## BUSSMANN

Eaton's Bussmann series
IEC High speed fuse links catalogue

## Leadership in fusible circuit protection

## E:T•N



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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## 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

| Rated voltage | Rated current (Amps) | $\mathrm{I}^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Pre-arcing | Clearing at 130 V a.c. |  |  |
| 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) B C D Thread depth

| 1000 to 2000 | 2 | 1 | - | Tapped $3 / 8^{\prime \prime}-24 \times 1 / 2^{\prime \prime}$ UNF |
| :--- | :--- | :--- | :--- | :--- |
| 2500 to 3000 | 3 | 1.5 | - | Tapped $1 / 2^{\prime \prime}-20 \times 1 / 2^{\prime \prime}$ UNF |
| 4000 | 3.5 | 1.5 | 1.5 | Tapped $1 / 2^{\prime \prime}-20 \times 1 / 2^{\prime \prime}$ UNF |
| $1^{\prime \prime}=25.4 \mathrm{~mm}$ |  |  |  |  |

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


## Total clearing $\mathrm{I}^{2} \mathrm{t}$

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

## Arc voltage

This curve gives the peak arc voltage, $U_{\text {, }}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$ 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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## 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

| Rated voltage / <br> Breaking capacity | Rated current (Amps) | ${ }^{12}\left(A^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Pre-arcing | Clearing at 150 V a.c. |  |  |
| 150 V a.c./ 100 kA | 70 | 470 | 4000 | 6.9 | FWA-70B |
|  | 80 | 670 | 6000 | 7.7 | FWA-80B |
|  | 100 | 1200 | 12,000 | 9 | FWA-100B |
|  | 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 |
| 80 V d.c. / 100 kA | 600 | 46,000 | 140,000 | 47 | FWA-600A |
|  | 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 |  |  |  |  |  |

## North American fuse links

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

Dimensions (mm) - 70 A to 400 A


Dimensions (mm) - 500 A to 1000 A


## 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

Cut-off curve - 70 A to 400 A


Cut-off curve - 500 A to 1000 A


## Total clearing $\mathrm{I}^{2} \mathrm{t}$

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


1) $500-1000 \mathrm{~A}$
2) $70-400 \mathrm{~A}$

## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$ 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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## 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.


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 voltage | Rated current <br> (Amps) | $\mathrm{I}^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Pre-arcing | Clearing at 250 V a.c. |  |  |
| 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./ $/ \mathrm{V}$ 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 |

## North American fuse links

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

Dimensions (in)
35 A to 800 A


1000 A to 1200 A


| Amp <br> range | $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{C}$ | $\mathbf{D}$ | $\mathbf{E}$ | $\mathbf{F}$ | $\mathbf{G}$ | $\mathbf{H}$ | $\mathbf{J}$ | Tapped <br> thread <br> 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 | - | - | - | - | - | - | $3 / 8^{\prime \prime \prime}-24 \mathrm{x}$ |
| $1500-2500$ | 2.59 | 3.5 | 1.5 | 1.5 | - | - | - | - | - | $1 / 2^{\prime \prime}$ UNF |
| $1^{\prime \prime}=25.4 \mathrm{~mm}$ |  |  |  |  |  |  |  |  |  |  |

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

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

Time-current curve-1000 A to 2500 A


## Total clearing ${ }^{2}{ }^{2} t$

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


## Arc voltage

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


1) $35-800 \mathrm{Amps}$
2) $1000-2500 \mathrm{Amps}$

## 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.


## 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. N d.c. in ratings from 50 to 400 Amps

## Technical Data

- Rated voltage: 500 V a.c. $/ \mathrm{V}$ 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 voltage | Rated current (Amps) | ${ }^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  |  | Watts loss (W) at 80\% | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | AC/DC <br> Pre-arcing | AC clearing at 200 kA/500 V a.c. | DC clearing at 50 kA/500 V d.c. |  |  |
| 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


| Amps | A | B | C | D1 | D2 | E | F | G | H |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $50-100$ | 81 | 20 | 40 | 61 | 58 | 8.7 | 16 | 7.7 | 3.2 |
| $125-200$ | 92 | 25 | 53 | 77 | 68 | 8.7 | 19 | 7.8 | 3.2 |
| $225-400$ | 92 | 30 | 53 | 74 | 68 | 8.7 | 25 | 9 | 4.8 |

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


## North American fuse links

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

AC Time-current curve- 50 A to 400 A


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 $\mathrm{I}^{2} \mathrm{t}$ voltage correction factor


## DC clearing l²t 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 voltage | Rated current (Amps) | ${ }^{12 t}\left(A^{2} \mathrm{Sec}\right)$ |  | $\begin{aligned} & \text { Watts loss } \\ & \text { (W) } \end{aligned}$ | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Pre-arcing | Clearing at 500 V a.c. |  |  |
| 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 | 450,000 | 145 | FWH-1000B |
| 500 V a.c. (UL) | 1200 | 122,000 | 600,000 | 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 | A | B | C | D | $\mathbf{E}$ | F | G | H | 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 |

$1^{\prime \prime}=25.4 \mathrm{~mm}$

Time-current curve - 35 A to 200 A and 900 A to 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 $325 \mathrm{~A}, 450 \mathrm{~A}$ and 700 A

## Total clearing $\mathrm{I}^{2} \mathrm{t}$

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


## 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, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$ at a power factor of 15 percent.


1) 35-200 A and $1000-1600 \mathrm{~A}$
2) $225-800 \mathrm{~A}$

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


## 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) | A | 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 |

$1^{\prime \prime}=25.4 \mathrm{~mm}$

Dimensions (in) - 35 A to 400 A


Rated current

| (Amps) | A | B1 | B2 | B3 | C | D | E | F | G | H |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $35-60$ | 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 |
| $\mathbf{1 "}^{\prime \prime}=25.4 \mathrm{~mm}$ |  |  |  |  |  |  |  |  |  |  |

## 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 voltage | Rated current <br> (Amps) | Catalogue <br> 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
$\begin{array}{llllllllll}\text { (Amps) } & \text { A } & \text { B } & \text { C } & \text { D } & \text { E } & \text { F } & \text { G } & \text { H } & \text { J }\end{array}$

| $35-60$ | 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 |
| $\mathbf{1}^{\prime \prime}=25.4 \mathrm{~mm}$ |  |  |  |  |  |  |  |  |  |

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.


## Catalogue numbers

| AC | DC |  |  | Rated current (Amps) | ${ }^{12} \mathbf{t}\left(\mathrm{~A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rated voltage | Breaking capacity | Rated voltage | Breaking capacity |  | Pre-arcing | Clearing at 700 V a.c. |  |  |
| 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 |

## North American fuse links

## 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 $\mathrm{I}^{2 \mathrm{t}} \mathrm{t}$

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


## 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, $\mathrm{E}_{\mathrm{q}^{\prime}}$ (RMS) at a power factor of 15 percent.


1) $125-600 \mathrm{~A}$
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, $\mathrm{K}_{\mathrm{p}}$, 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 | A | B | C | D | E | F | G | H | 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 |
| $\mathbf{1 "}^{\prime \prime}=25.4 \mathrm{~mm}$ |  |  |  |  |  |  |  |  |  |

## North American fuse links

## 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/

FWJ-300A


- 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 current (Amps) | ${ }^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rated voltage | Breaking capacity | Rated voltage | Breaking capacity |  | Pre-arcing | Clearing at 1000 V a.c. |  |  |
| 1000 V a.c. | 25 kA | 800 V d.c. | 50 kA | 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 |
|  |  |  |  | 80 | 1550 | 9700 | 13 | FWJ-80A |
|  |  |  |  | 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 |
| 1000 V a.c. | 100 kA | N/A | N/A | 250 | 16,000 | 112,000 | 50 | FWJ-250A |
|  |  |  |  | 300 | 23,500 | 164,000 | 56 | FWJ-300A |
|  |  |  |  | 350 | 33,000 | 231,000 | 62 | FWJ-350A |
|  |  |  |  | 400 | 47,000 | 330,000 | 67 | FWJ-400A |
| 1000 V a.c. | 100 kA | 800 V d.c. | 50 kA | 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 |
|  |  |  |  | 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 | A | B | C | D | E | F | G | H | 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 |
| $\mathbf{1 " ~}^{2}=25.4 \mathrm{~mm}$ |  |  |  |  |  |  |  |  |  |

Time-current curve-35 A to 600 A


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 $\mathrm{I}^{2} \mathrm{t}$

The total clearing $I^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, 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 $\mathrm{l}^{2} \mathrm{t}$ ( $\mathrm{A}^{2} \mathrm{Sec}$ ) | Clearing ${ }^{2} \mathrm{t}$ t | Breaking capacity | Operating class | Catalogue number |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 1000 \mathrm{~V} \text { d.c. } \\ & \text { (IEC/UL) } \end{aligned}$ | 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 |
|  | 225 | 10 | 69 | 7880 | 31600 | 100 kA | aR | FWE-225A |
|  | 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 | A | B | C | D | E | F | G | H |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 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 $\mathrm{l}^{12 t}$

The total clearing $I^{2} t$ at rated voltage and tested DC time constant are given in electrical characteristics. For other voltages the clearing $\mathrm{I}^{2} \mathrm{t}$ 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, $\mathrm{E}_{\mathrm{g}}$, at a time constant of 10 ms .

## 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-125 A to 200 A


## Total clearing $\mathrm{I}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}}$, at a time constant of 10 ms .

## 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, $\mathrm{K}_{\mathrm{p}}$, 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 ${ }^{2}{ }^{2} t$

The total clearing $I^{2} t$ at rated voltage and tested DC time constant are given in electrical characteristics. For other voltages the clearing $\mathrm{l}^{2} \mathrm{t}$ is found by multiplying by correction factor, K, given as a function of applied working voltages, $\mathrm{E}_{\mathrm{g}}$.


## Arc voltage

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


## 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 - 350 A and 400 A


## Total clearing $\mathrm{I}^{2} \mathrm{t}$

The total clearing $\mathrm{I}^{2} \mathrm{t}$ at rated voltage and tested DC time constant are given in electrical characteristics. For other voltages the clearing $I^{2} t$ 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, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}}$, at a time constant of 10 ms .


## 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, $\mathrm{K}_{\mathrm{p}}$, 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 - 450 A to 600 A


## Total clearing $\mathrm{I}^{2} \mathrm{t}$

The total clearing $I^{2} t$ at rated voltage and tested DC time constant are given in electrical characteristics. For other voltages the clearing $I^{2} t$ 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, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}}$ at a time constant of 10 ms .

## 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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, 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 391


## 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 318 V a.c..Consult Eaton for specific UL recognition status.

Catalogue numbers

| Fuse link type | Rated voltage | Rated current (Amps) | ${ }^{12}\left(A^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 240 V a.c. |  |  |
| LCT | 240 V a.c. / 150 V d.c. (IEC) 250 V a.c. / 150 V d.c. (UL) | 6 | 2 | 9 | 1 | 6LCT |
|  |  | 10 | 3.8 | 22 | 2.5 | 10LCT |
|  |  | 12 | 7 | 32 | 2.5 | 12LCT |
|  |  | 16 | 20 | 100 | 2.5 | 16LCT |
|  |  | 20 | 25 | 160 | 4 | 20LCT |
| LET | 280 V a.c. / 150 V d.c. (UL) | 25 | 18 | 250 | 4 | 25LET |
|  |  | 32 | 32 | 450 | 5 | 32LET |
|  |  | 35 | 50 | 600 | 5 | 35LET |
|  |  | 50 | 100 | 1400 | 7 | 50LET |
|  |  | 63 | 180 | 2200 | 9 | 63LET |
|  |  | 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).

British standard BS88 fuse links
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


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 $\mathrm{l}^{2} \mathrm{t}$

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


1) LCT
2) LET

## Arc voltage

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


1) LCT
2) LET

## 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.


## 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. $/ 150 \mathrm{~V}$ 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 391


## 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

| Fuse link type | Rated voltage | Rated current (Amps) | ${ }^{12} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 120 V a.c. | Clearing at 240 V a.c. |  |  |
|  | 240 V a.c. / 150 V d.c. (IEC) | 160 | 1100 | 7000 | 16,000 | 17 | 160LMT |
|  |  | 200 | 1500 | 10,000 | 20,000 | 28 | 200LMT |
| LMT |  | 250 | 3200 | 20,000 | 40,000 | 28 | 250LMT |
| Single barrel |  | 315 | 6000 | 35,000 | 75,000 | 35 | 315LMT |
|  | 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 |
| LMMT | 240 V a.c. / 150 V d.c. (IEC) | 400 | 6000 | 35,000 | 80,000 | 60 | 400LMMT |
|  |  | 500 | 14,000 | 80,000 | 170,000 | 64 | 500LMMT |
|  |  | 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 $\mathrm{I}^{2} \mathrm{t}$

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

2) $\mathrm{LMT}, \mathrm{LMMT}$

## 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, $\mathrm{E}_{\mathrm{q}^{\prime}}$ (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.


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. $/ 500 \mathrm{~V}$ 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 391


## 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 greater than 63 A


Dimensions (mm) - ET, FE up to 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

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


Time-current curve - FE, 35 A to 100 A


British standard BS88 fuse links
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 ${ }^{2} \mathrm{t}$

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


1) $C T, E T, F E, F E E$

## Arc voltage

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


1) $C T, E T, F E, F E E$

## 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.


## 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. $/ 450 \mathrm{~V}$ 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 391


## 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

| Fuse link type | Rated voltage | Rated current (Amps) | ${ }^{12}\left(\mathrm{~A}^{2} \mathrm{Sec}\right)$ |  |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 415 V a.c. | Clearing at 660 V a.c. |  |  |
| FM | 690 V a.c. / 450 V d.c. (IEC) <br> 700 V a.c. / 500 V d.c. (UL) | 180 | 1400 | 7500 | 13,500 | 40 | 180FM |
|  |  | 200 | 2600 | 10,500 | 18,500 | 40 | 200FM |
|  |  | 225 | 3700 | 14,500 | 26,500 | 44 | 225FM |
|  |  | 250 | 5200 | 20,500 | 37,500 | 48 | 250FM |
|  |  | 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 |
| FMM | 690 V a.c. / 450 V d.c. (IEC) | 400 | 10,000 | 40,000 | 72,500 | 85 | 400FMM |
|  |  | 450 | 15,000 | 60,000 | 105,000 | 90 | 450FMM |
|  |  | 500 | 20,000 | 82,000 | 150,000 | 100 | 500FMM |
|  |  | 550 | 30,000 | 120,000 | 215,000 | 100 | 550FMM |
|  |  | 630 | 45,000 | 180,000 | 310,000 | 100 | 630FMM |
|  |  | 700 | 60,000 | 245,000 | 420,000 | 120 | 700FMM |
| MT | 690 V a.c. / 350 V d.c. (IEC) 700 V a.c. (UL) | 160 | 2400 | 15,000 | 25,000 | 26 | 160MT |
|  |  | 180 | 3800 | 25,000 | 38,000 | 26 | 180MT |
|  |  | 200 | 6000 | 40,000 | 58,000 | 27 | 200MT |
|  |  | 250 | 11,500 | 80,000 | 110,000 | 32 | 250MT |
|  |  | 280 | 16,500 | 100,000 | 150,000 | 35 | 280MT |
|  |  | 315 | 19,000 | 125,000 | 180,000 | 42 | 315MT |
|  |  | 355 | 22,000 | 160,000 | 200,000 | 51 | 355MT |
| MMT | 690 V a.c. / 350 V d.c. (IEC) 700 V a.c. (UL) | 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 |
|  |  | 355 | 13,500 | 97,000 | 140,000 | 54 | 355MMT |
|  |  | 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 |

## British standard BS88 fuse links

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


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


British standard BS88 fuse links

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


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 $\mathrm{I}^{2} \mathrm{t}$

The total clearing $I^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


1) MT, MMT 2) FM, FMM

## Arc voltage

This curve gives the peak arc voltage $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}}$ (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.


## Ferrule fuse links

## FWA - $10 \times 38 \mathrm{~mm}$ and $21 \times 51 \mathrm{~mm}, 150 \mathrm{~V}$ 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.


## Standards / Agency information

CE, UL recognised
Catalogue numbers

| Fuse link size | Rated voltage | Rated current (Amps) | ${ }^{12}\left(A^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 150 V a.c. |  |  |
| $\begin{aligned} & 10 \times 38 \mathrm{~mm} \\ & \left(13 / 32 \times 11 / 2^{\prime \prime}\right) \end{aligned}$ | $\begin{aligned} & 150 \mathrm{~V} \text { a.c. / V d.c. } \\ & \text { (UL) } \end{aligned}$ | 5 | 1.6 | 8 | 2 | FWA-5A10F |
|  |  | 10 | 3.6 | 16 | 2.7 | FWA-10A10F |
|  |  | 15 | 14 | 50 | 3.3 | FWA-15A10F |
|  |  | 20 | 33 | 130 | 3.8 | FWA-20A10F |
|  |  | 25 | 58 | 220 | 4.9 | FWA-25A10F |
|  |  | 30 | 100 | 400 | 4.9 | FWA-30A10F |
| $\begin{aligned} & 21 \times 51 \mathrm{~mm} \\ & \left({ }^{13} /{ }_{16}^{\prime \prime} \times 2^{\prime \prime}\right) \end{aligned}$ | $\begin{aligned} & 150 \text { V a.c. / V d.c. } \\ & \text { (UL) } \end{aligned}$ | 35 | 75 | 800 | 4.5 | FWA-35A21F |
|  |  | 40 | 100 | 1000 | 5.1 | FWA-40A21F |
|  |  | 45 | 130 | 1300 | 6 | FWA-45A21F |
|  |  | 50 | 170 | 1600 | 7.3 | FWA-50A21F |
|  |  | 60 | 250 | 2400 | 8 | FWA-60A21F |

Dimensions - in (mm)


| Amp range | A | B | 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 - $10 \times 38 \mathrm{~mm}$ and $21 \times 51 \mathrm{~mm}, 150 \mathrm{~V}$ a.c. / V d.c. (UL), 5 A to 60 A
Time-current curve-5 A to 30 A


## Ferrule fuse links

FWA - $10 \times 38 \mathrm{~mm}$ and $21 \times 51 \mathrm{~mm}, 150 \mathrm{~V}$ a.c. / V d.c. (UL), 5 A to 60 A
Time-current curve-35 A to 60 A


## Total clearing $\mathrm{I}^{2} \mathrm{t}$

The total clearing $\mathrm{I}^{2} \mathrm{t}$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K , given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


1) $5-30 \mathrm{~A}$
2) $35-60 \mathrm{~A}$

## 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, $\mathrm{E}_{\mathrm{g}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## FWX - $14 \times 51$ 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) | ${ }^{12}\left(A^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 250 V a.c. |  |  |
| $\begin{aligned} & 14 \times 51 \mathrm{~mm} \\ & \left(916^{\prime \prime} \times 2^{\prime \prime}\right) \end{aligned}$ | 250 V a.c. (UL) | 1 | 0.04 | 0.12 | 5.7 | FWX-1A14F |
|  |  | 2 | 0.08 | 0.28 | 8.7 | FWX-2A14F |
|  |  | 3 | 0.11 | 0.39 | 2.8 | FWX-3A14F |
|  |  | 4 | 0.1 | 0.35 | 3 | FWX-4A14F |
|  | $\begin{aligned} & 250 \text { V a.c. / } \\ & 250 \text { V d.c. (UL) } \end{aligned}$ | 5 | 1.6 | 13 | 1.3 | FWX-5A14F |
|  |  | 10 | 3.6 | 24 | 3.4 | FWX-10A14F |
|  |  | 15 | 14 | 83 | 3.8 | FWX-15A14F |
|  |  | 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 |

Dimensions - mm (in)


Ferrule fuse links

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

Time-current curve-1 A to 4 A


FWX - $14 \times 51$ mm, 250 V a.c. / V d.c. (UL), 1 A to 50 A
Time-current curve-5A to 50 A


Prospective current in amperes r.m.s.

## Total clearing $\mathrm{I}^{2} \mathrm{t}$

The total clearing $I^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.

## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}}$ ( 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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Ferrule fuse links

## FWH - $6 \times 32 \mathrm{~mm}, 500 \mathrm{~V}$ 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 )
- $20 \mathrm{kA}(25 \mathrm{~A}$ to 30 A , tested at $\mathrm{PF}=76 \%$ )
. 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

| Fuse link size | Rated voltage | Rated current (Amps) | $\mathrm{I}^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 500 V a.c. |  |  |
| $\begin{aligned} & 6 \times 32 \mathrm{~mm} \\ & \left(14^{\prime \prime} \times 114^{\prime \prime}\right) \end{aligned}$ | 500 V a.c. (UL) | 0.25 | 0.01 | 0.05 | 2.7 | FWH--250A6F |
|  |  | 0.5 | 0.05 | 0.25 | 1.2 | FWH--500A6F |
|  |  | 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 |
|  | 500 V a.c. (UL) | 6.3 | 36 | 90 | 2.3 | FWH-6-30A6F |
|  |  | 7 | 50 | 125 | 2.5 | FWH-007A6F |
|  |  | 10 | 9.9 | 139 | 2.86 | FWH5-010A6F |
|  |  | 12.5 | 20 | 60 | 3.53 | FWH5-12-5A6F |
|  |  | 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 |

Dimensions mm (in)



FWH - $6 \times 32 \mathrm{~mm}, 500 \mathrm{~V}$ a.c. (UL), 0.25 A to 30 A

Time-current curve - 0.25 A to 7 A


## Ferrule fuse links

## FWH - $14 \times 51 \mathrm{~mm}, 500 \mathrm{~V}$ 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

- CH 14


## Standards / Agency information

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

## Catalogue numbers

| Fuse link size | Rated voltage | Rated current (Amps) | ${ }^{12}\left(A^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 500 V a.c. |  |  |
| $\begin{aligned} & 14 \times 51 \mathrm{~mm} \\ & \left(9 / 16^{\prime \prime} \times 2^{\prime \prime}\right) \end{aligned}$ | 500 V a.c.(UL) | 1 | 0.04 | 0.41 | 5.7 | FWH-1A14F |
|  |  | 2 | 0.08 | 0.11 | 8.7 | FWH-2A14F |
|  |  | 3 | 0.11 | 0.26 | 2.8 | FWH-3A14F |
|  |  | 4 | 0.1 | 0.23 | 3 | FWH-4A14F |
|  | 500 V a.c. / V d.c. (UL) | 5 | 2 | 7 | 1.5 | FWH-5A14F |
|  |  | 6 | 2 | 7 | 1.5 | FWH-6A14F |
|  |  | 10 | 4 | 15 | 4 | FWH-10A14F |
|  |  | 12 | 7 | 25 | 4.3 | FWH-12A14F |
|  |  | 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 - $14 \times 51$ mm, 500 V a.c. / V d.c. (UL), 1 A to 30 A

Time-current curve-1 A to 30 A


## Total clearing $\mathrm{l}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{a}^{\prime}}$ (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, $\mathrm{K}_{0}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Ferrule fuse links

FWC - $10 \times 38 \mathrm{~mm}, 600-700 \mathrm{~V}$ a.c. / 700 V d.c. (UL), 1 A to 32 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:
. 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

| Fuse link size | Rated voltage | Rated current (Amps) | ${ }^{12} \mathbf{t}\left(\mathrm{~A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 600 V a.c. |  |  |
| $\begin{aligned} & 10 \times 38 \mathrm{~mm} \\ & \left(13 / 32^{\prime \prime} \times 112^{\prime \prime}\right) \end{aligned}$ | 700 V a.c. / V d.c. (UL) | 1 | 0.2 | 1.2 | 0.5 | FWC-1A10F |
|  |  | 2 | 0.5 | 3 | 1.2 | FWC-2A10F |
|  |  | 3 | 1.6 | 11 | 1.5 | FWC-3A10F |
|  |  | 4 | 5.2 | 32 | 1.5 | FWC-4A10F |
|  | 600 V a.c./ 700 V d.c. (UL) | 6 | 4 | 30 | 1.5 | FWC-6A10F |
|  |  | 8 | 6 | 50 | 2 | FWC-8A10F |
|  |  | 10 | 9 | 70 | 2.5 | FWC-10A10F |
|  |  | 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 V a.c. (UL) | 30 | 95 | 600 | 7.5 | FWC-30A10F |
|  |  | 32 | 95 | 600 | 7.5 | FWC-32A10F |

Dimensions - mm (in)


FWC - $10 \times 38 \mathrm{~mm}, 600-700 \mathrm{~V}$ a.c. / 700 V d.c. (UL), 1 A to 32 A

Time-current curve-1 A to 32 A


## Total clearing $\mathrm{I}^{2} \mathrm{t}$

The total clearing $I^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics.
For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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.


