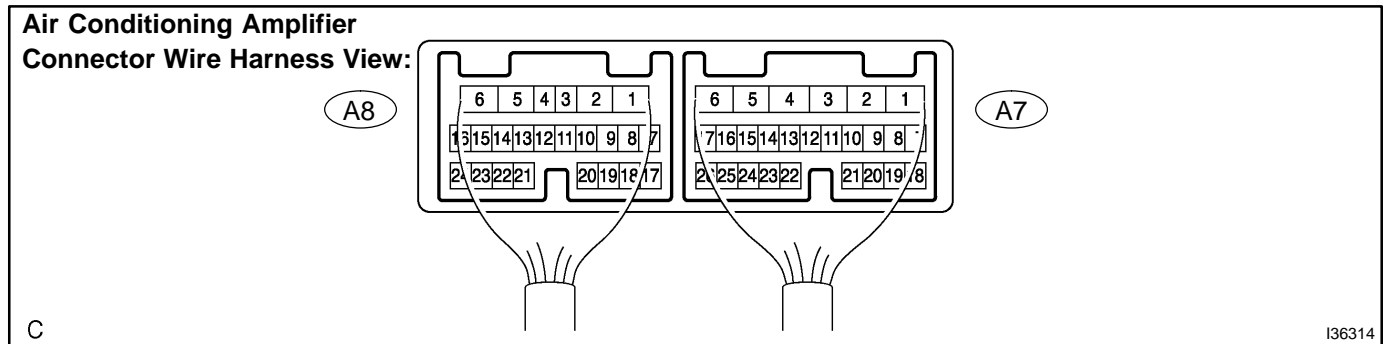


TERMINALS OF ECU

1. AIR CONDITIONING AMPLIFIER



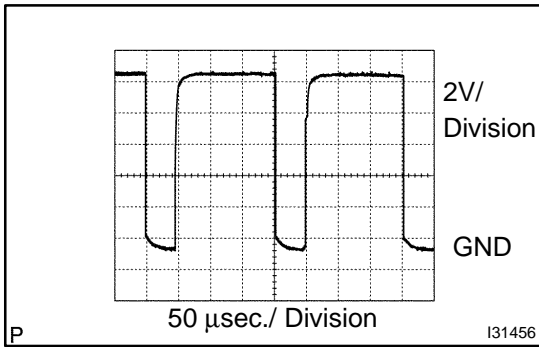
HINT:

Check from the rear of the connector with connected to the air conditioning amplifier.

Symbols (Terminal No.)	Wiring color	Terminal Description	Condition	Specification
AIR (A8-22) – GND (A8-1)	G – W-B	Recirculation/Fresh switch signal	Power switch: ON Recirculation/Fresh switch: FRESH → RECIRC	Below 1.0 → 10 to 14 V
AIF (A8-23) – GND (A8-1)	P – W-B	Recirculation/Fresh switch signal	Power switch: ON Recirculation/Fresh switch: RECIRC → FRESH	Below 1.0 → 10 to 14 V
AOF (A8-16) – GND (A8-1)	B – W-B	Mode switch signal	Power switch: ON Mode switch: DEF → FACE	Below 1.0 → 10 to 14 V
AOD (A8-24) – GND (A8-1)	Y – W-B	Mode switch signal	Power switch: ON Mode switch: FACE → DEF	Below 1.0 → 10 to 14 V
TPI (A7-19) – SGTP (A7-4)	V – L	Recirculation/Fresh switch signal	Power switch: ON Recirculation/Fresh switch: RECIRC → FRESH	4.0 → 1.0 V
TPM (A7-18) – SGTPM (A7-23)	LG – P	Mode switch signal	Power switch: ON Mode switch: FACE → DEF	4.0 → 1.0 V
TP (A7-20) – SGTP (A7-14)	L – LG	Temperature switch signal	Power switch: ON Temperature switch: Max. COOL → Max. HOT	4.0 → 1.0 V
SGTE (A7-5) – Body ground	Y – Body ground	Ground for evaporator temperature sensor	Always	Below 1.0 Ω
TE (A7-7) – SGTE (A7-5)	B – Y	Evaporator temperature sensor signal	Power switch: ON Evaporator temperature: 0 °C (32 °F)	2.0 to 2.4 V
TE (A7-7) – SGTE (A7-5)	B – Y	Evaporator temperature sensor signal	Power switch: ON Evaporator temperature: 15 °C (59 °F)	1.4 to 1.8 V
S5TPI (A7-3) – SGTP (A7-4)	B-L	Power supply for air inlet damper position sensor	Power switch: ON	4.5 to 5.5 V
AMC (A8-19) – GND (A8-1)	B – W-B	Temperature switch	Power switch: ON Temperature switch: Max. HOT → Max. COOL	Below 1.0 → 10 to 14 V
AMH (A8-17) – GND (A8-1)	R – W-B	Temperature switch	Power switch: ON Temperature switch: Max. COOL → Max. HOT	Below 1.0 → 10 to 14 V
SGTP (A7-4) – Body ground	L – Body ground	Ground for air inlet damper position sensor	Always	Below 1.0 Ω
SGTPM (A7-23) – Body ground	P – Body ground	Ground for air outlet damper position sensor	Always	Below 1.0 Ω
SGTP (A7-14) – Body ground	LG – Body ground	Ground for air mix damper position sensor	Always	Below 1.0 Ω

