METER

■COMBINATION METER

1. General

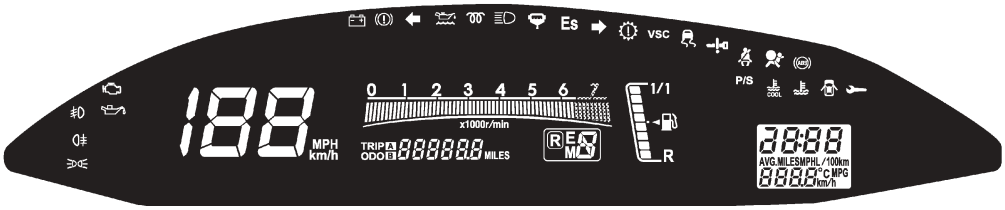
The combination meter in the new models has the following features:

- A digital display type, Optitron display type or analog display type combination meter is available. It is located at the upper center of the instrument panel to ensure its visibility.
- VFDs (Vacuum Fluorescent Displays) are used for the digital display type speedometer, tachometer, and fuel gauge.
- The Optitron display type meter realizes excellent visibility through the use of smoke acrylic in the protective panel, and LEDs (Light Emitting Diodes) that are very bright and have high contrast for illuminating the indicator and dial.
- A step-motor type speedometer is used for the Optitron display type and analog display type combination meters. LCDs (Liquid Crystal Displays) are used for the odometer, trip meter, and fuel gauge.
- A fuel gauge which displays the amount of fuel remaining in the fuel tank with an 8-segment bar is used.
- A meter ECU and multi buzzer are enclosed in the combination meter. This ECU maintains communication with other ECUs through the CAN (Controller Area Network).
- An oil change reminder light has been provided in the combination meter, which will light or flash to remind the driver to change the engine oil. (Models with the 1ND-TV engine only)
- The multi-information display is provided as standard equipment in the combination meter on the Europe models.

—: Not Available ●: Standard OP: Option

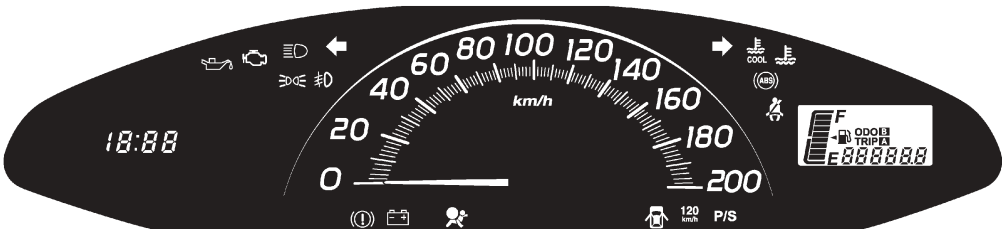
Destination	Europe		Australia	G.C.C. Countries	General Countries	
Steering Wheel Position / Meter Type	LHD	RHD	RHD	LHD	LHD	RHD
Optitron Display Type without Tachometer (Km/h)	—	—	—	●*2	●*2	—
Optitron Display Type without Tachometer (Mph + Km/h)	—	—	—	—	OP*2	OP
Digital Display Type with Tachometer (Km/h)	●	OP	●*2	—	OP*2	●
Digital Display Type with Tachometer*1 (Mph + Km/h)	—	●	—	—	OP*2	OP
Analog Display Type without Tachometer (Km/h)	—	—	—	●*3	●*3	●*3
Analog Display Type with Tachometer (Km/h)	—	—	●*3	OP*3	OP*3	OP*3
Analog Display Type without Tachometer (Mph + Km/h)	—	—	—	—	OP*3	OP*3
Analog Display Type with Tachometer (Mph + Km/h)	—	—	—	—	OP*3	OP*3

*1: The unit of display on the speedometer can be switched by pressing and holding the odo/trip selector/reset knob for over 1 second when the tail switch is OFF.
*2: Hatchback Models
*3: Sedan Models



