MAGNET CLUTCH CONTROL SYSTEM

System Description

The A/C auto amp. controls compressor operation by ambient temperature, intake air temperature and signal from ECM.

SYSTEM OPERATION

When the A/C switch, the AUTO switch, or the DEF switch is pressed, or when shifting mode position D/F, A/C auto amp. transmit the A/C switch signal and blower fan motor switch signal to the ECM, via CAN communication. ECM judges whether compressor can be turned ON, based on each sensor status (refrigerant-pressure sensor signal, throttle angle, etc.). If the ECM judges that the compressor can be turned ON, it sends A/C compressor request signal to the IPDM E/R, via CAN communication.

Upon receipt of A/C compressor request signal from the ECM, the IPDM E/R turns the A/C relay ON to operate the compressor.

When sending A/C compressor request signal to the IPDM E/R via CAN communication line, the ECM simultaneously sends A/C compressor feedback signal to A/C auto amp. via CAN communication line.

The ECM sends A/C compressor feedback signal to A/C auto amp., then, uses input A/C compressor feedback signal to control air inlet.

Compressor Protection Control

The ECM makes the A/C relay turn OFF and stops the compressor when pressure on the high-pressure side detected by the refrigerant pressure sensor is over approximately 3,119 kPa (31.8 kg/cm², 452 psi), or below approximately 118 kPa (1.2 kg/cm², 17 psi).

Low Temperature Protection Control

Turn the A/C relay to OFF and stop the compressor by the signal from the A/C auto amp according to the evaporator passing air temperature detected by the intake sensor and the ambient temperature detected by the ambient sensor.