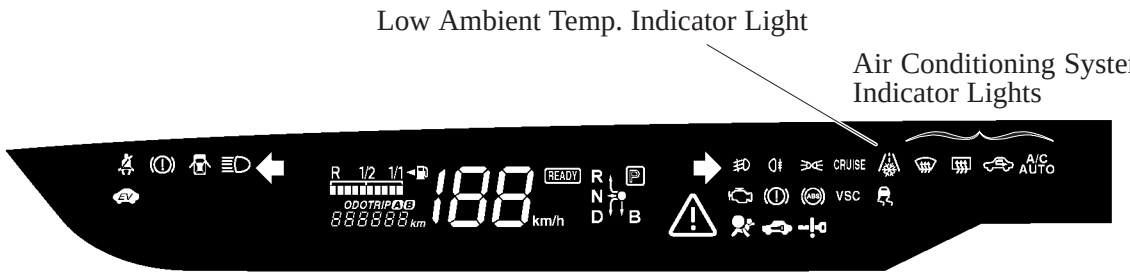
# METER

## ■COMBINATION METER

### 1. General

The combination meter of new Prius has the following features.

- The combination meter is available as a digital display type. It is located at the upper of the instrument panel to improve its visibility
- A reflective virtual image display meter, which uses a VFD (Vacuum Fluorescent Display), a mirror, and a smoke acrylic plate to reflect the images of the speedometer, ODO/TRIP meter, fuel gauge, shift position indicator light, and READY indicator light, has been adopted to improve visibility.
- A meter ECU and buzzer are enclosed in the combination meter. This ECU maintains communication with other ECUs through the BEAN. In addition, this ECU maintains communication with other ECUs or devices comprising the CAN and AVC-LAN networks, via the gateway ECU.
- A “READY” light that informs the driver that the vehicle is ready to be driven is used.
- The contents of the warning issued with the illumination of the master warning light have been changed.
- The output control warning light has been discontinued.
- A low ambient temperature indicator light, which illuminates when the ambient temperature is low (ambient temperature of 3°C or less) to alert the driver, has been adopted.
- The following indicator lights have been provided for the air conditioning system: A/C AUTO, RECIRCULATION, Front DEF, and Rear DEF.
- A fuel lid mark uses to point the side of the vehicle where the fuel lid is located.

