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A/C Compressor Control

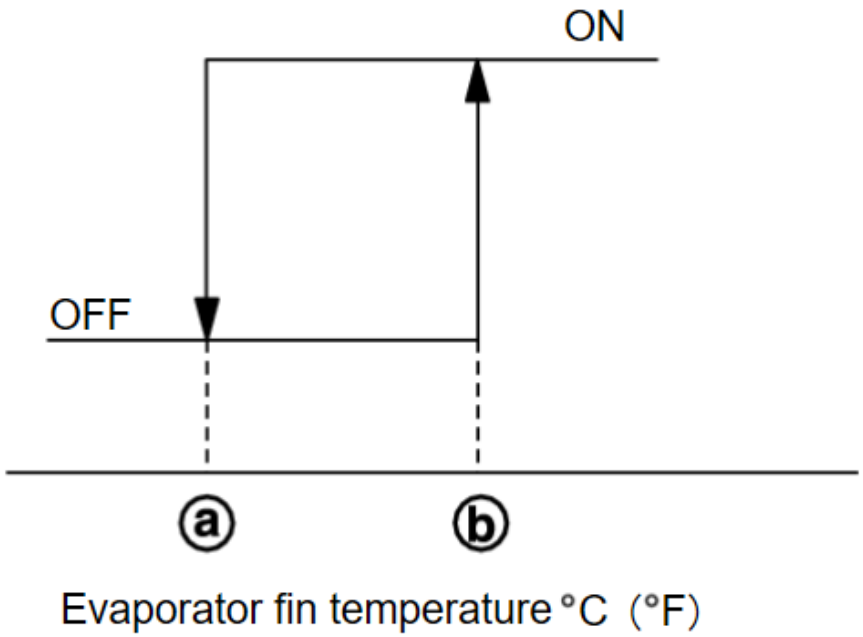
DESCRIPTION

- When the A/C compressor activation condition is satisfied while front blower motor is activated, A/C amp. transmits A/C ON signal and blower fan ON signal to ECM.
- ECM judges the conditions of each sensor (Refrigerant pressure sensor signal, accelerator position signal, etc.), and transmits the A/C compressor request signal to IPDM E/R via CAN communication line.
- By receiving the A/C compressor request signal from ECM, IPDM E/R turns the smart FET to ON, and activates the A/C compressor. Refer to System Description.

CONTROL BY A/C amp.

Low Temperature Protection Control

When intake sensor detects that evaporator fin temperature is ⓐ [−5.0°C (23.0°F)] or less, A/C amp. requests ECM to turn the A/C compressor OFF, and stops the A/C compressor.



When the air temperature returns to ⓑ [−2.0°C (28.4°F)] or more, the A/C compressor is activated.

Refrigerant Discharge Amount Control

- A/C amp. transmits the ECV control signal via CAN communication. IPDM E/R transmits the control signal to ECV according to the received ECV control signal.
- ECV is controlled according to change in the duty ratio of the transmitted control signal.
- Except when temperature setting is full cold or outlet is DEF, A/C amp. controls the refrigerant discharge amount according to the required cooling capacity.
- A/C amp. increases the refrigerant discharge amount when evaporator temperature is higher than the target temperature upper limit, and reduces the refrigerant discharge amount when evaporator temperature is at or below the target temperature upper limit.

note	Target temperature upper limit value of evaporator can be changed using “TARGET EVAPORATOR TEMP UPPER LIMIT SETTING” in “Work support” mode of M.U.T.-III SE. Refer to M.U.T.-III SE FunctionCONSULT Function.

A/C Compressor Oil Circulation Control

When the engine starts, A/C amp. activates the A/C compressor for a few seconds and circulates the A/C compressor oil once.

CONTROL BY ECM

A/C Compressor Protection Control at Pressure Malfunction

The high-pressure side value that is detected by refrigerant pressure sensor is excessively low or high, ECM requests IPDM E/R to turn smart FET OFF and stop the A/C compressor.

Air Conditioning Cut Control

When the engine condition is high load, ECM transmit smart FET OFF request to IPDM E/R, and stops the A/C compressor.