BUSSMANN SERIES

# Leadership in fusible circuit protection



# We make what matters work.





 $\star$  At Eaton, we believe that power is a fundamental part of just about everything people do. That's why we're dedicated to helping our customers find new ways to manage electrical, hydraulic and mechanical power more efficiently, safely and sustainably. To improve people's lives, the communities where we live and work, and the planet our future generations depend upon. Because this is what really matters. And we're here to make sure it works.

To learn more go to: Eaton.com/whatmatters



We make what matters work.

Eaton is the leading source of fusible circuit protection solutions in the global marketplace. Eaton's Bussmann series products are approved for use around the world and meet agency requirements and international standards: IEC, VDE, DIN,UL, CSA, BS and others.

The headquarters for Eaton's Bussmann series product line is located in Burton-on-the-Wolds, Leicestershire (UK) and is part of Eaton's Industrial Control and Protection EMEA division.

Eaton manufactures over 50,000 Bussmann series part numbers, covering extensive fusible circuit protection solutions for a wide range of applications: residential, industrial, motor protection, power conversion and distribution.

Eaton has been a leading exponent in the design, development and manufacture of fuse links and their associated accessories for more than 100 years and has supplied fuse links to more than 90 countries worldwide.

Eaton's team of specialist Engineers and Field Applications Engineers plays a leading role in international standardisation of fuse links offering comprehensive advice on selection and applications.

With a continual commitment to meet our customers' needs with innovative high quality ~products with ISO 9001 'approval systems', Eaton is the supplier of choice for circuit protection solutions.

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French style US style	1000 V a.c.         1250-1300 V a.c.         690 V a.c.         690-700 V a.c.         1000 V a.c.         690-700 V a.c.         1000 V a.c.         1000 V a.c.         1250-1300 V a.c.         690-700 V a.c.         1000 V a.c.         1000 V a.c.         1250-1300 V a.c.         690-700 V a.c.         1000 V a.c.         1250-1300 V a.c.         690-700 V a.c.         1250-1300 V a.c.         1250-1300 V a.c.         1250 V a.c.	50 to 1400 A 50 to 1400 A 10 to 800 A 10 to 1600 A 20 to 225A 40 to 1600 A 40 to 2000 A 50 to 1400 A 1000 to 4000 A 1000 to 3000 A 800 to 2500 A 1000 to 4000 A 630 to 2800 A	170M - size 1* to 3         170M - size 00 to 3         170M - dual indicator         170M - size 00         170M - size 1* to 3         170M - size 4         170M - size 4         170M - size 4         170M - size 23	111         121         131         141         151         154         164         174         184         194         197         207         217         227         230         236         242
French style US style	1000 V a.c.         1250-1300 V a.c.         690 V a.c.         690-700 V a.c.         1000 V a.c.         690-700 V a.c.         690-700 V a.c.         690-700 V a.c.         1000 V a.c.         1250-1300 V a.c.         690-700 V a.c.         1250-1300 V a.c.         690-700 V a.c.         1000 V a.c.         1250-1300 V a.c.         690-700 V a.c.         1000 V a.c.         1250-1300 V a.c.         1000 V a.c.         1250-1300 V a.c.         1250-1300 V a.c.         1250-1300 V a.c.         1250-1300 V a.c.         1250 V a.c.         660 V a.c.         1250 V a.c.         690 V a.c.         1250 V a.c.         690 V a.c.	50 to 1400 A 50 to 1400 A 10 to 800 A 10 to 1600 A 20 to 225A 40 to 1600 A 40 to 2000 A 50 to 1400 A 1000 to 4000 A 1000 to 2500 A 1000 to 2800 A 2000 to 6500 A	170M - size 1* to 3         170M - size 00 to 3         170M - dual indicator         170M - size 00         170M - size 1* to 3         170M - size 4         170M - size 4         170M - size 23         170M - size 23         170M - size 24	111         121         131         141         151         154         164         174         184         197         207         217         227         230         236         242         246         249
French style US style	1000 V a.c.         1250-1300 V a.c.         690 V a.c.         690-700 V a.c.         1000 V a.c.         690-700 V a.c.         1000 V a.c.         1250-1300 V a.c.         690-700 V a.c.         1000 V a.c.         1250-1300 V a.c.         690-700 V a.c.         1000 V a.c.         1250-1300 V a.c.         690-700 V a.c.         1000 V a.c.         1250 V a.c.         690 - 700 V a.c.         1250 V a.c.         690 - 700 V a.c.         1250 V a.c.         690 V a.c.         1250 V a.c.         690 V a.c.         1250 V a.c.         690 V a.c.         1000 V a.c.         1000 V a.c.	50 to 1400 A           50 to 1400 A           10 to 800 A           10 to 1600 A           20 to 225A           40 to 1600 A           50 to 1400 A           25 to 400 A           40 to 2000 A           50 to 1400 A           25 to 400 A           40 to 2000 A           50 to 1400 A           1000 to 4000 A           1000 to 3000 A           800 to 2500 A           1000 to 4000 A           630 to 2800 A           2000 to 6500 A           2000 to 5000 A	170M - size 1* to 3         170M - size 00 to 3         170M - dual indicator         170M - size 00         170M - size 00         170M - size 1* to 3         170M - size 24         170M - size 23         170M - size 23         170M - size 24	111         121         131         141         151         154         164         174         184         194         197         207         217         227         230         236         242         246         249         252
French style US style Flush end contact	1000 V a.c.         1250-1300 V a.c.         690 V a.c.         690-700 V a.c.         1000 V a.c.         690-700 V a.c.         1000 V a.c.         1000 V a.c.         690-700 V a.c.         690-700 V a.c.         1000 V a.c.         1250-1300 V a.c.         690-700 V a.c.         1000 V a.c.         1250-1300 V a.c.         690-700 V a.c.         1000 V a.c.         1250 V a.c.         660 V a.c.         1250 V a.c.         690 V a.c.         1000 V a.c.         1000 V a.c.         1000 V a.c.         1100-2000 V a.c.	50 to 1400 A 50 to 1400 A 10 to 800 A 10 to 1600 A 20 to 225A 40 to 1600 A 40 to 2000 A 50 to 1400 A 50 to 1400 A 25 to 400 A 40 to 2000 A 50 to 1400 A 50 to 1400 A 50 to 1400 A 1000 to 4000 A 1000 to 3000 A 800 to 2500 A 1000 to 6500 A 2000 to 5000 A 1800 to 5500 A	170M - size 1* to 3         170M - size 00 to 3         170M - dual indicator         170M - size 00         170M - size 00         170M - size 1* to 3         170M - size 2* to 3         170M - size 24         170M - size 24         170M - size 24         170M - size 24         170M - size 5	111         121         131         141         151         154         164         174         184         194         197         207         217         227         230         236         242         246         249         252         255
DIN 43620 French style US style Flush end contact Drive fuse links	1000 V a.c.         1250-1300 V a.c.         690 V a.c.         690-700 V a.c.         1000 V a.c.         690-700 V a.c.         1000 V a.c.         1250-1300 V a.c.         690-700 V a.c.         1000 V a.c.         1250-1300 V a.c.         690-700 V a.c.         1000 V a.c.         1250-1300 V a.c.         690-700 V a.c.         1000 V a.c.         1250 V a.c.         690 - 700 V a.c.         1250 V a.c.         690 - 700 V a.c.         1250 V a.c.         690 V a.c.         1250 V a.c.         690 V a.c.         1250 V a.c.         690 V a.c.         1000 V a.c.         1000 V a.c.	50 to 1400 A           50 to 1400 A           10 to 800 A           10 to 1600 A           20 to 225A           40 to 1600 A           50 to 1400 A           25 to 400 A           40 to 2000 A           50 to 1400 A           25 to 400 A           40 to 2000 A           50 to 1400 A           1000 to 4000 A           1000 to 3000 A           800 to 2500 A           1000 to 4000 A           630 to 2800 A           2000 to 6500 A           2000 to 5000 A	170M - size 1* to 3         170M - size 00 to 3         170M - dual indicator         170M - size 00         170M - size 00         170M - size 1* to 3         170M - size 24         170M - size 23         170M - size 23         170M - size 24	111         121         131         141         151         154         164         174         184         194         197         207         217         227         230         236         242         246         249         252

Traction fuse links	750.14	50		271
Square body	750 V d.c.	50 to 1600 A	170M - size 1*, 3 and 23	271
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	850 V d.c. / 1250 V a.c.	1400 A	170M7217 - size 4	285
	1200 V d.c.	20 to 215 A	170M - size 1*	288
	1200 V d.c.	160 to 420 A	170F - size 2	290
	2000 V d.c.	10 to 80 A	170E - size 1*	292
	2000 V d.c.	10 to 125 A	170E - size 1*	295
	2000 V d.c.	20 to 600 A	170M	300
	2400 V d.c.	100 to 400 A	170M - size 3	304
	4000 V d.c.	20 to 125 A	170E - size 1*	306
	4000 V d.c.	20 to 450 A	170E - size 1*, 2 and 2//2	309
Ferrule	750 V d.c.	5 to 60 A	FWK	315
	750 V d.c.	30 to 50 A	LRC750	316
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Round body	750 V d.c.	5 to 60 A	KC36	318
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		SD-D-PV	NH Bases	352
	1000 V d.c.	160 to 400 A	PV-AF Flush end PV fuse links	354
	1000-1500 V d.c.	50 to 600 A	PV XL fuse links	357
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		SD-S-PV	XL PV Bases	367
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		Ferrule	JM70100	383
Aodular knifeblade fuse blocks			JM60	384
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		14 x 51 mm	CH14	389
		22 x 58 mm	CH22	391
Vicroswitches		Square body	170H0235 to 170H0237 and 170H0069	393
		BS88-4	EC, MC and TI	395
Nountable fuse clips		FW14-PCB		396

# FWA - 130 V a.c. / V d.c.(UL), 1000 A to 4000 A

# **Specifications**

### Description

North American style flush end high speed fuse links for the protection of DC common bus, DC drives, power converters/ rectifiers and reduced rated voltage starters.

### **Technical data**

- Rated voltage: 130 V a.c. / V d.c. (UL)
- Rated current: 1000 A to 4000 A
- Breaking capacity:
  - 200 kA RMS Sym at 130 V a.c.
  - 50 kA at 130 V d.c.

### **Standards / Agency information**

CE, UL Recognised JFHR2.E91958 on 1000 A to 2000 A fuse links

### **Catalogue numbers**

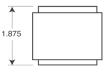
		I <sup>2</sup> t (A <sup>2</sup> Sec)			
Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 130 V a.c.	Watts loss (W)	Catalogue numbers
130 V a.c. / V d.c. (UL)	1000	170,000	460,000	60	FWA-1000AH
130 V a.c. / V d.c. (UL)	1200	270,000	730,000	70	FWA-1200AH
130 V a.c. / V d.c. (UL)	1500	520,000	1,400,000	78	FWA-1500AH
130 V a.c. / V d.c. (UL)	2000	860,000	2,400,000	108	FWA-2000AH
130 V a.c. / V d.c. (UL)	2500	1,500,000	4,100,000	130	FWA-2500AH
130 V a.c. / V d.c. (UL)	3000	2,100,000	5,700,000	150	FWA-3000AH
130 V a.c. / V d.c. (UL)	4000	3,400,000	9,200,000	257	FWA-4000AH

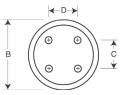
# Dimensions (in) - 1000 A to 3000 A

Dimensions (in) - 4000 A







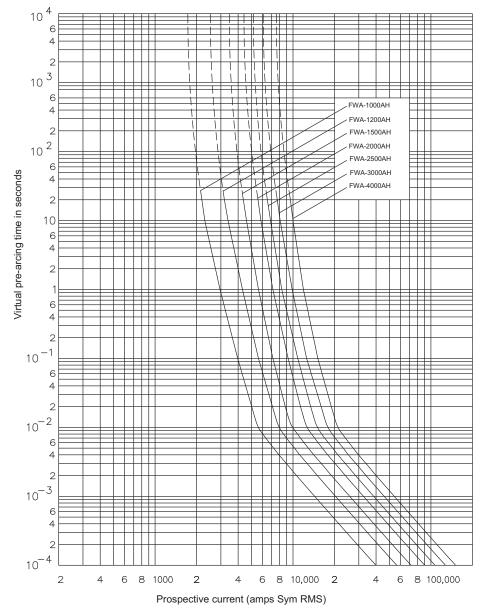


Rated current (Amps)	В	C	D	Thread depth
1000 to 2000	2	1	-	Tapped 3/8"-24 x 1/2" UNF
2500 to 3000	3	1.5	-	Tapped 1/2"-20 x 1/2" UNF
4000	3.5	1.5	1.5	Tapped 1/2"-20 x 1/2" UNF

1" = 25.4mm



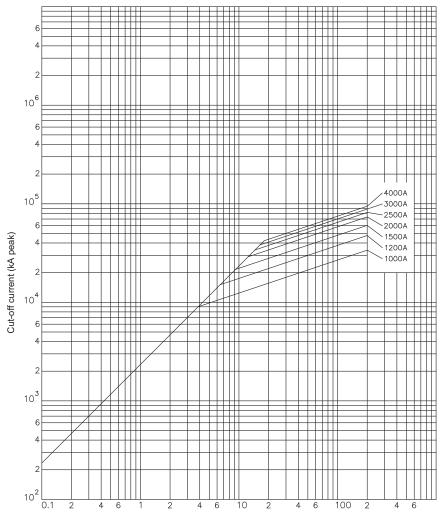
# FWA - 130 V a.c. / V d.c.(UL), 1000 A to 4000 A



### Time-current curve - 1000 A to 4000 A

# FWA - 130 V a.c. / V d.c.(UL), 1000 A to 4000 A

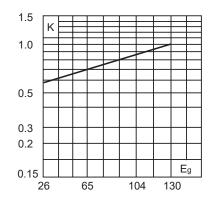
Cut-off curve - 1000 A to 4000 A



Prospective current (Sym RMS kA)

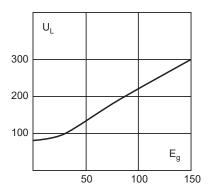
### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



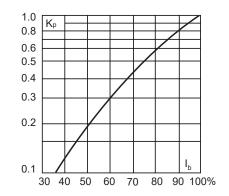
### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{g}$ , (RMS) at a power factor of 15 percent.



### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



Data sheets: 720001, 5785301

# FWA - 150 V a.c. / V d.c. (UL), 70 A to 1000 A

# **Specifications**

# **Description**

North American style bolted tag high speed fuse links used for the protection of DC common bus, DC drives, power converters/ rectifiers and reduced rated voltage starters.

### **Technical Data**

- Rated voltage:
  - 150 V a.c. / V d.c. (UL)
  - 80 V d.c.
- Rated current: 70 A to 1000 A
- Breaking capacity:
  - $\,$   $\,$  100 kA RMS Sym. (70 A to 400 A) at 150 V a.c.
  - 200 kA RMS Sym. (500 A to 1000 A) at 150 V a.c.
  - $\,$   $\,$  20 kA at 150 V a.c. / V d.c. (70 A to 800 A)  $\,$
- 100 kA at 80 V d.c. (70 A to 1000 A)

### **Standards / Agency information**

CE, UL Recognised JFHR2.E91958

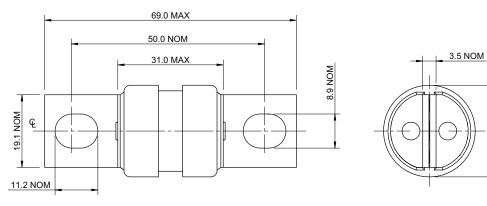
### **Catalogue numbers**



		l²t (A² Sec)				
Rated voltage / Breaking capacity	Rated current (Amps)	Clearing Pre-arcing at 150 V a.c.		Watts loss (W)	Catalogue numbers	
	70	470	4000	6.9	FWA-70B	
	80	670	6000	7.7	FWA-80B	
	100	1200	12,000	9	FWA-100B	
150 V a.c./ 100 kA	125	1870	18,000	11.2	FWA-125B	
80 V d.c. / 100 kA	150	2700	26,000	13.5	FWA-150B	
	200	4780	45,000	17.6	FWA-200B	
150 V d.c./ 20 kA	250	7470	70,000	22.5	FWA-250B	
	300	10,760	100,000	27	FWA-300B	
	350	15,700	140,000	30.6	FWA-350B	
	400	20,300	180,000	35.2	FWA-400B	
150 V a.c. / 200 kA	500	39,000	120,000	35	FWA-500A	
	600	46,000	140,000	47	FWA-600A	
80 V d.c. / 100 kA	700	75,000	220,000	49	FWA-700A	
150 V d.c. / 20 kA	800	92,000	280,000	58	FWA-800A	
150 V a.c. / 200 kA	1000	170,000	510,000	60	FWA-1000A	
80 V d.c. / 100 kA						

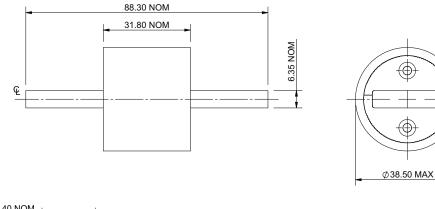
# FWA - 150 V a.c. / V d.c. (UL), 70 A to 1000 A

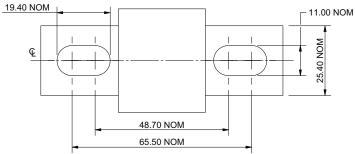
Dimensions (mm) - 70 A to 400 A



Ø24.5 MAX

Dimensions (mm) - 500 A to 1000 A

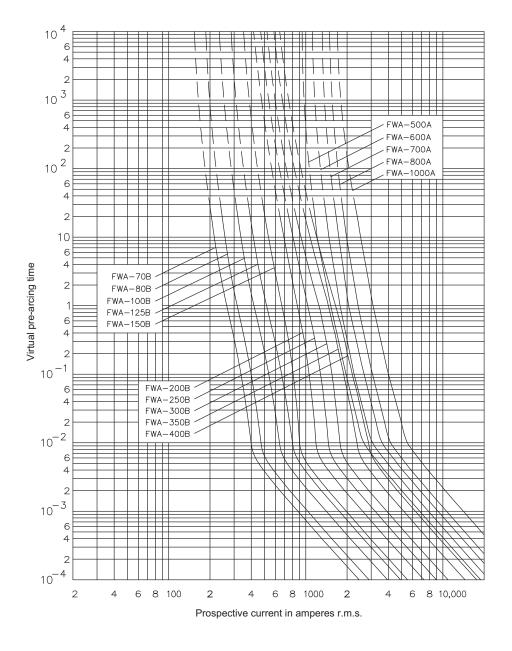




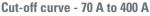
Data sheets: 720002, 5785310

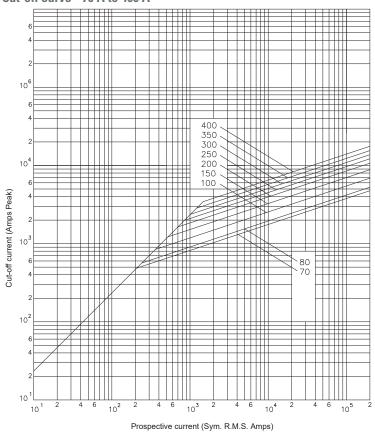
# FWA - 150 V a.c. / V d.c. (UL), 70 A to 1000 A

# Time-current curve - 70 A to 1000 A

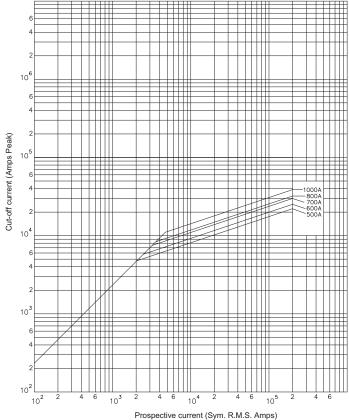


# FWA - 150 V a.c. / V d.c. (UL), 70 A to 1000 A



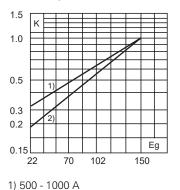






### Total clearing l<sup>2</sup>t

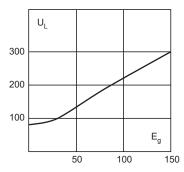
The total clearing l<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing l<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{g'}$  (RMS).



2) 70 - 400 A

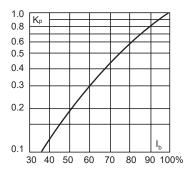
# Arc voltage

This curve gives the peak arc voltage,  $\rm U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $\rm E_g$ , (RMS) at a power factor of 15 percent.



### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $l_{\rm h}$ , in percent of the rated current.



Data sheets: 720002, 5785310

# FWX - 250 V a.c. / V d.c. (UL), 35 A to 2500 A

# **Specifications**

# Description

North American style bolted tags and flush end high speed fuse links for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

### **Technical Data**

- Rated voltage: 250 V a.c. / V d.c. (UL)
- Rated current: 35 A to 2500 A
- Breaking capacity:
- 200 kA RMS Sym.at 250 V a.c.
- 50 kA at 250 V d.c. (35 A to 800 A)

# **Standards / Agency information**

CE, UL Recognised file JFHR2.E56412 and CSA component acceptance on 35 A to  $\,$  800 A fuse links (50 kA IR at 250 V d.c.)  $\,$ 

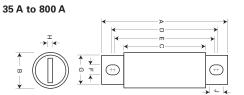
### **Catalogue numbers**

	Rated	Rated I <sup>2</sup> t (A <sup>2</sup> Sec)		_	
Rated voltage	current (Amps)	Pre-arcing	Clearing at 250 V a.c.	Watts loss (W)	Catalogue numbers
250 V a.c./ V d.c.(UL)	35	50	230	4.2	FWX-35A
250 V a.c./ V d.c.(UL)	40	60	310	5.2	FWX-40A
250 V a.c./ V d.c.(UL)	45	80	390	5.7	FWX-45A
250 V a.c./ V d.c.(UL)	50	100	520	6	FWX-50A
250 V a.c./ V d.c.(UL)	60	140	740	8.1	FWX-60A
250 V a.c./ V d.c.(UL)	70	330	1400	7.2	FWX-70A
250 V a.c./ V d.c.(UL)	80	430	1850	8.1	FWX-80A
250 V a.c./ V d.c.(UL)	90	570	2450	9	FWX-90A
250 V a.c./ V d.c.(UL)	100	740	3150	10	FWX-100A
250 V a.c./ V d.c.(UL)	125	1130	4850	12.5	FWX-125A
250 V a.c./ V d.c.(UL)	150	1620	6950	15.7	FWX-150A
250 V a.c./ V d.c.(UL)	175	2170	9300	18.5	FWX-175A
250 V a.c./ V d.c.(UL)	200	2790	12,000	22	FWX-200A
250 V a.c./ V d.c.(UL)	225	3210	14,700	24	FWX-225A
250 V a.c./ V d.c.(UL)	250	3960	18,100	27	FWX-250A
250 V a.c./ V d.c.(UL)	275	4720	21,600	31	FWX-275A
250 V a.c./ V d.c.(UL)	300	6000	27,300	32	FWX-300A
250 V a.c./ V d.c.(UL)	350	10,600	48,600	39	FWX-350A
250 V a.c./ V d.c.(UL)	400	14,500	66,100	44	FWX-400A
250 V a.c./ V d.c.(UL)	450	22,100	101,000	49	FWX-450A
250 V a.c./ V d.c.(UL)	500	28,000	128,000	54	FWX-500A
250 V a.c./ V d.c.(UL)	600	41,100	188,000	62	FWX-600A
250 V a.c./ V d.c.(UL)	700	48,800	190,000	72	FWX-700A
250 V a.c./ V d.c.(UL)	800	59,000	230,000	84	FWX-800A
250 V a.c./ V d.c.(UL)	1000	44,000	360,000	100	FWX-1000AH
250 V a.c./ V d.c.(UL)	1200	92,000	750,000	103	FWX-1200AH
250 V a.c./ V d.c.(UL)	1500	120,000	880,000	140	FWX-1500AH
250 V a.c./ V d.c.(UL)	1600	160,000	1,200,000	140	FWX-1600AH
250 V a.c./ V d.c.(UL)	2000	320,000	2,300,000	151	FWX-2000AH
250 V a.c./ V d.c.(UL)	2500	670,000	4,700,000	163	FWX-2500AH



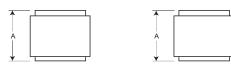
# FWX - 250 V a.c. / V d.c. (UL), 35 A to 2500 A

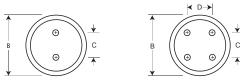
Dimensions (in)



1000 A to 1200 A

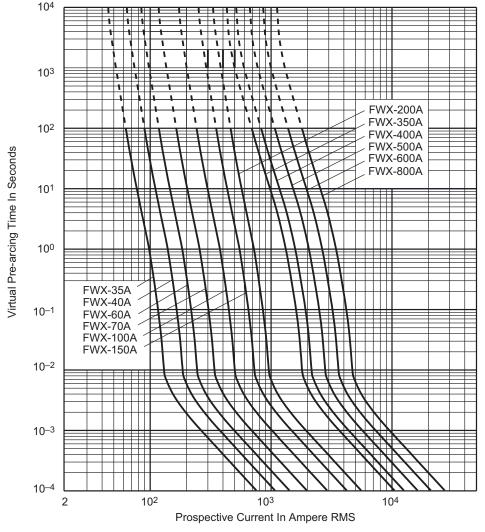
1500 A to 2500 A





Amp range	A	В	C	D	E	F	G	Н	J	Tapped thread depth
35-60	3.19	0.81	1.59	2.59	2.25	0.34	0.63	0.13	0.52	-
70-200	3.13	1.22	1.59	2.44	2.19	0.34	1	0.19	0.47	-
225-600	3.84	1.5	1.59	2.94	2.25	0.41	1	0.25	0.75	-
700-800	3.84	2	1.59	3.03	2.28	0.41	1.5	0.25	0.78	-
1000-1200	2.59	3	1.5	-	-	-	-	-	-	3/8″-24 x
1500-2500	2.59	3.5	1.5	1.5	-	-	-	-	-	1/2" UNF
1" = 25.4mm										

Time-current curve - 35 A to 800 A

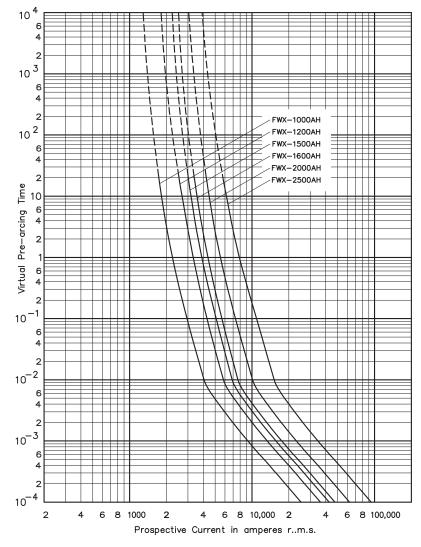


Contact FUSETECH@eaton.com for the time current curves for the following ratings: 45, 50, 80, 90, 125, 175, 225, 250, 275, 300, 450 and 700 A

Data sheets: 720005, 359 (35-800 A), 5785299 (100-2500 A)

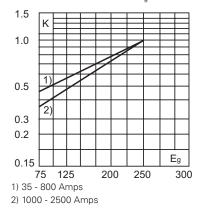
# FWX - 250 V a.c. / V d.c. (UL), 35 A to 2500 A

# Time-current curve - 1000 A to 2500 A



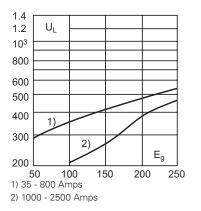
# Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



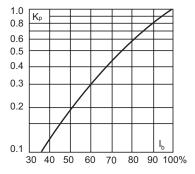
### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



### 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.



Data sheets: 720005, 359 (35-800 A), 5785299 (100-2500 A)

# CHSF - 500 V a.c. / V d.c. (UL), 50 A to 400 A

# **Specifications**

### Description

Eaton's Bussmann series compact high speed fuses feature space-saving case sizes for protecting semiconductor devices up to 500 V a.c./V d.c. in ratings from 50 to 400 Amps

### **Technical Data**

- Rated voltage: 500 V a.c. / V d.c. (UL)
- Rated current: 50 A to 400 A
- Breaking capacity:
  - Maximum AC: 200 kA / Minimum AC 400%
  - Maximum DC: 50 kA / Minimum DC 800%
- · Conforms to IEC aR specifications for short-circuit protection

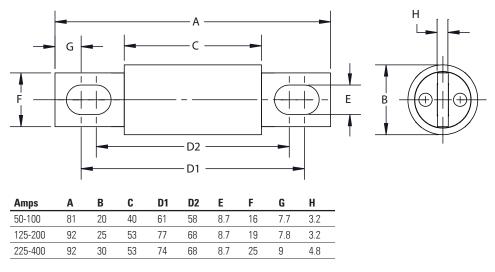
### Standards / Agency information

UL Recognised, File E56412, guide JFHR2, CSA Component Acceptance, Class 1422-30, File 53787, IEC aR (self-certified), CE, RoHS compliant, REACH declaration available upon request

### **Catalogue numbers**

	Rated	l²t (A² Sec)				
Rated voltage	current (Amps)	AC/DC Pre-arcing	AC clearing at 200 kA/500 V a.c.	DC clearing at 50 kA/500 V d.c.	Watts loss (W) at 80%	Catalogue numbers
500 V a.c./ V d.c.(UL)	50	304	1875	935	3.8	CHSF-50
500 V a.c./ V d.c.(UL)	60	438	2700	1346	4.5	CHSF-60
500 V a.c./ V d.c.(UL)	70	596	3675	1833	5.3	CHSF-70
500 V a.c./ V d.c.(UL)	80	778	4800	2394	6.1	CHSF-80
500 V a.c./ V d.c.(UL)	100	1216	7500	3740	7.6	CHSF-100
500 V a.c./ V d.c.(UL)	125	2042	12721	6465	12	CHSF-125
500 V a.c./ V d.c.(UL)	150	2941	18318	9309	14.3	CHSF-150
500 V a.c./ V d.c.(UL)	175	4003	24933	12671	16.7	CHSF-175
500 V a.c./ V d.c.(UL)	200	5228	32566	16550	19.1	CHSF-200
500 V a.c./ V d.c.(UL)	225	6835	48028	21278	26.1	CHSF-225
500 V a.c./ V d.c.(UL)	250	8438	59293	26270	29	CHSF-250
500 V a.c./ V d.c.(UL)	300	12151	85382	37828	34.8	CHSF-300
500 V a.c./ V d.c.(UL)	350	16539	116215	51488	40.6	CHSF-350
500 V a.c./ V d.c.(UL)	400	21603	151791	67250	46.4	CHSF-400

### Dimensions (mm) - 50 A to 400 A

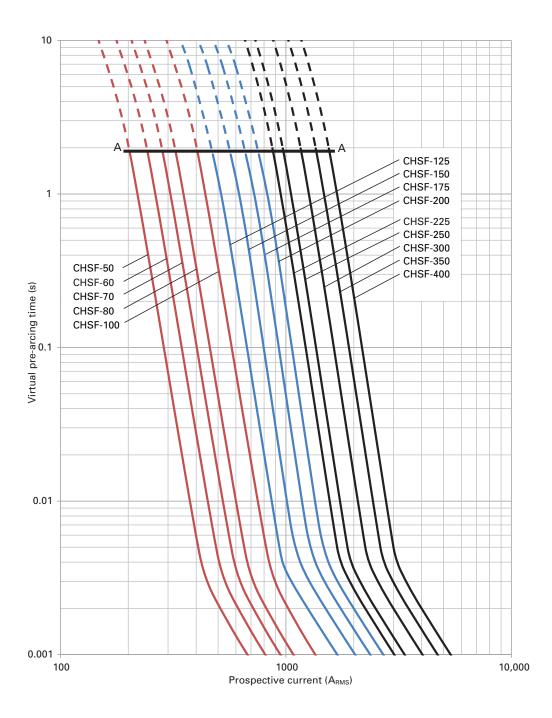


Data sheet: 10414



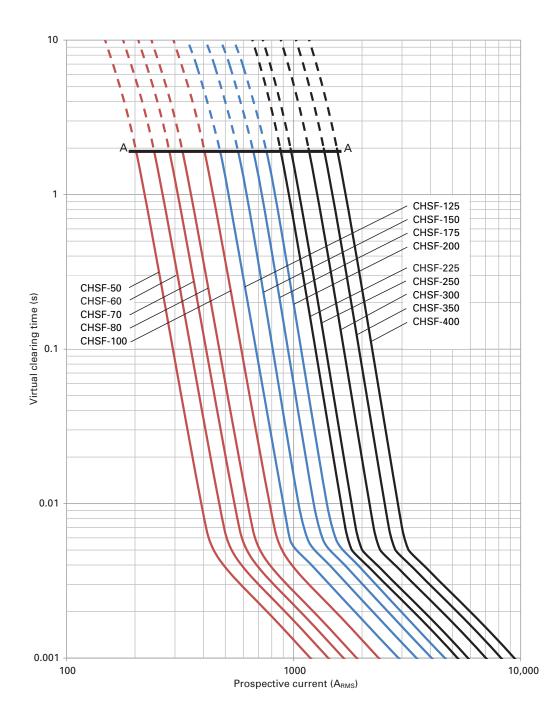
# CHSF - 500 V a.c. / V d.c. (UL), 50 A to 400 A

AC Minimum melt curve - 50 A to 400 A



# CHSF - 500 V a.c. / V d.c. (UL), 50 A to 400 A

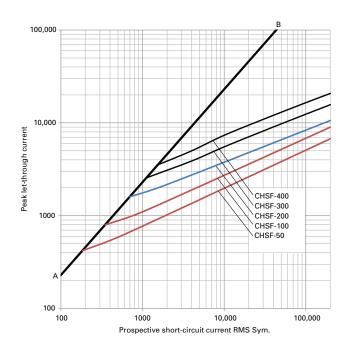
AC Time-current curve- 50 A to 400 A



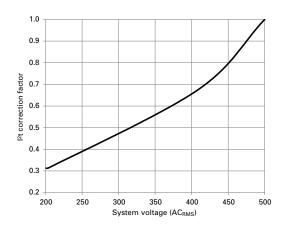
Data sheet: 10414

# CHSF - 500 V a.c. / V d.c. (UL), 50 A to 400 A

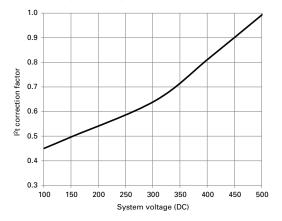
# AC Cut-off curve - 50 A to 400 A



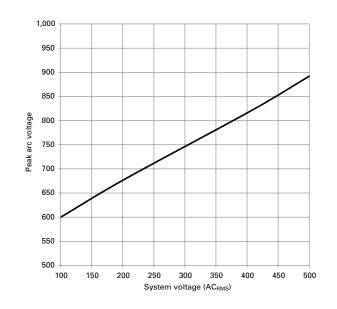
### AC clearing l<sup>2</sup>t voltage correction factor



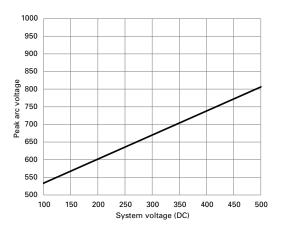
# DC clearing I<sup>2</sup>t voltage correction factor



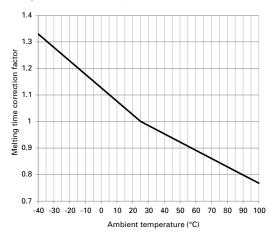
### **AC Arc Voltage**



DC Arc voltage



# **Temperature derating**



# FWH - 500 V a.c. / V d.c. (UL), 35 A to 1600 A

# **Specifications**

# Description

North American style bolted tags high speed fuse links, for the protection of DC common bus, power converters/rectifiers and reduced rated voltage starters.

# **Technical data**

- Rated voltage:
  - 500 V a.c. (UL)
- 500 V d.c. (35 A to 800 A only)
- Rated current: 35 A to 1600 A
- Breaking capacity:
  - 200 kA RMS Sym.
- 50 kA at 500 V d.c.

# Standards / Agency information

CE, UL Recognition JFHR2.E91958 FWH-\_B (35 A to 200 A), JFHR2.E56412 FWH-\_A (225 A to 800 A), CSA Component Acceptance Class 1422-30, File 53787 (35 A to 1600 A)

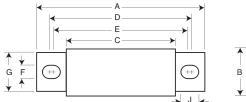
# **Catalogue numbers**

	Rated	I²t (A² Sec)			
Rated voltage	current (Amps)	Pre-arcing	Clearing at 500 V a.c.	Watts loss (W)	Catalogue numbers
500 V a.c./V d.c. (UL)	35	34	150	8	FWH-35B
500 V a.c./V d.c. (UL)	40	76	320	7.5	FWH-40B
500 V a.c./V d.c. (UL)	45	105	450	7.5	FWH-45B
500 V a.c./V d.c. (UL)	50	135	670	7.5	FWH-50B
500 V a.c./V d.c. (UL)	60	210	900	9.9	FWH-60B
500 V a.c./V d.c. (UL)	70	210	900	10.6	FWH-70B
500 V a.c./V d.c. (UL)	80	305	1400	12.7	FWH-80B
500 V a.c./V d.c. (UL)	90	360	1600	15	FWH-90B
500 V a.c./V d.c. (UL)	100	475	2000	17	FWH-100B
500 V a.c./V d.c. (UL)	125	800	3500	25	FWH-125B
500 V a.c./V d.c. (UL)	150	1100	4600	30	FWH-150B
500 V a.c./V d.c. (UL)	175	1450	6200	35	FWH-175B
500 V a.c./V d.c. (UL)	200	1900	8500	40	FWH-200B
500 V a.c./V d.c. (UL)	225	4600	23,300	39	FWH-225A
500 V a.c./V d.c. (UL)	250	6300	32,200	41	FWH-250A
500 V a.c./V d.c. (UL)	275	7900	40,300	46	FWH-275A
500 V a.c./V d.c. (UL)	300	9800	49,800	51	FWH-300A
500 V a.c./V d.c. (UL)	325	13,700	63,800	53	FWH-325A
500 V a.c./V d.c. (UL)	350	14,500	72,900	58	FWH-350A
500 V a.c./V d.c. (UL)	400	19,200	96,700	65	FWH-400A
500 V a.c./V d.c. (UL)	450	24,700	127,000	74	FWH-450A
500 V a.c./V d.c. (UL)	500	29,200	149,000	84	FWH-500A
500 V a.c./V d.c. (UL)	600	41,300	206,000	108	FWH-600A
500 V a.c./V d.c. (UL)	700	55,000	298,000	120	FWH-700A
500 V a.c./V d.c. (UL)	800	76,200	409,000	129	FWH-800A
500 V a.c./V d.c. (UL)	900	74,000	363,000	132	FWH-900A
500 V a.c. (UL)	1000	92,000	530,000	145	FWH-1000B
500 V a.c. (UL)	1200	122,000	700,000	180	FWH-1200B
500 V a.c. (UL)	1400	200,000	1,000,000	210	FWH-1400A
500 V a.c. (UL)	1600	290,000	1,400,000	230	FWH-1600A



# FWH - 500 V a.c. / V d.c. (UL), 35 A to 1600 A

# Dimensions (in) - 35 A to 1200 A

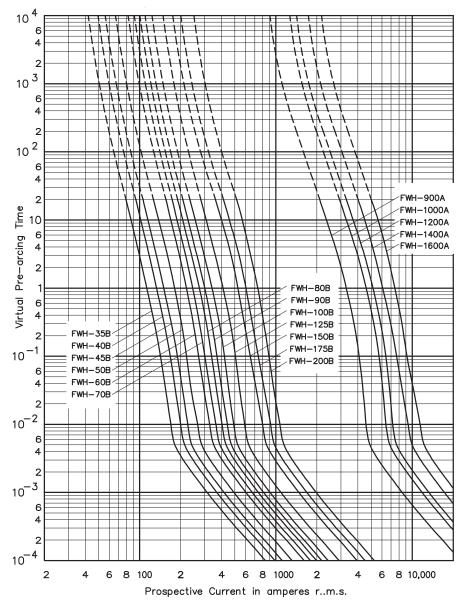




Amp range	Α	В	C	D	Е	F	G	Н	J
35-60	3.19	0.81	1.59	2.54	2.19	0.34	0.72	0.13	0.52
70-100	3.62	0.95	1.74	2.85	2.81	0.35	0.75	0.13	0.38
125-200	3.62	1.16	1.84	2.89	2.77	0.34	1	0.19	0.41
225-400	4.34	1.5	2.09	3.44	2.75	0.41	1	0.25	0.75
450-600	4.34	2	2.09	3.53	2.78	0.41	1.5	0.25	0.78
700-800	6.34	2.5	2.09	4.97	3.44	0.53	2	0.38	1.30
1000-1200	6.97	3	3.22	5.47	4.48	0.62	2.38	0.44	1.12
1″ – 25 /mm									

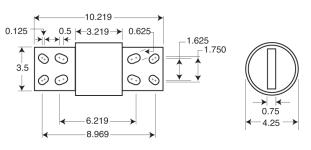
1" = 25.4mm

### Time-current curve - 35 A to 200 A and 900 A to 1600 A



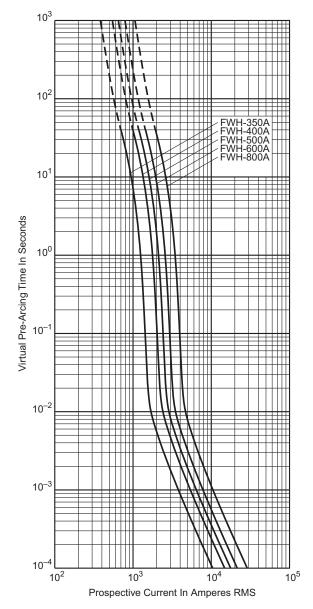
Data sheets: 720007, 360 (350-800 A), 5785304 (35-200 A, 1000-1600 A)

### Dimensions (in) - 1400 A and 1600 A



# FWH - 500 V a.c. / V d.c. (UL), 35 A to 1600 A

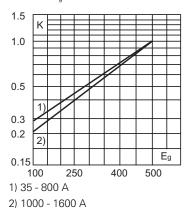
Time-current curve - 350 A to 800 A



Contact FUSETECH@eaton.com for the time current curves for the following ratings: 225 to 325 A, 450 A and 700 A

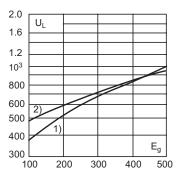
### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



### Arc voltage

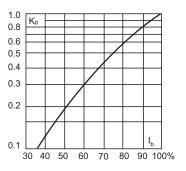
This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{g}$ , (RMS) at a power factor of 15 percent.



1) 35 - 200 A and 1000 - 1600 A 2) 225 - 800 A

### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $l_{\rm b}$ , in percent of the rated current.



Data sheets: 720007, 360 (350-800 A), 5785304 (35-200 A, 1000-1600 A)

# KAC - 600 V a.c. (UL), 1 A to 1000 A

# **Specifications**

# Description

North American style bolted tags high speed fuse links. These fuse links are supplied as replacements only. For new installations, Eaton recommends the 700 V FWP fuse links.

### **Technical Data**

- Rated voltage: 600 V a.c. (UL)
- Rated curent: 1 A to 1000 A
- Breaking capacity: 200 kA RMS Sym.

**Standards / Agency information** 

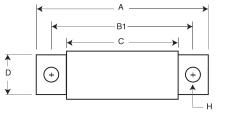
CE, UL file JFHR2.E56413 (1 A to 600 A only)

### **Catalogue numbers**

Rated voltage	Rated current (Amps)	Catalogue numbers
600 V a.c. (UL)	1	KAC-1
600 V a.c. (UL)	2	KAC-2
600 V a.c. (UL)	3	KAC-3
600 V a.c. (UL)	4	KAC-4
600 V a.c. (UL)	5	KAC-5
600 V a.c. (UL)	6	KAC-6
600 V a.c. (UL)	7	KAC-7
600 V a.c. (UL)	8	KAC-8
600 V a.c. (UL)	9	KAC-9
600 V a.c. (UL)	10	KAC-10
600 V a.c. (UL)	12	KAC-12
600 V a.c. (UL)	15	KAC-15
600 V a.c. (UL)	17.5	KAC-17.5
600 V a.c. (UL)	20	KAC-20
600 V a.c. (UL)	25	KAC-25
600 V a.c. (UL)	30	KAC-30
600 V a.c. (UL)	35	KAC-35
600 V a.c. (UL)	40	KAC-40
600 V a.c. (UL)	45	KAC-45
600 V a.c. (UL)	50	KAC-50
600 V a.c. (UL)	60	KAC-60
600 V a.c. (UL)	70	KAC-70
600 V a.c. (UL)	80	KAC-80
600 V a.c. (UL)	90	KAC-90
600 V a.c. (UL)	100	KAC-100
600 V a.c. (UL)	110	KAC-110
600 V a.c. (UL)	125	KAC-125
600 V a.c. (UL)	150	KAC-150
600 V a.c. (UL)	175	KAC-175
600 V a.c. (UL)	200	KAC-200
600 V a.c. (UL)	225	KAC-225
600 V a.c. (UL)	250	KAC-250
600 V a.c. (UL)	300	KAC-300
600 V a.c. (UL)	350	KAC-350
600 V a.c. (UL)	400	KAC-400
600 V a.c. (UL)	450	KAC-450
600 V a.c. (UL)	500	KAC-500
600 V a.c. (UL)	600	KAC-600
600 V a.c. (UL)	700	KAC-700
600 V a.c. (UL)	800	KAC-800
600 V a.c. (UL)	1000	KAC-1000



### Dimensions (in) - 1 A to 30 A and 450 A to 1000 A

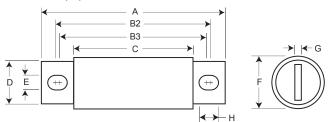




Rated current (Amps)	Α	B1	B2	B3	C	D	E	F	G	H
1-30	2.88	2.5	-	-	1.88	0.41	-	0.56	0.06	0.26
450-800	6.25	4.75	-		3.06	2	-	2.5	0.25	0.56
1000	7.25	4.75	-		3.06	2.75	-	3.5	0.38	0.56

1" = 25.4mm

Dimensions (in) - 35 A to 400 A



Rated current										
(Amps)	Α	B1	<b>B2</b>	B3	C	D	E	F	G	Н
35-60	4.38	-	3.75	3.50	2.75	0.63	0.34	0.81	0.09	0.47
70-100	5	-	4.06	3.66	2.75	0.75	0.41	1	0.13	0.61
110-200	5.14	-	4.39	3.77	2.91	1	0.41	1.5	0.19	0.72
225-400	6.18	-	4.82	4.57	3	1.63	0.56	2	0.25	0.69
1″ 25 /mm										

1" = 25.4mm

# KBC - 600 V a.c. (UL), 35 A to 800 A

# **Specifications**

# Description

North American style bolted tags and flush-end high speed fuse links. These fuse links are supplied as replacements only. For new installations, Eaton recommends the 700 V FWP fuse links.

# **Technical data**

- Rated voltage: 600 V a.c. (UL)
- Rated current: 35 A to 800 A
- Breaking capacity: 100 kA RMS Sym.

# **Standards / Agency information**

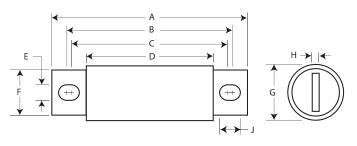
CE, UL file JFHR2.E56412 (35 A to 600 A only)

# **Catalogue numbers**

	Rated current	Catalogue
Rated voltage	(Amps)	numbers
600 V a.c. (UL)	35	KBC-35
600 V a.c. (UL)	40	KBC-40
600 V a.c. (UL)	45	KBC-45
600 V a.c. (UL)	50	KBC-50
600 V a.c. (UL)	60	KBC-60
600 V a.c. (UL)	70	KBC-70
600 V a.c. (UL)	80	KBC-80
600 V a.c. (UL)	90	KBC-90
600 V a.c. (UL)	100	KBC-100
600 V a.c. (UL)	110	KBC-110
600 V a.c. (UL)	125	KBC-125
600 V a.c. (UL)	150	KBC-150
600 V a.c. (UL)	175	KBC-175
600 V a.c. (UL)	200	KBC-200
600 V a.c. (UL)	225	KBC-225
600 V a.c. (UL)	250	KBC-250
600 V a.c. (UL)	300	KBC-300
600 V a.c. (UL)	350	KBC-350
600 V a.c. (UL)	400	KBC-400
600 V a.c. (UL)	450	KBC-450
600 V a.c. (UL)	500	KBC-500
600 V a.c. (UL)	600	KBC-600
600 V a.c. (UL)	800	KBC-800

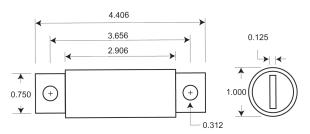


### Dimensions (in) - 35 A to 60 A and 110 A to 600 A

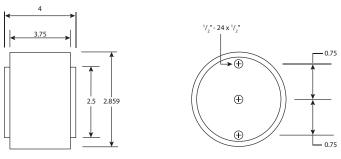


Rated current	_	_	-	_	_	_	_		
(Amps)	A	В	C	D	E	F	G	H	J
35-60	4.38	3.75	3.50	2.75	0.34	0.63	0.81	0.09	0.47
110-200	4.41	3.72	3.59	2.91	0.31	0.88	1.22	0.19	0.38
225-400	5.13	4.19	3.56	2.91	0.41	1	1.5	0.25	0.72
450-600	5.13	4.39	3.69	2.88	0.41	1.5	2	0.25	0.76
1" = 25.4mm									

Dimensions (in) - 70 A to 100 A



Dimensions (in) - 800 A



# FWP - 700 V a.c. / V d.c.(UL), 5 A to 1200 A

# **Specifications**

### **Description**

North American style bolted tags high speed fuse links for the protection of DC common bus, DC drives, power converters/ rectifiers, reduced rated voltage starters.

### **Technical data**

- Rated voltage: 700 V a.c. / V d.c. (UL)
- Rated current: 5 A to 1200 A
- · Breaking capacity: see details in table below

### **Standards / Agency information**

CE, UL Recognition JFHR2.E91958 FWP-\_B (5 A to 100 A, 700 A to 1200 A), JFHR2.E56412 FWP-\_A (125 A to 600 A) and CSA Component Acceptance file class 1422-30, (53787) on 5 A to 800 A

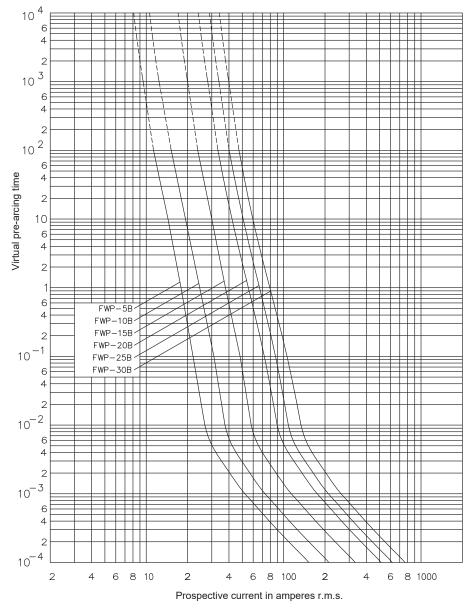
### **Catalogue numbers**



AC		DC			I²t (A² Sec)			
Rated voltage	Breaking capacity	Rated voltage	Breaking capacity	Rated current (Amps)	Pre-arcing	Clearing at 700 V a.c.	Watts loss (W)	Catalogue numbers
700 V a.c.	200 kA	500 V d.c. (10 ms)	50 kA	5	1.6	11	1.5	FWP-5B
700 V a.c.	200 kA	500 V d.c. (10 ms)	50 kA	10	3.6	22	4	FWP-10B
700 V a.c.	200 kA	500 V d.c. (10 ms)	50 kA	15	10	70	5.5	FWP-15B
700 V a.c.	200 kA	500 V d.c. (10 ms)	50 kA	20	26	180	6	FWP-20B
700 V a.c.	200 kA	500 V d.c. (10 ms)	50 kA	25	44	320	7	FWP-25B
700 V a.c.	200 kA	500 V d.c. (10 ms)	50 kA	30	58	450	9	FWP-30B
700 V a.c.	200 kA	700 V d.c.	50 kA	35	34	160	12	FWP-35D
700 V a.c.	200 kA	700 V d.c.	50 kA	40	76	320	12	FWP-40D
700 V a.c.	200 kA	700 V d.c.	50 kA	50	135	600	12	FWP-50D
700 V a.c.	200 kA	700 V d.c.	50 kA	60	210	950	15.5	FWP-60D
700 V a.c.	200 kA	700 V d.c.	50 kA	70	305	2000	18	FWP-70B
700 V a.c.	200 kA	700 V d.c.	50 kA	80	360	2400	21	FWP-80B
700 V a.c.	200 kA	700 V d.c.	50 kA	90	415	2700	25	FWP-90B
700 V a.c.	200 kA	700 V d.c.	50 kA	100	540	3500	27	FWP-100B
700 V a.c.	200 kA	700 V d.c.	10 kA	125	1800	7300	28	FWP-125A
700 V a.c.	200 kA	700 V d.c.	10 kA	150	2900	11,700	32	FWP-150A
700 V a.c.	200 kA	700 V d.c.	10 kA	175	4200	16,700	35	FWP-175A
700 V a.c.	200 kA	700 V d.c.	10 kA	200	5500	22,000	43	FWP-200A
700 V a.c.	200 kA	700 V d.c.	10 kA	225	7700	31,300	45	FWP-225A
700 V a.c.	200 kA	700 V d.c.	10 kA	250	10,500	42,500	48	FWP-250A
700 V a.c.	200 kA	700 V d.c.	10 kA	300	17,600	71,200	58	FWP-300A
700 V a.c.	200 kA	700 V d.c.	10 kA	350	23,700	95,600	65	FWP-350A
700 V a.c.	200 kA	700 V d.c.	10 kA	400	31,000	125,000	78	FWP-400A
700 V a.c.	200 kA	700 V d.c.	50 kA	450	36,400	137,000	94	FWP-450A
700 V a.c.	200 kA	700 V d.c.	50 kA	500	45,200	170,000	107	FWP-500A
700 V a.c.	200 kA	700 V d.c.	50 kA	600	66,700	250,000	122	FWP-600A
700 V a.c.	200 kA	700 V d.c.	50 kA	700	54,000	300,000	125	FWP-700A
700 V a.c.	200 kA	700 V d.c.	50 kA	800	78,000	450,000	140	FWP-800A
700 V a.c.	200 kA	N/A	N/A	900	91,500	530,000	150	FWP-900A
700 V a.c.	200 kA	N/A	N/A	1000	120,000	600,000	170	FWP-1000A
700 V a.c.	200 kA	N/A	N/A	1200	195,000	1,100,000	190	FWP-1200A

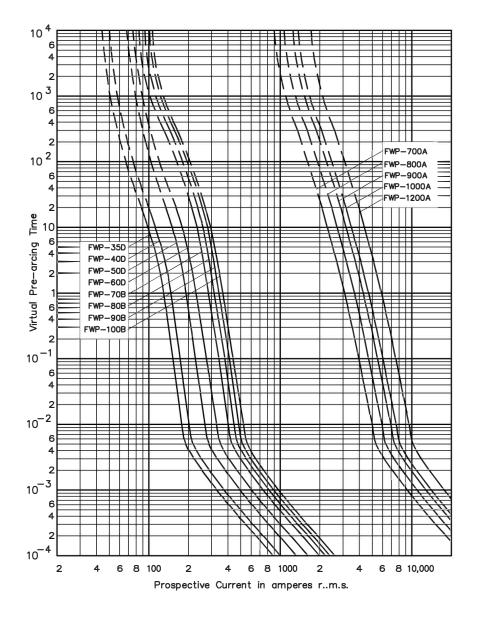
# FWP - 700 V a.c. / V d.c.(UL), 5 A to 1200 A

Time-current curve - 5 A to 30 A



# FWP - 700 V a.c. / V d.c.(UL), 5 A to 1200 A

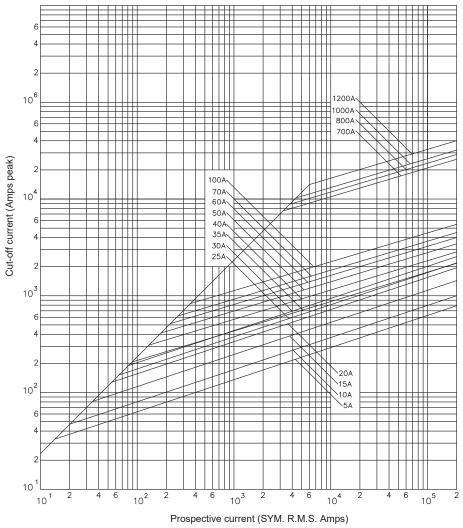
### Time-current curve - 35 A to 1200 A



Contact FUSETECH@eaton.com for the time current curves for the following ratings: 125 A to 600 A

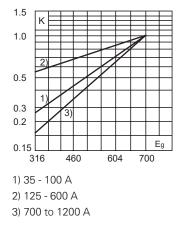
# FWP - 700 V a.c. / V d.c.(UL), 5 A to 1200 A

# Cut-off curve - 5 A to 1200 A



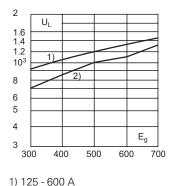
### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



### Arc voltage

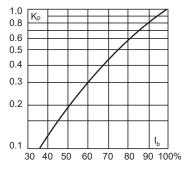
This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



2 ) 35 - 100 and 700 - 1200 A

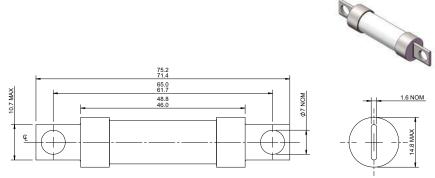
### Watts losses

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.

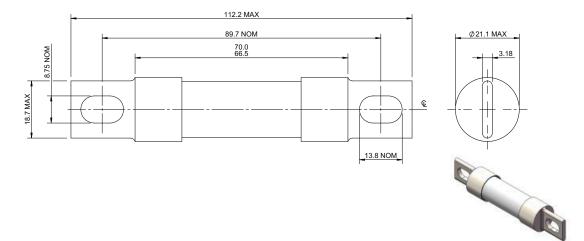


# FWP - 700 V a.c. / V d.c.(UL), 5 A to 1200 A

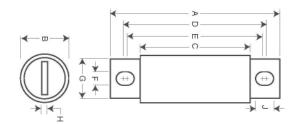
Dimensions (in) - 5 A to 30 A



# Dimensions (in) - 35 A to 60 A



Dimensions (in) - 70 A to 600 A

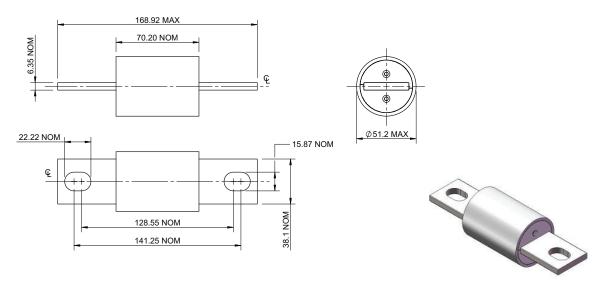


Amp range	Α	В	C	D	Е	F	G	Н	J
70-100	4.41	0.95	2.59	3.63	3.56	0.34	0.75	0.13	0.38
125-200	5.09	1.5	2.84	4.19	3.5	0.41	1	0.25	0.75
225-400	5.09	2	2.84	4.28	3.53	0.41	1.5	0.25	0.78
450-600	7.09	2.5	2.84	5.72	4.19	0.53	2	0.38	1.3
1″ 2E 4mm									

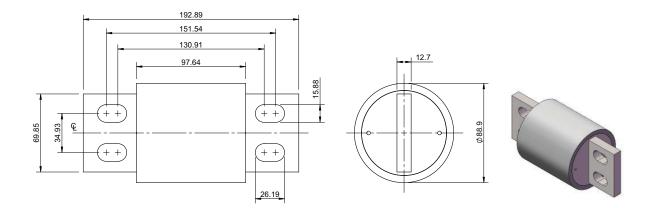
1" = 25.4mm

# FWP - 700 V a.c. / V d.c.(UL), 5 A to 1200 A

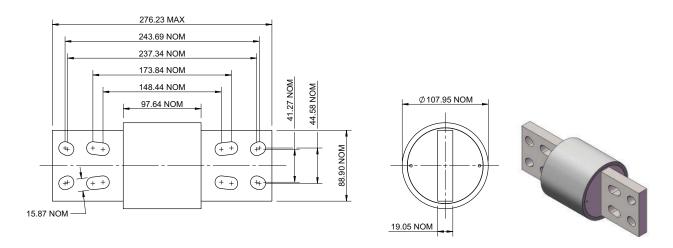
Dimensions (in) - 700 A and 800 A



Dimensions (in) - 900 A and 1000 A



### Dimensions (mm) - 1200 A



# FWJ - 1000 V a.c. / 800 V d.c. (UL), 35 A to 2000 A

# **Specifications**

### **Description**

North American style bolted tags high speed fuse links for the protection of DC common bus, DC drives power converters/ rectifiers, reduced rated voltage starters.

### **Technical data**

- Rated voltage:
  - 1000 V a.c. (UL)
  - 800 V d.c. (UL)
- Rated current: 35 A to 2000 A
- · Breaking capacity:
  - 25kA RMS Sym. (35 A to 200 A)
  - 100 kA RMS Sym. (250 A to 2000 A)

• 50 kA at 800 V d.c. (35 A to 200 A and 450 A to 600 A)

### **Standards / Agency information**

CE, UL Recognition JFHR8.E91958 on 50 A to 600 A only

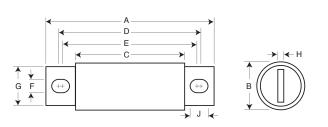
### **Catalogue numbers**



AC		DC		_ Rated	l²t (A² Sec)				
Rated voltage	Breaking capacity	Rated voltage	Breaking capacity	current (Amps)	Pre-arcing	Clearing at 1000 V a.c.	Watts loss (W)	Catalogue numbers	
				35	210	2000	7	FWJ-35A	
				40	300	2500	8	FWJ-40A	
				50	470	3500	10	FWJ-50A	
				60	670	5000	11	FWJ-60A	
				70	1100	6900	12	FWJ-70A	
1000 \/		000 \/ -! -		80	1550	9700	13	FWJ-80A	
1000 V a.c.	25 KA	800 V d.c.	50 kA	90	1900	12,000	14	FWJ-90A	
				100	2800	17,500	15	FWJ-100A	
				125	4800	35,000	16	FWJ-125A	
				150	6300	45,000	25	FWJ-150A	
			175	7500	65,000	30	FWJ-175A		
				200	11,700	80,000	32	FWJ-200A	
				250	16,000	112,000	50	FWJ-250A	
1000 \/	100 1.4		N1 / A	300	23,500	164,000	56	FWJ-300A	
1000 V a.c.	TUU KA	N/A	N/A	350	33,000	231,000	62	FWJ-350A	
				400	47,000	330,000	67	FWJ-400A	
				500	39,500	329,000	95	FWJ-500A	
				600	61,000	520,000	105	FWJ-600A	
				800	87,000	500,000	182	FWJ-800A	
				1000	190,000	1,100,000	206	FWJ-1000A	
1000 V a.c.	100 kA	800 V d.c.	50 kA	1200	370,000	2,100,000	240	FWJ-1200A	
				1400	470,000	2,700,000	248	FWJ-1400A	
				1600	700,000	4,000,000	267	FWJ-1600A	
				1800	925,000	5,300,000	239	FWJ-1800A	
				2000	1,330,000	7,600,000	244	FWJ-2000A	

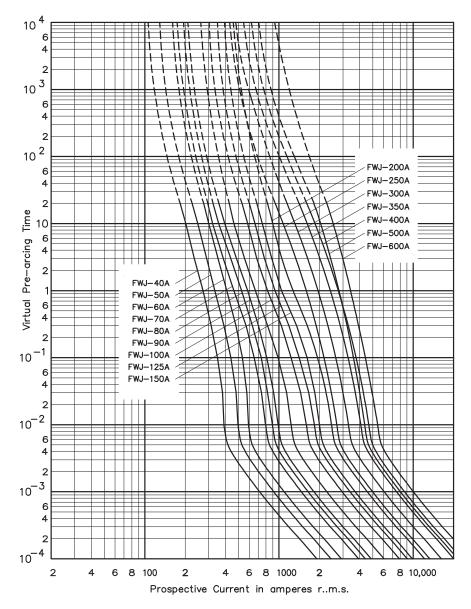
# FWJ - 1000 V a.c. / 800 V d.c. (UL), 35 A to 2000 A

Dimensions (in) - 35 A to 2000 A



Amp range	Α	В	C	D	Е	F	G	Н	J
35-60	5	0.94	3.11	4.24	4.18	0.35	0.75	0.13	0.38
70-100	4.93	1.13	3.09	4.27	4.16	0.35	1	0.19	0.41
125-200	5.69	1.53	3.26	4.80	4.06	0.45	1	0.25	0.82
250-400	5.77	2	3.5	4.81	4.15	0.43	1.5	0.25	0.76
500-600	7.20	2.5	3.47	5.98	4.71	0.56	2	0.38	1.2
800-2000	6.81	3.5	3.31	5.47	4.96	0.63	2.75	0.5	0.88
1" = 25.4mm									

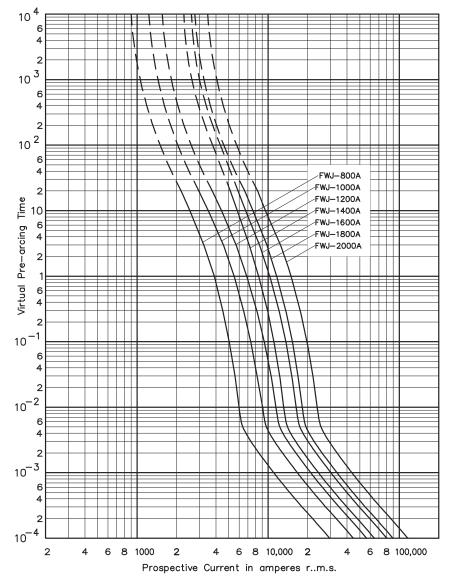
### Time-current curve - 35 A to 600 A



Data sheets: 720027, 5785303 (35-600 A), 5785309 (800-2000 A), E5785173

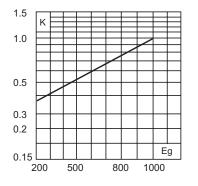
# FWJ - 1000 V a.c. / 800 V d.c. (UL), 35 A to 2000 A

# Time-current curve - 800 A to 2000 A



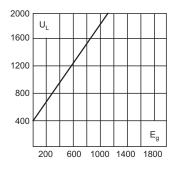
# Total clearing l<sup>2</sup>t

The total clearing  $l^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $l^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



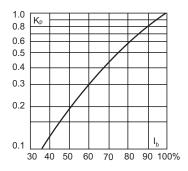
### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



# 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.



# FWE - 1000 V d.c. (IEC/UL), 70 A to 600 A

# **Specifications**

# Description

North American style bolted tags high speed fuse links designed for the protection of DC charging stations, specialist vehicle onboard applications and general DC power conversion equipment and battery systems voltage starters.

### Technical data

- Rated voltage: 1000 V d.c. (IEC/UL)
- Rated current: 70 A to 600 A
- Breaking capacity: 100 kA
- Operating class: aR

# Standards / Agency information

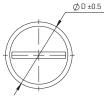
CE, IEC 60269-4 and UL 248-13 Recognised

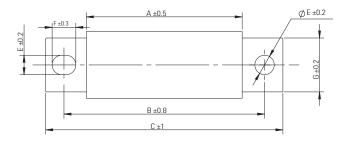
### **Catalogue numbers**

Rated voltage	Rated current	Watts loss (50% rated current)	Watts loss (100% rated current)	Pre-arcing I²t (A² Sec)	Clearing I <sup>2</sup> t	Breaking capacity	Operating class	Catalogue number
	70	3.8	21	680	3500	100 kA	aR	FWE-70A
	80	4.2	24	1020	5000	100 kA	aR	FWE-80A
	90	4.6	27	1400	6500	100 kA	aR	FWE-90A
	100	5	30	1820	8500	100 kA	aR	FWE-100A
	125	6	43	1830	7800	100 kA	aR	FWE-125A
	150	7	49	2670	12000	100 kA	aR	FWE-150A
	175	8	52	4670	20700	100 kA	aR	FWE-175A
	200	9	56	6900	29300	100 kA	aR	FWE-200A
1000 V d.c.	225	10	69	7880	31600	100 kA	aR	FWE-225A
(IEC/UL)	250	11	79	9940	39900	100 kA	aR	FWE-250A
	275	12	83	13000	52100	100 kA	aR	FWE-275A
	300	13	87	16800	67500	100 kA	aR	FWE-300A
	350	15	100	21100	89300	100 kA	aR	FWE-350A
	400	16	110	31500	125500	100 kA	aR	FWE-400A
	450	19	139	35300	166200	100 kA	aR	FWE-450A
	500	21	155	49300	203900	100 kA	aR	FWE-500A
	550	23	167	58600	322600	100 kA	aR	FWE-550A
	600	25	180	74700	346500	100 kA	aR	FWE-600A

# **Dimensions (cm)**





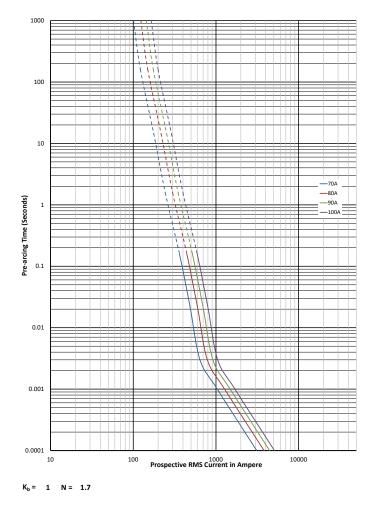


Catalogue number	Α	В	C	D	Е	F	G	Н
70A to 100A	72.2	93	110	25.4	9	11	19	2.2
125A to 200A	72.2	93	110	31	9	11	25	3
225A to 300A	72.2	100	122	38.1	11	13	28	3.5
350A to 400A	72.2	100	122	50.8	11	13	28	5
450A to 600A	72.2	100	122	63.5	11	13	40	6



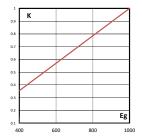
# FWE - 1000 V V d.c. (IEC/UL), 70 A to 600 A

# Time-current curve - 70 A to 100 A



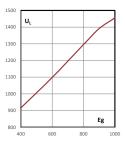
### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and tested DC time constant are given in electrical characteristics. For other voltages the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltages,  $E_{\alpha}$ .



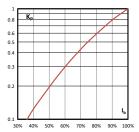
### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , at a time constant of 10ms.



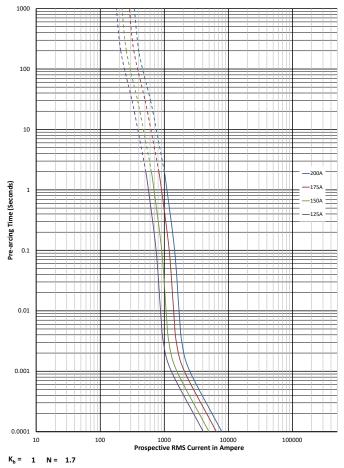
# Watts losses

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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



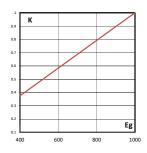
# FWE - 1000 V V d.c. (IEC/UL), 70 A to 600 A

Time-current curve - 125 A to 200 A



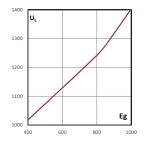
# Total clearing l<sup>2</sup>t

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,  $E_a$ .



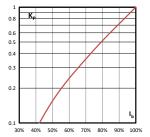
# Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{g'}$ , at a time constant of 10ms.



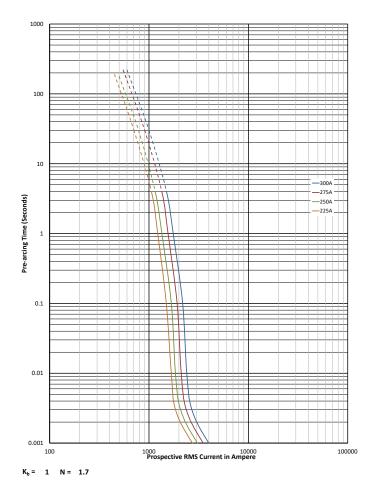
### Watts losses

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.



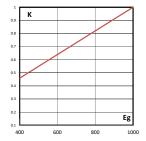
## FWE - 1000 V V d.c. (IEC/UL), 70 A to 600 A

Time-current curve - 225 A to 300 A



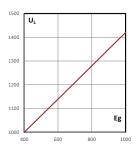
### Total clearing l<sup>2</sup>t

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,  $E_a$ .



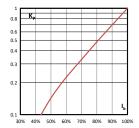
### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , at a time constant of 10ms.



#### Watts losses

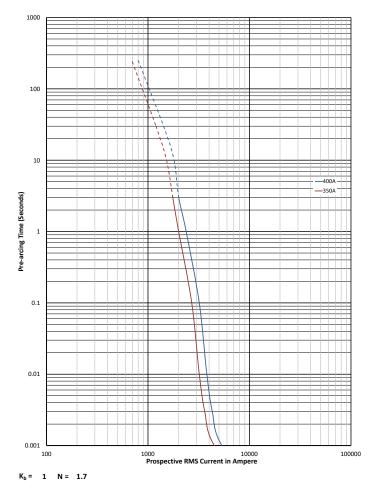
Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the watts losses at load currents lower than the rated current. The correction factor,  $K_p$ , is given as a function of the RMS load current,  $I_b$ , in percent of the rated current.



# North American fuse links

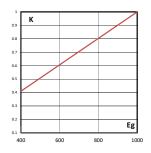
## FWE - 1000 V V d.c. (IEC/UL), 70 A to 600 A

Time-current curve - 350 A and 400 A



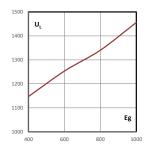
### Total clearing l<sup>2</sup>t

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



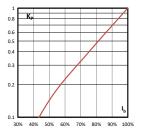
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , at a time constant of 10ms.



#### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



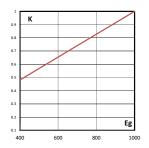
# FWE - 1000 V V d.c. (IEC/UL), 70 A to 600 A

# 1000 100 11 10 -600A -550A Pre-arcing Time (Seconds) -5004 450A 1 0.1 0.01 0.001 100 1000 10000 Prospective RMS Current in Ampere 100000 $K_{\rm b} = 1$ N = 1.7

### Time-current curve - 450 A to 600 A

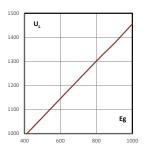
### Total clearing l<sup>2</sup>t

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



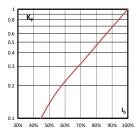
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{g'}$ , at a time constant of 10ms.



#### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



### LCT, LET - 240 V a.c. / 150 V d.c. (IEC), 250-280 V a.c. / 150 V d.c. (UL), 6 A to 180 A

### **Specifications**

### **Description**

BS88 style bolted tags fuse high speed links for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Low Watts loss in a compact size.

### **Technical Data**

- Rated voltage:
  - LCT 240 V a.c. / 150 V d.c. (IEC)
    - 250 V a.c. / 150 V d.c. (UL)
  - LET 280 V a.c. / 150 V d.c. (UL, 25 A to 160 A)
    - 250 V a.c. / 150 V d.c. (UL 180 A)
- Rated current: 6 A to 180 A
- Breaking capacity:
- 200 kA RMS Sym.
  - 50 kA DC at 150 V d.c.
- Operating Class: aR

### Compatible trip indicator and microswitch for LET fuse links

• See details page 395

### **Standards / Agency information**

CE, designed and tested to BS88 part 4, IEC 60269 Part 4, UL Recognised and CCC (LCT only). All fuse links have been tested at 318V a.c..Consult Eaton for specific UL recognition status.

#### **Catalogue numbers**

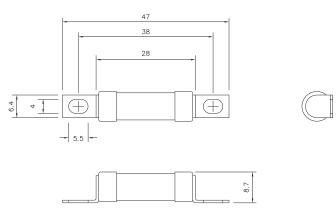
			I²t (A² Sec)			
Fuse link type	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 240 V a.c.	Watts loss (W)	Catalogue numbers
		6	2	9	1	6LCT
	240 V a.c. / 150 V d.c. (IEC)	10	3.8	22	2.5	10LCT
LCT		12	7	32	2.5	12LCT
	250 V a.c. / 150 V d.c. (UL)	16	20	100	2.5	16LCT
		20	25	160		20LCT
		25	18	250	4	25LET
		32	32	450	5	32LET
		35	50	600	5	35LET
		50	100	1400	7	50LET
ILL	280 V a.c. / 150 V d.c. (UL)	63	180	2200	9	63LET
LET		80	300	3800	10	80LET
		100	600	7500	10	100LET
		125	600	7500	16	125LET
		160	1100	16,000	20	160LET
	250 V a.c. / 150 V d.c. (UL)	180	1600	29,000	21	180LET

Note: 7LET, 10LET, 12LET and 16LET are available for replacement purposes on existing equipment.

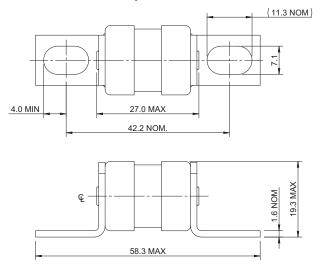


LCT, LET - 240 V a.c. / 150 V d.c. (IEC), 250-280 V a.c. / 150 V d.c. (UL), 6 A to 180 A

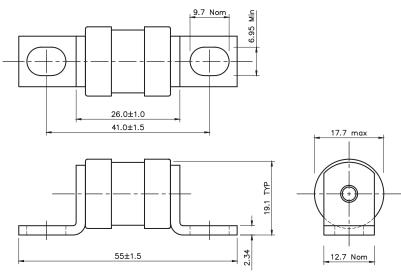
**Dimensions (mm) - LCT** 



Dimensions (mm) - LET, up to 63 A



### Dimensions (mm) - LET, greater than 63 A



Indicator (optional).

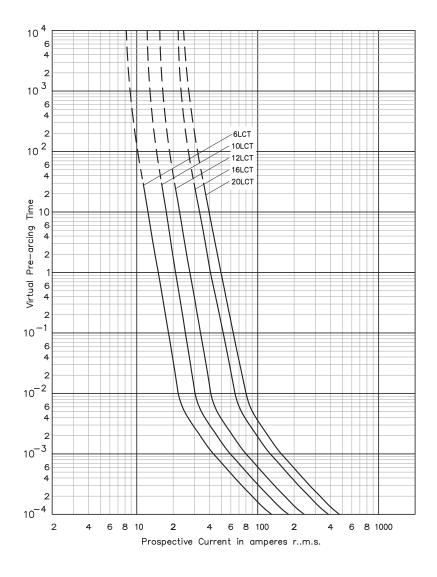
Data sheets: 720004, 5785296 (LCT), 5785293 (LET)





## LCT, LET - 240 V a.c. / 150 V d.c. (IEC), 250-280 V a.c. / 150 V d.c. (UL), 6 A to 180 A

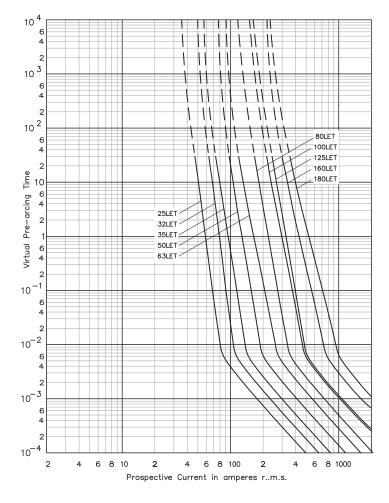
Time-current curve - LCT, 6 A to 20 A



Data sheets: 720004, 5785296 (LCT), 5785293 (LET)

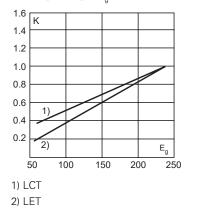
LCT, LET - 240 V a.c. / 150 V d.c. (IEC), 250-280 V a.c. / 150 V d.c. (UL), 6 A to 180 A

### Time-current curve - LET, 25 A to 180 A



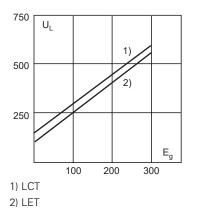
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



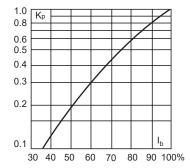
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



### LMT, LMMT - 240 V a.c. / 150 V d.c. (IEC), 250 V a.c. / 150 V d.c. (UL), 160 A to 900 A

#### **Specifications**

### Description

BS88 style bolted tags high speed fuse links for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rate voltage starters. Low watts loss in a compact size.

### **Technical Data**

- Rated voltage:
  - 240 V a.c. / 150 V d.c. (IEC)
  - 250 V a.c. / 150 V d.c. (UL)
- Rated current: 160 A to 900 A
- Breaking capacity:
  - 200 kA RMS Sym., 40 kA at 150 V d.c. (IEC)
  - 200 kA RMS Sym., 50 kA at 150 V d.c. (UL)
- Operating Class: aR

### **Compatible trip indicator and microswitch**

• See details page 395

### **Standards / Agency information**

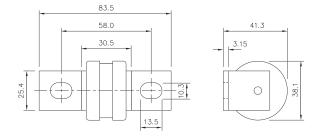
CE, designed and tested to BS88 part 4, IEC 60269 Part 4, UL recognised and CCC. All fuse links have been tested at 318V a.c. Consult Eaton for specific UL recognition status.

### **Catalogue numbers**



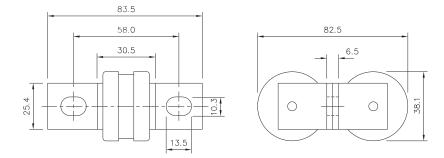
			l²t (A² Sec)				
Fuse link type	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 120 V a.c.	Clearing at 240 V a.c.	Watts loss (W)	Catalogue numbers
		160	1100	7000	16,000	17	160LMT
		200	1500	10,000	20,000	28	200LMT
LMT	240 V a.c. / 150 V d.c. (IEC)	250	3200	20,000	40,000	28	250LMT
		315	6000	35,000	75,000	35	315LMT
Single barrel	250 V a.c. / 150 V d.c. (UL)	355	8000	50,000	100,000	35	355LMT
		400	14,000	70,000	160,000	40	400LMT
		450	18,000	100,000	220,000	42	450LMT
		400	6000	35,000	80,000	60	400LMMT
		500	14,000	80,000	170,000	64	500LMMT
LMMT	240 V a.c. / 150 V d.c. (IEC)	630	24,000	150,000	300,000	75	630LMMT
Double barrel	250 V a.c. / 150 V d.c. (UL)	710	32,000	200,000	460,000	77	710LMMT
		800	52,000	300,000	600,000	82	800LMMT
		900	75,000	400,000	800,000	97	900LMMT

### Dimensions (mm) - LMT (indicator optional)

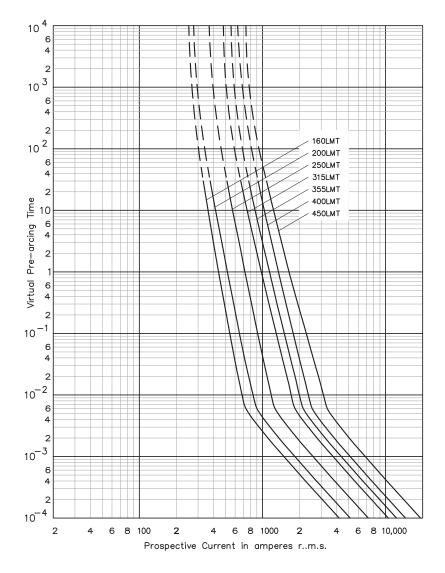


LMT, LMMT - 240 V a.c. / 150 V d.c. (IEC), 250 V a.c. / 150 V d.c. (UL), 160 A to 900 A

Dimensions (mm) - LMMT (indicator optional)

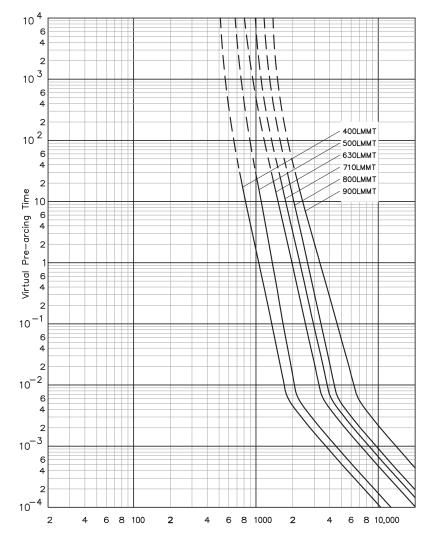


Time-current curve - LMT, 160 A to 450 A



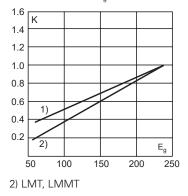
### LMT, LMMT - 240 V a.c. / 150 V d.c. (IEC), 250 V a.c. / 150 V d.c. (UL), 160 A to 900 A

### Time-current curve - LMMT, 400 A to 900 A



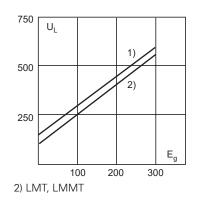
### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_a$ , (RMS).



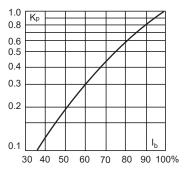
### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



Data sheets: 720004, 5785294 (LMT), 5785295 (LMMT)

### CT, ET, FE, EET, FEE - 690 V a.c. / 500 V d.c. (IEC), 700 V a.c ./ 500 V d.c. (UL), 6 A to 200 A

### **Specifications**

### Description

BS88 style bolted tags high speed fuse links for the protection of DC common bus, DC drives, power converters / rectifiers and reduced rated voltage starters.

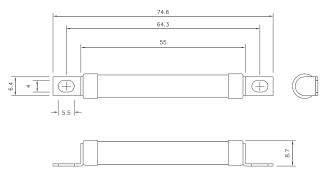
#### **Technical data**

- Rated voltage:
  - 690 V a.c. / 500 V d.c. (IEC)
- 700 V a.c. / 500 V d.c. (UL)
- Rated current: 6 A to 200 A
- Breaking capacity:
  - CT: 90 kA RMS Sym., 40 kA at 500 V d.c. (IEC)
- 200 kA RMS Sym., 50 kA at 500 V d.c. (UL)
- ET, EET, FE and FEE: 200 kA RMS Sym.,50 kA at 500 V d.c.
- Operating Class: aR.
- **Compatible trip indicator and microswitch**
- See details page 395

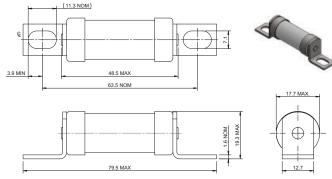
### Standards / Agency information

CE, designed and tested to BS88 part 4, IEC 60269 Part 4, Consult Eaton for specific UL Recognition status. CCC for ET, FE, EET, FEE.

