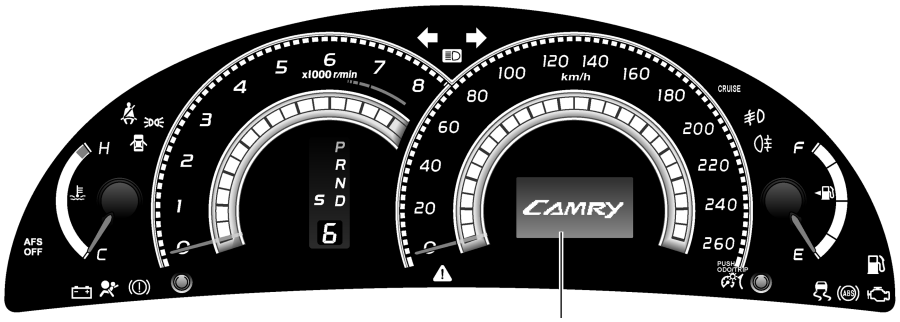
METER

■COMBINATION METER

1. General

- An optitron display type combination meter is used as standard on some models other than 2AZ-FE engine models for Australia and G.C.C. Countries.
- On some models, a multi-information display is provided on the speedometer. The settings vary depending on the grades.
- An analog type combination meter is used as standard on 2AZ-FE engine models for Australia and G.C.C. countries. In addition, an LCD (Liquid Crystal Display) type multi-information display has been provided below the tachometer on some models. The settings vary depending on the grades.
- 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 power source* is switched to IG-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.
- A speed warning system has been provided as standard on models for G.C.C. Countries. When the vehicle speed exceeds 120 km/h, the system warns the driver by sounding the buzzer and flashing the warning light.

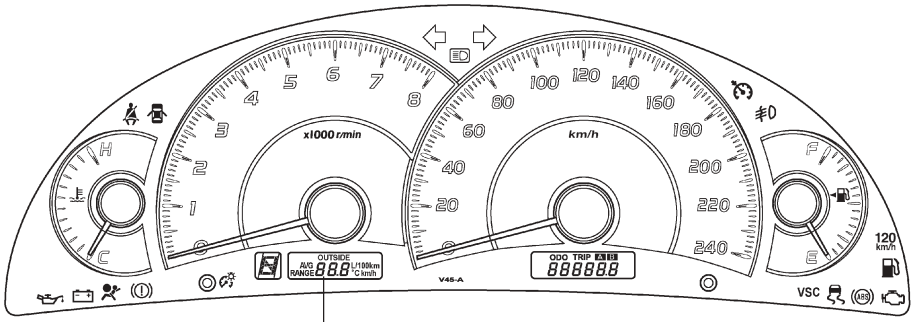
*: The power source condition can be changed by operating the engine switch on models with the smart key system, and the ignition switch on models without the smart key system.



