

DTC P0112, P0113 IAT SENSOR

DTC P0112, P0113 IAT SENSOR

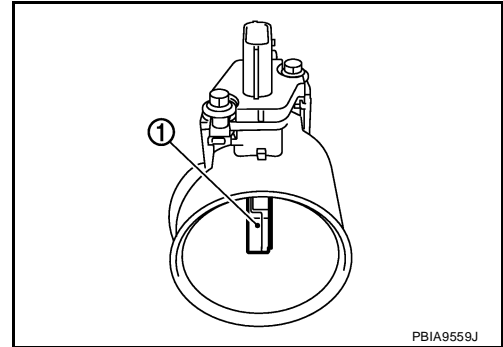
PF0:22630

Component Description

UBS00QDI

The intake air temperature sensor is built-into mass air flow sensor (1). The sensor detects intake air temperature and transmits a signal to the ECM.

The temperature sensing unit uses a thermistor which is sensitive to the change in temperature. Electrical resistance of the thermistor decreases in response to the temperature rise.



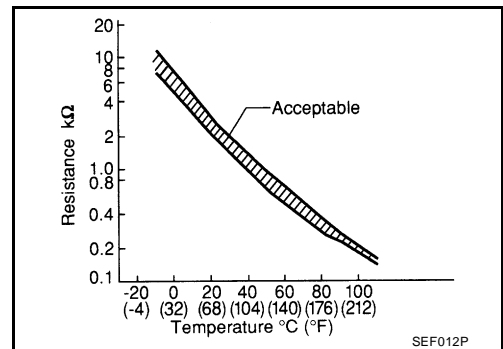
<Reference data>

Intake air temperature °C (°F)	Voltage* V	Resistance kΩ
25 (77)	3.3	1.800 - 2.200
80 (176)	1.2	0.283 - 0.359

*: This data is reference value and is measured between ECM terminal 46 (Intake air temperature sensor) and ground.

CAUTION:

Do not use ECM ground terminals when measuring input/output voltage. Doing so may result in damage to the ECM's transistor. Use a ground other than ECM terminals, such as the ground.



On Board Diagnosis Logic

UBS00QDJ

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P0112 0112	Intake air temperature sensor circuit low input	An excessively low voltage from the sensor is sent to ECM.	<ul style="list-style-type: none"> ● Harness or connectors (Intake air temperature sensor circuit is open or shorted.) ● Intake air temperature sensor
P0113 0113	Intake air temperature sensor circuit high input	An excessively high voltage from the sensor is sent to ECM.	

DTC Confirmation Procedure

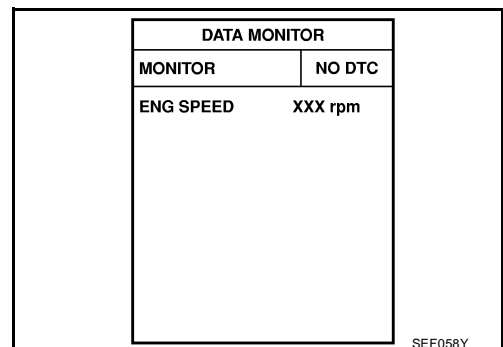
UBS00QDK

NOTE:

If DTC Confirmation Procedure has been previously conducted, always turn ignition switch OFF and wait at least 10 seconds before conducting the next test.

④ WITH CONSULT-II

1. Turn ignition switch ON.
2. Select "DATA MONITOR" mode with CONSULT-II.
3. Wait at least 5 seconds.
4. If 1st trip DTC is detected, go to [EC-198, "Diagnostic Procedure"](#)



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WITH GST

Follow the procedure "WITH CONSULT-II" above.

