

Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

111th session

Geneva, 9–13 May 2022

Item 5 (a) of the provisional agenda

9 May 2022

**Proposals for amendments to annexes A and B of ADR:
construction and approval of vehicles**

Volvo electric trucks - Vehicle technic medium duty

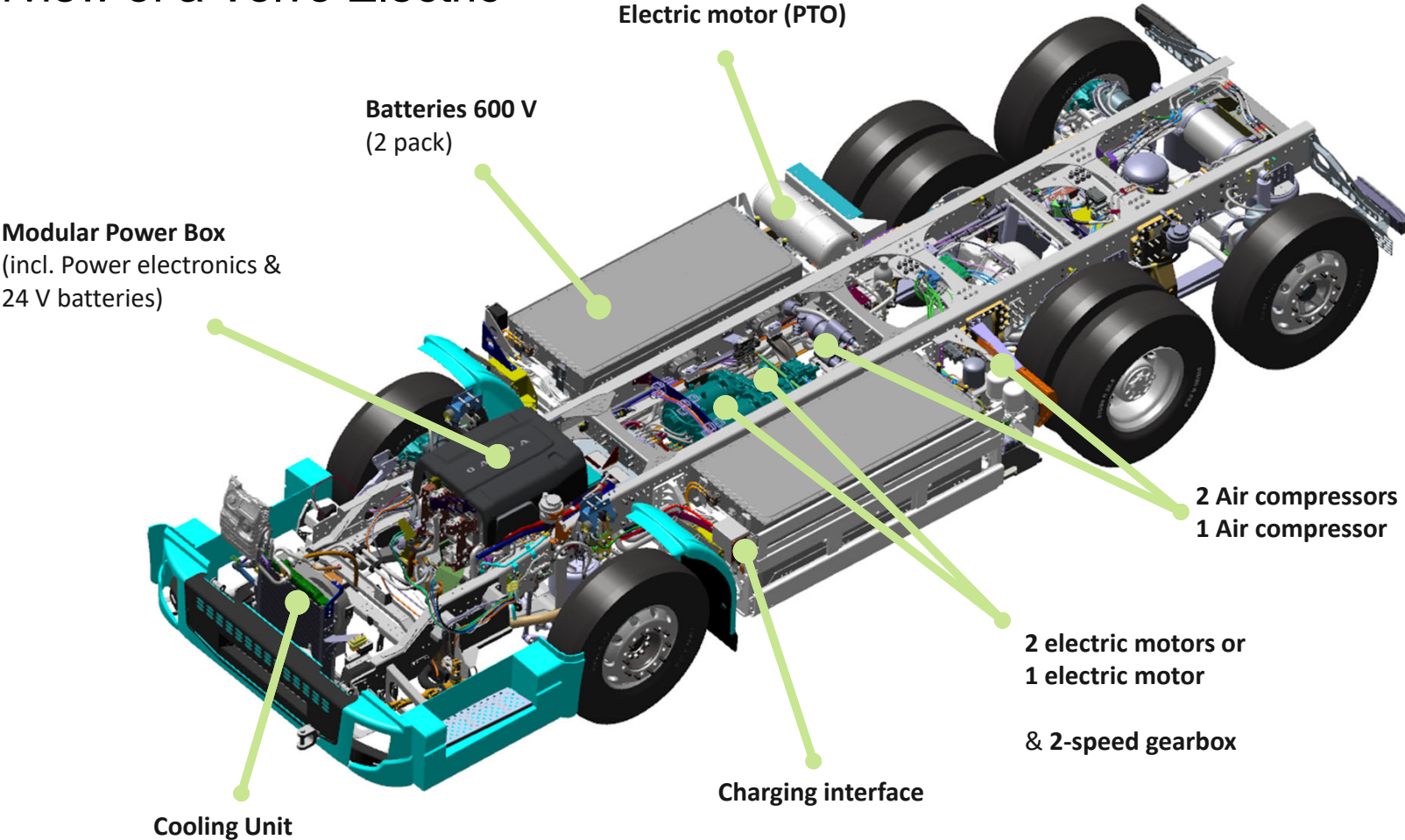


VOLVO ELECTRIC TRUCKS VEHICLE TECHNIC MEDIUM DUTY

