Integrate HMI devices, such as a meter, center display etc. and showing various expressions

- **Display Audio installation has been promoting for mainly entrée class models Saving space and low cost by integrated DA function into a meter**

- **Integrate features into a meter (saving space)**
- **Integrate Display Audio feature into a meter**
- **Utilize mobile apps. (low cost)**

Yazaki HMI Control Unit Types	
Products	**Feature**
Unit Type CID[2] HUD[1] Meter CarPlay etc. Separated control unit (Embedded MM[3])	– High scalability – Using Yazaki Integrated Connector (size reduction) Applicable Vehicle Type **Luxury vehicles with many features / services**
Integrated Meter Type HUD (option) CID Meter Integrated meter (Embedded MM)	– Integrate features with a meter (saving space) – Focus on integrated display system Applicable Vehicle Type **Various types of vehicle with popularly price**
Pairing Smartphone Type CID Meter Exhibit Integrated meter (Embedded DA[4] function) CarPlay etc.	– Integrate DA feature with a meter – Utilize mobile apps. (low cost) Applicable Vehicle Type **Small / commercial vehicles at Min. cost**

※1 HUD – Head Up Display 、※2 CID – Center Information Display
※3 MM – Multi Media 、※4 DA – Display Audio

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Speed meter with customize on-board features and design according to vehicle requirements

- **Demand for low cost, displaying ADAS functions and cyber security**

- **Meter type can be selected according to vehicle requirements**
- **Installing functions, such as gauges, and warning lamps can be set**

Mass-production **LED Digital Meter**

Design

Customizable
- Features
- Telltale (Max.24)
- Design, Dial
- Lighting color
- Switch knob

Standard Setting

Basic Specification
Speedometer, Fuel indicator,
ODO / TRIP shift display,
Each telltale, Buzzer

Speedometer (3 digits)
ODO / TRIP (6 digits)

- **Reasonable speed meter with good visibility LED digital display**
- **Produce variations by minor design and software changes**

Developing **TFT Display Meter**

7inch TFT

12.3inch TFT

Basic specification
TFT display (Speed meter, Tachograph, Temp.,
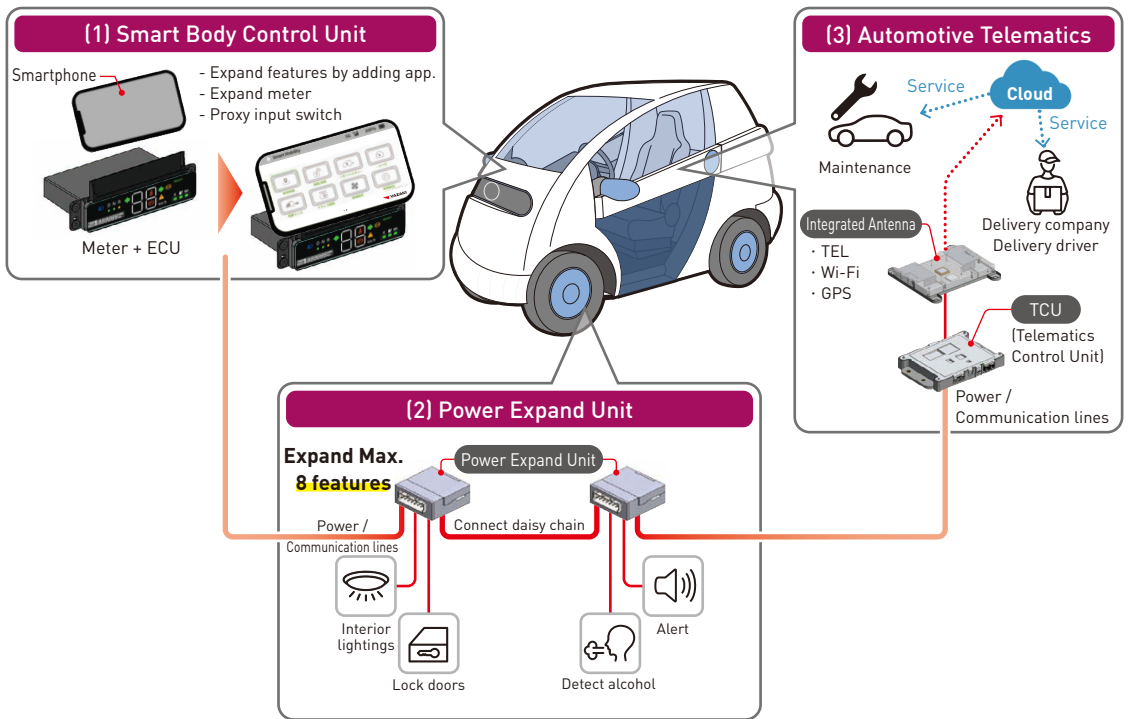Fuel etc.) Warning lamps

