



New

1000 V d.c. FWE High speed fuses specifically designed for EV Charging stations

Eaton's Bussmann series 1000 V d.c. FWE High speed fuses, specifically designed for EV Charging stations, will be available in multiple fuse body sizes, in 2023.



1000 V d.c fuse body sizes

- Cylindrical 10 x 38 mm
- Cylindrical 14 x 51 mm
- North American round body fuse

Technical data

- Rated voltage 1000 V d.c. (IEC/UL)
- Rated current up to 600 A
- 50 kA breaking capacity tested
- 10 mS time constant tested (suitable for most DC applications)
- Operating class: Ultra rapid characteristics available as partial and full range operating class

Standards

- CE
- IEC 60269-4
- UL 248-13 recognised

Features and benefits

- Eaton's Bussmann® series High-speed fuse links have leading DC performance making them the ideal choice for the protection of high-power DC Charging station applications.
- Wide range of solutions available for the protection of DC conditioning circuits and high Voltage DC/DC Converters for up to 400kW+ rated chargers.
- Supports the full range of charger output ratings as covered by CCS & CHAdeMO Protocols
- Compact, space saving design coupled with a low minimum breaking current which offers easy coordination within DC applications and reduces dimensioning requirements of DC contactors to optimize space and decrease overall cost of system
- Demonstrated performance in extreme temperature cycling conditions ensure your installation will be protected by the best possible and most suitable electrical circuit protection solutions.

Typical applications

- DC Charging stations:
 - Private & Public charging stations
 - Slow (low power) and fast (high power)
- Specialist vehicle onboard applications
- General DC power conversion equipment and battery systems

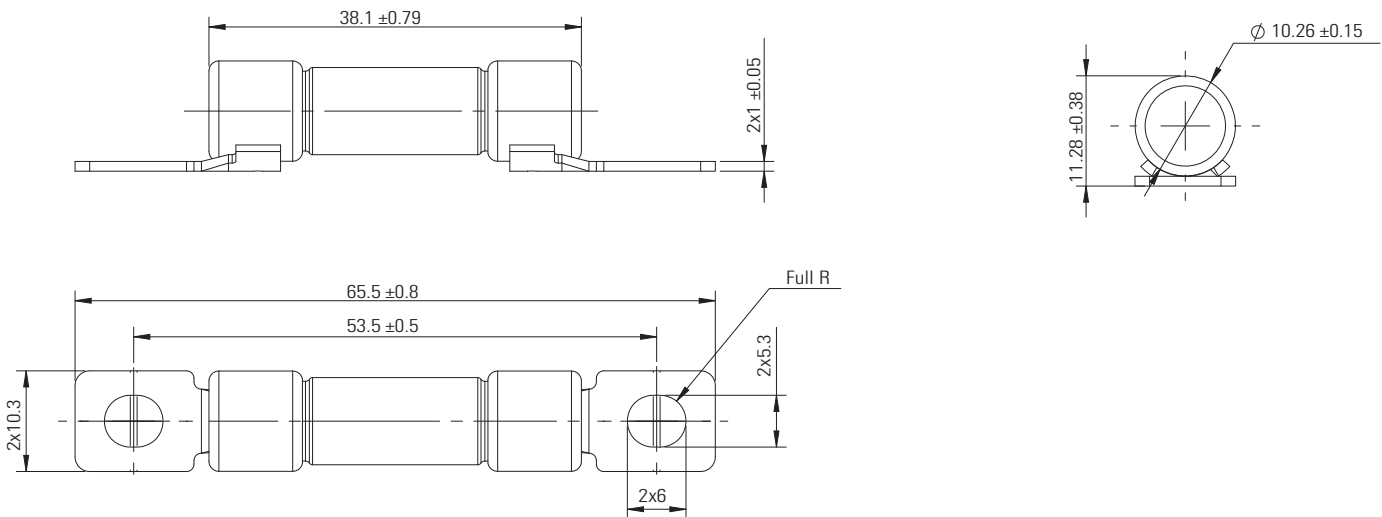
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Powering Business Worldwide

