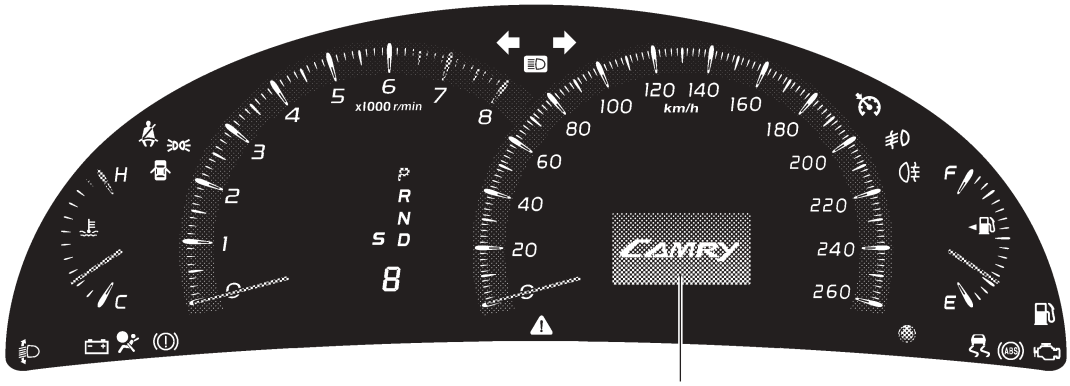
METER

■COMBINATION METER

1. General

- An optitron display type combination meter is used. The optitron display type meter realizes excellent visibility through the use of smoke acrylic in the protective panel, and bright LEDs (Light Emitting Diodes) that have high contrast to illuminate the indicator and the dial.
- A multi-information display is provided on the speedometer.
- A meter ECU and buzzer are enclosed in the combination meter. This ECU maintains communication with other ECUs through the CAN (Controller Area Network).
- Illumination control, which turns on the combination meter illumination at different time intervals when the ignition switch is turned to ON, has been provided.
- A step-motor type movement is used to actuate the indicators of the speedometer, the fuel gauge, the engine coolant temperature gauge and the tachometer.