Basic specification
TFT display (Speed meter, Fuel, Warning lamps etc.)

- **Displaying graphical ADAS functions and support cyber security**

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· Smart body control and expand the features

· Expand power features

· Expand services by automotive telematics

- **Manufacturers trying to create new mobility can expand it simply and flexibly from user's position, and they require standard electric platform**

❶ **- Expand features in body systems by adding smartphone application**
   - Expand images/input switches by utilizing smartphone display

❷ Easy power supply at adding features

❸ Offer communication solution to private/service business owners

(1) Smart Body Control Unit

Smartphone

- Expand features by adding app.
- Expand meter
- Proxy input switch

Meter + ECU

(3) Automotive Telematics

Service | Cloud | Service

Maintenance

Integrated Antenna
· TEL
· Wi-Fi
· GPS

Delivery company
Delivery driver

TCU
(Telematics
Control Unit)

Power /
Communication lines

(2) Power Expand Unit

Expand Max.
8 features

Power Expand Unit

Power /
Communication lines

Connect daisy chain

Interior
lightings
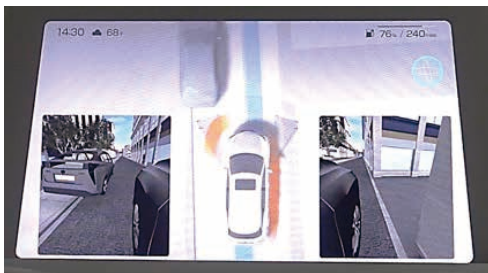
Lock doors

Detect alcohol

Alert

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HMI function for recognition without passenger's burden

- **HMI is required to be suitable for vehicles installed new systems such as advanced technologies and autonomous driving**

- **Sensory recognition with 3D display**
- **Intuitively recognition with slope AR-HUD**
- **Feel manual or autonomous driving mode**

Sensory recognition with 3D display

Improve safety and convenience
by 3D showing surround situation
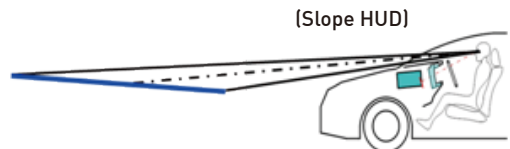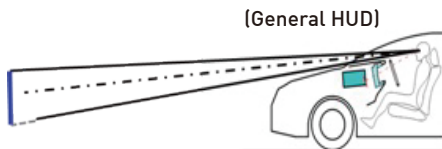*Intuitively recognize distance

Showing manual or autonomous driving mode

Install line illuminations on the display and steering wheel with using Yazaki technology to let drivers know vehicle situation