Catalogue numbers

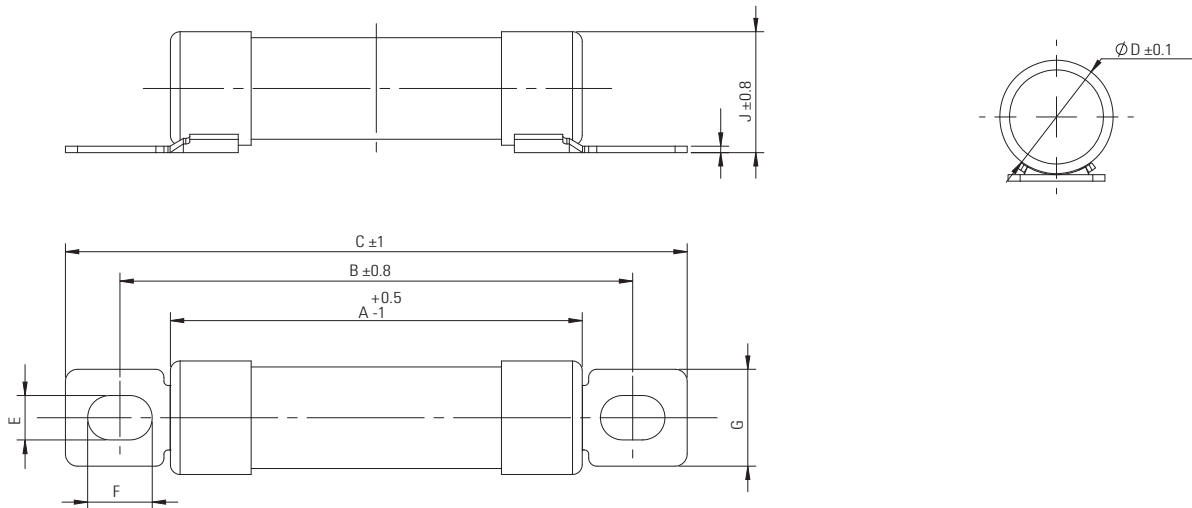
Fuse link type	Rated voltage	Rated current	Watts loss (100% rated current)	Pre-arcing I ² t (A ² Sec)	Clearing I ² t	Breaking capacity	Operating class	Catalogue number
10 x 38 mm and 14 x 51 mm with flush end bolted tags and PCB Mountable clips	1000 V d.c. (IEC/UL)	15	2.8	120	700	50 kA	gR	Enquire at Eaton bulehighspeed-technical@eaton.com
		20	3.7	227	1200	50 kA	gR	
		25	4	480	2200	50 kA	gR	
		30	4.9	677	3400	50 kA	gR	
		35	7.5	415	2100	50 kA	gR	
		40	8.2	620	3000	50 kA	gR	
		50	9.2	1200	5500	50 kA	gR	
North American round body	1000 V d.c. (IEC/UL)	70	21	680	3500	50kA	aR	FWE-70A
		80	24	1020	5000	50kA	aR	FWE-80A
		90	27	1400	6500	50kA	aR	FWE-90A
		100	30	1820	8500	50kA	aR	FWE-100A
		125	43	1830	7800	50kA	aR	FWE-125A
		150	49	2670	12000	50kA	aR	FWE-150A
		175	52	4670	20700	50kA	aR	FWE-175A
		200	56	6900	29300	50kA	aR	FWE-200A
		225	69	7880	31600	50kA	aR	FWE-225A
		250	79	9940	39900	50kA	aR	FWE-250A
		275	83	13000	52100	50kA	aR	FWE-275A
		300	87	16800	67500	50kA	aR	FWE-300A
		350	100	21100	89300	50kA	aR	FWE-350A
		400	110	31500	125500	50kA	aR	FWE-400A
		450	139	35300	166200	50kA	aR	FWE-450A
		500	155	49300	203900	50kA	aR	FWE-500A
		550	167	58600	322600	50kA	aR	FWE-550A
600	180	74700	346500	50kA	aR	FWE-600A		