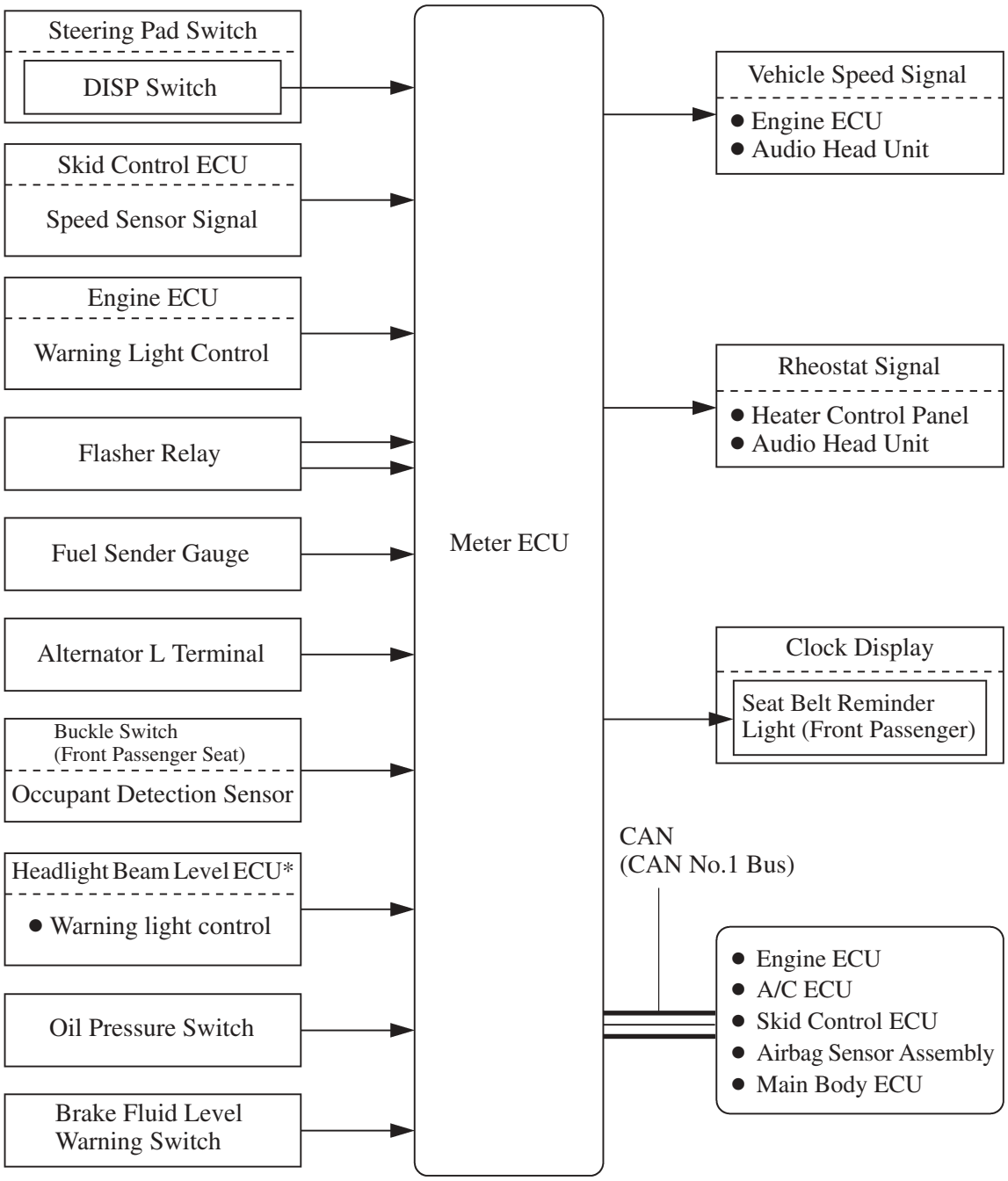
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LHD Models with 2GR-FE Engine

Service Tip

If the LEDs malfunction, the entire combination meter assembly must be replaced. Refer to the Camry Repair Manual (Pub. No. RM0260E).

2. System Diagram



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*: Only for models with automatic headlight beam level control system

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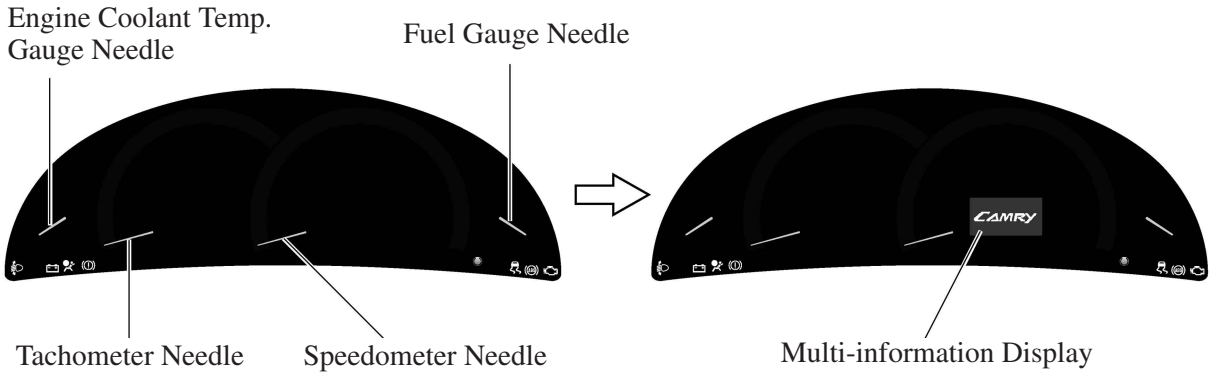
▶ Input and output communication signals of the combination meter ◀