## Ferrule fuse links

FWP - $10 \times 38 \mathrm{~mm}, \mathrm{gR}, 690 \mathrm{~V}$ a.c. (IEC), 4 A to 32 A

## Specifications

## Description

The $10 \times 38 \mathrm{~mm}$ 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

| Fuse link size | Type | Rated voltage | Rated current (Amps) | ${ }^{12} \mathbf{t}\left(\mathrm{~A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Pre-arcing | Clearing at 690 V a.c. |  |  |
| $10 \times 38 \mathrm{~mm}$ | Without indicator | 690 V a.c. (IEC) | 4 | 5.6 | 17 | 2.05 | FWP-4G10F |
|  |  | 500 V d.c.. (UL) | 6 | 16 | 48 | 3 | FWP-6G10F |
|  |  | 690 V a.c. (IEC) <br> 700 V a.c. (UL) | 8 | 4.3 | 38 | 1.68 | FWP-8G10F |
|  |  |  | 10 | 6.6 | 59 | 2.09 | FWP-10G10F |
|  |  |  | 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)



## FWP - $10 \times 38 \mathrm{~mm}, \mathrm{gR}, 690 \mathrm{~V}$ a.c., 4 A to 32 A

Time-current curve-4 A to 32 A


## Ambient temperature



## Ferrule fuse links

## FWP - $10 \times 38 \mathrm{~mm}$, gR, 690 V a.c., 4 A to 32 A

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

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


## Total clearing $\mathrm{I}^{2 \mathrm{t}}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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 - $14 \times 51$ mm, gR, 690 V a.c. (IEC), 4 A to 50 A

## Specifications

## Description

The $14 \times 51 \mathrm{~mm}$ cylindrical, class $g R$ 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


- CH 14


## Standards / Agency information

IEC 60269-4, UL 248-13

Catalogue numbers

| Fuse link size | Type | Rated voltage | Rated current (Amps) | ${ }^{12} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss(W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Pre-arcing | Clearing at 690 V a.c. |  |  |
| $14 \times 51 \mathrm{~mm}$ | Without indicator | 690 V a.c. (IEC) | 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 |
|  |  |  | 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 |
|  |  |  | 40 | 211 | 1331 | 7.52 | FWP-40G14F |
|  |  |  | 50 | 350 | 2200 | 9.8 | FWP-50G14F |
|  | With indicator | 690 V a.c. (IEC) | 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 |
|  |  |  | 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 |

Dimensions (mm)


Data sheet: 10468

## Ferrule fuse links

FWP - $14 \times 51 \mathrm{~mm}, \mathrm{gR}, 690 \mathrm{~V}$ a.c., 4 A to 50 A
Time-current curve-4 A to 50 A


## Ambient temperature



## FWP - $14 \times 51 \mathrm{~mm}, \mathrm{gR}, 690 \mathrm{~V}$ a.c., 4 A to 50 A

Cut-off curve - 4 A to 50 A


## Total clearing $\mathrm{l}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}}$, (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.


## Ferrule fuse links

## FWP - $22 \times 58 \mathrm{~mm}, \mathrm{gR}, 690 \mathrm{~V}$ a.c. (IEC), 20 A to 100 A

## Specifications

## Description

The $22 \times 58 \mathrm{~mm}$ 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

| Fuse link size | Type | Rated voltage | Rated current (Amps) | ${ }^{12}\left(A^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Pre-arcing | Clearing at 690 V a.c. |  |  |
| $22 \times 58 \mathrm{~mm}$ | Without indicator | 690 V a.c. (IEC) | 20 | 24 | 154 | 6.00 | FWP-20G22F |
|  |  |  | 25 | 43 | 274 | 6.65 | FWP-25G22F |
|  |  |  | 32 | 97 | 616 | 9.21 | FWP-32G22F |
|  |  |  | 40 | 180 | 899 | 8.24 | FWP-40G22F |
|  |  |  | 50 | 273 | 1362 | 11.85 | FWP-50G22F |
|  |  |  | 63 | 516 | 2575 | 13.80 | FWP-63G22F |
|  |  |  | 80 | 1092 | 5448 | 14.00 | FWP-80G22F |
|  |  |  | 100 | 2065 | 10,300 | 17.70 | FWP-100G22F |
|  | With indicator | 690 V a.c. (IEC) | 20 | 24 | 154 | 6.00 | FWP-20G22FI |
|  |  |  | 25 | 43 | 274 | 6.65 | FWP-25G22FI |
|  |  |  | 32 | 97 | 616 | 9.21 | FWP-32G22FI |
|  |  |  | 40 | 180 | 899 | 8.24 | FWP-40G22FI |
|  |  |  | 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 - $22 \times 58 \mathrm{~mm}, \mathrm{gR}, 690 \mathrm{~V}$ a.c., 20 A to 100 A

Time-current curve-20 A to 100 A


## Ambient temperature



## Ferrule fuse links

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

Cut-off curve - 20 A to 100 A


## Total clearing $\mathrm{I}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}}$ ( 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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## FWP - $14 \times 51 \mathrm{~mm}$, 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

- CH 14


## Standards / Agency information

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

Catalogue numbers

| Fuse link type | Fuse link size | Rated voltage | Rated current (Amps) | $1{ }^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Pre-arcing | Clearing at 700 V a.c. |  |  |
| Without striker | $\begin{aligned} & 14 \times 51 \mathrm{~mm} \\ & \left(9 / 16^{\prime \prime} \times 2^{\prime \prime}\right) \end{aligned}$ | 700 V a.c. (UL) | 1 | 0.04 | 0.41 | 5.7 | FWP-1A14F |
|  |  |  | 2 | 0.08 | 0.11 | 8.7 | FWP-2A14F |
|  |  |  | 3 | 0.11 | 0.26 | 2.8 | FWP-3A14F |
|  |  |  | 4 | 0.1 | 0.23 | 3 | FWP-4A14F |
|  |  | 700 V a.c. / 700 V d.c. (UL) 690 V a.c. (IEC) | 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 |
|  |  |  | 20 | 26 | 180 | 6.5 | FWP-20A14F |
|  |  |  | 25 | 49 | 320 | 7 | FWP-25A14F |
|  |  |  | 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 |
| With striker | $\begin{aligned} & 14 \times 51 \mathrm{~mm} \\ & \left(9 / 16^{\prime \prime} \times 2^{\prime \prime}\right) \end{aligned}$ | 700 V a.c. / 600 V d.c. (UL) | 10 | 4 | 32 | 2 | FWP-10A14FI |
|  |  |  | 15 | 7 | 63 | 4 | FWP-15A14FI |
|  |  |  | 20 | 26 | 234 | 4 | FWP-20A14FI |
|  |  |  | 25 | 42 | 378 | 4 | FWP-25A14FI |
|  |  |  | 30 | 52 | 468 | 6 | FWP-30A14FI |
|  |  |  | 32 | 68 | 600 | 8 | FWP-32A14FI |
|  |  |  | 40 | 84 | 750 | 8 | FWP-40A14FI |
|  |  |  | 50 | 200 | 1800 | 9 | FWP-50A14FI |

## Ferrule fuse links

FWP - $14 \times 51 \mathrm{~mm}, 690 \mathrm{~V}$ a.c. (IEC), 700 V a.c. / V d.c. (UL), 1 A to 50 A
Dimensions - mm (in)


Without striker


With striker

Time-current curve-1 A to 50 A


FWP - $14 \times 51 \mathrm{~mm}, 690 \mathrm{~V}$ a.c. (IEC), 700 V a.c. / V d.c. (UL), 1 A to 50 A

Time-current curve - 63 A


## Total clearing $\mathrm{I}^{1 \mathrm{t}}$

The total clearing $I^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Ferrule fuse links

## 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. $/ \mathrm{V}$ d.c. (UL)
- Rated current: 20 A to 100 A
- Breaking capacity:
- 200 kA RMS Sym.
- 50 kA at 700 V d.c., $\mathrm{t} / \mathrm{c} 5 \mathrm{~ms}$
- 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

| Fuse link type | Fuse link size | Rated voltage | Rated current (Amps) | $1^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Pre-arcing | Clearing at 700 V a.c. |  |  |
| Without striker | $\begin{aligned} & 22 \times 58 \mathrm{~mm} \\ & \left(7 / 8^{\prime \prime} \times 292^{\prime \prime}\right) \end{aligned}$ | 700 V a.c./ 700 V d.c. (UL) | 20 | 23 | 330 | 5 | FWP-20A22F |
|  |  |  | 25 | 37 | 530 | 6 | FWP-25A22F |
|  |  |  | 32 | 55 | 780 | 8 | FWP-32A22F |
|  |  |  | 40 | 68 | 960 | 12 | FWP-40A22F |
|  |  |  | 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 |
| With striker | $\begin{aligned} & 22 \times 58 \mathrm{~mm} \\ & \left(7 / 8^{\prime \prime} \times 29 / 32^{\prime \prime}\right) \end{aligned}$ | 700 V a.c./ 700 V d.c. (UL) | 20 | 19 | 260 | 5 | FWP-20A22FI |
|  |  |  | 25 | 34 | 410 | 6 | FWP-25A22FI |
|  |  |  | 32 | 53.5 | 605 | 8 | FWP-32A22FI |
|  |  |  | 40 | 68 | 750 | 9 | FWP-40A22FI |
|  |  |  | 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

22.2 (0.874")

FWP - $22 \times 58 \mathrm{~mm}$, 700 V a.c. / V d.c. (UL), 20 A to 100 A

Time-current curve-20 A to 100 A


## Total clearing ${ }^{2} \mathrm{t}$ t

The total clearing $I^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}^{\prime}}$ (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.


## Ferrule fuse links

FWK - $20 \times 127 \mathrm{~mm}$ and $25 \times 146 \mathrm{~mm}$, 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 ( $20 \times 127 \mathrm{~mm}$ )
- 35 A to 60 A ( $25 \times 146 \mathrm{~mm}$ )
- Breaking capacity: 50 kA at 750 V d.c., L/R 10-15ms
- Operating class: gG


## Standards / Agency information:

CE


Catalogue numbers

| Fuse link size | Rated voltage | Rated current (Amps) | $I^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 750 V d.c. |  |  |
| $\begin{aligned} & 20 \times 127 \mathrm{~mm} \\ & \left(13 / 16^{\prime \prime} \times 5^{\prime \prime}\right) \end{aligned}$ | 750 V d.c. (IEC) | 5 | 8.5 | 16 | 6.7 | FWK-5A20F |
|  |  | 8 | 50 | 100 | 8.8 | FWK-8A20F |
|  |  | 10 | 95 | 200 | 8.5 | FWK-10A20F |
|  |  | 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 |
| $\begin{aligned} & 25 \times 146 \mathrm{~mm} \\ & \left(1^{\prime \prime} \times 53 / 4^{\prime \prime}\right) \end{aligned}$ | 750 V d.c. (IEC) | 35 | 1300 | 4600 | 6 | FWK-35A25F |
|  |  | 40 | 1600 | 5300 | 6.8 | FWK-40A25F |
|  |  | 50 | 3100 | 12,000 | 7.3 | FWK-50A25F |
|  |  | 60 | 5900 | 24,000 | 7.7 | FWK-60A25F |

Dimensions - mm (in), $20 \times 127 \mathrm{~mm}, 5$ A to 30 A



Dimensions - mm (in), $25 \times 146$ mm, 35 A to 60 A



FWK - $20 \times 127 \mathrm{~mm}$ and $25 \times 146 \mathrm{~mm}, 750 \mathrm{~V}$ d.c. (IEC), 5 A to 60 A
Time-current curve - 20 A to 100 A


## Ferrule fuse links

FWJ - $14 \times 67 \mathrm{~mm}, 1000 \mathrm{~V}$ 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

| Fuse link size | Rated voltage | ${ }^{12} \mathbf{t}\left(\mathbf{A}^{2} \mathbf{S e c}\right)$ |  |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Rated current (Amps) | Pre-arcing | Clearing at 1000 V a.c. |  |  |
| $\begin{aligned} & 14 \times 67 \mathrm{~mm} \\ & \left(9 / 16^{\prime \prime} \times 25 / 8^{\prime \prime}\right) \end{aligned}$ | 1000 V a.c./ 800 V d.c. (UL) | 20 | 25 | 220 | 9 | FWJ-20A14F |
|  |  | 25 | 33 | 350 | 11 | FWJ-25A14F |
|  |  | 30 | 52 | 450 | 14 | FWJ-30A14F |

Dimensions (mm)



FWJ - $14 \times 67 \mathrm{~mm}, 1000$ V a.c. / 800 V d.c. (UL), 20 A to 30 A

Time-current curve - 20 A to 30 A


## Ferrule fuse links

## FWL - $20 \times 127 \mathrm{~mm}$, 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: $20 \mathrm{~A}, 25 \mathrm{~A}$ 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

| Fuse link size | Rated voltage | ${ }^{2} \mathrm{t}$ ( $\mathrm{A}^{2} \mathrm{Sec}$ ) |  |  | Watts loss (W) | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Rated current (Amps) | Pre-arcing | Clearing at 1000 V a.c. |  | Without indicator | With indicator |
| $\begin{aligned} & 20 \times 127 \mathrm{~mm} \\ & \left(13 / 16^{\prime \prime} \times 5^{\prime \prime}\right) \end{aligned}$ | $\begin{aligned} & 1200 \mathrm{~V} \text { a.c./ } 1000 \mathrm{~V} \text { d.c. } \\ & \text { (IEC) } \end{aligned}$ | 20 | 675 | 1550 | 5.9 | FWL-20A20F | FWL-20A20FI |
|  |  | 25 | 1200 | 2760 | 6.5 | FWL-25A20F | FWL-25A20FI |
|  |  | 30 | 1850 | 4300 | 7.5 | FWL-30A20F | FWL-30A20FI |

Dimensions (mm)


FWL - $20 \times 127 \mathrm{~mm}, 1200$ V a.c. / 1000 V d.c. (IEC), 20 A to 30 A
Time-current curve - 20 A to 30 A


## Ferrule fuse links

FWS - $20 \times 127 \mathrm{~mm}, 1400-2000 \mathrm{~V}$ 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

| Fuse link size | Rated voltage | Rated current (Amps) | $\mathrm{I}^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing <br> at 1000 V a.c. |  | Without indicator | With indicator |
| $\begin{aligned} & 20 \times 127 \mathrm{~mm} \\ & \left(13 / 16^{\prime \prime} \times 5^{\prime \prime}\right) \end{aligned}$ | 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 |
|  |  | 8 | 64 | 192 | 7.6 | FWS-8A20F | FWS-8A20FI |
|  | 1400 V a.c./ 1000 V d.c.(IEC) | 10 | 118 | 277 | 3 | FWS-10A20F | FWS-10A20FI |
|  |  | 12 | 170 | 380 | 3.4 | FWS-12A20F | FWS-12A20FI |
|  |  | 15 | 209 | 500 | 5 | FWS-15A20F | FWS-15A20FI |

Dimensions (mm)


FWS - $20 \times 127 \mathrm{~mm}, 1400-2000 \mathrm{~V}$ a.c. / 1000 V d.c. (IEC), 2 A to 15 A

Time-current curve - 2 A to 15 A


## Square body fuse links

## 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 00100 A to 400 A )

- 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.

[^0]
## Type - $\mathrm{U} / 80,-/ 80,-\mathrm{TN} / 80$

| Size | D | E | F | G | H | K |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 000 | 40 | 21 | 20 | 51 | 8 | 2 |
| 00 | 51 | 30 | 28 | 67 | 10 | 2 |

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

| Fuse link body size | Rated voltage | Rated current (Amps) | $1^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Operating class | Catalogue numbers |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-Arcing | Clearing at 660 V a.c. |  |  | -U/80 <br> Without indicator | -/80 <br> Visual indicator | -TN/80 Type T indicator for micro |
| 000 | $\begin{aligned} & 690 \text { V a.c. } \\ & \text { (IEC) } \end{aligned}$ | 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 |
|  |  | 40 | 69 | 460 | 12 |  | 170M1313 | 170M1363 | 170M1413 |
|  |  | 50 | 115 | 770 | 15 |  | 170M1314 | 170M1364 | 170M1414 |
|  | 700 V a.c. / <br> V d.c. <br> (UL) | 63 | 215 | 1450 | 16 |  | 170M1315 | 170M1365 | 170M1415 |
|  |  | 80 | 380 | 2550 | 19 | aR | 170M1316 | 170M1366 | 170M1416 |
|  |  | 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 |
| 00 | $\begin{aligned} & 690 \mathrm{~V} \text { a.c. } \\ & \text { (IEC) } \end{aligned}$ | 25 | 19 | 130 | 6 | gR |  | 170M2608 | 170M2658 |
|  |  | 32 | 28.5 | 195 | 7 |  |  | 170M2609 | 170M2659 |
|  |  | 40 | 50 | 360 | 9 |  |  | 170M2610 | 170M2660 |
|  |  | 50 | 95 | 640 | 10 |  |  | 170M2611 | 170M2661 |
|  |  | 63 | 170 | 1200 | 12 |  |  | 170M2612 | 170M2662 |
|  |  | 80 | 310 | 2100 | 15 |  |  | 170M2613 | 170M2663 |
| 00 | $\begin{aligned} & 690 \text { V a.c. } \\ & \text { (IEC) } \end{aligned}$ | 100 | 620 | 4150 | 20 | aR |  | 170M2614 | 170M2664 |
|  |  | 125 | 1000 | 6950 | 25 |  |  | 170M2615 | 170M2665 |
|  |  | 160 | 1900 | 13,000 | 30 |  |  | 170M2616 | 170M2666 |
|  |  | 200 | 3400 | 23,000 | 35 |  |  | 170M2617 | 170M2667 |
|  | $700 \mathrm{~V} \text { a.c. }$ <br> (UL) | 250 | 6250 | 42,000 | 45 |  |  | 170M2618 | 170M2668 |
|  |  | 315 | 10,000 | 68,500 | 55 |  |  | 170M2619 | 170M2669 |
|  |  | 350 | 13,500 | 91,500 | 60 |  |  | 170M2620 | 170M2670 |
|  |  | 400 | 18,000 | 125,000 | 70 |  |  | 170M2621 | 170M2671 |

## Square body fuse links

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


## 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 $\mathrm{l}^{2} \mathrm{t}$

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


## Square body fuse links

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


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 $\mathrm{I}^{2 \mathrm{t}}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Square body fuse links

## 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 -KN/80, -KN/110

| Type $\mathbf{- K N} / \mathbf{8 0}, \mathbf{- K N} / \mathbf{1 1 0}$ |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Size | A | B | $\mathrm{B}^{3}$ | C | $\mathrm{C}^{3}$ | D | E | H |
| $1^{*}$ | 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 |

[^1]$1 \mathrm{~mm}=0.0394^{\prime \prime}$
${ }^{1}$ Valid for fuse links type -/110, -TN/110.
${ }^{2}$ Valid for Fuse type -TN/80 and -TN/110.
$1 \mathrm{~mm}=0.0394$ "

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

Catalogue numbers

| Fuse <br> link <br> body <br> size | Rated voltage | Rated current (Amps) | ${ }^{12} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  |  | Catalogue numbers |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 660 V a.c. | Watts loss <br> (W) | -/80 Visual indicator | -TN/80 <br> Type T indicator for micro | -KN/80 <br> Type K indicator for micro | -/110 <br> Visual indicator | -TN/110 <br> Type T indicator for micro | -KN/110 <br> Type K indicator for micro |
| 1* | 690 V a.c. (IEC) | 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 | 170 M 3162 | 170M3212 | 170M3262 |
|  |  | 125 | 550 | 3700 | 26 | 170M3013 | 170M3063 | 170M3113 | 170M3163 | 170M3213 | 170M3263 |
|  |  | 160 | 1100 | 7500 | 30 | 170M3014 | 170M3064 | 170M3114 | 170M3164 | 170M3214 | 170M3264 |
|  |  | 200 | 2200 | 15,000 | 35 | 170M3015 | 170M3065 | 170M3115 | 170M3165 | 170M3215 | 170M3265 |
|  | $700 \mathrm{~V} \text { a.c. }$(UL) | 250 | 4200 | 28,500 | 40 | 170M3016 | 170M3066 | 170M3116 | 170M3166 | 170M3216 | 170M3266 |
|  |  | 315 | 7000 | 46,500 | 50 | 170M3017 | 170M3067 | 170 M 3117 | 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 |
| 1 | 690 V a.c. <br> 700 V a.c. <br> (UL) | 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 |
|  |  | 400 | 13,500 | 91,500 | 65 | 170M4012 | 170M4062 | 170M4112 | 170M4162 | 170M4212 | 170M4262 |
|  |  | 450 | 17,000 | 120,000 | 70 | 170M4013 | 170M4063 | 170M4113 | 170M4163 | 170M4213 | 170M4263 |
|  |  | 500 | 25,000 | 170,000 | 72 | 170M4014 | 170M4064 | 170M4114 | 170M4164 | 170M4214 | 170M4264 |
|  |  | 550 | 34,000 | 230,000 | 75 | 170M4015 | 170M4065 | 170M4115 | 170M4165 | 170M4215 | 170M4265 |
|  |  | 630 | 52,000 | 350,000 | 80 | 170M4016 | 170M4066 | 170M4116 | 170M4166 | 170M4216 | 170M4266 |
|  |  | 700 | 69,500 | 465,000 | 85 | 170M4017 | 170M4067 | 170M4117 | 170M4167 | 170M4217 | 170M4267 |
|  |  | 800 | 105,000 | 725,000 | 95 | 170M4018 | 170M4068 | 170M4118 | 170M4168 | 170M4218 | 170M4268 |
|  | 550 V a.c. IEC | 900 | 155,000 | 850,000 | 100 | 170M4019 ${ }^{1}$ | 170M4069 ${ }^{1}$ | 170M41191 | 170M4169 ${ }^{1}$ | 170M42191 | 170M4269 ${ }^{1}$ |
| 2 | 690 V a.c. <br> 700 V a.c. <br> (UL) | 400 | 11,000 | 74,000 | 65 | 170M5008 | 170M5058 | 170M5108 | 170M5158 | 170M5208 | 170M5258 |
|  |  | 450 | 15,500 | 105,000 | 70 | 170M5009 | 170M5059 | 170M5109 | 170M5159 | 170M5209 | 170M5259 |
|  |  | 500 | 21,500 | 145,000 | 75 | 170M5010 | 170M5060 | 170M5110 | 170M5160 | 170M5210 | 170M5260 |
|  |  | 550 | 28,000 | 190,000 | 80 | 170M5011 | 170M5061 | 170M5111 | 170M5161 | 170M5211 | 170M5261 |
|  |  | 630 | 41,000 | 275,000 | 90 | 170M5012 | 170M5062 | 170M5112 | 170M5162 | 170M5212 | 170M5262 |
|  |  | 700 | 60,500 | 405,000 | 95 | 170M5013 | 170M5063 | 170M5113 | 170M5163 | 170M5213 | 170M5263 |
|  |  | 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) / <br> 700 V a.c. UL | 1100 | 245,000 | 1,600,000 | 120 | 170M5017 | 170M5067 | 170M5117 | 170M5167 | 170M5217 | 170M5267 |
|  |  | 1250 | 365,000 | 2,400,000 | 130 | 170M5018 | 170M5068 | 170M5118 | 170M5168 | 170M5218 | 170M5268 |
| 3 | $690 \mathrm{~V} \text { a.c. } 1$ <br> 700 V a.c. <br> (UL) | 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 |
|  |  | 800 | 69,500 | 465,000 | 115 | 170M6012 | 170M6062 | 170M6112 | 170M6162 | 170M6212 | 170M6262 |
|  |  | 900 | 100,000 | 670,000 | 120 | 170M6013 | 170M6063 | 170M6113 | 170M6163 | 170M6213 | 170M6263 |
|  |  | 1000 | 140,000 | 945,000 | 125 | 170M6014 | 170M6064 | 170M6114 | 170M6164 | 170M6214 | 170M6264 |
|  |  | 1100 | 190,000 | 1,300,000 | 130 | 170M6015 | 170M6065 | 170M6115 | 170 M 6165 | 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 |
|  | $\begin{aligned} & 600 \mathrm{~V} \text { a.c. IEC / } \\ & 550 \mathrm{~V} \text { a.c. UL } \\ & \hline \end{aligned}$ | 1800 | 880,000 | 5,250,000 | 165 | 170M6020² | 170M6070 ${ }^{2}$ | 170M6120 | 170M6170² | 170M6220 ${ }^{2}$ | 170M6270 |
|  | 550 V a.c. IEC/UL | 2000 | 1,150,000 | 6,350,000 | 175 | 170M6021 | 170M6071 | 170M6121 | 170M6171 | 170M6221 | 170M6271 |

Data sheets: 170K6314 (Size 1*), 170K6316 (Size 1), 170K6318 (Size 2), 170K6320 (Size 3)
${ }^{1}$ Not UL Approved IEC $\quad{ }^{2}$ Rated at 750 V d.c. 12 XIn 130 kA when two fuses connected in series

## Square body fuse links

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 $\mathrm{l}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{\llcorner }$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{p}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Square body fuse links

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 $\mathrm{l}^{2} \mathrm{t}$

The total clearing $I^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## 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, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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.


