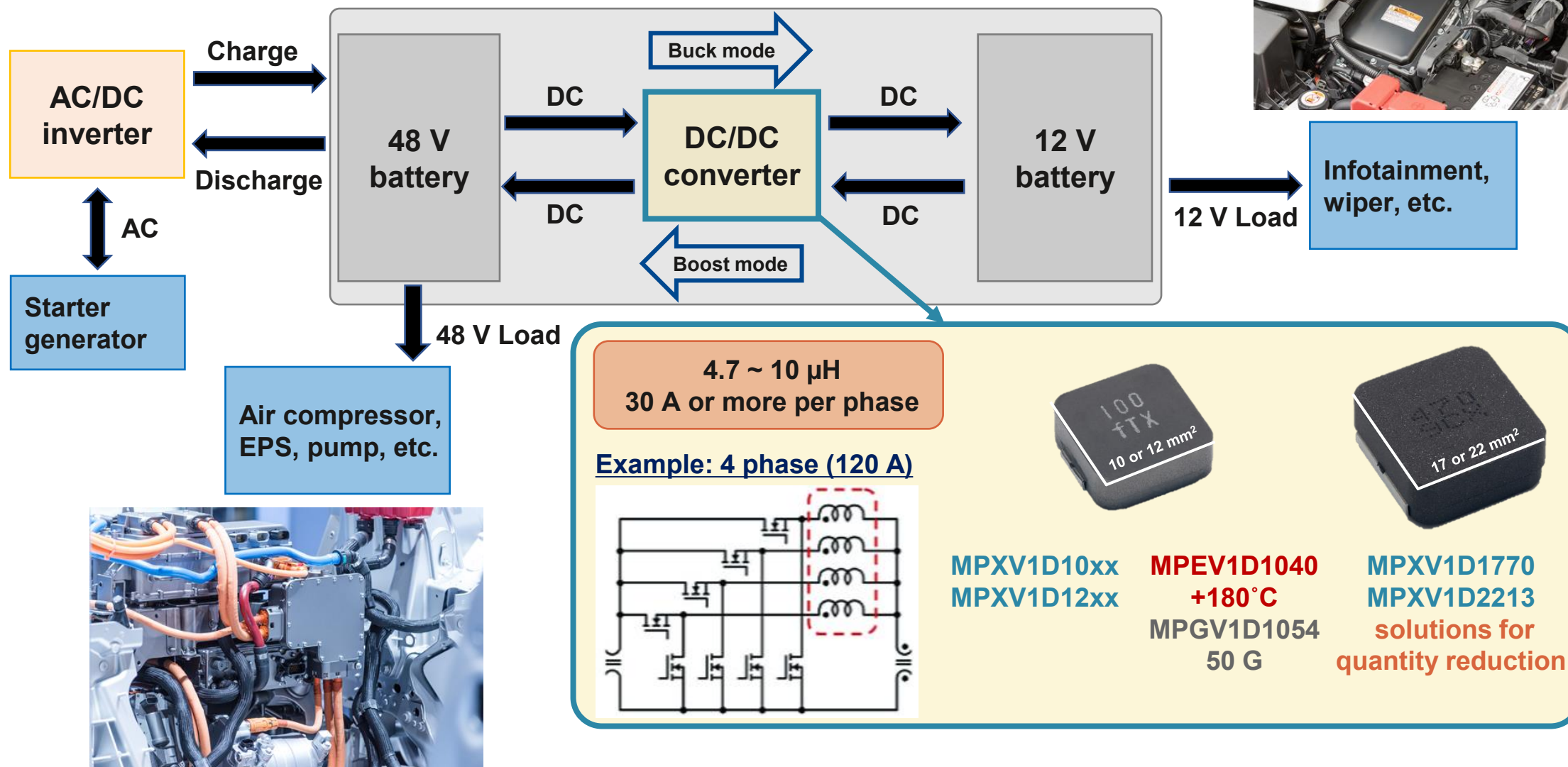


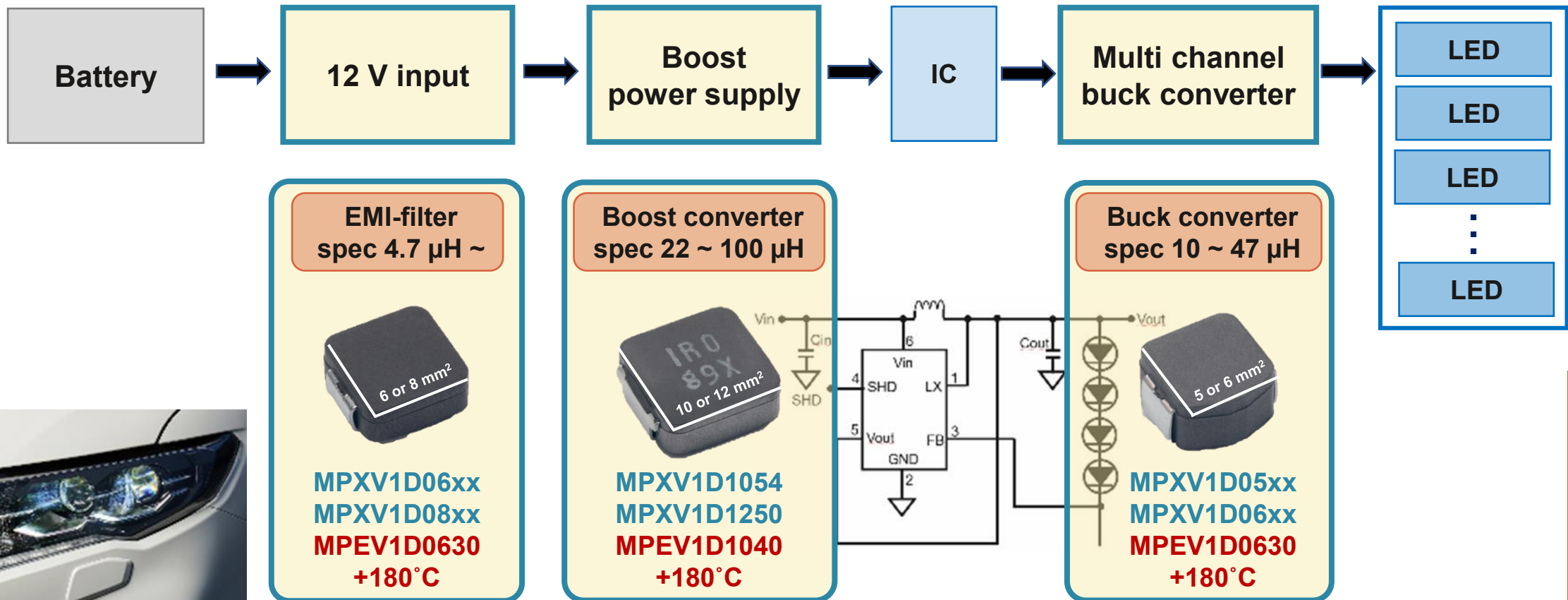
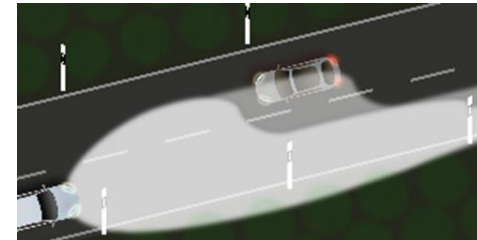
① Multi-Phase Bidirectional Buck-Boost Converter for 12 V / 48 V System

