

1500 V DC ESS5 aR and aBat Size 4 fuse links



Product description

Eaton's Bussmann series ESS5 size 4 square body fuse links, are specifically designed for the protection of inverters, converters and battery racks.

Applications

- DC to AC Inverters
- DC to DC Converters
- Battery storage applications
- Electric Vehicle charging stations
- Power conversion systems
- Regenerate drives
- DC common bus protection

Features and benefits

- The surge in solar photovoltaic (PV) installations and energy storage systems has driven the adoption of 1500 VDC systems, as higher voltages reduce power losses and enable longer string lengths. Our 1500 V DC Fuses are therefore indispensable in protecting PV strings, battery racks, inverters and combiners..
- Low power dissipation, to prevent abnormal temperature rise, increases energy efficiency and lowers running cost
- Designed and tested to IEC 60269-4 and -7 and UL 248-13
- Handles extreme fault currents: In large-scale photovoltaic arrays, railway traction systems, energy storage facilities, or industrial DC networks, fault currents can quickly escalate to catastrophic levels. Our ESS fuses with a 250 kA breaking capacity ensure that, even in worst-case scenarios, the system is protected from the full spectrum of short-circuit events.
- Minimizes arc energy: The ability to interrupt high currents rapidly minimizes the duration and energy of electrical arcs. This is especially important in DC circuits, where arcs tend to persist longer than in AC circuits because there is no zero-crossing.
- 400% In minimum breaking current offers easy coordination within DC applications and reduces dimensioning requirements of DC contactors to optimize space and decrease overall cost of the installation.
- aR and aBat operating class

Catalogue symbol

- ESS5-Amp rating, e.g. ESS5-1800

Technical data

- Rated voltage: 1500 V DC
- Rated current: 630 A to 1800 A
- Fuse body size: 4
- Operating class: aR and aBat
- Breaking capacity: 250 kA at 4ms L/R

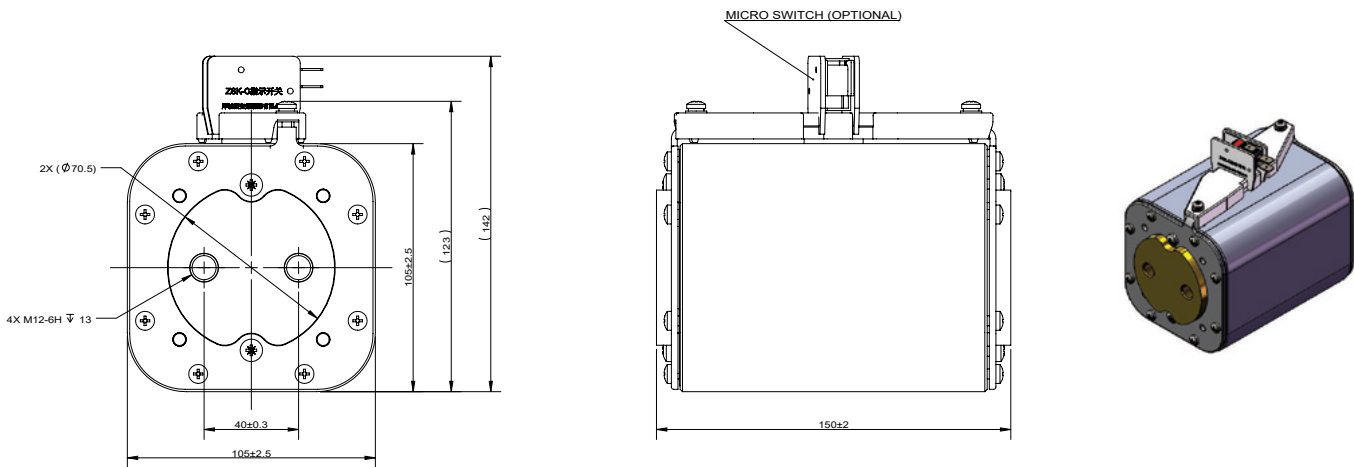
Standards/Approvals

- Designed and tested to IEC 60269 part 4 and 7
- UL 248-13 Recognised
- RoHS Compliant

