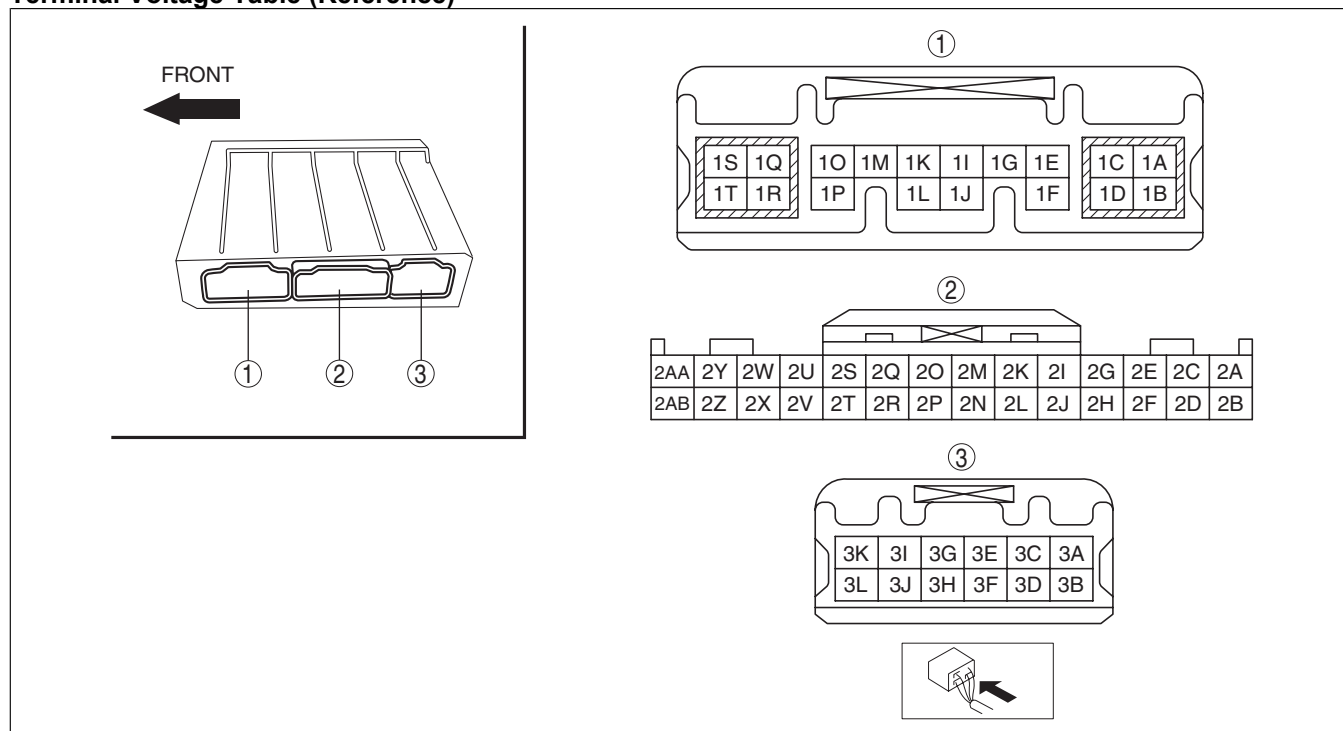


FRONT BODY CONTROL MODULE (FBCM) INSPECTION

id094000002100

1. Remove the fuse box cover. (See RELAY AND FUSE BLOCK REMOVAL/INSTALLATION.)
2. Remove the front body control module (FBCM) from the fuse box. (See FRONT BODY CONTROL MODULE (FBCM) REMOVAL/INSTALLATION.)
3. Verify that the voltages of each of the terminals are as indicated in the Terminal Voltage Table (Reference).
 - If the voltage is not as indicated in the table, inspect the parts under Inspection item(s).
 - If the system does not launch normally even though inspection items are normal, specify the location of the malfunction based on the instructions from the on-board diagnostic system and the symptom troubleshooting, and perform repairs.