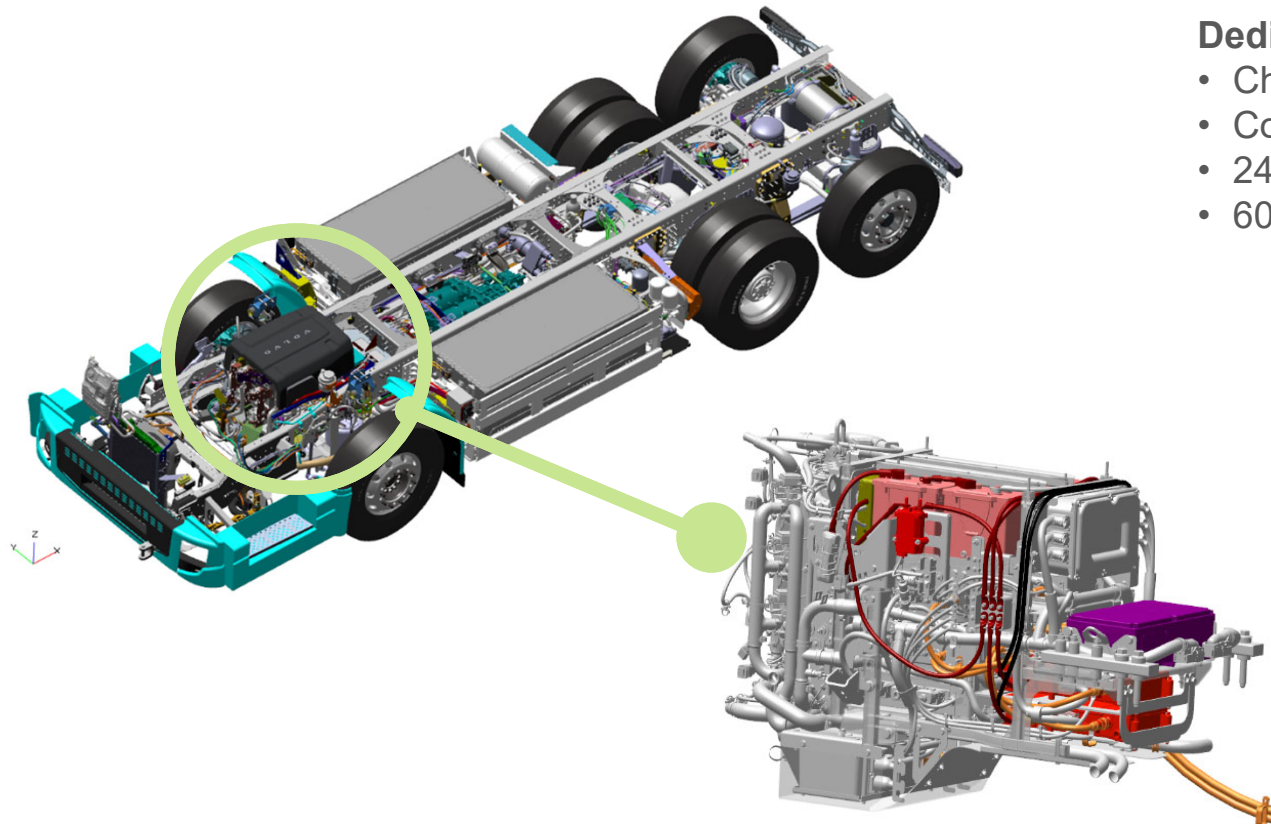
Daniel Hofstetter
EMOB Service Market Responsible Switzerland

Electric Vehicle under the Surface

Overview of a Volvo Electric



Modular Power Box



Dedicated for

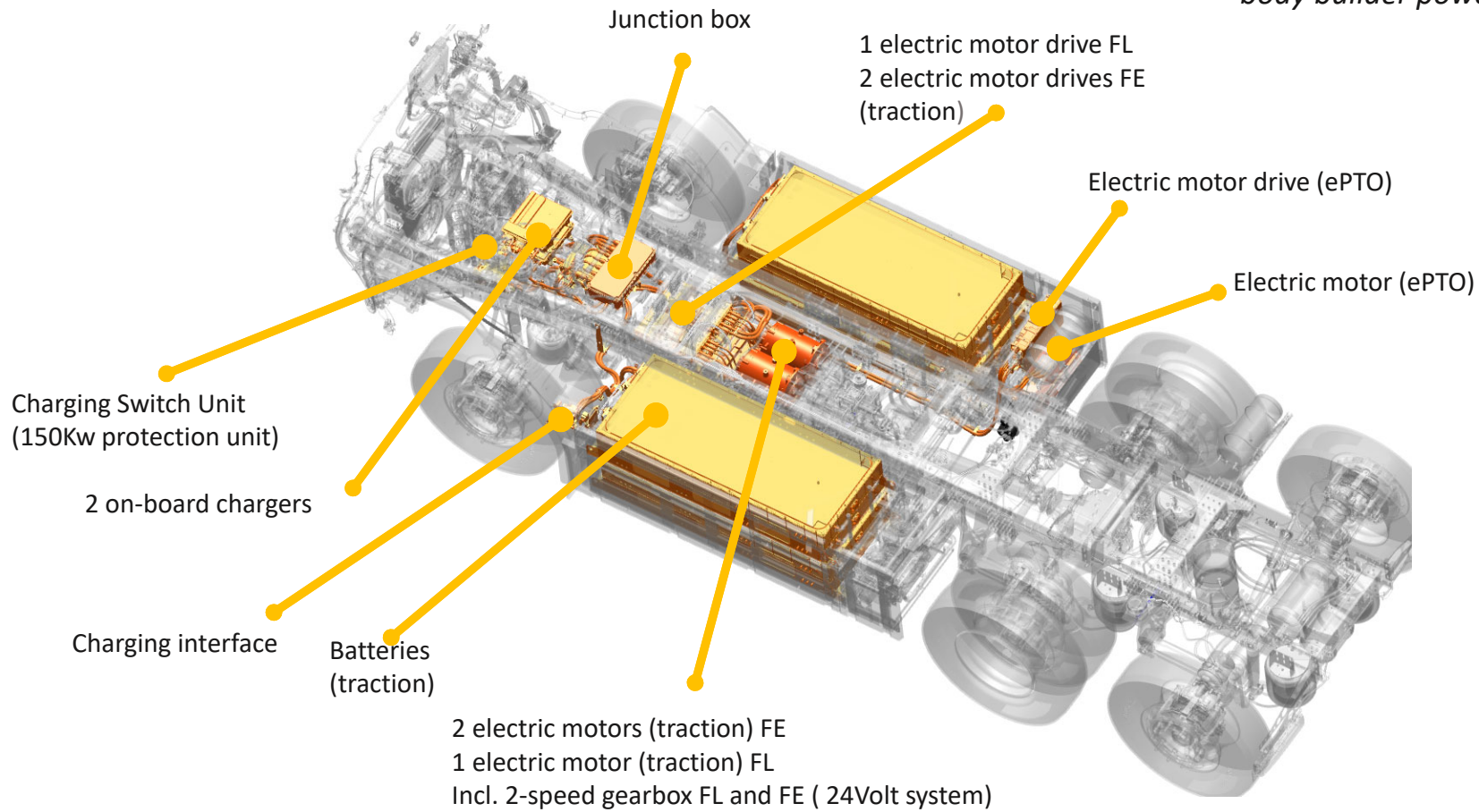
- Charging management system
- Coolant management
- 24 V batteries & signal management
- 600V/24V conversion management

