



Eaton Bussmann series EV pyro fuses

Critical safety and reliability

Eaton Bussmann® series electric vehicle (EV) pyro fuses serve a critical role in the safety and reliability of EV systems. In the event of an accident or electrical fault, they immediately disconnect the circuit, quickly and efficiently isolating the battery from the rest of the vehicle's electrical system. This instantaneous response is essential when it comes to protecting both people and components in an electric vehicle.

Features & Benefits

- The EV pyro fuses effectively disconnect the busbars and **safeguard against mechanical or electrical faults with two trigger options.**
 - **Active trigger option (F40):** will prohibit current flow whenever the Battery-Management-System (BMS) detects a fault
 - **Dual trigger option (F40A):** can be triggered by the BMS and has a self-triggering function that protects EV systems independently of the BMS signal, adding another layer of protection

- **Interruption of high short-circuit currents less than 1.5ms** after receiving the external signal
- **Applications for 400V and 800V architectures,** the short-circuit withstand is as high as 20kA @ 20μH
- **Rated at 400A continuous, charging profiles up to 700A** for several minutes are possible
- **Rugged design** with high seal protection against water and dust, ensuring durability in the harshest conditions within the electrical system

Typical applications:

- Electric vehicles (EV)
- Hybrid electric vehicles (HEV)
- Plug in hybrid electric vehicles (PHEV)
- Energy storage

Why Eaton?

The surge in electric vehicle adoption is driving the need for higher power outputs and faster charging capabilities. In this dynamic landscape of automotive manufacturing, swift and dependable protection is critical. Leveraging over 100 years of designing and manufacturing fuses, Eaton stands at the forefront, offering customized protection across a variety of applications in the automotive industry.

With a circuit protection portfolio that includes Bussmann series EV pyro fuses, EV fuses, and Breaktor® circuit protection technology, we are uniquely positioned to help identify the right protection solution for every application.



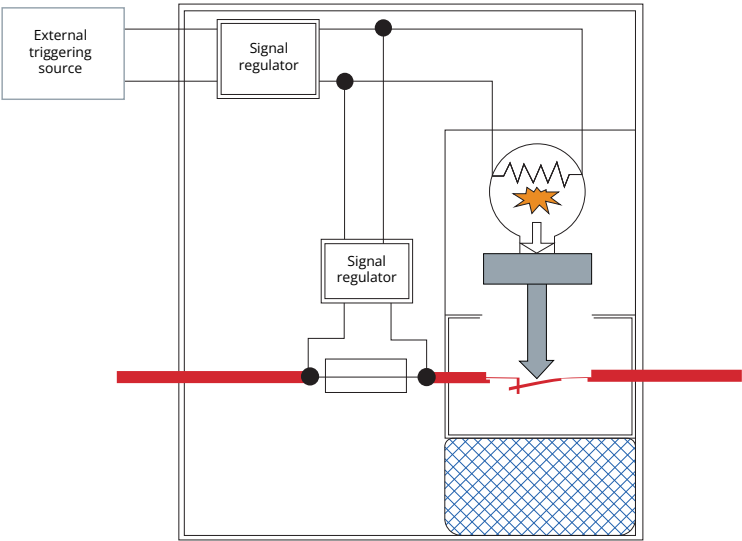
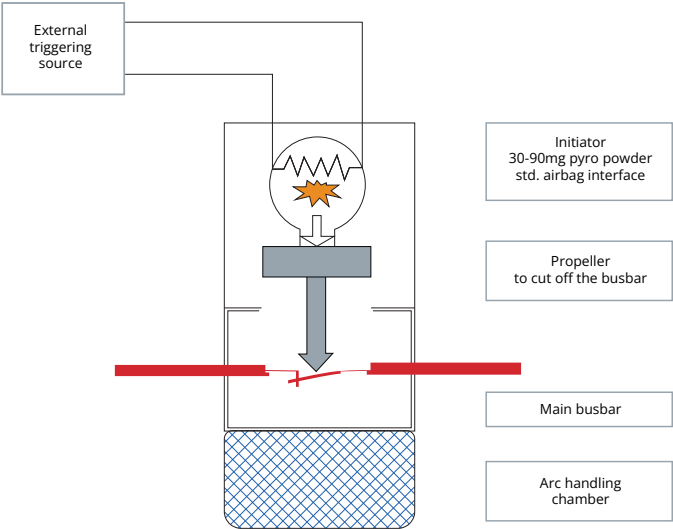
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Powering Business Worldwide

EV Pro fuse series includes 2 types of products:

Active triggering pyro: triggered by an external signal, such as the battery management software or advanced current sensor.

