

AIR CONDITIONING SYSTEM > DATA LIST / ACTIVE TEST

for Preparation [Click here](#)

HINT:

Using the intelligent tester to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

NOTICE:

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

DATA LIST

- a. Connect the intelligent tester to the DLC3.
- b. Turn the engine switch on (IG).
- c. Turn the intelligent tester on.
- d. Enter the following menus: Body / Air Conditioner / Data List.
- e. Enter the following menus: Powertrain / Engine and ECT / Data List.
- f. According to the display on the intelligent tester, read the Data List.

Air Conditioner			
Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
Room Temperature Sensor	Front room temperature sensor / Min.: -6.5°C (20.3°F) Max.: 57.25°C (135.05°F)	Actual room temperature for front seat displayed	Open in the circuit: -6.5°C (20.3°F). Short in the circuit: 57.25°C (135.05°F).
Ambient Temp Sensor	Ambient temperature sensor / Min.: -23.3°C (-9.94°F) Max.: 65.95°C (150.71°F)	Actual ambient temperature displayed	Open in the circuit: -23.3°C (-9.94°F). Short in the circuit: 65.95°C (150.71°F).
Adjusted Ambient Temp	Adjusted ambient temperature / Min.: -30.8°C (-23.44°F) Max.: 50.8°C (123.44°F)	Adjusted ambient temperature displayed	-
Evaporator Fin Thermistor	No. 1 cooler thermistor / Min.: -29.7°C (-21.46°F) Max.: 59.55°C (139.19°F)	Actual evaporator temperature displayed	Open in the circuit: -29.7°C (-21.46°F). Short in the circuit: 59.55°C (139.19°F).
Evaporator Target Temp	Target evaporator temperature / Min.: 1.5°C (34.7°F) Max.: 4.0°C (39.2°F)	Target evaporator temperature displayed	-
Solar Sensor (D Side)	Driver side solar sensor / Min.: 0, Max.: 255	Driver side solar sensor voltage increases as brightness increases	Open in the circuit: 0 Short in the circuit: 255
Solar Sensor (P Side)	Passenger side solar sensor / Min.: 0, Max.: 255	Passenger side solar sensor voltage increases as brightness increases	Open in the circuit: 0 Short in the circuit: 255
Engine Coolant Temp	Engine coolant temperature / Min.: 1.3°C (34.34°F) Max.: 90.55°C (194.99°F)	Actual engine coolant temperature displayed while engine warmed up	-
Set Temperature (D Side)	Driver side set temperature / MAX COLD: 15.5°C (59.9°F) MAX HOT: 32.5°C (90.5°F)	Driver side actual set temperature displayed	-

