

A fusible solution for virtually every medium voltage application



Bussmann series  
E-Rated, R-Rated and PT  
medium voltage fuses

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## Introduction

### Worldwide circuit protection solutions

Eaton is the world-leading supplier of Bussmann series medium voltage fuses. Each product is backed by an efficient worldwide distribution network with unrivaled service and technical support. Eaton circuit protection solutions comply with major international standards: ANSI, BS, DIN, IEC and UL.

### Fuse types

Medium voltage fuses generally fit into two categories – expulsion fuses and current limiting. The definitions per ANSI C37.40 are:

**Expulsion fuse:** A vented fuse in which the expulsion effect of the gases produced by internal arcing, either alone or aided by other mechanisms results in current interruption. Expulsion fuses will limit the duration of an overcurrent event, but they will not limit the magnitude of fault current.

**Current-limiting fuse:** A fuse unit that, when in its current-responsive element is melted by a current within the fuse's specified current-limiting range, abruptly introduces a high resistance to reduce current magnitude and duration, resulting in subsequent current interruption. A current limiting fuse will reduce the magnitude a fault current as well as limit the duration of the overcurrent event when operating in its current limiting range. Eaton offers a broad range of current limiting fuses for protection of feeders, transformers and motor circuits designed to ANSI, BS, DIN and IEC standards.

### Medium voltage current-limiting fuses

Current-limiting fuses are classified into three categories:

1. **Full range** – defined by ANSI C37.40 as “a fuse capable of interrupting all currents from the maximum rated interrupting current down to the minimum continuous current that causes the melting of the fusible element(s), when the fuse is applied at the maximum ambient temperature specified by the manufacturer.” It is able to interrupt any current that will melt its element.
2. **General purpose** – defined by ANSI C37.40 as “a fuse capable of interrupting all currents from the maximum rated interrupting current down to the current that causes melting of the fusible element(s) in one hour.” Not all currents fall within this range. It is possible for the fuse to be exposed to an overcurrent lower than the value given by the one hour criteria. In that case, a different overcurrent protection device would be required to interrupt the overcurrent.
3. **Back-up** – defined by ANSI C37.40 as “a fuse capable of interrupting all currents from the maximum interrupting rating current down to the minimum interrupting current.” The minimum interrupting current is the lowest current that the fuse will be able to clear properly. This creates a need to place a low current interrupting device, such as motor overloads, in series with the back-up rated fuse.

### E- and R-Rated fuses

In North America, current limiting fuses typically fall into the category of E-Rated fuses and R-Rated fuses. Eaton also offers a wide range of Bussmann series current limiting fuses designed to BS, DIN and IEC standards.

E-Rated fuses are used to protect feeder circuits, power transformers and potential transformers. E-Rated fuses have defined current response times specified by ANSI C37.46. E-Rated fuses 100 amps and below must melt in 300 seconds at an RMS current within the range of 200 to 240 percent of the continuous current rating. E-Rated fuses above 100 amps must melt in 600 seconds at an RMS current within the range of 220 to 264 percent of the continuous current rating of the fuse. Eaton offers a wide variety of full range and general purpose E-Rated fuses from 2.4 to 38 kV.

R-Rated fuses are back-up fuses that provide short-circuit protection for motor circuits. They are applied with medium voltage motor starters which provide the overload protection for the circuit. R-Rated fuses also have defined current response times specified by ANSI C37.46. R-Rated fuses will melt in a range of 15 to 35 seconds at a current equal to 100 times the “R” rating. Bussmann series R-Rated fuses for motor circuit protection are available in voltage ratings from 2.4 to 8.3 kV.

## 2.75 kV E-Rated medium voltage ferrule fuses

### Catalog symbols

- 2CLE\_-E
- JCX\_-E

### Ratings

- Volts 2.75 kV
- Amps 10 to 450 A
- Interrupting ratings
  - 50 kA RMS Sym. (2CLE\_-E)
  - 40 kA RMS Sym. (JCX\_-E)

### Agency information

- E-Rated fuses meet the performance characteristics of ANSI C37.46

### Recommended CLE fuse holders

|                                         |                    |          |                              |               |            | Catalog no.         |                           |                                |                                |
|-----------------------------------------|--------------------|----------|------------------------------|---------------|------------|---------------------|---------------------------|--------------------------------|--------------------------------|
| Amps                                    | Fuse mounting type | BIL (kV) | Approx. dimensions — in (mm) |               |            | Mounting*           |                           | Live parts (with end fittings) | End fittings (disconnect only) |
|                                         |                    |          | Diameter A                   | Clip center B | Length C   | Porcelain insulator | Glass-polyester insulator |                                |                                |
| CLE                                     |                    |          |                              |               |            |                     |                           |                                |                                |
| 15E–25E<br>Single barrel                | Non-disconnect     | 60       | 2 (51)                       | 8.1 (206)     | 9.5 (241)  | 2CLE-PNM-C          | 2CLE-GNM-C                | CLE-NL-C                       | —                              |
|                                         | Disconnect†        |          |                              |               |            | 2CLE-PDM-C          | 2CLE-GDM-C                | CLE-DL-C                       | CLE-DF-C                       |
| 10E–225E<br>Single barrel               | Non-disconnect     |          | 3 (76)                       | 7 (178)       | 10.9 (277) | 2CLE-PNM-D          | 2CLE-GNM-D                | CLE-NL-D                       | —                              |
|                                         | Disconnect†        |          |                              |               |            | 2CLE-PDM-D          | 2CLE-GDM-D                | CLE-DL-D                       | CLE-DF-D                       |
| 250E–300E<br>350X-450X<br>Double barrel | Non-disconnect     |          | 2CLE-PNM-E                   | 2CLE-GNM-E    | CLE-NL-E   | —                   |                           |                                |                                |
|                                         | Disconnect†        |          | 2CLE-PDM-E                   | 2CLE-GDM-E    | CLE-DL-E   | CLE-DF-E            |                           |                                |                                |

\* Includes live parts and end fittings, end fittings supplied only when required.

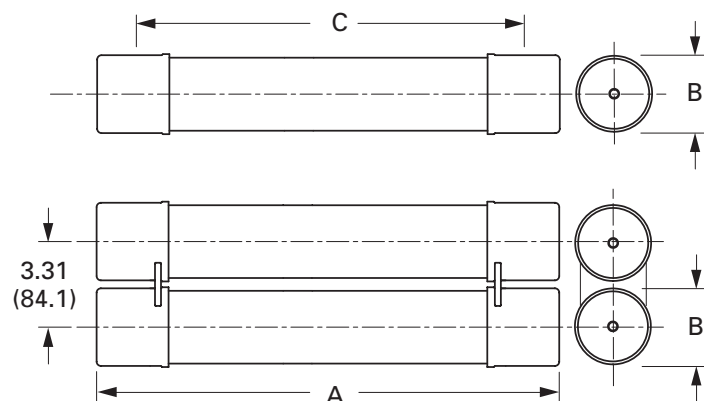
† Disconnect mountings provide a means for fuse extraction only. Do not use a disconnect mounting for load switching or fuse removal while energized.

### Recommended fuseclips

| Description                 | Fuse dia. — in (mm) | Catalog no. |
|-----------------------------|---------------------|-------------|
| Enclosed fuseclip           | 2 (51)              | A3354710*   |
|                             |                     | A3354730*   |
| Open fuseclip               | 3 (76)              | 1A0065      |
| Spring loaded open fuseclip |                     | 9078A67G04  |

\* For single barrel applications only. Not sold in pairs.

### Dimensions — in (mm)



## CLE and JCX

| Dimensions — in (mm) |            |            |                | IR RMS Sym. (kA) | No. of barrels | Installation location | Catalog no. |  |  |  |  |
|----------------------|------------|------------|----------------|------------------|----------------|-----------------------|-------------|--|--|--|--|
| Amps                 | Length A   | Diameter B | Clip centers C |                  |                |                       |             |  |  |  |  |
| 1                    | 9.2 (234)  | 2 (51)     | 7 (178)        | 40               | 1              | Indoor/outdoor        | JCX-1E      |  |  |  |  |
| 2                    |            |            |                |                  |                |                       | JCX-2E      |  |  |  |  |
| 3                    |            |            |                |                  |                |                       | JCX-3E      |  |  |  |  |
| 5                    |            |            |                |                  |                |                       | JCX-5E      |  |  |  |  |
| 7                    |            |            |                |                  |                |                       | JCX-7E      |  |  |  |  |
| 10                   |            |            |                |                  |                |                       | JCX-10E     |  |  |  |  |
| 10                   | 10.9 (277) | 3 (76)     | 8.1 (206)      | 50               |                | Indoor                | 2CLE-10E    |  |  |  |  |
| 15                   | 9.5 (241)  | 2 (51)     |                |                  |                |                       | 2CLE-15E    |  |  |  |  |
| 20                   |            |            |                |                  |                |                       | 2CLE-20E    |  |  |  |  |
| 25                   |            |            |                |                  |                |                       | 2CLE-25E    |  |  |  |  |
| 30                   |            |            |                |                  |                |                       | 2CLE-30E    |  |  |  |  |
| 40                   |            |            |                |                  |                |                       | 2CLE-40E    |  |  |  |  |
| 50                   |            |            |                |                  |                |                       | 2CLE-50E    |  |  |  |  |
| 65                   |            |            |                |                  |                |                       | 2CLE-65E    |  |  |  |  |
| 80                   |            |            |                |                  |                |                       | 2CLE-80E    |  |  |  |  |
| 100                  |            |            |                |                  |                |                       | 2CLE-100E   |  |  |  |  |
| 125                  | 10.9 (277) | 3 (76)     | 7 (178)        |                  | 2              |                       | 2CLE-125E   |  |  |  |  |
| 150                  |            |            |                |                  |                |                       | 2CLE-150E   |  |  |  |  |
| 200                  |            |            |                |                  |                |                       | 2CLE-200E   |  |  |  |  |
| 225                  |            |            |                |                  |                |                       | 2CLE-225E   |  |  |  |  |
| 250*                 |            |            |                |                  |                |                       | 2CLE-250E   |  |  |  |  |
| 300*                 |            |            |                |                  |                |                       | 2CLE-300E   |  |  |  |  |
| 350**                |            |            |                |                  |                |                       | 2CLE-350X   |  |  |  |  |
| 400**                |            |            |                |                  |                |                       | 2CLE-400X   |  |  |  |  |
| 450**                |            |            |                |                  |                |                       | 2CLE-450X   |  |  |  |  |

\* 250 and 300 amp ratings may also be applied at 280 and 325 amps respectively, but fuses will no longer be complaint with ANSI E rating criteria.

\*\*Does not comply with ANSI C37.46 for "E" rating.

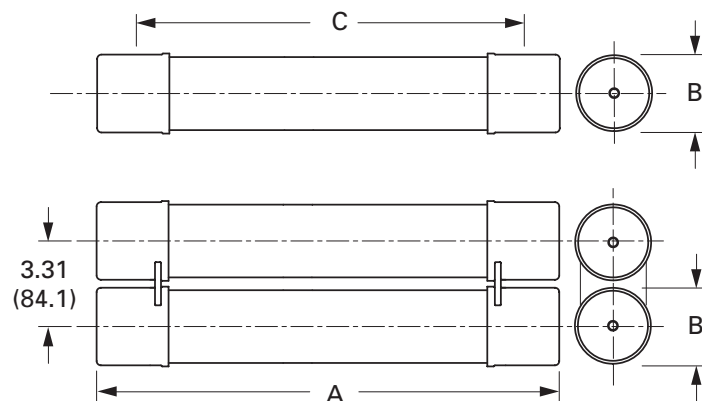
## 5.5 kV E-Rated medium voltage ferrule fuses

### Catalog symbols

- General purpose
  - 5CLE-\_E-D (10-25 A)
  - 5CLE-\_E (10-1350 A)
  - 5HLE-\_E (10-450 A)
  - JCY-\_E (1-25 A)
- Full range (per ANSI C37.40)
  - MV055F\_ (10-450 A)



### Dimensions — in (mm)



### Ratings\*

- Volts 5.5 kV
- Amps 1 to 1350 A
- Interrupting ratings 40 to 63 kA RMS Sym.

\* See catalog number tables for voltages, ampacities and interrupting ratings by catalog number.

### Agency information

- E-Rated fuses meet the performance characteristics of ANSI C37.46
- UL Listed, Guide JEEG, File E240398. See catalog numbers.