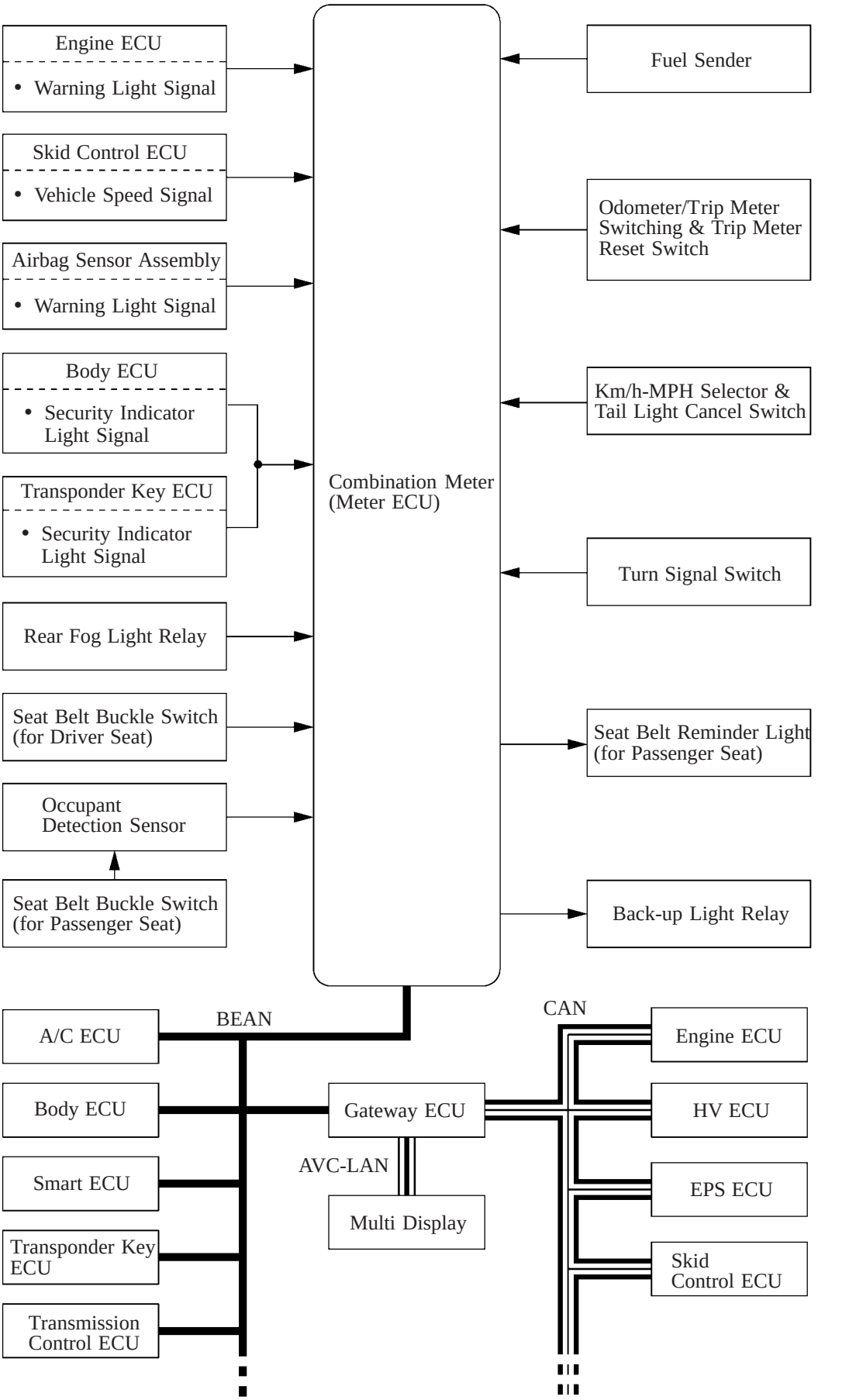



256BE34

**European LHD Model**

BE

## 2. System Diagram




256BE16

**▶ MPX Communication ◀**

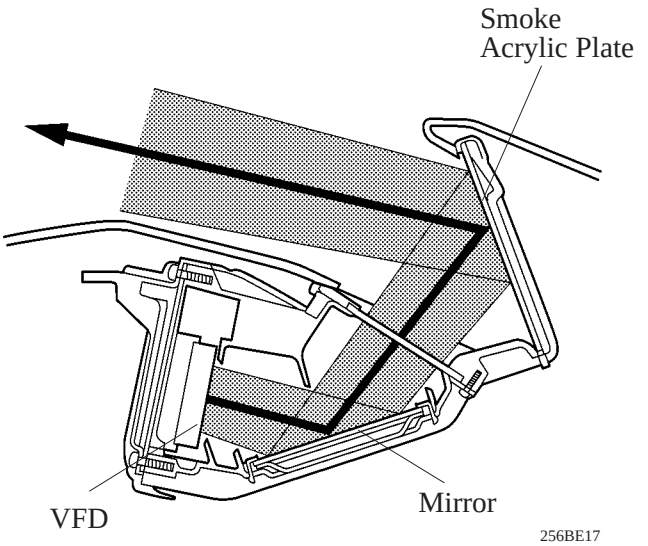
| Protocol | ECU | Signals Exchanged with Combination Meter (Meter ECU) |
|---|---|---|
| BEAN | A/C ECU | • Transmits ambient Temp. signal<br>• Transmits an indicator light (A/C AUTO, RECIRCULATION, Front DEF, and Rear DEF) illumination request signal.<br>• Receives vehicle speed signal |
| | Body ECU | • Transmits a meter illumination light dim request signal.<br>• Transmits driver's door courtesy switch signal<br>• Transmits all door courtesy switch signal<br>• Transmits a headlight illumination signal<br>• Transmits a tail light illumination signal.<br>• Transmits front fog light illumination signal<br>• Receives vehicle speed signal |
| | Smart ECU | • Transmits smart entry system warning light illumination request signal<br>• Transmits a buzzer sounding request signal.<br>• Receives vehicle speed signal |
| | Transmission Control ECU | • Transmits a master warning light (Transmission control ECU malfunction) illumination request signal.<br>• Transmits shift position (N, P) signal |
| | Transponder Key ECU | • Transmits a master warning light (shift warning) illumination signal.<br>• Transmits a buzzer sounding request signal.<br>• Receives vehicle speed signal |
| CAN | HV ECU | • Transmits a shift position signal (P,R,N,D,B). (for shift position indicator light)<br>• Transmits a READY indicator light illumination or blinking signal.<br>• Transmits a master warning light (HV system, main battery, NDB warning, high water Temp., CHARGE) illumination request signal<br>• Transmits a cruise indicator light illumination request signal<br>• Transmits a EV mode condition signal |
| | Engine ECU | • Transmits an engine speed signal (for calculating trip information).<br>• Transmits an water Temp. signal (for master warning light [engine coolant Temp. warning])<br>• Transmits a fuel injection volume signal (for calculating trip information)<br>• Transmits a master warning light (oil pressure) illumination signal<br>• Receives fuel tank volume signal |
| | Skid Control ECU | • Transmits a warning light (ABS, VSC, BRAKE, ECB) illumination or blinking signal.<br>• Transmits a slip indicator light illumination or blinking signal. |
| | EPS ECU | • Transmits a master warning light (EPS) illumination request signal |
| AVC-LAN | Multi Display | • Transmits a trip information operation signal<br>• Receives warning (fuel volume, headlight leveling, EPS) display signal<br>• Receives trip information display signal |