Protocol	ECU	Input Signal	Output Signal
CAN (CAN No.1 Bus)	Engine ECU	● Engine speed ● Engine coolant temperature ● Fuel injection volume ● Starter condition ● Shift position ● S mode indicator ● Current range position ● Buzzer sounding request ● Indicator light control ● Diagnosis (Cruise) ● Engine type information	—
	A/C ECU	Outside temperature	Vehicle speed
	Airbag Sensor Assembly	● Warning light control ● Seat belt remainder control (D) ● Diagnosis	Vehicle speed
	Skid Control ECU	● Warning light control ● Indicator light control ● Diagnosis	—
	Main Body ECU	● Lighting status ● Parking brake switch ● Courtesy switch ● Buzzer sounding request ● Key unlock warning switch ● Warning display control ● Diagnosis	—

3. Illumination Control

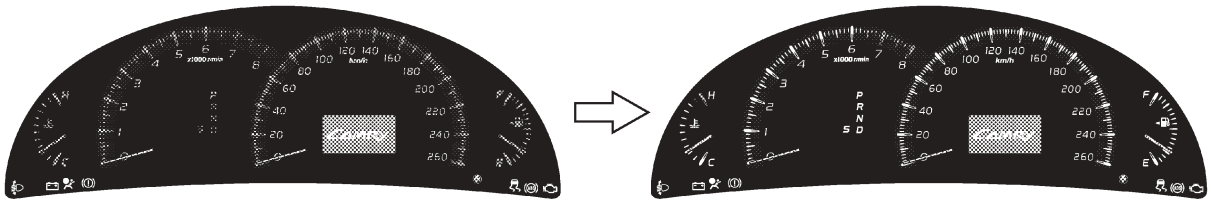
- When the ignition switch is turned to ON, the illumination control operates as follows (1, 2). However, all illuminations turn off while the engine is cranked.
- When the ignition switch is turned OFF, the illumination control is as follows (3).

1) The needles of the speedometer, tachometer, fuel gauge and engine coolant temperature gauge are illuminated and “Camry” appears on the multi-information display.



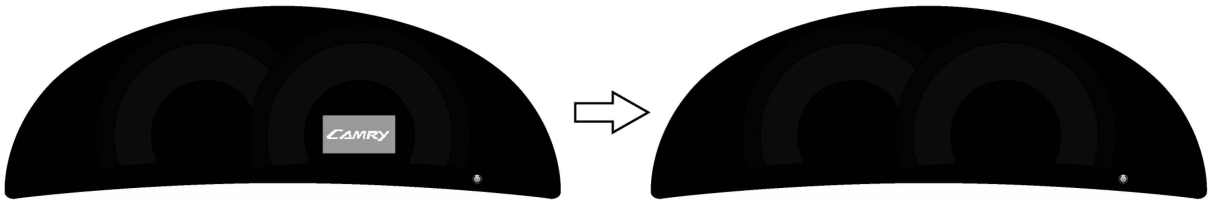
026BE18Y

2) After the multi-information display illuminates, the meter illumination gradually fades in.



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3) All illuminations other than the multi-information display go off, and “Camry” appears on the multi-information display. Then the “Camry” disappears and the multi-information display turns off.



