

## Control Panel Diagnostics

### System Self-Test

Some system generated fault codes can be displayed on the control panel screen. When a fault is flagged, an audible “beep” will sound and the message “Er” will be displayed for five seconds, after the ignition is switched to position II. To display stored “panel fault codes”, follow this procedure:

- Switch off the ignition  
Press and hold the AUTO and FRESH / RECIRC buttons simultaneously while switching the ignition to position II.  
All of the panel LEDs and all LCD segments will flash ON and OFF. Any function LED indicator or LCD segment that does not flash suggests a fault condition within that area of the panel, or with the LED or LCD.
- Press AUTO  
The control panel display will flash and scroll through the list of flagged fault codes. A maximum of five codes will be stored and displayed. If 0 is displayed, no fault codes are flagged.
- Press FACE to manually scroll through the fault codes  
When a fault code is displayed, an accompanying beep will indicate if the fault is present. If the code is not accompanied by a beep, the fault occurred previously.  
**NOTE:** Faults that are present can not be cleared until the cause of the fault is repaired.  
To clear fault codes, press HRW and FACE simultaneously. Wait 30 seconds for the A/CCM to retest the system and reflag any current faults.
- Press PUSH OFF to return the system to normal operation (default panel settings)

### Panel Communication Check

The data link, power, and lighting circuits between the A/CCM and the control panel can be checked by simultaneously holding AUTO and FAN while the ignition is switched to position II. Panel control LEDs will illuminate to indicate that each circuit is OK, as follows:

<b>Circuit</b>	<b>LED</b>
Ignition switched power supply (pos. II) circuit	Defrost button LED
Ignition switched power supply (pos. I, Aux.) circuit	Face button LED
Clock circuit	Bi-level button LED
Start circuit	Foot button LED
Data circuits	Defrost / foot button LED
Panel lighting	Recirc. button LED

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#### NOTES

## Actuator Check

The control panel, system actuators and certain components can be checked by simultaneously holding AUTO and FRESH / RECIRC while the ignition is switched to position II.

### Control panel

All of the panel control LEDs and LCD segments will flash on and off to indicate that each panel circuit is OK. If a LED does not flash, a fault condition in that area of the panel is indicated, or the LED has failed. If a LCD segment does not flash, a fault condition in that area of the panel is indicated, or the LCD segment has failed.

### Actuators and components

Check the actuators by selecting AUTO, then FRESH / RECIRC. Select FACE to cycle through the actuator mode conditions 20 – 27 as shown in the following table. After the check is complete, select PUSH OFF to restore normal system operation.

#### Actuator check chart

Code	Blower level	Face	Outlet: Foot	Defrost	Cool Air bypass	Fresh / recirc	Compressor	Heater valve	Heater
20	0	open	closed	closed	closed	fresh	OFF	closed	OFF
21	1	open	closed	closed	closed	fresh	OFF	closed	ON
22	10	open	closed	closed	open	1/2 open	A/C ON	closed	ON
23	17	bleed	1/2 open	closed	1/2 open	1/2 open	A/C ON	6 sec. pulse*	ON
24	17	bleed	1/2 open	closed	closed	recirc	A/C ON	6 sec. pulse*	ON
25	23	closed	open	bleed	closed	recirc	A/C ON	open	ON
26	23	closed	1/2 open	1/2 open	closed	recirc	A/C ON	open	ON
27	31	closed	closed	open	closed	open	A/C ON	open	ON

\*The heater valve operates on a 6 second pulse (3 seconds ON, 3 seconds OFF)

### Control panel diagnostic monitoring

The A/CCM can determine incorrect data by the absence of a minimum number of "high" and "low" bits in each data "block" received or sent. The A/CCM continuously checks the data flow between the A/CCM and the control panel. If consistent incorrect data is detected, a DTC is flagged.

DTCs:	PDU	Panel
	U1263	none
	U1264	none

Refer to the DTC Summary, pages 61 – 64.

#### NOTES



## **DTC Summary**

### **Denso Climate Control System**

#### **PDU DIAGNOSTIC TROUBLE CODES (DTCs)**

Use Toolbox to access the 5-character PDU DTCs.

#### **PANEL FAULT CODES**

Use the System Self-Test as described on page 58 to access the 2-digit Panel Fault Codes.

**NOTES:** PDU DTCs are more definitive than Panel Fault Codes. Use PDU when diagnosing System Faults.  
Not all PDU DTCs have equivalent Panel Fault Codes.