System image



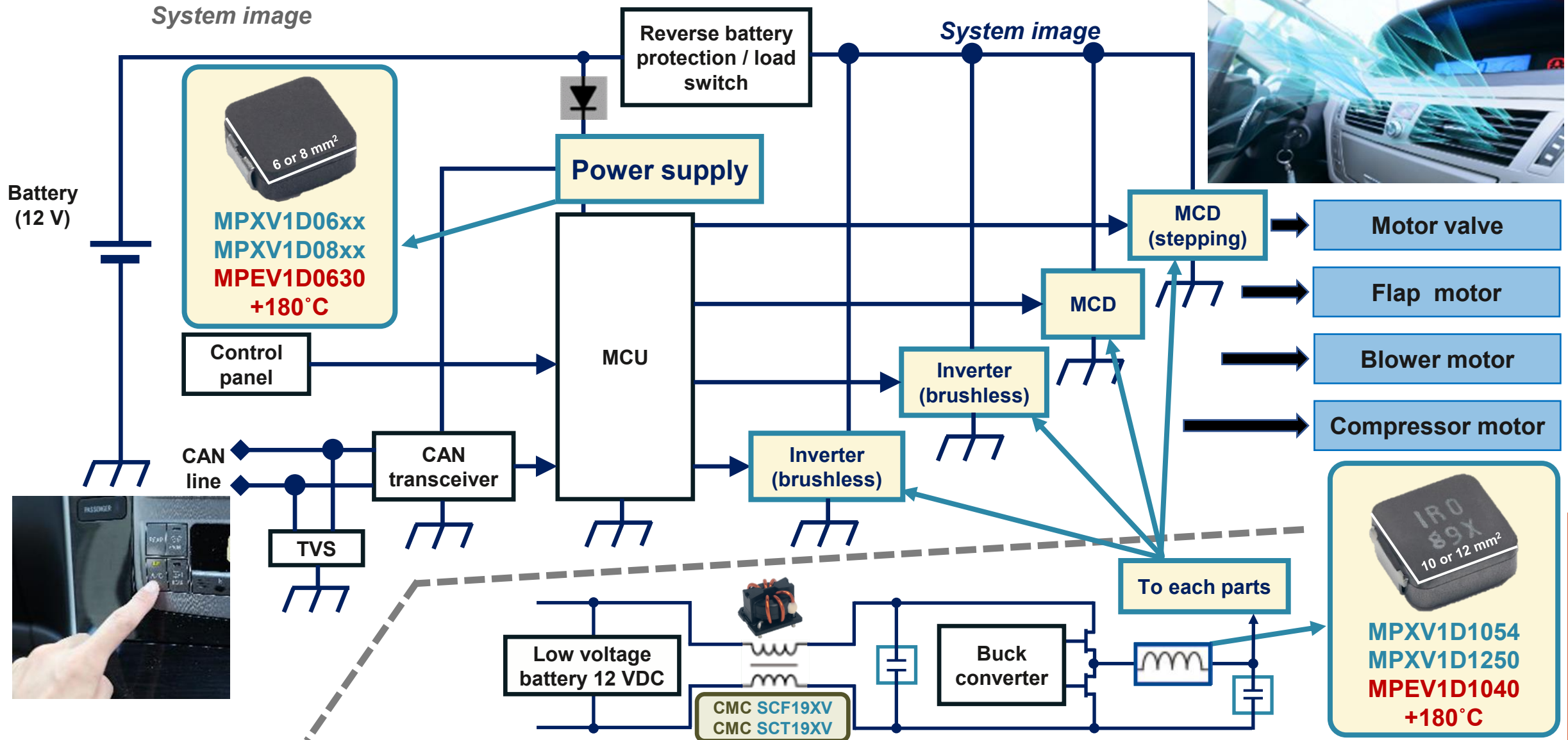
② Adaptive Driving Beam (ADB) Headlamp System (LED Headlighting)

System image



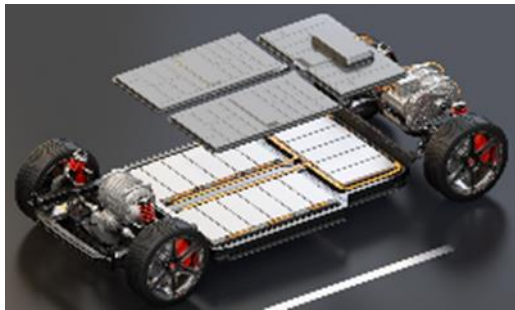
③ Heating Ventilation and Air Conditioning (HVAC)

MCD: Motor control driver

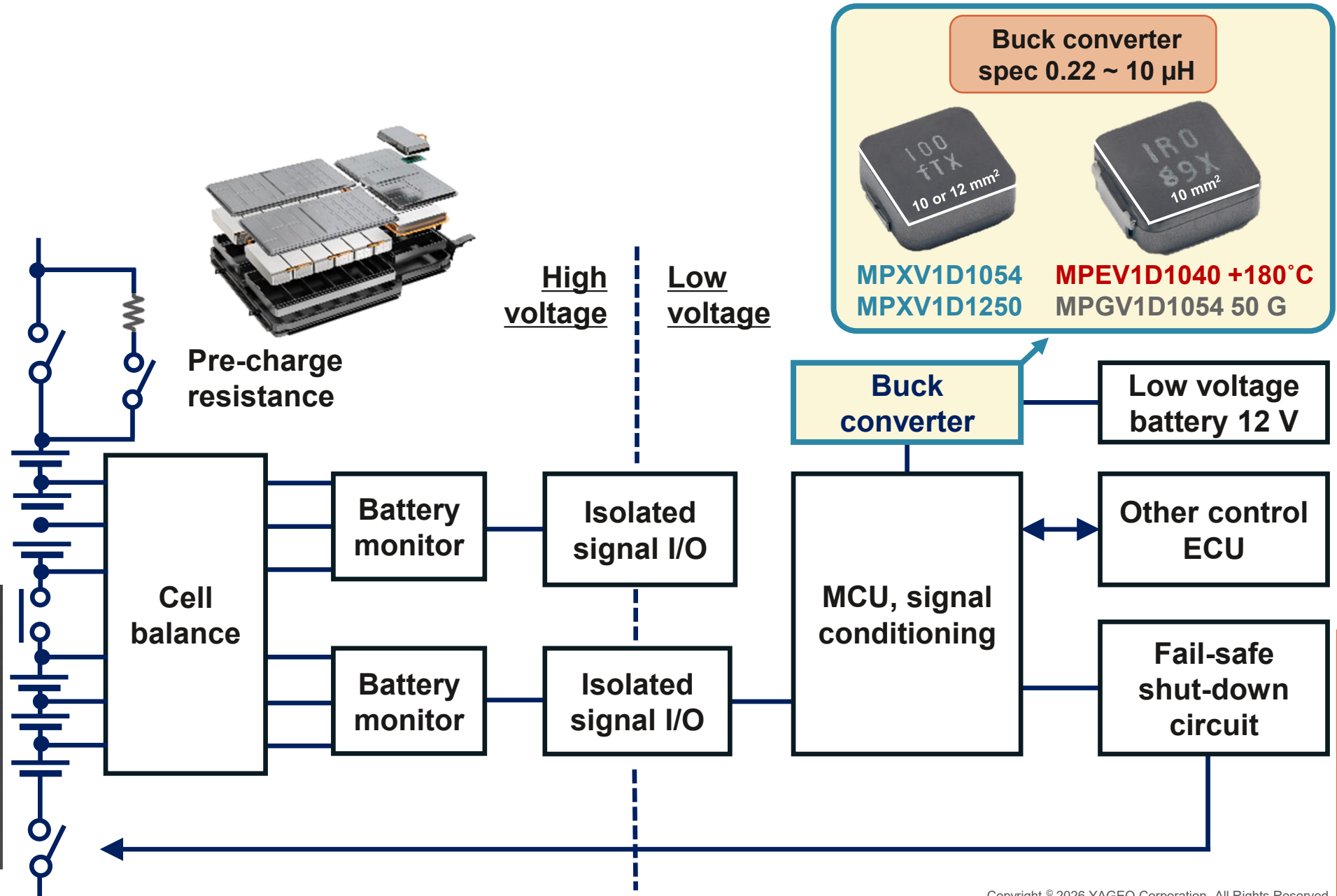
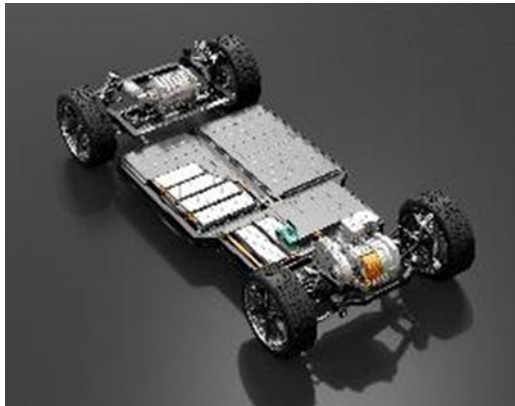