Dimensions (mm) - 10 x 38 mm fuse links



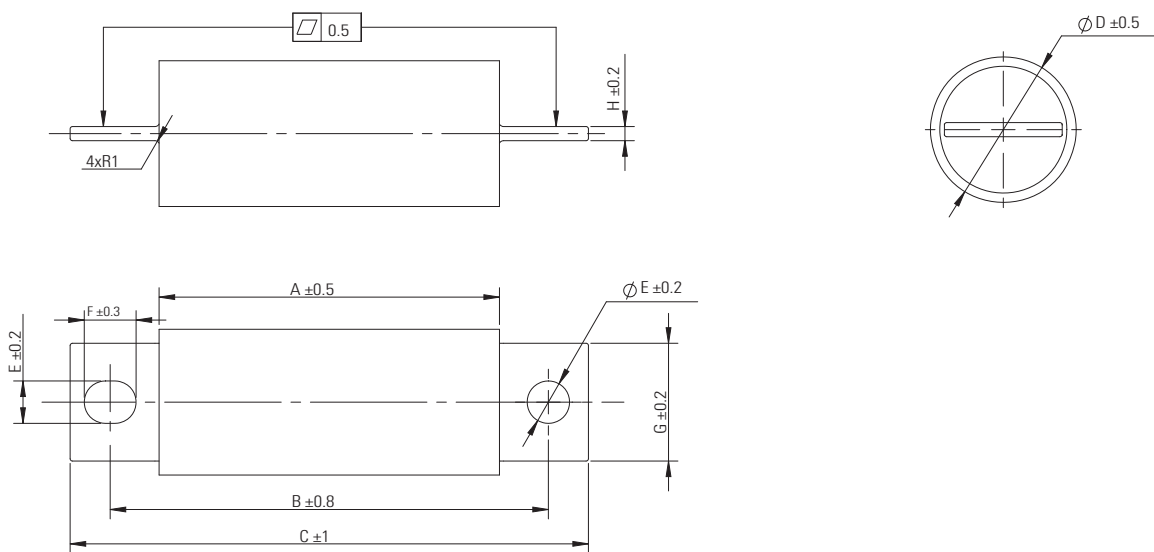
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Dimensions (mm) - 14 x 51 mm fuse links



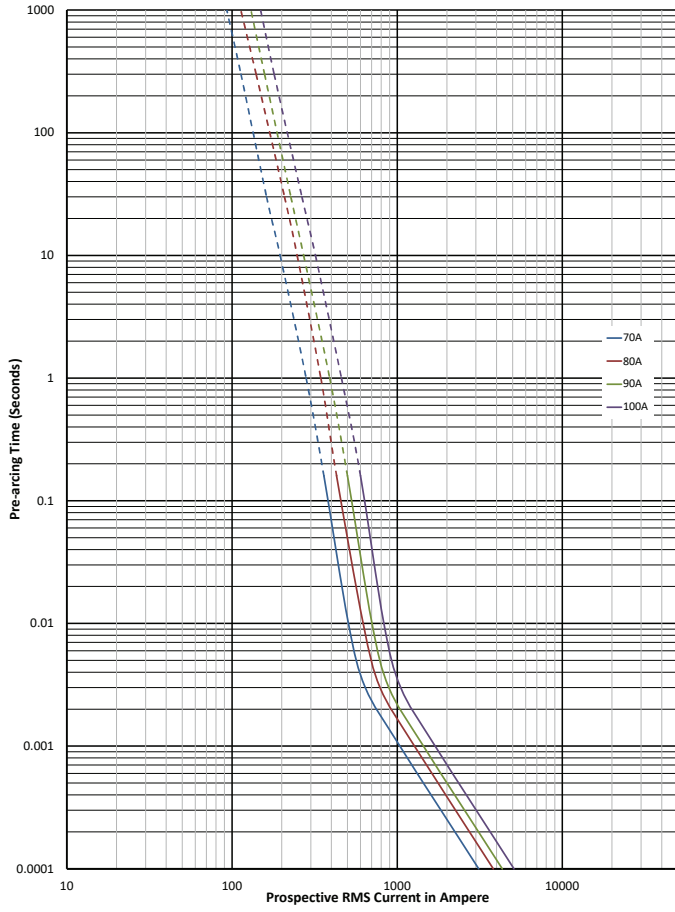
Rated current	A	B	C	D	E	F	G	H	J
35 A to 50 A	51	63.5	77	14.3	5.5	8	12	0.8	15.1