Traction Voltage System

600 V

600 V circuit

*Management of driveline system and
body builder power interface (EPTO)*

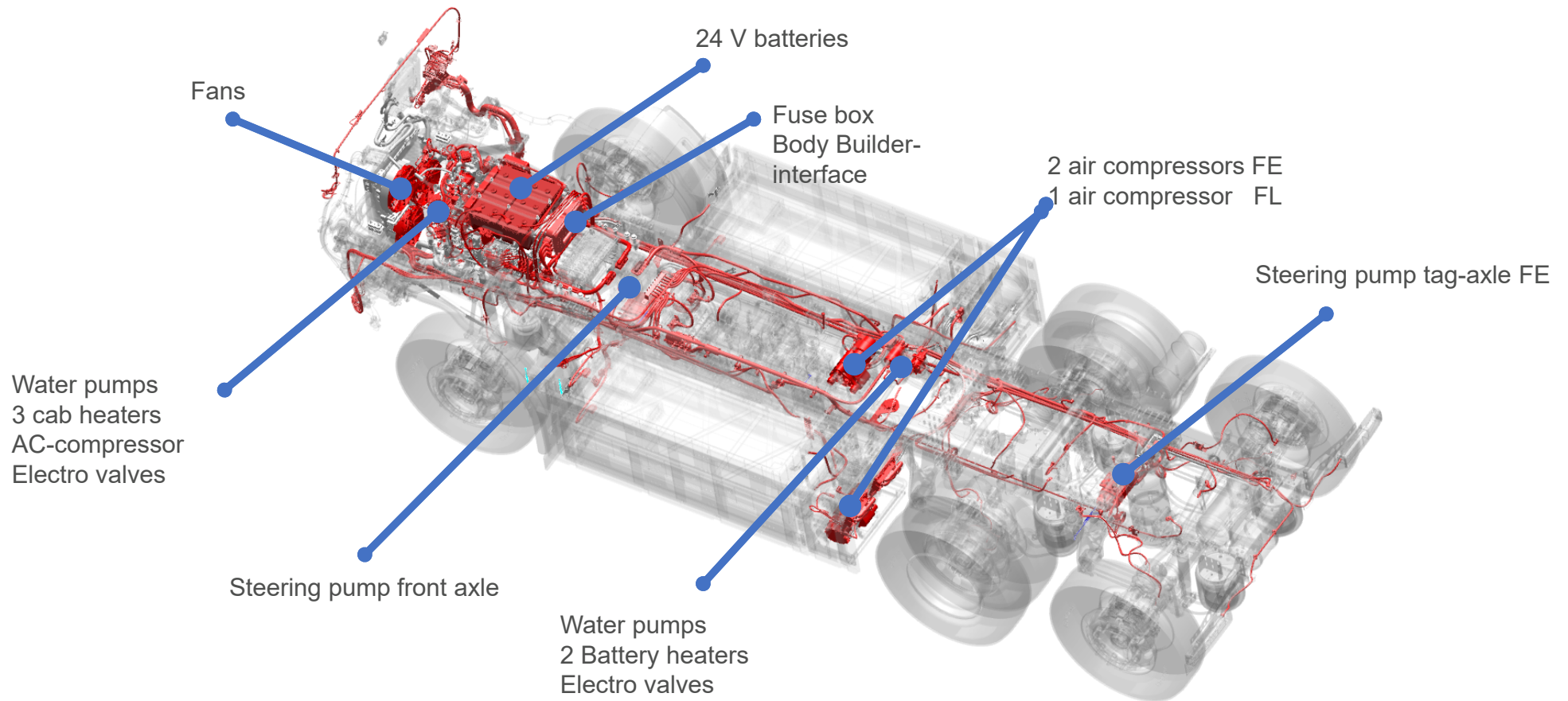


All cables in 600 V
system are orange

