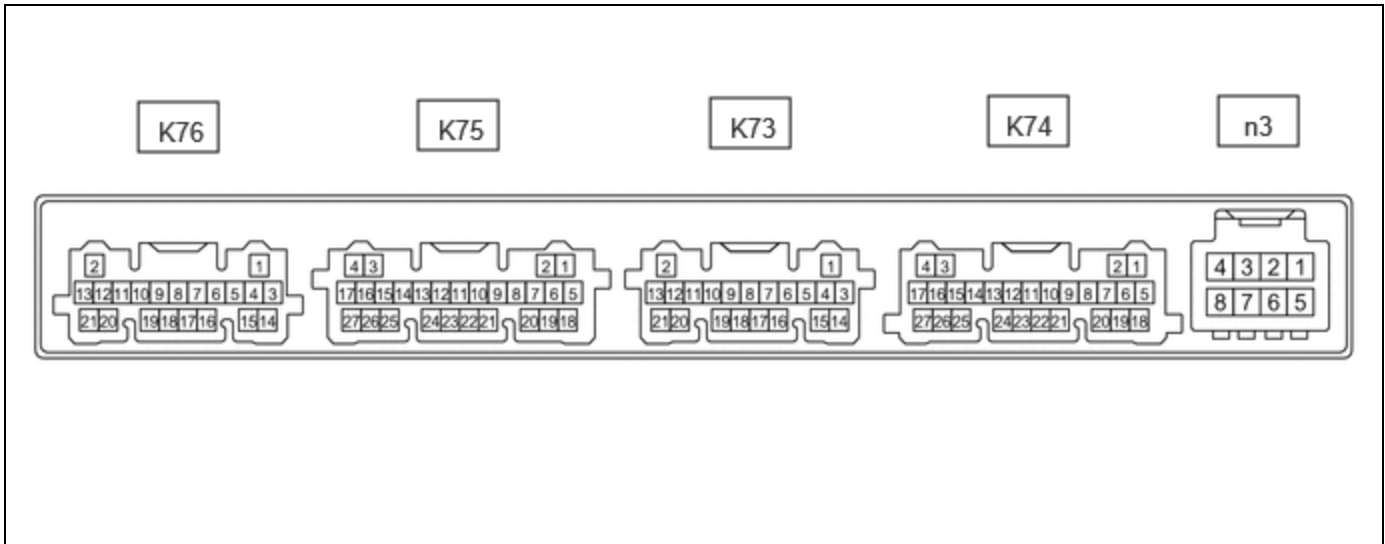


Last Modified: 12-04-2024	6.11:8.1.0	Doc ID: RM10000000290ZA
Model Year Start: 2023	Model: Prius	Prod Date Range: [12/2022 -]
Title: HEATING / AIR CONDITIONING: AIR CONDITIONING SYSTEM (for HEV Model): TERMINALS OF ECU; 2023 - 2024 MY Prius [12/2022 -]		

