A/C CUT-OFF CONTROL [SKYACTIV-D 2.2]

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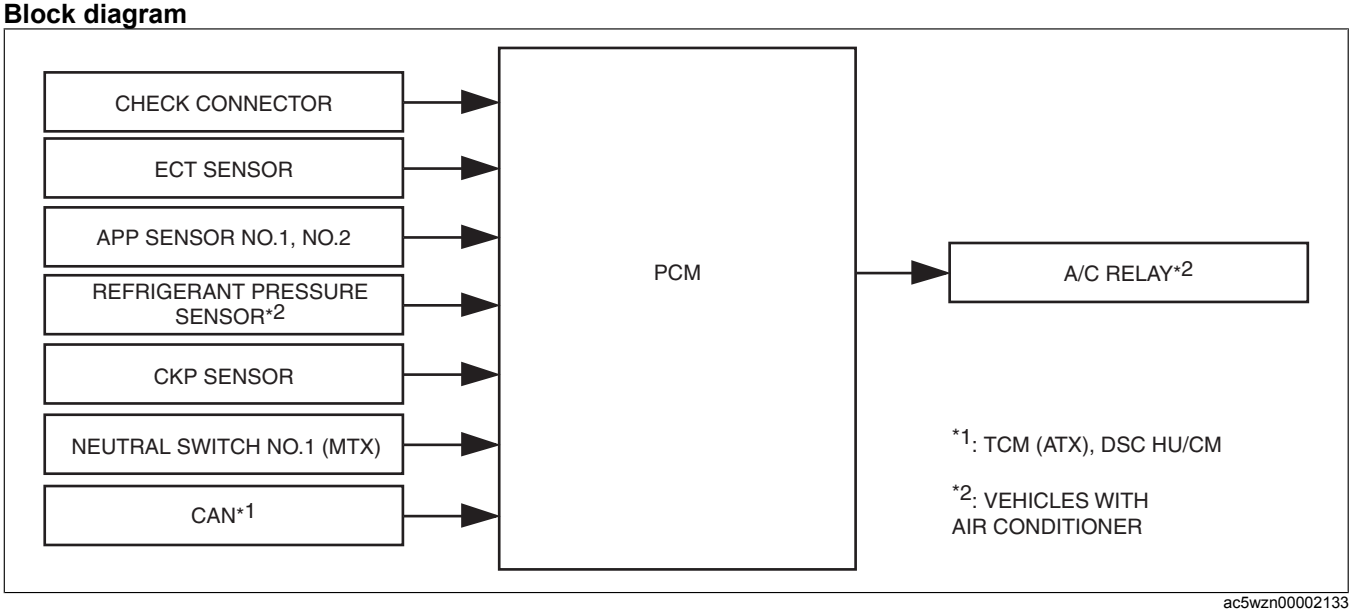
Outline

- Controls the A/C operation by switching the A/C relay on/off at the optimal timing according to engine operation conditions. By controlling the A/C operation, acceleration performance and engine reliability have been improved.

Block diagram



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Operation

- The PCM stops energization to the A/C relay when any of the following conditions is met:

A/C cut-off control operation conditions

Operation condition	A/C relay non-energization time	Purpose
At engine start	Approx. 4 s	To improve startability
At engine restart by i-stop control	Approx. 3 s	To improve startability
Accelerator pedal opening angle **60 % or more** (at acceleration)	**Approx. 5 s**	To improve acceleration performance
At i-stop control switching	—	To improve i-stop function reliability
Refrigerant pressure 3.14 MPa {32.0 kgf/cm^2, 455 psi} or more	Until refrigerant pressure decreases to 2.55 MPa {26.0 kgf/cm^2, 370 psi} or less	To assure A/C compressor reliability
Refrigerant pressure of 0.196 MPa {2.00 kgf/cm^2, 28.4 psi} or less continues for 5 s or more	Until refrigerant pressure of 0.226 MPa {2.30 kgf/cm^2, 32.8 psi} or more continues to 5 s or more	To assure A/C compressor reliability
Refrigerant pressure sensor malfunction	—	To assure A/C compressor reliability
Panic braking determined	—	To assure load performance
ECT sensor malfunction	—	Engine protection
Engine coolant temperature **113 °C {235 °F} or more**	ON and OFF **every 10 s** until engine coolant temperature lowers to **less than 110 °C {230 °F}**	Engine protection
Engine coolant temperature **118 °C {244 °F} or more**	Until engine coolant temperature lowers to **less than approx. 113 °C {235 °F}**	Engine protection
During DPF regeneration control (compulsory DPF regeneration control)	Until DPF regeneration control is completed	To stabilize DPF regeneration control
During fuel injection amount learning (manual)	Until fuel injection amount learning is completed	To stabilize fuel injection amount learning