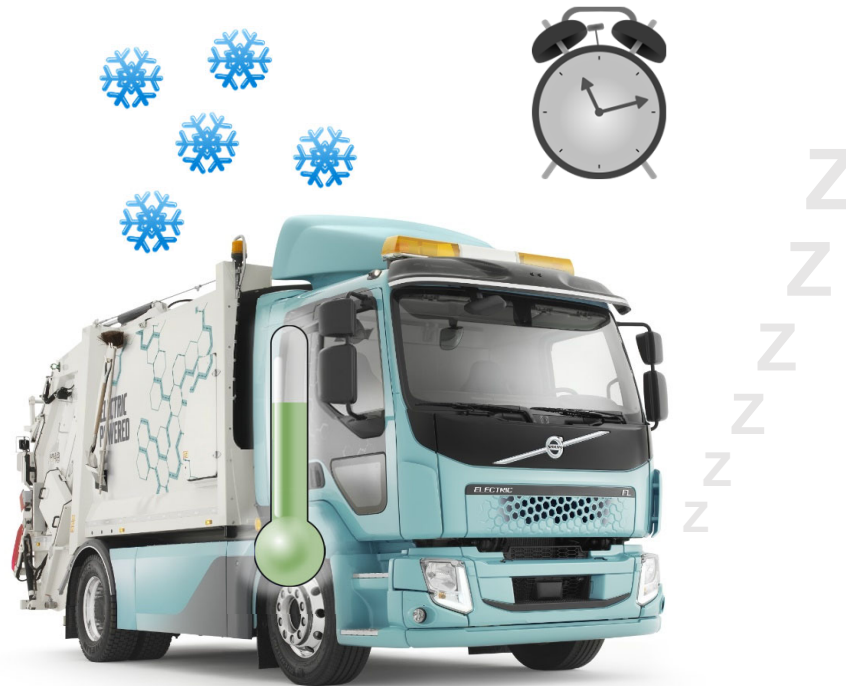
Voltage System

24 V

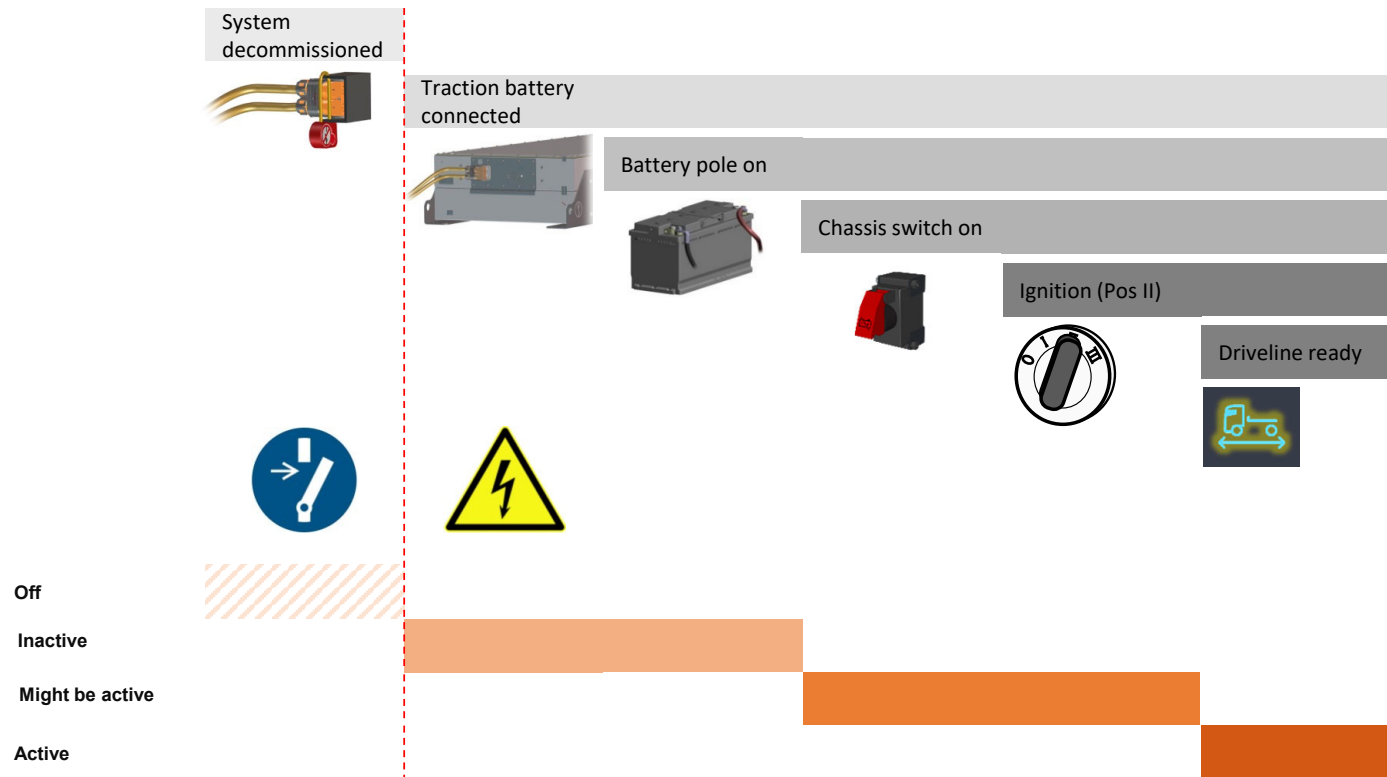
24 V circuit
Management of auxiliaries on vehicle



Automatic Traction Voltage System Activation (ATVSA)