Dimensions (mm) - North American round body fuse links



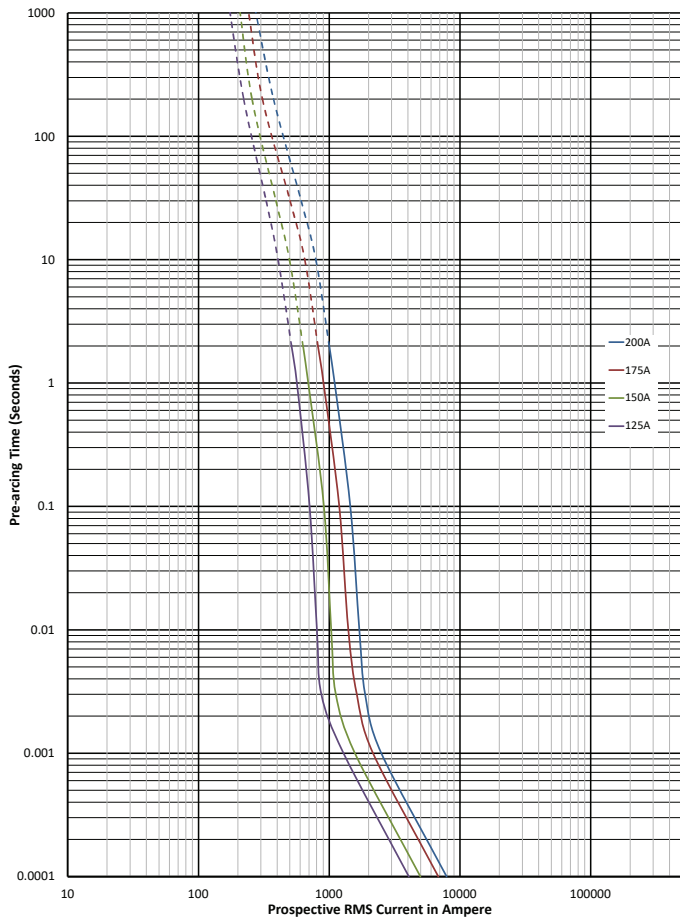
Catalogue number	A	B	C	D	E	F	G	H
FWE-70A to FWE-100A	72.2	93	110	25.4	9	11	19	2.2
FWE-125A to FWE-200A	72.2	93	110	31	9	11	25	3
FWE-225A to FWE-300A	72.2	100	122	38.1	11	13	28	3.5
FWE-350A to FWE-400A	72.2	100	122	50.8	11	13	28	5
FWE-450A to FWE-600A	72.2	100	122	63.5	11	13	40	6