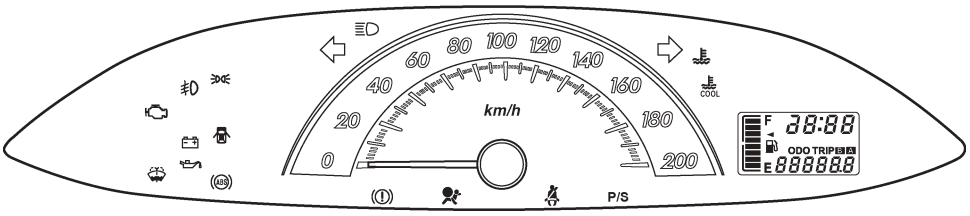
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Digital Display Type with Tachometer



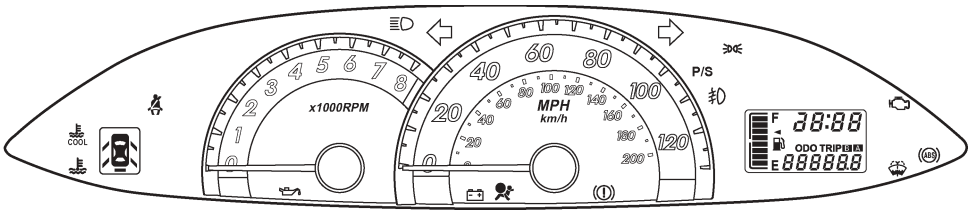
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Optitron Display Type without Tachometer



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Analog Display Type without Tachometer



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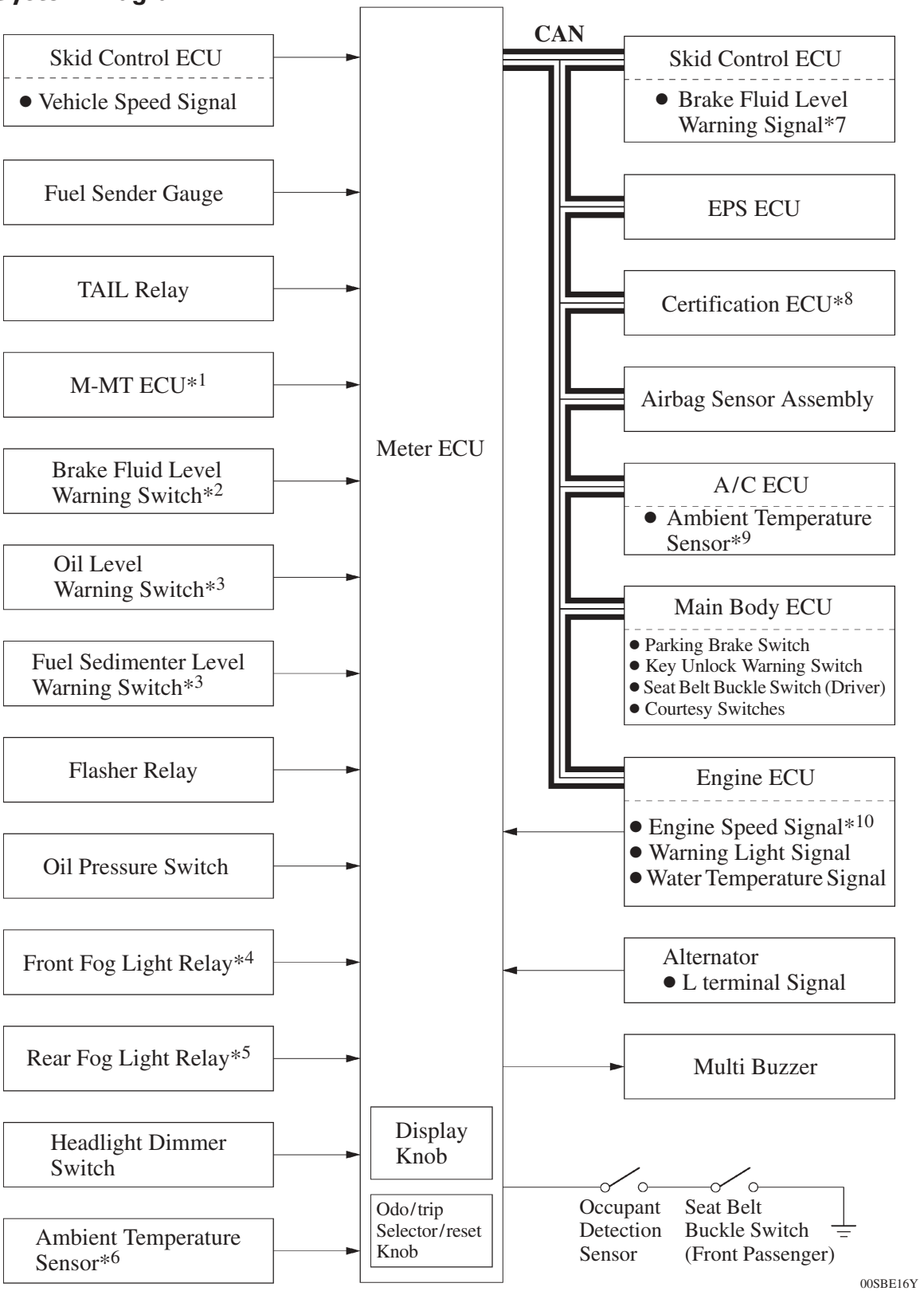
Analog Display Type with Tachometer