④ Battery Management System (BMS)

System image

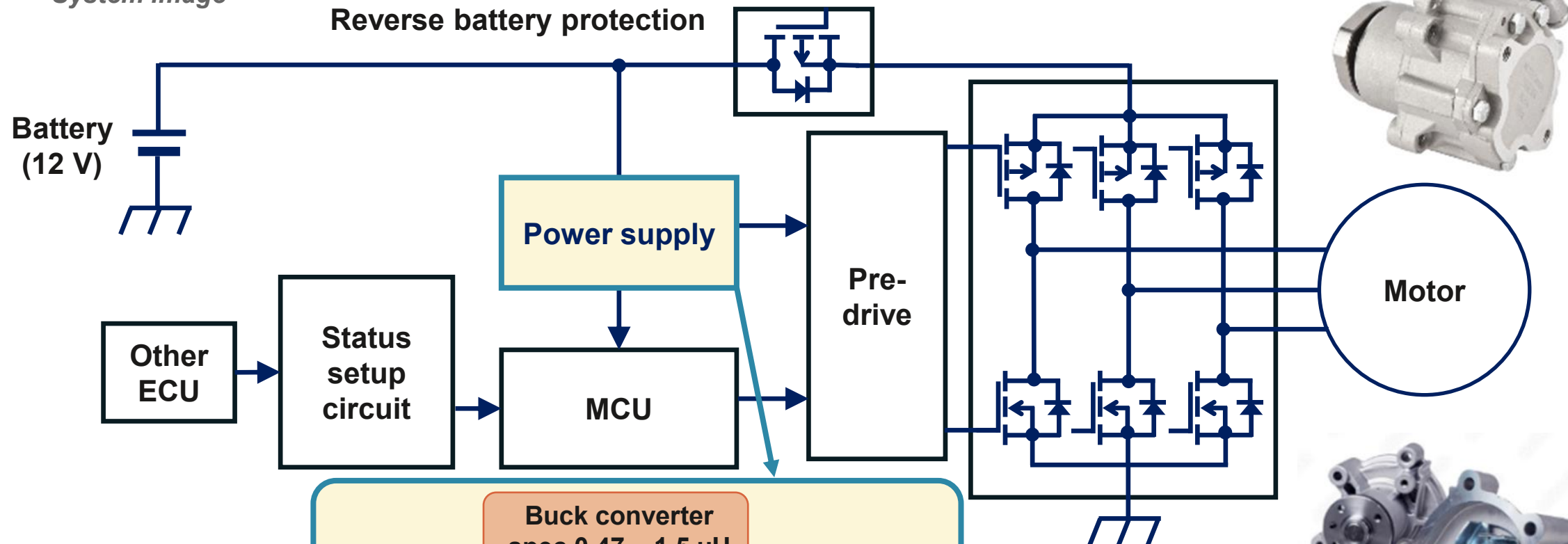


EV/HEV battery
200 ~ 800 V



⑤ Electric Oil Pump Water Pump

System image



Input filter requires low DCR

- **MPCV series** recommended
- **Advantage: flat wire**

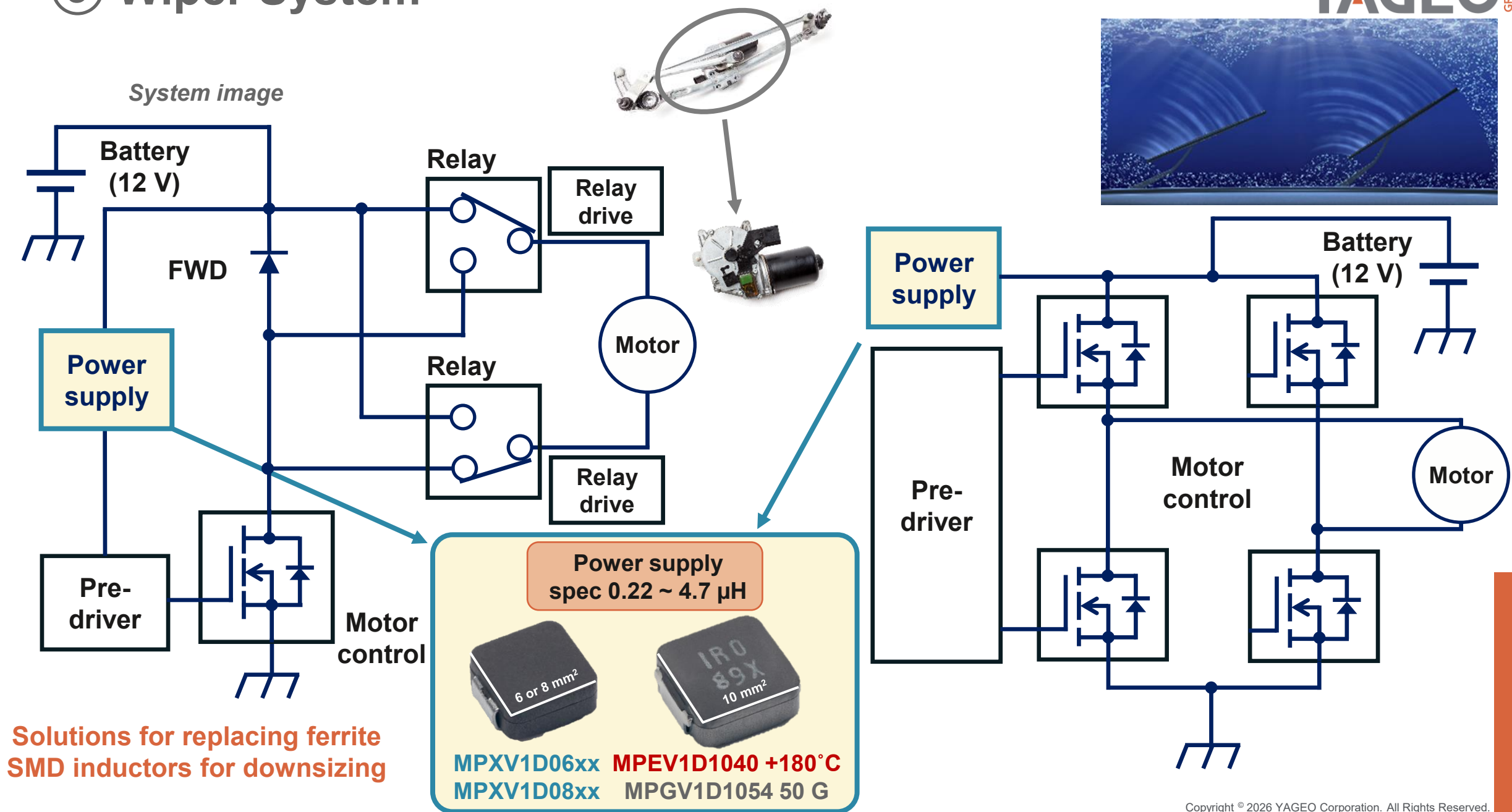