Traction voltage system states

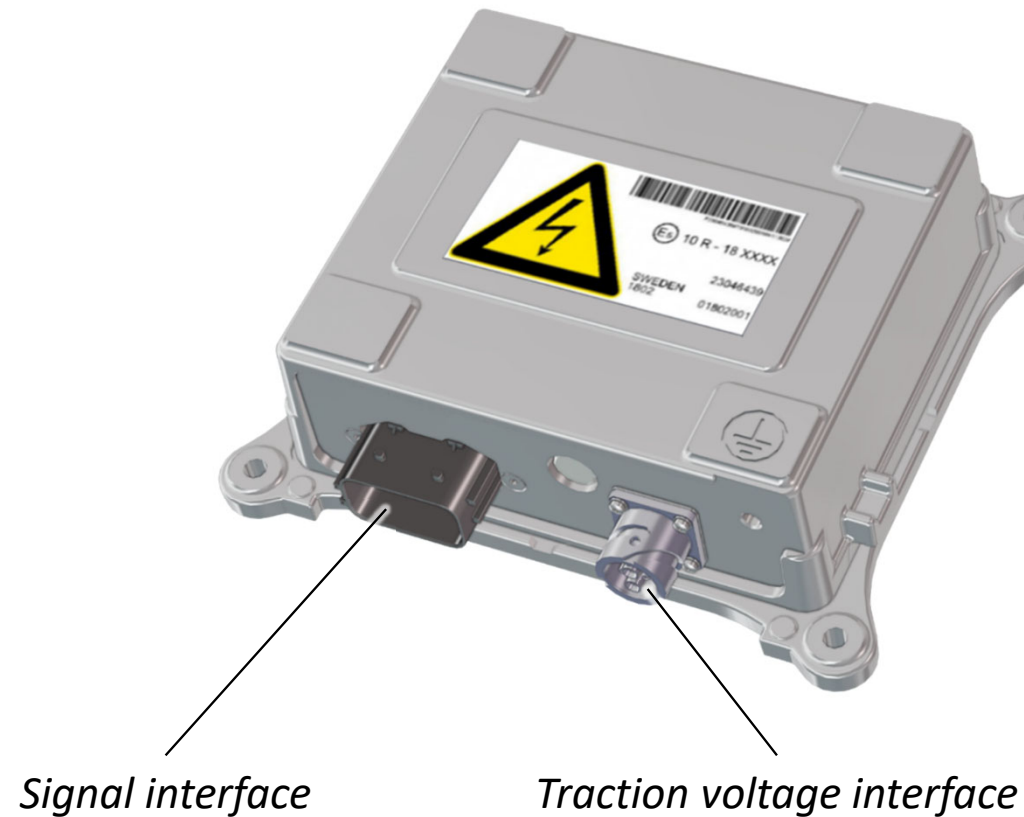


VOLVO ELECTRIC TRUCKS SAFETY FEATURES

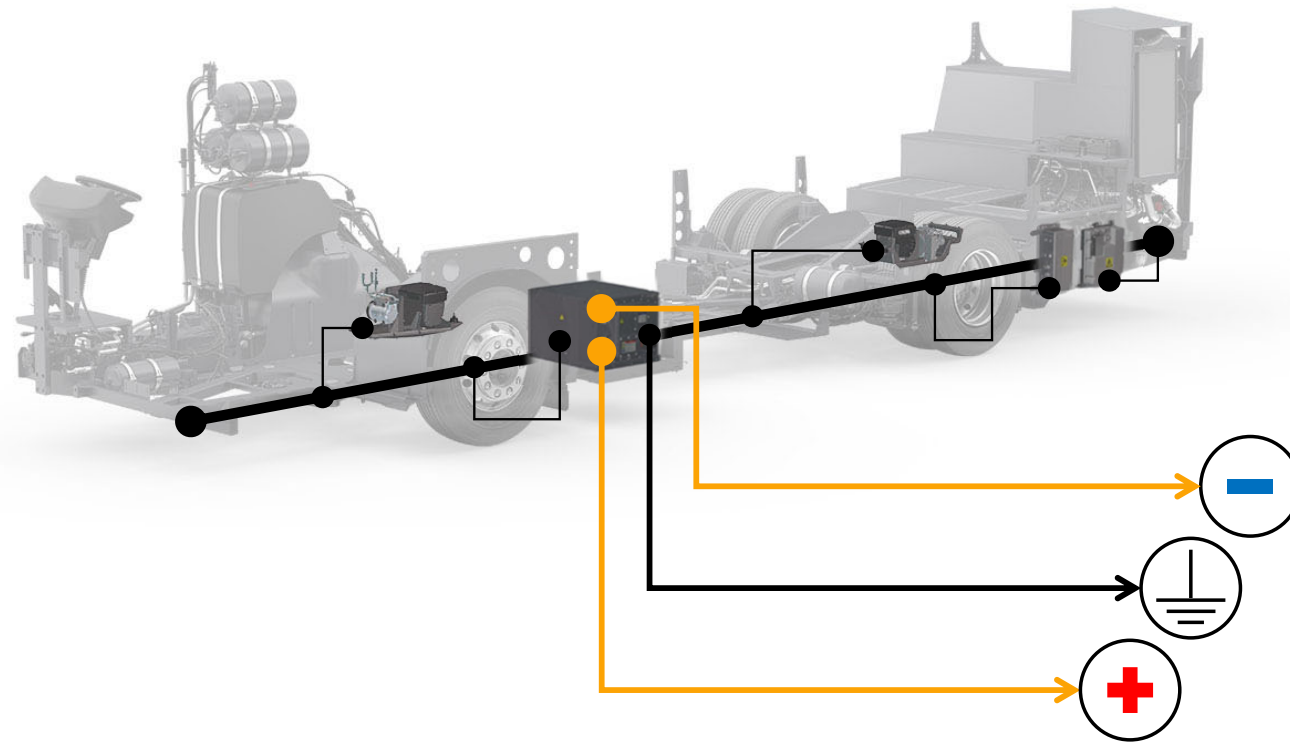


Daniel Hofstetter
EMOB Service Market responsible Switzerland

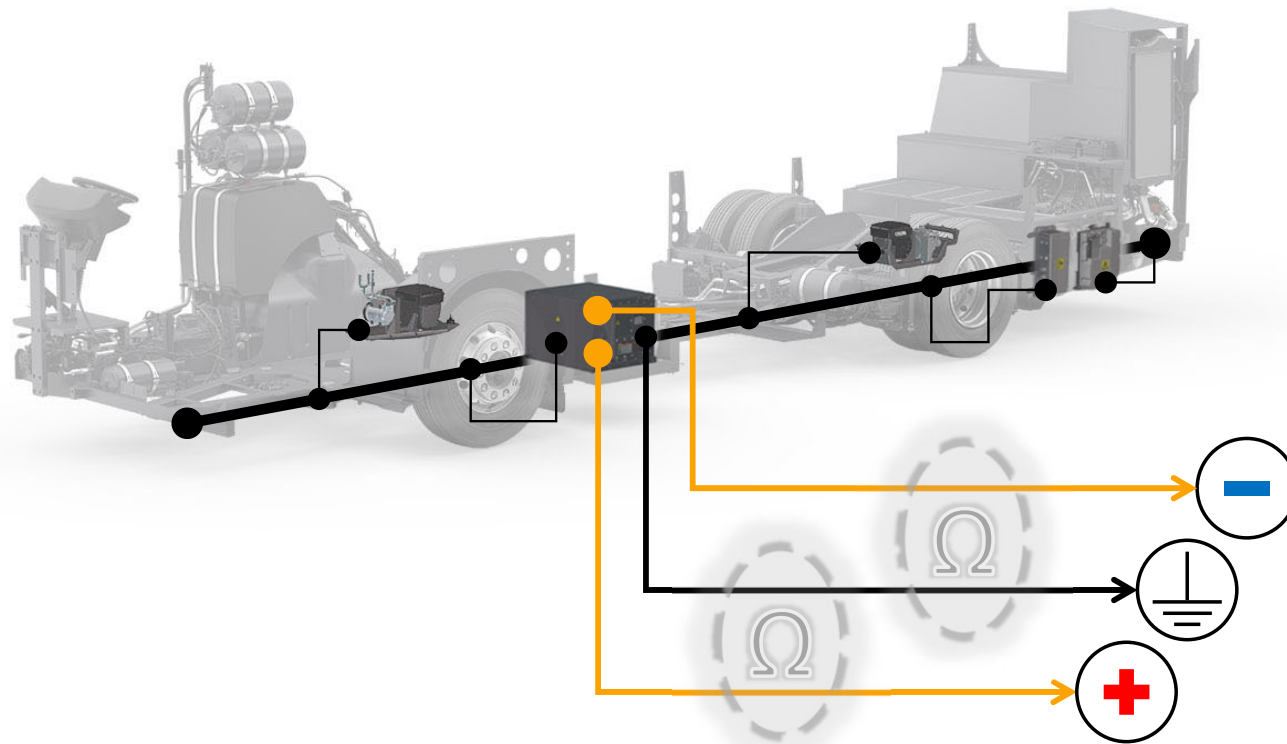
Traction Voltage Monitoring Unit (TVMU)