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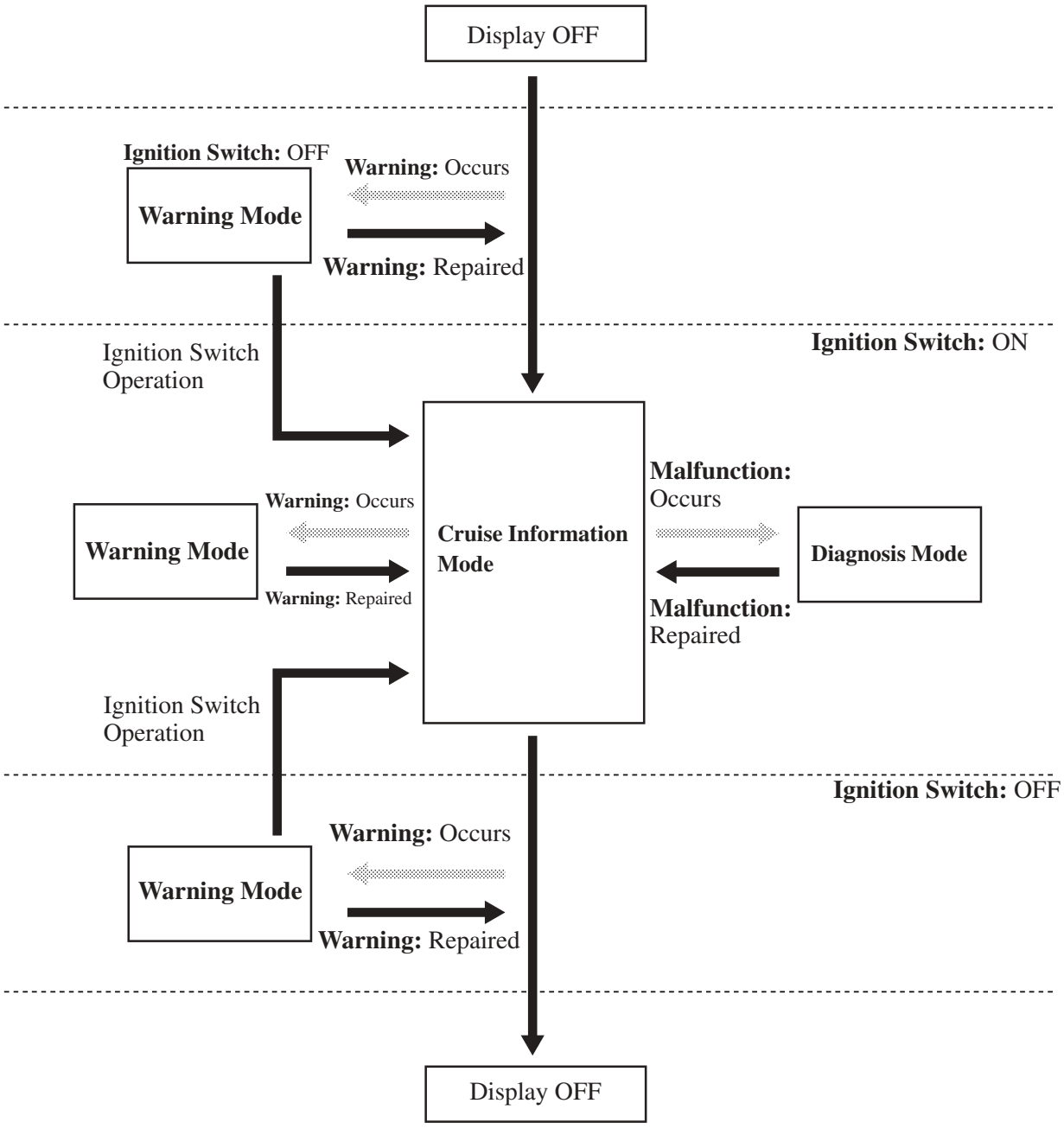
4. Multi-information Display

General

- The multi-information display has three modes:

Mode	Outline
Cruise Information (See page BE-36)	● Five types of information can be displayed: outside temperature, driving range, average fuel consumption since refueling, distance driven since engine start, and average speed since engine start. ● The display can be switched by using the DISP switch.
Warning (See page BE-37)	Interrupts the multi-information display immediately when a warning occurs.
Diagnosis (See page CH-120)	DTC (Diagnostic Trouble Code) for the brake control system (TRC and VSC) can be displayed.