Multi-information Display

02KBE21Y

Taiwanese Models with 2GR-FE Engine



LCD (Liquid Crystal Display) Type Multi-information Display

02KBE22Y

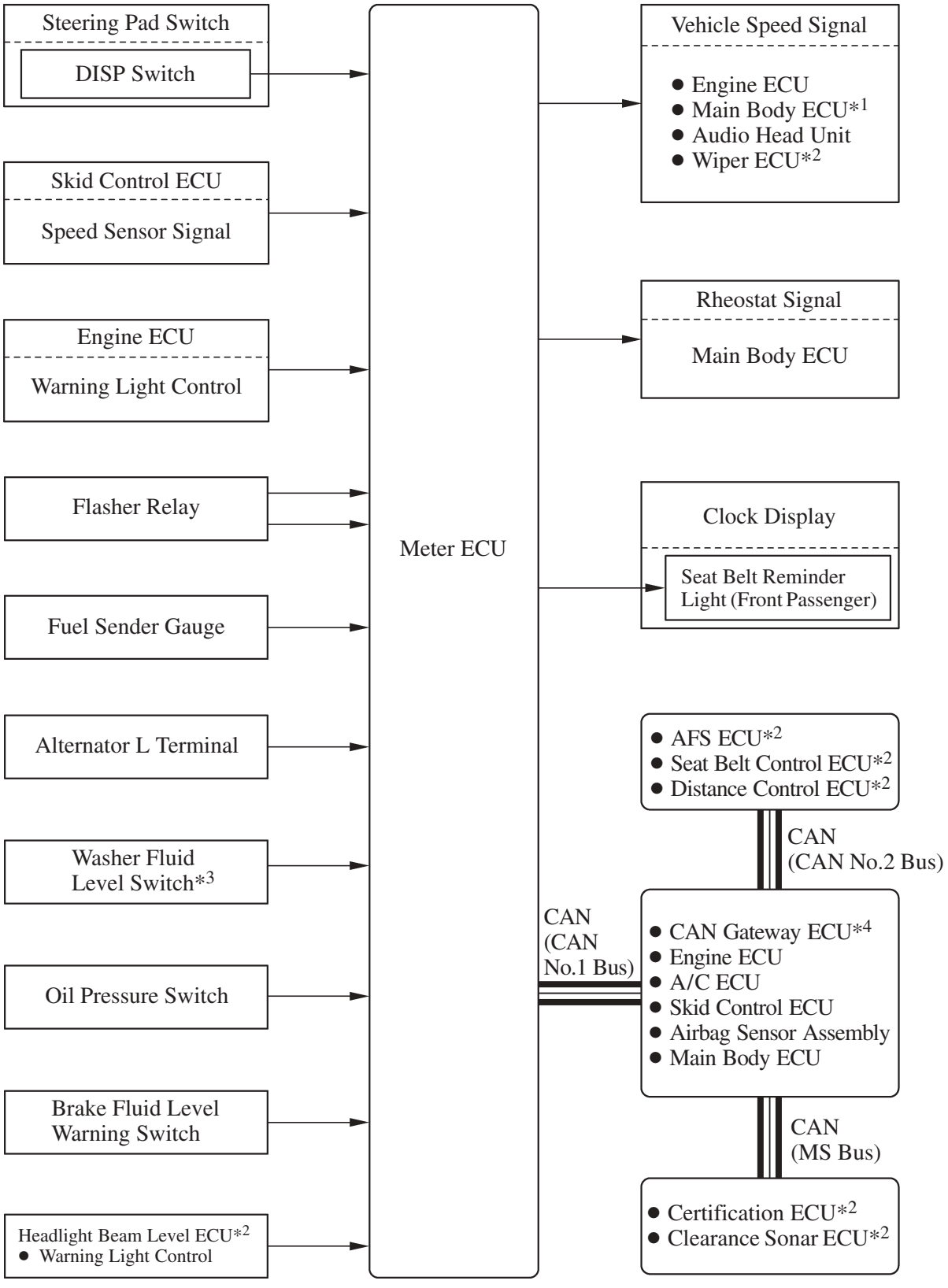
G.C.C. Countries Models with 2AZ-FE Engine

Service Tip

If the LEDs malfunction, the entire combination meter assembly must be replaced. Refer to the Camry Repair Manual.

*: The power source condition can be changed by operating the engine switch on models with the smart entry and start system, and the ignition switch on models without the smart entry and start system

2. System Diagram



02KBE23Y

*1: Only for models with the smart entry and start system.
*2: Setting vary depending on the destination and engine type. For details, see the equipment list in Model Outline.
*3: Only on models for Taiwan, Thailand, Philippines, Vietnam, Malaysia and Indonesia
*4: Only for models with the intelligent AFS, the pre-crash safety system, and the radar type cruise control system