## Square body fuse links

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


## Total clearing $\mathrm{I}^{2 \mathrm{t}}$

The total clearing $1^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}}$ ( 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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Square body fuse links

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 $\mathrm{I}^{2 \mathrm{t}} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Square body fuse links

## 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

| Fuse link body size | Rated voltage | Rated current (Amps) | $\mathrm{I}^{2}\left(\mathrm{~A}^{2} \mathrm{Sec}\right)$ |  | Watts loss(W) | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at rated voltage |  | 00/80 Visual indicator | 00TN/80 Type T indicator for micro |
| 00 | $\begin{aligned} & 1000 \mathrm{~V} \text { a.c. } \\ & \text { (IEC/UL) } \end{aligned}$ | 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 |
|  |  | 63 | 280 | 2000 | 18 | 170M4808 | 170M4828 |
|  |  | 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)


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


## Square body fuse links

## 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 $I^{2} t$

The total clearing $1^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} \mathrm{t}$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, 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

## 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

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) -KN/110



Dimensions (mm) -TN/110


| Size | A | B | C | D1 (max) | E | G | H | J |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1*KN/110 | 80 | 138 | 108 | 61 | 43 | 6 | 22 | 11 |
| $1 \mathrm{KN} / 110$ | 80 | 138 | 108 | 69 | 51 | 6 | 25 | 11 |
| $2 \mathrm{KN} / 110$ | 80 | 138 | 108 | 77 | 59 | 6 | 25 | 11 |
| $3 \mathrm{KN} / 110$ | 81 | 139 | 108 | 92 | 74 | 6 | 30 | 11 |


| Size | A | B | C | D1 (max) | E | G | H | J |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1*TN/110 | 80 | 138 | 108 | 61 | 43 | 6 | 22 | 11 |
| $1 T N / 110$ | 80 | 138 | 108 | 69 | 51 | 6 | 25 | 11 |
| $2 T N / 110$ | 80 | 138 | 108 | 75 | 59 | 6 | 25 | 11 |
| $3 T N / 110$ | 81 | 139 | 108 | 90 | 74 | 6 | 30 | 11 |

## Square body fuse links

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

## Catalogue numbers

| Fuse link body size | Rated voltage | Rated current (Amps) | ${ }^{12} \mathbf{t}\left(A^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at rated voltage |  | -KN/110 Type K indicator for micro | -TN/110 Type T indicator for micro |
| 1* | 1000 V a.c. (IEC) | 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 |
|  |  | 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 |
| 1 | 1000 V a.c. (IEC) <br> 1000 V a.c. / 750 V d.c. (UL) | 160 | 2200 | 13,500 | 40 | 170M4965 | 170M4980 |
|  |  | 200 | 4150 | 24,500 | 45 | 170M4966 | 170M4981 |
|  |  | 250 | 7750 | 46,000 | 52 | 170M4967 | 170M4982 |
|  |  | 315 | 16,500 | 98,500 | 60 | 170M4968 | 170M4983 |
|  |  | 350 | 21,500 | 130,000 | 65 | 170M4969 | 170M4984 |
|  |  | 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 |
| 2 | 1000 V a.c. (IEC and UL) | 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 |
|  |  | 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 |
| 3 | 1000 V a.c. (IEC and UL) | 315 | 9200 | 54,500 | 90 | 170M8614 | 170M8629 ${ }^{1}$ |
|  |  | 350 | 13,000 | 77,500 | 95 | 170M8615 | 170M8630 ${ }^{1}$ |
|  |  | 400 | 19,000 | 115,000 | 105 | 170M8616 | 170M86311 |
|  |  | 450 | 27,000 | 160,000 | 107 | 170 M 8617 | 170M8632 ${ }^{1}$ |
|  |  | 500 | 37,500 | 225,000 | 110 | 170M8618 | 170M8633 ${ }^{1}$ |
|  |  | 550 | 52,000 | 310,000 | 115 | 170M8619 | 170M8634 ${ }^{1}$ |
|  |  | 630 | 82,500 | 490,000 | 120 | 170M8620 | 170M8635 ${ }^{1}$ |
|  |  | 700 | 115,000 | 700,000 | 125 | 170M8621 | 170M8636 ${ }^{1}$ |
|  |  | 800 | 170,000 | 1,050,000 | 135 | 170M8622 | 170M8637 ${ }^{1}$ |
|  |  | 900 | 250,000 | 1,500,000 | 145 | 170M8623 | 170M8638 ${ }^{1}$ |
|  |  | 1000 | 340,000 | 2,050,000 | 150 | 170M8624 | 170M8639 ${ }^{1}$ |
|  |  | 1100 | 460,000 | 2,750,000 | 155 | 170M8625 | 170M8640 ${ }^{1}$ |
|  | 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 |

[^2]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


## Square body fuse links

## 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 ${ }^{2}{ }^{2} t$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}}$ (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, $\mathrm{K}_{\mathrm{p}}$, 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


## Square body fuse links

## 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 $I^{2} t$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}^{\prime}}$ (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 2, 250 A to 800 A


## Square body fuse links

## 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 ${ }^{12} t$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}}$ ( 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, $\mathrm{K}_{\mathrm{p}}$, 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 3, 315 A to 1400 A


## Square body fuse links

## 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 $\mathrm{I}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, 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

## 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


Dimensions (mm) - KN/110

| Size | A | B | C | $\mathbf{D}^{\mathbf{1}}$ | $\mathbf{E}$ | $\mathbf{H}$ | K |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $1^{*}$ | 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 |

${ }^{1}$ Clip on Microswitch valid for fuse links -TN//110.
$1 \mathrm{~mm}=0.0394^{\prime \prime}$

| Size | A | B | C | D | E | H | K |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $1^{*}$ | 80 | 138 | 108 | 60 | 45 | 20 | 11 |
| 1 | 80 | 138 | 108 | 69 | 53 | 25 | 11 |
| 2 | 80 | 138 | 108 | 77 | 61 | 25 | 11 |
| 3 | 81 | 139 | 108 | 92 | 76 | 30 | 11 |

$1 \mathrm{~mm}=0.0394^{\prime \prime}$

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

Catalogue numbers

|  |  |  | ${ }^{12}\left(A^{2} \mathrm{Sec}\right)$ |  |  |  | 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 <br> Visual indicator | -TN/110 <br> Type T indicator for micro | -KN/110 <br> Type K indicator for micro |
| $1^{*}$ | 1250 V a.c. (IEC) <br> 1300 V a.c. (UL) | 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 |
|  |  | 125 | 1450 | 9000 | 11,500 | 35 | 170M3142 | 170M3192 | 170M3242 |
|  |  | 160 | 2600 | 16,000 | 21,000 | 40 | 170M3143 | 170M3193 | 170M3243 |
|  |  | 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 |
| 1 | 1250 V a.c. (IEC) <br> 1300 V a.c. (UL) | 160 | 1900 | 11,500 | 15,500 | 45 | 170M4138 ${ }^{2}$ | 170M4188 ${ }^{2}$ | 170M4238 ${ }^{2}$ |
|  |  | 200 | 3800 | 22,500 | 30,000 | 50 | 170M41392 | 170M4189 ${ }^{2}$ | 170M4239 ${ }^{2}$ |
|  |  | 250 | 7750 | 46,000 | 61,500 | 60 | 170M4140 ${ }^{2}$ | 170M4190 ${ }^{2}$ | 170M4240 ${ }^{2}$ |
|  |  | 315 | 15,000 | 90,000 | 120,000 | 65 | 170M4141 ${ }^{2}$ | 170M4191 ${ }^{2}$ | 170M4241 ${ }^{2}$ |
|  |  | 350 | 20,000 | 125,000 | 165,000 | 70 | 170M4142 ${ }^{2}$ | 170M4192 ${ }^{2}$ | 170M4242 ${ }^{2}$ |
|  |  | 400 | 29,500 | 175,000 | 235,000 | 75 | 170M4143 ${ }^{2}$ | 170M4193 ${ }^{2}$ | 170M4243 ${ }^{2}$ |
|  |  | 450 | 42,000 | 250,000 | 335,000 | 80 | 170M4144 ${ }^{2}$ | 170M4194 ${ }^{2}$ | 170M4244 ${ }^{2}$ |
|  | $\begin{aligned} & 800 \mathrm{~V} \text { d.c. (UL) } \\ & 85 \mathrm{kA} \operatorname{RR} \end{aligned}$ | 500 | 69,500 | 340,000 | 435,000 | 85 | 170M4145 | 170M4195 | 170M4245 |
|  |  | 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 ${ }^{1}$ | 170M4197 ${ }^{1}$ | 170M4247 ${ }^{1}$ |
| 2 | 1250 V a.c. (IEC) <br> 1300 V a.c. (UL) | 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 |
|  |  | 400 | 23,000 | 140,000 | 180,000 | 85 | 170M5142 | 170M5192 | 170M5242 |
|  |  | 450 | 34,000 | 205,000 | 270,000 | 90 | 170M5143 | 170M5193 | 170M5243 |
|  |  | 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 ${ }^{2}$ | 170M51962 | 170M5246 |
|  |  | 700 | 160,000 | 795,000 | 1,050,000 | 125 | 170M5147 ${ }^{2}$ | 170M5197 ${ }^{2}$ | 170M5247 |
|  |  | 800 | 245,000 | 1,200,000 | 1,550,000 | 130 | 170M5148 ${ }^{2}$ | 170M51982 | 170M5248 |
|  | $\begin{aligned} & 1100 \text { V a.c. } \\ & \text { (IEC \& UL) } \end{aligned}$ | 900 | 360,000 | 1,750,000 | N/A | 135 | 170M5149 ${ }^{4}$ | 170M5199 ${ }^{4}$ | 170M5249 ${ }^{4}$ |
|  |  | 1000 | 480,000 | 2,350,000 | N/A | 145 | 170M5150 ${ }^{4}$ | $170 \mathrm{M} 5200^{4}$ | 170M5250 ${ }^{4}$ |
| 3 | 1300 V a.c. (UL) | 315 | 9500 | 58,000 | 77,500 | 85 | 170M6138 ${ }^{2}$ | 170M6188 ${ }^{2}$ | 170M6238 ${ }^{2}$ |
|  |  | 350 | 13,500 | 81,500 | 110,000 | 90 | 170M6139 ${ }^{2}$ | 170M6189 ${ }^{2}$ | 170M6239 ${ }^{2}$ |
|  |  | 400 | 19,500 | 120,000 | 160,000 | 95 | 170M6140 ${ }^{2}$ | 170M6190 ${ }^{2}$ | 170M6240 ${ }^{2}$ |
|  |  | 450 | 31,000 | 185,000 | 245,000 | 100 | 170M6141 ${ }^{2}$ | 170M6191 ${ }^{2}$ | 170M6241 ${ }^{2}$ |
|  |  | 500 | 39,000 | 235,000 | 310,000 | 105 | 170M6142 ${ }^{2}$ | 170M6192 ${ }^{2}$ | 170M6242 ${ }^{2}$ |
|  |  | 550 | 55,000 | 325,000 | 435,000 | 110 | 170M6143 ${ }^{2}$ | 170M6193 ${ }^{2}$ | 170M6243 ${ }^{2}$ |
|  |  | 630 | 83,500 | 495,000 | 665,000 | 115 | 170M6144 ${ }^{2}$ | 170M6194 ${ }^{2}$ | 170M6244 ${ }^{2}$ |
|  |  | 700 | 115,000 | 705,000 | 940,000 | 120 | 170M6145 ${ }^{2}$ | 170M6195 ${ }^{2}$ | 170M6245 ${ }^{2}$ |
|  |  | 800 | 205,000 | 995,000 | 1,300,000 | 125 | 170M6146 ${ }^{3}$ | 170M61963 | 170M6246 ${ }^{1}$ |
|  |  | 900 | 305,000 | 1,500,000 | 1,900,000 | 130 | 170M6147 ${ }^{3}$ | 170M6197 ${ }^{3}$ | 170M6247 ${ }^{1}$ |
|  |  | 1000 | 450,000 | 2,150,000 | 2,750,000 | 135 | 170M6148 ${ }^{3}$ | 170M6198 ${ }^{3}$ | 170M6248 ${ }^{1}$ |
|  |  | 1100 | 575,000 | 2,800,000 | 3,600,000 | 160 | 170M6149 ${ }^{3}$ | 170M61993 | 170M6249 ${ }^{1}$ |
|  | 1100 V a.c. (IEC) | 1250 | 810,000 | 3,950,000 | N/A | 170 | 170M6150 ${ }^{5}$ | 170M6200 ${ }^{1}$ | 170M6250 ${ }^{1}$ |
|  |  | 1400 | 1,250,000 | 6,000,000 | N/A | 175 | $170 \mathrm{M} 6151^{5}$ | 170M6201 ${ }^{1}$ | 170M6251 ${ }^{1}$ |

[^3]${ }^{5} 900 \mathrm{~V}$ d.c. 12 XIn 90 kA

Data sheets: 170K6630 (Size 1*), 170K6632 (Size 1), 170K6634 (Size 2), 170K6636 (Size 3)

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


## Square body fuse links

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 ${ }^{2}{ }^{2} t$

The total clearing $I^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


Green curve: fuses $\leq 350 \mathrm{~A}$
Red curve: fuses $\geq 400 \mathrm{~A}$

## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}}$ ( 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, $\mathrm{K}_{\mathrm{p}}$, 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


## Square body fuse links

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 ${ }^{2}{ }^{2} t$

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


B: fuses $\leq 450 \mathrm{~A}$
$C$ : fuses $\geq 500 \mathrm{~A}$

## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}}$ ( RMS ) at a power factor of 15 percent.


B: fuses $\leq 450 \mathrm{~A}$
C: fuses $\geq 500 \mathrm{~A}$

## 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, $\mathrm{K}_{\mathrm{p}}$, 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 2, 250 A to 1000 A


## Square body fuse links

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 $I^{2} t$

The total clearing $1^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $I^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


B: fuses $\leq 550 \mathrm{~A}$
C: fuses $\geq 630 \mathrm{~A}$

## 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, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (RMS) at a power factor of 15 percent.


B: fuses $\leq 550 \mathrm{~A}$
C: fuses $\geq 630 \mathrm{~A}$

## 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, 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


## Square body fuse links

## 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 ${ }^{2}{ }^{2} t$

The total clearing $I^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} \mathrm{t}$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


B: fuses $\leq 550 \mathrm{~A}$
C: fuses $\geq 630 \mathrm{~A}$

## Arc voltage

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


B: fuses $\leq 700 \mathrm{~A}$
C: fuses $\geq 800 \mathrm{~A}$

## 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, $\mathrm{K}_{\mathrm{p}}$, 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


| Size | $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{D}(\mathbf{m a x})$ | $\mathbf{E}(\mathbf{m a x})$ | $\mathbf{F}$ | $\mathbf{G}$ | $\mathbf{H}(\mathbf{m i n})$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 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 |

## Square body fuse links

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

Catalogue numbers

| Fuse link body size | Rated voltage | Rated current (Amps) ${ }^{1}$ | $\mathrm{I}^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers <br> Type Tindicator for micro |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 690 V a.c. |  |  |
| 00 | 690 V a.c. (IEC) | 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 |
|  |  | 40 | 95 | 490 | 10 | 170M2696 |
|  |  | 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 |
| 1 | 690 V a.c. (IEC) | 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 |
|  |  | 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 |
| 2 | 690 V a.c. (IEC) | 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 |
|  |  | 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 |
| 3 | 690 V a.c. (IEC) | 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 |
|  |  | 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 |

${ }^{1}$ 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.

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


## Square body fuse links

## 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 $\mathrm{l}^{2 \mathrm{t}} \mathrm{t}$

The total clearing $l^{2 t}$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## 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, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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 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


## Square body fuse links

## 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 $\mathrm{I}^{2 \mathrm{t}} \mathrm{t}$

The total clearing $1^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} \mathrm{t}$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, 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
Time-current curve - Size 2, 200 A to 630 A


## Square body fuse links

## 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 $\mathrm{I}^{2} \mathrm{t}$

The total clearing $I^{2}$ t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## 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, $\mathrm{E}_{\mathrm{a}^{\prime}}$ (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 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


## Square body fuse links

## 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 $\mathrm{I}^{2} \mathrm{t}$

The total clearing $I^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} \mathrm{t}$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}}$ (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 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 | A | B | 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 |

## Square body fuse links

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


[^4]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 - Sizes 000 and 00, 10 A to 315 A


## Square body fuse links

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 $\mathrm{I}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


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


## Square body fuse links

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 $\mathrm{l}^{2 \mathrm{t}} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


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


## Square body fuse links

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 $l^{2} t$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


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 3, 500 A to 1600 A


## Square body fuse links

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 $\mathrm{I}^{2 \mathrm{t}}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## 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

| Fuse link body size | Rated voltage | Rated current Amps) | $I^{2} \mathbf{t}\left(\mathbf{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss(W) | Catalogue numbers <br> Type T indicator for micro |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 1000 V a.c. |  |  |
| 00 | $\begin{aligned} & 1000 \mathrm{~V} \text { a.c. } \\ & \text { (IEC/UL) } \end{aligned}$ | 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 |
|  |  | 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 | 900 V a.c. (IEC) | 200 | 12,000 | 86,500 | 31 | 170M2684 |
|  |  | 225 | 18,000 | 115,000 | 33 | 170M2685 |

Dimensions (mm)

30.0 MAX


## Square body fuse links

## 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


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 ${ }^{2}{ }^{2} t$

The total clearing $1^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $I^{2} \mathrm{t}$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Square body fuse links

## 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 | A | B | C | D | E | H | J | K |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $1^{*}$ | 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 |

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

Catalogue numbers

| Fuse link body size | Rated voltage | Rated current (Amps) | $\underline{12 t}\left(A^{2} \mathrm{Sec}\right)$ |  | Watts loss(W) | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 660 V a.c. |  | -E/- Type T indicator for micro | -EKN/- Type K indicator for micro |
| $1^{*}$ | 690 V a.c. (IEC) <br> 700 V a.c.(UL) | 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 |
|  |  | 160 | 1100 | 7500 | 30 | 170M3314 | 170M3364 |
|  |  | 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 |
| 1 | 690 V a.c. (IEC) 700 V a.c.(UL) | 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 |
|  |  | 400 | 13,500 | 91,500 | 65 | 170M4312 | 170M4362 |
|  |  | 450 | 17,000 | 120,000 | 70 | 170M4313 | 170M4363 |
|  |  | 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 |
| 2 | $\begin{aligned} & 690 \text { V a.c. (IEC) } \\ & 700 \text { V a.c.(UL) } \end{aligned}$ | 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 | 170M5311 | 170M5361 |
|  |  | 630 | 41,000 | 275,000 | 90 | 170M5312 | 170M5362 |
|  |  | 700 | 60,500 | 405,000 | 95 | 170M5313 | 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 |
| 3 | $\begin{aligned} & 690 \text { V a.c. (IEC) } \\ & 700 \text { V a.c.(UL) } \end{aligned}$ | 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 | 170 M 6312 | 170 M 6362 |
|  |  | 900 | 100,000 | 670,000 | 120 | 170M6313 | 170M6363 |
|  |  | 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 |

## Square body fuse links

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 $\mathrm{I}^{2} \mathrm{t}$

The total clearing ${ }^{12} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $l^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{0}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Square body fuse links

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 ${ }^{12} t$

The total clearing $\mathrm{l}^{12}$ t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $l^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (RMS).


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Square body fuse links

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 $\mathrm{I}^{2 \mathrm{t}}$

The total clearing $I^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Square body fuse links

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 ${ }^{12} t$

The total clearing $1^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $I^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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.