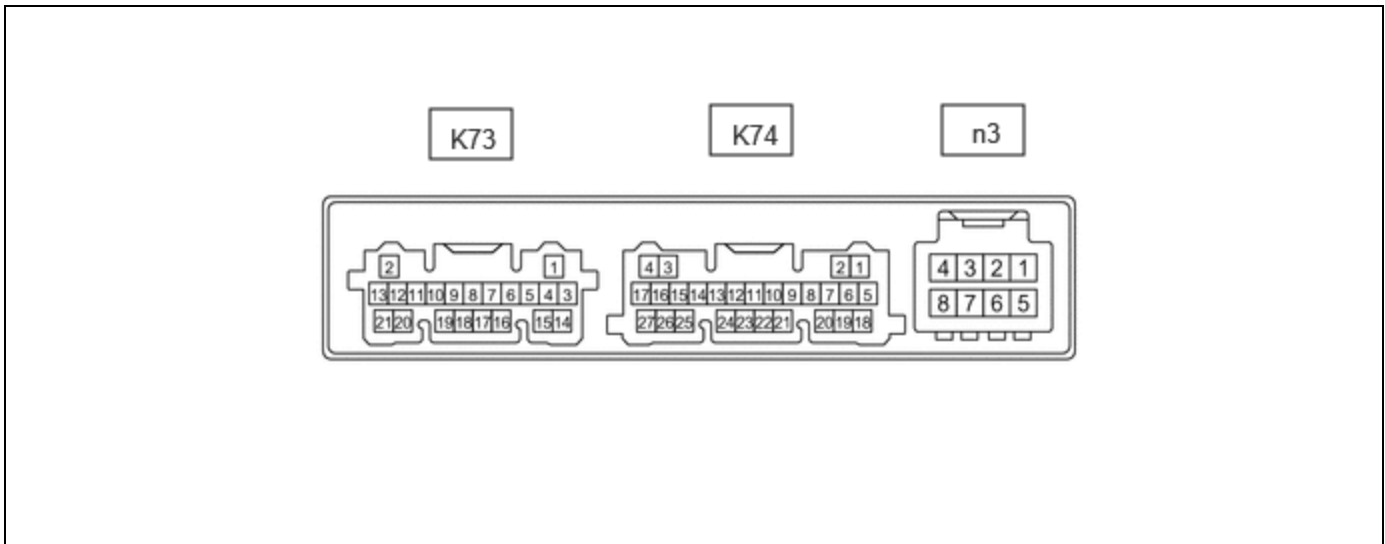
TERMINALS OF ECU

CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY

for Type A:



for Type B:



HINT:

Make sure to wait at least 2 minutes after turning the ignition switch off before performing an ECU terminal inspection.

Channel 1 (n3)

TERMINAL NO. (SYMBOL)	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
n3-2 (BUSG) - Body ground	Ground for BUS IC	Always	Below 1 Ω
n3-3 (BUS) - n3- 2 (BUSG)	BUS IC control signal	Ignition switch ON	Pulse generation (See waveform "Servo LIN communication")
n3-4 (BUSB) - n3-2 (BUSG)	Power supply for BUS IC	Ignition switch off	11 to 14 V
n3-5 (SG-3) - Body ground	Ground for evaporator temp. sensor (No. 1 cooler thermistor)	Always	Below 1 Ω
n3-6 (TE) - n3-5 (SG-3)	Evaporator temp. sensor (No. 1 cooler thermistor) signal	<ul style="list-style-type: none"> Ignition switch ON Evaporator temperature: 0°C (32°F) 	1.7 to 2.1 V
		<ul style="list-style-type: none"> Ignition switch ON Evaporator temperature: 15°C (59°F) 	0.9 to 1.3 V

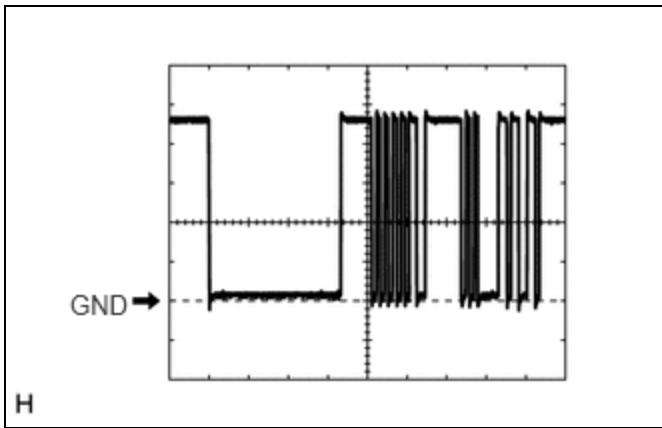
Channel 2 (K74)

TERMINAL NO. (SYMBOL)	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
K74-2 (CANH) - K74-1 (CANL)	CAN communication system	Ignition switch ON	Pulse generation
K74-5 (B) - K74-17 (GND)	Power source (Back-up)	Ignition switch off	11 to 14 V
K74-6 (IG+) - K74-17 (GND)	Power source (IG)	Ignition switch ON	11 to 14 V
		Ignition switch off	Below 1 V
K74-7 (LIN1) - K74-17 (GND)	LIN communication signal (air conditioning control assembly)	Ignition switch ON	Pulse generation (See waveform "Control panel LIN communication")
K74-17 (GND) - Body ground	Ground for main power supply	Always	Below 1 Ω
K74-21 (BLW) - K74-17 (GND)	Blower motor speed control signal	<ul style="list-style-type: none"> Ignition switch ON Blower switch: LO 	Pulse generation (See waveform "Blower")