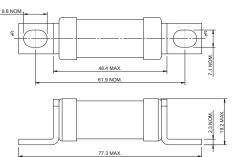
### **Dimensions (mm) - CT**



# Dimensions (mm) - ET, FE up to 63 A

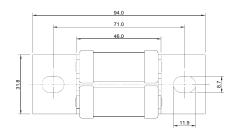


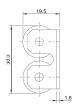
### Dimensions (mm) - ET, FE greater than 63 A





### **Dimensions (mm) - EET and FEE**







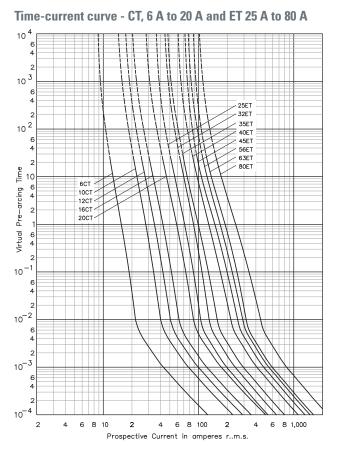
# CT, ET, FE, EET, FEE - 690 V a.c./500 V d.c. (IEC), 700 V a.c./500 V d.c. (UL), 6 A to 200 A

**Catalogue numbers** 

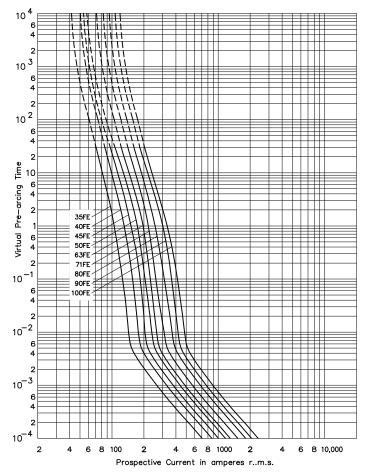
			I²t (A² Sec)				
Fuse link type	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 415V a.c.	Clearing at 660 V a.c.	Watts loss (W)	Catalogue numbers
	-	6	1.8	8.5	12	2	6CT
	690 V a.c. / 500 V d.c. (IEC)	10	7	30	48	3	10CT
CT		12	10	40	65	3	12CT
	700 V a.c. / 500 V d.c. (UL)	16	16	66	110	7	16CT
		20	32	150	220	7	20CT
		25	25	150	250	7	25ET
		32	32	190	350	11	32ET
		35	52	310	500	11	35ET
-	690 V a.c. / 500 V d.c. (IEC)	40	103	600	900	9	40ET
ET	700 V a.c. / 500 V d.c. (UL)	45	103	680	1100	11	45ET
		56	135	950	1500	14	56ET
		63	171	1200	2000	16	63ET
		80	360	2500	4000	18	80ET
		35	33	130	200	9	35FE
	690 V a.c. / 500 V d.c. (IEC)	40	52	180	300	9	40FE
		45	76	270	450	11	45FE
		50	103	380	600	11	50FE
E	, , , ,	63	135	480	750	12	63FE
	700 V a.c. / 500 V d.c. (UL)	71	210	600	950	17	71FE
		80	250	900	1500	20	80FE
		90	360	1300	2100	20	90FE
		100	470	1800	2800	23	100FE
		90	490	3000	4500	19	90EET
	690 V a.c. / 500 V d.c. (IEC)	110	600	4000	6500	27	110EET
EET	700 V a.c. / 700 V d.c. (UL)	140	1050	7000	12,000	35	140EET
	, , , , , , , , , , , , , , , , , , , ,	160	1500	10,000	17,000	39	160EET
		100	400	1600	2400	24	100FEE
		120	540	1900	3100	32	120FEE
	690 V a.c. / 500 V d.c. (IEC)	140	850	2500	3800	36	140FEE
EE	700 V a.c. / 500 V d.c. (UL)	160	1000	3700	5700	46	160FEE
	,	180	1400	5300	8400	46	180FEE
		200	1900	7100	11,400	52	200FEE

Note: FC, 8ET, 12ET, 15ET, 20ET, 65EET and 75EET are available for replacement purposes on existings equipment.

CT, ET, FE, EET, FEE -690 V a.c. / 500 V d.c. (IEC), 700 V a.c ./ 500 V d.c. (UL), 6 A to 200 A

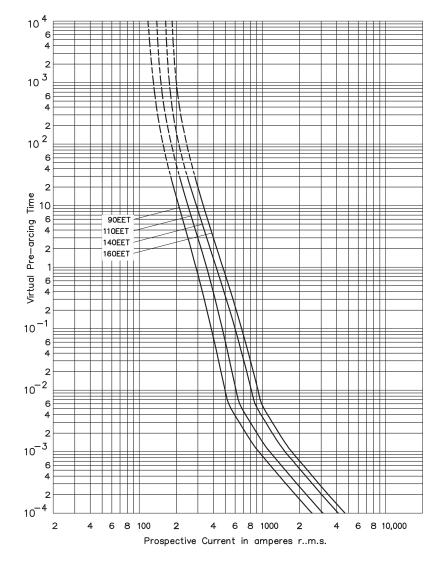






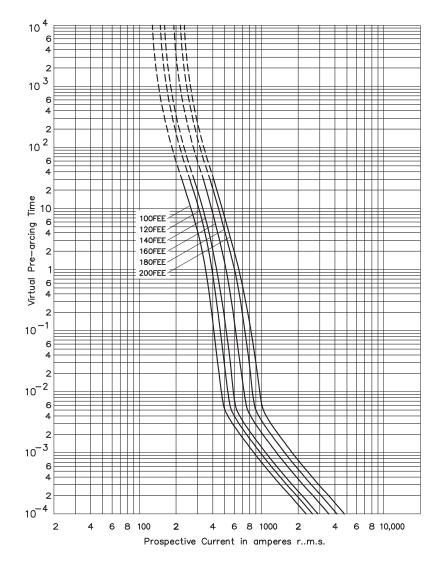
## CT, ET, FE, EET, FEE - 690 V a.c. / 500 V d.c. (IEC), 700 V a.c ./ 500 V d.c. (UL), 6 A to 200 A

Time-current curve - EET, 90 A to 160 A



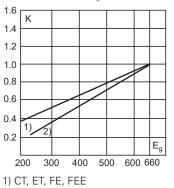
### CT, ET, FE, EET, FEE - 690 V a.c./500 V d.c. (IEC), 700 V a.c./500 V d.c. (UL), 6 A to 200 A

Time-current curve - FEE, 100 A to 200 A



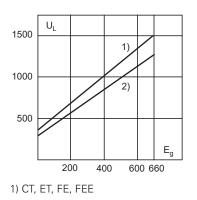
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



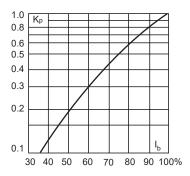
### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



#### 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.



### FM, FMM, MT, MMT - 690 V a.c. / 350-450 V d.c. (IEC), 700 V a.c. / 500 V d.c. (UL), 160 A to 710 A

### **Specifications**

### **Description**

BS88 style bolted tags high speed fuse links for the protection of DC common bus, DC drives, power converters / rectifiers and reduced rated voltage starters.

### **Technical data**

- Rated voltage:
  - FM: 690 V a.c. / 450 V d.c. (IEC); 700 V a.c./500 V d.c. (UL)
  - FMM: 690 V a.c. / 450 V d.c. (IEC)
- MT and MMT: 690 V a.c. / 350 V d.c. (IEC); 700 V a.c. (UL)
- Rated current: 160 A to 710 A
- Breaking capacity:
  - FM: 200 kA RMS Sym. (IEC/UL), 40 kA at 450 V d.c. (IEC), 50 kA at 500 V d.c. (UL)
  - FMM: 200 kA RMS Sym. (IEC/UL), 40 kA at 450 V d.c. (IEC)
  - MT & MMT: 200 kA RMS Sym. (IEC/UL), 40 kA at 350 V d.c. (IEC)
- Operating Class: aR

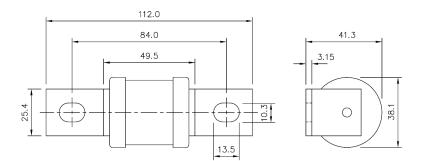
### **Compatible trip indicator and microswitch**

• See details page 395

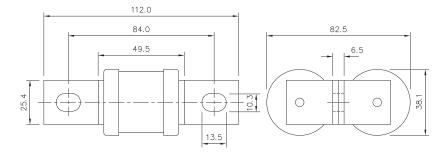
### **Standards / Agency information**

CE, designed and tested to BS88 part 4, IEC 60269 Part 4, UL Recognised. MT and MMT 350 V d.c. (IEC) rating. Consult Eaton for specific UL Recognition status. CCC for FM and FMM.

### Dimensions (mm) - FM and MT (indicator optional)



### Dimensions (mm) - FMM and MMT (indicator optional)







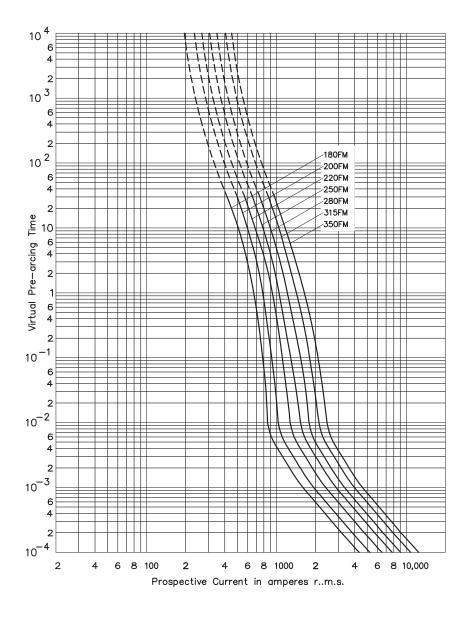
## FM, FMM, MT, MMT - 690 V a.c. / 350-450 V d.c. (IEC), 700 V a.c. / 500 V d.c. (UL), 160 A to 710 A

**Catalogue numbers** 

			I²t (A² Sec)				
Fuse link type	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 415V a.c.	Clearing at 660 V a.c.	Watts loss (W)	Catalogue numbers
		180	1400	7500	13,500	40	180FM
FM		200	2600	10,500	18,500	40	200FM
	690 V a.c. / 450 V d.c. (IEC)	225	3700	14,500	26,500	44	225FM
		250	5200	20,500	37,500	48	250FM
	700 V a.c. / 500 V d.c. (UL)	280	7000	30,500	55,000	48	280FM
		315	10,000	40,000	77,000	55	315FM
		350	15,000	60,000	105,000	55	350FM
		400	10,000	40,000	72,500	85	400FMM
		450	15,000	60,000	105,000	90	450FMM
	690 V a.c. / 450 V d.c. (IEC)	500	20,000	82,000	150,000	100	500FMM
FIVIIVI		550	30,000	120,000	215,000	100	550FMM
		630	45,000	180,000	310,000	100	630FMM
			60,000	245,000	420,000	120	700FMM
		160	2400	15,000	25,000	26	160MT
		180	3800	25,000	38,000	26	180MT
	690 V a.c. / 350 V d.c. (IEC)	200	6000	40,000	58,000	27	200MT
MT		250	11,500	80,000	110,000	32	250MT
	700 V a.c. (UL)	280	16,500	100,000	150,000	35	280MT
		315	19,000	125,000	180,000	42	315MT
FM 7 FMM 6 MT 7 MT 7		355	22,000	160,000	200,000	51	355MT
		180	1650	12,000	18,000	42	180MMT
		200	2200	16,000	23,000	42	200MMT
		225	3700	26,000	40,000	42	225MMT
		280	6600	47,000	70,000	47	280MMT
		315	8600	62,000	91,000	51	315MMT
N AN AT	690 V a.c. / 350 V d.c. (IEC)	355	13,500	97,000	140,000	54	355MMT
IVIIVII	700 V a.c. (UL)	400	21,000	150,000	220,000	60	400MMT
		450	30,000	220,000	320,000	57	450MMT
		500	42,000	300,000	450,000	64	500MMT
		560	60,000	430,000	640,000	64	560MMT
		630	68,500	500,000	720,000	86	630MMT
		710	78,000	600,000	850,000	105	710MMT

FM, FMM, MT, MMT - 690 V a.c. / 350-450 V d.c. (IEC), 700 V a.c. / 500 V d.c. (UL), 160 A to 710 A

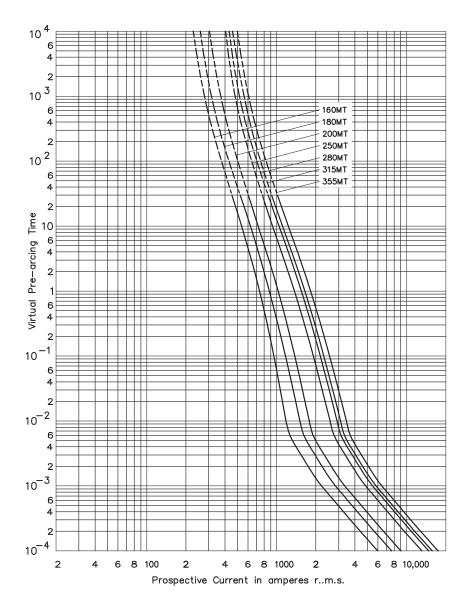
Time-current curve - FM, 180 A to 350 A



Data sheets: 720024, 5785314 (FM), 5785313 (MT), 5785292 (FMM), 5785311 (MMT)

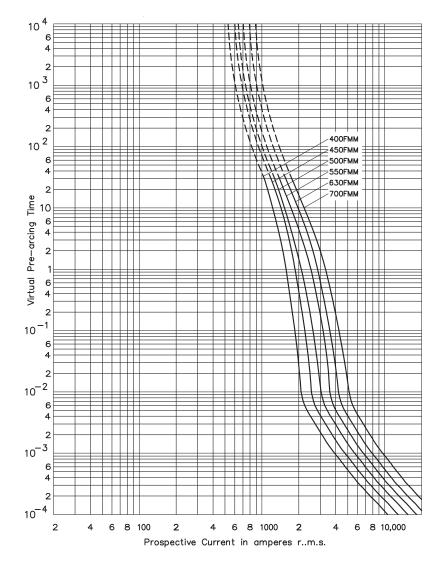
FM, FMM, MT, MMT - 690 V a.c. / 350-450 V d.c. (IEC), 700 V a.c. / 500 V d.c. (UL), 160 A to 710 A

Time-current curve - MT, 160 A to 355 A



FM, FMM, MT, MMT - 690 V a.c. / 350-450 V d.c. (IEC), 700 V a.c. / 500 V d.c. (UL), 160 A to 710 A

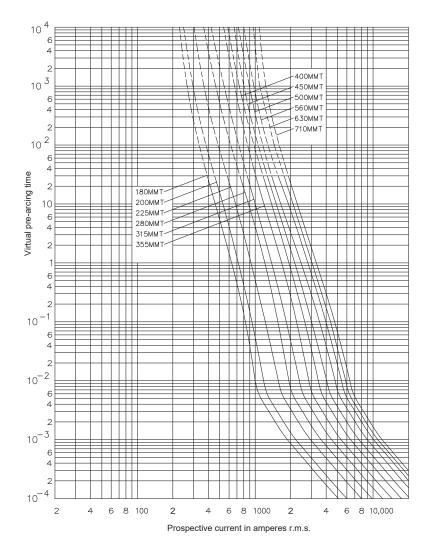
Time-current curve - FMM, 400 A to 700 A



Data sheets: 720024, 5785314 (FM), 5785313 (MT), 5785292 (FMM), 5785311 (MMT)

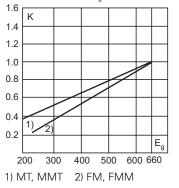
FM, FMM, MT, MMT - 690 V a.c. / 350-450 V d.c. (IEC), 700 V a.c. / 500 V d.c. (UL), 160 A to 710 A

Time-current curve - MMT, 180 A to 710 A



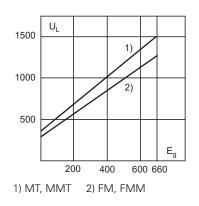
### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



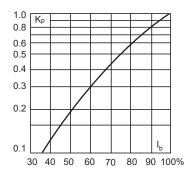
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



### 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.



Data sheets: 720024, 5785314 (FM), 5785313 (MT), 5785292 (FMM), 5785311 (MMT)

## FWA - 10 x 38 mm and 21 x 51 mm, 150 V a.c. / V d.c. (UL), 5 A to 60 A

### **Specifications**

### Description

Ferrule style high speed fuse links for the protection of DC common bus, DC drives, power converters / rectifiers and reduced rated voltage starters.

### **Technical data**

- Rated voltage: 150 V a.c. / V d.c. (UL)
- Rated current: 5 A to 60 A
- Breaking capacity:
  - 200 kA RMS Sym.
  - 50 kA DC at 150 V d.c.
- Operating class: aR

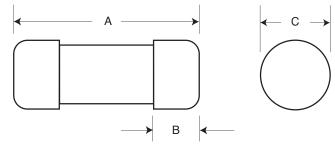
### **Standards / Agency information**

CE, UL recognised

### **Catalogue numbers**

			I²t (A² Sec)			
Fuse link size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 150 V a.c.	Watts loss (W)	Catalogue numbers
		5	1.6	8	2	FWA-5A10F
		10	3.6	16	2.7	FWA-10A10F
10 x 38 mm	150 V a.c. / V d.c.	15	14	50	3.3	FWA-15A10F
( <sup>13</sup> / <sub>32</sub> " x 1½")	(UL)	20	33	130	3.8	FWA-20A10F
		25	58	220	4.9	FWA-25A10F
		30	100	400	4.9	FWA-30A10F
		35	75	800	4.5	FWA-35A21F
		40	100	1000	5.1	FWA-40A21F
21 x 51 mm (¹⅔₁₀″ x 2″)	150 V a.c. / V d.c. (UL)	45	130	1300	6	FWA-45A21F
	(01)	50	170	1600	7.3	FWA-50A21F
		60	250	2400	8	FWA-60A21F

### Dimensions - in (mm)

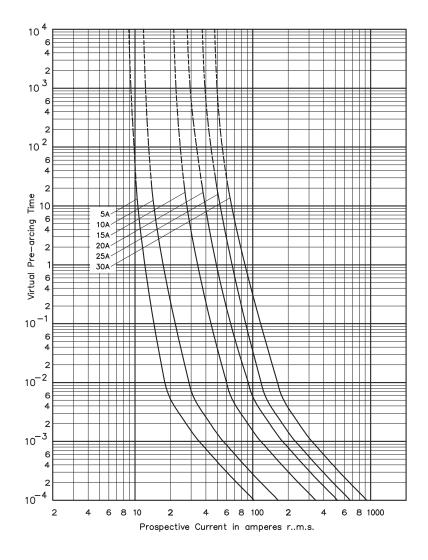


Amp range	Α	В	C
5-30	1.5 (38.1)	0.38 (9.5)	0.41 (10.3)
35-60	2 (50.8)	0.63 (15.9)	0.81 (20.6)



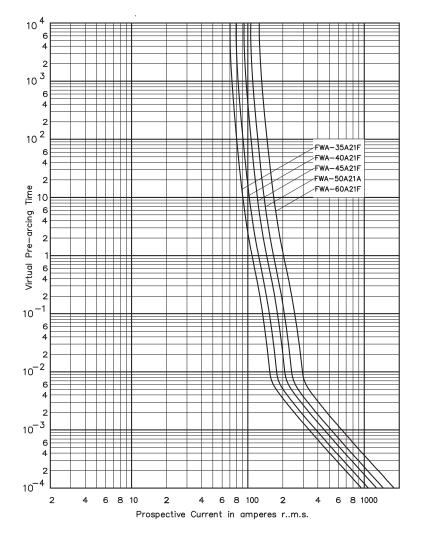
## FWA - 10 x 38 mm and 21 x 51 mm, 150 V a.c. / V d.c. (UL), 5 A to 60 A

Time-current curve - 5 A to 30 A



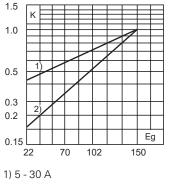
### FWA - 10 x 38 mm and 21 x 51 mm, 150 V a.c. / V d.c. (UL), 5 A to 60 A

Time-current curve - 35 A to 60 A



### Total clearing l<sup>2</sup>t

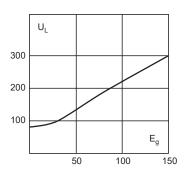
The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{g'}$  (RMS).



2) 35 - 60 A

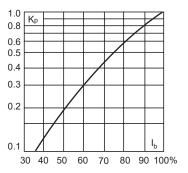
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



### 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.



#### Data sheets: 720003,5785317 (5-30 A), 5785305 (35-60 A)

## FWX - 14 x 51 mm, 250 V a.c. / V d.c. (UL), 1 A to 50 A

### **Specifications**

### **Description**

Ferrule style high speed fuse links for the protection of DC common bus, DC drives, power converters/rectifiers rated voltage starters.

### **Technical data**

- Rated voltage: see details in table below
- Rated current: 1 A to 50 A
- Breaking capacity:
- 200 kA RMS Sym. (UL, all ratings)
- 50 kA at 250 V d.c. (UL, 5 A to 30 A only)
- Operating class: aR

### Compatible modular fuse holder

• CH14

### Standards / Agency information

CE, UL recognised 1-50 A & CSA component acceptance: 5 A to 30 A

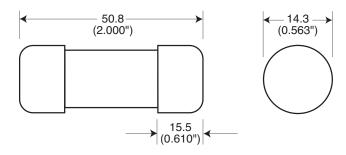
### **Catalogue numbers**



Fuse link size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 250 V a.c.	Watts loss (W)	Catalogue numbers
		1	0.04	0.12	5.7	FWX-1A14F
	250 \/ a a //    \	2	0.08	0.28	8.7	FWX-2A14F
	250 V a.c. (UL)	3	0.11	0.39	2.8	FWX-3A14F
		4	0.1	0.35	3	FWX-4A14F
	250 V a.c. /	5	1.6	13	1.3	FWX-5A14F
14 x 51mm (%16″ x 2″)		10	3.6	24	3.4	FWX-10A14F
()10 X 2 /		15	14	83	3.8	FWX-15A14F
	250 V d.c. (UL)	20	33	200	4.6	FWX-20A14F
		25	58	300	5.3	FWX-25A14F
		30	100	500	5.9	FWX-30A14F
	250 V a.c. (UL)	50	200	1800	5.7	FWX-50A14F

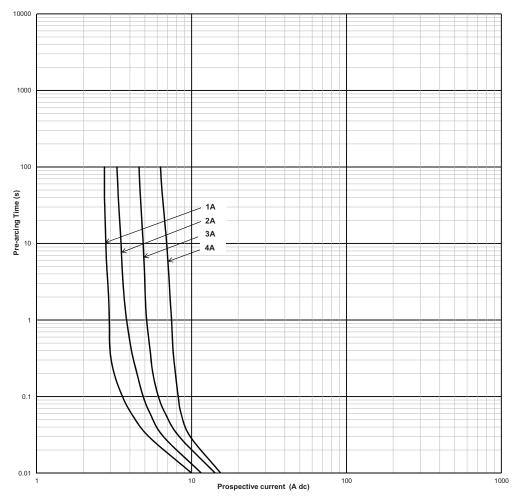
I²t (A² Sec)

### **Dimensions - mm (in)**



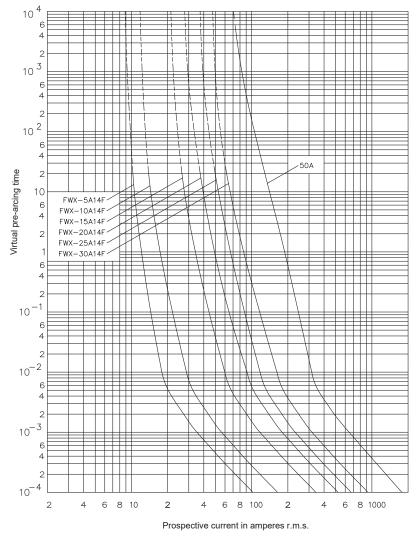
# FWX - 14 x 51 mm, 250 V a.c. / V d.c. (UL), 1 A to 50 A

### Time-current curve - 1 A to 4 A



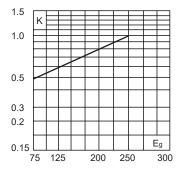
### FWX - 14 x 51 mm, 250 V a.c. / V d.c. (UL), 1 A to 50 A





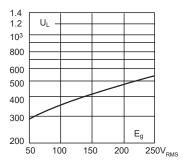
### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



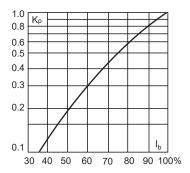
### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



### 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.



## FWH - 6 x 32 mm, 500 V a.c. (UL), 0.25 A to 30 A

### **Specifications**

### Description

Ferrule style high speed fuse links for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

### **Technical data**

- Rated voltage:
  - 500 V a.c. (UL)
  - 1000 V a.c. (UL, 2 A only)
- 600 V d.c. (UL, 4 A and 5 A only)
- Rated current: 0.25 A to 30 A
- Breaking capacity:
  - 50 kA (0.25 A to 20 A)
  - 20 kA (25 A to 30 A, tested at PF = 76%)
  - 50 kA at 600 V d.c. (UL 2 A and 5 A only)
- Operating class: aR

### **Standards / Agency information**

CE, UL recognised 0.25 A to 30 A including 2 A at 1000 V a.c., CSA component Acceptance: 0.25 A to 7 A

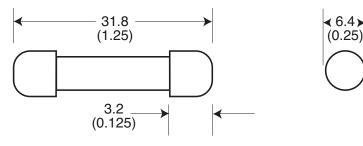
### **Catalogue numbers**



			I <sup>2</sup> t (A <sup>2</sup> Sec)			
Fuse link size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 500 V a.c.	Watts loss (W)	Catalogue numbers
		0.25	0.01	0.05	2.7	FWH250A6F
	500 V a.c. (UL)	0.5	0.05	0.25	1.2	FWH500A6F
		1	0.4	2	1.7	FWH-001A6F
	1000 V a.c. (UL)	2	1.3	3.5	3.2	FWH-002A6F
	500 V a.c. (UL)	3.15	3.1	7.7	2.9	FWH-3-15A6F
	500 V a.c. / 600 V d.c. (UL)	4	8.4	22	2.4	FWH-004A6F
		5	15	40	2.1	FWH-005A6F
6 x 32 mm		6.3	36	90	2.3	FWH-6-30A6F
(¼″ x 1¼″)		7	50	125	2.5	FWH-007A6F
		10	9.9	139	2.86	FWH5-010A6F
		12.5	20	60	3.53	FWH5-12-5A6F
	500 V a.c. (UL)	15	44	146	3.08	FWH5-015A6F
		16	48	177	4.48	FWH5-016A6F
		20	75	259	4.26	FWH5-020A6F
		25	126	345	-	FWH-025A6F
		30	145	430	-	FWH-030A6F

12+ / A2 Coo)

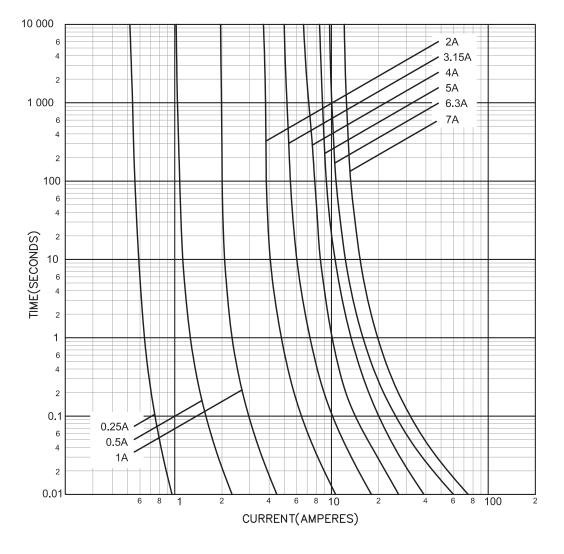
**Dimensions mm (in)** 



Data sheets: 720038, 5785256 (0.25-7A), 50955 (10-30 A)

# FWH - 6 x 32 mm, 500 V a.c. (UL), 0.25 A to 30 A

Time-current curve - 0.25 A to 7 A



## FWH - 14 x 51 mm, 500 V a.c. / V d.c. (UL), 1 A to 30 A

### **Specifications**

### Description

Ferrule style high speed fuse links for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

### **Technical data**

- Rated voltage:
  - 500 V a.c. (UL, all ratings)
  - 500 V d.c. (UL, 5 A to 30 A only)
- Rated current: 1 A to 30 A
- Breaking capacity:
  - 200 kA RMS Sym. all ratings
  - 50 kA at 500 V d.c. (5 A to 30 A only)
- Operating class: aR
- Compatible modular fuse holder
- CH14

### **Standards / Agency information**

CE, UL Recognised 1 A to 30 A & CSA Component Acceptance: 5 A to 30 A

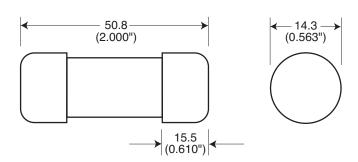


### Catalogue numbers

### I²t (A² Sec)

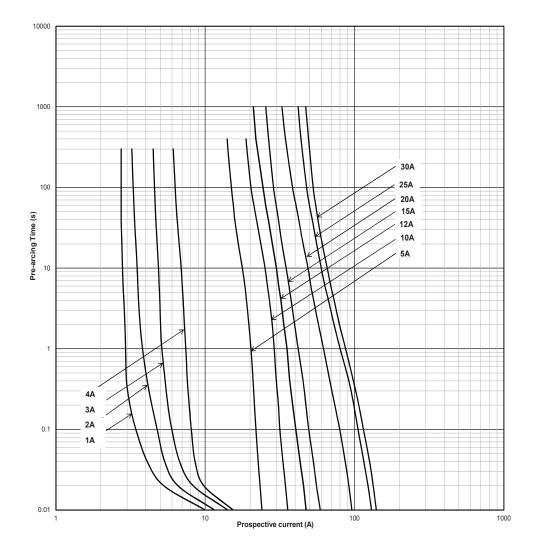
			Ift (Af Sec)			
Fuse link size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 500 V a.c.	Watts loss (W)	Catalogue numbers
		1	0.04	0.41	5.7	FWH-1A14F
	E00 \/ a a //    \	2	0.08	0.11	8.7	FWH-2A14F
	500 V a.c.(UL)	3	0.11	0.26	2.8	FWH-3A14F
		4	0.1	0.23	3	FWH-4A14F
		5	2	7	1.5	FWH-5A14F
14 x 51 mm		6	2	7	1.5	FWH-6A14F
( <sup>9</sup> / <sub>16</sub> " x 2")		10	4	15	4	FWH-10A14F
		12	7	25	4.3	FWH-12A14F
	500 V a.c. / V d.c. (UL)	15	10	40	5.5	FWH-15A14F
		20	26	100	6.5	FWH-20A14F
		25	49	200	7	FWH-25A14F
		30	58	240	9	FWH-30A14F

### Dimensions mm (in)



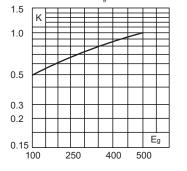
## FWH - 14 x 51 mm, 500 V a.c. / V d.c. (UL), 1 A to 30 A

### Time-current curve - 1 A to 30 A



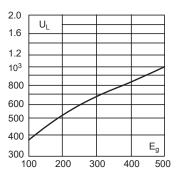
### Total clearing l<sup>2</sup>t

The total clearing l<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing l<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



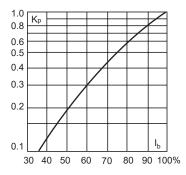
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



## FWC - 10 x 38 mm, 600-700 V a.c. / 700 V d.c. (UL), 1 A to 32A

### **Specifications**

### Description

Ferrule style high speed fuse links for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

### **Technical data**

- Rated voltage:
  - 700 V a.c. / V d.c. (UL, 1 A to 4 A)
  - 600 V a.c. (UL, 6 A to 32 A), 700 V d.c. (UL, 6 A to 25 A)
- Rated current: 1 A to 32 A
- Breaking capacity:
  - 200 kA RMS Sym. at 600 V a.c. (6 A to 32 A)
  - 200 kA RMS Sym. at 700 V a.c. (1 A to 4 A)
  - 10 kA DC at 700 V d.c. (1 A to 25 A)
- Operating class: aR

### Standards / Agency information

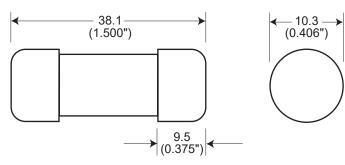
CE, UL Recognised: 6 A to 32 A

### **Catalogue numbers**



			I <sup>2</sup> t (A <sup>2</sup> Sec)			
Fuse link size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 600 V a.c.	Watts loss (W)	Catalogue numbers
		1	0.2	1.2	0.5	FWC-1A10F
	700 V a.c. / V d.c. (UL)	2	0.5	3	1.2	FWC-2A10F
	700 v a.c. / v u.c. (OL)	3	1.6	11	1.5	FWC-3A10F
		4	5.2	32	1.5	FWC-4A10F
		6	4	30	1.5	FWC-6A10F
40.00		8	6	50	2	FWC-8A10F
10 x 38 mm ( <sup>13</sup> / <sub>32</sub> " x 1½")		10	9	70	2.5	FWC-10A10F
( ) 52 / ( ) 2 /	600 V a.c./ 700 V d.c. (UL)	12	15	120	3	FWC-12A10F
		16	25	150	3.5	FWC-16A10F
		20	34	260	4.8	FWC-20A10F
		25	60	390	6	FWC-25A10F
	600 \/ a a //    \	30	95	600	7.5	FWC-30A10F
	600 V a.c. (UL)	32	95	600	7.5	FWC-32A10F

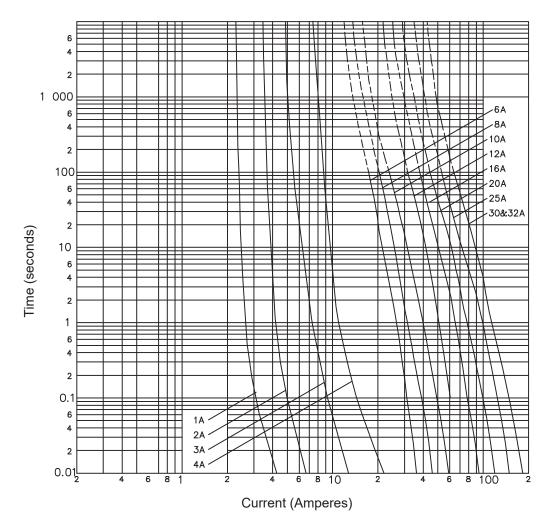
### Dimensions - mm (in)



Data sheets: 720011, 5785306

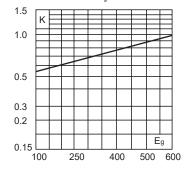
### FWC - 10 x 38 mm, 600-700 V a.c. / 700 V d.c. (UL), 1 A to 32A

Time-current curve - 1 A to 32 A



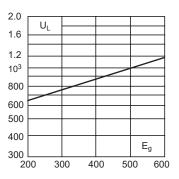
#### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



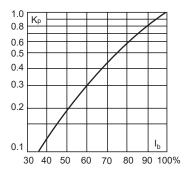
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{q}$ , (RMS) at a power factor of 15 percent.



#### 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.



# FWP - 10 x 38 mm, gR, 690 V a.c. (IEC), 4 A to 32 A

## **Specifications**

### Description

The 10  $\times$  38 mm cylindrical, class gR fuse links are used to protect AC/DC Drives and semi-conductors.

### **Technical data**

- Rated voltage: see details in table below
- Rated current: 4 A to 32 A
- Breaking capacity: 200 kA a.c.
- Operating class: gR

### Compatible fuse holder

CHM

### Standards / Agency information

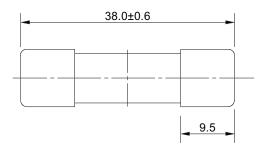
IEC 60269-4, UL 248-13

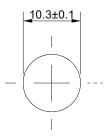
### Catalogue numbers



				I²t (A² Sec)			
Fuse link size	Туре	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 690 V a.c.	Watts loss (W)	Catalogue numbers
		690 V a.c. (IEC)	4	5.6	17	2.05	FWP-4G10F
		500 V d.c (UL)	6	16	48	3	FWP-6G10F
		<sup>ir</sup> 690 V a.c. (IEC) 700 V a.c. (UL)	8	4.3	38	1.68	FWP-8G10F
			10	6.6	59	2.09	FWP-10G10F
10 x 38 mm	Without indicator		12	9.6	84	2.99	FWP-12G10F
			16	17	150	4.27	FWP-16G10F
			20	23.5	200	5.35	FWP-20G10F
			25	60.2	512	5.52	FWP-25G10F
			32	94	800	7.43	FWP-32G10F

### **Dimensions (mm)**

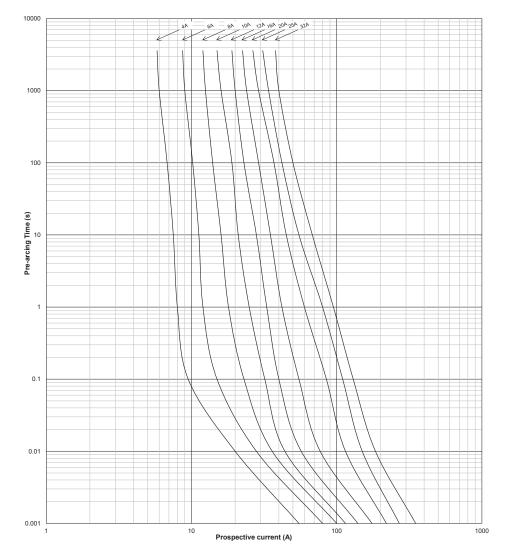




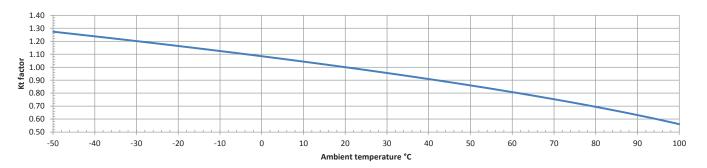
Data sheet: 10467

# FWP - 10 x 38 mm, gR, 690 V a.c., 4 A to 32 A

### Time-current curve - 4 A to 32 A



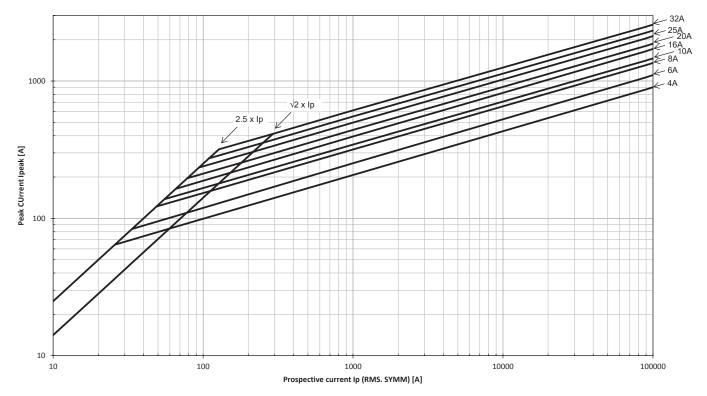
### **Ambient temperature**



## FWP - 10 x 38 mm, gR, 690 V a.c., 4 A to 32 A

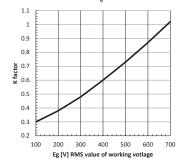
### Cut-off curve- 2 A to 32 A

Peak let through current (Ipeak) vs. Prospective Short Circuit Current in SYMM. RMS value, 50Hz / p.f. > 0.15



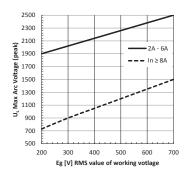
### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



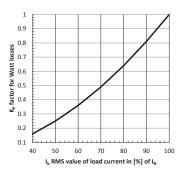
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



#### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



Data sheet: 10467

## FWP - 14 x 51 mm, gR, 690 V a.c. (IEC), 4 A to 50 A

### **Specifications**

### Description

The 14 x 51 mm cylindrical, class gR fuse links are used to protect AC/DC Drives and semi-conductors.

#### **Technical data**

- Rated voltage: 690 V a.c. (IEC)
- Rated current: 4 A to 50 A
- Breaking capacity: 200 kA a.c.
- Operating class: gR

Compatible modular fuse holder

• CH14

**Standards / Agency information** 

IEC 60269-4, UL 248-13

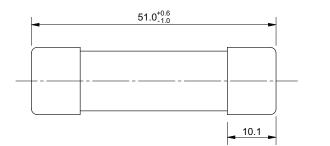
#### **Catalogue numbers**



				I <sup>2</sup> t (A <sup>2</sup> Sec)			
Fuse link size	Туре	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 690 V a.c.	Watts loss (W)	Catalogue numbers
			4	5.6	17	2.94	FWP-4G14F
			6	16	48	4.2	FWP-6G14F
			8	3.8	30	2	FWP-8G14F
			10	5.9	47	2.52	FWP-10G14F
			12	8.4	68	3.54	FWP-12G14F
	Without indicator	690 V a.c. (IEC)	16	15	120	4.83	FWP-16G14F
			20	27	170	5.4	FWP-20G14F
			25	53	333	6	FWP-25G14F
			32	108	679	6.93	FWP-32G14F
14 x 51 mm			40	211	1331	7.52	FWP-40G14F
14 X 31 IIIII			50	350	2200	9.8	FWP-50G14F
			8	3.8	30	2	FWP-8G14FI
			10	5.9	47	2.52	FWP-10G14FI
			12	8.4	68	3.54	FWP-12G14FI
			16	15	120	4.83	FWP-16G14FI
	With indicator	690 V a.c. (IEC)	20	27	170	5.4	FWP-20G14FI
			25	53	333	6	FWP-25G14FI
			32	108	679	6.93	FWP-32G14FI
			40	211	1331	7.52	FWP-40G14FI
			50	350	2200	9.8	FWP-50G14FI

12+ (A2 Coo)

**Dimensions (mm)** 

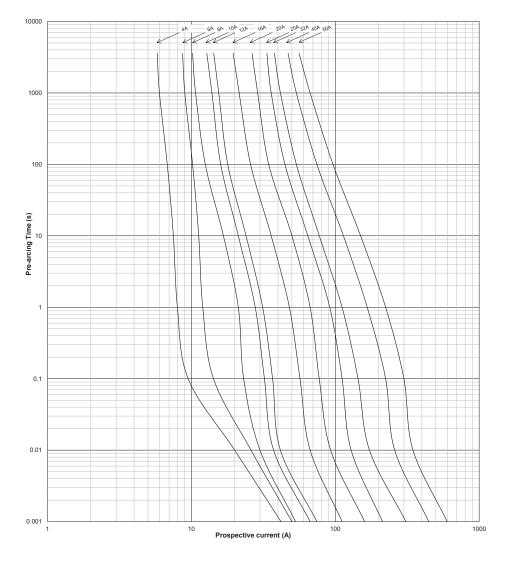




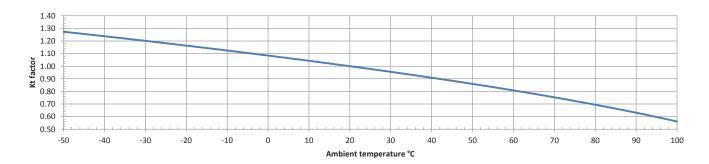
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# FWP - 14 x 51 mm, gR, 690 V a.c., 4 A to 50 A

Time-current curve - 4 A to 50 A



#### **Ambient temperature**

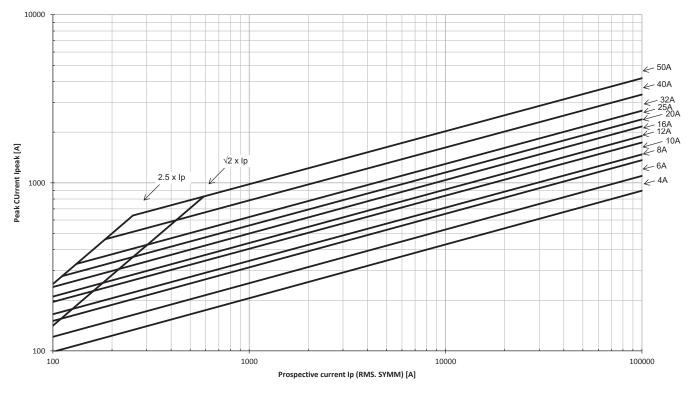


Data sheet: 10468

### FWP - 14 x 51 mm, gR, 690 V a.c., 4 A to 50 A

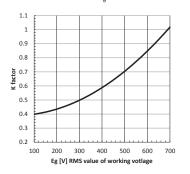
#### Cut-off curve - 4 A to 50 A

Peak let through current (Ipeak) vs. Prospective Short Circuit Current in SYMM. RMS value, 50Hz / p.f. > 0.15



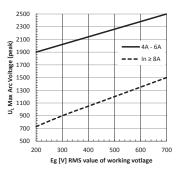
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{\alpha}$ , (RMS).



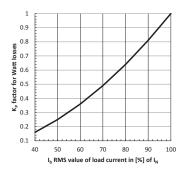
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{g}$ , (RMS) at a power factor of 15 percent.



#### 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.



# FWP - 22 x 58 mm, gR, 690 V a.c. (IEC), 20 A to 100 A

### **Specifications**

### Description

The 22 x 58 mm cylindrical, class gR fuse links are used to protect AC/DC Drives and semi-conductors.

### **Technical data**

- Rated voltage: 690 V a.c. (IEC)
- Rated current: 20 A to 100 A
- Breaking capacity: 200 kA a.c.
- Operating class: gR

### Compatible fuse holder

• CH22

### Standards / Agency information

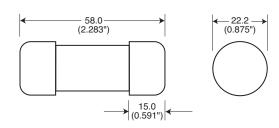
IEC 60269-4, UL 248-13

### **Catalogue numbers**



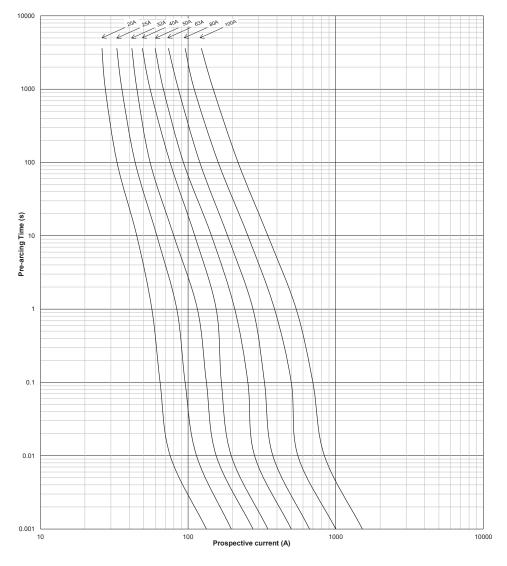
				I²t (A² Sec)			
Fuse link size	Туре	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 690 V a.c.	Watts loss (W)	Catalogue numbers
			20	24	154	6.00	FWP-20G22F
			25	43	274	6.65	FWP-25G22F
			32	97	616	9.21	FWP-32G22F
	Without indicator		40	180	899	8.24	FWP-40G22F
	without indicator	690 V a.c. (IEC)	50	273	1362	11.85	FWP-50G22F
			63	516	2575	13.80	FWP-63G22F
			80	1092	5448	14.00	FWP-80G22F
22 x 58 mm			100	2065	10,300	17.70	FWP-100G22F
22 X 38 IIIII			20	24	154	6.00	FWP-20G22FI
			25	43	274	6.65	FWP-25G22FI
			32	97	616	9.21	FWP-32G22FI
	With indicator		40	180	899	8.24	FWP-40G22FI
	with indicator	690 V a.c. (IEC)	50	273	1362	11.85	FWP-50G22FI
			63	516	2575	13.80	FWP-63G22FI
			80	1092	5448	14.00	FWP-80G22FI
			100	2065	10,300	17.70	FWP-100G22FI

#### Dimensions - mm (in)

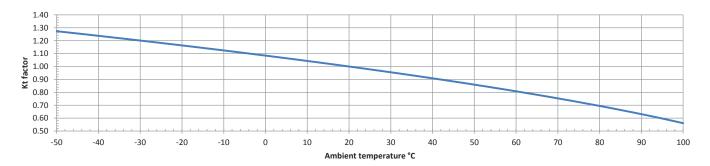


# FWP - 22 x 58 mm, gR, 690 V a.c., 20 A to 100 A

#### Time-current curve - 20 A to 100 A



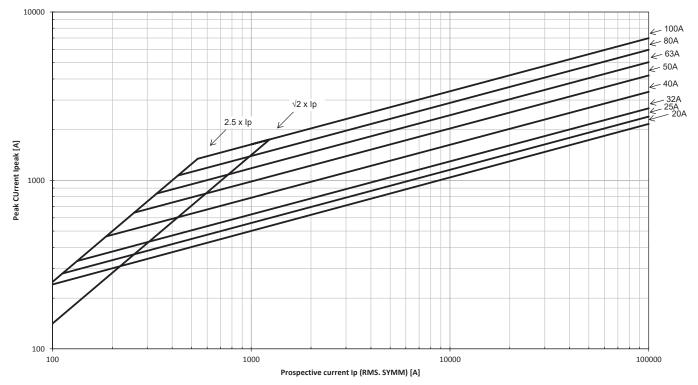
#### Ambient temperature



## FWP - 22 x 58 mm, gR, 690 V a.c., 20 A to 100 A

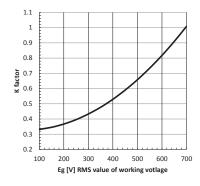
#### Cut-off curve - 20 A to 100 A

Peak let through current (Ipeak) vs. Prospective Short Circuit Current in SYMM. RMS value, 50Hz / p.f. > 0.15



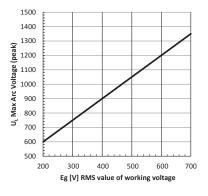
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



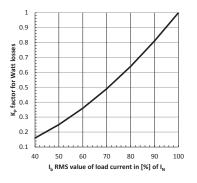
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



#### 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.



Data sheet: 10469

## FWP - 14 x 51 mm, 690 V a.c. (IEC), 700 V a.c. / V d.c. (UL), 1 A to 63 A

### **Specifications**

#### **Description**

Ferrule style high speed fuse links for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Available with or without striker.

#### **Technical data**

- Rated voltage:
  - Without striker: see table
  - With striker: 700 V a.c. / 600 V d.c. (UL)
- Rated current:
  - Without striker: 1 A to 63 A
  - With striker: 1 A to 50 A
- Breaking capacity:
  - 200 kA RMS Sym.
  - 50 kA at 700 V d.c. (5 A to 50 A non striker version)
  - 600 V d.c. for striker version
- Operating class: aR

#### Compatible modular fuse holder

• CH14

#### **Standards / Agency information**

CE, UL recognised & CSA component acceptance for versions without striker only, CCC certified 5 A to 50 A

#### Catalogue numbers

				I²t (A² Sec)		_	
Fuse link type	Fuse link size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 700 V a.c.	Watts loss (W)	Catalogue numbers
			1	0.04	0.41	5.7	FWP-1A14F
		700 V a.c. (UL)	2	0.08	0.11	8.7	FWP-2A14F
		700 V a.C. (UL)	2 3	0.11	0.26	2.8	FWP-3A14F
Without striker 14 x 51 m (9/16" x 2			4	0.1	0.23	3	FWP-4A14F
			5	2	11	1.5	FWP-5A14F
			6	2	11	1.5	FWP-6A14F
			10	4	22	4	FWP-10A14F
			15	10	70	5.5	FWP-15A14F
	(0)10 X 2 /	700 V a.c. / 700 V d.c. (UL)	20	26	180	6.5	FWP-20A14F
		690 V a.c. (IEC)	25	49	320	7	FWP-25A14F
		000 V 4.0. (120)	30	58	400	9	FWP-30A14F
			32	68	600	8	FWP-32A14F
			40	84	750	8	FWP-40A14F
			50	200	1800	9	FWP-50A14F
			63	390	2516	10	FWP-63A14F
			10	4	32	2	FWP-10A14FI
			15	7	63	4	FWP-15A14FI
			20	26	234	4	FWP-20A14FI
With striker	14 x 51 mm	700 V a.c. / 600 V d.c. (UL)	25	42	378	4	FWP-25A14FI
VVIUI SUIKEI	(9/16" x 2")	700 v a.c. / 600 v u.c. (UL)	30	52	468	6	FWP-30A14FI
			32	68	600	8	FWP-32A14FI
			40	84	750	8	FWP-40A14FI
			50	200	1800	9	FWP-50A14FI



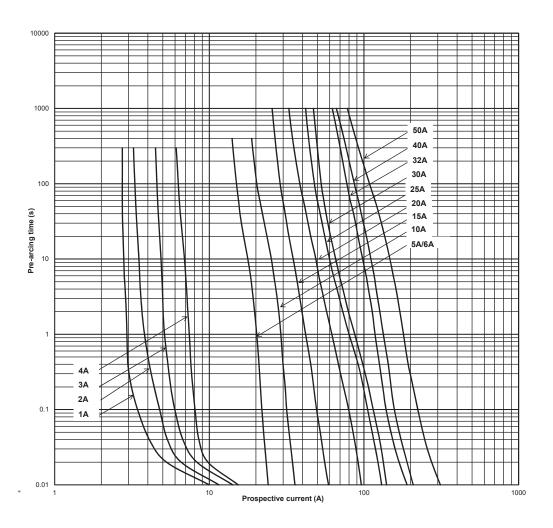
Data sheets: 720025, 5781724 fuses without striker; 5785566 fuses with striker, 5785626 (63 A)

## FWP - 14 x 51 mm, 690 V a.c. (IEC), 700 V a.c. / V d.c. (UL), 1 A to 50 A

**Dimensions** - mm (in)



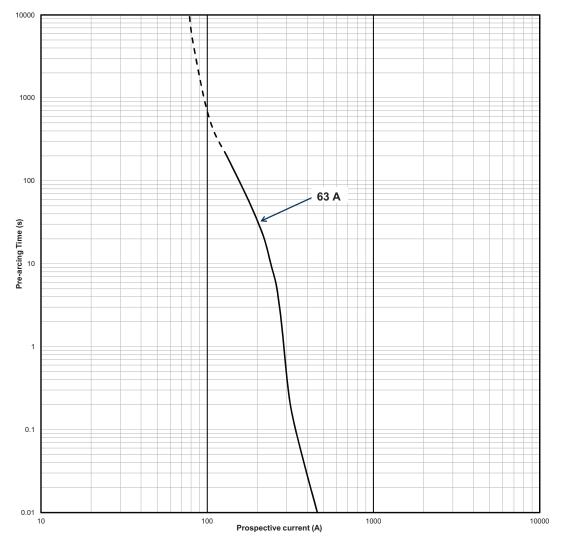
Time-current curve - 1 A to 50 A



Data sheets: 720025, 5781724 fuses without striker; 5785566 fuses with striker, 5785626 (63 A)

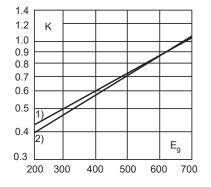
## FWP - 14 x 51 mm, 690 V a.c. (IEC), 700 V a.c. / V d.c. (UL), 1 A to 50 A

Time-current curve - 63 A



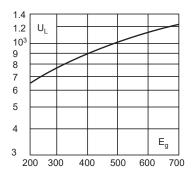
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{\alpha}$ , (RMS).



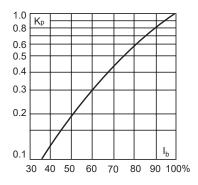
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



#### 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.



# FWP - 22 x 58 mm, 700 V a.c. / V d.c. (UL), 20 A to 100 A

### **Specifications**

### Description

Ferrule style high speed fuse links for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Available with or without striker.

### Technical data

- Rated voltage: 700 V a.c. / V d.c. (UL)
- Rated current: 20 A to 100 A
- Breaking capacity:
  - 200 kA RMS Sym.
  - 50 kA at 700 V d.c., t/c 5 ms
- Operating Class: aR

### Compatible modular fuse holder

• CH22

### **Standards / Agency information**

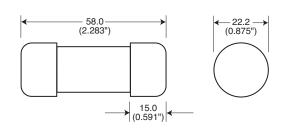
CE, UL Recognised, CSA Component Acceptance for versions without striker only, CCC certified

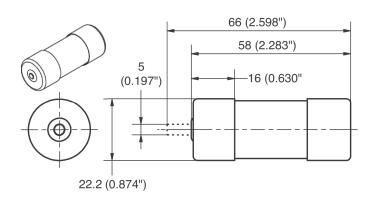
### **Catalogue numbers**

8		710	E
i	2	BUSSMANN	FWP-80A22Fa
1	-	MA SIS	30AS
	-1	ISS	VP-8
	П	BL	F

				l²t (A² Sec)			
Fuse link type	Fuse link size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 700 V a.c.	Watts loss (W)	Catalogue numbers
			20	23	330	5	FWP-20A22F
			25	37	530	6	FWP-25A22F
			32	55	780	8	FWP-32A22F
	22 x 58 mm	700\//700\/_d/UU\	40	68	960	12	FWP-40A22F
Without striker	( <sup>7</sup> /8" x 2 <sup>9</sup> /32")	700 V a.c./ 700 V d.c. (UL)	50	155	2200	12.5	FWP-50A22F
			63	280	4000	15	FWP-63A22F
			80	550	7800	15	FWP-80A22F
			100	1100	15,600	16.5	FWP-100A22F
			20	19	260	5	FWP-20A22FI
			25	34	410	6	FWP-25A22FI
			32	53.5	605	8	FWP-32A22FI
14/51 × 1	22 x 58 mm		40	68	750	9	FWP-40A22FI
With striker	( <sup>7</sup> /8" x 2 <sup>9</sup> / <sub>32</sub> ")	700 V a.c./ 700 V d.c. (UL)	50	135	1600	9.5	FWP-50A22FI
			63	280	3080	11	FWP-63A22FI
			80	600	6600	13.5	FWP-80A22FI
			100	1100	12,500	16	FWP-100A22FI

#### Dimensions - mm (in), without striker



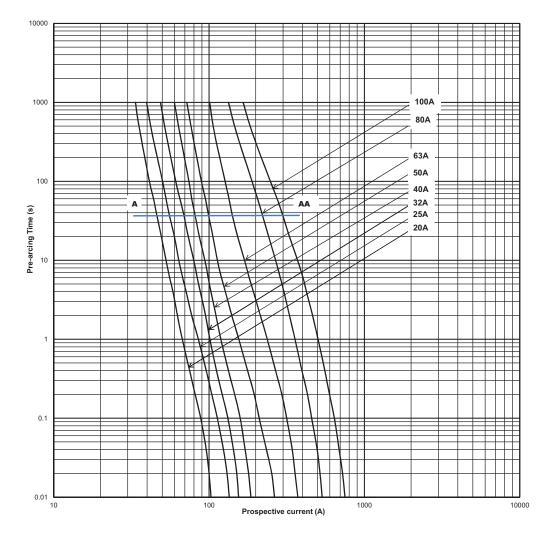


Dimensions - mm (in), with striker

Data sheets: 720026, 5781723

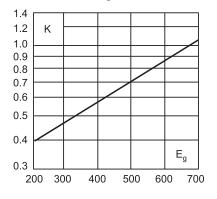
### FWP - 22 x 58 mm, 700 V a.c. / V d.c. (UL), 20 A to 100 A

Time-current curve - 20 A to 100 A



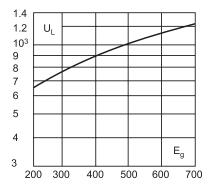
#### **Total clearing l<sup>2</sup>t**

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



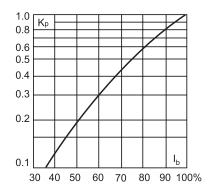
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



#### 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.



## FWK - 20 x 127 mm and 25 x 146 mm, 750 V d.c. (IEC), 5 A to 60 A

### **Specifications**

#### Description

Ferrule style high speed fuse links for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

### **Technical Data**

- Rated voltage: 750 V d.c. (IEC)
- Rated current:
- 5 A to 30 A (20 x 127 mm)
- 35 A to 60 A (25 x 146 mm)
- Breaking capacity: 50 kA at 750 V d.c., L/R 10-15ms
- Operating class: gG

#### **Standards / Agency information:**

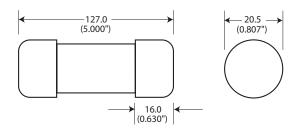
CE

#### **Catalogue numbers**

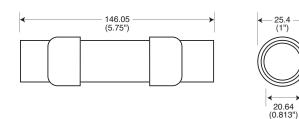


			I <sup>2</sup> t (A <sup>2</sup> Sec)				
Fuse link size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 750 V d.c.	Watts loss (W)	Catalogue numbers	
		5	8.5	16	6.7	FWK-5A20F	
		8	50	100	8.8	FWK-8A20F	
20 x 127 mm 75 ( <sup>13</sup> /16″ x 5″) 75		10	95	200	8.5	FWK-10A20F	
	750 V d.c. (IEC)	15	100	240	5	FWK-15A20F	
( ) 10 / 10 /		20	125	315	7.8	FWK-20A20F	
		25	400	1100	6.5	FWK-25A20F	
		30	800	2600	6.5	FWK-30A20F	
		35	1300	4600	6	FWK-35A25F	
25 x 146 mm		40	1600	5300	6.8	FWK-40A25F	
(1" x 5 ¾")	750 V d.c. (IEC)	50	3100	12,000	7.3	FWK-50A25F	
		60	5900	24,000	7.7	FWK-60A25F	

Dimensions - mm (in), 20 x 127 mm, 5 A to 30 A

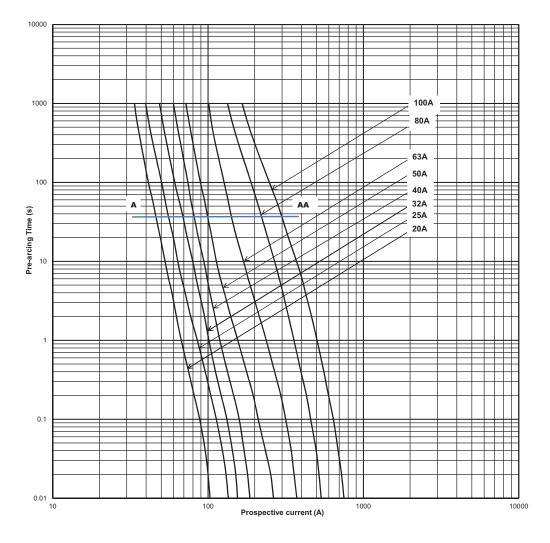


Dimensions - mm (in), 25 x 146 mm, 35 A to 60 A



## FWK - 20 x 127 mm and 25 x 146 mm, 750 V d.c. (IEC), 5 A to 60 A

Time-current curve - 20 A to 100 A



## FWJ - 14 x 67 mm, 1000 V a.c. / 800 V d.c. (UL), 20 A to 30 A

### **Specifications**

#### Description

Ferrule style high speed fuse links for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

#### **Technical data**

- Rated voltage: 1000 V a.c. / 800 V d.c.
- Rated current: 20 A to 30 A
- Breaking capacity:
  - 25kA RMS Sym
  - 50 kA at 800 V d.c.
- Operating class: aR

#### **Standards / Agency information**

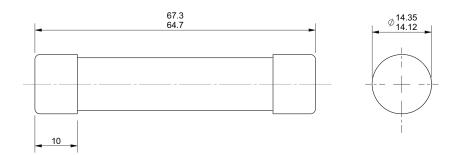
CE, UL Recognised



#### Catalogue numbers

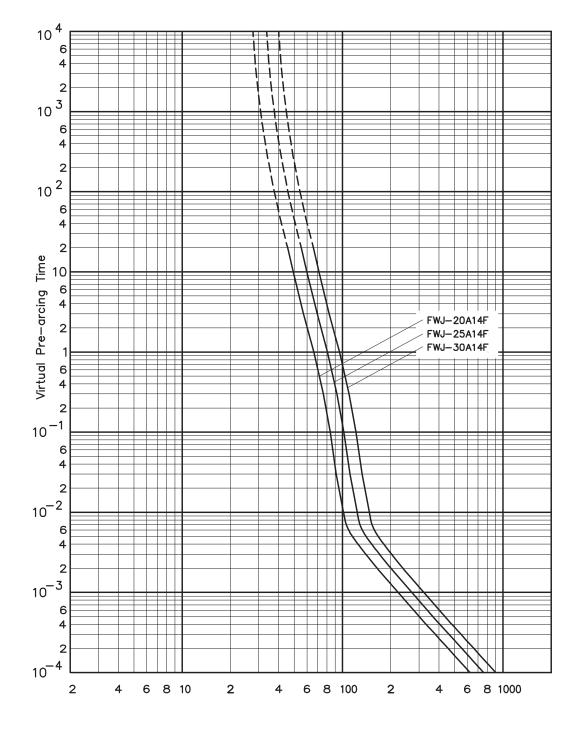
			I²t (A² Sec)			
Fuse link size	Fuse link size Rated voltage		Pre-arcing	Clearing at 1000 V a.c.	Watts loss (W)	Catalogue numbers
		20	25	220	9	FWJ-20A14F
14 x 67 mm ( <sup>9</sup> /16″ x 2 <sup>5</sup> /8″)	1000 V a.c./ 800 V d.c. (UL)	25	33	350	11	FWJ-25A14F
		30	52	450	14	FWJ-30A14F

#### **Dimensions (mm)**



## FWJ - 14 x 67 mm, 1000 V a.c. / 800 V d.c. (UL), 20 A to 30 A

Time-current curve - 20 A to 30 A



## FWL - 20 x 127 mm, 1200 V a.c. / 1000 V d.c. (IEC), 20 A to 30 A

### **Specifications**

#### Description

Ferrule style high speed fuse links for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Available with indicator.

#### **Technical data**

- Rated voltage: 1200 V a.c. / 1000 V d.c. (IEC)
- Rated current: 20 A, 25 A and 30 A
- Breaking capacity:
  - 50 kA RMS Sym
  - 50 kA at 1000 V d.c.
- Operating Class: gR

#### **Standards / Agency information**

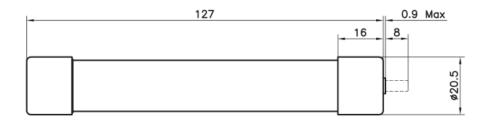
CE

#### **Catalogue numbers**



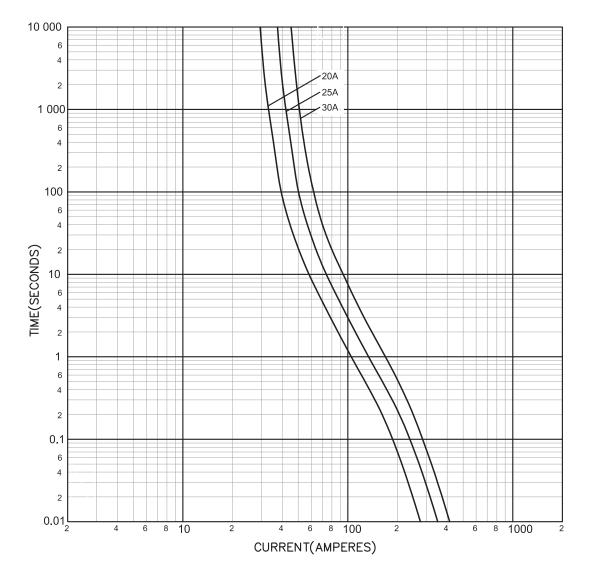
						Catalogue numbers		
Fuse link size	Rated voltage	Rated current (Amps)			Watts loss (W)	Without indicator	With indicator	
		20	675	1550	5.9	FWL-20A20F	FWL-20A20FI	
20 x 127 mm ( <sup>13</sup> / <sub>16</sub> " x 5")		25	1200	2760	6.5	FWL-25A20F	FWL-25A20FI	
(-718 × 3 )		30	1850	4300	7.5	FWL-30A20F	FWL-30A20FI	

#### **Dimensions (mm)**



## FWL - 20 x 127 mm, 1200 V a.c. / 1000 V d.c. (IEC), 20 A to 30 A

Time-current curve - 20 A to 30 A



## FWS - 20 x 127 mm, 1400 - 2000 V a.c. / 1000 V d.c. (IEC), 2 A to 15 A

### **Specifications**

#### Description

Ferrule style high speed fuse links for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Available with indicator.

#### **Technical Data**

- Rated voltage:
  - 2000 V a.c. / 1000 V d.c. (IEC, 2 A to 8 A)
- 1400 V a.c. / 1000 V d.c. (IEC, 10 A to 15 A)
- Rated current: 2 A to 15 A
- Breaking capacity:
  - 50 kA RMS Sym.
  - 50 kA at 1000 V d.c. (2 A to 10 A only)
- Operating class: gR

#### **Standards/Agency Information**

CE

#### **Catalogue numbers**



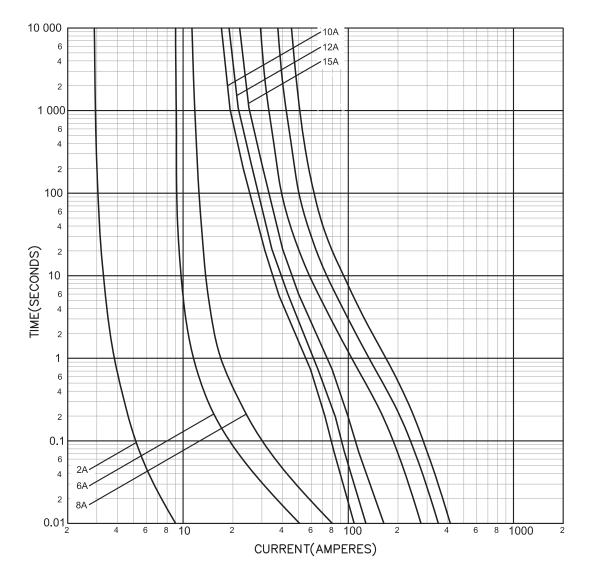
		I²t (A² Sec)				Catalogue numbers	
Fuse link size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 1000 V a.c.	Watts loss (W)	Without indicator	With indicator
	2000 V a.c./2000 V d.c.(IEC)	2	0.8	2.4	4.4	FWS-2A20F	FWS-2A20FI
	2000 V a.c./1000 V d.c.(IEC)	6	27	81	6.7	FWS-6A20F	FWS-6A20FI
20 x 127 mm		8	64	192	7.6	FWS-8A20F	FWS-8A20FI
( <sup>13</sup> / <sub>16</sub> " x 5")		10	118	277	3	FWS-10A20F	FWS-10A20FI
	1400 V a.c./ 1000 V d.c.(IEC)	12	170	380	3.4	FWS-12A20F	FWS-12A20FI
		15	209	500	5	FWS-15A20F	FWS-15A20FI

#### **Dimensions (mm)**

-	127		0.9	Max
		16	_8	
	<u> </u>			
			h	0.5
			JJ	\$2
			)	

## FWS - 20 x 127 mm, 1400 - 2000 V a.c. / 1000 V d.c. (IEC), 2 A to 15 A

#### Time-current curve - 2 A to 15 A



### 170M - Sizes 000 and 00, DIN 43653, 690 V a.c. (IEC), 700 V a.c. / V d.c. (UL), 10 A to 400 A

### **Specifications**

#### Description

Square body DIN 43653 bolted tags high speed fuse links, for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

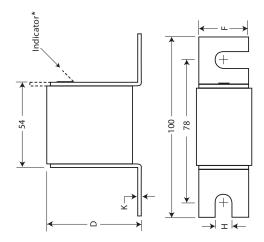
#### Technical data

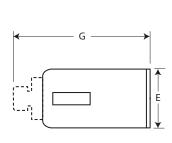
- Rated voltage:
  - 690 V a.c. (IEC)
- 700 V a.c. (UL, size 000; size 00 100 A to 400 A)
- 700 V d.c. (UL, size 000)
- Rated current: 10 A to 400 A
- Breaking capacity:
  - 200 kA RMS Sym
  - 50 kA at 700 V d.c. (size 000 only)
- Operating class
- gR size 000 (10 A to 63 A), size 00 (25 A to 80 A)
- aR size 000 (>63 A), size 00 (>80 A)

#### **Standards/Agency Information**

CE, Designed and tested to IEC 60269 part 4. UL Recognised/CSA Component Acceptance on Size 000. CCC approved

#### **Dimensions (mm)**





\* Indication for Size 00 fuses is a red pin.

The dotted line illustrates the  $\ensuremath{\mathsf{Type}}\,\ensuremath{\mathsf{T}}$  indicator fuse link.

#### Type -U/80, -/80, -TN/80

	· ·		-				_
Size	D	Е	F	G	Н	К	
000	40	21	20	51	8	2	
00	51	30	28	67	10	2	



Data sheets: 170K6310 (Size 000), 170K6312 (Size 00)

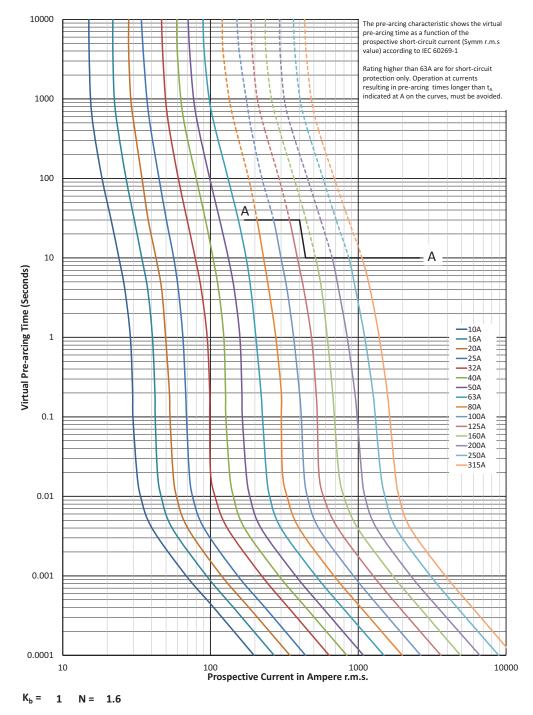
# 170M - Sizes 000 and 00, DIN 43653, 690 V a.c. (IEC), 700 V a.c. / V d.c. (UL), 10 A to 400 A

### **Catalogue numbers**

			I²t (A² Sec)				Catalogue number	S	
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-Arcing	Clearing at 660 V a.c.	Watts loss (W)	Operating class	-U/80 Without indicator	-/80 Visual indicator	-TN/80 Type T indicator for micro
		10	3.8	25.5	3	gR	170M1308	170M1358	170M1408
		16	7.2	48	5.5	_	170M1309	170M1359	170M1409
		20	11.5	78	7		170M1310	170M1360	170M1410
		25	19	130	9		170M1311	170M1361	170M1411
		32	40	270	10		170M1312	170M1362	170M1412
	690 V a.c.	40	69	460	12		170M1313	170M1363	170M1413
	(IEC)	50	115	770	15		170M1314	170M1364	170M1414
000	700 V a.c. /	63	215	1450	16	_	170M1315	170M1365	170M1415
	V d.c.	80	380	2550	19	aR	170M1316	170M1366	170M1416
	(UL)	100	695	4650	24	_	170M1317	170M1367	170M1417
		125	1250	8500	28	_	170M1318	170M1368	170M1418
		160	2350	16,000	32	_	170M1319	170M1369	170M1419
		200	4200	28,000	37	_	170M1320	170M1370	170M1420
		250	7750	51,500	42	_	170M1321	170M1371	170M1421
		315	12,000	80,500	53		170M1322	170M1372	170M1422
		25	19	130	6	gR		170M2608	170M2658
		32	28.5	195	7	_		170M2609	170M2659
00	690 V a.c.	40	50	360	9	_		170M2610	170M2660
00	(IEC)	50	95	640	10			170M2611	170M2661
		63	170	1200	12			170M2612	170M2662
		80	310	2100	15	_		170M2613	170M2663
		100	620	4150	20	aR	_	170M2614	170M2664
		125	1000	6950	25	_		170M2615	170M2665
	690 V a.c.	160	1900	13,000	30	_		170M2616	170M2666
00	(IEC)	200	3400	23,000	35	_		170M2617	170M2667
00	700 V a.c.	250	6250	42,000	45	_		170M2618	170M2668
	(UL)	315	10,000	68,500	55	_		170M2619	170M2669
		350	13,500	91,500	60	_		170M2620	170M2670
		400	18,000	125,000	70	_		170M2621	170M2671

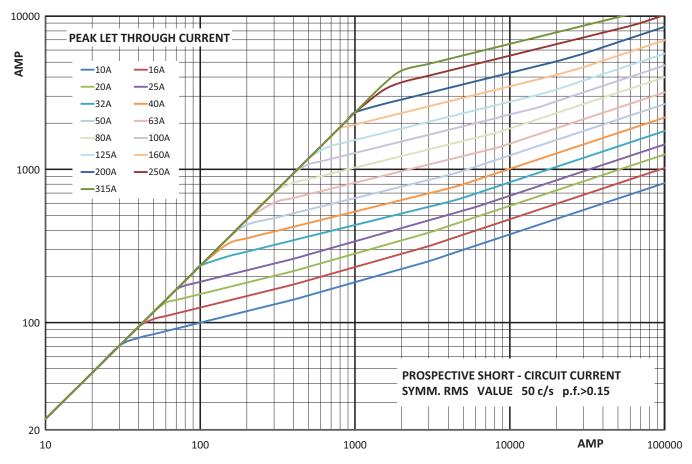
## 170M - Sizes 000 and 00, DIN 43653, 690 V a.c. (IEC), 700 V a.c. / V d.c. (UL), 10 A to 400 A

#### Time-current curve - Size 000 - 10 A to 315 A



Data sheets: 170K6310 (Size 000), 170K6312 (Size 00)

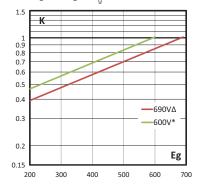
170M - Sizes 000 and 00, DIN 43653, 690 V a.c. (IEC), 700 V a.c. / V d.c. (UL), 10 A to 400 A



Cut-off curve - Size 000 - 10 A to 315 A

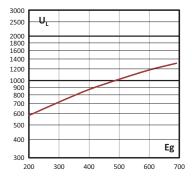
#### Total clearing l<sup>2</sup>t

The total clearing  $l^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $l^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



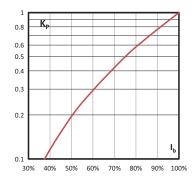
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



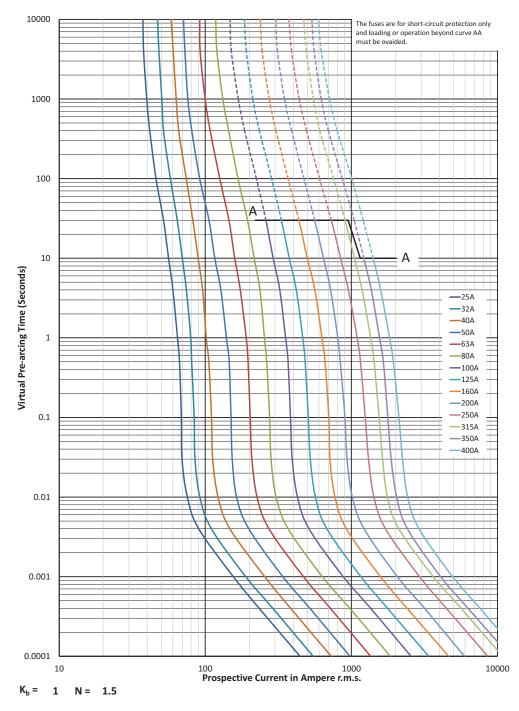
#### Watts losses

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.



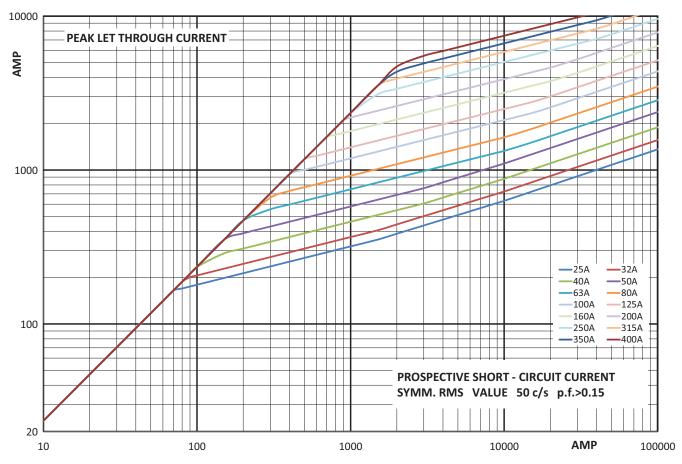
## 170M - Sizes 000 and 00, DIN 43653, 690 V a.c. (IEC), 700 V a.c. / V d.c. (UL), 10 A to 400 A

Time-current curve - Size 00, 25 A to 400 A



Data sheets: 170K6310 (Size 000), 170K6312 (Size 00)

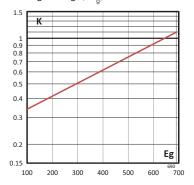
170M - Sizes 000 and 00, DIN 43653, 690 V a.c. (IEC), 700 V a.c. / V d.c. (UL), 10 A to 400 A



Cut-off curve- Size 00 , 25 A to 400 A

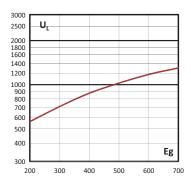
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



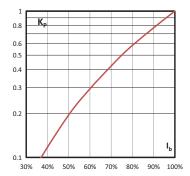
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



#### 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.



## 170M - Sizes 1\* to 3, DIN 43653, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

### **Specifications**

#### Description

Square body DIN 43653 bolted tags high speed fuse links, for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

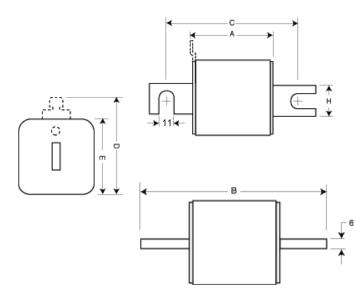
#### **Technical data**

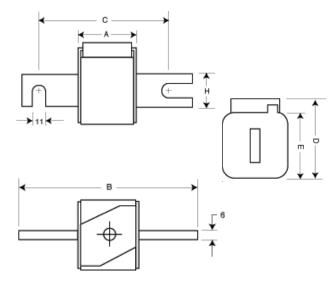
- Rated voltage:
- 690 V a.c. (IEC)
- 700 V a.c. (UL)
- Rated current: 40 A to 2000 A
- Breaking capacity: 200 kA RMS Sym
- Operating class: aR

#### Standards / Agency information

CE, Designed and tested to IEC60269 Part 4. Consult Eaton for UL Recognition/CSA Component Acceptance status. CCC except where noted.

#### **Dimensions (mm)**





#### Type -/80, -TN/80, -/110, -TN/110

Size	А	В	B1	С	C1	$D^2$	E	Н	
1*	50	104	134	78	108	58	45	22	
1	50	108	138	78	108	66	53	25	
2	50	108	138	78	108	75	61	25	
3	51	109	139	78	108	90	76	30	

<sup>1</sup> Valid for fuse links type -/110, -TN/110.
 <sup>2</sup> Valid for Fuse type -TN/80 and -TN/110.