- The multi-information display modes can be switched as shown in the flow chart below:

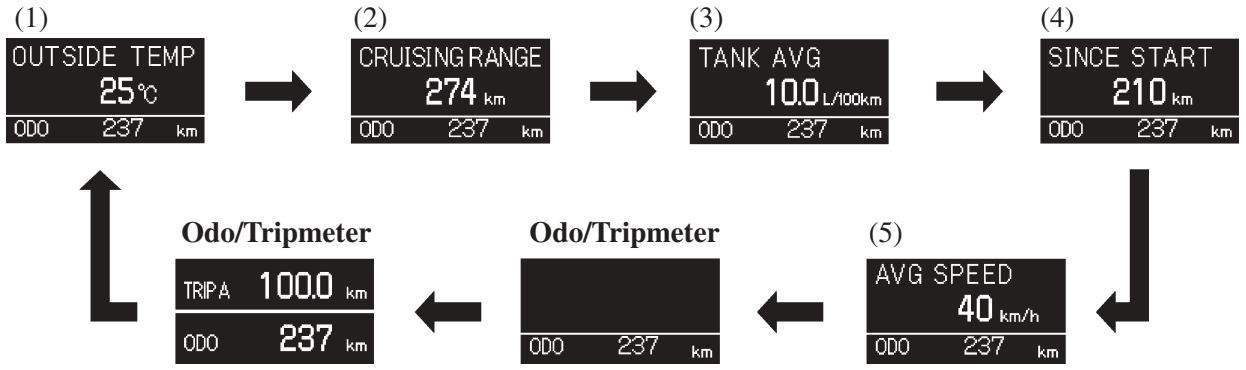


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Cruise Information Mode

The cruise information is displayed in the following order, changing each time the DISP switch is pressed. However, pressing the DISP switch for approximately 1 second or more changes the display to the outside temperature indication.



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Information		Outline
(1)	Outside Temperature	Displays the outside temperature in accordance with the outside temperature sensor signal from the A/C ECU.
(2)	Driving Range	● Displays the range, calculated by the combination meter which continuously monitors and stores fuel consumption data and the residual fuel volume while the ignition switch is on. ● Updated every 1 km.
(3)	Average Fuel Consumption Since Refueling	● Displays the value, calculated by the combination meter, based on the distance driven since refueling and the fuel consumption volume (fuel injection signals from the No.1 injector). ● The combination meter determines the vehicle has been refueled through the signal from the fuel sender gauge. ● Updated every 10 seconds.
(4)	Distance Driven Since Engine Start	● Displays the value calculated by the combination meter based on the distance driven since engine start. ● Updated every 1 km.
(5)	Average Speed Since Engine Start	● Displays the average speed calculated by the combination meter based on the length of time and the distance driven since engine start. ● Updated every 10 seconds.

Warning Mode

- When a warning is necessary, the warning display interrupts the multi-information display.
- The master warning light may illuminate or flash and the buzzer may sound depending on the item in the multi-information display.

Warning	Detail	Warning	Detail
 : Illuminate Buzzer: Sound 025BE24P	TRC and VSC are malfunctioning. (Models with Brake Control System [ABS with EBD, Brake Assist, TRC and VSC])	 : Flash Buzzer: Sound 025BE26P	Parking brake is still engaged with the vehicle having reached a speed of 5 km/h (3 mph).
 : Flash* : Illuminate Buzzer: Sound* 025BE27P	Any door is open. *: The vehicle having reached a speed of 5 km/h (3 mph).	 : Flash* Buzzer: Sound* 025BE28P	Engine hood is open. *: The vehicle having reached a speed of 5 km/h (3 mph).
		 : Flash* : Illuminate Buzzer: Sound* 025BE29P	Luggage compartment door is open. *: The vehicle having reached a speed of 5 km/h (3 mph).
 : Flash Buzzer: Sound 025BE30P	Engine oil pressure is low.	 : Flash Buzzer: Sound 025BE31P	Engine coolant temperature is high.
 Displayed for 8 sec. : Flash Buzzer: Sound 025BE33P	The sliding roof is open and the driver door is open.	—	—

5. Buzzer

General

The table below shows the warning and reminder functions of the buzzer.

Function	Item
Warning	● Multi-information Display Warning Mode Indication (See page BE-37) ● Shift Down Warning (See page CH-72)
Reminder	● Key Reminder ● Seat Belt Reminder (See page BE-98)

Key Reminder

When the driver's door is opened with the ignition key in the ACC or LOCK position, the meter ECU sounds the buzzer to warn the driver that the ignition key has not been removed.