

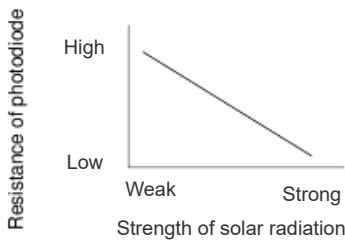
R.M. 1999::Diagnostics: Air Conditioning System: 21 Solar Sensor Circuit (Solara)

[Report a problem with this article](#)

D3W2-01

DTC	21	Solar Sensor Circuit
------------	-----------	-----------------------------

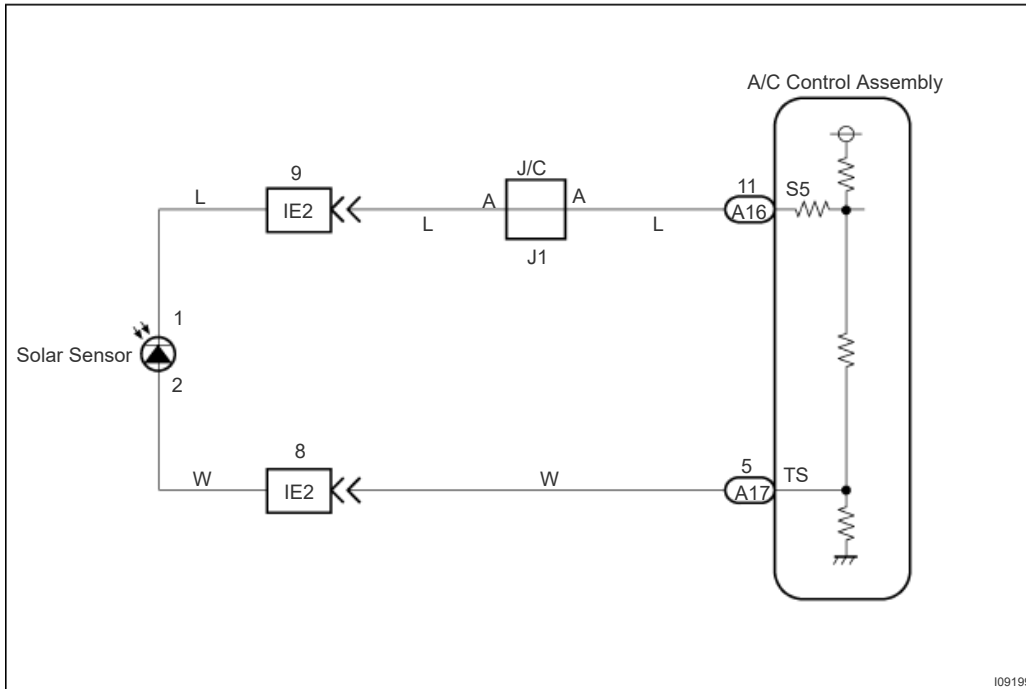
CIRCUIT DESCRIPTION



A photo diode in the solar sensor detects solar radiation and sends signals to the A/C control assembly.

DTC No	Detection Item	Trouble Area
21	Open or short in solar sensor circuit. Please note that display of diagnostic trouble code 21 is not abnormal when the sensor is not receiving solar radiation.	<ul style="list-style-type: none"> Solar sensor Harness or connector between solar sensor and A/C control assembly A/C control assembly

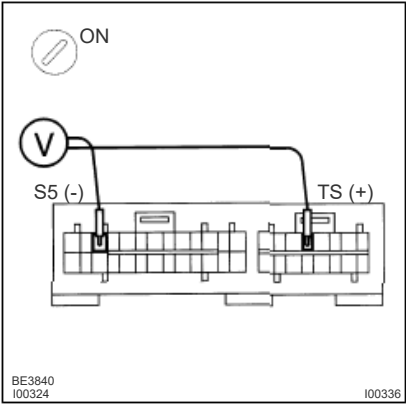
WIRING DIAGRAM



I09199

INSPECTION PROCEDURE

1 Check voltage between terminals S5 and TS of A/C control assembly connector.



PREPARATION:

Remove A/C control assembly with connectors still connected.

CHECK:

- (a) Turn ignition switch to ON.
- (b) Measure voltage between terminals S5 and TS of A/C control assembly connector when the solar sensor is subjected to an electric light, and when the sensor is covered by a cloth.

OK:

Condition	Voltage
Sensor subjected to electric light	Below 4.0 V
Sensor covered by a cloth	4.0 - 4.5 V

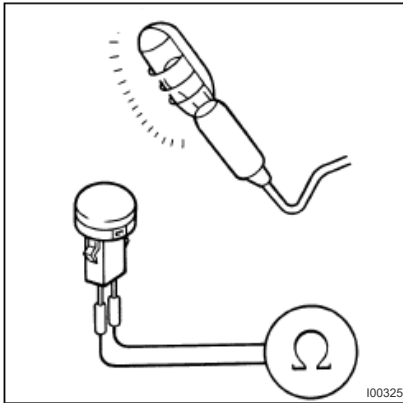
HINT:

As the inspection light is moved away from the sensor, the voltage increases.

NG Go to step [2](#).

OK

Proceed to next circuit inspection shown on problem symptoms table (See [page 8-336](#)). However, if DTC 21 is displayed, check and replace A/C control assembly.

2 Check solar sensor.

PREPARATION:

Remove solar sensor.

CHECK:

- Cover the sensor with a cloth.
- Measure resistance between terminals 1 and 2 of solar sensor connector.

HINT:

Connect positive (+) lead of ohmmeter to terminal 1 and negative (-) lead to terminal 2 of the solar sensor.

OK:

Resistance : $\infty \Omega$ (no continuity)

PREPARATION:

- Remove the cloth from the solar sensor and subject the sensor to electric light.
- Measure resistance.

OK:

Resistance : Approx. 10 k Ω (continuity)

HINT:

As the electric light is moved away from the sensor, the resistance increases.

NG
Replace solar sensor.
OK
3 Check harness and connector between A/C control assembly and solar sensor (See page [IN-31](#)).
NG
Repair or replace harness or connector.
OK
Check and replace A/C control assembly.

Portions of materials contained herein have been reprinted under license from Toyota Motor Sales, U.S.A., Inc., License Agreement TMS1004