Buck converter spec 0.47 ~ 1.5 μ H

MPCV1060
MPCV1260

MPXV1D10xx
MPXV1D12xx

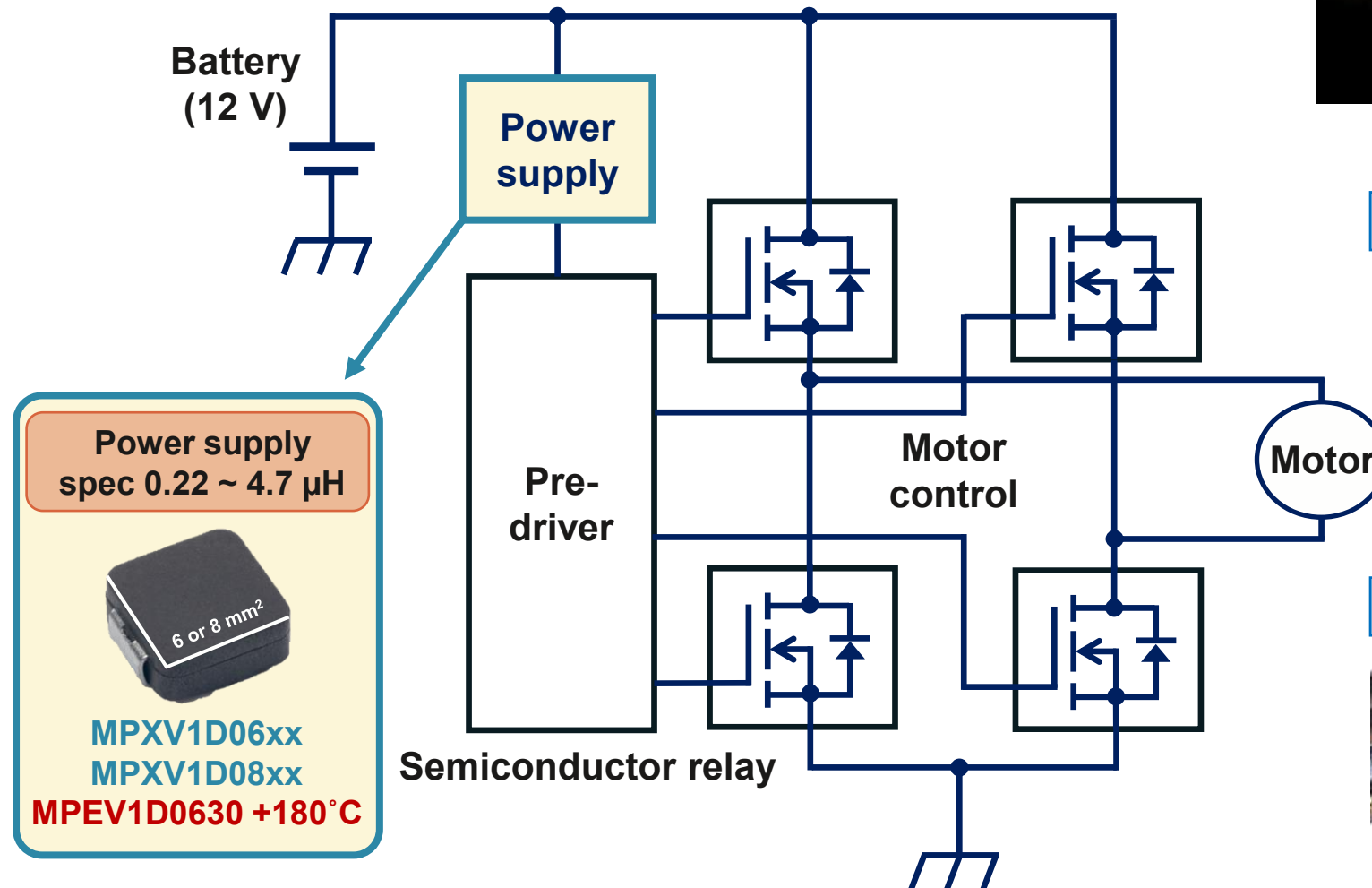
MPEV1D1040 +180°C
MPGV1D1054 50 G

⑥ Wiper System

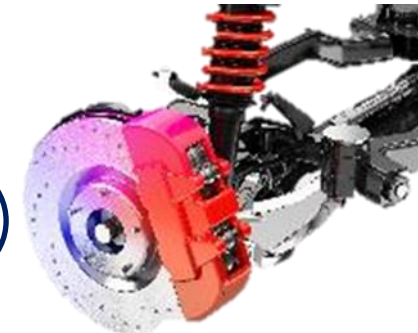


⑦ Electric Parking Brake (EPB)

System image



Disk brake caliper



Drum brake



⑧ Electric Power Steering (EPS)