### Recommended fuseclips

| Description                 | Fuse dia. — in (mm) | Catalog no. |
|-----------------------------|---------------------|-------------|
| Enclosed fuseclip           | 2 (51)              | A3354710*   |
|                             |                     | A3354730*   |
| Open fuseclip               | 3 (76)              | 1A0065      |
| Spring loaded open fuseclip |                     | 9078A67G04  |

\* For single barrel applications only. Not sold in pairs.

### Recommended CLE and HLE holders

| Catalog no.                              |                    |          |                              |               |              |                     |                           |                                |                                |
|------------------------------------------|--------------------|----------|------------------------------|---------------|--------------|---------------------|---------------------------|--------------------------------|--------------------------------|
| Amps                                     | Fuse mounting type | BIL (kV) | Approx. Dimensions — in (mm) |               |              | Mounting*           |                           | Live parts (with end fittings) | End fittings (disconnect only) |
|                                          |                    |          | Diameter A                   | Clip center B | Length C     | Porcelain insulator | Glass-polyester insulator |                                |                                |
| CLE                                      |                    |          |                              |               |              |                     |                           |                                |                                |
| 10E-D–25E-D<br>30E–250E<br>Single barrel | Non-disconnect     | 60       | 3.0 (76.2)                   | 14.0 (355.6)  | 17.9 (454.7) | 5CLE-PNM-D          | 5CLE-GNM-D                | CLE-NL-D                       | —                              |
|                                          | Disconnect†        |          |                              |               |              | 5CLE-PDM-D          | 5CLE-GDM-D                | CLE-DL-D                       | CLE-DF-D                       |
| 15E–25E<br>Single barrel                 | Non-disconnect     |          | 2.0 (50.8)                   | 11.5 (292.1)  | 12.9 (327.7) | 5CLE-PNM-C          | 5CLE-GNM-C                | CLE-NL-C                       | —                              |
|                                          | Disconnect†        |          |                              |               |              | 5CLE-PDM-C          | 5CLE-GDM-C                | CLE-DL-C                       | CLE-DF-C                       |
| 300E–450E<br>Double barrel               | Non-disconnect     |          | 3.0 (76.2)                   | 14.0 (355.6)  | 17.9 (454.7) | 5CLE-PNM-E          | 5CLE-GNM-E                | CLE-NL-E                       | —                              |
|                                          | Disconnect†        |          |                              |               |              | 5CLE-PDM-E          | 5CLE-GDM-E                | CLE-DL-E                       | CLE-DF-E                       |
| 600E and 750E<br>Double barrel           | Consult factory    |          | 4.0 (101.6)                  | N/A           | N/A          | —                   | —                         | —                              | —                              |
| 1100E and 1350E<br>Four barrel           | Consult factory    | —        |                              |               |              |                     |                           |                                |                                |
| HLE                                      |                    |          |                              |               |              |                     |                           |                                |                                |
| 10E-D–250E<br>Single barrel              | Non-disconnect     | 60       | 3.0 (76.2)                   | 12.0 (304.8)  | 15.9 (403.9) | 5HLE-PNM-D          | 5HLE-GNM-D                | CLE-NL-D                       | —                              |
|                                          | Disconnect         |          |                              |               |              | 5HLE-PDM-D          | 5HLE-GDM-D                | CLE-DL-D                       | CLE-DF-D                       |
| 300E–450E<br>Double barrel               | Non-disconnect     |          |                              |               |              | 5HLE-PNM-E          | 5HLE-GNM-E                | CLE-NL-E                       | —                              |
|                                          | Disconnect         |          |                              |               |              | 5HLE-PDM-E          | 5HLE-GDM-E                | CLE-DL-E                       | CLE-DF-E                       |

\* Including live parts and end fittings, end fittings supplied only when required.

† Disconnect mountings provide a means for fuse extraction only. Do not use a disconnect mounting for load switching or fuse removal while energized.

## CLE, HLE and JCY general purpose

| Amps | Dimensions — in (mm) |            |                | IR RMS Sym.<br>(kA) | No. of barrels | Installation<br>location | Catalog no. |
|------|----------------------|------------|----------------|---------------------|----------------|--------------------------|-------------|
|      | Length A             | Diameter B | Clip centers C |                     |                |                          |             |
| 1    | 11.2 (284)           | 2 (51)     | 9 (229)        | 40                  | 1              | Indoor/outdoor           | JCY-1E      |
| 2    |                      |            |                |                     |                |                          | JCY-2E      |
| 3    |                      |            |                |                     |                |                          | JCY-3E      |
| 5    |                      |            |                |                     |                |                          | JCY-5E      |
| 7    |                      |            |                |                     |                |                          | JCY-7E      |
| 10   |                      |            |                |                     |                |                          | JCY-10E     |
| 10   | 17.9 (455)           | 3 (76)     | 14 (356)       | 63                  |                | Indoor                   | 5CLE-10E-D  |
| 10   | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-10E    |
| 15   | 11.2 (284)           | 2 (51)     | 9 (229)        | 40                  |                | Indoor/outdoor           | JCY-15E     |
| 15   | 12.9 (328)           |            | 11.5 (292)     | 50                  |                |                          | 5CLE-15E*   |
| 15   | 17.9 (455)           | 3 (76)     | 14 (356)       | 63                  |                | Indoor/outdoor           | 5CLE-15E-D  |
| 15   | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-15E    |
| 20   | 11.2 (284)           | 2 (51)     | 9 (229)        | 40                  |                | Indoor                   | JCY-20E     |
| 20   | 12.9 (328)           |            | 11.5 (292)     | 50                  |                |                          | 5CLE-20E*   |
| 20   | 17.9 (455)           | 3 (76)     | 14 (356)       | 63                  |                | Indoor/outdoor           | 5CLE-20E-D  |
| 20   | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-20E    |
| 25   | 11.2 (284)           | 2 (51)     | 9 (229)        | 40                  |                | Indoor                   | JCY-25E     |
| 25   | 12.9 (328)           | 2 (51)     | 11.5 (292)     | 50                  |                |                          | 5CLE-25E*   |
| 25   | 17.9 (455)           | 3 (76)     | 14 (356)       | 63                  |                | Indoor/outdoor           | 5CLE-25E-D  |
| 25   | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-25E    |
| 30   | 17.9 (455)           |            | 14 (356)       |                     |                |                          | 5CLE-30E    |
| 30   | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-30E    |
| 40   | 17.9 (455)           |            | 14 (356)       |                     |                |                          | 5CLE-40E†   |
| 40   | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-40E†   |
| 50   | 17.9 (455)           |            | 14 (356)       |                     |                |                          | 5CLE-50E†   |
| 50   | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-50E†   |
| 65   | 17.9 (455)           |            | 14 (356)       |                     |                |                          | 5CLE-65E†   |
| 65   | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-65E†   |
| 80   | 17.9 (455)           | 3 (76)     | 14 (356)       | 65                  |                | Indoor/outdoor           | 5CLE-80E†   |
| 80   | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-80E†   |
| 100  | 17.9 (455)           |            | 14 (356)       |                     |                |                          | 5CLE-100E†  |
| 100  | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-100E†  |
| 125  | 17.9 (455)           |            | 14 (356)       |                     |                |                          | 5CLE-125E†  |
| 125  | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-125E†  |
| 150  | 17.9 (455)           |            | 14 (356)       |                     |                |                          | 5CLE-150E†  |
| 150  | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-150E†  |
| 175  | 17.9 (455)           |            | 14 (356)       |                     |                |                          | 5CLE-175E†  |
| 175  | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-175E†  |
| 200  | 17.9 (455)           | 3 (76)     | 14 (356)       | 65                  |                | Indoor/outdoor           | 5CLE-200E†  |
| 200  | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-200E†  |
| 250  | 17.9 (455)           |            | 14 (356)       |                     |                |                          | 5CLE-250E†  |
| 250  | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-250E†  |
| 300  | 17.9 (455)           |            | 14 (356)       |                     |                |                          | 5CLE-300E†  |
| 300  | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-300E†  |
| 350  | 17.9 (455)           |            | 14 (356)       |                     |                |                          | 5CLE-350E†  |
| 350  | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-350E†  |
| 400  | 17.9 (455)           |            | 14 (356)       |                     |                |                          | 5CLE-400E†  |
| 400  | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-400E†  |
| 450  | 17.9 (455)           | 3 (76)     | 14 (356)       | 65                  | 2              | Indoor/outdoor           | 5CLE-450E†  |
| 450  | 15.9 (404)           |            | 12 (305)       |                     |                |                          | 5HLE-450E†  |

\* Fuses conform to dimensional standards established by Westinghouse.

† UL Listed, Guide JEEG, File E240398.

**MV055 full range**

| Amps | Dimensions — in (mm) |            |                | IR RMS Sym. (kA) | No. of Barrels | Installation location | Catalog no.    |
|------|----------------------|------------|----------------|------------------|----------------|-----------------------|----------------|
|      | Length A             | Diameter B | Clip centers C |                  |                |                       |                |
| 5    | 15.7 (399)           | 2 (51)     | 12 (305)       | 50               | 1              | Indoor                | MV055F1CAX5E   |
| 7    |                      |            |                |                  |                |                       | MV055F1CAX7E   |
| 10   |                      | 3 (76)     |                |                  |                |                       | MV055F1CAX10E  |
| 10   |                      |            |                |                  |                |                       | MV055F1DAX10E  |
| 15   |                      | 2 (51)     |                |                  |                |                       | MV055F1CAX15E  |
| 15   |                      | 3 (76)     |                |                  |                |                       | MV055F1DAX15E  |
| 20   |                      | 2 (51)     |                |                  |                |                       | MV055F1CAX20E  |
| 20   |                      | 3 (76)     |                |                  |                |                       | MV055F1DAX20E  |
| 25   |                      | 2 (51)     |                |                  |                |                       | MV055F1CAX25E  |
| 25   |                      | 3 (76)     |                |                  |                |                       | MV055F1DAX25E  |
| 30   |                      | 2 (51)     |                |                  |                |                       | MV055F1CAX30E  |
| 30   |                      | 3 (76)     |                |                  |                |                       | MV055F1DAX30E  |
| 40   |                      | 2 (51)     |                |                  |                |                       | MV055F1CAX40E  |
| 40   |                      | 3 (76)     |                |                  |                |                       | MV055F1DAX40E  |
| 50   |                      | 2 (51)     |                |                  |                |                       | MV055F1CAX50E  |
| 50   |                      | 3 (76)     |                |                  |                |                       | MV055F1DAX50E  |
| 65   | 3 (76)               | 2 (51)     |                |                  | 2              |                       | MV055F1CAX65E  |
| 65   |                      |            |                |                  |                |                       | MV055F1DAX65E  |
| 80   |                      |            |                |                  |                |                       | MV055F1DAX80E  |
| 100  |                      |            |                |                  |                |                       | MV055F1DAX100E |
| 125  |                      |            |                |                  |                |                       | MV055F1DAX125E |
| 150  |                      |            |                |                  |                |                       | MV055F1DAX150E |
| 175  |                      |            |                |                  |                |                       | MV055F1DAX175E |
| 200  |                      |            |                |                  |                |                       | MV055F1DAX200E |
| 250  |                      |            |                |                  |                |                       | MV055F2DAX250E |
| 300  |                      |            |                |                  |                |                       | MV055F2DAX300E |
| 350  |                      |            |                |                  |                |                       | MV055F2DAX350E |
| 400  |                      |            |                |                  |                |                       | MV055F2DAX400E |
| 450  |                      |            |                |                  |                |                       | MV055F2DAX450E |

**Recommended MV055 fuseclips**

| Description                 | Fuse dia. — in (mm) | Catalog no. |
|-----------------------------|---------------------|-------------|
| Enclosed fuseclip           | 2 (51)              | A3354710*   |
|                             |                     | A3354730*   |
| Open fuseclip               | 3 (76)              | 1A0065      |
| Spring loaded open fuseclip |                     | 9078A67G04  |

\* For single barrel applications only. Not sold in pairs.

## 5.5 kV E-Rated medium voltage specialty mount fuses

### Catalog symbols

- 5AHLE\_E (for Eaton AMPGARD motor starting assemblies)
- 5BHLE\_E / 5BHCL\_E (bolt-on version)
- 5CLE\_E
- 5HCL\_E (clip-lock version)

### Ratings\*

- Volts 5.5 kV
- Amps 10 to 900 A
- Interrupting ratings 31 to 63 kA RMS Sym.

\* See catalog number tables for voltages, ampacities and interrupting ratings by catalog number.