▶ Input and output communication signals of the meter ECU ◀

Protocol	ECU	Input Signal to meter ECU	Output Signal from meter ECU
CAN (CAN No.1 Bus)	Engine ECU	● Engine speed ● Engine coolant temperature ● Fuel injection volume ● Starter condition ● Shift position ● S mode indicator*1 ● 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 ● Vehicle Speed ● Diagnosis	—
	Main Body ECU	● Lighting status ● Parking brake switch ● Courtesy switch ● Buzzer sounding request ● Auto dimmer signal ● Unlock Warning Switch ● Warning display control ● Diagnosis	Vehicle Speed
CAN (CAN No.2 Bus)	AFS ECU*2	● Indicator light control	—
	Seat Belt Control ECU*2	● Warning display control ● Diagnosis	—
	Distance Control ECU*2	● Warning display control ● Buzzer sounding request ● Cruise control status indication ● Diagnosis	—
CAN (MS Bus)	Certification ECU*2	● Warning display control ● Buzzer sounding request	—
	Clearance Sonar ECU*2	● Warning display control	Vehicle speed

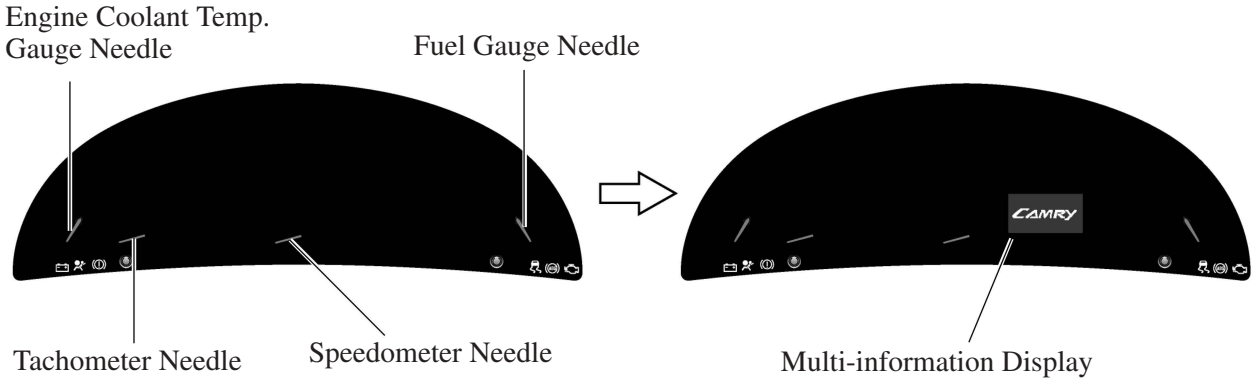
*1: Only on models with multi-mode automatic transmission

*2: Setting vary depending on the destination and engine type. For details, see the equipment list in Model Outline (see page MO-42).

3. Illumination Control

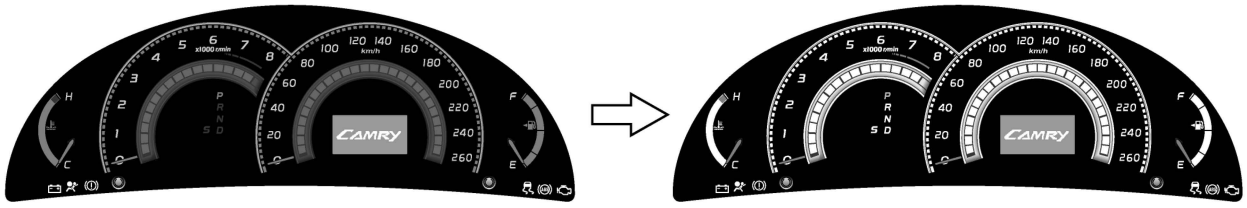
- When the power source is switched to IG-ON, the illumination control operates as follows (1, 2). However, all illuminations turn off while the engine is cranked.
- When the power source is switched to OFF, the illumination control is as follows (3).

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



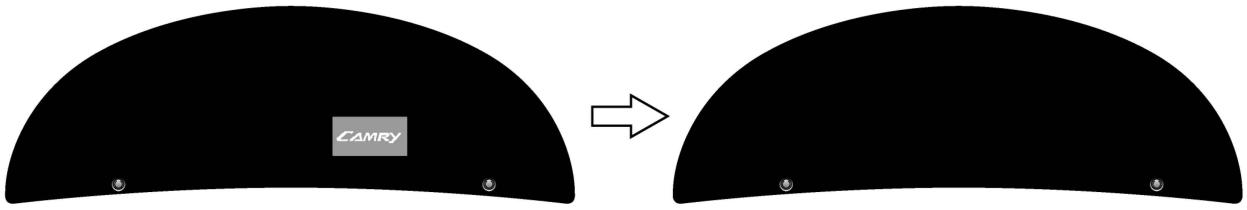
02KBE24Y

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



02KBE25Y

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.