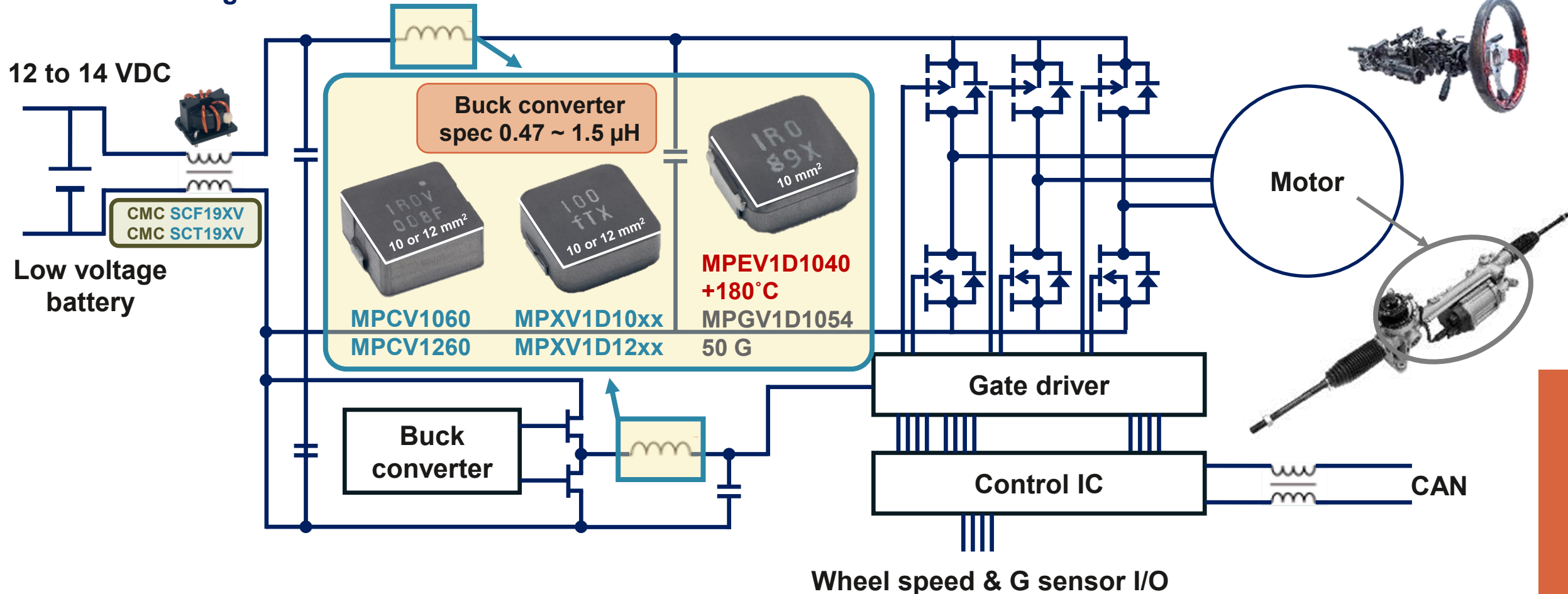
System image



Input filter requires low DCR

- **MPCV** series recommended
- Advantage: flat wire

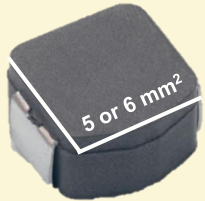
Solutions for size reduction



⑨ Head Up Display (HUD)

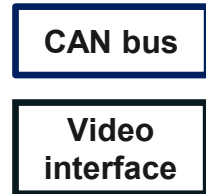
System image

Power supply
spec 1 ~ 10 μ H



MPXV1D05xx
MPXV1D06xx
MPEV1D0630 +180°C

Battery
(12 V)



Protection

Power supply

Power
Management

Interface

Ethernet
PHY

Signal control

MCU

LED lighting

LED
back light

Video
interface

Motor drive

LCD
panel
module

Display

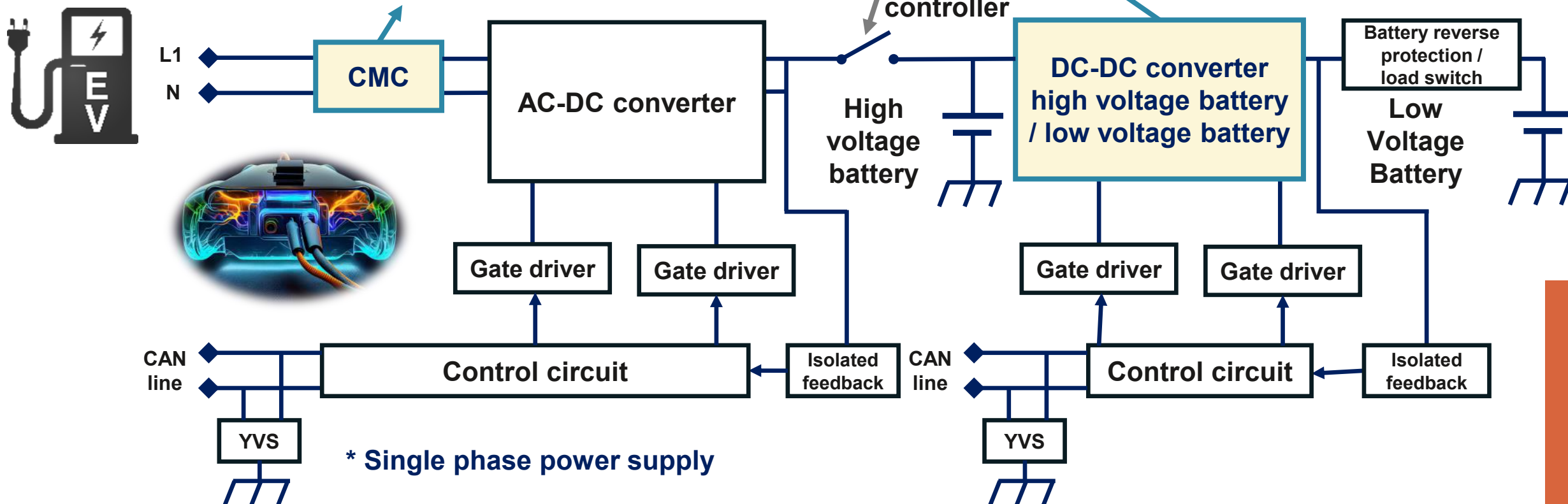
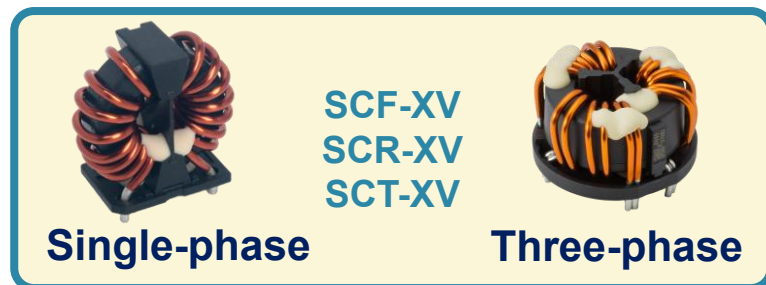