1mm = 0.0394"

Туре -КN/80, -КN/110										
Size	А	В	B <sup>3</sup>	С	C <sup>3</sup>	D	E	Н		
1*	50	104	134	78	108	59	45	22		
1	50	108	138	78	108	69	53	25		
2	50	108	138	78	108	77	61	25		
3	51	109	139	78	108	92	76	30		

<sup>3</sup> Valid for fuse links type -KN/110. 1mm = 0.0394"



## 170M - Sizes 1\* to 3, DIN 43653, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

**Catalogue numbers** 

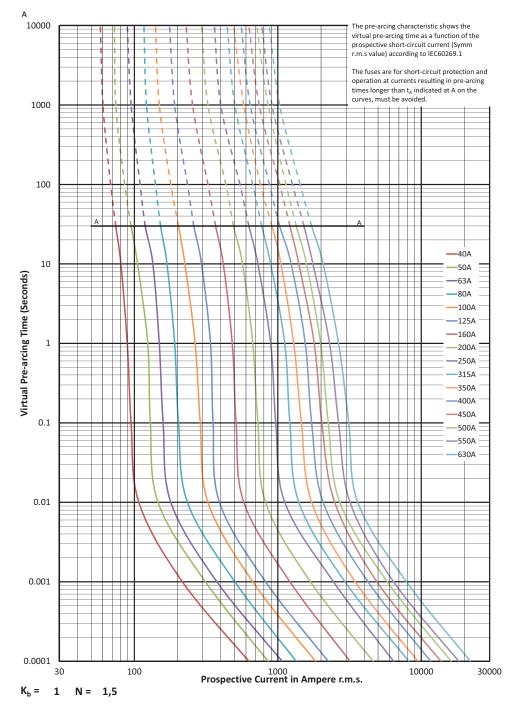
				Catalogue numbers							
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 660 V a.c.	Watts loss (W)	-/80 Visual indicator	-TN/80 Type T indicator for micro	-KN/80 Type K indicator for micro	-/110 Visual indicator	-TN/110 Type T indicator for micro	-KN/110 Type K indicator for micro
		40	40	270	9	170M3008	170M3058	170M3108	170M3158	170M3208	170M3258
		50	77	515	11	170M3009	170M3059	170M3109	170M3159	170M3209	170M3259
		63	115	770	14	170M3010	170M3060	170M3110	170M3160	170M3210	170M3260
		80	185	1250	18	170M3011	170M3061	170M3111	170M3161	170M3211	170M3261
		100	360	2450	21	170M3012	170M3062	170M3112	170M3162	170M3212	170M3262
		125	550	3700	26	170M3013	170M3063	170M3113	170M3163	170M3213	170M3263
	000.)/ ((E0)	160	1100	7500	30	170M3014	170M3064	170M3114	170M3164	170M3214	170M3264
4 ×	690 V a.c. (IEC)	200	2200	15,000	35	170M3015	170M3065	170M3115	170M3165	170M3215	170M3265
1*	700 V a.c.	250	4200	28,500	40	170M3016	170M3066	170M3116	170M3166	170M3216	170M3266
	(UL)	315	7000	46,500	50	170M3017	170M3067	170M3117	170M3167	170M3217	170M3267
		350	10,000	68,500	55	170M3018	170M3068	170M3118	170M3168	170M3218	170M3268
		400	15,000	105,000	60	170M3019	170M3069	170M3119	170M3169	170M3219	170M3269
		450	21,000	140,000	65	170M3020	170M3070	170M3120	170M3170	170M3220	170M3270
		500	27,000	180,000	70	170M3021	170M3071	170M3121	170M3171	170M3221	170M3271
		550	34,000	230,000	75	170M3022	170M3072	170M3122	170M3172	170M3222	170M3272
		630	48,500	325,000	80	170M3023	170M3073	170M3123	170M3173	170M3223	170M3273
		200	1650	11,500	45	170M4008	170M4058	170M4108	170M4158	170M4208	170M4258
		250	3100	21,000	55	170M4009	170M4059	170M4109	170M4159	170M4209	170M4259
		315	6200	42,000	58	170M4010	170M4060	170M4110	170M4160	170M4210	170M4260
		350	8500	59,000	60	170M4011	170M4061	170M4111	170M4161	170M4211	170M4261
	690 V a.c. (IEC)	400	13,500	91,500	65	170M4012	170M4062	170M4112	170M4162	170M4212	170M4262
		450	17,000	120,000	70	170M4013	170M4063	170M4113	170M4163	170M4213	170M4263
1	700 V a.c. (UL)	500	25,000	170,000	78	170M4010	170M4064	170M4114	170M4164	170M4214	170M4264
	(01)	550	34,000	230,000	75	170M4014 170M4015	170M4065	170M4114	170M4165	170M4215	170M4265
		630	52,000	350,000	80	170M4015	170M4066	170M4116	170M4166	170M4216	170M4266
		700	69,500	465,000	85	170M4010	170M4067	170M4110	170M4167	170M4217	170M4267
		800	105,000	725,000	95	170M4017	170M4068	170M4117	170M4168	170M4218	170M4268
	550 V a.c. IEC	900	155,000	850,000	100	170M4010	170M4069 <sup>1</sup>	170M4110	170M4169 <sup>1</sup>	170M4210	170M4269 <sup>1</sup>
	550 V a.c. 120	400	11,000	74,000	65	170M5008	170M4003	170M5108	170M5158	170M5208	170M5258
		450	15,500	105,000	70	170M5008	170M5058	170M5108	170M5158	170M5208	170M5259
		500	21,500	145.000	70	170M5009	170M5060	170M5109	170M5159	170M5209	170M5260
	690 V a.c. (IEC) 700 V a.c. (UL)	550	28,000	190,000	80	170M5010	170M5060	170M5110	170M5160	170M5210	170M5260
		630	41,000	275,000	90	170M5011 170M5012	170M5061	170M5111 170M5112	170M5161	170M5211	170M5261
2			-		95	170M5012		170M5112			170M5262
2		700	60,500	405,000			170M5063		170M5163	170M5213	
		800	86,000	575,000	105	170M5014	170M5064	170M5114	170M5164	170M5214	170M5264
		900	125,000	840,000	110	170M5015	170M5065	170M5115	170M5165	170M5215	170M5265
		1000	180,000	1,250,000	115	170M5016	170M5066	170M5116	170M5166	170M5216	170M5266
	600 V a.c. (IEC) / 700 V a.c. UL	1100	245,000	1,600,000	120	170M5017	170M5067	170M5117	170M5167	170M5217	170M5267
	700 V d.C. OL	1250	365,000	2,400,000	130	170M5018	170M5068	170M5118	170M5168	170M5218	170M5268
		500	14,000	95,000	95	170M6008	170M6058	170M6108	170M6158	170M6208	170M6258
		550	19,500	135,000	100	170M6009	170M6059	170M6109	170M6159	170M6209	170M6259
		630	31,000	210,000	105	170M6010	170M6060	170M6110	170M6160	170M6210	170M6260
		700	44,500	300,000	110	170M6011	170M6061	170M6111	170M6161	170M6211	170M6261
	690 V a.c. (IEC)	800	69,500	465,000	115	170M6012	170M6062	170M6112	170M6162	170M6212	170M6262
	700 V a.c. (UL)	900	100,000	670,000	120	170M6013	170M6063	170M6113	170M6163	170M6213	170M6263
3		1000	140,000	945,000	125	170M6014	170M6064	170M6114	170M6164	170M6214	170M6264
J		1100	190,000	1,300,000	130	170M6015	170M6065	170M6115	170M6165	170M6215	170M6265
		1250	290,000	1,950,000	140	170M6016	170M6066	170M6116	170M6166	170M6216	170M6266
		1400	370,000	2,450,000	155	170M6017	170M6067	170M6117	170M6167	170M6217	170M6267
		1500	460,000	3,100,000	160	170M6018	170M6068	170M6118	170M6168	170M6218	170M6268
		1600	580,000	3,900,000	160	170M6019	170M6069	170M6119	170M6169	170M6219	170M6269
	600 V a.c. IEC / 550 V a.c. UL	1800	880,000	5,250,000	165	170M6020 <sup>2</sup>	170M6070 <sup>2</sup>	170M6120	170M6170 <sup>2</sup>	170M6220 <sup>2</sup>	170M6270
	550 V a.c. IEC/UL	2000	1,150,000	6,350,000	175	170M6021	170M6071	170M6121	170M6171	170M6221	170M6271
			.,	-,0,000							

Data sheets: 170K6314 (Size 1\*), 170K6316 (Size 1), 170K6318 (Size 2), 170K6320 (Size 3)

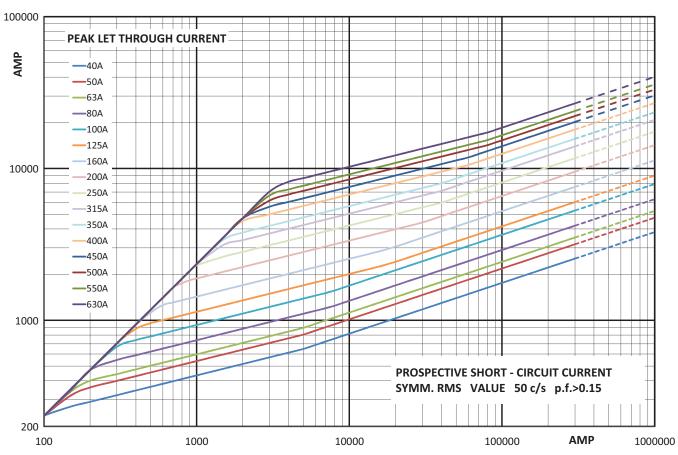
<sup>1</sup> Not UL Approved IEC <sup>2</sup> Rated at 750 V d.c. 12XIn 130 kA when two fuses connected in series

## 170M - Sizes 1\* to 3, DIN 43653, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

#### Time-current curve - Size 1\*, 40 A to 630 A



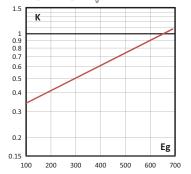
### 170M - Sizes 1\* to 3, DIN 43653, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A



Cut-off curve - Size 1\*, 40 A to 630 A

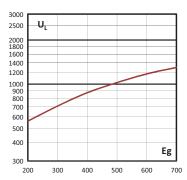
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



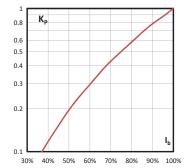
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



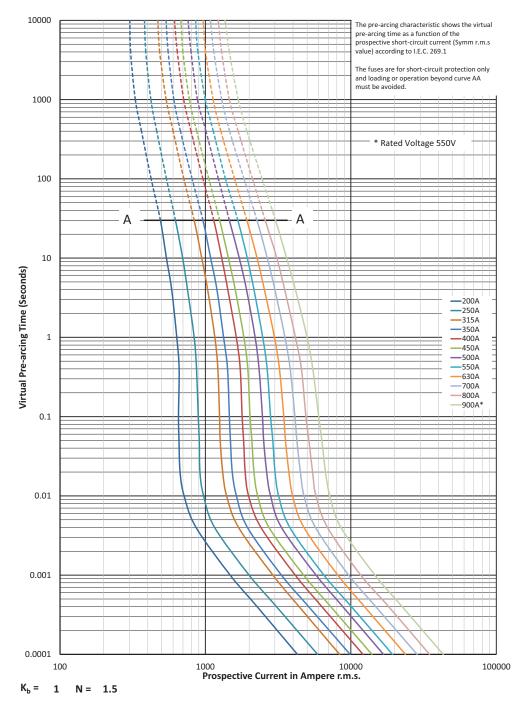
#### Watts losses

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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.

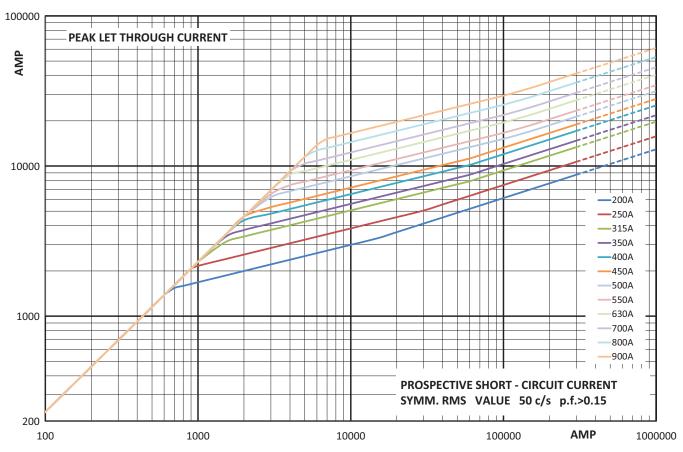


## 170M - Sizes 1\* to 3, DIN 43653, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

#### Time-current curve - Size 1, 200 A to 900 A



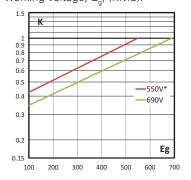
### 170M - Sizes 1\* to 3, DIN 43653, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A



Cut-off curve - Size 1, 200 A to 900 A

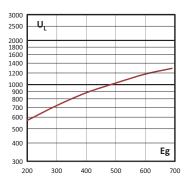
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



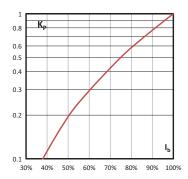
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



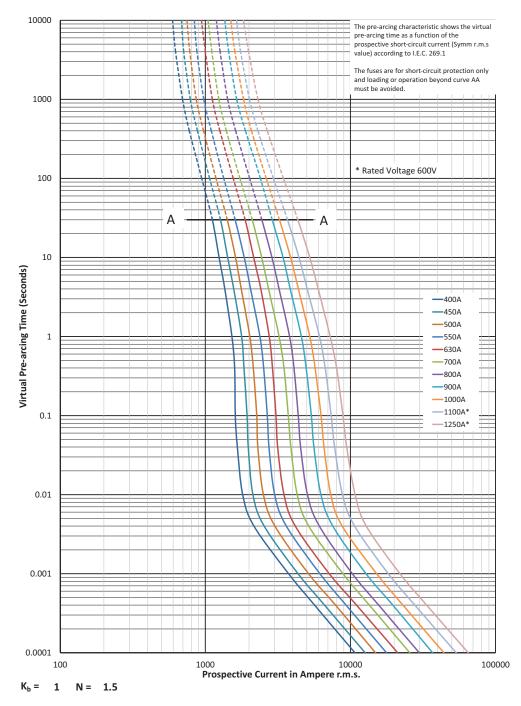
#### Watts losses

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.



## 170M - Sizes 1\* to 3, DIN 43653, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

#### Time-current curve - Size 2, 400 A to 1250 A



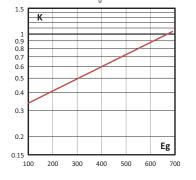
### 170M - Sizes 1\* to 3, DIN 43653, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

1000000 PEAK LET THROUGH CURRENT AMP -400A -450A -500A 100000 -550A -630A -700A -800A -900A 1000A -1100A 1250A 10000 **PROSPECTIVE SHORT - CIRCUIT CURRENT** SYMM. RMS VALUE 50 c/s p.f.>0.15 2000 100000 1000000 AMP 10000000 1000 10000

Cut-off curve - Size 2, 400 A to 1250 A

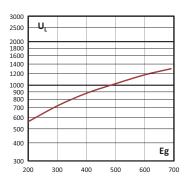
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



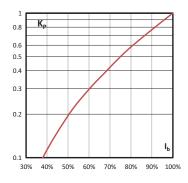
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



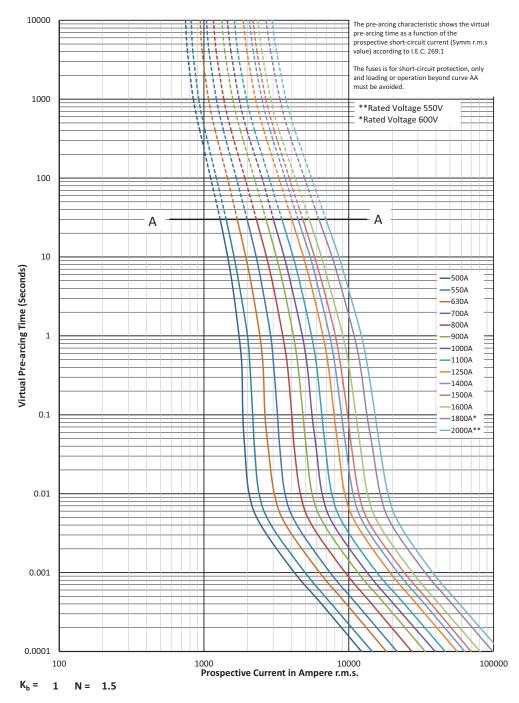
#### Watts losses

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.

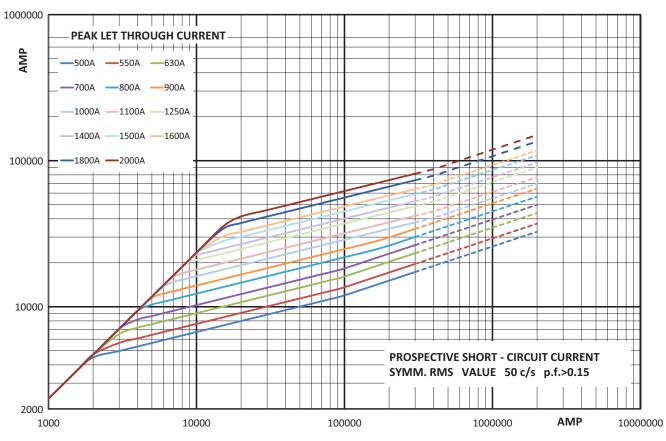


## 170M - Sizes 1\* to 3, DIN 43653, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

#### Time-current curve -Size 3, 500 A to 2000 A



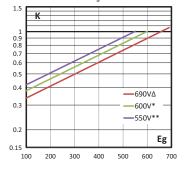
### 170M - Sizes 1\* to 3, DIN 43653, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A



Cut-off curve - Size 3, 500 A to 2000 A

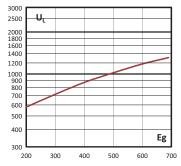
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



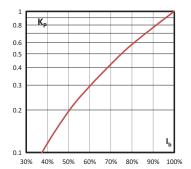
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{q}$ , (RMS) at a power factor of 15 percent.



#### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



## 170M - Size 00, DIN 43653, 1000 V a.c. (IEC and UL), 20 A to 315A

### **Specifications**

#### Description

Square body DIN 43653 bolted tags high speed fuse links, for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

#### **Technical data**

- · Rated voltage:
  - 1000 V a.c. (IEC and UL 20 A to 250 A)
- 900 V a.c. (IEC, 315 A)
- Rated current: 20 A to 315 A
- Breaking capacity: 125 kA RMS Sym
- Operating class: aR

#### **Standards / Agency information**

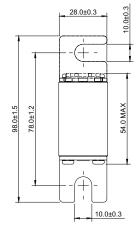
CE, Designed and tested to IEC60269 Part 4, UL Recognised/CSA component acceptance status (20-250 A)

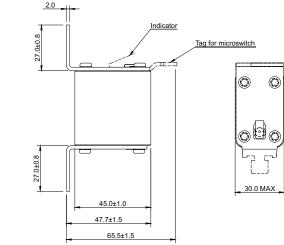
### **Catalogue numbers**



			l²t (A² Sec)			Catalogue numbers		
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at rated voltage	— Watts loss (W)	00/80 Visual indicator	00TN/80 Type T indicator for micro	
		20	20	140	5	170M4802	170M4822	
		25	30	210	7	170M4803	170M4823	
		32	55	390	9	170M4804	170M4824	
		35	69	500	10	170M4805	170M4825	
		40	100	690	11	170M4806	170M4826	
		50	170	1200	13	170M4807	170M4827	
00	1000 V a.c. (IEC/UL)	63	280	2000	18	170M4808	170M4828	
00		80	500	3500	22	170M4809	170M4829	
		100	950	6850	25	170M4810	170M4830	
		125	1500	11,500	33	170M4811	170M4831	
		160	3000	22,000	37	170M4812	170M4832	
		200	5600	40,500	40	170M4813	170M4833	
		250	10,000	74,000	48	170M4814	170M4834	
	900 V a.c. (IEC)	315	18,000	115,000	58	170M4815	170M4835	

#### **Dimensions (mm)**

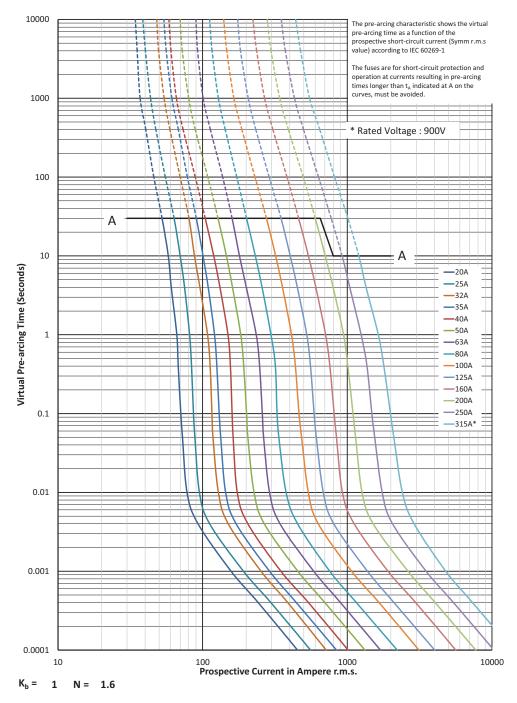




Data sheet: 170K8504

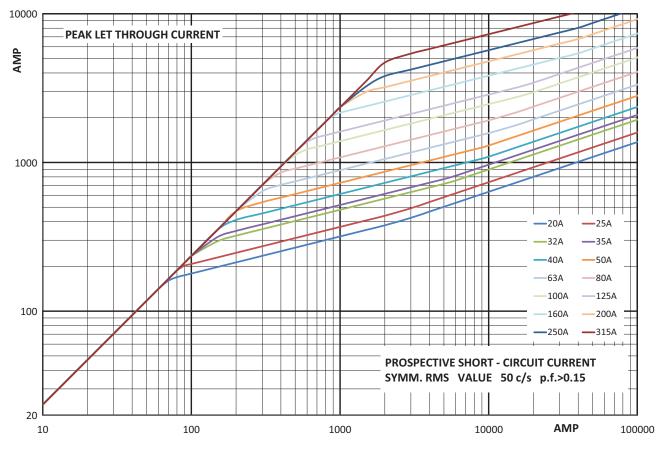
# 170M - Size 00, DIN 43653, 1000 V a.c. (IEC and UL), 20 A to 315A

Time-current curve - 20 A to 315 A



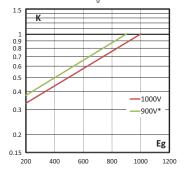
### 170M - Size 00, DIN 43653, 1000 V a.c. (IEC and UL), 20 A to 315A

Cut-off curve - 20 A to 315 A



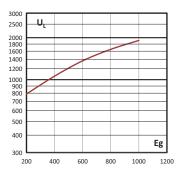
#### Total clearing l<sup>2</sup>t

The total clearing  $l^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $l^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



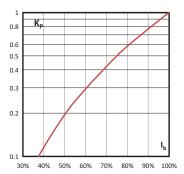
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{q}$ , (RMS) at a power factor of 15 percent.



#### 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.



Data sheet: 170K8504

# 170M - Sizes 1\* to 3, DIN 43653, 1000 V a.c. (IEC and UL), 50 A to 1400 A

### **Specifications**

### **Description**

Square body DIN 43653 bolted tags high speed fuse links, for the protection of DC common bus, DC drives, power converters / rectifiers and reduced rated voltage starters.

### **Technical data**

- Rated voltage:
  - 1000 V a.c. (IEC, 50 A to 1250 A), 900 V a.c. (IEC, 1400 A)
  - 1000 V a.c. (UL size 2, size 3, 315 A to 1100 A only)
- Rated current: 50 A to 1400 A
- Breaking Capacity:
  - 125kA RMS Sym. AC
  - Size 1: 50 kA for 750 V d.c.
- Operating Class: aR

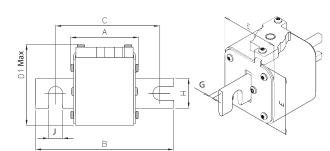
### **Standards/Agency Information**

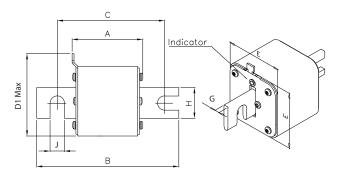
Dimensions (mm) -KN/110

CE, Designed and tested to IEC60269 Part 4, UL Recognised (only sizes 2 and 3), CCC only size 3 (315 A to 1100 A)



### Dimensions (mm) -TN/110





Size	Α	В	C	D1 (max)	Ε	G	Н	J	Size	Α	В	C	D1 (max)	Ε	G	Н	J
1*KN/110	80	138	108	61	43	6	22	11	1*TN/110	80	138	108	61	43	6	22	11
1KN/110	80	138	108	69	51	6	25	11	1TN/110	80	138	108	69	51	6	25	11
2KN/110	80	138	108	77	59	6	25	11	2TN/110	80	138	108	75	59	6	25	11
3KN/110	81	139	108	92	74	6	30	11	3TN/110	81	139	108	90	74	6	30	11

## 170M - Sizes 1\* to 3, DIN 43653, 1000 V a.c. (IEC and UL), 50 A to 1400 A

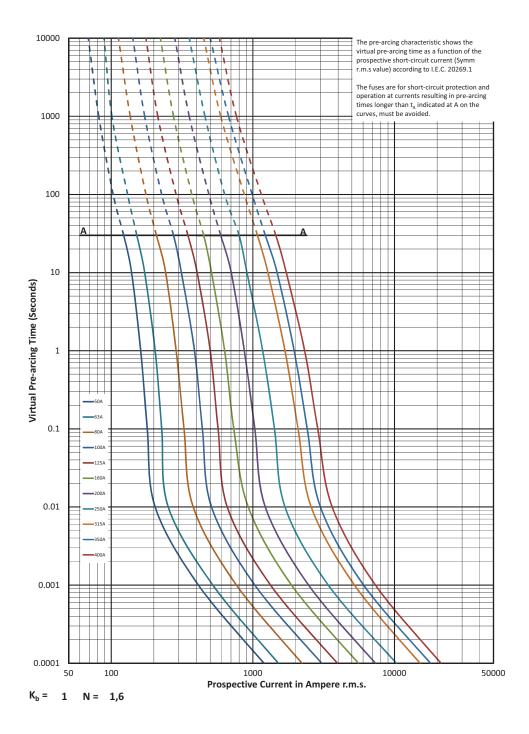
**Catalogue numbers** 

		I²t (A² Sec)				Catalogue numbers		
Fuse link body size	Rated voltage	Rated current (Amps)	t Clearing Pre-arcing at rated voltage			-KN/110 Type K indicator for micro	-TN/110 Type T indicator for micro	
		50	135	815	20	170M3965	170M3981	
		63	215	1300	25	170M3966	170M3982	
		80	460	2750	30	170M3967	170M3983	
		100	860	5100	35	170M3968	170M3984	
		125	1450	8600	40	170M3969	170M3985	
1*	1000 V a.c. (IEC)	160	2850	17,500	45	170M3970	170M3986	
		200	4950	29,500	50	170M3971	170M3987	
		250	9550	57,000	55	170M3972	170M3988	
		315	21,500	130,000	65	170M3973	170M3989	
		350	29,000	175,000	70	170M3974	170M3990	
		400	42,000	250,000	75	170M3975	170M3991	
		160	2200	13,500	40	170M4965	170M4980	
		200	4150	24,500	45	170M4966	170M4981	
		250	7750	46,000	52	170M4967	170M4982	
1		315	16,500	98,500	60	170M4968	170M4983	
	1000 V a.c. (IEC)	350	21,500	130,000	65	170M4969	170M4984	
	1000 V a.c. / 750 V d.c. (UL)	400	31,000	185,000	70	170M4970	170M4985	
		450	44,500	265,000	80	170M4971	170M4986	
		500	63,000	375,000	85	170M4972	170M4987	
		550	84,500	500,000	90	170M4973	170M4988	
		630	125,000	755,000	98	170M4974	170M4989	
		250	6750	40,000	65	170M5966	170M5981	
		315	13,500	81,500	75	170M5967	170M5982	
		350	16,500	99,000	80	170M5968	170M5983	
		400	26,000	155,000	85	170M5969	170M5984	
		450	35,500	210,000	90	170M5970	170M5985	
2	1000 V a.c. (IEC and UL)	500	49,500	295,000	95	170M5971	170M5986	
		550	66,000	390,000	100	170M5972	170M5987	
		630	93,500	555,000	110	170M5973	170M5988	
		700	130,000	770,000	115	170M5974	170M5989	
		800	195,000	1,200,000	125	170M5975	170M5990	
		315	9200	54,500	90	170M8614	170M8629 <sup>1</sup>	
		350	13,000	77,500	95	170M8615	170M8630 <sup>1</sup>	
		400	19,000	115,000	105	170M8616	170M86311	
		450	27,000	160,000	107	170M8617	170M86321	
		500	37,500	225,000	110	170M8618	170M86331	
		550	52,000	310,000	115	170M8619	170M86341	
	1000 V a.c. (IEC and UL)	630	82,500	490,000	120	170M8620	170M8635 <sup>1</sup>	
3		700	115,000	700,000	125	170M8621	170M8636 <sup>1</sup>	
		800	170,000	1,050,000	135	170M8622	170M8637 <sup>1</sup>	
		900	250,000	1,500,000	145	170M8623	170M8638 <sup>1</sup>	
		1000	340,000	2,050,000	150	170M8624	170M8639 <sup>1</sup>	
		1100	460,000	2,750,000	155	170M8625	170M8640 <sup>1</sup>	
	1000 V a.c. (IEC)	1250	575,000	3,400,000	175	170M8626	170M8641	
	900 V a.c. (IEC)	1400	795,000	4,200,000	185	170M8627	170M8642	

<sup>1</sup> Rated at 900 V d.c. 8XIn 90 kA

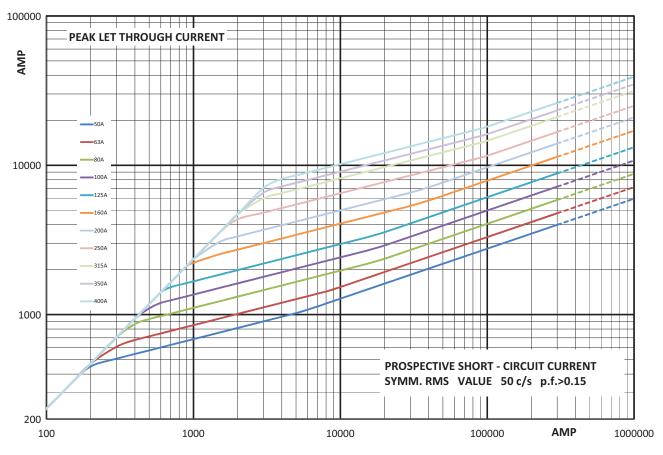
### 170M - Sizes 1\* to 3, DIN 43653, 1000 V a.c. (IEC and UL), 50 A to 1400 A

Time-current curve - Size 1\* - 50 A to 400 A



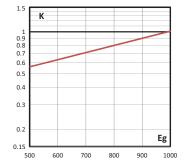
### 170M - Sizes 1\* to 3, DIN 43653, 1000 V a.c. (IEC and UL), 50 A to 1400 A

Cut-off curve - Size 1\*, 50 A to 400 A



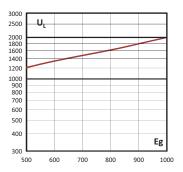
### Total clearing l<sup>2</sup>t

The total clearing  $l^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $l^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



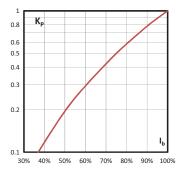
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



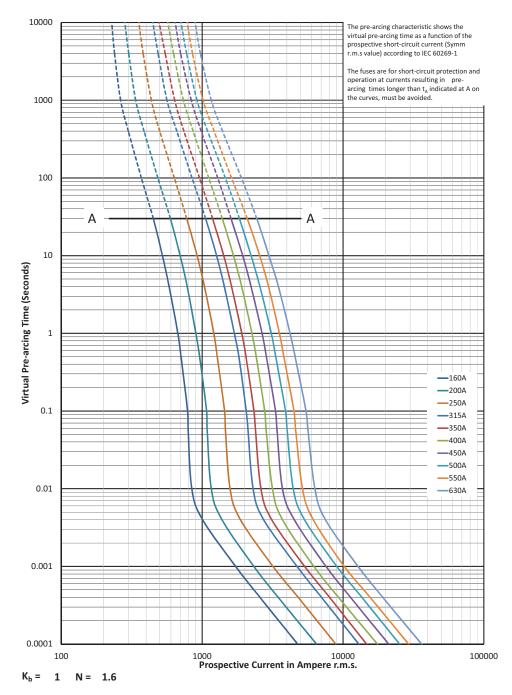
#### Watts losses

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.



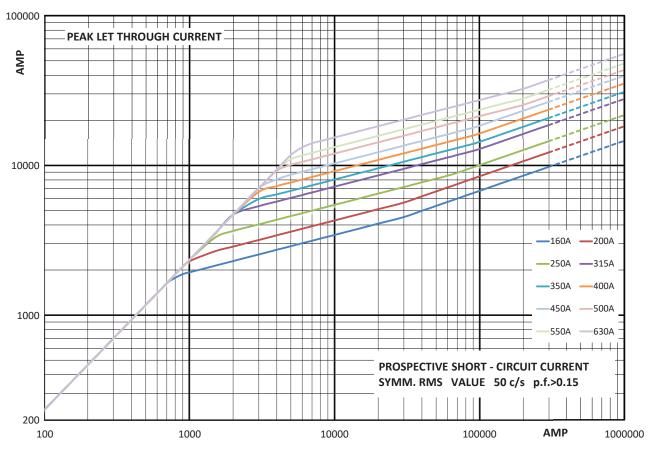
# 170M - Sizes 1\* to 3, DIN 43653, 1000 V a.c. (IEC and UL), 50 A to 1400 A

Time-current curve - Size 1, 160 A to 630 A



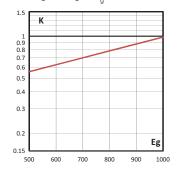
### 170M - Sizes 1\* to 3, DIN 43653, 1000 V a.c. (IEC and UL), 50 A to 1400 A

Cut-off curve - Size 1, 160 A to 630 A



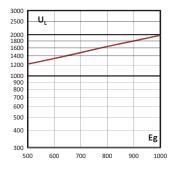
### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



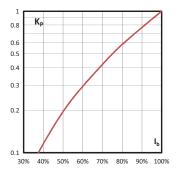
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



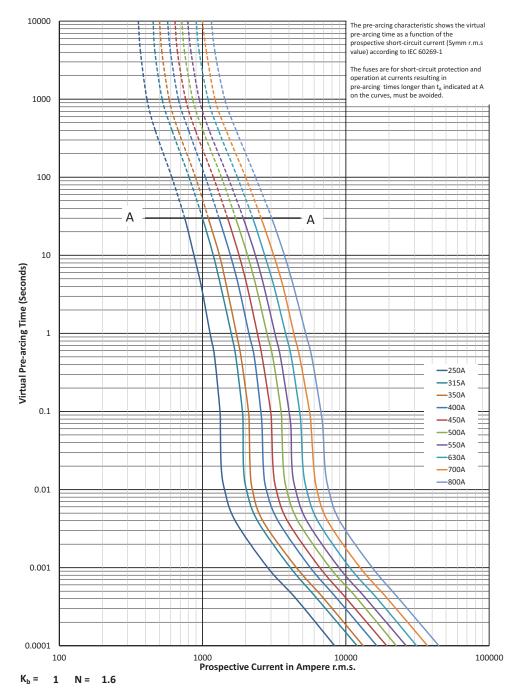
#### Watts losses

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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



# 170M - Sizes 1\* to 3, DIN 43653, 1000 V a.c. (IEC and UL), 50 A to 1400 A

Time-current curve - Size 2, 250 A to 800 A



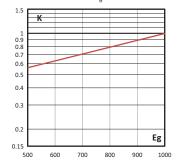
### 170M - Sizes 1\* to 3, DIN 43653, 1000 V a.c. (IEC and UL), 50 A to 1400 A

Cut-off curve - Size 2, 250 A to 800 A



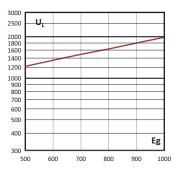
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



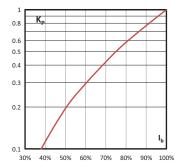
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



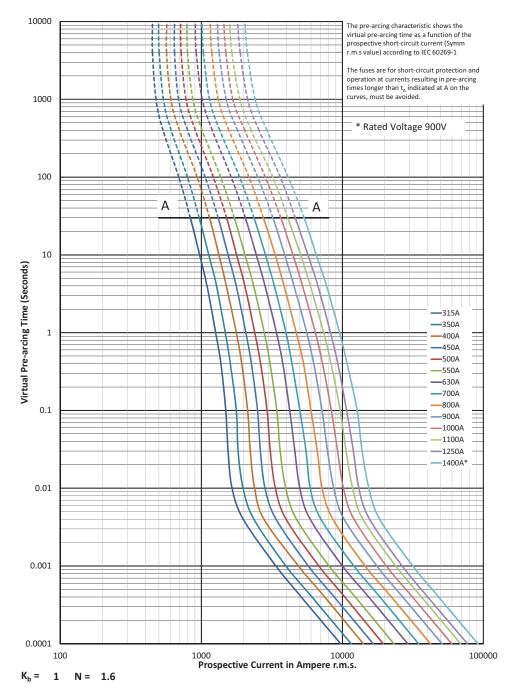
#### Watts losses

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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



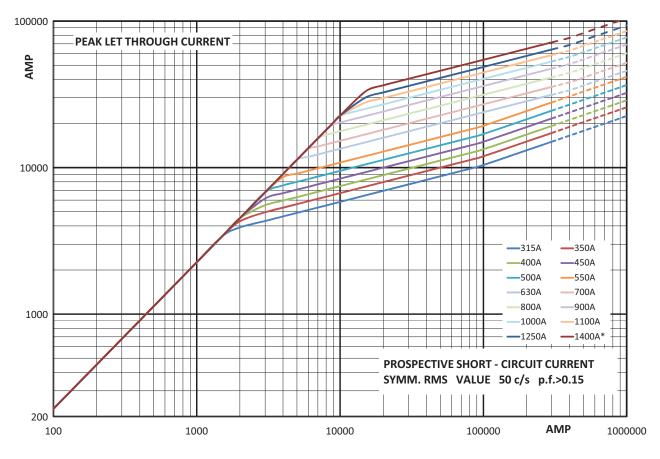
### 170M - Sizes 1\* to 3, DIN 43653, 1000 V a.c. (IEC and UL), 50 A to 1400 A

Time-current curve - Size 3, 315 A to 1400 A



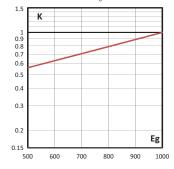
### 170M - Sizes 1\* to 3, DIN 43653, 1000 V a.c. (IEC and UL), 50 A to 1400 A

Cut-off curve - Size 3, 315 A to 1400 A



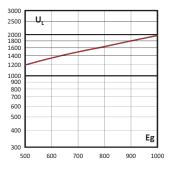
### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



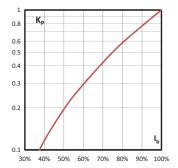
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{q'}$  (RMS) at a power factor of 15 percent.



#### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



### 170M - Sizes 1\* to 3, DIN 43653, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

### **Specifications**

### Description

Square body DIN 43653 bolted tags high speed fuse links, for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

### **Technical data**

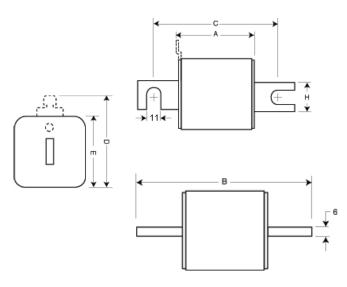
- Rated voltage: see table opposite page
- Rated current: 50 A to 1400 A
- Breaking capacity: 100 kA RMS Sym.
- Operating class: aR

### **Standards / Agency information**

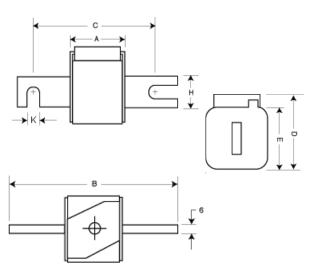
CE, Designed and tested to IEC60269 Part 4. Consult Eaton for UL Recognition/CSA Component Acceptance status.



### Dimensions (mm) -110 and TN/110



Size	Α	В	C	$\mathbf{D}^{1}$	E	Н	К	
1*	80	138	108	58	45	20	11	
1	80	138	108	66	53	25	11	
2	80	138	108	75	61	25	11	
3	81	139	108	90	76	30	11	



Dimensions (mm) - KN/110

Α	В	C	D	E	Н	К
80	138	108	60	45	20	11
80	138	108	69	53	25	11
80	138	108	77	61	25	11
81	139	108	92	76	30	11
	80	80         138           80         138	80         138         108           80         138         108	80         138         108         69           80         138         108         77	80         138         108         69         53           80         138         108         77         61	R         B         C         B         C         F

<sup>1</sup> Clip on Microswitch valid for fuse links -TN//110. 1mm = 0.0394" 1mm = 0.0394"

## 170M - Sizes 1\* to 3, DIN 43653, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

**Catalogue numbers** 

			l²t (A² Sec)				Catalogue numbers			
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 1000 V a.c.	Clearing at 1250 V a.c.	Watts loss (W)	-/110 Visual indicator	-TN/110 Type T indicator for micro	-KN/110 Type K indicator for micro	
		50	135	815	1100	15	170M3138	170M3188	170M3238	
		63	215	1300	1750	20	170M3139	170M3189	170M3239	
		80	420	2500	3350	25	170M3140	170M3190	170M3240	
		100	750	4450	5950	30	170M3141	170M3191	170M3241	
	1250 V a.c. (IEC)	125	1450	9000	11,500	35	170M3142	170M3192	170M3242	
1*		160	2600	16,000	21,000	40	170M3143	170M3193	170M3243	
	1300 V a.c. (UL)	200	5150	31,000	41,000	45	170M3144	170M3194	170M3244	
		250	9200	54,500	73,000	55	170M3145	170M3195	170M3245	
		315	18,500	115,000	150,000	60	170M3146	170M3196	170M3246	
		350	27,000	165,000	220,000	65	170M3147	170M3197	170M3247	
		400	53,000	265,000	335,000	70	170M3148	170M3198	170M3248	
		160	1900	11,500	15,500	45	170M4138 <sup>2</sup>	170M4188 <sup>2</sup>	170M4238 <sup>2</sup>	
		200	3800	22,500	30,000	50	170M4139 <sup>2</sup>	170M4189 <sup>2</sup>	170M4239 <sup>2</sup>	
	12E0 \/ a a //EC)	250	7750	46,000	61,500	60	170M4140 <sup>2</sup>	170M4190 <sup>2</sup>	170M4240 <sup>2</sup>	
	1250 V a.c. (IEC)	315	15,000	90,000	120,000	65	170M4141 <sup>2</sup>	170M4191 <sup>2</sup>	170M4241 <sup>2</sup>	
	1300 V a.c. (UL)	350	20,000	125,000	165,000	70	170M4142 <sup>2</sup>	170M4192 <sup>2</sup>	170M4242 <sup>2</sup>	
1		400	29,500	175,000	235,000	75	170M4143 <sup>2</sup>	170M4193 <sup>2</sup>	170M4243 <sup>2</sup>	
		450	42,000	250,000	335,000	80	170M4144 <sup>2</sup>	170M4194 <sup>2</sup>	170M4244 <sup>2</sup>	
	800 V d.c. (UL)	500	69,500	340.000	435,000	85	170M4145	170M4195	170M4245	
	85 kA IR	550	95,000	465,000	590,000	95	170M4146	170M4196	170M4246	
	1100 V a.c. (IEC)	630	130,000	660,000	N/A	100	170M4147 <sup>1</sup>	170M4197 <sup>1</sup>	170M4247 <sup>1</sup>	
		250	6500	38,500	51,500	65	170M5138	170M5188	170M5238	
		280	9350	55,500	74,500	70	170M5139	170M5189	170M5239	
		315	13,000	77,500	105,000	75	170M5140	170M5190	170M5240	
		350	16,500	97,500	135,000	80	170M5141	170M5191	170M5241	
	(150)	400	23,000	140,000	180,000	85	170M5142	170M5192	170M5242	
	1250 V a.c. (IEC)	450	34,000	205,000	270,000	90	170M5143	170M5193	170M5243	
2	1300 V a.c. (UL)	500	48,000	285,000	380.000	95	170M5144	170M5194	170M5244	
-		550	62,000	370,000	495,000	100	170M5145	170M5195	170M5245	
		630	115,000	575,000	730,000	120	170M5146 <sup>2</sup>	170M5196 <sup>2</sup>	170M5246	
		700	160,000	795,000	1,050,000	125	170M5147 <sup>2</sup>	170M5197 <sup>2</sup>	170M5247	
		800	245,000	1,200,000	1,550,000	130	170M5148 <sup>2</sup>	170M5198 <sup>2</sup>	170M5248	
	1100 V a.c.	900	360,000	1,750,000	N/A	135	170M5149 <sup>4</sup>	170M5199 <sup>4</sup>	170M5249 <sup>4</sup>	
	(IEC & UL)	1000	480,000	2,350,000	N/A	145	170M5150 <sup>4</sup>	170M5200 <sup>4</sup>	170M5250 <sup>4</sup>	
		315	9500	58,000	77,500	85	170M6138 <sup>2</sup>	170M6188 <sup>2</sup>	170M6238 <sup>2</sup>	
		350	13,500	81,500	110,000	90	170M6139 <sup>2</sup>	170M6189 <sup>2</sup>	170M6239 <sup>2</sup>	
		400	19,500	120,000	160,000	95	170M6140 <sup>2</sup>	170M6190 <sup>2</sup>	170M6240 <sup>2</sup>	
		450	31,000	185,000	245,000	100	170M6141 <sup>2</sup>	170M6191 <sup>2</sup>	170M6241 <sup>2</sup>	
		500	39,000	235,000	310,000	105	170M6142 <sup>2</sup>	170M6192 <sup>2</sup>	170M6242 <sup>2</sup>	
		550	55,000	325,000	435,000	110	170M6142	170M6193 <sup>2</sup>	170M6242	
	1300 V a.c. (UL)	630	83,500	495,000	665,000	115	170M6144 <sup>2</sup>	170M6194 <sup>2</sup>	170M6248	
3		700	115,000	705,000	940,000	120	170M6145 <sup>2</sup>	170M6195 <sup>2</sup>	170M6245 <sup>2</sup>	
		800	205,000	995,000	1,300,000	125	170M6146 <sup>3</sup>	170M6196 <sup>3</sup>	170M6245	
		900	305,000	1,500,000	1,900,000	130	170M6140 <sup>4</sup>	170M6197 <sup>3</sup>	170M6240	
		1000	450,000	2,150,000	2,750,000	135	170M6148 <sup>3</sup>	170M6198 <sup>3</sup>	170M62481	
		1100	575,000	2,800,000	3,600,000	160	170M6148 <sup>3</sup>	170M6198 <sup>3</sup>	170M6249 <sup>1</sup>	
	1100 V a.c. (IEC)	1250			3,600,000 N/A	170	170M6150 <sup>5</sup>	170M62001	170M62501	
	1100 v d.C. (IEC)		810,000	3,950,000			170M6150°			
		1400	1,250,000	6,000,000	N/A	175	170101513	170M62011	170M62511	

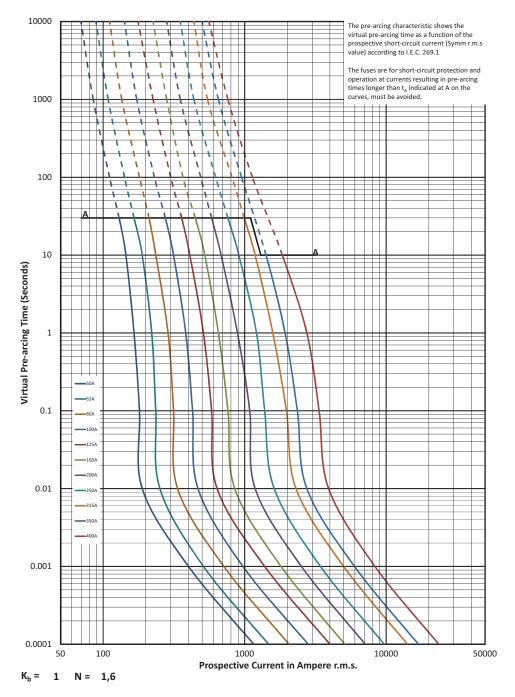
<sup>1</sup> These fuse links are not UL recognised <sup>2</sup> 900 V d.c. 8XIn 90 kA <sup>5</sup> 900 V d.c. 12XIn 90 kA

<sup>3</sup> Rated at 1000 V d.c. 10XIn 91 kA

<sup>4</sup> 900 V d.c. 9.5XIn 80 kA

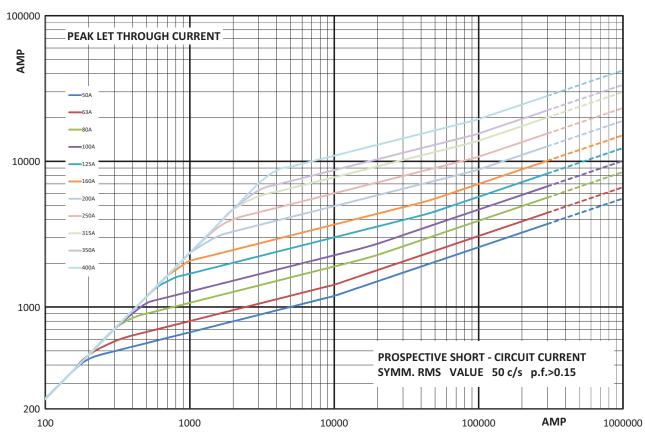
### 170M - Sizes 1\* to 3, DIN 43653, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

Time-current curve - Size 1\*, 50 A to 400 A



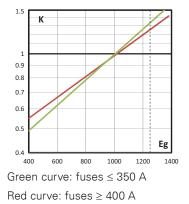
### 170M - Sizes 1\* to 3, DIN 43653, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

Cut-off curve - Size 1\*, 50 A to 400 A



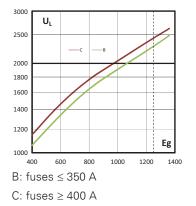
### Total clearing l<sup>2</sup>t

The total clearing  $l^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $l^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



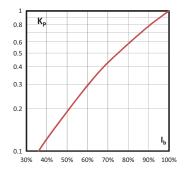
### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{q}$ , (RMS) at a power factor of 15 percent.



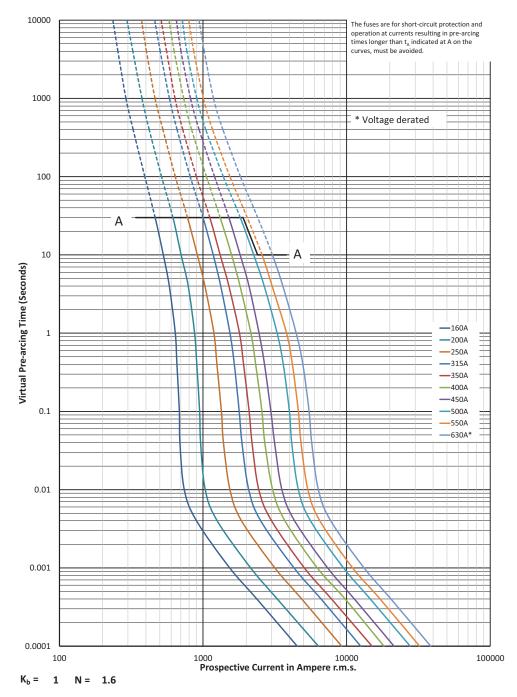
#### Watts losses

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.



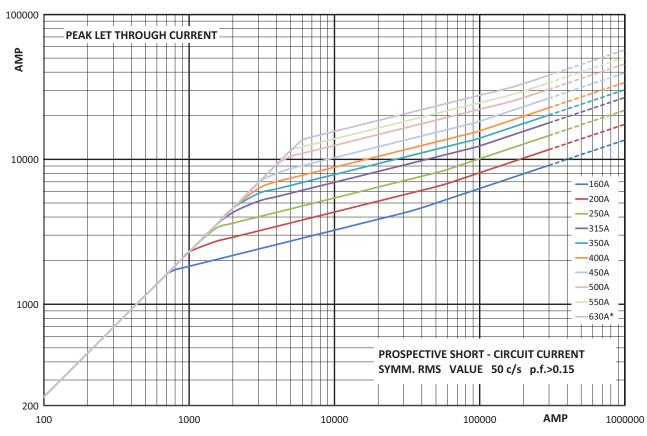
### 170M - Sizes 1\* to 3, DIN 43653, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

Time-current curve - Size 1, 160 A to 630 A



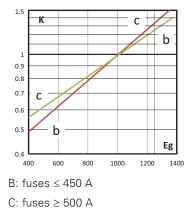
### 170M - Sizes 1\* to 3, DIN 43653, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

Cut-off curve - Size 1, 160 A to 630 A



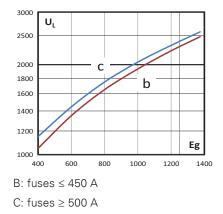
### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



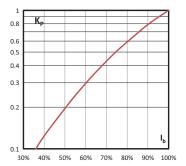
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{g}$ , (RMS) at a power factor of 15 percent.



### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



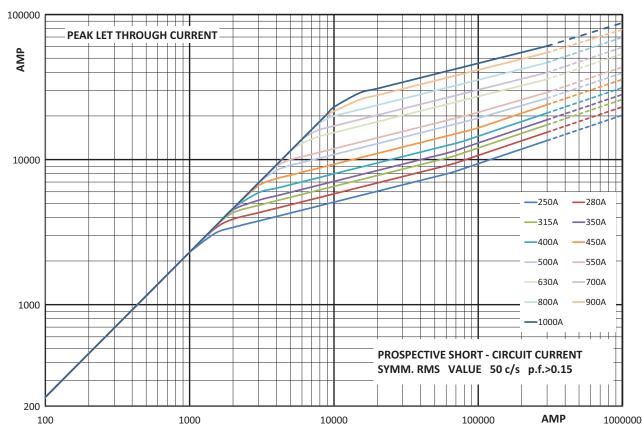
### 170M - Sizes 1\* to 3, DIN 43653, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

10000 The fuses are for short-circuit protection and operation at currents resulting in pre-arcing times longer than  $t_A$  indicated at A on the curves, must be avoided. \* Voltage derated 1000 100 A 10 Α Virtual Pre-arcing Time (Seconds) 250A 280A -315A 1 350A -400A -450A 4 500A -550A -630A 0.1 -700A -800A -900A\* -1000A\* 0.01 0.001 0.0001 1000 Prospective Current in Ampere r.m.s. 100 10000 100000 K<sub>b</sub> = 1 N = 1.6

Time-current curve - Size 2, 250 A to 1000 A

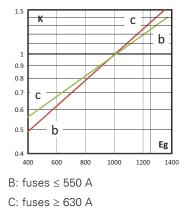
### 170M - Sizes 1\* to 3, DIN 43653, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

Cut-off curve - Size 2, 250 A to 1000 A



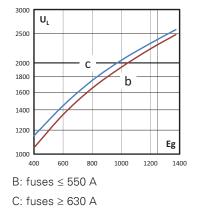
### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



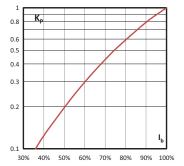
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{q}$ , (RMS) at a power factor of 15 percent.



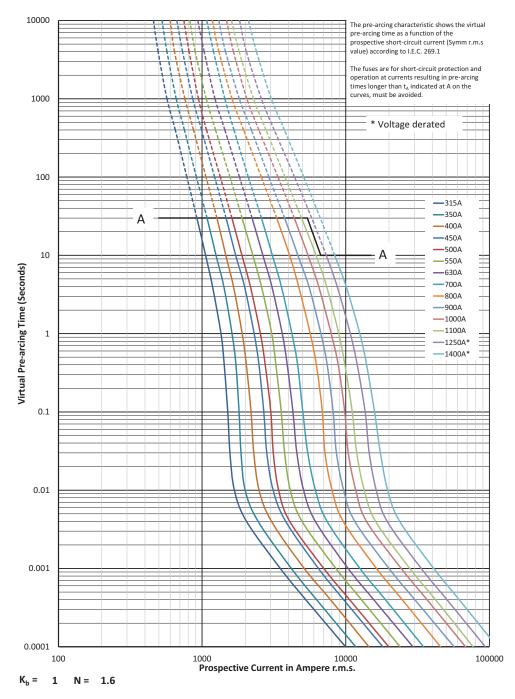
#### Watts losses

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.



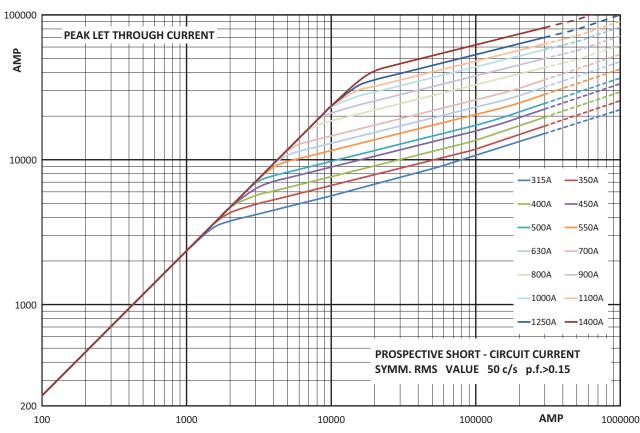
### 170M - Sizes 1\* to 3, DIN 43653, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

Time-current curve - Size 3, 315 A to 1400 A



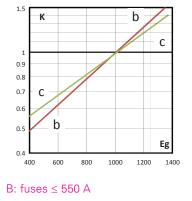
### 170M - Sizes 1\* to 3, DIN 43653, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

Cut-off curve - Size 3, 315 A to 1400 A



### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).

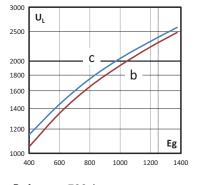


C: fuses ≥ 630 A

130

#### Arc voltage

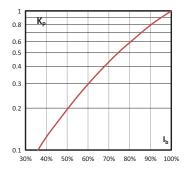
This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{q}$ , (RMS) at a power factor of 15 percent.



B: fuses ≤ 700 A C: fuses ≥ 800 A

#### 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.



### 170M - Sizes 00 to 3, DIN 43620, Full range (gR), 690 V a.c. (IEC), 10 A to 800 A

### **Specifications**

### Description

Square body DIN 43620 blade high speed fuse links. Full range protection fuse links provide both overload and short-circuit protection.

### **Technical data**

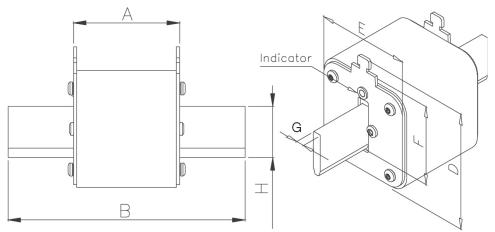
- Rated voltage: 690 V a.c. (IEC)
- Rated current: 10 A to 800 A
- Breaking capacity: 200 kA RMS Sym
- Operating class: gR

### **Standards / Agency information**

CE, Designed and tested to IEC 60269 Part 4

### **Dimensions (mm)**





Size	Α	В	D (max)	E (max)	F	G	H (min)
00	49	78.5	60	30	35	6	15
1	68	135	66	52	40	6	20
2	68	150	74	60	48	6	25
3	68	150	89	75	60	6	32

## 170M - Sizes 00 to 3, DIN 43620, Full range (gR), 690 V a.c. (IEC), 10 A to 800 A

**Catalogue numbers** 

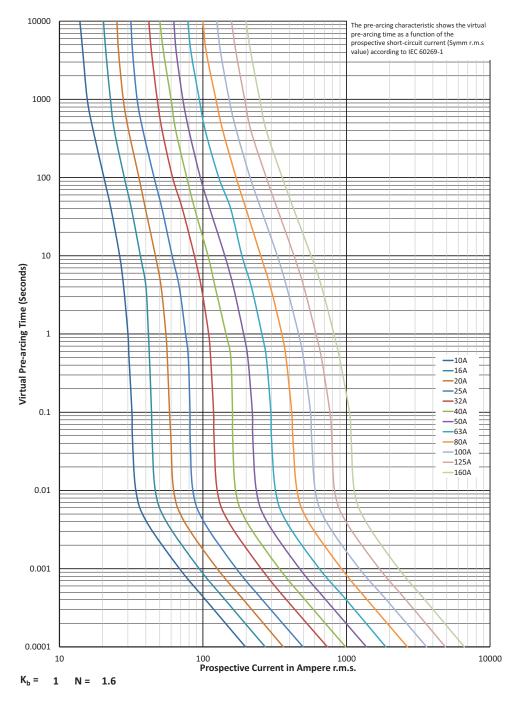
			I²t (A² Sec)			Catalogue numbers		
Fuse link body size	Rated voltage	Rated current (Amps) <sup>1</sup>	Pre-arcing	Clearing at 690 V a.c.	Watts loss (W)	Type T indicator for micro		
-		10	3.8	20	3.5	170M2691		
		16	7.2	38	5.5	170M2692		
		20	13	70	6	170M2693		
		25	24	125	8	170M2694		
		32	53	275	9	170M2695		
0	000.)/ (/FO)	40	95	490	10	170M2696		
00	690 V a.c. (IEC)	50	185	1000	11	170M2697		
		63	345	1800	14	170M2698		
		80	695	3600	16	170M2699		
		100	1250	6650	19	170M2700		
		125	2300	12,000	23	170M2701		
		160	4350	22,500	29	170M2702		
		50	135	705	12	170M4176		
		63	245	1300	15	170M4177		
		80	500	2600	17	170M4178		
		100	950	4850	20	170M4179		
		125	1850	9500	23	170M4180		
I	690 V a.c. (IEC)	160	3450	18,000	28	170M4181		
		200	6750	34,500	31	170M4182		
		250	13,500	70,500	35	170M4183		
		315	26,000	135,000	41	170M4184		
		350	34,000	175,000	45	170M4185		
		400	48,500	250,000	48	170M4186		
		200	5650	29,000	33	170M5881		
		250	10,000	52,500	40	170M5882		
		315	19,500	105,000	46	170M5883		
		350	26,000	135,000	50	170M5884		
2	690 V a.c. (IEC)	400	39,500	205,000	53	170M5885		
		450	55,500	290,000	59	170M5886		
		500	73,000	375,000	66	170M5887		
		550	100,000	515,000	70	170M5888		
		630	150,000	770,000	79	170M5889		
		350	23,000	120,000	55	170M6080		
		400	34,000	175,000	59	170M6081		
		450	48,500	250,000	62	170M6082		
		500	64,000	330,000	67	170M6083		
3	690 V a.c. (IEC)	550	84,500	435,000	70	170M6084		
		630	125,000	645,000	85	170M6085		
		700	160,000	840,000	93	170M6086		
		800	245,000	1,300,000	99	170M6087		

<sup>1</sup> The RMS Amp rating of this fuse links range is given with open fuse bases connected to copper conductors according to IEC 60269-1, table 17. When used in enclosed fuse bases/disconnects, derating factors have to be observed. Please contact Eaton for application assistance bulehighspeedtechnical@eaton.com.

Data sheets: 170K6412 (Size 00), 170K6416 (Size 1), 170K6418 (Size 2), 170K6420 (Size 3)

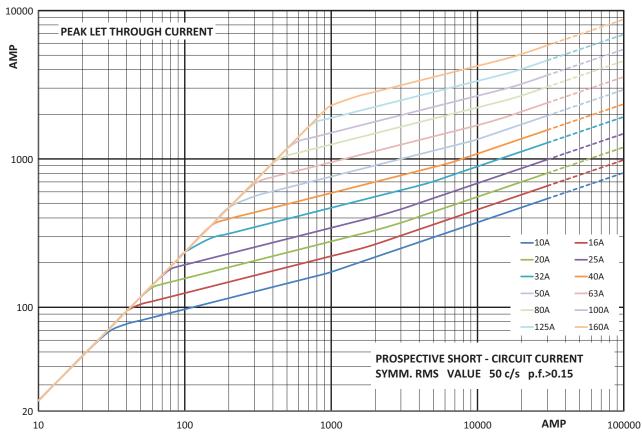
### 170M - Sizes 00 to 3, DIN 43620, Full range (gR), 690 V a.c. (IEC), 10 A to 800 A

Time-current curve - Size 00, 10 A to 160 A



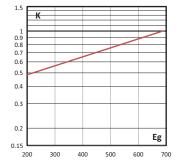
### 170M - Sizes 00 to 3, DIN 43620, Full range (gR), 690 V a.c. (IEC), 10 A to 800 A

Cut-off curve - Size 00, 10 A to 160 A



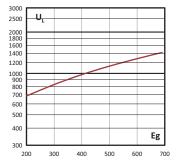
### Total clearing l<sup>2</sup>t

The total clearing l<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing l<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{g'}$  (RMS).



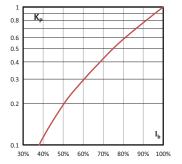
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



#### Watts losses

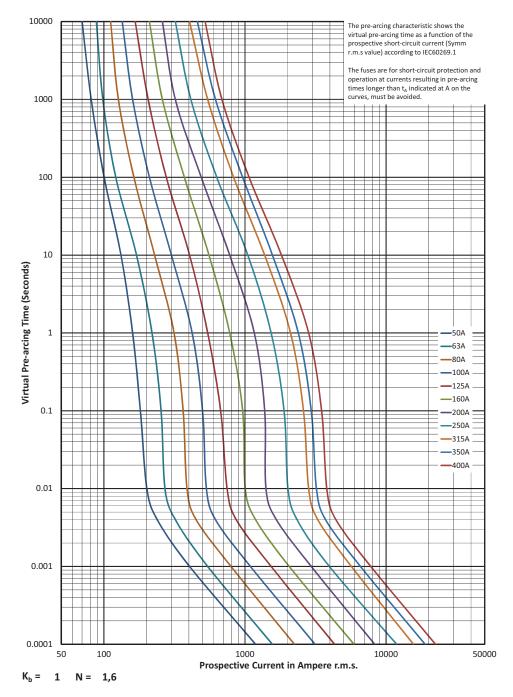
Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the watts losses at load currents lower than the rated current. The correction factor,  $K_p$ , is given as a function of the RMS load current,  $I_b$ , in percent of the rated current.



Data sheets: 170K6412 (Size 00), 170K6416 (Size 1), 170K6418 (Size 2), 170K6420 (Size 3)

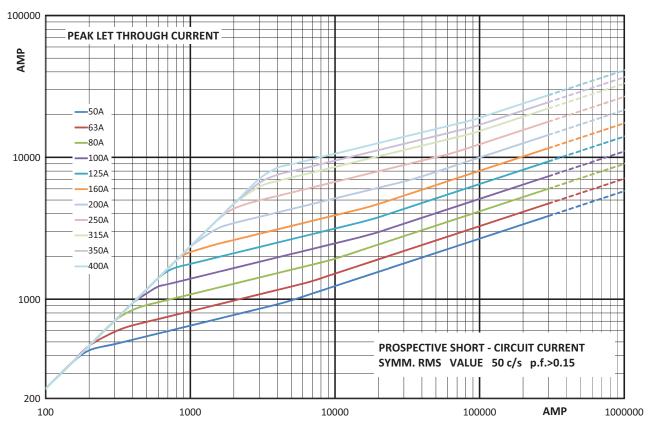
### 170M - Sizes 00 to 3, DIN 43620, Full range (gR), 690 V a.c. (IEC), 10 A to 800 A

Time-current curve - Size 1, 50 A to 400 A



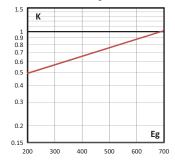
### 170M - Sizes 00 to 3, DIN 43620, Full range (gR), 690 V a.c. (IEC), 10 A to 800 A

Cut-off curve - Size 1, 50 A to 400 A



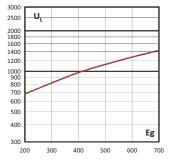
### Total clearing l<sup>2</sup>t

The total clearing l<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing l<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



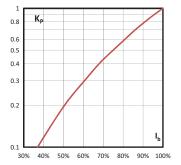
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



#### Watts losses

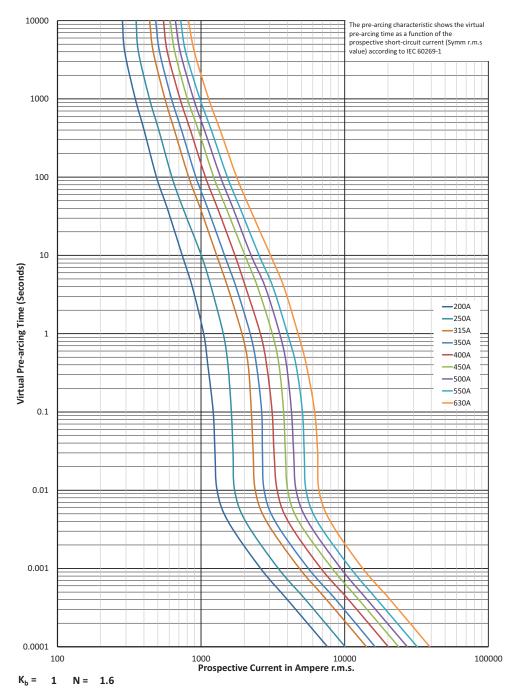
Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the watts losses at load currents lower than the rated current. The correction factor,  $K_p$ , is given as a function of the RMS load current,  $I_b$ , in percent of the rated current.



Data sheets: 170K6412 (Size 00), 170K6416 (Size 1), 170K6418 (Size 2), 170K6420 (Size 3)

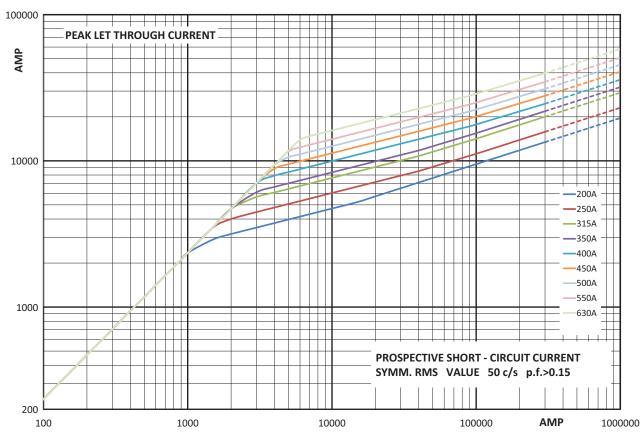
### 170M - Sizes 00 to 3, DIN 43620, Full range (gR), 690 V a.c. (IEC), 10 A to 800 A

Time-current curve - Size 2, 200 A to 630 A



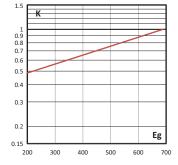
### 170M - Sizes 00 to 3, DIN 43620, Full range (gR), 690 V a.c. (IEC), 10 A to 800 A

Cut-off curve - Size 2, 200 A to 630 A



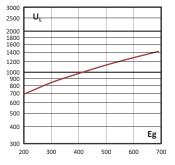
### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{q}$ , (RMS).



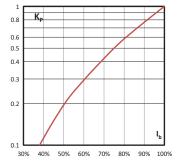
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



### Watts losses

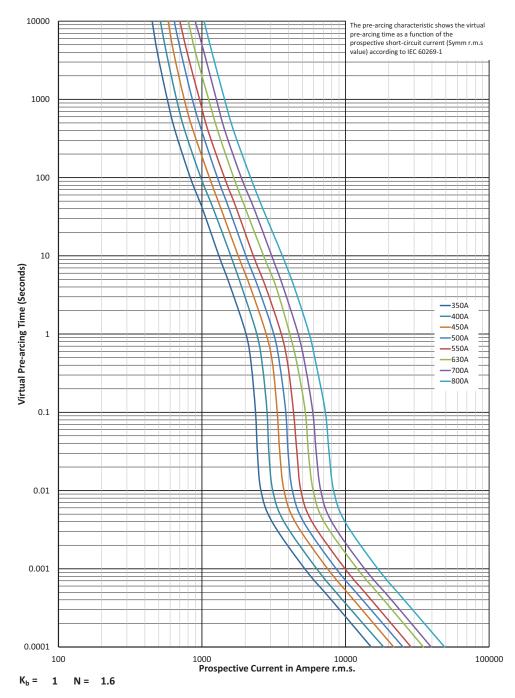
Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the watts losses at load currents lower than the rated current. The correction factor,  $K_p$ , is given as a function of the RMS load current,  $I_b$ , in percent of the rated current.



Data sheets: 170K6412 (Size 00), 170K6416 (Size 1), 170K6418 (Size 2), 170K6420 (Size 3)

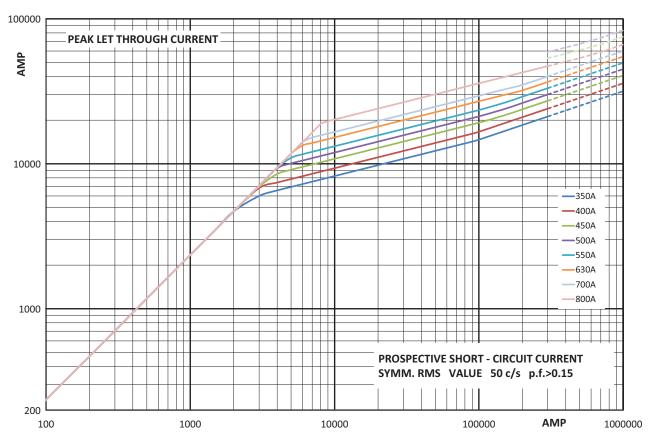
### 170M - Sizes 00 to 3, DIN 43620, Full range (gR), 690 V a.c. (IEC), 10 A to 800 A

Time-current curve - Size 3, 350 A to 800 A



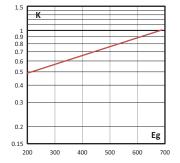
### 170M - Sizes 00 to 3, DIN 43620, Full range (gR), 690 V a.c. (IEC), 10 A to 800 A

Cut-off curve - Size 3, 350 A to 1000 A



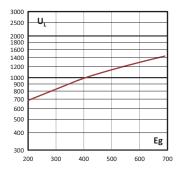
### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{\alpha}$ , (RMS).



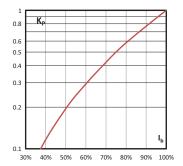
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



#### 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.



Data sheets: 170K6412 (Size 00), 170K6416 (Size 1), 170K6418 (Size 2), 170K6420 (Size 3)

### 170M - Sizes 000 to 3, DIN 43620, Dual indicator fuse links, 690 V a.c. (IEC), 700 V a.c. (UL), 10 A to 1600 A

### **Specifications**

### **Description**

Square body DIN 43620 blade high speed fuse links with dual indicator system: one indicator in the fuse body and another one in the metallic end plate. Interchangeable with existing high speed DIN 43620 fuse links for the protection of UPS, soft starters, solid state relays, variable speed drives, rectifiers and inverters.

#### **Technical data**

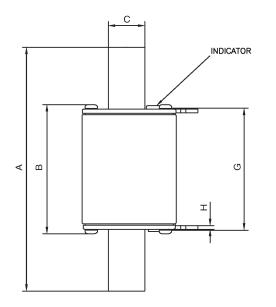
- Rated voltage:
  - 690 V a.c. (IEC)
  - 700 V a.c. (UL)
- Rated current: 10 A to 1600 A
- Breaking capacity: 200 kA RMS Sym
- Operating class: gR (size 000, 10 A to 63A), aR (others)

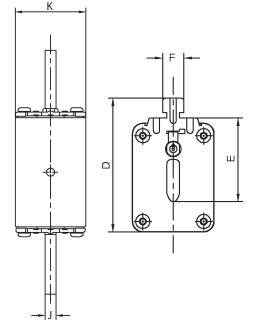
### **Standards / Agency information**

CE, IEC60269 Part 4, UL and CSA Recognised



**Dimensions (mm)** 





Size	Α	В	C	D	E	F	G	H	J	K	
000	78.5	53	15	52	35	10	49.7	1.5	6	20.5	
00	78.5	53	15	59	35	10	49.7	2	6	30	
1	135	71.4	20	64	40	10	67.5	2	6	40	
2	150	71.4	25.1	72	48	10	67.5	2	6	54	
3	150	72.4	32	87	60	10	68.5	2.5	6	71	

Data sheets: 170K6386 (Size 000 and 00), 170K6388 (Size 1), 170K6390 (Size 2), 170K6392 (Size 3)

170M - Sizes 000 to 3, DIN 43620, Dual indicator fuse links, 690 V a.c. (IEC), 700 V a.c. (UL), 10 A to 1600 A Catalogue numbers

				I²t (A² Sec)			Catalogue numbers	
Fuse link body size	Rated voltage	Rated current (Amps)	Max permissible load current	Pre-arcing	Clearing at 690 V a.c.	Watts loss (W) <sup>2</sup>	Dual indicator	
		10	10	4	27	2.5	170M1558D	
		16	16	7	51	4	170M1559D	
		20	20	11.5	82.5	5	170M1560D	
		25	25	19	140	6	170M1561D	
		32	32	40	285	7	170M1562D	
		40	40	65	490	8.5	170M1563D	
00	690 V a.c. (IEC)	50	50	115	815	9.5	170M1564D	
JU	700 V a.c. (UL)	63	63	215	1550	11.5	170M1565D	
		80	80	380	2700	15	170M1566D	
		100	100	695	4950	16.5	170M1567D	
		125	125	1180	8250	21.5	170M1568D	
		160	160	2300	16,500	25	170M1569D	
		200	200	4350	31,000	29.5	170M1570D	
		250	250	7900	56,000	35.5	170M1571D	
)	690 V a.c. (IEC) / 700 V a.c. (UL)	315	315	12,000	84,500	45	170M1572D	
		40	25	40	285	4	170M3808D	
		50	30	78	550	4.5	170M3809D	
		63	38	120	850	6.5	170M3810D	
		80	50	185	1350	8.5	170M3811D	
		100	60	360	2600	10	170M3812D	
1		125	75	550	3900	11	170M3813D	
		160	95	1150	8250	12	170M3814D	
		200	120	2300	16,500	12.5	170M3815D	
	690 V a.c. (IEC)	250	150	4350	31,000	16	170M3816D	
	700 V a.c. (UL)	315	190	7300	52,000	20	170M3817D	
		350	210	10,000	73,000	21.5	170M3818D	
		400	240	16,000	115,000	21.5	170M3819D	
		450	240	21,500	155,000	26.5	170M4863D	
		500	300	27,000	190,000	28.5	170M4864D	
		550	330	33,500	240,000	33	170M4865D	
		630	380	48,500	345,000	37.5	170M4866D	
		700	420	69,500	495,000	39	170M4867D1	
		400	240	11,000	79,000	29	170M5808D	
		450	270	16,000	115,000	32	170M5809D	
		500	300	21,500	155,000	34	170M5810D	
	000.)/ ((50)	550	330	29,000	215,000	36	170M5811D	
	690 V a.c. (IEC)	630	380	41,000	295,000	42	170M5812D	
	700 V a.c. (UL)	700	420	60,500	430,000	43	170M5813D	
		800	480	86,000	610,000	48	170M5814D	
		900	540	125,000	895,000	52	170M5820D	
		1000	600	180,000	1,300,000	53	170M5816D	
		1100	660	245,000	1,750,000	56	170M5817D	
		500	300	14,000	99,500	43	170M6808D	
		550	330	19,500	140,000	44	170M6809D	
		630	380	31,000	220,000	45	170M6810D	
		700	420	45,000	320,000	46	170M6811D	
		800	480	69,500	490,000	48	170M6812D	
	690 V a.c. (IEC)	900	540	100,000	720,000	50	170M6813D	
	700 V a.c. (UL)	1000	600	140,000	985,000	56	170M6814D	
	700 V a.c. (UL)	1100	660	190,000	1,400,000	57	170M6892D	
		1250	750	300,000	2,150,000	61	170M8554D	
		1400	840	380,000	2,700,000	70	170M8555D	
		1500	900	470,000	3,350,000	72	170M8556D	
		.000	000	170,000	0,000,000	1 4	170101000000	

<sup>1</sup> 170M4867D is not UL recognised.

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<sup>2</sup> Given at maximum load Rated current, please refer to data sheets for further details.

Data sheets: 170K6386 (Size 000 and 00), 170K6388 (Size 1), 170K6390 (Size 2), 170K6392 (Size 3)

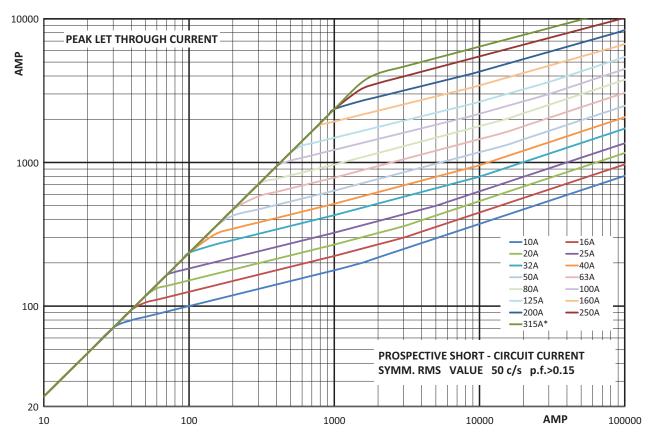
170M - Sizes 000 to 3, DIN 43620, Dual indicator fuse links, 690 V a.c. (IEC), 700 V a.c. (UL), 10 A to 1600 A

10000 The pre-arcing characteristic shows the virtual pre-arcing time as a function of the prospective short-circuit current (Symm r.m.s value) according to IEC 60269-1 The fuses are for short-circuit protection and operation at currents resulting in pre-arcing times longer than  $t_A$  indicated at A on the curves, must be avoided. 1000 100 A -10A 16A -20A -25A 10 32A А Virtual Pre-arcing Time (Seconds) -40A -50A 63A -80A -100A 1 125A -160A -200A 250A -315A\* 0.1 0.01 0.001 0.0001 100 IOUO Prospective Current in Ampere r.m.s. 10 10000 K<sub>b</sub> = 1 N = 1.6

Time-current curve - Sizes 000 and 00, 10 A to 315 A

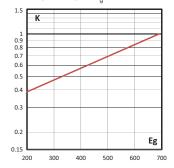
170M - Sizes 000 to 3, DIN 43620, Dual indicator fuse links, 690 V a.c. (IEC), 700 V a.c. (UL), 10 A to 1600 A

Cut-off curve - Sizes 000 amd 00, 10 A to 315 A



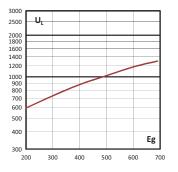
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



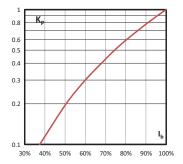
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



#### Watts losses

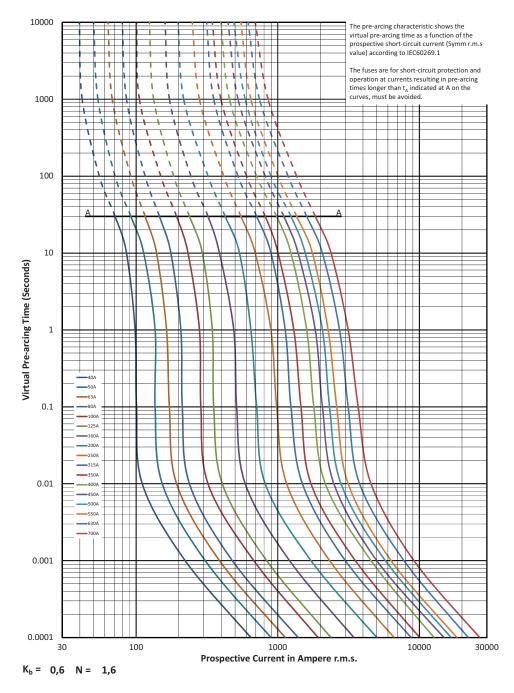
Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the watts losses at load currents lower than the rated current. The correction factor,  $K_p$ , is given as a function of the RMS load current,  $I_b$ , in percent of the rated current.



Data sheets: 170K6386 (Size 000 and 00), 170K6388 (Size 1), 170K6390 (Size 2), 170K6392 (Size 3)

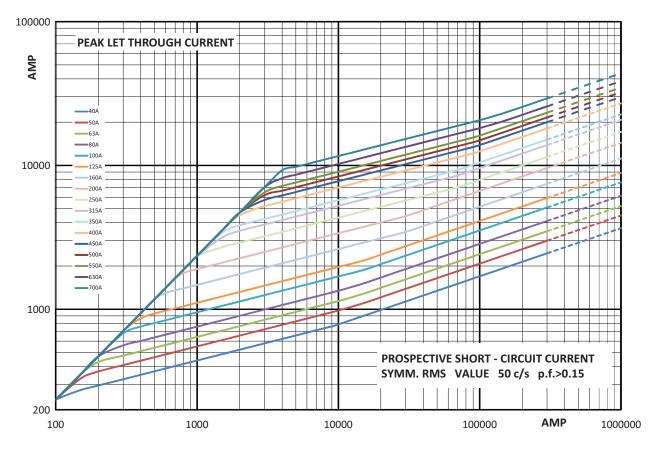
170M - Sizes 000 to 3, DIN 43620, Dual indicator fuse links, 690 V a.c. (IEC), 700 V a.c. (UL), 10 A to 1600 A

Time-current curve - Size 1, 40 A to 700 A



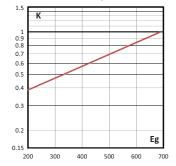
170M - Sizes 000 to 3, DIN 43620, Dual indicator fuse links, 690 V a.c. (IEC), 700 V a.c. (UL), 10 A to 1600 A

Cut-off curve - Size 1, 40 A to 700 A



#### Total clearing l<sup>2</sup>t

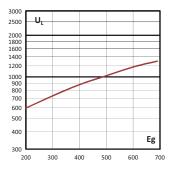
The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



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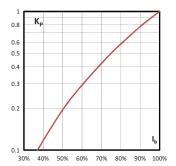
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



#### Watts losses

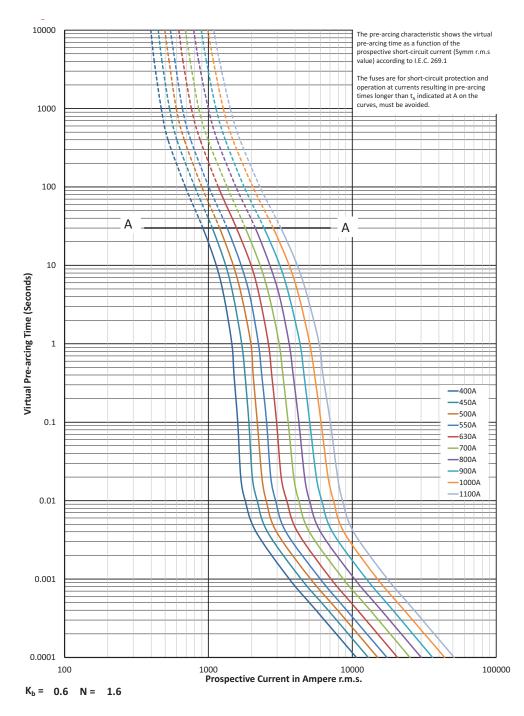
Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the watts losses at load currents lower than the rated current. The correction factor,  $K_p$ , is given as a function of the RMS load current,  $I_b$ , in percent of the rated current.