Dual triggering pyro: can be triggered by an external signal or self-trigger during an over current event, offering an additional layer of protection.



Rated voltage and continuous loading current

Item	Triggering type	V d.c.	Continuous Amp @85°C
EBPS65F40	Active Triggering	0-500	0-400 A
EBPS100F40		0-1000	
EBPS50F40A	Dual Triggering	0-500 External 100-500 Internal	
EBPS100F40A		0-1000 External 100-1000 Internal	





Breaking capacity

	EBPS65F40	EBPS100F40	EBPS50F40A	EBPS100F40A
Rated voltage	650Vdc	1000Vdc	500Vdc	1000Vdc
Continuous current	400A	400A	400A	400A
Triggering	External	External	External + Active	External + Active
Breaking capacity	16kA @500Vdc & 20uH	20kA @1000Vdc & 20uH	16kA @500Vdc & 20uH	20kA @1000Vdc & 20uH
Operating time	<2ms	<2ms	<2ms or <2ms + C-T curve	<2ms or <2ms + C-T curve
Busbar Resistance	<50 $\mu\Omega$	<50 $\mu\Omega$	<70 $\mu\Omega$	<70 $\mu\Omega$
Isolation (busbar Vs triggering connector)	100M Ω			
Busbar resistance after operation	$\geq 2M\Omega$			
Recommended wiring	150 mm ² (For smaller cross section, please contact us)			
Operating and storage temperature range	40°C to 85°C (-40°F to 185°F) (contact us for extended temperature range)			

Technical data

- External triggering connector type AK-2 code
- Initiator resistance $2 \pm 0.3\Omega$
- Triggering pulse current $\geq 1.75A$ & 0.5ms or $\geq 1.2A$ & 2.0ms
- Current increase $I_{tr} \geq 1 A/\mu s$
- No-triggering current $< 0.4A$ & 10s
- Recommended diagnostic current: $\leq 10 mA$