Set Temperature (P Side)	Passenger side set temperature / MAX COLD: 15.5°C (59.9°F) MAX HOT: 32.5°C (90.5°F)	Passenger side actual set temperature displayed	-
A/M Servo Targ Pulse (Rear D)	Rear air mix damper servo motor target pulse / Min.: 9, Max.: 54 (for LHD) Min.: 8, Max.: 53 (for RHD)	for LHD <ul style="list-style-type: none"> MAX COOL: 9 (pulse) MAX HOT: 54 (pulse) for RHD <ul style="list-style-type: none"> MAX COOL: 53 (pulse) MAX HOT: 8 (pulse) 	-
A/M Servo Targ Pulse (Rear P)	Rear air mix damper servo motor (for front passenger side) target pulse / Min.: 8, Max.: 53 (for LHD) Min.: 9, Max.: 54 (for RHD)	for LHD <ul style="list-style-type: none"> MAX COOL: 53 (pulse) MAX HOT: 8 (pulse) for RHD <ul style="list-style-type: none"> MAX COOL: 9 (pulse) MAX HOT: 54 (pulse) 	-
Hand Free Telephone	Handsfree telephone / OFF or ON	ON: Handsfree telephone used OFF: Handsfree telephone not used	-
Blower Motor Speed Level	Blower motor speed level / Min.: 0 level, Max.: 31 level	Increases in range between 0 and 31 as blower motor speed increases	-
Regulator Pressure Sensor	Refrigerant pressure sensor / Min.: -0.4566 MPaG Max.: 3.2943 MPaG	Actual refrigerant pressure displayed	-
Room Temp Sensor (Rear)	Rear room temperature sensor / Min.: -6.5°C (20.3°F) Max.: 57.25°C (135.05°F)	Actual rear room temperature displayed	Open in the circuit: -6.5°C (20.3°F). Short in the circuit: 57.25°C (135.05°F).
Ambient Temp Sens (Rear)	No. 2 cooler thermistor / Min.: -29.7°C (-21.46°F) Max.: 59.55°C (139.19°F)	Actual rear evaporator temperature displayed	Open in the circuit: -29.7°C (-21.46°F). Short in the circuit: 59.55°C (139.19°F).
Blower Motor Level (Rear)	Rear blower motor speed level / Min.: 0, Max.: 31	Increases in range between 0 to 31 as rear blower motor speed increases	-
Air Mix Servo Targ Pulse(D)	Air mix damper servo motor (for driver side) target pulse / Min.: 8, Max.: 90 (for LHD) Min.: 8, Max.: 90 (for RHD)	for LHD <ul style="list-style-type: none"> MAX COOL: 90 (pulse) MAX HOT: 8 (pulse) for RHD <ul style="list-style-type: none"> MAX COOL: 8 (pulse) MAX HOT: 90 (pulse) 	-
Air Mix Servo Targ Pulse(P)	Air mix damper servo motor (for front passenger side) target pulse / Min.: 8, Max.: 90 (for LHD) Min.: 8, Max.: 90 (for RHD)	for LHD <ul style="list-style-type: none"> MAX COOL: 8 (pulse) 	-

		<ul style="list-style-type: none"> MAX HOT: 90 (pulse) for RHD <ul style="list-style-type: none"> MAX COOL: 90 (pulse) MAX HOT: 8 (pulse) 	
Air Inlet Damper Targ Pulse	REC/FRS damper servo motor target pulse / Min.: 9, Max.: 37	for LHD Recirculation: 37 (pulse) Fresh: 9 (pulse) for RHD Recirculation: 9 (pulse) Fresh: 37 (pulse)	-
Cool Air Bypass Pulse	Cool air bypass damper servo motor target pulse / Min.: 6, Max.: 57	Shut: 6 (pulse) Open: 57 (pulse)	-
Electric Heater Count	Electric heater count / Min.: 0, Max.: 3	-	-
Shift Set Temperature	Shift set temperature / +2 C, +1 C, NORMAL, -1 C, -2 C	Customized value displayed	-
Air Inlet Mode	Air inlet mode / AUTO, MANUAL	Customized value displayed	-
Compressor Mode	Compressor mode / AUTO, MANUAL	Customized value displayed	-
Compressor/DEF Mode	Compressor/DEF mode / LINK, NORMAL	Customized value displayed	-
Evaporator Control	Evaporator control / AUTO, MANUAL	Customized value displayed	-
Button Press Buzzer	Button press buzzer / ON or OFF	Customized value displayed	-
Foot/DEF Auto Mode	FOOT/DEF auto mode / ON or OFF	Customized value displayed	-
Foot/DEF Auto Blow Up	FOOT/DEF auto blower up function / ON or OFF	Customized value displayed	-
Filter Sensor	Filter sensor / LESS, NORMAL, MORE	Customized value displayed	-
Rear A/P HI Set	Rear A/P HI set / ON or OFF	Customized value displayed	-
Ambient Temperature Shift	Ambient temperature shift / +3 C, +2 C, +1 C, NORMAL, -1 C, -2 C, -3 C	Customized value displayed	-
A/O Damper FACE Pos(D)	Air outlet damper servo motor (for driver side mode) target pulse / Min.: 6, Max.: 117	FACE1: 117 (pulse) FACE2: 109 (pulse) B/L1: 93 (pulse) B/L2: 81 (pulse) FOOT-F: 41 (pulse) FOOT-R: 41 (pulse) FOOT-D: 52 (pulse) F/D: 18 (pulse) DEF: 6 (pulse)	-
A/O Damper FACE Pos(P)	Air outlet damper servo motor (for front passenger side mode) target pulse / Min.: 6, Max.: 117 (for LHD) Min.: 9, Max.: 120 (for RHD)	for LHD <ul style="list-style-type: none"> FACE1: 117 (pulse) FACE2: 109 (pulse) B/L1: 93 (pulse) B/L2: 81 (pulse) FOOT-F: 41 (pulse) FOOT-R: 41 (pulse) FOOT-D: 52 (pulse) F/D: 18 (pulse) DEF: 6 (pulse) 	-

