

Case Study

Booster module for start-stop systems

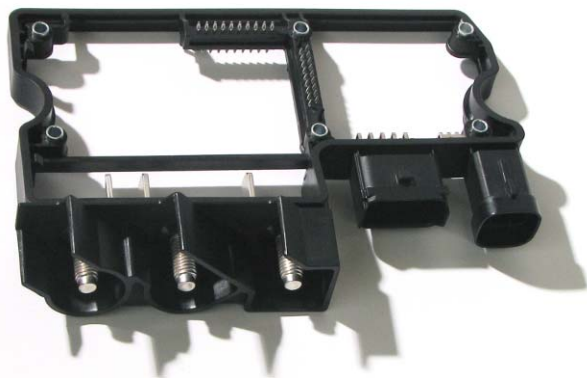


Figure 1 Booster module for the on-board electrical system

The **Continental** Automotive Group is one of the world's leading automotive suppliers. As a partner to the automobile and utility vehicle sector, Continental's HEV (Hybrid Electric Vehicle) Business Unit develops and manufactures innovative products and systems for the vehicles of tomorrow, which should combine individual mobility and driving enjoyment with safety, environmental responsibility and economic efficiency.

The market for start-stop systems is growing fast. With a newly developed booster module for the on-board electrical system (see Fig. 1), Continental has succeeded in making start-stop systems in vehicles even more convenient and efficient. The new module – known as the E-booster – is doing duty in the micro-hybrid systems of the French PSA Peugeot Citroën Group, and specifically in the e-HDI engines.

Super-capacitors provide the surge in power of up to 1100 A that is needed to start the engine – a process that takes only 400 milliseconds. To make sure the engine starts without any noticeable vibrations or noise, an efficient booster module for the on-board electrical system is required. The electronics in this

OEM: PSA Peugeot Citroën

Grade: Pocan® B 4235

Manufacturer: Continental Automotive GmbH, Germany

E-booster control re-charging of the super-capacitors. The micro-hybrid systems can reduce fuel consumption in urban traffic by up to 15 percent.

The specifications submitted by Continental for the product included the following points:

- Flame-retardant material to UL 94
- Good electrical properties
- Good dimensional stability
- High toughness
- High long-term service temperature

The flame-retardant LANXESS Pocan B 4235 plastic conforms to all these requirements.

Furthermore, Continental was supported in this project by LANXESS, which supplied the rheological calculations. The relatively low warpage of Pocan B 4235 plays a very important part in this application. Benefitting from the calculated frame structure, the part has particularly high dimensional stability, enabling printed circuit boards (PCBs) to be accurately positioned on the module during assembly.

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