Agency information

Initiator

- Qualified acc. To AK-LV 16 & USCAR 28

Transport hazard classification

- Qualified as Class 9 acc. To
 - ST/SG/AC.10/11/Rev.7
 - ST/SG/AC.10/1/Rev.22

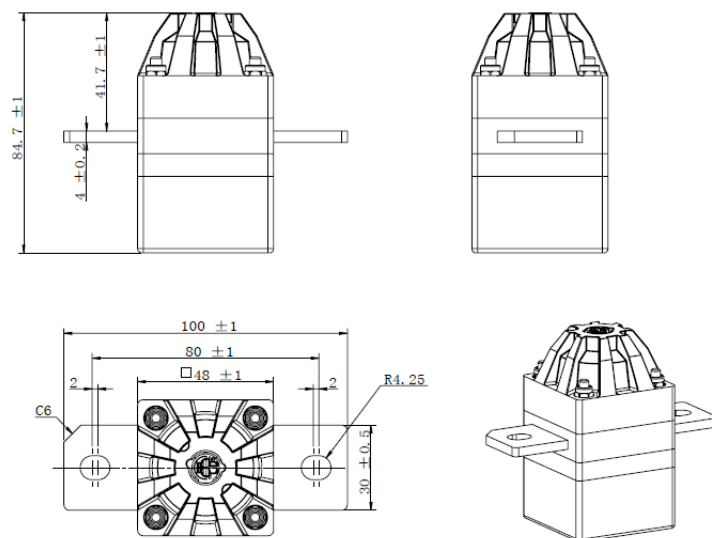
Additional features

- IP65 protection level
- UL94-V0 for plastic parts

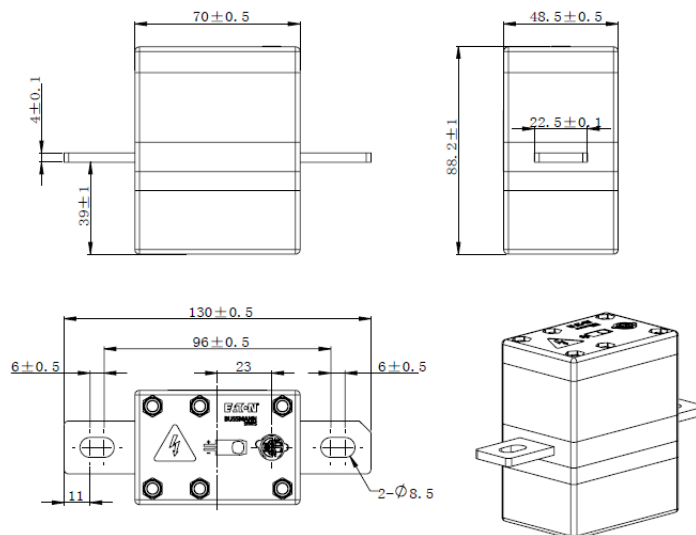


Dimensions - mm

EBPS100F40



EBPS100F40A

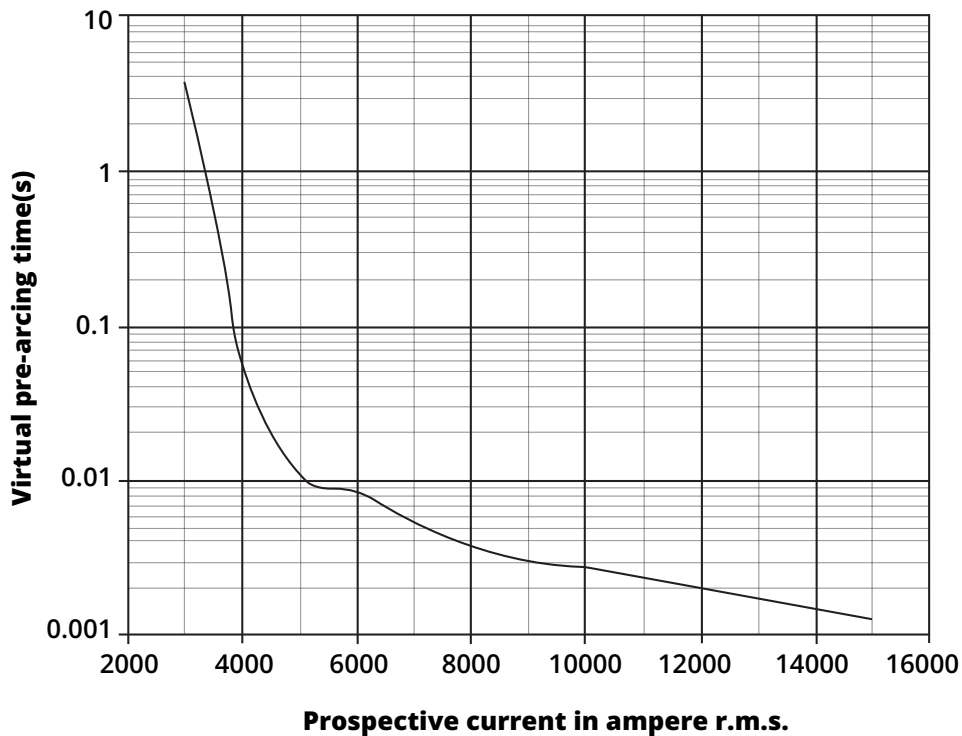


Product weight and packaging

Item	Weight (g)	Packing quantity	Box weight (kg)
EBPS65F40	277	36 per box	12
EBPS100F40	311	22 per box	9
EBPS50F40A	449	24 per box	12
EBPS100F40A	484	24 per box	13

Electrical characteristics

Internal arc triggering pyro C-T curve



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