

# Reliable protection for semiconductor devices and sensitive electronic equipment

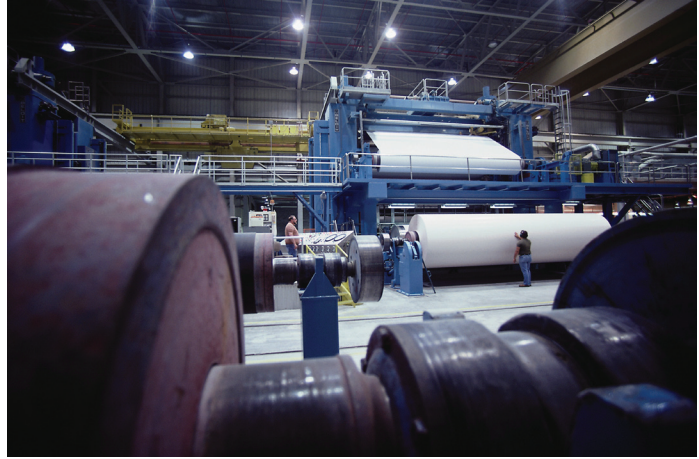


# Bussmann® series high speed fuses

High speed fuses protect sensitive devices and power semiconductors from short-circuits, and are specifically designed to minimize the  $I^2t$ , peak let-through current and arc voltage.

### Typical applications:

- Protection of AC and DC drives
- DC common bus
- Power converters/rectifiers
- Reduced voltage starters
- UPS
- Capacitor protection
- Switchboard panels
- Control consoles



### Our extensive line of high speed fuses offer these styles:



North American  
(round body)

IGBT fuses

Ferrule fuses



British Standard BS 88

Square body fuses

### Bussmann series high speed fuses also include

#### Compact high speed fuses that require less space



Our new Bussmann series compact high speed fuses protect compact drives, power conversion and UPS equipment. These 50-400 amp fuses require up to 48% less enclosure space when compared with traditional high speed, round body fuses without compromising heat rise performance.

#### UL® Listed Class J high speed fuses for full range protection

Bussmann series full range DFJ high speed, current-limiting fuses provide overload and short-circuit protection for variable speed drives and electric controllers, and meet NEC® branch circuit protection requirements. The DFJ drive fuse has the lowest  $I^2t$  of any UL branch circuit fuse in the industry to protect power semiconductor devices that utilize diodes, GTOs, SCRs and SSRs.





**Custom order engineering to meet unique application needs**

No matter the space constraints, mounting requirements or rating concerns, our Custom Order Engineering team can quickly modify existing products to meet your application needs. This includes adding microswitch capability for remote indication to ease maintenance and reduce downtime.

**QuikShip Made-to-Order Service for faster shipment**

21-day or less lead-time is available with QuikShip Made-to-Order service on over 400 of the most popular Bussmann series square body high speed fuses up to 1000 V and 2000 A.



**Application engineering support**

Technical assistance on questions about your application is available at [fusetech@eaton.com](mailto:fusetech@eaton.com) or call toll-free 855-BUSSMANN (855-287-7626) during regular business hours.



**Field application engineering**

Available throughout North America, field application engineers are available to assist with your design and application efforts.



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## New high speed fuse application guide

This 36-page application guide helps users understand the dynamics involved in the high speed fuse specification and selection process.

It covers high speed fuse characteristics, performance data, application in AC and DC systems along with worked examples that explore the influence of overloads and cyclic loadings, and safety margins.

Other topics include international standards, Bussmann series high speed fuse reference systems along with installation, service, maintenance tips.

Available online or as a printed document, look for publication no. 10507.



# High speed fuses — general applications

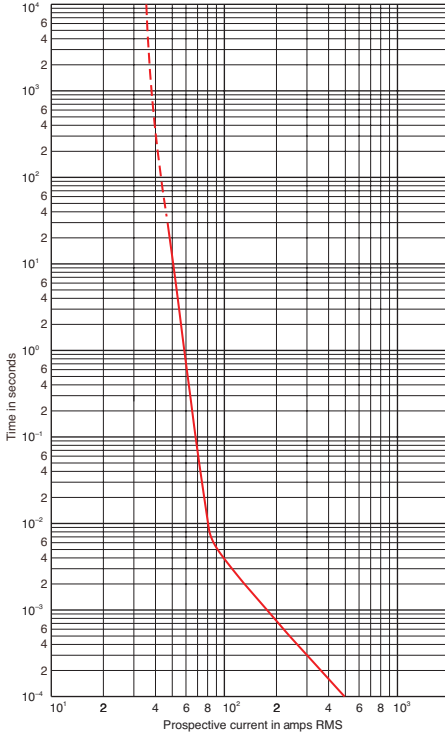
## Rated voltage

The AC voltage rating of Eaton's Bussmann series fuses is given in volts RMS. Fuses tested to IEC are tested at 5% above their rated voltage. British Style BS 88 fuses are tested at 10% above its rated voltage. UL recognition tests are performed at the rated voltage.

## Rated current

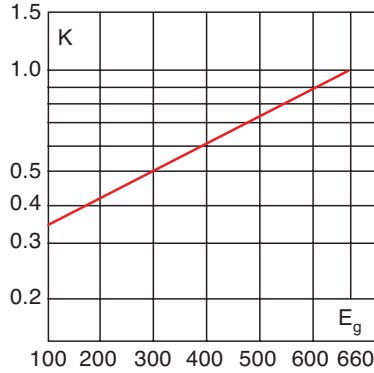
Rated current is given in amps RMS. Bussmann series fuses can continuously carry the rated current.

## Melting characteristic



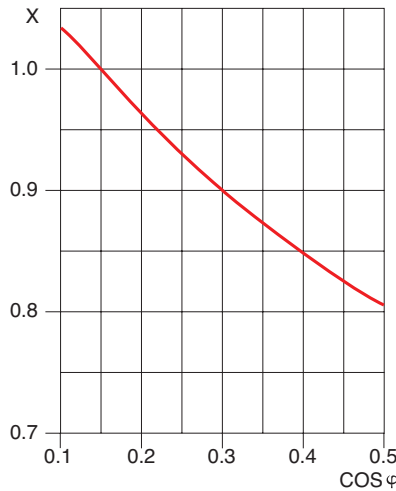
The melting characteristic shows the virtual melting time in seconds as a function of the prospective current in amps RMS. The fuses are specially constructed for short-circuit protection against high level fault currents. Loading and operation of the fuse in the noncontinuous/dashed section of the melt curve must be avoided. The curve can also be read as the real melting time as a function of the RMS value of the pre-arc current.

## Clearing integrals



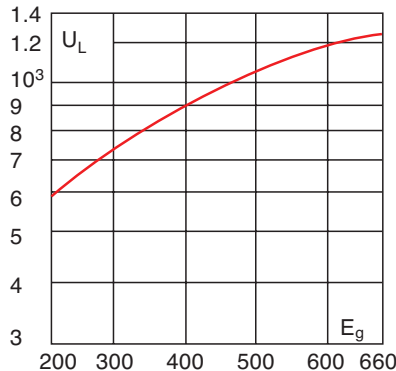
The total clearing  $I^2t$  at rated voltage and at power factor of 15% are given in the electrical characteristics. For other voltages, the clearing  $I^2t$  is found by multiplying by correction factor, K, given as a function of applied working voltage,  $E_g$ , (RMS).

## Power factor



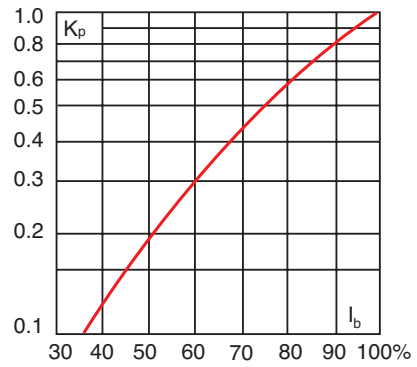
For other power factor values, the total clearing integral can be calculated as a multiple of the clearing integrals, the correction factor K and the correction factor X.

## Arc voltage



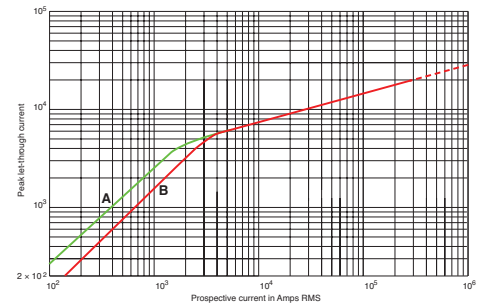
This curve gives the peak arc voltage,  $U_L$ , which may appear across the fuse during its operation as a function of the applied working voltage,  $E_g$ , (RMS) at a power factor of 15%.

## Power losses



Watts loss at rated current is given in the electrical characteristics. The curve allows the calculation of the power 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 % of the rated current.

## Cut-off current



A fuse operation relating to short-circuits only. When a fuse operates in its current-limiting range, it will clear a short-circuit in less than 1/2 cycle. Also, it will limit the instantaneous peak let-through current to a value substantially less than that obtainable in the same circuit if that fuse were replaced with a solid conductor of equal impedance.

- A (asymmetrical current)
- B (symmetrical current)

## Parallel connection

When fuses are connected in parallel, it is recommended that the applied voltage does not exceed  $0.9 U_N$  (the rated voltage of the fuse). This is due to the fact that the energy released within the fuses may be unevenly shared between the parallel connected barrels.

When fuses are connected in parallel, one must take into account that the current sharing is not necessarily equal. And it must be checked, that the maximum load current is not exceeded.

# High speed fuses — general applications

## Series connection

Fuses in series may not equally divide the applied voltage. It is recommended that series connected fuses should only be operated at fault currents that yield melting times less than 10 ms and a recovery voltage per fuse of less than or equal to  $0.9 U_N$  (the rated voltage of the fuse).

## Mounting guidance

The recommendations below have to be followed when mounting a Bussmann series fuse with end plate threaded holes.

1. Screw in studs: 5 N•m Max, 3 N•m Min
2. Attachment to a bussbar with a nut and washer:

| Thread                | Torque (N•m)* max/min |
|-----------------------|-----------------------|
| 5/16–18, M8           | 25/20                 |
| 3/8–16, M10           | 45/40                 |
| 3/8–24                | 45/40                 |
| 1/2–13, M12           | 65/50                 |
| 1/2–20                | 65/50                 |
| *1 N•m = 0.7375 lb-ft |                       |

## Overloads

The design of Bussmann series fuses is such that they can be operated under rather severe operating conditions imposed by overloads (any load current in excess of the maximum permissible load current).

In applications, there will be a maximum overload current,  $I_{max}$ , which can be imposed on the fuse with a corresponding duration and frequency of occurrence.

Time durations fall into two categories:

1. Overloads longer than one second
2. Overloads less than one second termed “impulse” loads

The following table gives general application guidelines which, in the expression  $I_{max} < (\% \text{ factor}) \times I_t$ ,  $I_t$  is the melting current corresponding to the time “t” of the overload duration as read from the time-current curve of the fuse. The guidelines in the table below determine the acceptability of the selected fuses for a given  $I_{max}$ .

| Frequency of occurrence  | Overloads (> 1 sec)         | Impulse loads (< 1 sec)     |
|--------------------------|-----------------------------|-----------------------------|
| Less than once per month | $I_{max} < 80\% \times I_t$ | $I_{max} < 70\% \times I_t$ |
| Less than twice per week | $I_{max} < 70\% \times I_t$ | $I_{max} < 60\% \times I_t$ |
| Several times per day    | $I_{max} < 60\% \times I_t$ | —                           |

When impulse loads are an intrinsic/normal parameter of the load current either as single pulse or in trains of pulses or when their level is higher than the melting current at 0.01 seconds (per time-current curve), contact our application engineers for assistance.

In addition to the parameters set forth in the preceding table, the RMS value of the load current as calculated for any period of 10 minutes or more should not exceed the maximum permissible load current.

Furthermore, it is important that a fuse should not be applied in the non-continuous/dashed portion of the associated time-current curve.

Any time-current combination point which falls in the non-continuous/dashed portion of the time-current curve is beyond the capability of the fuse to operate properly.

## DC operation

Depending upon the short-circuit time constant and the magnitude of the prospective short-circuit current, the DC voltage at which a fuse can be applied may be less than its AC rating. Long time constants require a lower DC voltage. Conversely, however, higher available prospective short-circuit currents result in faster fuse openings and thus permit a fuse to be operated at a higher DC voltage.

Consult Eaton for additional information and application assistance when fuses have to operate under DC conditions.

## Load current versus conductor cross section

Reduction of permissible load current when the conductor cross section is less than that given in IEC Publication 269-1 and 4 valid for Bussmann series high speed fuses.

## Application assistance

If you have application problems, please consult our application engineers. Email [fusetech@eaton.com](mailto:fusetech@eaton.com) or call toll-free 855-BUSSMANN (855-287-7626) Monday through Friday, 7:00 a.m. to 5:00 p.m. Central Time.

## Custom Order Engineering

If your application needs a fuse outside our standard product offering, please contact your Bussmann series product representative to see if we can supply you with a custom order engineered product.

# Compact high speed fuses

## CHSF — UL high speed fuse

500 Vac/dc (UL), 50 to 400 A

### Description

Eaton's Bussmann® series compact high speed fuses feature space-saving case sizes for protecting semiconductor devices up to 500 Vac/dc in ratings from 50 to 400 amps.

### Specifications

#### Ratings

- Volts:
  - 500 Vac/dc (UL)
- Amps: 50-400 A
- Interrupting rating
  - Max AC – 200 kA
  - Min AC 400%
  - Max DC – 50 kA
  - Min DC 800%

#### Operating class: aR

#### Agency information

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

#### Features:

- Use up to 48% less enclosure space to help reduce the overall assembly size
- Innovative design allows for a significantly smaller package without compromising heat rise performance, preventing extensive equipment redesign
- Global acceptance with UL, CSA, IEC and RoHS for products sold worldwide
- Bolt-on design provides design flexibility for installation in fuse blocks or direct mounting on busbars
- Meets JASO D622 spec for thermal shock, humidity, and vibration
- Superior current cycling performance helps withstand demanding applications



### Recommended fuse blocks

Up to 100 amps

| Catalog no. | Wire size      | Stud size    |
|-------------|----------------|--------------|
| BH-0111     | #14-2/0 Cu     | 1/4-20       |
| BH-0112     | #14-2/0 Cu     | 5/16-18      |
| BH-0121     | (2) #14-1/0 Cu | 1/4-20       |
| BH-0122     | (2) #14-1/0 Cu | 5/16-18      |
| 1BS101      | #14-2/0 Cu     | 1/4-20 x 1/2 |

See data sheet No. 1200 (BH-01\_) and No. 1206 (1BS101) for details.

Up to 400 amps

| Catalog no. | Wire size       | Stud size    |
|-------------|-----------------|--------------|
| BH-1131     | #6-250 kcmil Cu | 1/4-20       |
| BH-1132     | #6-250 kcmil Cu | 5/16-18      |
| 1BS102      | #6-250 kcmil Cu | 1/4-20 x 1/2 |

See data sheet No. 1201 (BH-11\_) and No. 1207 (1BS102) for details.



# Compact high speed fuses

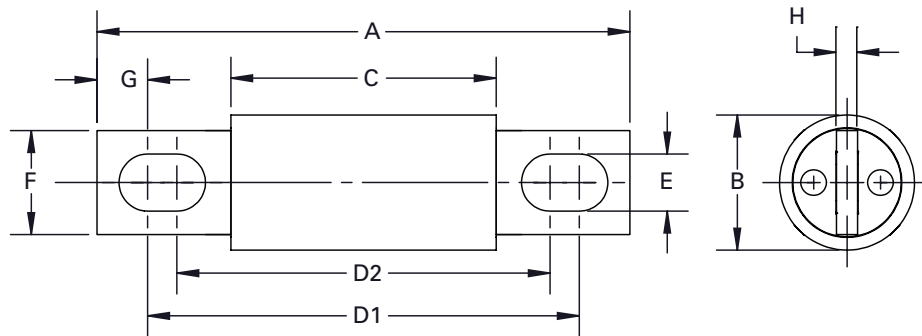
## Catalog numbers:

| Catalog number | Amps | AC/DC I <sup>2</sup> t (A <sup>2</sup> s)<br>pre-arcing | AC* I <sup>2</sup> t (A <sup>2</sup> s)<br>total clear | DC** I <sup>2</sup> t (A <sup>2</sup> s)<br>total clear | Watts loss / percent of rated current |       |
|----------------|------|---|--|---|---------------------------------------|-------|
|                |      |   |  |   | @ 80%                                 | @ 50% |
| CHSF-50        | 50   | 304   | 1875   | 935   | 3.8                                   | 1.3   |
| CHSF-60        | 60   | 438   | 2700   | 1346  | 4.5                                   | 1.5   |
| CHSF-70        | 70   | 596   | 3675   | 1833  | 5.3                                   | 1.8   |
| CHSF-80        | 80   | 778   | 4800   | 2394  | 6.1                                   | 2.0   |
| CHSF-100       | 100  | 1216  | 7500   | 3740  | 7.6                                   | 2.5   |
| CHSF-125       | 125  | 2042  | 12,721   | 6465  | 12.0                                  | 3.6   |
| CHSF-150       | 150  | 2941  | 18,318   | 9309  | 14.3                                  | 4.3   |
| CHSF-175       | 175  | 4003  | 24,933   | 12,671  | 16.7                                  | 5.1   |
| CHSF-200       | 200  | 5228  | 32,566   | 16,550  | 19.1                                  | 5.8   |
| CHSF-225       | 225  | 6835  | 48,028   | 21,278  | 26.1                                  | 7.0   |
| CHSF-250       | 250  | 8438  | 59,293   | 26,270  | 29.0                                  | 7.8   |
| CHSF-300       | 300  | 12,151  | 85,382   | 37,828  | 34.8                                  | 9.4   |
| CHSF-350       | 350  | 16,539  | 116,215  | 51,488  | 40.6                                  | 10.9  |
| CHSF-400       | 400  | 21,603  | 151,791  | 67,250  | 46.4                                  | 12.5  |

\* @ 200 kA/500 Vac.

\*\* @ 50 kA/500 Vdc.

## Dimensions — mm:



| Case size amp range | A  | B  | C  | D1 | D2 | E   | F  | G   | H   |
|---------------------|----|----|----|----|----|-----|----|-----|-----|
| 50-100              | 81 | 20 | 40 | 61 | 57 | 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 | 9.0 | 4.8 |

# UL Class J full range high speed drive fuses

## DFJ — UL Class J full range high speed fuse

600 Vac/450 Vdc (UL), 1 to 600 A

### Description

UL Class J high speed, full range current-limiting fuses provide maximum protection for AC and DC drives and controllers. The UL Class J Bussmann series DFJ fuse has the lowest  $I^2t$  of any branch circuit fuse to protect power semiconductor devices that utilize diodes, GTOs, SCRs and SSRs. The DFJ fuse combines the performance of high speed fuses in a full range Class J branch circuit package, allowing the use of readily available Class J fuse blocks, holders and switches.

### Specifications

#### Ratings

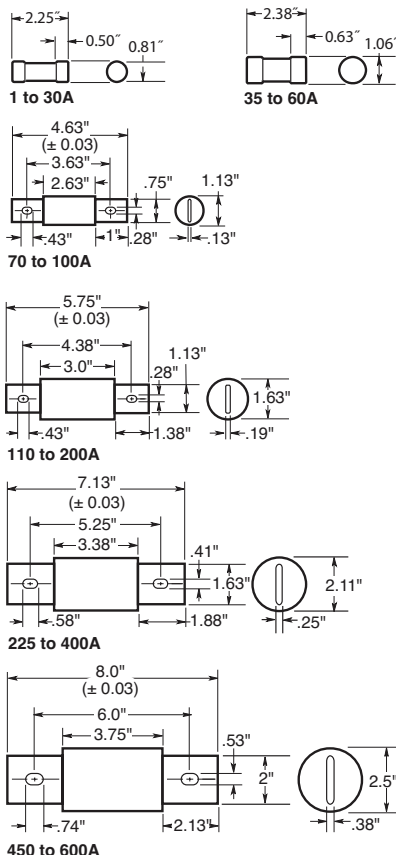
- Volts:
  - 600 Vac (UL)
  - 450 Vdc (UL) (15-600 A)
- Amps: 1-600 A
- Interrupting rating:
  - 200 kA RMS Sym.
  - 100 kA DC

**Operating class: aR**

#### 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

#### Dimensions — in



| Catalog no. | $I^2t$ (A <sup>2</sup> Sec) @ 600 Vac/100 kA |         |          | Watts loss* |
|-------------|--|---------|----------|-------------|
|             | Amps   | Pre-arc | Clearing |             |
| DFJ-1       | 1  | —       | —        | —           |
| DFJ-2       | 2  | —       | —        | —           |
| DFJ-3       | 3  | —       | —        | —           |
| DFJ-4       | 4  | —       | —        | —           |
| DFJ-5       | 5  | —       | —        | —           |
| DFJ-6       | 6  | —       | —        | —           |
| DFJ-8       | 8  | —       | —        | —           |
| DFJ-10      | 10   | —       | —        | —           |
| DFJ-12      | 12   | —       | —        | —           |
| DFJ-15      | 15   | 4       | 110      | 4.1         |
| DFJ-17.5    | 17.5   | —       | —        | —           |
| DFJ-20      | 20   | 8       | 365      | 4.0         |
| DFJ-25      | 25   | 12      | 610      | 4.9         |
| DFJ-30      | 30   | 20      | 1000     | 5.5         |
| DFJ-35      | 35   | 55      | 1100     | 6.8         |
| DFJ-40      | 40   | 90      | 1900     | 8.6         |
| DFJ-50      | 50   | 140     | 2800     | 8.7         |
| DFJ-60      | 60   | 290     | 6000     | 8.5         |
| DFJ-70      | 70   | 450     | 3100     | 12          |
| DFJ-80      | 80   | 650     | 4600     | 13          |
| DFJ-90      | 90   | 1010    | 7200     | 13          |
| DFJ-100     | 100  | 1460    | 10,500   | 13          |
| DFJ-110     | 110  | 1710    | 9500     | 17          |
| DFJ-125     | 125  | 3580    | 20,000   | 15          |
| DFJ-150     | 150  | 5080    | 28,000   | 19          |
| DFJ-175     | 175  | 6310    | 35,000   | 23          |
| DFJ-200     | 200  | 9850    | 54,500   | 24          |
| DFJ-225     | 225  | 11,420  | 51,000   | 29          |
| DFJ-250     | 250  | 17,000  | 74,500   | 30          |
| DFJ-300     | 300  | 23,500  | 103,000  | 36          |
| DFJ-350     | 350  | 38,800  | 170,000  | 39          |
| DFJ-400     | 400  | 62,200  | 272,000  | 40          |
| DFJ-450     | 450  | 44,600  | 270,000  | 56          |
| DFJ-500     | 500  | 79,500  | 480,000  | 52          |
| DFJ-600     | 600  | 138,000 | 830,000  | 57          |

\* Watts loss at rated current.

# UL Class J full range high speed drive fuses

## Recommended fuse blocks

### 30 and 60 amp block catalog numbers

| Fuse amp range | Poles | Terminal type      |                   |                        |                | Optional covers* |                |
|----------------|-------|--------------------|-------------------|------------------------|----------------|------------------|----------------|
|                |       | Box lug/slot screw | Box lug/hex screw | #10-32 Phil-slot screw | Pressure plate | Indicating**     | Non-indicating |
| up to 30       | 1     | JM60030-1CR        | JM60030-1CHR      | JM60030-1SR            | JM60030-1PR    | CVRI-J-60030     | CVR-J-60030    |
|                | 2     | JM60030-2CR        | JM60030-2CHR      | JM60030-2SR            | JM60030-2PR    |                  |                |
|                | 3     | JM60030-3CR        | JM60030-3CHR      | JM60030-3SR            | JM60030-3PR    |                  |                |
| 35 to 60       | 1     | JM60060-1CR        | JM60060-1CHR      | —                      | —              | CVRI-J-60060     | CVR-J-60060    |
|                | 2     | JM60060-2CR        | JM60060-2CHR      | —                      | —              |                  |                |
|                | 3     | JM60060-3CR        | JM60060-3CHR      | —                      | —              |                  |                |

\* Covers sold separately, one cover per pole.

\*\* Open fuse indication requires 90 volts minimum and closed circuit to operate.

### 30 and 60 amp block terminals and conductors

| Terminal type          | AWG type/range       | AWG   | Torque N·m (lb-in) |
|------------------------|----------------------|-------|--------------------|
| Box lug                | 75°C Cu 2-14, Al 2-8 | 2-3   | 5.6 (50)           |
|                        |                      | 4-6   | 5.1 (45)           |
|                        |                      | 8     | 4.5 (40)           |
|                        |                      | 10-14 | 4.0 (35)           |
| #10-32 Phil-slot screw | 75/90°C Cu 10-18     | 10-18 | 2.3 (20)           |
| Pressure plate         |                      |       |                    |

Data sheet: 10488

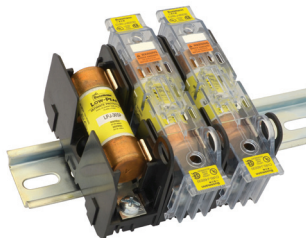
### 100 to 600 amp knifeblade blocks and covers

| Fuse amp range | Poles       | Covers*                 |              | Conductors***  |                            | Torque N·m (lb-in) |               |
|----------------|-------------|-------------------------|--------------|----------------|----------------------------|--------------------|---------------|
|                |             | Catalog no.             | Indicating** | Non-indicating | Solid and stranded         |                    | Fine stranded |
| 70-100         | 1           | JM60100-1CR             | CVR-J-60100  | CVRI-J-60100   | —                          | Cu 1-3 AWG         | 6.2 (55)      |
|                | 2           | JM60100-2CR             |              |                | 1/0-3 AWG; (2) Cu 4-6 AWG  | Cu 4-6 AWG         | 5.6 (50)      |
|                |             |                         |              |                | 2 4-6 AWG; (2) Cu 8 AWG    | Cu 8 AWG           | 5.1 (45)      |
| 3              | JM60100-3CR | 8 AWG; (2) Cu 10-14 AWG | —            | 4.5 (40)       |                            |                    |               |
| 110-200        | 1           | JM60200-1CR             | CVR-J-60200  | CVRI-J-60200   | Cu 10-14 AWG; Al 10-12 AWG | —                  | 4.0 (35)      |
|                | 2           | JM60200-2CR             |              |                | 250 kcmil-1 AWG            | Cu 3/0-1 AWG       | 42 (375)      |
|                | 3           | JM60200-3CR             |              |                | 2-6 AWG; (2) Cu 2-6 AWG    | Cu 2-6 AWG         | 31 (275)      |
| 225-400        | 1           | JM60400-1CR             | CVR-J-60400  | CVRI-J-60400   | 600 kcmil                  | N/A                | 57 (500)      |
|                | 2           | JM60400-2CR             |              |                | 500 kcmil-4 AWG            |                    | 51 (450)      |
|                | 3           | JM60400-3CR             |              |                | (2) Cu 3/0 - 4 AWG         |                    | 34 (300)      |
|                | 1           | JM60400-1MW22           |              |                |                            |                    |               |
|                | 2           | JM60400-2MW22           |              |                |                            |                    |               |
|                | 3           | JM60400-3MW22           |              |                | (2) Al 3/0 - 4 AWG         |                    |               |
| 450-600        | 1           | JM60600-1CR             | CVR-J-60600  | CVRI-RH-60600  | 2 (2) 500 kcmil-4 AWG      | N/A                | 51 (450)      |
|                | 2           | JM60600-2CR             |              |                |                            |                    |               |
|                | 3           | JM60600-3CR             |              |                |                            |                    |               |

\* Covers sold separately.

\*\* Open fuse indication requires 90 volts minimum and closed circuit to operate.

\*\*\* Ratings for copper and aluminum conductors except where otherwise noted.



DIN-Rail or panel mount 30 and 60 A modular blocks dovetail together and are available with optional IP20 finger-safe covers.



Panel mount 100 to 600 amp modular knifeblade blocks dovetail together and are available with optional IP20 finger-safe covers.

Data sheet: 1048

# North American fuses



## General information

Eaton offers a complete range of Bussmann series North American blade and flush-end style fuses and accessories. Their design and construction are optimized to provide:

- Low energy let-through ( $I^2t$ )
- Low watts loss
- Superior cycling capability
- Low arc voltage
- Excellent DC performance

North American style fuses provide an excellent solution for medium power applications. While there are currently no published standards for these fuses, the industry has standardized on mounting centers that accept Bussmann series fuses.

### Features and benefits

- Excellent DC performance
- Low arc voltage and low energy let-through ( $I^2t$ )
- Low watts loss
- Superior cycling capability

### Typical applications

- DC common bus
- DC drives
- Power converters/rectifiers
- Reduced voltage starters

### Voltage rating

All Bussmann series North American style fuses are tested at their rated voltage. Eaton should be consulted for applications exceeding those values.

### Accessories

External and internal open fuse indication is available for selected portions of the North American line. Fuse blocks are available for most applications.

## North American contents

### Fuses

| Catalog symbol | Volts | Amp range | Page  |
|----------------|-------|-----------|-------|
| FWA            | 130   | 1000-4000 | 13    |
| FWA            | 150   | 70-1000   | 14    |
| FWX            | 250   | 35-2500   | 15    |
| FWH            | 500   | 35-1600   | 16    |
| KAC            | 600   | 1-1000    | 17    |
| KBC            | 600   | 35-800    | 18    |
| FWP            | 700   | 5-1200    | 19-20 |
| FWJ            | 1000  | 35-2000   | 21    |

### Accessories

| Modular style fuse blocks | Amp range | Page |
|---------------------------|-----------|------|
| Stud type                 | 100-200   | 22   |
| Connector type            | 100-700   | 22   |

## FWA

### 130 Vac/dc (UL), 1000 to 4000 A

#### Description

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

#### Specifications

##### Ratings

- Volts: 130 Vac/dc (UL)
- Amps: 1000-4000 A
- Interrupting rating:
  - 200 kA RMS Sym at 130 Vac
  - 50 kA at 130 Vdc

#### Agency information

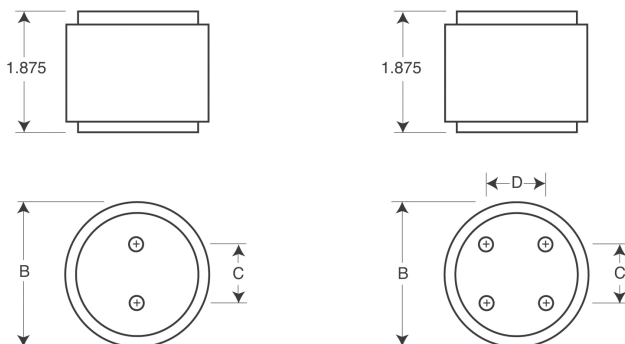
- UL Recognized JFHR2, E91958 on 1000-2000 A fuses
- CE



| Rated voltage   | Rated current (amps) | $I^2t$ (A <sup>2</sup> s) |                     | Watts loss (W)* | Catalog no. |
|-----------------|----------------------|---------------------------|---------------------|-----------------|-------------|
|                 |                      | Pre-arcing                | Clearing at 130 Vac |                 |             |
| 130 Vac/dc (UL) | 1000                 | 170,000                   | 460,000             | 60              | FWA-1000AH  |
|                 | 1200                 | 270,000                   | 730,000             | 70              | FWA-1200AH  |
|                 | 1500                 | 520,000                   | 1,400,000           | 78              | FWA-1500AH  |
|                 | 2000                 | 860,000                   | 2,400,000           | 108             | FWA-2000AH  |
|                 | 2500                 | 1,500,000                 | 4,100,000           | 130             | FWA-2500AH  |
|                 | 3000                 | 2,100,000                 | 5,700,000           | 150             | FWA-3000AH  |
|                 | 4000                 | 3,400,000                 | 9,200,000           | 257             | FWA-4000AH  |

\* Watts loss at rated current.

#### Dimensions — in



1000-3000 A

4000 A

| Amps         | B   | C   | D   | Thread depth      |
|--------------|-----|-----|-----|-------------------|
| 1000 to 2000 | 2.0 | 1.0 | —   | 3/8-24 x 1/2" UNF |
| 2500 to 3000 | 3.0 | 1.5 | —   | 1/2-20 x 1/2" UNF |
| 4000         | 3.5 | 1.5 | 1.5 | 1/2-20 x 1/2" UNF |

1" = 25.4 mm

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 720001, 5785301

# North American fuses

## FWA

150 Vac/dc (UL), 70 to 1000 A

### Description

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

### Specifications

#### Ratings

- Volts:
  - 150 Vac/dc (UL)
  - 80 Vdc 1000 A only
- Amps: 70-1000 A
- Interrupting rating:
  - 100 kA RMS Sym. (70-400 A)
  - 200 kA RMS Sym. (450-1000 A)
  - 20 kA at 150 Vac/ Vdc (70-800 A)
  - 100 kA at 80 Vdc (70-1000 A)



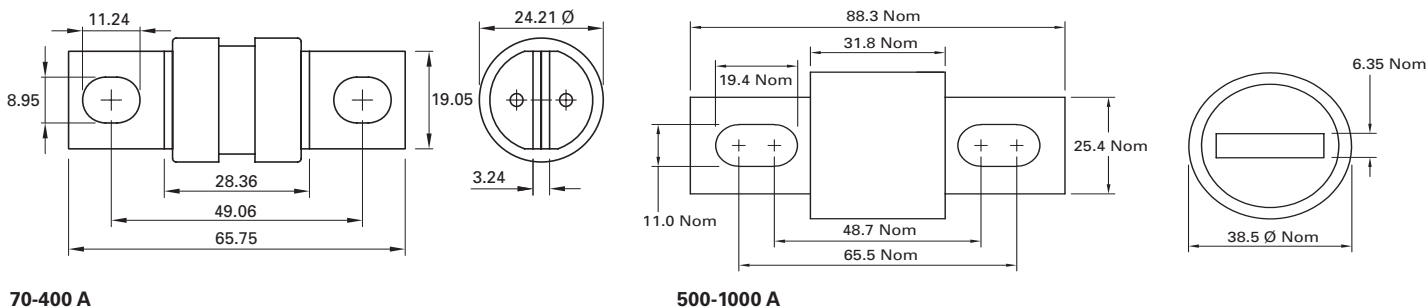
### Agency information

- UL Recognized JFHR2, E91958
- CE

| Rated voltage   | Rated current (amps) | $I^2t$ (A <sup>2</sup> s) |                     | Watts loss (W)* | Catalog no. |
|-----------------|----------------------|---------------------------|---------------------|-----------------|-------------|
|                 |                      | Pre-arcing                | Clearing at 150 Vac |                 |             |
| 150 Vac/dc (UL) | 70                   | 470                       | 4000                | 6.9             | FWA-70B     |
|                 | 80                   | 670                       | 6000                | 7.7             | FWA-80B     |
|                 | 100                  | 1200                      | 12,000              | 9.0             | FWA-100B    |
|                 | 125                  | 1870                      | 18,000              | 11.2            | FWA-125B    |
|                 | 150                  | 2700                      | 26,000              | 13.5            | FWA-150B    |
|                 | 200                  | 4780                      | 45,000              | 17.6            | FWA-200B    |
|                 | 250                  | 7470                      | 70,000              | 22.5            | FWA-250B    |
|                 | 300                  | 10,760                    | 100,000             | 27.0            | FWA-300B    |
|                 | 350                  | 15,700                    | 140,000             | 30.6            | FWA-350B    |
|                 | 400                  | 20,300                    | 180,000             | 35.2            | FWA-400B    |
|                 | 500                  | 39,000                    | 120,000             | 35.0            | FWA-500A    |
|                 | 600                  | 46,000                    | 140,000             | 47.0            | FWA-600A    |
| 80 Vdc          | 700                  | 75,000                    | 220,000             | 49.0            | FWA-700A    |
|                 | 800                  | 92,000                    | 280,000             | 58.0            | FWA-800A    |
|                 | 1000                 | 170,000                   | 510,000             | 60.0            | FWA-1000A   |

\* Watts loss at rated current.

### Dimensions — mm



For details on electrical characteristics, contact Application Engineering and ask for data sheets: 720002, 5785310

## FWX

### 250 Vac/dc (UL), 35 to 2500 A

#### Description

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



#### Specifications

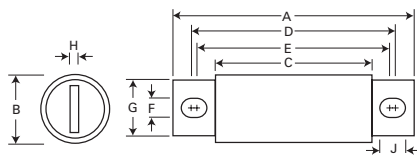
##### Ratings

- Volts: 250 Vac/dc (UL)
- Amps: 35-2500 A
- Interrupting rating:
  - 200 kA RMS Sym.
  - 20 kA at 250 Vdc (35-800 A)

#### Agency information

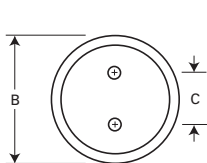
- UL Recognized JFHR2, E56412
- CSA Class 1422-30, (53787) on 35-800 A fuses (20 kA IR at 250 Vdc)
- CE

#### Dimensions – in

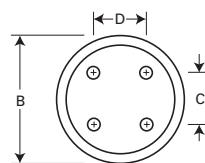


250 Vac/dc (UL)

#### 35-800 A



#### 1000-1200 A



#### 1500-2500 A

\* Watts loss at rated current.

| Rated voltage | I <sup>2</sup> t (A <sup>2</sup> s) |            |                     | Watts loss (W)* | Catalog no. |
|---------------|-------------------------------------|------------|---------------------|-----------------|-------------|
|               | Rated current (amps)                | Pre-arcing | Clearing at 250 Vac |                 |             |
|               | 35                                  | 50         | 230                 | 4.2             | FWX-35A     |
|               | 40                                  | 60         | 310                 | 5.2             | FWX-40A     |
|               | 45                                  | 80         | 390                 | 5.7             | FWX-45A     |
|               | 50                                  | 100        | 520                 | 6.0             | FWX-50A     |
|               | 60                                  | 140        | 740                 | 8.1             | FWX-60A     |
|               | 70                                  | 330        | 1400                | 7.2             | FWX-70A     |
|               | 80                                  | 430        | 1850                | 8.1             | FWX-80A     |
|               | 90                                  | 570        | 2450                | 9.0             | FWX-90A     |
|               | 100                                 | 740        | 3150                | 10.0            | FWX-100A    |
|               | 125                                 | 1130       | 4850                | 12.5            | FWX-125A    |
|               | 150                                 | 1620       | 6950                | 15.7            | FWX-150A    |
|               | 175                                 | 2170       | 9300                | 18.5            | FWX-175A    |
|               | 200                                 | 2790       | 12,000              | 22.0            | FWX-200A    |
|               | 225                                 | 3210       | 14,700              | 24.0            | FWX-225A    |
|               | 250                                 | 3960       | 18,100              | 27.0            | FWX-250A    |
|               | 275                                 | 4720       | 21,600              | 31.0            | FWX-275A    |
|               | 300                                 | 6000       | 27,300              | 32.0            | FWX-300A    |
|               | 350                                 | 10,600     | 48,600              | 39.0            | FWX-350A    |
|               | 400                                 | 14,500     | 66,100              | 44.0            | FWX-400A    |
|               | 450                                 | 22,100     | 101,000             | 49.0            | FWX-450A    |
|               | 500                                 | 28,000     | 128,000             | 54.0            | FWX-500A    |
|               | 600                                 | 41,100     | 188,000             | 62.0            | FWX-600A    |
|               | 700                                 | 48,800     | 190,000             | 72.0            | FWX-700A    |
|               | 800                                 | 59,000     | 230,000             | 84.0            | FWX-800A    |
|               | 1000                                | 44,000     | 360,000             | 100.0           | FWX-1000AH  |
|               | 1200                                | 92,000     | 750,000             | 103.0           | FWX-1200AH  |
|               | 1500                                | 120,000    | 880,000             | 140.0           | FWX-1500AH  |
|               | 1600                                | 160,000    | 1,200,000           | 140.0           | FWX-1600AH  |
|               | 2000                                | 320,000    | 2,300,000           | 151.0           | FWX-2000AH  |
|               | 2500                                | 670,000    | 4,700,000           | 163.0           | FWX-2500AH  |

| Amp range | A    | B    | C    | D    | E    | F    | G    | H    | J    | Thread depth      |
|-----------|------|------|------|------|------|------|------|------|------|-------------------|
| 35-60     | 3.19 | 0.81 | 1.59 | 2.59 | 2.25 | 0.34 | 0.63 | 0.13 | 0.52 | —                 |
| 70-200    | 3.13 | 1.22 | 1.59 | 2.44 | 2.19 | 0.34 | 1.00 | 0.19 | 0.47 | —                 |
| 225-600   | 3.84 | 1.50 | 1.59 | 2.94 | 2.25 | 0.41 | 1.00 | 0.25 | 0.75 | —                 |
| 700-800   | 3.84 | 2.00 | 1.59 | 3.03 | 2.28 | 0.41 | 1.50 | 0.25 | 0.78 | —                 |
| 1000-1200 | 2.59 | 3.00 | 1.50 | —    | —    | —    | —    | —    | —    | 3/8-24 x 1/2" UNF |
| 1500-2500 | 2.59 | 3.50 | 1.50 | 1.50 | —    | —    | —    | —    | —    |                   |

1" = 25.4 mm

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 720005, 359 (35-800 A), 5785299 (100-2500 A)

# North American fuses

## FWH

500 Vac/dc (UL), 35 to 1600 A

### Description

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

### Specifications

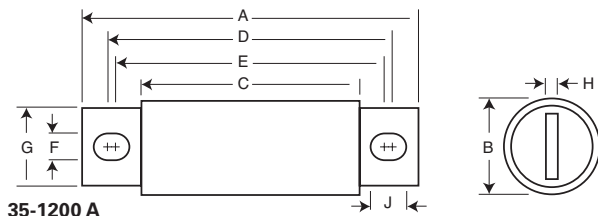
#### Ratings

- Volts:
  - 500 Vac (UL)
  - 500 Vdc (35-800 A only)
- Amps: 35-1600 A
- Interrupting rating:
  - 200 kA RMS Sym.
  - 50 kA at 500 Vdc

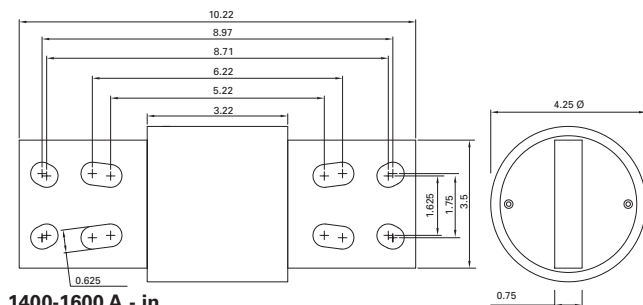
### Agency information

- UL Recognized JFHR2, E91958, FWH\_B (35-200 A) and FWH\_A (1000 and 1200 A), JFHR2, E56412 FWH\_A (225-800 A)
- CSA Class 1422-30, File 53787 (35-1600 A)
- CE

### Dimensions — in



35-1200 A



1400-1600 A - in

| Amp range | A                | B    | C    | D    | 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 | 1.00 | 0.19 | 0.41 |
| 225-400   | 4.34             | 1.50 | 2.09 | 3.44 | 2.75 | 0.41 | 1.00 | 0.25 | 0.75 |
| 450-600   | 4.34             | 2.00 | 2.09 | 3.53 | 2.78 | 0.41 | 1.50 | 0.25 | 0.78 |
| 700-800   | 6.34             | 2.50 | 2.09 | 4.97 | 3.44 | 0.53 | 2.00 | 0.38 | 1.30 |
| 1000-1200 | 6.97             | 3.00 | 3.22 | 5.47 | 4.48 | 0.62 | 2.38 | 0.44 | 1.12 |
| 1400-1600 | Refer to drawing |      |      |      |      |      |      |      |      |

1" = 25.4 mm



| Rated voltage       | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                     | Watts loss (W)* | Catalog no. |          |
|---------------------|----------------------|-------------------------------------|---------------------|-----------------|-------------|----------|
|                     |                      | Pre-arcing                          | Clearing at 250 Vac |                 |             |          |
| 500 Vac/<br>dc (UL) | 35                   | 34                                  | 150                 | 8.0             | FWH-35B     |          |
|                     | 40                   | 76                                  | 320                 | 7.5             | FWH-40B     |          |
|                     | 45                   | 105                                 | 450                 | 7.5             | FWH-45B     |          |
|                     | 50                   | 135                                 | 670                 | 7.5             | FWH-50B     |          |
|                     | 60                   | 210                                 | 900                 | 9.9             | FWH-60B     |          |
|                     | 70                   | 210                                 | 900                 | 10.6            | FWH-70B     |          |
|                     | 80                   | 305                                 | 1400                | 12.7            | FWH-80B     |          |
|                     | 90                   | 360                                 | 1600                | 15.0            | FWH-90B     |          |
|                     | 100                  | 475                                 | 2000                | 17.0            | FWH-100B    |          |
|                     | 125                  | 800                                 | 3500                | 25.0            | FWH-125B    |          |
|                     | 150                  | 1100                                | 4600                | 30.0            | FWH-150B    |          |
|                     | 175                  | 1450                                | 6200                | 35.0            | FWH-175B    |          |
|                     | 200                  | 1900                                | 8500                | 40.0            | FWH-200B    |          |
|                     | 500 Vac/<br>dc (UL)  | 225                                 | 4600                | 23,300          | 39.0        | FWH-225A |
|                     |                      | 250                                 | 6300                | 32,200          | 41.0        | FWH-250A |
| 275                 |                      | 7900                                | 40,300              | 46.0            | FWH-275A    |          |
| 300                 |                      | 9800                                | 49,800              | 51.0            | FWH-300A    |          |
| 325                 |                      | 13,700                              | 63,800              | 53.0            | FWH-325A    |          |
| 350                 |                      | 14,500                              | 72,900              | 58.0            | FWH-350A    |          |
| 400                 |                      | 19,200                              | 96,700              | 65.0            | FWH-400A    |          |
| 450                 |                      | 24,700                              | 127,000             | 74.0            | FWH-450A    |          |
| 500                 |                      | 29,200                              | 149,000             | 84.0            | FWH-500A    |          |
| 600                 |                      | 41,300                              | 206,000             | 108.0           | FWH-600A    |          |
| 500 Vac<br>(UL)     | 700                  | 55,000                              | 298,000             | 120.0           | FWH-700A    |          |
|                     | 800                  | 76,200                              | 409,000             | 129.0           | FWH-800A    |          |
|                     | 1000                 | 92,000                              | 450,000             | 145.0           | FWH-1000A   |          |
|                     | 1200                 | 122,000                             | 600,000             | 180.0           | FWH-1200A   |          |
|                     | 1400                 | 200,000                             | 1,000,000           | 210.0           | FWH-1400A   |          |
|                     | 1600                 | 290,000                             | 1,400,000           | 230.0           | FWH-1600A   |          |

\* Watts loss at rated current.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 720007, 360 (225-800 A), 5785304 (35-200 A, 1000-1600 A)



## KAC

### 600 Vac (UL), 1 to 1000 A

#### Description

North American style bolted tags high speed fuses. These fuses are supplied as replacements only. For new installations, Eaton recommends the 700 V FWP see page 19.