### Agency information

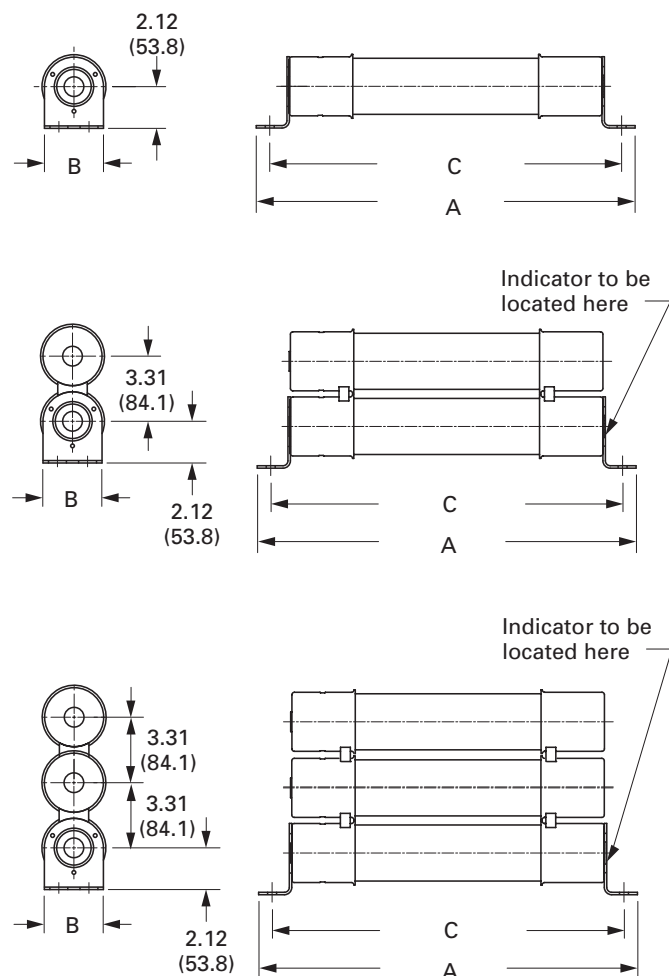
- E-Rated fuses meet the performance characteristics of ANSI C37.46

### Recommended live parts for clip-lock fuses

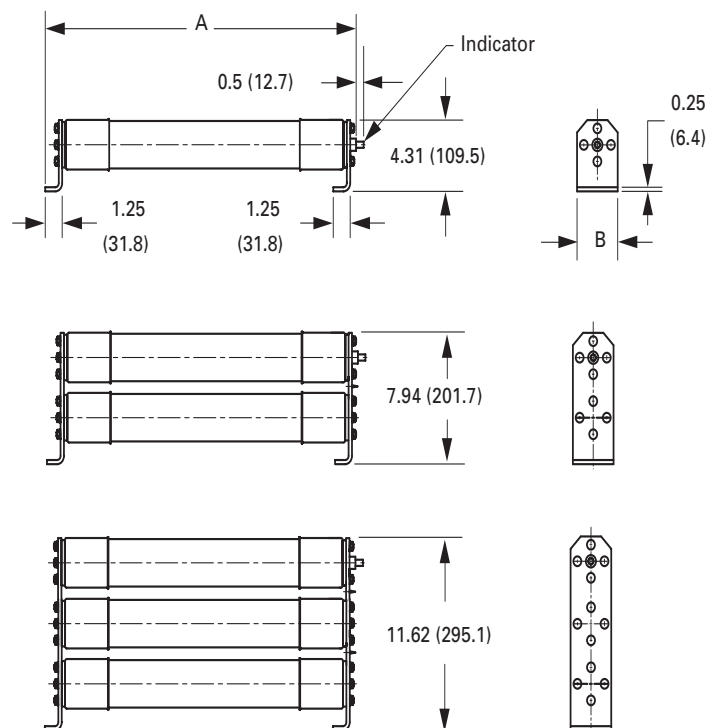
- Catalog number HCL-NL-1

### Dimensions — in (mm)

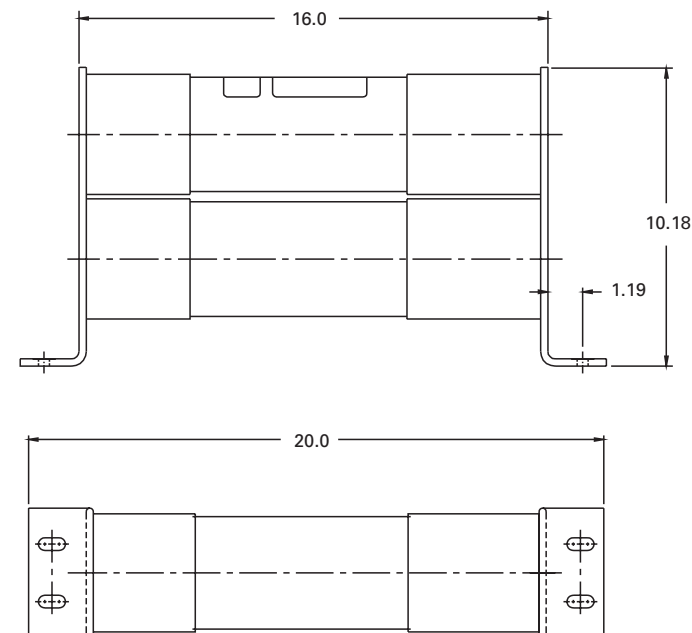
#### BHLE bolt-on



#### HCL clip-lock



#### CLE four-barrel bolt-on



**Note:** 1100E and 1350E fuses require two double barrel fuses (4 total barrels) customer to parallel.



**AHLE for Eaton AMPGARD motor starting assemblies**

| Amps | IR RMS Sym. (kA) | No. of barrels | Catalog no. |
|------|------------------|----------------|-------------|
| 10   | 65               | 1              | 5AHLE-10E   |
| 15   |                  |                | 5AHLE-15E   |
| 20   |                  |                | 5AHLE-20E   |
| 25   |                  |                | 5AHLE-25E   |
| 30   |                  |                | 5AHLE-30E   |
| 40   |                  |                | 5AHLE-40E†  |
| 50   |                  |                | 5AHLE-50E†  |
| 65   |                  |                | 5AHLE-65E†  |
| 80   |                  |                | 5AHLE-80E†  |
| 100  |                  |                | 5AHLE-100E† |
| 125  |                  |                | 5AHLE-125E† |
| 150  |                  |                | 5AHLE-150E† |
| 175  |                  |                | 5AHLE-175E† |
| 200  |                  |                | 5AHLE-200E† |
| 250  |                  |                | 5AHLE-250E† |
| 300  |                  | 2              | 5AHLE-300E† |
| 350  |                  |                | 5AHLE-350E† |
| 400  |                  |                | 5AHLE-400E† |
| 450  |                  |                | 5AHLE-450E† |

† UL Listed, Guide JEEG, File E240398.

**HCL clip-lock versions**

| Amps | Dimensions — in (mm) |            |                | IR RMS Sym. (kA) | No. of barrels | Installation location | Catalog no. |
|------|----------------------|------------|----------------|------------------|----------------|-----------------------|-------------|
|      | Length A             | Diameter B | Hole centers C |                  |                |                       |             |
| 10   | 16.8 (427)           | 3 (76)     | N/A            | 65               | 1              | Indoor                | 5HCL-10E    |
| 15   |                      |            |                |                  |                |                       | 5HCL-15E    |
| 20   |                      |            |                |                  |                |                       | 5HCL-20E    |
| 25   |                      |            |                |                  |                |                       | 5HCL-25E    |
| 30   |                      |            |                |                  |                |                       | 5HCL-30E    |
| 40   |                      |            |                |                  |                |                       | 5HCL-40E†   |
| 50   |                      |            |                |                  |                |                       | 5HCL-50E†   |
| 65   |                      |            |                |                  |                |                       | 5HCL-65E†   |
| 80   |                      |            |                |                  |                |                       | 5HCL-80E†   |
| 100  |                      |            |                |                  |                |                       | 5HCL-100E†  |
| 125  | 22.8 (579)           | 3 (76)     | N/A            | 65               | 2              | Indoor                | 5HCL-125E†  |
| 150  |                      |            |                |                  |                |                       | 5HCL-150E†  |
| 200  |                      |            |                |                  |                |                       | 5HCL-200E†  |
| 250  |                      |            |                |                  |                |                       | 5HCL-250E†  |
| 300  |                      |            |                |                  |                |                       | 5HCL-300E†  |
| 400  |                      |            |                |                  |                |                       | 5HCL-400E†  |
| 450  |                      |            |                |                  |                |                       | 5HCL-450E†  |
| 500  |                      |            |                |                  |                |                       | 5HCL-500E   |
| 600  |                      |            |                |                  |                |                       | 5HCL-600E   |

† UL Listed, Guide JEEG, File E240398.

## CLE, BHLE and BHCL bolt-on versions

| Dimensions — in (mm) |            |            |                | IR RMS Sym.<br>(kA) | No. of barrels | Installation<br>location | Catalog no. |   |  |            |
|----------------------|------------|------------|----------------|---------------------|----------------|--------------------------|-------------|---|--|------------|
| Amps                 | Length A   | Diameter B | Hole centers C |                     |                |                          |             |   |  |            |
| 10                   | 19.2 (488) | 3 (76)     | 17.9 (455)     | 65                  | 1              | Indoor                   | 5BHLE-10E   |   |  |            |
| 15                   |            |            |                |                     |                |                          | 5BHLE-15E   |   |  |            |
| 20                   |            |            |                |                     |                |                          | 5BHLE-20E   |   |  |            |
| 25                   |            |            |                |                     |                |                          | 5BHLE-25E   |   |  |            |
| 30                   |            |            |                |                     |                |                          | 5BHLE-30E   |   |  |            |
| 40                   |            |            |                |                     |                |                          | 5BHLE-40E†  |   |  |            |
| 50                   |            |            |                |                     |                |                          | 5BHLE-50E†  |   |  |            |
| 65                   |            |            |                |                     |                |                          | 5BHLE-65E†  |   |  |            |
| 80                   |            |            |                |                     |                |                          | 5BHLE-80E†  |   |  |            |
| 100                  |            |            |                |                     |                |                          | 5BHLE-100E† |   |  |            |
| 125                  |            |            |                |                     |                |                          | 5BHLE-125E† |   |  |            |
| 150                  |            |            |                |                     |                |                          | 5BHLE-150E† |   |  |            |
| 175                  |            |            |                |                     |                |                          | 5BHLE-175E† |   |  |            |
| 200                  |            |            |                |                     |                |                          | 5BHLE-200E† |   |  |            |
| 200                  | 25.1 (637) |            | 23.7 (602)     | 2                   |                | Indoor                   | 5BHCL-200E  |   |  |            |
| 250                  | 19.2 (488) |            | 17.9 (455)     |                     |                |                          | 5BHLE-250E† |   |  |            |
| 250                  | 25.1 (637) |            | 23.7 (602)     |                     |                |                          | 5BHCL-250E  |   |  |            |
| 300                  | 19.2 (488) |            | 17.9 (455)     |                     |                |                          | 5BHLE-300E† |   |  |            |
| 300                  | 25.1 (637) |            | 23.7 (602)     |                     |                |                          | 5BHCL-300E  |   |  |            |
| 350                  | 19.2 (488) |            | 17.9 (455)     |                     |                |                          | 5BHLE-350E† |   |  |            |
| 400                  |            |            |                |                     |                |                          | 5BHLE-400E† |   |  |            |
| 400                  | 25.1 (637) |            | 23.7 (602)     |                     |                |                          | 5BHCL-400E  |   |  |            |
| 450                  | 19.2 (488) |            | 17.9 (455)     |                     |                |                          | 5BHLE-450E† |   |  |            |
| 450                  | 25.1 (637) |            | 23.7 (602)     |                     |                |                          | 5BHCL-450E  |   |  |            |
| 500                  |            |            |                |                     |                |                          | 5BHCL-500E  |   |  |            |
| 600                  |            |            |                |                     |                |                          | 5BHCL-600E  |   |  |            |
| 600                  | 28.9 (734) | 4 (102)    | 18.4 (467)     |                     |                |                          | 40          | 3 |  | 5CLE-600E  |
| 750                  | 25.1 (637) | 3 (76)     | 23.7 (602)     |                     |                |                          | 63          |   |  | 5BHCL-750E |
| 750                  | 28.9 (734) | 4 (102)    | 18.4 (467)     | 40                  | 2              | 5CLE-750E                |             |   |  |            |
| 900                  | 25.1 (637) | 3 (76)     | 23.7 (602)     | 63                  | 3              | 5BHCL-900E               |             |   |  |            |
| 1100                 | 19.8 (503) | 4 (102)    | 18.4 (467)     | 31                  | 4              | 5CLE-1100E               |             |   |  |            |
| 1350                 |            |            |                |                     |                | 5CLE-1350E               |             |   |  |            |

† UL Listed, Guide JEEG, File E240398.