Data sheets: 170K6386 (Size 000 and 00), 170K6388 (Size 1), 170K6390 (Size 2), 170K6392 (Size 3)

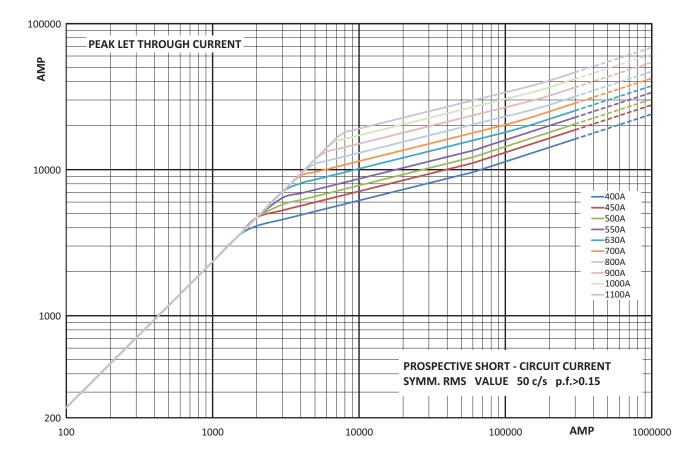
170M - Sizes 000 to 3, DIN 43620, Dual indicator fuse links, 690 V a.c. (IEC), 700 V a.c. (UL), 10 A to 1600 A

Time-current curve - Size 2, 400 A to 1100 A



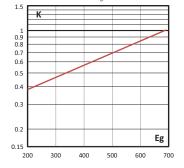
170M - Sizes 000 to 3, DIN 43620, Dual indicator fuse links, 690 V a.c. (IEC), 700 V a.c. (UL), 10 A to 1600 A

Cut-off curve - Size 2, 400 A to 1100 A



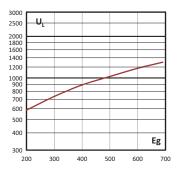
#### Total clearing l<sup>2</sup>t

The total clearing l<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing l<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



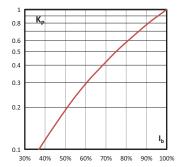
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



#### 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.



Data sheets: 170K6386 (Size 000 and 00), 170K6388 (Size 1), 170K6390 (Size 2), 170K6392 (Size 3)

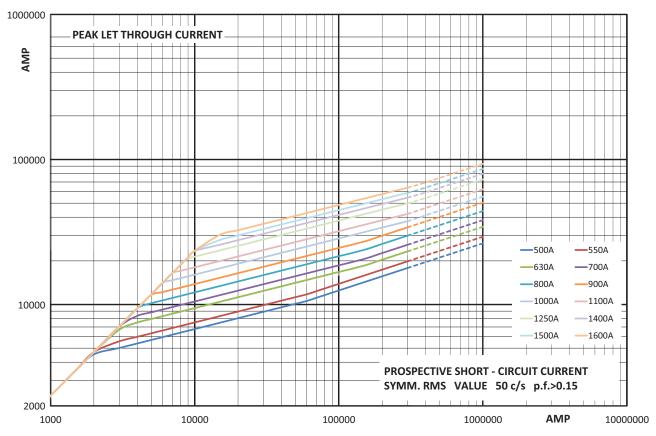
170M - Sizes 000 to 3, DIN 43620, Dual indicator fuse links, 690 V a.c. (IEC), 700 V a.c. (UL), 10 A to 1600 A

10000 The pre-arcing characteristic shows the virtual pre-arcing time as a function of the prospective short-circuit current (Symm r.m.s value) according to I.E.C. 269.1 The fuses are for short-circuit protection and operation at currents resulting in pre-arcing times longer than t<sub>A</sub> indicated at A on the curves, must be avoided. 1000 100 А А 10 Virtual Pre-arcing Time (Seconds) 500A -550A -630A 700A 1 800A 900A -1000A -1100A 1250A 1400A 1500A 1600A 0.1 0.01 0.001 0.0001 100 100000 1000 10000 Prospective Current in Ampere r.m.s. K<sub>b</sub> = 0.6 N = 1.6

Time-current curve - Size 3, 500 A to 1600 A

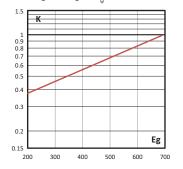
170M - Sizes 000 to 3, DIN 43620, Dual indicator fuse links, 690 V a.c. (IEC), 700 V a.c. (UL), 10 A to 1600 A

Cut-off curve - Size 3, 500 A to 1600 A



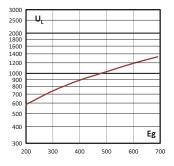
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



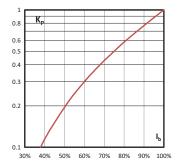
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



#### 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.



Data sheets: 170K6386 (Size 000 and 00), 170K6388 (Size 1), 170K6390 (Size 2), 170K6392 (Size 3)

## 170M - Size 00, DIN 43620, 1000 V a.c. (IEC and UL), 20 A to 225 A

### **Specifications**

#### Description

Square body DIN 43620 blade style high speed fuse links for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

#### **Technical data**

- Rated voltage:
  - 1000 V a.c. (IEC and UL)
- 900 V a.c. (200 A and 225A)
- Rated current: 20 A to 225 A
- Breaking capacity: 125kA RMS Sym
- Operating class: aR

#### **Standards / Agency information**

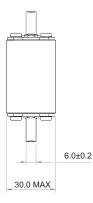
CE, Designed and tested to IEC60269 Part 4, UL Recognised/CSA Component Acceptance status (20 A to 160 A)

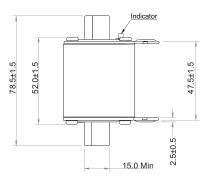
#### **Catalogue numbers**

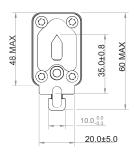


			I²t (A² Sec)			Catalogue numbers	
Fuse link body size	Rated voltage	Rated current Amps)	Pre-arcing	Clearing at 1000 V a.c.	Watts loss (W)	Type T indicator for micro	
		20	15	110	8.5	170M2673	
		25	28.5	210	9.5	170M2674	
		32	53	390	11	170M2675	
		35	69	500	12	170M2676	
		40	105	760	13	170M2677	
00	1000 V a.c. (IEC/UL)	50	215	1550	14	170M2678	
		63	380	2750	16	170M2679	
		80	815	5900	18	170M2680	
		100	1550	11,500	21	170M2681	
		125	3000	22,000	23	170M2682	
		160	6250	45,000	26	170M2683	
00	000.1/ (150)	200	12,000	86,500	31	170M2684	
00	900 V a.c. (IEC)	225	18,000	115,000	33	170M2685	

#### **Dimensions (mm)**

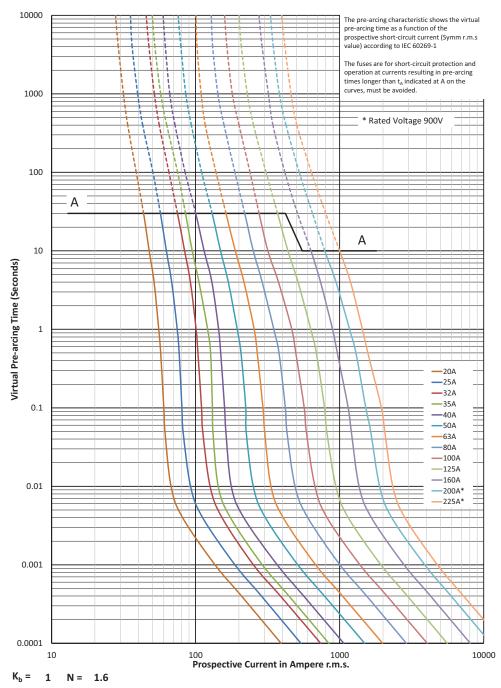






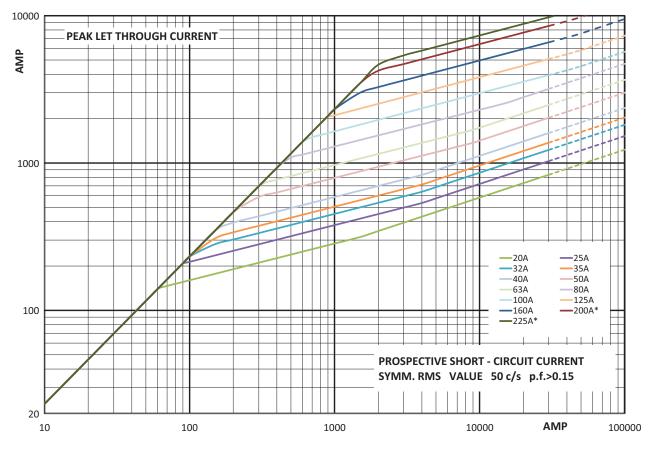
## 170M - Size 00, DIN 43620, 1000 V a.c. (IEC and UL), 20 A to 225 A

#### Time-current curve - Size 00, 20 A to 225 A



Data sheet: 170K8506

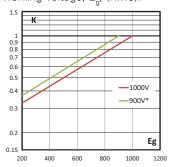
## 170M - Size 00, DIN 43620, 1000 V a.c. (IEC and UL), 20 A to 225 A



Cut-off curve - Size 00, 20 A to 225 A

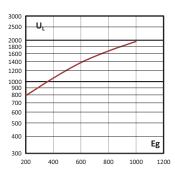
#### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



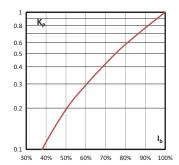
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{g}$ , (RMS) at a power factor of 15 percent.



#### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



## 170M - Sizes 1\* to 3, French style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 1600 A

#### **Specifications**

#### Description

Square body French style high speed fuse links for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

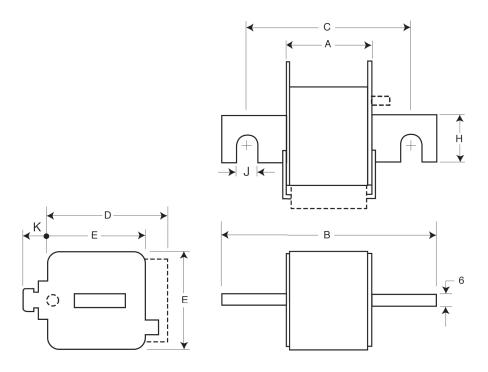
#### **Technical data**

- Rated voltage:
  - 690 V a.c. (IEC)
  - 700 V a.c. (UL)
- Rated current: 40 A to 1600 A
- Breaking capacity: 200 kA RMS Sym
- Operating class: aR

#### **Standards / Agency information**

CE, Designed and tested to IEC60269 Part 4, UL Recognised. For CCC approval, please consult Eaton bulehighspeedtechnical@eaton.com

#### **Dimensions (mm)**



Size	Α	В	C	D	Е	Н	J	К	
1*	50	102	76	59	45	18	9	13	
1	50	111	86	69	53	25	11	11	
2	50	126	91	77	61	30	13	12	
3	51	126	91	92	76	36	13	13	





EATON Eaton's Bussmann series IEC High speed fuse links catalogue

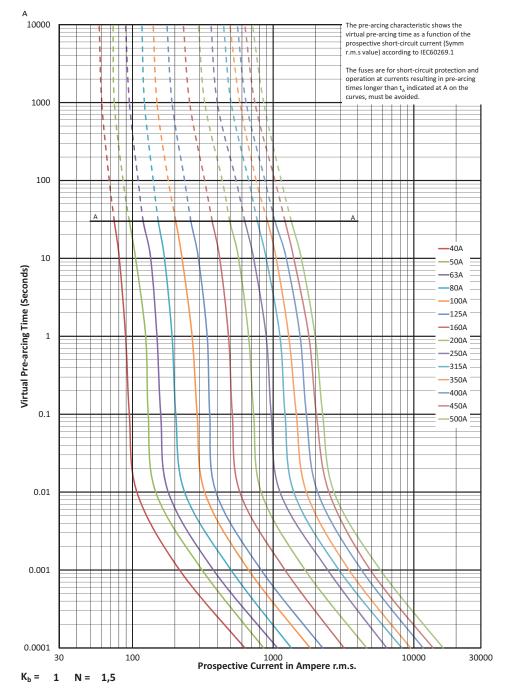
# 170M - Sizes 1\* to 3, French style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 1600 A

#### **Catalogue numbers**

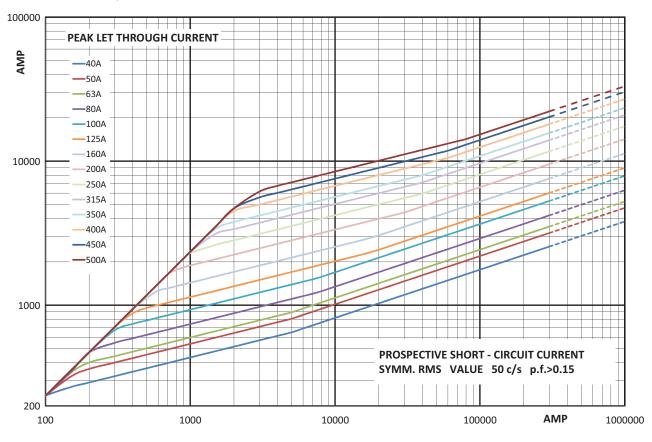
			I²t (A² Sec)			Catalogue numbers	
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 660 V a.c.	Watts loss (W)	-E/- Type T indicator for micro	-EKN/- Type K indicator for micro
		40	40	270	9	170M3308	170M3358
		50	77	515	11	170M3309	170M3359
		63	115	770	14	170M3310	170M3360
		80	185	1250	18	170M3311	170M3361
		100	360	2450	21	170M3312	170M3362
		125	550	3700	26	170M3313	170M3363
1*	690 V a.c. (IEC)	160	1100	7500	30	170M3314	170M3364
I	700 V a.c.(UL)	200	2200	15,000	35	170M3315	170M3365
		250	4200	28,500	40	170M3316	170M3366
		315	7000	46,500	50	170M3317	170M3367
		350	10,000	68,500	55	170M3318	170M3368
		400	15,000	105,000	60	170M3319	170M3369
		450	21,000	140,000	65	170M3320	170M3370
		500	27,000	180,000	70	170M3321	170M3371
		200	1650	11,500	45	170M4308	170M4358
		250	3100	21,000	55	170M4309	170M4359
		315	6200	42,000	58	170M4310	170M4360
		350	8500	59,000	60	170M4311	170M4361
	222 ) ( (IEQ)	400	13,500	91,500	65	170M4312	170M4362
1	690 V a.c. (IEC)	450	17,000	120,000	70	170M4313	170M4363
I.	700 V a.c.(UL)	500	25,000	170,000	72	170M4314	170M4364
		550	34,000	230,000	75	170M4315	170M4365
		630	52,000	350,000	80	170M4316	170M4366
		700	69,500	465,000	85	170M4317	170M4367
		800	105,000	725,000	95	170M4318	170M4368
		400	11,000	74,000	65	170M5308	170M5358
		450	15,500	105,000	70	170M5309	170M5359
		500	21,500	145,000	75	170M5310	170M5360
		550	28,000	190,000	80	170M5310	170M5361
2	690 V a.c. (IEC)		41,000		90		
2	700 V a.c.(UL)	630 700	•	275,000	90 95	170M5312 170M5313	170M5362
			60,500	405,000			170M5363
		800	86,000	575,000	105	170M5314	170M5364
		900	125,000	840,000	110	170M5315	170M5365
		1000	180,000	1,250,000	115	170M5316	170M5366
		500	14,000	95,000	95	170M6308	170M6358
		550	19,500	135,000	100	170M6309	170M6359
		630	31,000	210,000	105	170M6310	170M6360
		700	44,500	300,000	110	170M6311	170M6361
		800	69,500	465,000	115	170M6312	170M6362
3	690 V a.c. (IEC)	900	100,000	670,000	120	170M6313	170M6363
	700 V a.c.(UL)	1000	140,000	945,000	125	170M6314	170M6364
		1100	190,000	1,300,000	130	170M6315	170M6365
		1250	290,000	1,950,000	140	170M6316	170M6366
		1400	370,000	2,450,000	155	170M6317	170M6367
		1500	460,000	3,100,000	160	170M6318	170M6368
		1600	580,000	3,900,000	160	170M6319	170M6369

## 170M - Sizes 1\* to 3, French style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 1600 A

#### Time-current curve - Size 1\*, 40 A to 500 A



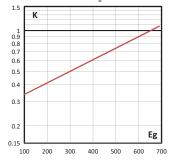
## 170M - Sizes 1\* to 3, French style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 1600 A



Cut-off curve - Size 1\*, 40 A to 500 A

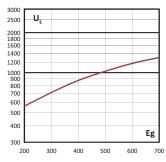
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



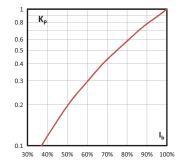
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



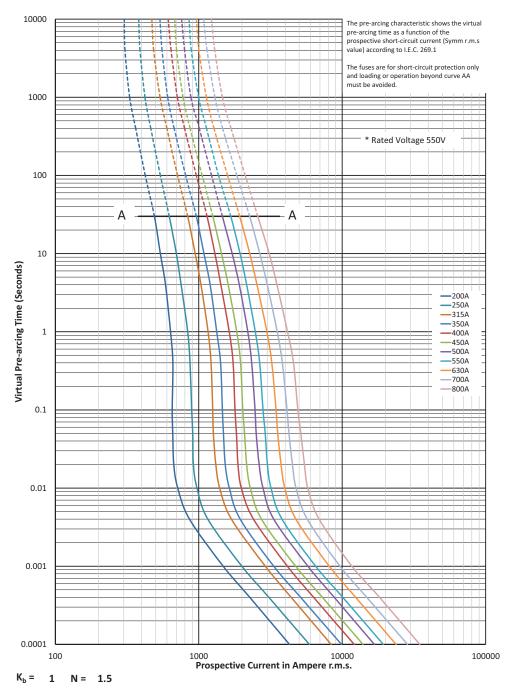
#### Watts losses

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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.

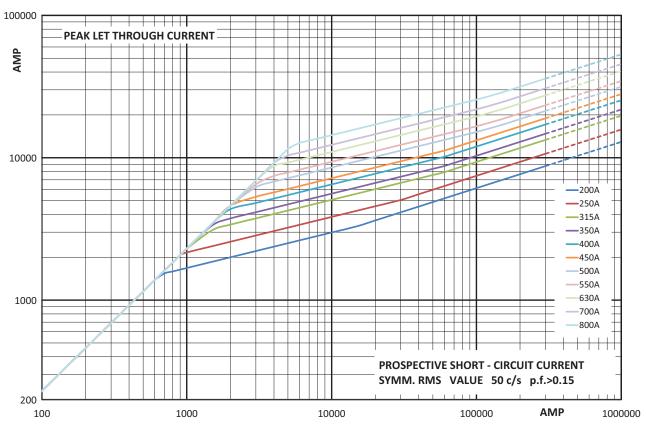


## 170M - Sizes 1\* to 3, French style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 1600 A

Time-current curve - Size 1, 200 A to 800 A



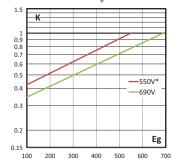
## 170M - Sizes 1\* to 3, French style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 1600 A



Cut-off curve - Size 1, 200 A to 800 A

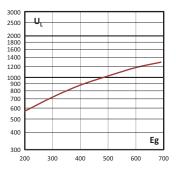
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



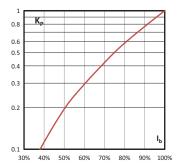
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



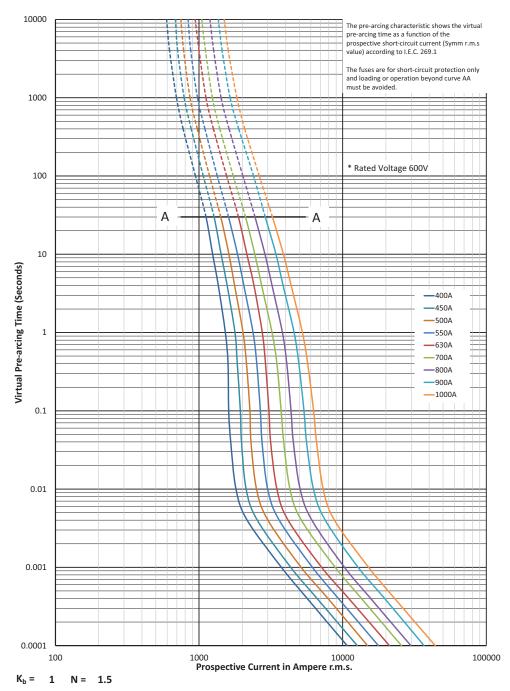
#### Watts losses

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.

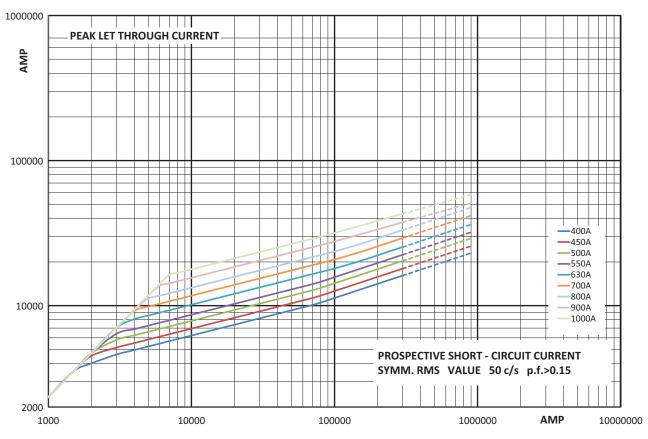


## 170M - Sizes 1\* to 3, French style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 1600 A

Time-current curve - Size 2, 400 A to 1000 A



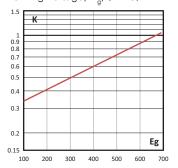
## 170M - Sizes 1\* to 3, French style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 1600 A



Cut-off curve - Size 2, 400 A to 1000 A

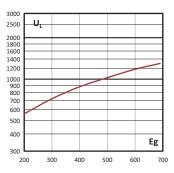
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



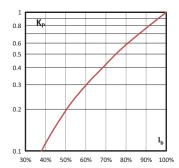
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



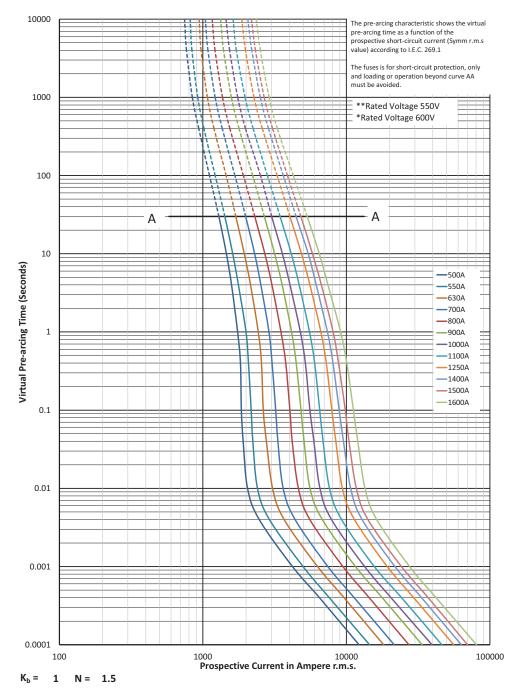
#### Watts losses

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.

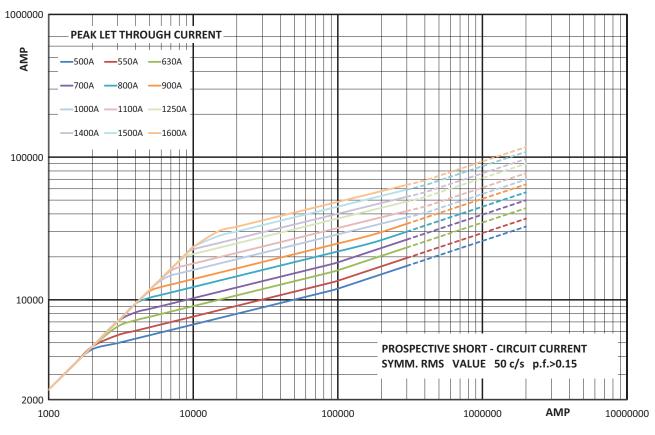


## 170M - Sizes 1\* to 3, French style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 1600 A

#### Time-current curve - Size 3, 500 A to 1600 A



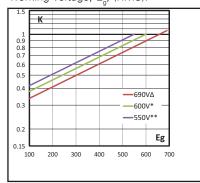
## 170M - Sizes 1\* to 3, French style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 1600 A



Cut-off curve - Size 3, 500 A to 1600 A

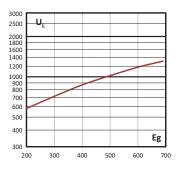
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



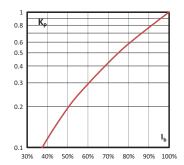
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



#### 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.



## 170M - Sizes 1\* to 3, US style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

#### **Specifications**

#### Description

Square body US style bolted tags high speed fuse links for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

#### **Technical data**

- Rated voltage: see table page 159
- Rated current: 40 A to 2000 A
- Breaking capacity: 200 kA RMS Sym
- Operating class: aR

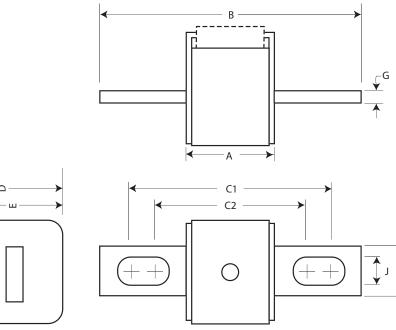
#### **Standards / Agency information**

CE, Designed and tested to IEC60269 Part 4. Consult Eaton for UL Recognition/CSA Component Acceptance status and CCC approvals



'n

#### **Dimensions (mm)**



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Size	Α	В	B1	C1	<b>C1</b> <sup>1</sup>	C2	<b>C2</b> <sup>1</sup>	D	E	G	Н	J
1*	50	110	148	85	123	72	110	59	45	6	20	10
1	50	136	157	104	126	78	100	69	53	6	25	14
2	50	135	159	105	125	78	99	77	61	6	25	14
3	51	135	155	106	125	77	97	92	76	6	36	16

<sup>1</sup> Valid for fuse links type -FU/115 & -FKE/115. 1mm = 0.0394"

# 170M - Sizes 1\* to 3, US style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

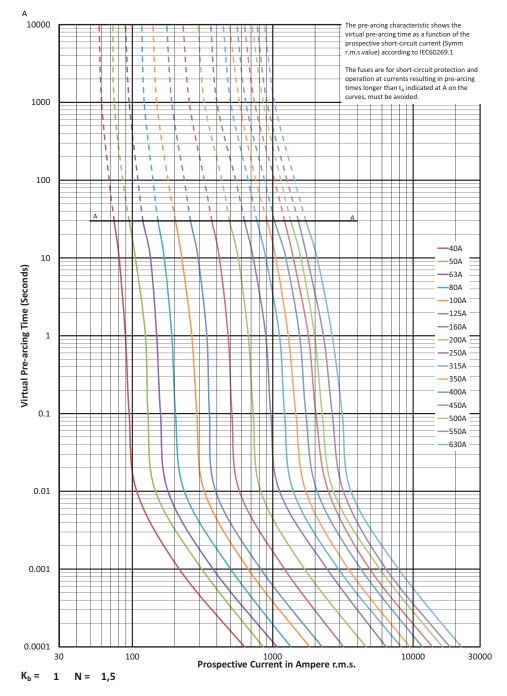
			I²t (A² Sec)			Catalogue numbers				
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 660 V a.c.	– Watts loss (W)	-FU/- without indicator	-FKE/- Type K indicator for micro	-FU/115 without indicator	-FKE/115 Type K indicator for micro	
		40	40	270	9	170M3608	170M3658	170M3708	170M3758	
		50	70	515	11	170M3609	170M3659	170M3709	170M3759	
		63	115	770	14	170M3610	170M3660	170M3710	170M3760	
		80	185	1250	18	170M3611	170M3661	170M3711	170M3761	
		100	360	2450	21	170M3612	170M3662	170M3712	170M3762	
		125	550	3700	26	170M3613	170M3663	170M3713	170M3763	
		160	1100	7500	30	170M3614	170M3664	170M3714	170M3764	
1*	690 V a.c. (IEC)	200	2200	15,000	35	170M3615	170M3665	170M3715	170M3765	
1	700 V a.c. (UL)	250	4200	28,500	40	170M3616	170M3666	170M3716	170M3766	
		315	7000	46,500	50	170M3617	170M3667	170M3717	170M3767	
		350	10,000	68,500	55	170M3618	170M3668	170M3718	170M3768	
		400	15,000	105,000	60	170M3619	170M3669	170M3719	170M3769	
		450	21,000	140,000	65	170M3620	170M3670	170M3720	170M3770	
		500	27,000	180,000	70	170M3621	170M3671	170M3721	170M3771	
		550	34,000	230,000	75	170M3622	170M3672	170M3722	170M3772	
		630	48,500	325,000	80	170M3623	170M3673	170M3723	170M3773	
		200	1650	11,500	45	170M4608	170M4658	170M4708	170M4758	
		250	3100	21,000	55	170M4609	170M4659	170M4709	170M4759	
		315	6200	42,000	58	170M4610	170M4660	170M4710	170M4760	
		350	8500	59,000	60	170M4611	170M4661	170M4711	170M4761	
	000.14 (150)	400	13,500	91,500	65	170M4612	170M4662	170M4712	170M4762	
	690 V a.c. (IEC)	450	17,000	120,000	70	170M4613	170M4663	170M4713	170M4763	
1	700 V a.c. (UL)	500	25,000	170,000	72	170M4614	170M4664	170M4714	170M4764	
		550	34,000	230,000	75	170M4615	170M4665	170M4715	170M4765	
		630	52,000	350,000	80	170M4616	170M4666	170M4716	170M4766	
		700	69,500	465,000	85	170M4617	170M4667	170M4717	170M4767	
		800	105,000	725,000	95	170M4618	170M4668	170M4718	170M4768	
	550 V a.c. (IEC)	900	155,000	850,000	100	170M4619	170M4669	170M4719	170M4769	
	550 V a.c. (ILC)	400	11,000	74,000	65	170M5608	170M5658	170M5708	170M5758	
		400	15,500	105,000	70	170M5609	170M5659	170M5709	170M5759	
		500	21,500	145,000	75	170M5610	170M5660	170M5710	170M5760	
		550	28,000	190,000	80	170M5611	170M5661	170M5710	170M5761	
	690 V a.c. (IEC)	630	41,000	275,000	90	170M5612	170M5662	170M5711	170M5762	
2	700 V a.c. (UL)	700	60,500	405,000	95	170M5613	170M5663	170M5712	170M5763	
2		800					170M5664	170M5713		
			86,000	575,000	105	170M5614 170M5615			170M5764	
		900	125,000	840,000	110		170M5665	170M5715	170M5765	
		1000	180,000	1,250,000	115	170M5616	170M5666	170M5716	170M5766	
	600 V a.c. (IEC) 700 V a.c. (UL)	1100	245,000	1,600,000	120	170M5617	170M5667	170M5717	170M5767	
	700 V a.c. (OL)	1250	365,000	2,400,000	130	170M5618	170M5668	170M5718	170M5768	
		500	14,000	95,000	95	170M6608	170M6658	170M6708	170M6758	
		550	19,500	135,000	100	170M6609	170M6659	170M6709	170M6759	
		630	31,000	210,000	105	170M6610	170M6660	170M6710	170M6760	
		700	44,500	300,000	110	170M6611	170M6661	170M6711	170M6761	
		800	69,500	465,000	115	170M6612	170M6662	170M6712	170M6762	
	690 V a.c. (IEC)	900	100,000	670,000	120	170M6613	170M6663	170M6713	170M6763	
	700 V a.c. (UL)	1000	140,000	945,000	125	170M6614	170M6664	170M6714	170M6764	
3		1100	190,000	1,300,000	130	170M6615	170M6665	170M6715	170M6765	
		1250	290,000	1,950,000	140	170M6616	170M6666	170M6716	170M6766	
		1400	370,000	2,450,000	155	170M6617	170M6667	170M6717	170M6767	
		1500	460,000	3,100,000	160	170M6618	170M6668	170M6718	170M6768	
		1600	580,000	3,900,000	160	170M6619	170M6669	170M6719	170M6769	
	600 V a.c. (IEC) 550 V a.c. (UL)	1800	880,000	5,250,000	165	170M6620 <sup>3</sup>	170M6670 <sup>1</sup>	170M6720 <sup>3</sup>	170M6770	
	550 V a.c.(IEC) 500 V a.c. (UL)	2000	1,150,000	6,350,000	175	170M6621	170M6671 <sup>2</sup>	170M6721	170M6771	

<sup>1</sup> 170M6670 600 V a.c. (UL)/550 V a.c. (IEC) <sup>2</sup> 170M6671 550 V a.c. (IEC and UL) <sup>3</sup> Rated at 750 V d.c.12XIn 130 kA when two fuses are connected in series Data sheets: 170K6314 (Size 1\*), 170K6316 (Size 1), 170K6318 (Size 2), 170K6320 (Size 3)

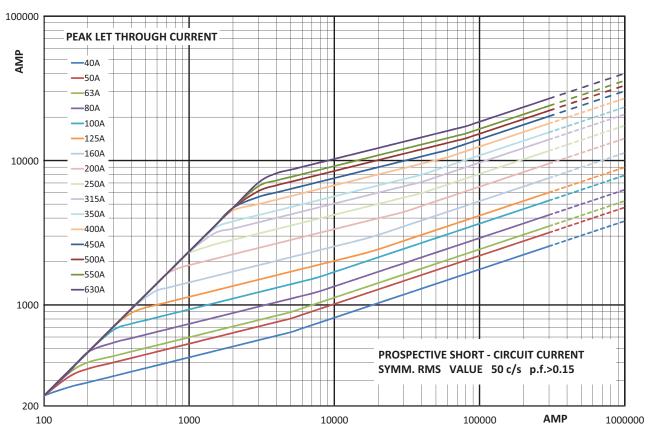
EATON Eaton's Bussmann series IEC High speed fuse links catalogue

## 170M - Sizes 1\* to 3, US style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

#### Time-current curve - Size 1\*, 40 A to 630 A



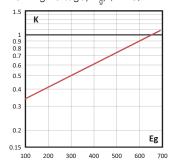
## 170M - Sizes 1\* to 3, US style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A



Cut-off curve - Size 1\*, 40 A to 630 A

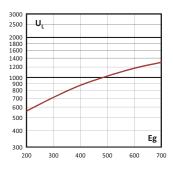
#### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



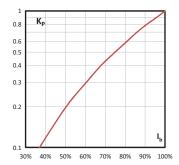
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{g}$ , (RMS) at a power factor of 15 percent.



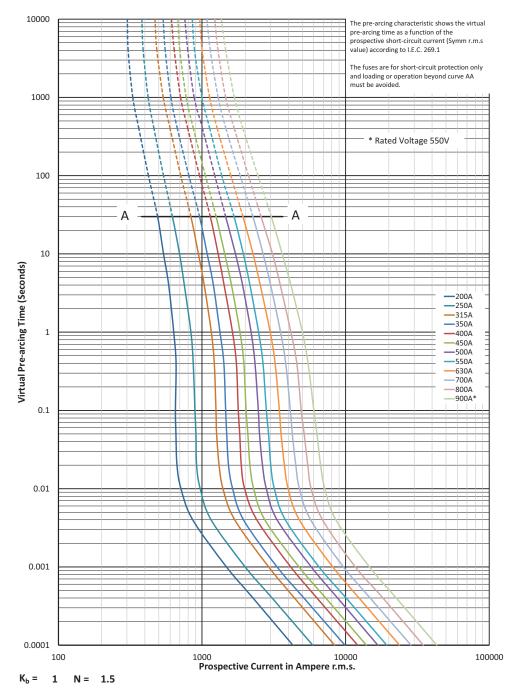
#### Watts losses

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.

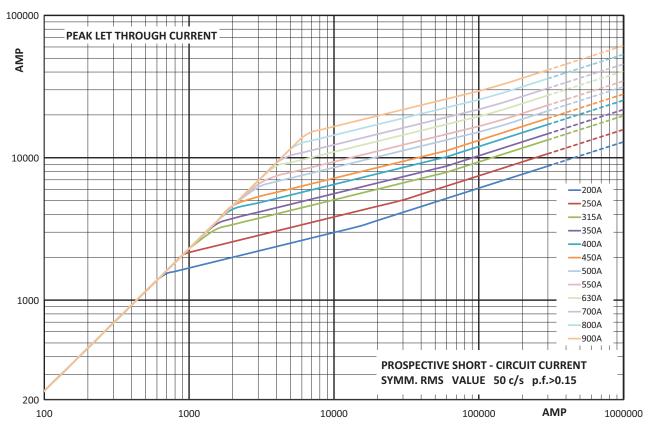


## 170M - Sizes 1\* to 3, US style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

#### Time-current curve - Size 1, 200 A to 900 A



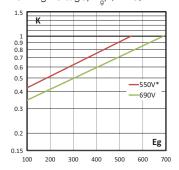
## 170M - Sizes 1\* to 3, US style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A



Cut-off curve - Size 1, 200 A to 900 A

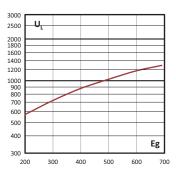
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



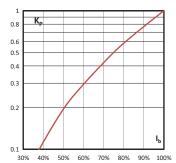
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



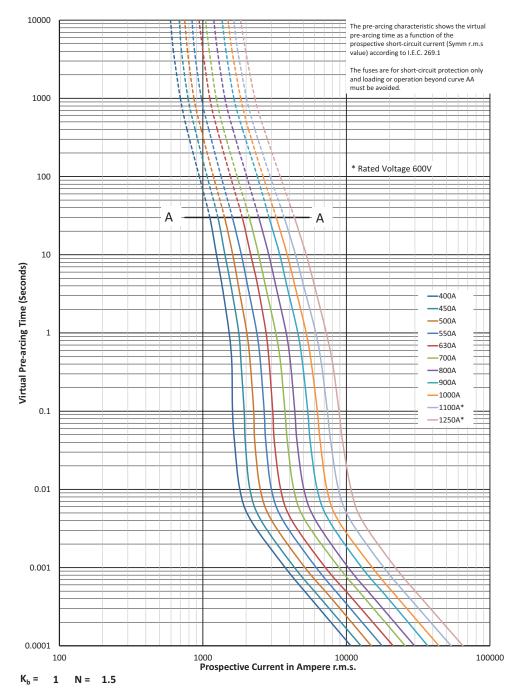
#### Watts losses

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.

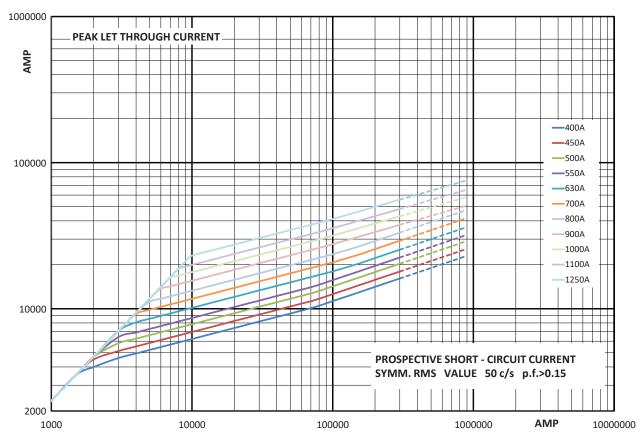


## 170M - Sizes 1\* to 3, US style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

#### Time-current curve - Size 2, 400 A to 1250 A



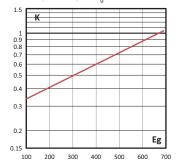
## 170M - Sizes 1\* to 3, US style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A



Cut-off curve - Size 2, 400 A to 1250 A

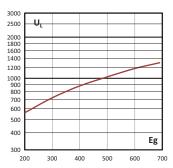
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



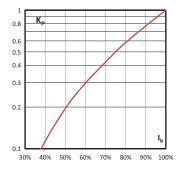
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{g}$ , (RMS) at a power factor of 15 percent.



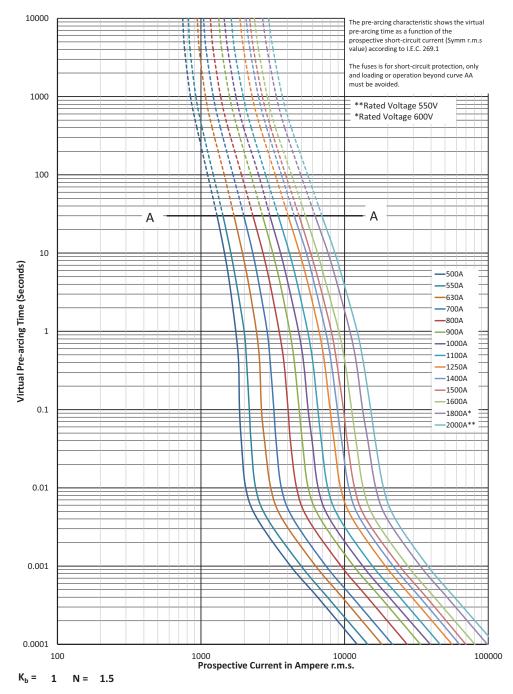
#### Watts losses

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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.

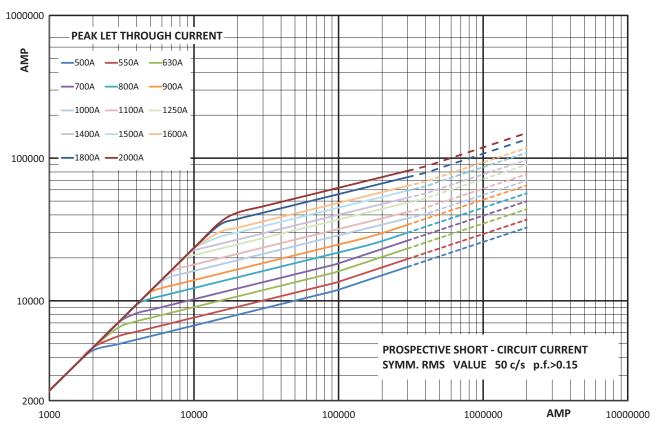


## 170M - Sizes 1\* to 3, US style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

#### Time-current curve - Size 3, 500 A to 2000 A



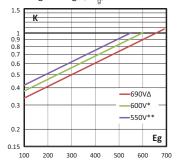
## 170M - Sizes 1\* to 3, US style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A



Cut-off curve - Size 3, 500 A to 2000 A

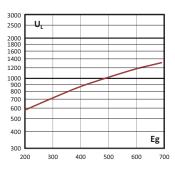
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



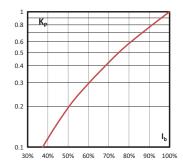
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



#### 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.



## 170M - Sizes 1\* to 3, US style, 1000 V a.c. (IEC), 50 A to 1400 A

### **Specifications**

#### Description

Square body US style bolted tags high speed fuse links for the protection of DC common bus, DC drives, power converters/ rectifiers and reduced rated voltage starters.

#### **Technical data**

- Rated voltage: 1000 V a.c. (IEC)
- Rated current: 50 A to 1400 A
- Breaking capacity:
  - 125kA RMS Sym. A.C.
  - Size 1 750 V d.c. 50 kA IR
- Operating class: aR

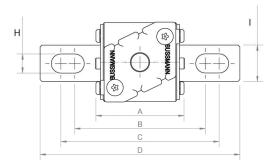
**Dimensions (mm)** 

#### Standards / Agency information

CE, Designed and tested to IEC60269 Part 4. UL Recognised/CSA Component Acceptance status for size 2 and 3 (315 A to 1100 A) and CCC approval for size 2 only.



# ADAPTER



Size	Α	В	C	D	F	G	Н	I.	К	
1*FKE/115	74	101	130	156	43	60	10.4	20	6	
1FKE/115	76	102	128	160	51	68	14.3	25	6	
2FKE/115	76	101.1	127.5	160	59	76	14.4	25	6	
3FKE/115	76	101.1	127.5	158	74	91	16	36	6	

1mm = 0.0394''

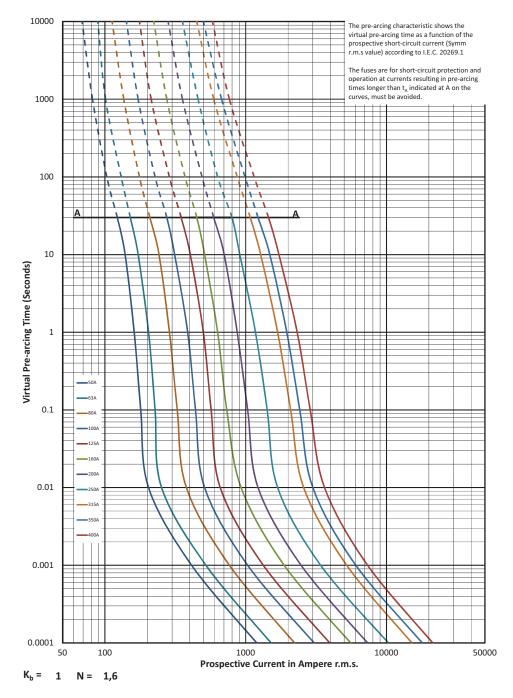
# 170M - Sizes 1\* to 3, US style, 1000 V a.c. (IEC), 50 A to 1400 A

#### **Catalogue numbers**

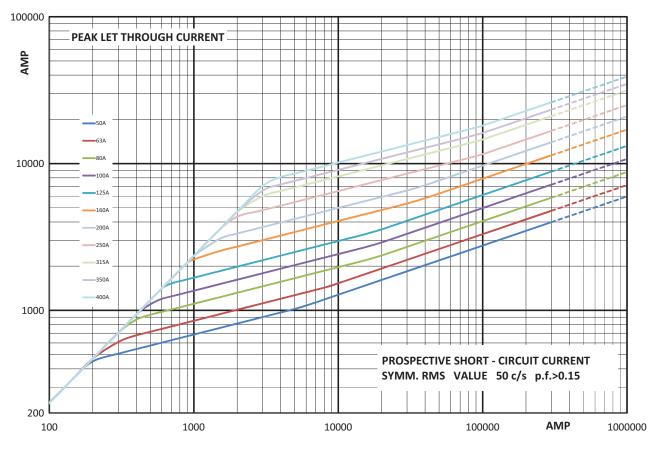
			I²t (A² Sec)			Catalogue numbers
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 1000 V a.c.	Watts loss (W)	-FKE/115 Type K indicator for micro
		50	135	815	20	170M3531
		63	215	1300	25	170M3532
		80	460	2750	30	170M3533
		100	860	5100	35	170M3534
		125	1450	8600	40	170M3535
1*	1000 V a.c. (IEC)	160	2850	17,500	45	170M3536
		200	4950	29,500	50	170M3537
		250	9550	57,000	55	170M3538
		315	21,500	130,000	65	170M3539
		350	29,000	175,000	70	170M3540
		400	42,000	250,000	75	170M3541
		160	2200	13,500	40	170M4531
		200	4150	24,500	50	170M4532
		250	7750	46,000	55	170M4533
		315	16,500	98,500	65	170M4534
	1000 V a.c. (IEC)	350	21,500	130,000	70	170M4535
	1000 V a.c. / 750 V d.c. (UL)	400	31,000	185,000	75	170M4536
		450	44,500	265,000	80	170M4537
		500	63,000	375,000	85	170M4538
		550	84,500	500,000	90	170M4539
		630	125,000	755,000	98	170M4540
		250	6750	40,000	65	170M5531
		315	13,500	81,500	75	170M5532
		350	16,500	99,000	80	170M5533
		400	26,000	155,000	85	170M5534
	1000 V a.c.	450	35,500	210,000	90	170M5535
-	(IEC/UL)	500	49,500	295,000	95	170M5536
		550	66,000	390,000	100	170M5337
		630	93,500	555,000	110	170M5538
		700	130,000	770,000	115	170M5539
		800	195,000	1,200,000	125	170M5540
		315	9200	54,500	90	170M8531
		350	13,000	77,500	95	170M8532
		400	19,000	115,000	105	170M8533
		450	27,000	160,000	107	170M8534
		500	37,500	225,000	110	170M8535
	1000 V a.c.	550	52,000	310,000	115	170M8536
	(IEC/UL)	630	82,500	490,000	120	170M8537
		700	115,000	700,000	125	170M8538
		800	170,000	1,050,000	135	170M8539
		900	250,000	1,500,000	145	170M8540
		1000	340,000	2,050,000	150	170M8541
		1100	460,000	2,750,000	155	170M8542
	1000 V a.c. (IEC)	1250	575,000	3,400,000	175	170M8543
	900 V a.c. (IEC)	1400	795,000	4,200,000	185	170M8544

## 170M - Sizes 1\* to 3, US style, 1000 V a.c. (IEC), 50 A to 1400 A

#### Time-current curve - Size 1\*, 50 A to 400 A



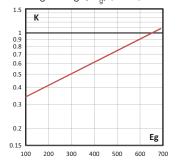
## 170M - Sizes 1\* to 3, US style, 1000 V a.c. (IEC), 50 A to 1400 A



Cut-off curve - Size 1\*, 50 A to 400 A

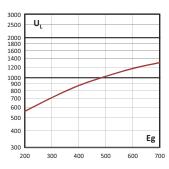
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



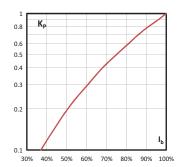
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



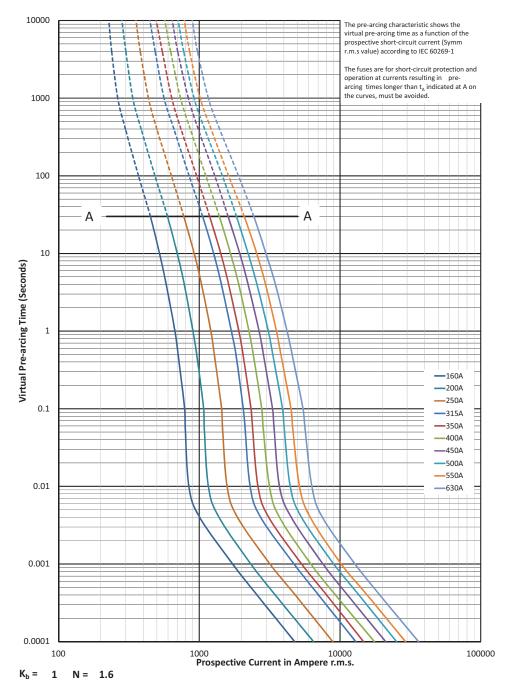
#### Watts losses

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.

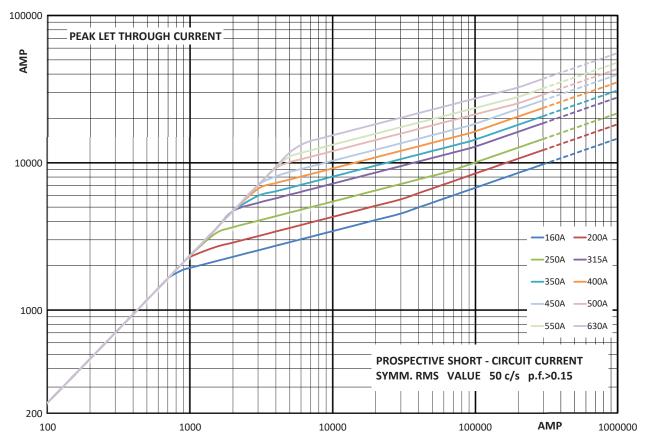


## 170M - Sizes 1\* to 3, US style, 1000 V a.c. (IEC), 50 A to 1400 A

#### Time-current curve - Size 1, 160 A to 630 A



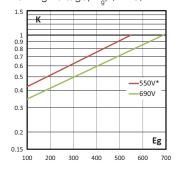
## 170M - Sizes 1\* to 3, US style, 1000 V a.c. (IEC), 50 A to 1400 A



Cut-off curve - Size 1, 160 A to 630 A

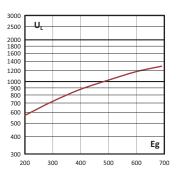
#### Total clearing l<sup>2</sup>t

The total clearing  $l^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $l^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



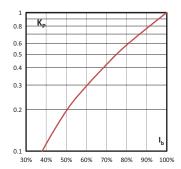
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



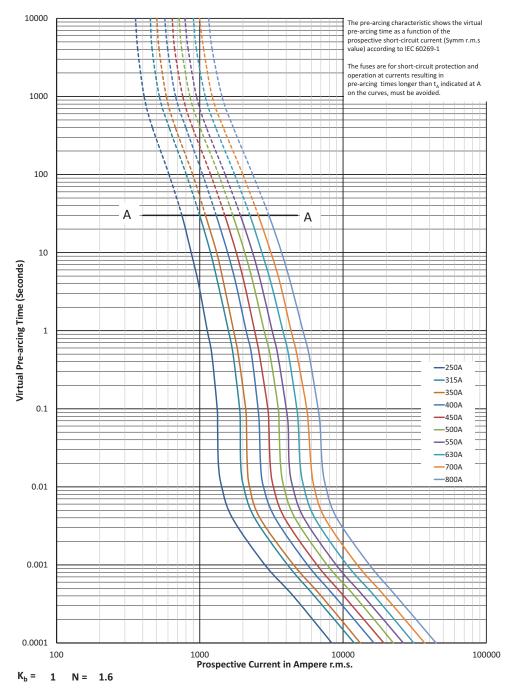
#### Watts losses

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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.

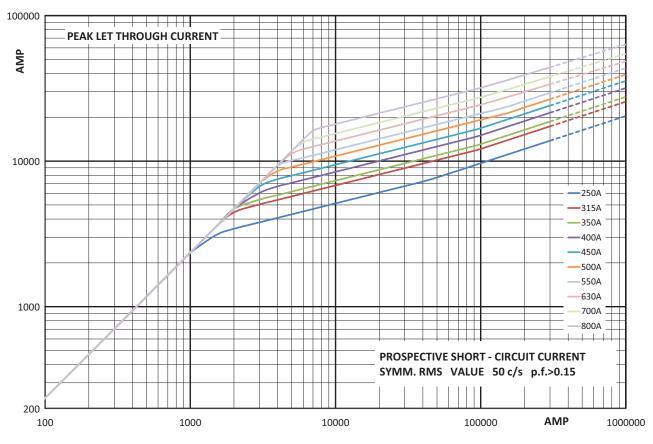


## 170M - Sizes 1\* to 3, US style, 1000 V a.c. (IEC), 50 A to 1400 A

#### Time-current curve - Size 2, 250 A to 800 A



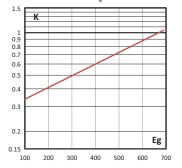
### 170M - Sizes 1\* to 3, US style, 1000 V a.c. (IEC), 50 A to 1400 A



Cut-off curve - Size 2, 250 A to 800 A

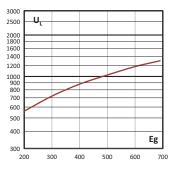
### Total clearing l<sup>2</sup>t

The total clearing  $l^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $l^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



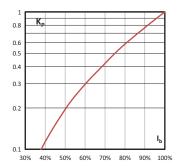
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



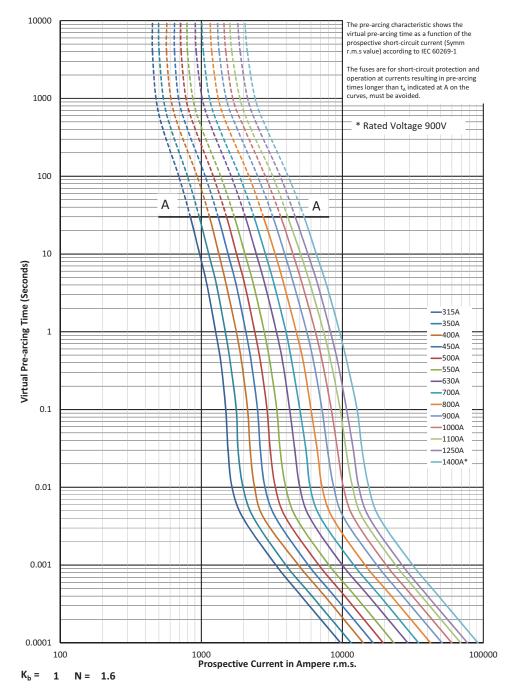
#### Watts losses

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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.

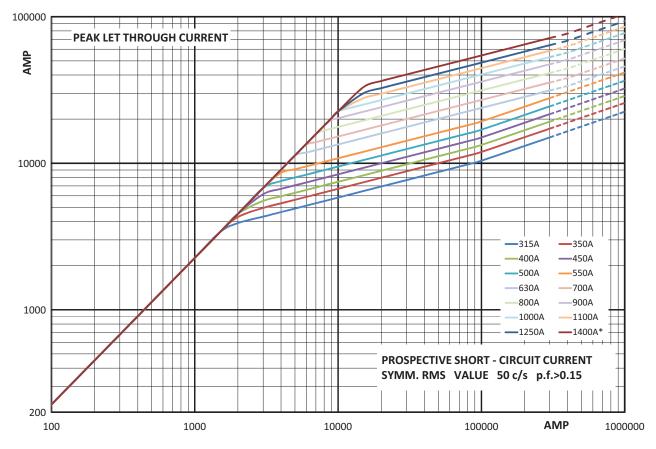


## 170M - Sizes 1\* to 3, US style, 1000 V a.c. (IEC), 50 A to 1400 A

### Time-current curve - Size 3, 315 A to 1400 A



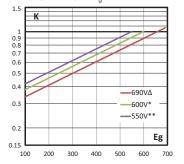
### 170M - Sizes 1\* to 3, US style, 1000 V a.c. (IEC), 50 A to 1400 A



Cut-off curve - Size 3, 315 A to 1400 A

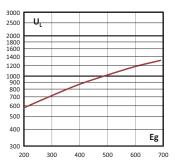
### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



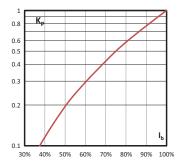
### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{g}$ , (RMS) at a power factor of 15 percent.



### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



## 170M - Sizes 1\* to 3, US style, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

### **Specifications**

### Description

Square body US style bolted tags high speed fuse links for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

### **Technical data**

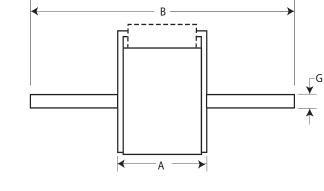
- Rated voltage: 1250 V a.c. (IEC), 1300 V a.c. (UL)
- Rated current: 50 A to 1400 A
- Breaking capacity:
  - 100 kA RMS Sym.A.C.
  - Size 1\* 90 kA D.C.
- -Operating class: aR

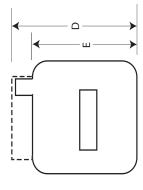
### Standards / Agency information

CE, Designed and tested to IEC 60269 part 4. Consult Eaton for UL Recognition/CSA Component Acceptance status and CCC approvals

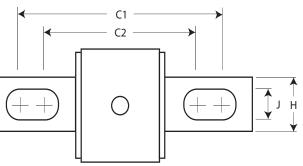
### Dimensions (mm)







184



Size	Α	в	C1	C2	D	E	G	н	J
1*	74	156	130	101	59	45	6	20	10
1	76	160	127	102	69	53	6	25	14
2	76	160	127	102	77	61	6	25	14
3	76	159	128	101	92	76	6	36	16

# 170M - Sizes 1\* to 3, US style, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

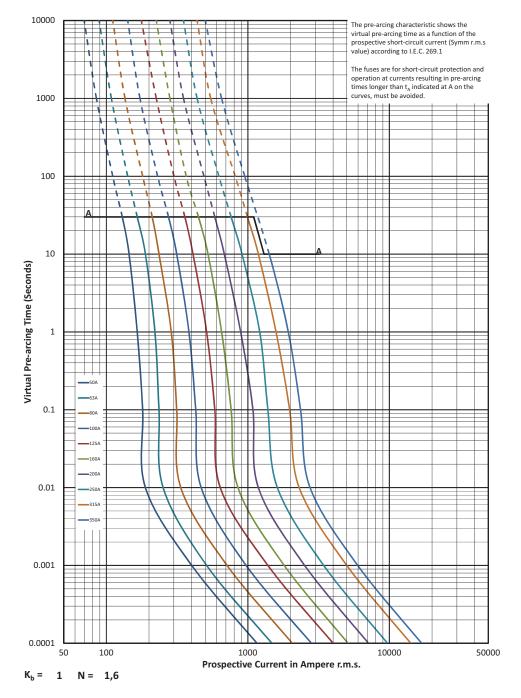
### **Catalogue numbers**

			I²t (A² Sec)				Catalogue numbers		
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 1000 V a.c.	Clearing at 1250 V a.c.	Watts loss (W)	-FU/115 without indicator	-FKE/115 Type K indicator for micro	
		50	135	815	1100	15	170M36881	170M37381	
		63	215	1300	1750	20	170M3689 <sup>1</sup>	170M3739 <sup>1</sup>	
		80	420	2500	3350	25	170M36901	170M3740 <sup>1</sup>	
		100	750	4450	5950	30	170M36911	170M37411	
1*	1250 V a.c. (IEC)	125	1450	9000	11,500	35	170M36921	170M37421	
I	1300 V a.c. (UL)	160	2600	16,000	21,000	40	170M36931	170M37431	
		200	5150	31,000	41,000	45	170M36941	170M3744 <sup>1</sup>	
		250	9200	54,500	73,000	55	170M36951	170M3745 <sup>1</sup>	
		315	18,500	115,000	150,000	60	170M36961	170M3746 <sup>1</sup>	
		350	27,000	165,000	220,000	65	170M36971	170M3747 <sup>1</sup>	
		160	1900	11,500	15,500	45	170M4688	170M4738	
		200	3800	22,500	30,000	50	170M4689	170M4739	
	1250 V a.c. (IEC)	250	7750	46,000	61,500	60	170M4690	170M4740	
		315	15,000	90,000	120,000	65	170M4691	170M4741	
4	1300 V a.c. (UL)	350	20,000	125,000	165,000	70	170M4692	170M4742	
1		400	29,500	175,000	235,000	75	170M4693	170M4743	
		450	42,000	250,000	335,000	80	170M4694	170M4744	
	4400.1/ 150	500	69,500	340,000	N/A	85	170M4695	170M4745	
	1100 V a.c. IEC	550	95,000	465,000	N/A	95	170M4696	170M4746	
	1000 V a.c. IEC	630	130,000	660,000	N/A	100	170M4697	170M4747	
	1250 V a.c. (IEC) 1300 V a.c. (UL)	250	6500	38,500	51,500	65	170M5688	170M5738	
		280	9350	55,500	74,500	70	170M5689	170M5739	
		315	13,000	77,500	105,000	75	170M5690	170M5740	
		350	16,500	97,500	135,000	80	170M5691	170M5741	
		400	23,000	140,000	180,000	85	170M5692	170M5742	
		450	34,000	205,000	270,000	90	170M5693	170M5743	
2		500	48,000	285,000	380,000	95	170M5694	170M5744	
		550	62,000	370,000	495,000	100	170M5695	170M5745	
		630	115,000	575,000	730,000	120	170M5696	170M5746	
	4400.1/ 150	700	160,000	795,000	N/A	125	170M5697	170M5747	
	1100 V a.c. IEC	800	245,000	1,200,000	N/A	130	170M5698	170M5748	
		900	360,000	1,750,000	N/A	135	170M5699	170M5749	
	1000 V a.c. IEC	1000	480,000	2,350,000	N/A	145	170M5700	170M5750	
		315	9500	58,000	77,500	85	170M6688	170M6738	
		350	13,500	81,500	110,000	90	170M6689	170M6739	
		400	19,500	120,000	160,000	95	170M6690	170M6740	
	1250 V a.c.(IEC)	450	31,000	185,000	245,000	100	170M6691	170M6741	
	1300 V a.c. (UL)	500	39,000	235,000	310,000	105	170M6692	170M6742	
		550	55,000	325,000	435,000	110	170M6693	170M6743	
		630	83,500	495,000	665,000	115	170M6694	170M6744	
3		700	115,000	705,000	940,000	120	170M6695	170M6745	
		800	205,000	995,000	1,300,000	125	170M6696	170M6746	
	1250 V a.c. (IEC)	900	305,000	1,500,000	1,900,000	130	170M6697	170M6747	
	1100 V a.c. (IEC)	1000	450,000	2,150,000	N/A	135	170M6698	170M6748	
	1000 V a.c. (UL)	1100	575,000	2,800,000	N/A	160	170M6699	170M6749	
	1000 V a.c.	1250	810,000	3,950,000	N/A	170	170M6700	170M6750	
	IEC & UL	1400	1,250,000	6,000,000	N/A	175	170M6701	170M6751	
			.,_00,000	5,000,000					

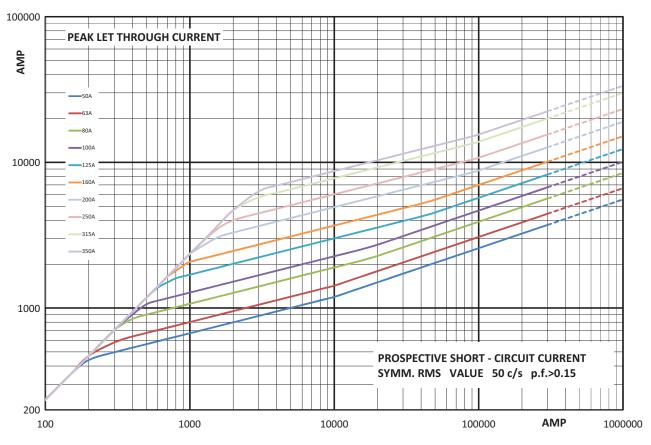
#### <sup>1</sup> Rated at 900 V d.c. 8XIn 90 kA

## 170M - Sizes 1\* to 3, US style, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

### Time-current curve - Size 1\*, 50 A to 350 A



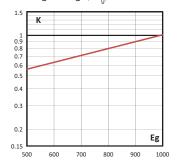
### 170M - Sizes 1\* to 3, US style, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A



Cut-off curve - Size 1\*, 50 A to 350 A

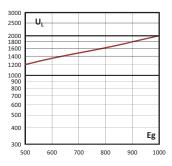
### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



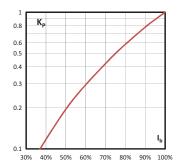
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{q}$ , (RMS) at a power factor of 15 percent.



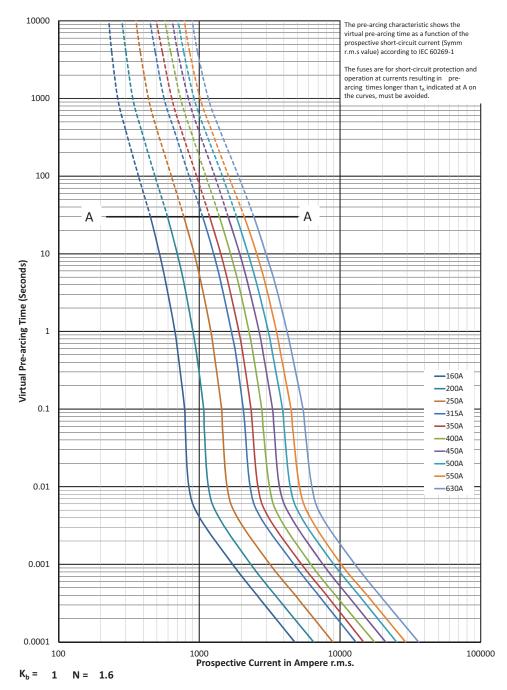
#### Watts losses

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.

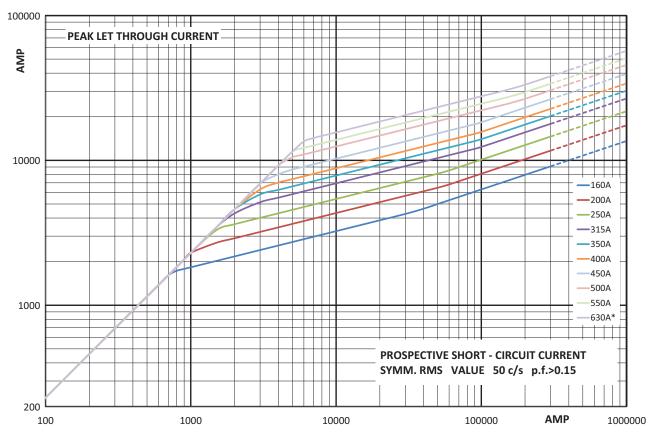


## 170M - Sizes 1\* to 3, US style, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

Time-current curve - Size 1, 160 A to 630 A



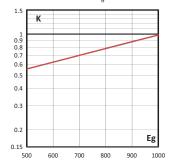
### 170M - Sizes 1\* to 3, US style, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A



Cut-off curve - Size 1, 160 A to 630 A

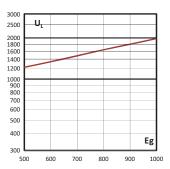
### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



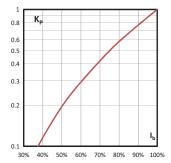
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



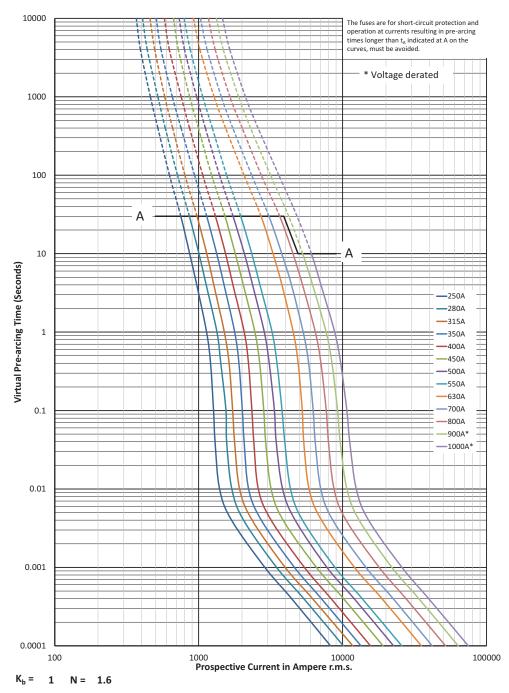
#### Watts losses

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.

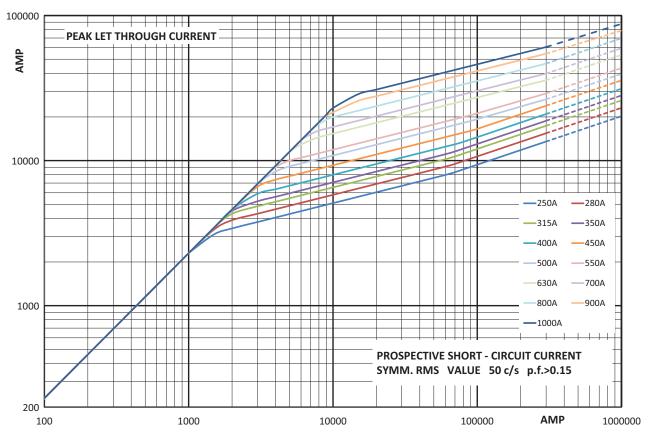


## 170M - Sizes 1\* to 3, US style, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

Time-current curve - Size 2, 250 A to 1000 A



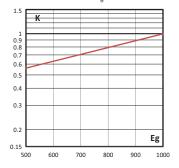
### 170M - Sizes 1\* to 3, US style, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A



Cut-off curve - Size 2, 250 A to 1000 A

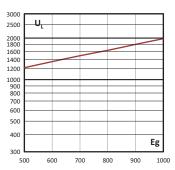
### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



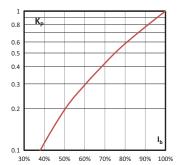
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{g}$ , (RMS) at a power factor of 15 percent.



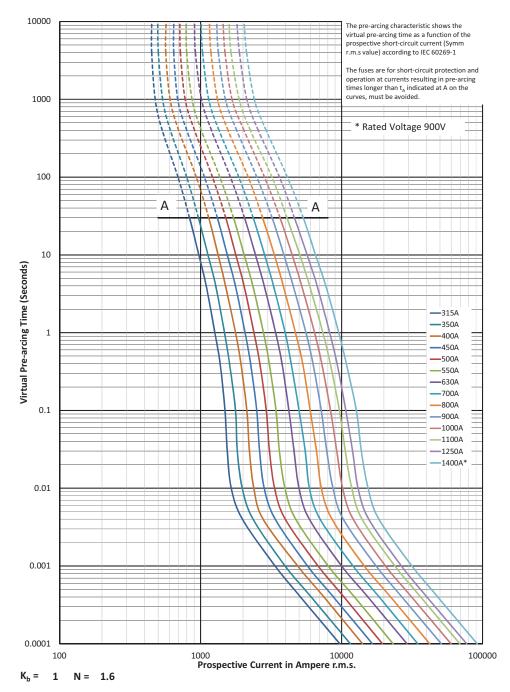
### Watts losses

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.

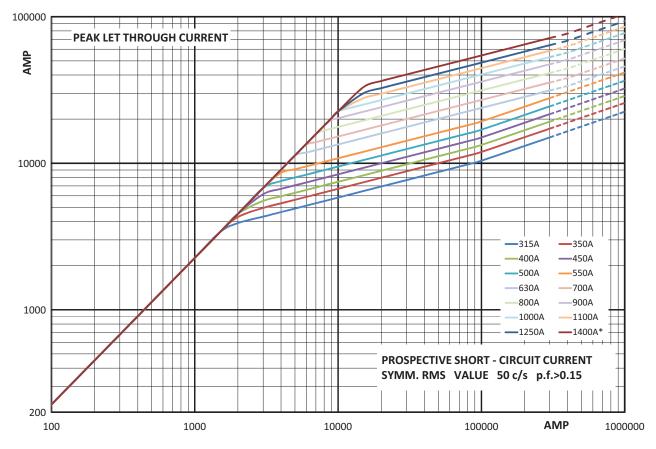


## 170M - Sizes 1\* to 3, US style, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

Time-current curve - Size 3, 315 A to 1400 A



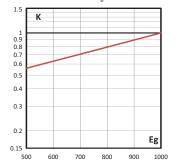
### 170M - Sizes 1\* to 3, US style, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A



Cut-off curve - Size 3, 315 A to 1400 A

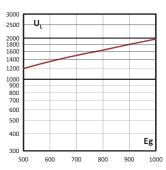
### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



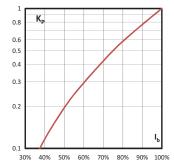
### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{q}$ , (RMS) at a power factor of 15 percent.



### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



## 170M - Size 00, Flush end contact, 690 V a.c., 25 A to 400 A

### **Specifications**

### Description

Square body flush end contact high speed fuse links, for the protection of DC common bus, DC drives, power converters/ rectifiers and reduced rated voltage starters.

### **Technical data**

- Rated voltage: 690 V a.c. (IEC)
- Rated current: 25 A to 400 A
- Breaking capacity: 200 kA RMS Sym
- Operating class:
- gR (25 A to 80 A)
- aR (100 A to 400 A)

### Standards / Agency information

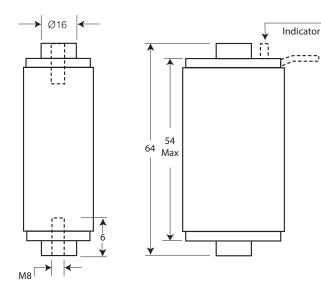
CE, Designed and tested to IEC 60269 Part 4

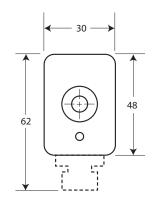
### **Catalogue numbers**



0	inannooro		l²t (A² Sec)			Catalogue numbers	
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 660 V a.c.	Watts loss (W)	00B/60 visual indicator	00BTN/60 Type T indicator for micro
		25	19	130	6	170M2708	170M2758
		32	28.5	195	7	170M2709	170M2759
		40	50	360	9	170M2710	170M2760
		50	95	640	10	170M2711	170M2761
		63	170	1200	12	170M2712	170M2762
		80	310	2100	15	170M2713	170M2763
00		100	620	4150	20	170M2714	170M2764
00	690 V a.c. (IEC)	125	1000	6950	25	170M2715	170M2765
		160	1900	13,000	30	170M2716	170M2766
		200	3400	23,000	35	170M2717	170M2767
		250	6250	42,000	45	170M2718	170M2768
		315	10,000	68,500	55	170M2719	170M2769
		350	13,500	91,500	60	170M2720	170M2770
		400	18,000	125,000	70	170M2721	170M2771

#### **Dimensions (mm)**

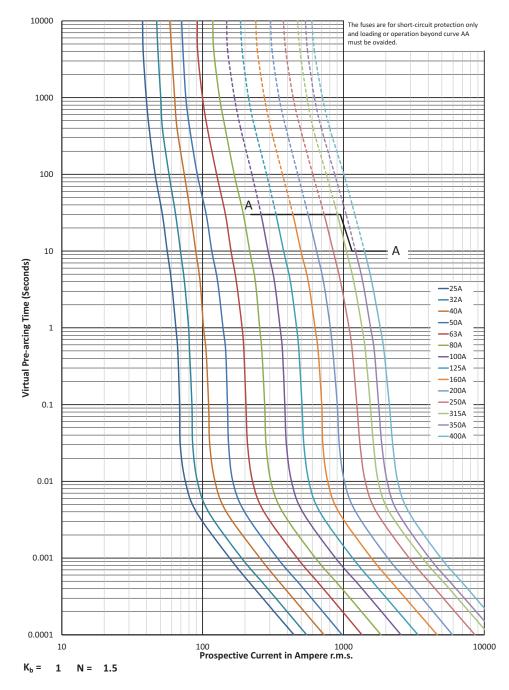




Data sheet: 170K6312

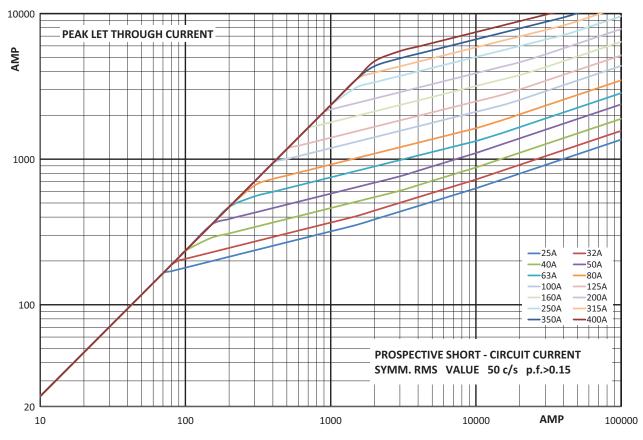
# 170M - Size 00, Flush end contact, 690 V a.c., 25 A to 400 A

Time-current curve - Size 00, 25 A to 400 A



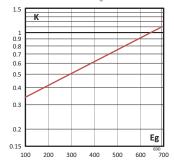
### 170M - Size 00, Flush end contact, 690 V a.c., 25 A to 400 A

Cut-off curve - Size 00, 25 A to 400 A



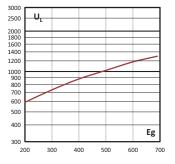
### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{\alpha}$ , (RMS).



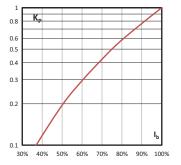
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{g}$ , (RMS) at a power factor of 15 percent.



#### 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.



## 170M - Sizes 1\* to 3, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

### **Specifications**

### Description

Square body flush end contact high speed fuse links, for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

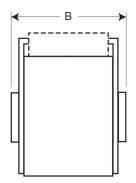
### **Technical data**

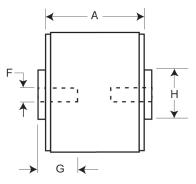
- Rated voltage: see table page 192
- Rated current: 40 A to 2000 A
- Breaking capacity: 200 kA RMS Sym
- Operating class: aR

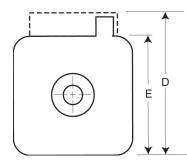
### **Standards / Agency information**

CE, Designed and tested to IEC 60269 Part 4. Consult Eaton for UL Recognition, CSA Component Acceptance Status and CCC approvals

### **Dimensions (mm)**







Size	Α	в	D <sup>3</sup>	Е	F	F¹ (in)	G min	н
1*	50	51	59	45	M8	<sup>5</sup> / <sub>16</sub> " -18 UNC-2B	5	N17
1	50	51	69	53	M8	5/16" -18 UNC-2B	8	N20
2	50	51 (400 - 1000 A) 65 (1100 and 1250 (A)	77	61	M10	3/8" -16 UNC-2B	10	N24
3	51	53 (500 - 1500 A) 65 (1600 - 2000 A)	92	76	M12	1⁄2" -13 UNC-2B	10	N30

<sup>1</sup> Valid for fuse links type -G- & -GKN/.

 $^{\scriptscriptstyle 3}$  Valid for fuse links type -BKN/ and -GKN/.



## 170M - Sizes 1\* to 3, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

			l²t (A² Sec)			Catalogue nu			
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 660 V a.c.	Watts loss (W)	-B/- visual indicator	-BKN/- Type K indicator for micro	-G/- visual indicator	-GKN/- Type K indicator for micro
		40	40	270	11	170M3408	170M3458	170M3508	170M3558
		50	77	515	13	170M3409	170M3459	170M3509	170M3559
		63	115	770	17	170M3410	170M3460	170M3510	170M3560
		80	185	1250	21	170M3411	170M3461	170M3511	170M3561
		100	360	2450	24	170M3412	170M3462	170M3512	170M3562
		125	550	3700	30	170M3413	170M3463	170M3513	170M3563
		160	1100	7500	34	170M3414	170M3464	170M3514	170M3564
4 ×	690 V a.c. (IEC)	200	2200	15,000	41	170M3415	170M3465	170M3515	170M3565
1*	700 V a.c. (UL)	250	4200	28,500	47	170M3416	170M3466	170M3516	170M3566
	/00 / 0.0. (02)	315	7000	46,500	60	170M3417	170M3467	170M3517	170M3567
		350	10,000	68,500	64	170M3418	170M3468	170M3518	170M3568
		400	15,000	105,000	69	170M3419	170M3469	170M3519	170M3569
		450	21,000	140,000	75	170M3420	170M3470	170M3520	170M3570
		500	27,000	180,000	83	170M3421	170M3471	170M3521	170M3571
		550	34,000	230,000	89	170M3422	170M3472	170M3522	170M3572
		630	48,500	325,000	100	170M3423	170M3473	170M3523	170M3573
		200	1650	11,500	45	170M4408	170M4458	170M4508	170M4558
		250	3100	21,000	55	170M4409	170M4459	170M4509	170M4559
		315	6200	42,000	58	170M4410	170M4460	170M4510	170M4560
		350	8500	59,000	60	170M4411	170M4461	170M4511	170M4561
		400	13,500	91,500	65	170M4412	170M4462	170M4512	170M4562
	690 V a.c. (IEC)	450	17,000	120,000	70	170M4413	170M4463	170M4512	170M4563
1	700 V a.c. (UL)	500	25,000	170,000	70	170M4414	170M4464	170M4513	170M4564
		550	34,000	230,000	75	170M4415	170M4465	170M4514	170M4565
		630	52,000	350,000	80	170M4415	170M4465	170M4516	170M4566
		700	69,500	465,000	85	170M4410	170M4460	170M4517	170M4567
		800	105,000	725,000	95	170M4417	170M4467	170M4518	170M4568
		900			100				
	550 V a.c. (IEC)	400	155,000	850,000		170M4419	170M4469	170M4519 170M5508	170M4569 170M5558
		-	11,000	74,000	65	170M5408	170M5458		
		450	15,500	105,000	70	170M5409	170M5459	170M5509	170M5559
		500	21,500	145,000	75	170M5410	170M5460	170M5510	170M5560
	690 V a.c. (IEC)	550	28,000	190,000	80	170M5411	170M5461	170M5511	170M5561
_	700 V a.c. (UL)	630	41,000	275,000	90	170M5412	170M5462	170M5512	170M5562
2	/00 / 0.0. (02)	700	60,500	405,000	95	170M5413	170M5463	170M5513	170M5563
		800	86,000	575,000	105	170M5414	170M5464	170M5514	170M5564
		900	125,000	840,000	110	170M5415	170M5465	170M5515	170M5565
		1000	180,000	1,250,000	115	170M5416	170M5466	170M5516	170M5566
	600 V a.c. (IEC)	1100	245,000	1,600,000	120	170M5417	170M5467	170M5517	170M5567
	700 V a.c. (UL)	1250	365,000	2,400,000	130	170M5418	170M5468	170M5518	170M5568
		500	14,000	95,000	95	170M6408	170M6458	170M6508	170M6558
		550	19,500	135,000	100	170M6409	170M6459	170M6509	170M6559
		630	31,000	210,000	105	170M6410	170M6460	170M6510	170M6560
		700	44,500	300,000	110	170M6411	170M6461	170M6511	170M6561
		800	69,500	465,000	115	170M6412	170M6462	170M6512	170M6562
	690 V a.c. (IEC)	900	100,000	670,000	120	170M6413	170M6463	170M6513	170M6563
	700 V a.c. (UL)	1000	140,000	945,000	125	170M6414	170M6464	170M6514	170M6564
3		1100	190,000	1,300,000	130	170M6415	170M6465 <sup>1</sup>	170M6515	170M6565
		1250	290,000	1,950,000	140	170M6416	170M6466	170M6516	170M6566
		1400	370,000	2,450,000	155	170M6417	170M6467 <sup>1</sup>	170M6517	170M6567
		1500	460,000	3,100,000	160	170M6418	170M6468	170M6518	170M6568
		1600	580,000	3,900,000	160	170M6419	170M6469	170M6519	170M6569
	600 V a.c. (IEC) / 500 V a.c. (UL)	1800	880,000	5,250,000	165	170M6420 <sup>2</sup>	170M6470	170M6520 <sup>2</sup>	170M6570
	550 V a.c. IEC) / 500 V a.c. (UL)	2000	1,150,000	6,350,000	175	170M6421	170M6471	170M6521	170M6571

<sup>1</sup> 170M6465 and 170M6467 rated at 800 V d.c. UL 85kA 3ms TC when two fuses are connected in series

 $^{\rm 2}$  170M6420 and 170M6520 rated at 750 V d.c. 12XIn 130 kA when two fuses are connected in series

Data sheets: 170K6314 (Size 1\*), 170K6316 (Size 1), 170K6318 (Size 2), 170K6320 (Size 3)

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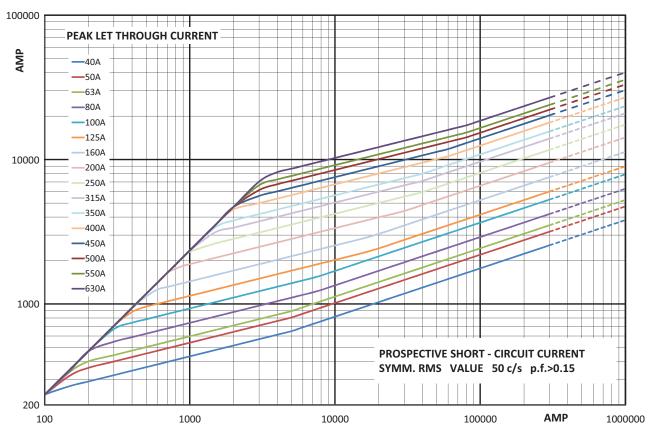
## 170M - Sizes 1\* to 3, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

A 10000 The pre-arcing characteristic shows the virtual pre-arcing time as a function of the prospective short-circuit current (Symm r.m.s value) according to IEC60269.1 The fuses are for short-circuit protection and ۱ operation at currents resulting in pre-arcing times longer than t<sub>A</sub> indicated at A on the ١ curves, must be avoided. 1000 1 1 1 ١ T 1 ١ ١ 1.1 ١ 111 100 1 1 ŧ 1 1 1 1 11 1111 111 N | | 1 ١ 1 1 1 1111 40A 10 50A Virtual Pre-arcing Time (Seconds) 63A -80A 100A -125A -160A 1 200A 250A 315A 350A -400A 450A 0.1 -500A 550A -630A 0.01 0.001 0.0001 1000 Prospective Current in Ampere r.m.s. 30 100 10000 30000 K<sub>b</sub> = 1 N = 1,5

Time-current curve - Size 1\*, 40 A to 630 A

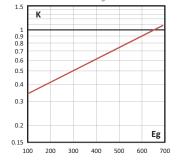
### 170M - Sizes 1\* to 3, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

Cut-off curve - Size 1\*, 40 A to 630 A



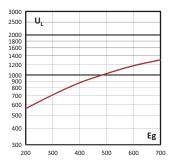
### Total clearing l<sup>2</sup>t

The total clearing  $l^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $l^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{g}$ , (RMS).



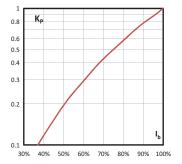
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



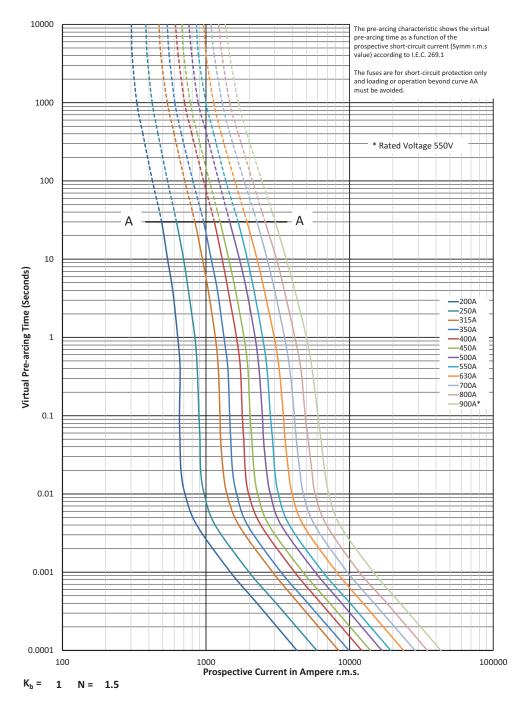
#### Watts losses

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.