PDU	PANEL	CIRCUIT	FAULT DESCRIPTION	POSSIBLE CAUSES
P0335	—	Engine speed input	Vehicle speed input > 50 mph; engine speed = 0	Vehicle speed input circuit between ECM and AYCCM: open circuit, short circuit or high resistance
B1250	11	In-car temperature sensor	In-car temperature sensing circuit fault	In-car temperature sensing circuit: open circuit, high resistance or short circuit to B+ voltage
B1253	11	In-car temperature sensor	In-car temperature sensing circuit fault	In-car temperature sensing circuit: short circuit to ground
B1254	12	Ambient temperature sensor	Ambient temperature sensing circuit fault	Ambient temperature sensing circuit: open circuit, high resistance or short circuit to B+ voltage
B1257	12	Ambient temperature sensor	Ambient temperature sensing circuit fault	Ambient temperature sensing circuit: short circuit to ground
B1258	21	Solar sensor	Solar sensing circuit fault	Solar sensing circuit: open circuit, high resistance or short circuit to B+ voltage
B1260	21	Solar sensor	Solar sensing circuit fault	Solar sensing circuit: short circuit to ground
B1262	44	Defrost servo	Defrost vent position not reached within 30 seconds	Defrost vent servo drive circuit: open circuit, high resistance or short circuit Defrost vent servo failure
B1263	45	Center vent servo	Center vent position not reached within 30 seconds	Center vent servo drive circuit: open circuit, high resistance or short circuit Center vent servo failure
B1264	46	Foot vent servo	Foot vent position not reached within 30 seconds	Foot vent servo drive circuit: open circuit, high resistance or short circuit Foot vent servo failure
B1265	43	Cool air bypass servo	Cool air bypass position not reached within 30 seconds	Cool air bypass servo drive circuit: open circuit, high resistance or short circuit Cool air bypass servo failure
B1266	41	Left fresh / recirc servo	Left fresh / recirc position not reached within 30 seconds	Left fresh / recirc servo drive circuit: open circuit, high resistance or short circuit Left fresh / recirc servo failure
B1267	42	Right fresh / recirc servo	Right fresh / recirc position not reached within 30 seconds	Right fresh / recirc servo drive circuit: open circuit, high resistance or short circuit Right fresh / recirc servo failure
B1268	34	Defrost feedback potentiometer	Defrost feedback potentiometer sensing (wiper) circuit fault	Defrost feedback potentiometer sensing circuit: open circuit, high resistance or short circuit to B+ voltage
B1271	34	Defrost feedback potentiometer	Defrost feedback potentiometer sensing (wiper) circuit fault	Defrost feedback potentiometer sensing circuit: short circuit to ground
B1272	35	Center vent feedback potentiometer	Center vent potentiometer sensing (wiper) circuit fault	Center vent potentiometer sensing circuit: open circuit, high resistance or short circuit to B+ voltage
B1275	35	Center vent feedback potentiometer	Center vent potentiometer sensing (wiper) circuit fault	Center vent feedback potentiometer sensing circuit: short circuit to ground

