

Use case

Eaton Bussmann™ UMF time-delay and fast-acting fuses



Eaton UMF fuses provide overcurrent protection in a host of applications

Eaton UMF time-delay and fast-acting fuses offer overcurrent and short-circuit protection in a host of commercial and industrial applications. Time-delay fuses, also called “slow blow” fuses, are ideal for circuit protection in devices that typically encounter periods of momentary overload, such as when starting a motor. These fuses permit the initial surge without melting the fuse element to open the circuit, thus allowing the appliance to remain functional. For example, if a surge current of 30 A passed through a fuse element rated at 15 A, a fast-acting fuse will open the circuit in a fraction of a second (~0.1s).

On the other hand, fast-acting fuses offer a quick response to overload conditions by melting the fuse element to open the circuit. They are suitable for use in applications where even brief overcurrent events can damage

components and/or the wiring. In the above scenario, a time-delay fuse will take up to a few seconds to open the circuit. For adequate protection, end-users must select a fuse that can open fast enough to protect the circuit from overloads while remaining closed during normal operating conditions.

Time-delay and fast-acting universal modular fuses (UMF)

Universal modular fuses are designed in accordance with the IEC 60127-4 universal modular fuse link standard. A key benefit of using fuses that meet this standard is that it is accepted universally and does not require additional country-specific certifications. For global manufacturers, this simplifies the sourcing process, as other considerations are not needed for the fuse to ensure compliance at various manufacturing sites.

UMF fuses provide robust circuit protection in a host of consumer and industrial applications with surface-mount capability. For example, they can be utilized in primary or secondary PCB protection, residential (household) appliances, battery management systems, and medical equipment. Other applications include power supplies, AC/DC adaptor primary protection, and transformerless AC/DC converter circuits. With no extra requirement for regional certifications due to the IEC 60127-4, manufacturers integrating these fuses will be able expedite global shipping and lower shipping costs across global markets.

Eaton Bussmann™ UMFT/UMFF fuses meet global standards

Eaton Bussmann™ series 1245UMFT time-delay and

1245UMFF fast-acting fuses provide overcurrent protection up to 6.3 A and 350 Vac for industrial and consumer applications. These products come in a 1245 footprint, surface-mount (SMD) package, offering more space savings compared to through-hole fuses. Fully compliant with the IEC 60127-4 universal modular fuse-link, Eaton's solutions provide a certification that eliminates the need for additional and/or country-specific certifications.

Compared to through-hole fuses, SMD UMF fuses greatly simplify assembly processes. Eaton's UMF fuse manufacturing allows engineers to utilize pick-and-place technology instead of manual installation using wave soldering. This allows for entire assembly operations to be automated, reducing labor costs. Eaton's 1245UMFT/1245UMFF fuses are halogen-free and RoHS compliant.

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