## Square body fuse links

## 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


## Dimensions (mm)



| Size | A | B | B1 | C1 | C1 $^{1}$ | $\mathbf{C 2}^{\prime}$ | C2 $^{1}$ | D | E | G | H | 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 |

[^5]
## 170M - Sizes 1* to 3, US style, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

| Fuse link body size | Rated voltage | Rated current <br> (Amps) | ${ }^{12} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 660 V a.c. |  | -FU/- without indicator | -FKE/- Type K indicator for micro | -FU/115 without indicator | -FKE/115 Type K indicator for micro |
| 1* | 690 V a.c. (IEC) <br> 700 V a.c. (UL) | 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 |
|  |  | 200 | 2200 | 15,000 | 35 | 170M3615 | 170М3665 | 170M3715 | 170M3765 |
|  |  | 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 |
| 1 | 690 V a.c. (IEC) <br> 700 V a.c. (UL) | 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 |
|  |  | 400 | 13,500 | 91,500 | 65 | 170M4612 | 170M4662 | 170M4712 | 170M4762 |
|  |  | 450 | 17,000 | 120,000 | 70 | 170M4613 | 170M4663 | 170M4713 | 170M4763 |
|  |  | 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 |
| 2 | $\begin{aligned} & 690 \text { V a.c. (IEC) } \\ & 700 \text { V a.c. (UL) } \end{aligned}$ | 400 | 11,000 | 74,000 | 65 | 170M5608 | 170M5658 | 170M5708 | 170M5758 |
|  |  | 450 | 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 | 170M5711 | 170M5761 |
|  |  | 630 | 41,000 | 275,000 | 90 | 170M5612 | 170M5662 | 170M5712 | 170M5762 |
|  |  | 700 | 60,500 | 405,000 | 95 | 170M5613 | 170M5663 | 170M5713 | 170M5763 |
|  |  | 800 | 86,000 | 575,000 | 105 | 170M5614 | 170M5664 | 170M5714 | 170M5764 |
|  |  | 900 | 125,000 | 840,000 | 110 | 170M5615 | 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 |
|  |  | 1250 | 365,000 | 2,400,000 | 130 | 170M5618 | 170M5668 | 170M5718 | 170M5768 |
| 3 | 690 V a.c. (IEC) <br> 700 V a.c. (UL) | 500 | 14,000 | 95,000 | 95 | 170М6608 | 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 |
|  |  | 900 | 100,000 | 670,000 | 120 | 170M6613 | 170M6663 | 170M6713 | 170M6763 |
|  |  | 1000 | 140,000 | 945,000 | 125 | 170M6614 | 170M6664 | 170M6714 | 170M6764 |
|  |  | 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 | 170М6668 | 170M6718 | 170M6768 |
|  |  | 1600 | 580,000 | 3,900,000 | 160 | 170M6619 | 170M6669 | 170M6719 | 170M6769 |
|  | 600 V a.c. (IEC) <br> 550 V a.c. (UL) | 1800 | 880,000 | 5,250,000 | 165 | $170 \mathrm{M} 6620^{3}$ | 170M6670 ${ }^{1}$ | $170 \mathrm{M} 6720^{3}$ | 170M6770 |
|  | $\begin{aligned} & 550 \mathrm{~V} \text { a.c.(IEC) } \\ & 500 \mathrm{~V} \text { a.c. (UL) } \end{aligned}$ | 2000 | 1,150,000 | 6,350,000 | 175 | 170M6621 | 170M6671 ${ }^{2}$ | 170M6721 | 170M6771 |
| ${ }^{1} 170 \mathrm{M} 667$ | 0600 V a.c. (U | )/550 V | c. (IEC) ${ }^{2}$ | OM6671 550 | V a.c. (IEC and |  | d at 750 V d. ected in seri | XIn 130 kA whe | two fuses a |

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

## Square body fuse links

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 $\mathrm{l}^{2} \mathrm{t}$

The total clearing ${ }^{12} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $I^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Square body fuse links

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 ${ }^{2}{ }^{2} t$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}}$ ( 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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Square body fuse links

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 $\mathrm{I}^{2 \mathrm{t}} \mathrm{t}$

The total clearing $l^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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.


## Square body fuse links

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 $\mathrm{I}^{2 \mathrm{t}} \mathrm{t}$

The total clearing $\mathrm{I}^{12}$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2}$ t is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{\mathrm{L}}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{o}^{\prime}}$ (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.


## Square body fuse links

## 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 1750 V d.c. 50 kA IR
- Operating class: aR


## 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.


Dimensions (mm)


| Size | A | B | C | D | F | G | H | I | K |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 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 |

[^6]
## 170M - Sizes 1* to 3, US style, 1000 V a.c. (IEC), 50 A to 1400 A

Catalogue numbers

| Fuse link body size | Rated voltage | Rated current (Amps) | ${ }^{2} \mathbf{t}\left(\mathbf{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss <br> (W) | Catalogue numbers <br> -FKE/115 Type K indicator for micro |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 1000 V a.c. |  |  |
| $1 *$ | 1000 V a.c. (IEC) | 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 |
|  |  | 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 |
| 1 | $\begin{aligned} & 1000 \text { V a.c. (IEC) } \\ & 1000 \text { V a.c. / } 750 \text { V d.c. (UL) } \end{aligned}$ | 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 |
|  |  | 350 | 21,500 | 130,000 | 70 | 170M4535 |
|  |  | 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 |
| 2 | $\begin{aligned} & 1000 \mathrm{~V} \text { a.c. } \\ & \text { (IEC/UL) } \end{aligned}$ | 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 |
|  |  | 450 | 35,500 | 210,000 | 90 | 170M5535 |
|  |  | 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 |
| 3 | $\begin{aligned} & 1000 \mathrm{~V} \text { a.c. } \\ & (\text { IEC/UL) } \end{aligned}$ | 315 | 9200 | 54,500 | 90 | 170M8531 |
|  |  | 350 | 13,000 | 77,500 | 95 | 170 M 8532 |
|  |  | 400 | 19,000 | 115,000 | 105 | 170M8533 |
|  |  | 450 | 27,000 | 160,000 | 107 | 170M8534 |
|  |  | 500 | 37,500 | 225,000 | 110 | 170M8535 |
|  |  | 550 | 52,000 | 310,000 | 115 | 170M8536 |
|  |  | 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 |

## Square body fuse links

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 $\mathrm{l}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{\text {, }}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}}$, (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.


## Square body fuse links

## 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 $\mathrm{l}^{2} \mathrm{t}$

The total clearing ${ }^{12} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $I^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}}$ ( 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.


## Square body fuse links

## 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 $\mathrm{l}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}}$ ( 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.


## Square body fuse links

## 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 $\mathrm{l}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Square body fuse links

## 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)


| Size | A | B | $\mathbf{C 1}$ | $\mathbf{C 2}$ | D | $\mathbf{E}$ | $\mathbf{G}$ | $\mathbf{H}$ | $\mathbf{J}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $1^{*}$ | 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

| Fuse link body size | Rated voltage | Rated current (Amps) | $\mathrm{I}^{2}\left(\mathrm{~A}^{2} \mathrm{Sec}\right)$ |  |  | Watts loss(W) | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 1000 V a.c. | Clearing at 1250 V a.c. |  | -FU/115 without indicator | -FKE/115 Type K indicator for micro |
| $1^{*}$ | 1250 V a.c. (IEC) 1300 V a.c. (UL) | 50 | 135 | 815 | 1100 | 15 | 170M3688 ${ }^{1}$ | 170M3738 ${ }^{1}$ |
|  |  | 63 | 215 | 1300 | 1750 | 20 | 170M3689 ${ }^{1}$ | 170M3739 ${ }^{1}$ |
|  |  | 80 | 420 | 2500 | 3350 | 25 | 170M3690 ${ }^{1}$ | 170M3740 ${ }^{1}$ |
|  |  | 100 | 750 | 4450 | 5950 | 30 | 170M3691 ${ }^{1}$ | 170M3741 ${ }^{1}$ |
|  |  | 125 | 1450 | 9000 | 11,500 | 35 | 170M3692 ${ }^{1}$ | 170M3742 ${ }^{1}$ |
|  |  | 160 | 2600 | 16,000 | 21,000 | 40 | 170M3693 ${ }^{1}$ | 170M3743 ${ }^{1}$ |
|  |  | 200 | 5150 | 31,000 | 41,000 | 45 | 170M3694 ${ }^{1}$ | 170M3744 ${ }^{1}$ |
|  |  | 250 | 9200 | 54,500 | 73,000 | 55 | 170M3695 ${ }^{1}$ | 170M3745 ${ }^{1}$ |
|  |  | 315 | 18,500 | 115,000 | 150,000 | 60 | 170M3696 ${ }^{1}$ | 170M3746 ${ }^{1}$ |
|  |  | 350 | 27,000 | 165,000 | 220,000 | 65 | 170M36971 | 170M37471 |
| 1 | 1250 V a.c. (IEC) <br> 1300 V a.c. (UL) | 160 | 1900 | 11,500 | 15,500 | 45 | 170M4688 | 170M4738 |
|  |  | 200 | 3800 | 22,500 | 30,000 | 50 | 170M4689 | 170M4739 |
|  |  | 250 | 7750 | 46,000 | 61,500 | 60 | 170M4690 | 170M4740 |
|  |  | 315 | 15,000 | 90,000 | 120,000 | 65 | 170M4691 | 170M4741 |
|  |  | 350 | 20,000 | 125,000 | 165,000 | 70 | 170 M 4692 | 170M4742 |
|  |  | 400 | 29,500 | 175,000 | 235,000 | 75 | 170M4693 | 170M4743 |
|  |  | 450 | 42,000 | 250,000 | 335,000 | 80 | 170M4694 | 170M4744 |
|  | 1100 V a.c. IEC | 500 | 69,500 | 340,000 | N/A | 85 | 170M4695 | 170M4745 |
|  |  | 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 |
| 2 | 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 |
|  |  | 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 |
|  | 1100 V a.c. IEC | 700 | 160,000 | 795,000 | N/A | 125 | 170M5697 | 170M5747 |
|  |  | 800 | 245,000 | 1,200,000 | N/A | 130 | 170M5698 | 170M5748 |
|  | 1000 V a.c. IEC | 900 | 360,000 | 1,750,000 | N/A | 135 | 170M5699 | 170M5749 |
|  |  | 1000 | 480,000 | 2,350,000 | N/A | 145 | 170M5700 | 170M5750 |
| 3 | $\begin{aligned} & 1250 \text { V a.c.(IEC) } \\ & 1300 \text { V a.c. (UL) } \end{aligned}$ | 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 |
|  |  | 450 | 31,000 | 185,000 | 245,000 | 100 | 170M6691 | 170M6741 |
|  |  | 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 |
|  |  | 700 | 115,000 | 705,000 | 940,000 | 120 | 170M6695 | 170M6745 |
|  | 1250 V a.c. (IEC) | 800 | 205,000 | 995,000 | 1,300,000 | 125 | 170M6696 | 170M6746 |
|  |  | 900 | 305,000 | 1,500,000 | 1,900,000 | 130 | 170 M 6697 | 170M6747 |
|  | 1100 V a.c. (IEC) 1000 V a.c. (UL) | 1000 | 450,000 | 2,150,000 | N/A | 135 | 170M6698 | 170M6748 |
|  |  | 1100 | 575,000 | 2,800,000 | N/A | 160 | 170M6699 | 170M6749 |
|  | $\begin{aligned} & 1000 \mathrm{~V} \text { a.c. } \\ & \text { ECC \& UL } \end{aligned}$ | 1250 | 810,000 | 3,950,000 | N/A | 170 | 170M6700 | 170M6750 |
|  |  | 1400 | 1,250,000 | 6,000,000 | N/A | 175 | 170M6701 | 170M6751 |

${ }^{1}$ Rated at 900 V d.c. 8 XIn 90 kA

## Square body fuse links

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 ${ }^{2}{ }^{2} t$

The total clearing $I^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2}$ t is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## 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, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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.


## Square body fuse links

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 ${ }^{2}{ }^{2} t$

The total clearing $1^{2}$ t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $I^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}}$ ( RMS ).


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Square body fuse links

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 ${ }^{2}{ }^{2} t$

The total clearing $1^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $I^{2} \mathrm{t}$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Square body fuse links

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 $\mathrm{I}^{2 \mathrm{t}} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}}$ ( 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.


## Square body fuse links

## 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



Catalogue numbers

| Fuse link body size | Rated voltage | Rated current (Amps) | $\mathrm{I}^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss(W) | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 660 V a.c. |  | 00B/60 visual indicator | 00BTN/60 Type T indicator for micro |
| 00 | 690 V a.c. (IEC) | 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 |
|  |  | 100 | 620 | 4150 | 20 | 170M2714 | 170M2764 |
|  |  | 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)



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


## Square body fuse links

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



## Total clearing ${ }^{2}{ }^{2} t$

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


## 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, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, 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 | A | B | $\mathrm{D}^{3}$ | E | F | $\mathrm{F}^{1}$ (in) | $\begin{aligned} & \mathbf{G} \\ & \min \end{aligned}$ | H |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1^{*}$ | 50 | 51 | 59 | 45 | M8 | 5/16"-18 UNC-2B | 5 | N17 |
| 1 | 50 | 51 | 69 | 53 | M8 | 5/16"-18 UNC-2B | 8 | N20 |
| 2 | 50 | $\begin{aligned} & 51(400-1000 \text { A) } \\ & 65 \text { (1100 and } 1250 \text { (A) } \end{aligned}$ | 77 | 61 | M10 | $3 / 8^{\prime \prime}$-16 UNC-2B | 10 | N24 |
| 3 | 51 | $\begin{aligned} & 53(500-1500 \mathrm{~A}) \\ & 65(1600-2000 \mathrm{~A}) \end{aligned}$ | 92 | 76 | M12 | 1/2' ${ }^{\prime \prime}$-13 UNC-2B | 10 | N30 |

[^7]Square body fuse links
170M - Sizes 1* to 3, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A

| Fuse link body size | Rated voltage | Rated current (Amps) | ${ }^{12} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 660 V a.c. |  | -B/- visual indicator | -BKN/- Type K indicator for micro | -G/- visual indicator | -GKN/- Type K indicator for micro |
| 1* | 690 V a.c. (IEC) <br> 700 V a.c. (UL) | 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 | 170 M 3511 | 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 |
|  |  | 200 | 2200 | 15,000 | 41 | 170M3415 | 170M3465 | 170M3515 | 170M3565 |
|  |  | 250 | 4200 | 28,500 | 47 | 170M3416 | 170M3466 | 170M3516 | 170M3566 |
|  |  | 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 |
| 1 | 690 V a.c. (IEC) <br> 700 V a.c. (UL) | 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 | 170 M 4510 | 170M4560 |
|  |  | 350 | 8500 | 59,000 | 60 | 170M4411 | 170M4461 | 170 M 4511 | 170M4561 |
|  |  | 400 | 13,500 | 91,500 | 65 | 170M4412 | 170M4462 | 170 M 4512 | 170M4562 |
|  |  | 450 | 17,000 | 120,000 | 70 | 170M4413 | 170M4463 | 170M4513 | 170M4563 |
|  |  | 500 | 25,000 | 170,000 | 72 | 170M4414 | 170M4464 | 170M4514 | 170M4564 |
|  |  | 550 | 34,000 | 230,000 | 75 | 170M4415 | 170M4465 | 170M4515 | 170M4565 |
|  |  | 630 | 52,000 | 350,000 | 80 | 170M4416 | 170M4466 | 170M4516 | 170M4566 |
|  |  | 700 | 69,500 | 465,000 | 85 | 170M4417 | 170M4467 | 170 M 4517 | 170M4567 |
|  |  | 800 | 105,000 | 725,000 | 95 | 170M4418 | 170M4468 | 170M4518 | 170M4568 |
|  | 550 V a.c. (IEC) | 900 | 155,000 | 850,000 | 100 | 170M4419 | 170M4469 | 170M4519 | 170M4569 |
| 2 | 690 V a.c. (IEC) <br> 700 V a.c. (UL) | 400 | 11,000 | 74,000 | 65 | 170M5408 | 170M5458 | 170M5508 | 170M5558 |
|  |  | 450 | 15,500 | 105,000 | 70 | 170M5409 | 170M5459 | 170M5509 | 170M5559 |
|  |  | 500 | 21,500 | 145,000 | 75 | 170M5410 | 170M5460 | 170M5510 | 170M5560 |
|  |  | 550 | 28,000 | 190,000 | 80 | 170M5411 | 170M5461 | 170M5511 | 170M5561 |
|  |  | 630 | 41,000 | 275,000 | 90 | 170M5412 | 170M5462 | 170M5512 | 170M5562 |
|  |  | 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) <br> 700 V a.c. (UL) | 1100 | 245,000 | 1,600,000 | 120 | 170M5417 | 170M5467 | 170 M 5517 | 170M5567 |
|  |  | 1250 | 365,000 | 2,400,000 | 130 | 170M5418 | 170M5468 | 170M5518 | 170M5568 |
| 3 | 690 V a.c. (IEC) <br> 700 V a.c. (UL) | 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 |
|  |  | 900 | 100,000 | 670,000 | 120 | 170M6413 | 170M6463 | 170M6513 | 170M6563 |
|  |  | 1000 | 140,000 | 945,000 | 125 | 170M6414 | 170M6464 | 170M6514 | 170M6564 |
|  |  | 1100 | 190,000 | 1,300,000 | 130 | 170M6415 | 170M6465 ${ }^{1}$ | 170M6515 | 170M6565 |
|  |  | 1250 | 290,000 | 1,950,000 | 140 | 170M6416 | 170M6466 | 170M6516 | 170M6566 |
|  |  | 1400 | 370,000 | 2,450,000 | 155 | 170M6417 | 170M6467 ${ }^{1}$ | 170 M 6517 | 170M6567 |
|  |  | 1500 | 460,000 | 3,100,000 | 160 | 170M6418 | 170M6468 | 170M6518 | 170M6568 |
|  |  | 1600 | 580,000 | 3,900,000 | 160 | 170M6419 | 170M6469 | 170M6519 | 170M6569 |
|  | $\begin{aligned} & 600 \mathrm{~V} \text { a.c. (IEC) / } \\ & 500 \mathrm{~V} \text { a.c. (UL) } \end{aligned}$ | 1800 | 880,000 | 5,250,000 | 165 | 170M6420 ${ }^{2}$ | 170M6470 | 170M6520 ${ }^{2}$ | 170M6570 |
|  | $\begin{aligned} & 550 \mathrm{~V} \text { a.c. IEC) / } \\ & 500 \mathrm{~V} \text { a.c. (UL) } \end{aligned}$ | 2000 | 1,150,000 | 6,350,000 | 175 | 170M6421 | 170M6471 | 170M6521 | 170M6571 |

[^8]${ }^{2} 170 \mathrm{M} 6420$ and 170 M 6520 rated at 750 V d.c. 12 XIn 130 kA when two fuses are connected in series
Data sheets: 170K6314 (Size 1*), 170K6316 (Size 1), 170K6318 (Size 2), 170K6320 (Size 3)

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


## Square body fuse links

170M - Sizes $1^{*}$ to 3, Flush end contact, 690 V a.c. (IEC), 700 V a.c. (UL), 40 A to 2000 A


## Total clearing $\mathrm{I}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}^{\prime}}$ (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


## Square body fuse links

## 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 $\mathrm{I}^{2 \mathrm{t}} \mathrm{t}$

The total clearing $I^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2}$ t is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}}$ ( 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, $\mathrm{K}_{\mathrm{p}}$, 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


## Square body fuse links

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 $\mathrm{I}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, 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


## Square body fuse links

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 $\mathrm{I}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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 | Type | A | B | D (max) | E | F | $F^{1}$ (in) | G (min) | H |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1^{*}$ | 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 | 12" 13 UNC-2B | 10 | 30 |
| 3 | BKN/90 + GKN/90 | 80.3 | 91.4 | 92 | 74 | M12 | 1/2"13 UNC-2B | 10 | 30 |

[^9]
## Square body fuse links

## 170M - sizes 1* to 3, Flush end contact, 1000 V a.c. (IEC and UL), 50 A to 1400 A

Catalogue numbers

|  |  |  | $1^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  |  | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 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 |
| $1^{*}$ | 1000 V a.c. (IEC) | 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 |
|  |  | 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 |
| 1 | 1000 V a.c. (IEC) <br> 1000 V a.c. / 750 V d.c. (UL) | 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 |
|  |  | 350 | 21,500 | 130,000 | 65 | 170M4955 | 170M4925 |
|  |  | 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 |
| 2 | 1000 V a.c. (IEC/UL) | 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 |
|  |  | 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 |
| 3 | 1000 V a.c. (IEC/UL) | 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 |
|  |  | 550 | 52,000 | 310,000 | 115 | 170M8605 | 170M8505 |
|  |  | 630 | 82,500 | 490,000 | 120 | 170M8606 | 170M8506 |
|  |  | 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 ${ }^{1}$ | 170M8512 ${ }^{1}$ |
|  | 900 V a.c. (IEC) | 1400 | 795,000 | 4,200,000 | 185 | 170M8613 ${ }^{1}$ | 170M8513 ${ }^{1}$ |

${ }^{1}$ 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


## Square body fuse links

## 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 $\mathrm{I}^{2 \mathrm{t}}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}}$ ( 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 1, 160 A to 630 A


## Square body fuse links

## 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 $\mathrm{l}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, 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


## Square body fuse links

## 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 $\mathrm{I}^{2} \mathrm{t}$

The total clearing $I^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}^{\prime}}$ (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


## Square body fuse links

## 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 $\mathrm{I}^{2} \mathrm{t}$

The total clearing $1^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}}$ ( 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 | Type | A | B | D | E | F | $F^{1}$ (in) | Min G | H |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1^{*}$ | BKN + GKN/75 | 74 | 75 | 59 | 45 | M8 | 5/16" -18 UNC-2B | 5 | 017 |
| 1* | BKN/80 | 80 | 81 | 59 | 45 | M8 |  | 5 | 017 |
| 1 | BKN + GKN/75 | 74 | 75 | 69 | 53 | M8 | 5/16" -18 UNC-2B | 8 | $\emptyset 20$ |
| 1 | BKN/80 | 80 | 81 | 69 | 53 | M8 |  | 8 | $\emptyset 20$ |
| 2 | BKN + GKN/75 | 74 | 75 | 77 | 61 | M10 | 3/8' $8^{\prime \prime} 16$ UNC-2B | 10 | $\emptyset 24$ |
| 2 | BKN/80 | 80 | 81 | 77 | 61 | M10 |  | 10 | $\emptyset 24$ |
| 2 | BKN + GKN/90 | 80 | 91 | 77 | 61 | M10 | $3 / 8^{\prime \prime}$-16 UNC-2B | 10 | $\emptyset 24$ |
| 3 | BKN + GKN/75 | 74 | 76 | 92 | 76 | M12 | 1/2' ${ }^{\prime \prime}$-13 UNC-2B | 10 | $\emptyset 30$ |
| 3 | BKN/80 | 81 | 83 | 92 | 76 | M12 |  | 10 | $\emptyset 30$ |
| 3 | BKN + GKN/90 | 81 | 91 | 92 | 76 | M12 | 1/2" -13 UNC-2B | 10 | $\emptyset 30$ |