#### Specifications

##### Ratings

- Volts: 600 Vac (UL)
- Amps: 1-1000 A
- Interrupting rating: 200 kA RMS Sym.

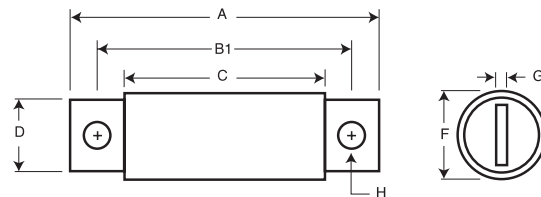
##### Agency information

- UL Recognized JFHR2, E56413 (1-600 A only)
- CE

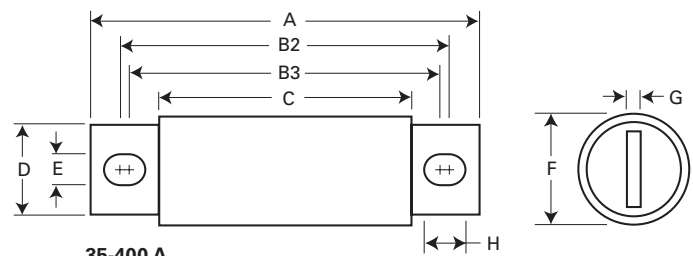


| Rated voltage | Rated current (amps) | Catalog no. |
|---------------|----------------------|-------------|
|               | 1                    | KAC-1       |
|               | 2                    | KAC-2       |
|               | 3                    | KAC-3       |
|               | 4                    | KAC-4       |
|               | 5                    | KAC-5       |
|               | 6                    | KAC-6       |
|               | 7                    | KAC-7       |
|               | 8                    | KAC-8       |
|               | 9                    | KAC-9       |
|               | 10                   | KAC-10      |
|               | 12                   | KAC-12      |
|               | 15                   | KAC-15      |
|               | 17.5                 | KAC-17.5    |
|               | 20                   | KAC-20      |
|               | 25                   | KAC-25      |
|               | 30                   | KAC-30      |
|               | 35                   | KAC-35      |
|               | 40                   | KAC-40      |
|               | 45                   | KAC-45      |
|               | 50                   | KAC-50      |
| 600 Vac (UL)  | 60                   | KAC-60      |
|               | 70                   | KAC-70      |
|               | 80                   | KAC-80      |
|               | 90                   | KAC-90      |
|               | 100                  | KAC-100     |
|               | 110                  | KAC-110     |
|               | 125                  | KAC-125     |
|               | 150                  | KAC-150     |
|               | 175                  | KAC-175     |
|               | 200                  | KAC-200     |
|               | 225                  | KAC-225     |
|               | 250                  | KAC-250     |
|               | 300                  | KAC-300     |
|               | 350                  | KAC-350     |
|               | 400                  | KAC-400     |
|               | 450                  | KAC-450     |
|               | 500                  | KAC-500     |
|               | 600                  | KAC-600     |
|               | 700                  | KAC-700     |
|               | 800                  | KAC-800     |
|               | 1000                 | KAC-1000    |

#### Dimensions — in



1-30 A and 450-1000 A



35-400 A

| Rated current (amps) | A    | B1   | B2   | B3   | C    | D    | E    | F    | G    | H    |
|----------------------|------|------|------|------|------|------|------|------|------|------|
| 1-30                 | 2.88 | 2.50 | —    | —    | 1.88 | 0.41 | —    | 0.56 | 0.06 | 0.26 |
| 35-60                | 4.38 | —    | 3.75 | 3.50 | 2.75 | 0.63 | 0.34 | 0.81 | 0.09 | 0.47 |
| 70-100               | 5.00 | —    | 4.06 | 3.66 | 2.75 | 0.75 | 0.41 | 1.00 | 0.13 | 0.61 |
| 110-200              | 5.14 | —    | 4.39 | 3.77 | 2.91 | 1.00 | 0.41 | 1.50 | 0.19 | 0.72 |
| 225-400              | 6.18 | —    | 4.82 | 4.57 | 3.00 | 1.63 | 0.56 | 2.00 | 0.25 | 0.69 |
| 450-800              | 6.25 | 4.75 | —    | —    | 3.06 | 2.00 | —    | 2.50 | 0.25 | 0.56 |
| 1000                 | 7.25 | 4.75 | —    | —    | 3.06 | 2.75 | —    | 3.50 | 0.38 | 0.56 |

1" = 25.4 mm

# North American fuses

## KBC

600 Vac (UL), 35 to 800 A

### Description

North American style bolted tags and flush-end high speed fuses. These fuses are supplied as replacements only. For new installations, Eaton recommends the 700 V FWP fuses, see page 19.

### Specifications

Ratings

- Volts: 600 Vac (UL)
- Amps: 35-800 A
- Interrupting rating: 200 kA RMS Sym.

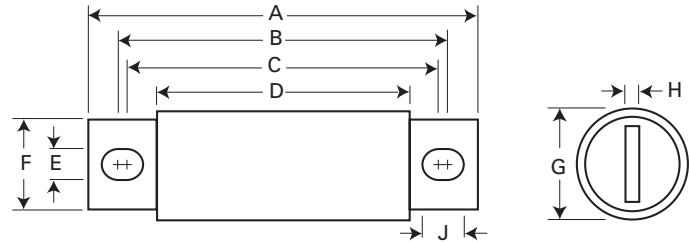
### Agency information

- UL Recognized JFHR2, E56412 (35-600 A only)
- CE

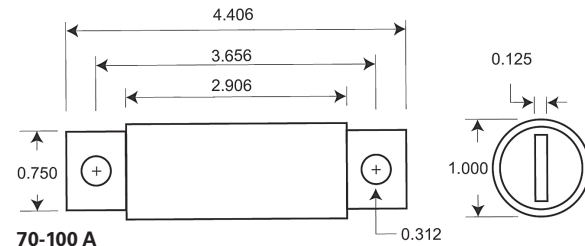
| Rated voltage | Rated current (amps) | Catalog no. |
|---------------|----------------------|-------------|
| 600 Vac (UL)  | 35                   | KBC-35      |
|               | 40                   | KBC-40      |
|               | 45                   | KBC-45      |
|               | 50                   | KBC-50      |
|               | 60                   | KBC-60      |
|               | 70                   | KBC-70      |
|               | 80                   | KBC-80      |
|               | 90                   | KBC-90      |
|               | 100                  | KBC-100     |
|               | 110                  | KBC-110     |
|               | 125                  | KBC-125     |
|               | 150                  | KBC-150     |
|               | 175                  | KBC-175     |
|               | 200                  | KBC-200     |
|               | 225                  | KBC-225     |
|               | 250                  | KBC-250     |
|               | 300                  | KBC-300     |
| 350           | KBC-350              |             |
| 400           | KBC-400              |             |
| 450           | KBC-450              |             |
| 500           | KBC-500              |             |
| 600           | KBC-600              |             |
| 800           | KBC-800              |             |



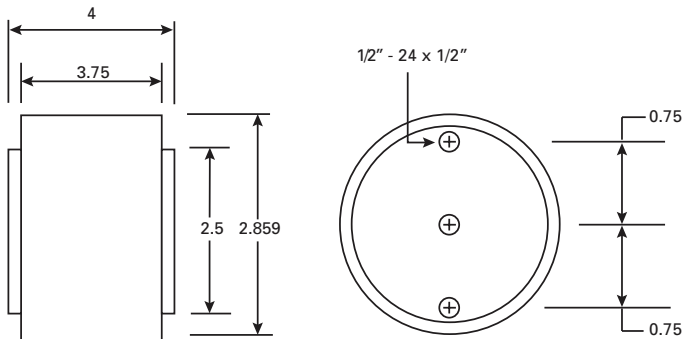
### Dimensions — in



35-60 and 110-600 A



70-100 A



800 A

| Rated current (amps) | A                | B    | C    | D    | E    | F    | G    | H    | J    |
|----------------------|------------------|------|------|------|------|------|------|------|------|
| 35-60                | 4.38             | 3.75 | 3.50 | 2.75 | 0.34 | 0.63 | 0.81 | 0.09 | 0.47 |
| 70-100               | Refer to drawing |      |      |      |      |      |      |      |      |
| 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 | 1.00 | 1.50 | 0.25 | 0.72 |
| 450-600              | 5.13             | 4.39 | 3.69 | 2.88 | 0.41 | 1.50 | 2.00 | 0.25 | 0.76 |
| 800                  | Refer to drawing |      |      |      |      |      |      |      |      |

1" = 25.4 mm

## FWP

### 700 Vac/dc (UL), 5 to 1200 A

#### Description

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

#### Specifications

##### Ratings

- Volts: 700 Vac/dc (UL)
- Amps: 5-1200 A
- Interrupting rating:
  - 200 kA RMS Sym.
  - 50 kA at 700 Vdc (Type A)
  - 50 kA at 500 Vdc (Type B)

#### Agency information

- UL Recognized JFHR2, E91958 FWP-\_B (5-100 A, 700-1200 A), JFHR2, E56412 FWP-\_A (125-600 A)
- CSA Class 1422-30, (53787) on 5-800 A
- CE



| Rated voltage   | Rated current (amps) | $I^2t$ (A <sup>2</sup> s) |                     |           | Watts loss (W)* | Catalog no. |
|-----------------|----------------------|---------------------------|---------------------|-----------|-----------------|-------------|
|                 |                      | Pre-arcing                | Clearing at 700 Vac |           |                 |             |
| 700 Vac/dc (UL) | 5                    | 1.6                       | 11                  | 1.5       | FWP-5B          |             |
|                 | 10                   | 3.6                       | 22                  | 4.0       | FWP-10B         |             |
|                 | 15                   | 10.0                      | 70                  | 5.5       | FWP-15B         |             |
|                 | 20                   | 26.0                      | 180                 | 6.0       | FWP-20B         |             |
|                 | 25                   | 44.0                      | 320                 | 7.0       | FWP-25B         |             |
|                 | 30                   | 58.0                      | 450                 | 9.0       | FWP-30B         |             |
|                 | 35                   | 34.0                      | 160                 | 12.0      | FWP-35B         |             |
|                 | 40                   | 76.0                      | 320                 | 12.0      | FWP-40B         |             |
|                 | 50                   | 135.0                     | 600                 | 12.0      | FWP-50B         |             |
|                 | 60                   | 210.0                     | 950                 | 15.5      | FWP-60B         |             |
|                 | 70                   | 305.0                     | 2000                | 18.0      | FWP-70B         |             |
|                 | 80                   | 360.0                     | 2400                | 21.0      | FWP-80B         |             |
|                 | 90                   | 415.0                     | 2700                | 25.0      | FWP-90B         |             |
|                 | 100                  | 540.0                     | 3500                | 27.0      | FWP-100B        |             |
|                 | 125                  | 1800.0                    | 7300                | 28.0      | FWP-125A        |             |
|                 | 150                  | 2900.0                    | 11,700              | 32.0      | FWP-150A        |             |
|                 | 175                  | 4200.0                    | 16,700              | 35.0      | FWP-175A        |             |
|                 | 200                  | 5500.0                    | 22,000              | 43.0      | FWP-200A        |             |
|                 | 225                  | 7700.0                    | 31,300              | 45.0      | FWP-225A        |             |
|                 | 250                  | 10,500.0                  | 42,500              | 48.0      | FWP-250A        |             |
| 300             | 17,600.0             | 71,200                    | 58.0                | FWP-300A  |                 |             |
| 350             | 23,700.0             | 95,600                    | 65.0                | FWP-350A  |                 |             |
| 400             | 31,000.0             | 125,000                   | 78.0                | FWP-400A  |                 |             |
| 450             | 36,400.0             | 137,000                   | 94.0                | FWP-450A  |                 |             |
| 500             | 45,200.0             | 170,000                   | 107.0               | FWP-500A  |                 |             |
| 600             | 66,700.0             | 250,000                   | 122.0               | FWP-600A  |                 |             |
| 700             | 54,000.0             | 300,000                   | 125.0               | FWP-700A  |                 |             |
| 800             | 78,000.0             | 450,000                   | 140.0               | FWP-800A  |                 |             |
| 900             | 91,500.0             | 530,000                   | 150.0               | FWP-900A  |                 |             |
| 1000            | 120,000.0            | 600,000                   | 170.0               | FWP-1000A |                 |             |
| 1200            | 195,000.0            | 1,100,000                 | 190.0               | FWP-1200A |                 |             |

\* Watts loss at rated current.

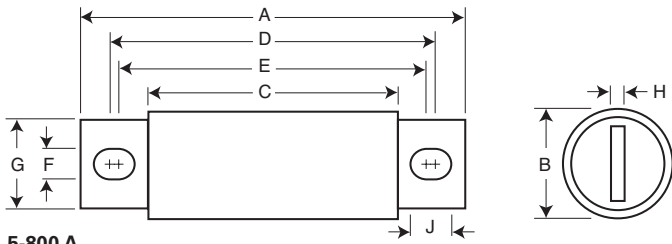
For details on electrical characteristics, contact Application Engineering and ask for data sheets: 720012, 5785316 (5-30 A), 361 (125-600 A), 5785308 (35-100 A, 700-1200 A)

# North American fuses

## FWP

700 Vac/dc (UL), 5 to 1200 A

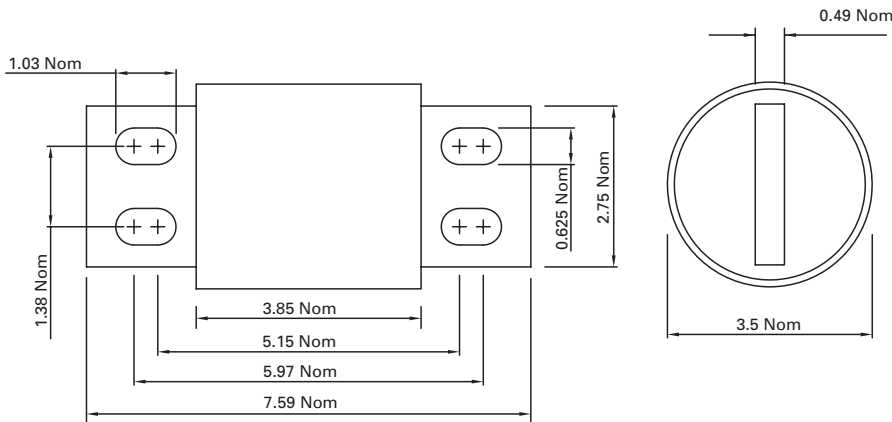
### Dimensions — in



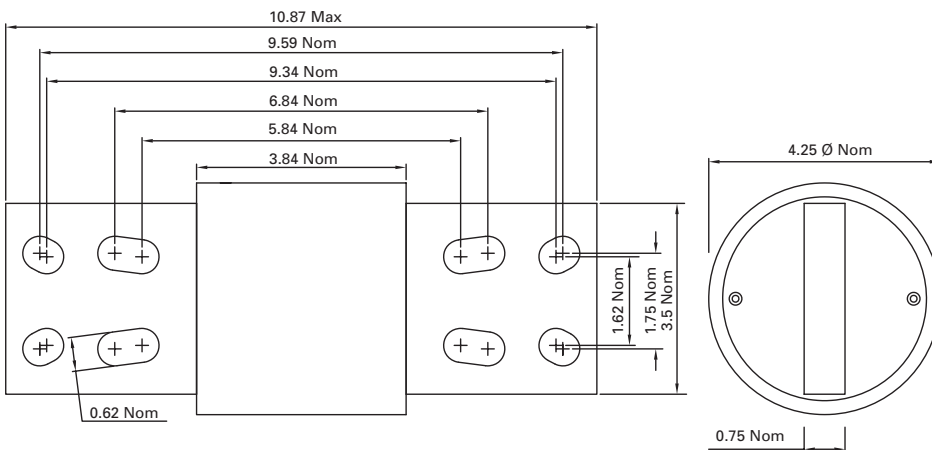
5-800 A

| Amp range | A                | B    | C    | D    | E    | F    | G    | H    | J    |
|-----------|------------------|------|------|------|------|------|------|------|------|
| 5-30      | 2.87             | 0.56 | 1.86 | 2.48 | 2.48 | 0.25 | 0.41 | 0.06 | 0.25 |
| 35-60     | 4.38             | 0.81 | 2.75 | 3.71 | 3.31 | 0.34 | 0.73 | 0.13 | 0.54 |
| 70-100    | 4.41             | 0.95 | 2.59 | 3.63 | 3.56 | 0.34 | 0.75 | 0.13 | 0.38 |
| 125-200   | 5.09             | 1.50 | 2.84 | 4.19 | 3.5  | 0.41 | 1.00 | 0.25 | 0.75 |
| 225-400   | 5.09             | 2.00 | 2.84 | 4.28 | 3.53 | 0.41 | 1.50 | 0.25 | 0.78 |
| 450-600   | 7.09             | 2.50 | 2.84 | 5.72 | 4.19 | 0.53 | 2.00 | 0.38 | 1.30 |
| 700-800   | 6.63             | 2.00 | 2.76 | 5.56 | 5.06 | 0.63 | 1.50 | 0.25 | 0.88 |
| 900-1000  | Refer to drawing |      |      |      |      |      |      |      |      |
| 1200      | Refer to drawing |      |      |      |      |      |      |      |      |

1" = 25.4 mm



900-1000 A - mm



1200 A - mm

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 720012, 5785316 (5-30 A), 361 (125-600 A), 5785308 (35-100 A, 700-1200 A)

## FWJ

1000 Vac /800 Vdc (UL), 35 to 2000 A

### Description

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

### Specifications

#### Ratings

- Volts:
  - 1000 Vac (UL)
  - 800 Vdc (UL)
- Amps: 35-2000 A
- Interrupting rating:
  - 25 kA RMS Sym. (35-200 A)
  - 100 kA RMS Sym. (250-2000 A)
  - 50 kA at 800 Vdc (35-200 A and 450-600 A)

### Agency information

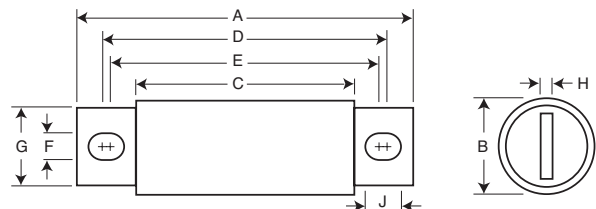
- UL Recognized JFHR8, E91958 on 50-600 A only
- CE



| Rated voltage          | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                      | Watts loss (W)* | Catalog no. |
|------------------------|----------------------|-------------------------------------|----------------------|-----------------|-------------|
|                        |                      | Pre-arcing                          | Clearing at 1000 Vac |                 |             |
| 1000 Vac/ 800 Vdc (UL) | 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    |
|                        | 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    |
|                        | 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       |             |

\* Watts loss at rated current.

### Dimensions — in



| Amp range | A    | B    | C    | D    | E    | F    | G    | H    | J    |
|-----------|------|------|------|------|------|------|------|------|------|
| 35-60     | 5.00 | 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 | 1.00 | 0.19 | 0.41 |
| 125-200   | 5.69 | 1.53 | 3.26 | 4.80 | 4.06 | 0.45 | 1.00 | 0.25 | 0.82 |
| 250-400   | 5.77 | 2.00 | 3.50 | 4.81 | 4.15 | 0.43 | 1.50 | 0.25 | 0.76 |
| 500-600   | 7.20 | 2.50 | 3.47 | 5.98 | 4.71 | 0.56 | 2.00 | 0.38 | 1.20 |
| 800-2000  | 6.81 | 3.50 | 3.31 | 5.47 | 4.96 | 0.63 | 2.75 | 0.50 | 0.88 |

1" = 25.4 mm

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 720027, 5785303 (35-600 A), 5785309 (800-2000 A),

# North American fuses

## Accessories

### Modular fuse blocks

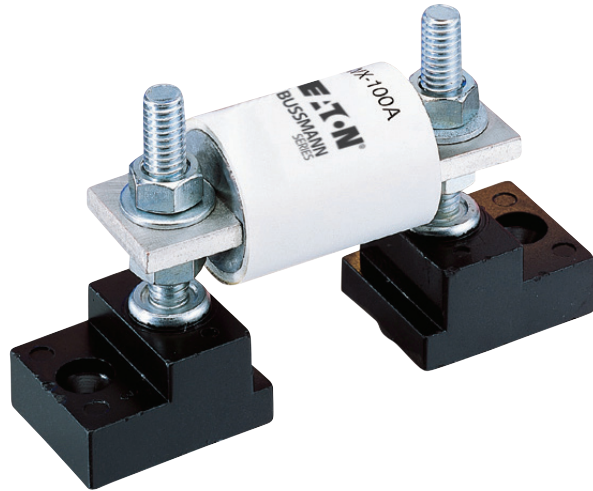
#### Description

Eaton's Bussmann series offer a comprehensive line of fuse blocks that provide the user with design and manufacturing flexibility. Two identical half blocks make up a Bussmann series modular fuse block. These 'split' units can be panel mounted any distance apart to accommodate any length fuse.

#### Stud type

The simpler design is the C5268 modular fuse block. With this design, the fuse terminal and cable (with termination) are mounted on the same stud, minimizing labor needed for installation. The stud type block is available in the configurations shown in the table below.

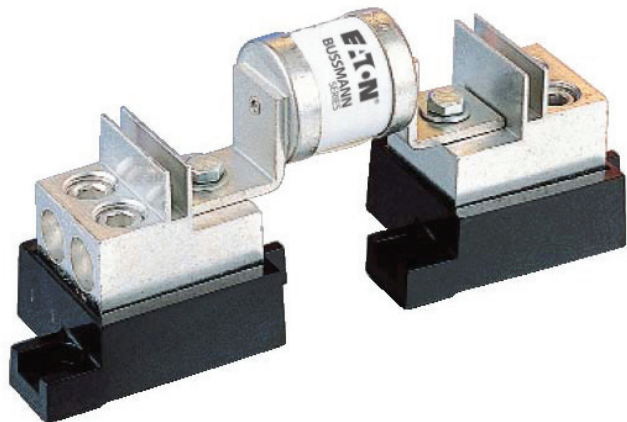
| Catalog no. | Max fuse amp rating | Stud             |
|-------------|---------------------|------------------|
| C5268-1     | 200                 | 5/16-18 x 1"     |
| C5268-2     | 200                 | 5/16-18 x 1-3/4" |
| C5268-3     | 200                 | 5/16-18 x 3/4"   |
| C5268-4     | 100                 | 1/4-20 x 1"      |
| C5268-5     | 100                 | 1/4-20 x 1-3/4"  |



#### Connector Type

Eaton's Bussmann series also offer a modular style fuse block that utilizes a tin-plated connector for wire termination and heat dissipation), and a plated-steel stud for fuse mounting. The connector type fuse block is available in the configurations shown below. Consult your Bussmann series product representative for additional product details.

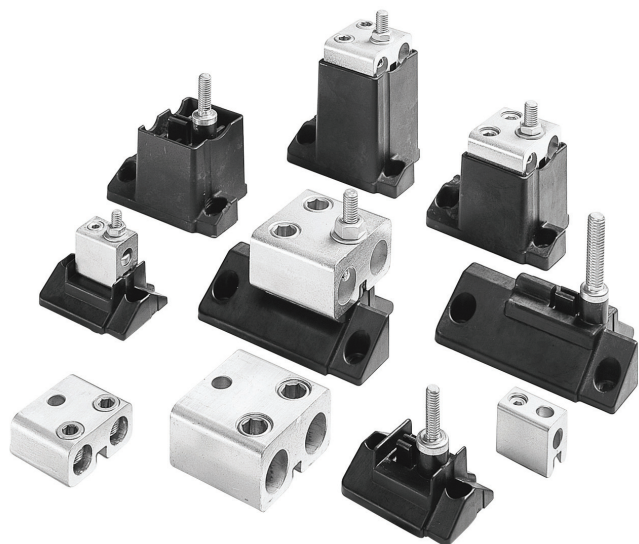
| Catalog no. | Max rated voltage | Max fuse amp rating |
|-------------|-------------------|---------------------|
| 1BS101      | 600               | 100                 |
| 1BS102      | 600               | 400                 |
| 1BS103      | 600               | 400                 |
| 1BS104      | 600               | 600                 |



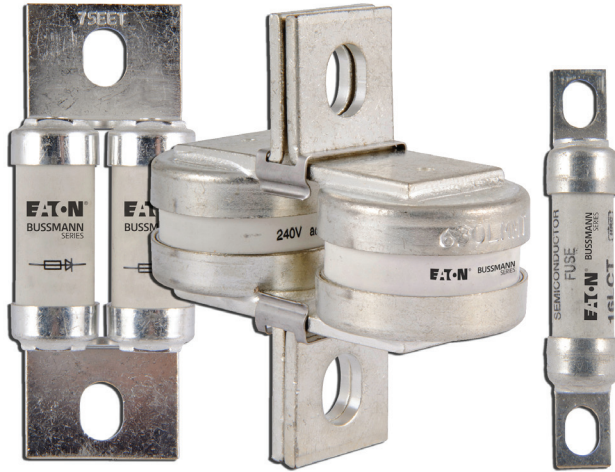
#### BH

BH fuse blocks provide a wide range of mounting configurations for Bussmann series high speed semiconductors fuses. BH fuse blocks have a short-circuit current rating up to 200 kA RMS Sym.

| Catalog no. | Max rated voltage | Max fuse amp rating |
|-------------|-------------------|---------------------|
| BH-0        | 700               | 100                 |
| BH-1        | 2500              | 400                 |
| BH-2        | 5000              | 600                 |
| BH-3        | 1250              | 700                 |



Data sheets: 1200 (BH-0), 1201 (BH-1), 1202 (BH-2), 1203 (BH-3), 1206 (1BS101), 1207 (1BS102), 1208 (1BS103), 1209 (1BS104)



## General information

Eaton's Bussmann series wide range of British style high speed fuses and accessories designed and tested to:

- BS 88: Part 4
- IEC 269 Part 4
- UL Recognized

Eaton's Bussmann series British style products use innovative arc quenching techniques and high grade materials to provide:

- Minimal energy let-through ( $I^2t$ )
- Excellent DC performance
- Good surge withstand profile

British style fuses are typically found in equipment manufactured in the United Kingdom or British Commonwealth countries. However, North American manufacturers have begun to specify British style fuses — particularly in UPS applications at 240 V or less — to take advantage of their size, performance and cost benefits.

### Voltage rating

All Bussmann series British style fuses are tested to IEC 269 Part 4. This standard requires a test voltage which is 5% higher than the rated voltage. In North America, fuses are required to clear only their rated voltage.

### Accessories

Trip-indicator fuses are available for use in parallel with the main fuse. Indicator fuses can be attached to the associated fuselink, or mounted separately in panel-mounted fuseclips. In addition, a push-on adapter and microswitch attachment are available, to provide remote indication. Fuse blocks are also available for most applications.

### Features and benefits

- Excellent cycling capability
- Excellent DC performance
- Low arc voltage and low energy let-through ( $I^2t$ )

### Typical applications

- DC common bus
- AC and DC drives
- Power converters/rectifiers
- Reduced voltage starters

### British Standard contents

#### Fuses

| Catalog symbol | Amp range | Page  |
|----------------|-----------|-------|
| LCT            | 6-20      | 24    |
| LET            | 28-180    | 24    |
| LMT            | 160-450   | 25    |
| LMMT           | 400-900   | 25    |
| CT             | 6-20      | 26-27 |
| ET             | 25-80     | 26-27 |
| FE             | 35-100    | 26-27 |
| EET            | 90-160    | 26-27 |
| FEE            | 100-200   | 26-27 |
| FM             | 180-350   | 38-29 |
| FMM            | 400-700   | 38-29 |
| MT             | 160-355   | 38-29 |
| MMT            | 180-710   | 38-29 |

#### Accessories

| Description          | Page |
|----------------------|------|
| Indicator systems    | 30   |
| Microswitch adapters | 30   |

# British Standard BS88 fuses

## LCT, LET

240 Vac/150 Vdc (IEC),

250-280 Vac/150 Vdc (UL), 6 to 180 A

### Description

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

### Specifications

#### Ratings

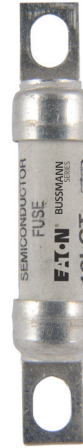
- Volts:
  - LCT 240 Vac/150 Vdc (IEC), 250 Vac/150 Vdc (UL)
  - LET 280 Vac/150 Vdc (UL, 25-160 A), 250 Vac/150 Vdc (UL 180 A)
- Amps: 6-180 A
- Interrupting rating:
  - 200 kA RMS Sym.
  - 50 kA DC at 125 Vdc
  - 100 kA at 80 Vdc (70-1000 A)

### Operating Class: aR.

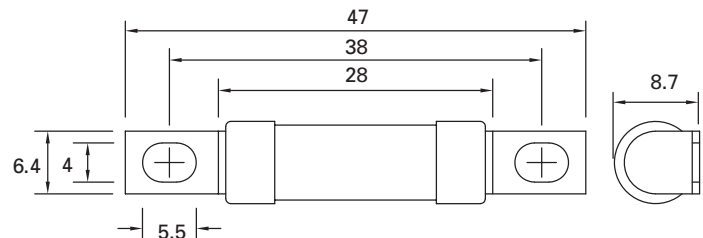
### Agency information

- Designed and tested to BS88 Part 4 and IEC 60269 Part 4
- UL Recognized\*
- CCC (LCT only)
- CE

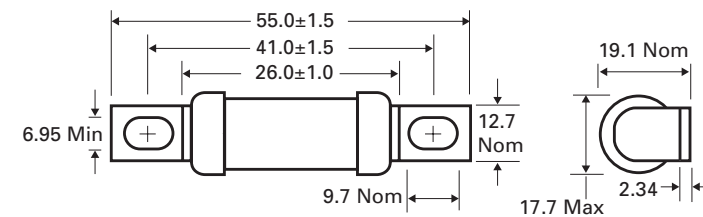
\* All fuses have been tested at 318 Vac. Consult Bussmann series product representative for UL Recognized status.



### Dimensions — mm



### LCT



Indicator (optional)

LET — indicator optional

| Fuse symbol | Rated voltage                                 | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                     | Watts loss (W)* | Catalog no. |
|-------------|---|----------------------|-------------------------------------|---------------------|-----------------|-------------|
|             |   |                      | Pre-arcing                          | Clearing at 240 Vac |                 |             |
| LCT         | 240 Vac/150 Vdc (IEC)<br>250 Vac/150 Vdc (UL) | 6                    | 2.0                                 | 9                   | 1.0             | 6LCT        |
|             |   | 10                   | 3.8                                 | 22                  | 2.5             | 10LCT       |
|             |   | 12                   | 7.0                                 | 32                  | 2.5             | 12LCT       |
|             |   | 16                   | 20.0                                | 100                 | 2.5             | 16LCT       |
|             |   | 20                   | 25.0                                | 160                 | 4.0             | 20LCT       |
| LET         | 280 Vac/150 Vdc (UL)                          | 25                   | 18.0                                | 250                 | 4.0             | 25LET       |
|             |   | 32                   | 32.0                                | 450                 | 5.0             | 32LET       |
|             |   | 35                   | 50.0                                | 600                 | 5.0             | 35LET       |
|             |   | 50                   | 100.0                               | 1400                | 7.0             | 50LET       |
|             |   | 63                   | 180.0                               | 2200                | 9.0             | 63LET       |
|             |   | 80                   | 300.0                               | 3800                | 10.0            | 80LET       |
|             |   | 100                  | 600.0                               | 7500                | 10.0            | 100LET      |
|             |   | 125                  | 600.0                               | 7500                | 16.0            | 125LET      |
|             |   | 160                  | 1100.0                              | 16,000              | 20.0            | 160LET      |
|             |   | 180                  | 1600.0                              | 29,000              | 21.0            | 180LET      |

\* Watts loss at rated current.

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

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 720004, 5785296 (LCT), 5785293 (LET)



## LMT, LMMT

240 Vac/150 Vdc (IEC), 250 Vac/150 Vdc (UL), 160 to 900 A

### Description

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

### Specifications

#### Ratings

- Volts:
  - 240 Vac/150 Vdc (IEC)
  - 250 Vac/150 Vdc (UL)
- Amps: 160-900 A
- Interrupting rating:
  - 200 kA RMS Sym., 40 kA at 150 Vdc (IEC)
  - 200 kA RMS Sym., 50 kA at 150 Vdc (UL)



### Operating Class: aR.

### Agency information

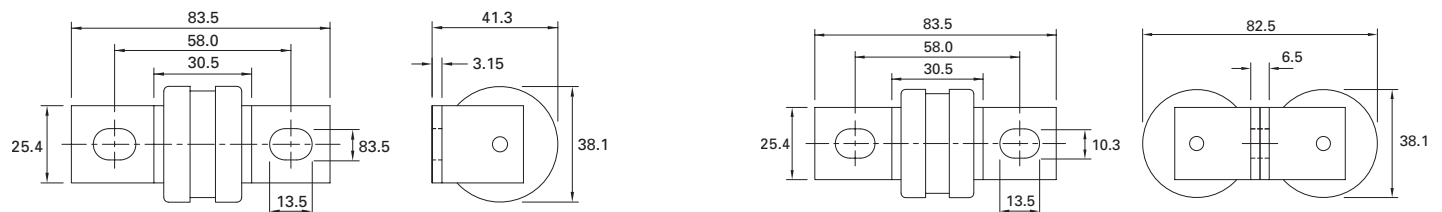
- Designed and tested to BS88 Part 4 and IEC 60269 Part 4
- UL Recognized\*
- CCC
- CE

\* All fuses have been tested at 318 Vac. Consult Bussmann series product representative for UL Recognized status.

| Fuse symbol | Rated voltage                                   | $I^2t$ (A <sup>2</sup> s) |             |         |         | Watts loss (W)* | Catalog no. |
|-------------|---|---------------------------|-------------|---------|---------|-----------------|-------------|
|             |   | Rated current (amps)      | Clearing at |         |         |                 |             |
|             |   |                           | Pre-arcing  | 120 Vac | 240 Vac |                 |             |
| LMT         | 240 Vac /150 Vdc (IEC)<br>250 Vac /150 Vdc (UL) | 160                       | 1100        | 7000    | 16,000  | 17              | 160LMT      |
|             |   | 200                       | 1500        | 10,000  | 20,000  | 28              | 200LMT      |
|             |   | 250                       | 3200        | 20,000  | 40,000  | 28              | 250LMT      |
|             |   | 315                       | 6000        | 35,000  | 75,000  | 35              | 315LMT      |
|             |   | 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 Vac /150 Vdc (IEC)<br>250 Vac /150 Vdc (UL) | 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     |
|             |   | 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     |

\* Watts loss at rated current.

### Dimensions — mm



### LMT — indicator optional

### LMMT — indicator optional

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 720004, 5785294 (LMT), 5785295 (LMMT)

# British Standard BS88 fuses

CT, ET, FE, EET, FEE

690 Vac/500 Vdc (IEC), 700 Vac/500 Vdc (UL), 6 to 200 A

## Description

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

## Specifications

Ratings

- Volts:
  - 690 Vac/500 Vdc (IEC)
  - 700 Vac/500 Vdc (UL)
- Amps: 6-200 A
- Interrupting rating:
  - CT: 90 kA RMS Sym., 40 kA at 500 Vdc (IEC)
  - 200 kA RMS Sym., 50 kA at 500 Vdc (UL)
  - ET, EET, FE and FEE: 200 kA RMS Sym., 50 kA at 500 Vdc

**Operating Class: aR**

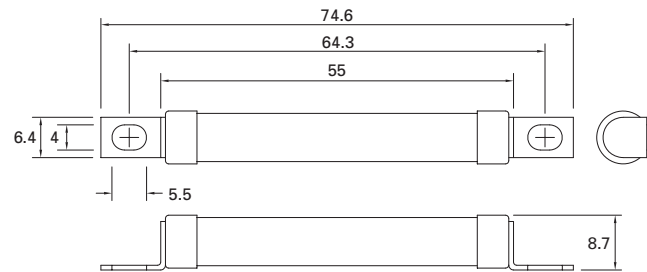
## Agency information

- Designed and tested to BS88 part 4 and IEC 60269 Part 4
- UL Recognized\*
- CCC for ET, FE, EET, FEE
- CE

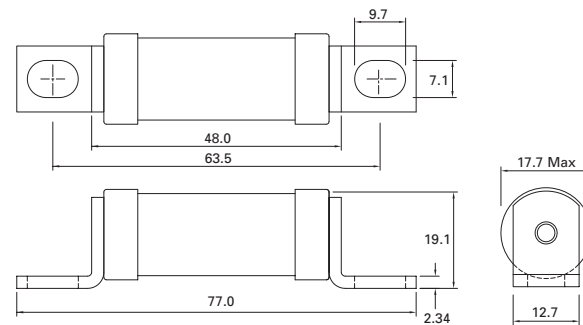
\* Consult your Bussmann series product representative for UL Recognized status.