Service Tip

If the LEDs malfunction, it must be replaced as a combination meter assembly. Refer to the Yaris Repair Manual (Pub. No. RM00S1E).

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2. System Diagram

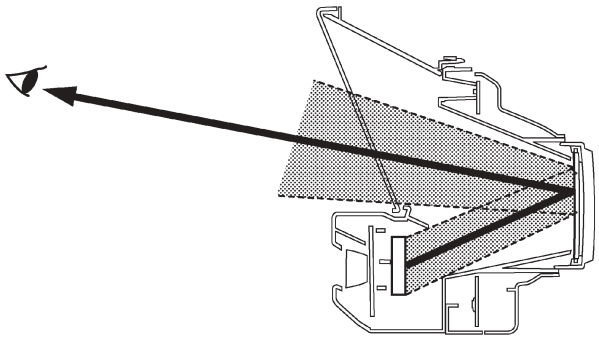


*1: Only for M-MT (Multi-mode Manual Transmission) Models
*2: Only for TMC Models
*3: Only for Diesel Engine Models
*4: Models with Front Fog Light
*5: Models with Rear Fog Light
*6: Only for Europe Models
*7: Only for TMMF Models
*8: Models with Smart Entry & Start System
*9: Except Europe Models
*10: Models with Multi-information Display and Tachometer

3. Construction

Digital Display Type

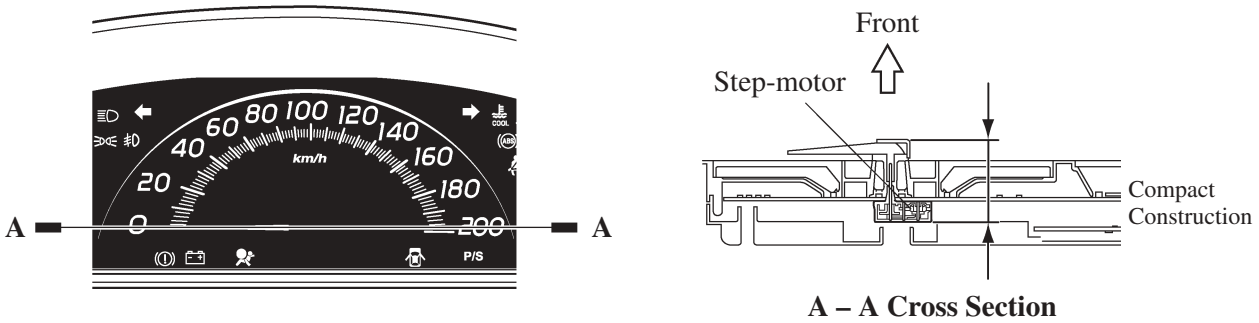
On the digital display, a speedometer, tachometer and fuel gauge with an enlarged virtual image is used. In this speedometer, tachometer and fuel gauge, the image that is displayed on a compact display tube (VFD: Vacuum Fluorescent Display) is reflected by a mirror, in which the magnified image is displayed. This realizes excellent visibility because it is less susceptible to external light.