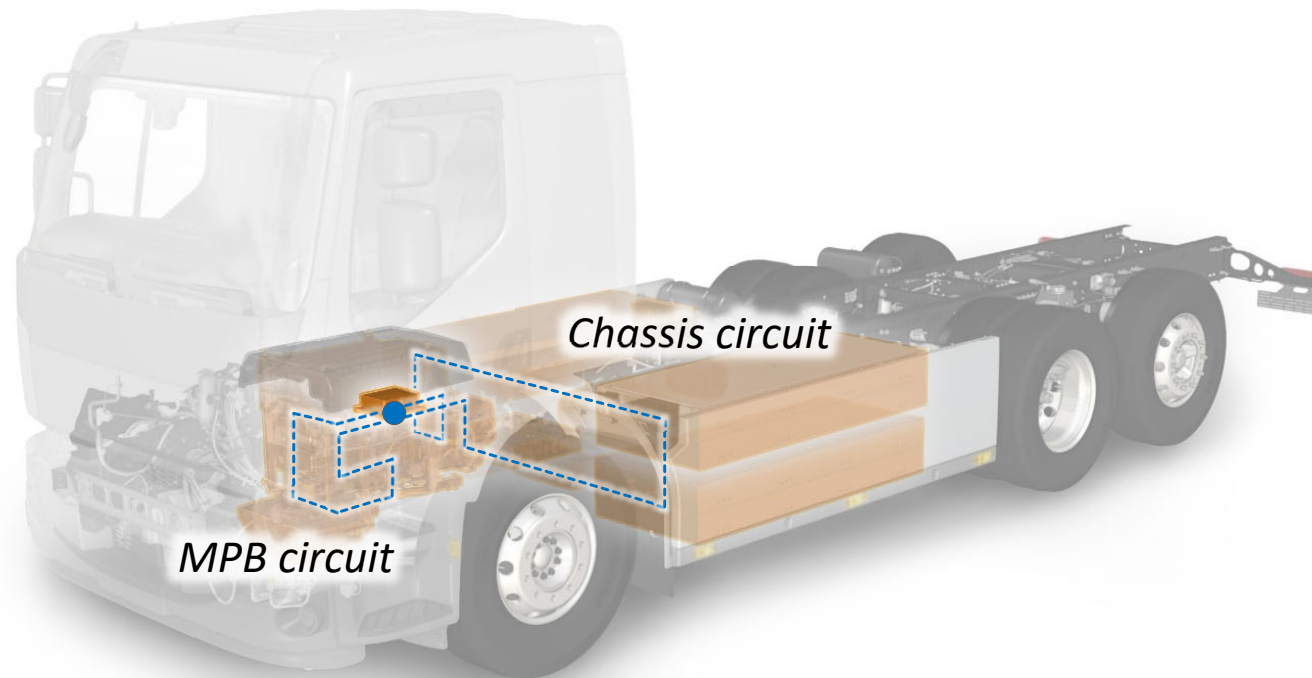
Floating Ground



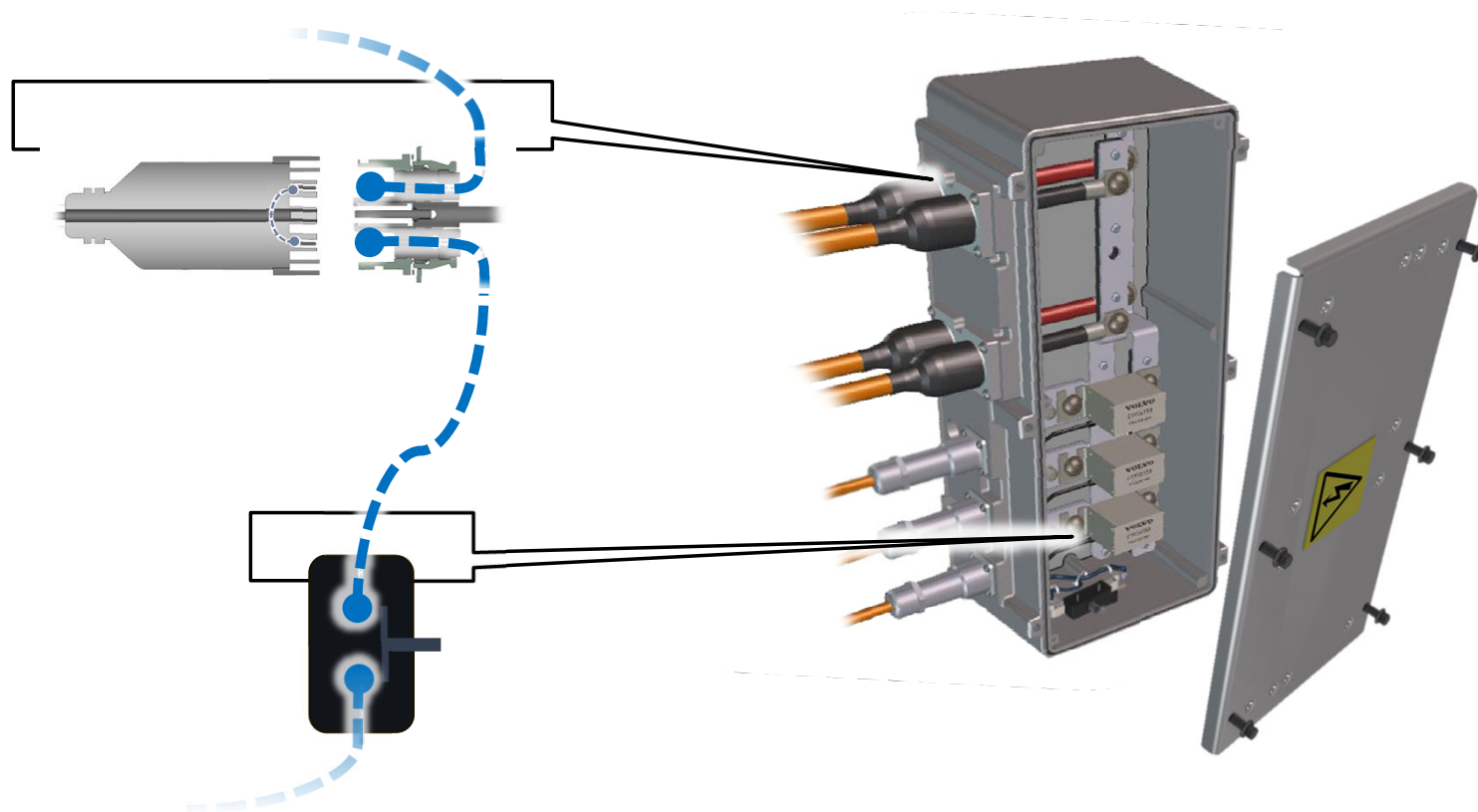