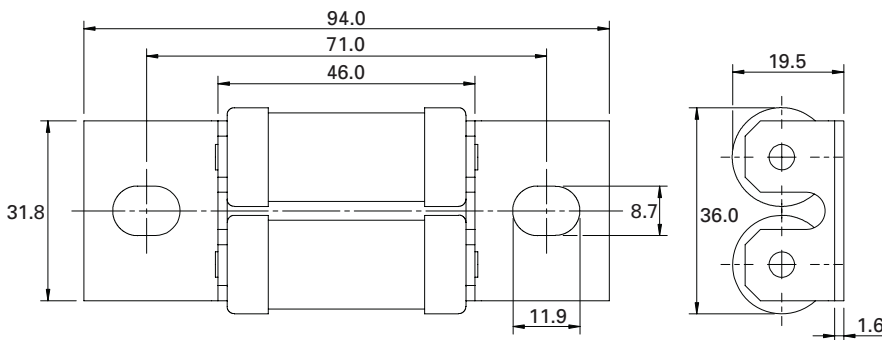
## Dimensions — mm



CT



ET, FE — indicator optional



EET, FEE — indicator optional

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 5785312 (CT, ET), 5785314 (FE), 5785313 (EET), 5785292 (FEE)

## CT, ET, FE, EET, FEE

690 Vac/500 Vdc (IEC), 700 Vac/500 Vdc (UL), 6 to 200 A

| Fuse symbol | Rated voltage                                 | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                     |                     |    | Watts loss (W)* | Catalog no. |
|-------------|---|----------------------|-------------------------------------|---------------------|---------------------|----|-----------------|-------------|
|             |   |                      | Pre-arcing                          | Clearing at 415 Vac | Clearing at 660 Vac |    |                 |             |
| CT          | 690 Vac/500 Vdc (IEC)<br>700 Vac/500 Vdc (UL) | 6                    | 1.8                                 | 8.5                 | 12                  | 2  | 6CT             |             |
|             |   | 10                   | 7.0                                 | 30.0                | 48                  | 3  | 10CT            |             |
|             |   | 12                   | 10.0                                | 40.0                | 65                  | 3  | 12CT            |             |
|             |   | 16                   | 16.0                                | 66.0                | 110                 | 7  | 16CT            |             |
|             |   | 20                   | 32.0                                | 150.0               | 220                 | 7  | 20CT            |             |
| ET          | 690 Vac/500 Vdc (IEC)<br>700 Vac/500 Vdc (UL) | 25                   | 25.0                                | 150.0               | 250                 | 7  | 25ET            |             |
|             |   | 32                   | 32.0                                | 190.0               | 350                 | 11 | 32ET            |             |
|             |   | 35                   | 52.0                                | 310.0               | 500                 | 11 | 35ET            |             |
|             |   | 40                   | 103.0                               | 600.0               | 900                 | 9  | 40ET            |             |
|             |   | 45                   | 103.0                               | 680.0               | 1100                | 11 | 45ET            |             |
|             |   | 56                   | 135.0                               | 950.0               | 1500                | 14 | 56ET            |             |
|             |   | 63                   | 171.0                               | 1200.0              | 2000                | 16 | 63ET            |             |
| FE          | 690 Vac/500 Vdc (IEC)<br>700 Vac/500 Vdc (UL) | 80                   | 360.0                               | 2500.0              | 4000                | 18 | 80ET            |             |
|             |   | 35                   | 33.0                                | 130.0               | 200                 | 9  | 35FE            |             |
|             |   | 40                   | 52.0                                | 180.0               | 300                 | 9  | 40FE            |             |
|             |   | 45                   | 76.0                                | 270.0               | 450                 | 11 | 45FE            |             |
|             |   | 50                   | 103.0                               | 380.0               | 600                 | 11 | 50FE            |             |
|             |   | 63                   | 135.0                               | 480.0               | 750                 | 12 | 63FE            |             |
|             |   | 71                   | 210.0                               | 600.0               | 950                 | 17 | 71FE            |             |
|             |   | 80                   | 250.0                               | 900.0               | 1500                | 20 | 80FE            |             |
|             |   | 90                   | 360.0                               | 1300.0              | 2100                | 20 | 90FE            |             |
|             |   | 100                  | 470.0                               | 1800.0              | 2800                | 23 | 100FE           |             |
| EET         | 690 Vac/500 Vdc (IEC)<br>700 Vac/500 Vdc (UL) | 90                   | 490.0                               | 300.0               | 4500                | 19 | 90EET           |             |
|             |   | 110                  | 600.0                               | 4000.0              | 6500                | 27 | 110EET          |             |
|             |   | 140                  | 1050.0                              | 7000.0              | 12,000              | 35 | 140EET          |             |
| FEE         | 690 Vac/500 Vdc (IEC)<br>700 Vac/500 Vdc (UL) | 160                  | 1500.0                              | 10,000.0            | 17,000              | 39 | 160EET          |             |
|             |   | 100                  | 400.0                               | 1600.0              | 2400                | 24 | 100FEE          |             |
|             |   | 120                  | 540.0                               | 1900.0              | 3100                | 32 | 120FEE          |             |
|             |   | 140                  | 850.0                               | 2500.0              | 3800                | 36 | 140FEE          |             |
|             |   | 160                  | 1000.0                              | 3700.0              | 5700                | 46 | 160FEE          |             |
|             |   | 180                  | 1400.0                              | 5300.0              | 8400                | 46 | 180FEE          |             |
| 200         | 1900.0  | 7100.0               | 11,400                              | 52                  | 200FEE              |    |                 |             |

\* Watts loss at rated current.

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

# British Standard BS88 fuses

## FM, FMM, MT, MMT

690 Vac/350-450 Vdc (IEC), 700 Vac/500 Vdc (UL), 160 to 710 A

### Description

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

### Specifications

#### Ratings

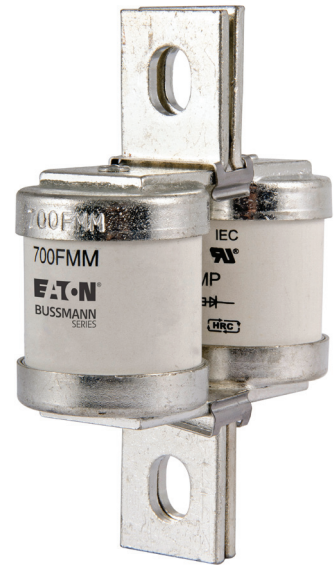
- Volts:
  - FM: 690 Vac/450 Vdc (IEC); 700 Vac/500 Vdc (UL)
  - FMM: 690 Vac/450 Vdc (IEC); 700 Vac (UL)
  - MT and MMT: 690 Vac/350 Vdc (IEC); 700 Vac (UL)
- Amps: 160-710 A
- Interrupting rating:
  - FM: 200 kA RMS Sym. (IEC/UL), 40 kA at 450 Vdc (IEC), 50 kA at 500 Vdc (UL)
  - FMM: 200 kA RMS Sym. (IEC/UL), 40 kA at 450 Vdc (IEC).
  - MT and MMT: 200 kA RMS Sym. (IEC/UL), 40 kA at 350 Vdc (IEC).

### Operating Class: aR

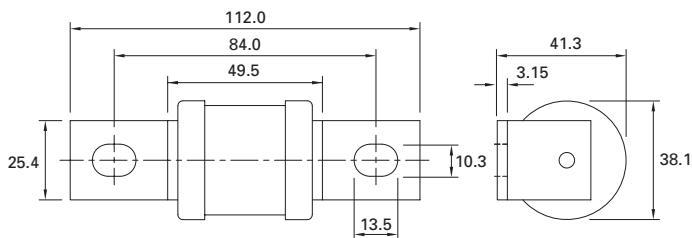
### Agency information

- Designed and tested to BS88 Part 4 and IEC 60269 Part 4
- UL Recognized MT and MMT 350 Vdc (IEC) rating\*
- CCC for FM and FMM
- CE

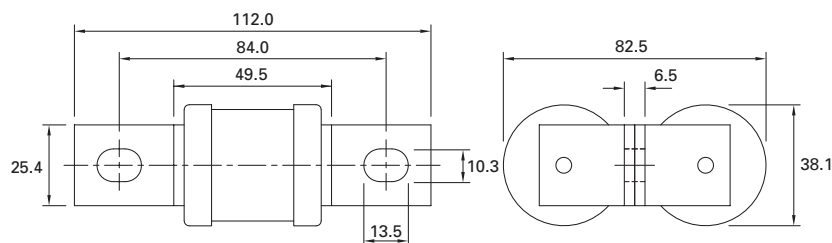
Consult your Bussmann series product representative for UL Recognized status.



### Dimensions — mm



### FM, MT — indicator optional



### FMM, MMT — indicator optional

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 5785314 (FM), 5785313 (MT), 5785292 (FMM), 5785311 (MMT)

## FM, FMM, MT, MMT

690 Vac/350-450 Vdc (IEC), 700 Vac/500 Vdc (UL), 160 to 710 A

| Fuse symbol | Rated voltage                                 | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s)   |                     |                     | Watts loss (W)* | Catalog no. |
|-------------|---|----------------------|---------------------------------------|---------------------|---------------------|-----------------|-------------|
|             |   |                      | Pre-arcing                            | Clearing at 415 Vac | Clearing at 660 Vac |                 |             |
| FM          | 690 Vac/450 Vdc (IEC)<br>700 Vac/500 Vdc (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 Vac/450 Vdc (IEC)<br>700 Vac (UL)         | 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 Vac/350 Vdc (IEC)<br>700 Vac (UL) | 160                 | 2400                | 15,000          | 25,000      |
| 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 Vac/350 Vdc (IEC)<br>700 Vac (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              |                 |             |

\* Watts loss at rated current.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 5785314 (FM), 5785313 (MT), 5785292 (FMM), 5785311 (MMT)

# British Standard BS88 fuses

## Accessories

### Trip indicator

Trip-indicator fuses are available for use in parallel with the main BS88-4 fuses. They can either be attached to the associated fuse or mounted separately in panel mounted fuse clips. Push-on adapters with microswitch (catalog numbers MAI and MBI) are available for use with the trip indicator to provide a means for remote indication.

Fuse ratings of 20 A and below cannot usually accommodate a trip fuse in parallel.

When a trip-indicator is to be attached to the main fuse, an accessory pack comprising a pair of mounting clips and an appropriate trip indicator is required. The clips are snapped onto the fuse and the indicator is pressed into clips as shown below.

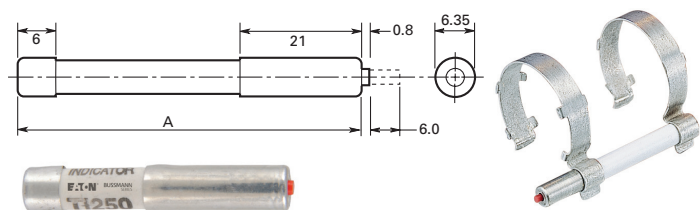
#### Trip indicator kit catalog numbers (indicator + clips)

| For fuse symbol | Catalog no. |
|-----------------|-------------|
| 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      |

#### Indicator only

| Catalog number | Rated current | Dim. 'A' (mm) |
|----------------|---------------|---------------|
| TI250          | 250           | 37.6          |
| TI500          | 500           | 47.5          |
| TI600          | 600           | 55.7          |
| TI700          | 700           | 61.8          |
| TI1100         | 1100          | 98.4          |
| TI1500         | 1500          | 120.8         |
| TI2000         | 2000          | 147.5         |
| TI2500         | 2500          | 198.3         |

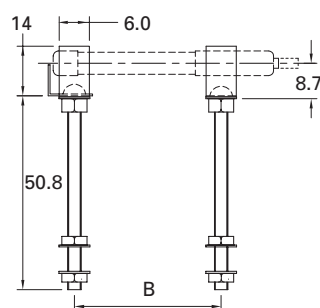
#### Indicator dimensions — mm



#### CL1 panel mount clips

CL1 panel mount fuse clips are available for mounting a trip-indicator when mounting directly on the fuse is impractical. Order catalog number CL1.

#### CL1 clips dimensions — mm



## Microswitches

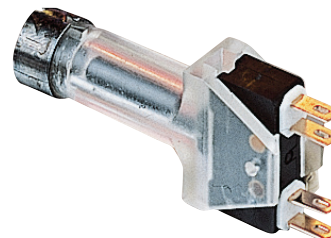
### Microswitch/adapter: MAI and MBI

To provide a means of remote indication with the trip indicators, we offer two microswitch/adapters. The microswitches are provided with double pole, single throw contacts, having both a normally open (NO) and a normally closed (NC) position. A special material is used in the construction of the adapter to provide reliable operation in the temperatures ranges associated with standard operating conditions and during fuse operation.

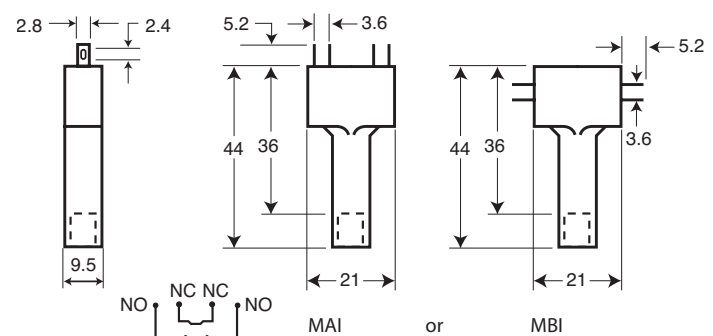
| Catalog no. | Description                            | Terminal orientation |
|-------------|--|----------------------|
| MAI         | Trip indicator adapter and microswitch | Back                 |
| MBI         | Trip indicator adapter and microswitch | Side                 |

#### Microswitch ratings (MAI and MBI)

| Terminals                      | Quick connect   |
|--------------------------------|-----------------|
| <b>Current rating</b>          |                 |
| AC 50/60Hz resistive load      | 4 A @ 250 V RMS |
|                                | 6 A @ 127 V RMS |
| DC, resistive load             | 0.7 A @ 110 Vdc |
|                                | 2 A @ 30 Vdc    |
| <b>Maximum working voltage</b> |                 |
| Contact-to-contact (RMS)       | 1000 V          |
|                                | 1500 V          |
| Maximum DC volts               | 110 Vdc         |



#### Microswitch/adapter dimensions — mm





## General information

Eaton offers a full line of Bussmann series ferrule style (cylindrical clip mounted) fuses, designed and tested to meet standards and requirements in various locations around the world. Their unique design and construction provide:

- Superior cycling capability
- Low energy let-through ( $I^2t$ )

Ferrule fuses provide an excellent solution for small UPS, small AC drives and other low power applications where space is at a premium.

### Voltage rating

All Bussmann series ferrule fuses (except 690 V) have been tested at their rated voltage. The 690 V ferrule fuse has been tested to the IEC 60269 standard, which requires clearing at the rated voltage +5%.

### Accessories

Ferrule fuses may be mounted in fuseclips, fuse holders, fuse blocks or fused switches. A variety of products are available. Please consult our application engineers to discuss your requirement.

### Features and benefits

- Excellent cycling capability and DC performance
- Low arc voltage and low energy let-through ( $I^2t$ )
- Low watts loss in a compact size
- Used with finger-safe holders and blocks

### Typical applications

- DC common bus
- DC drives
- Power converters/rectifiers
- Reduced voltage starters

## Ferrule fuse contents

### Fuses

| Catalog symbol | Size (mm) | Volts                  | Amp range | Page |
|----------------|-----------|------------------------|-----------|------|
| FWA-_A10F      | 10x38     | 150 AC/DC              | 5-30      | 32   |
| FWA-_A21F      | 21x51     | 150 AC/DC              | 35-60     | 32   |
| FWX-_A14F      | 14x51     | 250 AC/DC              | 1-50      | 33   |
| FWH-_A6F/FR    | 6x32      | 500 AC                 | 0.25-30   | 34   |
| FWH-_A14F      | 14x51     | 500 AC/DC              | 1-30      | 35   |
| FWC-_A10F      | 10x38     | 600/700 AC, 600/700 DC | 1-32      | 36   |
| FWP-_A14F/Fl   | 14x51     | 690/700 AC, 600-700 DC | 1-50      | 37   |
| FWP-_A22F/Fl   | 22x58     | 700 AC/DC              | 20-100    | 38   |
| FWK-_A20F      | 20x127    | 750 DC                 | 5-30      | 39   |
| FWK-_A25F      | 25x146    | 750 DC                 | 35-60     | 39   |
| FWJ-_A14F      | 14x67     | 1000 AC, 800 DC        | 20-30     | 40   |
| FWL-_A20F/Fl   | 20x127    | 1200 AC, 1000 DC       | 20-30     | 41   |
| FWS-_A20F/Fl   | 20x127    | 1400/2000 AC, 1000 DC  | 2-15      | 42   |

### Accessories

| Description                             | Fuse size | Page |
|---|-----------|------|
| DIN-Rail/panel mount modular fuse block | 22x58     | 43   |
|   | 10x38     | 44   |
| Modular DIN-Rail fuse holders           | 14x51     | 45   |
|   | 22x58     | 46   |

### Ferrule fuse ranges

|                | Volts | Amps    | AC | DC           |
|----------------|-------|---------|----|--------------|
|                | 150   | 5-60    | X  | X            |
|                | 250   | 1-50    | X  | X            |
|                | 500   | 0.25-30 | X  | X            |
|                | 600   | 6-32    | X  | X            |
| 700 (22x58 mm) |       | 20-100  | X  | —            |
| 700 (14x51 mm) |       | 1-50    | X  | X            |
|                | 750   | 5-60    | X  | X            |
|                | 1000  | 20-30   | X  | X (800 Vdc)  |
|                | 1250  | 20-30   | X  | X (1000 Vdc) |
|                | 1500  | 8-15    | X  | X (1000 Vdc) |
|                | 2000  | 2-6     | X  | X (1000 Vdc) |

# Ferrule fuses

## FWA

150 Vac/dc (UL), 10x38 mm and 21x51 mm, 5 to 60 A

### Description

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

### Specifications

#### Ratings

- Volts: 150 Vac/dc (UL)
- Amps: 5-60 A
- Interrupting rating:
  - 200 kA RMS Sym.
  - 50 kA DC at 150 Vdc

#### Operating class: aR

#### Agency information

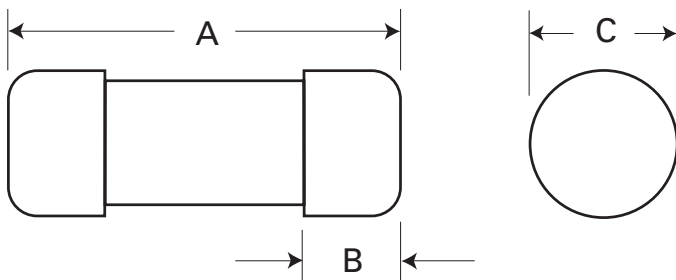
- UL Recognized JFHR2, E91958
- CE



| Fuse size                   | Rated voltage   | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                     |     | Watts loss (W)* | Catalog no. |
|-----------------------------|-----------------|----------------------|-------------------------------------|---------------------|-----|-----------------|-------------|
|                             |                 |                      | Pre-arcing                          | Clearing at 150 Vac |     |                 |             |
| 10x38 mm<br>(13/32"x1-1/2") | 150 Vac/dc (UL) | 5                    | 1.6                                 | 8                   | 2   | FWA-5A10F       |             |
|                             |                 | 10                   | 3.6                                 | 16                  | 2.7 | FWA-10A10F      |             |
|                             |                 | 15                   | 14.0                                | 50                  | 3.3 | FWA-15A10F      |             |
|                             |                 | 20                   | 33.0                                | 130                 | 3.8 | FWA-20A10F      |             |
|                             |                 | 25                   | 58.0                                | 220                 | 4.9 | FWA-25A10F      |             |
|                             |                 | 30                   | 100.0                               | 400                 | 4.9 | FWA-30A10F      |             |
| 21x51 mm<br>(13/16"x2")     | 150 Vac/dc (UL) | 35                   | 75.0                                | 800                 | 4.5 | FWA-35A21F      |             |
|                             |                 | 40                   | 100.0                               | 1000                | 5.1 | FWA-40A21F      |             |
|                             |                 | 45                   | 130.0                               | 1300                | 6   | FWA-45A21F      |             |
|                             |                 | 50                   | 170.0                               | 1600                | 7.3 | FWA-50A21F      |             |
|                             |                 | 55                   | 225.0                               | 2200                | 8   | FWA-55A21F      |             |
|                             |                 | 60                   | 250.0                               | 2400                | 8   | FWA-60A21F      |             |

\* Watts loss at rated current.

### Dimensions — in (mm)



| Amp range | A          | B           | C           |
|-----------|------------|-------------|-------------|
| 5-30      | 1.5 (38.1) | 0.38 (9.5)  | 0.41 (10.3) |
| 35-60     | 2.0 (50.8) | 0.63 (15.9) | 0.81 (20.6) |

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 720003,5785317 (5-30 A), 5785305 (35-60 A)



## FWX

250 Vac/dc (UL), 14x51 mm, 1 to 50 A

### Description

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

### Specifications

Ratings

- Volts:
  - 250 Vac (UL, all ratings)
  - 250 Vdc (UL, 5-50 A only)
- Amps: 1-50 A
- Interrupting rating:
  - 200 kA RMS Sym. (UL, all ratings)
  - 50 kA at 250 Vdc (UL, 5-30 A only)

**Operating class: aR**

### Agency information

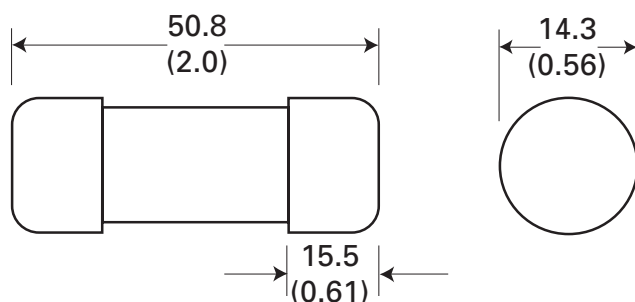
- CE
- UL Recognized JFHR2, E91958 1-50 A
- CSA Class 1422-30, 1422-90 (53787) 5-30 A



| Fuse size              | Rated voltage   | Rated current(amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                     |     | Watts loss(W)* | Catalog no. |
|------------------------|-----------------|---------------------|-------------------------------------|---------------------|-----|----------------|-------------|
|                        |                 |                     | Pre-arcing                          | Clearing at 250 Vac |     |                |             |
| 14x51 mm<br>(9/16"x2") | 250 Vac (UL)    | 1                   | 0.03                                | 0.40                | 5.7 | FWX-1A14F      |             |
|                        |                 | 2                   | 0.08                                | 0.10                | 8.6 | FWX-2A14F      |             |
|                        |                 | 3                   | 0.11                                | 0.26                | 2.8 | FWX-3A14F      |             |
|                        |                 | 4                   | 0.1                                 | 0.23                | 3.0 | FWX-4A14F      |             |
|                        | 250 Vac/dc (UL) | 5                   | 1.6                                 | 13.00               | 1.3 | FWX-5A14F      |             |
|                        |                 | 10                  | 3.6                                 | 24.00               | 3.4 | FWX-10A14F     |             |
|                        |                 | 15                  | 14.0                                | 83.00               | 3.8 | FWX-15A14F     |             |
|                        |                 | 20                  | 33.0                                | 200.00              | 4.6 | FWX-20A14F     |             |
|                        |                 | 25                  | 58.0                                | 300.00              | 5.3 | FWX-25A14F     |             |
|                        |                 | 30                  | 100.0                               | 500.00              | 5.9 | FWX-30A14F     |             |
|                        |                 | 50                  | 200.0                               | 1800.00             | 5.7 | FWX-50A14F     |             |

\* Watts loss at rated current.

### Dimensions — mm (in)



For details on electrical characteristics, contact Application Engineering and ask for data sheets: 720006, 5785302

# Ferrule fuses

## FWH

500 Vac (UL), 6x32 mm, 0.25 to 30 A



### Description

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

### Specifications

#### Ratings

- Volts:
  - 500 Vac (UL — 0.25-1 A and 3.15-30 A)
  - 1000 Vac (UL — 2 A)
  - 600 Vdc (UL — 1-5 A)
- Amps: 0.25-30 A
- Interrupting rating:
  - 50 kA AC (0.25-1 A and 3.15-20 A)
  - 30 kA AC (2 A)
  - 20 kA AC (25-30 A)<sup>1</sup>
  - 50 kA DC (1-5 A)

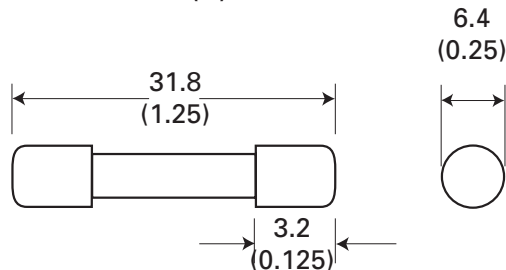
### Operating class: aR

### Agency information

- UL Recognized JFHR2, E91958 (0.25-7 A) and JFHR2, E19180 (10-30 A)
- CSA Class 1422-30, 1422-90 (53787) 0.25-7 A
- RoHS compliant
- CE

<sup>1</sup> Tested at PF = 76%.

### Dimensions — mm (in)



### Opening times

| Amp range | 150%    | 200%    | 300%     |
|-----------|---------|---------|----------|
| 0.25-7    | >30 min | >30 min | ≤ 10 sec |
| 10-30     | >30 min | >30 min | ≤ 10 sec |

0.25-70 A 300% minimum opening current at rated voltage.  
10-30 A 200% minimum opening current at rated voltage.

| Fuse size             | Rated voltage         | I <sup>2</sup> t (A <sup>2</sup> s) |            |                     | Watts loss (W)* | Catalog no.  |                |
|-----------------------|-----------------------|-------------------------------------|------------|---------------------|-----------------|--------------|----------------|
|                       |                       | Rated current (amps)                | Pre-arcing | Clearing at 500 Vac |                 | Standard     | RoHS compliant |
| 6x32 mm (1/4"x1-1/4") | 500 Vac/600 Vdc (UL)  | 0.25                                | 0.01       | 0.05                | 2.70            | FWH-250A6F   | FWH-250A6FR    |
|                       |                       | 0.50                                | 0.05       | 0.25                | 1.20            | FWH-500A6F   | FWH-500A6FR    |
|                       |                       | 1.00                                | 0.40       | 2.00                | 1.70            | FWH-001A6F   | FWH-001A6FR    |
|                       | 1000 Vac/600 Vdc (UL) | 2.00                                | 1.30       | 3.50                | 3.20            | FWH-002A6F   | FWH-002A6FR    |
|                       |                       | 3.15                                | 3.10       | 7.70                | 2.90            | FWH-3-15A6F  | FWH-3-15A6FR   |
|                       | 500 Vac/600 Vdc (UL)  | 4.00                                | —          | —                   | —               | FWH-004A6F   | FWH-004A6FR    |
|                       |                       | 5.00                                | 15.00      | 40.00               | 2.10            | FWH-005A6F   | FWH-005A6FR    |
|                       |                       | 6.30                                | 36.00      | 90.00               | 2.30            | FWH-6-30A6F  | FWH-6-30A6FR   |
|                       |                       | 7.00                                | 50.00      | 125.00              | 2.50            | FWH-007A6F   | FWH-007A6FR    |
|                       |                       | 10.00                               | 9.90       | 139.00              | 2.86            | FWH-010A6F   | FWH-010A6FR    |
| 500 Vac (UL)          | 12.50                 | 20.00                               | 60.00      | 3.53                | FWH-12-5A6F     | FWH-12-5A6FR |                |
|                       | 15.00                 | 44.00                               | 146.00     | 3.08                | FWH-015A6F      | FWH-015A6FR  |                |
|                       | 16.00                 | 48.00                               | 177.00     | 4.48                | FWH-016A6F      | FWH-016A6FR  |                |
|                       | 20.00                 | 75.00                               | 259.00     | 4.26                | FWH-020A6F      | FWH-020A6FR  |                |
|                       | 25.00                 | 126.00                              | 345.00     | —                   | FWH-025A6F      | FWH-025A6FR  |                |
|                       | 30.00                 | 145.00                              | 430.00     | —                   | FWH-030A6F      | FWH-030A6FR  |                |

\* Watts loss at rated current.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 720038, 5785256 (0.25-7 A), 50955 (10-30 A)

## FWH

500 Vac/ Vdc (UL), 14x51 mm, 1 to 30 A

### Description

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

### Specifications

#### Ratings

- Volts:
  - 500 Vac (UL, all ratings)
  - 500 Vdc (UL, 5-30 A only)
- Amps: 1-30 A
- Interrupting rating:
  - 200 kA RMS Sym. all ratings
  - 50 kA at 500 Vdc 5-30 A only

#### Operating class: aR

#### Agency information

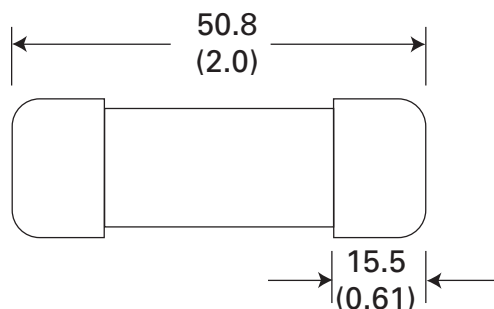
- UL Recognized 1-30 A
- CSA Class 1422-30, (53787) 5-30 A
- CE



| Fuse size           | Rated voltage   | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                     | Watts loss (W)* | Catalog no. |
|---------------------|-----------------|----------------------|-------------------------------------|---------------------|-----------------|-------------|
|                     |                 |                      | Pre-arcing                          | Clearing at 500 Vac |                 |             |
| 14x51 mm (9/16"x2") | 500 Vac (UL)    | 1                    | 0.04                                | 0.2                 | 5.7             | FWH-1A14F   |
|                     |                 | 2                    | 0.08                                | 0.1                 | 8.7             | FWH-2A14F   |
|                     |                 | 3                    | 0.11                                | 0.2                 | 2.8             | FWH-3A14F   |
|                     |                 | 4                    | 0.10                                | 0.2                 | 3.0             | FWH-4A14F   |
|                     |                 | 5                    | 2.00                                | 7.0                 | 1.5             | FWH-5A14F   |
|                     |                 | 6                    | 2.00                                | 7.0                 | 1.5             | FWH-6A14F   |
|                     | 500 Vac/dc (UL) | 10                   | 4.00                                | 15.0                | 4.0             | FWH-10A14F  |
|                     |                 | 12                   | 7.00                                | 25.0                | 4.3             | FWH-12A14F  |
|                     |                 | 15                   | 10.00                               | 40.0                | 5.5             | FWH-15A14F  |
|                     |                 | 20                   | 26.00                               | 100.0               | 6.5             | FWH-20A14F  |
|                     |                 | 25                   | 49.00                               | 200.0               | 7.0             | FWH-25A14F  |
|                     |                 | 25                   | 49.00                               | 200.0               | 7.0             | FWH-25A14F  |
|                     |                 | 30                   | 58.00                               | 240.0               | 9.0             | FWH-30A14F  |
|                     |                 | 30                   | 58.00                               | 240.0               | 9.0             | FWH-30A14F  |

\* Watts loss at rated current.

#### Dimensions — mm (in)



For details on electrical characteristics, contact Application Engineering and ask for data sheets:720008, 5785298

# Ferrule fuses

## FWC

600-700 Vac/700 Vdc (UL), 10x38 mm, 1 to 32 A

### Description

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

### Specifications:

#### Ratings

- Volts:
  - 700 Vac/dc (UL, 1-4 A)
  - 600 Vac (UL, 6-32 A), 700 Vdc (UL, 6-25 A)
- Amps: 1-32 A
- Interrupting rating:
  - 200 kA RMS Sym. at 600 Vac (6-32 A)
  - 200 kA RMS Sym. at 700 Vac (1-4 A)
  - 10 kA DC at 700 Vdc (1-25 A)

### Operating class: aR

### Agency information

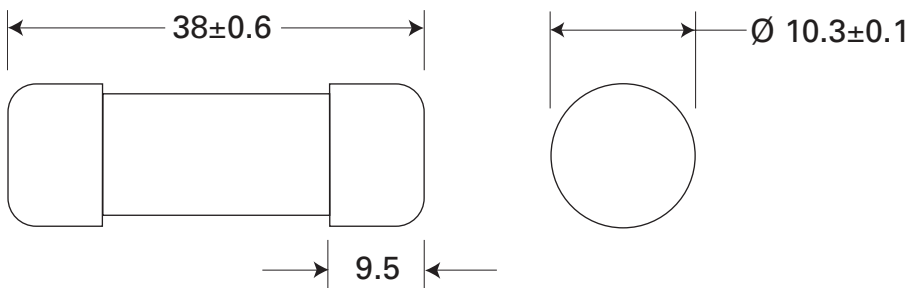
- UL Recognized JFHR8, E91958 6-32 A
- CSA Class 1422-30, (53787) 6-32 A
- CE



| Fuse size                | Rated voltage        | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                     | Watts loss (W)* | Catalog no. |
|--------------------------|----------------------|----------------------|-------------------------------------|---------------------|-----------------|-------------|
|                          |                      |                      | Pre-arcing                          | Clearing at 600 Vac |                 |             |
| 10x38 mm (13/32"x1-1/2") | 700 Vac/dc (UL)      | 1                    | 0.2                                 | 1.2                 | 0.5             | FWC-1A10F   |
|                          |                      | 2                    | 0.5                                 | 3.0                 | 1.2             | FWC-2A10F   |
|                          |                      | 3                    | 1.6                                 | 11.0                | 1.5             | FWC-3A10F   |
|                          |                      | 4                    | 5.2                                 | 32.0                | 1.5             | FWC-4A10F   |
|                          |                      | 6                    | 4.0                                 | 30.0                | 1.5             | FWC-6A10F   |
|                          |                      | 8                    | 6.0                                 | 50.0                | 2.0             | FWC-8A10F   |
|                          | 600 Vac/700 Vdc (UL) | 10                   | 9.0                                 | 70.0                | 2.5             | FWC-10A10F  |
|                          |                      | 12                   | 15.0                                | 120.0               | 3.0             | FWC-12A10F  |
|                          |                      | 16                   | 25.0                                | 150.0               | 3.5             | FWC-16A10F  |
|                          |                      | 20                   | 34.0                                | 260.0               | 4.8             | FWC-20A10F  |
|                          |                      | 25                   | 60.0                                | 390.0               | 6.0             | FWC-25A10F  |
|                          |                      | 32                   | 95.0                                | 600.0               | 7.5             | FWC-32A10F  |
|                          | 600 Vac (UL)         |                      |                                     |                     |                 |             |

\* Watts loss at rated current.

### Dimensions — mm



For details on electrical characteristics, contact Application Engineering and ask for data sheets:720011, 5785306

## FWP

690 Vac (IEC), 700 Vac (UL), 600 - 700 Vdc (UL), 14x51 mm, 1 to 50 A

### Description

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

### Specifications

Ratings

- Volts: 690 Vac (IEC), 700 Vac/600 Vdc (UL) with striker (see table for striker version)
- Amps: 1-50 A
- Interrupting rating:
  - 200 kA RMS Sym.
  - 50 kA at 800 Vdc (5-50 A non striker version)
  - 600 Vdc for striker version



### Operating class: aR

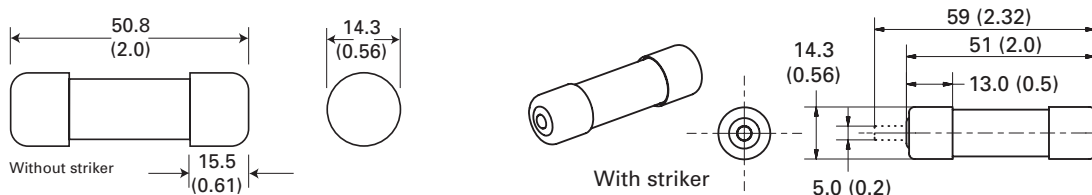
### Agency information

- UL Recognized (without striker only) JFHR2, E91958
- CSA (without striker only) Class 1422-30, 1422-90 (53787)
- Designed and tested to IEC 60269, Part 4
- CE

| Fuse type       | Fuse size           | Rated voltage                    | I <sup>2</sup> t (A <sup>2</sup> s) |                     | Clearing at 700 Vac  | Watts loss (W)* | Catalog no. |       |     |             |
|-----------------|---------------------|----------------------------------|-------------------------------------|---------------------|----------------------|-----------------|-------------|-------|-----|-------------|
|                 |                     |                                  | Rated current (amps)                | Pre-arcing          |                      |                 |             |       |     |             |
| Without striker | 14x51 mm (9/16"x2") | 700 Vac (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                                   | 0.10                | 0.23                 | 3.0             | FWP-4A14F   |       |     |             |
|                 |                     |                                  | 5                                   | 2.00                | 11.00                | 1.5             | FWP-5A14F   |       |     |             |
|                 |                     | 690 Vac (IEC)<br>700 Vac/dc (UL) | 10                                  | 4.00                | 22.00                | 4.0             | FWP-10A14F  |       |     |             |
|                 |                     |                                  | 15                                  | 10.00               | 70.00                | 5.5             | FWP-15A14F  |       |     |             |
|                 |                     |                                  | 20                                  | 26.00               | 180.00               | 6.5             | FWP-20A14F  |       |     |             |
|                 |                     |                                  | 25                                  | 49.00               | 320.00               | 7.0             | FWP-25A14F  |       |     |             |
|                 |                     |                                  | 30                                  | 58.00               | 400.00               | 9.0             | FWP-30A14F  |       |     |             |
|                 |                     |                                  | 32                                  | 68.00               | 600.00               | 8.0             | FWP-32A14F  |       |     |             |
|                 |                     |                                  | 40                                  | 84.00               | 750.00               | 8.0             | FWP-40A14F  |       |     |             |
|                 |                     |                                  | 50                                  | 200.00              | 1800.00              | 9.0             | FWP-50A14F  |       |     |             |
|                 |                     |                                  | With striker                        | 14x51 mm (9/16"x2") | 700 Vac/600 Vdc (UL) | 10              | 4.00        | 32.00 | 2.0 | FWP-10A14FI |
|                 |                     |                                  |                                     |                     |                      | 15              | 7.00        | 63.00 | 4.0 | FWP-15A14FI |
| 20              | 26.00               | 234.00                           |                                     |                     |                      | 4.0             | FWP-20A14FI |       |     |             |
| 25              | 42.00               | 378.00                           |                                     |                     |                      | 4.0             | FWP-25A14FI |       |     |             |
| 30              | 52.00               | 468.00                           |                                     |                     |                      | 6.0             | FWP-30A14FI |       |     |             |
| 32              | 68.00               | 600.00                           |                                     |                     |                      | 8.0             | FWP-32A14FI |       |     |             |
| 40              | 84.00               | 750.00                           |                                     |                     |                      | 8.0             | FWP-40A14FI |       |     |             |
| 50              | 200.00              | 1800.00                          |                                     |                     |                      | 9.0             | FWP-50A14FI |       |     |             |

\* Watts loss at rated current.

### Dimensions — mm (in)



For details on electrical characteristics, contact Application Engineering and ask for data sheets: 720025, 5781724 fuses without striker; 5785566 fuses with striker

# Ferrule fuses

## FWP

700 Vac/dc (UL), 22x58 mm, 20 to 100 A

### Description

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

### Specifications

#### Ratings

- Volts: 700 Vac/dc (UL)
- Amps: 20-100 A
- Interrupting rating:
  - 200 kA RMS Sym.
  - 50 kA at 700 Vdc, L/R 5 ms

#### Operating Class: aR

#### Agency information

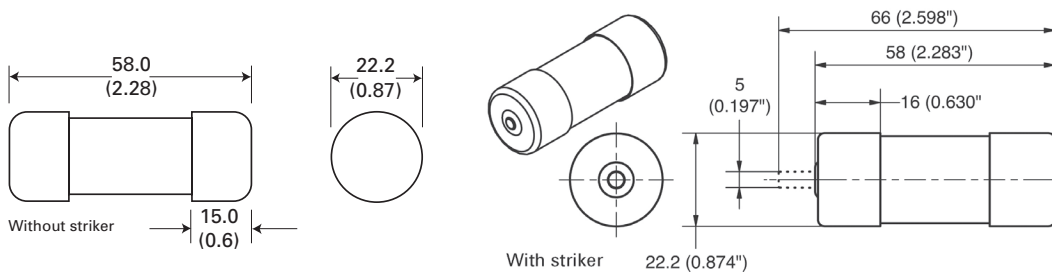
- UL Recognized (without striker only) JFHR2, E91958
- CSA (without striker only) Class 1422-30, 1422-90 (53787)
- CE



| Fuse type       | Fuse size               | Rated voltage   | Rated current $I^2t$ (A <sup>2</sup> s) |                                | Watts loss (W)* | Catalog no. |              |
|-----------------|-------------------------|-----------------|---|--------------------------------|-----------------|-------------|--------------|
|                 |                         |                 | (amps)                                  | Pre-arcing Clearing at 700 Vac |                 |             |              |
| Without striker | 22x58 mm (7/8"x2-9/32") | 700 Vac/dc (UL) | 20                                      | 23.0                           | 330             | 5.0         | FWP-20A22F   |
|                 |                         |                 | 25                                      | 37.0                           | 530             | 6.0         | FWP-25A22F   |
|                 |                         |                 | 32                                      | 55.0                           | 780             | 8.0         | FWP-32A22F   |
|                 |                         |                 | 40                                      | 68.0                           | 960             | 12.0        | FWP-40A22F   |
|                 |                         |                 | 50                                      | 155.0                          | 2200            | 12.5        | FWP-50A22F   |
|                 |                         |                 | 63                                      | 280.0                          | 4000            | 15.0        | FWP-63A22F   |
|                 |                         |                 | 80                                      | 550.0                          | 7800            | 15.0        | FWP-80A22F   |
|                 |                         |                 | 100                                     | 1100.0                         | 15,600          | 16.5        | FWP-100A22F  |
| With striker    | 22x58 mm (7/8"x2-9/32") | 700 Vac/dc (UL) | 20                                      | 19.0                           | 260             | 5.0         | FWP-20A22FI  |
|                 |                         |                 | 25                                      | 34.0                           | 410             | 6.0         | FWP-25A22FI  |
|                 |                         |                 | 32                                      | 53.5                           | 605             | 8.0         | FWP-32A22FI  |
|                 |                         |                 | 40                                      | 68.0                           | 750             | 9.0         | FWP-40A22FI  |
|                 |                         |                 | 50                                      | 135.0                          | 1600            | 9.5         | FWP-50A22FI  |
|                 |                         |                 | 63                                      | 280.0                          | 3080            | 11.0        | FWP-63A22FI  |
|                 |                         |                 | 80                                      | 600.0                          | 6600            | 13.5        | FWP-80A22FI  |
|                 |                         |                 | 100                                     | 1100.0                         | 12,500          | 16.0        | FWP-100A22FI |

\* Watts loss at rated current.

### Dimensions — mm (in)



For details on electrical characteristics, contact Application Engineering and ask for data sheets:720026, 5781723

## FWK

750 Vdc (IEC), 20x127 mm and 25x146 mm, 5 to 60 A

### Description

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

### Specifications

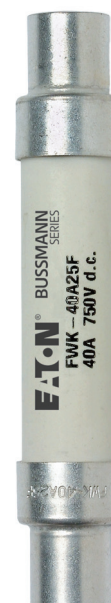
Ratings

- Volts: 750 Vdc (IEC)
- Amps:
  - 5-30 A (20x127 mm)
  - 35-60 A (25x146 mm)
- Interrupting rating: 50 kA at 750 Vdc, L/R 10-15 ms

**Operating class: gG**

### Agency information

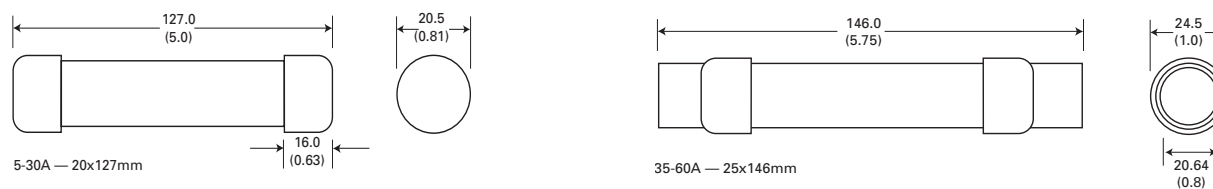
- CE



| Fuse size             | Rated voltage | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                     |     | Watts loss (W)* | Catalog no. |
|-----------------------|---------------|----------------------|-------------------------------------|---------------------|-----|-----------------|-------------|
|                       |               |                      | Pre-arcing                          | Clearing at 750 Vac |     |                 |             |
| 20x127 mm (13/32"x5") | 750 Vdc (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                 | 5.0 | FWK-15A20F      |             |
|                       |               | 20                   | 125                                 | 315                 | 7.8 | FWK-20A20F      |             |
|                       |               | 25                   | 400                                 | 1100                | 6.5 | FWK-25A20F      |             |
|                       |               | 30                   | 800                                 | 2600                | 6.5 | FWK-30A20F      |             |
| 25x146 mm (1"x5-3/4") | 750 Vdc (IEC) | 35                   | 1300                                | 4600                | 6.0 | 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      |             |

\* Watts loss at rated current.