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Optitron Display Type and Analog Display Type

- The step-motor is used to actuate the indicator of the speedometer. This has resulted in a thinner indicator movement, thus achieving a lightweight and compact construction.
- In the step-motor type, when the power to the combination meter is turned ON through the reconnection of the battery terminal, the step-motor initializes once to recognize the zero point of the indicator in relation to the step-motor. However, if the power source mode is changed to IG-ON after 60 seconds or more have elapsed after the initialization, the step-motor initializes again.



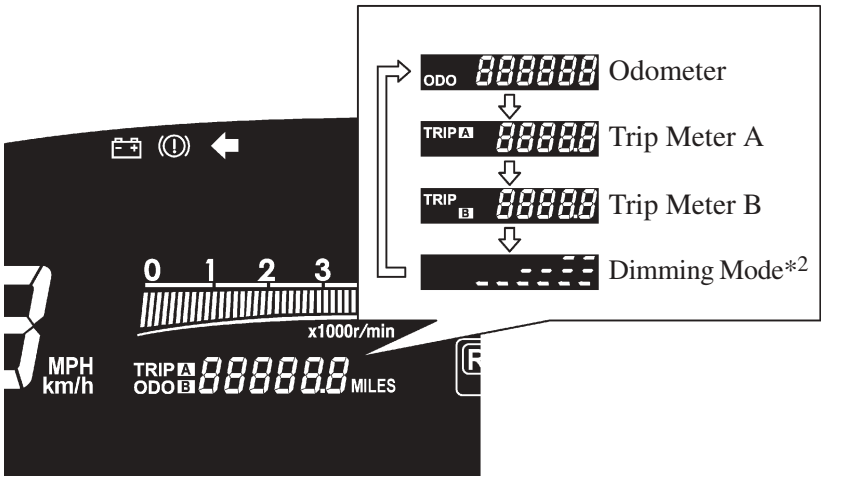
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Hatchback Models

4. Display

Odo/Trip Meter

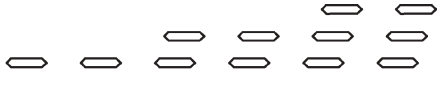
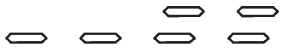
- The display is used for the odo/trip meter and multi-information display*1. The switching of the modes is effected by pressing the odo/trip selector/reset knob.
  Odometer → Trip Meter A → Trip Meter B → Dimming Mode*2
- While the trip meter A or B is displayed, pressing the odo/trip selector/reset knob for 0.8 seconds or longer causes the mileage displayed by the current trip mode to revert to 0.0 mile (or km/h). The trip meter will resume measuring the mileage at the moment the odo/trip selector/reset knob is released.
- While the dimming mode is displayed, the brightness of the meter can be changed by pressing the odo/trip selector/reset knob for 1.0 second or longer.
  The selected dimming mode is canceled if a battery terminal is disconnected. When the battery terminal is reconnected, the dimming mode sets to 100% (in daytime) or 12.5% (in nighttime) brightness.