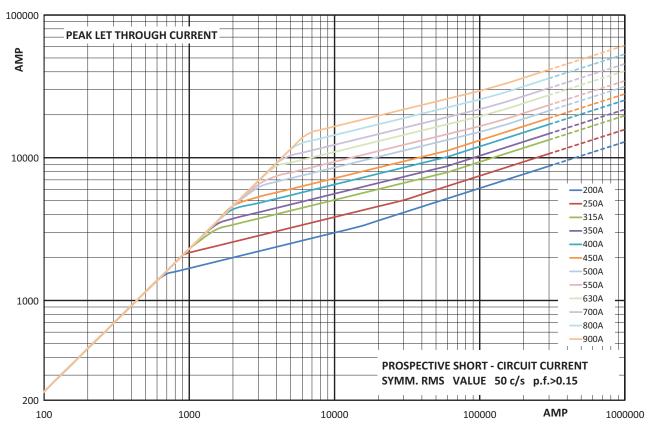
## 170M - Sizes 1\* to 3, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

Time-current curve - Size 1, 200 A to 900 A



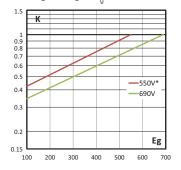
### 170M - Sizes 1\* to 3, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

Cut-off curve - Size 1, 200 A to 900 A



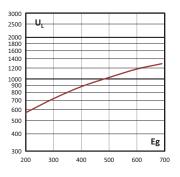
### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



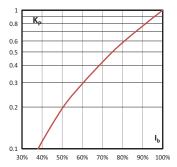
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



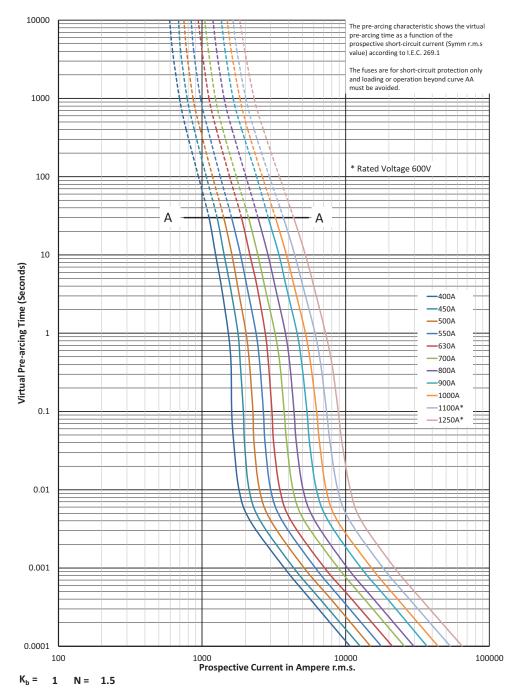
#### Watts losses

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.



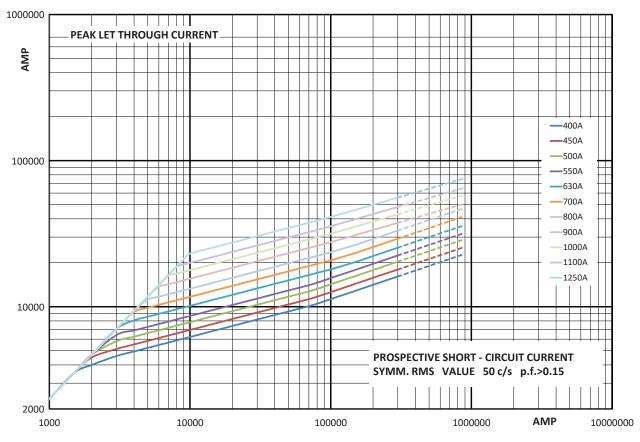
## 170M - Sizes 1\* to 3, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

Time-current curve - Size 2, 400 A to 1250 A



### 170M - Sizes 1\* to 3, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

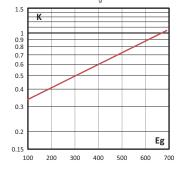
Cut-off curve - Size 2, 400 A to 1250 A



#### Total clearing l<sup>2</sup>t

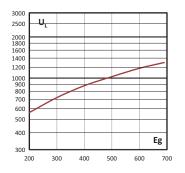
204

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



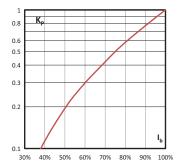
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



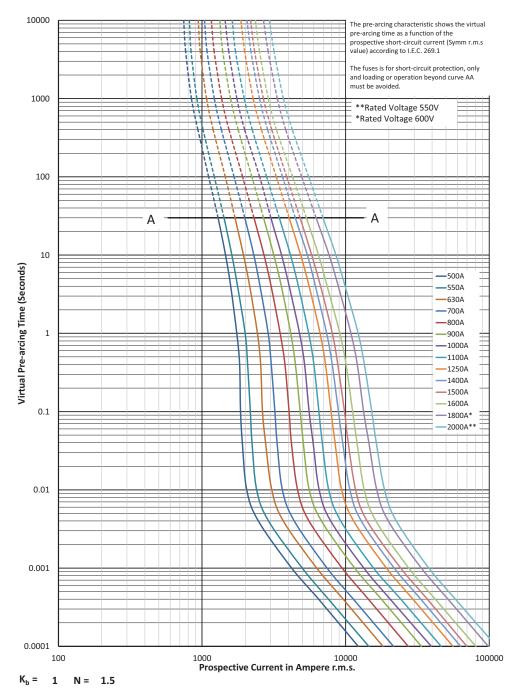
#### Watts losses

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.



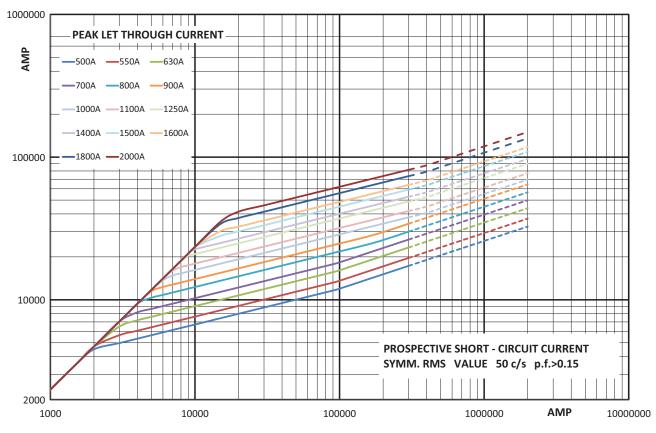
## 170M - Sizes 1\* to 3, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

Time-current curve - Size 3, 500 A to 2000 A



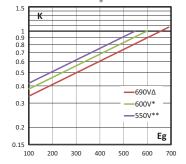
### 170M - Sizes 1\* to 3, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

Cut-off curve - Size 3, 500 A to 2000 A



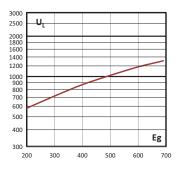
### Total clearing l<sup>2</sup>t

The total clearing  $l^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $l^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage, E<sub>a</sub>, (RMS).



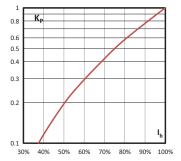
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{\rm g}$ , (RMS) at a power factor of 15 percent.



#### 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.



## 170M - sizes 1\* to 3, Flush end contact, 1000 V a.c. (IEC and UL), 50 A to 1400 A

### **Specifications**

### **Description**

Square body flush end contact high speed fuse links, for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

### **Technical data**

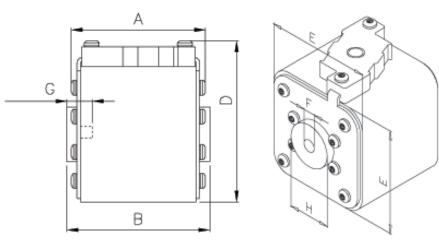
- Rated voltage:
  - 1000 V a.c. (IEC, 50 A to 1250 A)
  - 1000 V a.c. (UL, 250 A to 1100 A)
  - 900 V a.c. (IEC, 1400 A)
- Rated current: 50 A to 1400 A
- Breaking capacity:
- 125kA RMS Sym. AC
- Size 1 DC 750 V d.c. 50 kA IR
- Operating class: aR

### **Standards / Agency information**

CE, Designed and tested to IEC 60269 Part 4, UL Recognised for size 2 and 3 (only up to 1100 A)



### **Dimensions (mm)**



Size	Туре	Α	В	D (max)	Е	F	F¹ (in)	G (min)	Н
1*	BKN/75 + GKN/75	72.5	74	61	43	M8	5/16"18 UNC-2B	5	17.5
1	BKN/75 + GKN/75	73.2	74	69	52	M8	5/16" 18 UNC-2B	8	20
2	BKN/75 + GKN/75	73.2	74.4	77	59	M10	3/8" 16 UNC-2B	10	24.5
3	BKN/75 + GKN/75	73.3	75.4	92	74	M12	1⁄2" 13 UNC-2B	10	30
3	BKN/90 + GKN/90	80.3	91.4	92	74	M12	1⁄2"13 UNC-2B	10	30

<sup>1</sup> Valid for fuses type -GKN/-.

# 170M - sizes 1\* to 3, Flush end contact, 1000 V a.c. (IEC and UL), 50 A to 1400 A

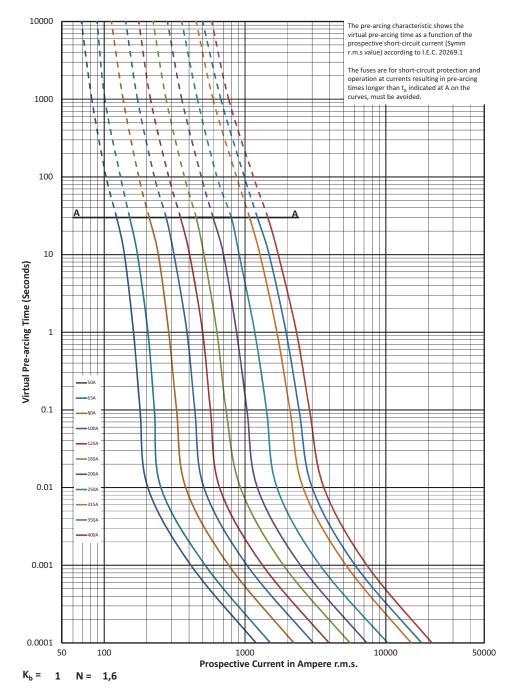
**Catalogue numbers** 

			l²t (A² Sec)			Catalogue num	bers
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at rated voltage	Watts loss (W)	-BKN/- Type K indicator for micro	-GKN/- Type K indicator for micro
		50	135	815	20	170M3951	170M3921
		63	215	1300	25	170M3952	170M3922
		80	460	2750	30	170M3953	170M3923
		100	860	5100	35	170M3954	170M3924
		125	1450	8600	40	170M3955	170M3925
1*	1000 V a.c. (IEC)	160	2850	17,500	45	170M3956	170M3926
		200	4950	29,500	50	170M3957	170M3927
		250	9550	57,000	55	170M3958	170M3928
		315	21,500	130,000	65	170M3959	170M3929
		350	29,000	175,000	70	170M3960	170M3930
		400	42,000	250,000	75	170M3961	170M3931
		160	2200	13,500	40	170M4951	170M4921
		200	4150	24,500	45	170M4952	170M4922
		250	7750	46,000	52	170M4953	170M4923
		315	16,500	98,500	60	170M4954	170M4924
	1000 V a.c. (IEC)	350	21,500	130,000	65	170M4955	170M4925
1	1000 V a.c. / 750 V d.c. (UL)	400	31,000	185,000	70	170M4956	170M4926
		450	44,500	265,000	80	170M4957	170M4927
		500	63,000	375,000	85	170M4958	170M4928
		550	84,500	500,000	90	170M4959	170M4929
		630	125,000	755,000	98	170M4960	170M4930
		250	6750	40,000	65	170M5952	170M5922
		315	13,500	81,500	75	170M5953	170M5923
		350	16,500	99,000	80	170M5954	170M5924
		400	26,000	155,000	85	170M5955	170M5925
		450	35,500	210,000	90	170M5956	170M5926
2	1000 V a.c. (IEC/UL)	500	49,500	295,000	95	170M5957	170M5927
		550	66,000	390,000	100	170M5958	170M5928
		630	93,500	555,000	110	170M5959	170M5929
		700	130,000	770,000	115	170M5960	170M5930
		800	195,000	1,200,000	125	170M5961	170M5931
		315	9200	54,500	90	170M8600	170M8500
		350	13,000	77,500	95	170M8601	170M8501
		400	19,000	115,000	105	170M8602	170M8502
		450	27,000	160,000	107	170M8603	170M8503
		500	37,500	225,000	110	170M8604	170M8504
	(000) ( (000) ***	550	52,000	310,000	115	170M8605	170M8505
	1000 V a.c. (IEC/UL)	630	82,500	490,000	120	170M8606	170M8506
3		700	115,000	700,000	125	170M8607	170M8507
		800	170,000	1,050,000	135	170M8608	170M8508
		900	250,000	1,500,000	145	170M8609	170M8509
		1000	340,000	2,050,000	150	170M8610	170M8510
		1100	460,000	2,750,000	155	170M8611	170M8511
	1000 V a.c. (IEC)	1250	575,000	3,400,000	175	170M8612 <sup>1</sup>	170M8512 <sup>1</sup>
	900 V a.c. (IEC)	1400	795,000	4,200,000	185	170M86131	170M85131
				.,_00,000			

<sup>1</sup> Overall length is 90 mm, for all other fuse links the overall length is 75 mm.

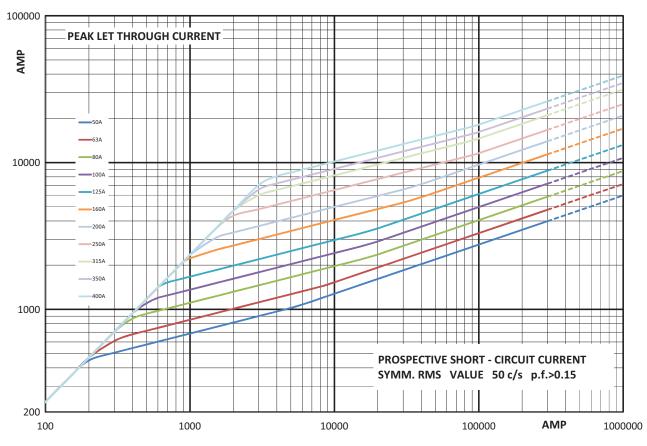
## 170M - sizes 1\* to 3, Flush end contact, 1000 V a.c. (IEC and UL), 50 A to 1400 A

Time-current curve - Size 1\*, 50 A to 400 A



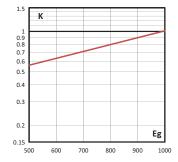
## 170M - sizes 1\* to 3, Flush end contact, 1000 V a.c. (IEC and UL), 50 A to 1400 A

Cut-off curve - Size 1\*, 50 A to 400 A



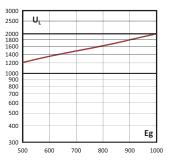
### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



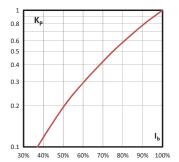
### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



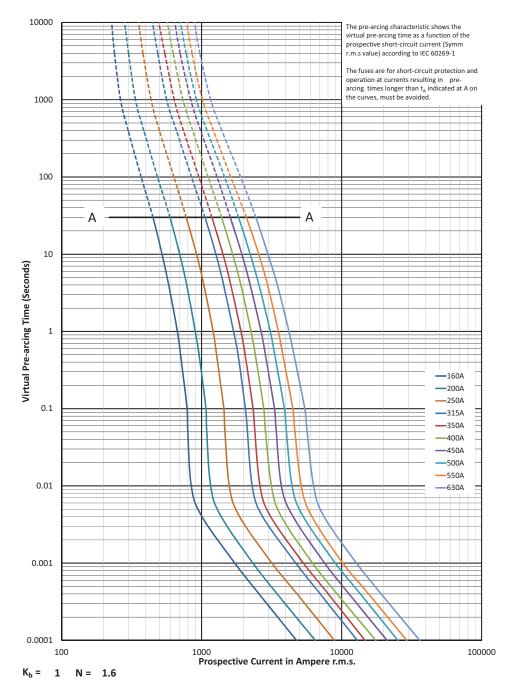
#### Watts losses

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.



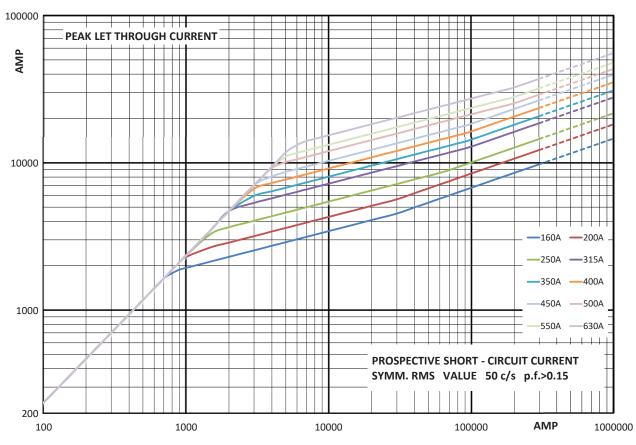
# 170M - Sizes 1\* to 3, Flush end contact, 1000 V a.c. (IEC and UL), 50 A to 1400 A

Time-current curve - Size 1, 160 A to 630 A



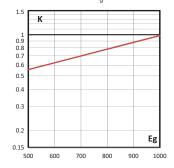
## 170M - Sizes 1\* to 3, Flush end contact, 1000 V a.c. (IEC and UL), 50 A to 1400 A

Cut-off curve - Size 1, 160 A to 630 A



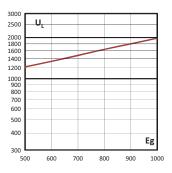
### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{g'}$  (RMS).



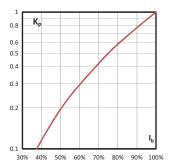
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



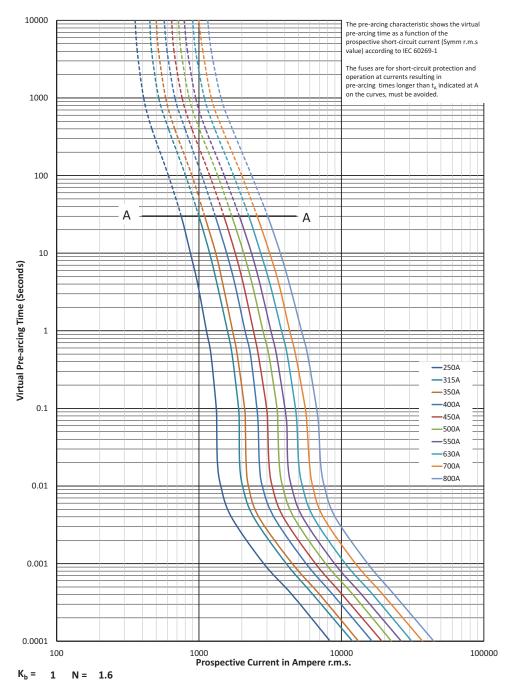
#### Watts losses

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.



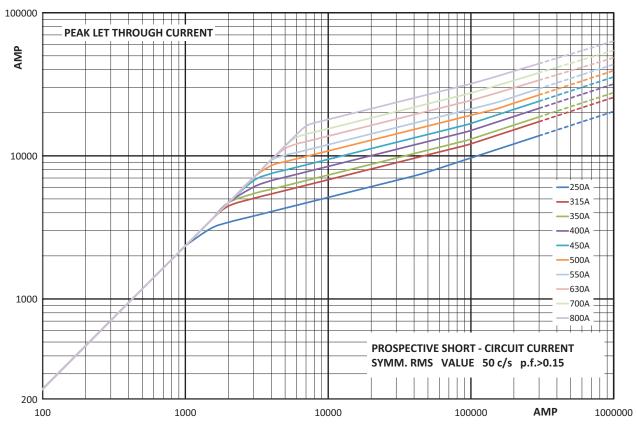
# 170M - Sizes 1\* to 3, Flush end contact, 1000 V a.c. (IEC and UL), 50 A to 1400 A

Time-current curve - Size 2, 250 A to 800 A



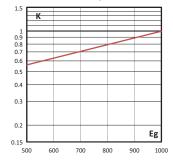
## 170M - Sizes 1\* to 3, Flush end contact, 1000 V a.c. (IEC and UL), 50 A to 1400 A

Cut-off curve - Size 2, 250 A to 800 A



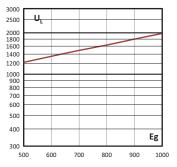
### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



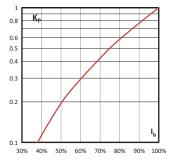
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



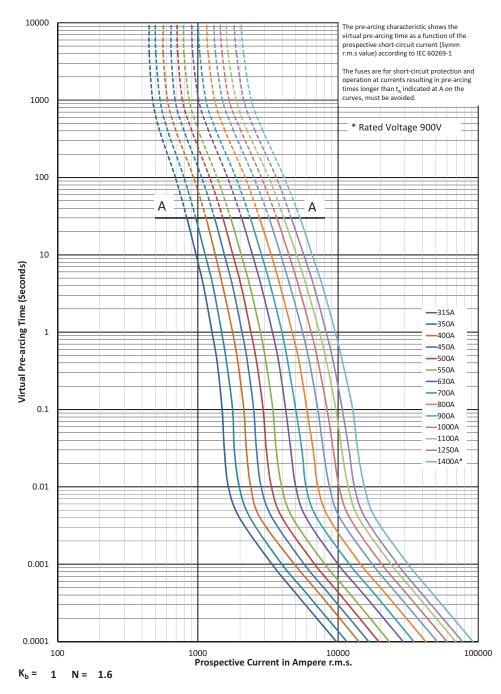
### Watts losses

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.



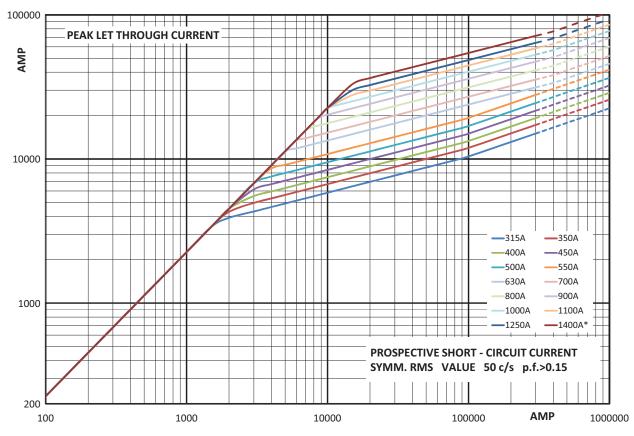
## 170M - Sizes 1\* to 3, Flush end contact, 1000 V a.c. (IEC and UL), 50 A to 1400 A

Time-current curve - Size 3, 315 A to 1400 A



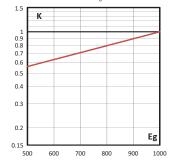
### 170M - Sizes 1\* to 3, Flush end contact, 1000 V a.c. (IEC and UL), 50 A to 1400 A

Cut-off curve - Size 3, 315 A to 1400 A



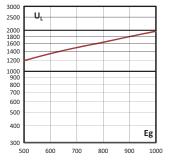
### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{\alpha}$ , (RMS).



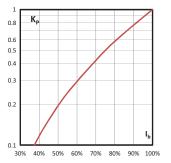
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



### 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.



## 170M - Sizes 1\* to 3, Flush end contact, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

### **Specifications**

### Description

Square body flush end contact high speed fuse links, for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters.

### **Technical data**

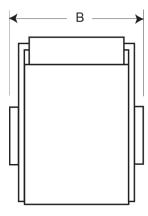
- Rated voltage:
  - 1250 V a.c. (IEC)
  - 1300 V a.c. (UL)
- Rated current: 50 A to 1400 A
- Breaking capacity: 100 kA RMS Sym
- Operating class: aR

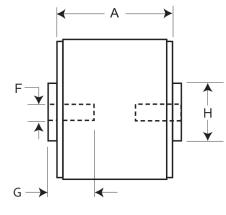
#### **Standards / Agency information**

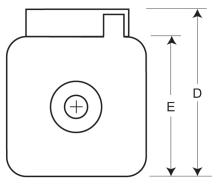
CE, Designed and tested to IEC 60269 Part 4. Consult Eaton for UL Recognition/CSA Component Acceptance Status



#### **Dimensions (mm)**







Size	Туре	Α	В	D	E	F	F¹ (in)	Min G	H
1*	BKN + GKN/75	74	75	59	45	M8	<sup>5</sup> /16" -18 UNC-2B	5	Ø17
1*	BKN/80	80	81	59	45	M8		5	Ø17
1	BKN + GKN/75	74	75	69	53	M8	5/16" -18 UNC-2B	8	Ø20
1	BKN/80	80	81	69	53	M8		8	Ø20
2	BKN + GKN/75	74	75	77	61	M10	3/8" -16 UNC-2B	10	Ø24
2	BKN/80	80	81	77	61	M10		10	Ø24
2	BKN + GKN/90	80	91	77	61	M10	3/8" -16 UNC-2B	10	Ø24
3	BKN + GKN/75	74	76	92	76	M12	1⁄2" -13 UNC-2B	10	Ø30
3	BKN/80	81	83	92	76	M12		10	Ø30
3	BKN + GKN/90	81	91	92	76	M12	1⁄2" -13 UNC-2B	10	Ø30

<sup>1</sup> Valid for fuses type -GKN/-.

## 170M - Sizes 1\* to 3, Flush end contact, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

			l²t (A² Sec)			_	Catalogue numbers						
Fuse link body size	Rated voltage	Rated current (Amps)	Pre- arcing	Clearing at 1000 V a.c.	Clearing at 1250 V a.c.	Watts loss (W)	-BKN/75 Type K indicator for micro	-BKN/80 Type K indicator for micro	-BKN/90 Type K Indicator for micro	-GKN/75 Type K Indicator for micro	-GKN/90 Type K Indicator for micro		
		50	135	815	1100	15	170M33886	170M3438		170M3488 <sup>6</sup>			
		63	215	1300	1750	20	170M33896	170M3439	-	170M3489 <sup>6</sup>	-		
		80	420	2500	3350	25	170M3390 <sup>6</sup>	170M3440	-	170M3490 <sup>6</sup>	-		
		100	750	4450	5950	30	170M33916	170M3441	-	170M34916	-		
	1250 V a.c.	125	1450	9000	11,500	35	170M33926	170M3442	-	170M3492 <sup>6</sup>	-		
6	(IEC) 1300 V a.c.	160	2600	16,000	21,000	40	170M33936	170M3443	-	170M3493 <sup>6</sup>	-		
	(UL)	200	5150	31,000	41,000	45	170M3394 <sup>6</sup>	170M3444	-	170M3494 <sup>6</sup>	-		
		250	9200	54,500	73,000	55	170M3395 <sup>6</sup>	170M3445	-	170M3495 <sup>6</sup>	-		
		315	18,500	115,000	150,000	60	170M33966	170M3446	-	170M3496 <sup>6</sup>	-		
		350	27,000	165,000	220,000	65	170M33976	170M3447	-	170M3497 <sup>6</sup>	-		
		400	53,000	265,000	335,000	70		170M3448	-		-		
		160	1900	11,500	15,500	45	170M4388 <sup>6</sup>	170M4438 <sup>6</sup>	-	170M4488 <sup>6</sup>	-		
		200	3800	22,500	30,000	50	170M4389 <sup>6</sup>	170M44396	_	170M4489 <sup>6</sup>	_		
		250	7750	46,000	61,500	60	170M4390 <sup>6</sup>	170M4440 <sup>6</sup>	-	170M4490 <sup>6</sup>	-		
	1250 V a.c.	315	15,000	90,000	120,000	65	170M43916	170M4441 <sup>6</sup>	-	170M4491 <sup>6</sup>	-		
	(IEC)	350	20,000	125,000	165,000	70	170M4392 <sup>6</sup>	170M4442 <sup>6</sup>	-	170M4492 <sup>6</sup>	-		
	1300 V a.c.	400	29,500	175,000	235,000	75	170M43936	170M4443 <sup>6</sup>	-	170M4493 <sup>6</sup>	-		
	(UL)	450	42,000	250,000	335,000	80	170M4394 <sup>6</sup>	170M4444 <sup>6</sup>	-	170M4494 <sup>6</sup>	-		
	500	69,500	340,000	435,000	85	170M4395 <sup>4</sup>	170M4445	-	170M4495 <sup>4</sup>	-			
		550	95,000	465,000	590,000	95	170M4396 <sup>5</sup>	170M4446	-	170M4496 <sup>5</sup>	-		
		630	130,000	660,000	N/A	110	170M4397 <sup>5</sup>	170M4447 <sup>4</sup>	-	170M4497 <sup>5</sup>	-		
		250	6500	38,500	51,500	65	170M5388	170M5438	-	170M5588	-		
		280	9350	55,500	74,500	70	170M5389	170M5439	-	170M5589	-		
		315	13,000	77,500	105,000	75	170M5390	170M5440	-	170M5590	-		
		350	16,500	97,500	135,000	80	170M5391	170M5441	-	170M5591			
		400	23,000	140,000	180,000	85	170M5392	170M5442	-	170M5592	-		
	1250 V a.c.	450	34,000	205,000	270,000	90	170M5393	170M5443	-	170M5593	_		
	(IEC) 1300 V a.c.	500	48,000	285,000	380,000	95	170M5394	170M5444	170M5494	170M5594	170M5644		
	(UL)	550	62,000	370,000	495,000	100	170M5395	170M5445	170M5495	170M5595	170M5645		
		630	115,000	575,000	730,000	120	170M53964	170M5446	170M5496	170M5596 <sup>4</sup>	170M5646		
		700	160,000	795,000	1,050,000	125	170M5397 <sup>5</sup>	170M5447 <sup>7</sup>	170M5497	170M5597 <sup>5</sup>	170M5647		
		800	245,000	1,200,000	1,550,000	130	170M5398 <sup>5</sup>	170M5448 <sup>8</sup>	170M5498	170M5598⁵	170M5648		
		900	360,000	1,750,000	N/A	135			170M5499 <sup>9</sup>	_	170M5649 <sup>9</sup>		
		1000	480,000	2,350,000	N/A	145			170M5500 <sup>9</sup>		170M5650 <sup>9</sup>		
		315	9500	58,000	77,500	85	170M63386	170M6538 <sup>6</sup>		170M6588			
		350	13,500	81,500	110,000	90	170M6339 <sup>6</sup>	170M6539 <sup>6</sup>	_	170M6589	_		
		400	19,500	120,000	160,000	95	170M6340 <sup>6</sup>	170M6540 <sup>6</sup>	_	170M6590			
		450	31,000	185,000	245,000	100	170M63416	170M6541 <sup>6</sup>	_	170M6591	_		
		500	39,000	235,000	310,000	105	170M6342 <sup>6</sup>	170M6542 <sup>6</sup>	_	170M6592	_		
	1250 \/ a a	550	55,000	325,000	435,000	110	170M63436	170M6543 <sup>6</sup>	-	170M6593	-		
	1250 V a.c. (IEC)	630	83,500	495,000	665,000	115	170M6344 <sup>6</sup>	170M6544 <sup>6</sup>	170M6494 <sup>6</sup>	170M6594	170M6644		
	1300 V a.c.	700	115,000	705,000	940,000	120	170M6345	170M6545 <sup>6</sup>	170M6495 <sup>6</sup>	170M6595	170M6645 <sup>6</sup>		
	(UL)	800	205,000	995,000	1,300,000	125	170M63464	170M6546 <sup>6</sup>	170M6496 <sup>12</sup>	170M6596 <sup>4</sup>	170M6646 <sup>12</sup>		
		900	305,000	1,500,000	1,900,000	130	170M6347 <sup>5</sup>	170M6547 <sup>10</sup>	170M6497 <sup>12</sup>	170M6597 <sup>5</sup>	170M6647 <sup>12</sup>		
		1000	450,000	2,150,000	2,750,000	135	170M63485	170M6548 <sup>10</sup>	170M6498 <sup>12</sup>	170M6598 <sup>5</sup>	170M6648 <sup>12</sup>		
		1100	575,000	2,800,000	3,600,000	160	170M6349 <sup>5</sup>	170M6549 <sup>11</sup>	170M6499 <sup>12</sup>	170M6599 <sup>5</sup>	170M6649 <sup>12</sup>		
		1250	810,000	3,950,000	N/A	170			170M6500 <sup>13</sup>		170M6650 <sup>4</sup>		
		1400	1,250,000	6,000,000	N/A	175			170M6501 <sup>13</sup>	-	170M66514		

<sup>1</sup> Rated voltage 1100 V a.c. (IEC), 1000 V a.c. (UL).

<sup>2</sup> Rated voltage 1000 V a.c. (IEC and UL).

<sup>3</sup> Rated voltage 1100 V a.c. (IEC and UL).

<sup>4</sup> Rated voltage (IEC) 1100 V a.c.

<sup>5</sup> Rated voltage (IEC) 1000 V a.c.

<sup>6</sup> Rated voltage 900 V d.c. 8XIn 90 kA

 $^7$  Rated voltage 1100 V a.c. (IEC), 1000 V a.c. (UL). and 1000 V d.c. 8XIn 70 kA  $^{\rm 8}$  Rated voltage 1000 V a.c. (IEC and UL). and 1000 V d.c. 8XIn 70 kA

<sup>9</sup> Rated voltage 1100 V a.c. (IEC and UL). and 900 V d.c. 9.5XIn 80 kA

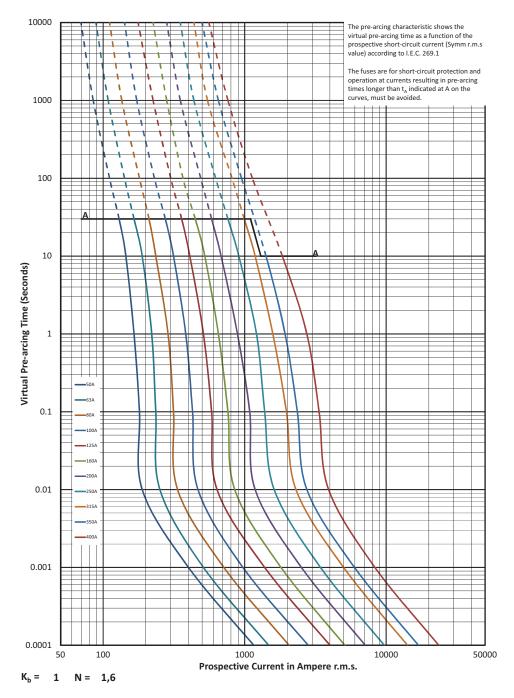
 $^{\rm 10}$  Rated voltage 1100 V a.c. (IEC), 1000 V a.c. (UL). and 900 V d.c. 8XIn 90 kA  $^{\rm 11}$  Rated voltage 1000 V a.c. (IEC and UL). and 900 V d.c. 8XIn 90 kA

12 Rated voltage 1000 V d.c. 10XIn 91 kA

 $^{\rm 13}$  Rated voltage 1100 V a.c. (IEC and UL), and 900 V d.c. 12XIn 90 kA

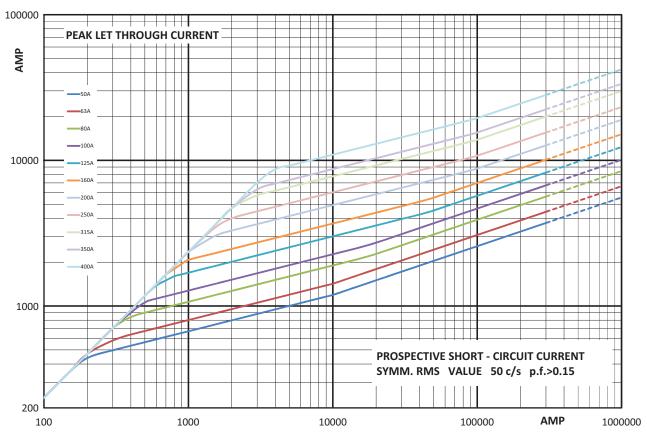
## 170M - Sizes 1\* to 3, Flush end contact, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

Time-current curve - Size 1\*, 50 A to 400 A



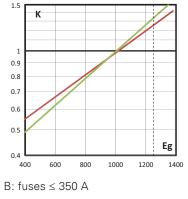
### 170M - Sizes 1\* to 3, Flush end contact, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

Cut-off curve - Size 1\*, 50 A to 400 A



#### Total clearing l<sup>2</sup>t

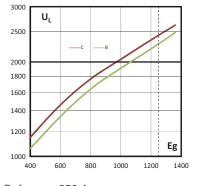
The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



C: fuses ≥ 400 A

#### Arc voltage

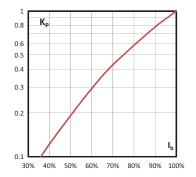
This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{g}$ , (RMS) at a power factor of 15 percent.



B: fuses  $\leq$  350 A C: fuses  $\geq$  400 A

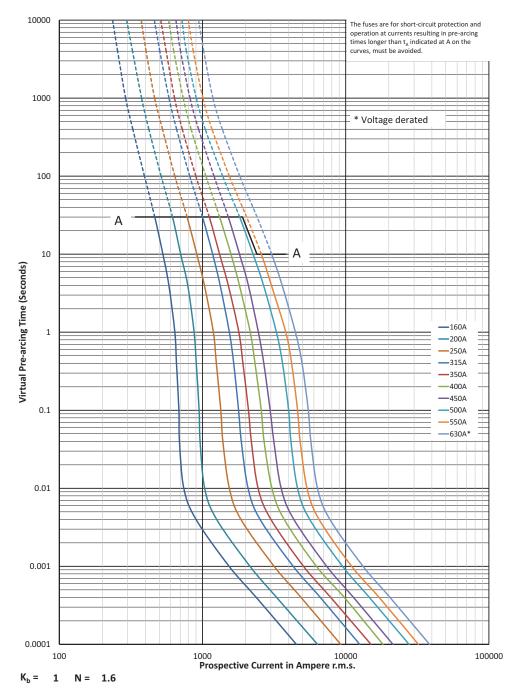
#### Watts losses

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.



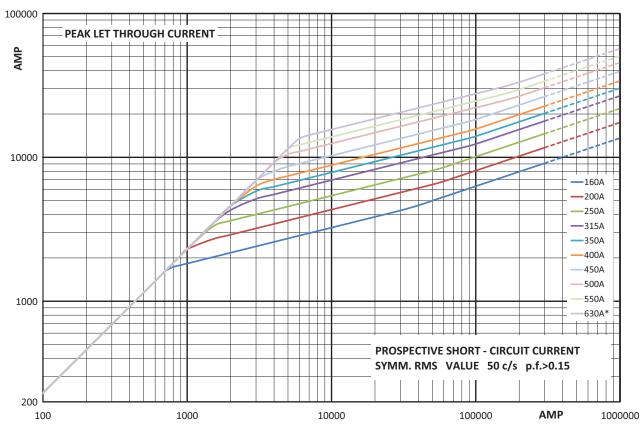
# 170M - Sizes 1\* to 3, Flush end contact, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

Time-current curve - Size 1, 160 A to 630 A



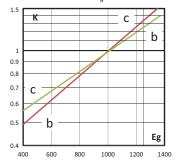
### 170M - Sizes 1\* to 3, Flush end contact, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

Cut-off curve - Size 1, 160 A to 630 A



#### Total clearing l<sup>2</sup>t

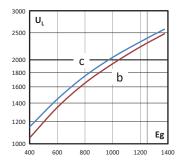
The total clearing  $l^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $l^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



B: fuses  $\leq$  450 A C: fuses  $\geq$  500 A

#### Arc voltage

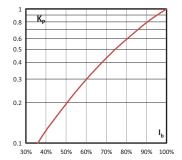
This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



### B: fuses ≤ 450 A C: fuses ≥ 500 A

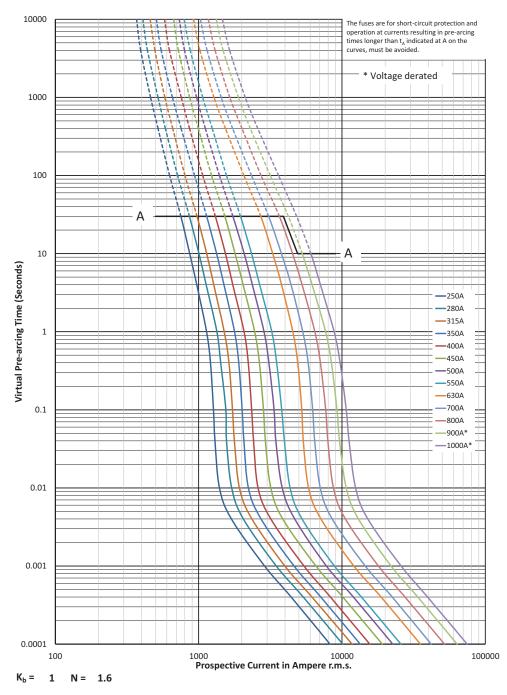
#### Watts losses

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.



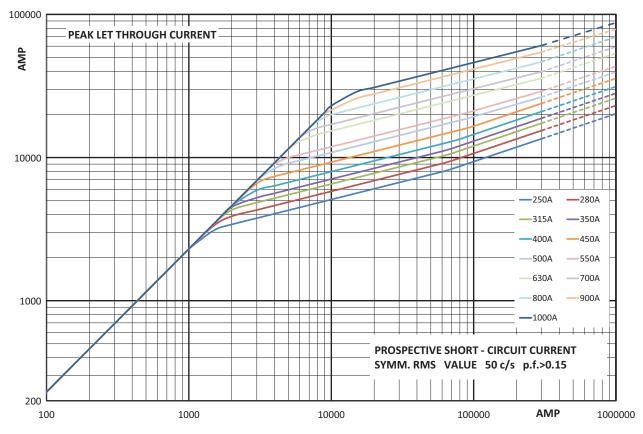
# 170M - Sizes 1\* to 3, Flush end contact, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

Time-current curve - Size 2, 250 A to 1000 A



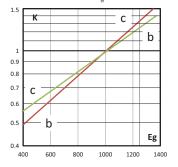
## 170M - Sizes 1\* to 3, Flush end contact, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

Cut-off curve - Size 2, 250 A to 1000 A



#### Total clearing l<sup>2</sup>t

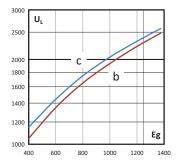
The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



B: fuses  $\leq$  550 A C: fuses  $\geq$  630 A

#### Arc voltage

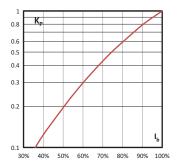
This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



B: fuses  $\leq$  550 A C: fuses  $\geq$  630 A

#### 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.



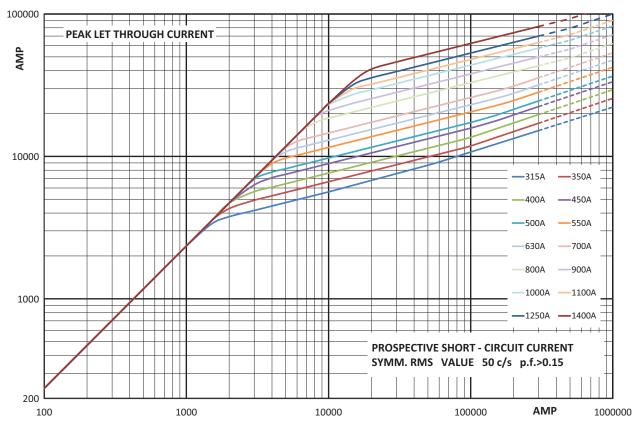
# 170M - Sizes 1\* to 3, Flush end contact, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

10000 The pre-arcing characteristic shows the virtual pre-arcing time as a function of the prospective short-circuit current (Symm r.m.s value) according to I.E.C. 269.1 The fuses are for short-circuit protection and operation at currents resulting in pre-arcing times longer than  $t_{\rm A}$  indicated at A on the curves, must be avoided. 1000 \* Voltage derated 100 -315A -350A A -400A 450A 500A 10 А 550A Virtual Pre-arcing Time (Seconds) 630A 700A 800A 900A -1000A 1100A 1 Ξ -1250A\* -1400A\* 0.1 0.01 0.001 0.0001 1000 Prospective Current in Ampere r.m.s. 100 10000 100000 K<sub>b</sub> = 1 N = 1.6

Time-current curve - Size 3, 315 A to 1400 A

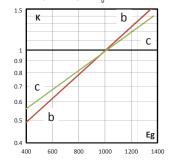
### 170M - Sizes 1\* to 3, Flush end contact, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

Cut-off curve - Size 3, 315 A to 1400 A



#### Total clearing l<sup>2</sup>t

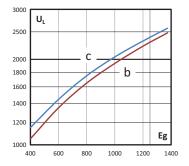
The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



B: fuses ≤ 700 A C: fuses ≥ 800 A

#### Arc voltage

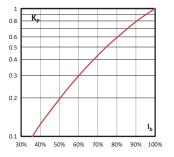
This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



B: fuses ≤ 700 A C: fuses ≥ 800 A

#### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



## 170M - Size 4, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 1000 A to 4000 A

### **Specifications**

### Description

Square body, flush end contact, high speed fuse links, for the protection of power rectifiers.

### **Technical data**

- Rated voltage:
  - 690 V a.c. (IEC) / 700 V a.c. (UL) 1000 A to 3500 A
  - 600 V a.c. (IEC and UL, 4000 A)
- Rated current: 1000 A to 4000 A
- Breaking capacity: 200 kA RMS Sym
- Operating class: aR

#### **Standards / Agency information**

CE, Designed and tested to IEC 60269 Part 4, UL Recognised

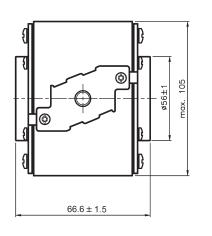
#### **Catalogue numbers**



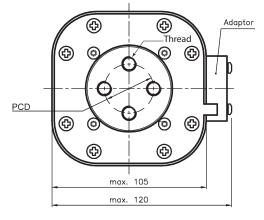
			I²t (A² Sec)			Catalogue nur	nbers		
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 660 V a.c.	Watts loss (W)	-B/65 visual indicator	-BKN/65 Type K indicator	-G/65 visual indicator	-GKN/65 Type K indicator
		1000	76,000	505,000	175	170M7058	170M7078	170M7098	170M7118
		1250	145,000	965,000	195	170M7059	170M7079	170M7099	170M7119
		1400	205,000	1,400,000	205	170M7060	170M7080	170M7100	170M7120
	690 V a.c. (IEC)	1600	305,000	2,050,000	220	170M7061	170M7081	170M7101	170M7121
		1800	436,600	3,067,000	260	170M7340	-	-	-
4	700 V a.c. (UL)	2000	600,000	3,950,000	245	170M7062	170M7082	170M7102	170M7122
·		2200	805,000	5,350,000	255	170M7116	170M7114	170M7171	170M7173
		2500	1,200,000	7,800,000	275	170M7063	170M7083	170M7103	170M7123
		3000	2,000,000	13,500,000	305	170M7064	170M7084	170M7104	170M7124
		3500	3,250,000	22,000,000	325	170M7065	170M7085	170M7105	170M7125
	600 V a.c. (IEC & UL)	4000	4,700,000	28,000,000 <sup>1</sup>	355	170M7066	170M7086	170M7106	170M7126

<sup>1</sup> Clearing at 600 V a.c.

#### Dimensions (mm) -BKN/65 and -GKN/65

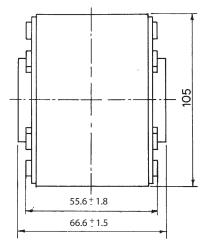


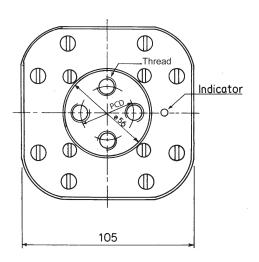
Туре	PCD	Thread
-GKN/65	Ø 38.1	UNC 1⁄2" - 13
-BKN/65	Ø 33	M-10



# 170M - Size 4, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 1000 A to 4000 A

Dimensions (mm) -B/65 and -G/65

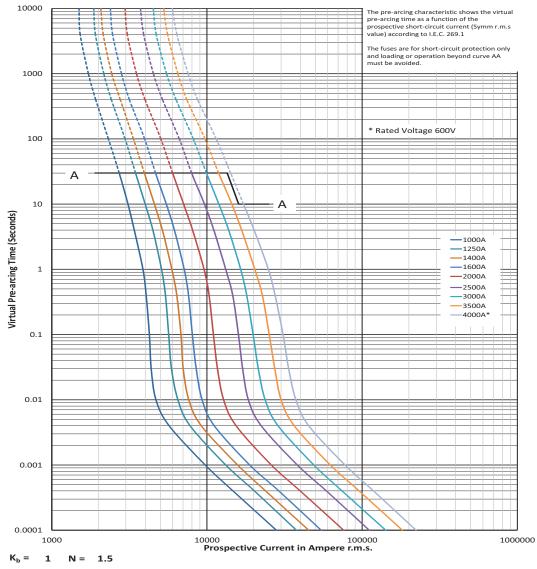




Type -B/65, -G/65

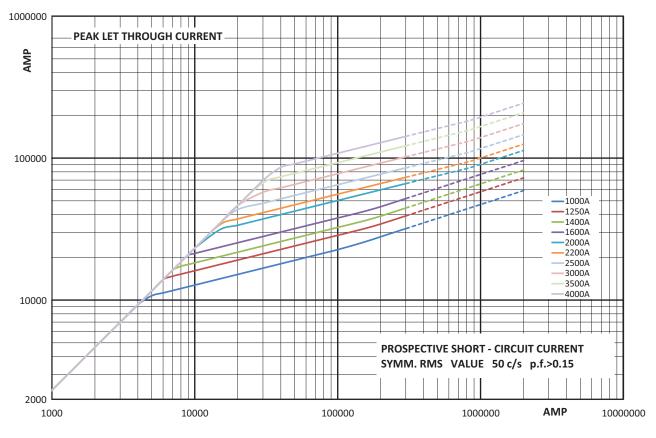
	PCD	Thread
-G/65	Ø 38.1	UNC 1⁄2" - 13
-B/65	Ø 33	M-10

Time-current curve - 1000 A to 4000 A



Data sheet: 170K6328

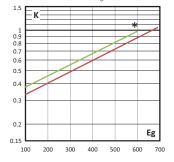
## 170M - Size 4, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 1000 A to 4000 A



Cut-off curve - 1000 A to 4000 A

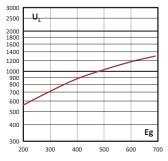
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{g'}$  (RMS).



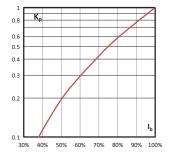
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



#### 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.



## 170M - Size 4, Flush end contact, 1000 V a.c. (IEC and IEC/UL), 1000 A to 3000 A

### **Specifications**

#### Description

Square body, flush end contact, high speed fuse links, for the protection of power rectifiers.

#### **Technical data**

- Rated voltage: 1000 V a.c. (IEC and IEC/UL)
- Rated current: 1000 A to 3000 A
- Breaking capacity:
  - IEC Certified catalogue numbers 200 kA RMS Sym
  - IEC and UL Certified catalogue numbers: 100 kA RMS Sym
- Operating class: aR

#### Standards / Agency information

CE, Designed and tested to IEC 60269 Part 4

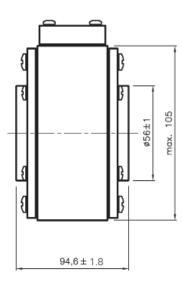
-UL catalogue numbers are IEC 60269 Part 4 and UL 248-13 certified

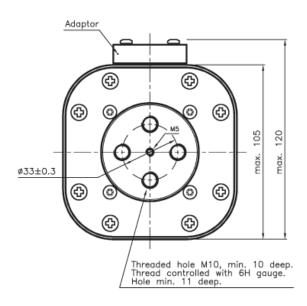
#### **Catalogue numbers**



Fuse			I²t (A² Sec)		_	Catalogue numbers			
link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 1000 V a.c.	Watts loss (W)	-BKN/95 Type K indicator with IEC certification only	-BKN/95 Type K indicator with IEC and UL Certification	-SBKN/90 Type K indicator with IEC certification only	-SBKN/90 Type K indicator with IEC and UL Certication
		1000	180,000	1,100,000	195			170M7542	170M7542-UL
		1100	250,000	1,500,000	200			170M7031	170M7031-UL
		1500	600,000	3,600,000	250	170M7636	170M7636-UL	170M7548	170M7548-UL
		1700	850,000	5,000,000	260	170M7639	170M7639-UL	170M7034	170M7034-UL
4	1000	1800	1,000,000	5,950,000	265	170M7661	170M7661-UL	170M7053	170M7053-UL
4	V a.c.	2000	1,450,000	8,600,000	270	170M7963	170M7963-UL	170M7544	170M7544-UL
		2200	2,000,000	12,000,000	280	170M7090	170M7090-UL	170M7035	170M7035-UL
		2500	3,000,000	18,000,000	295	170M7640	170M7640-UL	170M7036	170M7036-UL
		2700	3,700,000	22,000,000	310	170M7658	170M7658-UL	170M7037	170M7037-UL
		3000	4,700,000	28,000,000	380	170M7962	170M7962-UL	170M7156	170M7156-UL

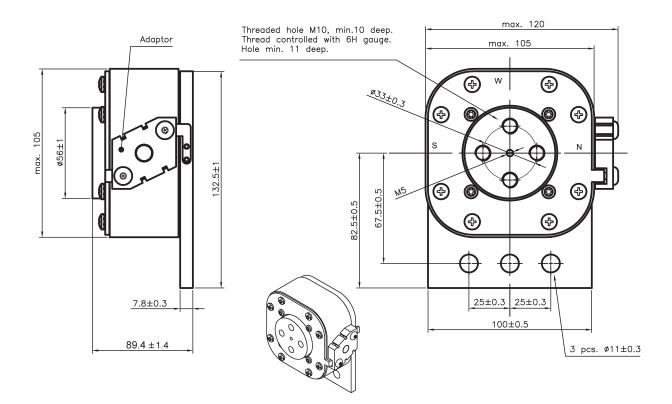
#### Dimensions (mm) - 4BKN/95





## 170M - Size 4, Flush end contact, 1000 V a.c. (IEC and IEC/UL), 1000 A to 3000 A

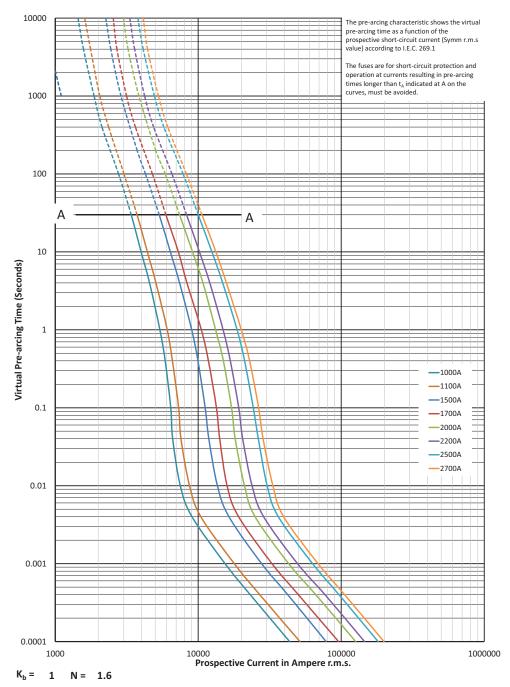
Dimensions (mm) - 4SBKN/90



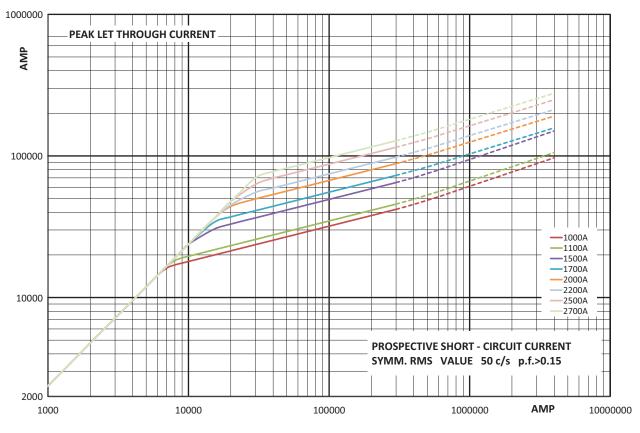
**EATON** Eaton's Bussmann series IEC High speed fuse links catalogue

# 170M - Size 4, Flush end contact, 1000 V a.c. (IEC and IEC/UL), 1000 A to 3000 A

Time-current curve - IEC Certified fuses - 1000 A to 2700 A



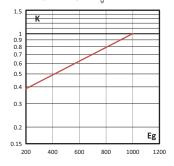
## 170M - Size 4, Flush end contact, 1000 V a.c. (IEC and IEC/UL), 1000 A to 3000 A



Cut-off curve - IEC Certified fuses - 1000 A to 2700 A

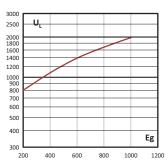
### Total clearing l<sup>2</sup>t

The total clearing  $l^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $l^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



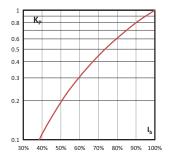
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



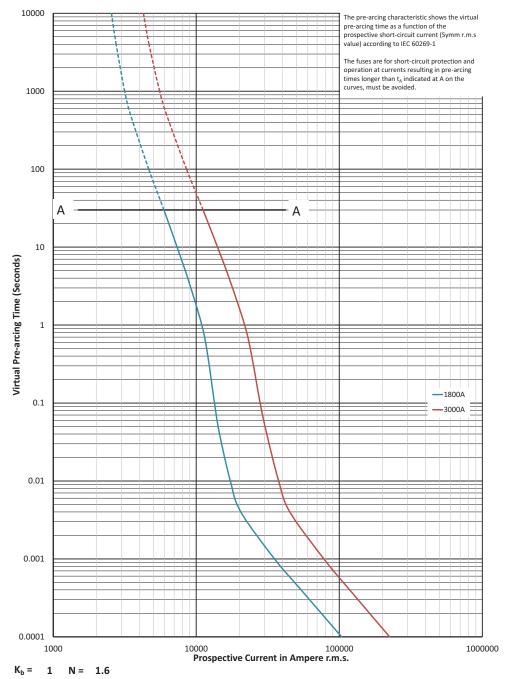
#### Watts losses

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.

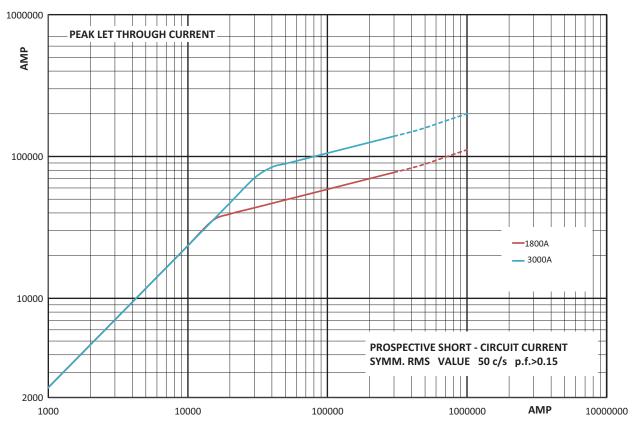


# 170M - Size 4, Flush end contact, 1000 V a.c. (IEC and IEC/UL), 1000 A to 3000 A

### Time-current curve - IEC Certified fuses - 1800 A and 3000 A



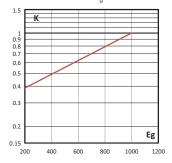
## 170M - Size 4, Flush end contact, 1000 V a.c. (IEC and IEC/UL), 1000 A to 3000 A



Cut-off curve - IEC Certified fuses - 1800 A and 3000 A

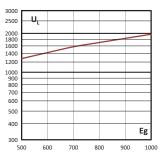
### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



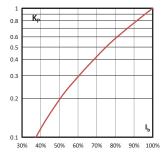
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{q}$ , (RMS) at a power factor of 15 percent.



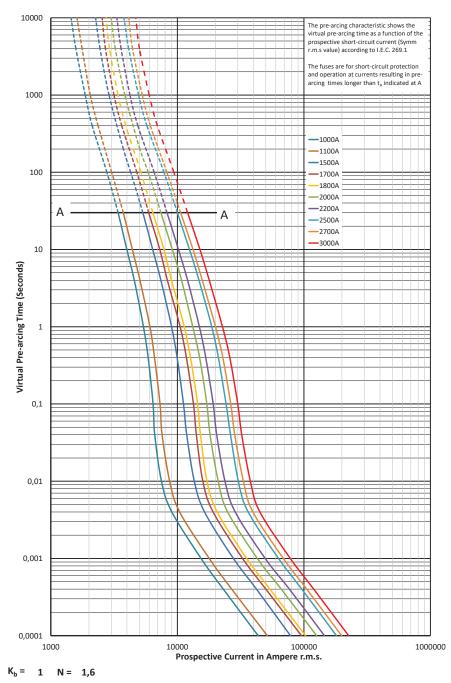
#### Watts losses

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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



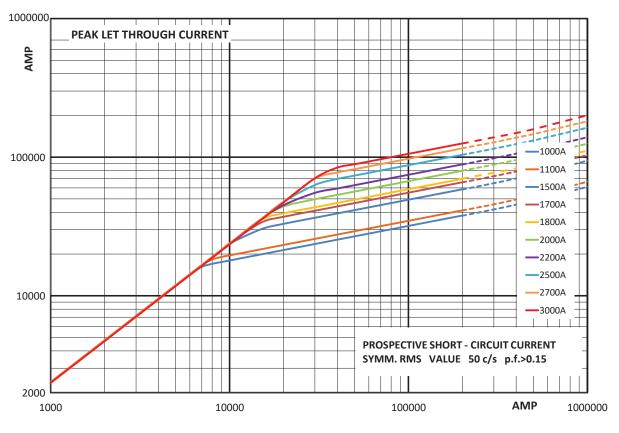
# 170M - Size 4, Flush end contact, 1000 V a.c. (IEC and IEC/UL), 1000 A to 3000 A

Time-current curve - IEC and UL Certified fuses - 1000 A to 3000 A



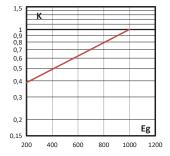
## 170M - Size 4, Flush end contact, 1000 V a.c. (IEC and IEC/UL), 1000 A to 3000 A

Cut-off curve - IEC and UL Certified fuses - 1000 A to 3000 A



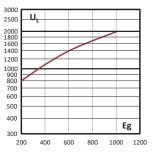
#### Total clearing l<sup>2</sup>t

The total clearing  $l^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $l^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



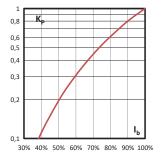
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{q}$ , (RMS) at a power factor of 15 percent.



#### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



# 170M - Size 4, Flush end contact, 1250 V a.c. (IEC), 800 A to 2500 A

## **Specifications**

### Description

Square body, flush end contact, high speed fuse links, for the protection of power rectifiers.

### **Technical data**

- Rated voltage:
- 1250 V a.c. (IEC)
- 1200 V d.c. (UL)
- Rated current: 800 A to 2500 A
- Operating class: aR

### Standards / Agency information

CE, Designed and tested to IEC 60269 Part 4, UL



#### **Catalogue numbers**

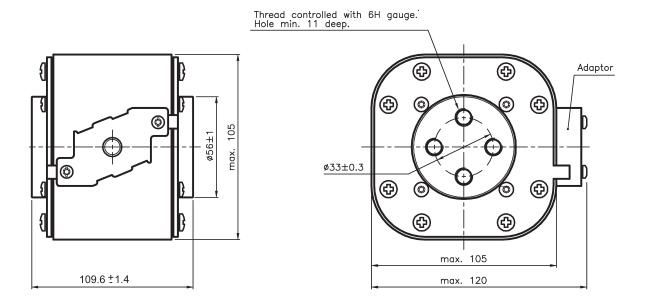
Fuse link	AC		DC		— Rated	I²t (A² Sec)	l²t (A² Sec)		Catalogue number	Catalogue numbers		
body size	Rated voltage	Breaking capacity	Rated voltage	Breaking capacity	current (Amps)	Pre-arcing	Clearing at 1250 V a.c.	<ul> <li>Watts</li> <li>loss</li> <li>(W)</li> </ul>	-BKN/110 Type K indicator	-SBKN/105 Type K indicator		
					800	145,000	905,000	195	170M7802	-		
					1000	275,000	1,750,000	220	170M7803	-		
					1200	495,000	3,100,000	240	170M7804	-		
					1400	800,000	5,000,000	250	170M72171	170M7512		
		100 kA	1000 V d.c.	180 ka ir ul 85 ka ir ul	1500	1,000,000	6,200,000	260	170M7597	170M7510		
4	1250 V a.c.				1700	1,400,000	8,700,000	275	170M7676	170M7511		
			1200 V d.c.		1800	1,700,000	11,000,000	280	170M7532	170M7976		
					2000	2,300,000	14,500,000	305	170M7633	170M7513		
					2200	3,100,000	19,500,000	315	170M7592	170M7546		
					2400	4,000,000	25,000,000	330	170M7107	170M7516		
					2500	4,500,000	28,000,000	340	170M7595 <sup>2</sup>	170M7978		

<sup>1</sup> 170M7217 rated 850 V d.c./1250 V a.c. (IEC), 1000 V d.c. 180 kA IR (UL), 1200 V d.c. 85 kA IR (UL)

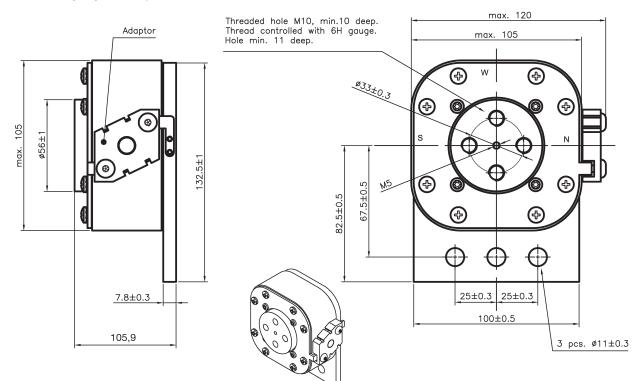
<sup>2</sup> 170M7595 rated at 1200V d.c. 85kA only at 2ms time constant

## 170M - Size 4, Flush end contact, 1250 V a.c. (IEC), 800 A to 2500 A

Dimensions (mm) - 4BKN/110

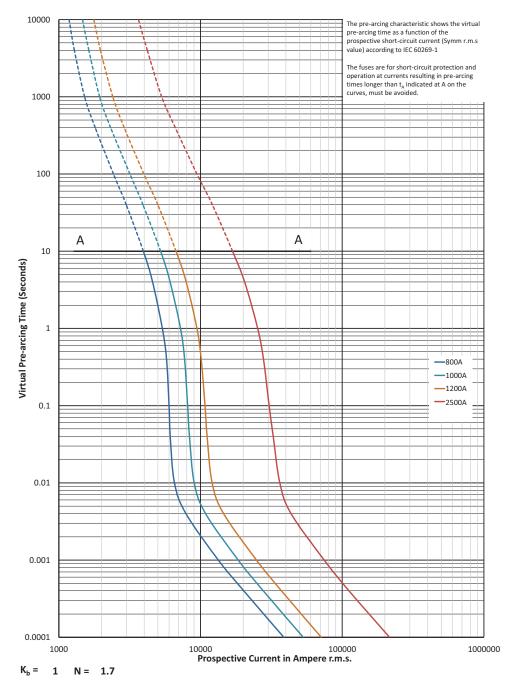


Dimensions (mm) - 4SBKN/105



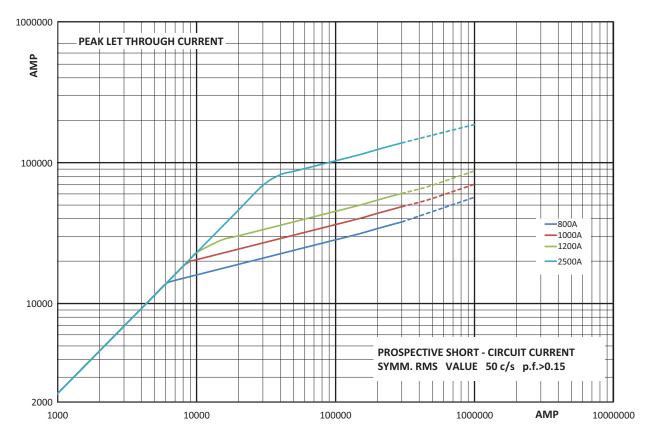
## 170M - Size 4, Flush end contact, 1250 V a.c. (IEC), 800 A to 2500 A

Time-current curve - 800 A to 2500 A



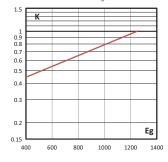
## 170M - Size 4, Flush end contact, 1250 V a.c. (IEC), 800 A to 2500 A

Cut-off curve - 800 A to 2500 A



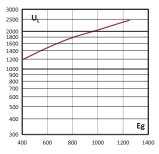
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



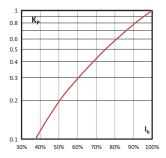
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{g}$ , (RMS) at a power factor of 15 percent.



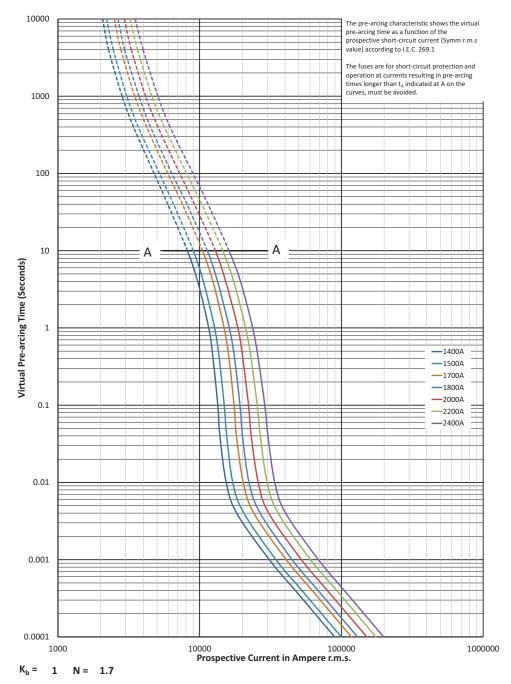
#### Watts losses

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.



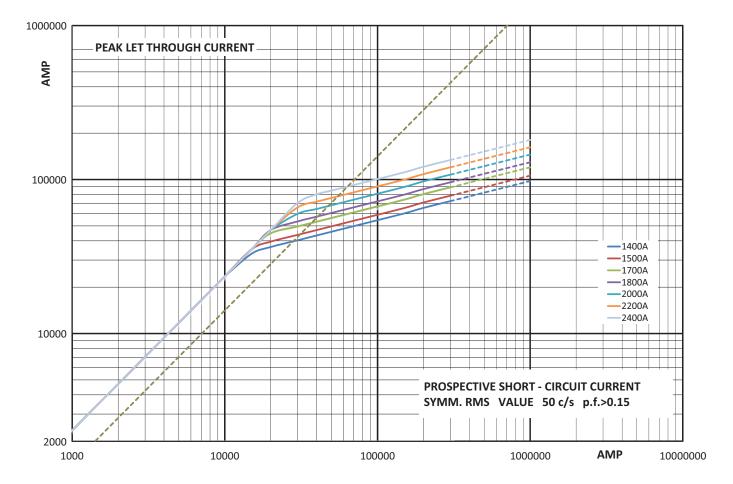
## 170M - Size 4, Flush end contact, 1250 V a.c. (IEC), 800 A to 2500 A

Time-current curve - 1400 A to 2400 A



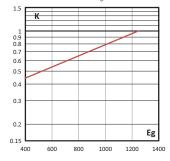
## 170M - Size 4, Flush end contact, 1250 V a.c. (IEC), 800 A to 2500 A

Cut-off curve - 1400 A to 2400 A



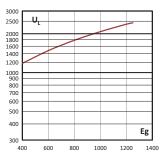
### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{\alpha}$ , (RMS).



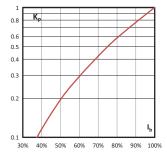
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



#### 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.



# 170M - Size 23, Flush end contact, 660 V a.c. (IEC), 1000 A to 4000 A

## **Specifications**

### Description

Square body, flush end contact, high speed fuse links, for the protection of power rectifiers.

### Technical data

- Rated voltage:
  - 660 V a.c. (IEC, 1000 A to 3000 A)
  - 600 V a.c. (IEC, 3500 A)
- 550 V a.c. (IEC, 4000 A)
- Rated current: 1000 A to 4000 A
- Breaking capacity: 100 kA RMS Sym
- Operating class: aR

### Standards / Agency information

CE, Designed and tested to IEC 60269 Part 4

### **Catalogue numbers**



			I²t (A² Sec)		_	Catalogue n	umbers				
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 660 V a.c.	Watts loss (W)	-BU/55	-BKE/55 Type K indicator	-BKN/55 Type K indicator	-GU/55	-GKE/55 Type K Indicator	-GKN/55 Type K Indicator
		1000	79,000	530,000	170	170M6858	170M6898	170M6878	170M6918	170M6958	170M6938
		1100	95,000	635,000	185	170M6859	170M6899	170M6879	170M6919	170M6959	170M6939
		1250	155,000	1,050,000	190	170M6860	170M6900	170M6880	170M6920	170M6960	170M6940
		1400	200,000	1,350,000	210	170M6861	170M6901	170M6881	170M6921	170M6961	170M6941
		1500	240,000	1,650,000	215	170M6862	170M6902	170M6882	170M6922	170M6962	170M6942
	660 V a.c. (IEC)	1600	315,000	2,150,000	220	170M6863	170M6903	170M6883	170M6923	170M6963	170M6943
	(120)	1800	450,000	3,050,000	230	170M6864	170M6904	170M6884	170M6924	170M6964	170M6944
23		2000	625,000	4,200,000	240	170M6865	170M6905	170M6885	170M6925	170M6965	170M6945
		2200	805,000	5,400,000	255	170M6866	170M6906	170M6886	170M6926	170M6966	170M6946
		2500	1,250,000	8,350,000	265	170M6867	170M6907	170M6887	170M6927	170M6967	170M6947
		3000	2,250,000	15,500,000	285	170M6868	170M6908	170M6888	170M6928	170M6968	170M6948
	600 V a.c. (IEC)	3500	3,450,000	21,000,000 <sup>1</sup>	315	170M6869	170M6909	170M6889	170M6929	170M6969	170M6949
	550 V a.c. (IEC)	4000	5,000,000	27,500,000 <sup>2</sup>	340	170M6870	170M6910	170M6890	170M6930	170M6970	170M6950

<sup>1</sup> Clearing at 600 V a.c.

 $^{\rm 2}$  Clearing at 550 V a.c.

When using these fuse links, please consult Eaton for application assistance at bulehighspeedtechnical@eaton.com.

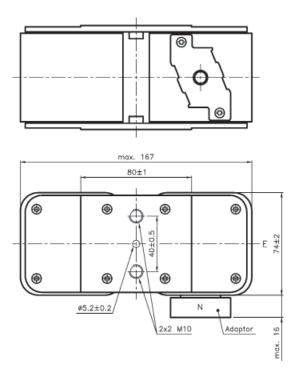
Data sheet: 170K6326

 $52 \pm 0.8$ 

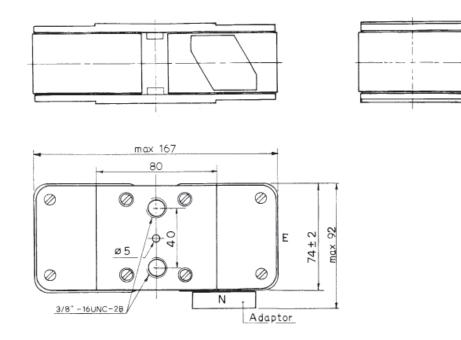
 $52 \pm 0.8$ 

# 170M - Size 23, Flush end contact, 660 V a.c. (IEC), 1000 A to 4000 A

Dimensions (mm) -BU/55, -BKE/55 and -BKN/55



Dimensions (mm) -GU/55, -GKE/55 and -GKN/55

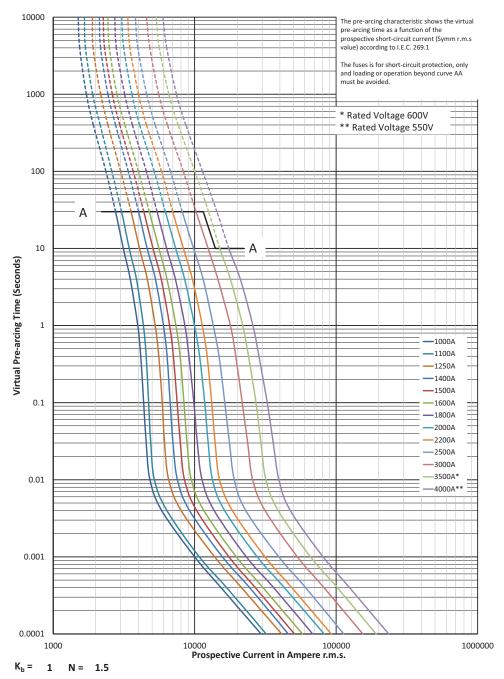


### Type -GU/55, -GKE/55, -GKN/55

When using these fuse links, please consult Eaton for application assistance at bulehighspeedtechnical@eaton.com.

## 170M - Size 23, Flush end contact, 660 V a.c. (IEC), 1000 A to 4000 A

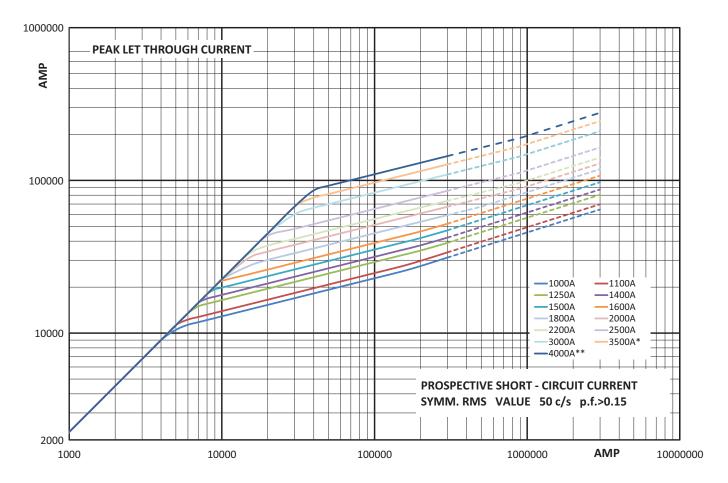
Time-current curve - 1000 A to 4000 A



Data sheet: 170K6326

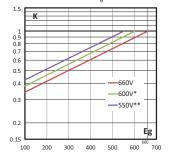
## 170M - Size 23, Flush end contact, 660 V a.c. (IEC), 1000 A to 4000 A

Cut-off curve - 1000 A to 4000 A



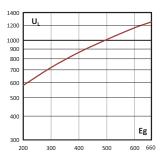
### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



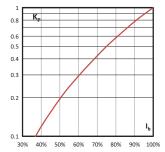
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



#### 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.



# 170M - Size 23, Flush end contact, 1250 V a.c. (IEC), 630 A to 2800 A

## **Specifications**

### Description

Square body, flush end contact, high speed fuse links, for the protection of power rectifiers.

### **Technical data**

- Rated voltage:
  - 1250 V a.c. (IEC 630 A to 2200 A)
  - 1100 V a.c. (IEC 2500 A and 2800 A)
- Rated current: 630 A to 2800 A
- Breaking capacity: 125kA RMS Sym
- Operating class: aR

### Standards / Agency information

CE, Designed and tested to IEC 60269 Part 4  $\,$ 

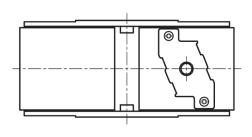
### Catalogue numbers

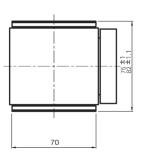


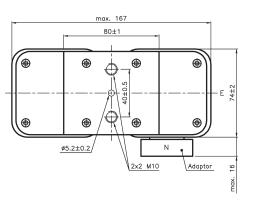
			I²t (A² Sec)			Catalogue n	umbers				
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 1250 V a.c.	Watts loss (W)	-BU/75 Visual indicator	-BKE/75 Type K indicator	-BKN/75 Type K indicator	-BU/80 Visual indicator	-BKE/80 Type K Indicator	-BKN/80 Type K Indicator
		630	38,000	310,000	170	170M6775	170M6795	170M6785			
		700	54,000	440,000	180	170M6776	170M6796	170M6786	_		
		800	78,000	640,000	190	170M6777	170M6797	170M6787	_		
	1250 V a.c. (IEC)	900	120,000	980,000	200	170M6805	170M6807	170M6806	_		
		1000	155,000	1,250,000	210	170M6778	170M6798	170M6788	_		
		1100	220,000	1,750,000	220	170M6779	170M6799	170M6789 <sup>3</sup>	_		
22		1250	330,000	2,700,000	230	170M6780	170M6800	170M6790	_		
23		1300	460,000	3,800,000	240	170M6781	170M6801	170M6791	_		
		1600	820,000	5,200,000	250	170M6782	170M6802	170M6792	_		
		1800	1,200,000	7,600,000	260	170M6783 <sup>2</sup>	170M6803 <sup>2</sup>	170M6793 <sup>2</sup>	_		
		2000	1,800,000	11,000,000	270				170M6784	170M6804	170M6794
		2100	2,300,000	14,500,000	280	_			170M6815	170M6833	170M6827
	1100 V a.c.	2500	3,200,000	16,000,000 <sup>1</sup>	290	_			170M6816	170M6834	170M6828
	(IEC)	2800	5,000,000	24,000,000 <sup>1</sup>	300	_			170M6817	170M6835	170M6829
<sup>1</sup> Clearing a	t 1000 V	<sup>2</sup> F	Rated voltage 9	00 V d.c. 10XIn §	90 kA	<sup>3</sup> 1000 V	d.c. UL 50 k	A IR			

When using these fuse links, please consult Eaton for application assistance at bulehighspeedtechnical@eaton.com.

### **Dimensions (mm)**



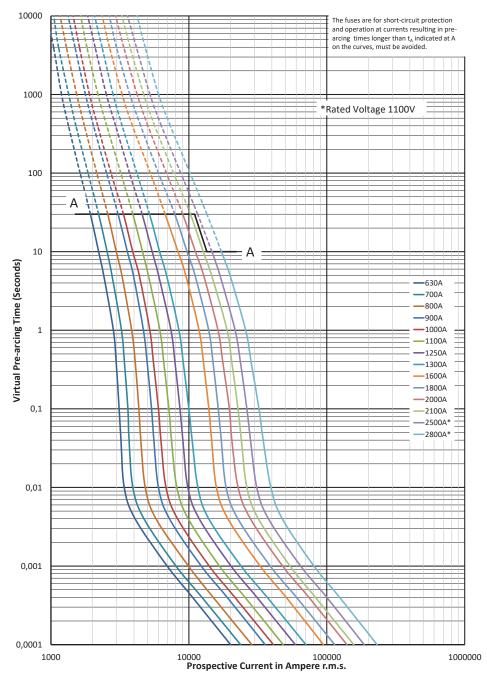




Data sheet: 170K6638

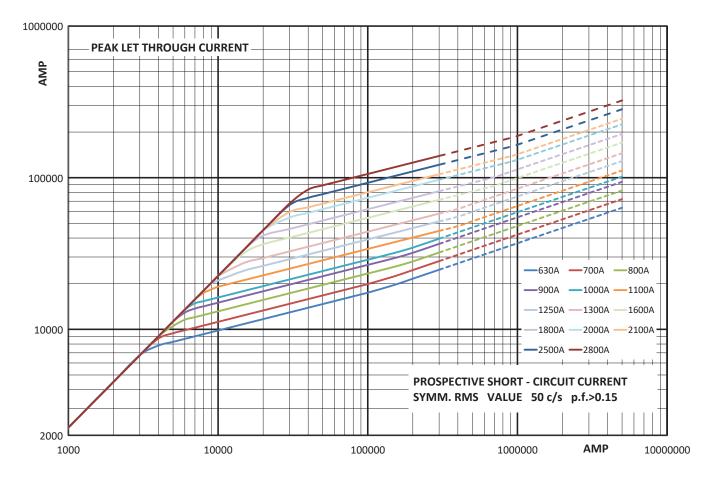
## 170M - Size 23, Flush end contact, 1250 V a.c. (IEC), 630 A to 2800 A

Time-current curve - 630 A to 2800 A



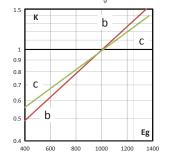
## 170M - Size 23, Flush end contact, 1250 V a.c. (IEC), 630 A to 2800 A

Cut-off curve - 630 A to 2800 A



### Total clearing l<sup>2</sup>t

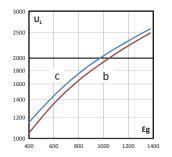
The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



B: fuses ≤ 1400 A C: fuses ≥ 1600 A

#### Arc voltage

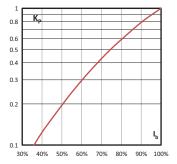
This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



B: fuses ≤ 1400 A C: fuses ≥ 1600 A

#### 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.



Data sheet: 170K6638

## 170M - Size 24, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 2000 A to 6500 A

### **Specifications**

### Description

Square body, flush end contact, high speed fuse links, for the protection of power rectifiers.

