FUEL PUMP CONTROL [SKYACTIV-G 2.0, SKYACTIV-G 2.5]

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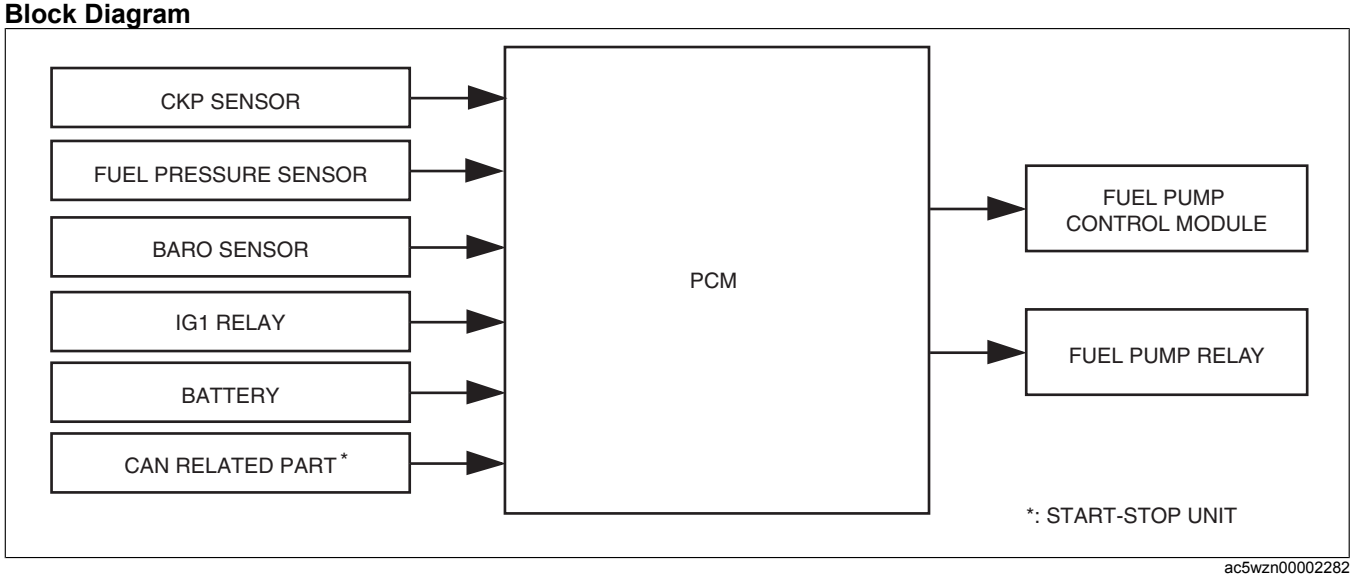
Outline

- By switching the fuel pump discharge amount, reduced power consumption and improved fuel economy have been realized.
- The PCM determines the optimum fuel pump drive force according to the engine operation conditions, and sends the fuel pump drive signal to the fuel pump control module.

Block Diagram



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Operation

Fuel pump relay

- The PCM switches the fuel pump relay on/off according to the engine operation conditions.

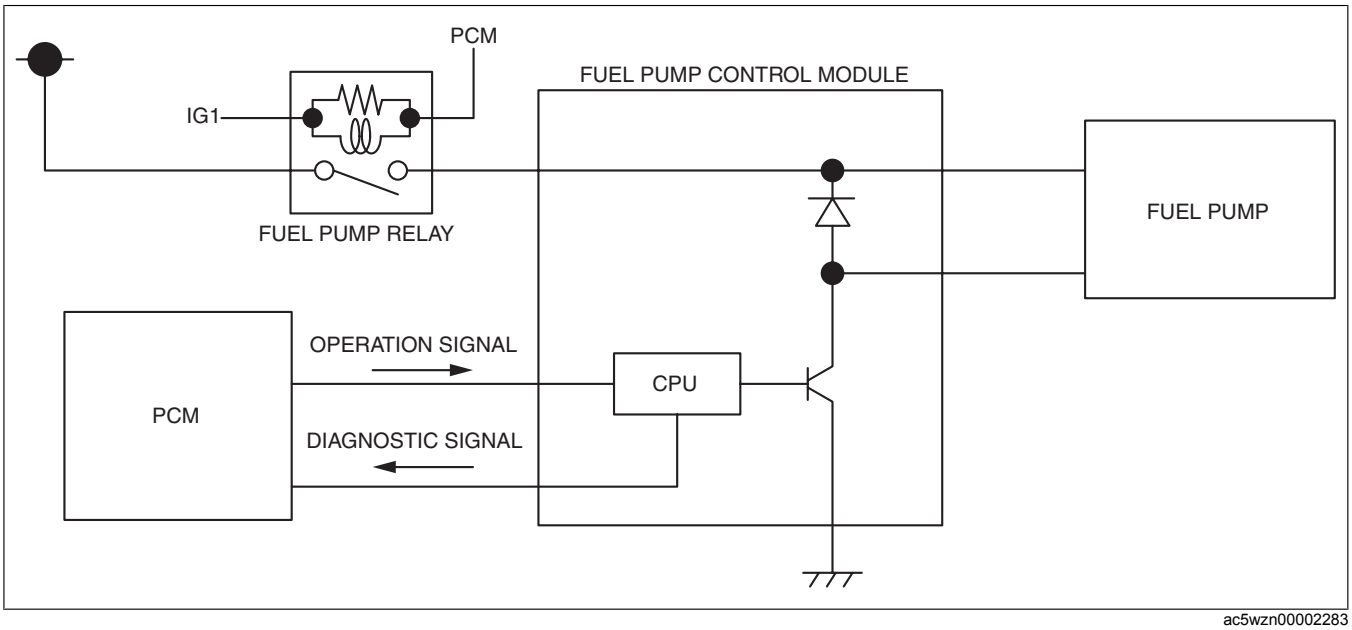
Relay ON/OFF	Control conditions
ON	• When any of the following conditions is met: — When ignition is switched ON (for approx. 1 s) — During engine cranking — While engine is running — When engine is stopped by i-stop control
OFF	• When engine is stopped (excludes engine stop by i-stop control) • Immobilizer system related information (engine start prohibited) received from start stop unit

Fuel pump control module

- The PCM determines the fuel pump discharge amount according to the engine operation conditions, and controls the output duty ratio to the fuel pump control module according to the discharge amount.

Output duty ratio	Control conditions
95%	• When any of the following conditions is met: — At engine start — Fuel pump control module malfunction (if request voltage is unobtainable)
10—90%	• Feedback value from fuel pressure sensor is the specified value or more (Determined that high pressure fuel pump compression is high.) • Except for control conditions with output duty ratio of 5% or 95%
5%	• When engine is stopped (excludes engine stop by i-stop control)

Fuel pump operation circuit diagram



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