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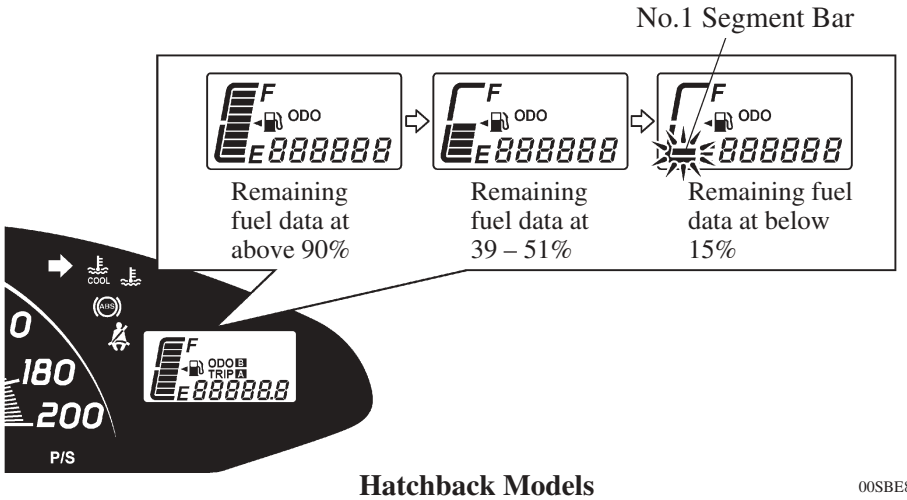
Hatchback Models

*1: Only for Europe Models
*2: Only for Australia and G. C. C. Countries Models

Brightness (%)	Graduation
100	 193BE06
12.5	 193BE08
6.25	193BE10
3.125	193BE11

Fuel Gauge

- A fuel gauge which displays the amount of fuel remaining in the fuel tank with an 8-segment bar is used.
- A remaining fuel amount indicator function is used to blink the No.1 segment bar when the amount of remaining fuel is lower than the predetermined value. Furthermore, there are two patterns of blink cycles depending on the amount of remaining fuel to provide a more accurate remaining fuel warning.
- The amount of the remaining fuel is calculated and displayed by the meter ECU. The meter ECU calculates this based on the signal from the fuel sender gauge and the vehicle speed signal from the skid control ECU in accordance with the vehicle conditions such as driving or stopped.
- The remaining fuel amount indicator function is activated when the fuel amount data calculated by the meter ECU indicates the amount of remaining fuel has dropped to 15% or less, and causes the No.1 segment bar to blink in approximately 1.2-second cycles. When the amount of remaining fuel drops to 10% or less, the No.1 segment bar blinks in approximately 0.6-second cycles.

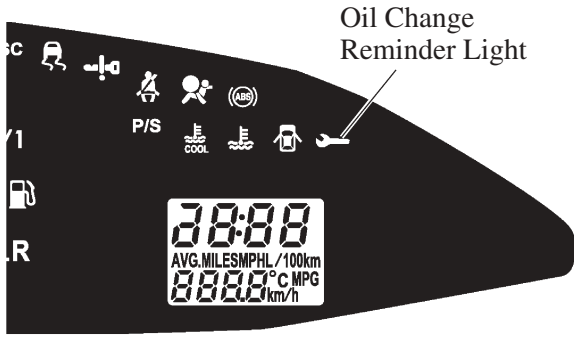


Hatchback Models 00SBE83Y

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5. Oil Change Reminder Light Control (1ND-TV Engine Model)

- An oil change reminder light is used in the combination meter. It will illuminate or flash to remind the driver to change the engine oil, depending on one of the following signals: the accumulated mileage/kilometrage or the soot volume calculated in the engine ECU.
- After the engine oil has been changed, accumulated mileage/kilometrage and soot volume memorized in the engine ECU should be reset. At this point, the accumulated mileage/kilometrage and soot volume are reset to 0 and the cycle begins again.
- For details on the conditions in which the oil change reminder light illuminates or flashes, or on the reset procedure, see page EG-191 in the EG section.



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Hatchback Models