		for RHD	
		<ul style="list-style-type: none"> • FACE1: 9 (pulse) • FACE2: 17 (pulse) • B/L1: 33 (pulse) • B/L2: 45 (pulse) • FOOT-F: 85 (pulse) • FOOT-R: 85 (pulse) • FOOT-D: 74 (pulse) • F/D: 108 (pulse) • DEF: 120 (pulse) 	
Air Mix Servo Targ Pls(F&R D)	Front air mix damper servo motor (for driver side rear air flow) target pulse / Min.: 13, Max.: 41 (for LHD) Min.: 5, Max.: 33 (for RHD)	for LHD <ul style="list-style-type: none"> • MAX COOL: 13 (pulse) • MAX HOT: 41 (pulse) for RHD <ul style="list-style-type: none"> • MAX COOL: 33 (pulse) • MAX HOT: 5 (pulse) 	-
Air Mix Servo Targ Pls(F&R P)	Front air mix damper servo motor (for front passenger side rear air flow) target pulse / Min.: 5, Max.: 33 (for LHD) Min.: 13, Max.: 41 (for RHD)	for LHD <ul style="list-style-type: none"> • MAX COOL: 33 (pulse) • MAX HOT: 5 (pulse) for RHD <ul style="list-style-type: none"> • MAX COOL: 13 (pulse) • MAX HOT: 41 (pulse) 	-
Air Outlet Servo Pls (F&R D)	Air outlet damper servo motor (for rear seat mode) target pulse / Min.: 9, Max.: 79	FACE1: 9 (pulse) B/L1: 28 (pulse) FOOT-O: 41 (pulse) F/D: 67 (pulse) DEF: 79 (pulse)	-
Air Outlet Servo Pulse (R)	Rear air outlet damper servo motor target pulse / Min.: 7, Max.: 83	FOOT: 7 (pulse) B/L: 42 (pulse) FACE: 83 (pulse)	-
Room Temperature Sensor (RP)	Rear room temperature sensor / Min.: -6.5°C (20.3°F) Max.: 57.25°C (135.05°F)	Actual rear room temperature displayed	Open in the circuit: -6.5°C (20.3°F) Short in the circuit: 57.25°C (135.05°F)
Set Temperature (Rear D side)	Rear driver side set temperature / MAX COLD: 0°C (32°F) MAX HOT: 32°C (54°F)	Rear driver side actual set temperature displayed	-
Set Temperature (Rear P side)	Rear passenger side set temperature / MAX COLD: 0°C (32°F) MAX HOT: 32°C (54°F)	Rear passenger side actual set temperature displayed	-
Pls Servo Test Sts	Pulse servo motor test status / 00, 01, 02, 03, 04	Not in effect: 00 During test: 01 Completed without malfunction: 02 Completed with malfunction: 03 Interrupted: 04	-