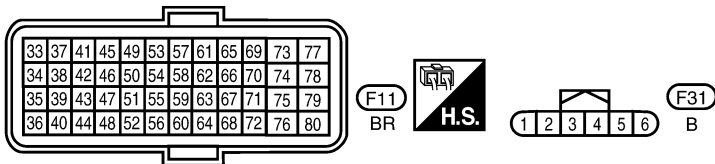
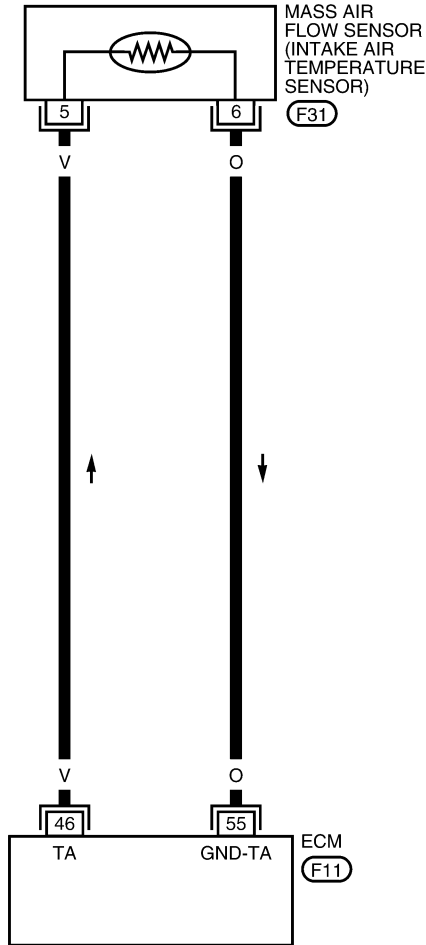
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Wiring Diagram

UBS00QDL

EC-IATS-01

— : DETECTABLE LINE FOR DTC
— : NON-DETECTABLE LINE FOR DTC



BBWA2633E

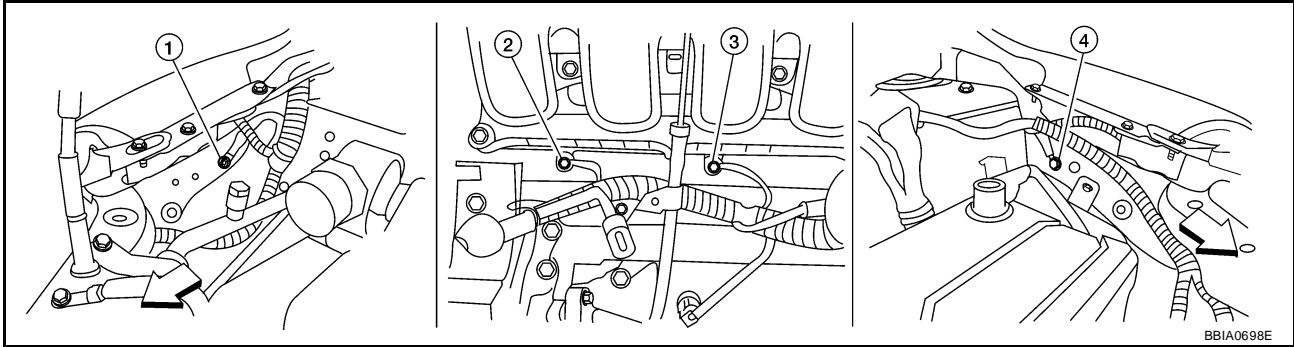
DTC P0112, P0113 IAT SENSOR

UBS00QDM

Diagnostic Procedure

1. CHECK GROUND CONNECTIONS

1. Turn ignition switch OFF.
2. Loosen and retighten ground screw on the body.
Refer to [EC-150, "Ground Inspection"](#).



←: Vehicle front

1. Body ground E24
4. Body ground E15

2. Engine ground F9

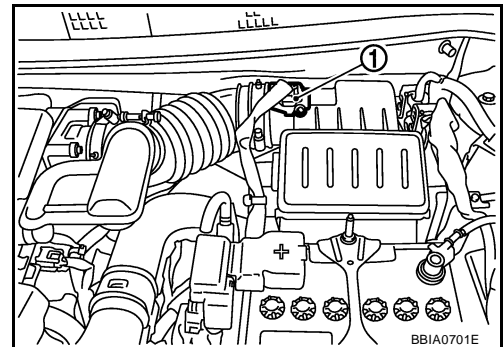
3. Engine ground F16

OK or NG

- OK >> GO TO 2.
NG >> Repair or replace ground connections.

