4. Auto A/C Control Module I/O Signal

A: ELECTRICAL SPECIFICATION



AC-00099

Connector & Terminal No.	Content	Measuring condition		Specified value	
B9	Mada daar actuator	Switch the c	Switch the outlet opening to VENT \rightarrow DEF.		
B8	Mode door actuator	Switch the c	outlet opening to DEF \rightarrow VENT.	^2	
B7		Switching the air mix door from COOL \rightarrow HOT		*4	
B6	B6 Air mix door actuator		Switching the air mix door from HOT \rightarrow COOL		
B5	Ignition power supply	Ignition switch: ON		Battery voltage	
B4	Battery power supply	Ignition switch: OFF, ACC, ON		Battery voltage	
B3	Sunload sensor	Ignition switch: ON, With Normal Sunload (No sunload: 5 V)		3 V	
B2	Evaporator sensor	Ignition switch: ON		Less than 5 V	
D1	Air mix door actuator PBR signal	Air mix door	Air mix door: COOL position		
ВІ		Air mix door: HOT position		4.5 V	
B20		Inlet opening: FRESH (Other positions: 12 V)		0 V	
B19	Intake door actuator signal	Inlet opening: MIX (Other positions: 12 V)		0 V	
B18		Inlet opening: RECIRC (Other positions: 12 V)		0 V	
B17	A/C ON signal	A/C: ON (A/C OFF: 0 V)		8 — 10 V	
B16	Blower motor control	*3		*3	
B15	Blower fan ON signal	When blower fan is rotating (Not rotating: 12 V)		0 V	
B13	Engine coolant temperature sen- sor	When the engine coolant temperature is 49°C (120°F).		8.9 V	
B12	In-vehicle sensor	—		—	
B11	Ground	Continuity to chassis ground		0 Ω	
A7	Air mix door actuator PBR speci- fied voltage	Ignition switch: ON		5 V	
٨٥	Mode door actuator position detection signal	Outlet	BI-LEVEL, DEF	5 V	
AS		opening	VENT, HEAT, DEF/HEAT	0 V	
A4	Mode door actuator position detection signal	Outlet	HEAT, DEF/HEAT, DEF	5 V	
		opening	VENT, BI-LEVEL	0 V	
۲۸	Illumination power supply	Ignition switch: ON, Light switch: ON		Battery voltage	
		Ignition switch: ON, Light switch: OFF		0 V	
A16	Sensor ground circuit	Continuity to chassis ground		0 Ω	



Auto A/C Control Module I/O Signal

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

Connector & Terminal No.	Content	Measuring condition		Specified value
A14	Combination meter (Ambient tem- perature signal)	*3		*3
A13	Mode door actuator position detection signal	Outlet opening	VENT, BI-LEVEL, HEAT	5 V
			DEF/HEAT, DEF	0 V
A12	Mode door actuator position detection signal	Outlet opening	VENT, DEF/HEAT	5 V
			BI-LEVEL, HEAT, DEF	0 V
A10	A/C cut signal	A/C: ON		Battery voltage
		Pressure switch operated		0 V
A9	Illumination ground	Continuity to chassis ground		0 Ω

*1: Shows the battery voltage while the motor is running. When stopped, it will output 0 V, or the pulse signals of the battery voltage.

*2: Shows the battery voltage while the motor is running. When stopped, it shows 0 V.

*3: Unable to measure the voltage because it is a pulse signal.

B: WIRING DIAGRAM

<Ref. to WI-79, WIRING DIAGRAM, Air Conditioning System.>

5. Diagnostic Chart for Self-Diagnosis

A: OPERATION



(1) Temperature control dial

A/C switch

(2)

- (3) Air flow control dial(4) Rear defogger switch
- (5) FRESH/RECIRC switch
- (6) Fan speed control dial



- (1) Normal operation
- (2) Set the air flow control dial to the AUTO position, and the fan speed control dial to the AUTO position. Then, turn the ignition switch from OFF to ON while holding down the FRESH/RECIRC switch and the A/C switch.
- (4) Self-diagnosis function
- (3) Turn the fan speed control dial switch to the OFF position, or the ignition switch from ON to OFF.
- (5) Display check
- (6) After completing the display check (approximately 8 seconds)
- (7) Press the rear defogger switch.
- (8) Sensor check (Step operation)
- (9) Output device operation (Step operation)
- (10) Press the A/C switch.

Diagnostic Chart for Self-Diagnosis

HVAC SYSTEM (AUTO A/C) (DIAGNOSTICS)

Step	Check	Yes	No
 SET SELF-DIAGNOSIS MODE BY OPERAT- ING CONTROL PANEL. Turn the ignition switch to OFF. Set the air flow control dial to the AUTO position. Set the fan speed control dial to the AUTO position. Turn the ignition switch to ON while pressing the FRESH/RECIRC switch and the A/C switch. The A/C control panel LED will blink 	Does the self-diagnosis func- tion operate?	Go to step 2.	<ref. ac(diag)-<br="" to="">12, A/C OR SELF- DIAGNOSIS SYS- TEMS DO NOT OPERATE, Diag- nostics for A/C System Malfunc- tion.></ref.>
2 CHECK THE LIGHTING OF THE LED. Check whether the A/C control panel LED blinks. (Lighting and extinguishing repeated 8 times.)	Are all LEDs blinking?	Go to step 3.	Go to step 5.
 3 SENSOR MALFUNCTION CHECK. The A/C switch LED turns off and the sensor inspection is started, after the LED check is completed or when the rear defogger switch is pressed. Switch the air flow control dial to check the sensors. If there is no problem with the sensors, the FRESH/RECIRC switch LED will light, regardless of the position of the air flow control dial. NOTE:	Does the LED of the FRESH/ RECIRC switch illuminate?	Go to step 4 .	Check the relation- ship of the air flow control dial posi- tion and sensors using the sensor check list, and check/repair sen- sors that have failed. <ref. to<br="">AC(diag)-11, SEN- SOR CHECK TABLE, OPERA- TION, Diagnostic Chart for Self- Diagnosis.></ref.>
 4 OPERATION CHECK OF ACTUATORS, COMPRESSOR AND FAN MOTOR. Press the A/C switch. (At this time, the A/C switch LED illuminates.)) Operate the fan speed control dial to check the operations of each of the actuator, compressor and fan motor. Action (diag)-11, OPERATING MODE TABLE, OPERATION, Diagnostic Chart for Self-Diagnosis.> NOTE: Switching the fan speed control dial position enables the individual check of each step. 	Do the actuators, compressor, and fan motor operate accord- ing to the operating mode table? <ref. ac(diag)-11,<br="" to="">OPERATING MODE TABLE, OPERATION, Diagnostic Chart for Self-Diagnosis.></ref.>	Either turn the fan control dial to the OFF position, or turn the ignition switch to the OFF position to quit the self-diagnosis function.	Refer to each of the diagnostics for the actuator, com- pressor and fan motor to repair the areas that have malfunctioned. <ref. ac(diag)-<br="" to="">12, Diagnostics for A/C System Mal- function.> <ref. to<br="">AC(diag)-21, Diag- nostic Procedure for Actuators.></ref.></ref.>
5 CHECK POOR CONTACT. Check poor contact of auto A/C control module connector.	Is there poor contact in the auto A/C control module con- nector?	Repair the poor contact in the auto A/C control mod- ule connector.	Replace the auto A/C control mod- ule.