Time current curve - 70 A to 100 A



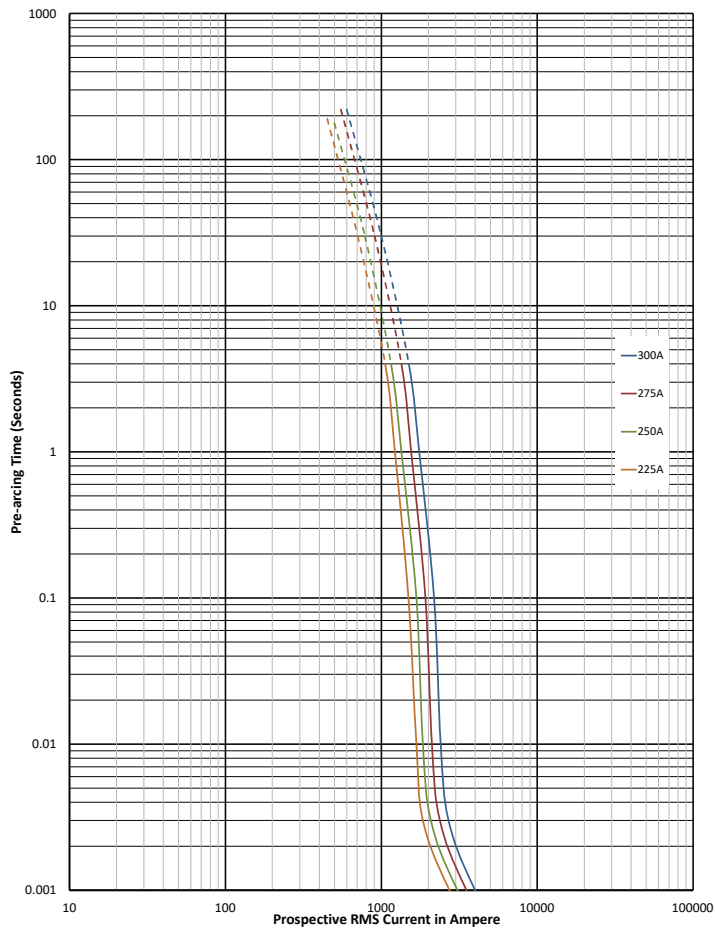
$K_b = 1$ $N = 1.7$

Time current curve - 125 A to 200 A

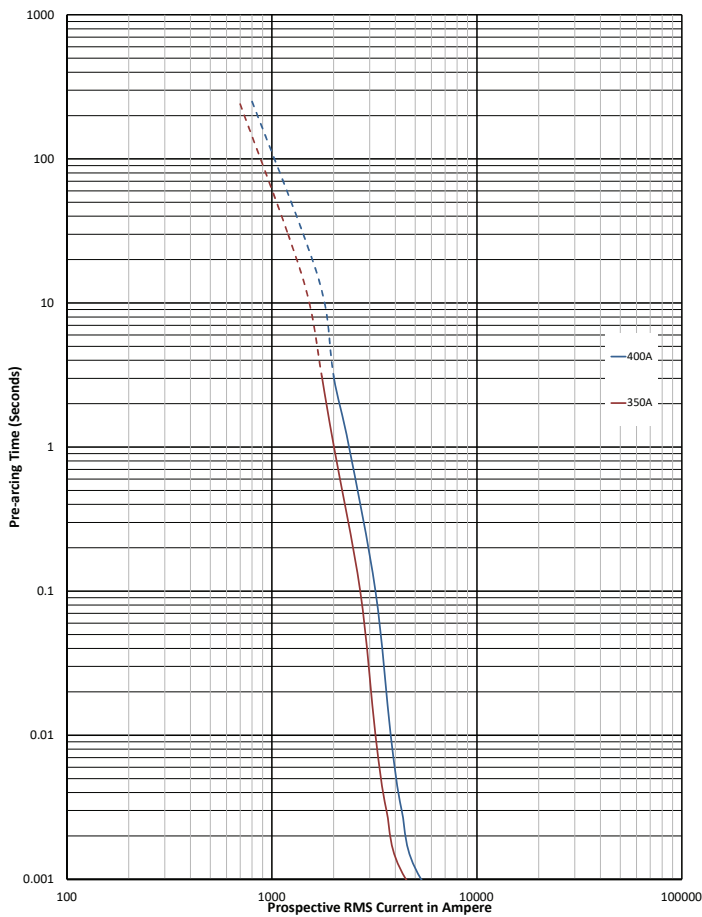


$K_b = 1$ $N = 1.7$

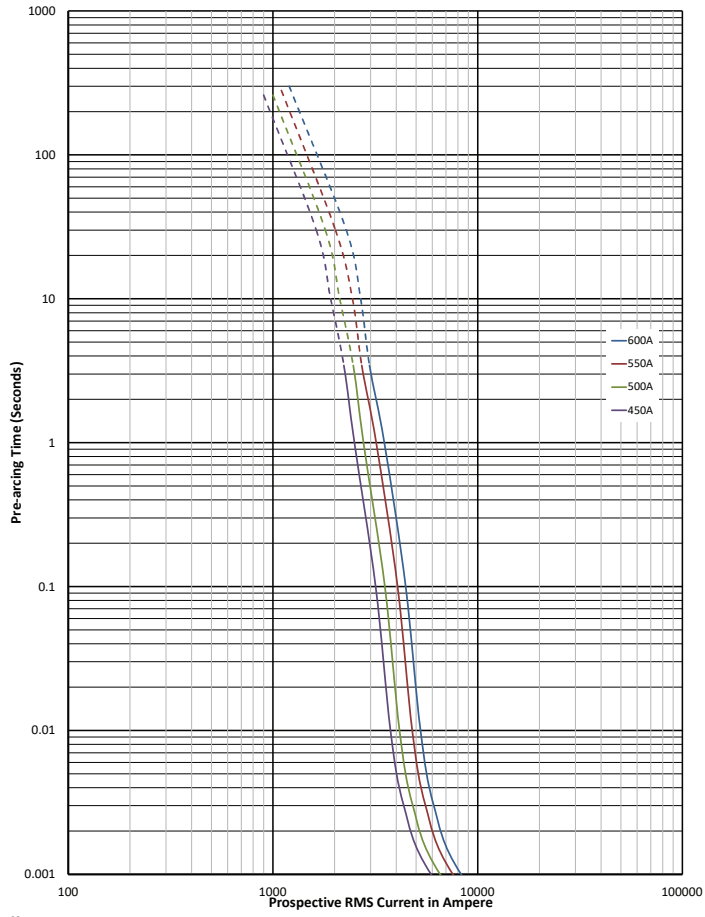
Time current curve - 225 A to 300 A



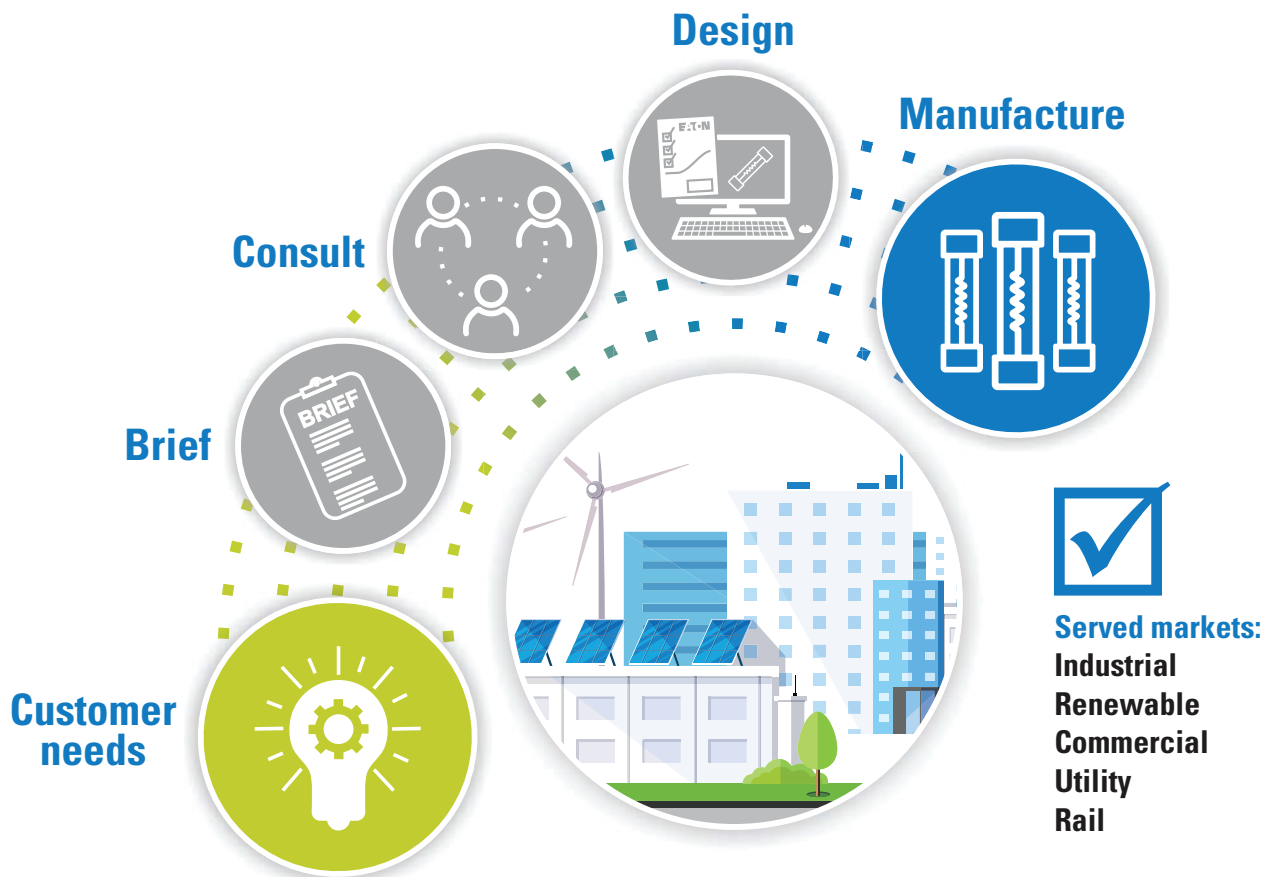
Time current curve - 350 A and 400 A



Time current curve - 450 A to 600 A



Customised fuse design service



Eaton's Field Applications Engineers are able to draw upon more than 100 years of fuse design knowledge to fully meet your application needs and ensure you can rely on the best in class electrical circuit protection solutions.

As the trend towards clean energy continues to drive new technologies in renewable energy generation, energy storage, electrical transportation and the adoption of DC technology throughout wider industries, the demand for customised fusing products has only increased.

