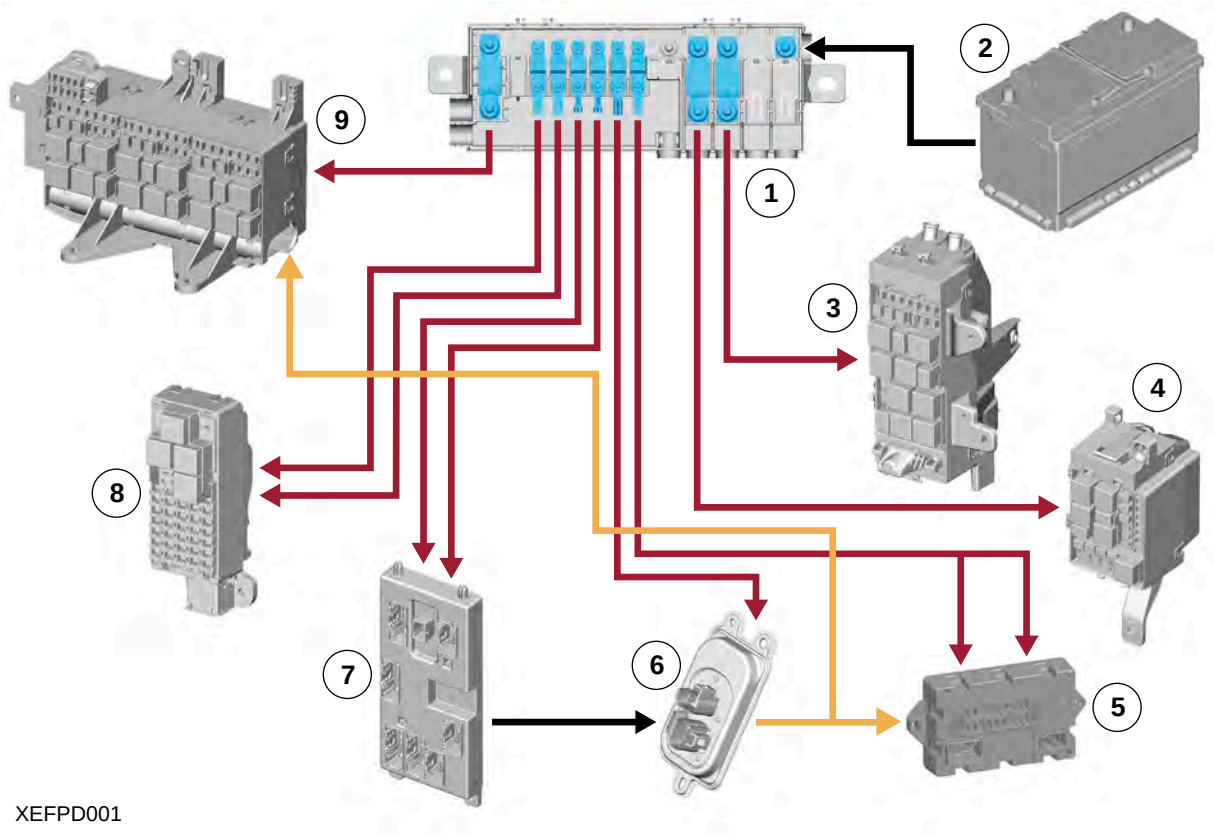
## Power Distribution

The Battery Junction Box (BJB) is connected directly to the battery positive terminal and distributes permanent power to the six different fuse boxes and the Voltage Quality Module (VQM). Power is distributed to the Engine Junction Box (EJB1) Front, Engine Junction Box (EJB2) Rear, Passenger Junction Box (PJB), Rear Junction Box (RJB), BCM/GWM, and Quiescent Current Control Module (QCCM).

Power is divided again by each of these components to provide the power supply (using fuses and relays) to all of the electrical systems installed within the vehicle.