[^10]
## 170M - Sizes $1^{*}$ to 3, Flush end contact, 1250 V a.c. (IEC), 1300 V a.c. (UL), 50 A to 1400 A

|  |  |  | ${ }^{12} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  |  |  | Catalogue numbers |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fuse <br> link <br> body <br> size | Rated voltage | Rated current <br> (Amps) | Prearcing | Clearing at 1000 V a.c. | Clearing at 1250 V a.c. | Watts loss <br> (W) | -BKN/75 <br> Type K indicator for micro | -BKN/80 Type <br> K indicator for micro | -BKN/90 Type <br> K Indicator for micro | -GKN/75 Type <br> K Indicator for micro | -GKN/90 Type K Indicator for micro |
| $1^{*}$ | $\begin{aligned} & 1250 \mathrm{~V} \text { a.c. } \\ & \text { (IEC) } \\ & 1300 \mathrm{~V} \text { a.c. } \\ & \text { (UL) } \end{aligned}$ | 50 | 135 | 815 | 1100 | 15 | 170M3388 ${ }^{6}$ | 170M3438 |  | 170M34886 |  |
|  |  | 63 | 215 | 1300 | 1750 | 20 | 170M3389 ${ }^{6}$ | 170M3439 |  | 170M34896 |  |
|  |  | 80 | 420 | 2500 | 3350 | 25 | 170M3390 ${ }^{6}$ | 170M3440 |  | 170M3490 ${ }^{6}$ |  |
|  |  | 100 | 750 | 4450 | 5950 | 30 | 170M3391 ${ }^{6}$ | 170M3441 |  | 170M3491 ${ }^{6}$ |  |
|  |  | 125 | 1450 | 9000 | 11,500 | 35 | 170M3392 ${ }^{6}$ | 170M3442 |  | 170M3492 ${ }^{6}$ |  |
|  |  | 160 | 2600 | 16,000 | 21,000 | 40 | 170M3393 ${ }^{6}$ | 170M3443 |  | 170M3493 ${ }^{6}$ |  |
|  |  | 200 | 5150 | 31,000 | 41,000 | 45 | 170M3394 ${ }^{6}$ | 170M3444 |  | 170M3494 ${ }^{6}$ |  |
|  |  | 250 | 9200 | 54,500 | 73,000 | 55 | 170M3395 ${ }^{6}$ | 170M3445 |  | 170M3495 ${ }^{6}$ |  |
|  |  | 315 | 18,500 | 115,000 | 150,000 | 60 | 170M3396 ${ }^{6}$ | 170M3446 |  | 170M3496 ${ }^{6}$ |  |
|  |  | 350 | 27,000 | 165,000 | 220,000 | 65 | 170M3397 ${ }^{6}$ | 170M3447 |  | 170M34976 ${ }^{6}$ |  |
|  |  | 400 | 53,000 | 265,000 | 335,000 | 70 |  | 170M3448 |  |  |  |
| 1 | $\begin{aligned} & 1250 \mathrm{~V} \text { a.c. } \\ & \text { (IEC) } \\ & 300 \mathrm{~V} \text { a.c. } \\ & \text { (UL) } \end{aligned}$ | 160 | 1900 | 11,500 | 15,500 | 45 | 170M4388 ${ }^{6}$ | 170M44386 |  | 170M4488 ${ }^{6}$ |  |
|  |  | 200 | 3800 | 22,500 | 30,000 | 50 | 170M4389 ${ }^{6}$ | 170M4439 ${ }^{6}$ |  | 170M4489 ${ }^{6}$ |  |
|  |  | 250 | 7750 | 46,000 | 61,500 | 60 | 170M4390 ${ }^{6}$ | 170M4440 ${ }^{6}$ |  | 170M4490 ${ }^{6}$ |  |
|  |  | 315 | 15,000 | 90,000 | 120,000 | 65 | 170M4391 ${ }^{6}$ | 170M4441 ${ }^{6}$ |  | 170M4491 ${ }^{6}$ |  |
|  |  | 350 | 20,000 | 125,000 | 165,000 | 70 | 170M4392 ${ }^{6}$ | $170 \mathrm{M} 4442^{6}$ |  | 170M4492 ${ }^{6}$ |  |
|  |  | 400 | 29,500 | 175,000 | 235,000 | 75 | 170M4393 ${ }^{6}$ | 170M4443 ${ }^{6}$ |  | 170M4493 ${ }^{6}$ |  |
|  |  | 450 | 42,000 | 250,000 | 335,000 | 80 | 170M4394 ${ }^{6}$ | 170M44446 |  | 170M4494 ${ }^{6}$ |  |
|  |  | 500 | 69,500 | 340,000 | 435,000 | 85 | 170M4395 ${ }^{4}$ | 170M4445 |  | 170M4495 ${ }^{4}$ |  |
|  |  | 550 | 95,000 | 465,000 | 590,000 | 95 | 170M4396 ${ }^{5}$ | 170M4446 |  | 170M4496 ${ }^{5}$ |  |
|  |  | 630 | 130,000 | 660,000 | N/A | 110 | 170M4397 ${ }^{5}$ | 170M4447 ${ }^{4}$ |  | 170M4497 ${ }^{5}$ |  |
| 2 | $\begin{aligned} & 1250 \mathrm{~V} \text { a.c. } \\ & \text { (IEC) } \\ & 1300 \mathrm{~V} \text { a.c. } \\ & \text { (UL) } \end{aligned}$ | 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 |  |
|  |  | 450 | 34,000 | 205,000 | 270,000 | 90 | 170M5393 | 170M5443 |  | 170M5593 |  |
|  |  | 500 | 48,000 | 285,000 | 380,000 | 95 | 170M5394 | 170M5444 | 170M5494 | 170M5594 | 170M5644 |
|  |  | 550 | 62,000 | 370,000 | 495,000 | 100 | 170M5395 | 170M5445 | 170M5495 | 170M5595 | 170M5645 |
|  |  | 630 | 115,000 | 575,000 | 730,000 | 120 | 170M5396 ${ }^{4}$ | 170M5446 | 170M5496 | 170M55964 | 170M5646 |
|  |  | 700 | 160,000 | 795,000 | 1,050,000 | 125 | 170M5397 ${ }^{5}$ | 170M5447 ${ }^{7}$ | 170M5497 | 170M5597 ${ }^{5}$ | 170M5647 |
|  |  | 800 | 245,000 | 1,200,000 | 1,550,000 | 130 | 170M5398 ${ }^{5}$ | 170M5448 ${ }^{8}$ | 170M5498 | 170M55985 | 170M5648 |
|  |  | 900 | 360,000 | 1,750,000 | N/A | 135 |  |  | 170M54999 |  | 170M5649 ${ }^{9}$ |
|  |  | 1000 | 480,000 | 2,350,000 | N/A | 145 |  |  | 170M5500 ${ }^{9}$ |  | 170M5650 ${ }^{9}$ |
| 3 | $\begin{aligned} & 1250 \mathrm{~V} \text { a.c. } \\ & (I E C) \mathrm{V} \\ & 1300 \mathrm{~V} . \mathrm{c} . \\ & \text { (UL) } \end{aligned}$ | 315 | 9500 | 58,000 | 77,500 | 85 | 170M6338 ${ }^{6}$ | 170M6538 ${ }^{6}$ |  | 170M6588 |  |
|  |  | 350 | 13,500 | 81,500 | 110,000 | 90 | 170M63396 | 170M65396 |  | 170M6589 |  |
|  |  | 400 | 19,500 | 120,000 | 160,000 | 95 | 170M6340 ${ }^{6}$ | 170M6540 ${ }^{6}$ |  | 170M6590 |  |
|  |  | 450 | 31,000 | 185,000 | 245,000 | 100 | 170M6341 ${ }^{6}$ | 170M6541 ${ }^{6}$ |  | 170M6591 |  |
|  |  | 500 | 39,000 | 235,000 | 310,000 | 105 | 170M6342 ${ }^{6}$ | 170M6542 ${ }^{6}$ |  | 170M6592 |  |
|  |  | 550 | 55,000 | 325,000 | 435,000 | 110 | 170M6343 ${ }^{6}$ | 170M6543 ${ }^{6}$ |  | 170M6593 |  |
|  |  | 630 | 83,500 | 495,000 | 665,000 | 115 | 170M6344 ${ }^{6}$ | 170M6544 ${ }^{6}$ | 170M6494 ${ }^{6}$ | 170M6594 | 170M6644 |
|  |  | 700 | 115,000 | 705,000 | 940,000 | 120 | 170M6345 | 170M65456 | 170M6495 ${ }^{6}$ | 170M6595 | 170M6645 ${ }^{6}$ |
|  |  | 800 | 205,000 | 995,000 | 1,300,000 | 125 | 170M6346 ${ }^{4}$ | 170M6546 ${ }^{6}$ | 170M6496 ${ }^{12}$ | 170M6596 ${ }^{4}$ | 170M6646 ${ }^{12}$ |
|  |  | 900 | 305,000 | 1,500,000 | 1,900,000 | 130 | 170M6347 ${ }^{5}$ | 170M6547 ${ }^{10}$ | 170M649712 | 170M65975 | 170M6647 ${ }^{12}$ |
|  |  | 1000 | 450,000 | 2,150,000 | 2,750,000 | 135 | 170M6348 ${ }^{5}$ | $170 \mathrm{M} 6548^{10}$ | 170M6498 ${ }^{12}$ | 170M65985 | 170M6648 ${ }^{12}$ |
|  |  | 1100 | 575,000 | 2,800,000 | 3,600,000 | 160 | 170M6349 ${ }^{5}$ | 170M6549 ${ }^{11}$ | 170M6499 ${ }^{12}$ | 170M65995 | 170M6649 ${ }^{12}$ |
|  |  | 1250 | 810,000 | 3,950,000 | N/A | 170 |  |  | $170 \mathrm{M} 6500{ }^{13}$ |  | $170 \mathrm{M} 6650^{4}$ |
|  |  | 1400 | 1,250,000 | 6,000,000 | N/A | 175 |  |  | 170M6501 ${ }^{13}$ |  | 170M6651 ${ }^{4}$ |

${ }^{1}$ Rated voltage 1100 V a.c. (IEC), 1000 V a.c. (UL).
${ }^{2}$ Rated voltage 1000 V a.c. (IEC and UL).
${ }^{7}$ Rated voltage 1100 V a.c. (IEC), 1000 V a.c. (UL). and 1000 V d.c. 8 XIn 70 kA
${ }^{3}$ Rated voltage 1100 V a.c. (IEC and UL).
${ }^{8}$ Rated voltage 1000 V a.c. (IEC and UL). and 1000 V d.c. 8 XIn 70 kA
${ }^{9}$ Rated voltage 1100 V a.c. (IEC and UL). and 900 V d.c. 9.5 XIn 80 kA
${ }^{4}$ Rated voltage (IEC) 1100 V a.c. ${ }^{10}$ Rated voltage 1100 V a.c. (IEC), 1000 V a.c. (UL). and 900 V d.c. 8 Cln 90 kA
${ }^{5}$ Rated voltage (IEC) 1000 V a.c.
${ }^{6}$ Rated voltage 900 V d.c. 8XIn 90 kA
${ }^{11}$ Rated voltage 1000 V a.c. (IEC and UL). and 900 V d.c. 8 XIn 90 kA
${ }^{12}$ Rated voltage 1000 V d.c. 10 XIn 91 kA
${ }^{13}$ Rated voltage 1100 V a.c. (IEC and UL). and 900 V d.c. 12 XIn 90 kA
Data sheets: 170K6630 (Size 1*), 170K6632 (Size 1), 170K6634 (Size 2), 170K6636 (Size 3)

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


## Square body fuse links

## 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 $\mathrm{I}^{2 \mathrm{t}} \mathrm{t}$

The total clearing $1^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $\mathrm{I}^{2} \mathrm{t}$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


B: fuses $\leq 350 \mathrm{~A}$
C: fuses $\geq 400 \mathrm{~A}$

## Arc voltage

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


B: fuses $\leq 350 \mathrm{~A}$
C: fuses $\geq 400 \mathrm{~A}$

## 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, $\mathrm{K}_{\mathrm{p}}$, 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


## Square body fuse links

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 $l^{2} t$

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

B: fuses $\leq 450 \mathrm{~A}$
B: fuses $\leq 450 \mathrm{~A}$
C: fuses $\geq 500 \mathrm{~A}$
C: fuses $\geq 500 \mathrm{~A}$

## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, 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


## Square body fuse links

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 $\mathrm{l}^{2} \mathrm{t}$

The total clearing $I^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2}$ t is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


B: fuses $\leq 550 \mathrm{~A}$
C: fuses $\geq 630 \mathrm{~A}$

B: fuses $\leq 550 \mathrm{~A}$

## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (RMS) at a power factor of 15 percent.


C: fuses $\geq 630 \mathrm{~A}$

## 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 3, 315 A to 1400 A


## Square body fuse links

## 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 $\mathrm{I}^{2 \mathrm{t}} \mathrm{t}$

The total clearing $1^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $I^{2} \mathrm{t}$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


B: fuses $\leq 700 \mathrm{~A}$
C: fuses $\geq 800 \mathrm{~A}$

## 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, $\mathrm{E}_{\mathrm{q}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


B: fuses $\leq 700 \mathrm{~A}$
C: fuses $\geq 800 \mathrm{~A}$

## 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

| Fuse link body size | Rated voltage | Rated current (Amps) | $1^{2}\left(A^{2} \mathbf{S e c}\right)$ |  | Watts loss (W) | Catalogue numbers |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 660 V a.c. |  | $-B / 65$ visual indicator | -BKN/65 Type <br> K indicator | -G/65 visual indicator | -GKN/65 Type <br> K indicator |
| 4 | $\begin{aligned} & 690 \text { V a.c. (IEC) } \\ & 700 \mathrm{~V} \text { a.c. (UL) } \end{aligned}$ | 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 |
|  |  | 1600 | 305,000 | 2,050,000 | 220 | 170M7061 | 170M7081 | 170M7101 | 170M7121 |
|  |  | 1800 | 436,600 | 3,067,000 | 260 | 170M7340 | - | - | - |
|  |  | 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 ${ }^{1}$ | 355 | 170M7066 | 170M7086 | 170M7106 | 170M7126 |

${ }^{1}$ Clearing at 600 V a.c.
Dimensions (mm) -BKN/65 and -GKN/65


| Type | PCD | Thread |
| :--- | :--- | :--- |
| - GKN/65 | $\emptyset 38.1$ | UNC $1 / 2^{\prime \prime}-13$ |
| - BKN/65 | $\emptyset 33$ | $\mathrm{M}-10$ |

## Square body fuse links

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 |
| :--- | :--- | :--- |
| $-G / 65$ | $\emptyset 38.1$ | UNC $1 / 2{ }^{\prime \prime}-13$ |
| $-B / 65$ | $\emptyset 33$ | $\mathrm{M}-10$ |

Time-current curve - 1000 A to 4000 A


[^11]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 ${ }^{2}{ }^{2} t$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Square body fuse links

## 170M - Size 4, Flush end contact, 1000 V a.c. (IEC), 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)
- Rated current: 1000 A to 3000 A
- Breaking capacity: 200 kA RMS Sym
- Operating class: aR


## Standards / Agency information

CE, Designed and tested to IEC 60269 Part 4


Catalogue numbers

| Fuse link body size | Rated voltage | Rated current (Amps) | $\mathrm{I}^{2}\left(\mathrm{~A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 1000 V a.c. |  | -BKN/95 Type K indicator | -SBKN/90 Type K indicator |
| 4 | 1000 V a.c. | 1000 | 180,000 | 1,100,000 | 195 |  | 170M7542 |
|  |  | 1100 | 250,000 | 1,500,000 | 200 |  | 170M7031 |
|  |  | 1500 | 600,000 | 3,600,000 | 250 | 170M7636 | 170M7548 |
|  |  | 1700 | 850,000 | 5,000,000 | 260 | 170M7639 | 170M7034 |
|  |  | 1800 | 1,000,000 | 5,950,000 | 265 | 170M7661 | 170M7053 |
|  |  | 2000 | 1,450,000 | 8,600,000 | 270 | 170M7963 | 170M7544 |
|  |  | 2200 | 2,000,000 | 12,000,000 | 280 | 170M7090 | 170M7035 |
|  |  | 2500 | 3,000,000 | 18,000,000 | 295 | 170M7640 | 170M7036 |
|  |  | 2700 | 3,700,000 | 22,000,000 | 310 | 170M7658 | 170M7037 |
|  |  | 3000 | 4,700,000 | 28,000,000 | 380 | 170M7962 | 170M7156 |

Dimensions (mm) - 4BKN/95


170M - Size 4, Flush end contact, 1000 V a.c. (IEC), 1000 A to 3000 A
Dimensions (mm) - 4SBKN/90


## Square body fuse links

170M - Size 4, Flush end contact, 1000 V a.c. (IEC), 1000 A to 3000 A
Time-current curve-1000 A to 2700 A


170M - Size 4, Flush end contact, 1000 V a.c. (IEC), 1000 A to 3000 A
Cut-off curve - 1000 A to 2700 A


## Total clearing $\mathrm{I}^{2} \mathrm{t}$

The total clearing $1^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $I^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}^{\prime}}$ (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.


## Square body fuse links

## 170M - Size 4, Flush end contact, 1000 V a.c. (IEC), 1000 A to 3000 A

Time-current curve - 1800 A and 3000 A


## 170M - Size 4, Flush end contact, 1000 V a.c. (IEC), 1000 A to 3000 A

Cut-off curve - 1800 A and 3000 A


## Total clearing ${ }^{12} t$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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.


## Square body fuse links

## 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 <br> link <br> body <br> size | AC |  | DC |  | Rated current (Amps) | ${ }^{12} \mathbf{t}\left(\mathrm{~A}^{2} \mathrm{Sec}\right)$ |  | Watts loss <br> (W) | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Rated voltage | Breaking capacity | Rated voltage | Breaking capacity |  | Pre-arcing | Clearing at $1250 \text { V a.c. }$ |  | -BKN/110 Type K indicator | -SBKN/105 Type K indicator |
| 4 | 1250 V a.c. | 100 kA | 1000 V d.c. <br> 1200 V d.c. | 180 kA IR UL 85 kA IR UL | 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 | 170M7217 ${ }^{1}$ | 170M7512 |
|  |  |  |  |  | 1500 | 1,000,000 | 6,200,000 | 260 | 170M7597 | 170M7510 |
|  |  |  |  |  | 1700 | 1,400,000 | 8,700,000 | 275 | 170M7676 | 170M7511 |
|  |  |  |  |  | 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 ${ }^{2}$ | 170M7978 |

[^12]
## 170M - Size 4, Flush end contact, 1250 V a.c. (IEC), 800 A to 2500 A

Dimensions (mm) - 4BKN/110


Dimensions (mm) - 4SBKN/105


## Square body fuse links

## 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 $\mathrm{I}^{2} \mathrm{t}$

The total clearing ${ }^{12} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $I^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## 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, $\mathrm{E}_{\mathrm{a}^{\prime}}$ (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.


## Square body fuse links

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 $\mathrm{I}^{2 \mathrm{t}} \mathrm{t}$

The total clearing $l^{2 t}$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (RMS).


## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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.


## Square body fuse links

## 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

| Fuse link body size | Rated voltage | Rated current (Amps) | $\underline{12 t}\left(A^{2} \mathrm{Sec}\right)$ |  | Watts loss <br> (W) | Catalogue numbers |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 660 V a.c. |  | -BU/55 | -BKE/55 <br> Type K indicator | -BKN/55 <br> Type K indicator | -GU/55 | -GKE/55 <br> Type K Indicator | -GKN/55 <br> Type K Indicator |
| 23 | $\begin{aligned} & 660 \mathrm{~V} \text { a.c. } \\ & \text { (IEC) } \end{aligned}$ | 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 | 170 M 6862 | 170M6902 | 170M6882 | 170M6922 | 170 M 6962 | 170M6942 |
|  |  | 1600 | 315,000 | 2,150,000 | 220 | 170M6863 | 170M6903 | 170M6883 | 170M6923 | 170M6963 | 170M6943 |
|  |  | 1800 | 450,000 | 3,050,000 | 230 | 170M6864 | 170M6904 | 170M6884 | 170M6924 | 170M6964 | 170M6944 |
|  |  | 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 |
|  | $\begin{aligned} & 600 \mathrm{~V} \text { a.c. } \\ & \text { (IEC) } \end{aligned}$ | 3500 | 3,450,000 | 21,000,000 ${ }^{1}$ | 315 | 170M6869 | 170M6909 | 170M6889 | 170M6929 | 170M6969 | 170M6949 |
|  | $\begin{aligned} & 550 \mathrm{~V} \text { a.c. } \\ & \text { (IEC) } \end{aligned}$ | 4000 | 5,000,000 | 27,500,000 ${ }^{2}$ | 340 | 170M6870 | 170M6910 | 170M6890 | 170M6930 | 170M6970 | 170M6950 |

${ }^{1}$ Clearing at 600 V a.c.
${ }^{2}$ Clearing at 550 V a.c.
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

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.

## Square body fuse links

170M - Size 23, Flush end contact, 660 V a.c. (IEC), 1000 A to 4000 A

Time-current curve - 1000 A to 4000 A


## 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 $\mathrm{I}^{2 \mathrm{t}} \mathrm{t}$

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


## 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, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Square body fuse links

## 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

| Fuse link body size | Rated voltage | Rated current (Amps) | ${ }^{12} \mathbf{t}\left(\mathrm{~A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 1250 V a.c. |  | -BU/75 <br> Visual indicator | -BKE/75 <br> Type K indicator | -BKN/75 <br> Type K indicator | -BU/80 <br> Visual indicator | -BKE/80 <br> Type K Indicator | -BKN/80 <br> Type K Indicator |
| 23 | $\begin{aligned} & 1250 \mathrm{~V} \text { a.c. } \\ & \text { (IEC) } \end{aligned}$ | 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 | 170 M 6797 | 170M6787 |  |  |  |
|  |  | 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 ${ }^{3}$ |  |  |  |
|  |  | 1250 | 330,000 | 2,700,000 | 230 | 170M6780 | 170M6800 | 170M6790 |  |  |  |
|  |  | 1300 | 460,000 | 3,800,000 | 240 | 170M6781 | 170M6801 | 170M6791 |  |  |  |
|  |  | 1600 | 820,000 | 5,200,000 | 250 | 170M6782 | 170 M 6802 | 170M6792 |  |  |  |
|  |  | 1800 | 1,200,000 | 7,600,000 | 260 | 170M6783 ${ }^{2}$ | 170M6803² | 170M6793 ${ }^{2}$ |  |  |  |
|  |  | 2000 | 1,800,000 | 11,000,000 | 270 |  |  |  | 170M6784 | 170M6804 | 170M6794 |
|  |  | 2100 | 2,300,000 | 14,500,000 | 280 |  |  |  | 170M6815 | 170M6833 | 170M6827 |
|  | $\begin{aligned} & 1100 \mathrm{~V} \text { a.c. } \\ & \text { (IEC) } \end{aligned}$ | 2500 | 3,200,000 | 16,000,000 ${ }^{1}$ | 290 |  |  |  | 170M6816 | 170M6834 | 170M6828 |
|  |  | 2800 | 5,000,000 | 24,000,000 ${ }^{1}$ | 300 |  |  |  | 170M6817 | 170M6835 | 170M6829 |

${ }^{1}$ Clearing at 1000 V ${ }^{2}$ Rated voltage 900 V d.c. $10 X \ln 90 \mathrm{kA} \quad{ }^{3} 1000 \mathrm{~V}$ d.c. UL 50 kA IR
When using these fuse links, please consult Eaton for application assistance at bulehighspeedtechnical@eaton.com.

## Dimensions (mm)



170M - Size 23, Flush end contact, 1250 V a.c. (IEC), 630 A to 2800 A
Time-current curve - 630 A to 2800 A


## Square body fuse links

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 $\mathrm{l}^{2} \mathrm{t}$

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

B: fuses $\leq 1400$ A
$B$ : fuses $\leq 1400$ A
C: fuses $\geq 1600$ A
C: fuses $\geq 1600 \mathrm{~A}$

## 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 - 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

| Fuse link body size | Rated voltage | Rated current (Amps) | ${ }^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 660 V a.c. |  | -BU/60 Without indicator | -BKN/60 Type K indicator | -GU/60 Without indicator | -GKN/60 Type K indicator |
| 24 | 690 V a.c. (IEC) <br> 700 V a.c. (UL) | 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 |
|  |  | 4000 | 2,700,000 | 18,000,000 | 490 | 170M7142 | 170M7162 | 170M7202 | 170M7222 |
|  |  | 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 | Type | A |
| :--- | :--- | :--- |
| 24 | BKN | $2 \times 3$ M12 |
| 24 | GKN | $2 \times 31 / 2^{\prime \prime}-13$ UNC-2B |

When using these fuse links, please consult Eaton for application assistance at bulehighspeedtechnical@eaton.com

## Square body fuse links

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


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 ${ }^{2}{ }^{2} t$

The total clearing $l^{2 t}$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (RMS).


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}}$ ( 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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Square body fuse links

## 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

| Fuse link body size | Rated voltage | Rated current (Amps) | ${ }^{2}{ }^{2}\left(A^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers <br> -BKN/85 Type K indicator |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 1000 V a.c. |  |  |
| 24 | $\begin{aligned} & 1000 \mathrm{~V} \text { a.c. } \\ & \text { (IEC \& UL) } \end{aligned}$ | 2000 | 900,000 | 5,350,000 | 345 | 170M7608 |
|  |  | 3000 | 2,950,000 | 17,500,000 | 430 | 170M7680 |
|  |  | 3200 | 3,300,000 | 20,000,000 | 440 | 170M7567 |
|  |  | 3500 | 4,500,000 | 27,000,000 | 450 | 170M7568 |
|  |  | 4000 | 6,800,000 | 40,000,000 | 475 | 170M7569 |
|  |  | 4200 | 8,000,000 | 47,500,000 | 485 | 170M7498 |
|  |  | 4500 | 10,000,000 | 59,000,000 | 495 | 170M7488 |
|  |  | 5000 | 14,000,000 | 82,500,000 | 540 | 170M7622 |

## Dimensions (mm)




The normal position of the indicator is as shown position N , position E on request only

[^13]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


## Square body fuse links

## 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 $\mathrm{l}^{2 \mathrm{t}} \mathrm{t}$

The total clearing $\mathrm{I}^{2} \mathrm{t}$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $1^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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: $1100-2000 \mathrm{~V}$ 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.