### Dimensions — mm (in)



For details on electrical characteristics, contact Application Engineering and ask for data sheets:720039, 5785031

# Ferrule fuses

## FWJ

1000 Vac/800 Vdc (UL), 14x67 mm, 20 to 30 A

### Description

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

### Specifications

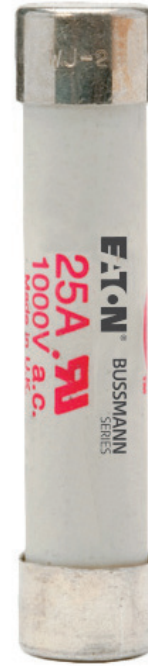
#### Ratings

- Volts: 1000 Vac/800 Vdc
- Amps: 20-30 A
- Interrupting rating:
  - 25 kA RMS Sym.
  - 50 kA at 800 Vdc

#### Operating class: aR

#### Agency information

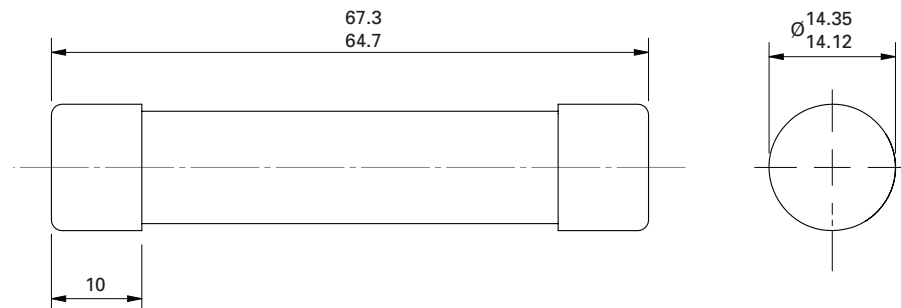
- UL Recognized JFHR2, E91958
- CE



| Fuse size               | Rated voltage          | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                      | Watts loss (W)* | Catalog no. |
|-------------------------|------------------------|----------------------|-------------------------------------|----------------------|-----------------|-------------|
|                         |                        |                      | Pre-arcing                          | Clearing at 1000 Vac |                 |             |
| 14x67 mm (9/16"x2-5/8") | 1000 Vac/ 800 Vdc (UL) | 20                   | 25                                  | 220                  | 9               | FWJ-20A14F  |
|                         |                        | 25                   | 33                                  | 350                  | 11              | FWJ-25A14F  |
|                         |                        | 30                   | 52                                  | 450                  | 14              | FWJ-30A14F  |

\* Watts loss at rated current.

### Dimensions — mm



For details on electrical characteristics, contact Application Engineering and ask for data sheets:720028, 5785315



## FWL

1200 Vac/1000 Vdc (IEC), 20x127 mm, 20 to 30 A

### Description

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

### Specifications

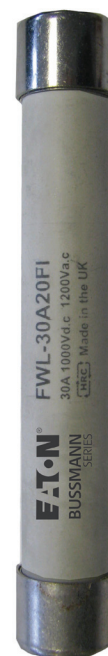
#### Ratings

- Volts:
  - 1200 Vac (IEC)
  - 1000 Vdc (IEC)
- Amps: 20-30 A
- Interrupting rating:
  - 50 kA RMS Sym.
  - 50 kA at 1000 Vdc

#### Operating Class: gR

#### Agency information

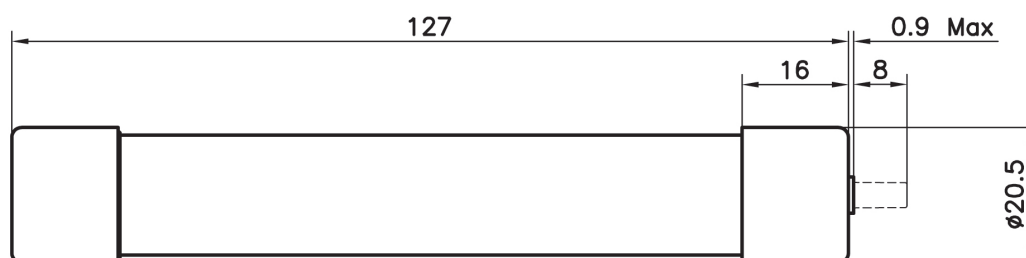
- IEC 60077
- CE



| Fuse type         | Fuse size             | Rated voltage           | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                      | Watts loss (W)* | Catalog no. |
|-------------------|-----------------------|-------------------------|----------------------|-------------------------------------|----------------------|-----------------|-------------|
|                   |                       |                         |                      | Pre-arcing                          | Clearing at 1000 Vac |                 |             |
| Without indicator | 20x127 mm (13/16"x5") | 1200 Vac/1000 Vdc (IEC) | 20                   | 675                                 | 1550                 | 5.9             | FWL-20A20F  |
|                   |                       |                         | 25                   | 1200                                | 2760                 | 6.5             | FWL-25A20F  |
|                   |                       |                         | 30                   | 1850                                | 4300                 | 7.5             | FWL-30A20F  |
| With indicator    | 20x127 mm (13/16"x5") | 1200 Vac/1000 Vdc (IEC) | 20                   | 675                                 | 1550                 | 5.9             | FWL-20A20FI |
|                   |                       |                         | 25                   | 1200                                | 2760                 | 6.5             | FWL-25A20FI |
|                   |                       |                         | 30                   | 1850                                | 4300                 | 7.5             | FWL-30A20FI |

\* Watts loss at rated current.

### Dimensions — mm



For details on electrical characteristics, contact Application Engineering and ask for data sheets:720040, 5785455

# Ferrule fuses

## FWS

1400 - 2000 Vac/1000 Vdc (IEC), 20x127 mm, 2 to 15 A

### Description

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

### Specifications

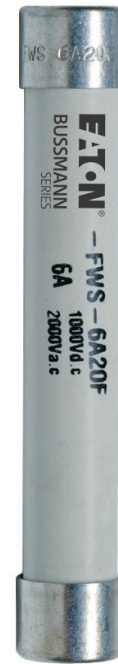
#### Ratings

- Volts:
  - 2000 Vac/1000 Vdc (IEC, 2-8 A)
  - 1400 Vac/1000 Vdc (IEC, 10-15 A)
- Amps: 2-15 A
- Interrupting rating:
  - 50 kA RMS Sym.
  - 50 kA at 1000 Vdc (2-10 A only)

#### Operating class: gG

#### Agency information

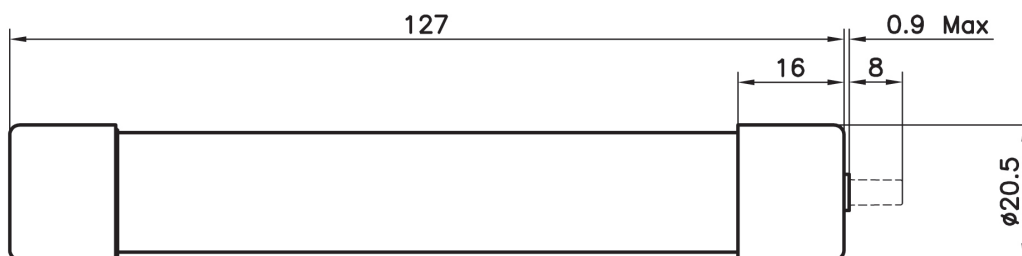
- IEC 60077
- CE



| Fuse type         | Fuse size                | Rated voltage           | Rated current I <sup>2</sup> t (A <sup>2</sup> s) |            |                      | Watts loss (W)* | Catalog no. |
|-------------------|--------------------------|-------------------------|---|------------|----------------------|-----------------|-------------|
|                   |                          |                         | (amps)  | Pre-arcing | Clearing at 1000 Vac |                 |             |
| Without indicator | 20x127 mm<br>(13/16"x5") | 2000 Vac/1000 Vdc (IEC) | 2   | 0.8        | 2.4                  | 4.4             | FWS-2A20F   |
|                   |                          |                         | 6   | 27.0       | 81.0                 | 6.7             | FWS-6A20F   |
|                   |                          |                         | 8   | 64.0       | 192.0                | 7.6             | FWS-8A20F   |
|                   |                          | 1400 Vac/1000 Vdc (IEC) | 10  | 118.0      | 277.0                | 3.0             | FWS-10A20F  |
|                   |                          |                         | 12  | 170.0      | 380.0                | 3.4             | FWS-12A20F  |
|                   |                          |                         | 15  | 209.0      | 500.0                | 5.0             | FWS-15A20F  |
| With indicator    | 20x127 mm<br>(13/16"x5") | 2000 Vac/1000 Vdc (IEC) | 2   | 0.8        | 2.4                  | 4.4             | FWS-2A20FI  |
|                   |                          |                         | 6   | 27.0       | 81.0                 | 6.7             | FWS-6A20FI  |
|                   |                          |                         | 8   | 64.0       | 192.0                | 7.6             | FWS-8A20FI  |
|                   |                          | 1400 Vac/1000 Vdc (IEC) | 10  | 118.0      | 277.0                | 3.0             | FWS-10A20FI |
|                   |                          |                         | 12  | 170.0      | 380.0                | 3.4             | FWS-12A20FI |
|                   |                          |                         | 15  | 209.0      | 500.0                | 5.0             | FWS-15A20FI |

\* Watts loss at rated current.

### Dimensions — mm



For details on electrical characteristics, contact Application Engineering and ask for data sheets: 720040, 5785109

## Accessories

### JM70100 DIN-Rail/panel mount fuse block for 22x58 mm fuses

#### Description

Bussmann series modular, open-style fuse blocks for 22x58 mm cylindrical fuses. Versatile 35 mm DIN-Rail or screw-to-panel mounting. Available optional IP20 finger-safe covers with lockout/tagout capability come in indicating and non-indicating versions. Order covers separately, one cover per pole.

#### Specifications

Ratings

- Volts: 700 Vac (UL)
- Amps: 100 A
- Withstand rating: 200 kA

#### Compatible Bussmann series fuses

- FWP see page 38

#### Agency information

- UL Recognized, Guide IZTL2, File 14853

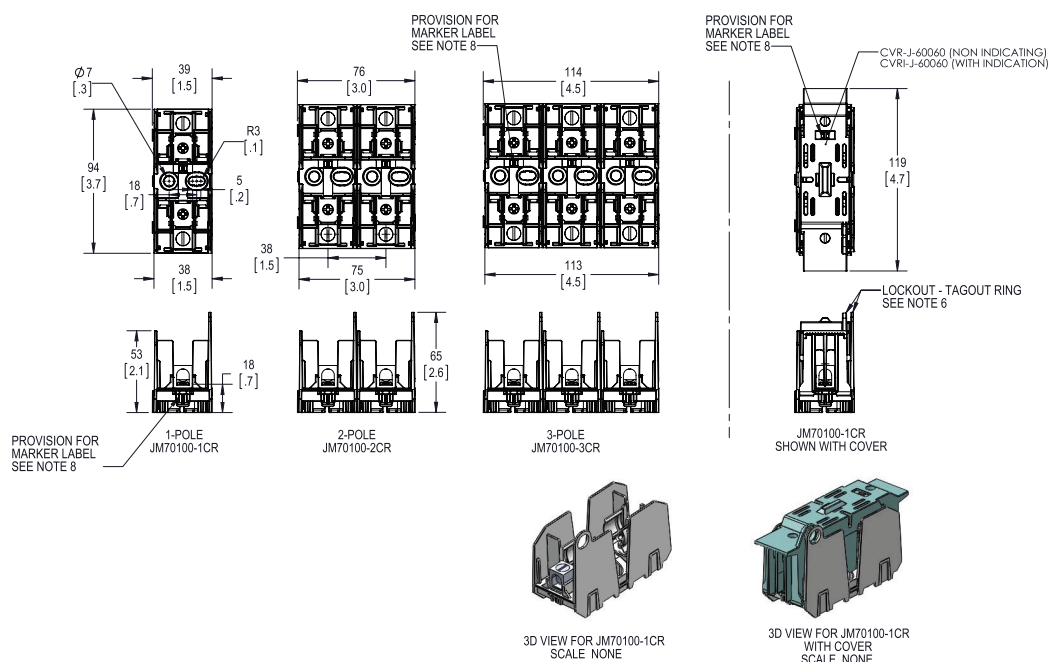


| Catalog no. | Poles | Terminal type | Fuse size | IP20 cover catalog numbers* |                |
|-------------|-------|---------------|-----------|-----------------------------|----------------|
|             |       |               |           | Indicating**                | Non-indicating |
| JM70100-1CR | 1     |               |           |                             |                |
| JM70100-2CR | 2     | Box lug       | 22x58 mm  | CVRI-J-60060                | CVR-J-60060    |
| JM70100-3CR | 3     |               |           |                             |                |

\* Order separately, one cover per pole.

\*\* Indication requires 90 V minimum and energized, closed circuit.

#### Dimensions — mm (in)



# Ferrule fuses

## Accessories

### CHM modular DIN-Rail mount holders for 10x38 mm fuses

#### Description

Bussmann series compact IP20 finger-safe modular DIN-Rail mount fuse holders for 10x38 mm cylindrical fuses.

#### Specifications and agency information

Rated voltage and current: see table below

#### Compatible Bussmann series fuses

- See table below

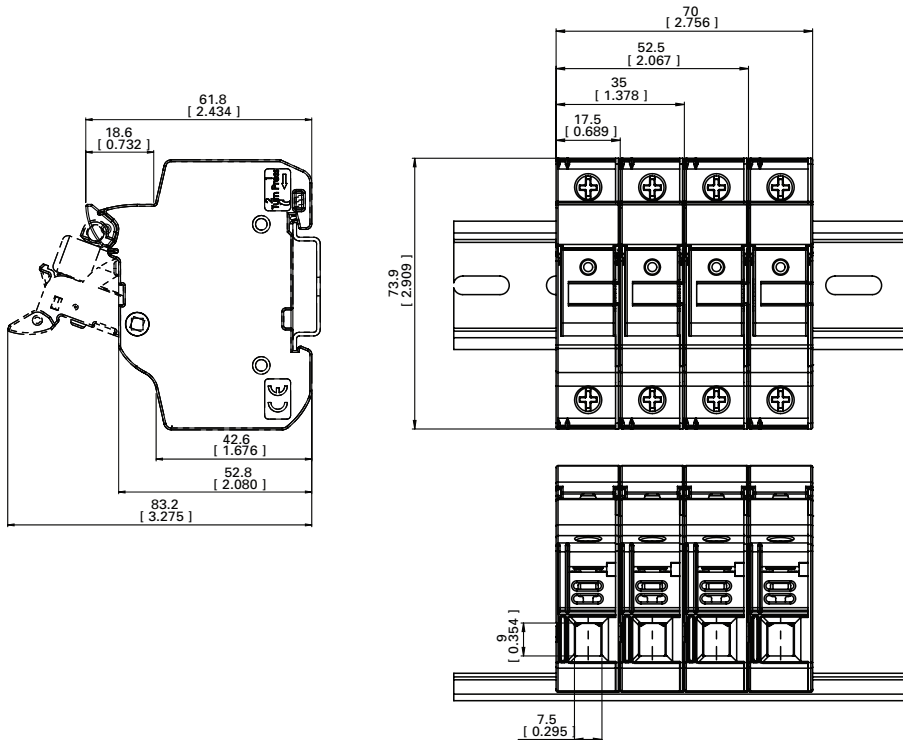
#### Compatible Bussmann series fuses

- FWA (page 32), FWC (page 36)



| Size  | Catalog no.    |                   | Rated voltage and rated current      | Agency markings             | Number of poles | Terminal rating   | Rated withstand capacity   | Compatible Bussmann series fuses |
|-------|----------------|-------------------|--------------------------------------|-----------------------------|-----------------|---|--|----------------------------------|
|       | With indicator | Without indicator |                                      |                             |                 |   |  |                                  |
| 10x38 | CHM1DIU        | CHM1DU            | IEC 690 Vac/32 A<br>UL 600 Vac/30 A; | IEC 60269-2<br>UR; CSA; CCC | 1               | IEC: 1 to 25 mm <sup>2</sup> 70°C<br>PVC/copper cable,<br>solid, stranded, fine<br>stranded, fork lug,<br>comb busbar; single<br>and dual | IEC 120 kA rms sym<br>UL 200 kA rms sym<br>CCC 100 kA rms<br>sym | FWA, FWC.                        |
|       | CHM2DIU        | CHM2DU            |                                      |                             | 2               |   |  |                                  |
|       | CHM3DIU        | CHM3DU            |                                      |                             | 3               |   |  |                                  |
|       | CHM4DIU        | CHM4DU            |                                      | 4                           |                 |   |  |                                  |
|       | CHM1DNIU       | CHM1DNU           |                                      | 1-pole + 1<br>neutral       | IEC 60269-2     |   |  |                                  |
|       | CHM3DNIU       | CHM3DNU           |                                      | 3-pole + 1<br>neutral       |                 |   |  |                                  |
| N/A   | CHM1DNXU       | IEC 690 Vac/32 A  | IEC 60269-2                          | 1 neutral                   | N/A             | N/A   |  |                                  |

#### Dimensions — mm (in)



## Accessories

### CH14 modular DIN-Rail mount holders for 14x51 mm fuses

#### Description

Bussmann series compact DIN-Rail mount fuse holders for 14 x 51mm cylindrical fuses. Available in different versions with neutral and microswitch.

#### Specifications and agency information

Rated voltage and current: see table below

#### Mounting

- 35 mm DIN Rail
- Panel mount (2xM4 screws)

#### Compatible Bussmann series fuses

- FWH (page 35), FWX (page 33), FWP (page 37)



| Size  | Catalog no.       |                | Description                      | Rated voltage and current | Agency markings | Terminal rating   | Rated withstand capacity | Compatible Bussmann series fuses  |
|-------|-------------------|----------------|----------------------------------|---------------------------|-----------------|---|--------------------------|---|
|       | Without indicator | With indicator |                                  |                           |                 |   |                          |   |
| 15x41 | CH141DNXU         | —              | Neutral only                     |                           |                 |   |                          |   |
|       | CH141DU           | CH141DIU       | 1 pole                           |                           |                 |   |                          |   |
|       | CH142DU           | CH142DIU       | 2 pole                           |                           |                 |   |                          |   |
|       | CH143DU           | CH143DIU       | 3 pole                           |                           |                 |   |                          |   |
|       | CH144DU           | CH144DIU       | 4 pole                           |                           |                 |   |                          |   |
|       | CH141DNU          | CH141DNIU      | 1 pole + neutral                 | 690 Vac/50 A              | IEC 60269-1     | Size:<br>2.5-50 mm <sup>2</sup><br><br>Torque:<br>3 N•m max | 120 kA AC                | FWX-A14F <sup>1</sup><br>FWH-A14F <sup>1</sup><br>FWP-A14F <sup>1,2</sup> |
|       | CH143DNU          | CH143DNIU      | 3 pole + neutral                 | 750 Vdc/50 A              | IEC 60269-2     |   |                          |   |
|       | CH141DMSU-F       | —              | 1 pole with microswitch          |                           |                 |   |                          |   |
|       | CH143DMSU-F       | —              | 3 pole with microswitch          |                           |                 |   |                          |   |
|       | CH143DNMSU-F      | —              | 3 pole +neutral with microswitch |                           |                 |   |                          |   |

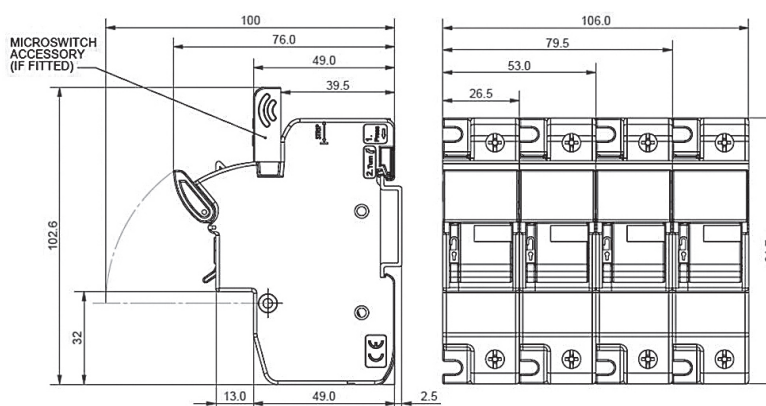
<sup>1</sup> Maximum allowed continuous current applies. Please refer to data sheet for details.

<sup>2</sup> Please consult our application engineers if you wish to use a FWP fuse with a striker option.

#### Accessories

| Catalog no. | Description  | Unit packing |
|-------------|--|--------------|
| AL-D        | Multi-pole ganging clips, one kit will gang up to 4-poles together                                     | 12           |
| CH14-P      | Multi-pole handle pins, one kit will gang up to 12 handles together                                    | 12           |
| CH14-L      | Lockout padlock support, it will accept up to 5 mm diameter padlock shank                              | 5            |
| CH14-IP20   | IP20 protection accessory, provides IP20 protection to terminals with 10 mm <sup>2</sup> or less cable | 12           |
| CH14-MS1    | 1-pole microswitch accessory, provides detection of a blown fuse                                       | 5            |
| CH14-MS3    | 3-pole microswitch accessory, provides detection of a blown fuse                                       | 3            |

#### Dimensions — mm



Data sheet: 10080

# Ferrule fuses

## Accessories

### CH22 modular DIN-Rail mount holders for 22x58 mm fuses

#### Description

CBussmann series compact DIN-Rail mount fuse holders for 22x58 mm cylindrical fuses. Available in different versions with neutral and microswitch.

#### Specifications and agency information

- See catalog numbers table below

#### Mounting

- 35 mm DIN Rail
- Panel mount (2xM4 screws)

#### Compatible Bussmann series fuses

- FWP (page 38)



| Size  | Catalog no.       |                | Description                       | Rated voltage and current       | Agency markings            | Terminal rating   | Rated withstand capacity | Compatible Bussmann series fuses |
|-------|-------------------|----------------|-----------------------------------|---------------------------------|----------------------------|---|--------------------------|----------------------------------|
|       | Without indicator | With indicator |                                   |                                 |                            |   |                          |                                  |
| 22x58 | CH221DNXU         | -              | Neutral holder                    | 690 Vac/125 A<br>1000 Vdc/125 A | IEC 60269-1<br>IEC 60269-2 | Size:<br>4 - 50 mm <sup>2</sup><br><br>Torque:<br>4 N•m max | 120 kA AC<br>50 kA DC    | FWP ferrule <sup>1,2</sup>       |
|       | CH221DU           | CH221DIU       | 1 pole fuse holder                |                                 |                            |   |                          |                                  |
|       | CH222DU           | CH222DIU       | 2 pole fuse holder                |                                 |                            |   |                          |                                  |
|       | CH223DU           | CH223DIU       | 3 pole fuse holder                |                                 |                            |   |                          |                                  |
|       | CH224DU           | CH224DIU       | 4 pole fuse holder                |                                 |                            |   |                          |                                  |
|       | CH221DNU          | CH221DNIU      | 1 pole + neutral                  |                                 |                            |   |                          |                                  |
|       | CH223DNU          | CH223DNIU      | 3 pole + neutral                  |                                 |                            |   |                          |                                  |
|       | —                 | CH221DMSU-F    | 1 pole with microswitch           |                                 |                            |   |                          |                                  |
|       | —                 | CH223DMSU-F    | 3 pole with microswitch           |                                 |                            |   |                          |                                  |
|       | —                 | CH223DNMSU-F   | 3 pole with microswitch + neutral |                                 |                            |   |                          |                                  |

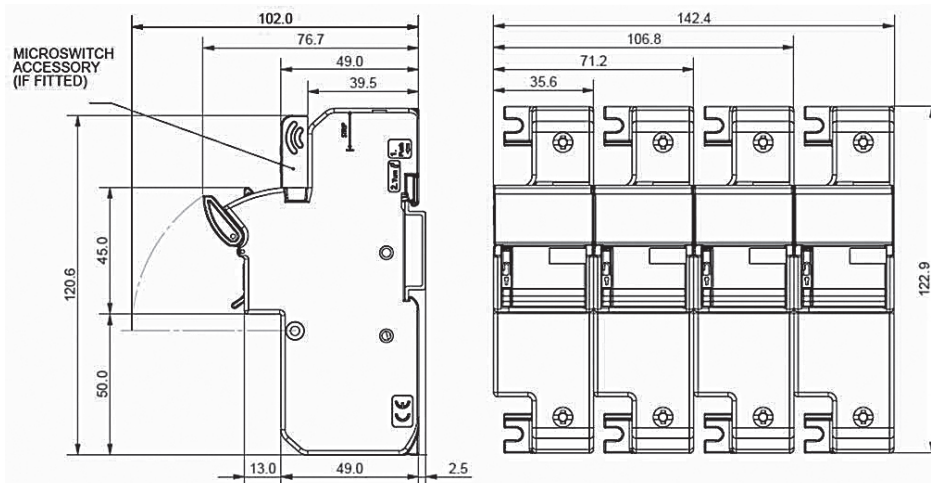
<sup>1</sup> Maximum allowed continuous current applies. Please refer to data sheet for details.

<sup>2</sup> Please consult our application engineers if you wish to use a FWP fuse with a striker option.

#### Accessories

| Catalog no. | Description  | Unit packing |
|-------------|--|--------------|
| AL-D        | Multi-pole ganging clips, one kit will gang up to 4-poles together                                     | 12           |
| CH14-P      | Multi-pole handle pins, one kit will gang up to 12 handles together                                    | 12           |
| CH22-L      | Lockout padlock support, it will accept up to 5 mm diameter padlock shank                              | 5            |
| CH22-IP20   | IP20 protection accessory, provides IP20 protection to terminals with 10 mm <sup>2</sup> or less cable | 12           |
| CH22-MS1    | 1-pole microswitch accessory, for blown fuse monitoring  | 5            |
| CH22-MS3    | 3-pole microswitch accessory, for blown fuse monitoring  | 3            |

#### Dimensions — mm



Data sheet: 10115



## General information

Eaton's Bussmann series complete range of square body fuses and accessories are designed and tested to:

- IEC 60269 Part 4
- UL Recognized

Their unique design and construction provide:

- Minimal energy let-through ( $I^2t$ )
- Low operating temperature
- Low watts loss

Square body fuses are a very attractive solution for high power applications which require a compact design with superior performance. The construction and design of square body fuses make it easy for Eaton to manufacture custom products to meet your high speed fuse needs. Our standard catalog numbers provide only a sample of the wide variety of possible products.

Each square body fuse is available with a number of different end fittings, including:

- DIN 43653
- DIN 43620
- Flush-end (metric/US)
- French style
- US style

### Voltage rating

All Bussmann series square body fuses are tested to IEC 60269 Part 4. This standard requires a test voltage which is 5% higher than the rated voltage. In North America, fuses are required to clear only their rated voltage.

### Accessories

Bussmann series square body style fuses are available with three different open fuse indicator systems. Options include visual indication and indication utilizing a microswitch. Fuse blocks are also available for most applications.

### Features and benefits

- Excellent DC performance
- Low arc voltage and low energy let-through ( $I^2t$ )
- Low watts loss
- Superior cycling capability

### Typical applications

- DC common bus
- DC drives
- Power converters/rectifiers
- Reduced voltage starters

### Square body contents

#### Fuses

| Volts (IEC/UL) | Size             | Class  | Fuse style        |
|----------------|------------------|--------|-------------------|
| 690/700        | 000, 00, 1, 2, 3 | aR     | DIN 43653         |
|                |                  | aR/gR  | DIN 43620         |
|                |                  | aR     | DIN 43653         |
| 690/700        | 00, 1*, 1, 2, 3  | aR     | Flush-end contact |
|                |                  | aR     | US style          |
|                |                  | aR     | French style      |
|                |                  | 4      | Flush-end contact |
|                |                  | 23, 24 | Flush-end contact |
| 1000           | 00, 1, 2, 3      | gR     | DIN 43620         |
|                |                  | aR     | DIN 43653         |
|                |                  | aR     | DIN 43620         |
| 1000           | 1*, 1, 2, 3      | aR     | DIN 43653         |
|                |                  | aR     | Flush-end contact |
|                |                  | aR     | US style          |
|                |                  | 4      | Flush-end contact |
|                |                  | 24     | Flush-end contact |
| 1250/1300      | 1*, 1, 2, 3      | aR     | DIN 43653         |
|                |                  | aR     | Flush-end contact |
|                |                  | aR     | US style          |
|                |                  | 4      | Flush-end contact |
| 1100-2000      | 5                | aR     | Flush-end contact |
|                |                  | aR     | Flush-end contact |

### Accessories

| Description       | Page  |
|-------------------|-------|
| Fuse blocks       | 89-90 |
| Indicator systems | 91    |
| Microswitches     | 91-92 |

### Square body fuse amps and volts ranges

| Amps    | Volts | AC | DC |
|---------|-------|----|----|
| 10-7500 | 690   | X  | —  |
| 50-1400 | 1250  | X  | —  |

# Square body fuses

170M — size 000 and 00, DIN 43653

690 Vac (IEC), 700 Vac/dc (UL), 10 to 400 A

## Description

Square body DIN 43653 bolted tags high speed fuses, for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Available with and without visual indicator, and Type T indicator for a microswitch.

## Specifications

### Ratings

- Volts:
  - 690 Vac (IEC, size 000 and 00)
  - 700 Vac (UL, size 000; size 00 100-400 A only)
  - 700 Vdc (UL, size 000)
- Amps: 10-400 A
- Interrupting rating:
  - 200 kA RMS Sym.
  - 50 kA at 700 Vdc (size 000 only)

## Operating class

- gR - size 000 (10-63 A), size 00 (25-80 A)
- aR - size 000 (>63 A), size 00 (>80 A)

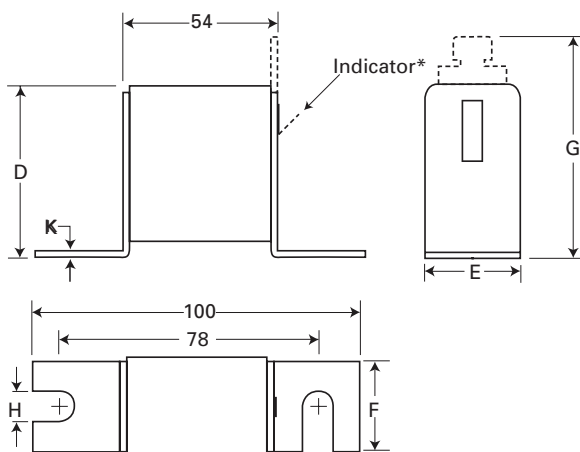
## Agency Information

- Designed and tested to IEC 60269 Part 4
- UL Recognized, E125085, JFHR2
- CSA Class 53787, File 1422-30 on size 000
- CCC approved
- CE

## Dimensions — mm

The dotted line illustrates the Type T indicator fuse.

\* Indicator for size 00 fuses is a red pin.



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

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



For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6310 (Size 000), 170K6312 (Size 00)



170M — size 000 and 00, DIN 43653

690 Vac (IEC), 700 Vac/dc (UL), 10 to 400 A

| Fuse size | Rated voltage                    | I <sup>2</sup> t (A <sup>2</sup> s) |            |                     | Watts loss (W)* | Catalog no.             |                     |   |
|-----------|----------------------------------|-------------------------------------|------------|---------------------|-----------------|-------------------------|---------------------|---|
|           |                                  | Rated current (amps)                | Pre-Arcing | Clearing at 660 Vac |                 | -U/80 without indicator | -/80 with indicator | -TN/80 Type T indicator for microswitch |
| 000       | 690 Vac (IEC)<br>700 Vac/dc (UL) | 10                                  | 3.8        | 25.5                | 3.0             | 170M1308                | 170M1358            | 170M1408                                |
|           |                                  | 16                                  | 7.2        | 48.0                | 5.5             | 170M1309                | 170M1359            | 170M1409                                |
|           |                                  | 20                                  | 11.5       | 78.0                | 7.0             | 170M1310                | 170M1360            | 170M1410                                |
|           |                                  | 25                                  | 19.0       | 130.0               | 9.0             | 170M1311                | 170M1361            | 170M1411                                |
|           |                                  | 32                                  | 40.0       | 270.0               | 10.0            | 170M1312                | 170M1362            | 170M1412                                |
|           |                                  | 40                                  | 69.0       | 460.0               | 12.0            | 170M1313                | 170M1363            | 170M1413                                |
|           |                                  | 50                                  | 115.0      | 770.0               | 15.0            | 170M1314                | 170M1364            | 170M1414                                |
|           |                                  | 63                                  | 215.0      | 1450.0              | 16.0            | 170M1315                | 170M1365            | 170M1415                                |
|           |                                  | 80                                  | 380.0      | 2550.0              | 19.0            | 170M1316                | 170M1366            | 170M1416                                |
|           |                                  | 100                                 | 695.0      | 4650.0              | 24.0            | 170M1317                | 170M1367            | 170M1417                                |
|           |                                  | 125                                 | 1250.0     | 8500.0              | 28.0            | 170M1318                | 170M1368            | 170M1418                                |
|           |                                  | 160                                 | 2350.0     | 16,000.0            | 32.0            | 170M1319                | 170M1369            | 170M1419                                |
|           |                                  | 200                                 | 4200.0     | 28,000.0            | 37.0            | 170M1320                | 170M1370            | 170M1420                                |
|           |                                  | 250                                 | 7750.0     | 51,500.0            | 42.0            | 170M1321                | 170M1371            | 170M1421                                |
|           |                                  | 315                                 | 12,000.0   | 80,500.0            | 53.0            | 170M1322                | 170M1372            | 170M1422                                |
| 00        | 690 Vac (IEC)                    | 25                                  | 19.0       | 130.0               | 6.0             |                         | 170M2608            | 170M2658                                |
|           |                                  | 32                                  | 28.5       | 195.0               | 7.0             |                         | 170M2609            | 170M2659                                |
|           |                                  | 40                                  | 50.0       | 360.0               | 9.0             |                         | 170M2610            | 170M2660                                |
|           |                                  | 50                                  | 95.0       | 640.0               | 10.0            |                         | 170M2611            | 170M2661                                |
|           |                                  | 63                                  | 170.0      | 1200.0              | 12.0            |                         | 170M2612            | 170M2662                                |
|           |                                  | 80                                  | 310.0      | 2100.0              | 15.0            |                         | 170M2613            | 170M2663                                |
|           |                                  | 100                                 | 620.0      | 4150.0              | 20.0            |                         | 170M2614            | 170M2664                                |
| 00        | 690 Vac (IEC)<br>700 Vac (UL)    | 125                                 | 1000.0     | 6950.0              | 25.0            |                         | 170M2615            | 170M2665                                |
|           |                                  | 160                                 | 1900.0     | 13,000.0            | 30.0            |                         | 170M2616            | 170M2666                                |
|           |                                  | 200                                 | 3400.0     | 23,000.0            | 35.0            |                         | 170M2617            | 170M2667                                |
|           |                                  | 250                                 | 6250.0     | 42,000.0            | 45.0            |                         | 170M2618            | 170M2668                                |
|           |                                  | 315                                 | 10,000.0   | 68,500.0            | 55.0            |                         | 170M2619            | 170M2669                                |
|           |                                  | 350                                 | 13,500.0   | 91,500.0            | 60.0            |                         | 170M2620            | 170M2670                                |
|           |                                  | 400                                 | 18,000.0   | 125,000.0           | 70.0            |                         | 170M2621            | 170M2671                                |

\* Watts loss at rated current.

# Square body fuses

170M — size 1\* to 3, DIN 43653

690 Vac (IEC), 700 Vac (UL), 40 to 2000 A

## Description

Square body DIN 43653 bolted tags high speed fuses, for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Available with visual indicator, and Type K and T indicator for a microswitch.

## Specifications

### Ratings

- Volts: 690 Vac (IEC)/700 Vac (UL)
- Amps: 40-2000 A
- Interrupting rating: 200 kA RMS Sym.

### Operating class: aR

### Agency information

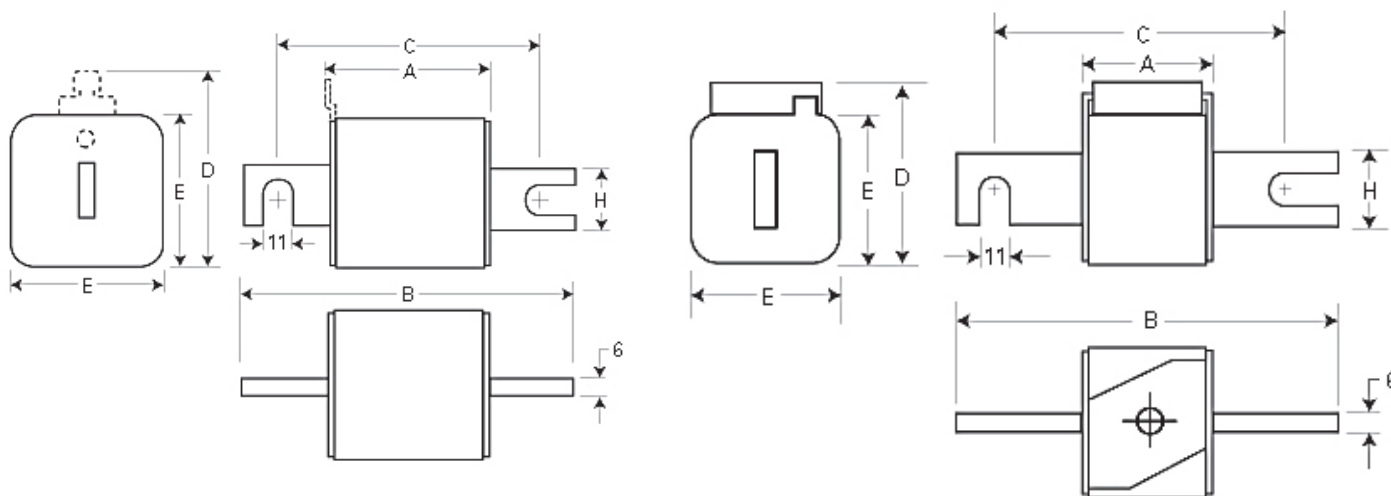
- Designed and tested to IEC 60269 Part 4
- UL Recognized, E125085, JFHR2\*
- CSA Class 53787, File 1422-30\*
- CCC except where noted
- CE

\* Consult your Bussmann series product representative for status.



## Dimensions — mm

1 mm = 0.0394"



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

| Size | A  | B   | B <sup>1</sup> | C  | C <sup>1</sup> | D <sup>2</sup> | E  | H  |
|------|----|-----|----------------|----|----------------|----------------|----|----|
| 1*   | 50 | 104 | 134            | 78 | 108            | 58             | 45 | 22 |
| 1    | 50 | 108 | 138            | 78 | 108            | 66             | 53 | 25 |
| 2    | 50 | 108 | 138            | 78 | 108            | 75             | 61 | 25 |
| 3    | 51 | 109 | 139            | 78 | 108            | 90             | 76 | 30 |

<sup>1</sup> Valid for fuse Types -/110 and -TN/110.

<sup>2</sup> Valid for fuse Types -TN/80 and -TN/110.

