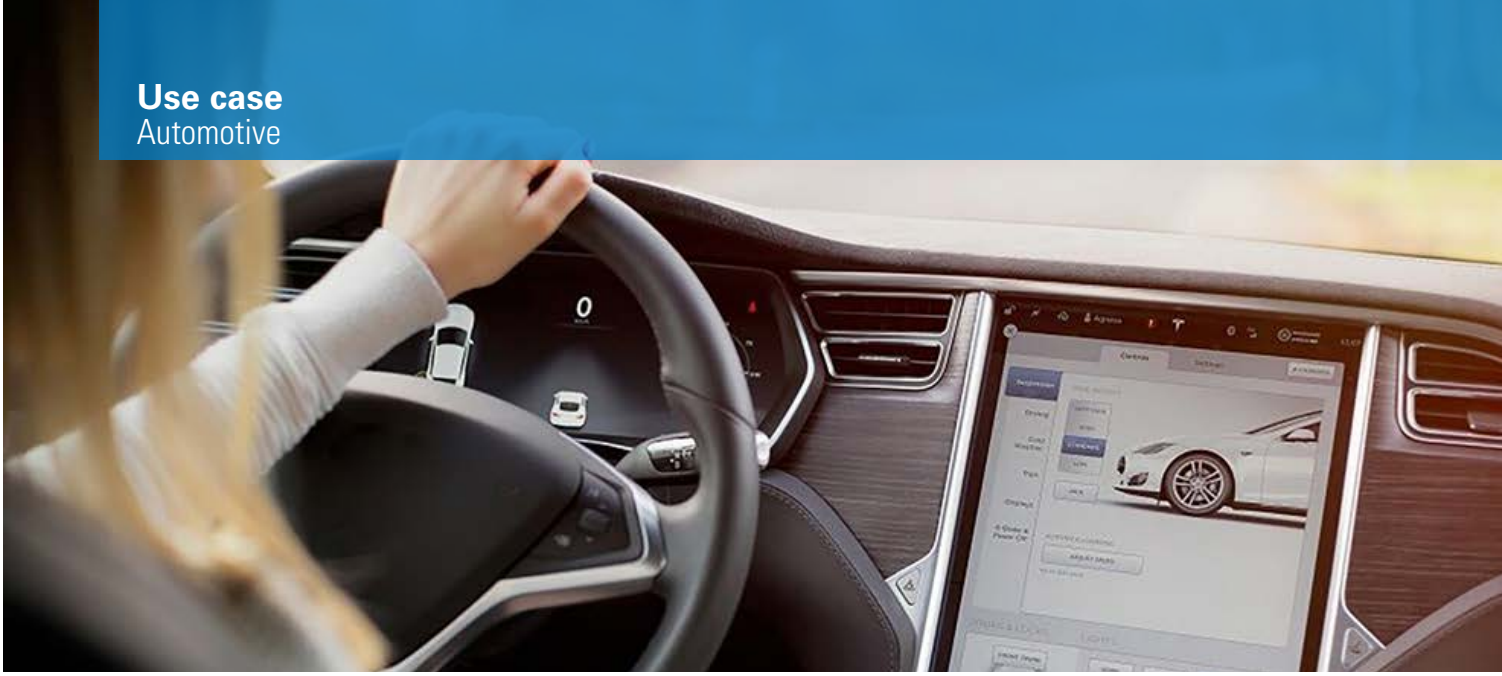
Use case
Automotive



Eaton CC12H fuses are the hidden power in automotive

With more and more tech innovations and amenities in demand by car buyers, the need for overcurrent protection inside the automobile is increasingly important for convenience and safety. Automotive suppliers of infotainment, back-up cameras, instrumentation and engine control systems need to deliver solutions that protect their customers and the life cycle of the product.

Reliable short circuit protection is critical for these automotive circuits and several conditions must be taken into consideration when selecting the proper fuse. Ambient temperatures can vary widely both due to location within the vehicle (underhood locations can reach temperatures of +125 °C) and the location of the vehicle itself (down to -40 °C in cold weather climates). Eaton's CC12H surface mount fuse is designed to operate over this wide temperature range (-40 °C to +125 °C) with minimal de-rating. This means automotive designers can rely on the CC12H fuse to perform as expected under both extreme temperature conditions.

Circuit characteristics can also affect fuse selection. Automotive circuits often experience larger current in-rushes when turned on. Eaton's CC12H fuse allows for higher current inrushes to pass while providing robust overcurrent protection to prevent circuit damage. This is important for applications that require overcurrent protection in a module where short circuits could lead to circuit or connector damage and potential fire, while also avoiding any premature openings due to normal current inrushes.

The Automotive Electronics Council (AEC) has established a global standard (AEC-Q200) for stress resistance that all passive electronic components must meet, if they are intended for use within the automotive industry. Eaton's CC12H series 1206 size surface mount fuses are **AEC-Q200** qualified in current ratings ranging from 750 mA to 30 A, making them ideally suited to meet the increasing overcurrent protection needs of automotive applications.

Key considerations for selecting the CC12H fuse include:

- Smaller size – reduces circuit layout area
- High in-rush withstand capabilities – reduces risk of "nuisance" openings
- Low temperature de-rating – increases protection against overcurrents at high and low temperatures
- Mechanically robust package – withstands high vibration environments found in automotive applications
- Full current range offering – allows proper current rating selection to maximize protection against overcurrents
- Eaton's stringent product testing standards, ability to provide support and technical guidance in product selection
- Meets the automotive industry AEC-Q200 stress testing standard

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