DIAGNOSTICS – AIR CONDITIONING SYSTEM

Symbols (Terminal No.)	Wiring color	Terminal Description	Condition	Specification
S5TPM (A7-11) – SGTPM (A7-23)	O – P	Power supply for air outlet damper position sensor signal	Power switch: ON	4.5 to 5.5 V
S5TP (A7-13) – SGTP (A7-14)	P – LG	Power supply for air mix damper position sensor signal	Power switch: ON	4.5 to 5.5 V
IG (A8-5) – GND (A8-1)	B – W-B	Power switch signal	Power switch: LOCK or ACC → ON	0 → 10 to 14 V
+B (A8-6) – GND (A8-1)	Y – W-B	Back-up power source	Always	10 to 14 V
MPX+ (A8-3) – GND (A8-1)	B – W-B	Terminal for BEAN	Engine idling after engine warmed up	Pulse generation
MPX2+ (A8-11) – GND (A8-1)	GR – W-B	Terminal for BEAN	Engine idling after engine warmed up	Pulse generation
GND (A8-1) – Body ground	W-B – Body ground	Ground for main power supply	Always	Below 1.0 Ω
BLW (A8-2) – GND (A8-1)	W – W-B	Blower switch signal	Power switch: ON Blower switch: ON	Pulse generation (see waveform 1)
S5TS (A7-12) – GND (A8-1)	GR – W-B	Solar sensor	Power switch: ON Solar sensor covered with a cloth → Solar sensor exposed to electric light	Below 0.8 → 0.8 to 4.3 V
HR (A8-7) – GND (A8-1)	B – W-B	Blower switch signal	Power switch: ON Blower switch: OFF → ON	10 to 14 → Below 1.0 V
TR (A7-8) – SGTR (A7-22)	B – W	Room temperature sensor signal	Power switch: ON Cabin temperature: 25 → 40 °C (77 → 104 °F)	1.8 to 2.2 → 1.2 to 1.6 V
SGTR (A7-22) – Body ground	W – Body ground	Ground for room temperature sensor	Always	Below 1.0 Ω
ST1 (A7-2) – SGST (A7-15)	BR-G	Steering pad switch signal	Power switch: ON Steering pad switch: Fr.DEF → Rr.DEF → Recirculation → OFF	Below 0.3 → 0.8 to 1.5 → 2.0 to 2.9 → above 4.6 V
ST2 (A7-1) – SGST (A7-15)	LG-G	Steering pad switch signal	Power switch: ON Steering pad switch: AUTO → TEMP+ → TEMP- → OFF	Below 0.3 → 0.8 to 1.5 → 2.0 to 2.9 → above 4.6 V
SGST (A7-15) – Body ground	G – Body ground	Ground for steering pad switch	Always	Below 1.0 V
PSW (A7-6) – GND (A8-1)	R – W-B	Pressure switch signal	Power switch: ON Refrigerant pressure: Normal → More than 1,520 kPa (15.5 kgf/cm 2,220 psi)	Below 1.0 → 10 to 14 V
RH (A7-9) – GND (A8-1)	R – W-B	Humidity sensor signal	Power switch: ON Room humidity: 40 → 60 %	2.0 → 2.5 V
S5RM (A7-10) – GND (A8-1)	G – W-B	Power supply for humidity sensor	Power switch: ON	4.5 to 5.5 V
HTR0 (A7-17) – GND (A8-1)	BR – W-B	PTC heater signal	Power switch: ON Temperature switch: Max. HOT Coolant temperature: Below 55°C Blower switch: LO → OFF	Below 1.0 → 10 to 14 V
HTR2 (A7-25) – GND (A8-1)	P – W-B	PTC heater signal	Power switch: ON Temperature switch: Max. HOT Coolant temperature: Below 55°C Blower switch: LO → OFF	Below 1.0 → 10 to 14 V
IDH (A8-18) – GND (A8-1)	V – W-B	DC/DC converter signal	Power switch: ON (Voltage normal → over voltage)	10 to 14 → Below 1.0 V



waveform 1:

Measure the waveform between terminal BLW (A8-2) of A/C amplifier and body ground.

OK:

Waveform operate as shown in the illustration.

HINT:

- The correct waveform is shown in the illustration.
- Waveform cycle varies with the blower level.