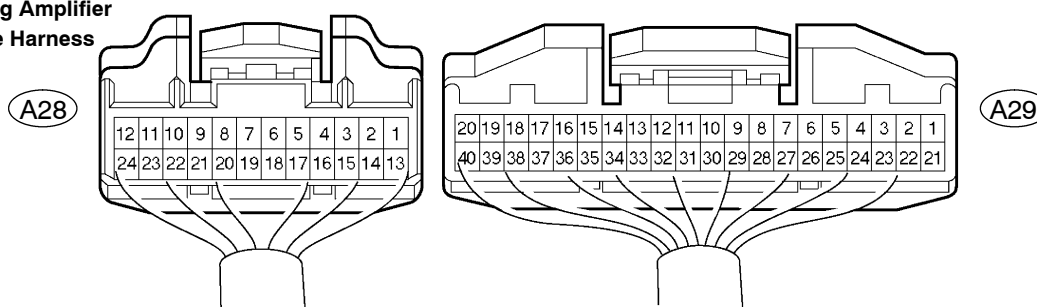


# TERMINALS OF ECU

## 1. AIR CONDITIONING AMPLIFIER

Air Conditioning Amplifier  
Connector Wire Harness  
View:



C

I36467

Symbols (Terminal No.)	Wiring color	Terminal Description	Condition	Specification
AIR (A29-20) – E (A28-11)	L-B – W-B	Air inlet damper servomotor operation voltage	Ignition switch: ON R/F switch: FRESH → RECIRC	Below 1.0 → 10 to 14 V
AIF (A29-19) – E (A28-11)	R-Y – W-B	Air inlet damper servomotor operation voltage	Ignition switch: ON R/F switch: RECIRC → FRESH	Below 1.0 → 10 to 14 V
FACE (A29-17) – E (A28-11)	L-W – W-B (*1) L-R – W-B (*2)	Air outlet damper servomotor operation voltage	Ignition switch: ON Mode switch: DEF → FACE	Below 1.0 → 10 to 14 V
DEF (A29-18) – E (A28-11)	G-W – W-B (*1) G-B – W-B (*2)	Air outlet damper servomotor operation voltage	Ignition switch: ON Mode switch: FACE → DEF	Below 1.0 → 10 to 14 V
TPI (A29-28) – SG-2 (A29-27)	R-W – GR (*1) R-B – GR (*2)	Air inlet damper position sensor signal	Ignition switch: ON R/F switch: RECIRC → FRESH	4.0 → 1.0 V
TPM (A29-22) – SG (A29-21)	V – L-W (*1) V – L-O (*2)	Air outlet damper position sensor signal	Ignition switch: ON Mode switch: FACE → DEF	4.0 → 1.0 V
TP (A29-25) – SG-1 (A29-26)	B-Y – Y-G (*1) B-O – Y-G (*2)	Air mix damper position sensor signal	Ignition switch: ON Temperature switch: Max. COOL → Max. HOT	4.0 → 1.0 V
SG-5 (A29-4) – Body ground	R-B – Body ground	Ground for evaporator temperature sensor	Always	Below 1.0 Ω
TE (A29-3) – SG-5 (A29-4)	GR – R-B (*1) B-O – R-B (*2)	Evaporator temperature sensor signal	Ignition switch: ON Evaporator temperature: 0 → 15°C (32 → 59°F)	2.0 to 2.4 → 1.4 to 1.8 V
S5-3 (A29-29) – SG-2 (A29-27)	R-W – GR	Power supply for air inlet damper position sensor	Ignition switch: ON	4.5 to 5.5 V
MC (A29-16) – E (A28-11)	G – W-B	Air mix damper servomotor operation signal	Ignition switch: ON Temperature switch: Max. HOT → Max. COOL	Below 1.0 → 10 to 14 V
AMH (A29-15) – E (A28-11)	P-B – W-B	Air mix damper servomotor operation signal	Ignition switch: ON Temperature switch: Max. COOL → Max. HOT	Below 1.0 → 10 to 14 V
SG-2 (A29-27) – Body ground	GR – Body ground	Ground for air inlet damper position sensor	Always	Below 1.0 Ω
SG (A29-21) – Body ground	L-W – Body ground (*1) L-O – Body ground (*2)	Ground for air outlet damper position sensor	Always	Below 1.0 Ω
SG-1 (A29-26) – Body ground	Y-G – Body ground	Ground for air mix damper position sensor	Always	Below 1.0 Ω
S5 (A29-23) – SG (A29-21)	W-L – L-W (*1) W-L – L-O (*2)	Power supply for air outlet damper position sensor	Ignition switch: ON	4.5 to 5.5 V
S5-2 (A29-24) – SG-1 (A29-26)	W-B – Y-G	Power supply for air mix damper position sensor	Ignition switch: ON	4.5 to 5.5 V
IG+ (A28-13) – E (A28-11)	L – W-B (*3) B-R – W-B (*4)	Power source (IG)	Ignition switch: LOCK or ACC → ON	0 → 10 to 14 V