Our Application and Design Engineers located at R&D centres in North America, Europe and Asia can leverage over 100 years of fuse design and application experience along with our in-house test labs to meet any customised solution requests for **Eaton's Bussmann series fuses**.

Our services include:

- New current/voltage ratings
- Design to meet I^2t requirements
- Customised mounting connection and plating materials
- Modify indicator locations/ add or remove indicators
- Special end connections
- Acquire UL/IEC/CCC/CSA certificates
- Customised testing such as shock vibration

Contact us today:

For general fuse enquiries: buletechnical@eaton.com

For high speed fuses enquiries : bulehighspeedtechnical@eaton.com

Eaton is an intelligent power management company dedicated to improving the quality of life and protecting the environment for people everywhere. We are guided by our commitment to do business right, to operate sustainably and to help our customers manage power - today and well into the future. By capitalizing on the global growth trends of electrification and digitalization, we're accelerating the planet's transition to renewable energy, helping to solve the world's most urgent power management challenges, and doing what's best for our stakeholders and all of society.

Founded in 1911, Eaton has been listed on the NYSE for nearly a century. We reported revenues of \$19.6 billion in 2021 and serve customers in more than 170 countries. For more information, visit www.eaton.com. Follow us on Twitter and LinkedIn.

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SA135011EN
October 2022

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