## 8.3 kV E-Rated medium voltage ferrule fuses

### Catalog symbols

- 8CLE\_E-D (10-25 A)
- 8CLE\_E (10-350 A)
- 8HLE\_E (10-350 A)

### Ratings\*

- Volts 8.3 kV
- Amps 10 to 350 A
- IR 50 kA RMS Sym.

\* See catalog number tables for voltages, ampacities and interrupting ratings by catalog number.

### Agency information

- E-Rated fuses meet the performance characteristics of ANSI C37.46

### Recommended fuseclips

| Description                 | Fuse dia. — in (mm) | Catalog no. |
|-----------------------------|---------------------|-------------|
| Enclosed fuseclip           | 2 (51)              | A3354710*   |
|                             |                     | A3354730*   |
| Open fuseclip               | 3 (76)              | 1A0065      |
| Spring loaded open fuseclip |                     | 9078A67G04  |

\* For single barrel applications only. Not sold in pairs.

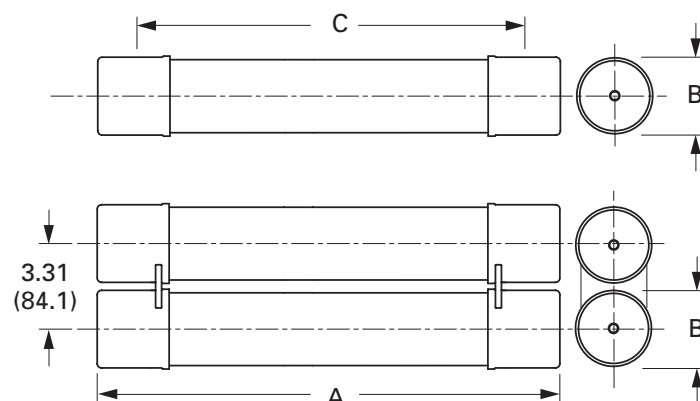
### Recommended fuse holders

|               |                    |          |                              |               |            | Catalog no.         |                           |                                |                                |  |
|---------------|--------------------|----------|------------------------------|---------------|------------|---------------------|---------------------------|--------------------------------|--------------------------------|--|
| Amps          | Fuse mounting type | BIL (kV) | Approx. dimensions — in (mm) |               |            | Mounting*           |                           | Live parts (with end fittings) | End fittings (disconnect only) |  |
|               |                    |          | Diameter A                   | Clip center B | Length C   | Porcelain insulator | Glass-polyester insulator |                                |                                |  |
| CLE           |                    |          |                              |               |            |                     |                           |                                |                                |  |
| 10E-D-25E-D   | Non-disconnect     | 75       | 3.0 (76)                     | 14 (356)      | 17.9 (455) | 8CLE-PNM-D          | 8CLE-GNM-D                | CLE-NL-D                       | —                              |  |
| 30E-175E      | Disconnect†        |          |                              |               |            | 8CLE-PDM-D          | 8CLE-GDM-D                | CLE-DL-D                       | CLE-DF-D                       |  |
| Single barrel |                    |          | 2.0 (51)                     |               | 15.5 (394) | 8CLE-PNM-C          | 8CLE-GNM-C                | CLE-NL-C                       | —                              |  |
|               | Disconnect†        |          |                              |               |            | 8CLE-PDM-C          | 8CLE-GDM-C                | CLE-DL-C                       | CLE-DF-C                       |  |
| 15E-25E       | Non-disconnect     | 75       | 3.0 (76)                     | 14 (356)      | 17.9 (455) | 8CLE-PNM-E          | 8CLE-GNM-E                | CLE-NL-E                       | —                              |  |
| Single Barrel | Disconnect         |          |                              |               |            | 8CLE-PDM-E          | 8CLE-GDM-E                | CLE-DL-E                       | CLE-DF-E                       |  |
| 200E-350E     | Non-disconnect     |          | 2.0 (51)                     |               | 15.5 (394) | 8CLE-PNM-D          | 8CLE-GNM-D                | CLE-NL-D                       | —                              |  |
| Double barrel | Disconnect         |          |                              |               |            | 8CLE-PDM-D          | 8CLE-GDM-D                | CLE-DL-D                       | CLE-DF-D                       |  |
| HLE           |                    |          |                              |               |            |                     |                           |                                |                                |  |
| 10E-175E      | Non-disconnect     | 75       | 3.0 (76)                     | 12 (305)      | 15.9 (404) | 8HLE-PNM-D          | 8HLE-GNM-D                | CLE-NL-D                       | —                              |  |
| Single barrel | Disconnect†        |          |                              |               |            | 8HLE-PDM-D          | 8HLE-GDM-D                | CLE-DL-D                       | CLE-DF-D                       |  |
| 200E-350E     | Non-disconnect     |          | 3.0 (76)                     |               | 15.9 (404) | 8HLE-PNM-E          | 8HLE-GNM-E                | CLE-NL-E                       | —                              |  |
| Double barrel | Disconnect†        |          |                              |               |            | 8HLE-PDM-E          | 8HLE-GDM-E                | CLE-DL-E                       | CLE-DF-E                       |  |

\* Including live parts and end fittings, end fittings supplied only when required.

† Disconnect mountings provide a means for fuse extraction only. Do not use a disconnect mounting for load switching or fuse removal while energized.

### Dimensions — in (mm)



## CLE and HLE Type fuses

| Dimensions — in (mm)                 |            |            |                | IR RMS Sym. (kA) | No. of barrels | Installation location | Catalog no. |
|--------------------------------------|------------|------------|----------------|------------------|----------------|-----------------------|-------------|
| Amps                                 | Length A   | Diameter B | Clip centers C |                  |                |                       |             |
| CLE Long construction (Westinghouse) |            |            |                |                  |                |                       |             |
| 10                                   | 17.9 (455) | 3 (76)     | 14 (356)       | 50               | 1              | Indoor/outdoor        | 8CLE-10E-D  |
| 15                                   | 15.5 (394) | 2 (51)     |                |                  |                | Indoor                | 8CLE-15E *  |
| 15                                   | 17.9 (455) | 3 (76)     |                |                  |                | Indoor/outdoor        | 8CLE-15E-D  |
| 20                                   | 15.5 (394) | 2 (51)     |                |                  |                | Indoor                | 8CLE-20E *  |
| 20                                   | 17.9 (455) | 3 (76)     |                |                  |                | Indoor/outdoor        | 8CLE-20E-D  |
| 25                                   | 15.5 (394) | 2 (51)     |                |                  |                | Indoor                | 8CLE-25E *  |
| 25                                   |            |            |                |                  |                |                       | 8CLE-25E-D  |
| 30                                   |            |            |                |                  |                |                       | 8CLE-30E    |
| 40                                   |            |            |                |                  |                |                       | 8CLE-40E    |
| 50                                   |            |            |                |                  |                |                       | 8CLE-50E    |
| 65                                   |            |            |                |                  |                |                       | 8CLE-65E    |
| 80                                   |            |            |                |                  |                |                       | 8CLE-80E    |
| 100                                  | 17.9 (455) | 3 (76)     |                |                  |                | Indoor/outdoor        | 8CLE-100E   |
| 125                                  |            |            |                |                  |                |                       | 8CLE-125E   |
| 150                                  |            |            |                |                  |                |                       | 8CLE-150E   |
| 175                                  |            |            |                |                  |                |                       | 8CLE-175E   |
| 200                                  |            |            |                |                  |                |                       | 8CLE-200E   |
| 250                                  |            |            |                |                  | 2              |                       | 8CLE-250E   |
| 300                                  |            |            |                |                  |                |                       | 8CLE-300E   |
| 350                                  |            |            |                |                  |                |                       | 8CLE-350E   |
| HLE Short construction               |            |            |                |                  |                |                       |             |
| 10                                   |            |            | 12 (305)       | 50               | 1              |                       | 8HLE-10E    |
| 15                                   |            |            |                |                  |                |                       | 8HLE-15E    |
| 20                                   |            |            |                |                  |                |                       | 8HLE-20E    |
| 25                                   |            |            |                |                  |                |                       | 8HLE-25E    |
| 30                                   |            |            |                |                  |                |                       | 8HLE-30E    |
| 40                                   |            |            |                |                  |                |                       | 8HLE-40E    |
| 50                                   |            |            |                |                  |                |                       | 8HLE-50E    |
| 65                                   |            |            |                |                  |                |                       | 8HLE-65E    |
| 80                                   | 15.9 (404) | 3 (76)     |                |                  |                | Indoor/outdoor        | 8HLE-80E    |
| 100                                  |            |            |                |                  |                |                       | 8HLE-100E   |
| 125                                  |            |            |                |                  |                |                       | 8HLE-125E   |
| 150                                  |            |            |                |                  |                |                       | 8HLE-150E   |
| 175                                  |            |            |                |                  |                |                       | 8HLE-175E   |
| 200                                  |            |            |                |                  |                |                       | 8HLE-200E   |
| 250                                  |            |            |                |                  | 2              |                       | 8HLE-250E   |
| 300                                  |            |            |                |                  |                |                       | 8HLE-300E   |
| 350                                  |            |            |                |                  |                |                       | 8HLE-350E   |

\* Fuses conform to dimensional standards established by Westinghouse.

## 8.3 kV E-Rated medium voltage specialty mount fuses

### Catalog symbols

- 8AHLE-E (special dimension fuses for use with 7.2 kV rated, 800 amp AMPGARD motor starting assemblies)
- 8BHLE-E (bolt-on version)
- 8HCL-E (clip-lock version)

### Ratings\*

- Volts 8.3 kV
- Amps 10 to 350 A
- Interrupting rating 50 kA RMS Sym.

\* See catalog number tables for voltages, ampacities and interrupting ratings by catalog number.

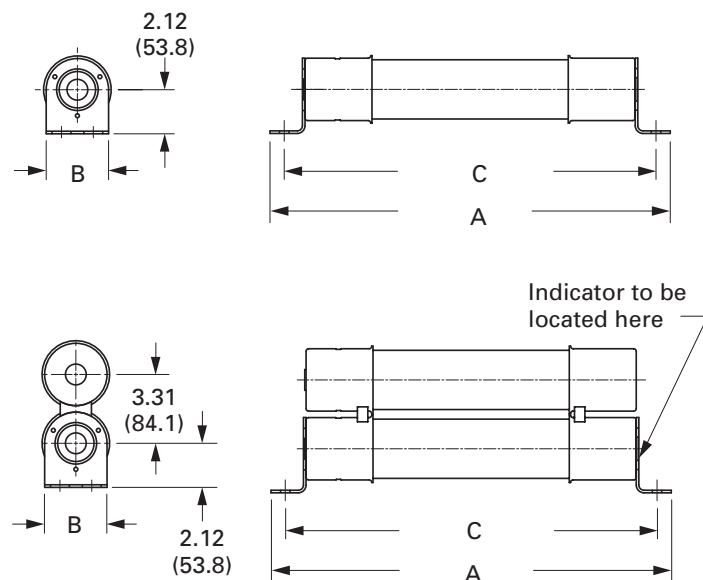
### Agency information

- E-Rated fuses meet the performance characteristics of ANSI C37.46

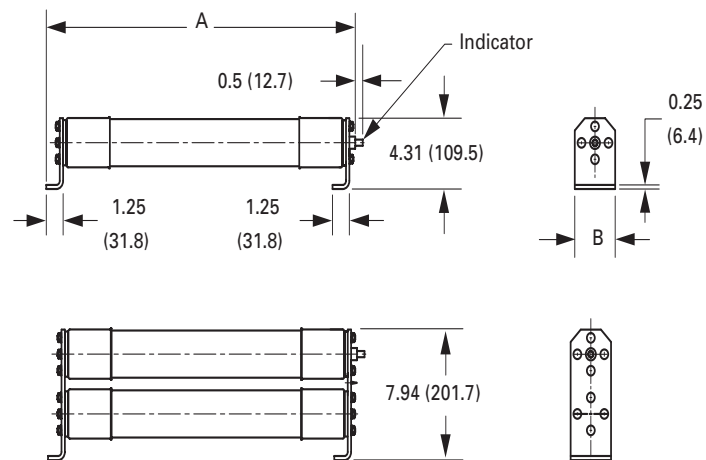
### Recommended live parts for clip-lock fuses

- Catalog number HCL-NL-1

### Dimensions for BHLE — in (mm)



### Dimensions for HCL — in (mm)



Medium voltage fuses

## AHLE Type fuses

Special dimension fuses for use with 7.2 kV rated, 800 amp AMPGARD motor starting assemblies.