Terminal Voltage Table (Reference)



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Terminal	Signal	Connected to	Measurement conditions	Voltage (V)	Inspection item(s)
1A	Power supply	HAZARD 25 A fuse	Under any condition	B+	<ul style="list-style-type: none"> • HAZARD 25 A fuse • Related wiring harness
1B	Power supply	HAZARD 25 A fuse	Under any condition	B+	<ul style="list-style-type: none"> • HAZARD 25 A fuse • Related wiring harness
1C	Ignition power supply	<ul style="list-style-type: none"> • Climate control unit • Seat warmer control unit • A/C relay • PTC heater*6 	Ignition switched ON (engine off) Ignition switched OFF (LOCK)	B+ 1.0 or less	<ul style="list-style-type: none"> • Climate control unit • Seat warmer control unit • A/C relay • PTC heater*6 • Related wiring harness
1D	Signal ground	Body ground	Under any condition	1.0 or less	• Related wiring harness
1E	Rear turn light (RH) control	Rear turn light (RH)	Ignition switched ON (engine off)	Turn switch at right turn light position	<ul style="list-style-type: none"> • Rear turn light (RH) • Related wiring harness
				Turn switch is in position other than above	
1F	Side turn light (RH) control	Side turn light (RH)	Ignition switched ON (engine off)	Turn switch at right turn light position	<ul style="list-style-type: none"> • Side turn light (RH) • Related wiring harness
				Turn switch is in position other than above	

Terminal	Signal	Connected to	Measurement conditions		Voltage (V)	Inspection item(s)
1G	Front turn light (RH) control	Front turn light (RH)	Ignition switched ON (engine off)	Turn switch at right turn light position	1.0 or less ⇔ B+	<ul style="list-style-type: none"> Front turn light (RH) Related wiring harness
				Turn switch is in position other than above	1.0 or less	
1H	—	—	—		—	—
1I	License light control	TNS relay	Light switch at TNS position		B+	<ul style="list-style-type: none"> TNS relay Related wiring harness
			Light switch at OFF position		1.0 or less	
1J	Parking light control	Parking light (LH, RH)	Light switch at TNS position		B+	<ul style="list-style-type: none"> Parking light (LH, RH) Related wiring harness
			Light switch at OFF position		1.0 or less	
1K	—	—	—		—	—
1L	Horn relay control	Horn relay	Horn switch not pressed		B+	<ul style="list-style-type: none"> Horn relay Related wiring harness
			Horn switch pressed		1.0 or less	
			Light switch at HEAD position		1.0 or less	<ul style="list-style-type: none"> Headlight LO relay (halogen type) Headlight LO relay (LH) (discharge type) Related wiring harness
1M	Headlight relay (LO) control	<ul style="list-style-type: none"> Headlight LO relay (halogen type) Headlight LO relay (LH) (discharge type) 	Light switch is in position other than above		B+	
1N	—	—	—		—	—
1O*7	Theft-deterrent horn input signal	Rear body control module (RBCM)	M-MDS is connected and theft-deterrent is sounded using data monitor function		1.0 or less	<ul style="list-style-type: none"> Rear body control module (RBCM) Related wiring harness
			M-MDS is connected and theft-deterrent is not sounded using data monitor function		B+	
1P	Rear window defroster relay control	Rear window defroster relay	Ignition switched ON (engine off)	Rear window defroster switch OFF	B+	<ul style="list-style-type: none"> Rear window defroster relay Related wiring harness
				Rear window defroster switch ON	1.0 or less	
1Q*1	Headlight cleaner motor control	Headlight cleaner motor	Ignition switched ON (engine off) and light switch at HEAD position	Turn front washer switch ON 2 times within 2 s	B+→ 1.0 or less	<ul style="list-style-type: none"> Headlight cleaner motor Related wiring harness
				No operation	1.0 or less	
1R*7	Theft-deterrent horn power supply	R.WIPER 15 A fuse	Under any condition		B+	<ul style="list-style-type: none"> R.WIPER 15 A fuse Related wiring harness
1S*1	Headlight washer power supply	H/CLEAN 20 A fuse	Under any condition		B+	<ul style="list-style-type: none"> H/CLEAN 20 A fuse Related wiring harness
1T*7	Theft-deterrent horn output signal	Theft-deterrent horn	M-MDS is connected and theft-deterrent is sounded using data monitor function		B+	<ul style="list-style-type: none"> Theft-deterrent horn Related wiring harness
			M-MDS is connected and theft-deterrent is not sounded using data monitor function		1.0 or less	
2A	Interior light power supply	ROOM 15 A fuse	Under any condition		B+	<ul style="list-style-type: none"> ROOM 15 A fuse Related wiring harness
2B	Front turn light (LH) control	Front turn light (LH)	Ignition switched ON (engine off)	Turn switch at left turn light position	1.0 or less ⇔ B+	<ul style="list-style-type: none"> Front turn light (LH) Related wiring harness
				Turn switch is in position other than above	1.0 or less	