Isolation Resistance Monitoring



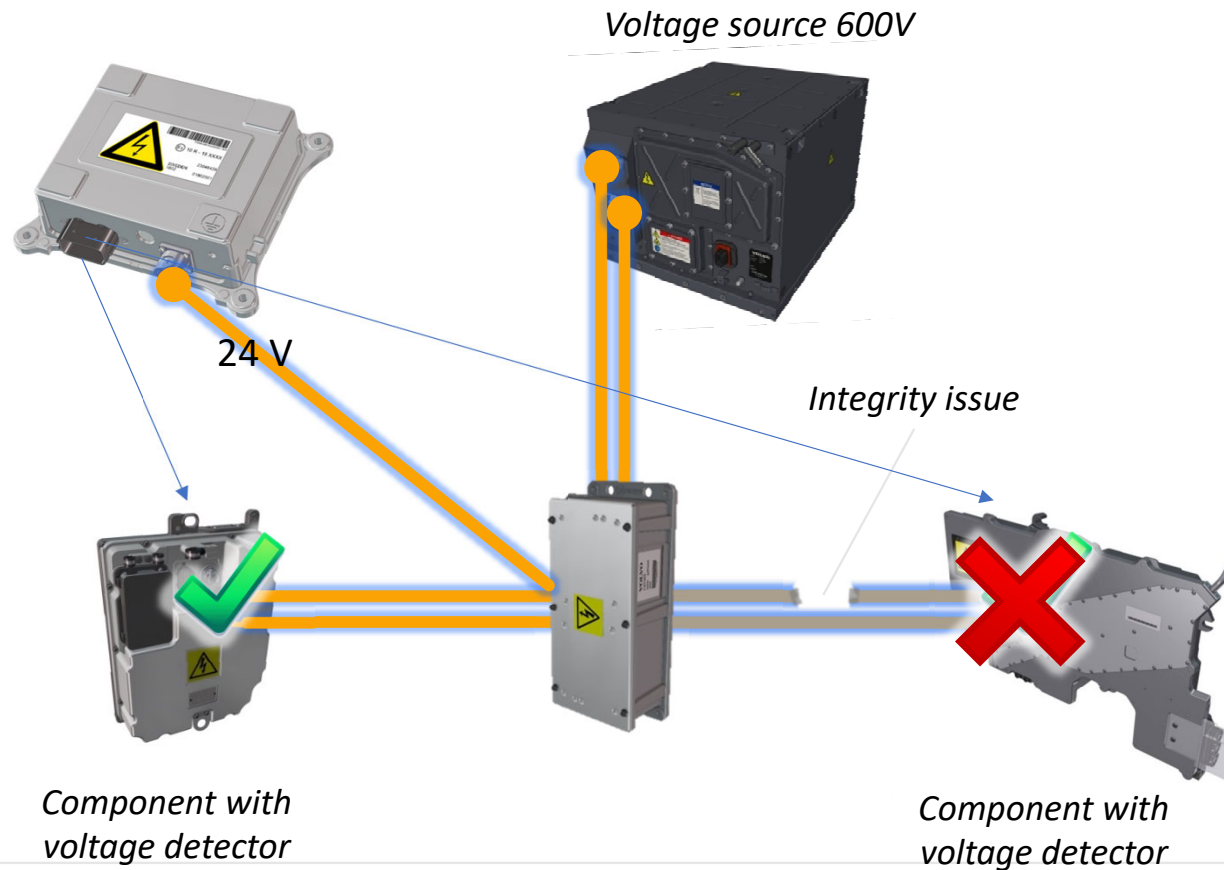
Hazardous Voltage Interlock Loop (HVIL)