| Amps | IR RMS Sym. (kA) | No. of barrels | Catalog no. |
|------|------------------|----------------|-------------|
| 10   | 50               | 1              | 8AHLE-10E   |
| 15   |                  |                | 8AHLE-15E   |
| 20   |                  |                | 8AHLE-20E   |
| 25   |                  |                | 8AHLE-25E   |
| 30   |                  |                | 8AHLE-30E   |
| 40   |                  |                | 8AHLE-40E   |
| 50   |                  |                | 8AHLE-50E   |
| 65   |                  |                | 8AHLE-65E   |
| 80   |                  |                | 8AHLE-80E   |
| 100  |                  |                | 8AHLE-100E  |
| 125  |                  |                | 8AHLE-125E  |
| 150  |                  |                | 8AHLE-150E  |
| 175  |                  |                | 8AHLE-175E  |
| 200  |                  | 2              | 8AHLE-200E  |
| 250  |                  |                | 8AHLE-250E  |
| 300  |                  |                | 8AHLE-300E  |
| 350  |                  |                | 8AHLE-350E  |

## BHLE bolt-on versions

| Amps | Dimensions — in (mm) |          |               | IR RMS Sym.<br>(kA) | No. of barrels | Installation<br>location | Catalog no. |
|------|----------------------|----------|---------------|---------------------|----------------|--------------------------|-------------|
|      | Overall length       | Diameter | Hole centers  |                     |                |                          |             |
| 10   | 19.25 (488.9)        | 3 (76.2) | 17.88 (454.2) | 50                  | 1              | Indoor                   | 8BHLE-10E   |
| 15   |                      |          |               |                     |                |                          | 8BHLE-15E   |
| 20   |                      |          |               |                     |                |                          | 8BHLE-20E   |
| 25   |                      |          |               |                     |                |                          | 8BHLE-25E   |
| 30   |                      |          |               |                     |                |                          | 8BHLE-30E   |
| 40   |                      |          |               |                     |                |                          | 8BHLE-40E   |
| 50   |                      |          |               |                     |                |                          | 8BHLE-50E   |
| 65   |                      |          |               |                     |                |                          | 8BHLE-65E   |
| 80   |                      |          |               |                     |                |                          | 8BHLE-80E   |
| 100  |                      |          |               |                     |                |                          | 8BHLE-100E  |
| 125  |                      |          |               |                     |                |                          | 8BHLE-125E  |
| 150  |                      |          |               |                     |                |                          | 8BHLE-150E  |
| 175  |                      |          |               |                     |                |                          | 8BHLE-175E  |
| 200  |                      |          |               |                     | 2              |                          | 8BHLE-200E  |
| 250  |                      |          |               |                     |                |                          | 8BHLE-250E  |
| 300  |                      |          |               |                     |                |                          | 8BHLE-300E  |
| 350  |                      |          |               |                     |                |                          | 8BHLE-350E  |

## HCL Clip lock versions

| Amps | Dimensions — in (mm) |          |              | IR RMS Sym. (kA) | No. of barrels | Installation location | Catalog no. |  |
|------|----------------------|----------|--------------|------------------|----------------|-----------------------|-------------|--|
|      | Overall length       | Diameter | Hole centers |                  |                |                       |             |  |
| 65   | 22.5 (571.5)         | 3 (76.2) | N/A          | 50               | 1              | Indoor/outdoor        | 8HCL-65E    |  |
| 80   |                      |          |              |                  |                |                       | 8HCL-80E    |  |
| 100  |                      |          |              |                  |                |                       | 8HCL-100E   |  |
| 125  |                      |          |              |                  |                |                       | 8HCL-125E   |  |
| 150  |                      |          |              |                  |                |                       | 8HCL-150E   |  |
| 175  |                      |          |              |                  | 2              |                       | 8HCL-175E   |  |
| 200  |                      |          |              |                  |                |                       | 8HCL-200E   |  |
| 250  |                      |          |              |                  |                |                       | 8HCL-250E   |  |
| 300  |                      |          |              |                  |                |                       | 8HCL-300E   |  |
| 350  |                      |          |              |                  |                |                       | 8HCL-350E   |  |

## 15.5 kV E-Rated medium voltage ferrule fuses

### Catalog symbols



- General purpose
  - 15CLE-\_E-D (long construction, 10-25 A)
  - 15CLE-\_E (long construction, 15-300 A)
  - 15HLE-\_E (short construction, 10-250 A)
  - 15LHLE-\_E (intermediate construction, 65-300 A)
- Full range (per ANSI C37.40)
  - MV155F\_

### Ratings\*

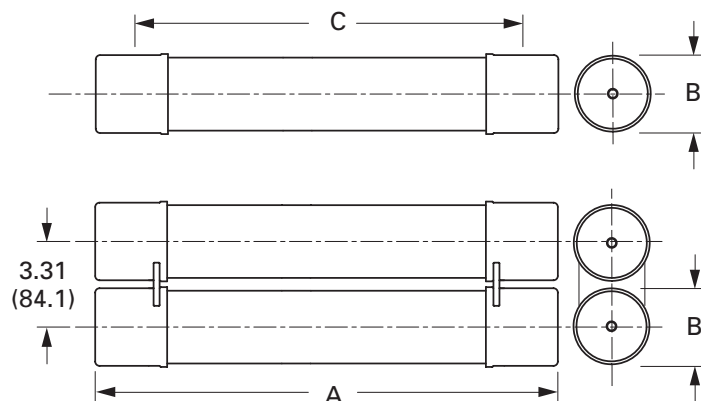
- Volts 15.5 kV
- Amps 10 to 300 A
- Interrupting ratings 31.5 to 63 kA RMS Sym.

\* See catalog number tables for voltages, ampacities and interrupting ratings by catalog number.

### Agency information

- E-Rated fuses meet the performance characteristics of ANSI C37.46
- UL Listed, Guide JEEG, File E240398. See catalog numbers.

### Recommended fuse holders



### Dimensions — in (mm)

### Recommended fuseclips

| Description                 | Fuse dia. — in (mm) | Catalog no. |
|-----------------------------|---------------------|-------------|
| Enclosed fuseclip           | 2 (51)              | A3354710*   |
| Open fuseclip               | 3 (76)              | A3354730*   |
| Spring loaded open fuseclip |                     | 1A0065      |
|                             |                     | 9078A67G04  |

\* For single barrel applications only. Not sold in pairs.

| Catalog no.                              |                    |          |           |             |                                   |                                   |               |                     |                           |
|------------------------------------------|--------------------|----------|-----------|-------------|-----------------------------------|-----------------------------------|---------------|---------------------|---------------------------|
| Approx. dimensions — in (mm)             |                    |          | Mounting* |             | Live parts<br>(with end fittings) | End fittings<br>(disconnect only) |               |                     |                           |
| Amps                                     | Fuse mounting type | BIL (kV) | Diameter  | Clip center |                                   |                                   | Length        | Porcelain insulator | Glass-polyester insulator |
| CLE                                      |                    |          |           |             |                                   |                                   |               |                     |                           |
| 15E–25E<br>Single barrel                 | Non-disconnect     | 95       | 2 (51)    |             | 21.5 (546)                        | 15CLE-PNM-C                       | 15CLE-GNM-C   | CLE-NL-C            | —                         |
|                                          |                    | 110      |           |             |                                   | 15CLE-HPNM-C                      | —             | CLE-NL-C            | —                         |
|                                          | Disconnect†        | 95       |           |             |                                   | 15CLE-PDM-C                       | 15CLE-GDM-C   | CLE-DL-C            | CLE-DF-C                  |
|                                          |                    | 110      |           |             |                                   | 15CLE-HPDM-C                      | —             | CLE-DL-C            | CLE-DF-C                  |
| 10E-D–25E-D<br>30E–150E<br>Single barrel | Non-disconnect     | 95       | 3 (76)    | 20 (508)    | 23.9 (607)                        | 15CLE-PNM-D                       | 15CLE-GNM-D   | CLE-NL-D            | —                         |
|                                          |                    | 110      |           |             |                                   | 15CLE-HPM-D                       | —             | CLE-NL-D            | —                         |
|                                          | Disconnect†        | 95       |           |             |                                   | 15CLE-PDM-D                       | 15CLE-GDM-D   | CLE-DL-D            | CLE-DF-D                  |
|                                          |                    | 110      |           |             |                                   | 15CLE-HPDM-D                      | —             | CLE-DL-D            | CLE-DF-D                  |
| 175E–300E<br>Double barrel               | Non-disconnect     | 110      |           |             |                                   | 15CLE-PNM-E                       | —             | CLE-NL-E            | —                         |
|                                          | Disconnect†        | 110      |           |             |                                   | 15CLE-PDM-E                       | —             | CLE-DL-E            | CLE-DF-E                  |
| HLE                                      |                    |          |           |             |                                   |                                   |               |                     |                           |
| 10E-125E<br>Single barrel                | Non-disconnect     | 95       | 3 (76)    | 15 (381)    | 18.9 (480)                        | 15HLE-PNM-D                       | 15HLE-GNM-D   | CLE-NL-D            | —                         |
|                                          | Disconnect†        | 95       |           |             |                                   | 15HLE-PDM-D                       | 15HLE-GDM-D   | CLE-DL-D            | CLE-DF-D                  |
| 150E–250E<br>Double barrel               | Non-disconnect     | 95       |           |             |                                   | 15HLE-PNM-E                       | —             | CLE-NL-E            | —                         |
|                                          | Disconnect†        | 95       |           |             |                                   | 15HLE-PDM-E                       | —             | CLE-DL-E            | CLE-DF-E                  |
| LHLE                                     |                    |          |           |             |                                   |                                   |               |                     |                           |
| 65E–150E<br>Single barrel                | Non-disconnect     | —        | 3 (76)    | 18 (457)    | 20.53 (521)                       | Not available                     | Not available | CLE-NL-D            | —                         |
|                                          | Disconnect†        | —        |           |             |                                   |                                   |               | CLE-DL-D            | CLE-DF-D                  |
| 175E–300E<br>Double barrel               | Non-disconnect     | —        |           |             |                                   |                                   |               | CLE-NL-E            | —                         |
|                                          | Disconnect†        | —        |           |             |                                   |                                   |               | CLE-DL-E            | CLE-DF-E                  |

\* Including live parts and end fittings, end fittings supplied only when required.

† Disconnect mountings provide a means for fuse extraction only. Do not use a disconnect mounting for load switching or fuse removal while energized.