Mirror & motor



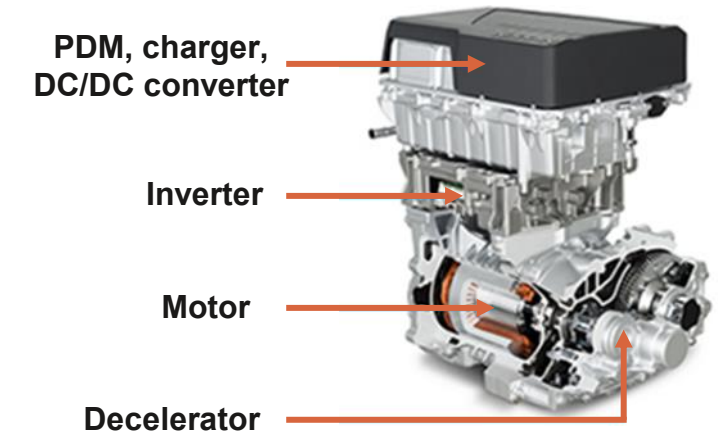
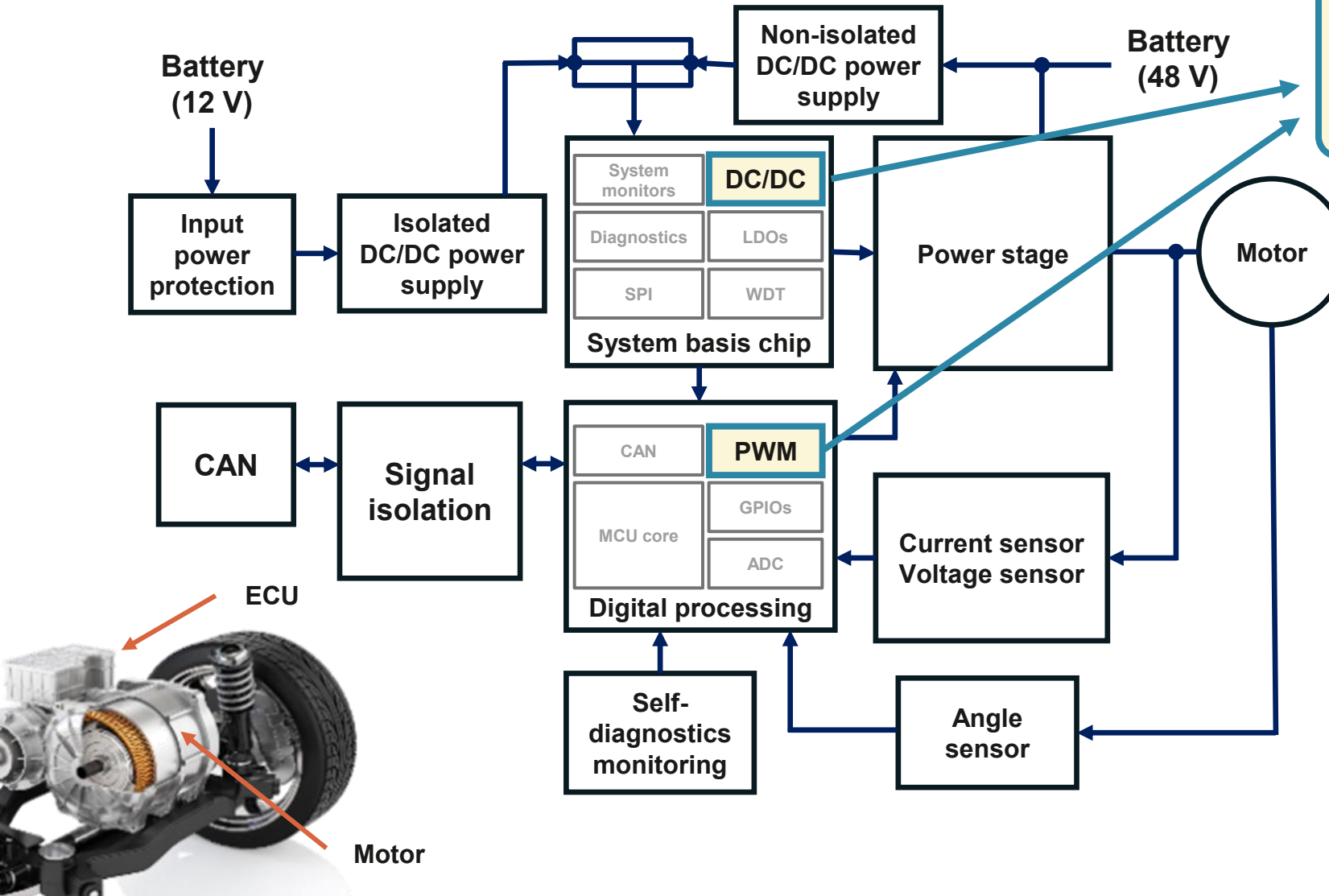
⑩ On-Board Charger (OBC)

System image



⑪ Hybrid Car Drive Motor

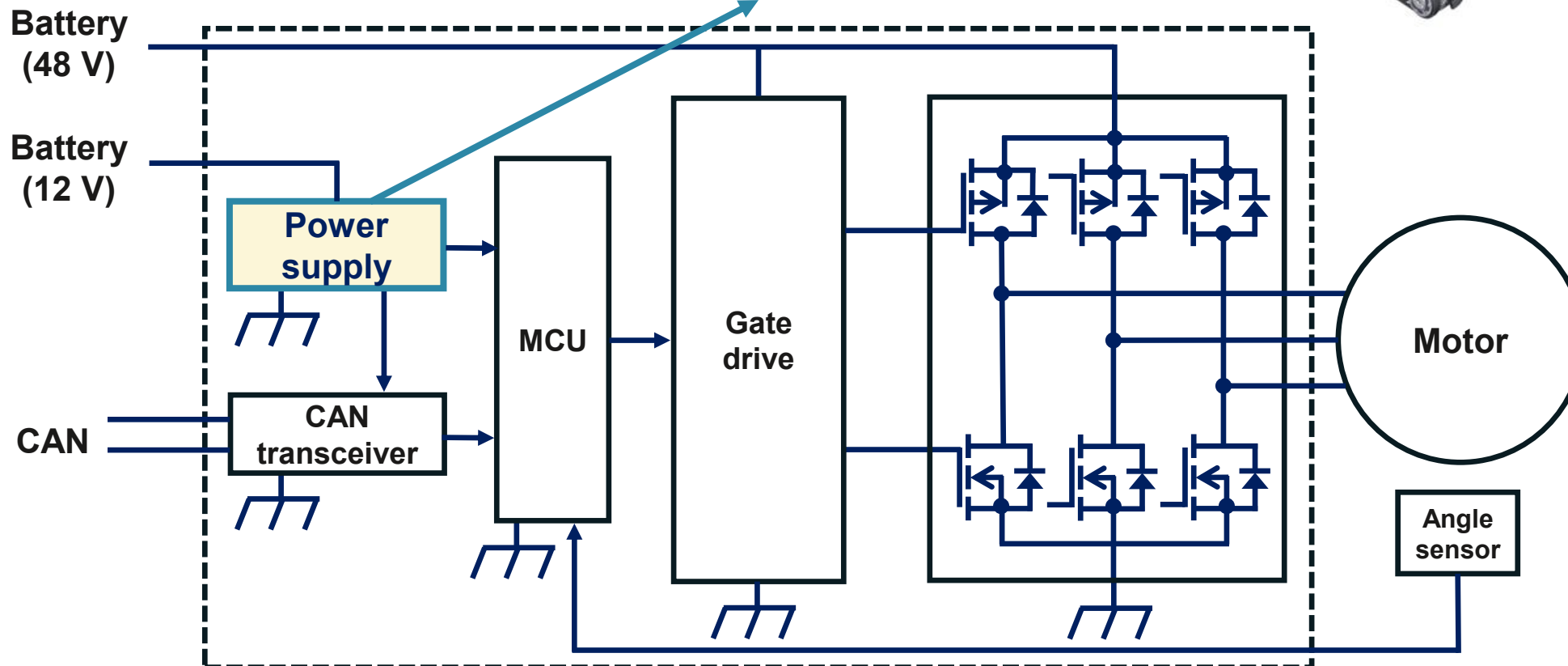
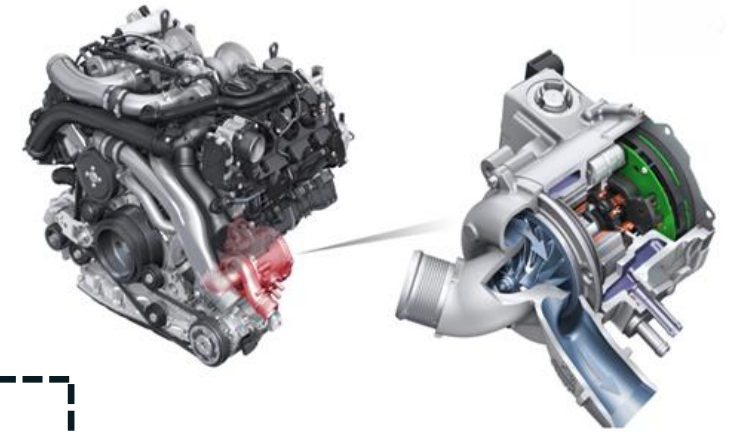
System image