Terminal	Signal	Connected to	Measurement conditions		Voltage (V)	Inspection item(s)
2C*2	Running light control	Running light (LH, RH)	Ignition switched ON (engine off) and light switch OFF	Running light illuminates	B+	• Running light (LH, RH) • Related wiring harness
				Running light turns off	1.0 or less	
2D	Rear turn light (LH) control	Rear turn light (LH)	Ignition switched ON (engine off)	Turn switch at left turn light position	1.0 or less ⇔ B+	• Rear turn light (LH) • Related wiring harness
				Turn switch is in position other than above	1.0 or less	
2E	LIN communication	Current sensor	Terminal used for communication therefore determination based on terminal voltage is not possible.			
2F	Side turn light (LH) control	Side turn light (LH)	Ignition switched ON (engine off)	Turn switch at left turn light position	1.0 or less ⇔ B+	• Side turn light (LH) • Related wiring harness
				Turn switch is in position other than above	1.0 or less	
2G*3	LIN communication	Auto-light sensor/rain sensor	Terminal used for communication therefore determination based on terminal voltage is not possible.			
2H	LIN communication	DC-DC converter	Terminal used for communication therefore determination based on terminal voltage is not possible.			
2I	CAN_L	CAN system related module	Terminal used for communication therefore determination based on terminal voltage is not possible.			
2J*5	LIN communication	Climate control unit	Terminal used for communication therefore determination based on terminal voltage is not possible.			
2K	CAN_H	CAN system related module	Terminal used for communication therefore determination based on terminal voltage is not possible.			
2L	CAN_L	CAN system related module	Terminal used for communication therefore determination based on terminal voltage is not possible.			
2M	Ignition power supply	C/U IG1 15 A fuse	Ignition switched ON (engine off)		B+	• C/U IG1 15 A fuse • Related wiring harness
			Ignition switched OFF (LOCK)		1.0 or less	
2N	CAN_L	CAN system related module	Terminal used for communication therefore determination based on terminal voltage is not possible.			
2O	—	—	—		—	—
2P	CAN_H	CAN system related module	Terminal used for communication therefore determination based on terminal voltage is not possible.			
2Q	Brake fluid level switch signal	Brake fluid level sensor	Ignition switched ON (engine off)	Brake fluid level is less than MIN (brake fluid level sensor ON)	1.0 or less	• Brake fluid level sensor • Related wiring harness
				Brake fluid level is MIN or more (brake fluid level sensor OFF)	Wave pattern (See Pattern 1.)	
2R	CAN_H	CAN system related module	Terminal used for communication therefore determination based on terminal voltage is not possible.			
2S*8	Washer level switch signal	Washer fluid-level sensor	Ignition switched ON (engine off)	Washer level is less than MIN (washer fluid-level sensor ON)	1.0 or less	• Washer fluid-level sensor • Related wiring harness
				Washer level is MIN or more (washer fluid-level sensor OFF)	Wave pattern (See Pattern 1.)	
2T*6	PTC heater signal	PTC heater	Terminal used for communication therefore determination based on terminal voltage is not possible.			
2U	Ignition power supply	Start stop unit	Ignition switched ON (engine off)		B+	• Start stop unit • Related wiring harness
			Ignition switched OFF (LOCK)		1.0 or less	

Terminal	Signal	Connected to	Measurement conditions		Voltage (V)	Inspection item(s)
2V	Headlight relay (LO) control (discharge type)	Headlight LO relay (RH)	Light switch at HEAD position		1.0 or less	<ul style="list-style-type: none"> • Headlight LO relay (RH) • Related wiring harness
			Light switch is in position other than above		B+	
2W	Headlight (LO) switch signal	Start stop unit	Light switch at HEAD position		1.0 or less	<ul style="list-style-type: none"> • Start stop unit • Related wiring harness
			Light switch at OFF position		B+	
2X	Headlight relay (HI) control	Headlight HI relay	Headlight at HEAD position and dimmer switch at LO position		B+	<ul style="list-style-type: none"> • Headlight HI relay • Related wiring harness
			Headlight at HEAD position and dimmer switch at HIGH or passing position		1.0 or less	
2Y	Windshield wiper (LO) switch signal	Start stop unit	Windshield wiper switch at ON position		1.0 or less	<ul style="list-style-type: none"> • Start stop unit • Related wiring harness
			Windshield wiper switch at OFF position		B+	
2Z	Blower motor relay control	Blower relay	Ignition switched ON (engine off)	Operate blower motor using fan switch	1.0 or less	<ul style="list-style-type: none"> • Blower relay • Related wiring harness
				Press climate control unit OFF button to stop blower motor	B+	
2AA	Autostop switch signal	Windshield wiper motor	Ignition switched ON (engine off)	Turn windshield wiper switch ON and wiper is operated	B+	<ul style="list-style-type: none"> • Windshield wiper motor • Related wiring harness
				Windshield wiper switch OFF	1.0 or less	
2AB*4	Front fog light relay control	Front fog light relay	Light switch at HEAD position	Front fog light switch OFF	B+	<ul style="list-style-type: none"> • Front fog light relay • Related wiring harness
				Front fog light switch ON	1.0 or less	
3A	Wiper power supply	WIPER 20 A fuse	Under any condition		B+	<ul style="list-style-type: none"> • WIPER 20 A fuse • Related wiring harness
3B	Wiper power supply	WIPER 20 A fuse	Under any condition		B+	<ul style="list-style-type: none"> • WIPER 20 A fuse • Related wiring harness
3C	Windshield wiper motor (HI) control	Windshield wiper motor	Ignition switched ON (engine off)	Windshield wiper switch at HI position	B+	<ul style="list-style-type: none"> • Windshield wiper motor • Related wiring harness
				Windshield wiper switch at OFF position	1.0 or less	
3D	Power ground	Body ground	Under any condition		1.0 or less	<ul style="list-style-type: none"> • Related wiring harness
3E	Windshield wiper motor (HI) control	Windshield wiper motor	Ignition switched ON (engine off)	Windshield wiper switch at HI position	B+	<ul style="list-style-type: none"> • Windshield wiper motor • Related wiring harness
				Windshield wiper switch at OFF position	1.0 or less	
3F	Windshield washer motor control	Washer motor	Ignition switched ON (engine off)	Windshield washer switch ON	B+	<ul style="list-style-type: none"> • Washer motor • Related wiring harness
				Windshield washer switch OFF	1.0 or less	
3G	Windshield wiper motor (LOW) control	Windshield wiper motor	Ignition switched ON (engine off)	Windshield wiper switch at LOW position	B+	<ul style="list-style-type: none"> • Windshield wiper motor • Related wiring harness
				Windshield wiper switch at OFF position	1.0 or less	