Medium voltage  
fuses

## CLE, HLE and LHLE Type general purpose fuses

| Dimensions — in (mm)   |            |            |                | IR RMS Sym.<br>(kA) | No. of barrels          | Installation<br>location | Catalog no.             |                        |
|------------------------|------------|------------|----------------|---------------------|-------------------------|--------------------------|-------------------------|------------------------|
| Amps                   | Length A   | Diameter B | Clip centers C |                     |                         |                          |                         |                        |
| CLE Long construction  |            |            |                |                     |                         |                          |                         |                        |
| 10                     | 23.9 (607) | 3 (76)     | 20 (508)       | 63                  | 1                       | Indoor/outdoor           | 15CLE-10E-D             |                        |
| 15                     | 21.5 (546) | 2 (51)     |                | 31.5                |                         | Indoor                   | 15CLE-15E*              |                        |
| 15                     | 23.9 (607) | 3 (76)     |                | 63                  |                         | Indoor/outdoor           | 15CLE-15E-D             |                        |
| 20                     | 21.5 (546) | 2 (51)     |                | 31.5                |                         | Indoor                   | 15CLE-20E*              |                        |
| 20                     | 23.9 (607) | 3 (76)     |                | 63                  |                         | Indoor/outdoor           | 15CLE-20E-D             |                        |
| 25                     | 21.5 (546) | 2 (51)     |                | 31.5                |                         | Indoor                   | 15CLE-25E*              |                        |
| 25                     |            |            |                |                     |                         |                          |                         | 15CLE-25E-D            |
| 30                     |            |            |                |                     |                         |                          |                         | 15CLE-30E              |
| 40                     |            |            |                |                     |                         |                          |                         | 15CLE-40E <sup>†</sup> |
| 50                     |            |            |                |                     |                         |                          |                         | 15CLE-50E <sup>†</sup> |
| 65                     |            |            |                |                     |                         | 15CLE-65E <sup>†</sup>   |                         |                        |
| 80                     |            |            |                |                     |                         | 15CLE-80E <sup>†</sup>   |                         |                        |
| 100                    | 23.9 (607) | 3 (76)     |                | 63                  | 2                       | Indoor/outdoor           | 15CLE-100E <sup>†</sup> |                        |
| 125                    |            |            |                |                     |                         | 15CLE-125E <sup>†</sup>  |                         |                        |
| 150                    |            |            |                |                     |                         | 15CLE-150E <sup>†</sup>  |                         |                        |
| 175                    |            |            |                |                     |                         | 15CLE-175E <sup>†</sup>  |                         |                        |
| 200                    |            |            |                |                     |                         | 15CLE-200E <sup>†</sup>  |                         |                        |
| 250                    |            |            |                |                     |                         | 15CLE-250E <sup>†</sup>  |                         |                        |
| 300                    |            |            |                |                     |                         | 15CLE-300E <sup>†</sup>  |                         |                        |
| HLE Short construction |            |            |                |                     |                         |                          |                         |                        |
| 10                     |            |            |                |                     |                         | 1                        |                         | 15HLE-10E              |
| 15                     |            |            |                |                     |                         |                          | 15HLE-15E               |                        |
| 20                     |            |            |                |                     | 15HLE-20E               |                          |                         |                        |
| 25                     |            |            |                |                     | 15HLE-25E               |                          |                         |                        |
| 30                     |            |            |                |                     | 15HLE-30E               |                          |                         |                        |
| 40                     |            |            |                |                     | 15HLE-40E <sup>†</sup>  |                          |                         |                        |
| 50                     |            |            |                |                     | 15HLE-50E <sup>†</sup>  |                          |                         |                        |
| 65                     | 18.9 (480) | 3 (76)     | 15 (381)       | 63                  | Indoor/outdoor          |                          | 15HLE-65E <sup>†</sup>  |                        |
| 80                     |            |            |                |                     | 15HLE-80E <sup>†</sup>  |                          |                         |                        |
| 100                    |            |            |                |                     | 15HLE-100E <sup>†</sup> |                          |                         |                        |
| 125                    |            |            |                |                     | 15HLE-125E <sup>†</sup> |                          |                         |                        |
| 150                    |            |            |                |                     | 2                       | 15HLE-150E <sup>†</sup>  |                         |                        |
| 175                    |            |            |                |                     |                         | 15HLE-175E <sup>†</sup>  |                         |                        |
| 200                    |            |            |                |                     |                         | 15HLE-200E <sup>†</sup>  |                         |                        |
| 250                    |            |            |                |                     |                         | 15HLE-250E <sup>†</sup>  |                         |                        |
| LHLE                   |            |            |                |                     |                         |                          |                         |                        |
| 65                     |            |            |                |                     | 1                       |                          | 15LHLE-65E              |                        |
| 80                     |            |            |                |                     |                         | 15LHLE-80E               |                         |                        |
| 100                    |            |            |                |                     |                         | 15LHLE-100E              |                         |                        |
| 125                    |            |            |                |                     |                         | 15LHLE-125E              |                         |                        |
| 150                    | 20.5 (521) | 3 (76)     | 18 (457)       | 50                  |                         | Indoor/outdoor           | 15LHLE-150E             |                        |
| 175                    |            |            |                |                     | 2                       |                          | 15LHLE-175E             |                        |
| 200                    |            |            |                |                     |                         | 15LHLE-200E              |                         |                        |
| 250                    |            |            |                |                     |                         | 15LHLE-250E              |                         |                        |
| 300                    |            |            |                |                     |                         | 15LHLE-300E              |                         |                        |

\* Fuses conform to dimensional standards established by Westinghouse.

† UL Listed, Guide JEEG, File E240398.



**MV155F\_ Full range**

| Amps | Dimensions — in (mm) |            |                | IR RMS Sym.<br>(kA) | No. of barrels | Installation<br>location | Catalog no.    |
|------|----------------------|------------|----------------|---------------------|----------------|--------------------------|----------------|
|      | Length A             | Diameter B | Clip centers C |                     |                |                          |                |
| 5    |                      |            |                |                     |                |                          | MV155F1CBX5E   |
| 7    |                      | 2 (51)     |                |                     |                |                          | MV155F1CBX7E   |
| 10   |                      |            |                |                     |                |                          | MV155F1CBX10E  |
| 10   |                      | 3 (76)     |                |                     |                |                          | MV155F1DBX10E  |
| 15   |                      | 2 (51)     |                |                     |                |                          | MV155F1CBX15E  |
| 15   |                      | 3 (76)     |                |                     |                |                          | MV155F1DBX15E  |
| 20   |                      | 2 (51)     |                |                     |                |                          | MV155F1CBX20E  |
| 20   | 18.7 (475)           | 3 (76)     | 15 (381)       |                     |                |                          | MV155F1DBX20E  |
| 25   |                      | 2 (51)     |                |                     |                |                          | MV155F1CBX25E  |
| 25   |                      | 3 (76)     |                |                     |                |                          | MV155F1DBX25E  |
| 30   |                      | 2 (51)     |                |                     | 1              |                          | MV155F1CBX30E  |
| 30   |                      |            |                |                     |                |                          | MV155F1DBX30E  |
| 40   |                      |            |                |                     |                |                          | MV155F1DBX40E  |
| 50   |                      |            |                |                     |                |                          | MV155F1DBX50E  |
| 65   |                      |            |                | 50                  |                | Indoor                   | MV155F1DBX65E  |
| 65   | 21.7 (551)           |            | 18 (457)       |                     |                |                          | MV155F1DCX65E  |
| 80   | 18.7 (475)           |            | 15 (381)       |                     |                |                          | MV155F1DBX80E  |
| 80   | 21.7 (551)           |            | 18 (457)       |                     |                |                          | MV155F1DCX80E  |
| 100  | 18.7 (475)           |            | 15 (381)       |                     |                |                          | MV155F1DBX100E |
| 100  | 21.7 (551)           | 3 (76)     | 18 (457)       |                     |                |                          | MV155F1DCX100E |
| 125  | 18.7 (475)           |            | 15 (381)       |                     |                |                          | MV155F2DBX125E |
| 125  | 21.7 (551)           |            | 18 (457)       |                     |                |                          | MV155F2DCX125E |
| 150  | 18.7 (475)           |            | 15 (381)       |                     |                |                          | MV155F2DBX150E |
| 150  | 21.7 (551)           |            | 18 (457)       |                     |                |                          | MV155F2DCX150E |
| 175  | 18.7 (475)           |            | 15 (381)       |                     | 2              |                          | MV155F2DBX175E |
| 175  | 21.7 (551)           |            | 18 (457)       |                     |                |                          | MV155F2DCX175E |
| 200  | 18.7 (475)           |            | 15 (381)       |                     |                |                          | MV155F2DBX200E |
| 200  | 21.7 (551)           |            | 18 (457)       |                     |                |                          | MV155F2DCX200E |

## 15.5 kV E-Rated medium voltage specialty mount fuses

### Catalog symbols

- 15BHLE-\_E (bolt-on version)
- 15HCL-\_E (clip-lock version)

### Ratings\*

- Volts 15.5 kV
- Amps 10 to 300 A
- Interrupting ratings 50 to 63 kA RMS Sym.

\* See catalog number tables for voltages, ampacities and interrupting ratings by catalog number.

### Agency information

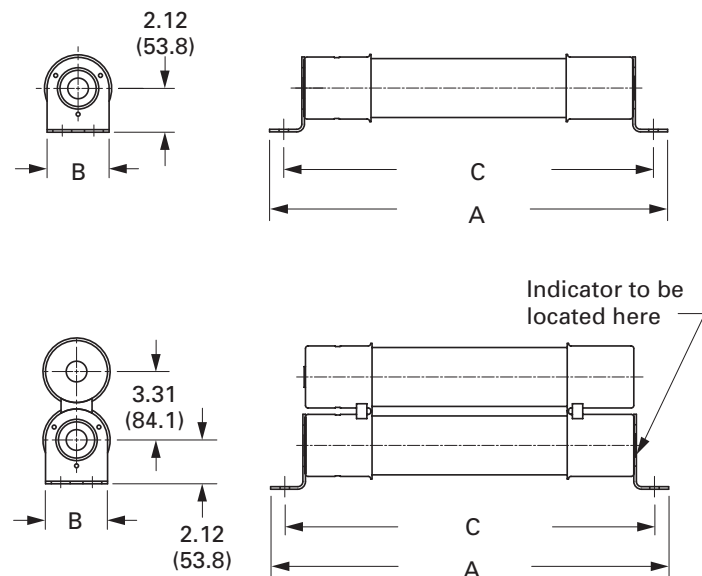
- E-Rated fuses meet the performance characteristics of ANSI C37.46

### Recommended live parts for clip-lock fuses

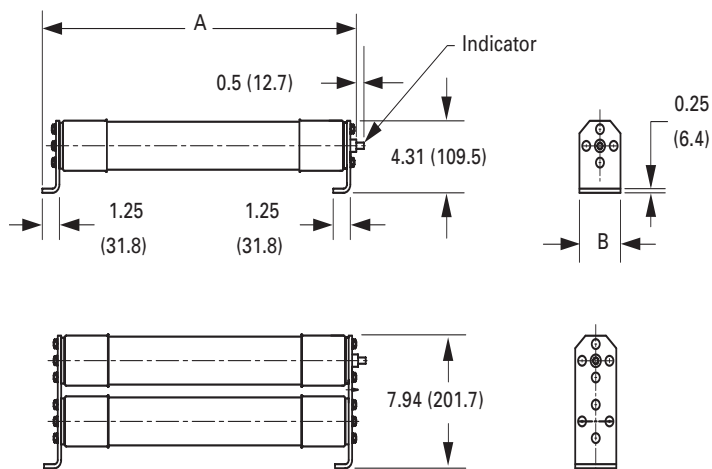
- Catalog number HCL-NL-1

### Dimensions — in (mm)

#### BHLE



#### HCL



**BHCL, BHLE and HCL Type fuses**

| Dimensions — in (mm)  |            |            |                | IR RMS Sym.<br>(kA) | No. of barrels | Installation<br>location | Catalog no.              |                         |
|-----------------------|------------|------------|----------------|---------------------|----------------|--------------------------|--------------------------|-------------------------|
| Amps                  | Length A   | Diameter B | Hole centers C |                     |                |                          |                          |                         |
| BHCL and BHLE bolt-on |            |            |                |                     |                |                          |                          |                         |
| 10                    | 22.2 (563) | 3 (76)     | 20.9 (531)     | 63                  | 1              | Indoor/outdoor           | 15BHLE-10E               |                         |
| 15                    |            |            |                |                     |                |                          | 15BHLE-15E               |                         |
| 20                    |            |            |                |                     |                |                          | 15BHLE-20E               |                         |
| 25                    |            |            |                |                     |                |                          | 15BHLE-25E               |                         |
| 30                    |            |            |                |                     |                |                          | 15BHLE-30E               |                         |
| 40                    |            |            |                |                     |                |                          | 15BHLE-40E <sup>†</sup>  |                         |
| 50                    |            |            |                |                     |                |                          | 15BHLE-50E <sup>†</sup>  |                         |
| 65                    |            |            |                |                     |                |                          | 15BHLE-65E <sup>†</sup>  |                         |
| 80                    |            |            |                |                     |                |                          | 15BHLE-80E <sup>†</sup>  |                         |
| 100                   |            |            |                |                     |                |                          | 15BHLE-100E <sup>†</sup> |                         |
| 125                   |            |            |                |                     |                |                          | 15BHLE-125E <sup>†</sup> |                         |
| 150                   |            |            |                |                     |                |                          | 15BHLE-150E <sup>†</sup> |                         |
| 175                   |            |            |                |                     |                |                          | 15BHLE-175E <sup>†</sup> |                         |
| 200                   |            |            |                |                     |                |                          | 15BHLE-200E <sup>†</sup> |                         |
| 250                   |            |            |                |                     |                |                          | 15BHLE-250E <sup>†</sup> |                         |
| 300                   | 25.1 (637) |            | 23.7 (602)     | 50                  | 3              | Indoor                   | 15BHCL-300E              |                         |
| 400                   |            |            |                |                     |                | Indoor                   | 15BHCL-400E              |                         |
| HCL clip-lock         |            |            |                |                     |                |                          |                          |                         |
| 10                    | 22.8 (579) | 3 (76)     | N/A            | 63                  | 1              | Indoor                   | 15HCL-10E                |                         |
| 15                    |            |            |                |                     |                |                          | 15HCL-15E                |                         |
| 20                    |            |            |                |                     |                |                          | 15HCL-20E                |                         |
| 25                    |            |            |                |                     |                |                          | 15HCL-25E                |                         |
| 30                    |            |            |                |                     |                |                          | 15HCL-30E                |                         |
| 40                    |            |            |                |                     |                |                          | 15HCL-40E <sup>†</sup>   |                         |
| 50                    |            |            |                |                     |                |                          | 15HCL-50E <sup>†</sup>   |                         |
| 65                    |            |            |                |                     |                |                          | 15HCL-65E <sup>†</sup>   |                         |
| 80                    |            |            |                |                     |                |                          | 15HCL-80E <sup>†</sup>   |                         |
| 100                   |            |            |                |                     |                |                          | 15HCL-100E <sup>†</sup>  |                         |
| 125                   |            |            |                |                     |                |                          | 15HCL-125E <sup>†</sup>  |                         |
| 150                   |            |            |                |                     |                |                          | 15HCL-150E <sup>†</sup>  |                         |
| 175                   |            |            |                |                     |                |                          | 15HCL-175E <sup>†</sup>  |                         |
| 200                   |            |            |                |                     |                |                          | 2                        | 15HCL-200E <sup>†</sup> |
| 250                   |            |            |                |                     |                |                          |                          | 15HCL-250E <sup>†</sup> |
| 300                   |            |            |                |                     |                |                          |                          | 15HCL-300E <sup>†</sup> |

† UL Listed, Guide JEEG, File E240398.

