

BORGWARNER

iDM w/ electric Torque Vectoring (eTV)

26.02.2024 – 08.03.2024

Arctic Drive Arjeplog 2024 -
Demonstrator Car Key Facts

TECHNOLOGY iDM w/ electric Torque Vectoring (eTV)

► VEHICLE PLATFORM Polestar 2

VEHICLE SPECIFICATION

Dual Motor

Front Propulsion

- Motor Type PMSM
- Motor Power 150 kW
- Wheel Torque 3 000 Nm

Rear Propulsion

- Retrofitted eTV
- eTV Torque 2 000 Nm
- Motor Type PMSM
- Motor Power 170 kW
- Wheel Torque 3 300 Nm
- Inverter SiC


Battery

- Nominal Voltage 400 V
- Capacity 78 kWh




KEY FEATURES and BENEFITS
ELECTRIC TORQUE VECTORING (eTV) – ELECTRIC MOTOR VECTORING
FULL IN_HOUSE INTEGRATED DRIVE MODULE SCOPE – INVERTER, MOTOR, GEARBOX
VEHICLE DYNAMICS CONTROL SOFTWARE HANDLING SLIP CONTROLLER, LONGITUDINAL AND LATERAL TORQUE


Applicable BorgWarner Portfolio



eTV



iDM

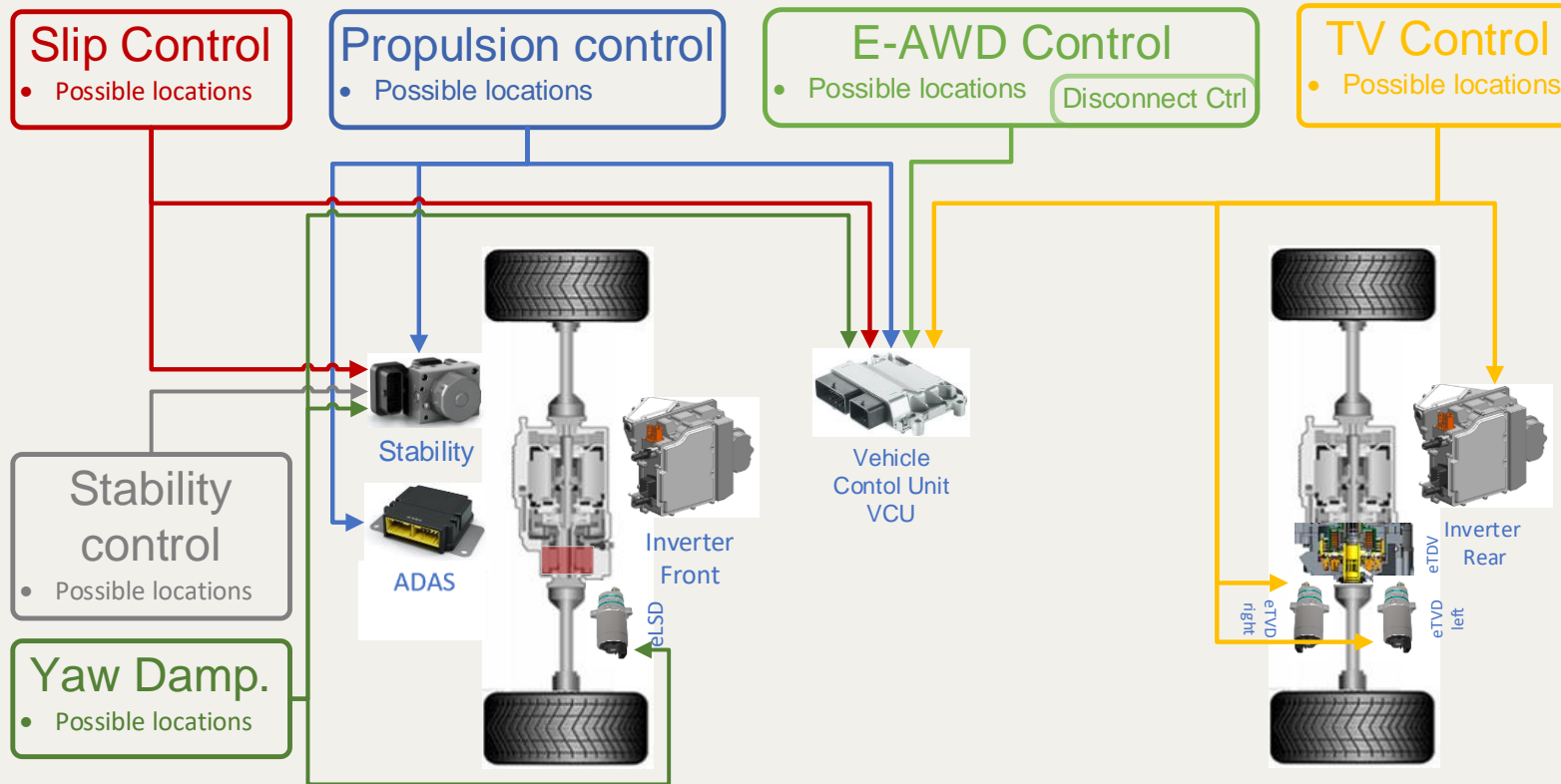


Vehicle Controls

► eTV – electric Torque Vectoring



Vehicle Controls Software description



- **Slip Control**
 - Detects wheel slip and reduce propulsion torque to achieve increased traction
- **Stability Control**
 - Vehicle stability control using friction brakes
- **Yaw Damping**
 - Torque distribution control for increased vehicle stability
- **Propulsion Control**
 - Vehicle propulsion torque controller
- **E-AWD Control**
 - Controls propulsion torque distribution front/rear axle
- **Torque Vectoring Control**
 - Distributes transverse torque for increased yaw control

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