02KBE26Y

4. Multi-information Display

General

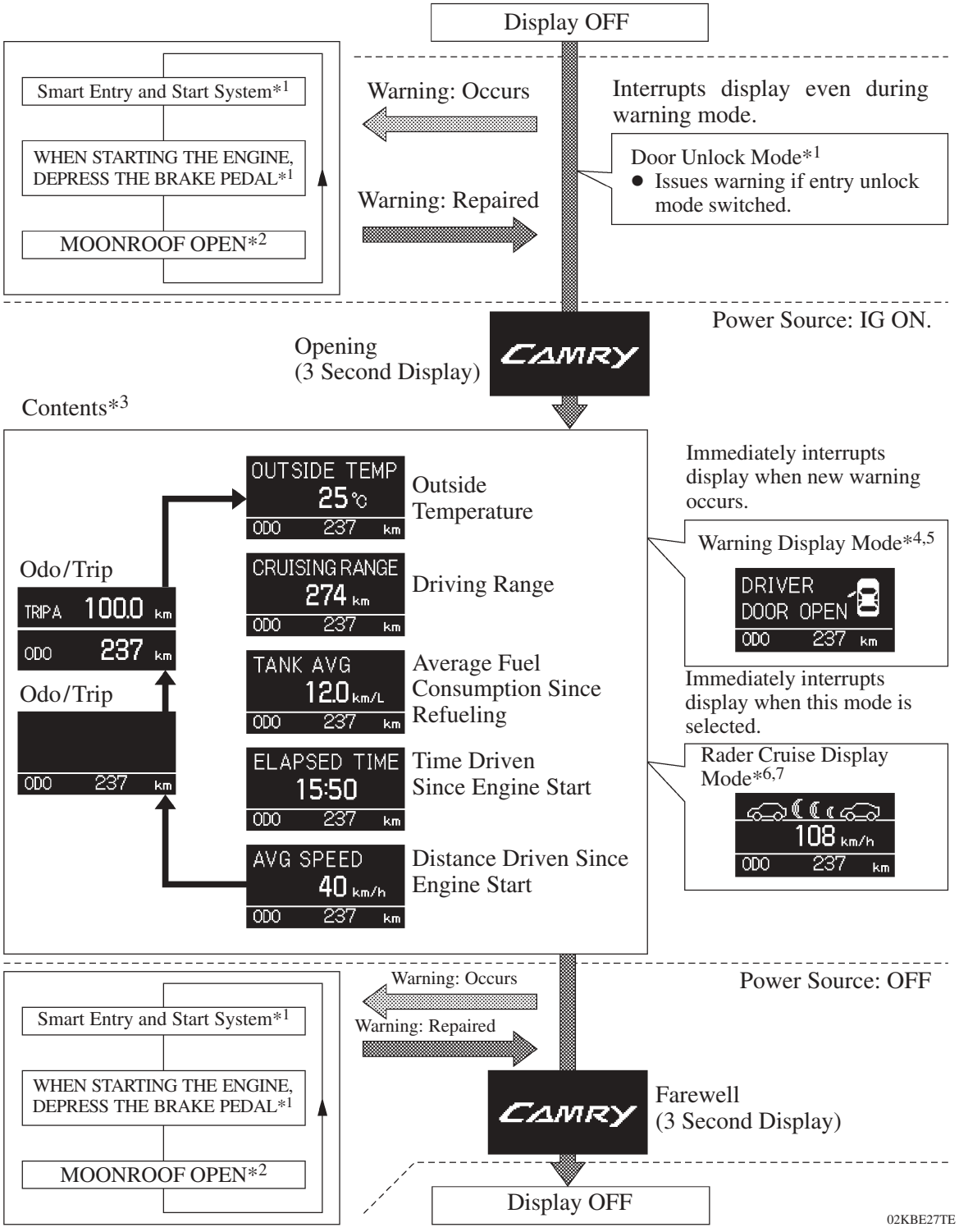
- The multi-information display has three modes:

Mode	Outline
Cruise Information (See page BE-54)	● Five types of information can be displayed. ● The display can be switched by using the DISP switch. ● Optitron display type combination meter: outside temperature, driving range, average fuel consumption since refueling, time driven since engine start, and average speed since engine start. ● Analog type combination meter: outside temperature, driving range, average fuel consumption since refueling, distance driven since engine start, and average speed since engine start.
Warning* (See page BE-55)	Interrupts the multi-information display immediately when a warning occurs.
Diagnosis* (See page CH-169)	DTC (Diagnostic Trouble Code) for the brake control system (TRC and VSC) can be displayed.

*: Only for the optitron display type combination meter

Flow of The Multi-information Display Indication

The multi-information display mode can be changed as shown in the flow chart below:



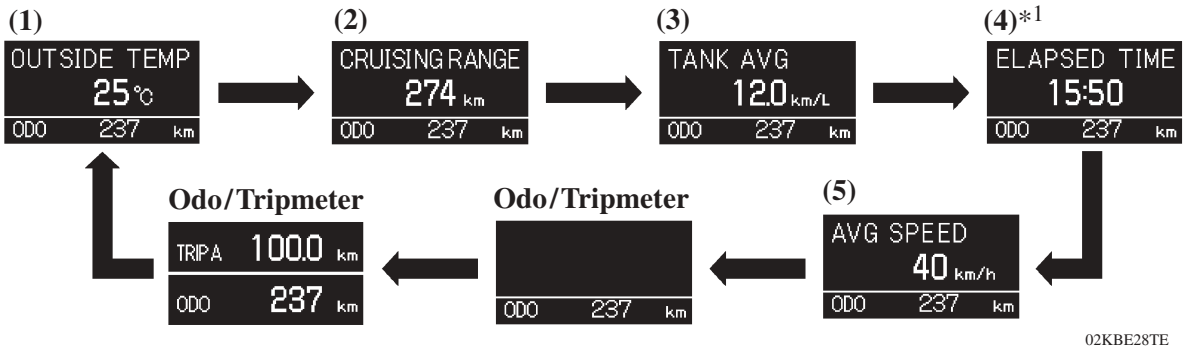
*1: Only for models with the smart entry and start system
*2: Only for models with the sliding roof system
*3: The first screen to be displayed is the same as that displayed when the power source was last turned OFF.
*4: If multiple new warnings occur, they are automatically displayed at 2 second intervals.
*5: If the display is changed from warning display mode to another mode, it automatically returns to warning display mode after 6 seconds.
*5: Immediately interrupts the display if data pertaining to the radar cruise display mode is received.
*7: Only for models with the dynamic radar type cruise control system

BE

Cruise Information Mode

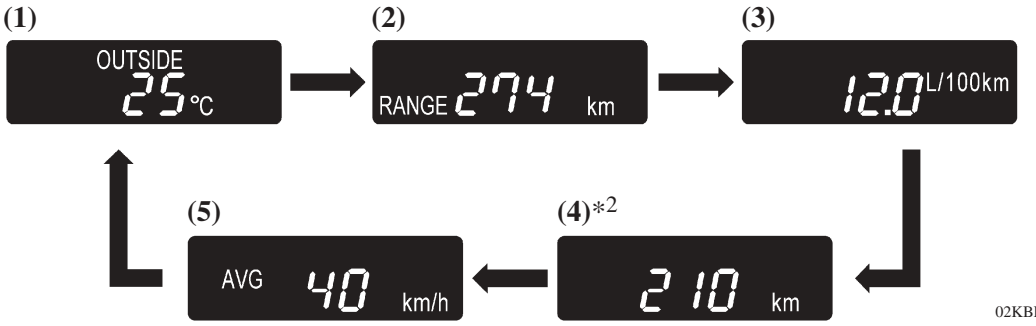
The cruise information is displayed in the following order, changing each time the DISP switch is pressed. However, pressing the DISP switch for approximately 1 second or more changes the display to the outside temperature indication.