## 5.5 to 38 kV E-Rated DIN medium voltage fuses

Bussmann series DIN dimensioned E-Rated medium voltage power fuses with striker for indoor use. Available in general purpose (5.5 to 17.5 kV) and full range (25.8 to 38 kV) versions.

### Ratings

- Volts 5.5 - 38 kV
- Amps 10 - 450 A
- Interrupting ratings 25 to 65 kA



### Agency information

- General purpose E-Rated per ANSI C37.46 (5.5 to 17.5 kV)
- Full range E-Rated per ANSI C37.40 (25.8 to 38 kV)

### Striker force

- 50 N (11 lbs)

### Recommended fuseclips

See page 7-36 for dimensions.

| Amp range   | Description                              | Catalog no. |
|-------------|------------------------------------------|-------------|
| Up to 200 A | Enclosed fuseclip with wingnut tensioner | A3354745*   |
|             | Open fuseclip with spring tensioner      | 270303      |

\* Not sold in pairs.

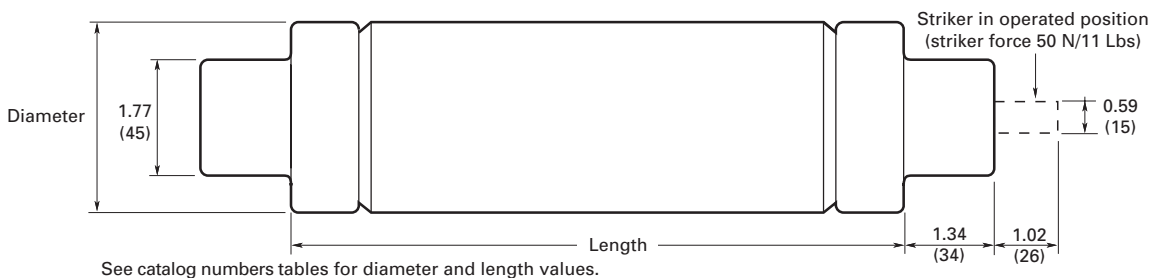
### Features

- Cool running for lower watts loss
- 100% X-ray inspected to help assure fuse integrity
- Striker provides visual indication of fuse operation or a means to activate a remote monitoring system

### Typical applications

- Primary protection for medium voltage transformers and switch gear
- Protection of medium voltage feeder circuits
- Direct OEM replacement fuses for 600 A Square D HVLCC and HVL switches

### Dimensions — in (mm)



| Catalog no.              | Amps | Interrupting rating (Sym. kA) | Dimensions — in (mm) |          |  |
|--------------------------|------|-------------------------------|----------------------|----------|--|
|                          |      |                               | Length               | Diameter |  |
| General purpose versions |      |                               |                      |          |  |
| 5.5 kV                   |      |                               |                      |          |  |
| 55GDMSJ10E               | 10   | 65                            | 17.4 (442)           | 2 (51)   |  |
| 55GDMSJ15E               | 15   |                               |                      |          |  |
| 55GDMSJ20E               | 20   |                               |                      |          |  |
| 55GDMSJ25E               | 25   |                               |                      |          |  |
| 55GDMSJ30E               | 30   |                               |                      |          |  |
| 55GDMSJ40E               | 40   |                               |                      |          |  |
| 55GDMSJ50E               | 50   |                               |                      |          |  |
| 55GDMSJ65E               | 65   |                               |                      |          |  |
| 55GDMSJ80E               | 80   |                               |                      |          |  |
| 55GDMSJ100E              | 100  |                               |                      |          |  |
| 55GDMSJ125E              | 125  |                               |                      |          |  |
| 55GFMSJ150E              | 150  |                               | 17.4 (442)           | 3 (76)   |  |
| 55GFMSJ175E              | 175  |                               |                      |          |  |
| 55GFMSJ200E              | 200  |                               |                      |          |  |
| 55GFMSJ250E              | 250  |                               |                      |          |  |
| 55GFMSJ300E              | 300  |                               |                      |          |  |
| 55GFMSJ350E              | 350  |                               |                      |          |  |
| 55GFMSJ400E              | 400  |                               |                      |          |  |
| 55GFMSJ450E              | 450  |                               |                      |          |  |
| 15.5 kV                  |      |                               |                      |          |  |
| 155GXQSJ175E             | 175  | 65                            | 21.1 (537)           | 3.5 (89) |  |
| 155GXQSJ200E             | 200  |                               |                      |          |  |
| 17.5 kV                  |      |                               |                      |          |  |
| 175GDMSJ10E              | 10   | 65                            | 17.4 (442)           | 2 (51)   |  |
| 175GDMSJ15E              | 15   |                               |                      |          |  |
| 175GDMSJ20E              | 20   |                               |                      |          |  |
| 175GDMSJ25E              | 25   |                               |                      |          |  |
| 175GDMSJ30E              | 30   |                               |                      |          |  |
| 175GFMSJ40E              | 40   |                               | 17.4 (442)           | 3 (76)   |  |
| 175GFMSJ50E              | 50   |                               |                      |          |  |
| 175GFMSJ65E              | 65   |                               |                      |          |  |
| 175GXMSJ80E              | 80   |                               | 17.4 (442)           | 3.5 (89) |  |
| 175GXMSJ100E             | 100  |                               |                      |          |  |
| 175GXQSJ125E             | 125  |                               | 21.1 (537)           | 3.5 (89) |  |
| 175GXQSJ150E             | 150  |                               |                      |          |  |
| Full range versions      |      |                               |                      |          |  |
| 25.8 kV                  |      |                               |                      |          |  |
| 258GDQSJ10E              | 10   | 25                            | 21.1 (537)           | 2 (51)   |  |
| 258GDQSJ15E              | 15   |                               |                      |          |  |
| 258GDQSJ20E              | 20   |                               |                      |          |  |
| 258GDQSJ25E              | 25   |                               |                      |          |  |
| 258GDQSJ30E              | 30   |                               |                      |          |  |
| 258GXQSJ40E              | 40   |                               | 21.1 (537)           | 3.5 (89) |  |
| 258GXQSJ50E              | 50   |                               |                      |          |  |
| 258GXQSJ65E              | 65   |                               |                      |          |  |
| 258GXZSJ80E              | 80   |                               | 28.3 (718)           | 3.5 (89) |  |
| 258GXZSJ100E             | 100  |                               |                      |          |  |
| 38 kV                    |      |                               |                      |          |  |
| 38GFZSJ10E               | 10   | 25                            | 28.3 (718)           | 3 (76)   |  |
| 38GFZSJ15E               | 15   |                               |                      |          |  |
| 38GFZSJ20E               | 20   |                               |                      |          |  |
| 38GFZSJ25E               | 25   |                               |                      |          |  |
| 38GFZSJ30E               | 30   |                               |                      |          |  |

## 2.4 kV R-Rated fuses

### Catalog symbols/construction

- JCK-\_R/Standard
- 2CLS-\_R/Standard
- JCK-A-\_R\*/AMPGARD Hookeye
- 2ACLS-\_R/AMPGARD Hookeye
- JCH-\_R/Hermetically sealed AMPGARD
- 2HCLS-\_R/Hermetically sealed AMPGARD
- JCK-B-\_R/Bolt-on
- 2BCLS-\_R/Bolt-on

\* For use in 400 amp AMPGARD motor starters

### Ratings

- Volts
  - 2.4 kV (nominal)
  - 2.54 kV (max design)
- Amps 25-450 A
- Interrupting ratings
  - 50 kA Sym.
  - 80 kA Asym.



### Agency information

- UL Recognized: Guide MSSS2, File E96676 (JCK-\_R [2R-12R] and JCK-A-\_R [2R-12R])

### Recommended fuseclips and holders for standard constructions

| Amps                      | Description                            | Catalog no. |
|---------------------------|----------------------------------------|-------------|
| <b>Fuseclips</b>          |                                        |             |
| 25-230A                   | 3" Enclosed fuseclip*                  | A3354730    |
| 25-450A                   | 3" Open fuseclip                       | 1A0065      |
|                           | 3" Spring loaded open fuseclip         | 9078A67G04  |
| <b>Fuse holders</b>       |                                        |             |
| 25-230A<br>Single barrel  | Non-disconnect holder, porcelain       | 2CLE-PNM-D  |
|                           | Non-disconnect holder, glass polyester | 2CLE-GNM-D  |
|                           | Disconnect holder, porcelain           | 2CLE-PDM-D  |
|                           | Disconnect holder, glass polyester     | 2CLE-GDM-E  |
| 390-450A<br>Double barrel | Non-disconnect holder, porcelain       | 2CLE-PNM-E  |
|                           | Non-disconnect holder, glass polyester | 2CLE-GNM-E  |
|                           | Disconnect holder, porcelain           | 2CLE-PDM-E  |
|                           | Disconnect holder, glass polyester     | 2CLE-GDM-E  |

\* Single barrel only, not sold in pairs.

### 2.4 kV R-Rated fuse catalog numbers

| "R"  |      | Mounting style (minimum interrupting rating in amps) |                  |                   |                   |                             |                   |                   |                   | No. of barrels |
|------|------|------------------------------------------------------|------------------|-------------------|-------------------|-----------------------------|-------------------|-------------------|-------------------|----------------|
| Amps | Des. | Standard                                             |                  | Standard AMPGARD  |                   | Hermetically sealed AMPGARD |                   | Bolt-on           |                   |                |
| 25   | —    | —                                                    | 2CLS-25* (100)   | —                 | 2ACLS-25* (90)    | JCH-30* (90)                | 2HCLS-25* (90)    | JCK-B-25* (90)    | 2BCLS-25* (90)    | 1              |
| 70   | 2R   | JCK-2R (165)                                         | 2CLS-2R (180)    | JCK-A-2R (165)    | 2ACLS-2R (180)    | JCH-2R (180)                | 2HCLS-2R (180)    | JCK-B-2R (180)    | 2BCLS-2R (180)    |                |
| 100  | 3R   | JCK-3R (220)                                         | 2CLS-3R (270)    | JCK-A-3R (220)    | 2ACLS-3R (270)    | JCH-3R (270)                | 2HCLS-3R (270)    | JCK-B-3R (270)    | 2BCLS-3R (270)    |                |
| 130  | 4R   | JCK-4R (320)                                         | 2CLS-4R (360)    | JCK-A-4R (320)    | 2ACLS-4R (360)    | JCH-4R (360)                | 2HCLS-4R (360)    | JCK-B-4R (360)    | 2BCLS-4R (360)    |                |
| 150  | 5R   | JCK-5R (410)                                         | 2CLS-5R (450)    | JCK-A-5R (410)    | 2ACLS-5R (450)    | JCH-5R (450)                | 2HCLS-5R (450)    | JCK-B-5R (450)    | 2BCLS-5R (450)    |                |
| 170  | 6R   | JCK-6R (480)                                         | 2CLS-6R (540)    | JCK-A-6R (480)    | 2ACLS-6R (540)    | JCH-6R (540)                | 2HCLS-6R (540)    | JCK-B-6R (540)    | 2BCLS-6R (540)    |                |
| 200  | 9R   | JCK-9R (720)                                         | 2CLS-200* (740)  | JCK-A-9R (720)    | 2ACLS-200* (740)  | JCH-200* (740)              | 2HCLS-200* (740)  | JCK-B-200* (740)  | 2BCLS-200* (740)  |                |
| 230  | 12R  | JCK-12R (970)                                        | 2CLS-230* (1080) | JCK-A-12R (970)   | 2ACLS-230* (1080) | JCH-230* (1080)             | 2HCLS-230* (1080) | JCK-B-230* (1080) | 2BCLS-230* (1080) |                |
| 390  | 18R  | JCK-18R (1430)†                                      | 2CLS-390* (1500) | JCK-A-18R (1430)† | 2ACLS-390* (1500) | JCH-390* (1500)             | 2HCLS-390* (1500) | JCK-B-390* (1500) | 2BCLS-390* (1500) |                |
| 450  | 24R  | JCK-24R (1880)†                                      | 2CLS-450* (2200) | JCK-A-24R (1880)† | 2ACLS-450* (2200) | JCH-450* (2200)             | 2HCLS-450* (2200) | JCK-B-450* (2200) | 2BCLS-450* (2200) |                |
|      |      |                                                      |                  |                   |                   |                             |                   |                   |                   | 2              |

\* Does not comply with ANSI C37.46 for "R" rating.