Intuitively recognition with slope AR-HUD

Furthermore improve visibility by showing information on roads in parallel
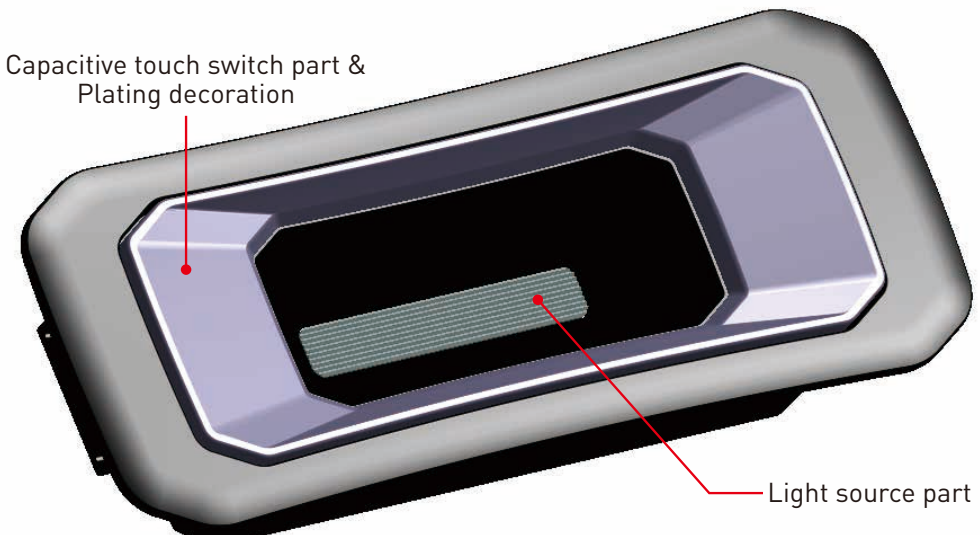
(General HUD)

(Slope HUD)

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The lamp can be set freely in various interior places

- **It requires a compact spot lamp with good switch operation for exposure to light for the best place**

- **Plating decoration with capacitive touch switch**
- **Compact but bright enough**

Brightness: More than 50Lx in the center at 600mm from the light source
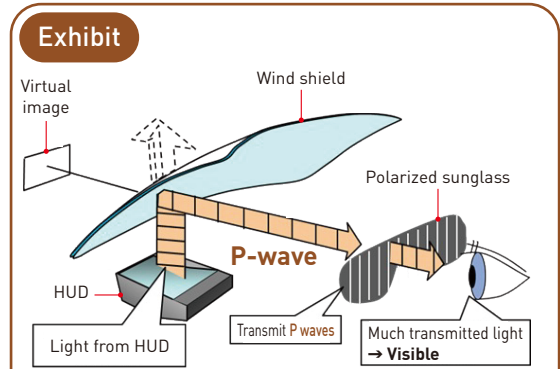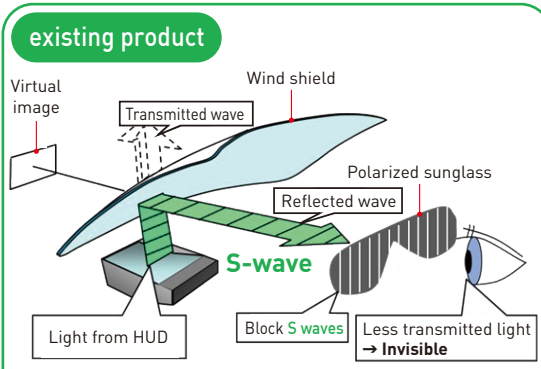Size: 125mm × 48mm × 30mm

Capacitive touch switch part & Plating decoration

Light source part

*This is a mock-up image. The design is changed depending on needs.

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Convert HUD light to pass through polarized sunglasses

- **HUD problem is unclear visions during wearing polarized sunglasses**

- **2 visibility modes for ON/OFF polarized sunglasses**
- **Clear visions even wearing polarized sunglasses**

existing product

Virtual image | Wind shield | Transmitted wave | Polarized sunglass | Reflected wave | **S-wave** | Light from HUD | Block S waves | Less transmitted light → **Invisible**

HUD Image — 60km/h

Exhibit

Virtual image | Wind shield | Polarized sunglass | **P-wave** | HUD | Light from HUD | Transmit P waves | Much transmitted light → **Visible**

HUD Image — 60km/h

Visibility is improved by switching the visibility mode

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