**XE Shown; F-PACE uses a single EJB**

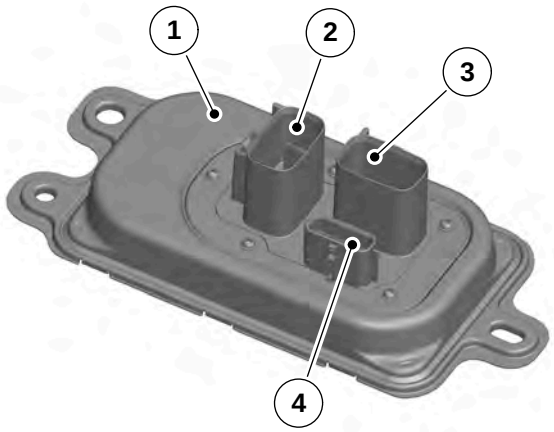



XEFPD001

| Item | Description | Item | Description |
|---|---|---|---|
| 1 | Battery Junction Box (BJB) | 6 | Voltage Quality Module (VQM) |
| 2 | Battery | 7 | Body Control Module / Gateway Module (BCM/GWM) |
| 3 | Engine Junction Box – Rear (EJB2) | 8 | Passenger Junction Box (PJB) |
| 4 | Engine Junction Box – Front (EJB1) | 9 | Rear Junction Box (RJB) |
| 5 | Quiescent Current Control Module (QCCM) | | |

## Voltage Quality Module

During an Auto Start, the BJB is protected from voltage drop by the Voltage Quality Module (VQM). The VQM provides a stabilized voltage output to all of the consumers associated with fuse PFL07 in the BJB.




E174480

| Item | Description | Item | Description |
|---|---|---|---|
| 1 | Voltage Quality Module | 3 | Ground Connector |
| 2 | Power Connector | 4 | Signal Connector |

The Voltage Quality Module (VQM) is used in place of the secondary battery on earlier vehicles with Auto Stop/Start. The VQM consists of a DC/DC (Direct Current) converter and an interface which controls its operation and provides the communication with the BCM/GWM assembly. The DC/DC converter can produce a constant 12V output voltage to crucial vehicle systems from the varying input voltage supplied by the primary battery during an engine restart.

During an Auto Start the VQM supplies constant voltage and can support 600W of continuous power to the following components by supplying power to the BJB:

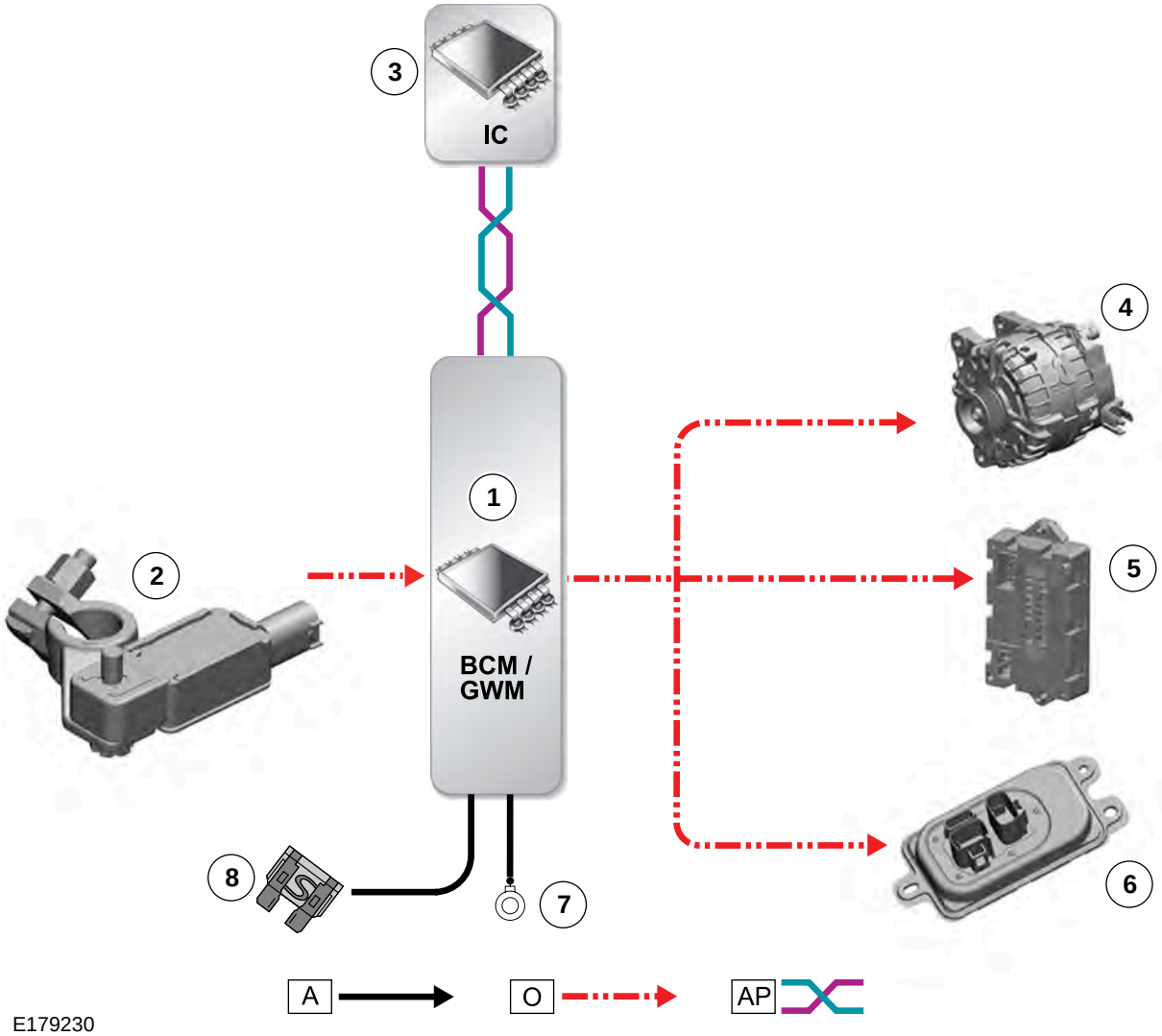
- Instrument Cluster (IC)
- Quiescent Current Control Module (QCCM)
- Infotainment system components – varies with audio system specification
- Rear View Mirror (RVM) – if equipped
- Parking Aid Control Module (PACM) – if equipped
- Rear View Camera (RVC) – if equipped
- Left and right Blindspot Monitoring Control Modules (BMCM) – if equipped

The VQM has two power connectors, which provide a primary battery feed connection from the BJB via fuse PFL07, and power output connections to the QCCM and the RJB. An additional connector is located on the VQM to provide electrical connection to the following:

- Ignition signal from the BCM/GWM assembly
- Crank signal from the starter motor relay located in the rear Engine Junction Box (EJB2)
- Status and diagnostic messages to the BCM/GWM assembly via the LIN bus
- Ground

The VQM receives an ignition status signal from the BCM/GWM assembly, and a crank signal from the starter motor relay located in EJB2. The VQM sends status and diagnostic messages to the BCM/GWM assembly through the LIN bus connection.

## Power Distribution Control Diagram (1 of 2)




E179230

| Item | Description | Item | Description |
|---|---|---|---|
| 1 | BCM/GWM | 7 | Ground |
| 2 | Battery Monitoring System (BMS) control module | 8 | Power Supply – Rear Junction Box |
| 3 | Instrument Cluster | A | Hardwired |
| 4 | Generator | O | LIN Bus |
| 5 | Quiescent Current Control Module (QCCM) | AP | Comfort HS CAN |
| 6 | Voltage Quality Module | | |