#### **Technical data**

- Rated voltage: 690 V a.c. (IEC) / 700 V a.c. (UL)
- Rated current: 2000 A to 6500 A
- Breaking capacity: 200 kA RMS Sym
- Operating class: aR

### Standards / Agency information

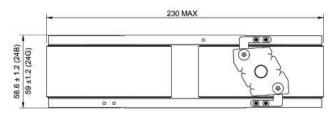
CE, Designed and tested to IEC 60269 Part 4, UL Recognised

#### **Catalogue numbers**

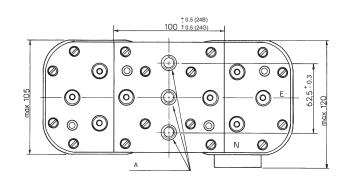


		Rated	I²t (A² Sec)			Catalogue numb	ers		
Fuse link body size Rated voltage	Rated voltage	current (Amps)	Pre-arcing	Clearing at 660 V a.c.	Watts loss (W)	-BU/60 Without indicator	-BKN/60 Type K indicator	-GU/60 Without indicator	-GKN/60 Type K indicator
		2000	340,000	2,300,000	340	170M7138	170M7158	170M7198	170M7218
		2500	650,000	4,350,000	390	170M7139	170M7159	170M7199	170M7219
		3000	1,100,000	7,300,000	430	170M7140	170M7160	170M7200	170M7220
		3500	1,800,000	12,000,000	460	170M7141	170M7161	170M7201	170M7221
24	690 V a.c. (IEC) 700 V a.c. (UL)	4000	2,700,000	18,000,000	490	170M7142	170M7162	170M7202	170M7222
24	700 V a.c. (OL)	4500	3,800,000	25,500,000	520	170M7143	170M7163	170M7203	170M7223
		5000	5,450,000	36,500,000	540	170M7144	170M7164	170M7204	170M7224
		5500	7,400,000	49,500,000	560	170M7145	170M7165	170M7205	170M7225
		6000	9,600,000	64,000,000	580	170M7146	170M7166	170M7206	170M7226
		6500	12,500,000	83,000,000	600	170M7147	170M7167	170M7207	170M7227

#### **Dimensions (mm)**



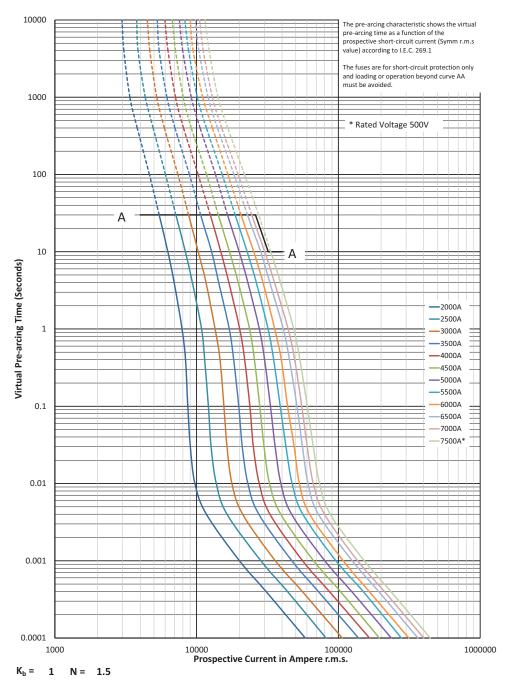
Size	Туре	Α
24	BKN	2x3 M12
24	GKN	2x3 ½" -13 UNC-2B



When using these fuse links, please consult Eaton for application assistance at bulehighspeedtechnical@eaton.com

## 170M - Size 24, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 2000 A to 6500 A

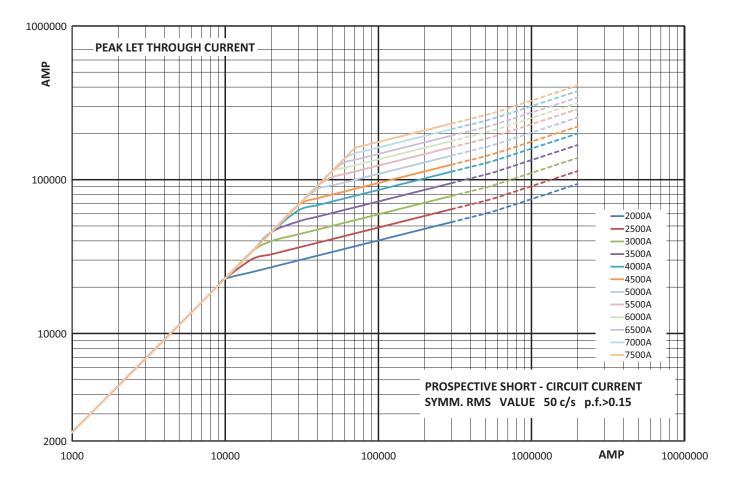
Time-current curve - 2000 A to 7500 A



Data sheet: 170K6332

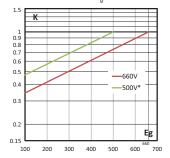
### 170M - Size 24, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 2000 A to 6500 A

Cut-off curve - 2000 A to 7500 A



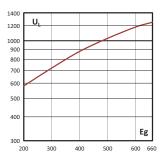
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



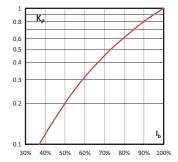
### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



#### 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.



## 170M - Size 24, Flush end contact, 1000 V a.c. (IEC and UL), 2000 A to 5000 A

### **Specifications**

### Description

Square body, flush end contact, high speed fuse links, for the protection of power rectifiers.

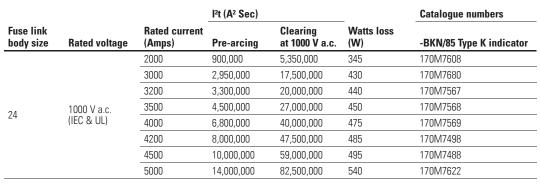
### **Technical data**

- Rated voltage: 1000 V a.c. (IEC and UL)
- Rated current: 2000 A to 5000 A
- Breaking capacity: 166 kA RMS Sym / 100 kA RMS (UL)
- Operating class: aR

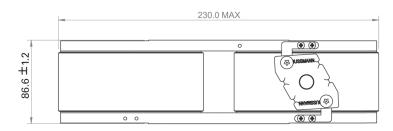
### Standards / Agency information

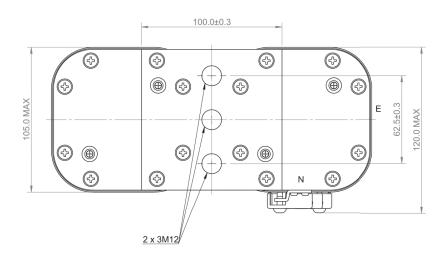
CE, Designed and tested to IEC 60269 Part 4, UL Recognised

#### **Catalogue numbers**



### **Dimensions (mm)**





The normal position of the indicator is as shown position N, position E on request only

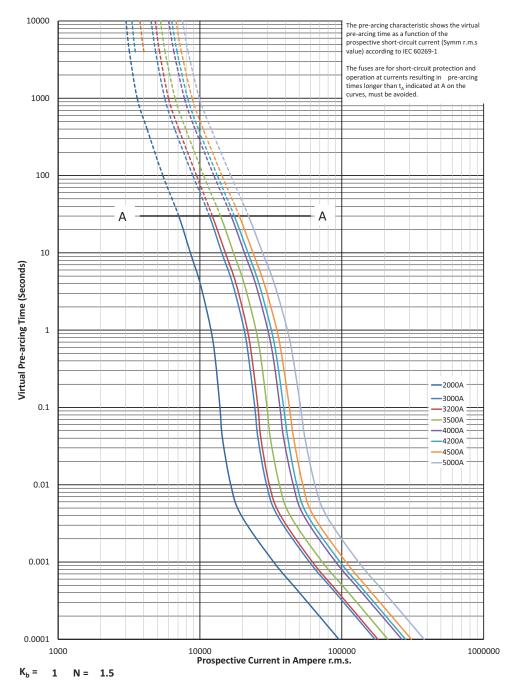
When using these fuse links, please consult Eaton for application assistance at bulehighspeedtechnical@eaton.com.

Data sheets: 170K8514



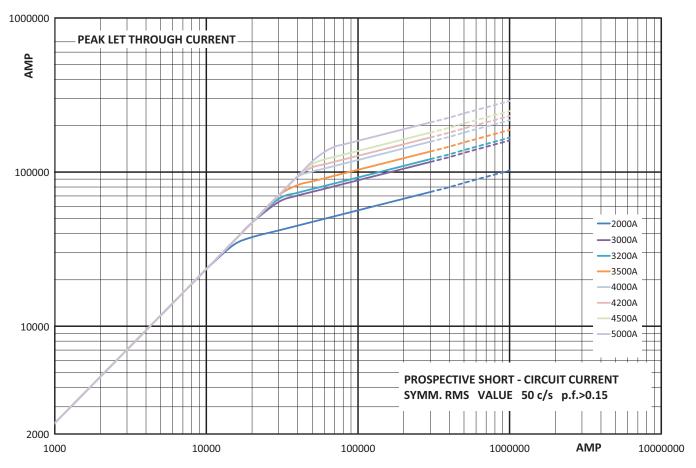
## 170M - Size 24, Flush end contact, 1000 V a.c. (IEC and UL), 2000 A to 5000 A

Time-current curve - 2000 A to 5000 A



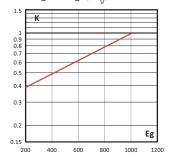
## 170M - Size 24, Flush end contact, 1000 V a.c. (IEC and UL), 2000 A to 5000 A

Cut-off curve - 2000 A to 5000 A



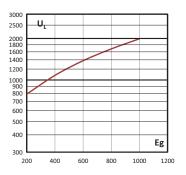
### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



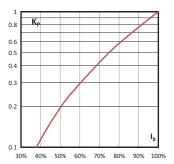
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



### 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.



### 170M - Size 5, Flush end contact, 1100-2000 V a.c. (IEC), 1800 A to 5500 A

### **Specifications**

### **Description**

Square body flush end contact high speed fuse links, for the protection or isolation for components such as diodes, silicon controlled rectifiers (SCRs), Gate Turn-Off Thrystors (GTOs) and IGBTs. Typical application include AC and DC drives, high power rectifiers.

### **Technical data**

- Rated voltage: 1100-2000 V a.c. (IEC)
- Rated current: 1800 A to 5500 A
- Breaking capacity: 300 kA RMS Sym. estimated: 197 kA tested
- Operating class: aR

#### **Standards / Agency information**

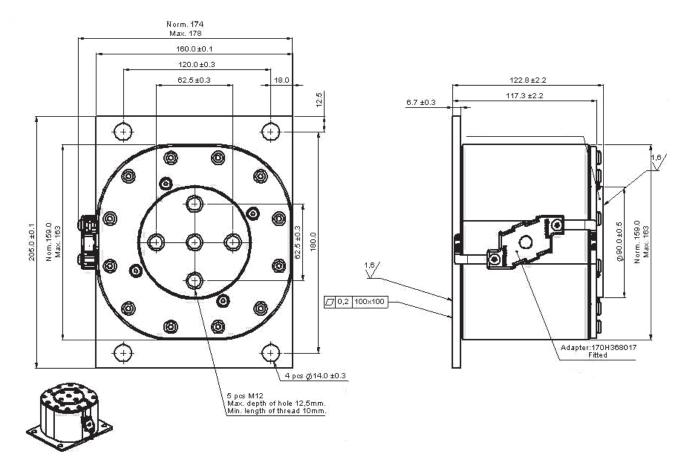
Consult Eaton bulehighspeedtechnical@eaton.com

### **Catalogue Numbers**

Consult Eaton bulehighspeedtechnical@eaton.com

**Dimensions (mm)** 





This dimension drawing is an example of the range of size 5 fuse links available.

## DFJ - Drive fuse links, 600 V a.c. / 450 V d.c. (UL), 1 A to 600 A

### **Specifications**

### Description

Bolted tags high speed fuse links that provide maximum protection for AC and DC drives and controllers. The DFJ fuse link has the lowest I2t of any branch circuit fuse to protect power semi-conductor devices that utilise diodes, GTOs, SCRs and SSRs. The DFJ fuse links combine the performance of high speed fuse links and the convenience of Class J branch circuit fuse links, allowing the use of readily available Class J fuse blocks, holders and switches.

### **Technical data**

- Rated voltage: 600 V a.c. / 450 V d.c. (UL)
- Rated current: 1 A to 600 A
- Breaking capacity: 200 kA RMS Sym., 100 kA DC
- Operating class: aR
- •

#### Standards / Agency information

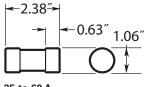
UL Listed, Std 248-8, Class J, Guide JDDZ, File E4273 CSA Certified, C22-2 No 248.8, Class 1422-02, File 53787 meets NEC branch circuit protection.

#### **Catalogue numbers**

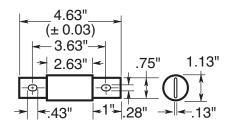
Rated voltage	Rated current (Amps)	Catalogue numbers
	1	DFJ-1
	2	DFJ-2
	3	DFJ-3
	4	DFJ-4
	5	DFJ-5
	6	DFJ-6
	8	DFJ-8
600 V a.c./	10	DFJ-10
450 V d.c.	12	DFJ-12
(UL)	15	DFJ-15
	20	DFJ-20
	25	DFJ-25
	30	DFJ-30
	40	DFJ-40
	45	DFJ-45
	50	DFJ-50
	60	DFJ-60
600 700	70	DFJ-70
600 -700 V a.c./	80	DFJ-80
450 V d.c.	90	DFJ-90
(UL)	100	DFJ-100
	110	DFJ-110
	125	DFJ-125
	150	DFJ-150
	175	DFJ-175
	100	DFJ-100
600 V a.c./	225	DFJ-225
450 V d.c.	250	DFJ-250
(UL)	300	DFJ-300
	350	DFJ-350
	400	DFJ-400
	450	DFJ-450
	500	DFJ-500
	600	DFJ-600

Dimensions (in)

<mark>≺</mark> 2.25 <del>″≻</del>	
	<b>-</b> −0.50″ 0.81″

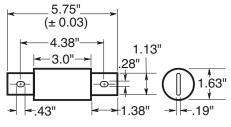


35 to 60 A



70 to 100 A

1 to 30 A



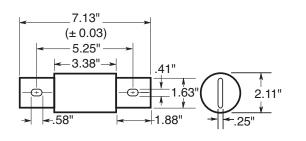


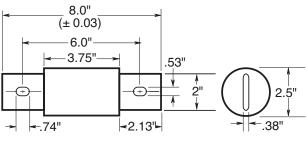
Data sheet: 1048



## DFJ - Drive fuse links, 600 V a.c. / 450 V d.c. (UL), 1 A to 600 A

**Dimensions (in)** 

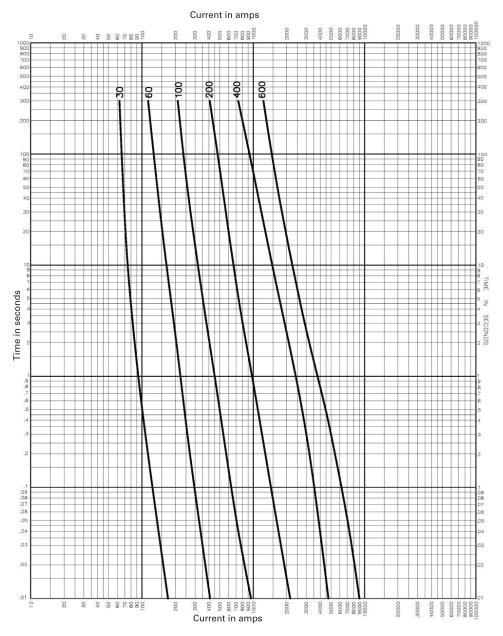




225 to 400 A



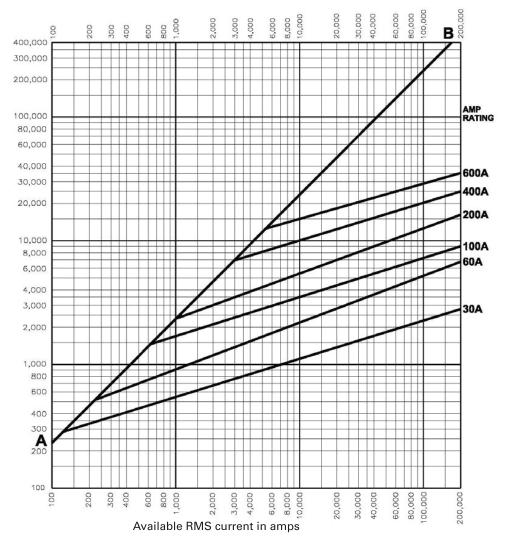
#### Time-current curve - 30 A to 600 A



Data sheet: 1048

## DFJ - Drive fuse links, 600 V a.c. / 450 V d.c. (UL), 1 A to 600 A

Cut-off curve - 30 A to 600 A



Peak current in amps

Data sheet: 1048

260

## 170M - Sizes 000 and 230, IGBT fuse links, 750 V d.c. (IEC), 800 V d.c. (UL), 25 A to 630 A

### **Specifications**

### Description

Bolted tags high speed fuse links for the protection of IGBT modules, optimised for use in IGBT inverter circuits with DC link rated voltages up to 750 V d.c.. Low inductance  $\leq$  15nH.

### **Technical data**

- Rated voltage:
  - 750 V d.c. tested at 863V d.c. according to IEC 60269-4
  - 800 V d.c. tested at 800 V d.c. according to UL 248-1
- Rated current: 25 A to 630 A
- Breaking capacity: 50 kA DC (1ms tc) at 800 V d.c.
- Operating class: aR

#### **Standards / Agency information**

UL DC Recognised, 800 V d.c. L/R 1 mS max

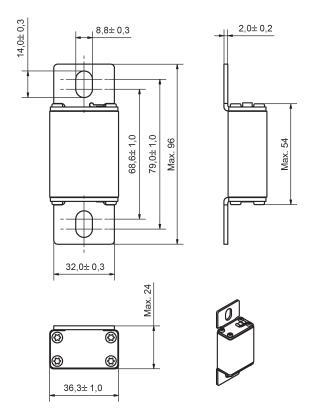


#### **Catalogue numbers**

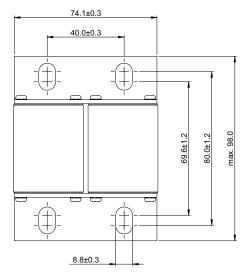
Fuse link		Rated current	I²t (A² Sec)	<sup>2</sup> t (A <sup>2</sup> Sec) Watts loss		Catalogue numbers		
body size	Rated voltage	(Amps)	Pre-arcing	(W)	-FU/70	-FN/70		
		25	25	12	170M1750	170M1730		
		32	45	13	170M1751	170M1731		
		40	75	14	170M1752	170M1732		
		50	135	16	170M1753	170M1733		
000		63	260	17	170M1754	170M1734		
	750 V d.c. (IEC)	80	460	20	170M1755	170M1735		
		100	795	25	170M1756	170M1736		
	800 V d.c. (UL)	125	1300	29	170M1757	170M1737		
		160	2550	34	170M1758	170M1738		
		200	4350	40	170M1759	170M1739		
		250	7400	48	170M1760	170M1740		
		315	12,500	60	170M1761	170M1741		
		350	17,000	65	170M1762	170M1742		
		100	380	35	170M1770	170M1785		
		125	645	42	170M1771	170M1786		
		160	1350	47	170M1772	170M1787		
		200	2550	54	170M1773	170M1788		
		250	4950	62	170M1774	170M1789		
230	750 V d.c. (IEC)	315	9350	72	170M1775	170M1790		
230	800 V d.c. (UL)	350	12,000	78	170M1776	170M1791		
		400	18,500	80	170M1777	170M1792		
		450	27,000	85	170M1778	170M1793		
		500	37,500	90	170M1779	170M1794		
		550	48,500	95	170M1780	170M1795		
		630	69,500	105	170M1781	170M1796		

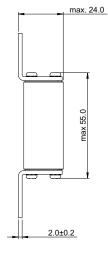
## 170M - Sizes 000 and 230, IGBT fuse links, 750 V d.c. (IEC), 800 V d.c. (UL), 25 A to 630 A

Dimensions (mm) - Size 000



### Dimensions (mm) - Size 230



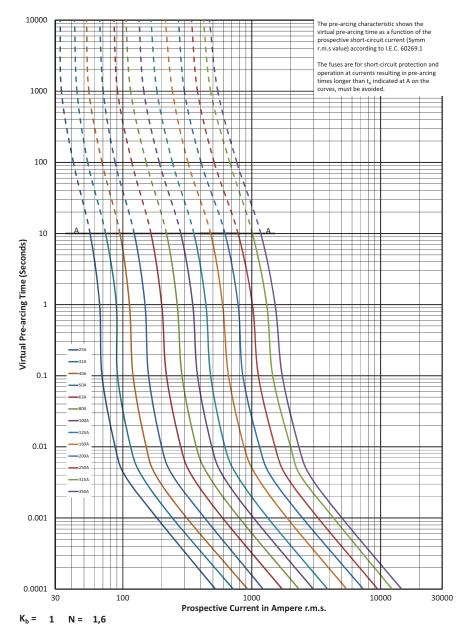


0	00	Ø
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_	max. 78.0	

Data sheets: 170K6422 (Size 000), 170K6426 (Size 230)

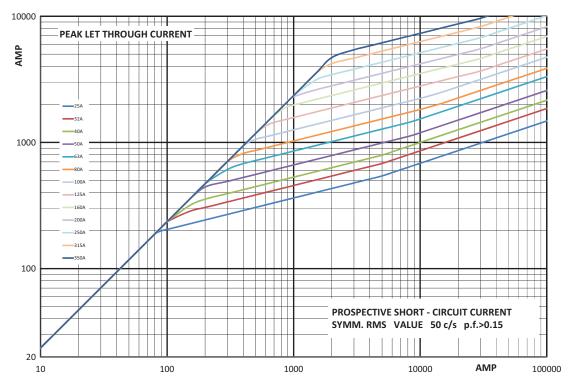
## 170M - Sizes 000 and 230, IGBT fuse links, 750 V d.c. (IEC), 800 V d.c. (UL), 25 A to 630 A

Time-current curve - Size 000, 25 A to 350 A



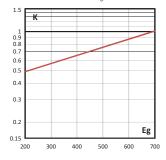
### 170M - Sizes 000 and 230, IGBT fuse links, 750 V d.c. (IEC), 800 V d.c. (UL), 25 A to 630 A

Cut-off curve - Size 000, 25 A to 350 A



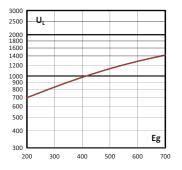
#### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{g}$ , (RMS).



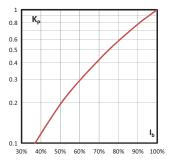
#### Arc voltage

This curve gives the peak arc voltage, U<sub>1</sub>, which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{a}$ , (RMS) at a power factor of 15 percent.



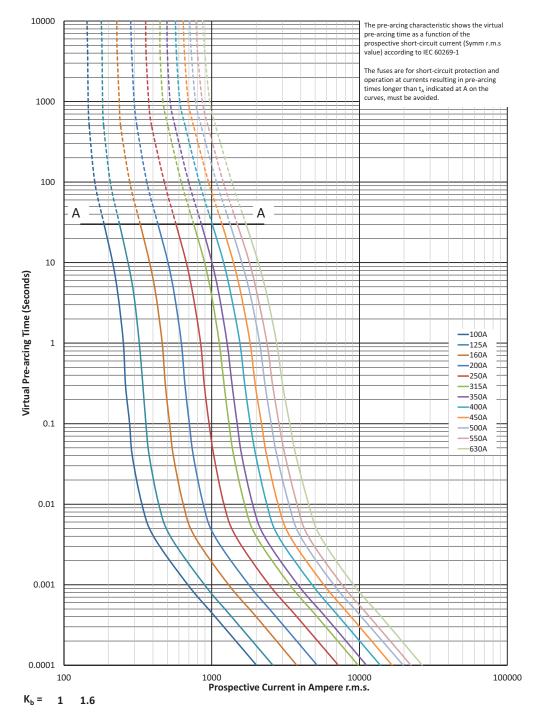
#### Watts losses

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,  $K_{_{\rm p}}$  , is given as a function of the RMS load current,  $\rm I_{_b}$  , in percent of the rated current.



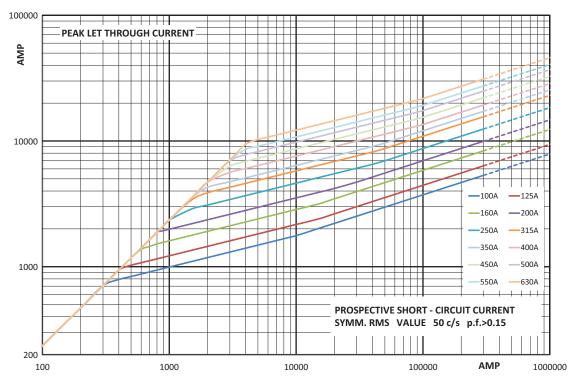
## 170M - Sizes 000 and 230, IGBT fuse links, 750 V d.c. (IEC), 800 V d.c. (UL), 25 A to 630 A

Time-current curve - Size 230, 100 A to 630 A



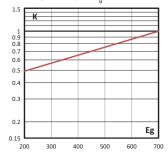
### 170M - Sizes 000 and 230, IGBT fuse links, 750 V d.c. (IEC), 800 V d.c. (UL), 25 A to 630 A

Cut-off curve - Size 230, 100 A to 630 A



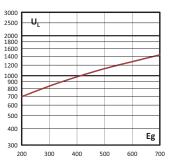
#### **Total clearing l<sup>2</sup>t**

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{g'}$  (RMS).



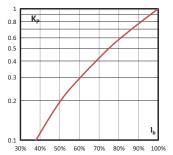
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{q}$ , (RMS) at a power factor of 15 percent.



#### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



## 170M - Sizes 000 and 230, IGBT fuse links, 1000 V d.c. (IEC and UL), 25 A to 500 A

### **Specifications**

### Description

High speed bolted tags high speed fuse links for the protection of IGBT modules, optimised for use in IGBT inverter circuits with DC link rated voltages up to 1000 V d.c.. Low inductance  $\leq$  20nH.

### **Technical data**

- Rated voltage: 1000 V d.c. tested at 1000 V d.c. according to UL 248-1
- Rated current: 25 A to 500 A
- Breaking capacity: 50 kA DC (1ms tc UL)
- Operating class: aR

### Standards / Agency information

UL DC Recognised, 1000 V d.c. L/R 1mS max.

CE

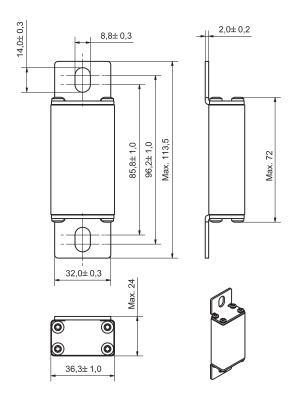


#### **Catalogue numbers**

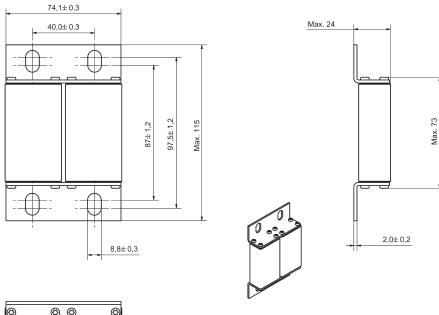
Fuse link body size		Rated current	I²t (A² Sec)	— Watts loss	Catalogue numbers		
	Rated voltage	(Amps)	Pre-arcing	(W)	-FU/90	-FN/90	
		25	19	14	170M1802	170M1842	
		32	34	17	170M1803	170M1843	
		40	61	20	170M1804	170M1844	
		50	135	21	170M1805	170M1845	
		63	245	22	170M1806	170M1846	
000	1000 \/ d a //    \	80	505	27	170M1807	170M1847	
000	1000 V d.c. (UL)	100	1050	32	170M1808	170M1848	
		125	1900	34	170M1809	170M1849	
		160	4050	37	170M1810	170M1850	
		200	8500	43	170M1811	170M1851	
		225	12,000	45	170M1812	170M1852	
		250	16,000	48	170M1813	170M1853	
		100	600	38	170M1824	170M1860	
		125	1200	42	170M1825	170M1861	
		160	2550	48	170M1826	170M1862	
		200	4650	55	170M1827	170M1863	
200	1000 \/ -1 - (111 \	250	9300	62	170M1828	170M1864	
230	1000 V d.c. (UL)	315	18,500	68	170M1829	170M1865	
		350	24,500	75	170M1830	170M1866	
		400	37,500	80	170M1831	170M1867	
		450	52,000	85	170M1832	170M1868	
		500	69,500	90	170M1833	170M1869	

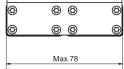
## 170M - Sizes 000 and 230, IGBT fuse links, 1000 V d.c. (IEC and UL), 25 A to 500 A

Dimensions (mm) - Size 000



Dimensions (mm) - Size 230

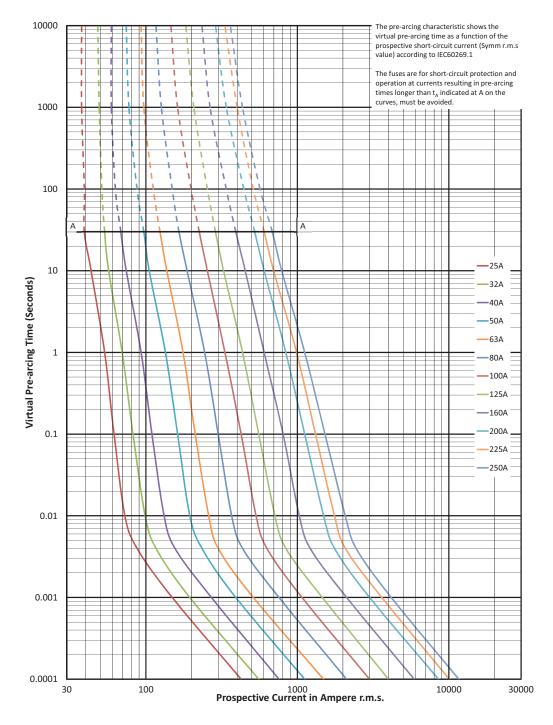




Data sheets: 170K6680 (Size 000), 170K6682 (Size 230)

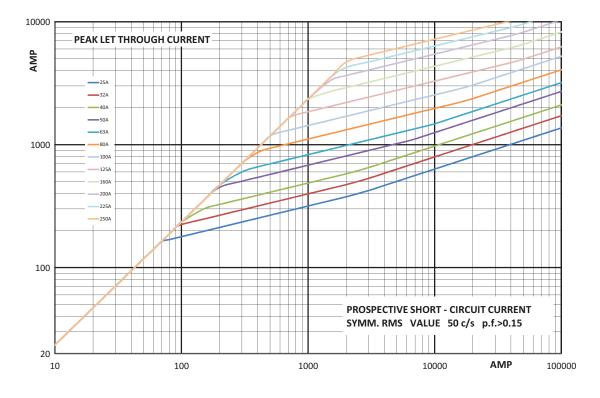
## 170M - Sizes 000 and 230, IGBT fuse links, 1000 V d.c. (IEC and UL), 25 A to 500 A

Time-current curve - Size 000, 25 A to 250 A



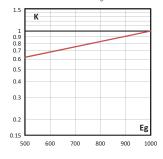
### 170M - Sizes 000 and 230, IGBT fuse links, 1000 V d.c. (IEC and UL), 25 A to 500 A

Cut-off curve - Size 000, 25 A to 250 A



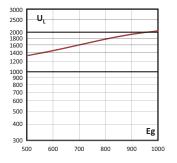
### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



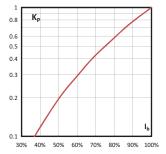
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{g}$ , (RMS) at a power factor of 15 percent.



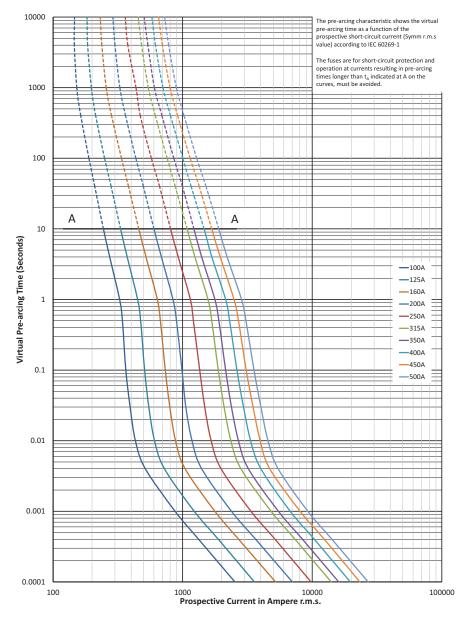
#### Watts losses

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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



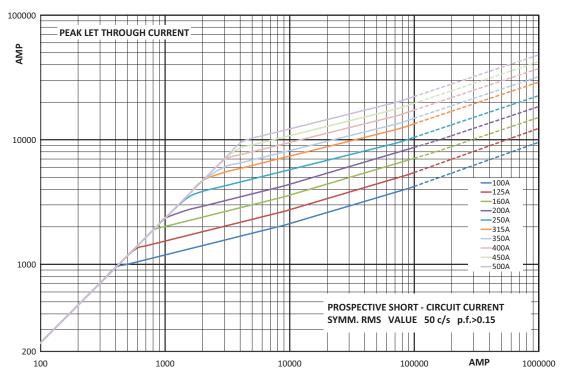
## 170M - Sizes 000 and 230, IGBT fuse links, 1000 V d.c. (IEC and UL), 25 A to 500 A

Time-current curve - Size 230, 100 A to 500 A



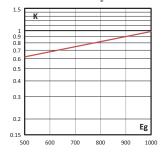
### 170M - Sizes 000 and 230, IGBT fuse links, 1000 V d.c. (IEC and UL), 25 A to 500 A

Cut-off curve - Size 230, 100 A to 500 A



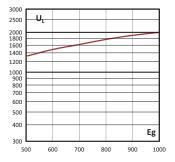
#### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{g'}$  (RMS).



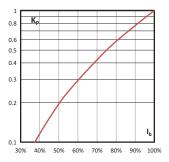
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



#### 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.



## 170M - Sizes 1\*, 3 and 23, Square body fuse links, 750 V d.c. (IEC), 50 A to 1600 A

### **Specifications**

### Description

Traction flush end square body high speed fuse links for superior protection of DC third rail applications up to 750 V d.c.

### **Technical data**

- Rated voltage: 750 V d.c. (IEC)
- Rated current: 50 A to 1600 A
- · Breaking capacity: see details in table below
- Operating class:
  - aR size 1\*
  - gR: size 1\* (at 900 V d.c.), 3 and 23

### **Standards / Agency information**

IEC 60269

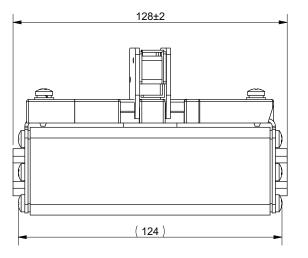


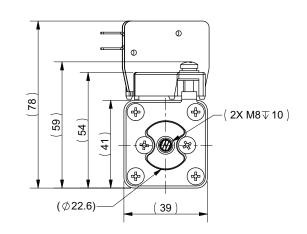
### Catalogue numbers

					I²t (A² Sec)		Watts loss (W)		
Fuse link type body size		Rated voltage	Rated current (Amps)	Breaking capacity	Pre-arcing	Clearing at 750 V d.c.	0.8 l <sub>n</sub>	In	Catalogue numbers
			50		390	1300	15	27	170M2000
		63	80 kA at 750 V d.c.	610	2050	18	35	170M2001	
Fluch and	Flush end 1*	750 V d.c. /	80	- L/R 65 ms	670	2250	19	37	170M2002
Flush enu		900 V d.c. (IEC)	100	80 kA at 900 V d.c.	2450	8150	21	40	170M2003
		125	- L/R 45ms	2950	9800	24	47	170M2004	
		160	-	5500	18,250	29	56	170M2005	
		450		65,700	272,300	46	87	170M2010	
		750 V d.c. (IEC)	500	100 kA at 700 V d.c. L/R 100 ms	83,200	344,800	52	98	170M2011
			550		136,700	566,500	67	126	170M2012
Flush end	3		630		173,500	719,000	75	142	170M2013
			700		268,000	1,110,500	78	156	170M2014
			750		307,600	1,275,000	83	167	170M2015
			800	-	349,900	1,450,000	89	178	170M2016
			1000		476,300	1,973,700	112	187	170M2017
			1250		694,000	2,875,800	134	224	170M2018
Parallel	23	800 V d.c. (IEC/ UL)	1400	100 kA at 800 V d.c., L/R 40 ms	1,071,600	4,440,500	152	254	170M2019
			1500	Lyff fo mo	1,230,200	5,097,700	165	275	170M2020
			1600	-	1,399,700	5,800,100	180	300	170M2021

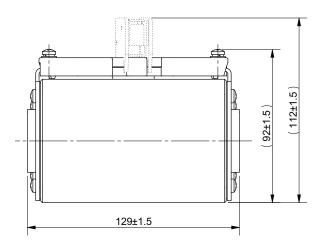
# 170M - Sizes 1\*, 3 and 23, Square body fuse links, 750 V d.c. (IEC), 50 A to 1600 A

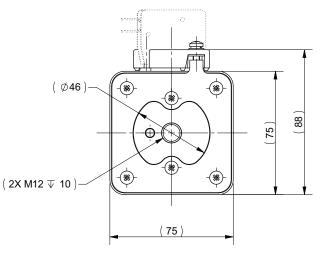
Dimensions (mm) - Size 1\*, 170M2000 to 170M2005, Flush end

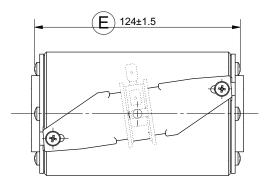




Dimensions (mm) - Size 3, 170M2010 to 170M2016, Flush end



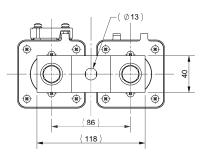


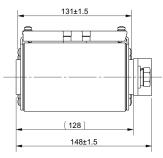


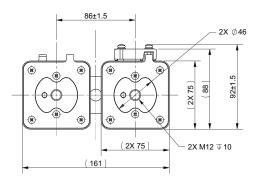
Data sheets: 720140, size 1\* 5785524, 3 5785521, 23 5785525

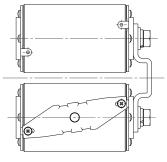
# 170M - Sizes 1\*, 3 and 23, Square body fuse links, 750 V d.c. (IEC), 50 A to 1600 A

Dimensions (mm) - Size 23, 170M2017 to 170M2021, Parallel

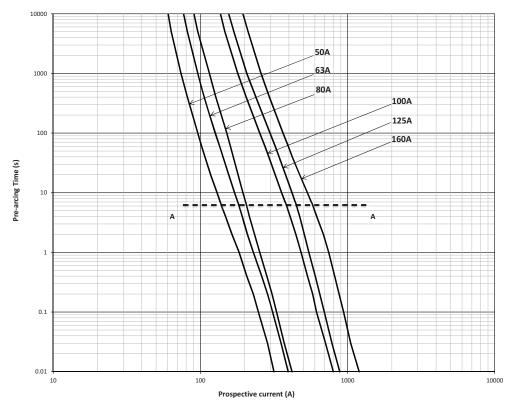






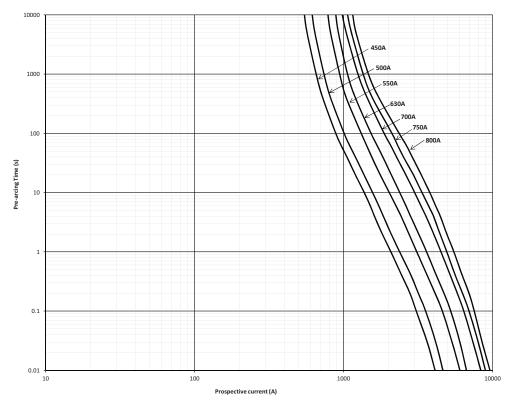


Time-current curve - 170M2000 to 170M2005, 50 A to 160 A

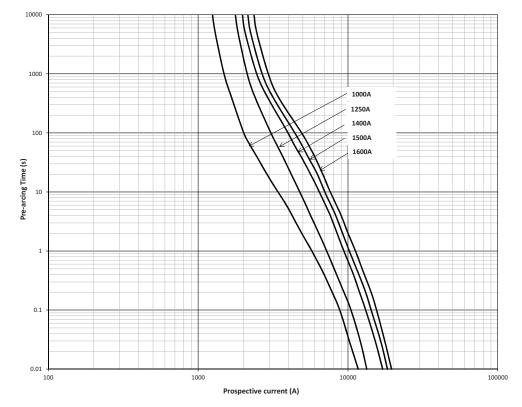


# 170M - Sizes 1\*, 3 and 23, Square body fuse links, 750 V d.c. (IEC), 50 A to 1600 A

Time-current curve - 170M2010 to 170M2016, 450 A to 800 A



Time-current curve - 170M2017 to 170M2021, 1000 A to 1600 A



Data sheet: 720140

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## 170E - Sizes 1\*, 1, 2 and 3, Square body fuse links, 750 V d.c. (IEC), 63 A to 500 A

### **Specifications**

### Description

Traction flush end square body high speed fuse links for superior protection of DC third rail applications up to 750 V d.c..

### **Technical data**

- Rated voltage: 750 V d.c. (IEC)
- Rated current: 63 A to 500 A
- Breaking capacity: see details below
- Operating class: gR

### **Standards / Agency information**

Consult Eaton bulehighspeedtechnical@eaton.com

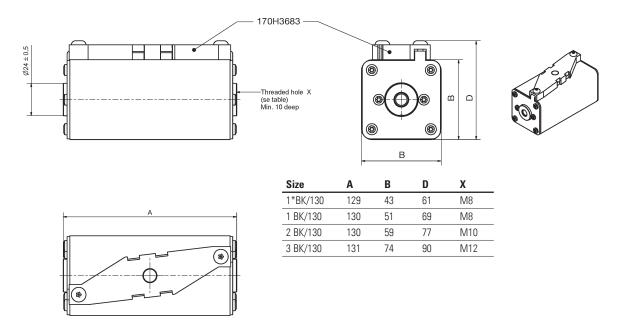


### **Catalogue numbers**

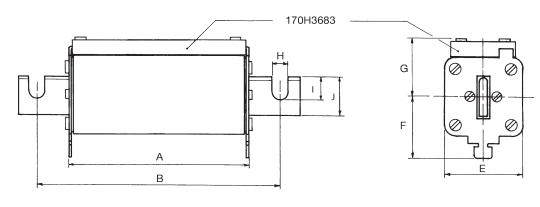
Fuse link		Breaking	Rated current	I²t (A²s)	— Watts loss	Catalogue numbers		Catalogue numbers	- Fuse link
body size	Rated voltage	capacity	(Amps)	Pre-arcing	(W)	-BK flush end	Fuse link type	-EK knife blade	
			63	1100	10	170E3577		170E3583	
			80	1750	13	170E3578	_	170E3584	-
1*	750 V d.c. (IEC)	80 kA at 43ms	100	3000	16	170E3579	_	170E3585	EK/155 
			125	4500	21	170E3580		170E3586	
			160	7700	26	170E3581		170E3587	
1	750 V d.c. (IEC)	EQ kA at 1Ema	200	11,000	37	170E5417	BK/130	170E5420	- EK/165
I	750 V U.C. (IEC)	50 kA at 15ms	250	18,000	46	170E5418		170E5421	- EK/105
			250	17,000	47	170E8335	_	170E8345	
2	2 750 V d.c. (IEC)	100 kA at 15ms	315	28,000	57	170E8336		170E8346	EK/170
		400	55,000	73	170E8337	-	170E8347	-	
3	750 V d.c. (IEC)	50 kA at 15 ms	500	75,500	93	170E9681	_	170E9685	EK/170

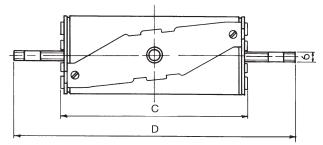
# 170E - Sizes 1\*, 1, 2 and 3, Square body fuse links, 750 V d.c. (IEC), 63 A to 500 A

Dimensions (mm) - BK/130



Dimensions (mm) - EK/



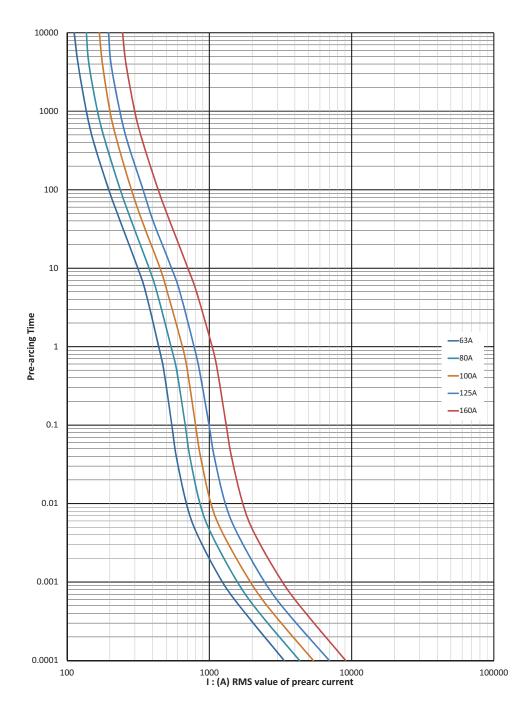


Size	Α	В	C	D	Е	F	G	Н	I	J
1*EK/155	124	156	129	180	43	36	41	9	9	18
1 EK/165	124	166	129	191	51	37	41	11	14	25
2 EK/170	124	170	129	205	59	42	48	13	21	30
3 EK/170	125	170	130	206	74	51	56	13	20	36

Data sheets: 170K3620 (size 1\*), 170k3622 (size 1), 170K3624 (size 2), 170K3626-A (size 3)

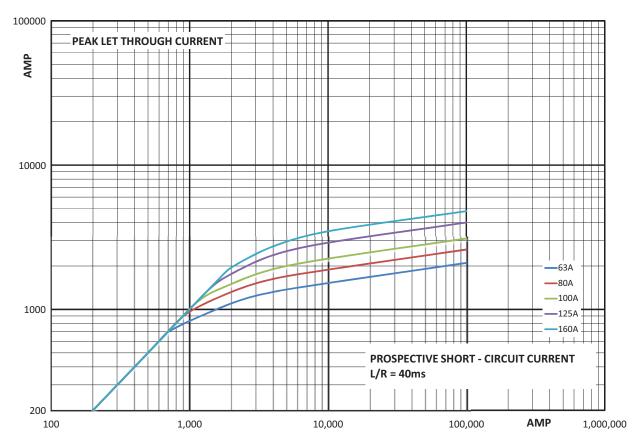
# 170E - Sizes 1\*, 1, 2 and 3, Square body fuse links, 750 V d.c. (IEC), 63 A to 500 A

Time-current curve - Size 1\*, 63 A to 160 A



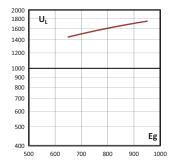
## 170E - Sizes 1\*, 1, 2 and 3, Square body fuse links, 750 V d.c. (IEC), 63 A to 500 A

Cut-off curve - Size 1\*, 63 A to 160 A



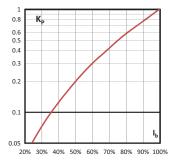
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



#### Watts losses

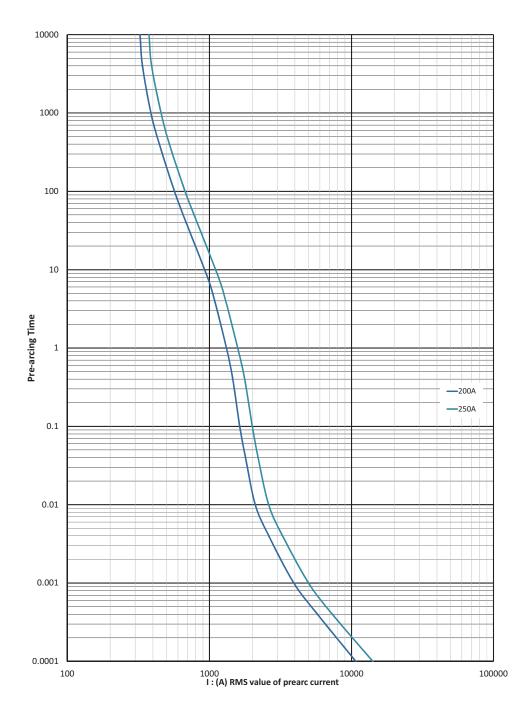
Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the watts losses at load currents lower than the rated current. The correction factor,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



Data sheets: 170K3620 (size 1\*), 170k3622 (size 1), 170K3624 (size 2), 170K3626-A (size 3)

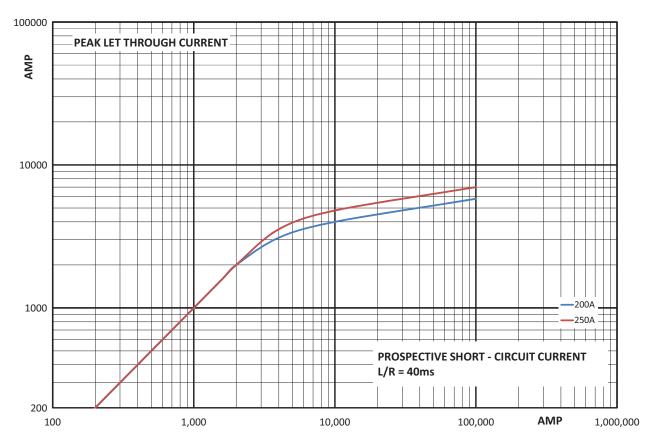
# 170E - Sizes 1\*, 1, 2 and 3, Square body fuse links, 750 V d.c. (IEC), 63 A to 500 A

Time-current curve - Size 1, 200 A and 250 A



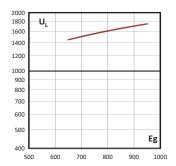
## 170E - Sizes 1\*, 1, 2 and 3, Square body fuse links, 750 V d.c. (IEC), 63 A to 500 A

Cut-off curve - Size 1, 200 A and 250 A



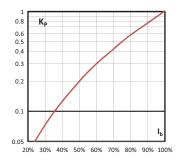
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



#### Watts losses

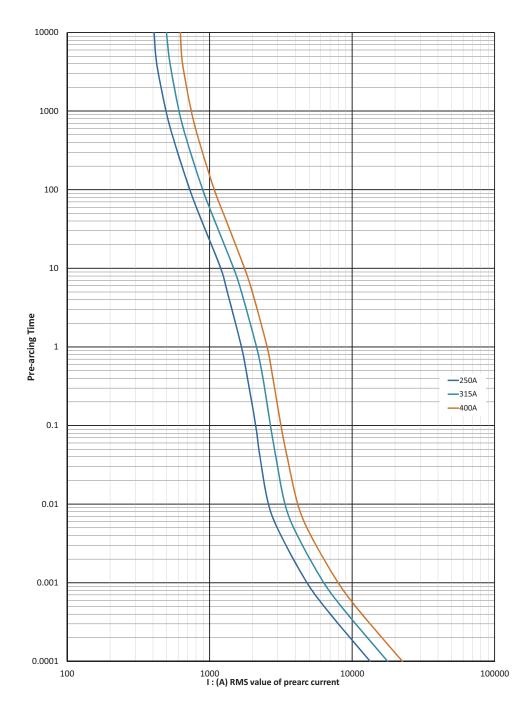
Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the watts losses at load currents lower than the rated current. The correction factor,  $K_p$ , is given as a function of the RMS load current,  $I_b$ , in percent of the rated current.



Data sheets: 170K3620 (size 1\*), 170k3622 (size 1), 170K3624 (size 2), 170K3626-A (size 3)

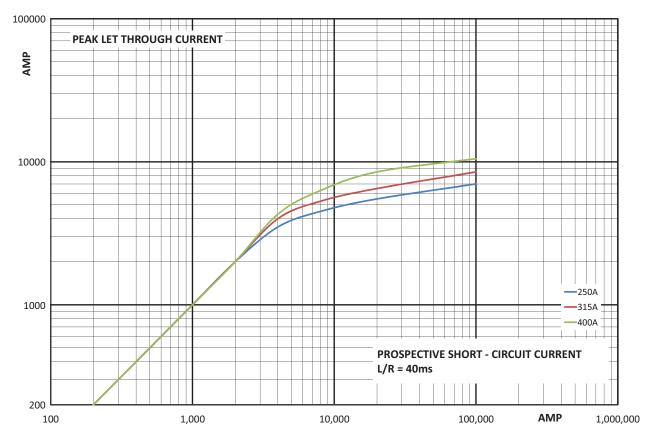
# 170E - Sizes 1\*, 1, 2 and 3, Square body fuse links, 750 V d.c. (IEC), 63 A to 500 A

Time-current curve - Size 2, 250 A to 400 A



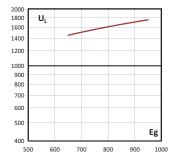
### 170E - Sizes 1\*, 1, 2 and 3, Square body fuse links, 750 V d.c. (IEC), 63 A to 500 A

Cut-off curve - Size 2, 250 A to 400 A



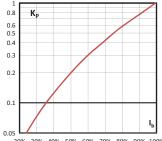
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{g}$ , (RMS) at a power factor of 15 percent.



#### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.

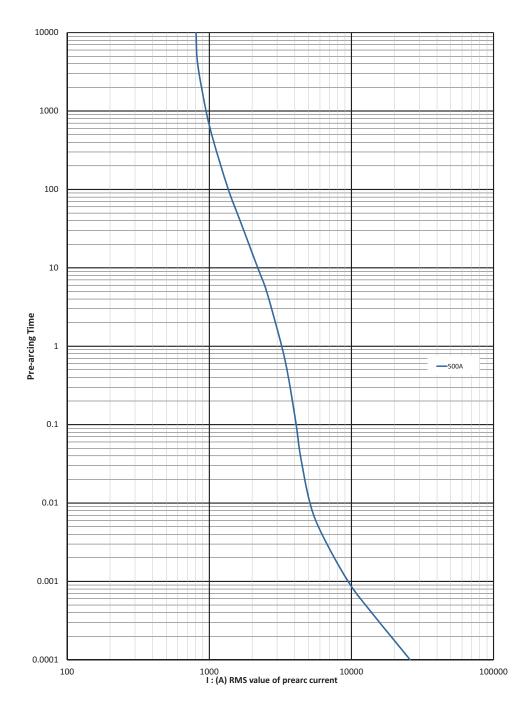


20% 30% 40% 50% 60% 70% 80% 90% 100%

Data sheets: 170K3620 (size 1\*), 170k3622 (size 1), 170K3624 (size 2), 170K3626-A (size 3)

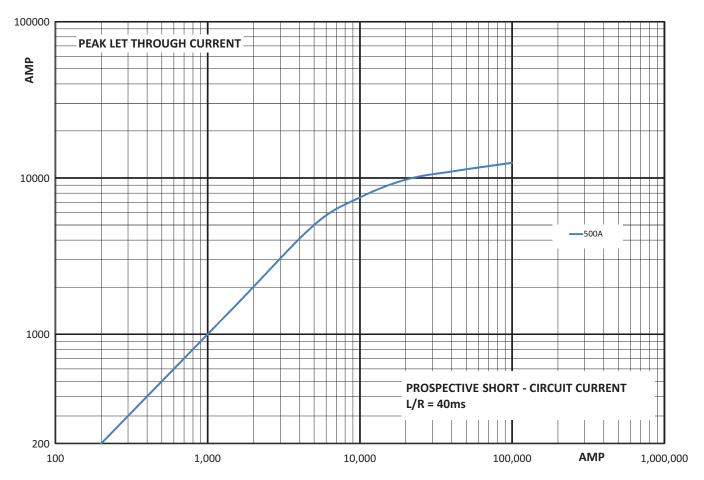
# 170E - Sizes 1\*, 1, 2 and 3, Square body fuse links, 750 V d.c. (IEC), 63 A to 500 A

Time-current curve - Size 3, 500 A



### 170E - Sizes 1\*, 1, 2 and 3, Square body fuse links, 750 V d.c. (IEC), 63 A to 500 A

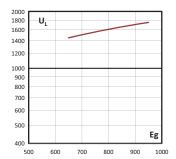
Cut-off curve - Size 2, 500 A



#### Arc voltage

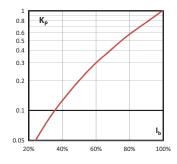
286

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{g}$ , (RMS) at a power factor of 15 percent.



#### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



Data sheets: 170K3620 (size 1\*), 170k3622 (size 1), 170K3624 (size 2), 170K3626-A (size 3)

## 170M7217 - Size 4, Square body fuse links, 1250 V a.c. / 850 V d.c. (IEC), 1400 A

### **Specifications**

### Description

Traction flush end square body high speed fuse link suitable for use in third rail collector systems to protect high speed DC breakers in low time constant, high fault conditions. Suitable for 1250 V a.c. / 850 V d.c. systems.

#### **Technical data**

- Rated voltage: 1250 V a.c. / 850 V d.c. (IEC)
- Rated current: 1400 A
- Tested breaking capacity:
  - 100 kA at 1250 V a.c.
  - 80 kA at 850 V d.c., L/R 8ms
- Operating class: aR

#### **Standards / Agency information**

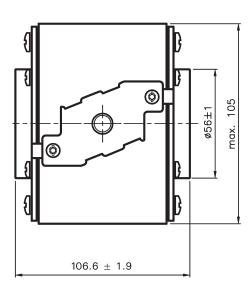
Consult Eaton bulehighspeedtechnical@eaton.com

### **Catalogue numbers**

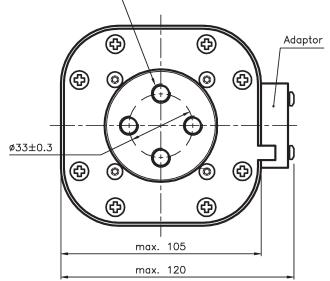


			I²t (A² Sec)		_	
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 1250 V a.c.	Watts loss (W)	Catalogue numbers
4	850 V d.c./ 1250 V a.c. (IEC	1400	800,000	5,000,000	195	170M7217
	1000 V d.c. 180 kA IR (UL)					
	1200 V d.c. 85 kA IR (UL))					

#### **Dimensions** (mm)

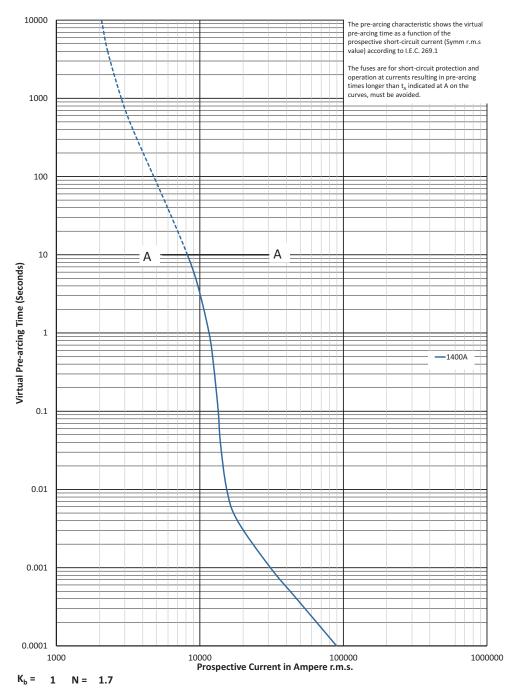


Thread controlled with 6H gauge. Hole min. 11 deep.



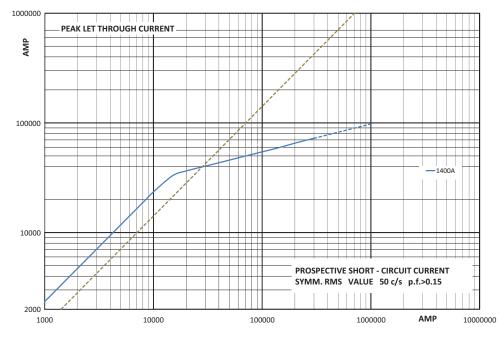
## 170M7217 - Size 4, Square body fuse links, 1250 V a.c. / 850 V d.c. (IEC), 1400 A

Time-current curve - 1400 A



Data sheet: 170K6640

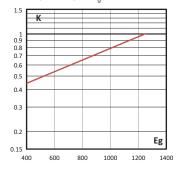
## 170M7217 - Size 4, Square body fuse links, 1250 V a.c. / 850 V d.c. (IEC), 1400 A



#### Cut-off curve - 1400 A

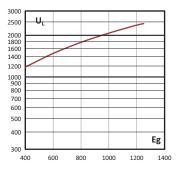
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



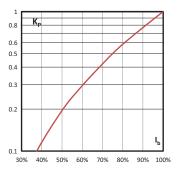
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{q}$ , (RMS) at a power factor of 15 percent.



#### 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.



# 170M - Size 1\*, Square body fuse links, 1200 V d.c. (IEC), 20 A to 215A

## **Specifications**

### Description

Traction bolted tags square body high speed fuse links for superior protection of DC third rail applications up to 1200 V d.c.

### **Technical data**

- Rated voltage: 1200 V d.c. (IEC)
- Rated current: 20 A to 215 A
- Tested breaking capacity: 100 kA at 1200 V d.c., L/R 15ms
- Operating class: aR

## Standards / Agency information

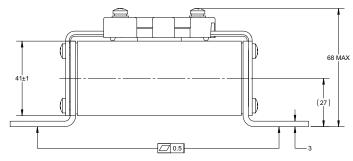
IEC 60269

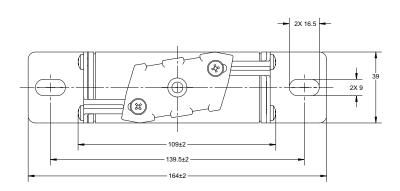
### **Catalogue numbers**



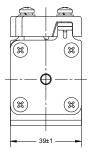
				I²t (A² Sec)		Watts los	s (W)	
Fuse link type	Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 1200 V d.c.	0.8 l <sub>n</sub>	In	Catalogue numbers
			20	82	249	1	2	170M2100
			25	173	526	4	8	170M2101
			32	327	994	5	9	170M2102
			40	550	1675	1	9	170M2103
			50	950	2890	7	13	170M2104
Single elet tog	1*	1200 V d.c. (IEC)	63	1310	3990	5	9	170M2105
Single slot tag	I	1200 V U.C. (IEC)	80	1970	6000	13	23	170M2106
			100	3800	11,600	14	26	170M2107
			125	8550	26,025	13	24	170M2108
			160	8770	26,700	24	44	170M2109
			200	15,200	46,300	29	52	170M2110
			215	16,430	50,000	32	58	170M2111

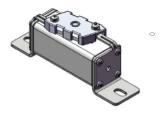
#### **Dimensions (mm)**

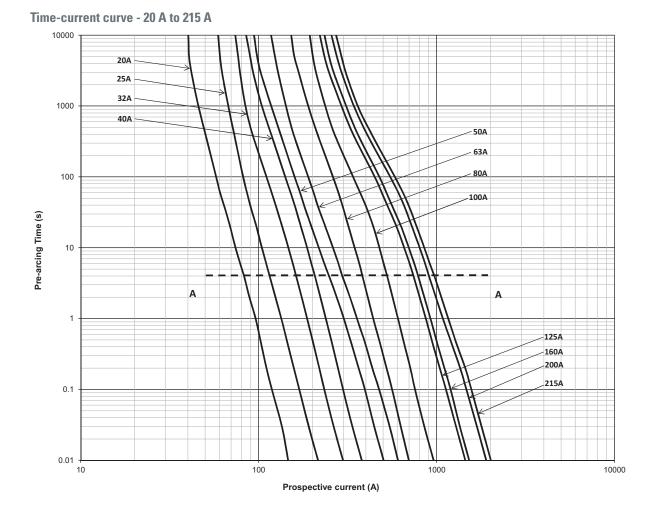




Data sheet: 5785523







# 170M - Size 1\*, Square body fuse links, 1200 V d.c. (IEC), 20 A to 215A

# 170F - Size 2, Square body fuse links, 1200 V d.c. (IEC), 160 A to 420 A

## **Specifications**

### Description

Traction bolted tags square body high speed fuse link for superior protection in DC traction applications up to 1200 V d.c.

## **Technical data**

- Rated voltage:
  - 1200 V d.c. (IEC)
  - 1050 V d.c. (UL)
- Rated current: 160 A to 420 A
- Breaking capacity:
  - 100 kA at 1000 V d.c., L/R = 45ms
  - 100 kA at 1200 V d.c., L/R = 15ms
- Operating class: aR

## Standards / Agency information

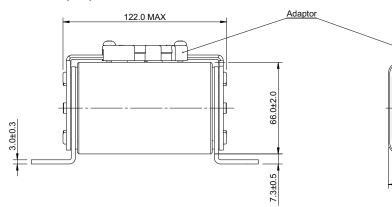
Contact Eaton bulehighspeedtechnical@eaton.com

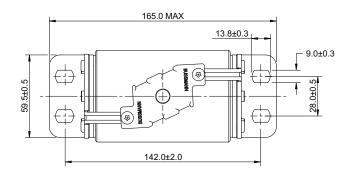
### **Catalogue numbers**

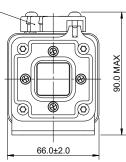


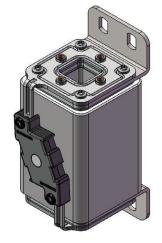
				l²t (A² Sec)			
Fuse link type	Fuse link body size	Rated voltage	Rated current (Amps)	1000 V d.c. L/R 15ms	1000 V d.c. L/R 45ms	Watts loss (W)	Catalogue numbers
			160	12,000	20,000	75	170F8230
			200	20,000	35,000	85	170F8231
Double	0	1200 V d.c. (IEC)	250	43,000	75,000	94	170F8232
slotted tag	2	1050 V d.c. (UL)	315	87,000	150,000	104	170F8233
			400	180,000	310,000	120	170F8234
			420	215,000	375,000	122	170F8235

#### **Dimensions (mm)**





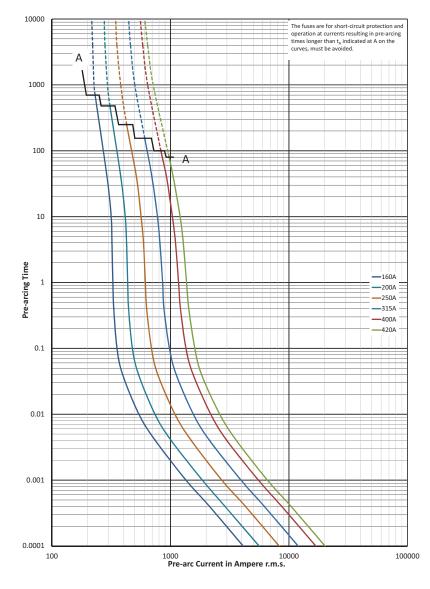




Data sheet: 170K5520

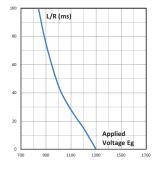
## 170F - Size 2, Square body fuse links, 1200 V d.c. (IEC), 160 A to 420 A

Time-current curve - 160 A to 420 A



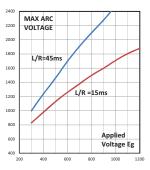
#### Total clearing l<sup>2</sup>t

The total clearing I2t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing l<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



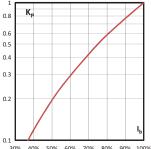
#### Arc voltage

This curve gives the peak arc voltage, U<sub>1</sub>, which may appear across the fuse during its operation as a function of the applied working voltage,  $\mathrm{E}_{_{\mathrm{cl}}}$  (RMS) at a power factor of 15 percent.



#### 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,  $K_{_{\rm P}}$  , is given as a function of the RMS load current, I, in percent of the rated current.



40% 50% 60% 70% 80% 90% 100% 30%

# 170E - Size 1\*, Square body fuse links, 2000 V d.c. (IEC), 10 A to 80 A

## **Specifications**

### Description

Traction bolted tags square body high speed fuse link which provides superior protection in DC traction applications up to 2000 V d.c.

### **Technical data**

- Rated voltage: 2000 V d.c. (IEC)
- Rated current: 10 A to 80 A
- Tested breaking capacity: 40 kA at 2000 V d.c., L/R 30ms
- Operating class: gR

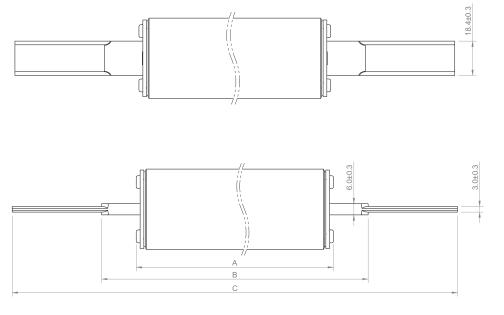
### Standards / Agency information

Contact Eaton bulehighspeedtechnical@eaton.com

### **Catalogue numbers**

Fuse link type	Fuse link body size	Rated voltage	Rated current (Amps)	Watts loss (W)	Catalogue numbers
			10	7	170E3977
			12	8	170E3982
			16	11	170E3971
			20	13	170E3906
	1*	2000 V d.c.(IEC)	25	17	170E3907
Knife blade style			32	22	170E3908
			40	27	170E3909
			50	34	170E3910
			63	43	170E3911
			80	50	170E3912

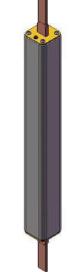
## Dimensions (mm)



 A
 B
 C

 215 ± 2.5
 250.5 ± 3.2
 245.5 ± 3.5

Data sheet: 170K4538



 $\bigcirc$ 

 $\bigcirc$ 

 $\bigcirc$ 

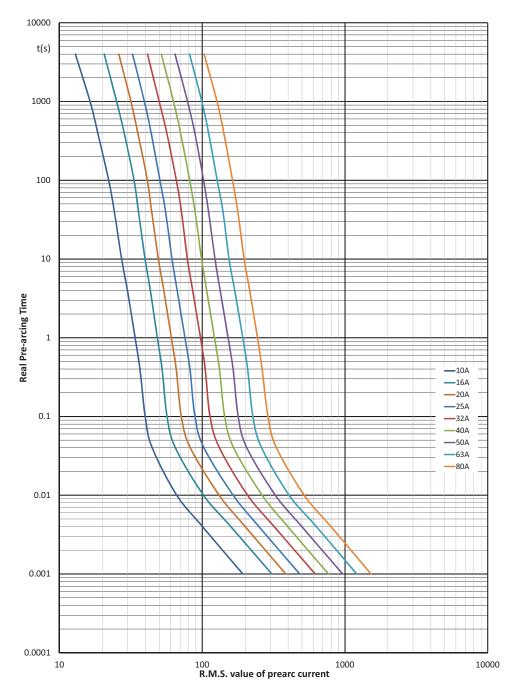
 $\bigcirc$ 

43.0±1.5

43.0±1.5

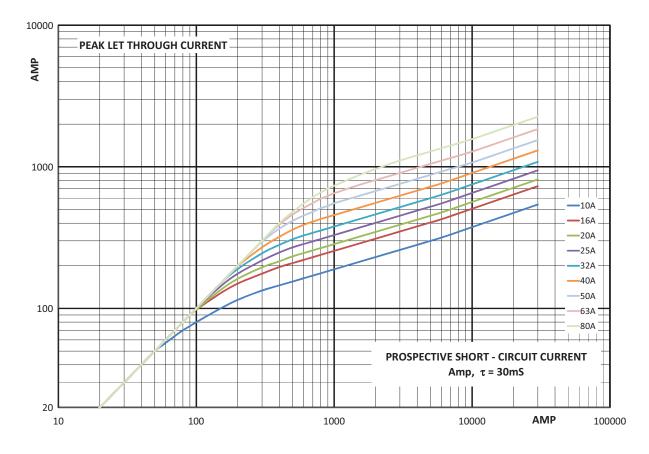
# 170E - Size 1\*, Square body fuse links, 2000 V d.c. (IEC), 10 A to 80 A

Time-current curve - 10 A to 80 A



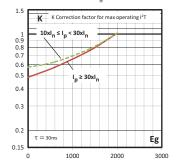
## 170E - Size 1\*, Square body fuse links, 2000 V d.c. (IEC), 10 A to 80 A

Cut-off curve - 10 A to 80 A



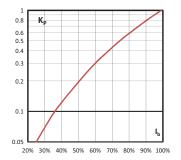
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



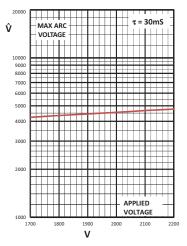
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



#### 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.



Data sheet: 170K4538

## 170E - Size 1\*, Square body fuse links, 2000 V d.c. (IEC), 10 A to 125 A

## **Specifications**

### Description

Traction bolted tags square body high speed fuse link which provides superior protection in DC traction applications up to 2000 V d.c..

#### **Technical data**

- Rated voltage: 2000 V d.c. (IEC)
- Rated current: 10 A to 125 A
- Tested breaking capacity: 40 kA at 2000 V d.c., L/R 20ms
- Operating class: aR

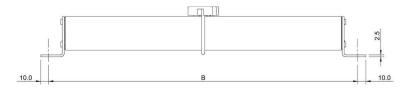
#### Standards / Agency information

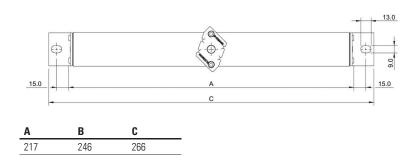
Contact Eaton bulehighspeedtechnical@eaton.com

#### **Catalogue numbers**

Fuse link type	Fuse link body size	Rated voltage	Rated current (Amps)	Watts loss (W)	Catalogue numbers
			20	13	170E3937
			25	16	170E3938
			32	20	170E3939
			40	25	170E3940
			50	32	170E3941
			63	40	170E3942
			80	51	170E3943
			100	64	170E3944
Bolted	1*	2000 V d.c. (IEC)	125	80	170E3945
blade Style			10	7	170E3976
			16	11	170E3970
			20	13	170E3950
			25	17	170E3951
			32	22	170E3952
			40	27	170E3953
			50	34	170E3954
			63	43	170E3955
			80	50	170E3956

#### **Dimensions (mm)**





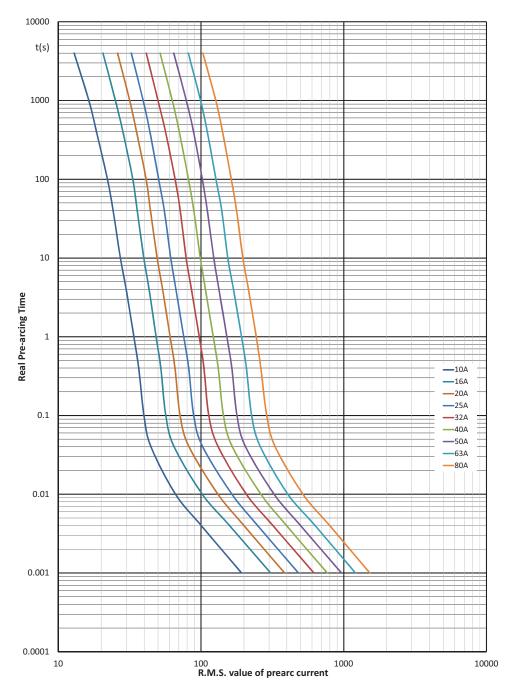
Data sheets: 170K4538 (10 A to 80 A), 170K4900 (20 A to 125 A)





# 170E - Size 1\*, Square body fuse links, 2000 V d.c. (IEC), 10 A to 125 A

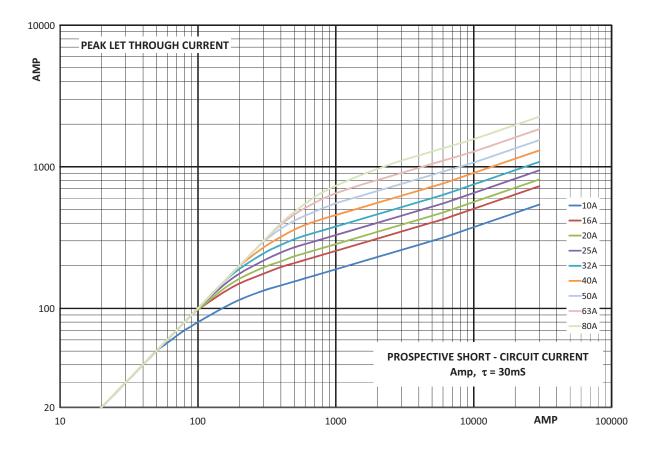
Time-current curve - 10 A to 80 A



Data sheets: 170K4538 (10 A to 80 A), 170K4900 (20 A to 125 A)

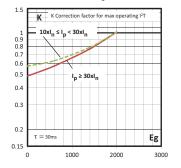
## 170E - Size 1\*, Square body fuse links, 2000 V d.c. (IEC), 10 A to 125 A

Cut-off curve - 10 A to 80 A



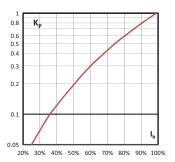
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



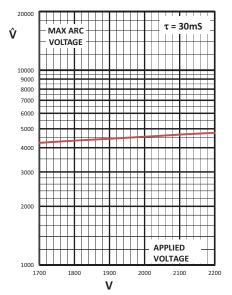
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15 percent.



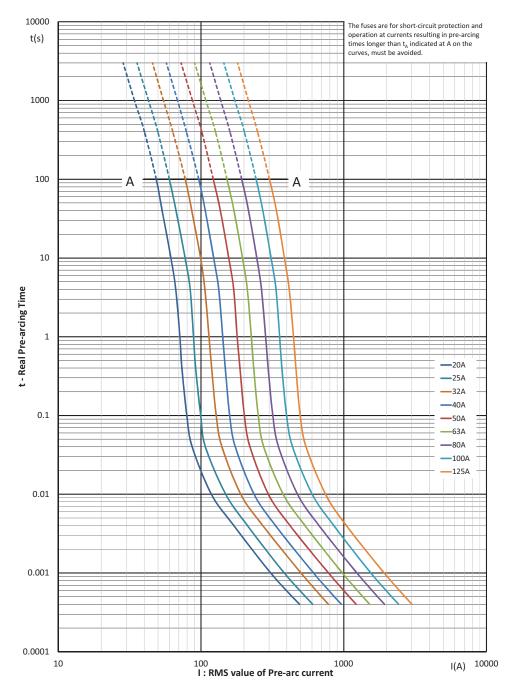
#### Watts losses

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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



## 170E - Size 1\*, Square body fuse links, 2000 V d.c. (IEC), 10 A to 125 A

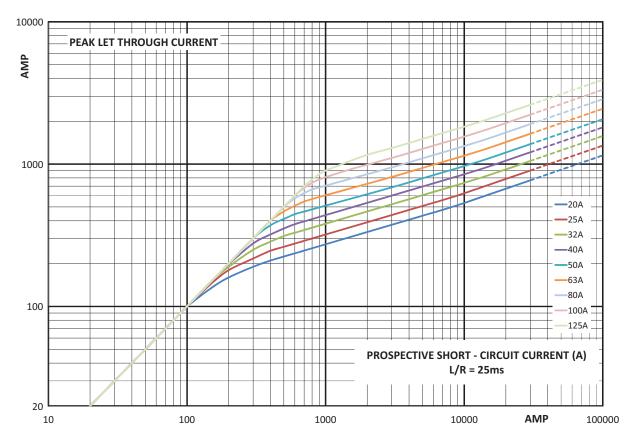
Time-current curve - 20 A to 125 A



Data sheets: 170K4538 (10 A to 80 A), 170K4900 (20 A to 125 A)

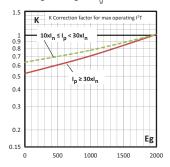
## 170E - Size 1\*, Square body fuse links, 2000 V d.c. (IEC), 10 A to 125 A

Cut-off curve - 20 A to 125 A



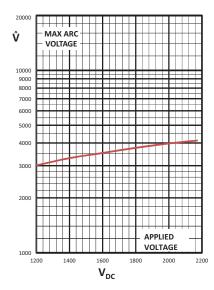
#### Total clearing l<sup>2</sup>t

The total clearing I<sup>2</sup>t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing I<sup>2</sup>t is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a'}$  (RMS).



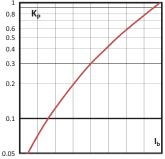
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



#### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



20% 30% 40% 50% 60% 70% 80% 90% 100%

# 170M - Square body fuse links, 2000 V d.c. (IEC), 20 A to 600 A

## **Specifications**

### Description

Traction bolted tags square body high speed fuse links which provides superior protection for DC traction third rail applications up to 2000 V d.c.

### **Technical data**

- Rated voltage: 2000 V d.c. (IEC)
- Rated current:
  - 20 A to 215 A Single slot tag
  - 160 A to 400 A Double slot tag
  - 500 A to 600 A Parallel double slot tag
- Breaking capacity:
  - 100 kA at 2000 V d.c., L/R <15ms</li>
  - 100 kA at 1500 V d.c., L/R <45ms</li>
- Operating class: aR

### Standards / Agency information

Tested in line with IEC 60269

## Catalogue numbers

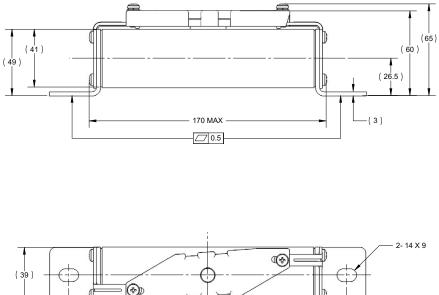


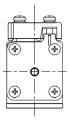
			I²t (A² Sec)		Watts Io	ss (W)	
Fuse link type	Rated voltage	Rated current (Amps)	Pre-arcing	Total at 2000 V d.c.	0.8 I <sub>n</sub>	I <sub>n</sub>	Catalogue numbers
		20	85	240	9	12	170M2046
		25	130	390	9	16	170M2047
		32	220	645	11	18	170M2048
		40	390	1140	12	20	170M2049
		50	610	1780	17	33	170M2050
Single slot	2000 V d.c. (IEC)	63	1030	3000	20	39	170M2051
tag	1500 V d.c. (UL)	80	1555	4550	28	53	170M2052
		100	2680	7840	33	63	170M2053
		125	4110	12,020	42	79	170M2054
		160	6620	19,360	45	87	170M2055
		200	10,720	31,360	50	95	170M2056
		215	21,870	64,000	51	97	170M2057
		160	7900	42,000	68	91	170M2039
		200	12,300	66,000	85	113	170M2040
Double slot tag	2000 V d.c. (IEC)	250	21,900	120,000	100	133	170M2041
Sior tag		315	38,900	210,000	119	158	170M2042
		400	65,700	350,000	148	176	170M2043
Parallel double	2000 \/ d a //EC\	500	105,851	163,010	109	230	170M2044
slot tag	2000 V d.c. (IEC)	600	188,179	289,796	153	305	170M2045

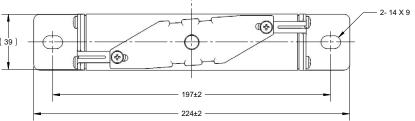
Data sheets: 720142, 5785522 (Single slot, 5785519 Double slot tag, 5785526 Parallel double slot tag)

# 170M - Square body fuse links, 2000 V d.c. (IEC), 20 A to 600 A

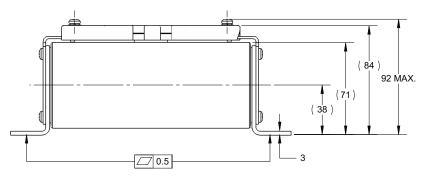
Dimensions (mm) - 170M2046 to 170M2057, Single slot tag

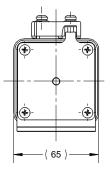


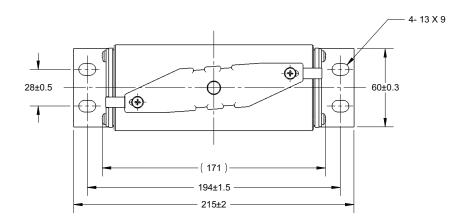




Dimensions (mm) - 170M2039 to 170M2043, Double slot tag



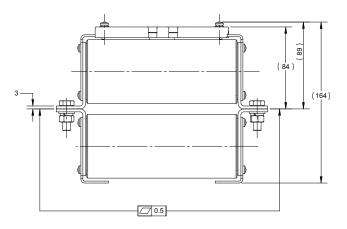


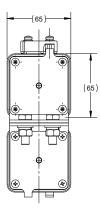


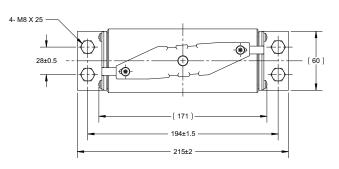
Data sheets: 720142, 5785522 (Single slot, 5785519 Double slot tag, 5785526 Parallel double slot tag)

## 170M - Square body fuse links, 2000 V d.c. (IEC), 20 A to 600 A

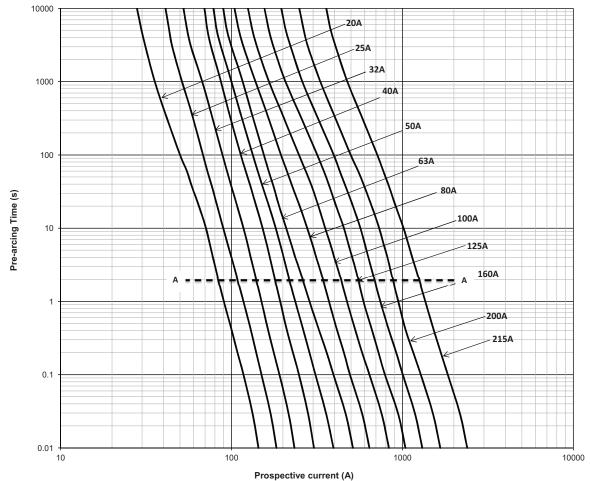
Dimensions (mm) - 170M2044 and 170M2045, Parallel, double slot tag







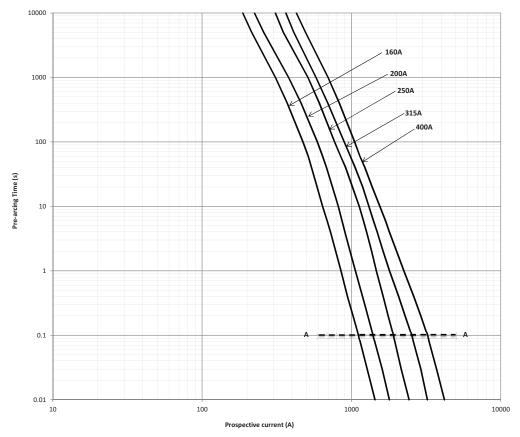
Time-current curve - 170M2046 to 170M2056, 20 A to 215 A



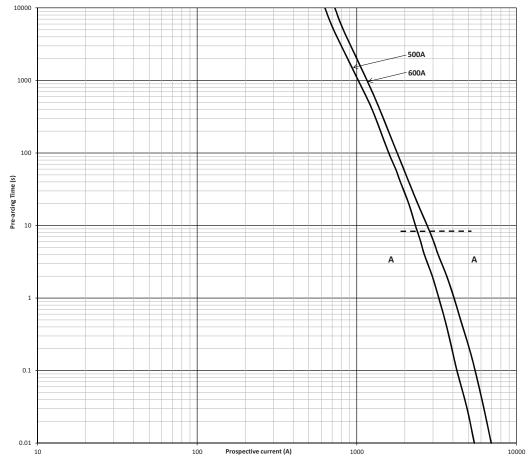
Data sheets: 720142, 5785522 (Single slot, 5785519 Double slot tag, 5785526 Parallel double slot tag)

## 170M - Square body fuse links, 2000 V d.c. (IEC), 20 A to 600 A

Time-current curve - 170M2039 to 170M2043, 160 A to 400 A



Time-current curve - 170M2044 to 170M2045, 500 A and 600 A



Data sheets: 720142, 5785522 (Single slot, 5785519 Double slot tag, 5785526 Parallel double slot tag)

## 170M - Size 3, Square body fuse links, 2400 V d.c. (IEC), 100 A to 400 A

### **Specifications**

#### Description

Traction bolted tags square body high speed fuse links for superior protection of DC third rail applications up to 2400 V d.c.