PDM : Power Delivery Module

⑫ Automotive Electric Turbocharger

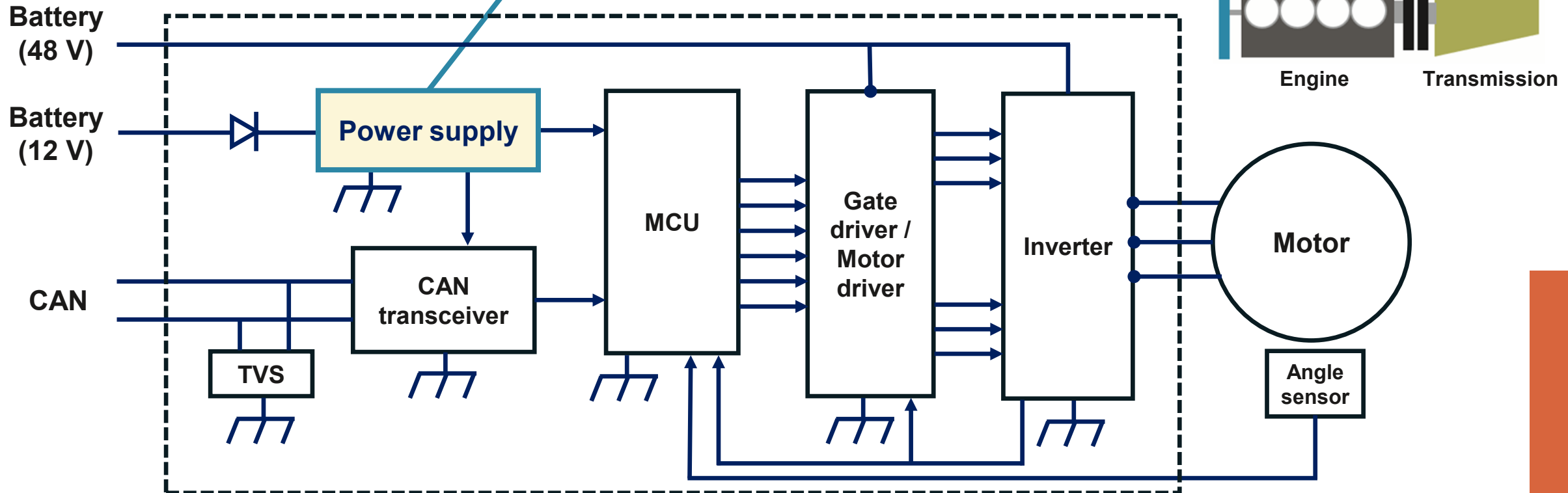
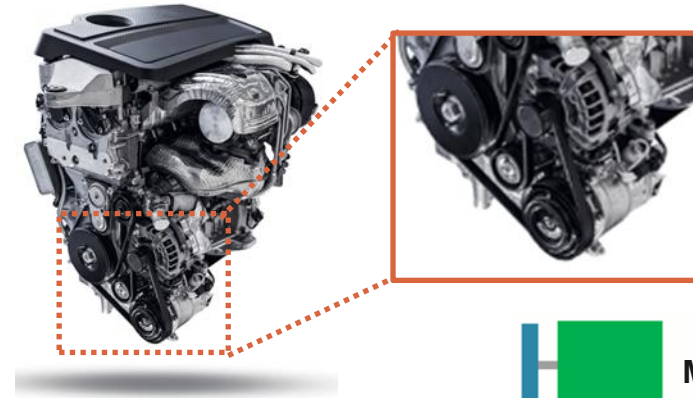
System image



⑬ Belt-Driven Starter Generator (BSG)



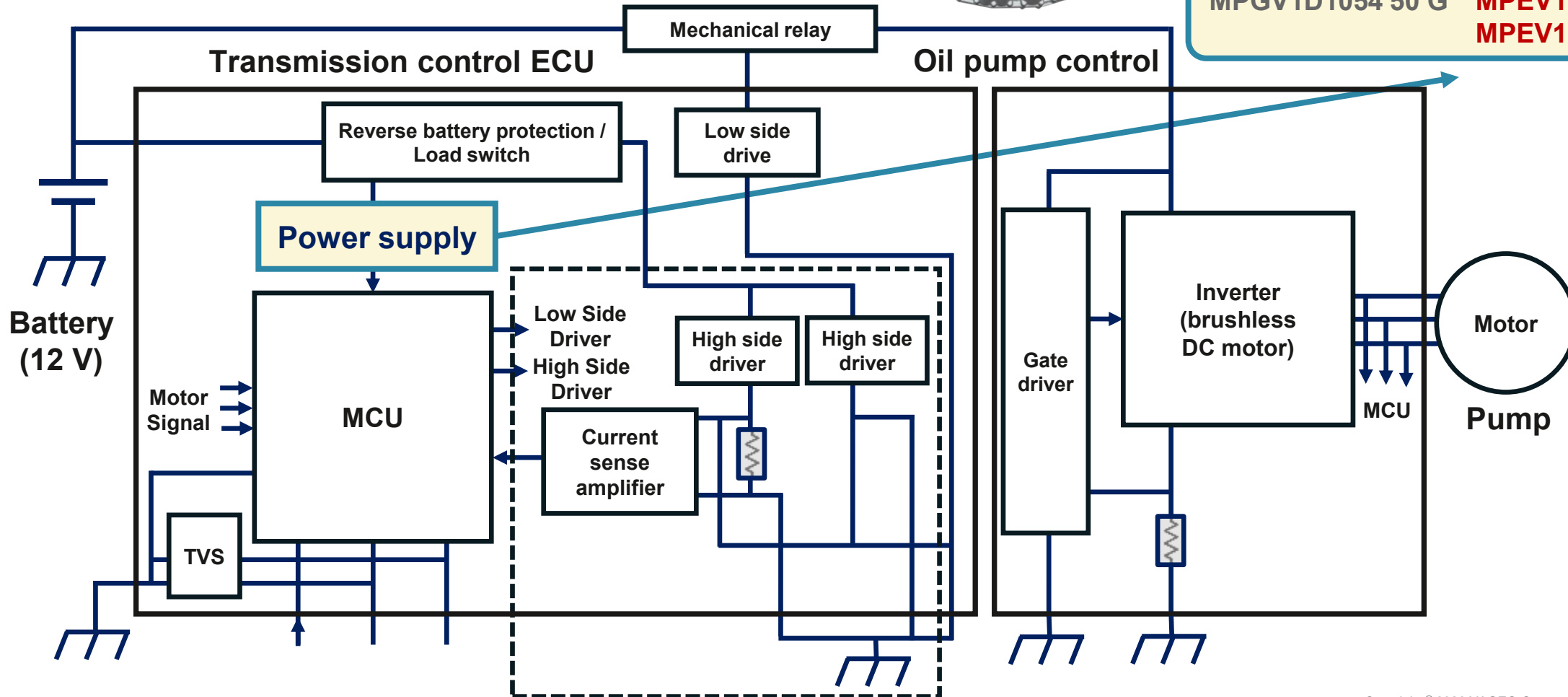
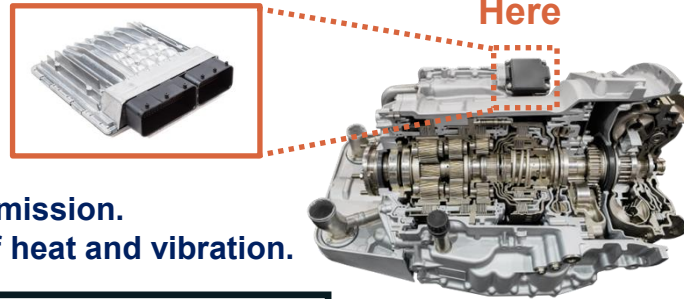
System image