Channel 3 (K73)

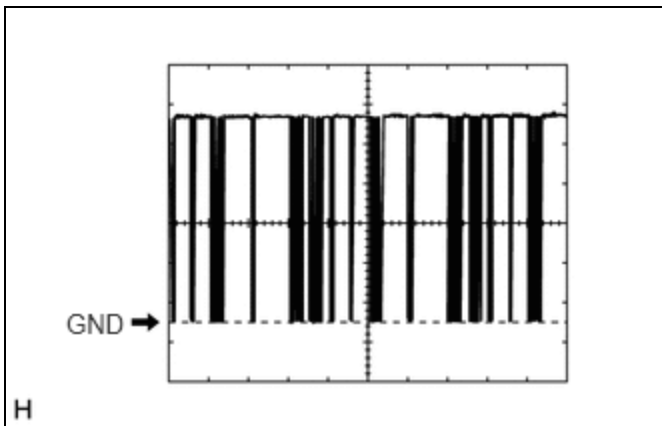
TERMINAL NO. (SYMBOL)	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
K73-1 (TAM) - K73-14 (SG-2)	Ambient temp. sensor (thermistor assembly) signal	<ul style="list-style-type: none"> Ignition switch ON Ambient temperature: 25°C (77°F) 	1.05 to 1.45 V
		<ul style="list-style-type: none"> Ignition switch ON Ambient temperature: 40°C (104°F) 	0.64 to 0.87 V
K73-2 (S5-1) - K74-17 (GND)*	Power supply for solar sensor (cooler thermistor)	Ignition switch ON	4.5 to 5.5 V
		Ignition switch off	Below 1 V
K73-3 (SG-1) - Body ground	Ground for room temp. sensor (cooler thermistor)	Always	Below 1 Ω
K73-5 (TR) - K73-3 (SG-1)	Room temp. sensor (cooler thermistor) signal	<ul style="list-style-type: none"> Ignition switch ON Cabin temperature: 25°C (77°F) 	1.05 to 1.45 V
		<ul style="list-style-type: none"> Ignition switch ON Cabin temperature: 40°C (104°F) 	0.64 to 0.87 V
K73-6 (PRE) - K73- 15 (SG-4)	Air conditioning pressure sensor signal	<ul style="list-style-type: none"> Ignition switch ON (READY) Air conditioning system operating Refrigerant pressure: Normal pressure 	0.74 to 4.61 V
K73-9 (TS) - K74- 17 (GND)*	Solar sensor (cooler thermistor) signal	<ul style="list-style-type: none"> Ignition switch ON Solar sensor (cooler thermistor) subjected to electric light 	0.8 to 4.3 V
		<ul style="list-style-type: none"> Ignition switch ON Solar sensor (cooler thermistor) covered with cloth 	Below 0.8 V
K73-11 (S5-3) - K73-15 (SG-4)	Power supply for air conditioning pressure sensor	Ignition switch ON	4.75 to 5.25 V
		Ignition switch off	Below 1 V
K73-14 (SG-2) - Body ground	Ground for ambient temp. sensor (thermistor assembly)	Always	Below 1 Ω
K73-15 (SG-4) - Body ground	Ground for air conditioning pressure sensor	Always	Below 1 Ω
*: w/o Automatic Light Control			

(a) Waveform "Servo LIN communication":



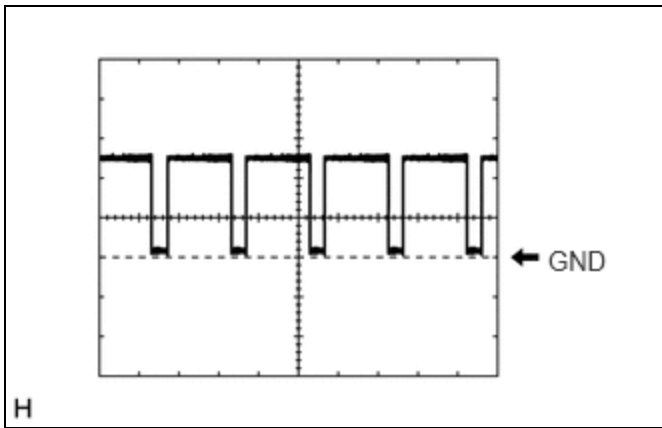
ITEM	CONTENT
Terminal No.	n3-3 (BUS) - n3-2 (BUSG)
Tool Setting	2 V/DIV., 2 ms./DIV.
Condition	Ignition switch ON