#### **Technical data**

- Rated voltage: 2400 V d.c. (IEC)
- Rated current: 100 A to 400 A
- Tested breaking capacity:
- 100 kA at 2400 V d.c., L/R < 15ms</li>
- 100 kA at 2000 V d.c., L/R < 45ms
- Operating class: aR

#### **Standards / Agency information**

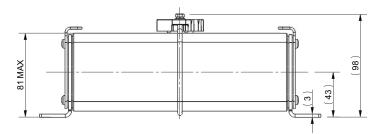
Tested in line with IEC 60269

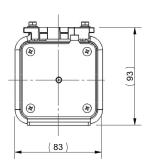
#### **Catalogue numbers**

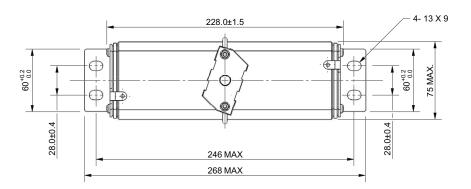


				I²t (A² Sec)		Watts los	ss (W)	
Fuse link type	Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Total at 2000 V d.c.	0.8 I <sub>n</sub>	In	Catalogue numbers
			100	5468	15,457	20	39	170M2090
			160	16,427	46,439	43	84	170M2091
			200	25,667	72,561	53	97	170M2092
Double slot tag	3	2400 V d.c. (IEC)	250	36,960	104,488	60	103	170M2093
			315	66,977	189,346	82	162	170M2094
			350	87,480	247,309	89	175	170M2095
			400	110,717	313,000	103	203	170M2096

#### **Dimensions (mm)**



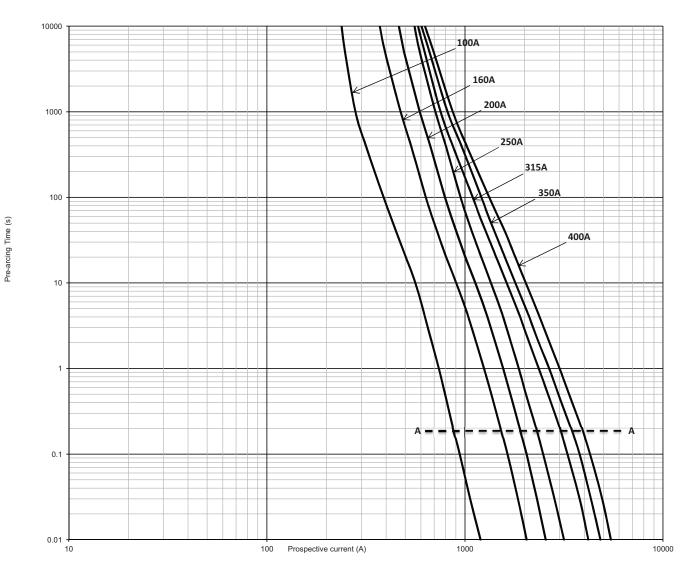




Data sheet: 720143, 5785520

# 170M - Size 3, Square body fuse links, 2400 V d.c. (IEC), 100 A to 400 A

Time-current curve - 100 A to 400 A



# 170E - Size 1\*, Square body fuse links, 4000 V d.c. (IEC), 20 A to 125 A

## **Specifications**

### Description

Traction bolted tags square body high speed fuse link for superior protection in DC traction applications up to 4000 V d.c.

#### **Technical data**

- Rated voltage: 4000 V d.c. (IEC)
- Rated current: 20 A to 125 A
- Tested breaking capacity: 50 kA at 4000 V d.c., L/R 10ms
- Operating class: aR

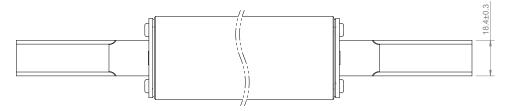
#### Standards / Agency information

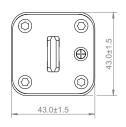
Consult Eaton bulehighspeedtechnical@eaton.com

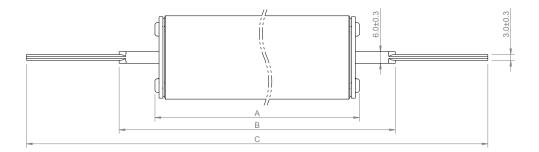
#### **Catalogue numbers**

Fuse link body size	Rated voltage	Rated current (Amps)	Watts loss (W)	Catalogue numbers
		20	23	170E3924
		25	28	170E3925
		32	34	170E3926
		40	45	170E3927
1*	4000 V d.c. (IEC)	50	57	170E3928
		63	72	170E3929
		80	91	170E3930
		100	114	170E3931
		125	143	170E3932

#### **Dimensions (mm)**





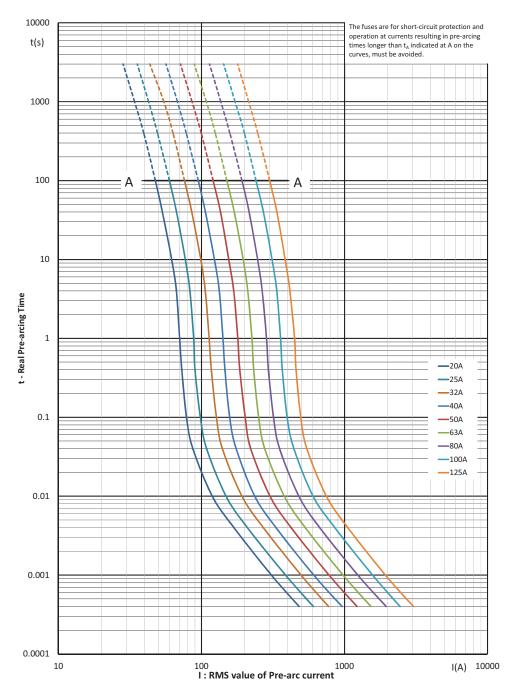


Data sheet: 170K6600



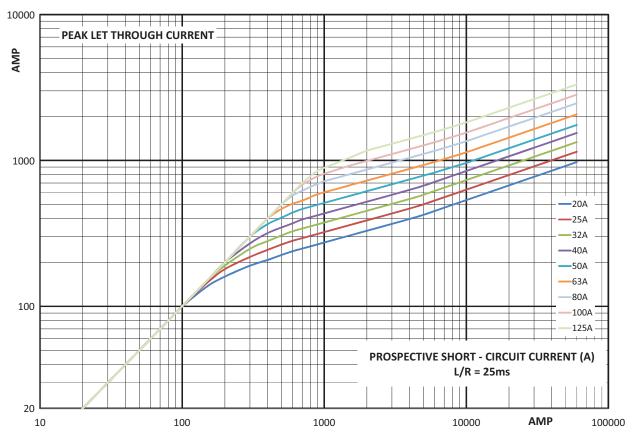
# 170E - Size 1\*, Square body fuse links, 4000 V d.c. (IEC), 20 A to 125 A

Time-current curve - 20 A to 125 A



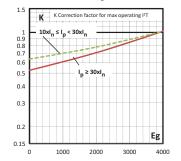
## 170E - Size 1\*, Square body fuse links, 4000 V d.c. (IEC), 20 A to 125 A

Cut-off curve - 20 A to 125 A



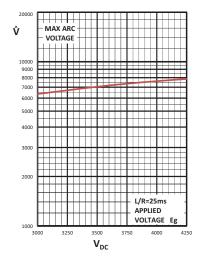
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{a}$ , (RMS).



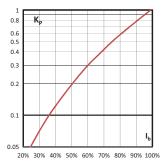
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



#### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



## 170E - Sizes 1\*, 2 and 2//2, Square body fuse links, 4000 V d.c. (IEC), 20 A to 450 A

## **Specifications**

#### Description

Traction bolted tags square body high speed fuse link for superior protection in DC traction applications up to 4000 V d.c..

#### **Technical data**

- Rated voltage: 4000 V d.c. (IEC)
- Rated current: 20 A to 500 A
- Breaking capacity: 60 kA at 4000 V d.c., L/R 25ms
- Operating class: aR

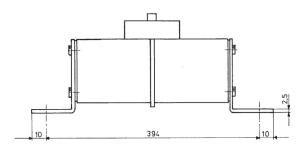
#### **Standards / Agency information**

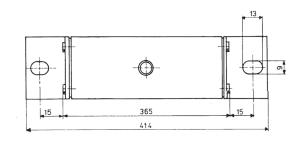
Contact Eaton bulehighspeedtechnical@eaton.com

#### **Catalogue numbers**

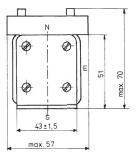
Fuse link body size	Rated voltage	Rated current (Amps)	Watts loss (W)	Catalogue numbers
		20	23	170E3914
		25	28	170E3915
		32	34	170E3916
		40	45	170E3917
1*	4000 V d.c. (IEC)	50	57	170E3918
		63	72	170E3919
		80	91	170E3984
		100	114	170E3933
		125	143	170E3922
		160	182	170E8882
2	4000 V d.c. (IEC)	200	228	170E8883
		250	285	170E8884
		315	360	170E8885
		350	400	170E8886
2//2	4000 V d.c. (IEC)	400	455	170E8887
		450	515	170E8888
		500	600	170E8889

Dimensions (mm) - Size 1\*



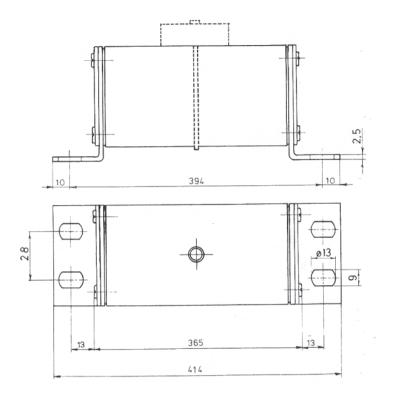


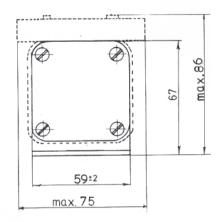




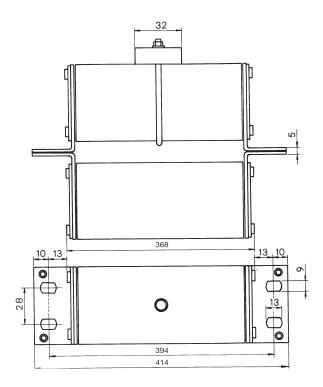
# 170E - Sizes 1\*, 2 and 2//2, Square body fuse links, 4000 V d.c. (IEC), 20 A to 450 A

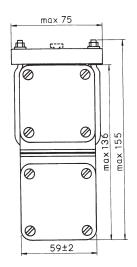
Dimensions (mm) - Size 2





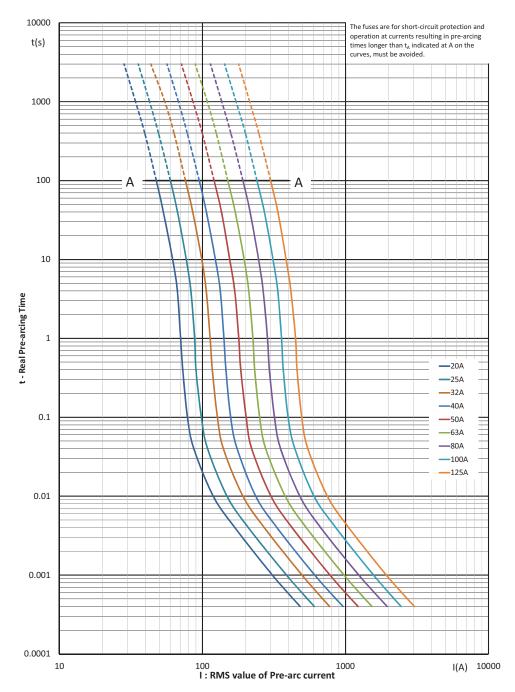
Dimensions (mm) - Size 2/2





Data sheets: 1\* 170K6600, 2 and 2//2 170K6604

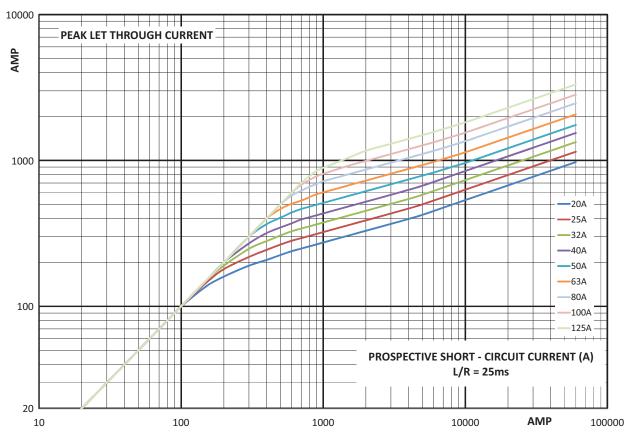
# 170E - Sizes 1\*, 2 and 2//2, Square body fuse links, 4000 V d.c. (IEC), 20 A to 450 A



Time-current curve - Size 1\*, 20 A to 125 A

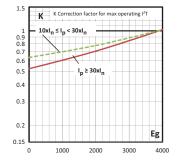
## 170E - Sizes 1\*, 2 and 2//2, Square body fuse links, 4000 V d.c. (IEC), 20 A to 450 A

Cut-off curve - Size 1\*, 20 A to 125 A



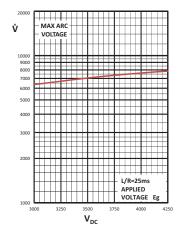
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{ar}$  (RMS).



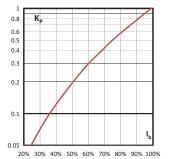
#### Arc voltage

This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_q$ , (RMS) at a power factor of 15 percent.



#### Watts losses

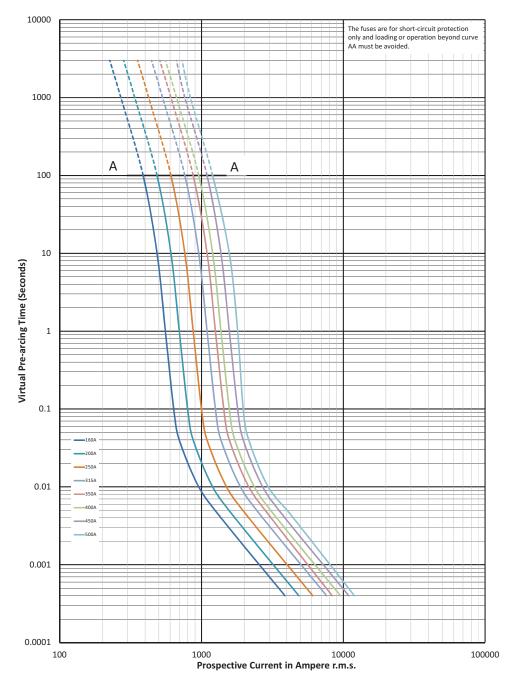
Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the watts losses at load currents lower than the rated current. The correction factor,  $K_p$ , is given as a function of the RMS load current,  $I_b$ , in percent of the rated current.



Data sheets: 1\* 170K6600, 2 and 2//2 170K6604

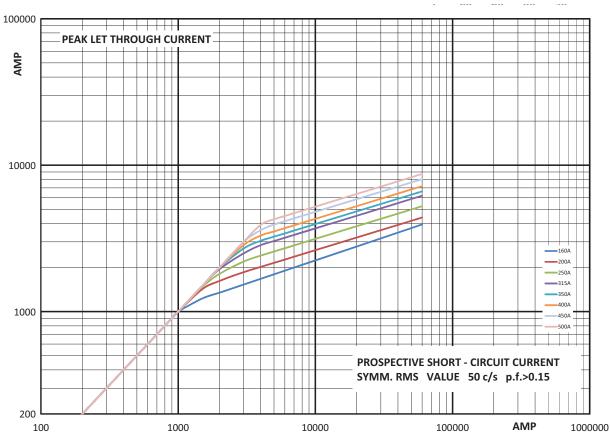
# 170E - Sizes 1\*, 2 and 2//2, Square body fuse links, 4000 V d.c. (IEC), 20 A to 450 A

Time-current curve - Sizes 2 and 2//2, 160 A to 500 A



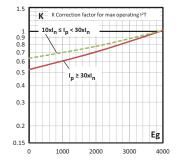
## 170E - Sizes 1\*, 2 and 2//2, Square body fuse links, 4000 V d.c. (IEC), 20 A to 450 A

Cut-off curve - Sizes 2 and 2/2, 160 A to 500 A



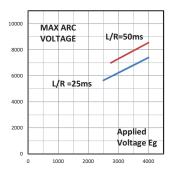
#### Total clearing l<sup>2</sup>t

The total clearing  $I^2t$  at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_{g'}$  (RMS).



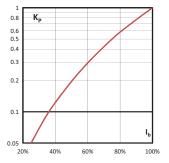
#### Arc voltage

This curve gives the peak arc voltage,  $U_{L}$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_{q}$ , (RMS) at a power factor of 15 percent.



#### 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,  $K_{\rm p}$ , is given as a function of the RMS load current,  $I_{\rm b}$ , in percent of the rated current.



## FWK - 20 x 127 and 25 x 146 mm, Ferrule fuse links, 750 V d.c. (IEC), 5 A to 60 A

## **Specifications**

## Description

Ferrule high speed fuse links for light rail applications in auxiliary power and distribution equipment.

## **Technical data**

- Rated voltage: 750 V d.c. (IEC)
- Rated current:
- 5 A to 30 A (20 x 127 mm)
- 35 A to 60 A (25 x 146 mm)
- Breaking capacity: 50 kA at 750 V d.c., L/R 10-15ms
- Operating class: gG

## Standards / Agency information

Tested in line with IEC 60269

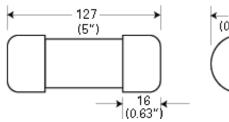
### **Catalogue numbers**

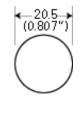


		I²t (A² Sec)				
Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 750 V d.c.	Watts loss (W)	Catalogue numbers	
	5	8.5	16	6.7	FWK-5A20F	
	8	50	100	8.8	FWK-8A20F	
	10	95	200	8.5	FWK-10A20F	
750 V d.c. (IEC)	15	100	240	5	FWK-15A20F	
	20	125	315	7.8	FWK-20A20F	
	25	400	1100	6.5	FWK-25A20F	
	30	800	2600	6.5	FWK-30A20F	
	35	1300	4300	6	FWK-35A25F	
750.) ( 1. (150)	40	1600	5300	6.8	FWK-40A25F	
750 V d.c. (IEC)	50	3100	12000	7.3	FWK-50A25F	
	60	5900	24000	7.7	FWK-60A25F	
		Rated voltage         (Amps)           5         8           10         15           20         25           30         35           750 V d.c. (IEC)         40           50 V d.c. (IEC)         50	Rated voltage         Rated current (Amps)         Pre-arcing           5         8.5           8         50           10         95           15         100           20         125           25         400           30         800           35         1300           40         1600           50         3100	Rated voltage         Rated current (Amps)         Pre-arcing         Clearing at 750 V d.c.           5         8.5         16           8         50         100           10         95         200           15         100         240           20         125         315           25         400         1100           30         800         2600           35         1300         4300           40         1600         5300           50         3100         12000	Rated voltage         Rated current (Amps)         Pre-arcing 8         Clearing at 750 V d.c.         Watts loss (W)           5         8.5         16         6.7           8         50         100         8.8           10         95         200         8.5           15         100         240         5           20         125         315         7.8           25         400         1100         6.5           30         800         2600         6.5           35         1300         4300         6           750 V d.c. (IEC)         40         1600         5300         6.8           750 V d.c. (IEC)         50         3100         12000         7.3	

Dimensions mm (in) - 5 A to 30 A

Dimensions mm (in) - 35 A to 60 A





146.05 (5.75")



# LRC750 - Ferrule fuse links, 750 V d.c. (IEC), 30 A to 50 A

## **Specifications**

### Description

Ferrule high speed fuse links for light rail applications in auxiliary power and distribution equipment. Also suitable for heavy rails applications in instrumentation and control circuits equipment.

### **Technical data**

- Rated voltage: 750 V d.c. (IEC)
- Rated current: 30 A to 50 A
- Breaking capacity: 50 kA at 750 V d.c., L/R 15-20ms
- Operating class: gR

### Standards / Agency information

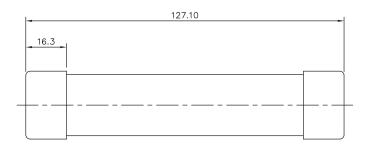
Tested in line with IEC 60269

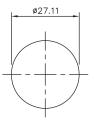




			I²t (A² Sec)			Catalogue numbers	
Fuse link type	Rated voltage	Rated current e (Amps)	Pre-arcing	Clearing at 750 V d.c.	Watts loss (W)		
		30	700	2250	4.5	30LRC750	
LRC750	750 V d.c. (IEC)	40	1800	5300	5.8	40LRC750	
		50	3100	12000	9.4	50LRC750	

#### **Dimensions (mm)**





Data sheets: 5785132

### FWL and FWS - 20 x 127 mm, Ferrule fuse links, 1200-1400-2000 V a.c. (IEC), 1000 V d.c. (IEC), 2 A to 30 A

### **Specifications**

### Description

Ferrule high speed fuse links for light rail applications in auxiliary power and distribution equipment.

#### **Technical data**

- Rated voltage:
  - FWL: 1200 V a.c. (IEC) / 1000 V d.c.
  - FWS: 2000 V a.c. / 1000 V d.c. (IEC, 2 A to 8 A) 1400 V a.c. / 1000 V d.c. (IEC 10 A to 15 A)
- Rated current: 2 A to 30 A
- Breaking capacity: 50 kA at 1000 V d.c., L/R 15ms
- Operating class: gG

#### **Standards / Agency information**

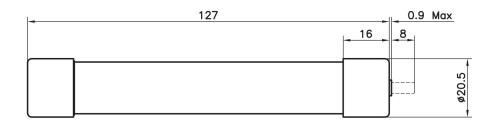
Consult Eaton bulehighspeedtechnical@eaton.com

#### **Catalogue numbers**



			l²t (A² Sec)			Catalogue numbers		
Fuse link size	Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 1000 V d.c.	Watts loss (W)	Without indicator	With indicator	
	2000 V a.c./	2	0.8	2.4	4.4	FWS-2A20F	FWS-2A20FI	
	1000 V d.c.	6	27	81	6.7	FWS-6A20F	FWS-6A20FI	
	(IEC)	8	64	192	7.6	FWS-8A20F	FWS-8A20FI	
( <sup>13</sup> / <sub>16</sub> " x 5)	1400 V a.c./	10	118	277	3.0	FWS-10A20F	FWS-10A20FI	
	1000 V d.c.	12	170	380	3.4	FWS-12A20F	FWS-12A20FI	
	(IEC)	15	209	500	5.0	FWS-15A20F	FWS-15A20FI	
	1200 V a.c./	20	675	1550	5.9	FWL-20A20F	FWL-20A20FI	
20 x 127 mm ( <sup>13</sup> / <sub>16</sub> " x 5)	1000 V d.c. (IEC)	25	1200	2760	6.5	FWL-25A20F	FWL-25A20FI	
		30	1850	4300	7.5	FWL-30A20F	FWL-30A20FI	

#### **Dimensions (mm)**



# KC36 - Round body fuse links, 750 V d.c. (IEC), 5 A to 60 A

## **Specifications**

### Description

Ferrule high speed fuse links for light rail applications in auxiliary power and distribution equipment. Also suitable for heavy rails applications in instrumentation and control circuits equipment.

### **Technical data**

- Rated voltage: 750 V d.c. (IEC)
- Rated current: 5 A to 60 A
- Breaking capacity: 50 kA at 750 V d.c., L/R 15-20ms
- Operating class: gR

### **Standards / Agency information**

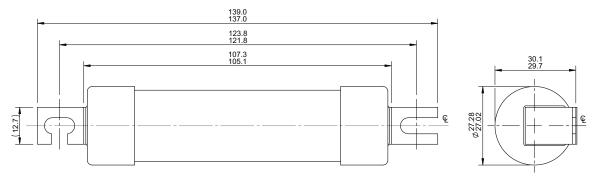
Tested in line with IEC 60269

### **Catalogue numbers**



		l²t (A² Sec)				
Rated voltage	Rated current (Amps)	Pre-arcing	Clearing at 750 V d.c.	Watts loss (W)	Catalogue numbers	
	5	8.5	16	6.7	5KC36	
	8	50	100	8.8	8KC36	
	10	95	200	8.5	10KC36	
	15	100	240	5	15KC36	
	20	125	315	7.8	20KC36	
750 V d.c. (IEC)	25	400	1100	6.5	25KC36	
	30	800	2600	6.5	30KC36	
	35	1300	4300	6	35KC36	
	40	1600	5300	6.8	40KC36	
	50	3100	12,000	7.3	50KC36	
	60	5900	24,000	7.7	60KC36	
		Rated voltage         (Amps)           5         8           10         15           20         25           30         35           40         50	Rated voltage         Rated current (Amps)         Pre-arcing           5         8.5           8         50           10         95           15         100           20         125           25         400           30         800           35         1300           40         1600           50         3100	Rated voltage         Rated current (Amps)         Pre-arcing         Clearing at 750 V d.c.           5         8.5         16           8         50         100           10         95         200           15         100         240           20         125         315           25         400         1100           30         800         2600           35         1300         4300           40         1600         5300           50         3100         12,000	Rated voltage         Rated current (Amps)         Pre-arcing         Clearing at 750 V d.c.         Watts loss (W)           5         8.5         16         6.7           8         50         100         8.8           10         95         200         8.5           15         100         240         5           20         125         315         7.8           25         400         1100         6.5           30         800         2600         6.5           35         1300         4300         6           40         1600         5300         6.8           50         3100         12,000         7.3	

#### **Dimensions (mm)**



Data sheet:5785049

## RC - Round body fuse links, 750 V d.c. (IEC), 200 A to 400 A

## **Specifications**

#### Description

Round bodied bolted tags high speed traction fuse links which provides protection for DC traction third rail applications.

#### **Technical data**

- Rated voltage: 750 V d.c. (IEC)
- Rated current: 200 A to 400 A
- Breaking capacity: Consult Eaton bulehighspeedtechnical@eaton.com
- Operating class: gG

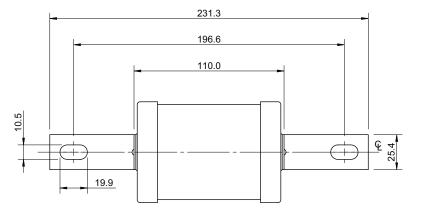
#### Standards / Agency information

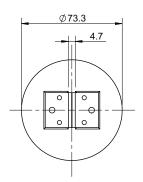
Consult Eaton bulehighspeedtechnical@eaton.com

#### **Catalogue numbers**

Rated voltage	Rated current (Amps)	I²t (A²s)	Watts loss (W)	Catalogue numbers
750 V d.c. (IEC)	200	85,000	31	200RC
	250	225,000	33	250RC
	300	340,000	37	300RC
	350	530,000	41	350RC
	400	765,000	48	400RC

#### **Dimensions (mm)**







# NBC - Round body fuse links, 1500 V d.c. (IEC), 25 A to 200 A

## **Specifications**

### Description

A range of round body bolted tags high speed fuse links for heavy rail applications such as auxiliary and distribution equipment.

### **Technical data**

- Rated voltage: 1500 V d.c. (IEC)
- Rated current: 25 A to 200 A
- Breaking capacity: Consult Eaton for interrupting rating and time constant capabilities.
- Operating class: gR

## **Standards / Agency information**

Consult Eaton bulehighspeedtechnical@eaton.com



#### **Catalogue numbers**

Fuse link type	Rated voltage	Rated current (Amps)	Catalogue numbers
		25	NBC-25
		60	NBC-60
NBC	1500 \/ d a //50\	70	NBC-70
INDU	1500 V d.c. (IEC)	100	NBC-100
		150	NBC-150
		200	NBC-200

Consult Eaton bulehighspeedtechnical@eaton.com.for dimensions drawings: 25 and 60 Amps: BU-NBC-25-60 70 and 100 Amps: BU-NBC-70-100 150 and 200 Amps: BU-NBC-150 and 200

## PVM - 10 x 38 mm, 600 V d.c. (UL), 4 A to 30 A

## **Specifications**

#### **Description**

A range of UL 2579 fast-acting 600 V d.c. midget fuse links specifically designed to protect solar power systems in extreme ambient temperature, high cycling and low level fault Rated current conditions (reverse rated current, multi-array fault).

#### **Technical data**

- Rated voltage: 600 V d.c. to UL 2579
- Rated current: 4 A to 30 A
- Breaking capacity: 50 kA DC (4 A to 30 A)

### Compatible fuse holder CHPV

#### **Standards / Agency information**

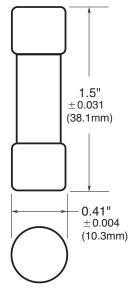
UL Listed 2579, Guide JFGA, File E335324, CSA Component Certified C22.2

#### **Catalogue numbers**

	Rated current	Power Loss (W)		— Catalogue
Rated voltage	(Amps)	0.8 x I <sub>n</sub>	1 x I <sub>n</sub>	numbers
	4			PVM-4
	5			PVM-5
	6			PVM-6
	7			PVM-7
	8			PVM-8
600 \/ d a /UII \	9			PVM-9
600 V d.c. (UL)	10	1	1.9	PVM-10
	12			PVM-12
	15	1	1.7	PVM-15
	20			PVM-20
	25			PVM-25
	30	1.6	2.9	PVM-30

Please contact FUSETECH@eaton.com for further information

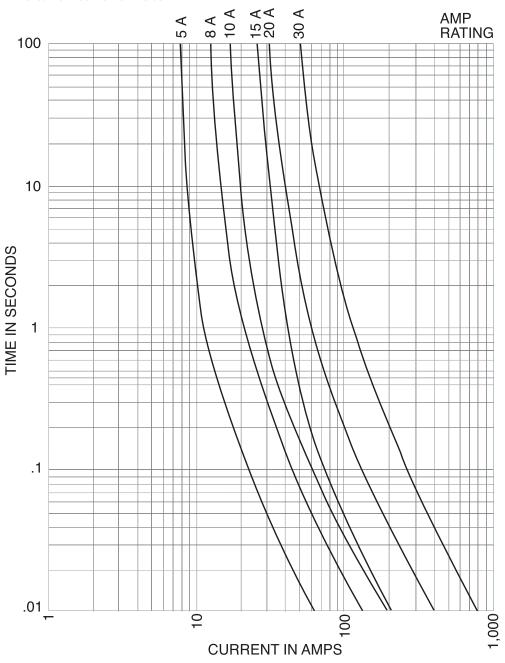
#### **Dimensions in (mm)**





# Photovoltaic fuse links, fuse bases and holders

## PVM - 10 x 38 mm, 600 V d.c. (UL), 4 A to 30 A



Time-current curve - 5 A to 30 A

Please contact FUSETECH@eaton.com for further information

Data sheet: 2153

## PV-A10 - 10 x 38 mm, 1000 V d.c. (IEC/UL), 1 A to 20 A

### **Specifications**

#### **Description**

A range of fuse links in a 10 x 38 mm package specifically designed for the protection and isolation of photovoltaic strings. The fuse links are capable of interrupting low over rated currents associated with faulted PV (reverse rated current, multi-array fault) string arrays.

#### **Technical data**

- Rated voltage: 1000 V d.c. (IEC/UL)
- Rated current: 1 A to 20 A
- Breaking capacity: 50 kA
- Operating class: gPV and UL PV fuse links

#### **Compatible fuse holder**

CHPV

### **Standards / Agency information**

IEC 60269-6, UL Recognised 2579 (File number E335324), CSA, CCC (1-15A), RoHS compliant.

#### Catalogue numbers - Cylindrical and bolt fixing fuse links



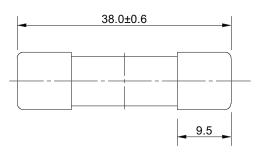
		I²t (A² Sec)		Watts lo	ss (W)	Catalogue nu	mbers
Rated voltage	Rated current (Amps)	Pre-arcing	Total at 1000 V d.c.	0.8 In	In	Cylindrical	Bolt fixing
	1	0.2	0.4	0.8	1.5	PV-1A10F	PV-1A10-T
Rated voltage	2	1.2	4	0.6	1.0	PV-2A10F	PV-2A10-T
	2.5	3	9	0.6	1.0	PV-2-5A10F	PV-2-5A10-T
	3	4	11	0.8	1.3	PV-3A10F	PV-3A10-T
	3.5	6.6	18	0.9	1.4	PV-3-5A10F	PV-3-5A10-T
	4	9.5	26	1.0	1.5	PV-4A10F	PV-4A10-T
1000 \/ //    //EO\	5	19	50	1.0	1.6	PV-5A10F	PV-5A10-T
1000 V U.C. (OL/IEC)	6	30	90	1.1	1.8	PV-6A10F	PV-6A10-T
	8	3	32	1.2	2.1	PV-8A10F	PV-8A10-T
	10	7	70	1.2	2.3	PV-10A10F	PV-10A10-T
	12	12	120	1.5	2.7	PV-12A10F	PV-12A10-T
	15	15	160	1.7	2.9	PV-15A10F	PV-15A10-T
	16	19	200	1.8	3	PV-16A10F	PV-16A10-T
	20	34	350	2.1	3.6	PV-20A10F	PV-20A10-T

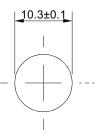
#### Catalogue numbers - PCB fixing fuse links

		I²t (A² Sec)		Watts lo	ss (W)	Catalogue nu	nbers	
Rated voltage	Rated current (Amps)	Pre-arcing	Total at 1000 V d.c.	0.8 I <sub>n</sub>	In	PCB fixing single pin	PCB fixing double pin	PCB fixing double pin silver cap
	1	0.2	0.4	0.8	1.5	PV-1A10-1P	PV-1A10-2P	PV-1A10-2P-S
	2	1.2	4	0.6	1.0	PV-2A10-1P	PV-2A10-2P	PV-2A10-2P-S
	2.5	3	9	0.6	1.0	PV-2-5A10-1P	PV-2-5A10-2P	PV-2-5A10-2P-S
	3	4	11	0.8	1.3	PV-3A10-1P	PV-3A10-2P	PV-3A10-2P-S
	3.5	6.6	18	0.9	1.4	PV-3-5A10-1P	PV-3-5A10-2P	PV-3-5A10-2P-S
	4	9.5	26	1.0	1.5	PV-4A10-1P	PV-4A10-2P	PV-4A10-2P-S
	5	19	50	1.0	1.6	PV-5A10-1P	PV-5A10-2P	PV-5A10-2P-S
1000 V d.c. (UL/IEC)	6	30	90	1.1	1.8	PV-6A10-1P	PV-6A10-2P	PV-6A10-2P-S
	8	3	32	1.2	2.1	PV-8A10-1P	PV-8A10-2P	PV-8A10-2P-S
	10	7	70	1.2	2.3	PV-10A10-1P	PV-10A10-2P	PV-10A10-2P-S
	12	12	120	1.5	2.7	PV-12A10-1P	PV-12A10-2P	PV-12A10-2P-S
	15	15	160	1.7	2.9	PV-15A10-1P	PV-15A10-2P	PV-15A10-2P-S
	16	19	200	1.8	3	PV-16A10-1P	PV-16A10-2P	PV-16A10-2P-S
	20	34	350	2.1	3.6	PV-20A10-1P	PV-20A10-2P	PV-20A10-2P-S

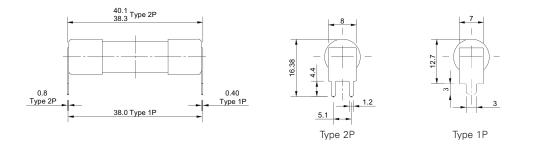
## PV-A10 - 10 x 38 mm, 1000 V d.c. (IEC/UL), 1 A to 20 A

Dimensions (mm) - PV-\*\*A10F, Cylindrical

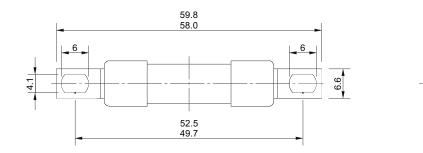




Dimensions (mm) - PV-\*\*A10-xP, PCB fixing

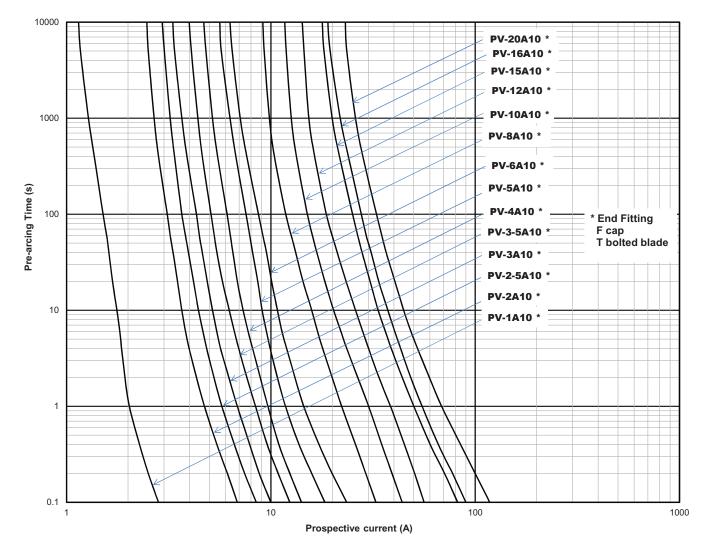


Dimensions (mm) - PV-\*\*A10-T, Bolt fixing

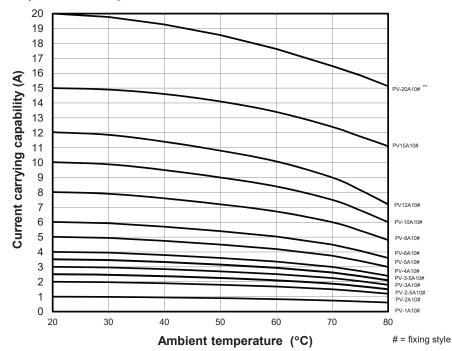


## PV-A10 - 10 x 38 mm, 1000 V d.c. (IEC/UL), 1 A to 20 A

Time-current curve - 1 A to 20 A



**Temperature deratings** 



## CHPV - Modular fuse holders, 1000 V d.c. (IEC/UL), 32 A (IEC), 30 A (UL

### **Specifications**

### Description

Compact DIN-Rail mounting fuse holders specifically designed for 10  $\times$  38 mm photovoltaic fuse links.

### **Catalogue numbers**

- CHPV1U 1-pole modular fuse holder
- CHPV2U 2-pole modular fuse holder
- CHPV1IU 1-pole modular fuse holder with neon indicator
- CHPV2IU 2-pole modular fuse holder with neon indicator

### **Technical data**

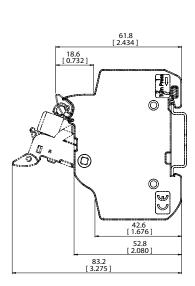


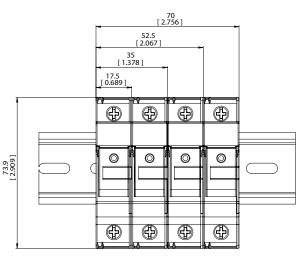
IEC		UL		_	Rated breaking			
Rated voltage	Rated current	Rated voltage	Rated current	Terminal rating	withstand capactiy	Compatible Bussmann series fuse links		
1000 V d.c.	32 A	1000 V d.c.	30 A	IEC 1 to 25 mm <sup>2</sup> 70°C PVC Copper cable (solid stranded or fine stranded) Spade lug Comb bus bar	33 kA rms sym	Solar PV range: PVM, PV-A10F		

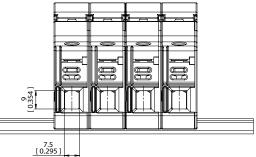
### **Standards / Agency information**

IEC	UL	CSA	CCC	CE
IEC 60269-1	UL 4248-1 UL4248-19 UL file E14853	C22.2 No 4248.1 C22.2 No 4248.19	GB 13539.1	DCB 272

### Dimensions mm (in)







### PV-A10F85L - 10 x 85 mm, 1500 V d.c. (IEC/UL), 2.25 A to 30 A

### **Specifications**

### Description

A range of fuse links in a 10  $\times$  85 mm package specifically designed for the protection and isolation of photovoltaic strings.

### **Technical data**

- Rated voltage: 1500 V d.c.
- Rated current: 2.25 A to 30 A
- Breaking capacity: 30 kA 1 ms
- Operating class: gPV

### Compatible fuse holder

CHPV15L85

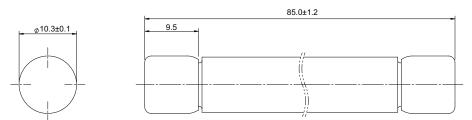
### **Standards / Agency information**

IEC 60269-6, UL 248-19, RoHS compliant

### **Catalogue numbers**

		I²t (A² Sec)		Watts los	ss (W)	
Rated voltage	Rated current (Amps)	Pre-arcing	Total at 1500 V d.c.	0.8 l <sub>n</sub>	In	Catalogue numbers
	2.25	3	10	1.4	2.4	PV-2-25A10F85L
	2.5	4	10	1.3	2.1	PV-2.5A10F85L
	3	7	20	1.3	2.2	PV-3A10F85L
	3.5	10	20	1.6	2.6	PV-3.5A10F85L
	4	15	30	1.7	2.8	PV-4A10F85L
	5	33	60	1.7	2.8	PV-5A10F85L
1500 V d.c. (IEC/UL)	12	19	240	2.1	3.5	PV-12A10F85L
	15	42	300	2.2	3.6	PV-15A10F85L
	16	48	350	2.1	3.5	PV-16A10F85L
	20	108	800	2.7	4.5	PV-20A10F85L
	25	190	1400	3.4	5.6	PV-25A10F85L
	30	485	3500	4	6.6	PV-30A10F85L

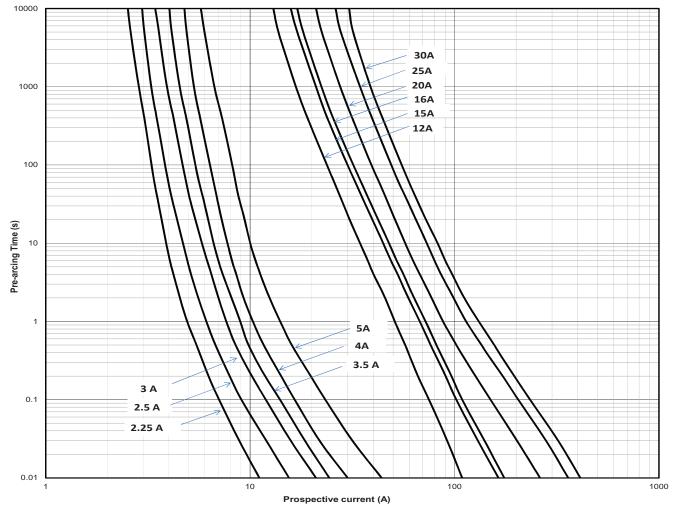
#### **Dimensions (mm)**





# PV-A10F85L - 10 x 85 mm, 1500 V d.c. (IEC/UL), 2.25 A to 30 A

Time-current curve - 2.25 A to 30 A



### CHPV15H85 -10 x 85 mm fuse holder, 1500 V d.c., 32 A (IEC/UL)

### **Specifications**

### Description

Eaton's Bussmann series  $10 \times 85$  mm fuse holders are suitable for use with  $10 \times 85$  mm and  $14 \times 85$  mm cylindrical gPV fuse links. The unique design offers high degree of safety. There is no possibility of any accidental contact with live parts during replacement of the fuse links. When the fuse carrier is extracted, a spring loaded cover moves out covering the live parts hence protecting against accidental damage.

#### **Catalogue symbol**

CHPV15H85

### **Compatible fuse links**

- 10 x 85 mm fuse links PV-A10F85L
- 14 x 85 mm fuse links PV-A14LF

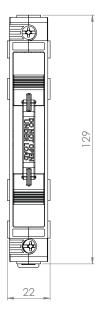
#### **Technical data**

- Rated voltage: 1500 V d.c.
- Rated current: 32 A (IEC/UL)
- Breaking capacity: 50 kA

### Standards / Agency information

- IIEC 60269-1
- IEC 60269-6
- UL 4248-1 Edition 1 (File number 348242)
- UL 4248-19 Edition 1

#### **Dimensions (mm)**





### PV-14F - 14 x 51 mm, 1000 and 1100 V d.c. (IEC/UL), 15 A to 32 A

### **Specifications**

### Description

A range of fuse links in a 14 x 51 mm package specifically designed for the protection and isolation of photovoltaic strings. The fuse links are capable of interrupting low overrated currents associated with faulted PV (reverse rated current, multi-array fault).

### **Technical data**

- Rated voltage:
- 1100 V d.c. (IEC and UL, 15 A and 20 A)
- 1000 V d.c. (IEC and UL, 25 A and 32 A)
- Rated current: 15 A to 32 A
- Breaking capacity: 30 kA
- Operating class: gPV and UL PV fuse links

#### **Compatible fuse holder**

• CHPV14

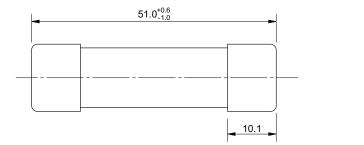
#### Standards / Agency information

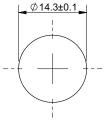
IIEC 60269-6, UL Recognised 2579 (File number E335324), RoHS compliant. Pending: CCC

### **Catalogue numbers**

		I²t (A² Sec)	Watts los	ss (W)		
Rated voltage	Rated current (Amps)	Total Pre-arcing at rated voltage		0.8 I <sub>n</sub>	In	Catalogue numbers
1100 \/ d a //EC///// \	15	14	270	2.1	4	PV-15A14F
1100 V d.c. (IEC/UL)	20	27	570	2.9	5.5	PV-20A14F
1000.)/   //F0////	25	65	950	2.8	5.3	PV-25A14F
1000 V d.c. (IEC/UL)	32	120	1750	4	7.5	PV-32A14F

#### **Dimensions (mm)**

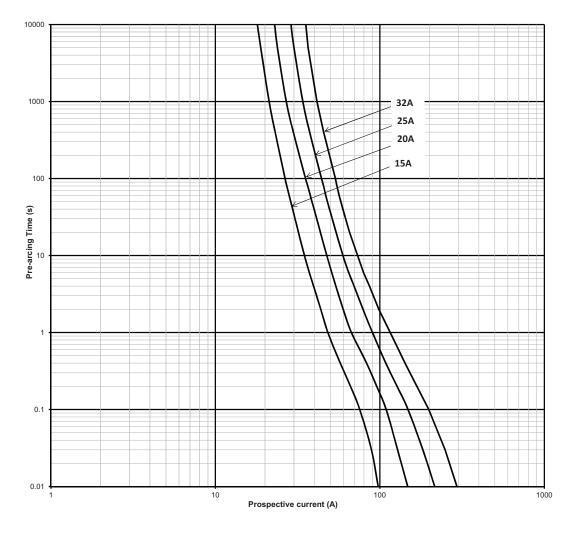






## PV-14F - 14 x 51 mm, 1000 and 1100 V d.c. (IEC/UL), 15 A to 32 A

Time-current curve - 15 A to 32 A



## CHPV14 - 14 x 51 mm, Modular fuse holders, 1500 V d.c., 50 A

### **Specifications**

### Description

Compact DIN-Rail mounting fuse holders specifically designed for 14  $\times$  51 mm photovoltaic fuse links.

### **Catalogue numbers**

- CHPV141U 1-pole without indicator
- CHPV142 2-pole without indicator
- CHPV141IU 1-pole with indicator
- CHPV142IU 2-pole with indicator

### Standards / Agency information

IEC 60269-1 and 2, UL Listed file number E348242

### **Technical data**

### Rated Rated

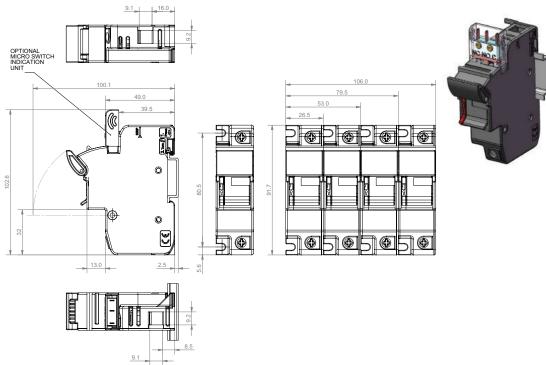
voltage	current	Agency		Rated breaking withstand	Compatible Bussmann series	
IEC and UL	IEC and UL	markings	Terminal rating	capactiy	fuse links	
			Cable size: 1.5-50 mm <sup>2</sup>			
		IEC 60269-1 and 2	Recommended torque setting: 3.5 Nm			
1500 V d.c.	32 A	UL Listed file number E348242	Maximum torque setting: 3.5Nm	10 kA d.c.	PV-A14F	
			Mounting 35 mm DIN-Rail or 2 x M4 panel mounting screws			

#### Accessories

### Catalogue

numbers	Description	Unit packing
JV-L	Multi-pole connector kit. One kit will gang up to 4-poles together	12
CH14-CTP	IP20 Protection accessory, provides IP20 protection to terminals with 10mm <sup>2</sup> or less cable	12

### Dimensions (mm)





### PV-14L - 14 x 65 mm, 1300-1500 V d.c. (IEC and UL), 2.25 A to 32 A

## **Specifications**

#### **Description**

A range of fuse links in a 14 x 65 mm package specifically designed for the protection and isolation of photovoltaic strings. The fuse links are capable of interrupting low overrated currents associated with faulted PV (reverse rated current, multi-array fault).

#### **Technical data**

- Rated voltage:
  - 1500 V d.c. (IEC and UL, 2.25 A to 20 A)
- 1300 V d.c. (IEC and UL, 25 A and 32 A)
- Rated current: 2.25 A to 32 A
- Breaking capacity: 10 kA
- Operating class: gPV and UL PV fuse links

### Compatible fuse holder for PV-A14LF10F

#### CHPV15L85

### **Standards / Agency information**

IEC 60269-6, UL Recognised 2579 (File number E335324), RoHS compliant, Pending: CCC.

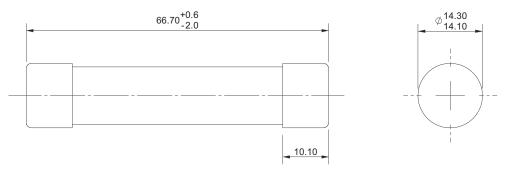
#### **Catalogue numbers**



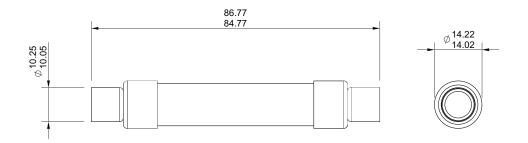
		l²t (A² Sec)		Watts los	s (W)	Catalogue numbers		
Rated voltage	Rated current (Amps)	Pre-arcing	Total at rated voltage	0.8 l <sub>n</sub>	In	Cylindrical	Cylindrical with tags	Cylindrical with 10mm fixings
	2.25	4	8	1.4	2.3	PV-2.25A14LF	N/A	PV-2.25A14LF10F
	2.5	5	10	1.5	2.5	PV-2.5A14LF	PV-2.5A14L-T	PV-2.5A14LF10F
	3	8	14	1.7	2.8	PV-3A14LF	PV-3A14L-T	PV-3A14LF10F
1500 V d.c. (IEC/UL)	3.5	12	23	1.8	3.0	N/A	N/A	PV-3.5A14LF10F
	4	18	34	2	3.3	PV-4A14LF	PV-4A14L-T	PV-4A14LF10F
	15	16	190	2.9	5.1	PV-15A14LF	PV-15A14L-T	PV-15A14LF10F
	20	34	400	3.8	6.9	PV-20A14LF	PV-20A14L-T	PV-20A14LF10F
1300 V d.c.	25	65	550	4.1	7.5	PV-25A14LF	PV-25A14L-T	PV-25A14LF10F
(IEC/UL)	32	105	900	5.7	10.4	PV-32A14LF	PV-32A14L-T	PV-32A14LF10F

### PV-14L - 14 x 65 mm, 1300-1500 V d.c. (IEC and UL), 2.25 A to 32 A

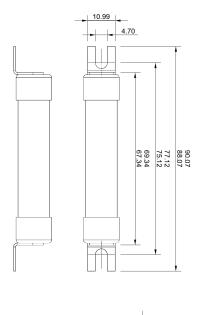
Dimensions (mm) - PV-\*A14LF, Cylindrical



### Dimensions (mm) - PV-\*A14LF10F, Cylindrical with 10 mm Fixings



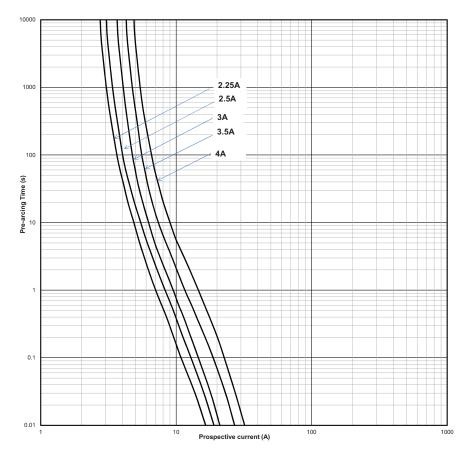
### Dimensions (mm) - PV-\*A14L-T, Cylindrical with tags



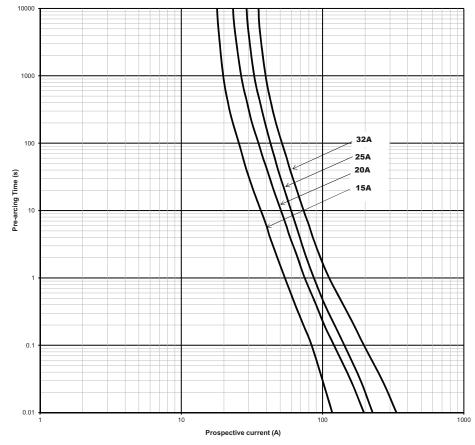


PV-14L - 14 x 65 mm, 1300-1500 V d.c. (IEC and UL), 2.25 A to 32 A

Time-current curve - 2.25 A to 4 A







Data sheet: 720139, 5785579

# NH 170M - 800 V a.c. (IEC/UL), 32 A to 400 A

### **Specifications**

### Description

Eaton's Bussmann series NH size 800 V a.c. fuse links are specifically designed to meet the needs of branch circuit and transformer protection in photovoltaic inverter systems. The fuse links are capable of interrupting low overcurrents associated with faulted PV systems (reverse current, multi-array fault).

### **Technical data**

- Rated voltage: 800 V a.c.
- Rated current: 32 A to 400 A
- Breaking capacity: 65 kA
- Operating class: gR

### **Compatible fuse base**

SD-D-PV see details page 352

### Microswitches, for use with bladed version

- 170H0236
- 170H0238

### **Standards / Agency information**

E12E09E) IEC 60260 4 (and dataile h UL 248-13 (file .

### Catal

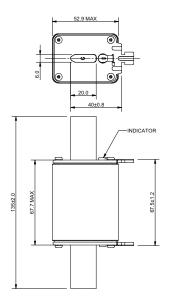
atalogue	e numbers						
			I²t (A² Sec)		Watts loss (W)	Catalogue numbers	
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Total at 800 V a.c.	In	Bladed with lugs	Blade with bolt holes no lugs
		32	80	2000	8	170M7350	
		40	185	3000	9	170M7351	
		50	400	6000	11	170M7352	
		63	470	7000	12	170M7353*	170M7353-B*
NH1	800 V a.c.	80	640	9000	15	170M7354	170M7354-B
		100	1300	17000	16	170M7355	170M7355-B
		125	2600	34000	17	170M7356*	170M7356-B*
		160	5200	68000	27	170M7357*	170M7357-B*
		200	10200	140000	25	170M7358*	170M7358-B*
		160	4600	36800	28	170M7397	170M7397-B
NH2	800 V a.c.	200	9500	76000	32	170M7398	170M7398-B
		250	17000	136000	38	170M7399	170M7399-B
		315	32000	230000	44	170M7400*	170M7400-B*
		355	44500	320000	46	170M7401*	
NH3	800 V a.c.	400	67500	480000	50	170M7402*	
		355	38000	270000	48		170M7401-B*
		400	61000	430000	50		170M7402-B*

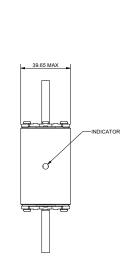
\*UL 248-13 and IEC 60269-4



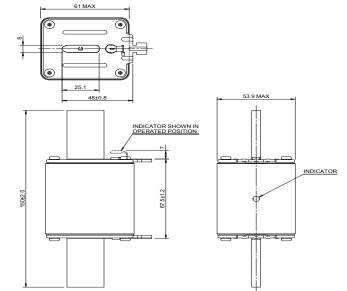
## NH 170M - 800 V a.c. (IEC/UL), 32 A to 400 A

Dimensions (mm) - NH1, bladed with lugs

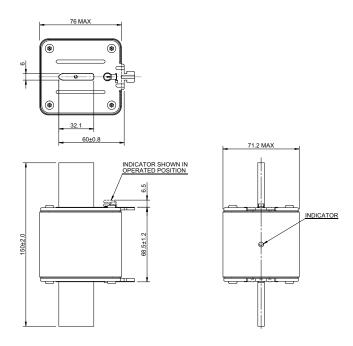




### Dimensions (mm) - NH2, bladed with lugs

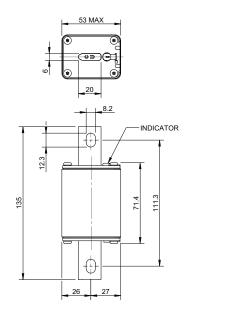


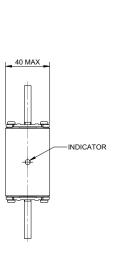
### Dimensions (mm) - NH3, bladed with lugs

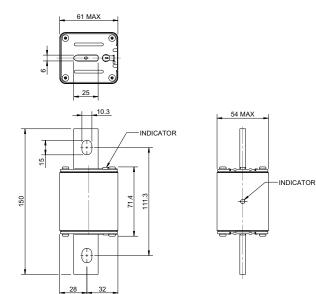


## NH 170M - 800 V a.c. (IEC/UL), 32 A to 400 A

Dimensions (mm) - NH1,bolt holes no lugs

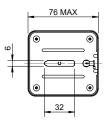


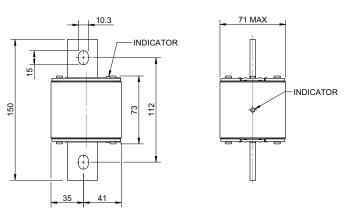




Dimensions (mm) - NH2, bolt holes no lugs

Dimensions (mm) - NH3, bolt holes no lugs



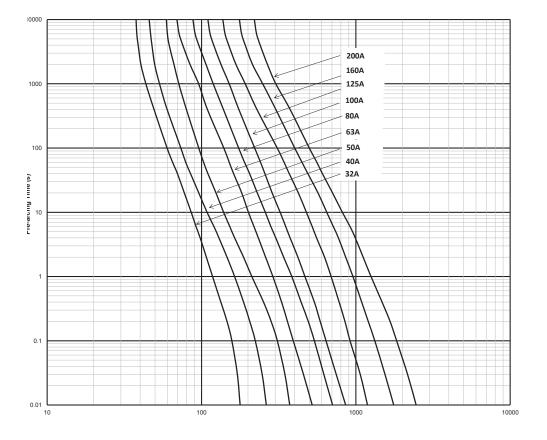


Data sheet: 10784

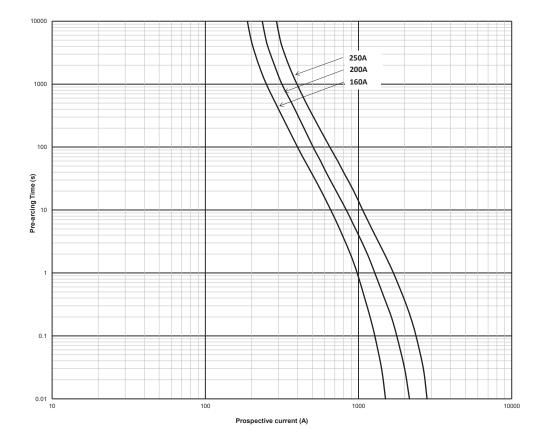
340

### NH 170M - 800 V a.c. (IEC/UL), 32 A to 400 A

Time-current curve - Size 1, 32 A to 200 A

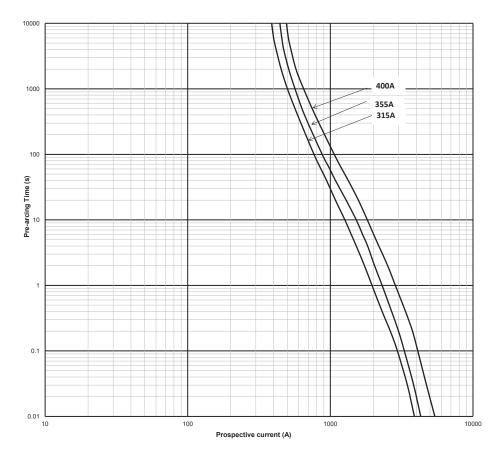


Time-current curve - Size 2, 160 A to 250 A

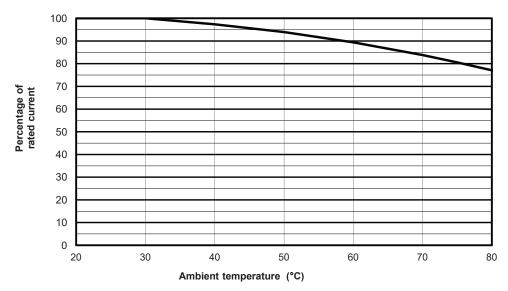


# NH 170M - 800 V a.c. (IEC/UL), 32 A to 400 A

### Time-current curve - Size 3, 315 A to 400 A

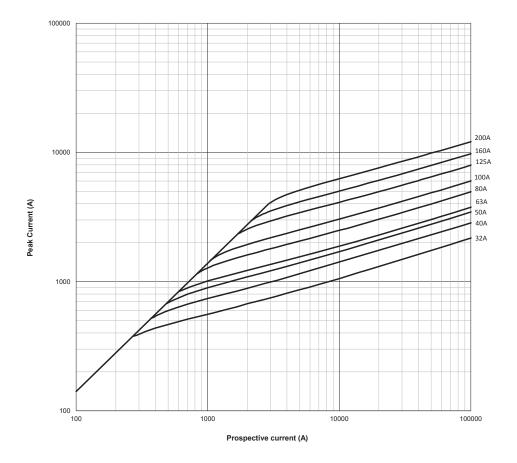


### Temperature derating curve

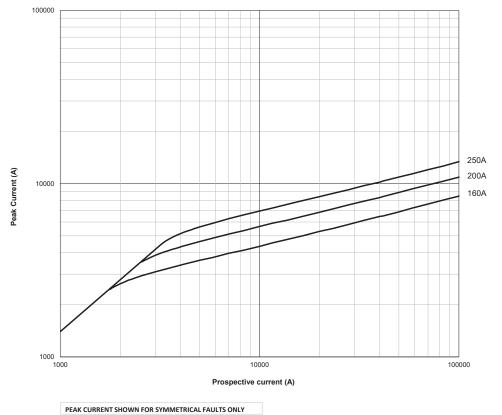


## NH 170M - 800 V a.c. (IEC/UL), 32 A to 400 A

Cut-off curve - Size 1, 32 A to 200 A



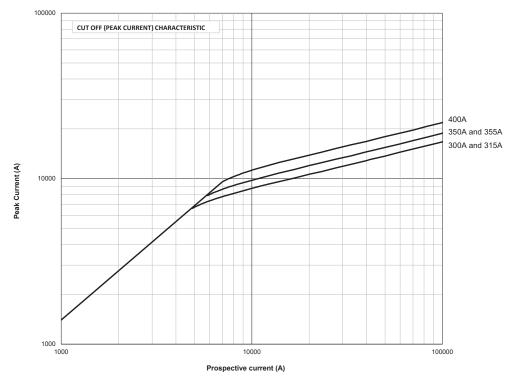
Cut-off peak current curve - Size 2, 160 A to 250 A



Data sheet: 10/84

## NH 170M - 800 V a.c. (IEC/UL), 32 A to 400 A

### Cut-off peak current curve - Sze 3, 315 A to 400 A



PEAK CURRENT SHOWN FOR SYMMETRICAL FAULTS ONLY

## NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A

### **Specifications**

### Description

A range of NH size bladed fuse links specifically designed for protecting and isolating photovoltaic array combiners and disconnects. These fuse links are capable of interrupting low overrated currents associated with faulted PV systems (reverse rated current, multi-array fault).

#### **Technical data**

- Rated voltage: 1000 V d.c. (IEC and UL)
- Rated current: 32 A to 400 A
- Breaking capacity: 50 kA
- Operating class: gPV and UL PV fuse links

#### **Compatible fuse base**

SD-D-PV see page 352

#### **Standards / Agency information**

IEC 60269-6, UL Recognised file 2579 E335324 for size 1 only, RoHS compliant

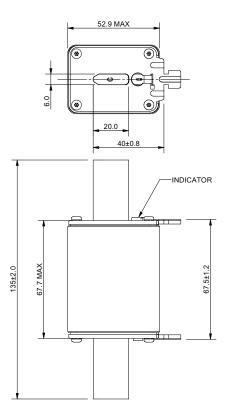
#### **Catalogue numbers**

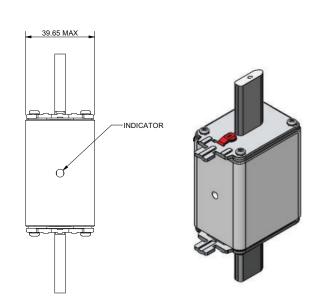


			l²t (A² Sec)		Watts	loss (W)	Catalogue numbers		
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Total at 1000 V d.c.	0.8 l <sub>n</sub>	In	Blade without bolt holes	Blade with bolt holes	Blade with bolt holes and lugs
		32	80	720	4	8	PV-32ANH1	PV-32ANH1-B	
		40	185	1670	5	9	PV-40ANH1	PV-40ANH1-B	_
		50	400	3600	6	11	PV-50ANH1	PV-50ANH1-B	_
		63	470	4300	6	12	PV-63ANH1		_
	1000 1/ 1	80	640	5760	8	15	PV-80ANH1	_	
NH1	1000 V d.c. (IEC/UL)	100	1300	11700	8	16	PV-100ANH1	_	
	(,,	110	2100	18900	9	18.5	PV-110ANH1	_	
		125	2600	23400	9	17	PV-125ANH1	_	
		160	5200	46800	14	27	PV-160ANH1	_	
		175	8300	74700	15	29	PV-175ANH1	_	
		200	10200	82000	13	25	PV-200ANH1	_	
		160	4600	37000	14	28	PV-160ANH2	_	
NH2	1000 V d.c. (IEC/UL)	200	9500	76000	16	32	PV-200ANH2	_	
	(120/02)	250	17000	136000	19	38	PV-250ANH2	_	
		300	32000	260000	24	40	PV-300ANH3	_	
	1000 11 1	315	32000	260000	26	44	PV-315ANH3	_	
NH3	1000 V d.c. (IEC/UL)	350	44500	370000	27	45	PV-350ANH3	_	
	(120) 02)	355	44500	370000	28	46	PV-355ANH3	_	
		400	67500	550000	30	50	PV-400ANH3		
		63	470	4300	6	12	_	PV-63ANH1-B	PV-63ANH1-BL
		80	640	5760	8	15	_	PV-80ANH1-B	PV-80ANH1-BL
NH1	1000 V d.c.	100	1300	11700	8	16	_	PV-100ANH1-B	PV-100ANH1-BL
	(IEC/UL)	125	2600	23400	9	17	_	PV-125ANH1-B	PV-125ANH1-BL
		160	5200	46800	14	27	_	PV-160ANH1-B	PV-160ANH1-BL
		200	10200	82000	13	25	_	PV-200ANH1-B	PV-200ANH1-BL
	1000 \/ -1 -	160	4600	37000	14	28	_	PV-160ANH2-B	PV-160ANH2-BL
NH2	1000 V d.c. (IEC/UL)	200	9500	76000	16	32	_	PV-200ANH2-B	PV-200ANH2-BL
		250	17000	136000	19	38	_	PV-250ANH2-B	PV-250ANH2-BL
	1000 \/ -1 -	315	32000	260000	26	44	_	PV-315ANH3-B	PV-315ANH3-BL
NH3	1000 V d.c. (IEC/UL)	355	38000	310000	29	48	_	PV-355ANH3-B	PV-355ANH3-BL
		400	61000	490000	32	50		PV-400ANH3-B	PV-400ANH3-BL

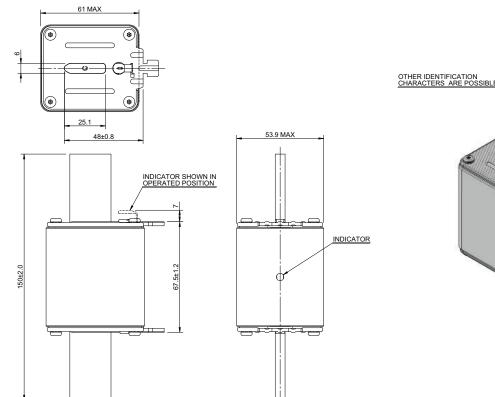
## NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A

Dimensions (mm) - NH1, blade without bolt holes



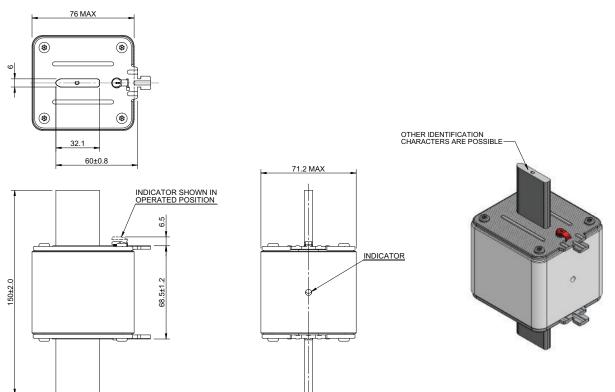


Dimensions (mm) - NH2, blade without bolt holes

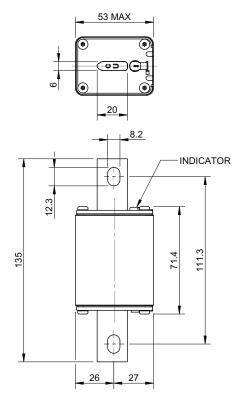


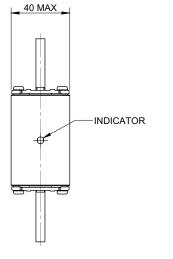
## NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A

Dimensions (mm) - NH3, blade without bolt holes



Dimensions (mm) - NH1, blade with bolt holes

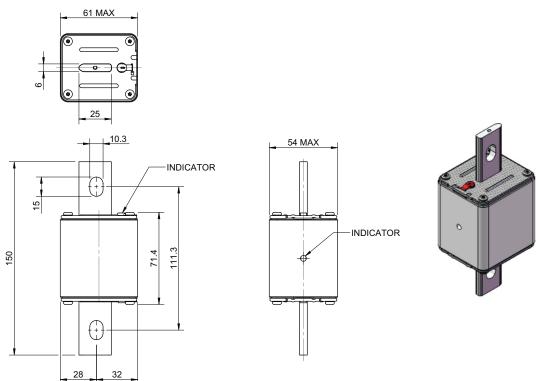




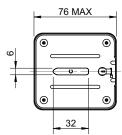


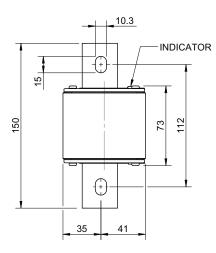
# NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A

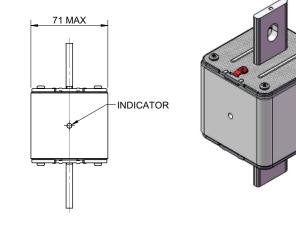
Dimensions (mm) - NH2, blade with bolt holes



Dimensions (mm) - NH3, blade with bolt holes

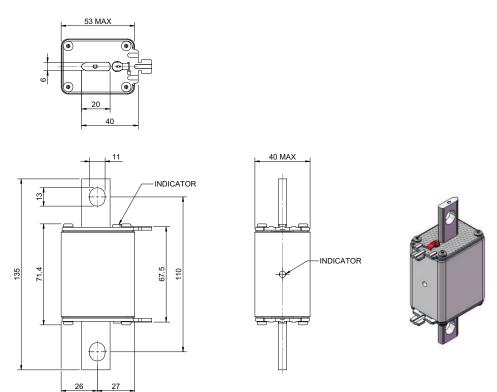




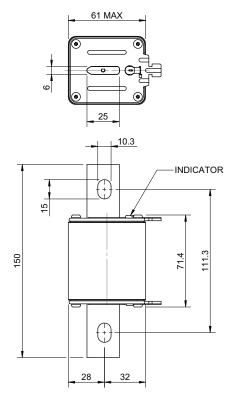


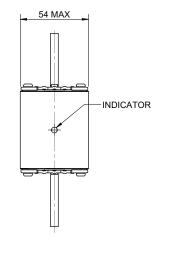
## NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A

Dimensions (mm) - NH1, blade with bolt holes and lugs



Dimensions (mm) - NH2, blade with bolt holes and lugs

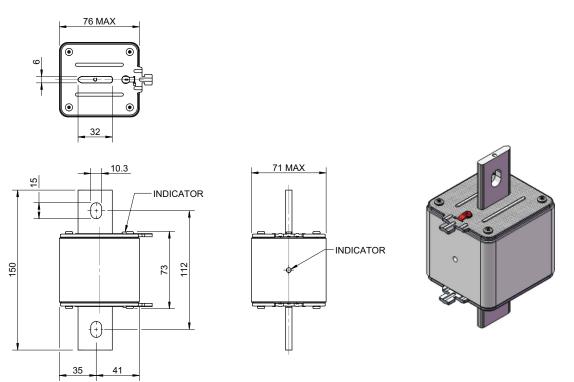




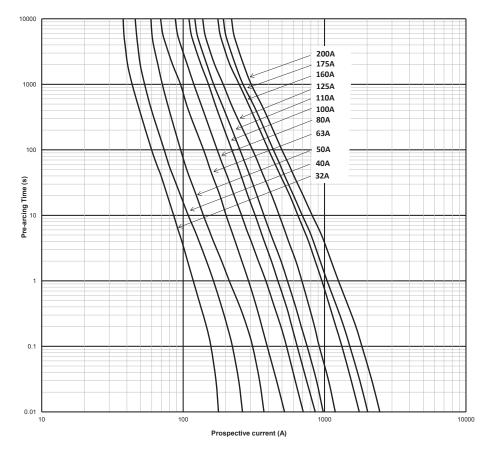


## NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A

Dimensions (mm) - NH3, blade with bolt holes and lugs



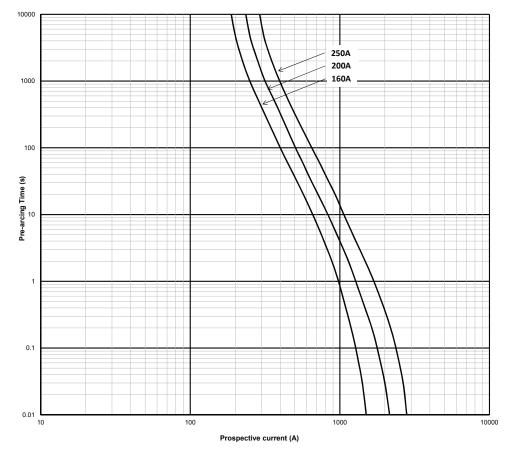
Time-current curve - Size 1, 32 A to 200 A



Data sheet: 720133

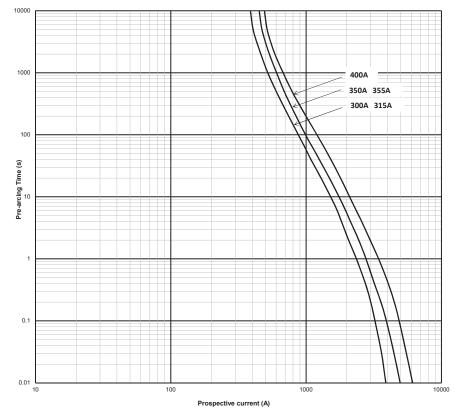
350

## NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A



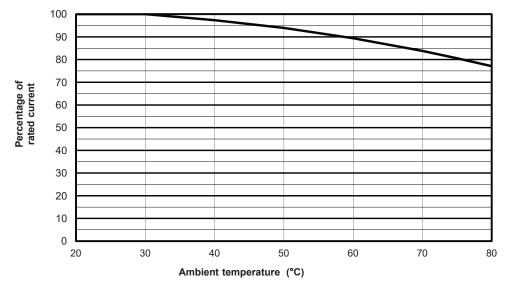
Time-current curve - Size 2, 160 A to 250 A

Time-current curve - Size 3, 300 A to 400 A

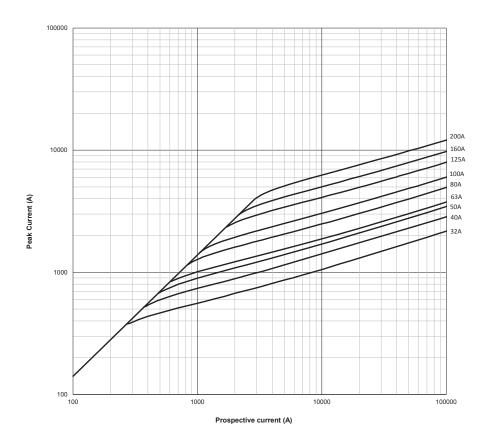


## NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A

Temperature derating curve - Sizes 1 to 3

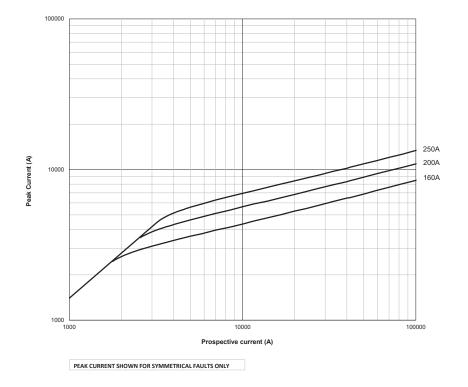


Cut-off curve - Size 1, 32 A to 200 A

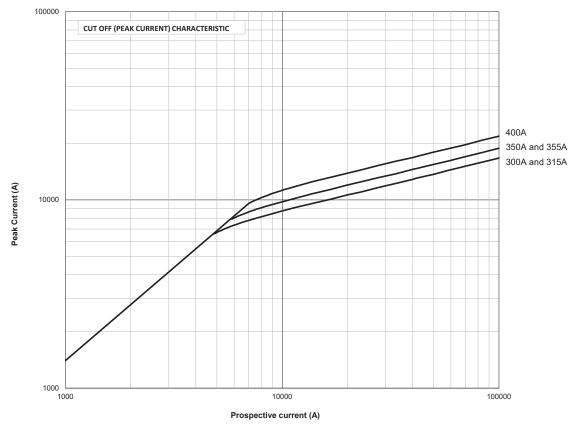


## NH PV-ANH - 1000 V d.c. (IEC/UL), 32 A to 400 A

### Cut-off curve - Size 2, 160 A to 250 A



Cut-off curve - Size 3, 300 A to 400 A



PEAK CURRENT SHOWN FOR SYMMETRICAL FAULTS ONLY

SD-D-PV - NH fuse bases, 1500 V d.c. (IEC), 1000 V d.c. (UL/CSA) 250 A to 630 A, sizes 1 to 3

### **Specifications**

### Description

Sizes 1 to 3 NH Fuse bases specifically designed for use with Bussmann series range of NH PV (Photovoltaic) fuse links.

### **Technical data**

- Rated voltage:
  - 1500 V d.c. (IEC)
  - 1000 V d.c. (UL/CSA)
- Rated current:
  - 250 A (SD1)
  - 400 A (SD2)
  - 630 A (SD3)
- Fuse base sizes: 1 to 3
- Withstand: 50 kA
- Power acceptance
  - SD1: 32 W
  - SD2: 45 W
  - SD3: 60 W

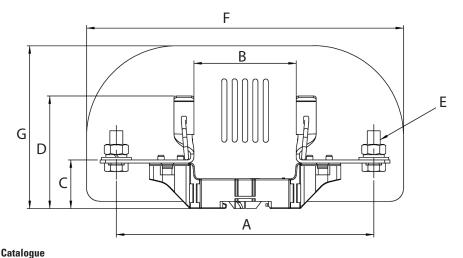
### Standards / Agency information

IEC 60269-1, UL Listed - UL File #E348242, CSA file #47235

### Accessories:

- Microswitches 170H0236, 170H0238 and BVL50
- IP20 Finger-Safe Protection Kit TD1-IP20, TD2-IP20, TD3-IP20
- Fuse extraction handle
- Shroud kits

### Dimensions (mm) - 1-pole with phase barriers

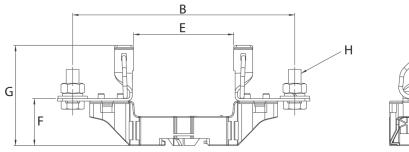


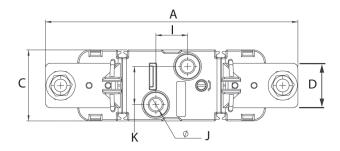
numbers	Poles/Type	Α	В	C	D	E	F	G
SD1-D-PV	1-pole	175	79	37	78	M10x25	245	125.5
SD2-D-PV	1 pole	199	79	37.5	86	M10x25	245	125.5
SD3-D-PV	1-pole	209	82	37.5	88	M12x30	260	137.5



SD-D-PV - NH fuse bases, 1500 V d.c. (IEC), 1000 V d.c. (UL/CSA) 250 A to 630 A, sizes 1 to 3

Dimensions (mm) - 1-pole without phase barriers





Catalogue numbers	Poles	А	В	C	D	E	F	G	Н	I	J	К
SD1-D-PV	1-pole	199	175	56	35	79	37	78	M10x25	25	10	30
SD2-D-PV	1 pole	224	199	56	35	79	37.5	86	M10x25	25	10	30
SD3-D-PV	1-pole	239	209	56	36	82	37.5	88	M12x30	25	10	30

## PV-AF - Flush end, 1000 V d.c. (IEC/UL), 160 A to 400 A

### **Specifications**

### Description

A range of flush end fuse links specifically designed for protecting and isolating photovoltaic array combiners and disconnects. These fuse links are capable of interrupting low overrated currents associated with faulted PV systems (reverse rated current, multi-array fault).

### **Technical data**

- Rated voltage: 1000 V d.c. (IEC and UL)
- Rated current: 160 A to 400 A
- Breaking capacity: 50 kA
- Operating class: gPV and UL PV fuse links

#### **Standards / Agency information**

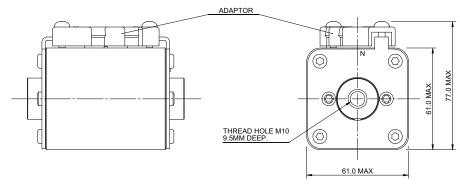
IEC 60269-6, UL 2579 (file number E335324), CSA Listed, RoHS compliant

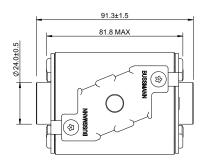
#### **Catalogue numbers**



				I²t (A² Sec)		Watts loss (W)		
Fuse link type	Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Total at 1000 V d.c.	0.8 l <sub>n</sub>	In	Catalogue numbers
			160	4600	37,000	15	30	PV-160AF2
	2	1000 V d.c.(IEC/UL)	200	9500	76,000	17	34	PV-200AF2
Flush end			250	17,000	136,000	19	38	PV-250AF2
Flush end			315	27,000	240,000	30	49	PV-315AF3
	3	1000 V d.c.(IEC/UL)	355	37,000	350,000	31	51	PV-355AF3
			400	61,500	550,000	32	52	PV-400AF3

#### Dimensions (mm) - Size 2

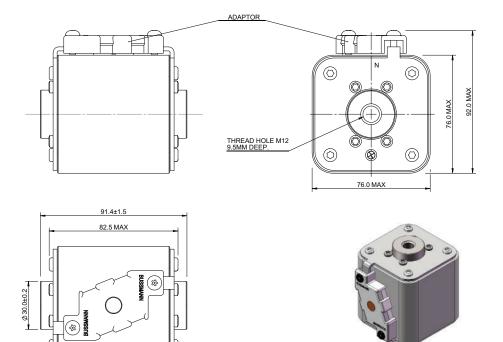




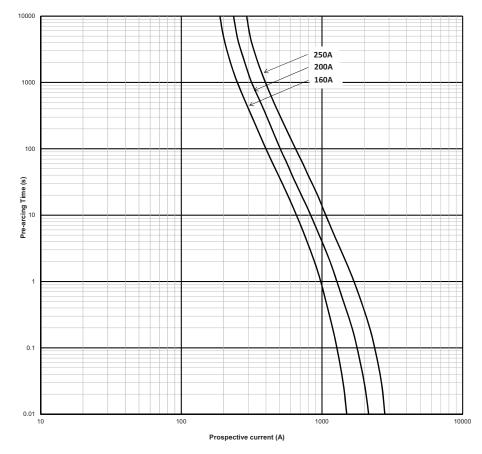


PV-AF - Flush end, 1000 V d.c. (IEC/UL), 160 A to 400 A

Dimensions (mm) - Size 3

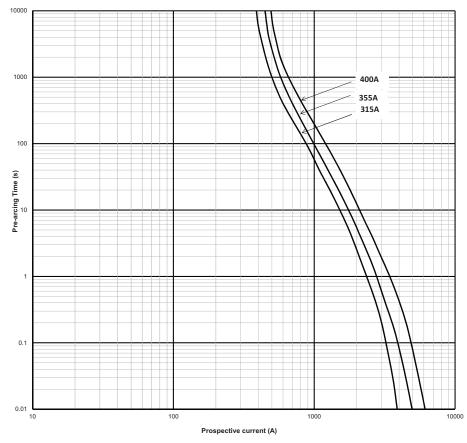


Time-current curve - Size 2, 160 A to 250 A



## PV-AF - Flush end, 1000 V d.c. (IEC/UL), 160 A to 400 A

### Time-current curve -Size 3, 315 A to 400 A



### PV-XL - XL Style, 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

### **Specifications**

### Description

A range of XL package bladed fuse links specifically designed for protecting and isolating photovoltaic array combiners and disconnects. These fuse links are capable of interrupting low overrated currents associated with faulted PV systems (reverse rated current, multi-array fault).