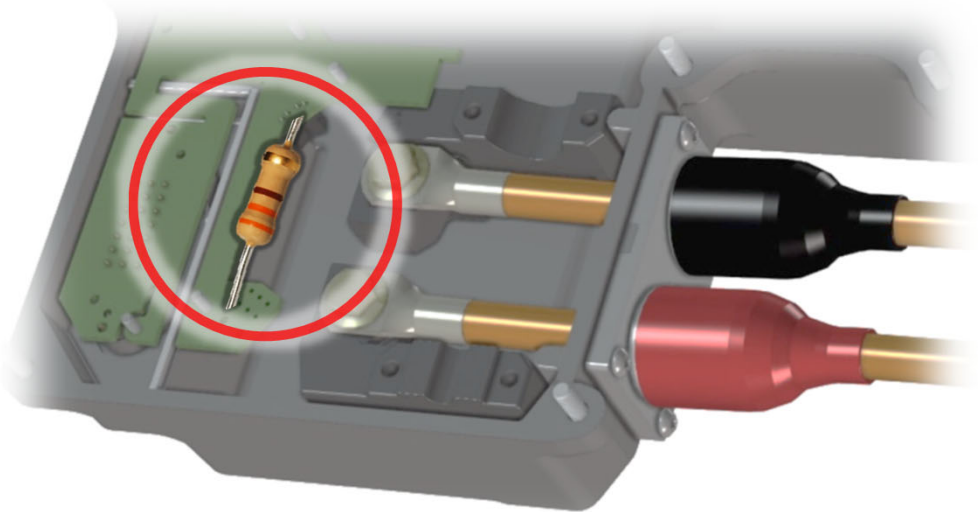
Hazardous Voltage Interlock Loop (HVIL)



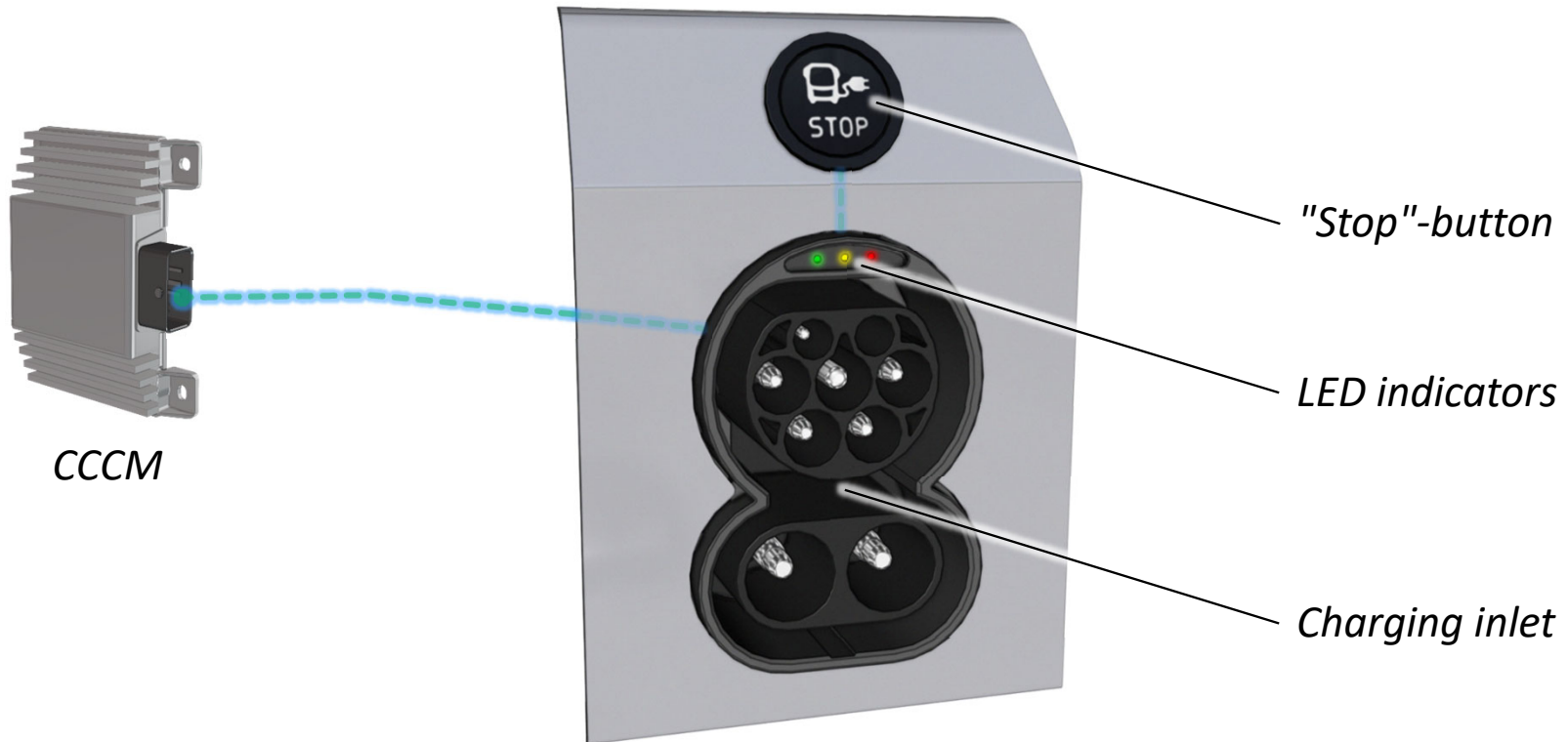
Circuit Integrity Check with 24V



Traction Voltage Discharge



Combined Charging System Inlet



Charging Switch Unit (CSU)