### Type -KN/80, -KN/110

| Size | A  | B   | B <sup>3</sup> | C  | C <sup>3</sup> | 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 |

<sup>3</sup> Valid for fuse Type -KN/110.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6314 (Size 1\*), 170K6316 (Size 1), 170K6318 (Size 2), 170K6320 (Size 3)

## 170M — size 1\* to 3, DIN 43653

690 Vac (IEC), 700 Vac (UL), 40 to 2000 A

| Fuse size        | Rated voltage                 | I <sup>2</sup> t (A <sup>2</sup> s) |                               |                        | Catalog no.     |                       |                                   |                                   |                       |                                    |                                    |          |          |
|------------------|-------------------------------|-------------------------------------|-------------------------------|------------------------|-----------------|-----------------------|-----------------------------------|-----------------------------------|-----------------------|------------------------------------|------------------------------------|----------|----------|
|                  |                               | Rated current (amps)                | Pre-arcing                    | Clearing at 660 Vac    | Watts loss (W)* | -/80 with indicator   | -TN/80 Type T indicator for micro | -KN/80 Type K indicator for micro | -/110 with indicator  | -TN/110 Type T indicator for micro | -KN/110 Type K indicator for micro |          |          |
| 1*               | 690 Vac (IEC)<br>700 Vac (UL) | 40                                  | 40                            | 270                    | 9               | 170M3008              | 170M3058                          | 170M3108                          | 170M3158              | 170M3208                           | 170M3258                           |          |          |
|                  |                               | 50                                  | 77                            | 515                    | 11              | 170M3009              | 170M3059                          | 170M3109                          | 170M3159              | 170M3209                           | 170M3259                           |          |          |
|                  |                               | 63                                  | 115                           | 770                    | 14              | 170M3010              | 170M3060                          | 170M3110                          | 170M3160              | 170M3210                           | 170M3260                           |          |          |
|                  |                               | 80                                  | 185                           | 1250                   | 18              | 170M3011              | 170M3061                          | 170M3111                          | 170M3161              | 170M3211                           | 170M3261                           |          |          |
|                  |                               | 100                                 | 360                           | 2450                   | 21              | 170M3012              | 170M3062                          | 170M3112                          | 170M3162              | 170M3212                           | 170M3262                           |          |          |
|                  |                               | 125                                 | 550                           | 3700                   | 26              | 170M3013              | 170M3063                          | 170M3113                          | 170M3163              | 170M3213                           | 170M3263                           |          |          |
|                  |                               | 160                                 | 1100                          | 7500                   | 30              | 170M3014              | 170M3064                          | 170M3114                          | 170M3164              | 170M3214                           | 170M3264                           |          |          |
|                  |                               | 200                                 | 2200                          | 15,000                 | 35              | 170M3015              | 170M3065                          | 170M3115                          | 170M3165              | 170M3215                           | 170M3265                           |          |          |
|                  |                               | 250                                 | 4200                          | 28,500                 | 40              | 170M3016              | 170M3066                          | 170M3116                          | 170M3166              | 170M3216                           | 170M3266                           |          |          |
|                  |                               | 315                                 | 7000                          | 46,500                 | 50              | 170M3017              | 170M3067                          | 170M3117                          | 170M3167              | 170M3217                           | 170M3267                           |          |          |
|                  |                               | 350                                 | 10,000                        | 68,500                 | 55              | 170M3018              | 170M3068                          | 170M3118                          | 170M3168              | 170M3218                           | 170M3268                           |          |          |
|                  |                               | 400                                 | 15,000                        | 105,000                | 60              | 170M3019              | 170M3069                          | 170M3119                          | 170M3169              | 170M3219                           | 170M3269                           |          |          |
|                  |                               | 450                                 | 21,000                        | 140,000                | 65              | 170M3020              | 170M3070                          | 170M3120                          | 170M3170              | 170M3220                           | 170M3270                           |          |          |
|                  |                               | 500                                 | 27,000                        | 180,000                | 70              | 170M3021              | 170M3071                          | 170M3121                          | 170M3171              | 170M3221                           | 170M3271                           |          |          |
|                  |                               | 550                                 | 34,000                        | 230,000                | 75              | 170M3022              | 170M3072                          | 170M3122                          | 170M3172              | 170M3222                           | 170M3272                           |          |          |
|                  |                               | 630                                 | 48,500                        | 325,000                | 80              | 170M3023              | 170M3073                          | 170M3123                          | 170M3173              | 170M3223                           | 170M3273                           |          |          |
|                  |                               | 1                                   | 690 Vac (IEC)<br>700 Vac (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                           |          |          |
| 900 <sup>2</sup> | 155,000                       |                                     |                               | 850,000 <sup>2</sup>   | 100             | 170M4019 <sup>1</sup> | 170M4069 <sup>1</sup>             | 170M4119 <sup>1</sup>             | 170M4169 <sup>1</sup> | 170M4219 <sup>1</sup>              | 170M4269 <sup>1</sup>              |          |          |
| 2                | 690 Vac (IEC)<br>700 Vac (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                           |          |          |
|                  |                               | 1100 <sup>3</sup>                   | 245,000                       | 1,600,000              | 120             | 170M5017              | 170M5067                          | 170M5117                          | 170M5167              | 170M5217                           | 170M5267                           |          |          |
|                  |                               | 1250 <sup>3</sup>                   | 365,000                       | 2,400,000              | 130             | 170M5018              | 170M5068                          | 170M5118                          | 170M5168              | 170M5218                           | 170M5268                           |          |          |
|                  |                               | 500                                 | 14,000                        | 95,000                 | 95              | 170M6008              | 170M6058                          | 170M6108                          | 170M6158              | 170M6208                           | 170M6258                           |          |          |
|                  |                               | 550                                 | 19,500                        | 135,000                | 100             | 170M6009              | 170M6059                          | 170M6109                          | 170M6159              | 170M6209                           | 170M6259                           |          |          |
|                  |                               | 630                                 | 31,000                        | 210,000                | 105             | 170M6010              | 170M6060                          | 170M6110                          | 170M6160              | 170M6210                           | 170M6260                           |          |          |
|                  |                               | 700                                 | 44,500                        | 300,000                | 110             | 170M6011              | 170M6061                          | 170M6111                          | 170M6161              | 170M6211                           | 170M6261                           |          |          |
|                  |                               | 800                                 | 69,500                        | 465,000                | 115             | 170M6012              | 170M6062                          | 170M6112                          | 170M6162              | 170M6212                           | 170M6262                           |          |          |
|                  |                               | 900                                 | 100,000                       | 670,000                | 120             | 170M6013              | 170M6063                          | 170M6113                          | 170M6163              | 170M6213                           | 170M6263                           |          |          |
| 3                | 690 Vac (IEC)<br>700 Vac (UL) | 1000                                | 140,000                       | 945,000                | 125             | 170M6014              | 170M6064                          | 170M6114                          | 170M6164              | 170M6214                           | 170M6264                           |          |          |
|                  |                               | 1100                                | 190,000                       | 1,300,000              | 130             | 170M6015              | 170M6065                          | 170M6115                          | 170M6165              | 170M6215                           | 170M6265                           |          |          |
|                  |                               | 1250                                | 290,000                       | 1,950,000              | 140             | 170M6016              | 170M6066                          | 170M6116                          | 170M6166              | 170M6216                           | 170M6266                           |          |          |
|                  |                               | 1400                                | 370,000                       | 2,450,000              | 155             | 170M6017              | 170M6067                          | 170M6117                          | 170M6167              | 170M6217                           | 170M6267                           |          |          |
|                  |                               | 1500                                | 460,000                       | 3,100,000              | 160             | 170M6018              | 170M6068                          | 170M6118                          | 170M6168              | 170M6218                           | 170M6268                           |          |          |
|                  |                               | 1600                                | 580,000                       | 3,900,000              | 160             | 170M6019              | 170M6069                          | 170M6119                          | 170M6169              | 170M6219                           | 170M6269                           |          |          |
|                  |                               | 1800 <sup>4</sup>                   | 880,000                       | 5,250,000 <sup>4</sup> | 165             | 170M6020              | 170M6070                          | 170M6120                          | 170M6170              | 170M6220                           | 170M6270                           |          |          |
|                  |                               | 2000 <sup>5</sup>                   | 1,150,000                     | 6,350,000 <sup>5</sup> | 175             | 170M6021              | 170M6071                          | 170M6121                          | 170M6171              | 170M6221                           | 170M6271                           |          |          |

\* Watts loss at rated current.

<sup>1</sup> Not UL Approved <sup>2</sup> Rated voltage: 550 Vac IEC <sup>3</sup> Rated voltage: 600 Vac IEC, 700 Vac UL <sup>4</sup> Rated voltage: 600 Vac IEC, 500 Vac UL <sup>5</sup> Rated voltage: 550 Vac IEC, 500 Vac UL.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6314 (Size 1\*), 170K6316 (Size 1), 170K6318 (Size 2), 170K6320 (Size 3)

# Square body fuses

## 170M — size 00, DIN 43653

### 1000 Vac (IEC and UL), 20 to 315 A

#### Description

Square body DIN 43653 bolted tags high speed fuses, for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Available with indicator or Type T indicator for a microswitch.

#### Specifications

##### Ratings

- Volts:
  - 1000 Vac (IEC and UL 20-250 A)
  - 900 Vac (IEC, 315 A)
- Amps: 20-315 A
- Interrupting rating: 125 kA RMS Sym.

#### Operating class: aR

#### Agency information

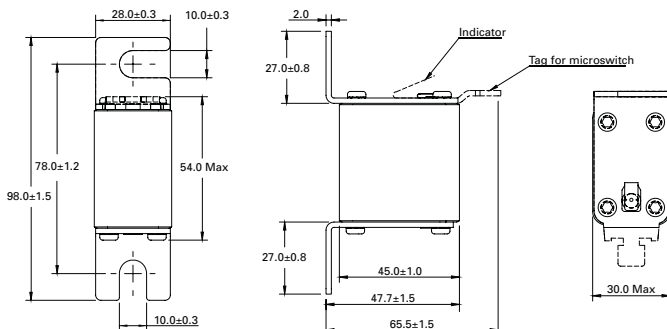
- CE
- Designed and tested to IEC 60269 Part 4
- UL Recognized E125085, JFHR2 (20-250 A)
- CSA Class 53787, File 1422-30 (20-250 A) with the exception of catalog numbers. 170M4815 and 170M4835



| Fuse size | Rated voltage     | I <sup>2</sup> t (A <sup>2</sup> s) |               |                           | Watts loss (W)* | Catalog no.          |                                    |
|-----------|-------------------|-------------------------------------|---------------|---------------------------|-----------------|----------------------|------------------------------------|
|           |                   | Rated current (amps)                | Pre-arcing    | Clearing at rated voltage |                 | 00/80 with indicator | 00TN/80 Type T indicator for micro |
| 00        | 1000 Vac (IEC/UL) | 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 Vac (IEC) | 315                       | 18,000          | 115,000              | 58                                 |

\* Watts loss at rated current.

#### Dimensions — mm



For details on electrical characteristics, contact Application Engineering and ask for data sheet: 170K8504

## 170M — size 1\* to 3, DIN 43653

1000 Vac (IEC and UL), 50 to 1400 A

### Description

Square body DIN 43653 bolted tags high speed fuses, for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Available with a Type T or K indicator for a microswitch.

### Specifications

Ratings

- Volts:
  - 1000 Vac (IEC, 50-1250 A), 900 Vac (IEC, 1400 A)
  - 1000 Vac (UL size 2, size 3, 315-1100 A only)
- Amps: 50-1400 A
- Interrupting rating: 125 kA RMS Sym.

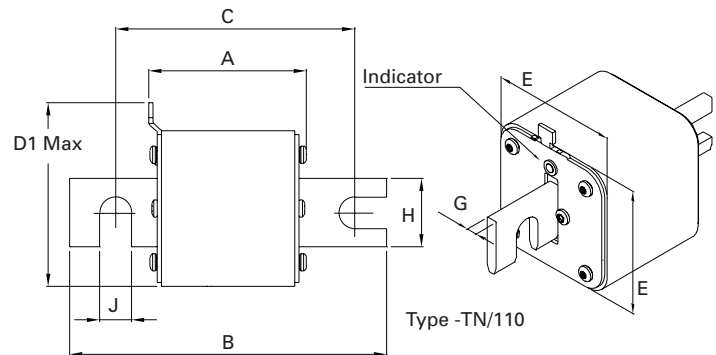
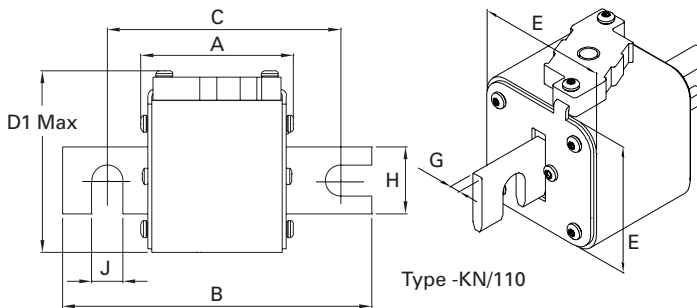
**Operating class: aR**

### Agency Information

- Designed and tested to IEC 60269 Part 4
- UL Recognized E125085, JFHR2 (only sizes 2 and 3)
- CCC (only size 3, 315-1100 A)
- CE



### Dimensions — mm



### Type -KN/110

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

### Type -TN/110

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

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K8564 (Size 1\*), 170K8566 (Size 1), 170K8568 (Size 2), 170K8570 (Size 3)

# Square body fuses

170M — size 1\* to 3, DIN 43653

1000 Vac (IEC and UL), 50 to 1400 A

| Fuse size | Rated voltage         | I <sup>2</sup> t (A <sup>2</sup> s) |               |                           | Catalog no.     |  |  |          |          |
|-----------|-----------------------|-------------------------------------|---------------|---------------------------|-----------------|--|--|----------|----------|
|           |                       | Rated current (amps)                | Pre-arcing    | Clearing at rated voltage | Watts loss (W)* | -KN/110 Type K indicator for microswitch | -TN/110 Type T indicator for microswitch |          |          |
| 1*        | 1000 Vac (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 Vac (IEC)        | 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                                 |          |          |
| 2         | 1000 Vac (IEC and UL) | 630                                 | 125,000       | 755,000                   | 98              | 170M4974                                 | 170M4989                                 |          |          |
|           |                       | 250                                 | 6750          | 40,000                    | 65              | 170M5966                                 | 170M5981                                 |          |          |
|           |                       | 315                                 | 13,500        | 81,500                    | 75              | 170M5967                                 | 170M5982                                 |          |          |
|           |                       | 350                                 | 16,500        | 99,000                    | 80              | 170M5968                                 | 170M5983                                 |          |          |
|           |                       | 400                                 | 26,000        | 155,000                   | 85              | 170M5969                                 | 170M5984                                 |          |          |
|           |                       | 450                                 | 35,500        | 210,000                   | 90              | 170M5970                                 | 170M5985                                 |          |          |
|           |                       | 500                                 | 49,500        | 295,000                   | 95              | 170M5971                                 | 170M5986                                 |          |          |
|           |                       | 550                                 | 66,000        | 390,000                   | 100             | 170M5972                                 | 170M5987                                 |          |          |
|           |                       | 630                                 | 93,500        | 555,000                   | 110             | 170M5973                                 | 170M5988                                 |          |          |
| 3         | 1000 Vac (IEC and UL) | 700                                 | 130,000       | 770,000                   | 115             | 170M5974                                 | 170M5989                                 |          |          |
|           |                       | 800                                 | 195,000       | 1,200,000                 | 125             | 170M5975                                 | 170M5990                                 |          |          |
|           |                       | 315                                 | 9200          | 54,500                    | 90              | 170M8614                                 | 170M8629                                 |          |          |
|           |                       | 350                                 | 13,000        | 77,500                    | 95              | 170M8615                                 | 170M8630                                 |          |          |
|           |                       | 400                                 | 19,000        | 115,000                   | 105             | 170M8616                                 | 170M8631                                 |          |          |
|           |                       | 450                                 | 27,000        | 160,000                   | 107             | 170M8617                                 | 170M8632                                 |          |          |
|           |                       | 500                                 | 37,500        | 225,000                   | 110             | 170M8618                                 | 170M8633                                 |          |          |
|           |                       | 550                                 | 52,000        | 310,000                   | 115             | 170M8619                                 | 170M8634                                 |          |          |
|           |                       | 630                                 | 82,500        | 490,000                   | 120             | 170M8620                                 | 170M8635                                 |          |          |
|           |                       | 700                                 | 115,000       | 700,000                   | 125             | 170M8621                                 | 170M8636                                 |          |          |
|           |                       | 800                                 | 170,000       | 1,050,000                 | 135             | 170M8622                                 | 170M8637                                 |          |          |
| 3         | 1000 Vac (IEC)        | 900                                 | 250,000       | 1,500,000                 | 145             | 170M8623                                 | 170M8638                                 |          |          |
|           |                       | 1000                                | 340,000       | 2,050,000                 | 150             | 170M8624                                 | 170M8639                                 |          |          |
|           |                       | 1100                                | 460,000       | 2,750,000                 | 155             | 170M8625                                 | 170M8640                                 |          |          |
|           |                       | 1250                                | 575,000       | 3,400,000                 | 175             | 170M8626                                 | 170M8641                                 |          |          |
|           |                       | 1400                                | 795,000       | 4,200,000                 | 185             | 170M8627                                 | 170M8642                                 |          |          |
|           |                       | 3                                   | 900 Vac (IEC) | 1400                      | 795,000         | 4,200,000                                | 185                                      | 170M8627 | 170M8642 |

\* Watts loss at rated current.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K8564 (Size 1\*), 170K8566 (Size 1), 170K8568 (Size 2), 170K8570 (Size 3)

## 170M — Size 1\* to 3, DIN 43653

1250 Vac (IEC), 1300 Vac (UL), 50 to 1400 A

### Description

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

### Specifications

#### Ratings

- Volts: see catalog number table
- Amps: 50-1400 A
- Interrupting rating: 100 kA RMS Sym.

#### Operating class: aR

#### Agency information

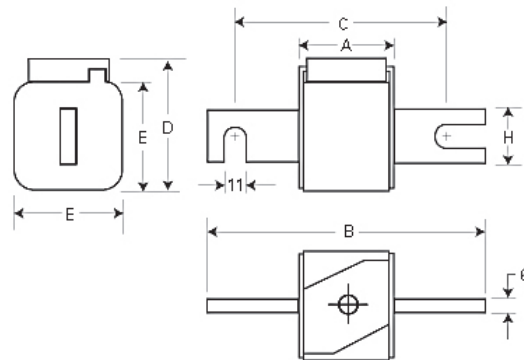
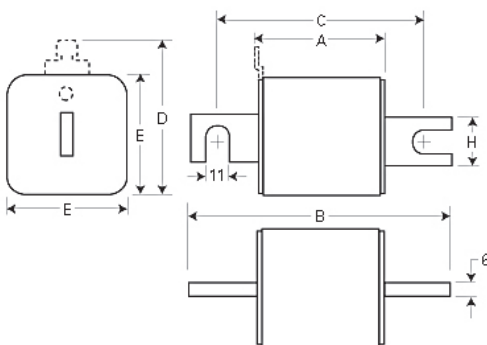
- Designed and tested to IEC 60269 Part 4
- UL Recognized, E125085, JFHR2\*
- CSA Class 53787, File 1422-30\*
- CE

\*Consult your Bussmann series product representative for status.



### Dimensions — mm

1 mm = 0.0394"



#### Type-/-110-TN/110

| Size | A  | B   | C   | D <sup>1</sup> | E  | 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 |

#### Type-KN/110

| 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 |

<sup>1</sup> Clip on microswitch valid for -TN/110 fuses.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6630 (Size 1\*), 170K6632 (Size 1), 170K6634 (Size 2), 170K6636 (Size 3)

# Square body fuses

170M — size 1\* to 3, DIN 43653, 170M

1250 Vac (IEC), 1300 Vac (UL), 50 to 1400 A

| Fuse size      | Rated voltage                   | I <sup>2</sup> t (A <sup>2</sup> s) |                                 |                      |                      | Catalog no.     |                       |  |  |                       |
|----------------|---------------------------------|-------------------------------------|---------------------------------|----------------------|----------------------|-----------------|-----------------------|--|--|-----------------------|
|                |                                 | Rated current (amps)                | Pre-arcing                      | Clearing at 1000 Vac | Clearing at 1250 Vac | Watts loss (W)* | -/110 with indicator  | -TN/110 Type T indicator for microswitch | -KN/110 Type K indicator for microswitch |                       |
| 1*             | 1250 Vac (IEC)<br>1300 Vac (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 Vac (IEC)<br>1300 Vac (UL) | 160                  | 1900                 | 11,500          | 15,500                | 45                                       | 170M4138                                 | 170M4188              |
| 200            | 3800                            |                                     |                                 | 22,500               | 30,000               | 50              | 170M4139              | 170M4189                                 | 170M4239                                 |                       |
| 250            | 7750                            |                                     |                                 | 46,000               | 61,500               | 60              | 170M4140              | 170M4190                                 | 170M4240                                 |                       |
| 315            | 15,000                          |                                     |                                 | 90,000               | 120,000              | 65              | 170M4141              | 170M4191                                 | 170M4241                                 |                       |
| 350            | 20,000                          |                                     |                                 | 125,000              | 165,000              | 70              | 170M4142              | 170M4192                                 | 170M4242                                 |                       |
| 400            | 29,500                          |                                     |                                 | 175,000              | 235,000              | 75              | 170M4143              | 170M4193                                 | 170M4243                                 |                       |
| 450            | 42,000                          |                                     |                                 | 250,000              | 335,000              | 80              | 170M4144              | 170M4194                                 | 170M4244                                 |                       |
| 500            | 69,500                          |                                     |                                 | 340,000              | 435,000              | 85              | 170M4145              | 170M4195                                 | 170M4245                                 |                       |
| 550            | 95,000                          |                                     |                                 | 465,000              | 590,000              | 95              | 170M4146              | 170M4196                                 | 170M4246                                 |                       |
| 1100 Vac (IEC) | 630                             |                                     |                                 | 130,000              | 660,000              | N/A             | 100                   | 170M4147 <sup>1</sup>                    | 170M4197 <sup>1</sup>                    | 170M4247 <sup>1</sup> |
| 2              | 1250 Vac (IEC)<br>1300 Vac (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              | 170M5196                                 | 170M5246                                 |                       |
|                |                                 | 700                                 | 160,000                         | 795,000              | 1,050,000            | 125             | 170M5147              | 170M5197                                 | 170M5247                                 |                       |
|                |                                 | 800                                 | 245,000                         | 1,200,000            | 1,550,000            | 130             | 170M5148              | 170M5198                                 | 170M5248                                 |                       |
|                |                                 | 1100 Vac (IEC/UL)                   | 900                             | 360,000              | 1,750,000            | N/A             | 135                   | 170M5149                                 | 170M5199                                 | 170M5249              |
|                |                                 | 1000                                | 480,000                         | 2,350,000            | N/A                  | 145             | 170M5150              | 170M5200                                 | 170M5250                                 |                       |
|                |                                 | 3                                   | 1300 Vac (UL)                   | 315                  | 9500                 | 58,000          | 77,500                | 85                                       | 170M6138                                 | 170M6188              |
| 350            | 13,500                          |                                     |                                 | 81,500               | 110,000              | 90              | 170M6139              | 170M6189                                 | 170M6239                                 |                       |
| 400            | 19,500                          |                                     |                                 | 120,000              | 160,000              | 95              | 170M6140              | 170M6190                                 | 170M6240                                 |                       |
| 450            | 31,000                          |                                     |                                 | 185,000              | 245,000              | 100             | 170M6141              | 170M6191                                 | 170M6241                                 |                       |
| 500            | 39,000                          |                                     |                                 | 235,000              | 310,000              | 105             | 170M6142              | 170M6192                                 | 170M6242                                 |                       |
| 550            | 55,000                          |                                     |                                 | 325,000              | 435,000              | 110             | 170M6143              | 170M6193                                 | 170M6243                                 |                       |
| 630            | 83,500                          |                                     |                                 | 495,000              | 665,000              | 115             | 170M6144              | 170M6194                                 | 170M6244                                 |                       |
| 700            | 115,000                         |                                     |                                 | 705,000              | 940,000              | 120             | 170M6145              | 170M6195                                 | 170M6245                                 |                       |
| 800            | 205,000                         |                                     |                                 | 995,000              | 1,300,000            | 125             | 170M6146              | 170M6196                                 | 170M6246 <sup>1</sup>                    |                       |
| 900            | 305,000                         |                                     |                                 | 1,500,000            | 1,900,000            | 130             | 170M6147              | 170M6197                                 | 170M6247 <sup>1</sup>                    |                       |
| 1000           | 450,000                         |                                     |                                 | 2,150,000            | 2,750,000            | 135             | 170M6148              | 170M6198                                 | 170M6248 <sup>1</sup>                    |                       |
| 1100           | 575,000                         |                                     |                                 | 2,800,000            | 3,600,000            | 160             | 170M6149              | 170M6199                                 | 170M6249 <sup>1</sup>                    |                       |
| 1100 Vac (IEC) | 1250                            |                                     |                                 | 810,000              | 3,950,000            | N/A             | 170                   | 170M6150 <sup>1</sup>                    | 170M6200 <sup>1</sup>                    | 170M6250 <sup>1</sup> |
| 1400           | 1,250,000                       |                                     |                                 | 6,000,000            | N/A                  | 175             | 170M6151 <sup>1</sup> | 170M6201 <sup>1</sup>                    | 170M6251 <sup>1</sup>                    |                       |

\* Watts loss at rated current.

<sup>1</sup> Not UL Recognized.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6630 (Size 1\*), 170K6632 (Size 1), 170K6634 (Size 2), 170K6636 (Size 3)



## 170M — size 00 to 3, DIN 43620, full range (gR)

690 Vac (IEC), 10 to 800 A

### Description

Square body DIN 43653 blade high speed fuses. Full range protection fuses provide both overload and short-circuit protection. Fuses come with Type T indicator for a microswitch.

### Specifications

Ratings

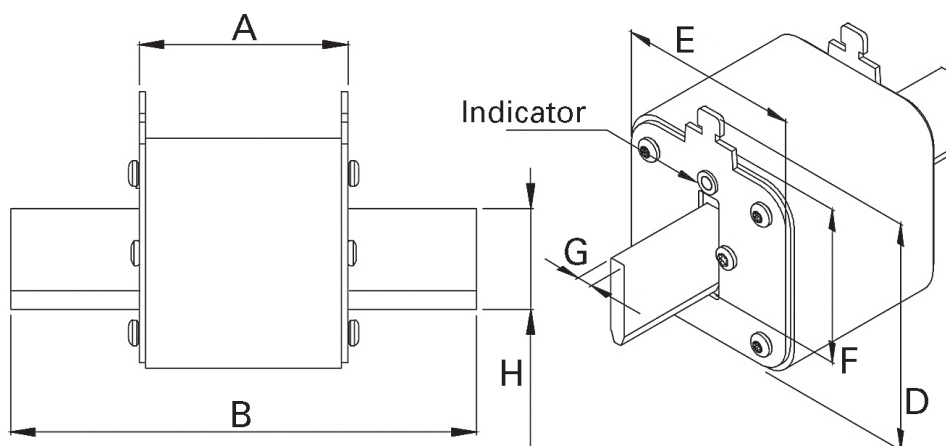
- Volts: 690 Vac (IEC)
- Amps: 10-800 A
- Interrupting rating: 200 kA RMS Sym.

**Operating class: gR**

### Agency information

- Designed and tested to IEC 60269 Part 4
- CE

### Dimensions — mm



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



For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6412 (Size 00), 170K6416 (Size 1), 170K6418 (Size 2), 170K6420 (Size 3)

# Square body fuses

170M — size 00 to 3, DIN 43620, full range (gR)

690 Vac (IEC), 10 to 800 A

| Fuse size | Rated voltage | Rated current (amps) <sup>1</sup> | I <sup>2</sup> t (A <sup>2</sup> s) |                     | Watts loss (W)* | Catalog no. with Type T indicator for microswitch |      |          |
|-----------|---------------|-----------------------------------|-------------------------------------|---------------------|-----------------|---|------|----------|
|           |               |                                   | Pre-arcing                          | Clearing at 690 Vac |                 |   |      |          |
| 00        | 690 Vac (IEC) | 10                                | 3.8                                 | 20                  | 3.5             | 170M2691  |      |          |
|           |               | 16                                | 7.2                                 | 38                  | 5.5             | 170M2692  |      |          |
|           |               | 20                                | 13.0                                | 70                  | 6.0             | 170M2693  |      |          |
|           |               | 25                                | 24.0                                | 125                 | 8.0             | 170M2694  |      |          |
|           |               | 32                                | 53.0                                | 275                 | 9.0             | 170M2695  |      |          |
|           |               | 40                                | 95.0                                | 490                 | 10.0            | 170M2696  |      |          |
|           |               | 50                                | 185.0                               | 1000                | 11.0            | 170M2697  |      |          |
|           |               | 63                                | 345.0                               | 1800                | 14.0            | 170M2698  |      |          |
|           |               | 80                                | 695.0                               | 3600                | 16.0            | 170M2699  |      |          |
|           |               | 100                               | 1250.0                              | 6650                | 19.0            | 170M2700  |      |          |
|           |               | 125                               | 2300.0                              | 12,000              | 23.0            | 170M2701  |      |          |
|           |               | 160                               | 4350.0                              | 22,500              | 29.0            | 170M2702  |      |          |
|           |               | 1                                 | 690 Vac (IEC)                       | 50                  | 135.0           | 705   | 12.0 | 170M4176 |
|           |               |                                   |                                     | 63                  | 245.0           | 1300  | 15.0 | 170M4177 |
|           |               |                                   |                                     | 80                  | 500.0           | 2600  | 17.0 | 170M4178 |
|           |               |                                   |                                     | 100                 | 950.0           | 4850  | 20.0 | 170M4179 |
| 125       | 1850.0        |                                   |                                     | 9500                | 23.0            | 170M4180  |      |          |
| 160       | 3450.0        |                                   |                                     | 18,000              | 28.0            | 170M4181  |      |          |
| 200       | 6750.0        |                                   |                                     | 34,500              | 31.0            | 170M4182  |      |          |
| 250       | 13,500.0      |                                   |                                     | 70,500              | 35.0            | 170M4183  |      |          |
| 315       | 26,000.0      |                                   |                                     | 135,000             | 41.0            | 170M4184  |      |          |
| 350       | 34,000.0      |                                   |                                     | 175,000             | 45.0            | 170M4185  |      |          |
| 400       | 48,500.0      |                                   |                                     | 250,000             | 48.0            | 170M4186  |      |          |
| 2         | 690 Vac (IEC) |                                   |                                     | 200                 | 5650.0          | 29,000  | 33.0 | 170M5881 |
|           |               |                                   |                                     | 250                 | 10,000.0        | 52,500  | 40.0 | 170M5882 |
|           |               |                                   |                                     | 315                 | 19,500.0        | 105,000   | 46.0 | 170M5883 |
|           |               |                                   |                                     | 350                 | 26,000.0        | 135,000   | 50.0 | 170M5884 |
|           |               |                                   |                                     | 400                 | 39,500.0        | 205,000   | 53.0 | 170M5885 |
|           |               | 450                               | 55,500.0                            | 290,000             | 59.0            | 170M5886  |      |          |
|           |               | 500                               | 73,000.0                            | 375,000             | 66.0            | 170M5887  |      |          |
|           |               | 550                               | 100,000.0                           | 515,000             | 70.0            | 170M5888  |      |          |
|           |               | 630                               | 150,000.0                           | 770,000             | 79.0            | 170M5889  |      |          |
|           |               | 3                                 | 690 Vac (IEC)                       | 350                 | 23,000.0        | 120,000   | 55.0 | 170M6080 |
|           |               |                                   |                                     | 400                 | 34,000.0        | 175,000   | 59.0 | 170M6081 |
|           |               |                                   |                                     | 450                 | 48,500.0        | 250,000   | 62.0 | 170M6082 |
|           |               |                                   |                                     | 500                 | 64,000.0        | 330,000   | 67.0 | 170M6083 |
|           |               |                                   |                                     | 550                 | 84,500.0        | 435,000   | 70.0 | 170M6084 |
|           |               |                                   |                                     | 630                 | 125,000.0       | 645,000   | 85.0 | 170M6085 |
|           |               |                                   |                                     | 700                 | 160,000.0       | 840,000   | 93.0 | 170M6086 |
| 800       | 245,000.0     |                                   |                                     | 1,300,000           | 99.0            | 170M6087  |      |          |

\* Watts loss at rated current.

<sup>1</sup> The RMS Amp rating of this fuses range is given with open fuse blocks connected to copper conductors according to IEC 60269, Part 1, table 10. When used in enclosed fuse blocks/disconnects, derating factors have to be observed. Please contact Eaton's Bussmann Division for application assistance [bulehighspeedtechnical@eaton.com](mailto:bulehighspeedtechnical@eaton.com).

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6412 (Size 00), 170K6416 (Size 1), 170K6418 (Size 2), 170K6420 (Size 3)

## 170M — size 000 to 3, DIN 43620, dual indicator fuses

690 Vac (IEC), 700 Vac (UL), 10 to 1600 A

### Description

Square body DIN 43620 blade high speed fuses 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 fuses for the protection of UPS, soft starters, solid state relays, variable speed drives, rectifiers and inverters.

### Specifications

#### Ratings

- Volts:
  - 690 Vac (IEC)
  - 700 Vac (UL)
- Amps: 10-1600 A
- Interrupting rating: 200 kA RMS Sym.

#### Operating class

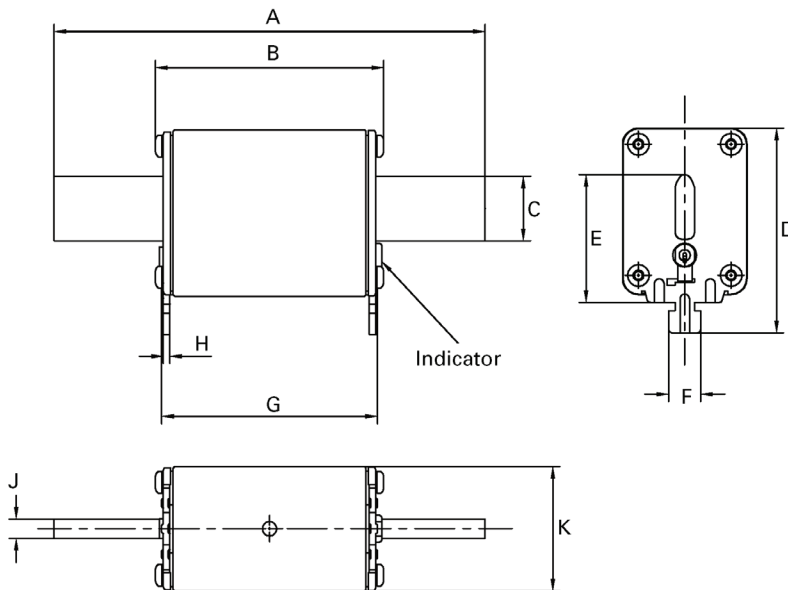
- gR (size 000, 10-63 A)
- aR (others)

#### Agency information

- Designed and tested to IEC 60269 Part 4
- UL Recognized, E125085, JFHR2
- CSA Class 1422-30, (53787) with the exception of catalog number 170M4867D
- CE



### Dimensions — mm



| Size | A     | B    | C    | D  | E  | F  | G    | H   | J | K    |
|------|-------|------|------|----|----|----|------|-----|---|------|
| 000  | 78.5  | 53.0 | 15.0 | 52 | 35 | 10 | 49.7 | 1.5 | 6 | 20.5 |
| 00   | 78.5  | 53.0 | 15.0 | 59 | 35 | 10 | 49.7 | 2.0 | 6 | 30.0 |
| 1    | 135.0 | 71.4 | 20.0 | 64 | 40 | 10 | 67.5 | 2.0 | 6 | 40.0 |
| 2    | 150.0 | 71.4 | 25.1 | 72 | 48 | 10 | 67.5 | 2.0 | 6 | 54.0 |
| 3    | 150.0 | 72.4 | 32.0 | 87 | 60 | 10 | 68.5 | 2.5 | 6 | 71.0 |

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6386 (Size 000 and 00), 170K6388 (Size 1), 170K6390 (Size 2), 170K6392 (Size 3)

# Square body fuses

170M — size 000 to 3, DIN 43620, dual indicator fuses

690 Vac (IEC), 700 Vac (UL), 10 to 1600 A

| Fuse size | Rated voltage                 | Rated current (amps) | Max permissible I <sup>2</sup> t (A <sup>2</sup> s) |                                   | Watts loss (W) <sup>3</sup> | Catalog no. |           |
|-----------|-------------------------------|----------------------|---|-----------------------------------|-----------------------------|-------------|-----------|
|           |                               |                      | load current  | Pre-arcing<br>Clearing at 690 Vac |                             |             |           |
| 000       | 690 Vac (IEC)<br>700 Vac (UL) | 10                   | 10  | 4                                 | 27                          | 2.5         | 170M1558D |
|           |                               | 16                   | 16  | 7                                 | 51                          | 4           | 170M1559D |
|           |                               | 20                   | 20  | 11.5                              | 82.5                        | 5           | 170M1560D |
|           |                               | 25                   | 25  | 19                                | 140                         | 6           | 170M1561D |
|           |                               | 32                   | 32  | 40                                | 285                         | 7           | 170M1562D |
|           |                               | 40                   | 40  | 65                                | 490                         | 8.5         | 170M1563D |
|           |                               | 50                   | 50  | 115                               | 815                         | 9.5         | 170M1564D |
|           |                               | 63                   | 63  | 215                               | 1550                        | 11.5        | 170M1565D |
|           |                               | 80                   | 80  | 380                               | 2700                        | 15          | 170M1566D |
|           |                               | 100                  | 100   | 695                               | 4950                        | 16.5        | 170M1567D |
|           |                               | 125                  | 125   | 1180                              | 8250                        | 21.5        | 170M1568D |
|           |                               | 160                  | 160   | 2300                              | 16,500                      | 25          | 170M1569D |
|           |                               | 200                  | 200   | 4350                              | 31,000                      | 29.5        | 170M1570D |
|           |                               | 250                  | 250   | 7900                              | 56,000                      | 35.5        | 170M1571D |
| 00        | 690 Vac (IEC) /700 Vac (UL)   | 315                  | 315   | 12,000                            | 84,500                      | 45          | 170M1572D |
|           |                               | 40                   | 25  | 40                                | 285                         | 4           | 170M3808D |
| 1         | 690 Vac (IEC)<br>700 Vac (UL) | 50                   | 30  | 78                                | 550                         | 4.5         | 170M3809D |
|           |                               | 63                   | 38  | 120                               | 850                         | 6.5         | 170M3810D |
|           |                               | 80                   | 50  | 185                               | 1350                        | 8.5         | 170M3811D |
|           |                               | 100                  | 60  | 360                               | 2600                        | 10          | 170M3812D |
|           |                               | 125                  | 75  | 550                               | 3900                        | 11          | 170M3813D |
|           |                               | 160                  | 95  | 1150                              | 8250                        | 12          | 170M3814D |
|           |                               | 200                  | 120   | 2300                              | 16,500                      | 12.5        | 170M3815D |
|           |                               | 250                  | 150   | 4350                              | 31,000                      | 16          | 170M3816D |
|           |                               | 315                  | 190   | 7300                              | 52,000                      | 20          | 170M3817D |
|           |                               | 350                  | 210   | 10,000                            | 73,000                      | 21.5        | 170M3818D |
|           |                               | 400                  | 240   | 16,000                            | 115,000                     | 23          | 170M3819D |
|           |                               | 450                  | 270   | 21,500                            | 155,000                     | 26.5        | 170M4863D |
|           |                               | 500                  | 300   | 27,000                            | 190,000                     | 28.5        | 170M4864D |
|           |                               | 550                  | 330   | 33,500                            | 240,000                     | 33          | 170M4865D |
| 630       | 380                           | 48,500               | 345,000   | 37.5                              | 170M4866D                   |             |           |
| 700       | 420                           | 69,500               | 495,000   | 39                                | 170M4867D <sup>1</sup>      |             |           |
| 2         | 690 Vac (IEC)<br>700 Vac (UL) | 400                  | 240   | 11,000                            | 79,000                      | 29          | 170M5808D |
|           |                               | 450                  | 270   | 16,000                            | 115,000                     | 32          | 170M5809D |
|           |                               | 500                  | 300   | 21,500                            | 155,000                     | 34          | 170M5810D |
|           |                               | 550                  | 330   | 29,000                            | 215,000                     | 36          | 170M5811D |
|           |                               | 630                  | 380   | 41,000                            | 295,000                     | 42          | 170M5812D |
|           |                               | 700                  | 420   | 60,500                            | 430,000                     | 43          | 170M5813D |
|           |                               | 800                  | 480   | 86,000                            | 610,000                     | 48          | 170M5814D |
|           |                               | 900                  | 540   | 125,000                           | 895,000                     | 52          | 170M5820D |
|           |                               | 1000                 | 600   | 180,000                           | 1,300,000                   | 53          | 170M5816D |
|           |                               | 1100                 | 660   | 245,000                           | 1,750,000                   | 56          | 170M5817D |
| 3         | 690 Vac (IEC)<br>700 Vac (UL) | 500                  | 300   | 14,000                            | 99,500                      | 43          | 170M6808D |
|           |                               | 550                  | 330   | 19,500                            | 140,000                     | 44          | 170M6809D |
|           |                               | 630                  | 380   | 31,000                            | 220,000                     | 45          | 170M6810D |
|           |                               | 700                  | 420   | 45,000                            | 320,000                     | 46          | 170M6811D |
|           |                               | 800                  | 480   | 69,500                            | 490,000                     | 48          | 170M6812D |
|           |                               | 900                  | 540   | 100,000                           | 720,000                     | 50          | 170M6813D |
|           |                               | 1000                 | 600   | 140,000                           | 985,000                     | 56          | 170M6814D |
|           |                               | 1100                 | 660   | 190,000                           | 1,400,000                   | 57          | 170M6892D |
|           |                               | 1250                 | 750   | 300,000                           | 2,150,000                   | 61          | 170M8554D |
|           |                               | 1400                 | 840   | 380,000                           | 2,700,000                   | 70          | 170M8555D |
| 1500      | 900                           | 470,000              | 3,350,000   | 72                                | 170M8556D                   |             |           |
| 1600      | 960                           | 585,000              | 4,150,000   | 74                                | 170M8557D                   |             |           |

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

<sup>3</sup> Given at maximum load rated current, please refer to data sheets for further details.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6386 (Size 000 and 00), 170K6388 (Size 1), 170K6390 (Size 2), 170K6392 (Size 3)

# Square body fuses

## 170M — size 00, DIN 43620

1000 Vac (IEC and UL), 20 to 225 A

### Description

Square body DIN 43620 blade style high speed fuses for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Fuses come with Type T indicator for microswitches.

### Specifications

#### Ratings

- Volts:
  - 1000 Vac (IEC and UL)
  - 900 Vac (200 and 225 A)
- Amps: 20-225 A
- Interrupting rating: 125 kA RMS Sym.

#### Operating class: aR

#### Agency information

Designed and tested to IEC 60269 Part 4

UL Recognized (20-160 A)

CSA (20-160 A)

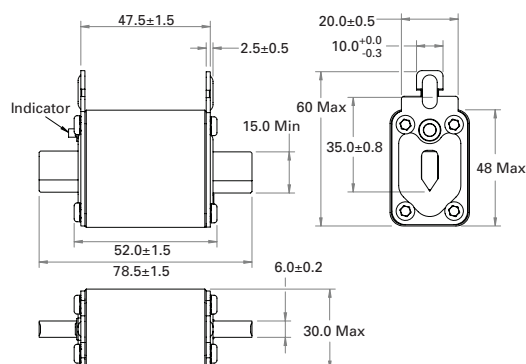
CE



| Fuse size | Rated voltage     | I <sup>2</sup> t (A <sup>2</sup> s) |            |                      | Watts loss (W)* | Catalog no. with Type T indicator for microswitch |
|-----------|-------------------|-------------------------------------|------------|----------------------|-----------------|---|
|           |                   | Rated current (amps)                | Pre-arcing | Clearing at 1000 Vac |                 |   |
| 00        | 1000 Vac (IEC/UL) | 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  |
| 00        | 900 Vac (IEC)     | 160                                 | 6250       | 45,000               | 26              | 170M2683  |
|           |                   | 200                                 | 12,000     | 86,500               | 31              | 170M2684  |
|           |                   | 225                                 | 18,000     | 115,000              | 33              | 170M2685  |

\* Watts loss at rated current.

### Dimensions — mm



For details on electrical characteristics, contact Application Engineering and ask for data sheet: 170K8506

# Square body fuses

## 170M — size 1\* to 3, French style

690 Vac (IEC), 700 Vac (UL), 40 to 1600 A

### Description

Square body French style high speed fuses for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Available with Type T or K indicators for microswitches.

### Specifications

#### Ratings

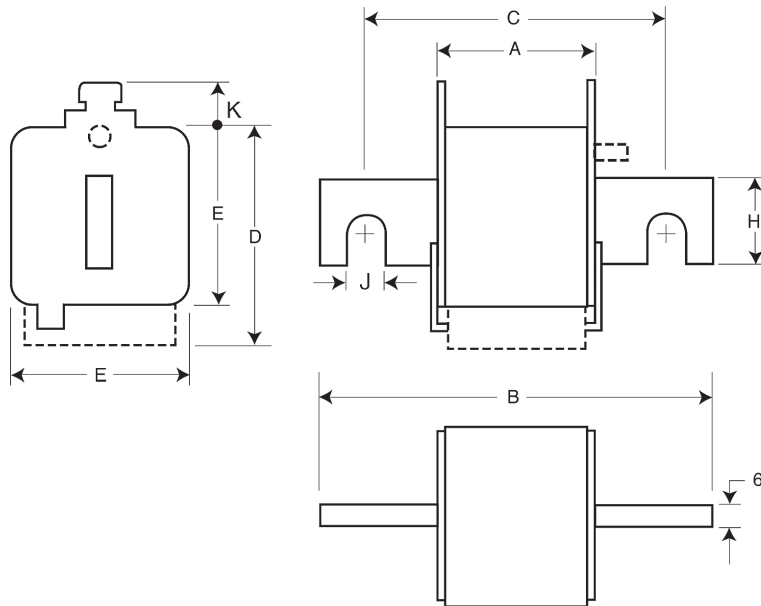
- Volts:
  - 690 Vac (IEC)
  - 700 Vac (UL)
- Amps: 40-1600 A
- Interrupting rating: 200 kA RMS Sym.