## Square body fuse links

## 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 $A C$ and DC drives and controllers. The DFJ fuse link has the lowest l2t 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 |
| :---: | :---: | :---: |
| $\begin{aligned} & 600 \text { V a.c. } \\ & 450 \mathrm{~V} \text { d.c. } \\ & \text { (UL) } \end{aligned}$ | 1 | DFJ-1 |
|  | 2 | DFJ-2 |
|  | 3 | DFJ-3 |
|  | 4 | DFJ-4 |
|  | 5 | DFJ-5 |
|  | 6 | DFJ-6 |
|  | 8 | DFJ-8 |
|  | 10 | DFJ-10 |
|  | 12 | DFJ-12 |
|  | 15 | DFJ-15 |
|  | 20 | DFJ-20 |
|  | 25 | DFJ-25 |
|  | 30 | DFJ-30 |
|  | 40 | DFJ-40 |
|  | 45 | DFJ-45 |
|  | 50 | DFJ-50 |
|  | 60 | DFJ-60 |
| $\begin{aligned} & 600-700 \\ & \text { V a.c./ } \\ & 450 \mathrm{~V} \text { d.c. } \\ & \text { (UL) } \end{aligned}$ | 70 | DFJ-70 |
|  | 80 | DFJ-80 |
|  | 90 | DFJ-90 |
|  | 100 | DFJ-100 |
| 600 V a.c./ 450 V d.c. <br> (UL) | 110 | DFJ-110 |
|  | 125 | DFJ-125 |
|  | 150 | DFJ-150 |
|  | 175 | DFJ-175 |
|  | 100 | DFJ-100 |
|  | 225 | DFJ-225 |
|  | 250 | DFJ-250 |
|  | 300 | DFJ-300 |
|  | 350 | DFJ-350 |
|  | 400 | DFJ-400 |
|  | 450 | DFJ-450 |
|  | 500 | DFJ-500 |
|  | 600 | DFJ-600 |

Data sheet: 1048

Dimensions (in)


1 to 30 A


35 to 60 A


70 to 100 A


110 to 200 A

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


Square body fuse links
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


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 $\leq 15 \mathrm{nH}$.

## Technical data

- Rated voltage:
. 750 V d.c. tested at 863 V 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 ( 1 ms 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 body size | Rated voltage | Rated current (Amps) | $\frac{\mathrm{I}^{2} \mathrm{t}\left(\mathrm{~A}^{2} \mathrm{Sec}\right)}{\text { Pre-arcing }}$ | Watts loss(W) | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | -FU/70 | -FN/70 |
| 000 | 750 V d.c. (IEC) <br> 800 V d.c. (UL) | 25 | 25 | 12 | 170M1750 | 170M1730 |
|  |  | 32 | 45 | 13 | 170M1751 | 170M1731 |
|  |  | 40 | 75 | 14 | 170M1752 | 170M1732 |
|  |  | 50 | 135 | 16 | 170M1753 | 170M1733 |
|  |  | 63 | 260 | 17 | 170M1754 | 170M1734 |
|  |  | 80 | 460 | 20 | 170M1755 | 170M1735 |
|  |  | 100 | 795 | 25 | 170M1756 | 170M1736 |
|  |  | 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 |
| 230 | 750 V d.c. (IEC) <br> 800 V d.c. (UL) | 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 |
|  |  | 315 | 9350 | 72 | 170M1775 | 170M1790 |
|  |  | 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 |

## Square body fuse links

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


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


## Square body fuse links

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 $\mathrm{I}^{2 \mathrm{t}} \mathrm{t}$

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


## 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, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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 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


## Square body fuse links

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 $\mathrm{I}^{2 \mathrm{t}} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, 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 $\leq 20 \mathrm{nH}$.

## 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: $50 \mathrm{kA} \mathrm{DC} \mathrm{(1ms} \mathrm{tc} \mathrm{UL)}$



## Catalogue numbers

| Fuse link body size | Rated voltage | Rated current (Amps) | $\frac{I^{2} t\left(A^{2} \mathrm{Sec}\right)}{\text { Pre-arcing }}$ | Watts loss(W) | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | -FU/90 | -FN/90 |
| 000 | 1000 V d.c. (UL) | 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 |
|  |  | 80 | 505 | 27 | 170M1807 | 170M1847 |
|  |  | 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 |
| 230 | 1000 V d.c. (UL) | 100 | 600 | 38 | 170M1824 | 170M1860 |
|  |  | 125 | 1200 | 42 | 170M1825 | 170M1861 |
|  |  | 160 | 2550 | 48 | 170M1826 | 170M1862 |
|  |  | 200 | 4650 | 55 | 170M1827 | 170M1863 |
|  |  | 250 | 9300 | 62 | 170M1828 | 170M1864 |
|  |  | 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 |

## Square body fuse links

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


Max. 78

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


## Square body fuse links

## 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 ${ }^{2}{ }^{2} t$

The total clearing $1^{2} t$ at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $I^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (RMS).


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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 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


## Square body fuse links

## 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 $\mathrm{I}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}}$ ( 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, $\mathrm{K}_{p}$, 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

| Fuse link type | Fuse link body size | Rated voltage | Rated current (Amps) | Breaking capacity | $1^{2}\left(\mathrm{~A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) |  | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Pre-arcing | Clearing at 750 V d.c. | $0.8 \mathrm{In}^{\text {n }}$ | $\mathrm{I}_{\mathrm{n}}$ |  |
| Flush end | 1* | $\begin{aligned} & 750 \mathrm{~V} \text { d.c. / } \\ & 900 \mathrm{~V} \text { d.c. (IEC) } \end{aligned}$ | 50 | 80 kA at 750 V d.c. L/R 65 ms <br> 80 kA at 900 V d.c. L/R 45ms | 390 | 1300 | 15 | 27 | 170M2000 |
|  |  |  | 63 |  | 610 | 2050 | 18 | 35 | 170M2001 |
|  |  |  | 80 |  | 670 | 2250 | 19 | 37 | 170M2002 |
|  |  |  | 100 |  | 2450 | 8150 | 21 | 40 | 170M2003 |
|  |  |  | 125 |  | 2950 | 9800 | 24 | 47 | 170M2004 |
|  |  |  | 160 |  | 5500 | 18,250 | 29 | 56 | 170M2005 |
| Flush end | 3 | 750 V d.c. (IEC) | 450 | 100 kA at 700 V d.c. <br> L/R 100 ms | 65,700 | 272,300 | 46 | 87 | 170M2010 |
|  |  |  | 500 |  | 83,200 | 344,800 | 52 | 98 | 170M2011 |
|  |  |  | 550 |  | 136,700 | 566,500 | 67 | 126 | 170M2012 |
|  |  |  | 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 |
| Parallel | 23 | 800 V d.c. (IEC/ UL) | 1000 | 100 kA at 800 V d.c., <br> L/R 40 ms | 476,300 | 1,973,700 | 112 | 187 | 170M2017 |
|  |  |  | 1250 |  | 694,000 | 2,875,800 | 134 | 224 | 170M2018 |
|  |  |  | 1400 |  | 1,071,600 | 4,440,500 | 152 | 254 | 170M2019 |
|  |  |  | 1500 |  | 1,230,200 | 5,097,700 | 165 | 275 | 170M2020 |
|  |  |  | 1600 |  | 1,399,700 | 5,800,100 | 180 | 300 | 170M2021 |

## Traction fuse links

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


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


## Traction fuse links

170M - Sizes $\mathbf{1}^{*}, 3$ 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


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 body size | Rated voltage | Breaking capacity | Rated current (Amps) | $\mathbf{l}^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{~s}\right)$ | Watts loss (W) | Catalogue numbers | Fuse link type | Catalogue numbers | Fuse link type |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Pre-arcing |  | -BK flush end |  | -EK knife blade |  |
| $1^{*}$ | 750 V d.c. (IEC) | 80 kA at 43ms | 63 | 1100 | 10 | 170 E3577 | BK/130 | 170E3583 | EK/155 |
|  |  |  | 80 | 1750 | 13 | 170 E3578 |  | 170E3584 |  |
|  |  |  | 100 | 3000 | 16 | 170 E3579 |  | 170 E3585 |  |
|  |  |  | 125 | 4500 | 21 | 170 E3580 |  | 170E3586 |  |
|  |  |  | 160 | 7700 | 26 | 170 E3581 |  | 170 E3587 |  |
| 1 | 750 V d.c. (IEC) | 50 kA at 15 ms | 200 | 11,000 | 37 | 170 E5417 |  | 170 E5420 | EK/165 |
|  |  |  | 250 | 18,000 | 46 | 170 E5418 |  | 170 E5421 |  |
| 2 | 750 V d.c. (IEC) | 100 kA at 15 ms | 250 | 17,000 | 47 | 170E8335 |  | 170E8345 | EK/170 |
|  |  |  | 315 | 28,000 | 57 | 170E8336 |  | 170 E 8346 |  |
|  |  |  | 400 | 55,000 | 73 | 170 E 8337 |  | 170 E 8347 |  |
| 3 | 750 V d.c. (IEC) | 50 kA at 15 ms | 500 | 75,500 | 93 | 170E9681 |  | 170E9685 | EK/170 |

## Traction fuse links

## 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


| Size | A | B | D | X |
| :--- | :--- | :--- | :--- | :--- |
| $1^{*} \mathrm{BK} / 130$ | 129 | 43 | 61 | M 8 |
| 1 BK/130 | 130 | 51 | 69 | M8 |
| $2 \mathrm{BK} / 130$ | 130 | 59 | 77 | M 10 |
| $3 \mathrm{BK} / 130$ | 131 | 74 | 90 | M 12 |

Dimensions (mm) - EK/


| Size | A | B | C | D | E | F | G | H | I | J |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $1^{* E K} / 155$ | 124 | 156 | 129 | 180 | 43 | 36 | 41 | 9 | 9 | 18 |
| $1 \mathrm{EK} / 165$ | 124 | 166 | 129 | 191 | 51 | 37 | 41 | 11 | 14 | 25 |
| $2 \mathrm{EK} / 170$ | 124 | 170 | 129 | 205 | 59 | 42 | 48 | 13 | 21 | 30 |
| $3 \mathrm{EK} / 170$ | 125 | 170 | 130 | 206 | 74 | 51 | 56 | 13 | 20 | 36 |

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, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}}$ (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.


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


## Traction fuse links

## 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, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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.


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


## Traction fuse links

170E-Sizes $\mathbf{1}^{*}, 1,2$ 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, $\mathrm{E}_{\mathrm{q}}$ ( 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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


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


## Traction fuse links

170E-Sizes $\mathbf{1}^{*}, 1,2$ 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

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## 170 M 7217 - 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

| Fuse link body size | Rated voltage | ${ }^{12}\left(A^{2} \mathbf{S e c}\right)$ |  |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Rated current (Amps) | Pre-arcing | Clearing at 1250 V a.c. |  |  |
| 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. $85 \mathrm{kA} \mathrm{IR} \mathrm{(UL))}$ |  |  |  |  |  |

## Dimensions (mm)

Thread controlled with 6 H gauge.
Hole min. 11 deep.


## Traction fuse links

170M7217-Size 4, Square body fuse links, 1250 V a.c. / 850 V d.c. (IEC), 1400 A
Time-current curve-1400 A


170 M 7217 - Size 4, Square body fuse links, 1250 V a.c. / 850 V d.c. (IEC), 1400 A
Cut-off curve - 1400 A


## Total clearing $\mathrm{I}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}}$ (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.


## Traction fuse links

## 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 15 ms
- Operating class: aR


## Standards / Agency information

IEC 60269

Catalogue numbers

| Fuse link type | Fuse link body size | Rated voltage | Rated current (Amps) | ${ }^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) |  | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Pre-arcing | Clearing <br> at 1200 V d.c. | $0.8 \mathrm{In}^{\text {n }}$ | I |  |
| Single slot tag | $1^{*}$ | 1200 V d.c. (IEC) | 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 |
|  |  |  | 63 | 1310 | 3990 | 5 | 9 | 170M2105 |
|  |  |  | 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
Time-current curve-20 A to 215 A


## Traction fuse links

## 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., $\mathrm{L} / \mathrm{R}=45 \mathrm{~ms}$
- 100 kA at 1200 V d.c., $\mathrm{L} / \mathrm{R}=15 \mathrm{~ms}$
- 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) | $\mathrm{I}^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\begin{aligned} & 1000 \mathrm{~V} \text { d.c. } \mathrm{L} / \mathrm{R} \\ & 15 \mathrm{~ms} \end{aligned}$ | $\begin{aligned} & 1000 \mathrm{~V} \text { d.c. } \mathrm{L} / \mathrm{R} \\ & 45 \mathrm{~ms} \end{aligned}$ |  |  |
| Double slotted tag | 2 | 1200 V d.c. (IEC) <br> 1050 V d.c. (UL) | 160 | 12,000 | 20,000 | 75 | 170F8230 |
|  |  |  | 200 | 20,000 | 35,000 | 85 | 170F8231 |
|  |  |  | 250 | 43,000 | 75,000 | 94 | 170 F8232 |
|  |  |  | 315 | 87,000 | 150,000 | 104 | 170F8233 |
|  |  |  | 400 | 180,000 | 310,000 | 120 | 170F8234 |
|  |  |  | 420 | 215,000 | 375,000 | 122 | 170F8235 |

## Dimensions (mm)



## 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 $\mathrm{I}^{2} \mathrm{t}$

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


## 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, $\mathrm{E}_{\mathrm{a}}$ ( 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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Traction fuse links

## 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 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Knife blade style | $1^{*}$ | 2000 V d.c. (IEC) | 10 | 7 | 170 E3977 |
|  |  |  | 12 | 8 | 170 E3982 |
|  |  |  | 16 | 11 | 170 E3971 |
|  |  |  | 20 | 13 | 170 E3906 |
|  |  |  | 25 | 17 | 170 E3907 |
|  |  |  | 32 | 22 | 170 E3908 |
|  |  |  | 40 | 27 | 170 E3909 |
|  |  |  | 50 | 34 | 170 E3910 |
|  |  |  | 63 | 43 | 170 E3911 |
|  |  |  | 80 | 50 | 170 E3912 |

Dimensions (mm)


| $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{C}$ |
| :--- | :--- | :--- |
| $215 \pm 2.5$ | $250.5 \pm 3.2$ | $245.5 \pm 3.5$ |

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


## Traction fuse links

## 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 $\mathrm{I}^{2 \mathrm{t}}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{\llcorner }$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}^{\prime}}$ (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.


## 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 20 ms
- 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 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Bolted blade Style | $1 *$ | 2000 V d.c. (IEC) | 20 | 13 | 170 E3937 |
|  |  |  | 25 | 16 | 170 E3938 |
|  |  |  | 32 | 20 | 170E3939 |
|  |  |  | 40 | 25 | 170 E3940 |
|  |  |  | 50 | 32 | 170 E3941 |
|  |  |  | 63 | 40 | 170 E3942 |
|  |  |  | 80 | 51 | 170E3943 |
|  |  |  | 100 | 64 | 170 E3944 |
|  |  |  | 125 | 80 | 170E3945 |
|  |  |  | 10 | 7 | 170 E3976 |
|  |  |  | 16 | 11 | 170 E3970 |
|  |  |  | 20 | 13 | 170 E3950 |
|  |  |  | 25 | 17 | 170E3951 |
|  |  |  | 32 | 22 | 170 E3952 |
|  |  |  | 40 | 27 | 170 E3953 |
|  |  |  | 50 | 34 | 170E3954 |
|  |  |  | 63 | 43 | 170E3955 |
|  |  |  | 80 | 50 | 170 E3956 |

## Dimensions (mm)



| A | B | C |
| :--- | :--- | :--- |
| 217 | 246 | 266 |

## Traction fuse links

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


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 $\mathrm{I}^{2} \mathrm{t}$

The total clearing $\mathrm{I}^{12}$ t at rated voltage and at a power factor of 15 percent are given in the electrical characteristics. For other voltages, the clearing $l^{2} t$ is found by multiplying by correction factor, K, given as a function of applied working voltage, $\mathrm{E}_{\mathrm{g}^{\prime}}(\mathrm{RMS})$.


## 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, $\mathrm{E}_{\mathrm{q}}$ ( 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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


## Traction fuse links

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


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 $\mathrm{l}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, U, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{g}}$ (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.


## Traction fuse links

## 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
. 100 kA at 1500 V d.c., $\mathrm{L} / \mathrm{R}<45 \mathrm{~ms}$
- Operating class: aR

Standards / Agency information


Tested in line with IEC 60269
Catalogue numbers

| Fuse link type | Rated voltage | Rated current (Amps) | ${ }^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) |  | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Total at 2000 V d.c. | $0.8 \mathrm{In}^{\text {n }}$ | $\mathrm{I}_{\mathrm{n}}$ |  |
| Single slot tag | 2000 V d.c. (IEC) <br> 1500 V d.c. (UL) | 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 |
|  |  | 63 | 1030 | 3000 | 20 | 39 | 170M2051 |
|  |  | 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 |
| Double slot tag | 2000 V d.c. (IEC) | 160 | 7900 | 42,000 | 68 | 91 | 170M2039 |
|  |  | 200 | 12,300 | 66,000 | 85 | 113 | 170M2040 |
|  |  | 250 | 21,900 | 120,000 | 100 | 133 | 170M2041 |
|  |  | 315 | 38,900 | 210,000 | 119 | 158 | 170M2042 |
|  |  | 400 | 65,700 | 350,000 | 148 | 176 | 170M2043 |
| Parallel double slot tag | 2000 V d.c. (IEC) | 500 | 105,851 | 163,010 | 109 | 230 | 170M2044 |
|  |  | 600 | 188,179 | 289,796 | 153 | 305 | 170M2045 |

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


## Traction fuse links

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


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)

## Traction fuse links

## 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., $\mathrm{L} / \mathrm{R}<15 \mathrm{~ms}$
- 100 kA at 2000 V d.c., L/R < 45 ms
- Operating class: aR

Standards / Agency information
Tested in line with IEC 60269


Catalogue numbers

| Fuse link type | Fuse link body size | Rated voltage | Rated current (Amps) | $1^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) |  | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Pre-arcing | Total at $\mathbf{2 0 0 0} \mathrm{V}$ d.c. | 0.8 In | $\mathrm{I}_{\mathrm{n}}$ |  |
|  |  |  | 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)


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


## Traction fuse links

## 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 10 ms
- 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 |
| :---: | :---: | :---: | :---: | :---: |
| $1 *$ | 4000 V d.c. (IEC) | 20 | 23 | 170 E3924 |
|  |  | 25 | 28 | 170 E3925 |
|  |  | 32 | 34 | 170 E3926 |
|  |  | 40 | 45 | 170 E3927 |
|  |  | 50 | 57 | 170 E3928 |
|  |  | 63 | 72 | 170E3929 |
|  |  | 80 | 91 | 170 E3930 |
|  |  | 100 | 114 | 170E3931 |
|  |  | 125 | 143 | 170E3932 |

Dimensions (mm)


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


## Traction fuse links

## 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 $\mathrm{I}^{2} \mathrm{t}$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}^{\prime}}$ (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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, 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 25 ms
- 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 |
| :---: | :---: | :---: | :---: | :---: |
| 1* | 4000 V d.c. (IEC) | 20 | 23 | 170 E3914 |
|  |  | 25 | 28 | 170 E3915 |
|  |  | 32 | 34 | 170 E3916 |
|  |  | 40 | 45 | 170 E3917 |
|  |  | 50 | 57 | 170 E3918 |
|  |  | 63 | 72 | 170E3919 |
|  |  | 80 | 91 | 170 E3984 |
|  |  | 100 | 114 | 170E3933 |
|  |  | 125 | 143 | 170 E 3922 |
| 2 | 4000 V d.c. (IEC) | 160 | 182 | 170 E 8882 |
|  |  | 200 | 228 | 170E8883 |
|  |  | 250 | 285 | 170E8884 |
| 2//2 | 4000 V d.c. (IEC) | 315 | 360 | 170E8885 |
|  |  | 350 | 400 | 170 E 8886 |
|  |  | 400 | 455 | 170E8887 |
|  |  | 450 | 515 | 170E8888 |
|  |  | 500 | 600 | 170E8889 |

Dimensions (mm) - Size 1*


## Traction fuse links

170 E - 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


170E - Sizes $\mathbf{1}^{*}, 2$ 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


## Traction fuse links

## 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 ${ }^{2}{ }^{2} t$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{L^{\prime}}$ which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}^{\prime}}$ (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.


170E - Sizes $\mathbf{1}^{*}, 2$ 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


## Traction fuse links

## 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 ${ }^{2}{ }^{2} t$

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


## Arc voltage

This curve gives the peak arc voltage, $U_{1}$, which may appear across the fuse during its operation as a function of the applied working voltage, $\mathrm{E}_{\mathrm{q}}$ ( 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, $\mathrm{K}_{\mathrm{p}}$, is given as a function of the RMS load current, $I_{b}$, in percent of the rated current.