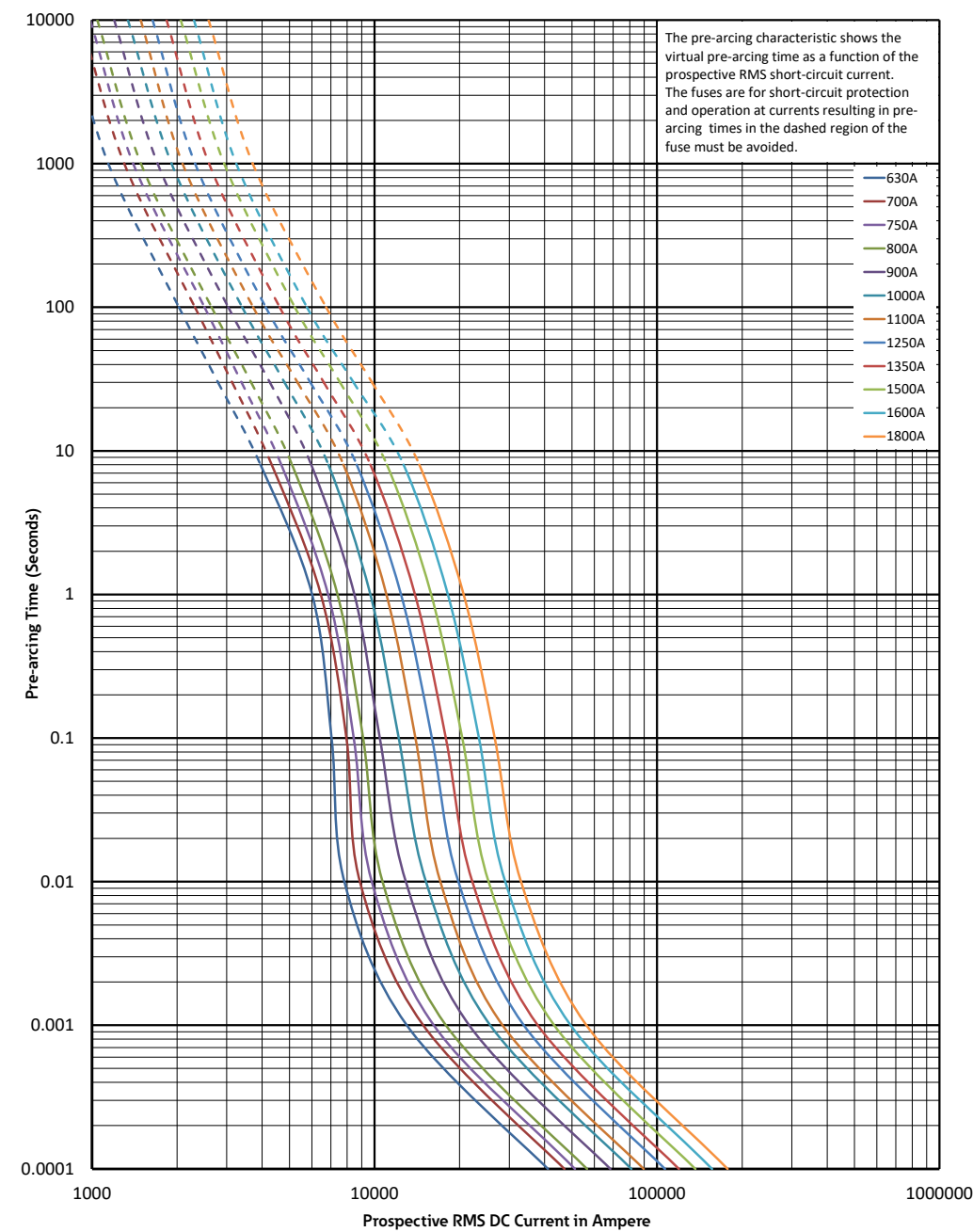
Technical data

Fuse body size	Rated voltage	Rated current (Amps)	Breaking capacity (kA at 4ms)	Minimum breaking current (Amps)	Pre-arcing I ² t (A ² Sec)	Power loss at I _n (W)	Catalog number
4	1500 V d.c. (IEC/UL)	630	250	5040	169,000	183	ESS5-630
		700	250	5600	200,000	192	ESS5-700
		800	250	6400	320,000	202	ESS5-800
		900	250	7200	467,000	212	ESS5-900
		1000	250	8000	658,000	233	ESS5-1000
		1100	250	8800	804,000	241	ESS5-1100
		1250	250	10,000	1,140,000	262	ESS5-1250
		1350	250	10,800	1,430,000	273	ESS5-1350
		1500	250	12,000	1,870,000	286	ESS5-1500
		1600	250	12,800	2,450,000	284	ESS5-1600
		1800	250	14,400	3,170,000	315	ESS5-1800