⑭ Transmission Control Unit (TCU)

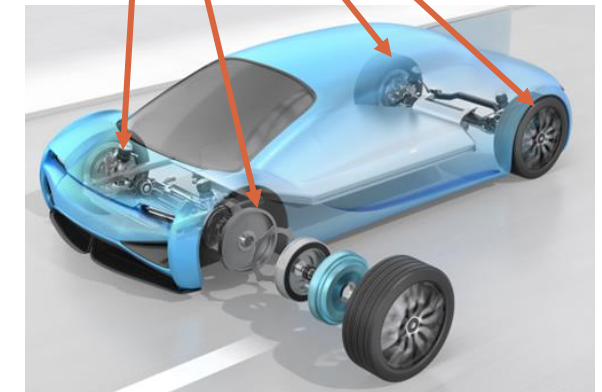
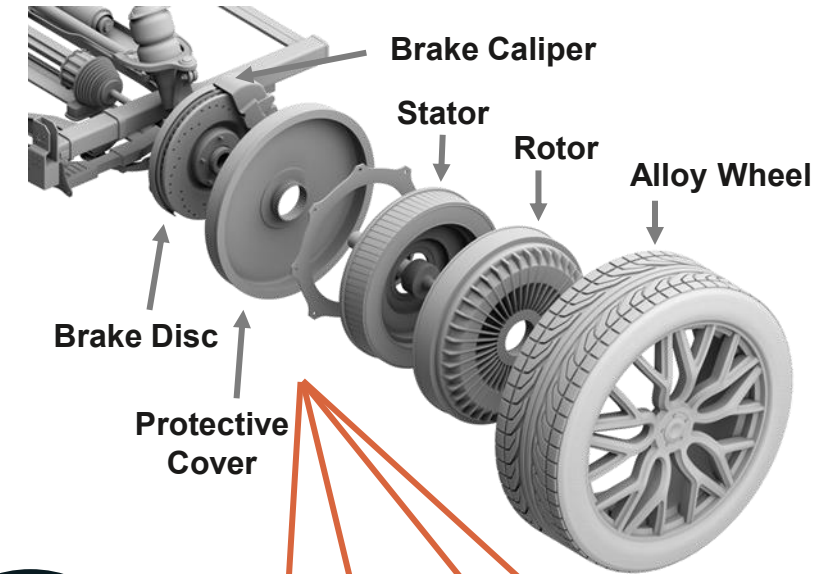
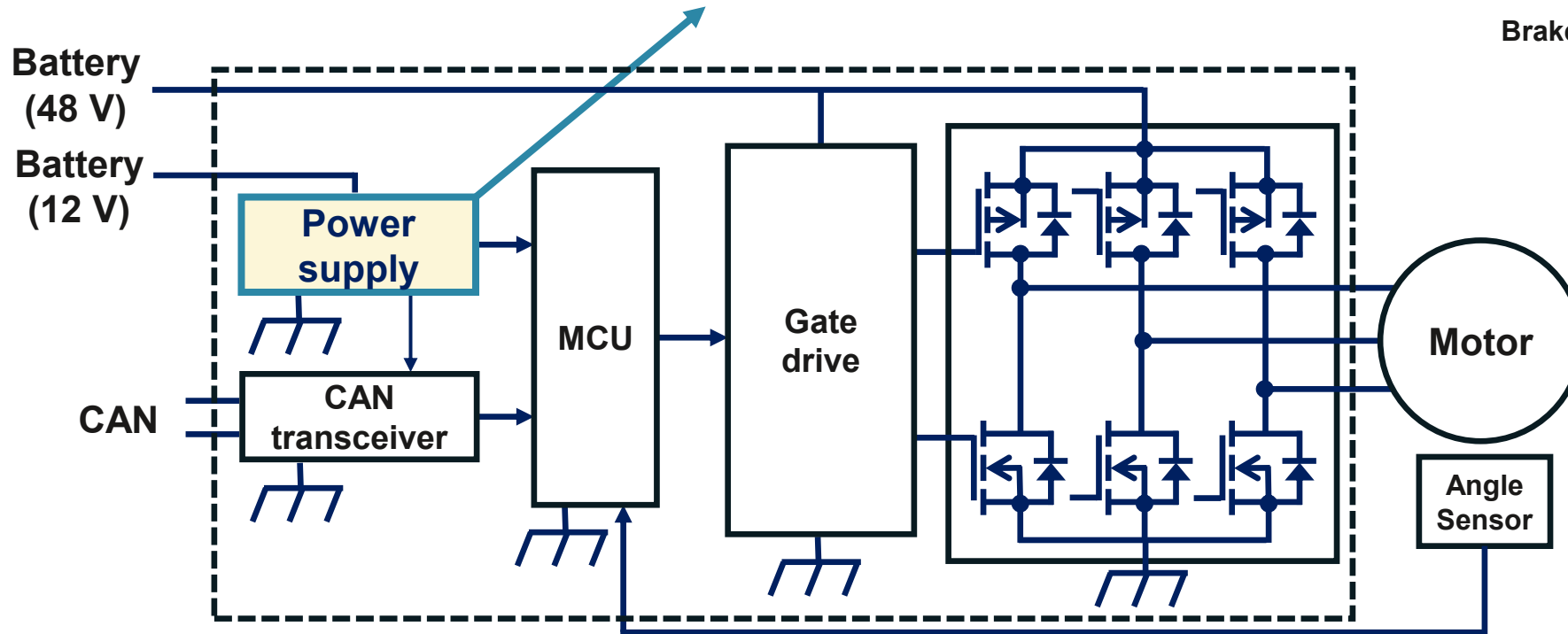
System image

**The TCU is installed directly onto the transmission.
As a result, it must withstand high levels of heat and vibration.**



⑮ In-Wheel Motor

System image



- Each of the four wheels will need its own motor and inverter.
- Every motor and inverter will include a circuit featuring an inductor.
- This setup demands strong heat and vibration resistance.
- Besides cars, potential applications include forklifts and electric motorcycles.