Foot Duct Sensor(Rear D)	Min.: -12.7°C (9.14°F) Max.: 76.55°C (169.79°F)	Actual air duct temperature sensor (for driver side) displayed	Open in the circuit: -12.7°C (9.14°F) Short in the circuit: 76.55°C (169.79°F)
Foot Duct Sensor(Rear P)	Min.: -12.7°C (9.14°F) Max.: 76.55°C (169.79°F)	Actual air duct temperature sensor (for passenger side) displayed	Open in the circuit: -12.7°C (9.14°F) Short in the circuit: 76.55°C (169.79°F)
Number of Trouble Codes	Number of trouble codes / Min.: 0, Max.: 255	Number of DTCs displayed	-
A/O Damper FOOT/DEF Pos(P)	Air outlet damper servo motor (for DEF mode) target pulse / Min.: 6, Max.: 117	<ul style="list-style-type: none"> • FACE1: 117 (pulse) • FACE2: 109 (pulse) • B/L1: 93 (pulse) • B/L2: 81 (pulse) • FOOT-D: 52 (pulse) • FOOT-R: 41 (pulse) • FOOT-F: 41 (pulse) • F/D: 18 (pulse) • DEF: 6 (pulse) 	-

a.

Engine			
Tester Display	Measurement Item/Range	Normal Condition	Diagnostic Note
A/C Signal	A/C signal / ON or OFF	ON: A/C Switch on OFF: A/C Switch off	-

ACTIVE TEST

HINT:

Using the intelligent tester to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

- a. Connect the intelligent tester to the DLC3.
- b. Turn the engine switch on (IG).
- c. Turn the intelligent tester on.
- d. Enter the following menus: Body / Air Conditioner / Active Test.
- e. According to the display on the intelligent tester, perform the Active Test.

Tester Display	Test Part	Control Range	Diagnostic Note
Blower Motor	Front blower motor	Min.: 0, Max.: 31	-
Magnetic Clutch Relay	Magnetic clutch relay	OFF or ON	-
Air Mix Servo Targ Pulse(D)	Air mix servo motor pulse (Front A/C D side)	Min.: 8, Max.: 90	-
Air Mix Servo Targ Pulse(P)	Air mix servo motor pulse (Front A/C P side)	Min.: 8, Max.: 90	-
Air Inlet Damper Targ Pulse	Air inlet damper target pulse	Min.: 9, Max.: 37	-
Cool Air Bypass Pulse	Driver side cool air bypass pulse	Min.: 6, Max.: 57	-

Rear Blower Motor	Rear blower motor	Min.: 0, Max.: 31	-
Rear A/C Mag Valve	Rear A/C magnetic valve	OFF or ON	-
Face A/O Servo Pulse(D)	Air outlet servo motor pulse (D side)	Min.: 6, Max.: 117	-
Face A/O Servo Pulse(P)	Air outlet servo motor pulse (P side)	<p>for LHD</p> <ul style="list-style-type: none"> • Min.: 6 • Max.: 117 <p>for RHD</p> <ul style="list-style-type: none"> • Min.: 9 • Max.: 120 	-
A/M Servo Puls(F&R D)	Air mix servo motor pulse (Front A/C rear air flow D side)	<p>for LHD</p> <ul style="list-style-type: none"> • Min.: 9 • Max.: 54 <p>for RHD</p> <ul style="list-style-type: none"> • Min.: 8 • Max.: 53 	-
A/M Servo Puls(F&R P)	Air mix servo motor pulse (Front A/C rear air flow P side)	<p>for LHD</p> <ul style="list-style-type: none"> • Min.: 8 • Max.: 53 <p>for RHD</p> <ul style="list-style-type: none"> • Min.: 9 • Max.: 54 	-
A/O Servo Pulse(F&R D)	Air outlet servo motor pulse (Front A/C rear air flow D side)	Min.: 9, Max.: 79	-
A/O Servo Pulse(Rr D)	Air outlet servo motor pulse (Rr D side)	Min.: 7, Max.: 83	-