Symbols (Terminal No.)	Wiring color	Terminal Description	Condition	Specification
+B (A28-1) – E (A28-11)	V – W-B	Power source (Back-up)	Always	10 to 14 V
E (A28-11) – Body ground	W-B – Body ground	Ground for main power supply	Always	Below 1.0 Ω
BLC (A29-11) – E (A28-11)	L – W-B (*1) L-B – W-B (*2)	Blower motor speed control voltage	Ignition switch: ON Blower switch: ON	Pulse generation
TS (A29-10) – S5-1 (A29-9)	B-Y – W-L (*1) B-R – W-L (*2)	Solar sensor signal	Ignition switch: ON Solar sensor covered with a cloth → Solar sensor exposed to electric light	Below 0.8 → 0.8 to 4.3 V
SG-6 (A29-34) – E (A28-11)	BR – W-B (*1) B-R – W-B (*2)	Ground for compressor lock sensor	Always	Below 1.0 Ω
HR (A29-12) – E (A28-11)	L-R – W-B	Heater relay signal	Ignition switch: ON Blower switch: OFF → ON	10 to 14 → Below 1.0 V
TR (A29-5) – SG-3 (A29-6)	W-R – B-W	Room temperature sensor signal	Ignition switch: ON Cabin temperature: 25 → 40°C (77 → 104°F)	1.8 to 2.2 → 1.2 to 1.6 V
SG-3 (A29-6) – Body ground	R-W – Body ground	Ground for room temperature sensor	Always	Below 1.0 Ω
W/P (A29-38) – E (A28-11)	P-L – W-B (*5)	Compressor signal	Ignition switch: START A/C switch: OFF → ON	10 to 14 → Below 1.0 V
ACT (A29-39) – E (A28-11)	R-W – W-B (*6)	Compressor signal	Ignition switch: START A/C switch: OFF → ON	10 to 14 → Below 1.0 V
AC1 (A29-40) – E (A28-11)	B-O – W-B	Compressor signal	Ignition switch: START A/C switch: OFF → ON	10 to 14 → Below 1.0 V
AC2 (A28-2) – E (A28-11)	L-B – W-B (*1) G-Y – W-B (*2)	Compressor signal	Ignition switch: START A/C switch: OFF → ON	10 to 14 → Below 1.0 V
MGC (A28-5) – E (A28-11)	G-B – W-B (*1) G – W-B (*2)	Magnet clutch signal	Ignition switch: START A/C magnet clutch: Not engaged → engaged	10 to 14 → Below 1.0 V
TW (A29-35) – E (A28-11)	Y-G – W-B (*1) Y – W-B (*2)	Water temperature sensor signal	Ignition switch: ON	Pulse generation
SPD (A28-14) – E (A28-11)	W-R – W-B	Vehicle speed signal	Ignition switch: ON Turn front wheel slowly	Pulse generation (see waveform 1)
PSW (A28-15) – Body ground	L-B – Body ground	Pressure switch signal	Ignition switch: START Refrigerant pressure: Normally → Less than 0.19 MPa (2.0 kgf/cm <sup>2</sup> , 28 psi) or more than 1.34 MPa (13.7 kgf/cm <sup>2</sup> , 195 psi)	Below 1.0 → 10 to 14 V
TAM (A29-1) – SG-4 (A29-2)	R-Y – G-W (*1) R-Y – G-Y (*4)	Ambient temperature sensor signal	Ignition switch: ON	Pulse generation
RH (A29-7) – S5 (A29-8)	L-B – Y (*3)	Room humidity sensor signal	Ignition switch: ON Room humidity: 40 → 60%	2.0 → 2.5 V
SOL (A29-14) – E (A28-11)	B-R – W-B (*3)	Compressor solenoid signal	Ignition switch: ON A/C switch: OFF → ON	10 to 14 → Below 1.0 V
LOCK (A29-33) – SG-6 (A29-34)	B-Y – BR (*1) B-Y – B-R (*7)	Compressor lock sensor signal	Engine idling A/C switch: ON (Magnet clutch: ON)	Pulse generation (see waveform 2)