## 3. Reflective Virtual Image Display Meter

- A reflective virtual image display meter, which uses a VFD, a mirror, and a smoke acrylic plate to reflect the images of the speedometer, ODO/TRIP meter, fuel gauge, shift position indicator light, and READY indicator light, has been adopted to improve visibility.
- In this meter, the image on the VFD is reflected by the mirror and the smoke acrylic plate, and appears as a virtual image to the driver. This type realizes excellent visibility because it is less susceptible to external light.




**VFD Display**

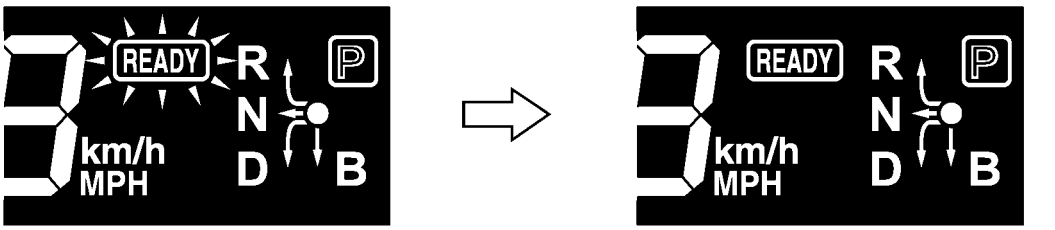



**Cross Section**

## 4. Indicator and Warning Light

### Ready Light

When the shift position is P and the brake pedal is depressed, turning the power switch to READY causes the “READY” light to flash and enables the vehicle to be driven. Then, this indicator illuminates and the buzzer sounds simultaneously.




Flashes when the power switch is turned to READY.

Illuminates when the vehicle is ready to driven.

**Service Tip**

If the indicator dose not illuminate, the vehicle cannot be driven because one of the driving prohibition conditions listed below applies.

- Service plug discontinued.
- Hybrid system abnormality.
- Driving prohibition condition due to overload on MG1, MG2 or inverter.
- Inverter unit cover is left open.
- HV ECU has detected a collision.

### Master Warning Light

If any of the situations indicated below occur, the meter ECU will illuminate the master warning light and sound the buzzer. At the same time, a warning will appear on the multi display.

| Master Warning Light | Outline |
|---|---|
| Hybrid System Abnormal | When the abnormality occurs in the hybrid system. |
| HV Battery Warning | When the HV battery voltage drops. |
| N, D and B Range Warning | • The READY light is illuminated, the shift position is in the N position, and the HV battery is discharged.<br>• The READY light is illuminated, the shift position is in the N, B or D position, and the driver's door is open. |
| High Engine Coolant Temperature Warning | • When the engine coolant temperature is above specified value.<br>• When the inverter coolant temperature is above specified value |
| Discharge Warning | When there is a malfunction in the 12 V charging system (converter assembly). |
| Oil Pressure Warning | When the engine oil pressure is low. |
| EPS Warning | When there is a malfunction in the EPS system. |
| Shift Position Warning | When the hybrid system is OFF, the shift position is in a position other than P, and the driver's door is opened. |
| Transmission Control ECU Warning | When there is a malfunction in the transmission control ECU. |

### Low Ambient Temperature Indicator Light

- If the ambient temperature drops, and may create a situation such as a frozen road surface that requires the driver to pay attention, the meter ECU illuminates the low ambient temperature indicator light to alert the driver.
- When the power switch is turned ON, the meter ECU will turn ON the low ambient temperature warning light for 3 seconds in order to check the bulb.
- The meter ECU uses the ambient temperature sensor signal provided by the air conditioner system in order to determine the ambient temperature. If the meter ECU has determined that the ambient temperature is approximately 3°C or less, it causes the indicator light to blink for 3 seconds and illuminate thereafter. If the ambient temperature rises to 5°C or above, the meter ECU will turn OFF the indicator light.