#### Operating class: aR

#### Agency information

- Designed and tested to IEC 60269 Part 4
- UL Recognized, E125085, JFHR2
- CSA Class 1422-30, (53787) on sizes (1, 2, 3) only
- CCC (please consult [bulehighspeedtechnical@eaton.com](mailto:bulehighspeedtechnical@eaton.com) for status)
- CE

#### Dimensions — mm



#### Type -E/-, -EKN/-

| 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 |



For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6314 (Size 1\*), 170K6316 (Size 1), 170K6318 (Size 2), 170K6320 (Size 3)

Size 1\* to 3, French style, 170M

690 Vac (IEC), 700 Vac (UL), 40 to 1600 A

| Fuse size | Rated voltage                 | I <sup>2</sup> t (A <sup>2</sup> s) |            |                     | Watts loss (W)* | Catalog no.                           |   |
|-----------|-------------------------------|-------------------------------------|------------|---------------------|-----------------|---------------------------------------|---|
|           |                               | Rated current (amps)                | Pre-arcing | Clearing at 660 Vac |                 | -E/- Type T indicator for microswitch | -EKN/- Type K indicator for microswitch |
| 1*        | 690 Vac (IEC)<br>700 Vac (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 Vac (IEC)<br>700 Vac (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                                |
| 2         | 690 Vac (IEC)<br>700 Vac (UL) | 800                                 | 105,000    | 725,000             | 95              | 170M4318                              | 170M4368                                |
|           |                               | 400                                 | 11,000     | 74,000              | 65              | 170M5308                              | 170M5358                                |
|           |                               | 450                                 | 15,500     | 105,000             | 70              | 170M5309                              | 170M5359                                |
|           |                               | 500                                 | 21,500     | 145,000             | 75              | 170M5310                              | 170M5360                                |
|           |                               | 550                                 | 28,000     | 190,000             | 80              | 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         | 690 Vac (IEC)<br>700 Vac (UL) | 500                                 | 14,000     | 95,000              | 95              | 170M6308                              | 170M6358                                |
|           |                               | 550                                 | 19,500     | 135,000             | 100             | 170M6309                              | 170M6359                                |
|           |                               | 630                                 | 31,000     | 210,000             | 105             | 170M6310                              | 170M6360                                |
|           |                               | 700                                 | 44,500     | 300,000             | 110             | 170M6311                              | 170M6361                                |
|           |                               | 800                                 | 69,500     | 465,000             | 115             | 170M6312                              | 170M6362                                |
|           |                               | 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        |                                       |   |

\* Watts loss at rated current.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6314 (Size 1\*), 170K6316 (Size 1), 170K6318 (Size 2), 170K6320 (Size 3)

# Square body fuses

## 170M — size 1\* to 3, US style

690 Vac (IEC), 700 Vac (UL), 40 to 2000 A

### Description

Square body US style bolted tags high speed fuses for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Available with Type K indicator for a microswitch.

### Specifications

#### Ratings

- Volts: see catalog numbers table
- Amps: 40-2000 A
- Interrupting rating: 200 kA RMS Sym.

#### Operating class: aR

#### Agency information

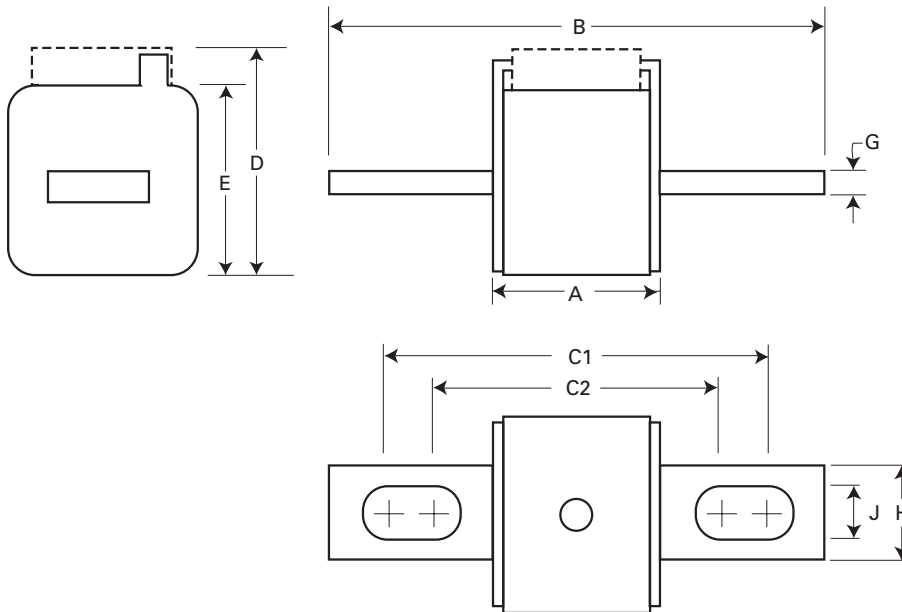
- Designed and tested to IEC 60269 Part 4
- UL Recognized, E125085, JFHR2\*
- CSA Class 53787, File 1422-30\*
- CCC\*
- CE

\* Consult your Bussmann series product representative for status.



### Dimensions — mm

1 mm = 0.0394"



### Type -FU/-, -FKE/-, FU/115-, -FKE/115

| Size | A  | B   | B1  | C1  | C1 <sup>1</sup> | C2 | C2 <sup>1</sup> | 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 |

<sup>1</sup> Valid for fuses types -FU/115 and -FKE/115.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6314 (Size 1\*), 170K6316 (Size 1), 170K6318 (Size 2), 170K6320 (Size 3)



## 170M — size 1\* to 3, US style

690 Vac (IEC), 700 Vac (UL), 40 to 2000 A

| Fuse size                     | Rated voltage                 | Rated current (amps)          | I <sup>2</sup> t (A <sup>2</sup> s) |                     | Catalog no.     |                         |   |                           |   |          |          |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------------|---------------------|-----------------|-------------------------|---|---------------------------|---|----------|----------|
|                               |                               |                               | Pre-arcing                          | Clearing at 660 Vac | Watts loss (W)* | -FU/- without indicator | -FKE/- Type K indicator for microswitch | -FU/115 without indicator | -FKE/115 Type K indicator for microswitch |          |          |
| 1*                            | 690 Vac (IEC)<br>700 Vac (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                | 170M3665                                | 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 Vac (IEC)<br>700 Vac (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 Vac (IEC)                 | 900                           |                               |                                     | 155,000             | 850,000         | 100                     | 170M4619                                | 170M4669                  | 170M4719                                  | 170M4769 |          |
| 2                             | 690 Vac (IEC)<br>700 Vac (UL) | 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 Vac (IEC)<br>700 Vac (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 Vac (IEC)<br>700 Vac (UL)       | 500                 | 14,000          | 95,000                  | 95                                      | 170M6608                  | 170M6658                                  | 170M6708 | 170M6758 |
| 550                           | 19,500                        |                               |                                     | 135,000             | 100             | 170M6609                | 170M6659                                | 170M6709                  | 170M6759                                  |          |          |
| 630                           | 31,000                        |                               |                                     | 210,000             | 105             | 170M6610                | 170M6660                                | 170M6710                  | 170M6760                                  |          |          |
| 700                           | 44,500                        |                               |                                     | 300,000             | 110             | 170M6611                | 170M6661                                | 170M6711                  | 170M6761                                  |          |          |
| 800                           | 69,500                        |                               |                                     | 465,000             | 115             | 170M6612                | 170M6662                                | 170M6712                  | 170M6762                                  |          |          |
| 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                | 170M6668                                | 170M6718                  | 170M6768                                  |          |          |
| 1600                          | 580,000                       |                               |                                     | 3,900,000           | 160             | 170M6619                | 170M6669                                | 170M6719                  | 170M6769                                  |          |          |
| 600 Vac (IEC)<br>500 Vac (UL) | 1800                          |                               |                                     | 880,000             | 5,250,000       | 165                     | 170M6620                                | 170M6670 <sup>1</sup>     | 170M6720                                  | 170M6770 |          |
| 550 Vac (IEC)<br>500 Vac (UL) | 2000                          |                               |                                     | 1,150,000           | 6,350,000       | 175                     | 170M6621                                | 170M6671 <sup>2</sup>     | 170M6721                                  | 170M6771 |          |

\* Watts loss at rated current.  
<sup>1</sup> 170M6670 600 Vac (IEC)/550 Vac.  
<sup>2</sup> 170M6671 550 Vac (IEC and UL).

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6314 (Size 1\*), 170K6316 (Size 1), 170K6318 (Size 2), 170K6320 (Size 3)

# Square body fuses

170M — size 1\* to 3, US style

1000 Vac (IEC), 50 to 1400 A

## Description

Square body US style bolted tags high speed fuses for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Fuses come with Type K indicator for microswitches.

## Specifications

### Ratings

- Volts: 1000 Vac (IEC) (1400 A 900 Vac)
- Amps: 50-1400 A
- Interrupting rating: 125 kA RMS Sym.

### Operating class: aR

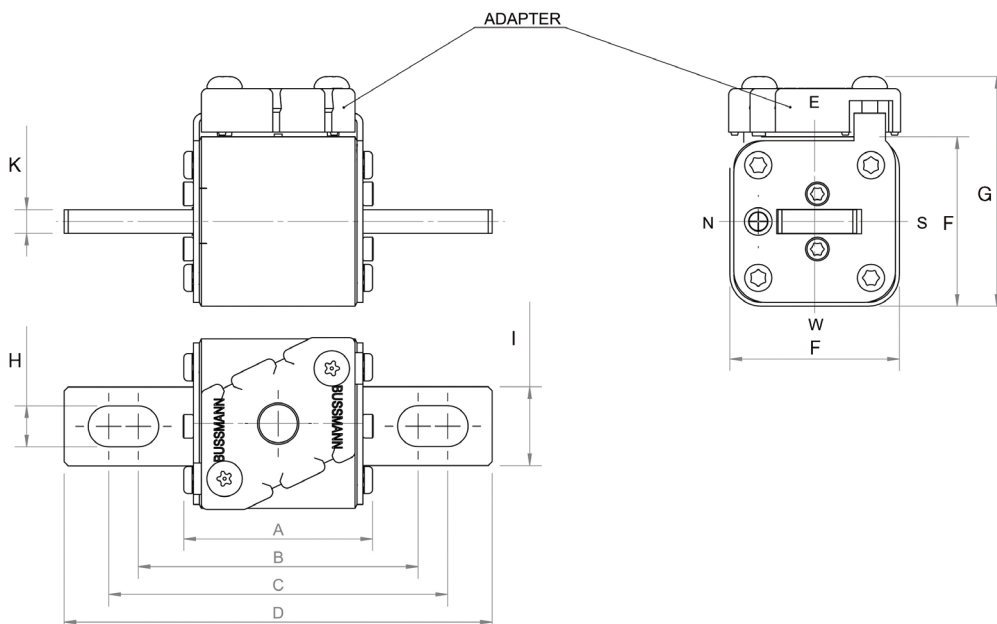
### Agency information

- Designed and tested to IEC 60269 Part 4
- UL Recognized, E125085, JFHR2 for size 2 and 3 (315-1100 A)
- CSA Class 53787, File 1422-30 for size 2 and 3 (315-1100 A)
- CCC approval for size 2 only
- CE



## Dimensions — mm

1 mm = 0.0394"



| Size      | A  | B     | C     | D   | F  | G  | H    | I  | K |
|-----------|----|-------|-------|-----|----|----|------|----|---|
| 1*FKE/115 | 74 | 101.0 | 130.0 | 156 | 43 | 60 | 10.4 | 20 | 6 |
| 1FKE/115  | 76 | 102.0 | 128.0 | 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 | 16.0 | 36 | 6 |

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K8564 (Size 1\*), 170K8566 (Size 1), 170K8568 (Size 2), 170K8570 (Size 3)

## 170M — size 1\* to 3, US style, 170M

1000 Vac (IEC), 50 to 1400 A

| Fuse size | Rated voltage     | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                      |     | Watts loss (W)* | Catalog no. for -FKE/115 Type K indicator for microswitch |
|-----------|-------------------|----------------------|-------------------------------------|----------------------|-----|-----------------|---|
|           |                   |                      | Pre-arcing                          | Clearing at 1000 Vac |     |                 |   |
| 1*        | 1000 Vac (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        |   |
| 1         | 1000 Vac (IEC)    | 400                  | 42,000                              | 250,000              | 75  | 170M3541        |   |
|           |                   | 160                  | 2200                                | 13,500               | 40  | 170M4531        |   |
|           |                   | 200                  | 4150                                | 24,500               | 50  | 170M4532        |   |
|           |                   | 250                  | 7750                                | 46,000               | 55  | 170M4533        |   |
|           |                   | 315                  | 16,500                              | 98,500               | 65  | 170M4534        |   |
|           |                   | 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        |   |
| 2         | 1000 Vac (IEC/UL) | 630                  | 125,000                             | 755,000              | 98  | 170M4540        |   |
|           |                   | 250                  | 6750                                | 40,000               | 65  | 170M5531        |   |
|           |                   | 315                  | 13,500                              | 81,500               | 75  | 170M5532        |   |
|           |                   | 350                  | 16,500                              | 99,000               | 80  | 170M5533        |   |
|           |                   | 400                  | 26,000                              | 155,000              | 85  | 170M5534        |   |
|           |                   | 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        |   |
| 3         | 1000 Vac (IEC/UL) | 800                  | 195,000                             | 1,200,000            | 125 | 170M5540        |   |
|           |                   | 315                  | 9200                                | 54,500               | 90  | 170M8531        |   |
|           |                   | 350                  | 13,000                              | 77,500               | 95  | 170M8532        |   |
|           |                   | 400                  | 19,000                              | 115,000              | 105 | 170M8533        |   |
|           |                   | 450                  | 27,000                              | 160,000              | 107 | 170M8534        |   |
|           |                   | 500                  | 37,500                              | 225,000              | 110 | 170M8535        |   |
|           |                   | 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        |   |
| 3         | 1000 Vac (IEC)    | 900                  | 250,000                             | 1,500,000            | 145 | 170M8540        |   |
|           |                   | 1000                 | 340,000                             | 2,050,000            | 150 | 170M8541        |   |
|           |                   | 1100                 | 460,000                             | 2,750,000            | 155 | 170M8542        |   |
|           |                   | 1250                 | 575,000                             | 3,400,000            | 175 | 170M8543        |   |
|           |                   | 1400                 | 795,000                             | 4,200,000            | 185 | 170M8544        |   |

\* Watts loss at rated current.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K8564 (Size 1\*), 170K8566 (Size 1), 170K8568 (Size 2), 170K8570 (Size 3)

# Square body fuses

## 170M — size 1\* to 3, US style

1250 Vac (IEC), 1300 Vac (UL), 50 to 1400 A

### Description

Square body US style bolted tags high speed fuses for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Available with Type K indicator for microswitches.

### Specifications

#### Ratings

- Volts:
  - 1250 Vac (IEC)
  - 1300 Vac (UL)
- Amps: 50-1400 A
- Interrupting rating: 100 kA RMS Sym.

#### Operating class: aR

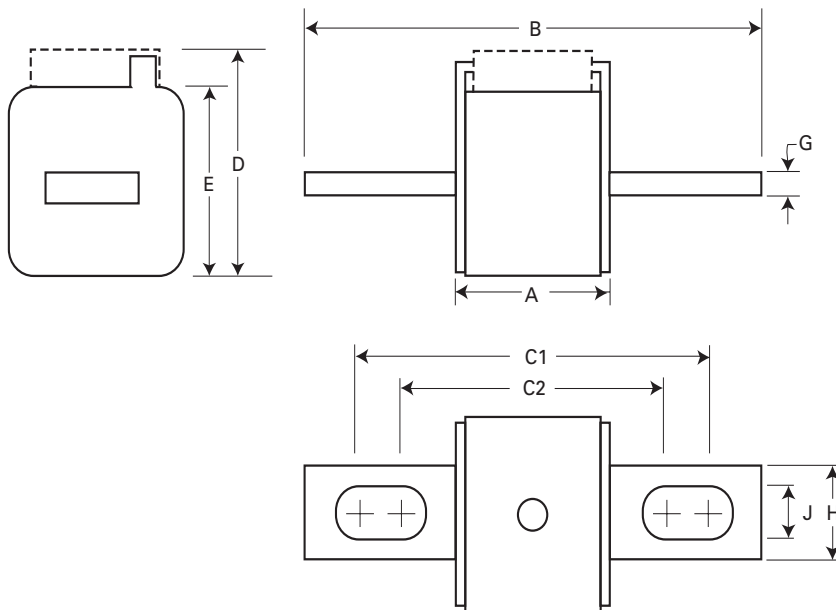
#### Agency information

- CE
- Designed and tested to IEC 60269 Part 4
- UL Recognized\*
- CSA\*
- CCC\*

\* Consult your Bussmann series product representative for status.



### Dimensions — mm



#### Type-FU/115,-FKE/115

| Size | A  | B   | C1  | C2  | D  | E  | G | H  | 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 |

For details on electrical characteristics, contact Application Engineering and ask for data sheets:170K6630 (Size 1\*), 170K6632 (Size 1), 170K6634 (Size 2), 170K6636 (Size 3)

## 170M — size 1\* to 3, US style

1250 Vac (IEC), 1300 Vac (UL), 50 to 1400 A

| Fuse size                       | Rated voltage                   | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                      |                      | Catalog no.     |                           |   |          |
|---------------------------------|---------------------------------|----------------------|-------------------------------------|----------------------|----------------------|-----------------|---------------------------|---|----------|
|                                 |                                 |                      | Pre-arcing                          | Clearing at 1000 Vac | Clearing at 1250 Vac | Watts loss (W)* | -FU/115 without indicator | -FKE/115 Type K indicator for microswitch |          |
| 1*                              | 1250 Vac (IEC)<br>1300 Vac (UL) | 50                   | 135                                 | 815                  | 1100                 | 15              | 170M3688                  | 170M3738                                  |          |
|                                 |                                 | 63                   | 215                                 | 1300                 | 1750                 | 20              | 170M3689                  | 170M3739                                  |          |
|                                 |                                 | 80                   | 420                                 | 2500                 | 3350                 | 25              | 170M3690                  | 170M3740                                  |          |
|                                 |                                 | 100                  | 750                                 | 4450                 | 5950                 | 30              | 170M3691                  | 170M3741                                  |          |
|                                 |                                 | 125                  | 1450                                | 9000                 | 11,500               | 35              | 170M3692                  | 170M3742                                  |          |
|                                 |                                 | 160                  | 2600                                | 16,000               | 21,000               | 40              | 170M3693                  | 170M3743                                  |          |
|                                 |                                 | 200                  | 5150                                | 31,000               | 41,000               | 45              | 170M3694                  | 170M3744                                  |          |
|                                 |                                 | 250                  | 9200                                | 54,500               | 73,000               | 55              | 170M3695                  | 170M3745                                  |          |
|                                 |                                 | 315                  | 18,500                              | 115,000              | 150,000              | 60              | 170M3696                  | 170M3746                                  |          |
|                                 |                                 | 350                  | 27,000                              | 165,000              | 220,000              | 65              | 170M3697                  | 170M3747                                  |          |
| 1                               | 1250 Vac (IEC)<br>1300 Vac (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              | 170M4692                  | 170M4742                                  |          |
|                                 |                                 | 400                  | 29,500                              | 175,000              | 235,000              | 75              | 170M4693                  | 170M4743                                  |          |
|                                 | 1100 Vac IEC                    | 450                  | 42,000                              | 250,000              | 335,000              | 80              | 170M4694                  | 170M4744                                  |          |
|                                 |                                 | 500                  | 69,500                              | 340,000              | N/A                  | 85              | 170M4695                  | 170M4745                                  |          |
|                                 |                                 | 550                  | 95,000                              | 465,000              | N/A                  | 95              | 170M4696                  | 170M4746                                  |          |
|                                 |                                 | 630                  | 130,000                             | 660,000              | N/A                  | 100             | 170M4697                  | 170M4747                                  |          |
| 2                               | 1250 Vac (IEC)<br>1300 Vac (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 Vac IEC         | 700                                 | 160,000              | 795,000              | N/A             | 125                       | 170M5697                                  | 170M5747 |
| 800                             | 245,000                         |                      | 1,200,000                           | N/A                  | 130                  | 170M5698        | 170M5748                  |   |          |
| 900                             | 360,000                         |                      | 1,750,000                           | N/A                  | 135                  | 170M5699        | 170M5749                  |   |          |
| 1000                            | 480,000                         |                      | 2,350,000                           | N/A                  | 145                  | 170M5700        | 170M5750                  |   |          |
| 3                               | 1250 Vac (IEC)<br>1300 Vac (UL) | 315                  | 9500                                | 58,000               | 77,500               | 85              | 170M6688                  | 170M6738                                  |          |
|                                 |                                 | 350                  | 13,500                              | 81,500               | 110,000              | 90              | 170M6689                  | 170M6739                                  |          |
|                                 |                                 | 400                  | 19,000                              | 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 Vac (IEC)       | 800                                 | 205,000              | 995,000              | 1,300,000       | 125                       | 170M6696                                  | 170M6746 |
|                                 |                                 |                      | 900                                 | 305,000              | 1,500,000            | 1,900,000       | 130                       | 170M6697                                  | 170M6747 |
| 1100 Vac (IEC)<br>1000 Vac (UL) | 1000                            | 450,000              | 2,150,000                           | N/A                  | 135                  | 170M6698        | 170M6748                  |   |          |
|                                 | 1100                            | 575,000              | 2,800,000                           | N/A                  | 160                  | 170M6699        | 170M6749                  |   |          |
| 1000 Vac (IEC/UL)               | 1250                            | 810,000              | 3,950,000                           | N/A                  | 170                  | 170M6700        | 170M6750                  |   |          |
|                                 | 1400                            | 1,250,000            | 6,000,000                           | N/A                  | 175                  | 170M6701        | 170M6751                  |   |          |

\* Watts loss at rated current.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6630 (Size 1\*), 170K6632 (Size 1), 170K6634 (Size 2), 170K6636 (Size 3)

# Square body fuses

## 170M — size 00, flush-end contact

690 Vac, 25 to 400 A

### Description

Square body flush-end contact high speed fuses, for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Catalog numbers available with visual indicator and Type T indicator for a microswitch.

### Specifications

Ratings

- Volts: 690 Vac (IEC)
- Amps: 25-400 A
- Interrupting rating: 200 kA RMS Sym.

### Operating class:

- gR (25-80 A)
- aR (100-400 A)

### Agency information

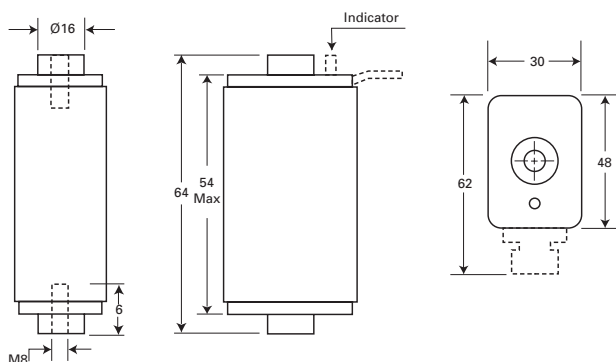
- Designed and tested to IEC 60269 Part 4
- UL Recognized, E125085, JFHR2
- CSA Class 53787, File 1422-30 on size 000
- CE



| Fuse size | Rated voltage | I <sup>2</sup> t (A <sup>2</sup> s) |            |                     | Watts loss (W)* | Catalog no.             |   |
|-----------|---------------|-------------------------------------|------------|---------------------|-----------------|-------------------------|---|
|           |               | Rated current (amps)                | Pre-arcing | Clearing at 660 Vac |                 | 00B/60 visual indicator | 00BTN/60 Type T indicator for microswitch |
| 00        | 690 Vac (IEC) | 25                                  | 19.0       | 130                 | 6               | 170M2708                | 170M2758                                  |
|           |               | 32                                  | 28.5       | 195                 | 7               | 170M2709                | 170M2759                                  |
|           |               | 40                                  | 50.0       | 360                 | 9               | 170M2710                | 170M2760                                  |
|           |               | 50                                  | 95.0       | 640                 | 10              | 170M2711                | 170M2761                                  |
|           |               | 63                                  | 170.0      | 1200                | 12              | 170M2712                | 170M2762                                  |
|           |               | 80                                  | 310.0      | 2100                | 15              | 170M2713                | 170M2763                                  |
|           |               | 100                                 | 620.0      | 4150                | 20              | 170M2714                | 170M2764                                  |
|           |               | 125                                 | 1000.0     | 6950                | 25              | 170M2715                | 170M2765                                  |
|           |               | 160                                 | 1900.0     | 13,000              | 30              | 170M2716                | 170M2766                                  |
|           |               | 200                                 | 3400.0     | 23,000              | 35              | 170M2717                | 170M2767                                  |
|           |               | 250                                 | 6250.0     | 42,000              | 45              | 170M2718                | 170M2768                                  |
|           |               | 315                                 | 10,000.0   | 68,500              | 55              | 170M2719                | 170M2769                                  |
|           |               | 350                                 | 13,500.0   | 91,500              | 60              | 170M2720                | 170M2770                                  |
|           |               | 400                                 | 18,000.0   | 125,000             | 70              | 170M2721                | 170M2771                                  |

\* Watts loss at rated current.

### Dimensions — mm



For details on electrical characteristics, contact Application Engineering and ask for data sheet: 170K6312

## 170M — size 1\* to 3, flush-end contact

690 Vac (IEC), 700 Vac (UL), 40 to 2000 A

### Description

Square body flush-end contact high speed fuses, for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Catalog numbers available with visual indicator and Type K indicator for a microswitch.

### Specifications

#### Ratings

- Volts: see catalog number table
- Amps: 40-2000 A
- Interrupting rating: 200 kA RMS Sym.

#### Operating class: aR

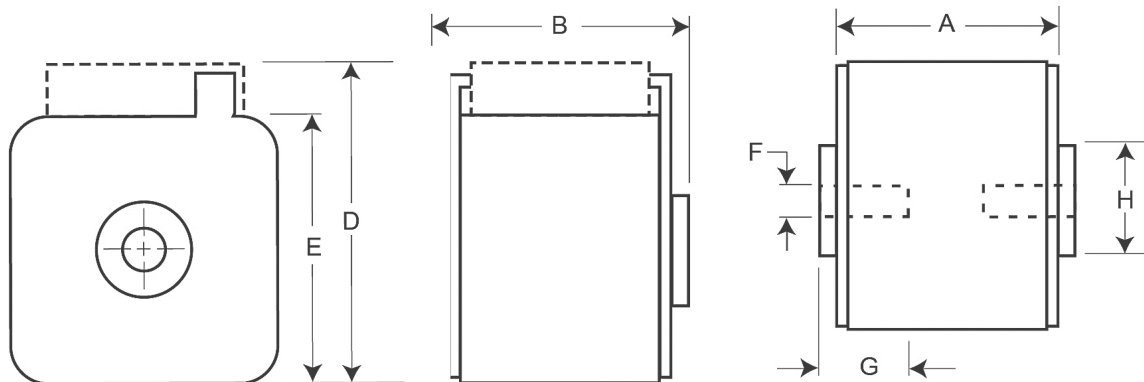
#### Agency information

- Designed and tested to IEC 60269 Part 4
- UL Recognized, E125085, JFHR2\*
- CSA Class 53787, File 1422-30\*
- CCC\*
- CE

\* Consult your Bussmann series product representative for status.



### Dimensions — mm



### Type -B/- , -BKN/- , -G/- , -GKN/-

| Size | A  | B   | D <sup>1</sup> | E  | F   | F <sup>2</sup> (in) | G  | 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 | 51 (400 - 1000 A)<br>65 (1100 and 1250 A) | 77             | 61 | M10 | 3/8-16 UNC-2B       | 10 | N24 |
| 3    | 51 | 53 (500 - 1500 A)<br>65 (1600 - 2000 A)   | 92             | 76 | M12 | 1/2-13 UNC-2B       | 10 | N30 |

<sup>1</sup> Valid for fuse Types -BKN/ and -GKN/.

<sup>2</sup> Valid for fuse Types -G- and -GKN/.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6314 (Size 1\*), 170K6316 (Size 1), 170K6318 (Size 2), 170K6320 (Size 3)

# Square body fuses

170M — size 1\* to 3, flush-end contact

690 Vac (IEC), 700 Vac (UL), 40 to 2000 A

| Fuse size | Rated voltage                 | I <sup>2</sup> t (A <sup>2</sup> s) |                               |                     | Catalog no.     |                       |   |                       |   |          |          |
|-----------|-------------------------------|-------------------------------------|-------------------------------|---------------------|-----------------|-----------------------|---|-----------------------|---|----------|----------|
|           |                               | Rated current (amps)                | Pre-arcing                    | Clearing at 660 Vac | Watts loss (W)* | -B/- visual indicator | -BKN/- Type K indicator for microswitch | -G/- visual indicator | -GKN/- Type K indicator for microswitch |          |          |
| 1*        | 690 Vac (IEC)<br>700 Vac (UL) | 40                                  | 40                            | 270                 | 9               | 170M3408              | 170M3458                                | 170M3508              | 170M3558                                |          |          |
|           |                               | 50                                  | 77                            | 515                 | 11              | 170M3409              | 170M3459                                | 170M3509              | 170M3559                                |          |          |
|           |                               | 63                                  | 115                           | 770                 | 14              | 170M3410              | 170M3460                                | 170M3510              | 170M3560                                |          |          |
|           |                               | 80                                  | 185                           | 1250                | 18              | 170M3411              | 170M3461                                | 170M3511              | 170M3561                                |          |          |
|           |                               | 100                                 | 360                           | 2450                | 21              | 170M3412              | 170M3462                                | 170M3512              | 170M3562                                |          |          |
|           |                               | 125                                 | 550                           | 3700                | 26              | 170M3413              | 170M3463                                | 170M3513              | 170M3563                                |          |          |
|           |                               | 160                                 | 1100                          | 7500                | 30              | 170M3414              | 170M3464                                | 170M3514              | 170M3564                                |          |          |
|           |                               | 200                                 | 2200                          | 15,000              | 35              | 170M3415              | 170M3465                                | 170M3515              | 170M3565                                |          |          |
|           |                               | 250                                 | 4200                          | 28,500              | 40              | 170M3416              | 170M3466                                | 170M3516              | 170M3566                                |          |          |
|           |                               | 315                                 | 7000                          | 46,500              | 50              | 170M3417              | 170M3467                                | 170M3517              | 170M3567                                |          |          |
|           |                               | 350                                 | 10,000                        | 68,500              | 55              | 170M3418              | 170M3468                                | 170M3518              | 170M3568                                |          |          |
|           |                               | 400                                 | 15,000                        | 105,000             | 60              | 170M3419              | 170M3469                                | 170M3519              | 170M3569                                |          |          |
|           |                               | 450                                 | 21,000                        | 140,000             | 65              | 170M3420              | 170M3470                                | 170M3520              | 170M3570                                |          |          |
|           |                               | 500                                 | 27,000                        | 180,000             | 70              | 170M3421              | 170M3471                                | 170M3521              | 170M3571                                |          |          |
|           |                               | 550                                 | 34,000                        | 230,000             | 75              | 170M3422              | 170M3472                                | 170M3522              | 170M3572                                |          |          |
|           |                               | 630                                 | 48,500                        | 325,000             | 80              | 170M3423              | 170M3473                                | 170M3523              | 170M3573                                |          |          |
| 1         | 690 Vac (IEC)<br>700 Vac (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                                | 170M4510              | 170M4560                                |          |          |
|           |                               | 350                                 | 8500                          | 59,000              | 60              | 170M4411              | 170M4461                                | 170M4511              | 170M4561                                |          |          |
|           |                               | 400                                 | 13,500                        | 91,500              | 65              | 170M4412              | 170M4462                                | 170M4512              | 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                                | 170M4517              | 170M4567                                |          |          |
| 1         | 550 Vac (IEC)                 | 800                                 | 105,000                       | 725,000             | 95              | 170M4418              | 170M4468                                | 170M4518              | 170M4568                                |          |          |
|           |                               | 900                                 | 155,000                       | 850,000             | 100             | 170M4419              | 170M4469                                | 170M4519              | 170M4569                                |          |          |
| 2         | 690 Vac (IEC)<br>700 Vac (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                                |          |          |
|           |                               | 1100                                | 245,000                       | 1,600,000           | 120             | 170M5417              | 170M5467                                | 170M5517              | 170M5567                                |          |          |
| 3         | 690 Vac (IEC)<br>700 Vac (UL) | 1250                                | 365,000                       | 2,400,000           | 130             | 170M5418              | 170M5468                                | 170M5518              | 170M5568                                |          |          |
|           |                               | 500                                 | 14,000                        | 95,000              | 95              | 170M6408              | 170M6458                                | 170M6508              | 170M6558                                |          |          |
|           |                               | 550                                 | 19,500                        | 135,000             | 100             | 170M6409              | 170M6459                                | 170M6509              | 170M6559                                |          |          |
|           |                               | 630                                 | 31,000                        | 210,000             | 105             | 170M6410              | 170M6460                                | 170M6510              | 170M6560                                |          |          |
|           |                               | 700                                 | 44,500                        | 300,000             | 110             | 170M6411              | 170M6461                                | 170M6511              | 170M6561                                |          |          |
|           |                               | 800                                 | 69,500                        | 465,000             | 115             | 170M6412              | 170M6462                                | 170M6512              | 170M6562                                |          |          |
|           |                               | 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                                | 170M6515              | 170M6565                                |          |          |
|           |                               | 1250                                | 290,000                       | 1,950,000           | 140             | 170M6416              | 170M6466                                | 170M6516              | 170M6566                                |          |          |
| 3         | 600 Vac (IEC)<br>500 Vac (UL) | 1400                                | 370,000                       | 2,450,000           | 155             | 170M6417              | 170M6467                                | 170M6517              | 170M6567                                |          |          |
|           |                               | 1500                                | 460,000                       | 3,100,000           | 160             | 170M6418              | 170M6468                                | 170M6518              | 170M6568                                |          |          |
|           |                               | 1600                                | 580,000                       | 3,900,000           | 160             | 170M6419              | 170M6469                                | 170M6519              | 170M6569                                |          |          |
|           |                               | 1800                                | 880,000                       | 5,250,000           | 165             | 170M6420              | 170M6470                                | 170M6520              | 170M6570                                |          |          |
|           |                               | 3                                   | 550 Vac (IEC)<br>500 Vac (UL) | 2000                | 1,150,000       | 6,350,000             | 175                                     | 170M6421              | 170M6471                                | 170M6521 | 170M6571 |

\* Watts loss at rated current.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6314 (Size 1\*), 170K6316 (Size 1), 170K6318 (Size 2), 170K6320 (Size 3)



## 170M — size 1\* to 3, flush-end contact

1000 Vac (IEC and UL), 50 to 1400 A

### Description

Square body flush-end contact high speed fuses, for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Catalog numbers come with Type K indicator for use with microswitches.

### Specifications

Ratings

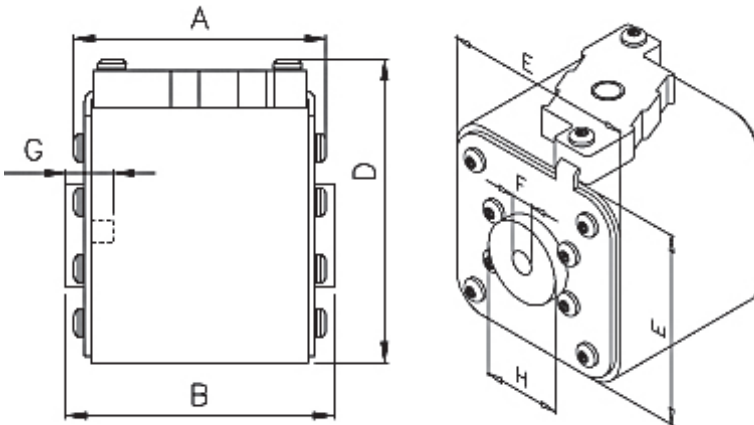
- Volts:
  - 1000 Vac (IEC, 50-1250 A)
  - 1000 Vac (UL, 250-1100 A)
  - 900 Vac (IEC, 1400 A)
- Amps: 50-1400 A
- Interrupting rating: 125 kA RMS Sym.

### Operating class: aR

### Agency information

- Designed and tested to IEC 60269 Part 4
- UL Recognized, E125085, JFHR2 (only sizes 2 and 3 up to 1100 A)
- CE

### Dimensions — mm



### Type -BKN/- and -GKN/-

| Size | Type            | A    | B    | D (max) | E  | F   | F <sup>1</sup> (in) | G (min) | H    |
|------|-----------------|------|------|---------|----|-----|---------------------|---------|------|
| 1*   | BKN/75 + GKN/75 | 72.5 | 74.0 | 61      | 43 | M8  | 5/16-18 UNC-2B      | 5       | 17.5 |
| 1    | BKN/75 + GKN/75 | 73.2 | 74.0 | 69      | 52 | M8  | 5/16-18 UNC-2B      | 8       | 20.0 |
| 2    | BKN/75 + GKN/75 | 73.2 | 74.4 | 77      | 59 | M10 | 3/8-16 UNC-2B       | 10      | 24.5 |
| 3    | BKN/75 + GKN/75 | 73.3 | 75.4 | 92      | 74 | M12 | 1/2-13 UNC-2B       | 10      | 30.0 |
| 3    | BKN/90 + GKN/90 | 80.3 | 91.4 | 92      | 74 | M12 | 1/2-13 UNC-2B       | 10      | 30.0 |

<sup>1</sup> Valid for fuse Types -GKN/-.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K8564 (Size 1\*), 170K8566 (Size 1), 170K8568 (Size 2), 170K8570 (Size 3)

# Square body fuses

170M — size 1\* to 3, flush-end contact

1000 Vac (IEC and UL), 50 to 1400 A

| Fuse size | Rated voltage     | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                           | Watts loss (W)* | Catalog no.                             |   |
|-----------|-------------------|----------------------|-------------------------------------|---------------------------|-----------------|---|---|
|           |                   |                      | Pre-arcing                          | Clearing at rated voltage |                 | -BKN/- Type K indicator for microswitch | -GKN/- Type K indicator for microswitch |
| 1*        | 1000 Vac (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                                |
| 1         | 1000 Vac IEC)     | 400                  | 42,000                              | 250,000                   | 75              | 170M3961                                | 170M3931                                |
|           |                   | 160                  | 2200                                | 13,500                    | 40              | 170M4951                                | 170M4921                                |
|           |                   | 200                  | 4150                                | 24,500                    | 45              | 170M4952                                | 170M4922                                |
|           |                   | 250                  | 7750                                | 46,000                    | 52              | 170M4953                                | 170M4923                                |
|           |                   | 315                  | 16,500                              | 98,500                    | 60              | 170M4954                                | 170M4924                                |
|           |                   | 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                                |
| 2         | 1000 Vac (IEC/UL) | 630                  | 125,000                             | 755,000                   | 98              | 170M4960                                | 170M4930                                |
|           |                   | 250                  | 6750                                | 40,000                    | 65              | 170M5952                                | 170M5922                                |
|           |                   | 315                  | 13,500                              | 81,500                    | 75              | 170M5953                                | 170M5923                                |
|           |                   | 350                  | 16,500                              | 99,000                    | 80              | 170M5954                                | 170M5924                                |
|           |                   | 400                  | 26,000                              | 155,000                   | 85              | 170M5955                                | 170M5925                                |
|           |                   | 450                  | 35,500                              | 210,000                   | 90              | 170M5956                                | 170M5926                                |
|           |                   | 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                                |
| 3         | 1000 Vac (IEC/UL) | 800                  | 195,000                             | 1,200,000                 | 125             | 170M5961                                | 170M5931                                |
|           |                   | 315                  | 9200                                | 54,500                    | 90              | 170M8600                                | 170M8500                                |
|           |                   | 350                  | 13,000                              | 77,500                    | 95              | 170M8601                                | 170M8501                                |
|           |                   | 400                  | 19,000                              | 115,000                   | 105             | 170M8602                                | 170M8502                                |
|           |                   | 450                  | 27,000                              | 160,000                   | 107             | 170M8603                                | 170M8503                                |
|           |                   | 500                  | 37,500                              | 225,000                   | 110             | 170M8604                                | 170M8504                                |
|           |                   | 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                                |
| 3         | 1000 Vac (IEC)    | 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                                |
|           |                   | 1250                 | 575,000                             | 3,400,000                 | 175             | 170M8612 <sup>1</sup>                   | 170M8512 <sup>1</sup>                   |
| 3         | 900 Vac (IEC)     | 1400                 | 795,000                             | 4,200,000                 | 185             | 170M8613 <sup>1</sup>                   | 170M8513 <sup>1</sup>                   |

\* Watts loss at rated current.

<sup>1</sup> Overall length is 90 mm, for all other fuses the overall length is 75 mm.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K8564 (Size 1\*), 170K8566 (Size 1), 170K8568 (Size 2), 170K8570 (Size 3)

## 170M — size 1\* to 3, flush-end contact

1250 Vac (IEC), 1300 Vac (UL), 50 to 1400 A

### Description

Square body flush-end contact high speed fuses, for the protection of DC common bus, DC drives, power converters/rectifiers and reduced rated voltage starters. Catalog numbers come with Type K indicator for use with microswitches.

### Specifications

#### Ratings

- Volts:
  - 1250 Vac (IEC)
  - 1300 Vac (UL)
- Amps: 50-1400 A
- Interrupting rating: 100 kA RMS Sym.

### Operating class: aR

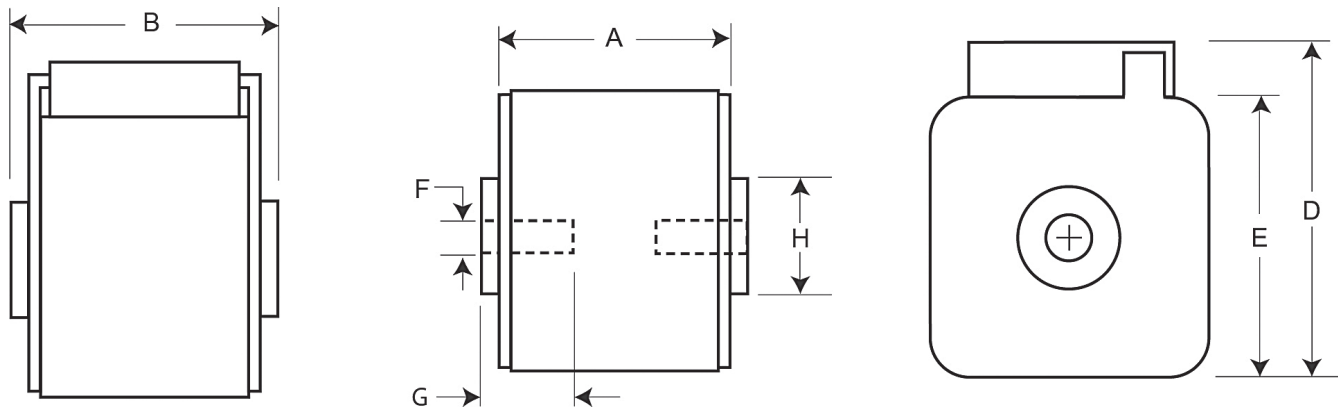
### Agency information

- Designed and tested to IEC 60269 Part 4
- UL Recognized, E125085, JFHR2\*
- CSA Class 53787, File 1422-30\*
- CE

\* Consult your Bussmann series product representative status.