## HINT:

\*1: LHD

\*2: RHD

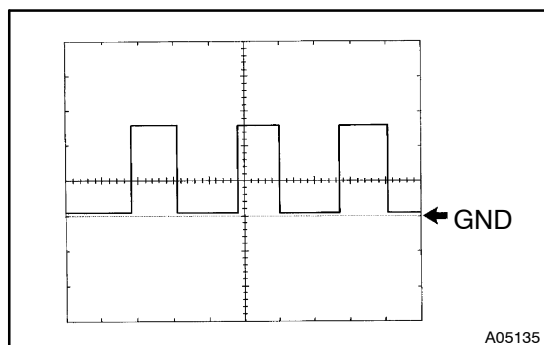
\*3: RHD 2AZ-FE

\*4: Except RHD 2AZ-FE

\*5: LHD 1CD-FTV

\*6: 1CD-FTV

\*7: RHD Except 2AZ-FE



waveform 1:

Measure the voltage between terminal SPD of the A/C amplifier assy connector and body ground when turning the rear wheel slowly.

**OK:**

**A waveform should be output as shown in the illustration.**

**HINT:**

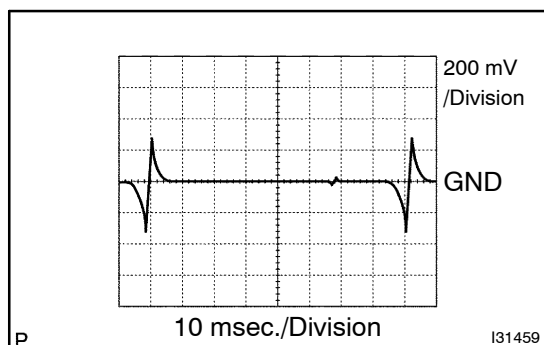
As vehicle speed increases, the cycle of the signal waveform narrows.

waveform 2:

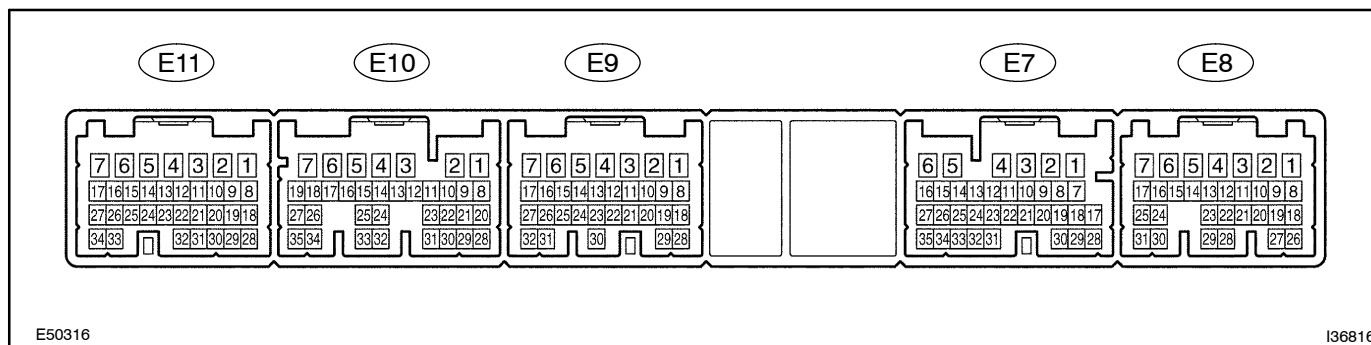
Measure the waveform between terminal LOCK of the A/C amplifier assy connector and body ground.

**OK:**

**A waveform should be output as shown in the illustration.**



## 2. ECM



Symbols (Terminal No.)	Wiring color	Terminal Description	Condition	Specification
THW (E11-19) – E2 (E11-28) (*1, *4) THW (E10-14) – E2 (E10-20) – (*2, *3)	B-W – BR (*1, *4) G – BR (*2, *3)	Water temperature signal	Engine idling after engine warmed up Coolant temperature: 60 to 120°C (140 to 248°F)	0.2 to 1.0 V
TAM (E7-32) – E2 (E11-28)	B-W – BR (*5)	Ambient temperature sensor signal	Ignition switch: ON	Pulse generation

**HINT:**

\*1: LHD 1AZ-FE

\*2: LHD 1CD-FTV

\*3: RHD 1CD-FTV

\*4: RHD 1AZ-FE, 2AZ-FE

\*5: RHD 2AZ-FE