Terminal	Signal	Connected to	Measurement conditions		Voltage (V)	Inspection item(s)
3H	Rear window washer motor control	Washer motor	Ignition switched ON (engine off)	Rear window washer switch ON	B+	<ul style="list-style-type: none"> Washer motor Related wiring harness
				Rear washer switch OFF	1.0 or less	
3I	Windshield wiper motor (LOW) control	Windshield wiper motor	Ignition switched ON (engine off)	Windshield wiper switch at LOW position	B+	<ul style="list-style-type: none"> Windshield wiper motor Related wiring harness
				Windshield wiper switch at OFF position	1.0 or less	
3J	Interior illumination power supply	<ul style="list-style-type: none"> Glove compartment light Selector illumination Hazard warning switch Climate control unit*5 Audio unit Clock spring 	Light switch at TNS position		B+	<ul style="list-style-type: none"> Glove compartment light Selector illumination Hazard warning switch Climate control unit*5 Audio unit Clock spring Related wiring harness
			Light switch at OFF position		—*9	
3K	Power supply	HAZARD 25 A fuse	Under any condition		B+	<ul style="list-style-type: none"> HAZARD 25 A fuse Related wiring harness
3L	Power supply	HAZARD 25 A fuse	Under any condition		B+	<ul style="list-style-type: none"> HAZARD 25 A fuse Related wiring harness

*1 : Vehicles with headlight cleaner system

*2 : Vehicles with running light system

*3 : Vehicles with auto wiper/ auto light system

*4 : Vehicles with front fog light system

*5 : Vehicles with manual air conditioner

*6 : SKYACTIV-D 2.2

*7 : Vehicles with theft-deterrent system

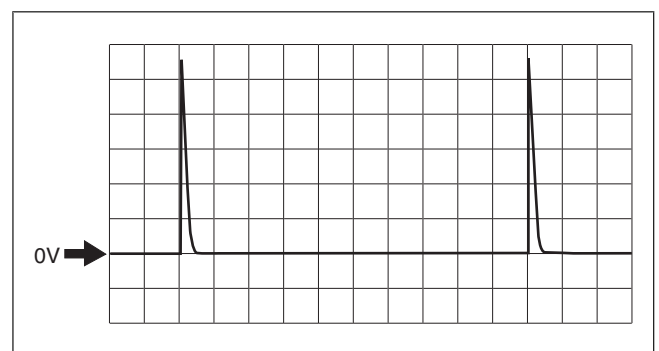
*8 : Vehicles with washer fluid-level sensor

*9 : The measured voltage changes according to the tester specification, therefore determination based on terminal voltage is not possible.

Inspection Using an Oscilloscope (Reference)

Pattern 1

- Terminal:
 - Brake fluid level signal: 2Q (+) ⇔ ground (-)
 - Washer level signal: 2S (+) ⇔ ground (-)
- Oscilloscope setting: 2 V/DIV (Y), 1 ms/DIV (X), DC range



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