(b) Waveform "Control panel LIN communication":



ITEM	CONTENT
Terminal No.	K74-7 (LIN1) - K74-17 (GND)
Tool Setting	2 V/DIV., 20 ms./DIV.
Condition	Ignition switch ON

(c) Waveform "Blower":

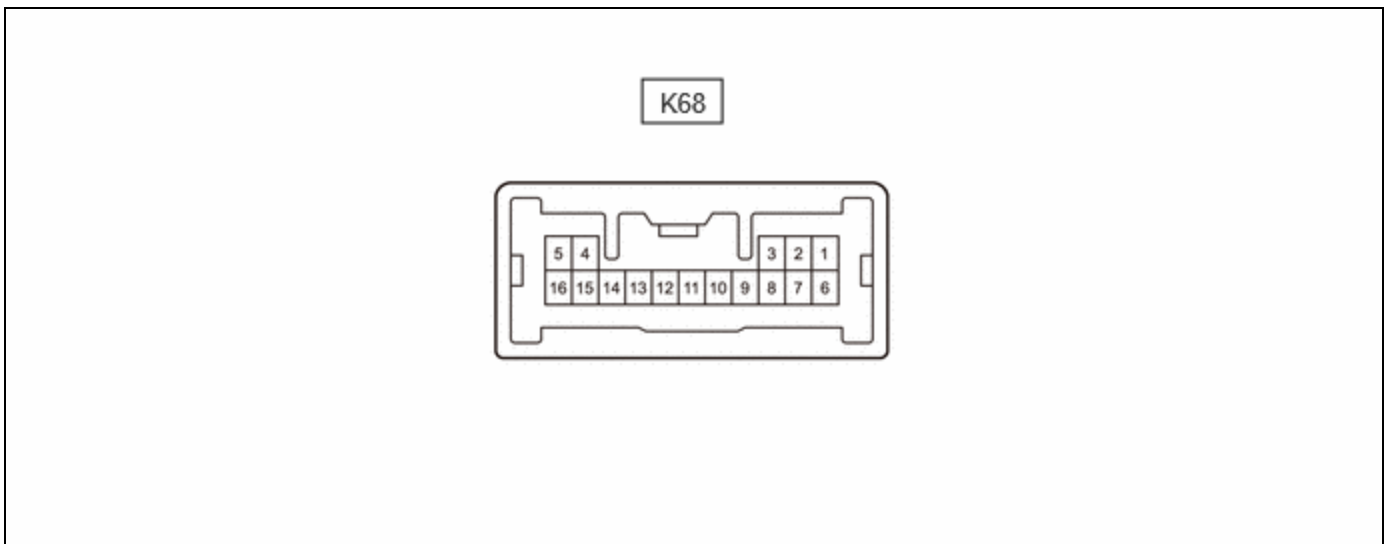


ITEM	CONTENT
Terminal No.	K74-21 (BLW) - K74-17 (GND)
Tool Setting	2 V/DIV., 1 ms./DIV.
Condition	<ul style="list-style-type: none"> • Ignition switch ON • Blower switch: LO

HINT:

The waveform varies with the blower speed.

CHECK AIR CONDITIONING CONTROL ASSEMBLY



TERMINAL NO. (SYMBOL)	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
K68-1 (IG+) - K68-16 (GND)	Power source (IG)	Ignition switch off	Below 1 V
		Ignition switch ON	11 to 14 V
K68-14 (LIN1) - Body ground	LIN communication signal	Ignition switch ON	Pulse generation (See waveform)
K68-16 (GND) - Body ground	Ground for air conditioning control assembly	Always	Below 1 Ω

(a) Waveform:

ITEM	CONTENT
Terminal No.	K68-14 (LIN1) - Body ground
Tool Setting	2 V/DIV., 20 ms./DIV.
Condition	Ignition switch ON