2. CHECK INTAKE AIR TEMPERATURE SENSOR POWER SUPPLY CIRCUIT

1. Disconnect mass air flow sensor (with intake air temperature sensor) (1) harness connector.
2. Turn ignition switch ON.

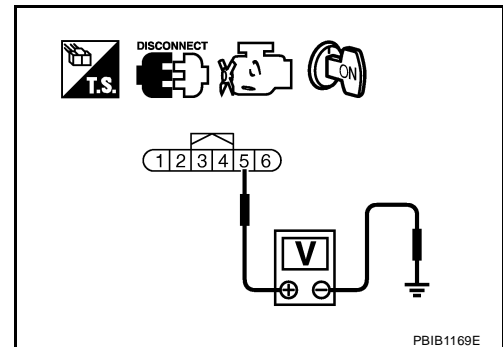


3. Check voltage between mass air flow sensor terminal 5 and ground with CONSULT-II or tester.

Voltage: Approximately 5V

OK or NG

- OK >> GO TO 3.
NG >> Repair open circuit or short to ground or short to power in harness or connectors.



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3. CHECK INTAKE AIR TEMPERATURE SENSOR GROUND CIRCUIT FOR OPEN AND SHORT

1. Turn ignition switch OFF.
2. Disconnect ECM harness connector.
3. Check harness continuity between mass air flow sensor terminal 6 and ECM terminal 55.
Refer to Wiring Diagram.

Continuity should exist.

4. Also check harness for short to ground and short to power.

OK or NG

OK >> GO TO 4.

NG >> Repair open circuit or short to ground or short to power in harness or connectors.

4. CHECK INTAKE AIR TEMPERATURE SENSOR

Refer to [EC-199, "Component Inspection"](#) .

OK or NG

OK >> GO TO 5.

NG >> Replace mass air flow sensor (with intake air temperature sensor).

5. CHECK INTERMITTENT INCIDENT

Refer to [EC-143, "TROUBLE DIAGNOSIS FOR INTERMITTENT INCIDENT"](#) .

>> INSPECTION END

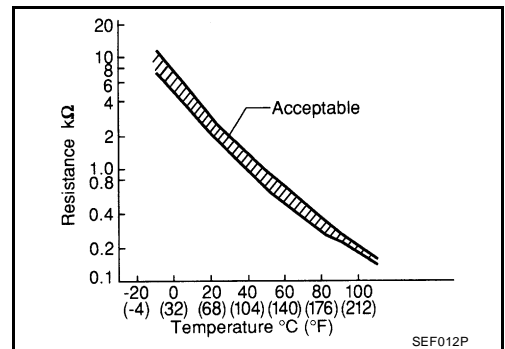
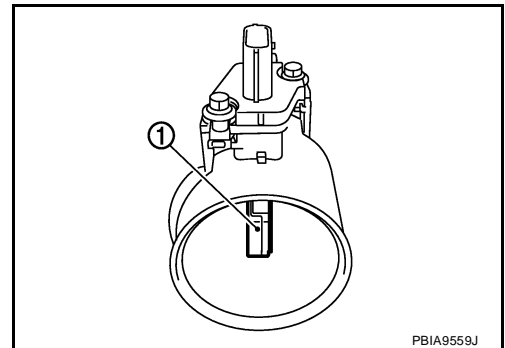
Component Inspection INTAKE AIR TEMPERATURE SENSOR

UBS00QDN

1. Check resistance between mass air flow sensor (1) terminals 5 and 6 under the following conditions.

Intake air temperature °C (°F)	Resistance kΩ
25 (77)	1.800 - 2.200

2. If NG, replace mass air flow sensor (with intake air temperature sensor).



Removal and Installation MASS AIR FLOW SENSOR

UBS00QDO

Refer to [EM-16, "AIR CLEANER AND AIR DUCT"](#) .