### Dimensions — mm



### Type -BKN/- and -GKN/-

| Size | Type         | A  | B  | D  | E  | F   | F <sup>1</sup> (in) | Min G | HØ |
|------|--------------|----|----|----|----|-----|---------------------|-------|----|
| 1*   | BKN + GKN/75 | 74 | 75 | 59 | 45 | M8  | 5/16-18 UNC-2B      | 5     | 17 |
| 1*   | BKN/80       | 80 | 81 | 59 | 45 | M8  |                     | 5     | 17 |
| 1    | BKN + GKN/75 | 74 | 75 | 69 | 53 | M8  | 3/8-16 UNC-2B       | 8     | 20 |
| 1    | BKN/80       | 80 | 81 | 69 | 53 | M8  |                     | 8     | 20 |
| 2    | BKN + GKN/75 | 74 | 75 | 77 | 61 | M10 | 3/8-16 UNC-2B       | 10    | 24 |
| 2    | BKN/80       | 80 | 81 | 77 | 61 | M10 |                     | 10    | 24 |
| 2    | BKN + GKN/90 | 80 | 91 | 77 | 61 | M10 | 1/2-13 UNC-2B       | 10    | 24 |
| 3    | BKN + GKN/75 | 74 | 76 | 92 | 76 | M12 |                     | 10    | 30 |
| 3    | BKN/80       | 81 | 83 | 92 | 76 | M12 |                     | 10    | 30 |
| 3    | BKN + GKN/90 | 81 | 91 | 92 | 76 | M12 |                     | 10    | 30 |

<sup>1</sup> Valid for fuse Types -GKN/-.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6630 (Size 1\*), 170K6632 (Size 1), 170K6634 (Size 2), 170K6636 (Size 3)

# Square body fuses

170M —size 1\* to 3, flush-end contact

1250 Vac (IEC), 1300 Vac (UL), 50 to 1400 A

| Fuse size | Rated voltage                   | I <sup>2</sup> t (A <sup>2</sup> s) |            |                      |                      | Watts loss (W)* | Catalog no.                        |                                    |                                    |                                    |                                    |
|-----------|---------------------------------|-------------------------------------|------------|----------------------|----------------------|-----------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
|           |                                 | Rated current (amps)                | Pre-arcing | Clearing at 1000 Vac | Clearing at 1250 Vac |                 | -BKN/75 Type K indicator for micro | -BKN/80 Type K indicator for micro | -BKN/90 Type K indicator for micro | -GKN/75 Type K indicator for micro | -GKN/90 Type K indicator for micro |
| 1*        | 1250 Vac (IEC)<br>1300 Vac (UL) | 50                                  | 135        | 815                  | 1100                 | 15              | 170M3388                           | 170M3438                           | —                                  | 170M3488                           | —                                  |
|           |                                 | 63                                  | 215        | 1300                 | 1750                 | 20              | 170M3389                           | 170M3439                           | —                                  | 170M3489                           | —                                  |
|           |                                 | 80                                  | 420        | 2500                 | 3350                 | 25              | 170M3390                           | 170M3440                           | —                                  | 170M3490                           | —                                  |
|           |                                 | 100                                 | 750        | 4450                 | 5950                 | 30              | 170M3391                           | 170M3441                           | —                                  | 170M3491                           | —                                  |
|           |                                 | 125                                 | 1450       | 9000                 | 11,500               | 35              | 170M3392                           | 170M3442                           | —                                  | 170M3492                           | —                                  |
|           |                                 | 160                                 | 2600       | 16,000               | 21,000               | 40              | 170M3393                           | 170M3443                           | —                                  | 170M3493                           | —                                  |
|           |                                 | 200                                 | 5150       | 31,000               | 41,000               | 45              | 170M3394                           | 170M3444                           | —                                  | 170M3494                           | —                                  |
|           |                                 | 250                                 | 9200       | 54,500               | 73,000               | 55              | 170M3395                           | 170M3445                           | —                                  | 170M3495                           | —                                  |
|           |                                 | 315                                 | 18,500     | 115,000              | 150,000              | 60              | 170M3396                           | 170M3446                           | —                                  | 170M3496                           | —                                  |
|           |                                 | 350                                 | 27,000     | 165,000              | 220,000              | 65              | 170M3397                           | 170M3447                           | —                                  | 170M3497                           | —                                  |
| 1         | 1250 Vac (IEC)<br>1300 Vac (UL) | 400                                 | 53,000     | 265,000              | 335,000              | 70              | —                                  | 170M3448                           | —                                  | —                                  | —                                  |
|           |                                 | 160                                 | 1900       | 11,500               | 15,500               | 45              | 170M4388                           | 170M4438                           | —                                  | 170M4488                           | —                                  |
|           |                                 | 200                                 | 3800       | 22,500               | 30,000               | 50              | 170M4389                           | 170M4439                           | —                                  | 170M4489                           | —                                  |
|           |                                 | 250                                 | 7750       | 46,000               | 61,500               | 60              | 170M4390                           | 170M4440                           | —                                  | 170M4490                           | —                                  |
|           |                                 | 315                                 | 15,000     | 90,000               | 120,000              | 65              | 170M4391                           | 170M4441                           | —                                  | 170M4491                           | —                                  |
|           |                                 | 350                                 | 20,000     | 125,000              | 165,000              | 70              | 170M4392                           | 170M4442                           | —                                  | 170M4492                           | —                                  |
|           |                                 | 400                                 | 29,500     | 175,000              | 235,000              | 75              | 170M4393                           | 170M4443                           | —                                  | 170M4493                           | —                                  |
|           |                                 | 450                                 | 42,000     | 250,000              | 335,000              | 80              | 170M4394                           | 170M4444                           | —                                  | 170M4494                           | —                                  |
|           |                                 | 500                                 | 69,500     | 340,000              | 435,000              | 85              | 170M4395 <sup>4</sup>              | 170M4445                           | —                                  | 170M4495 <sup>4</sup>              | —                                  |
|           |                                 | 550                                 | 95,000     | 465,000              | 590,000              | 95              | 170M4396 <sup>5</sup>              | 170M4446                           | —                                  | 170M4496 <sup>5</sup>              | —                                  |
| 2         | 1250 Vac (IEC)<br>1300 Vac (UL) | 630                                 | 130,000    | 660,000              | N/A                  | 110             | 170M4397 <sup>5</sup>              | 170M4447 <sup>7</sup>              | —                                  | 170M4497 <sup>5</sup>              | —                                  |
|           |                                 | 250                                 | 6500       | 38,500               | 51,500               | 65              | 170M5388                           | 170M5438                           | —                                  | 170M5588                           | —                                  |
|           |                                 | 280                                 | 9350       | 55,500               | 74,500               | 70              | 170M5389                           | 170M5439                           | —                                  | 170M5589                           | —                                  |
|           |                                 | 315                                 | 13,000     | 77,500               | 105,000              | 75              | 170M5390                           | 170M5440                           | —                                  | 170M5590                           | —                                  |
|           |                                 | 350                                 | 16,500     | 97,500               | 135,000              | 80              | 170M5391                           | 170M5441                           | —                                  | 170M5591                           | —                                  |
|           |                                 | 400                                 | 23,000     | 140,000              | 180,000              | 85              | 170M5392                           | 170M5442                           | —                                  | 170M5592                           | —                                  |
|           |                                 | 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 <sup>4</sup>              | 170M5446                           | 170M5496                           | 170M5596 <sup>4</sup>              | 170M5646                           |
| 3         | 1250 Vac (IEC)<br>1300 Vac (UL) | 700                                 | 160,000    | 795,000              | 1,050,000            | 125             | 170M5397 <sup>5</sup>              | 170M5447 <sup>1</sup>              | 170M5497                           | 170M5597 <sup>5</sup>              | 170M5647                           |
|           |                                 | 800                                 | 245,000    | 1,200,000            | 1,550,000            | 130             | 170M5398 <sup>5</sup>              | 170M5448 <sup>2</sup>              | 170M5498                           | 170M5598 <sup>5</sup>              | 170M5648                           |
|           |                                 | 900                                 | 360,000    | 1,750,000            | N/A                  | 135             | —                                  | —                                  | 170M5499 <sup>3</sup>              | —                                  | 170M5649 <sup>3</sup>              |
|           |                                 | 1000                                | 480,000    | 2,350,000            | N/A                  | 145             | —                                  | —                                  | 170M5500 <sup>3</sup>              | —                                  | 170M5650 <sup>3</sup>              |
|           |                                 | 315                                 | 9500       | 58,000               | 77,500               | 85              | 170M6338                           | 170M6538                           | —                                  | 170M6588                           | —                                  |
|           |                                 | 350                                 | 13,500     | 81,500               | 110,000              | 90              | 170M6339                           | 170M6539                           | —                                  | 170M6589                           | —                                  |
|           |                                 | 400                                 | 19,500     | 120,000              | 160,000              | 95              | 170M6340                           | 170M6540                           | —                                  | 170M6590                           | —                                  |
|           |                                 | 450                                 | 31,000     | 185,000              | 245,000              | 100             | 170M6341                           | 170M6541                           | —                                  | 170M6591                           | —                                  |
|           |                                 | 500                                 | 39,000     | 235,000              | 310,000              | 105             | 170M6342                           | 170M6542                           | —                                  | 170M6592                           | —                                  |
|           |                                 | 550                                 | 55,000     | 325,000              | 435,000              | 110             | 170M6343                           | 170M6543                           | —                                  | 170M6593                           | —                                  |
| 3         | 1250 Vac (IEC)<br>1300 Vac (UL) | 630                                 | 83,500     | 495,000              | 665,000              | 115             | 170M6344                           | 170M6544                           | 170M6494                           | 170M6594                           | 170M6644                           |
|           |                                 | 700                                 | 115,000    | 705,000              | 940,000              | 120             | 170M6345                           | 170M6545                           | 170M6495                           | 170M6595                           | 170M6645                           |
|           |                                 | 800                                 | 205,000    | 995,000              | 1,300,000            | 125             | 170M6346 <sup>4</sup>              | 170M6546                           | 170M6496                           | 170M6596 <sup>4</sup>              | 170M6646                           |
|           |                                 | 900                                 | 305,000    | 1,500,000            | 1,900,000            | 130             | 170M6347 <sup>5</sup>              | 170M6547 <sup>1</sup>              | 170M6497                           | 170M6597 <sup>5</sup>              | 170M6647                           |
|           |                                 | 1000                                | 450,000    | 2,150,000            | 2,750,000            | 135             | 170M6348 <sup>5</sup>              | 170M6548 <sup>1</sup>              | 170M6498                           | 170M6598 <sup>5</sup>              | 170M6648                           |
|           |                                 | 1100                                | 575,000    | 2,800,000            | 3,600,000            | 160             | 170M6349 <sup>5</sup>              | 170M6549 <sup>2</sup>              | 170M6499                           | 170M6599 <sup>5</sup>              | 170M6649                           |
|           |                                 | 1250                                | 810,000    | 3,950,000            | N/A                  | 170             | —                                  | —                                  | 170M6500 <sup>3</sup>              | —                                  | 170M6650 <sup>4</sup>              |
|           |                                 | 1400                                | 1,250,000  | 6,000,000            | N/A                  | 175             | —                                  | —                                  | 170M6501 <sup>3</sup>              | —                                  | 170M6651 <sup>4</sup>              |

\* Watts loss at rated current.  
<sup>1</sup> Rated voltage 1100 Vac (IEC), 1000 Vac (UL).  
<sup>2</sup> Rated voltage 1000 Vac (IEC and UL).  
<sup>3</sup> Rated voltage 1100 Vac (IEC and UL).  
<sup>4</sup> Rated voltage (IEC) 1100 Vac.  
<sup>5</sup> Rated voltage (IEC) 1000 Vac.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6630 (Size 1\*), 170K6632 (Size 1), 170K6634 (Size 2), 170K6636 (Size 3)

## 170M — size 4, flush-end contact

690 Vac (IEC), 700 Vac (UL), 1000 to 4000 A

### Description

Square body, flush-end contact, high speed fuses, for the protection of power rectifiers. Catalog numbers come with visual indicator or Type K indicator for use with microswitches.

### Specifications

#### Ratings

- Volts:
  - 690 Vac (IEC)/700 Vac (UL) 1000-3500 A
  - 600 Vac (IEC and UL, 4000 A)
- Amps: 1000-4000 A
- Interrupting rating: 200 kA RMS Sym.

#### Operating class: aR

#### Agency information

- Designed and tested to IEC 60269 Part 4
- UL Recognized, E125085, JFHR2
- CE



| Fuse size | Rated voltage                 | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                     | Watts loss (W)*         | Catalog no.            |                          |                        |                          |
|-----------|-------------------------------|----------------------|-------------------------------------|---------------------|-------------------------|------------------------|--------------------------|------------------------|--------------------------|
|           |                               |                      | Pre-arcing                          | Clearing at 660 Vac |                         | -B/65 visual indicator | -BKN/65 Type K indicator | -G/65 visual indicator | -GKN/65 Type K indicator |
| 4         | 690 Vac (IEC)<br>700 Vac (UL) | 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                 |
|           |                               | 2000                 | 600,000                             | 3,950,000           | 245                     | 170M7062               | 170M7082                 | 170M7102               | 170M7122                 |
|           |                               | 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 Vac (IEC/UL)     | 4000                                | 4,700,000           | 28,000,000 <sup>†</sup> | 355                    | 170M7066                 | 170M7086               | 170M7106                 |

\* Watts loss at rated current.

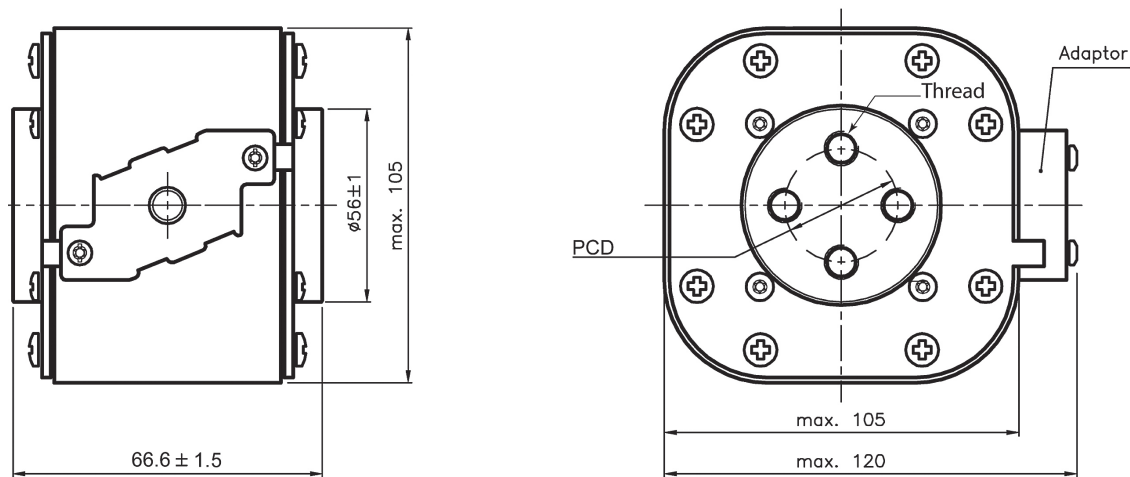
<sup>†</sup> Clearing at 600 Vac.

# Square body fuses

170M — size 4, flush-end contact

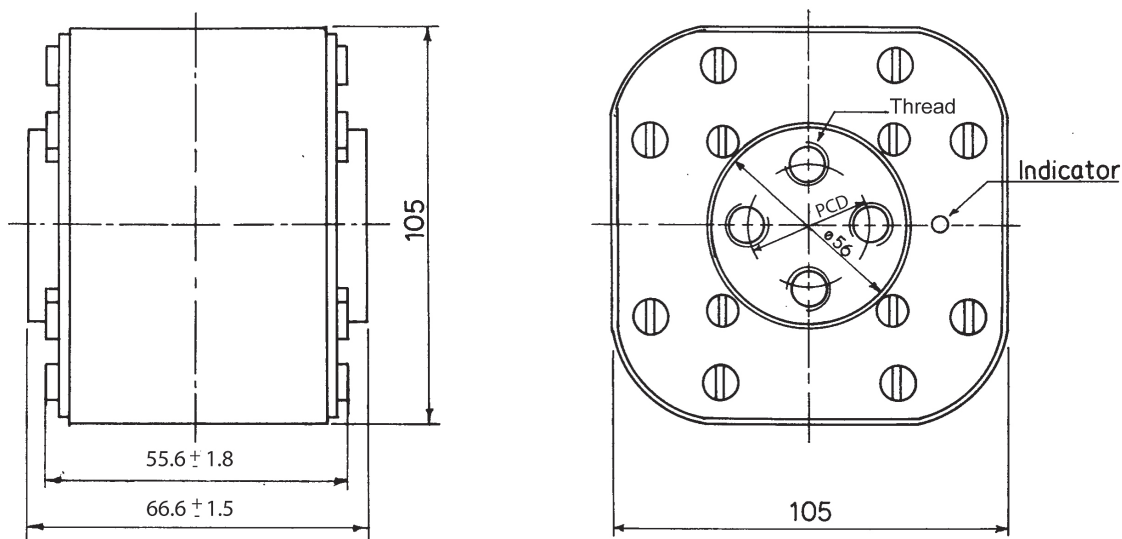
690 Vac (IEC), 700 Vac (UL), 1000 to 4000 A

Dimensions — mm



Type -BKN/65, -GKN/65

| Type    | PCD    | Thread     |
|---------|--------|------------|
| -GKN/65 | Ø 38.1 | 1/2-13 UNC |
| -BKN/65 | Ø 33.0 | M-10       |



Type -B/65, -G/65

| Type  | PCDØ | Thread     |
|-------|------|------------|
| -G/65 | 38.1 | 1/2-13 UNC |
| -B/65 | 33.0 | M-10       |

For details on electrical characteristics, contact Application Engineering and ask for data sheet:170K6328

## 170M — size 4, flush-end contact

1000 Vac (IEC), 1000 to 3000 A

### Description

Square body, flush-end contact, high speed fuses, for the protection of power rectifiers. Catalog numbers come with visual indicator or Type K indicator for use with microswitches.

### Specifications

#### Ratings

- Volts: 1000 Vac (IEC)
- Amps: 1000-3000 A
- Interrupting rating: 200 kA RMS Sym.

#### Operating class: aR

#### Agency information

- Designed and tested to IEC 60269 Part 4
- UL Recognized, E125085, JFHR2
- CE



| Fuse size | Rated voltage | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                      | Watts loss (W)* | Catalog no.              |                           |
|-----------|---------------|----------------------|-------------------------------------|----------------------|-----------------|--------------------------|---------------------------|
|           |               |                      | Pre-arcing                          | Clearing at 1000 Vac |                 | -BKN/95 Type K indicator | -SBKN/90 Type K indicator |
| 4         | 1000 Vac      | 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                  |

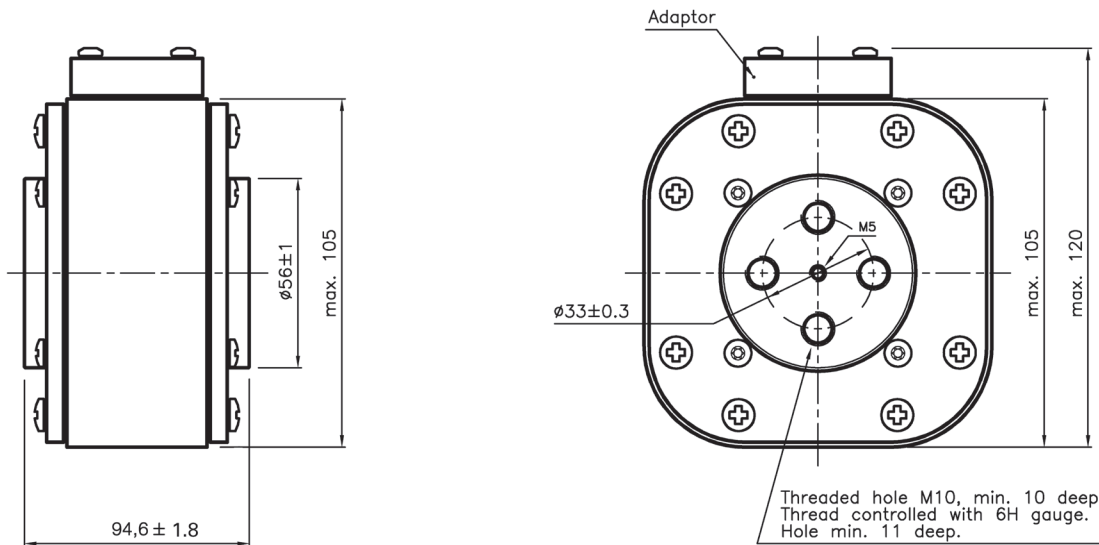
\* Watts loss at rated current.

# Square body fuses

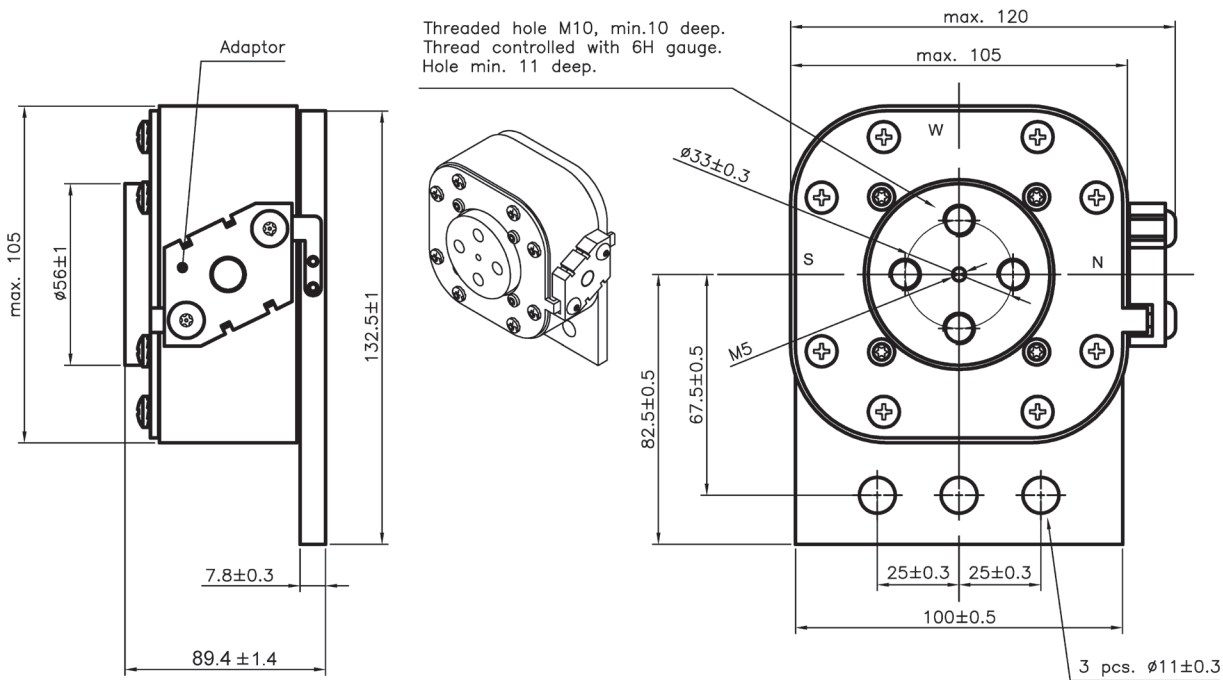
170M — size 4, flush-end contact

1000 Vac (IEC), 1000 to 3000 A

Dimensions — mm



Type 4BKN/95



Type 4SBKN/90

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K8520, 170K8520-R



## 170M — size 4, flush-end contact

1250 Vac (IEC), 800 to 2500 A

### Description

Square body, flush-end contact, high speed fuses, for the protection of power rectifiers. Catalog numbers come with visual indicator or Type K indicator for use with microswitches.

### Specifications

#### Ratings

- Volts:
  - 1250 Vac (IEC)
  - 1200 Vdc (UL)
- Amps: 800-2500 A
- Interrupting rating:
  - 200 kA RMS Sym.
  - 85 kA DC (L/R 2 ms)

#### Operating class: aR

#### Agency information

- Designed and tested to IEC 60269 Part 4
- UL Recognized, E125085, JFHR2
- CSA E125085, JFHR2
- CE



| Fuse size | Rated voltage                   | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                      |          | Watts loss (W)* | Catalog no.               |                            |
|-----------|---------------------------------|----------------------|-------------------------------------|----------------------|----------|-----------------|---------------------------|----------------------------|
|           |                                 |                      | Pre-arcing                          | Clearing at 1250 Vac |          |                 | -BKN/105 Type K indicator | -SBKN/105 Type K indicator |
| 4         | 1250 Vac (IEC)<br>1200 Vdc (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        | 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             | 170M7978 |                 |                           |                            |

\* Watts loss at rated current.

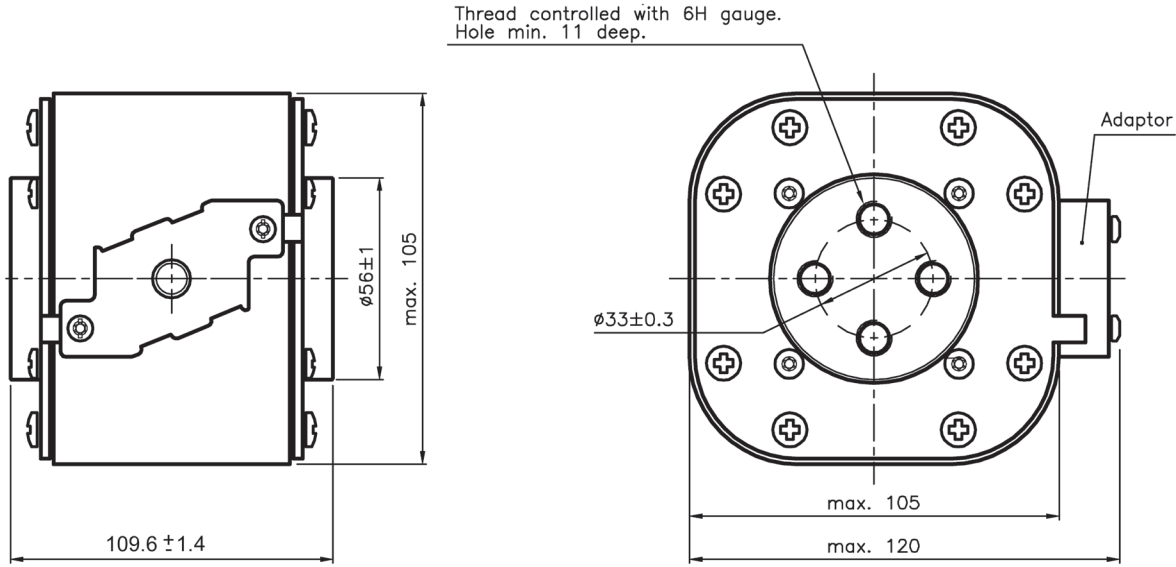
For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6640 (1400-2400 A), 170K6642 (800-1200, 2500 A)

# Square body fuses

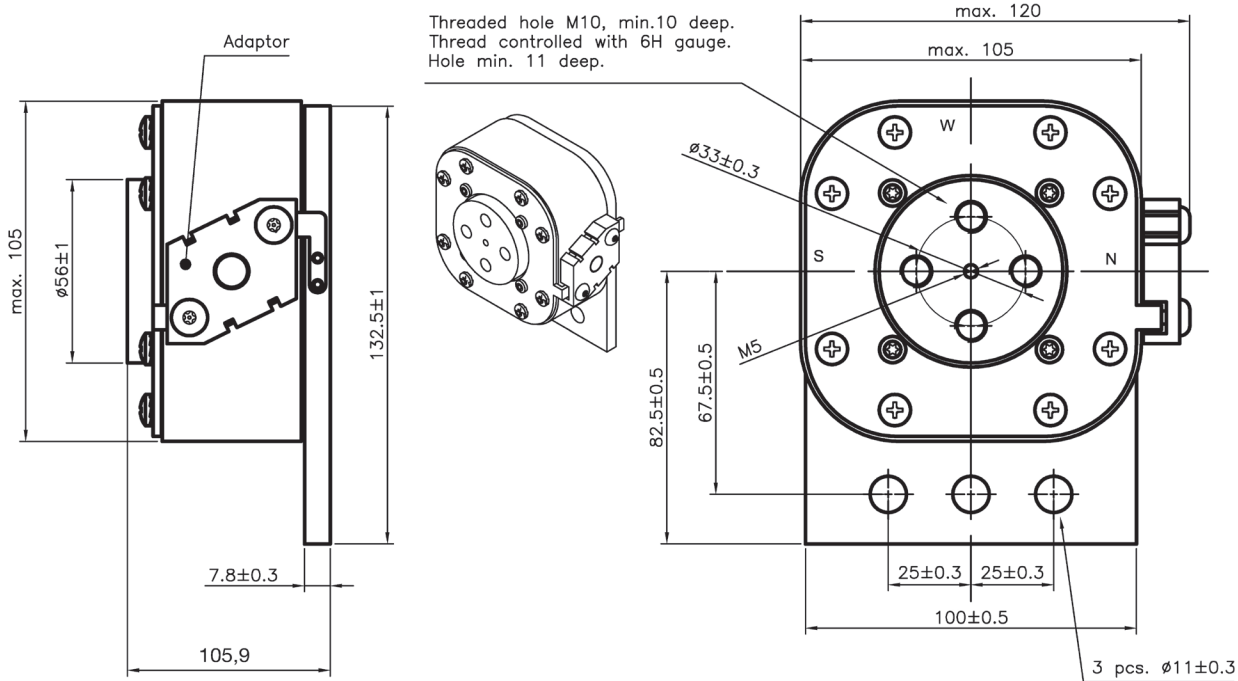
170M — size 4, flush-end contact

1250 Vac (IEC), 800 to 2500 A

Dimensions — mm



Type 4BKN/105



Type 4SBKN/105

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6640 (1400-2400 A), 170K6642 (800-1200, 2500 A)

## 170M — size 23, flush-end contact

660 Vac (IEC), 1000 to 4000 A

### Description

Square body, flush-end contact, high speed fuses, for the protection of power rectifiers. Catalog numbers available with Type K indicator for use with microswitches.



### Specifications

#### Ratings

- Volts:
  - 660 Vac (IEC, 1000-3000 A)
  - 600 Vac (IEC, 3500 A)
  - 550 Vac (IEC, 4000 A)
- Amps: 1000-4000 A
- Interrupting rating: 100 kA RMS Sym.

#### Operating class: aR

#### Agency information

- Designed and tested to IEC 60269 Part 4
- UL Recognized, E125085, JFHR2
- CE

| Fuse size | Rated voltage | I <sup>2</sup> t (A <sup>2</sup> s) |            |                         | Watts loss (W)* | Catalog no. |                          |                          |          |                          |                          |
|-----------|---------------|-------------------------------------|------------|-------------------------|-----------------|-------------|--------------------------|--------------------------|----------|--------------------------|--------------------------|
|           |               | Rated current (amps)                | Pre-arcing | Clearing at 660 Vac     |                 | -BU/55      | -BKE/55 Type K indicator | -BKN/55 Type K indicator | -GU/55   | -GKE/55 Type K indicator | -GKN/55 Type K indicator |
| 23        | 660 Vac (IEC) | 1000                                | 79,000     | 530,000                 | 170             | 170M6858    | 170M6898                 | 170M6878                 | 170M6918 | 170M6958                 | 170M6938                 |
|           |               | 1100                                | 95,000     | 635,000                 | 185             | 170M6859    | 170M6899                 | 170M6879                 | 170M6919 | 170M6959                 | 170M6939                 |
|           |               | 1250                                | 155,000    | 1,050,000               | 190             | 170M6860    | 170M6900                 | 170M6880                 | 170M6920 | 170M6960                 | 170M6940                 |
|           |               | 1400                                | 200,000    | 1,350,000               | 210             | 170M6861    | 170M6901                 | 170M6881                 | 170M6921 | 170M6961                 | 170M6941                 |
|           |               | 1500                                | 240,000    | 1,650,000               | 215             | 170M6862    | 170M6902                 | 170M6882                 | 170M6922 | 170M6962                 | 170M6942                 |
|           |               | 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                 |                          |
|           | 600 Vac (IEC) | 3500                                | 3,450,000  | 21,000,000 <sup>1</sup> | 315             | 170M6869    | 170M6909                 | 170M6889                 | 170M6929 | 170M6969                 | 170M6949                 |
|           | 550 Vac (IEC) | 4000                                | 5,000,000  | 27,500,000 <sup>2</sup> | 340             | 170M6870    | 170M6910                 | 170M6890                 | 170M6930 | 170M6970                 | 170M6950                 |

\* Watts loss at rated current.

<sup>1</sup> Clearing at 600 Vac.

<sup>2</sup> Clearing at 550 Vac.

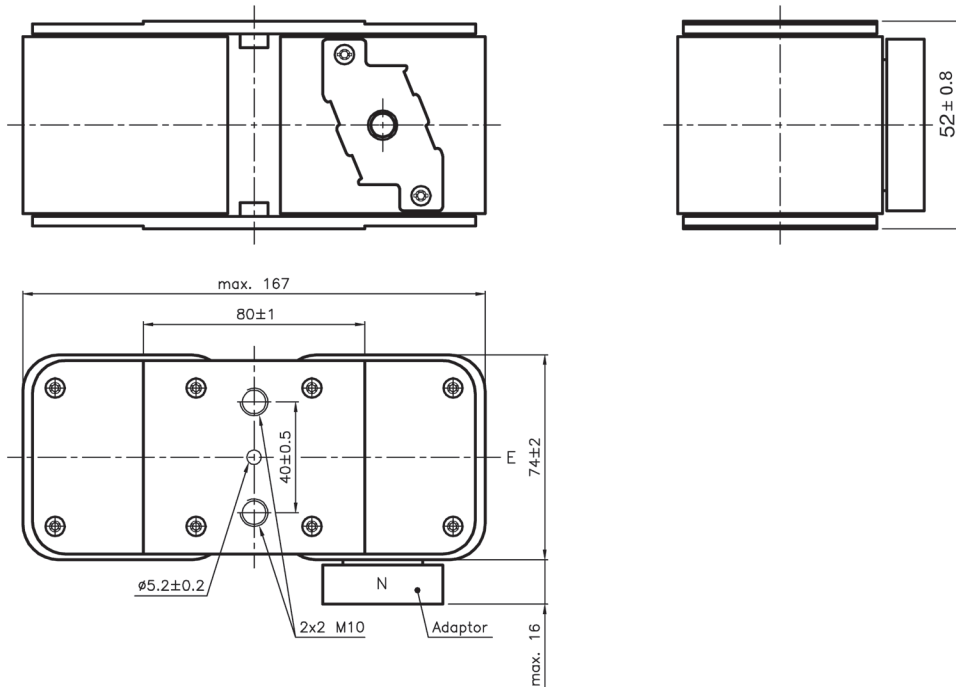
When using these fuses, please consult our application engineers.

# Square body fuses

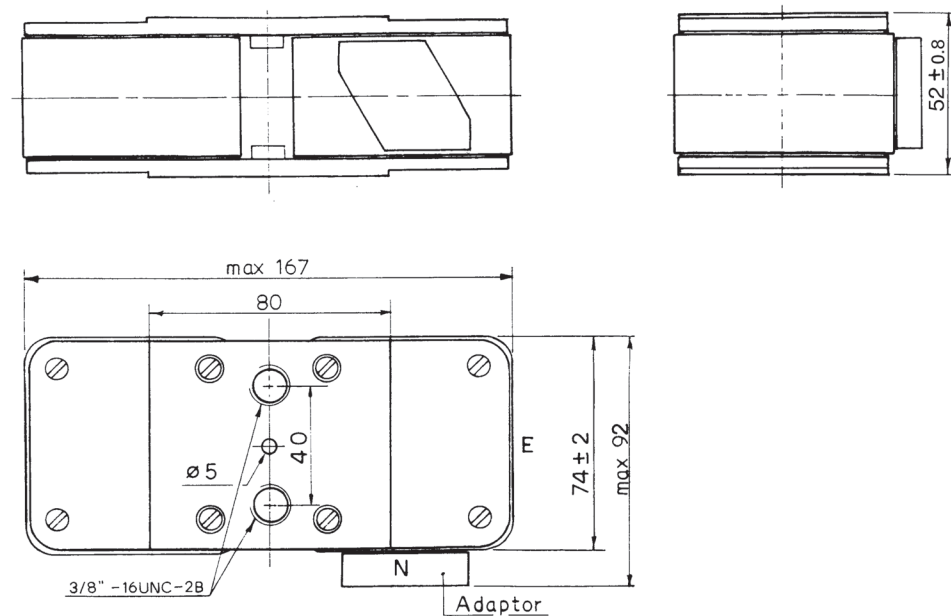
170M — size 23, flush-end contact

660 Vac (IEC), 1000 to 4000 A

Dimensions — mm



Type -BU/55, -BKE/55, -BKN/55



Type -GU/55, -GKE/55, -GKN/55

When using these fuses, please consult our application engineers.

For details on electrical characteristics, contact Application Engineering and ask for data sheet: 170K6326

## 170M — size 23, flush-end contact

1250 Vac (IEC), 630 to 2800 A

### Description

Square body, flush-end contact, high speed fuses, for the protection of power rectifiers. Catalog numbers available with visual indicator or Type K indicator for use with microswitches.

### Specifications

#### Ratings

- Volts:
  - 1250 Vac (IEC 630 to 2200 A)
  - 1100 Vac (IEC 2500 and 2800 A)
- Amps: 630-2800 A
- Interrupting rating: 125 kA RMS Sym.

#### Operating class: aR

#### Agency information

- Designed and tested to IEC 60269 Part 4
- UL Recognized
- CE



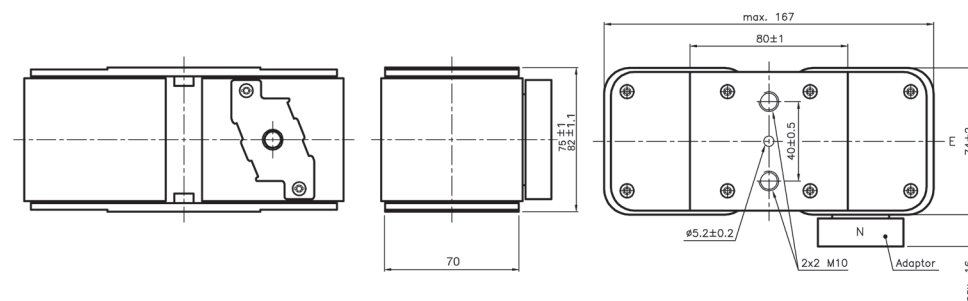
| Fuse size | Rated voltage  | I <sup>2</sup> t (A <sup>2</sup> s) |            |                      | Watts loss (W)*         | Catalog no.             |                          |                          |                         |                          |                          |          |
|-----------|----------------|-------------------------------------|------------|----------------------|-------------------------|-------------------------|--------------------------|--------------------------|-------------------------|--------------------------|--------------------------|----------|
|           |                | Rated current (amps)                | Pre-arcing | Clearing at 1250 Vac |                         | -BU/75 visual indicator | -BKE/75 Type K indicator | -BKN/75 Type K indicator | -BU/80 visual indicator | -BKE/80 Type K indicator | -BKN/80 Type K indicator |          |
| 23        | 1250 Vac (IEC) | 630                                 | 38,000     | 310,000              | 170                     | 170M6775                | 170M6795                 | 170M6785                 | —                       | —                        | —                        |          |
|           |                | 700                                 | 54,000     | 440,000              | 180                     | 170M6776                | 170M6796                 | 170M6786                 | —                       | —                        | —                        |          |
|           |                | 800                                 | 78,000     | 640,000              | 190                     | 170M6777                | 170M6797                 | 170M6787                 | —                       | —                        | —                        |          |
|           |                | 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                 | —                       | —                        | —                        |          |
|           |                | 1250                                | 330,000    | 2,700,000            | 230                     | 170M6780                | 170M6800                 | 170M6790                 | —                       | —                        | —                        |          |
|           |                | 1400                                | 460,000    | 3,800,000            | 240                     | 170M6781                | 170M6801                 | 170M6791                 | —                       | —                        | —                        |          |
|           |                | 1600                                | 820,000    | 5,200,000            | 250                     | 170M6782                | 170M6802                 | 170M6792                 | —                       | —                        | —                        |          |
|           |                | 1800                                | 1,200,000  | 7,600,000            | 260                     | 170M6783                | 170M6803                 | 170M6793                 | —                       | —                        | —                        |          |
|           |                | 2000                                | 1,800,000  | 11,000,000           | 270                     | —                       | —                        | —                        | 170M6784                | 170M6804                 | 170M6794                 |          |
|           |                | 2200                                | 2,300,000  | 14,500,000           | 280                     | —                       | —                        | —                        | 170M6815                | 170M6833                 | 170M6827                 |          |
|           |                | 1100 Vac (IEC)                      | 2500       | 3,200,000            | 16,000,000 <sup>†</sup> | 290                     | —                        | —                        | —                       | 170M6816                 | 170M6834                 | 170M6828 |
|           |                |                                     | 2800       | 5,000,000            | 24,000,000 <sup>†</sup> | 300                     | —                        | —                        | —                       | 170M6817                 | 170M6835                 | 170M6829 |

\* Watts loss at rated current.

<sup>†</sup> Clearing at 1000 V.

When using these fuses, please consult our application engineers.

### Dimensions — mm



For details on electrical characteristics, contact Application Engineering and ask for data sheet:170K6638

# Square body fuses

## 170M — size 24, flush-end contact

### 690 Vac (IEC), 2000 to 7500 A

#### Description

Square body, flush-end contact, high speed fuses, for the protection of power rectifiers. Catalog numbers available with Type K indicator for use with microswitches.

#### Specifications

##### Ratings

- Volts:
  - 690 Vac (IEC 2000 to 7000 A)
  - 500 Vac (IEC 7500 A)
- Amps: 2000-7500 A
- Interrupting rating: 200 kA RMS Sym.