FWK - $20 \times 127$ and $25 \times 146 \mathrm{~mm}$, 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 $30 \mathrm{~A}(20 \times 127 \mathrm{~mm})$
- 35 A to 60 A $(25 \times 146 \mathrm{~mm})$
- 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

| Fuse link size | Rated voltage | Rated current (Amps) | ${ }^{12}\left(A^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 750 V d.c. |  |  |
| $\begin{aligned} & 20 \times 127 \mathrm{~mm} \\ & \left(13 / 18^{\prime \prime} \times 5^{\prime \prime}\right) \end{aligned}$ | 750 V d.c. (IEC) | 5 | 8.5 | 16 | 6.7 | FWK-5A20F |
|  |  | 8 | 50 | 100 | 8.8 | FWK-8A20F |
|  |  | 10 | 95 | 200 | 8.5 | FWK-10A20F |
|  |  | 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 |
| $\begin{aligned} & 25 \times 146 \mathrm{~mm} \\ & \left(1^{\prime \prime} \times 534^{\prime \prime}\right) \end{aligned}$ | 750 V d.c. (IEC) | 35 | 1300 | 4300 | 6 | FWK-35A25F |
|  |  | 40 | 1600 | 5300 | 6.8 | FWK-40A25F |
|  |  | 50 | 3100 | 12000 | 7.3 | FWK-50A25F |
|  |  | 60 | 5900 | 24000 | 7.7 | FWK-60A25F |

Dimensions mm (in) - 5 A to 30 A


Dimensions mm (in)-35 A to 60 A



## Traction fuse links

## 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 $15-20 \mathrm{~ms}$
- Operating class: gR

Standards / Agency information
Tested in line with IEC 60269


## Catalogue numbers

| Fuse link type | Rated voltage | Rated current (Amps) | ${ }^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 750 V d.c. |  |  |
| LRC750 | 750 V d.c. (IEC) | 30 | 700 | 2250 | 4.5 | 30LRC750 |
|  |  | 40 | 1800 | 5300 | 5.8 | 40LRC750 |
|  |  | 50 | 3100 | 12000 | 9.4 | 50LRC750 |

Dimensions (mm)


FWL and FWS - $20 \times 127 \mathrm{~mm}$, Ferrule fuse links, $1200-1400-2000 \mathrm{~V}$ 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

| Fuse link size | Rated voltage | Rated current (Amps) | $\mathrm{I}^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 1000 V d.c. |  | Without indicator | With indicator |
| $\begin{aligned} & 20 \times 127 \mathrm{~mm} \\ & \left(13 / 16^{\prime \prime} \times 5\right) \end{aligned}$ | $\begin{aligned} & 2000 \text { V a.c./ } \\ & 1000 \mathrm{~V} \text { d.c. } \\ & \text { (IEC) } \end{aligned}$ | 2 | 0.8 | 2.4 | 4.4 | FWS-2A20F | FWS-2A20FI |
|  |  | 6 | 27 | 81 | 6.7 | FWS-6A20F | FWS-6A20FI |
|  |  | 8 | 64 | 192 | 7.6 | FWS-8A20F | FWS-8A20FI |
|  | $\begin{aligned} & 1400 \mathrm{~V} \text { a.c./ } \\ & 1000 \mathrm{~V} \text { d.c. } \\ & \text { (IEC) } \end{aligned}$ | 10 | 118 | 277 | 3.0 | FWS-10A20F | FWS-10A20FI |
|  |  | 12 | 170 | 380 | 3.4 | FWS-12A20F | FWS-12A20FI |
|  |  | 15 | 209 | 500 | 5.0 | FWS-15A20F | FWS-15A20FI |
| $\begin{aligned} & 20 \times 127 \mathrm{~mm} \\ & \left(13 / 16^{\prime \prime} \times 5\right) \end{aligned}$ | $\begin{aligned} & 1200 \mathrm{~V} \text { a.c./ } \\ & 1000 \mathrm{~V} \text { d.c. } \\ & \text { (IEC) } \end{aligned}$ | 20 | 675 | 1550 | 5.9 | FWL-20A20F | FWL-20A20FI |
|  |  | 25 | 1200 | 2760 | 6.5 | FWL-25A20F | FWL-25A20FI |
|  |  | 30 | 1850 | 4300 | 7.5 | FWL-30A20F | FWL-30A20FI |

Dimensions (mm)


## Traction fuse links

## 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

| Fuse link type | Rated voltage | Rated current (Amps) | $1^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss <br> (W) | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Clearing at 750 V d.c. |  |  |
| KC36 | 750 V d.c. (IEC) | 5 | 8.5 | 16 | 6.7 | 5КС36 |
|  |  | 8 | 50 | 100 | 8.8 | 8KC36 |
|  |  | 10 | 95 | 200 | 8.5 | 10KC36 |
|  |  | 15 | 100 | 240 | 5 | 15KC36 |
|  |  | 20 | 125 | 315 | 7.8 | 20KC36 |
|  |  | 25 | 400 | 1100 | 6.5 | 25KC36 |
|  |  | 30 | 800 | 2600 | 6.5 | $30 \mathrm{KC36}$ |
|  |  | 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 |

Dimensions (mm)


## 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) | ${ }^{12}$ ( $A^{2} \mathrm{~s}$ ) | 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)



## Traction fuse links

## 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 |
| :---: | :---: | :---: | :---: |
| NBC | 1500 V d.c. (IEC) | 25 | NBC-25 |
|  |  | 60 | NBC-60 |
|  |  | 70 | NBC-70 |
|  |  | 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

## Photovoltaic fuse links, fuse bases and holders

PVM - $10 \times 38 \mathrm{~mm}, 600 \mathrm{~V}$ 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



## Standards / Agency information

UL Listed 2579, Guide JFGA, File E335324, CSA Component Certified C22.2
Catalogue numbers

| Rated voltage | Rated current (Amps) | Power Loss (W) |  | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: |
|  |  | $0.8 \times{ }^{\text {n }}$ | $1 \times \mathrm{I}_{\mathrm{n}}$ |  |
| 600 V d.c. (UL) | 4 |  |  | PVM-4 |
|  | 5 |  |  | PVM-5 |
|  | 6 |  |  | PVM-6 |
|  | 7 |  |  | PVM-7 |
|  | 8 |  |  | PVM-8 |
|  | 9 |  |  | PVM-9 |
|  | 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


Photovoltaic fuse links, fuse bases and holders
PVM - $10 \times 38 \mathrm{~mm}, 600 \mathrm{~V}$ d.c. (UL), 4 A to 30 A


Please contact FUSETECH@eaton.com for further information

## 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 $10 \times 38 \mathrm{~mm}$ 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

| Rated voltage | Rated current (Amps) | ${ }^{2} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) |  | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Pre-arcing | Total at 1000 V d.c. | $0.8 \mathrm{In}^{\text {n }}$ | $\mathrm{I}_{\mathrm{n}}$ | Cylindrical | Bolt fixing |
| 1000 V d.c. (UL/IEC) | 1 | 0.2 | 0.4 | 0.8 | 1.5 | PV-1A10F | PV-1A10-T |
|  | 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 |
|  | 5 | 19 | 50 | 1.0 | 1.6 | PV-5A10F | PV-5A10-T |
|  | 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

| Rated voltage | Rated current (Amps) | ${ }^{12}\left(A^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) |  | Catalogue numbers |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Pre-arcing | Total at 1000 V d.c. | 0.8 In | $\mathrm{I}_{\mathrm{n}}$ | PCB fixing single pin | PCB fixing double pin | PCB fixing double pin silver cap |
| 1000 V d.c. (UL/IEC) | 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 |
|  | 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 |

Photovoltaic fuse links, fuse bases and holders
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 $10 \times 38 \mathrm{~mm}$ 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 |  |  |  | Terminal rating | Rated breaking withstand capactiy | Compatible Bussmann series fuse links |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rated voltage | Rated current | Rated voltage | Rated current |  |  |  |
| 1000 V d.c. | 32 A | 1000 V d.c. | 30 A | ```IEC 1 to \(25 \mathrm{~mm}^{2}\) \(70^{\circ} \mathrm{C}\) 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 <br> UL4248-19 <br> UL file E14853 | $\begin{aligned} & \text { C22.2 No } 4248.1 \\ & \text { C22.2 No } 4248.19 \end{aligned}$ | GB 13539.1 | DCB 272 |

Dimensions mm (in)


## PV-A10F85L - $10 \times 85 \mathrm{~mm}, 1500$ V d.c. (IEC/UL), 2.25 A to 30 A

## Specifications

## Description

A range of fuse links in a $10 \times 85 \mathrm{~mm}$ 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

| Rated voltage | Rated current (Amps) | ${ }^{12}\left(A^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) |  | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Pre-arcing | Total <br> at 1500 V d.c. | 0.8 In | In |  |
| 1500 V d.c. (IEC/UL) | 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 |
|  | 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)


Photovoltaic fuse links, fuse bases and holders
PV-A10F85L - $10 \times 85 \mathrm{~mm}, 1500 \mathrm{~V}$ 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 $10 \times 85 \mathrm{~mm}$ fuse holders are suitable for use with $10 \times 85 \mathrm{~mm}$ and $14 \times 85 \mathrm{~mm}$ 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

- $10 \times 85 \mathrm{~mm}$ fuse links - PV-A10F85L
- $14 \times 85$ 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)


## Photovoltaic fuse links, fuse bases and holders

## PV-14F - $14 \times 51$ mm, 1000 and 1100 V d.c. (IEC/UL), 15 A to 32 A

## Specifications

## Description

A range of fuse links in a $14 \times 51 \mathrm{~mm}$ 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

| Rated voltage | Rated current (Amps) | ${ }^{12} \mathrm{t}\left(\mathrm{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) |  | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Pre-arcing | Total at rated voltage | 0.8 In | $\mathrm{I}_{\mathrm{n}}$ |  |
| 1100 V d.c. (IEC/UL) | 15 | 14 | 270 | 2.1 | 4 | PV-15A14F |
|  | 20 | 27 | 570 | 2.9 | 5.5 | PV-20A14F |
| 1000 V d.c. (IEC/UL) | 25 | 65 | 950 | 2.8 | 5.3 | PV-25A14F |
|  | 32 | 120 | 1750 | 4 | 7.5 | PV-32A14F |

Dimensions (mm)


PV-14F - $14 \times 51 \mathrm{~mm}, 1000$ and 1100 V d.c. (IEC/UL), 15 A to 32 A

Time-current curve - 15 A to 32 A


## Photovoltaic fuse links, fuse bases and holders

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 $14 \times 51 \mathrm{~mm}$ 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 voltage | Rated current |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| IEC and UL | IEC and UL | Agency markings | Terminal rating | withstand capactiy | Bussmann series fuse links |
| 1500 V d.c. | 32 A | IEC 60269-1 and 2 <br> UL Listed file number E348242 | Cable size: $1.5-50 \mathrm{~mm}^{2}$ <br> Recommended torque setting: <br> 3.5 Nm <br> Maximum torque setting: $3.5 \mathrm{Nm}$ <br> Mounting 35 mm DIN-Rail or 2 <br> x M4 panel mounting screws | $10 \mathrm{kA} \mathrm{d.c}$. | PV-A14F |

## 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 $10 \mathrm{~mm}^{2}$ or less cable | 12 |

Dimensions (mm)


Data sheet: 10080

## PV-14L - $14 \times 65 \mathrm{~mm}, 1300-1500$ V d.c. (IEC and UL), 2.25 A to 32 A

## Specifications

## Description

A range of fuse links in a $14 \times 65 \mathrm{~mm}$ 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

| Rated voltage | Rated current (Amps) | $\mathbf{I}^{2}\left(\mathbf{A}^{2} \mathbf{S e c}\right)$ |  | Watts loss (W) |  | Catalogue numbers |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Pre-arcing | Total at rated voltage | 0.8 In | $\mathrm{I}_{\mathrm{n}}$ | Cylindrical | Cylindrical with tags | Cylindrical with 10mm fixings |
| $\begin{aligned} & 1500 \mathrm{~V} \text { d.c. } \\ & (\text { (IEC/UL) } \end{aligned}$ | 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 |
|  | 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 |
| $\begin{aligned} & 1300 \mathrm{~V} \text { d.c. } \\ & \text { (IEC/UL) } \end{aligned}$ | 25 | 65 | 550 | 4.1 | 7.5 | PV-25A14LF | PV-25A14L-T | PV-25A14LF10F |
|  | 32 | 105 | 900 | 5.7 | 10.4 | PV-32A14LF | PV-32A14L-T | PV-32A14LF10F |

Photovoltaic fuse links, fuse bases and holders
PV-14L-14 x $65 \mathrm{~mm}, 1300-1500 \mathrm{~V}$ 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 - $14 \times 65 \mathrm{~mm}, 1300-1500 \mathrm{~V}$ d.c. (IEC and UL), 2.25 A to 32 A

Time-current curve-2.25 A to 4 A


Time-current curve - 3.5 A to 32 A


## Photovoltaic fuse links, fuse bases and holders

## 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
Microswitches, for use with bladed version

- 170H0236
- 170H0238



## Standards / Agency information

UL 248-13 (file number E125085), IEC 60269-4 (see details below)

Catalogue numbers

|  |  |  | $1^{2}\left(\mathbf{A}^{2} \mathbf{S e c}\right)$ |  | Watts loss (W) | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fuse link body size | Rated voltage | Rated current (Amps) | Pre-arcing | Total at 800 V a.c. | $\mathrm{I}_{\mathrm{n}}$ | Bladed with lugs | Blade with bolt holes no lugs |
| NH1 | 800 V a.c. | 32 | 80 | 2000 | 8 | 170M7350 |  |
|  |  | 40 | 185 | 3000 | 9 | 170M7351 |  |
|  |  | 50 | 400 | 6000 | 11 | 170M7352 |  |
|  |  | 63 | 470 | 7000 | 12 | 170M7353* | 170M7353-B* |
|  |  | 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* |
| NH2 | 800 V a.c. | 160 | 4600 | 36800 | 28 | 170M7397 | 170M7397-B |
|  |  | 200 | 9500 | 76000 | 32 | 170M7398 | 170M7398-B |
|  |  | 250 | 17000 | 136000 | 38 | 170M7399 | 170M7399-B |
| NH3 | 800 V a.c. | 315 | 32000 | 230000 | 44 | 170M7400* | 170M7400-B* |
|  |  | 355 | 44500 | 320000 | 46 | 170M7401* |  |
|  |  | 400 | 67500 | 480000 | 50 | 170M7402* |  |
|  |  | 355 | 38000 | 270000 | 48 |  | 170M7401-B* |
|  |  | 400 | 61000 | 430000 | 50 |  | 170M7402-B* |

*UL 248-13 and IEC 60269-4

Dimensions (mm) - NH1, bladed with lugs


Dimensions (mm) - NH2, bladed with lugs


Dimensions (mm) - NH3, bladed with lugs


Photovoltaic fuse links, fuse bases and holders

## 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


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


Photovoltaic fuse links, fuse bases and holders
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


PEAK CURRENT SHOWN FOR SYMMETRICAL FAULTS ONLY

## Photovoltaic fuse links, fuse bases and holders

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

## Photovoltaic fuse links, fuse bases and holders

## 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


IEC 60269-6, UL Recognised file 2579 E335324 for size 1 only, RoHS compliant

Catalogue numbers

| Fuse link body size | Rated voltage | Rated current (Amps) | $\mathrm{I}^{2}\left(\mathrm{~A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) |  | Catalogue numbers |  | Blade with bolt holes and lugs |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Total at 1000 V d.c. | $0.8 \mathrm{In}^{\text {n }}$ | $\mathrm{I}_{\mathrm{n}}$ | Blade without bolt holes | Blade with bolt holes |  |
| NH1 | $\begin{aligned} & 1000 \mathrm{~V} \text { d.c. } \\ & \text { (IEC/UL) } \end{aligned}$ | 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 |  |  |
|  |  | 80 | 640 | 5760 | 8 | 15 | PV-80ANH1 |  |  |
|  |  | 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 |  |  |
| NH2 | $\begin{aligned} & 1000 \mathrm{~V} \text { d.c. } \\ & \text { (IEC/UL) } \end{aligned}$ | 160 | 4600 | 37000 | 14 | 28 | PV-160ANH2 |  |  |
|  |  | 200 | 9500 | 76000 | 16 | 32 | PV-200ANH2 |  |  |
|  |  | 250 | 17000 | 136000 | 19 | 38 | PV-250ANH2 |  |  |
| NH3 | $\begin{aligned} & 1000 \mathrm{~V} \text { d.c. } \\ & \text { (IEC/UL) } \end{aligned}$ | 300 | 32000 | 260000 | 24 | 40 | PV-300ANH3 |  |  |
|  |  | 315 | 32000 | 260000 | 26 | 44 | PV-315ANH3 |  |  |
|  |  | 350 | 44500 | 370000 | 27 | 45 | PV-350ANH3 |  |  |
|  |  | 355 | 44500 | 370000 | 28 | 46 | PV-355ANH3 |  |  |
|  |  | 400 | 67500 | 550000 | 30 | 50 | PV-400ANH3 |  |  |
| NH1 | $1000 \text { V d.c. }$(IEC/UL) | 63 | 470 | 4300 | 6 | 12 |  | PV-63ANH1-B | PV-63ANH1-BL |
|  |  | 80 | 640 | 5760 | 8 | 15 |  | PV-80ANH1-B | PV-80ANH1-BL |
|  |  | 100 | 1300 | 11700 | 8 | 16 |  | PV-100ANH1-B | PV-100ANH1-BL |
|  |  | 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 |
| NH2 | $\begin{aligned} & 1000 \mathrm{~V} \text { d.c. } \\ & \text { (IEC/UL) } \end{aligned}$ | 160 | 4600 | 37000 | 14 | 28 |  | PV-160ANH2-B | PV-160ANH2-BL |
|  |  | 200 | 9500 | 76000 | 16 | 32 |  | PV-200ANH2-B | PV-200ANH2-BL |
|  |  | 250 | 17000 | 136000 | 19 | 38 |  | PV-250ANH2-B | PV-250ANH2-BL |
| NH3 | $1000 \mathrm{~V} \text { d.c. }$(IEC/UL) | 315 | 32000 | 260000 | 26 | 44 |  | PV-315ANH3-B | PV-315ANH3-BL |
|  |  | 355 | 38000 | 310000 | 29 | 48 |  | PV-355ANH3-B | PV-355ANH3-BL |
|  |  | 400 | 61000 | 490000 | 32 | 50 |  | PV-400ANH3-B | PV-400ANH3-BL |

Photovoltaic fuse links, fuse bases and holders
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


Photovoltaic fuse links, fuse bases and holders
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


Photovoltaic fuse links, fuse bases and holders
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


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


Photovoltaic fuse links, fuse bases and holders
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


PEAK CURRENT SHOWN FOR SYMMETRICAL FAULTS ONLY

Cut-off curve - Size 3, 300 A to 400 A


PEAK CURRENT SHOWN FOR SYMMETRICAL FAULTS ONLY

## Photovoltaic fuse links, fuse bases and holders

## 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


| Catalogue <br> numbers | Poles/Type | A | B | 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 <br> numbers | Poles | A | B | C | D | E | F | G | H | I | J | K |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 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

| Fuse link type | Fuse link body size | Rated voltage | Rated current (Amps) | $1^{2}\left(\mathrm{~A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) |  | Catalogue numbers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Pre-arcing | Total at 1000 V d.c. | 0.8 In | $\mathrm{In}_{n}$ |  |
| Flush end | 2 | 1000 V d.c.(IEC/UL) | 160 | 4600 | 37,000 | 15 | 30 | PV-160AF2 |
|  |  |  | 200 | 9500 | 76,000 | 17 | 34 | PV-200AF2 |
|  |  |  | 250 | 17,000 | 136,000 | 19 | 38 | PV-250AF2 |
|  | 3 | 1000 V d.c.(IEC/UL) | 315 | 27,000 | 240,000 | 30 | 49 | PV-315AF3 |
|  |  |  | 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


Photovoltaic fuse links, fuse bases and holders
PV-AF - Flush end, 1000 V d.c. (IEC/UL), 160 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
- 170 H 0236 or 170 H 0238 for $1 \mathrm{XL}, 2 \mathrm{XL}$ 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.

| Fuse link body size | Rated voltage | Rated current (Amps) | Breaking capacity (IEC/UL) (kA) | ${ }^{12}\left(A^{2} \mathbf{S e c}\right)$ |  | Watts loss (W) |  | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Pre-arcing | Total at 1000 V d.c. | $0.7 \mathrm{I}_{\mathrm{n}}$ | $\mathrm{I}_{\mathrm{n}}$ | Bladed version | Bolted version |
| 01 | 1000 V d.c. | 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 |
|  |  | 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 |
| 2 | 1000 V d.c. | 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 |
|  |  | 355 | 33 | 26,000 | 192,000 | 27 | 68 | PV-355A-2XL | PV-355A-2XL-B |
|  |  | 160 | 33 | 2780 | 21,000 | 18 | 44 |  | PV-160A-2XL-3B ${ }^{1}$ |
|  |  | 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-3B ${ }^{1}$ |
|  |  | 355 | 33 | 26,000 | 192,000 | 27 | 68 |  | PV-355A-2XL-3B ${ }^{1}$ |
| 3 | 1000 V d.c. | 350 | 50 | 31,000 | 161,200 | 26 | 65 | PV-350A-3L | PV-350A-3L-B |
|  |  | 400 | 50 | 44,500 | 231,400 | 33 | 82 | PV-400A-3L | PV-400A-3L-B |
|  |  | 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 |

${ }^{1}$ 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 2 XL and size 3 L fuse links without changing the dimensional layout of the inverter, combiners and disconnects.

Data sheet: 10201

## Photovoltaic fuse links, fuse bases and holders

## 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.

| Fuse link body size | Rated voltage | Rated current <br> (Amps) | Breaking capacity (IEC/UL) (kA) | $1^{2}\left(\mathbf{A}^{2} \mathbf{S e c}\right)$ |  | Watts loss (W) |  | Catalogue numbers |  | Bolted version with side indicator | Bolted without side indicator |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Prearcing | Total at $1500 \mathrm{~V}^{1}$ | 0.7 In | $\mathrm{I}_{\mathrm{n}}$ | Bladed with top indicator | Bladed without top indicator |  |  |
| 01 | 1500 V d.c. | 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 |  |
|  |  | 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 |  |
| 1 | 1500 V d.c. | 100 | 30 | 1250 | 6000 | 24 | 43 | PV-100A-1XL-15 |  | PV-100A-1XL-B-15 |  |
|  |  | 125 | 30 | 1950 | 9360 | 25 | 52 | PV-125A-1XL-15 |  | PV-125A-1XL-B-15 |  |
|  |  | 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 |  |
| 2 | 1500 V d.c. | 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 |
|  |  | 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 |
|  |  | 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 |
| 3 | 1500 V d.c. | 250 | $100^{2}$ | 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 | $100^{2}$ | 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 | $100^{2}$ | 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 |
|  |  | 355 | $100^{2}$ | 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 | $100^{2}$ | 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 | $100^{2}$ | 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 | $100^{2}$ | 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 |

${ }^{1}$ PV-*A-2XL-3B and PV-* $A-2 X L-3 B-15$ have revised bolting patterns, which are identical to size 3 L bolting pattern. This allows utilisation of both size 2 XL and size 3 L fuse links without changing the dimensional layout of the inverter, combiners and disconnects.
${ }^{2} 100 \mathrm{kA}$ at time constant 6 mS .