#### **Technical data**

- Rated voltage:
- 1000 V d.c. (IEC and UL 63 to 600 A)
- 1500 V d.c. (IEC and UL 50 to 400 A)
- Rated current: 50 A to 600 A
- · Breaking capacity: see catalogue numbers tables
- Operating class: gPV and UL PV fuse links

#### **Compatible fuse base**

• SD-S-PV

#### Microswitches

- For bladed fuse links
- 170H0235 or 170H0237 for 01XL
- 170H0236 or 170H0238 for 1XL, 2XL and 3L
- For bolted fuse links
  - 170H0069 for all sizes

#### **Standards / Agency information**

IEC 60269-6, UL Recognised file 2579 E335324, RoHS compliant

#### Catalogue numbers - PV-XL fuse links, 1000 V d.c.

			Breaking capacity	l²t (A² Sec)	Watts loss (W)		Catalogue numbers		
Fuse link body size	Rated voltage	Rated current (Amps)	(IEC/UL) (kA)	Pre-arcing	Total at 1000 V d.c.	0.7 l <sub>n</sub>	In	Bladed version	Bolted version
		63	50	260	1900	10	24	PV-63A-01XL	PV-63A-01XL-B
		80	50	490	3600	12	29	PV-80A-01XL	PV-80A-01XL-B
01	1000 V d.c.	100	50	870	6300	13	32	PV-100A-01XL	PV-100A-01XL-B
		125	50	1930	13,900	16	40	PV-125A-01XL	PV-125A-01XL-B
		160	50	3900	28,100	18	44	PV-160A-01XL	PV-160A-01XL-B
		160	33	2780	21,000	18	44	PV-160A-2XL	PV-160A-2XL-B
		200	33	4950	37,000	20	50	PV-200A-2XL	PV-200A-2XL-B
		250	33	9450	70,000	24	60	PV-250A-2XL	PV-250A-2XL-B
		315	33	16,600	123,000	26	66	PV-315A-2XL	PV-315A-2XL-B
0	1000 V d.c.	355	33	26,000	192,000	27	68	PV-355A-2XL	PV-355A-2XL-B
2		160	33	2780	21,000	18	44		PV-160A-2XL-3B1
		200	33	4950	37,000	20	50		PV-200A-2XL-3B1
		250	33	9450	70,000	24	60		PV-250A-2XL-3B1
		315	33	16,600	123,000	26	66		PV-315A-2XL-3B1
		355	33	26,000	192,000	27	68		PV-355A-2XL-3B1
	1000 V d.c.	350	50	31,000	161,200	26	65	PV-350A-3L	PV-350A-3L-B
0		400	50	44,500	231,400	33	82	PV-400A-3L	PV-400A-3L-B
3		500	50	85,000	442,000	34	85	PV-500A-3L	PV-500A-3L-B
		600	50	137,000	712,400	43	108	PV-600A-3L	PV-600A-3L-B

<sup>1</sup> PV-\*A-2XL-3B and PV-\*A-2XL-3B-15 have revised bolting patterns, which are identical to size 3L bolting pattern. This allows utilisation of both size 2XL and size 3L fuse links without changing the dimensional layout of the inverter, combiners and disconnects.



# PV-XL - XL Style - 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

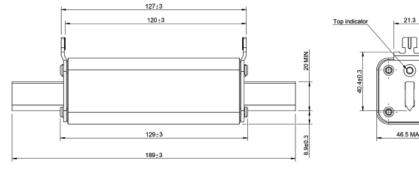
Catalogue numbers - PV-XL fuse links, 1500 V d.c.

		Rated current (Amps)	Breaking capacity (IEC/UL) (kA)	l²t (A² Sec)		Watts loss (W)		Catalogue numbers			
Fuse link body size	Rated voltage			Pre- arcing	Total at 1500 V <sup>1</sup>	0.7 l <sub>n</sub>	In	Bladed with top indicator	Bladed without top indicator	Bolted version with side indicator	Bolted without side indicator
		50	30	175	1000	10	25	PV-50A-01XL-15		PV-50A-01XL-B-15	
		63	30	362	2250	10	26	PV-63A-01XL-15		PV-63A-01XL-B-15	
01	1500 V d.c.	80	30	565	3300	14	35	PV-80A-01XL-15		PV-80A-01XL-B-15	
		100	30	1100	6600	16	40	PV-100A-01XL-15		PV-100A-01XL-B-15	
		125	30	2200	10,500	18	44	PV-125A-01XL-15		PV-125A-01XL-B-15	
		100	30	1250	6000	24	43	PV-100A-1XL-15		PV-100A-1XL-B-15	
1	1500 V d.c.	125	30	1950	9360	25	52	PV-125A-1XL-15		PV-125A-1XL-B-15	
I		160	30	4200	20,160	26	54	PV-160A-1XL-15		PV-160A-1XL-B-15	
		200	30	9400	45,120	31	60	PV-200A-1XL-15		PV-200A-1XL-B-15	
		125	30	2200	15,000	18	44	PV-125A-2XL-15	PV-125A-2XL-U-15	PV-125A-2XL-B-15	PV-125A-2XL-BU-15
		160	30	5000	32,000	19	48	PV-160A-2XL-15	PV-160A-2XL-U-15	PV-160A-2XL-B-15	PV-160A-2XL-BU-15
		200	30	8800	51,000	23	57	PV-200A-2XL-15	PV-200A-2XL-U-15	PV-200A-2XL-B-15	PV-200A-2XL-BU-15
2	1500 V d.c.	250	30	16,600	85,000	28	70	PV-250A-2XL-15	PV-250A-2XL-U-15	PV-250A-2XL-B-15	PV-250A-2XL-BU-15
Z		125	30	2200	15,000	18	44			PV-125A-2XL-3B-151	PV-125A-2XL-3BU-151
		160	30	5000	32,000	19	48			PV-160A-2XL-3B-151	PV-160A-2XL-3BU-151
		200	30	8800	51,000	23	57			PV-200A-2XL-3B-151	PV-200A-2XL-3BU-151
		250	30	16,600	85,000	28	70			PV-250A-2XL-3B-151	PV-250A-2XL-3BU-151
		250	100 <sup>2</sup>	74,000	263,000	20	49	PV-250A-3L-15	PV-250A-3L-U-15	PV-250A-3L-B-15	PV-250A-3L-BU-15
		315	100 <sup>2</sup>	150,000	533,000	21	52	PV-315A-3L-15	PV-315A-3L-U-15	PV-315A-3L-B-15	PV-315A-3L-BU-15
		350	100 <sup>2</sup>	195,000	693,000	24	59	PV-350A-3L-15	PV-350A-3L-U-15	PV-350A-3L-B-15	PV-350A-3L-BU-15
3	1500 V d.c.	355	100 <sup>2</sup>	195,000	693,000	24	59	PV-355A-3L-15	PV-355A-3L-U-15	PV-355A-3L-B-15	PV-355A-3L-BU-15
		400	100 <sup>2</sup>	296,000	1,060,000	24	61	PV-400A-3L-15	PV-400A-3L-U-15	PV-400A-3L-B-15	PV-400A-3L-BU-15
		450	100 <sup>2</sup>	412,000	1,470,000	27	67	PV-450A-3L-15	PV-450A-3L-U-15	PV-450A-3L-B-15	PV-450A-3L-BU-15
		500	100 <sup>2</sup>	532,000	1,890,000	29	73	PV-500A-3L-15	PV-500A-3L-U-15	PV-500A-3L-B-15	PV-500A-3L-BU-15

<sup>1</sup> PV-\*A-2XL-3B and PV-\*A-2XL-3B-15 have revised bolting patterns, which are identical to size 3L bolting pattern. This allows utilisation of both size 2XL and size 3L fuse links without changing the dimensional layout of the inverter, combiners and disconnects.

<sup>2</sup> 100 kA at time constant 6 mS.

#### Dimensions (mm) - Size 01, bladed



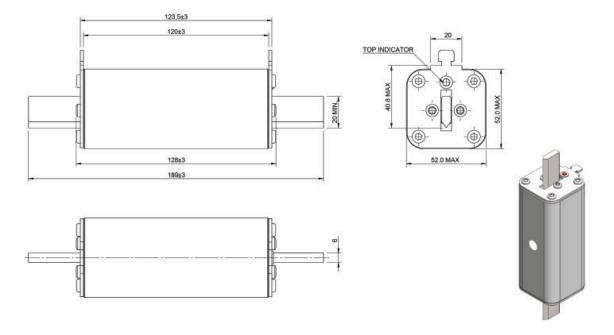


ጥ 6 Ŵ Ē 46.5 MAX



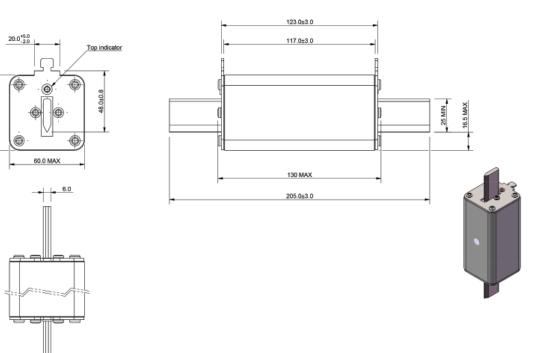
# PV-XL - XL Style - 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Dimensions (mm) - Size 1, bladed

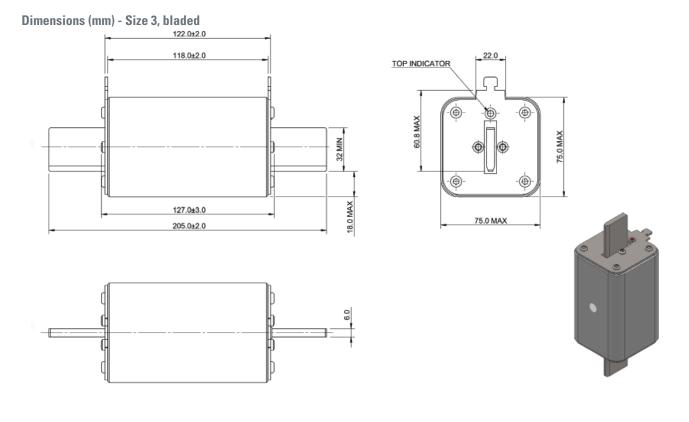


### Dimensions (mm) - Size 2, bladed

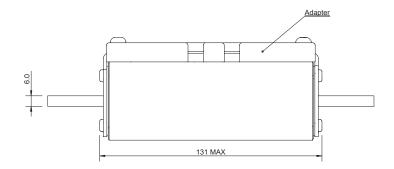
61.0 MAX

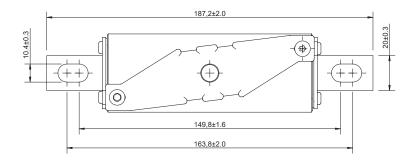


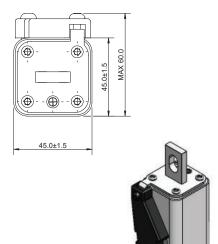
# PV-XL - XL Style - 1000-1500 V d.c. (IEC/UL), 50 A to 600 A



Dimensions (mm) - Size 01, bolted

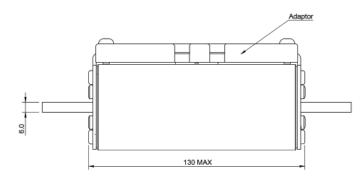


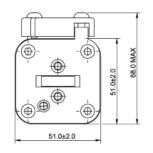




# PV-XL - XL Style - 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Dimensions (mm) - Size 1, bolted

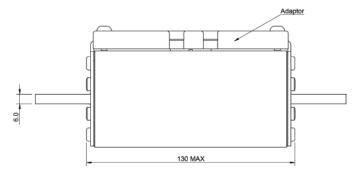


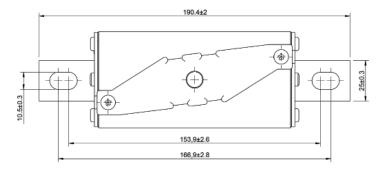


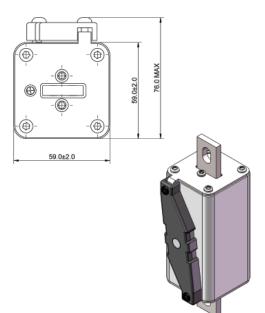


FUSE 1X2 PV GOLTED

### Dimensions (mm) - Size 2, bolted

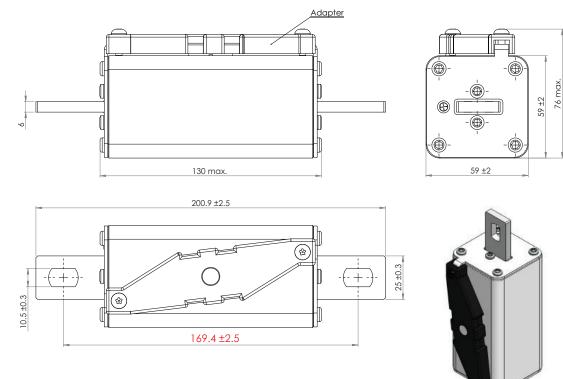






## PV-XL - XL Style - 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Dimensions (mm) - Size 2XL-3B, bolted

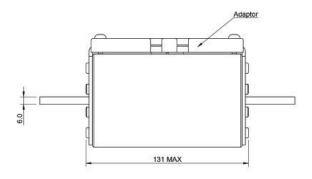


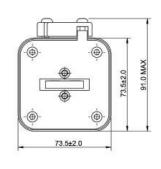
PV-\*A-2XL-3B and PV-\*A-2XL-3B-15 have revised bolting patterns, which are identical to size 3L bolting pattern. This allows utilisation of both size 2XL and size 3L fuse links without changing the dimensional layout of the inverter, combiners and disconnects.

Mounting dimensions comparison

2XL-3B	3L
169.4	170.8

Dimensions (mm) - Size 3, bolted

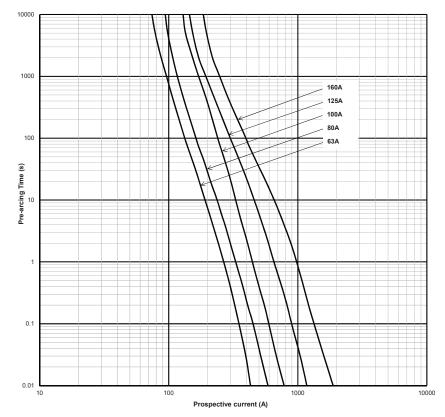




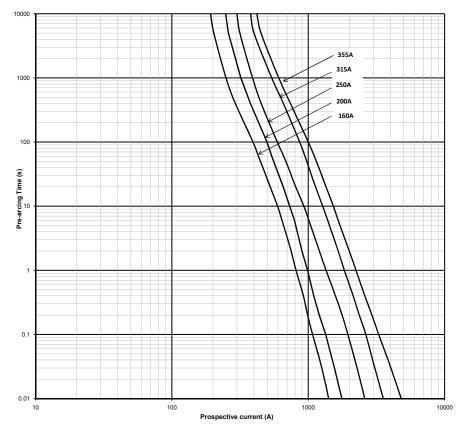


# PV-XL - XL Style - 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Time-current curve - Size 01XL, bladed and bolted, 1000 V d.c., 63 A to 160 A

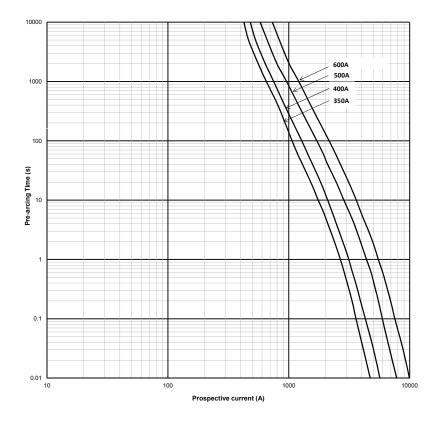


Time-current curve - Size 2XL, bladed and bolted, 1000 V d.c., 160 A to 355 A

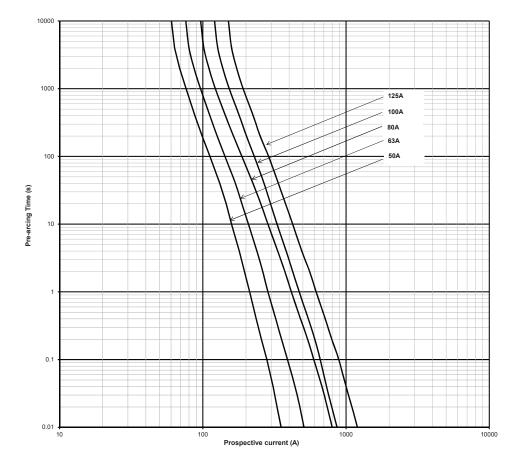


# PV-XL - XL Style - 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Time-current curve - Size 3L, bladed and bolted, 1000 V d.c., 350 A to 600 A

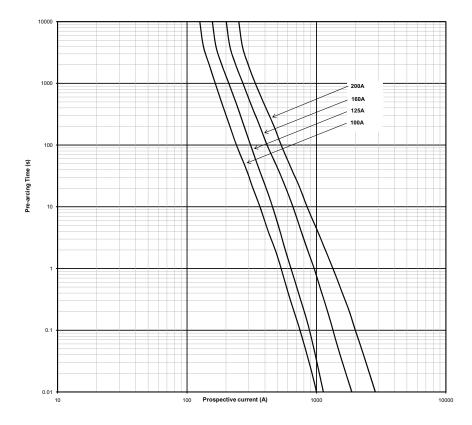


Time-current curve - Size 01XL, bladed and bolted, 1500 V d.c., 50 A to 125 A

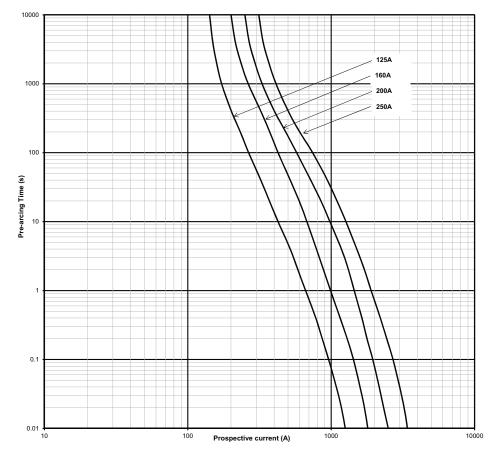


# PV-XL - XL Style - 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Time-current curve - Size 1XL, bladed and bolted, 1500 V d.c., 100 A to 200 A

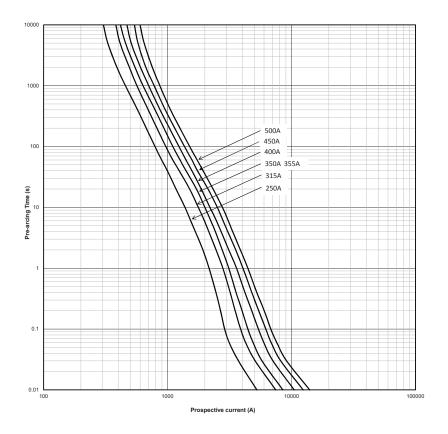


Time-current curve - Size 2XL, bladed and bolted, 1500 V d.c., 125 A to 250 A

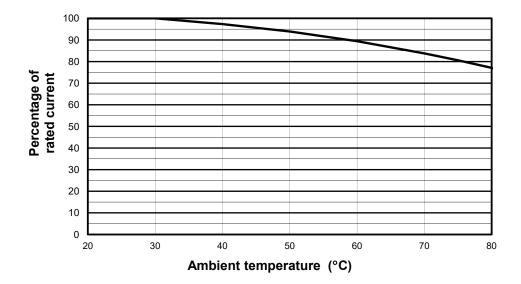


# PV-XL - XL Style - 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Time-current curve - Size 3L, bladed and bolted, 1500 V d.c., 250 A to 500 A



#### **Temperature derating curve**



## PVS-XL - XL Style, 1500 V d.c. (IEC/UL), 250 A to 400 A

### **Specifications**

#### Description

Eaton's Bussmann® series PVS XL fuse links are specifically designed to protect and isolate photovoltaic array combiners and disconnects. These fuse links are capable of interrupting low overcurrents associated with faulted PV systems (reverse current, multi-array fault).

#### **Technical data**

- Rated voltage: 1500 V d.c.
- Rated current: 250 A to 600 A
- Breaking capacity: 100 kA
- Operating class: gPV and UL PV fuse links

#### **Compatible fuse base**

SD3L-S-PV for bladed fuse links only

#### **Microswitches**

- For bladed fuse links with top indicator
  - 170H0236 or 170H0238
- For bolted fuse links with side indicator
  - 170H0069

#### **Standards / Agency information**

IEC 60269-6, UL Recognised file 2579 E335324, RoHS compliant

Catalogue numbers - PVS-XL fuse links, 1500 V d.c. Bladed version

			Breaking	l²t (A² Sec)		Watts Io (W)	SS	Catalogue number	S
Fuse link body size	Rated voltage	Rated current (Amps)	capacity (kA)	Pre-arcing	Total at 1000 V d.c.	0.7 l <sub>n</sub>	In	Bladed with top indicator	Bladed without top indicator
		250	100	90,000	350,000	24	43	PVS250A-3L-15	PVS250A-3L-U-15
		315	100	175,000	460,000	22	55	PVS315A-3L-15	PVS315A-3L-U-15
3	1500 V d.c.	350	100	250,000	970,000	23	57	PVS350A-3L-15	PVS350A-3L-U-15
		355	100	250,000	970,000	23	59	PVS355A-3L-15	PVS355A-3L-U-15
		400	100	315,000	1,100,000	27	71	PVS400A-3L-15	PVS400A-3L-U-15

Catalogue numbers - PVS-XL fuse links, 1500 V d.c. Bolted version

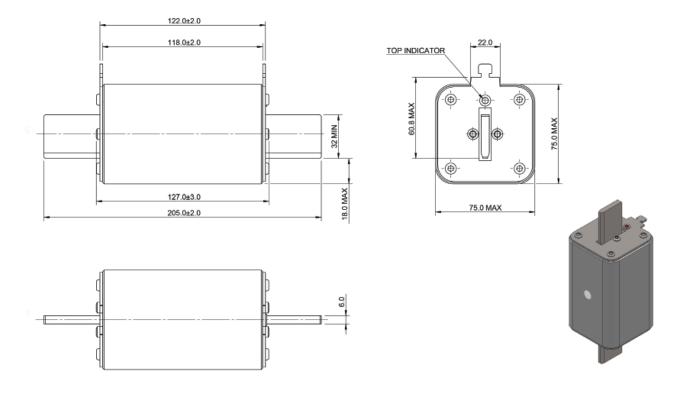
			Breaking	l²t (A² Sec)		Watts Io (W)	DSS	Catalogue numbers	5
Fuse link body size	Rated voltage	Rated current (Amps)	capacity (kA)	Pre-arcing	Total at 1000 V d.c.	0.7 l <sub>n</sub>	In	Bolted with side indicator	Bolted without side indicator
		250	100	90,000	350,000	16	42	PVS250A-3L-B-15	PVS250A-3L-BU-15
		315	100	175,000	460,000	21	52	PVS315A-3L-B-15	PVS315A-3L-BU-15
3	1500 V d.c.	350	100	250,000	970,000	21	54	PVS350A-3L-B-15	PVS350A-3L-BU-15
		355	100	250,000	970,000	22	57	PVS355A-3L-B-15	PVS355A-3L-BU-15
		400	100	315,000	1,100,000	25	66	PVS400A-3L-B-15	PVS400A-3L-BU-15



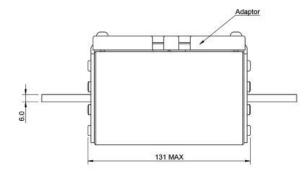
Bolted without side indicator

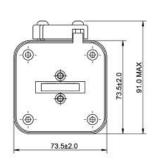
# PVS-XL - XL Style, 1500 V d.c. (IEC/UL), 250 A to 400 A

Dimensions (mm) - Size 3L Bladed with and without top indicator

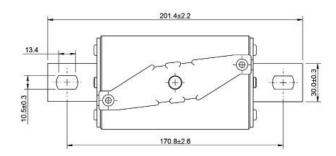


### Dimensions (mm) - Size 3L Bolted with side indicator





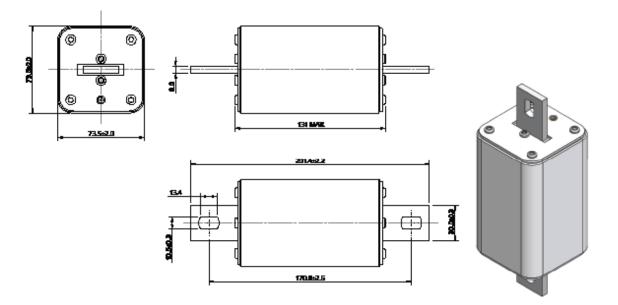




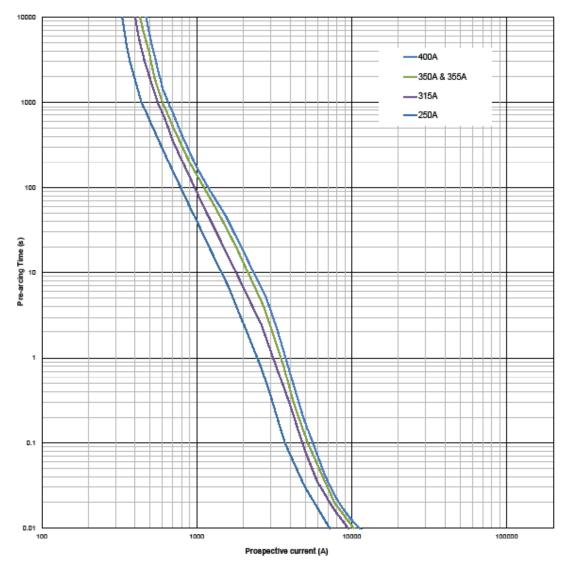
Data sheet: TD135020EN

# PVS-XL - XL Style, 1500 V d.c. (IEC/UL), 250 A to 400 A

Dimensions (mm) - Size 3L Bolted without side indicator

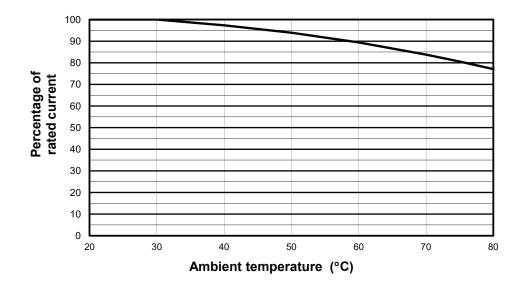


**Time-current curve** 



# PVS-XL - XL Style, 1500 V d.c. (IEC/UL), 250 A to 400 A

**Temperature derating curve** 



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## SD-S-PV - XL fuse bases, 1500 V d.c. (IEC), 200 A to 500 A, sizes 1 to 3

## **Specifications**

### **Description**

Sizes 1 to 3 XL Fuse bases specifically designed for use with the Bussmann series range of XL PV (Photovoltaic) fuse links.

### **Technical data**

- Rated voltage: 1500 V d.c. (IEC)
- Rated current: 200 A, 400 A and 630 A
- Fuse base size: 1 to 3
- Compatible fuse links: PV XL

### Standards / Agency information

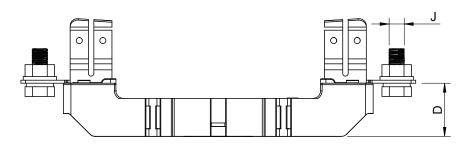
- IEC 60269-1
- UL Listed (file number E348242)

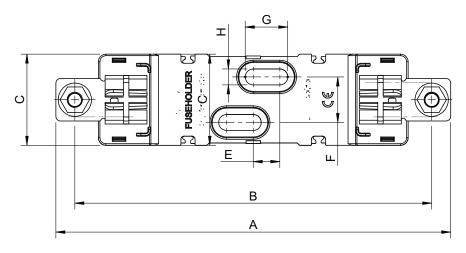
### Accessories:

Fuse extraction handle available in sizes 01XL to 3L Part numbers: FEH1500B Unit packing: 1

### **Dimensions (mm)**







Catalogue numbers	XL Style fuse link size	Maximum fuse rated current (Amps)	Power acceptance	A	В	C	D	E	F	G	H	J
SD1XL-S-PV	01XL, 1XL	200	57W	260	235	60	35	17.5	30	28	10.5	M10
SD2XL-S-PV	2XL	400	75W	285	260	60	35	17.5	30	28	10.5	M12
SD3L-S-PV	3L	500	108W	300	270	60	35	17.5	30	28	10.5	M12

# Battery storage fuse links

### BSF-NH - NH Style, 1000 V d.c. (IEC/UL), 63 A to 400 A

### **Specifications**

#### **Description**

Eaton's Bussmann series NH battery storage fuses are specifically designed to protect and isolate battery array combiners and disconnects. These fuse links are capable of interrupting low overcurrents associated with faulted battery storage systems (reverse current, multi-array fault).

#### **Technical data**

- Rated voltage: 1000 V d.c.
- Rated current: 63 A to 400 A
- Operating class: gBat proposed for full range fuse links for protection of battery storage systems
- Breaking capacity: 100 kA
- Time constant: 4.5 ms at 100 kA

#### **Microswitches**

- · For bladed fuse links only
  - 170H0236
  - 170H0238

### **Fuse holders**

- For bladed fuse links only
  - SD1-D-PV
  - SD2-D-PV
  - SD3-D-PV

#### **Standards / Agency information**

IEC 60269-7 for battery storage fuse links is under preparation.

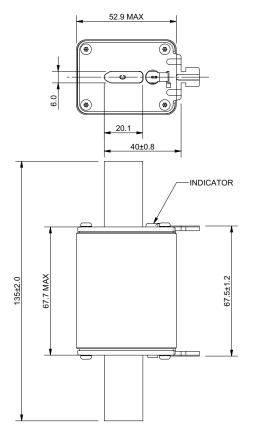
#### **Catalogue numbers**

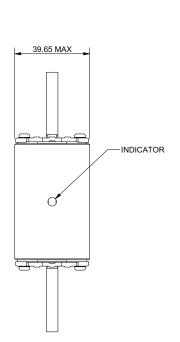
			I²t (A² Sec)		Watts Io (W)	DSS	Catalogue numbers	
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Total at 1000 V d.c.	0.7 I <sub>n</sub>	In	Bladed version	Bolted version
		63	470	4300	5	12	BSF-063G-NH110	BSF-063G-NH110-B
		80	640	5760	6	15.5	BSF-080G-NH110	BSF-080G-NH110-B
1	1000 V d.c.	100	1300	11,700	7	16.5	BSF-100G-NH110	BSF-100G-NH110-B
I	1000 V u.c.	125	2600	23,400	7	17.5	BSF-125G-NH110	BSF-125G-NH110-B
		160	5200	46,800	11	27.5	BSF-160G-NH110	BSF-160G-NH110-B
		200	10,200	82,000	10	25	BSF-200G-NH110	BSF-200G-NH110-B
		160	4600	37,000	11	28	BSF-160G-NH210	BSF-160G-NH210-B
2	1000 V d.c.	200	9500	76,000	13	32	BSF-200G-NH210	BSF-200G-NH210-B
		250	17,000	136,000	15	38	BSF-250G-NH210	BSF-250G-NH210-B
		315	32,000	260,000	18	44	BSF-315G-NH310	BSF-315G-NH310-B
3	1000 V d.c.	355	44,500	370,000	18	46	BSF-355G-NH310	BSF-355G-NH310-B
		400	67,500	550,000	20	50	BSF-400G-NH310	BSF-400G-NH310-B



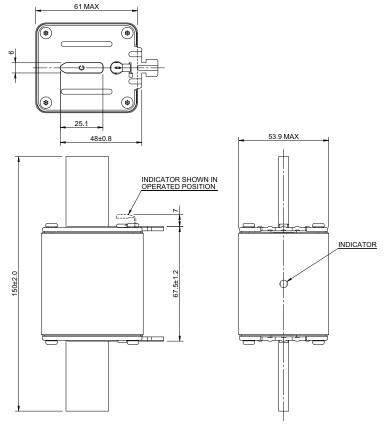
# BSF-NH - NH Style, 1000 V d.c. (IEC/UL), 63 A to 400 A

Dimensions (mm) - Size 1, bladed





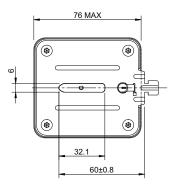
Dimensions (mm) - Size 2, bladed

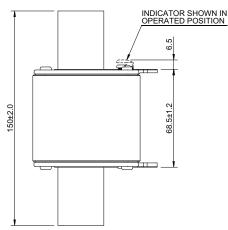


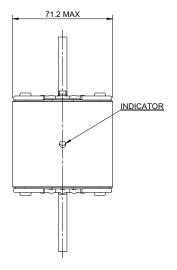
# Battery storage fuse links

# BSF-NH - NH Style, 1000 V d.c. (IEC/UL), 63 A to 400 A

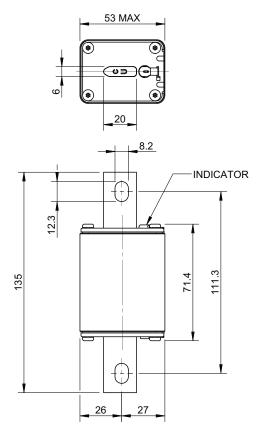
Dimensions (mm) - Size 3, bladed

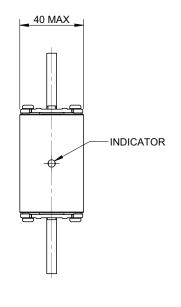






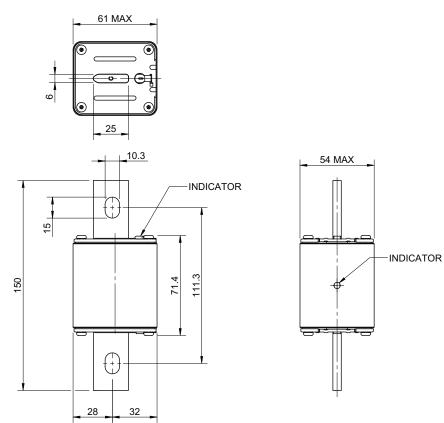
Dimensions (mm) - Size 1, bolted



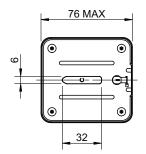


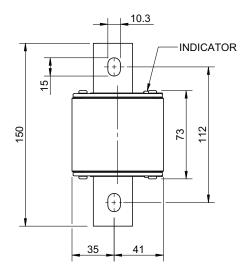
# BSF-NH - NH Style, 1000 V d.c. (IEC/UL), 63 A to 400 A

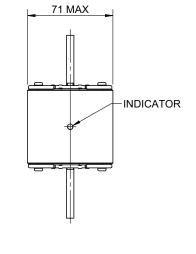
Dimensions (mm)- Size 2, bolted



Dimensions (mm) - Size 3, bolted



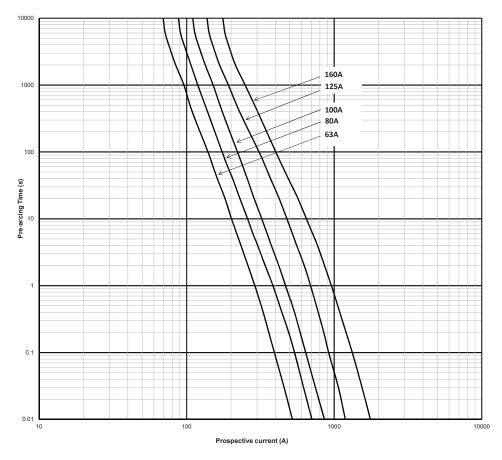




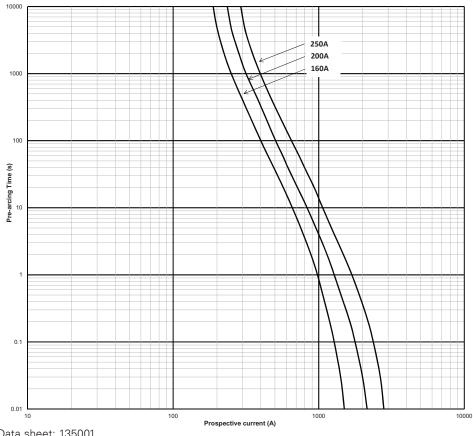
# Battery storage fuse links

# BSF-NH - NH Style, 1000 V d.c. (IEC/UL), 63 A to 400 A

### Time-current curve - Size 1, 63 A to 200 A

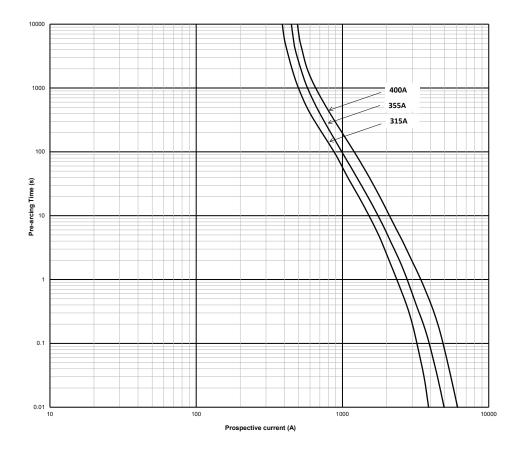


Time-current curve - Size 2, 160 A to 250 A

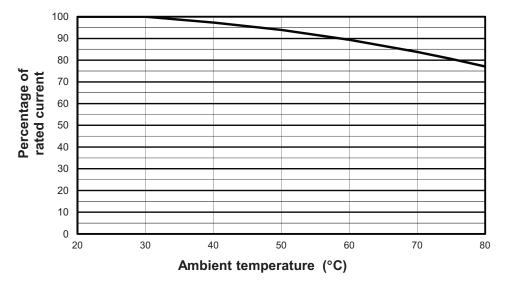


# BSF-NH - NH Style, 1000 V d.c. (IEC/UL), 63 A to 400 A

Time-current curve - Size 3, 315 A to 400 A



### **Temperature derating**



(The ambient temperature is that local to the fuse link)

# Battery storage fuse links

### BSF-3XL - XL Style, 1500 V d.c. (IEC/UL), 250 A to 500 A

### **Specifications**

#### **Description**

Eaton's Bussmann series XL battery storage fuses are specifically designed to protect and isolate battery array combiners and disconnects. These fuse links are capable of interrupting low overcurrents associated with faulted battery storage systems (reverse current, multi-array fault).

#### **Technical data**

- Rated voltage: 1500 V d.c.
- Rated current: 250 A to 500 A
- Operating class: gBat proposed for full range fuse links for protection of battery storage systems
- Breaking capacity: 100 kA
- Time constant: 4.5 ms at 100 kA

#### **Microswitches**

- For bladed fuse links
- 170H0236
- 170H0238
- For bolted fuse links
  - 170H0069

#### **Compatible fuse bases**

• SD3L-S-PV

#### **Standards / Agency information**

IEC 60269-7 for battery storage fuse links is under preparation.

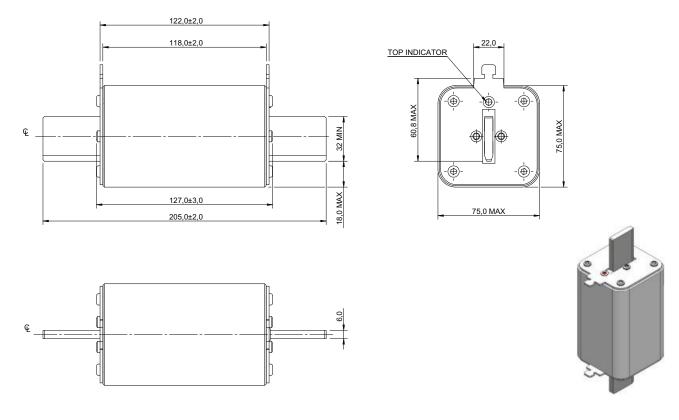
#### **Catalogue numbers**

			l²t (A² Sec)		Watts Io (W)	DSS	Catalogue numbers	
Fuse link body size	Rated voltage	Rated current (Amps)	Pre-arcing	Total at 1500 V d.c.	0.7 l <sub>n</sub>	In	Bladed version	Bolted version
		250	74,000	263,000	20	49	BSF-250G-3XL15	BSF-250G-3XL15-B
		315	150,000	533,000	21	52	BSF-315G-3XL15	BSF-315G-3XL15-B
3	1500 V d.c.	355	195,000	693,000	24	59	BSF-355G-3XL15	BSF-355G-3XL15-B
3	1500 v u.c.	400	296,000	1,060,000	24	61	BSF-400G-3XL15	BSF-400G-3XL15-B
		450	412,000	1,470,000	27	67	BSF-450G-3XL15	BSF-450G-3XL15-B
		500	532,000	1,890,000	29	73	BSF-500G-3XL15	BSF-500G-3XL15-B

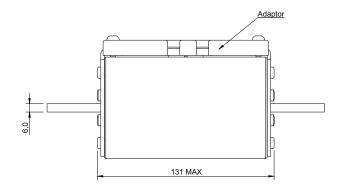


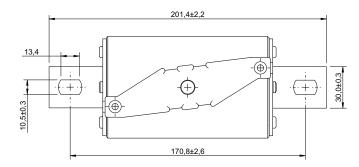
# BSF-3XL - XL Style, 1500 V d.c. (IEC/UL), 250 A to 500 A

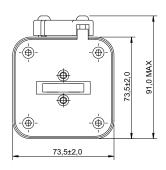
Dimensions (mm) - Size 3, bladed



Dimensions (mm) - Size 3, bolted





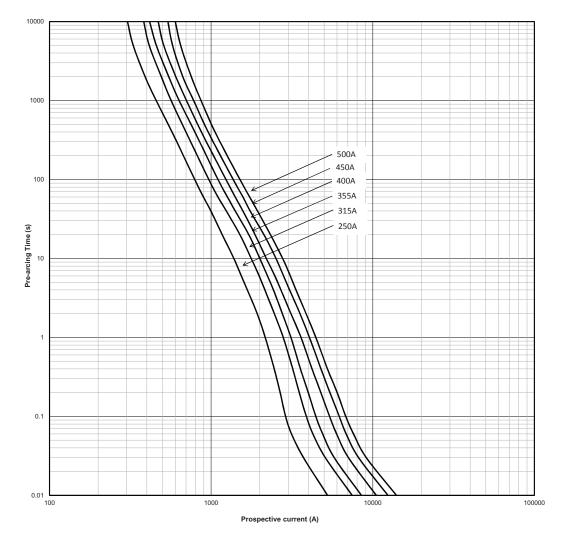




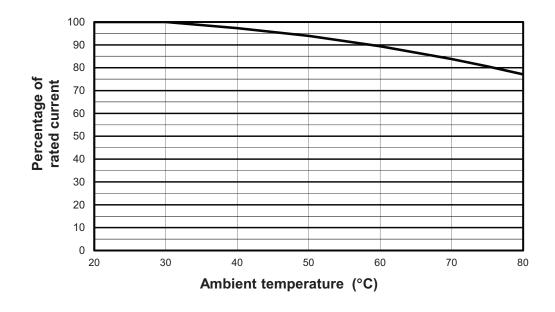
# Battery storage fuse links

# BSF-3XL - XL Style, 1500 V d.c. (IEC/UL), 250 A to 500 A

### Time-current curve - Size 3, 250 A to 500 A







Data sheet: 135002

382

### Modular style fuse bases for North American, British and square body fuse links

#### **Description**

Eaton's Bussmann series offers a comprehensive line of fuse bases that provide the user with design and manufacturing flexibility. Two identical half bases make up a Bussmann series modular fuse base. These 'split' units can be panel mounted any distance apart to accomodate any length fuse.

#### 1 - Stud type

The simpler design is the C5268 modular fuse base. With this design, the fuse terminal and cable (with termination) are mounted on the same stud, minimizing labor needed for installation. The stud type base is available in the configurations shown in the table below.

Catalogue numbers	Max fuse amp rating	Stud height (in)	Stud dia. & threads
C5268-1	200	1	5/16"-18
C5268-2	200	1.75	5/16"-18
C5268-3	200	0.75	5/16"-18
C5268-4	100	1	1/4″-20
C5268-5	100	1.75	1/4"-20



Eaton's Bussmann series also offers a modular style fuse base that utilises a tin-plated connector for wire termination and heat dissipation) and a plated-steel stud (for fuse mounting). The connector type fuse base is available in the configurations shown below. Consult Eaton for additional product details.

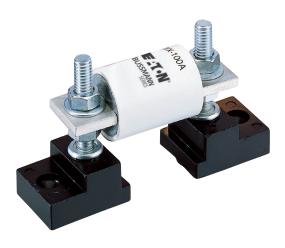
Catalogue numbers	Max rated voltage	Max fuse Amp rating
1BS101	600	100
1BS102	600	400
1BS103	600	400
1BS104	600	600

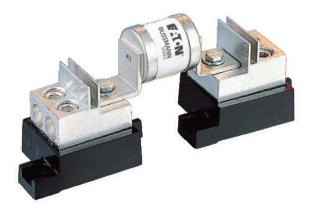


BH fuse blocks provide a wide range of mounting configurations for Bussmann High Speed semi-conductors fuse links. BH fuse blocks have a Short-Circuit rated current rating of any installed fuse up to 200 kA RMS Sym.

#### Catalogue

numbers	Max rated voltage	Max fuse Amp rating
BH-0	700	100
BH-1	2500	400
BH-2	5000	600
BH-3	1250	700







Data sheets: 1200 (BH-0), 1201 (BH-1), 1202 (BH-2), 1203 (BH-3), 1206 (1BS101), 1207 (1BS102), 1208 (1BS103), 1209 (1BS104)

# Fixed center fuse bases for DIN 43653 square body fuse links

### Description

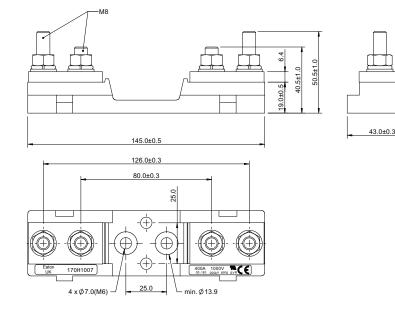
Fuse bases (blocks) to be used with DIN 43653 square body fuse links with centre distances of 80 and 110mm. Available for sizes 000, 00,  $1^*$ , 1, 2 and 3.

### Sizes 000 to 00 Fuse bases

Catalogue numbers	Max rated voltage (Volts)	Max fuse Amp rating (Amps)	Centre distance (mm)	Fuse sizes
170H1007	1000	400	80	00, 000
170H1013	690	200	80	0000, 000

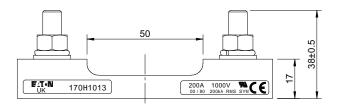


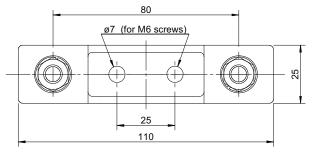
### Dimensions (mm) - 170H1007





### Dimensions (mm) - 170H1013





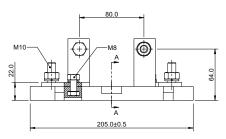


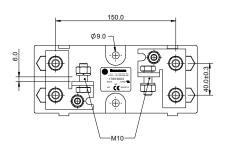
# Fixed center fuse bases for DIN 43653 square body fuse links

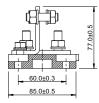
Sizes 1\* to 3

Catalogue numbers	Max rated voltage (Volts)	Max fuse Amp rating (Amps)	Centre distance (mm)
170H3003	1000 V a.c./V d.c.	630	80
170H3004	1000 V a.c./V d.c.	1250	80
170H3005	1400 V a.c./V d.c.	630	110
170H3006	1400 V a.c./V d.c.	1250	110

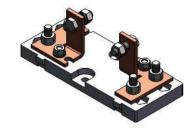
#### Dimensions (mm) - 170H3003



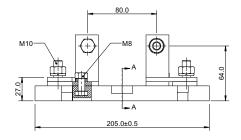


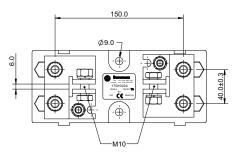


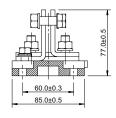
SECTION A-A



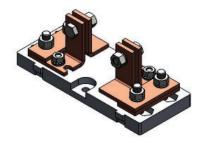
### Dimensions (mm) - 170H3004





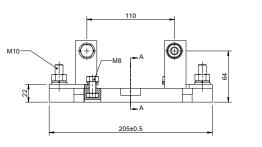


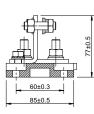
SECTION A-A



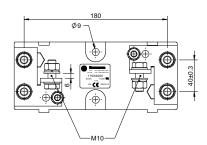
# Fixed center fuse bases for DIN 43653 square body fuse links

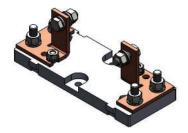
Dimensions (mm) - 170H3005



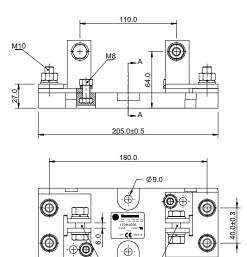


SECTION A-A

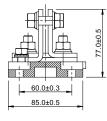




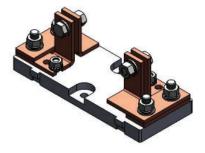
Dimensions (mm) - 170H3006



M10



SECTION A-A



Fuse links with higher current ratings than 1250 A can be used with 170H3004 or 170H3006 if the maximum load current is derated according to the table below.

Fuse amp rating	Max. Amp load in fuse base
1400	1325
1500	1400
1600	1500
1800	1650
2000	1800

## BMM - Fuse bases for ferrule fuse links, 600 V a.c. (UL), 30 A

### **Specifications**

### Description

Modular, open-style fuse blocks for cylindrical industrial fuse links. Versatile 35mm DIN rail or screw-to-panel mounting.

### **Technical data**

- Rated voltage: 600 V a.c. (UL)
- Rated current:
  - 30 A (box lug terminal)
  - 20 A (with quick connector terminal)
- Compatible fuse links:
  - FWA-A10F
  - FWC-A10F
  - PVM
  - PV-A10F

### **Standards / Agency information**

- UL Recognised E14853-IZLT2
- CSA Certified 47235-6225-01
- CE
- RoHS compliant
- Conflict mineral free
- Reach declaration available upon request

#### **Catalogue numbers**

#### Terminal type

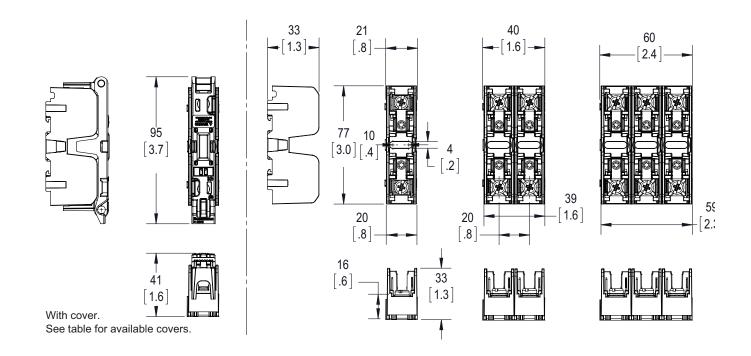
Screw w/quick connect <sup>1</sup>	Pressure plate w/quick connect <sup>1</sup>	Box lug	Fuse link size	Number of poles
BMM603-1SQ	BMM603-1PQ	BMM603-1C	10 x 38 (13/32" x 1-1/2")	1
BMM603-2SQ	BMM603-2PQ	BMM603-2C	10 x 38 (13/32" x 1-1/2")	2
BMM603-3SQ	BMM603-3PQ	BMM603-3C	10 x 38 (13/32" x 1-1/2")	3

<sup>1</sup> Quick connect terminals rated for 20 A maximum.



# BMM - Fuse bases for ferrule fuse links, 600 V a.c. (UL), 30 A

### **Dimensions mm (in)**



#### **Recommended covers**

	Cover part numbers	
Terminal type	Indicating	Non indicating
Box lug (CR)	CVRI-CCM	CVR-CCM
Screw/quick connect (SQ)	CVRI-CCM-QC	CVR-CCM-QC
Pressure plate/quick connect (PQ)	CVRI-CCM-QC	CVR-CCM-QC



BMM603-3C with CVRI-CCM covers and TM27CB marker labels

# JM70100 - Fuse bases for ferrule fuse links, 700 V a.c. (UL), 100 A

### **Specifications**

### Description

Modular, open-style fuse blocks for cylindrical industrial fuse links. Versatile 35mm DIN rail or screw-to-panel mounting.

### **Technical data**

- Rated voltage: 700 V a.c. (UL)
- Rated current: 100 A
- Compatible fuse links: FWP-A22F(I)

### **Standards / Agency information**

UL Recognised, Guide IZTL2, File 14853.

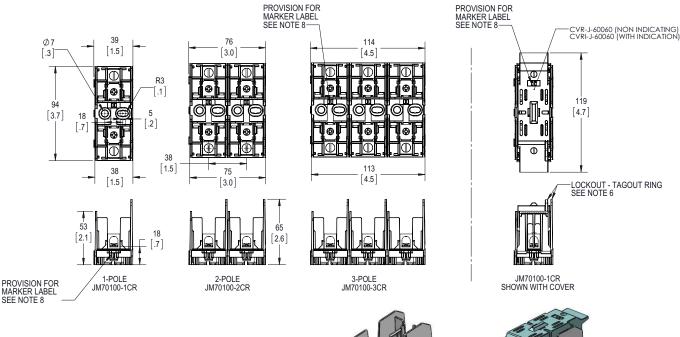
### **Catalogue numbers**

#### Terminal type

Box lug with retaining clip	Fuse link size	Number of poles
JM70100-1CR		1
JM70100-2CR	 22 x 58 mm	2
JM70100-3CR		3

### **Dimensions mm (in)**







3D VIEW FOR JM70100-1CR SCALE NONE

3D VIEW FOR JM70100-1CR

WITH COVER SCALE NONE

## JM60 - Modular knifeblade fuse blocks, 600 V a.c. (UL), 70 A to 600 A

### **Specifications**

### Description

Industry's first modular fuse block simplifies design and enhances safety.

### **Technical data**

- Rated voltage: 600V a.c. (UL)
- Rated current: see table below
- Compatible fuse links: DFJ

### **Standards / Agency information**

Blocks

- UL Listed cULus E14853 IZLT & IZLT7
- CSA Certified 47235-6225-01

Covers

- UL Listed UL E58836 JDVS2
- CSA Certified 47235-6225-01

Catalogue numbers			_	Rated		Compatible
Class J Block	Covers without indication*	Covers with indication*	Rated current voltage (Amps)		Number of poles	Bussmann series fuse links
JM60100-1CR	_				1	_
JM60100-2CR	CVR-J-60100	CVRI-J-60100	600 V a.c.	70-100	2	_
JM60100-3CR	_				3	_
JM60200-1CR	_				1	_
JM60200-2CR	CVR-J-60200	CVRI-J-60200	600 V a.c.	110-200	2	_
JM60200-3CR					3	
JM60400-1CR	_				1	- DFJ -
JM60400-2CR	CVR-J-60400-M	CVRI-J-60400-M	600 V a.c.	225-400	2	_
JM60400-3CR					3	
JM60600-1CR					1	_
JM60600-2CR	CVR-J-60600	CVRI-J-60600	600 V a.c.	450-600	2	_
JM60600-3CR	_				3	-

\* Covers sold separately. Blown fuse indication requires 90 volts minimum and closed circuit to operate.

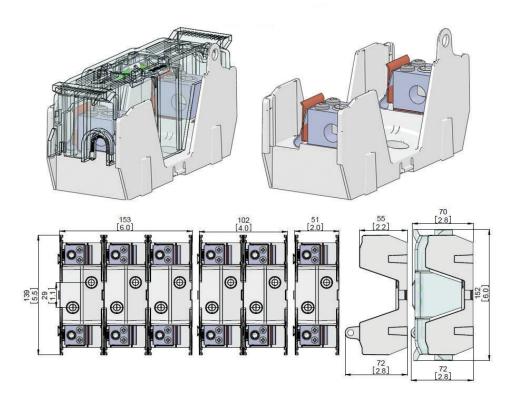
### Wire range and torque values

Catalogue numbers Class J Block	<ul> <li>Wire range (solid and stranded)</li> </ul>	Wire range (fine stranded)	Torque N∙m (Lb-in)	
JM60100-1CR	1/0-3 AWG: (2) Cu 4-6 AWG	1.0.000	6.2 (55)	
JM60100-2CR	4-6 AWG; (2) Cu 8 AWG 8 AWG; (2) Cu 10-14 AWG	4-6 AWG	5.1 (45)	
JM60100-3CR	Cu 10-14 AWG; AI 10-12 AWG	8 AVVG	4.0 (35)	
JM60200-1CR			/	
JM60200-2CR				
JM60200-3CR	= = = = = = = = = = = = = = = = = = = =	20/410		
JM60400-1CR	_ 600kcmil		57 (500)	
JM60400-2CR	500kcmil-4 AWG (2) Cu 3/0 - 4 AWG	N/A	51 (450) 57 (500)	
JM60400-3CR	(2) AI 3/0 - 4 AWG		34 (300)	
JM60600-1CR		NI/A	E1 (/EO)	
JM60600-2CR	- (2) 500kcmm-4 AVVG	IN/A	01 (400)	
JM60100-2CR JM60100-3CR JM60200-1CR JM60200-2CR JM60200-3CR JM60400-1CR JM60400-2CR JM60400-3CR JM60600-1CR	<ul> <li>8 AWG; (2) Cu 10-14 AWG</li> <li>Cu 10-14 AWG; AI 10-12 AWG</li> <li>250 MCM -1 AWG</li> <li>2-6 AWG; (2) Cu 2-6 AWG</li> <li>600kcmil</li> <li>500kcmil-4 AWG</li> <li>(2) Cu 3/0 - 4 AWG</li> </ul>	8 AWG 3/0-1 AWG 2-6 AWG	5.6 (50) 5.1 (45) 4.5 (40) 4.0 (35) 42 (375) 31 (275) 57 (500) 51 (450) 57 (500)	

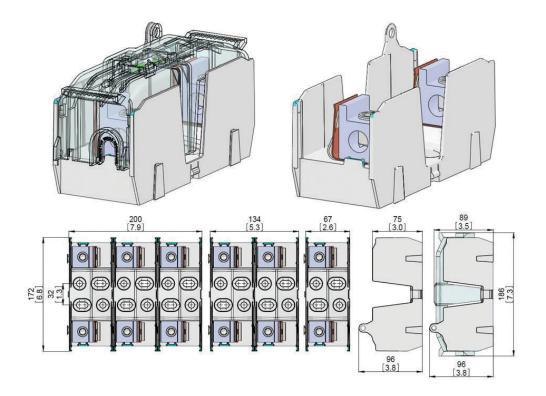


# JM60 - Modular knifeblade fuse blocks, 600 V a.c. (UL), 70 A to 600 A

Dimensions mm (in) - 100 A

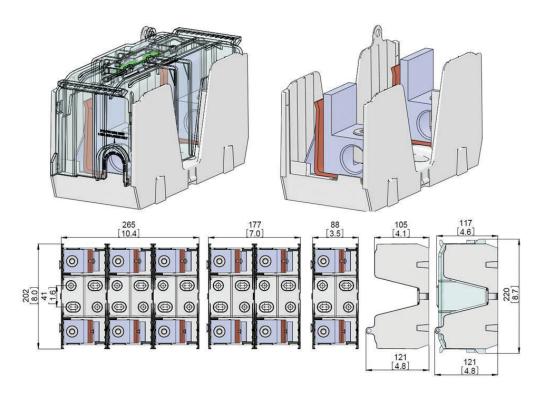


### Dimensions mm (in) - 200 A

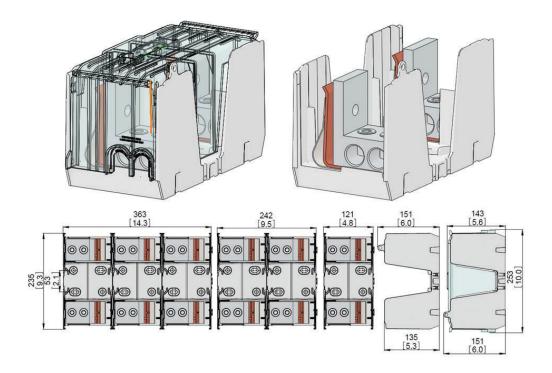


## JM60 - Modular knifeblade fuse blocks, 600 V a.c. (UL), 70 A to 600 A

Dimensions mm (in) - 400 A



Dimensions mm (in) - 600 A



## CHM - Modular fuse holders for 10 x 38 mm fuse links

### **Specifications**

### Description

Compact DIN-Rail mounting fuse holders for 10  $\times$  38 mm cylindrical fuse links

#### **Technical data**

See table page 384

### **Catalogue numbers**

Catalogue number	Number of poles	Description
Modular fuse	holders fo	r IEC industrial applications (Red)
Neutral only		
CHM1DNXU	1	Neutral fuse holder
Fuse holder o	only	
CHM1DU	1	1-pole modular fuse holder
CHM2DU	2	2-pole modular fuse holder
CHM3DU	3	3-pole modular fuse holder
CHM4DU	4	4-pole modular fuse holder
Fuse holder a	nd neutral	
CHM1DNU	2	1-pole + neutral modular fuse holder
CHM3DNU	4	3-pole + neutral modular fuse holder
Fuse holder v	vith neon in	ndicator
CHM1DIU	1	1-pole modular fuse holder with neon indicator
CHM2DIU	2	2-pole modular fuse holder with neon indicator
CHM3DIU	3	3-pole modular fuse holder with neon indicator
CHM4DIU	4	4-pole modular fuse holder with neon indicator
Fuse holder v	vith neon in	ndicator and neutral
CHM1DNIU	2	1-pole + neutral modular fuse holder with neon indicator
CHM3DNIU	4	3-pole + neutral modular fuse holder with neon indicator
Fuse holder v	vith LED In	dicator
CHM1DI-48U	1	1-pole modular fuse holder with LED indicator
Modular fuse	holders fo	r photovoltaic applications (Yellow)
Fuse holder o	only	
CHPV1U	1	1-pole modular fuse holder
CHPV2U	2	2-pole modular fuse holder holder
Fuse holder v	vith neon in	ndicator
CHPV1IU	1	1-pole modular fuse holder with neon indicator
CHPV2IU	2	2-pole modular fuse holder with neon indicator
Modular fuse	holders fo	r UL Class CC applications (Black)
Fuse holder o	only	
CHCC1DU	1	1-pole modular fuse holder
CHCC2DU	2	2-pole modular fuse holder
CHCC3DU	3	3-pole modular fuse holder
Fuse holder v	vith neon in	
CHCC1DIU	1	1-pole modular fuse holder with neon indicator
CHCC2DIU	2	2-pole modular fuse holder with neon indicator
CHCC3DIU	3	3-pole modular fuse holder with neon indicator
Fuse holder v	vith LED In	
CHCC1DI-48U	1	1-pole modular fuse holder with LED indicator



# CHM - Modular fuse holders for 10 x 38 mm fuse links

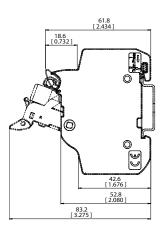
### **Technical data**

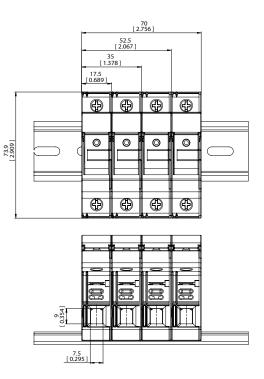
	Rated volta	age	Rated cu	rrent	_	Rated breaking		
Туре	IEC	UL	IEC	UL	Terminal rating	withstand capactiy	Compatible Bussmann series fuse links	
Modular fuse	Adular fuse holders for IEC industrial applications (Red)							
CHM1	690 V a.c.	600 V a.c.	32 A	30 A	IEC 1 to 25 mm <sup>2</sup>	IEC 120 kA rms sym	IEC: C10 and FWP-G10F	
CHM_DN(X)U	690 V a.c.	600 V a.c.	32 A	30 A	70°C PVC Copper cable (solid stranded or			
					fine stranded)	UL 200 kA rms sym	UL: FNQ, KLM, FNM, KTK, BAF, FWA, PVM, AGU,	
CHM1DI-48U	48 V d.c.	48 V d.c.	32 A	30 A	Spade lug Comb bus bar	CCC 100 kA rms sym	BAN, FWC	
Modular fuse	e holders fo	r Photovolt	aic applic	ations (Ye	llow)			
CHPV	1000 V d.c.	1000 V d.c.	32 A	30 A	IEC 1 to 25 mm <sup>2</sup> 70°C PVC Copper cable (solid stranded or fine stranded) Spade lug Comb bus bar	33 kA rms sym	Solar PV range: PVM, PV-A10F	
Modular fuse holders for UL Class CC Industrial applications (Black)								
CHCC	N/A	600 V a.c.	N/A	30 A	0 11 7500 10000 0 11	000 1 4		
CHCC1DI-48U	N/A	48 V d.c.	N/A	30 A	Cable 75°C and 90°C Cu cable	200 kA rms sym	LP-CC, FNQ-R, KTK-R	

### **Standards / Agency information**

	IEC	UL	CSA	CCC	CE
CHMD(I)U	IEC 60269-1 IEC 60269-2	UL 4248-1 UL file E14853	C22.2 No 4248.1	GB 13539.1 GB 13539.2	DCB 272
CHMDN(I)U	IEC 60269-1 IEC 60269-2	UL 4248-1 UL file E14853	C22.2 No 4248.1	GB 13539.1 GB 13539.2	DCB 272
CHM1DI-48U	IEC 60269-1 IEC 60269-2	UL 4248-1 UL file E14853	C22.2 No 4248.1	GB 13539.1 GB 13539.2	DCB 272
CHM1DNXU	IEC 60269-1 IEC 60269-2	UL 4248-1 UL file E14853	C22.2 No 4248.1	GB 13539.1 GB 13539.2	DCB 272
CHPV	IEC 60269-1	UL 4248-1 UL4248-19 UL file E14853	C22.2 No 4248.1 C22.2 No 4248.19	GB 13539.1	DCB 272
CHCC1D(I) to CHCC3D(I)U	N/A	UL 4248-1 UL file E14853	C22.2 No 4248.1	N/A	Contact: fusetech@ eaton.com
CHCC1DI-48U	N/A	UL 4248-1 UL file E14853	C22.2 No 4248.1	N/A	Contact: fusetech@ eaton.com

### **Dimensions mm (in)**





### CH14 - Modular fuse holders for 14 x 51 mm fuse links, 690 V a.c. / 750 and 1500V d.c., 50 A

### **Specifications**

### Description

Compact DIN-Rail mount fuse holders for 14  $\times$  51 mm cylindrical fuse links. Available in different versions with neutral and microswitch.

### **Technical data**

Rated voltage & Rated current: see table page 390

#### **Compatible fuse links**

- C14G and C14M14 x 51 mm gG and gM cylindrical fuse links
- FW Ferrule
  - FWH-A14F
  - FWX-A14F
  - FWP-A14F (please consult Eaton's bulehighspeedtechnical@eaton.com if you wish to use a FWP fuse link with a striker option)
  - FWP-G14F
- PV-A14F

### Standards / Agency information

IEC 60269-1 and 60269-2



#### **Catalogue numbers**

Catalogue number	Number of poles	Description
Neutral only		•
CH141DNXU	1	Neutral modular fuse fuse holder
Fuse holder or	nly	
CH141DU	1	1-pole modular fuse holder
CH142DU	2	2-pole modular fuse holder
CH143DU	3	3-pole modular fuse holder
CH144DU	4	4-pole modular fuse holder
Fuse holder an	d neutral	
CH141DNU	2	1-pole + neutral modular fuse holder
CH143DNU	4	2-pole + neutral modular fuse holder
Fuse holder w	ith neon ir	ndicator
CH141DIU	1	1-pole modular fuse holder with neon indicator
CH142DIU	2	2-pole modular fuse holder with neon indicator
CH143DIU	3	3-pole modular fuse holder with neon indicator
CH144DIU	4	4-pole modular fuse holder with neon indicator
Fuse holder w	ith neon ir	ndicator and neutral
CH141DNIU	2	1-pole + neutral modular fuse holder with neon indicator
CH143DNIU	4	3-pole + neutral modular fuse holder with neon indicator
Fuse holder w	ith micros	witch
CH141DMSU-F	1	1-pole modular fuse holder with microswitch for remote fuse indication operation
CH143DMSU-F	3	3-pole modular fuse holder with microswitch for remote fuse indication operation
Fuse holder w	ith micros	witch and neutral
CH143DNMSU-F	4	3-pole + neutral modular fuse holder with microswitch for remote fuse indication operation
Fuse holder w	ith LED In	dicator
CHPV141DI-48U	1	1-pole modular fuse holder with LED indicator
	r photovo	Itaic applications
CHPV141U	1	1-pole modular fuse holder
CHPV141IU	1	1-pole modular fuse holder with neon indicator
CHPV142U	2	2-pole modular fuse holder holder
CHPV142IU	2	2-pole modular fuse holder with neon indicator

# CH14 - Modular fuse holders for 14 x 51 mm fuse links, 690 V a.c. / 750 and 1500V d.c., 50 A

**Technical data** 

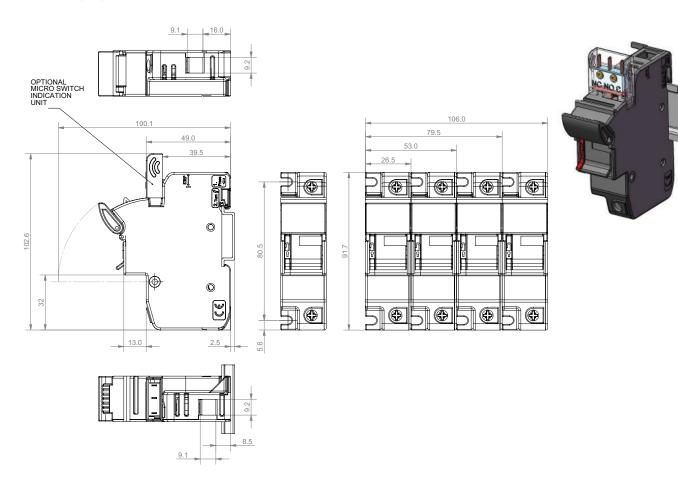
	Rated curre	nt	Rated voltag	ge	_		Rated breaking	Compatible
Туре	IEC	UL	IEC	UL	Agency markings	Terminal rating	withstand capactiy	Bussmann series fuse links
CH14	50 A (a.c.	50 A	690 V a.c. /	700 V a.c.	IEC 60269-1 and 2	Cable size: 1.5-50 mm <sup>2</sup>	120 kA a.c.	C14G and C14M FWX-A14F <sup>1</sup>
	and d.c.)		750 V d.c.		UL Listed file number E14853	Recommended torque setting: 3.5 N•m Maximum torque setting: 3.5 N•m		FWH-A14F <sup>1</sup> FWP-A14F FWP-G14F
CHPV Photovoltaic	50 A (a.c. and d.c.)	50 A	1500 V d.c.	1500 V d.c.	IEC 60269-1 and 2 UL Listed file number E348242	Mounting 35 mm DIN-Rail or 2 x M4 panel mounting screws	10 kA d.c.	PV-A14F

<sup>1</sup> Maximum allowed continuous current applies. Please refer to data sheet for details.

### Accessories

Catalogue numbers	Description	Unit packing
JV-L	Multi-pole connector kit. One kit will gang up to 4-poles together	12
CH14-SPS	Microswitch to work on CH141D(I)U, 1 n/o + 1 n/c changeover type	3
CH14-TPS	Microswitch to work on CH143D(I)U, 1 n/o + 1 n/c changeover type	3
CH14-CTP	IP20 protection accessory, provides IP20 protection to terminals with 10mm <sup>2</sup> or less cable	12

### **Dimensions (mm)**



## CH22 - Modular fuse holders for 22 x 58 mm fuse links, 690 V a.c./1000 V d.c., 125 A

## **Specifications**

### Description

Compact DIN-Rail mount fuse holders for 22  $\times$  58 mm cylindrical fuse links. Available in different versions with neutral and microswitch.

#### **Technical data**

Rated voltage & Rated current: see table below

#### **Compatible fuse links**

- C22G and C22M 22 x 58 mm gG and gM cylindrical fuse links
- FWP-A22F Ferrule (please consult Eaton for derating information bulehighspeedtechnical@eaton.com
- FWP-G22F

#### Standards / Agency information

IEC 60269-1 and 60269-2

#### **Catalogue numbers**

Catalogue number	Number of poles	Description
Neutral only		
CH221DNXU	1	Neutral holder
Fuse holder on	ly	
CH221DU	1	1-pole modular fuse holder
CH222DU	2	2-pole modular fuse holder
CH223DU	3	3-pole modular fuse holder
CH224DU	4	4-pole modular fuse holder
Fuse holder wi	th neon ir	ndicator
CH221DIU	1	1-pole modular fuse holder with neon indicator
CH222DIU	2	2-pole modular fuse holder with neon indicator
CH223DIU	3	3-pole modular fuse holder with neon indicator
CH224DIU	4	4-pole modular fuse holder with neon indicator
Fuse holder an	d neutral	
CH221DNU	2	1-pole + neutral modular fuse holder
CH223DNU	4	3-pole + neutral modular fuse holder
Fuse holder wi	th neutral	and neon indicator
CH221DNIU	2	1-pole + neutral modular fuse holder + neon indicator
CH223DNIU	4	3-pole + neutral modular fuse holder + neon indicator
Fuse holder wi	th micros	witch
CH221DMSU-F	1	1-pole modular fuse holder with microswitch (pre-breaking/fuse operation)
CH223DMSU-F	3	3-pole modular fuse holder with microswitch (pre-breaking/fuse operation)
Fuse holder wi	th neutral	and microswitch
CH223DNMSU-F	3	3-pole modular fuse holder + neutral + microswitch (pre-breaking/fuse operation)
Fuse holder wi	th LED In	dicator
CH221DI-48U	1	1-pole modular fuse holder with LED Indicator

### **Technical data**

Rated voltag	je	Rated curre	nt	_		Rated breaking	Compatible
IEC	UL	IEC	UL	Agency markings	Terminal rating	withstand capactiy	Bussmann series fuse links
					Cable size: 2.5-70 mm <sup>2</sup>		
690 V a.c. 1000 V d.c.	700 V a.c.	125 A (a.c. and d.c.)	100 A (a.c.)	IEC 60269-1 and 2 UL Listed file number	Recommended torque setting: 4 N•m Maximum torque setting: 5 N•m	120 kA a.c. 50 kA d.c.	FWP Ferrule <sup>1</sup>
				E14853	Mounting 35 mm DIN-Rail or 2 x M4 panel mounting screws		

<sup>1</sup> Maximum allowed continuous current applies. Please refer to data sheet for details.

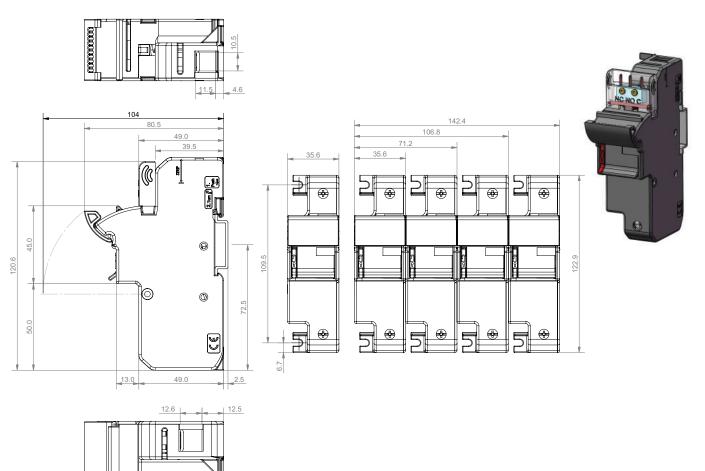


# CH22 - Modular fuse holders for 22 x 58 mm fuse links, 690 V a.c./1000 V d.c., 125 A

### Accessories

Catalogue numbers	Description	Unit packing
JV-L	Multi-pole connector kit. One kit will gang up to 4-poles together	12
CH22-CTP	IP20 protection accessory, provides IP20 protection to terminals with 10mm <sup>2</sup> or less cable	12
CH22-SPS	Microswitch to work on CH221D(I)U, 1 n/o + 1 n/c changeover type	3
CH22-TPS	Microswitch to work on CH223D(I)U, 1 n/o + 1 n/c changeover type	3

#### **Dimensions** (mm)



Data sheet: 10115

## 170H - Microswitches for square body fuse links - indicator systems

High Speed square body fuse links are available with three different indicators.

#### **1 - Visual Indicator**

The indicator situated in one end plate is clearly visible as soon as the fuse link has operated. The minimum rated voltage for operating the indicator is 20 V.

#### 2 - Type T Indicator

The indicator is situated on one cover plate with a cover plate tag to accomodate an auxiliary switch. The minimum rated voltage for operating the indicator is 20 V. A special low rated voltage indicator (1.5V) is available on request).

#### 3 - Type K Indicator

The indicator is situated on the fuse link body. It is covered by an adaptor for snap-on mounting of an auxiliary switch. The operating Rated voltage of the indicator is 1.5V. As a matter of safety, the factory mounted adaptor must not be removed from the fuse link.

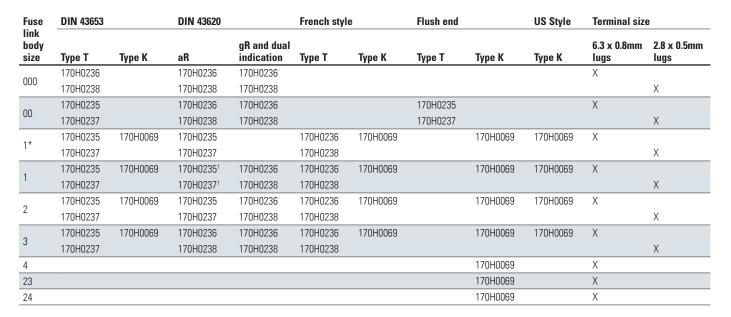
## **Microswitches**

#### **Specifications**

High Speed square body fuse links with either Type T indicator or Type K indicator can be equiped with a microswitch. For remote electrical indication of fuse link operations. All microswitches have one normally open and one normally closed contact.

#### **Technical data**

- Rated voltage: 10-250 V a.c.
- Rated current: 30mA-2A



For special microswitches, double microswitches, DC rating of the microswitches, lower/higher signal levels and for insulation voltages please contact Eaton: bulehighspeedtechnical@eaton.com.

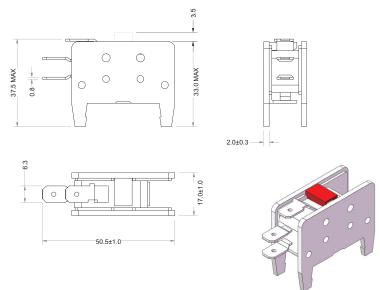
<sup>1</sup> DIN2\* (55x55), if DIN2 then use microswitch 170H0236, 170H0238.



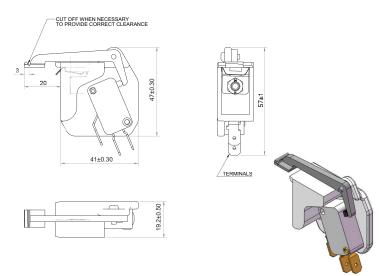


# **170H** - Microswitches for square body fuse links - indicator systems

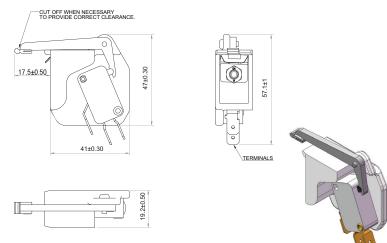
#### Dimensions (mm) - 170H0069



Dimensions (mm) - 170H0235 and 170H0237 for bent tags



### Dimensions (mm) - 170H0236 and 170H0238 for straight tags



FATON

200M1

## Microswitches for British Standard BS88-4 fuse links - Trip indicator/Microswitches

#### **Specifications**

Trip-indicator fuse links are available for use in parallel with the main BS88-4 fuse links. They can either be attached to the associated fuse link or mounted separately in panel mounted fuse clips. A push-on adaptor and microswitch attachment is available for use with the trip indicator to give the facility of remote indication.

Fuse ratings of 20 A and below cannot usually accommodate a trip fuse link in parallel.

#### **Catalogue numbers**

Trip indicator kit (indicator + clips)

#### Fuse type Catalogue number

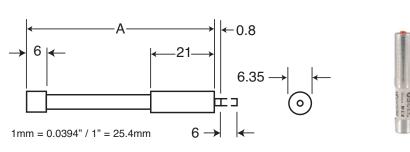
ET	EC-600
EET	EC-600
FE	EC-600
FEE	EC-600
LET	EC-250
FM	MC-600
FMM	MC-600
LMT	MC-250
LMMT	MC-250
MT	MC-700
MMT	MC-700

Indicator Only

Fuse type	Max RMS AC voltage (V a.c. RMS)	Dim 'A' (mm)
TI250	250	37.6
TI500	500	47.5
TI600	600	55.7
TI700	700	61.8
TI1100	1100	98.4
TI1500	1500	120.8
TI2000	2000	147.5
TI2500	2500	198.3

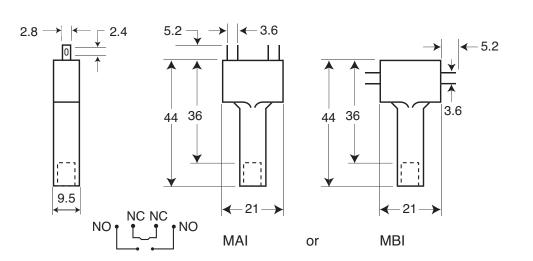


**Dimensions (mm)** 



#### Microswitch/Adaptor: MAI and MBI

#### **Dimensions (mm)**





# FW14-PCB Mountable fuse clip

## **Specifications**

**Catalogue number** 

FW14-PCB

#### Description

Mountable fuse clip compatible with any 14 mm  $\ensuremath{\textit{Ø}}$  fuse links.

#### **Technical data**

• Max rated power acceptance: 6 Watts

Please note deratings apply to fuse links with watts loss greater than 6 Watts, contact bulehighspeedtechnical@eaton.com for application assistance

- Material: Copper Alloy CuSn, tin plated
- Weight: 5 grams each

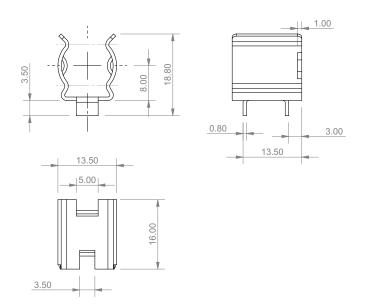
#### **Compatible fuse links**

• Any 14 mm Ø fuse links

#### Standards / Agency information

IEC 60269-1

#### **Dimensions (mm)**

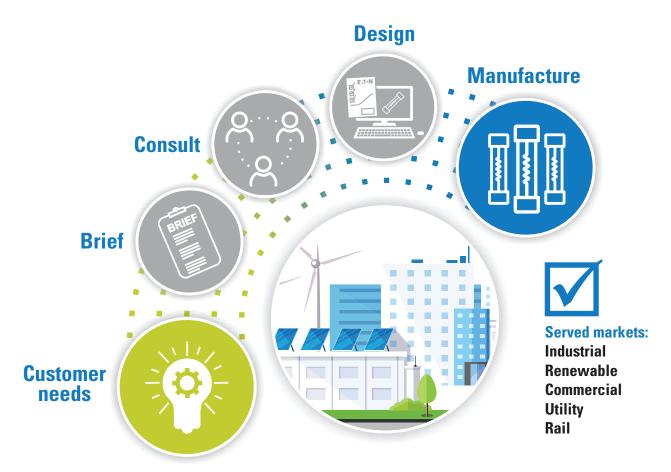






Appropriate creepage and clearances distances between clips should be maintained when mounting on the PCB.

# **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 I2t 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
- Higher breaking capacity testing

#### **Contact us today:**

## For general fuse enquiries: buletechnical@eaton.com

For high speed fuses enquiries : bulehighspeedtechnical@ eaton.com



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As the automotive world is becoming ever more electrified the power requirements are changing, so have the protection needs. Eaton is continually developing designs to meet these ever changing requirements. The experience of Eaton in protecting semiconductor devices has proved invaluable as vehicle powertrain systems have moved to power based converters for the variable speed motor drives and also for auxiliary power conversion.

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Current	Options up to 1250 A, please contact Eaton's Bussmann series Application engineers to discuss your specific requirements
Operating class	aR & gR
Breaking capacity	Up to 150 kA
	EXP EXP EXP EXP EXP EXP EXP EXP

# Contact details

## **Customer Satisfaction team**

Eaton's Customer Satisfaction team is available to answer questions regarding Bussmann series products.

Calls can be made between:

Monday - Friday 7.30 a.m. - 5.00 p.m. GMT

#### The Customer Satisfaction team can be reached via:

Phone:	00 44 (0) 1509 882 600
Fax:	00 44 (0) 1509 882 786
Email:	GBBURsales@eaton.com

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- Product profiles
- Online catalogues for the latest United States and European catalogues.

## **Application engineering**

Application Engineering assistance is available to all customers. The Application Engineering team is staffed by university-qualified electrical engineers who are available with technical and application support.

Calls can be made between:

Monday - Thursday	8.30 a.m 4.30 p.m. GMT		
Friday	8.30 a.m 4.00 p.m. GMT		
Application Engineering can be reached via:			
Phone:	00 44 (0) 1509 882 699		
Fax:	00 44 (0) 1509 882 794		
General technical enquiries:			

buletechnical@eaton.com

Enquiries related to High speed fuses: bulehighspeedtechnical@eaton.com

Eaton's electrical business is a global leader with deep regional application expertise in power distribution and circuit protection; power quality, backup power and energy storage; control and automation; life safety and security; structural solutions; and harsh and hazardous environment solutions. Through end-to-end services, channel and an integrated digital platform & insights Eaton is powering what matters across industries and around the world, helping customers solve their most critical electrical power management challenges.

Eaton's mission is to improve the quality of life and the environment through the use of power management technologies and services. We provide sustainable solutions that help our customers effectively manage electrical, hydraulic and mechanical power – more safely, more efficiently and more reliably.

## Contact your local Eaton office

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