▶ Models with the Optitron Display Type Combination Meter ◀



02KBE28TE

▶ Models with the Analog Type Combination Meter ◀



02KBE129Y

Information	Outline
(1)	Displays the outside temperature in accordance with the outside temperature sensor signal from the A/C ECU.
(2)	● Displays the range, calculated by the combination meter which continuously monitors and stores fuel consumption data and the residual fuel volume when IG-ON has been selected. ● Updated every 1 seconds.
(3)	● Displays the value calculated by the combination meter based on the distance driven since refueling and the fuel consumption volume, which is calculated from the fuel injection signals from the No.1 injector. (For 2GR-FE engine models for Australia and G.C.C. Countries, the value is displayed in liters per 100 km.) ● The combination meter determines the vehicle has been refueled through the signal from the fuel sender gauge. ● Updated every 10 seconds.
(4)*1	● Displays the length of time has elapsed since engine start. ● Updated every 60 seconds.
(4)*2	● Displays the value calculated by the combination meter based on the distance driven since engine start. ● Updated every 1 km (0.6 miles).
(5)	● 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

1) General

- 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
 : Flash Buzzer: Sound 025BE19P	The key is not inside the vehicle. (On models with smart entry and start system)	 : Flash Buzzer: Sound 025BE20P	The driver door is opened with the shift lever in any position other than P. (On models with smart entry and start system)
 : Flash 025BE21P	Steering lock has not been released. (On models with smart entry and start system)	 : Flash 025BE22P	Steering lock is malfunctioning. (On models with smart entry and start system)
 Buzzer: Sound 025BE23P	The power source is switched from OFF to ACC twice with the brake pedal released. (On models with smart entry and start system)	 : Illuminate Buzzer: Sound 025BE24P	TRC and VSC are malfunctioning. (On models with Brake Control System [ABS with EBD, Brake Assist, TRC and VSC])
 : Flash Buzzer: Sound 025BE25P	Key battery is low. (On models with smart entry and start system)	 : 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* 02KBE112TE	Engine hood is open. (Except G.C.C. Countries Models) *: The vehicle having reached a speed of 5 km/h (3 mph).
		 : Flash* : Illuminate Buzzer: Sound* 02HBE84TE	Luggage compartment door is open. *: The vehicle having reached a speed of 5 km/h (3 mph).

(Continued)

Warning	Detail	Warning	Detail
 : Flash Buzzer: Sound 025BE30P	Engine oil pressure is low.	 : Flash Buzzer: Sound 025BE31P	Engine coolant temperature is high.
 : Illuminate Buzzer: Sound 025BE32P	Washer fluid level is low.	 Displayed for 8 sec. : Flash Buzzer: Sound 025BE33P	The sliding roof is open and the driver door is open. (On models with sliding roof system)
 :Illuminate Buzzer: Sound 02KBE114TE	Pre-crush safety system is malfunctioning. (On some models for Taiwan and Thailand)	 :Illuminate Buzzer: Sound 02KBE115TE	Pre-crush safety system is not currently functional. (On some models for Taiwan and Thailand)
 : Illuminate Buzzer: Sound 02KBE116TE	Toyota parking assist is malfunctioning.	 : Illuminate Buzzer: Sound 02KBE117TE	Toyota parking assist is dirty or covered with ice.
 : Flash Buzzer: Sound 02KBE118TE	Dynamic radar cruise control system is malfunctioning. (On some models for Taiwan and Thailand)	 : Flash Buzzer: Sound 02KBE119TE	Dynamic radar type cruise control system is unable to judge vehicle-to-vehicle distance. (On some models for Taiwan and Thailand)

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-55) ● Shift Down Warning (See page CH-59, 102)
Reminder	● Key Reminder (See page BE-166) ● Seat Belt Reminder (See page BE-201)