PDU	PANEL	CIRCUIT	FAULT DESCRIPTION	POSSIBLE CAUSES
B1276	36	Foot vent feedback potentiometer	Foot vent potentiometer sensing (wiper) circuit fault	Foot vent potentiometer sensing circuit: open circuit, high resistance or short circuit to B+ voltage
B1279	36	Foot vent feedback potentiometer	Foot vent potentiometer sensing (wiper) circuit fault	Foot vent potentiometer sensing circuit: short circuit to ground
B1280	33	Cool air bypass feedback potentiometer	Cool air bypass potentiometer sensing (wiper) circuit fault	Cool air bypass potentiometer sensing circuit: open circuit, high resistance or short circuit to B+ voltage
B1283	33	Cool air bypass feedback potentiometer	Cool air bypass potentiometer sensing (wiper) circuit fault	Cool air bypass potentiometer sensing circuit: short circuit to ground
B1284	31	Left fresh / recirc feedback potentiometer	Left fresh / recirc potentiometer sensing (wiper) circuit fault	Left fresh / recirc potentiometer sensing circuit: open circuit, high resistance or short circuit to B+ voltage
B1287	31	Left fresh / recirc feedback potentiometer	Left fresh / recirc potentiometer sensing (wiper) circuit fault	Left fresh / recirc potentiometer sensing circuit: short circuit to ground
B1288	32	Right fresh / recirc feedback potentiometer	Right fresh / recirc potentiometer sensing (wiper) circuit fault	Right fresh / recirc potentiometer sensing circuit: open circuit, high resistance or short circuit to B+ voltage
B1291	32	Right fresh / recirc feedback potentiometer	Right fresh / recirc potentiometer sensing (wiper) circuit fault	Right fresh / recirc potentiometer sensing circuit: short circuit to ground
B1292	—	B+ power supply (via A/C isolate relay)	B+ power supply circuit fault between A/C isolate relay and A/CCM	B+ circuit between A/C isolate relay and A/CCM: open circuit or high resistance
B1294	—	B+ power supply (via A/C isolate relay)	B+ power supply circuit fault between A/C isolate relay and A/CCM	B+ circuit between A/C isolate relay and A/CCM: short circuit to ground
B1297	—	Sensor 5 volt reference voltage	Sensor 5 volt reference voltage circuit fault	Sensor 5 volt reference voltage circuit: open circuit or short circuit to B+ voltage
B1298	—	Sensor 5 volt reference voltage	Sensor 5 volt reference voltage circuit fault	Sensor 5 volt reference voltage circuit: short circuit to ground
B1299	—	Sensor 5 volt reference voltage	Sensor 5 volt reference voltage circuit fault	Sensor 5 volt reference voltage circuit: high resistance
B1355	—	B+ power supply	B+ power supply circuit fault	B+ power supply circuit: open circuit or short circuit to ground
B1849	24	Face vent differential temperature control	Face vent differential temperature control potentiometer circuit fault	Face vent differential temperature potentiometer circuit: open circuit, high resistance or short circuit to B+ voltage
B1852	24	Face vent differential temperature control	Face vent differential temperature control potentiometer circuit fault	Face vent differential temperature potentiometer circuit: short circuit to ground
B1853	—	Aspirator motor	Aspirator motor circuit fault	Aspirator motor circuit: open circuit or high resistance Aspirator motor failure
B1856	—	Aspirator motor	Aspirator motor circuit fault	Aspirator motor circuit short circuit to ground
B1857	—	Ignition switched (Pos I, Aux) ground signal	Ignition switched ground signal circuit fault	Ignition switched ground signal circuit open circuit or high resistance
B1858	23	Refrigerant dual pressure switch	Refrigerant dual pressure switch circuit fault	Refrigerant charge low Refrigerant dual pressure switch circuit: open circuit, high resistance or short circuit to B+ voltage High engine temperature in high ambient temperature

PDU	PANEL	CIRCUIT	FAULT DESCRIPTION	POSSIBLE CAUSES
B1861	23	Refrigerant dual pressure switch	Refrigerant dual pressure switch circuit fault	Refrigerant dual pressure switch circuit: short circuit to ground
B1862	22	Compressor lock sensor	Compressor lock; Compressor lock sensing circuit fault	Slipping compressor drive belt Compressor lock Compressor lock sensing circuit: open circuit or short circuit to ground or B+ voltage
B1863	—	Sensor signal ground	Sensor signal ground circuit fault	Sensor signal ground circuit open circuit
B1946	13	Evaporator temperature sensor	Evaporator temperature sensing circuit fault	Evaporator temperature sensing circuit: open circuit, high resistance or short circuit to B+ voltage
B1947	13	Evaporator temperature sensor	Evaporator temperature sensing circuit fault	Evaporator temperature sensing circuit: short circuit to ground
B1948	14	Coolant temperature signal	Coolant temperature signal circuit fault between instrument pack and A/CCM	Signal circuit between instrument pack and A/CCM: open circuit, high resistance or short circuit to B+ voltage
B1949	14	Coolant temperature signal	Coolant temperature signal circuit fault between instrument pack and A/CCM	Signal circuit between instrument pack and A/CCM: short circuit to ground
B1966	15	Heater matrix air temperature sensor	Heater matrix air temperature sensing circuit fault	Heater matrix air temperature sensing circuit: open circuit, high resistance or short circuit to B+ voltage
B1967	15	Heater matrix air temperature sensor	Heater matrix air temperature sensing circuit fault	Heater matrix air temperature sensing circuit: short circuit to ground
B1968	—	Heater pump	Heater pump motor ground circuit fault	Heater pump motor ground circuit: open circuit Heater pump motor locked
B1969	—	Compressor clutch feedback	Compressor clutch circuit fault	Compressor clutch feedback circuit: open circuit o short circuit to ground Compressor clutch request circuit between A/CCM and ECM: open circuit or short circuit to ground Compressor clutch relay drive circuit between ECM and relay: open circuit or short circuit to ground Compressor clutch activate circuit between relay and clutch: open circuit or short circuit to ground Compressor clutch relay failure Compressor clutch failure
U1263	—	Control panel serial communication	Control panel serial communication circuit fault	Control panel to A/CCM circuit (data input CC30-7, clock, start): open circuit or short circuit Control panel failure A/CCM failure
U1264	—	Control panel serial communication	Control panel serial communication circuit fault	Control panel to A/CCM circuit (data output CC30-3): open circuit or short circuit Control panel failure A/CCM failure