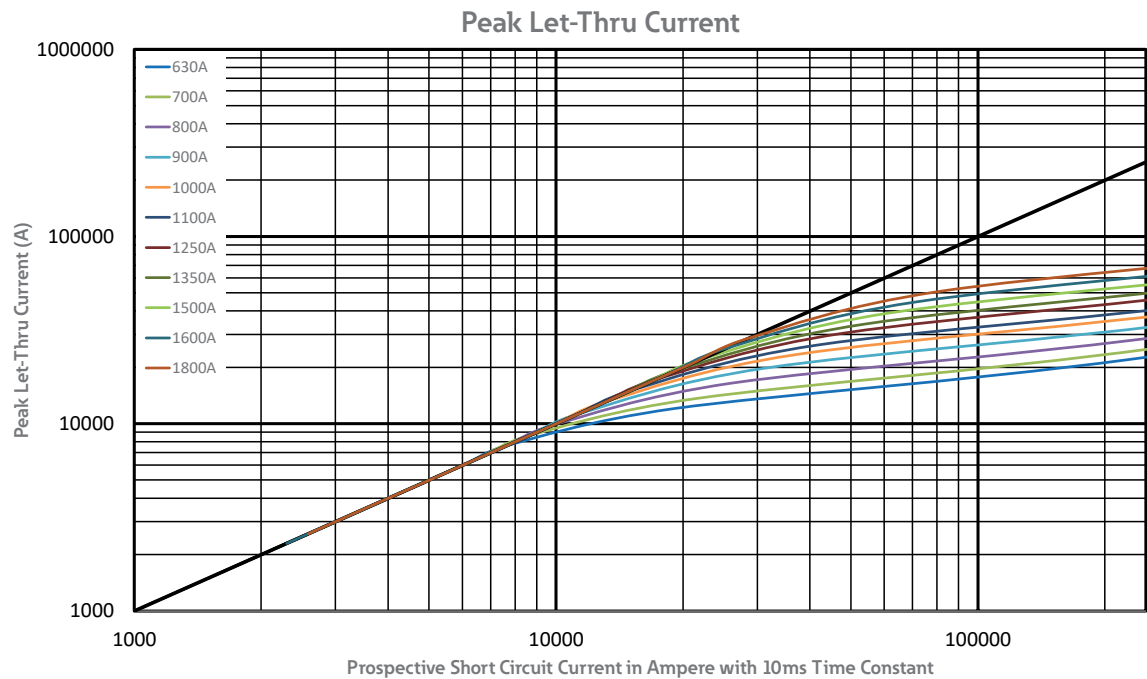
Dimensions (mm)



Time-current curve

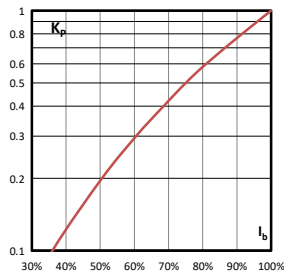


Peak-let through curve



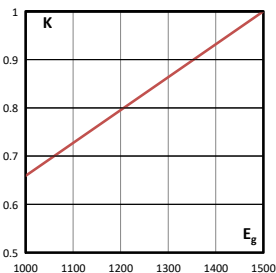
Watts losses

Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the watts losses at load currents lower than the rated current. The correction factor, K_p , is given as a function of the RMS load current, I_b , in percent of the rated current.



Total clearing I^2t

The total clearing I^2t at rated voltage and tested DC time constant are given in electrical characteristics. For other voltages the clearing I^2t is found by multiplying by correction factor, K , given as a function of applied working voltages, E_g .



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Eaton
EMEA Headquarters
Route de la Longeraie 7
1110 Morges, Switzerland

Electrical Sector
Eaton Electrical Products Limited
Unit 1, Hawker Business Park,
Melton Road, Burton-on-the-Wolds
LE12 5TH, UK
Eaton.com

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