Dimensions (mm) - Size 01, bladed


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


Photovoltaic fuse links, fuse bases and holders
PV-XL - XL Style - 1000-1500 V d.c. (IEC/UL), 50 A to 600 A

Dimensions (mm) - Size 3, bladed


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


Dimensions (mm) - Size 2, bolted


Photovoltaic fuse links, fuse bases and holders
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 3 L 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


Photovoltaic fuse links, fuse bases and holders
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


Photovoltaic fuse links, fuse bases and holders
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


## 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 <br> numbers | XL Style <br> fuse link <br> size | Maximum fuse <br> rated current <br> (Amps) | Power <br> acceptance | A | B | C | D | E | F | G | H | J |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| SD1XL-S-PV | $01 \mathrm{XL}, \mathrm{1XL}$ | 200 | 57 W | 260 | 235 | 60 | 35 | 17.5 | 30 | 28 | 10.5 | M10 |
| SD2XL-S-PV | 2XL | 400 | 75 W | 285 | 260 | 60 | 35 | 17.5 | 30 | 28 | 10.5 | M12 |
| SD3L-S-PV | 3L | 500 | 108 W | 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
- 170 H 0238


## 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

|  |  |  | $1^{2}\left(A^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) |  | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fuse link body size | Rated voltage | Rated current (Amps) | Pre-arcing | Total at 1000 V d.c. | $0.7 \mathrm{I}_{\mathrm{n}}$ | $\mathrm{I}_{\mathrm{n}}$ | Bladed version | Bolted version |
| 1-1 | 1000 V d.c. | 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 |
|  |  | 100 | 1300 | 11,700 | 7 | 16.5 | BSF-100G-NH110 | BSF-100G-NH110-B |
|  |  | 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 |
| 2 | 1000 V d.c. | 160 | 4600 | 37,000 | 11 | 28 | BSF-160G-NH210 | BSF-160G-NH210-B |
|  |  | 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 |
| 3 | 1000 V d.c. | 315 | 32,000 | 260,000 | 18 | 44 | BSF-315G-NH310 | BSF-315G-NH310-B |
|  |  | 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


Data sheet: 135001

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


Data sheet: 135001

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)

## 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

| Fuse link body size | Rated voltage | Rated current (Amps) | $\mathbf{I}^{2}\left(\mathbf{A}^{2} \mathrm{Sec}\right)$ |  | Watts loss (W) |  | Catalogue numbers |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Pre-arcing | Total at 1500 V d.c. | $0.7 \mathrm{In}^{\text {n }}$ | $\mathrm{I}_{\mathrm{n}}$ | Bladed version | Bolted version |
| 3 | 1500 V d.c. | 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 |
|  |  | 355 | 195,000 | 693,000 | 24 | 59 | BSF-355G-3XL15 | BSF-355G-3XL15-B |
|  |  | 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


Temperature derating


## 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 <br> numbers | Max fuse amp <br> rating | Stud height (in) |  <br> threads |
| :--- | :--- | :--- | :--- |
| C5268-1 | 200 | 1 | $5 / 16^{\prime \prime}-18$ |
| C5268-2 | 200 | 1.75 | $5 / 16^{\prime \prime}-18$ |
| C5268-3 | 200 | 0.75 | $5 / 16^{\prime \prime}-18$ |
| C5268-4 | 100 | 1 | $1 / 4^{\prime \prime}-20$ |
| C5268-5 | 100 | 1.75 | $1 / 4^{\prime \prime}-20$ |

## 2 - Connector Type

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 <br> numbers | Max rated voltage | Max fuse Amp rating |
| :--- | :--- | :--- |
| 1 BS101 | 600 | 100 |
| 1 BS102 | 600 | 400 |
| 1 BS103 | 600 | 400 |
| 1 BS104 | 600 | 600 |

## 3 - BH

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 <br> numbers | Max rated voltage | Max fuse Amp rating |
| :--- | :--- | :--- |
| $\mathrm{BH}-0$ | 700 | 100 |
| $\mathrm{BH}-1$ | 2500 | 400 |
| $\mathrm{BH}-2$ | 5000 | 600 |
| $\mathrm{BH}-3$ | 1250 | 700 |



## Accessories

## 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 110 mm . Available for sizes 000, $00,1^{*}, 1,2$ and 3 .

Sizes 000 to 00 Fuse bases

| Catalogue <br> numbers | Max rated <br> voltage <br> (Volts) | Max fuse <br> Amp rating <br> (Amps) | Centre <br> distance <br> $(\mathbf{m m})$ | Fuse sizes |
| :--- | :--- | :--- | :--- | :--- |
| 170 H 1007 | 1000 | 400 | 80 | 00,000 |
| 170 H 1013 | 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 <br> numbers | Max rated voltage <br> (Volts) | Max fuse Amp <br> rating (Amps) | Centre <br> distance (mm) |
| :--- | :--- | :--- | :--- |
| $170 H 3003$ | 1000 V a.c./V d.c. | 630 | 80 |
| $170 H 3004$ | 1000 V a.c./V d.c. | 1250 | 80 |
| 170 H 3005 | 1400 V a.c./V d.c. | 630 | 110 |
| $170 H 3006$ | 1400 V a.c./V d.c. | 1250 | 110 |

Dimensions (mm) - 170H3003


SECTION A-A


Dimensions (mm) - 170H3004


## Accessories

## Fixed center fuse bases for DIN 43653 square body fuse links

Dimensions (mm) - 170H3005


SECTION A-A


Dimensions (mm) - 170H3006


## SECTION A-A



Fuse links with higher current ratings than 1250 A can be used with 170 H 3004 or 170 H 3006 if the maximum load current is derated according to the table below.

| Fuse amp rating | Max. Amp load <br> 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 35 mm 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 ${ }^{1}$ | Pressure plate w/quick connect ${ }^{1}$ | Box lug | Fuse link size | Number of poles |
| :---: | :---: | :---: | :---: | :---: |
| BMM603-1S0 | BMM603-1P0 | BMM603-1C | $10 \times 38$ (13/32" x 1-1/2") | 1 |
| BMM603-2S0 | BMM603-2PO | BMM603-2C | $10 \times 38$ (13/32" $\left.\times 1-1 / 2^{\prime \prime}\right)$ | 2 |
| BMM603-3S0 | BMM603-3P0 | BMM603-3C | $10 \times 38$ (13/32" x 1-1/2") | 3 |

[^14]
## Accessories

## BMM - Fuse bases for ferrule fuse links, 600 V a.c. (UL), 30 A

Dimensions mm (in)


With cover.
See table for available covers.


Recommended covers

|  | Cover part numbers <br> Indicating | Non indicating |
| :--- | :--- | :--- |



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 35 mm 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 | $22 \times 58 \mathrm{~mm}$ | 2 |
| JM70100-3CR |  | 3 |

Dimensions mm (in)


## Accessories

## 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 voltage | Rated current (Amps) | Number of poles | Compatible <br> Bussmann series fuse links |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Class J Block | Covers without indication* | Covers with indication* |  |  |  |  |
| 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 | Wire range (solid and stranded) | Wire range (fine stranded) | Torque $\mathrm{N} \cdot \mathrm{m}$ <br> (Lb-in) |
| :---: | :---: | :---: | :---: |
| Class J Block |  |  |  |
| JM60100-1CR | 1/0-3 AWG; (2) Cu 4-6 AWG 4-6 AWG; (2) Cu 8 AWG 8 AWG; (2) Cu 10-14 AWG Cu 10-14 AWG; Al 10-12 AWG | $\begin{aligned} & \text { 1-3 AWG } \\ & \text { 4-6 AWG } \\ & 8 \text { AWG } \end{aligned}$ | $\begin{aligned} & 6.2(55) \\ & 5.6(50) \\ & 5.1(45) \\ & 4.5(40) \\ & 4.0(35) \end{aligned}$ |
| JM60100-2CR |  |  |  |
| JM60100-3CR |  |  |  |
| JM60200-1CR | 250 MCM -1 AWG <br> 2-6 AWG; (2) Cu 2-6 AWG | $\begin{aligned} & \text { 3/0-1 AWG } \\ & \text { 2-6 AWG } \end{aligned}$ | $\begin{aligned} & 42(375) \\ & 31(275) \end{aligned}$ |
| JM60200-2CR |  |  |  |
| JM60200-3CR |  |  |  |
| JM60400-1CR | 600 kcmil <br> 500kcmil-4 AWG <br> (2) $\mathrm{Cu} 3 / 0-4$ AWG <br> (2) Al 3/0-4 AWG | N/A | $\begin{aligned} & 57(500) \\ & 51(450) \\ & 57(500) \\ & 34(300) \end{aligned}$ |
| JM60400-2CR |  |  |  |
| JM60400-3CR |  |  |  |
| JM60600-1CR | (2) 500kcmil-4 AWG | N/A | 51 (450) |
| JM60600-2CR |  |  |  |

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


Accessories
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 $10 \times 38 \mathrm{~mm}$ fuse links

## Specifications

## Description

Compact DIN-Rail mounting fuse holders for $10 \times 38 \mathrm{~mm}$ cylindrical fuse links

## Technical data

See table page 384

Catalogue numbers

| Catalogue <br> number | Number <br> of poles | Description |
| :--- | :---: | :--- |
| Modular fuse holders for IEC industrial applications (Red) |  |  |
| Neutral only |  |  |
| CHM1DNXU | 1 | Neutral fuse holder |
| Fuse holder 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 and neutral |  |  |
| CHM1DNU | 2 | 1-pole + neutral modular fuse holder |
| CHM3DNU | 4 | 3-pole + neutral modular fuse holder |
| Fuse holder with neon indicator |  |  |
| 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 with neon indicator and neutral |
| :--- |
| CHM1DNIU |
| CHM3DNIU |


| Fuse holder with LED Indicator |
| :--- |
| CHM1DI-48U 1 1-pole modular fuse holder with LED indicato |

Modular fuse holders for photovoltaic applications (Yellow)

| Fuse holder only |  |  |
| :--- | :---: | :--- |
| CHPV1U | 1 | 1-pole modular fuse holder |
| CHPV2U | 2 | 2-pole modular fuse holder holder |
| Fuse holder with neon indicator |  |  |
| CHPV1IU | 1 | 1-pole modular fuse holder with neon indicator |
| CHPV2IU | 2 | 2-pole modular fuse holder with neon indicator |

Modular fuse holders for UL Class CC applications (Black)

| Fuse holder only |  |  |
| :--- | ---: | :--- |
| CHCC1DU | 1 | 1-pole modular fuse holder |
| CHCC2DU | 2 | 2-pole modular fuse holder |
| CHCC3DU | 3 | 3-pole modular fuse holder |

Fuse holder with neon indicator

| 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 with LED Indicator

CHCC1DI-48U 1 1-pole modular fuse holder with LED indicator


## Accessories

## CHM - Modular fuse holders for $10 \times 38 \mathrm{~mm}$ fuse links

Technical data

|  | Rated volt |  | Rated | rent |  | R |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Type | IEC | UL | IEC | UL | Terminal rating | capactiy | series fuse links |
| Modular fuse holders for IEC industrial applications (Red) |  |  |  |  |  |  |  |
| CHM1 | 690 V a.c. | 600 V a.c. | 32 A | 30 A | IEC 1 to $25 \mathrm{~mm}^{2}$ <br> $70^{\circ} \mathrm{C}$ PVC <br> Copper cable (solid stranded or <br> fine stranded) <br> Spade lug <br> Comb bus bar | IEC 120 kA rms sym <br> UL 200 kA rms sym | IEC: C10 and FWP-G10F |
| CHM_DN(X)U | 690 V a.c. | 600 V a.c. | 32 A | 30 A |  |  |  |
| CHM1DI-48U | 48 V d.c. | 48 V d.c. | 32 A | 30 A |  | UL 200 kA rms sym <br> CCC 100 kA rms sym | BAF, FWA, PVM, AGU, BAN, FWC |

Modular fuse holders for Photovoltaic applications (Yellow)

|  |  |  |  | IEC 1 to $25 \mathrm{~mm}^{2}$ <br> $70^{\circ} \mathrm{C}$ PVC |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| CHPV | 1000 V d.c. | 1000 V d.c. | 32 A | 30 A | Copper cable (solid stranded or <br> fine stranded) <br> Spade lug <br> Comb bus bar | 33 kA rms sym | Solar PV range: PVM, <br> PV-A10F |
| Modular fuse holders for UL Class CC Industrial applications (Black) |  |  |  |  |  |  |  |
| CHCC | N/A | 600 V a.c. | N/A | 30 A | Cable $75^{\circ} \mathrm{C}$ and $90^{\circ} \mathrm{C}$ Cu cable | 200 kA rms sym | LP-CC, FNQ-R, KTK-R |
| CHCC1DI-48U | N/A | 48 V d.c. | N/A | 30 A |  |  |  |

Standards / Agency information

|  | IEC | UL | CSA | CCC | CE |
| :--- | :--- | :--- | :--- | :--- | :--- |
| CHMD(I)U | IEC 60269-1 <br> IEC 60269-2 | UL 4248-1 <br> UL file E14853 | C22.2 No 4248.1 | GB 13539.1 <br> GB 13539.2 | DCB 272 |
| CHMDN(I)U | IEC 60269-1 <br> IEC 60269-2 | UL 4248-1 <br> UL file E14853 | C22.2 No 4248.1 | GB 13539.1 <br> GB 13539.2 | DCB 272 |
| CHM1DI-48U | IEC 60269-1 <br> IEC 60269-2 | UL 4248-1 <br> UL file E14853 | C22.2 No 4248.1 | GB 13539.1 <br> GB 13539.2 | DCB 272 |
| CHM1DNXU | IEC 60269-1 <br> IEC 60269-2 | UL 4248-1 <br> UL file E14853 | C22.2 No 4248.1 | GB 13539.1 <br> GB 13539.2 | DCB 272 |
| CHPV | IEC 60269-1 | UL 4248-1 <br> UL4248-19 <br> UL file E14853 | C22.2 No 4248.1 <br> C22.2 No 4248.19 | GB 13539.1 | DCB 272 |
| CHCC1D(I) to CHCC3D(I)U | N/A | UL 4248-1 <br> UL file E14853 | C22.2 No 4248.1 | N/A | Contact: fusetech@ <br> eaton.com |
| CHCC1DI-48U | N/A | UL 4248-1 <br> UL file E14853 | C22.2 No 4248.1 | N/A | Contact: fusetech@ <br> eaton.com |

Dimensions mm (in)


Data sheet: 720147

## CH14 - Modular fuse holders for $14 \times 51$ mm fuse links, 690 V a.c. / 750 and 1500V d.c., 50 A

## Specifications

## Description

Compact DIN-Rail mount fuse holders for $14 \times 51 \mathrm{~mm}$ 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 $\times 51 \mathrm{~mm}$ 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 <br> number | Number <br> of poles | Description |
| :--- | :---: | :--- |
| Neutral only |  |  |
| CH141DNXU | 1 | Neutral modular fuse fuse holder |
| Fuse holder only |  |  |
| 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 and neutral |  |  |
| CH141DNU | 2 | 1-pole + neutral modular fuse holder |
| CH143DNU | 4 | 2-pole + neutral modular fuse holder |

Fuse holder with neon indicator

| 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 with neon indicator 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 with microswitch |  |  |
| :--- | :--- | :--- |
| 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 with microswitch and neutral

CH143DNMSU-F $4 \quad$ 3-pole + neutral modular fuse holder with microswitch for remote fuse indication operation

| Fuse holder with LED Indicator |  |  |
| :--- | :---: | :---: |
| CHPV141DI-48U | 1 | 1-pole modular fuse holder with LED indicator |
| Fuse holder for photovoltaic 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 |

## Accessories

CH14 - Modular fuse holders for $14 \times 51$ mm fuse links, 690 V a.c. / 750 and 1500 V d.c., 50 A Technical data

|  | Rated current Rated |  |  |  | Agency markings | Terminal rating | Rated breaking withstand capactiy | Compatible Bussmann series fuse links |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Type | IEC | UL | IEC | UL |  |  |  |  |
| CH14 | 50 A (a.c. and d.c.) | 50 A | $\begin{aligned} & 690 \text { V a.c. / } \\ & 750 \text { V d.c. } \end{aligned}$ | 700 V a.c. | IEC 60269-1 and 2 <br> UL Listed file number E14853 | Cable size: $1.5-50 \mathrm{~mm}^{2}$ <br> Recommended torque setting: 3.5 <br> $\mathrm{N} \cdot \mathrm{m}$ <br> Maximum torque setting: $3.5 \mathrm{~N} \bullet \mathrm{~m}$ | $120 \mathrm{kA} \mathrm{a.c}$. | C14G and C14M <br> FWX-A14F ${ }^{1}$ FWH-A14F ${ }^{1}$ FWP-A14F FWP-G14F |
| CHPV <br> Photovoltaic | 50 A (a.c. and d.c.) | 50 A | 1500 V d.c. | 1500 V d.c. | IEC 60269-1 and 2 <br> UL Listed file number E348242 | Mounting 35 mm DIN-Rail or $2 \times \mathrm{M} 4$ panel mounting screws | $10 \mathrm{kA} \mathrm{d.c}$. | PV-A14F |

${ }^{1}$ Maximum allowed continuous current applies. Please refer to data sheet for details.

## Accessories

| Catalogue <br> 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, $1 \mathrm{n} / \mathrm{o}+1 \mathrm{n} / \mathrm{c}$ changeover type | 3 |
| CH14-TPS | Microswitch to work on CH143D(I)U, $1 \mathrm{n} / \mathrm{o}+1 \mathrm{n} / \mathrm{c}$ changeover type | 3 |
| CH14-CTP | IP20 protection accessory, provides IP20 protection to terminals with 10mm ${ }^{2}$ or less cable | 12 |

Dimensions (mm)


## CH22 - Modular fuse holders for $22 \times 58 \mathrm{~mm}$ fuse links, 690 V a.c./1000 V d.c., 125 A

## Specifications

## Description

Compact DIN-Rail mount fuse holders for $22 \times 58 \mathrm{~mm}$ 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 $22 \times 58 \mathrm{~mm}$ 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 <br> number | Number <br> of poles | Description |
| :--- | :--- | :--- |
| Neutral only |  |  |
| CH221DNXU | 1 | Neutral holder |
| Fuse holder only |  |  |
| 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 with neon indicator |  |  |
| 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 and neutral |  |  |
| CH221DNU | 2 | 1-pole + neutral modular fuse holder |
| CH223DNU | 4 | 3-pole + neutral modular fuse holder |
| Fuse holder with 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 with microswitch |  |  |
| 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 her |  |  |

## Fuse holder with neutral and microswitch

CH223DNMSU-F 3 3-pole modular fuse holder + neutral + microswitch (pre-breaking/fuse operation)
Fuse holder with LED Indicator
CH221DI-48U 1 1-pole modular fuse holder with LED Indicator

## Technical data

| Rated voltage Rated current |  |  |  | Agency markings | Terminal rating | Rated breaking withstand capactiy | Compatible Bussmann series fuse links |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| IEC | UL | IEC | UL |  |  |  |  |
| $\begin{aligned} & 690 \text { V a.c. } \\ & 1000 \text { V d.c. } \end{aligned}$ | 700 V a.c. | $\begin{aligned} & 125 \text { A (a.c. } \\ & \text { and d.c.) } \end{aligned}$ | 100 A (a.c.) | IEC 60269-1 and 2 <br> UL Listed file number E14853 | Cable size: $2.5-70 \mathrm{~mm}^{2}$ <br> Recommended torque setting: $4 \mathrm{~N} \bullet \mathrm{~m}$ Maximum torque setting: $5 \mathrm{~N} \bullet \mathrm{~m}$ <br> Mounting 35 mm DIN-Rail or $2 \times \mathrm{M} 4$ panel mounting screws | 120 kA a.c. 50 kA d.c. | FWP Ferrule ${ }^{1}$ |

[^15]
## Accessories

CH22 - Modular fuse holders for $22 \times 58$ mm fuse links, 690 V a.c./1000 V d.c., 125 A
Accessories

| Catalogue <br> 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 10 $\mathrm{mm}^{2}$ or less cable | 12 |
| CH22-SPS | Microswitch to work on CH221D(I)U, $1 \mathrm{n} / 0+1 \mathrm{n} / \mathrm{c}$ changeover type | 3 |
| CH22-TPS | Microswitch to work on CH223D(I)U, $1 \mathrm{n} / 0+1 \mathrm{n} / \mathrm{c}$ changeover type | 3 |

## Dimensions (mm)



## 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 $(1.5 \mathrm{~V})$ 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 1.5 V . 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: $10-250 \mathrm{~V}$ a.c.
- Rated current: 30mA-2A


| Fuse | DIN 43653 |  | DIN 43620 |  | French style |  | Flush end |  | US Style | Terminal size |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| body <br> size | Type T | Type K | aR | gR and dual indication | Type T | Type K | Type T | Type K | Type K | $\begin{aligned} & 6.3 \times 0.8 \mathrm{~mm} \\ & \text { lugs } \end{aligned}$ | $\begin{aligned} & 2.8 \times 0.5 \mathrm{~mm} \\ & \text { lugs } \\ & \hline \end{aligned}$ |
| 000 | 170Н0236 |  | 170H0236 | 170H0236 |  |  |  |  |  | X | X |
|  | 170H0238 |  | 170H0238 | 170H0238 |  |  |  |  |  |  |  |
| 00 | 170H0235 |  | 170H0236 | 170H0236 |  |  | 170H0235 |  |  | X | X |
|  | 170 H 0237 |  | 170H0238 | 170H0238 |  |  | 170 H 0237 |  |  |  |  |
| $1^{*}$ | 170H0235 | 170H0069 | 170H0235 |  | 170H0236 | 170H0069 |  | 170H0069 | 170H0069 | X | X |
|  | 170H0237 |  | 170 HO 237 |  | 170 H 0238 |  |  |  |  |  |  |
| 1 | 170H0235 | 170H0069 | 170H0235 ${ }^{1}$ | 170H0236 | 170H0236 | 170H0069 |  | 170H0069 | 170H0069 | X | X |
|  | $170 \mathrm{HO237}$ |  | 170H0237 ${ }^{1}$ | 170H0238 | 170 HO 238 |  |  |  |  |  |  |
| 2 | 170H0235 | 170H0069 | 170H0235 | 170H0236 | 170H0236 | 170H0069 |  | 170H0069 | 170H0069 | X | X |
|  | $170 \mathrm{HO237}$ |  | 170H0237 | 170H0238 | 170 HO 238 |  |  |  |  |  |  |
| 3 | 170 H 0235 | 170H0069 | 170H0236 | 170H0236 | 170H0236 | 170H0069 |  | 170H0069 | 170H0069 | X | X |
|  | $170 \mathrm{HO237}$ |  | 170H0238 | 170H0238 | 170H0238 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  | 170H0069 |  | X |  |
| 23 |  |  |  |  |  |  |  | 170H0069 |  | X |  |
| 24 |  |  |  |  |  |  |  | 170H0069 |  | X |  |

[^16][^17]
## Accessories

## 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


## 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

|  | Max RMS AC <br> voltage <br> Fuse type <br> (V a.c. RMS) | Dim 'A' <br> (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)


## Accessories

## FW14-PCB Mountable fuse clip

## Specifications

## Catalogue number

FW14-PCB

## Description

Mountable fuse clip compatible with any $14 \mathrm{~mm} \varnothing$ 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.

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- Special end connections
- Acquire UL/IEC/CCC/CSA certificates
- Customised testing such as shock vibration
- Higher breaking capacity testing

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For high speed fuses enquiries : bulehighspeedtechnical@ eaton.com

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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 |

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| Phone: | $0044(0) 1509882699$ |
| :--- | :--- |
| Fax: | $0044(0) 1509882794$ |

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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[^0]:    The dotted line illustrates the Type T indicator fuse link.

[^1]:    ${ }^{3}$ Valid for fuse links type -KN/110.

[^2]:    ${ }^{1}$ Rated at 900 V d.c. 8 XIn 90 kA

[^3]:    ${ }^{1}$ These fuse links are not UL recognised $\quad{ }^{2} 900 \mathrm{~V}$ d.c. $8 \mathrm{XIn} 90 \mathrm{kA} \quad{ }^{3}$ Rated at 1000 V d.c. $10 \mathrm{XIn} 91 \mathrm{kA} \quad 4900 \mathrm{~V}$ d.c. 9.5 XIn 80 kA

[^4]:    ${ }^{1}$ 170M4867D is not UL recognised.
    ${ }^{2}$ Given at maximum load Rated current, please refer to data sheets for further details.

[^5]:    ${ }^{1}$ Valid for fuse links type -FU/115 \& -FKE/115.
    $1 \mathrm{~mm}=0.0394$ "

[^6]:    $1 \mathrm{~mm}=0.0394^{\prime \prime}$

[^7]:    ${ }^{1}$ Valid for fuse links type -G- \& -GKN/.
    ${ }^{3}$ Valid for fuse links type-BKN/ and -GKN/.

[^8]:    ${ }^{1} 170 \mathrm{M} 6465$ and 170 M 6467 rated at 800 V d.c. UL 85 kA 3 ms TC when two fuses are connected in series

[^9]:    ${ }^{1}$ Valid for fuses type -GKN/-.

[^10]:    ${ }^{1}$ Valid for fuses type -GKN/-.

[^11]:    Data sheet: 170K6328

[^12]:    170 M 7217 rated 850 V d.c./1250 V a.c. (IEC), 1000 V d.c. $180 \mathrm{kA} \operatorname{IR}(\mathrm{UL}), 1200 \mathrm{~V}$ d.c. $85 \mathrm{kA} \operatorname{IR}$ (UL)
    ${ }^{2} 170 \mathrm{M} 7595$ rated at 1200 V d.c. 85 kA only at 2 ms time constant

[^13]:    When using these fuse links, please consult Eaton for application assistance at bulehighspeedtechnical@eaton.com.

[^14]:    ${ }^{1}$ Quick connect terminals rated for 20 A maximum.

[^15]:    ${ }^{1}$ Maximum allowed continuous current applies. Please refer to data sheet for details.

[^16]:    For special microswitches, double microswitches, DC rating of the microswitches, lower/higher signal levels and for insulation voltages please contact Eaton: bulehighspeedtechnical@eaton.com.

[^17]:    ${ }^{1}$ DIN2* (55x55), if DIN2 then use microswitch 170H0236, 170H0238.