#### Operating class: aR

#### Agency information

- Designed and tested to IEC 60269 Part 4
- UL Recognized, E125085, JFHR2
- CE



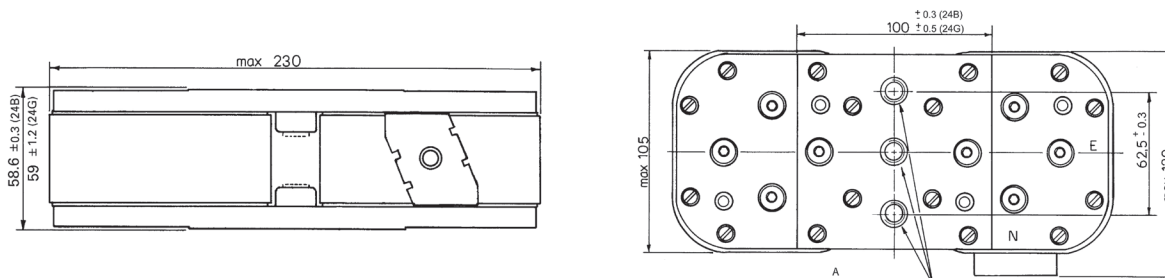
| Fuse size | Rated voltage | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                          | Watts loss (W)* | Catalog no.              |                          |                          |                          |
|-----------|---------------|----------------------|-------------------------------------|--------------------------|-----------------|--------------------------|--------------------------|--------------------------|--------------------------|
|           |               |                      | Pre-arcing                          | Clearing at 660 Vac      |                 | -BU/60 without indicator | -BKN/60 Type K indicator | -GU/60 without indicator | -GKN/60 Type K indicator |
| 24        | 690 Vac (IEC) | 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                 |
|           |               | 7000                 | 15,000,000                          | 100,000,000 <sup>1</sup> | 630             | 170M7148                 | 170M7168                 | 170M7208                 | 170M7228                 |
|           | 500 Vac (IEC) | 7500                 | 18,500,000                          | 93,000,000 <sup>1</sup>  | 660             | 170M7149                 | 170M7169                 | 170M7209                 | 170M7229                 |

\* Watts loss at rated current.

<sup>1</sup> Clearing at 500 Vac.

When using these fuses, please consult our application engineers.

#### Dimensions — mm



| Size | Type | A                 |
|------|------|-------------------|
| 24   | BKN  | 2x3 M12           |
| 24   | GKN  | 2x3 1/2-13 UNC-2B |

For details on electrical characteristics, contact Application Engineering and ask for data sheet: 170K6332

## 170M — size 24, flush-end contact

1000 Vac (IEC), 2000 to 5000 A

### Description

Square body, flush-end contact, high speed fuses, for the protection of power rectifiers. Catalog numbers come with Type K indicator for use with microswitches.

### Specifications

Ratings

- Volts: 1000 Vac (IEC)
- Amps: 2000-5000 A
- Interrupting rating: 300 kA RMS Sym.

### Operating class: aR

### Agency information

- Designed and tested to IEC 60269 Part 4
- UL Recognized, E125085, JFHR2
- CE

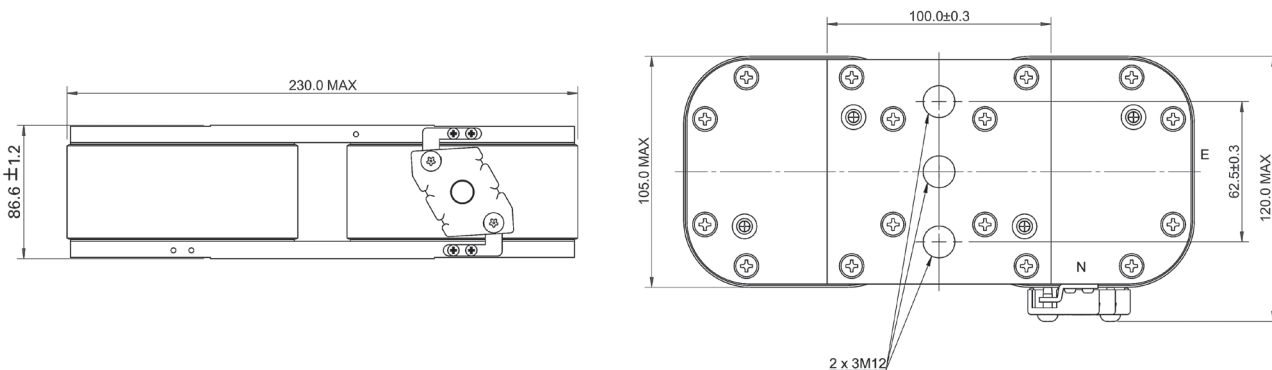


| Fuse size | Rated voltage  | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                      |     | Watts loss (W) | Catalog no. for -BKN/85 Type K indicator |
|-----------|----------------|----------------------|-------------------------------------|----------------------|-----|----------------|--|
|           |                |                      | Pre-arcing                          | Clearing at 1000 Vac |     |                |  |
| 24        | 1000 Vac (IEC) | 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       |  |

\* Watts loss at rated current.

When using these fuses, please consult our application engineers.

### Dimensions — mm



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

For details on electrical characteristics, contact Application Engineering and ask for data sheet:170K8514

# Square body fuses

## 170M — size 5, flush-end contact

1100-2000 Vac (IEC), 1800 to 5500 A

### Description

Square body flush-end contact high speed fuses, for the protection or isolation for components such as diodes, Silicon Controlled Rectifiers (SCRs), Gate Turn-Off Thyristors (GTOs) and IGBTs. Typical application include AC and DC drives, high power rectifiers.

### Specifications

#### Ratings

- Volts: 1100-2000 Vac (IEC)
- Amps: 1800-5500 A
- Interrupting rating: 300 kA RMS Sym. estimated: 197 kA tested.

### Operating class: aR

### Agency information

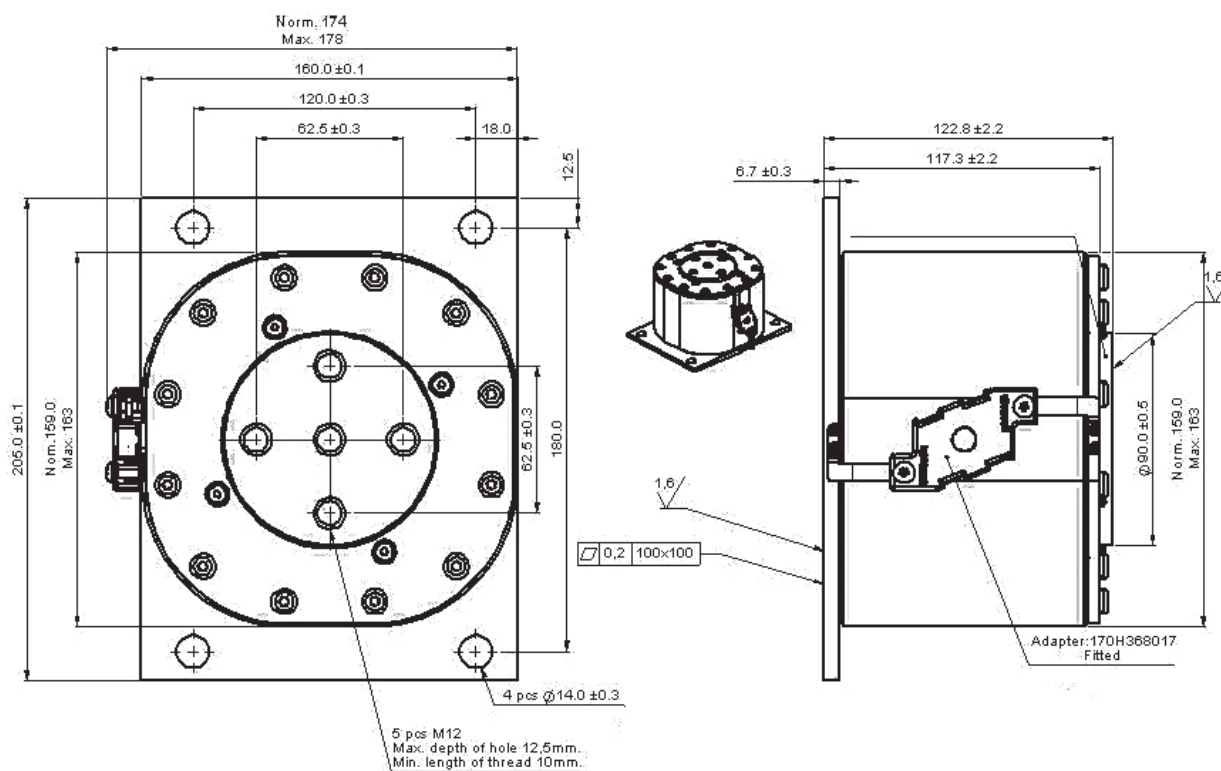
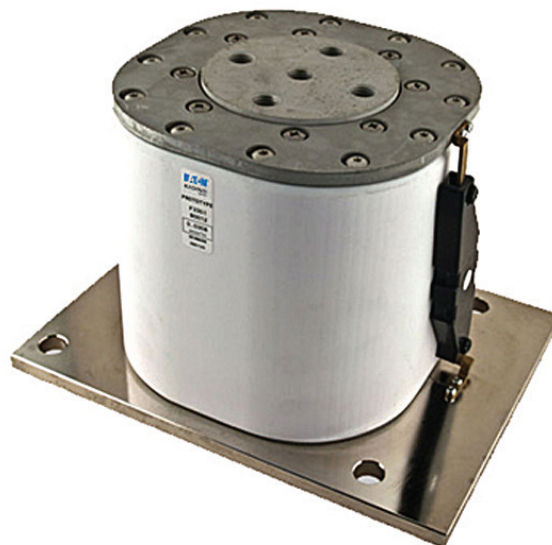
Consult your Bussmann series product representative.

### Catalog Numbers

Consult your Bussmann series product representative.

### Dimensions — mm

This drawing is an example of the available size 5 fuses.





## Accessories

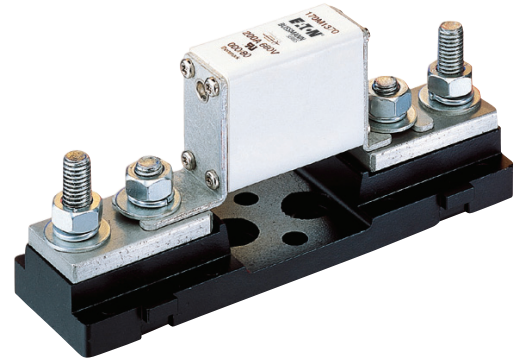
### Fixed center fuse blocks for DIN 43653 fuses

#### Description

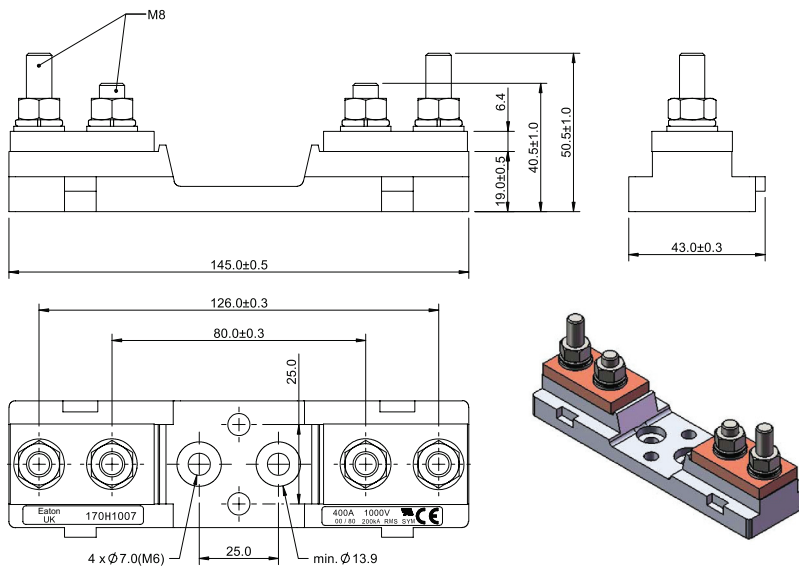
Fuse blocks for use with DIN 43653 square body fuses with center distances of 80 and 110 mm. Available for sizes 000, 00, 1\*, 1, 2 and 3.

#### Sizes 000 to 00

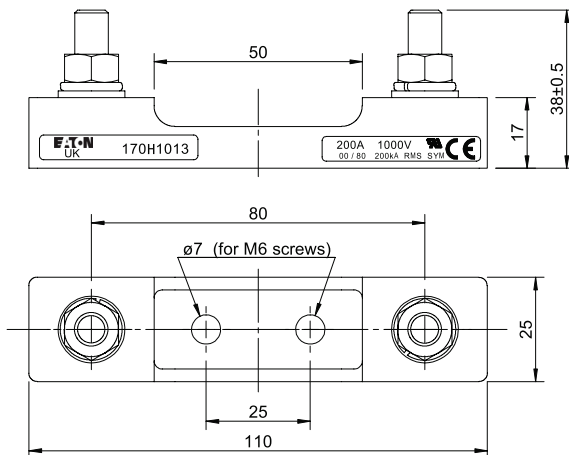
| Catalog no. | Max rated voltage | Max fuse amp rating | Center distance (mm) | Fuse sizes |
|-------------|-------------------|---------------------|----------------------|------------|
| 170H1007    | 1000              | 400                 | 80                   | 00, 000    |
| 170H1013    | 690               | 200                 | 80                   | 0000, 000  |



#### Dimensions — mm



#### 170H1007



#### 170H1013

# Square body fuses

## Accessories

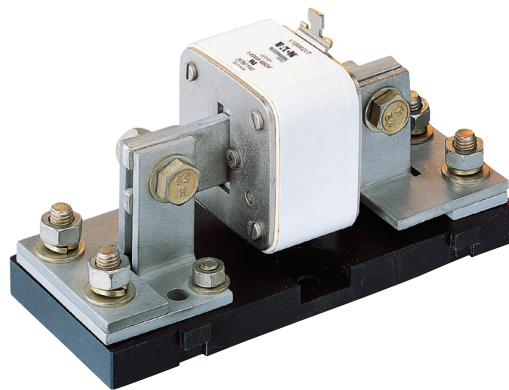
### Fixed center fuse blocks for DIN 43653 fuses

Sizes 1\* to 3

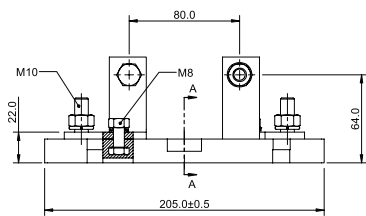
| Catalog no. | Max rated voltage | Max fuse amp rating | Center distance (mm) |
|-------------|-------------------|---------------------|----------------------|
| 170H3003    | 1000              | 630                 | 80                   |
| 170H3004†   | 1000              | 1250                | 80                   |
| 170H3005    | 1400              | 630                 | 110                  |
| 170H3006†   | 1400              | 1250                | 110                  |

† Fuses with ratings higher than 1250 A can be used with 170H3004 or 170H3006 if the maximum load current is derated according to this table.

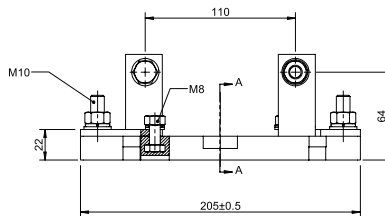
| Fuse amp rating | Max. amp load in fuse block |
|-----------------|-----------------------------|
| 1400            | 1325                        |
| 1500            | 1400                        |
| 1600            | 1500                        |
| 1800            | 1650                        |
| 2000            | 1800                        |



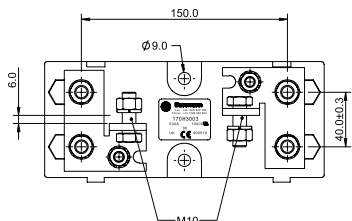
### Dimensions — mm



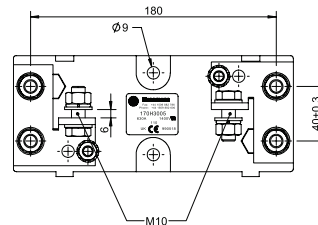
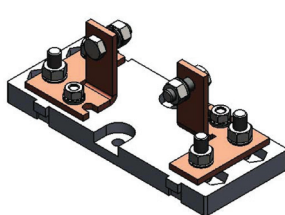
SECTION A-A



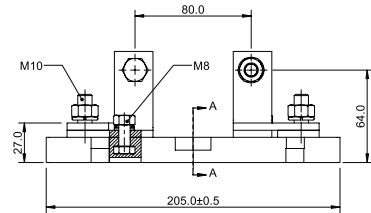
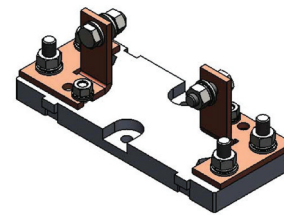
SECTION A-A



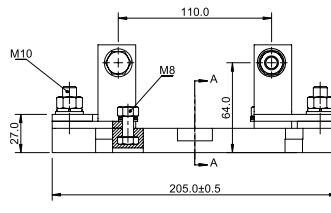
170H3003



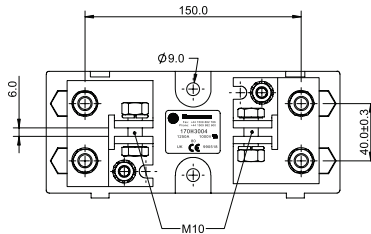
170H3005



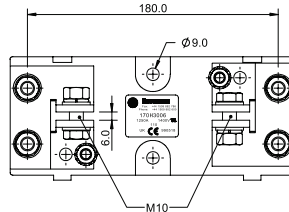
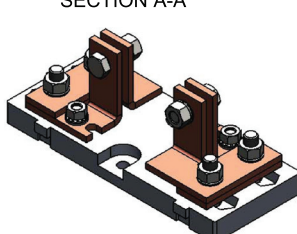
SECTION A-A



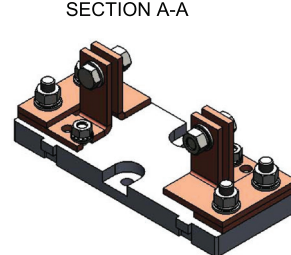
SECTION A-A



170H3004



170H3006



## Accessories

### Indicators

High speed square body fuses are available with the following indicators.

#### Visual indicator

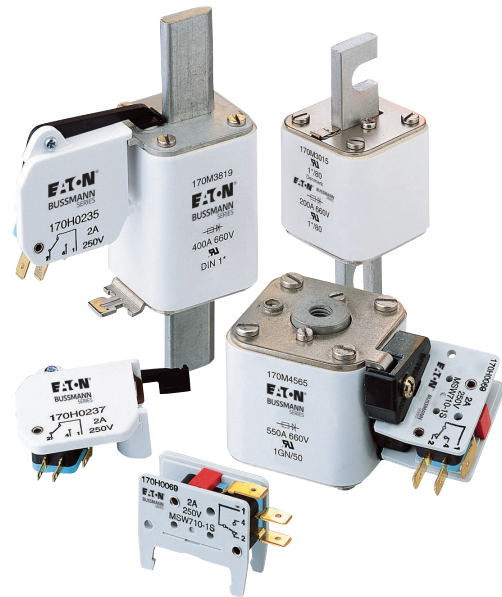
The indicator situated in one end plate is clearly visible as soon as the fuse has operated. The minimum rated voltage for operating the indicator is 20 V.

#### Type T indicator

The indicator is situated on one cover plate with a cover plate tag to accommodate an auxiliary switch. The minimum rated voltage for operating the indicator is 20 V. A special low rated voltage indicator (1.5 V) is available on request.

#### Type K indicator

The indicator is situated on the fuse body. It is covered by an adapter for snap-on mounting of a microswitch. The rated operating voltage of the indicator is 1.5 V. As a matter of safety, the factory mounted adapter must not be removed from the fuse.



### Microswitches

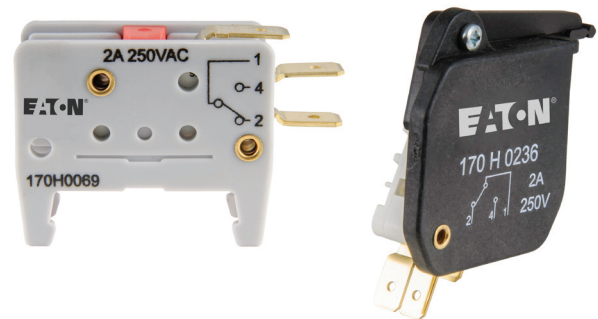
#### Specifications

High speed square body fuses with either Type T or K indicators can be equipped with a microswitch for remote signaling of fuse operation. All microswitches have one normally open (NO) and one normally closed (NC) contact.

#### Ratings

- Volts: 250 Vac
- Amps: 2 A

#### Catalog numbers:



| Fuse size | DIN 43653 |          | DIN 43620             |                        | French style |          | Flush-end |          | US style | Quick connect terminal size (mm) |
|-----------|-----------|----------|-----------------------|------------------------|--------------|----------|-----------|----------|----------|----------------------------------|
|           | Type T    | Type K   | aR                    | gR and dual indication | Type T       | Type K   | Type T    | Type K   | Type K   |                                  |
| 000       | 170H0236  | —        | 170H0236              | 170H0236               | —            | —        | —         | —        | —        | 6.3x0.8                          |
|           | 170H0238  | —        | 170H0238              | 170H0238               | —            | —        | —         | —        | —        | 2.8x0.5                          |
| 00        | 170H0235  | —        | 170H0236              | 170H0236               | —            | —        | 170H0235  | —        | —        | 6.3x0.8                          |
|           | 170H0237  | —        | 170H0238              | 170H0238               | —            | —        | 170H0237  | —        | —        | 2.8x0.5                          |
| 1*        | 170H0235  | 170H0069 | 170H0235              | —                      | 170H0236     | 170H0069 | —         | 170H0069 | 170H0069 | 6.3x0.8                          |
|           | 170H0237  | —        | 170H0237              | —                      | 170H0238     | —        | —         | —        | —        | 2.8x0.5                          |
| 1         | 170H0235  | 170H0069 | 170H0235 <sup>1</sup> | 170H0236               | 170H0236     | 170H0069 | —         | 170H0069 | 170H0069 | 6.3x0.8                          |
|           | 170H0237  | —        | 170H0237 <sup>1</sup> | 170H0238               | 170H0238     | —        | —         | —        | —        | 2.8x0.5                          |
| 2         | 170H0235  | 170H0069 | 170H0235              | 170H0236               | 170H0236     | 170H0069 | —         | 170H0069 | 170H0069 | 6.3x0.8                          |
|           | 170H0237  | —        | 170H0237              | 170H0238               | 170H0238     | —        | —         | —        | —        | 2.8x0.5                          |
| 3         | 170H0235  | 170H0069 | 170H0236              | 170H0236               | 170H0236     | 170H0069 | —         | 170H0069 | 170H0069 | 6.3x0.8                          |
|           | 170H0237  | —        | 170H0238              | 170H0238               | 170H0238     | —        | —         | —        | —        | 2.8x0.5                          |
| 4         | —         | —        | —                     | —                      | —            | —        | —         | 170H0069 | —        | 6.3x0.8                          |
| 23        | —         | —        | —                     | —                      | —            | —        | —         | 170H0069 | —        | 6.3x0.8                          |
| 24        | —         | —        | —                     | —                      | —            | —        | —         | 170H0069 | —        | 6.3x0.8                          |

<sup>1</sup> DIN2\* (55x55), if DIN2 then use microswitch 170H0236, 170H0238.

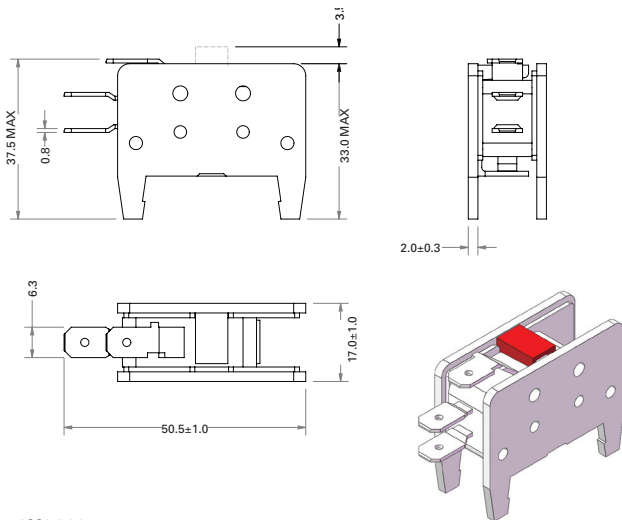
For special microswitches, double microswitches, microswitches with DC ratings, lower/higher signal levels and for insulation voltages please contact Eaton's Bussmann Division: [bulehighspeedtechnical@eaton.com](mailto:bulehighspeedtechnical@eaton.com).

# Square body fuses

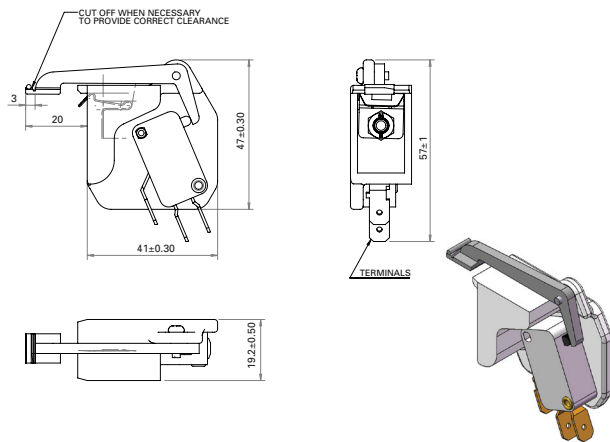
## Accessories

## Microswitches

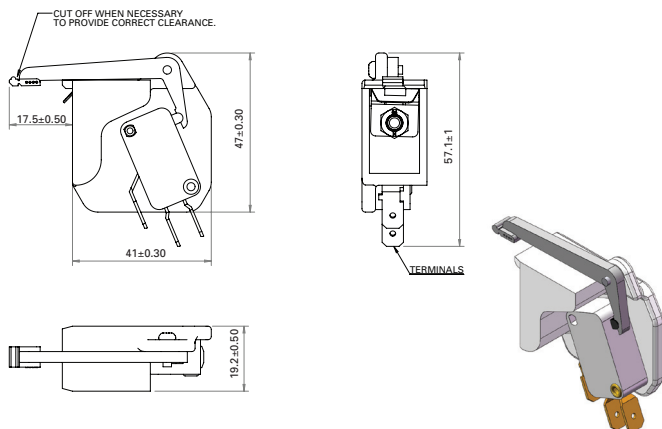
Dimensions — mm



**170H0069**



**170H0235/170H0237 for bent tags**



**170H0236/170H0238 for straight tags**



## Square body IGBT fuse contents

### Fuses

| Volts (IEC/UL)    | Size | Current range (amps) | Bolt tags | Page  |
|-------------------|------|----------------------|-----------|-------|
| 750 Vdc (IEC)     | 000  | 25-350               | Single    | 94-95 |
| 800 Vdc (UL)      | 230  | 100-630              | Dual      |       |
| 1000 Vdc (IEC/UL) | 000  | 25-250               | Single    | 96-97 |
|                   | 230  | 100-500              | Dual      |       |

## General information

Eaton's Bussmann series range of square body IGBT fuses are UL Recognized.

Their unique design and construction provide:

- Minimal energy let-through ( $I^2t$ )
- Low operating temperature
- Low watts loss

Square body IGBT fuses are a very attractive solution for high power applications which require a compact design with superior performance. The construction and design of square body IGBT fuses make it easy for Eaton to manufacture custom products to meet your high speed fuse needs. Our standard catalog numbers provide only a sample of the wide variety of possible products.

Square body IGBT fuses are available with single or dual bolt tags, depending on amp rating.

### Voltage rating

All Bussmann series square body IGBT fuses are tested according to IEC 60269 Part 4 and UL 248-1.

### Features and benefits

- Excellent DC performance
- Low arc voltage and low energy let-through ( $I^2t$ )
- Low watts loss
- Superior cycling capability

### Typical applications

- Protecting equipment with IGBTs

# IGBT fuses

## 170M — size 000 and 230

750 Vdc (IEC), 800 Vdc (UL), 25 to 630 A

### Description

Bolted tag high speed fuses for the protection of IGBT modules, optimized for use in IGBT inverter circuits with DC fuse voltage ratings up to 750 Vdc. Low inductance  $\leq 15\text{nH}$ .

### Specifications

#### Ratings

- Volts:
  - 750 Vdc tested at 863 Vdc according to IEC 60269-4
  - 800 Vdc tested at 800 Vdc according to UL 248-1
- Amps: 25-630 A
- Interrupting rating: 50 kA DC (1ms tc) at 800 Vdc

### Operating class: aR

### Agency information

- UL DC Recognized, 800 Vdc L/R 1 ms max



| Fuse size | Rated voltage                 | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                     |          | Watts loss (W)* | Catalog no. |        |
|-----------|-------------------------------|----------------------|-------------------------------------|---------------------|----------|-----------------|-------------|--------|
|           |                               |                      | Pre-arcing                          | Clearing at 690 Vac |          |                 | -FU/70      | -FN/70 |
| 000       | 750 Vdc (IEC)<br>800 Vdc (UL) | 25                   | 25                                  | 135                 | 12       | 170M1750        | 170M1730    |        |
|           |                               | 32                   | 45                                  | 240                 | 13       | 170M1751        | 170M1731    |        |
|           |                               | 40                   | 75                                  | 395                 | 14       | 170M1752        | 170M1732    |        |
|           |                               | 50                   | 135                                 | 695                 | 16       | 170M1753        | 170M1733    |        |
|           |                               | 63                   | 260                                 | 1350                | 17       | 170M1754        | 170M1734    |        |
|           |                               | 80                   | 460                                 | 2350                | 20       | 170M1755        | 170M1735    |        |
|           |                               | 100                  | 795                                 | 4000                | 25       | 170M1756        | 170M1736    |        |
|           |                               | 125                  | 1300                                | 6800                | 29       | 170M1757        | 170M1737    |        |
|           |                               | 160                  | 2550                                | 13500               | 34       | 170M1758        | 170M1738    |        |
|           |                               | 200                  | 4350                                | 22000               | 40       | 170M1759        | 170M1739    |        |
|           |                               | 250                  | 7400                                | 37500               | 48       | 170M1760        | 170M1740    |        |
|           |                               | 315                  | 12,500                              | 65000               | 60       | 170M1761        | 170M1741    |        |
| 350       | 17,000                        | 88000                | 65                                  | 170M1762            | 170M1742 |                 |             |        |
| 230       | 750 Vdc (IEC)<br>800 Vdc (UL) | 100                  | 380                                 | 1950                | 35       | 170M1770        | 170M1785    |        |
|           |                               | 125                  | 645                                 | 3300                | 42       | 170M1771        | 170M1786    |        |
|           |                               | 160                  | 1350                                | 7000                | 47       | 170M1772        | 170M1787    |        |
|           |                               | 200                  | 2550                                | 13500               | 54       | 170M1773        | 170M1788    |        |
|           |                               | 250                  | 4950                                | 25000               | 62       | 170M1774        | 170M1789    |        |
|           |                               | 315                  | 9350                                | 47500               | 72       | 170M1775        | 170M1790    |        |
|           |                               | 350                  | 12,000                              | 61000               | 78       | 170M1776        | 170M1791    |        |
|           |                               | 400                  | 18,500                              | 94500               | 80       | 170M1777        | 170M1792    |        |
|           |                               | 450                  | 27,000                              | 140000              | 85       | 170M1778        | 170M1793    |        |
|           |                               | 500                  | 37,500                              | 190000              | 90       | 170M1779        | 170M1794    |        |
|           |                               | 550                  | 48,500                              | 245000              | 95       | 170M1780        | 170M1795    |        |
|           |                               | 630                  | 69,500                              | 355000              | 105      | 170M1781        | 170M1796    |        |

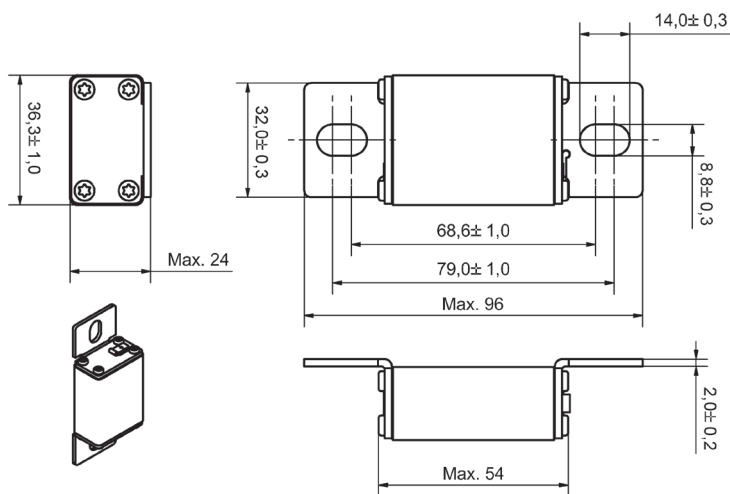
\* Watts loss at rated current.

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6422 (Size 000), 170K6426 (Size 230)

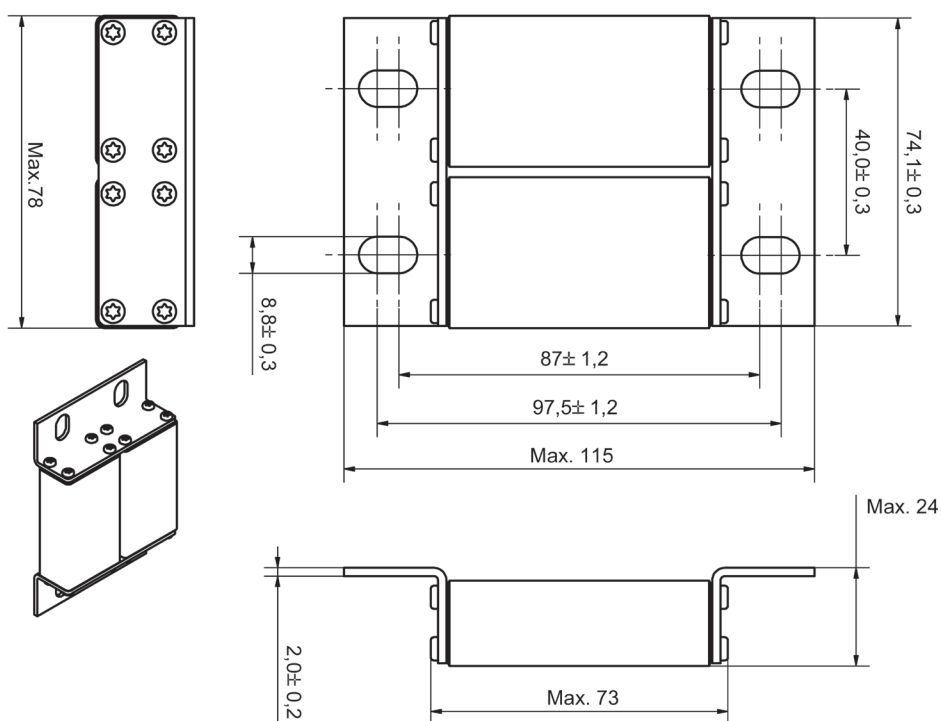
## 170M — size 000 and 230

750 Vdc (IEC), 800 Vdc (UL), 25 to 630 A

### Dimensions — mm



### Size 000



### Size 230

For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6422 (Size 000), 170K6426 (Size 230)

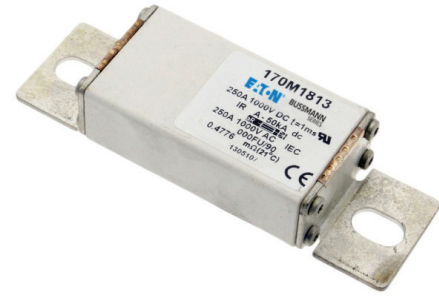
# IGBT fuses

## 170M — size 000 and 230

### 1000 Vdc (IEC and UL), 25 to 500 A

#### Description

Bolted tag high speed fuses for the protection of IGBT modules, optimized for use in IGBT inverter circuits with DC fuse voltage ratings up to 1000 Vdc. Low inductance  $\leq 20\text{nH}$ .



#### Specifications

##### Ratings

- Volts:
  - 1000 Vdc tested at 1150 Vdc according to IEC 60269-4
  - 1000 Vdc tested at 1000 Vdc according to UL 248-1
- Amps: 25-500 A
- Interrupting rating: 50 kA DC (1ms tc)

#### Operating class: aR

#### Agency information

- UL DC Recognized, 1000 Vdc L/R 1ms max

| Fuse size | Rated voltage     | Rated current (amps) | I <sup>2</sup> t (A <sup>2</sup> s) |                      |                 | Catalog no. |          |
|-----------|-------------------|----------------------|-------------------------------------|----------------------|-----------------|-------------|----------|
|           |                   |                      | Pre-arcing                          | Clearing at 1000 Vac | Watts loss (W)* | -FU/90      | -FN/90   |
| 000       | 1000 Vdc (IEC/UL) | 25                   | 19                                  | 95                   | 14              | 170M1802    | 170M1842 |
|           |                   | 32                   | 34                                  | 170                  | 17              | 170M1803    | 170M1843 |
|           |                   | 40                   | 61                                  | 300                  | 20              | 170M1804    | 170M1844 |
|           |                   | 50                   | 135                                 | 675                  | 21              | 170M1805    | 170M1845 |
|           |                   | 63                   | 245                                 | 1200                 | 22              | 170M1806    | 170M1846 |
|           |                   | 80                   | 505                                 | 2500                 | 27              | 170M1807    | 170M1847 |
|           |                   | 100                  | 1050                                | 5150                 | 32              | 170M1808    | 170M1848 |
|           |                   | 125                  | 1900                                | 9500                 | 34              | 170M1809    | 170M1849 |
|           |                   | 160                  | 4050                                | 20,000               | 37              | 170M1810    | 170M1850 |
|           |                   | 200                  | 8500                                | 42,000               | 43              | 170M1811    | 170M1851 |
|           |                   | 225                  | 12,000                              | 59,000               | 45              | 170M1812    | 170M1852 |
|           |                   | 250                  | 16,000                              | 79,500               | 48              | 170M1813    | 170M1853 |
|           |                   | 230                  | 1000 Vdc (IEC/UL)                   | 100                  | 600             | 3050        | 38       |
| 125       | 1200              |                      |                                     | 6050                 | 42              | 170M1825    | 170M1861 |
| 160       | 2550              |                      |                                     | 13,000               | 48              | 170M1826    | 170M1862 |
| 200       | 4650              |                      |                                     | 23,000               | 55              | 170M1827    | 170M1863 |
| 250       | 9300              |                      |                                     | 45,500               | 62              | 170M1828    | 170M1864 |
| 315       | 18,500            |                      |                                     | 91,500               | 68              | 170M1829    | 170M1865 |
| 350       | 24,500            |                      |                                     | 125,000              | 75              | 170M1830    | 170M1866 |
| 400       | 37,500            |                      |                                     | 185,000              | 80              | 170M1831    | 170M1867 |
| 450       | 52,000            |                      |                                     | 260,000              | 85              | 170M1832    | 170M1868 |
| 500       | 69,500            |                      |                                     | 340,000              | 90              | 170M1833    | 170M1869 |

\* Watts loss at rated current.

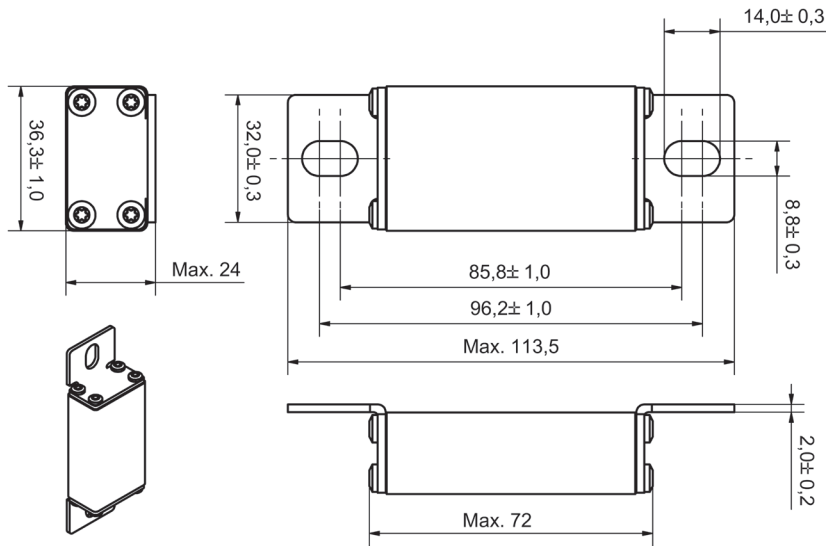
For details on electrical characteristics, contact Application Engineering and ask for data sheets: 170K6680 (Size 000), 170K6682 (Size 230)



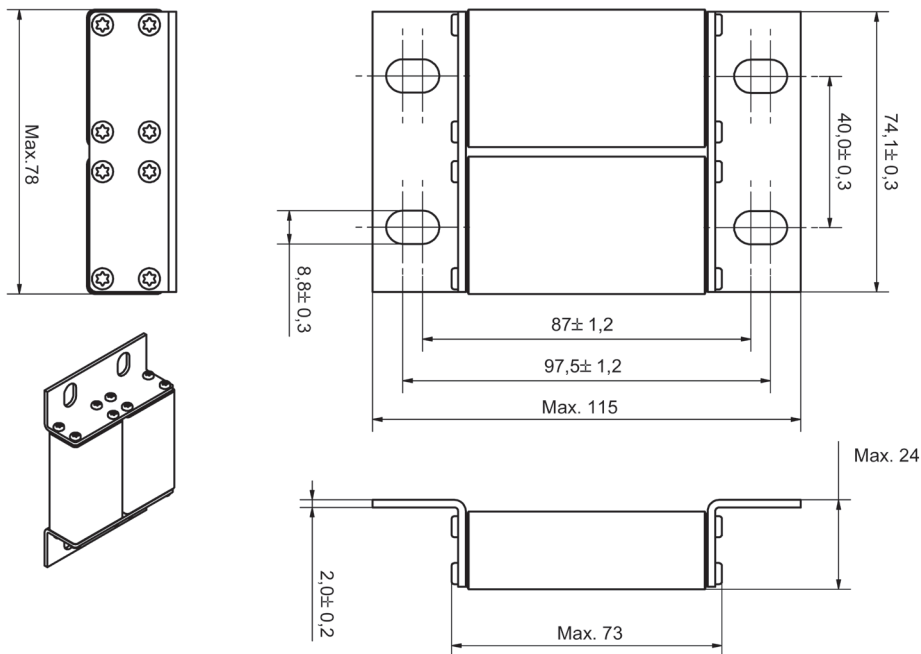
## 170M — size 000 and 230

1000 Vdc (IEC and UL), 25 to 500 A

### Dimensions — mm



Size 000



Size 230

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