† Not UL Recognized.

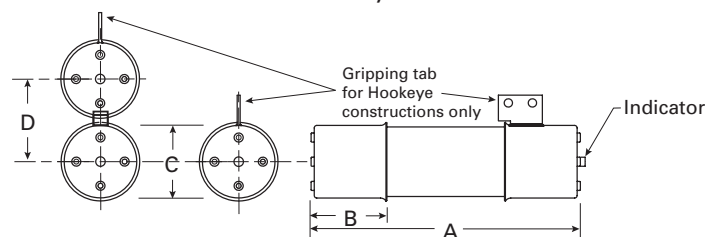
### Data sheet no. 6001

### Dimensions — in (mm)

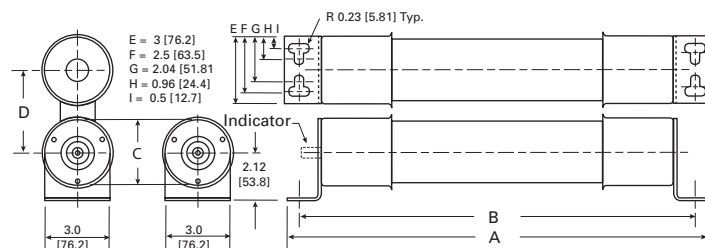
| Construction     | Amps     | Dimension  |            |        |          |
|------------------|----------|------------|------------|--------|----------|
|                  |          | A          | B          | C      | D        |
| Standard - short | 25-230A  | 10.8 (274) | 3 (76)     | 3 (76) | —        |
|                  | 390-450A |            |            |        | 3.3 (84) |
| AMPGARD Hookeye* | 70-230A  | 19.2 (488) | 17.9 (455) | 3 (76) | —        |
|                  | 390-450A |            |            |        | 3.3 (84) |
| Bolt-on          | 25-230A  | 19.2 (488) | 17.9 (455) | 3 (76) | —        |
|                  | 390-450A |            |            |        | 3.3 (84) |

\* Includes hermetically sealed versions.

### Standard and AMPGARD Hookeye



### Bolt-on



## 4.8 kV R-Rated fuses

### Catalog symbols/construction

- 5CLS-30 and 5CLS-\_R/Standard - short (30 A, 2R-24R)
- JCL-\_R/Standard - short (2R - 24R)
- 5LCLS-\_R/Standard - long (2R - 24R)
- 5ACLS-30 and 5ACLS-\_R/AMPGARD Hookeye\* (30 A, 2R-24R)
- JCL-A-\_R/AMPGARD Hookeye\* (2R - 24R)
- 5HCLS-30 and 5HCLS-\_R/Hermetically sealed AMPGARD Hookeye\* (30 A, 2R-24R)
- 5BCLS-30 and 5BCLS-\_R/Bolt-on (30 A, 2R-44R)
- JCL-B-\_R/Bolt-on (2R-24R)
- 5MCLS-\_R-\_A and 5MCLS-\_R-\_B/Bolt-on GE Limitamp (2R- 24R)

\* For use in 400 amp AMPGARD motor starters

### Ratings

- Volts
  - 4.8 kV (nominal)
  - 5.0 kV (max design)
- Amps 30-800 A
- Interrupting ratings
  - 50 kA Sym.
  - 80 kA Asym.

### Agency information

- UL Recognized, Guide MSSS2
  - File E96676: JCL-\_R [2R-12R], JCL-A-\_R [2R-12R], 5MCLS-\_R-A [2R-24R], and 5MCLS-\_R-B [2R-24R]
  - File E60757: 5CLS-30, 5CLS-\_R [2R-18R], 5ACLS-30, and 5ACLS-\_R [2R-24R]

### Recommended fuseclips and holders for standard constructions

| Amps                               | Description                            | BIL (kV) | Catalog no. |
|------------------------------------|----------------------------------------|----------|-------------|
| Fuseclips                          |                                        |          |             |
| 30-230A                            | 3" Enclosed fuseclip*                  | —        | A3354730    |
| 30-450A                            | 3" Open fuseclip                       |          | 1A0065      |
|                                    | 3" Spring loaded open fuseclip         |          | 9078A67G04  |
| Fuse holders for CLS / JCL / 5HCLS |                                        |          |             |
| 30-230A<br>Single barrel           | Non-disconnect holder, porcelain       | 60       | 5HLE-PNM-D  |
|                                    | Non-disconnect holder, glass polyester |          | 5HLE-GNM-D  |
|                                    | Disconnect holder, porcelain           |          | 5HLE-PDM-D  |
|                                    | Disconnect holder, glass polyester     |          | 5HLE-GDM-D  |
| 390-450A<br>Double barrel          | Non-disconnect holder, porcelain       |          | 5HLE-PNM-E  |
|                                    | Non-disconnect holder, glass polyester |          | 5HLE-GNM-E  |
|                                    | Disconnect holder, porcelain           |          | 5HLE-PDM-E  |
|                                    | Disconnect holder, glass polyester     |          | 5HLE-GDM-E  |
| Fuse holders for 5LCLS†            |                                        |          |             |
| 70-230A<br>Single barrel           | Non-disconnect holder, porcelain       | 60       | 5CLE-PNM-D  |
|                                    | Non-disconnect holder, glass polyester |          | 5CLE-GNM-D  |
|                                    | Disconnect holder, porcelain           |          | 5CLE-PDM-D  |
|                                    | Disconnect holder, glass polyester     | 75       | 5CLE-GDM-D  |
|                                    | Disconnect holder, porcelain           |          | 8CLE-PDM-D  |
|                                    | Disconnect holder, glass polyester     |          | 8CLE-GDM-D  |
| 390-450A<br>Double Barrel          | Disconnect holder, porcelain           | 60       | 5CLE-PDM-E  |
|                                    | Disconnect holder, glass polyester     |          | 5CLE-GDM-E  |

\* Single barrel only, not sold in pairs.

\*\* Not available for standard - long constructions

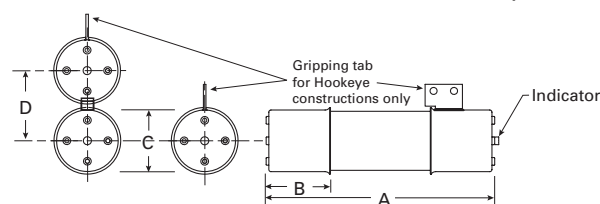
† Not available for 390 to 450 amp ratings.

### Dimensions — in (mm)

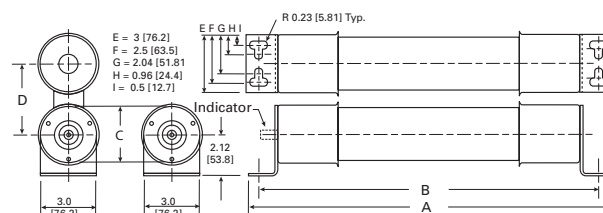
| Construction     | Amp     | Dimension  |            |          |           |
|------------------|---------|------------|------------|----------|-----------|
|                  |         | A          | B          | C        | D         |
| Standard - short | 30-230  | 15.6 (396) |            |          | —         |
|                  | 390-450 |            |            |          | 3.3 (84)  |
| Standard - long  | 70-230  | 17.8 (452) | 3 (76)     | 3 (76)   | —         |
|                  | 390-450 |            |            |          | 3.3 (84)  |
| AMPGARD Hookeye* | 30-230  | 15.6 (396) |            |          | —         |
|                  | 390-450 |            |            |          | 3.3 (84)  |
| Bolt-on          | 30-230  | 19.2 (488) | 17.9 (455) | 4 (101)  | —         |
|                  | 390-450 |            |            |          | 3.3 (84)  |
| Limitamp (-A)    | 70-230  | 18.3 (465) | 18.8 (478) | 1.4 (36) | 4.8 (122) |
|                  | 390-450 |            |            |          | 7.4 (188) |
| Limitamp (-B)    | 70-230  |            |            |          | 3.0 (76)  |
|                  | 390-450 |            |            |          | 2.4 (61)  |

\* Includes hermetically sealed versions.

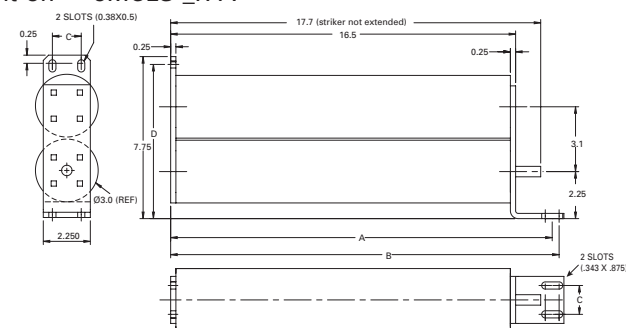
### Ferrule JCL, 5LCLS, 5CLS and AMPGARD Hookeye



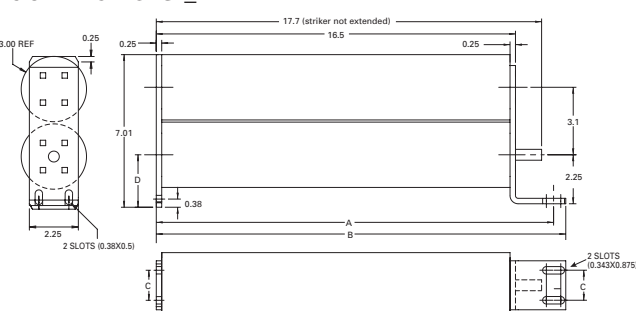
### Bolt-on — 5BCLS-



### Bolt-on — 5MCLS-\_R-A



### Bolt-on — 5MCLS-\_R-B



Data sheet no. 6001

## 4.8 kV R-Rated fuse catalog numbers

| Ferrule constructions (min. interrupting rating in amps) |                  |                 |                   | No. of barrels |
|----------------------------------------------------------|------------------|-----------------|-------------------|----------------|
| Amps                                                     | Short            | Short           | Long              |                |
| 30                                                       | 5CLS-30* (100)   | —               | —                 | 1              |
| 70                                                       | 5CLS-2R (180)    | JCL-2R (165)    | 5LCLS-2R (180)†   |                |
| 100                                                      | 5CLS-3R (270)    | JCL-3R (220)    | 5LCLS-3R (270)†   |                |
| 130                                                      | 5CLS-4R (360)    | JCL-4R (320)    | 5LCLS-4R (360)†   |                |
| 150                                                      | 5CLS-5R (450)    | JCL-5R (410)    | 5LCLS-5R (450)†   |                |
| 170                                                      | 5CLS-6R (540)    | JCL-6R (480)    | 5LCLS-6R (540)†   |                |
| 200                                                      | 5CLS-9R (740)    | JCL-9R (720)    | 5LCLS-9R (740)†   |                |
| 230                                                      | 5CLS-12R (1080)  | JCL-12R (970)   | 5LCLS-12R (1080)† | 2              |
| 390                                                      | 5CLS-18R (1500)  | JCL-18R (1430)† | 5LCLS-18R (1500)† |                |
| 450                                                      | 5CLS-24R (2200)† | JCL-24R (1880)† | 5LCLS-24R (2200)† |                |

\* Does not comply with ANSI C37.46 for "R" rating.

† Not UL Recognized.

| AMPGARD Hookeye (min. interrupting rating in amps) |                  |                   |                   | No. of barrels |
|----------------------------------------------------|------------------|-------------------|-------------------|----------------|
| Amps                                               | Hookeye          | Hookeye           | Hermetic seal     |                |
| 30                                                 | 5ACLS-30* (100)  | —                 | 5HCLS-30* (100)†  | 1              |
| 70                                                 | 5ACLS-2R (180)   | JCL-A-2R (165)    | 5HCLS-2R (180)†   |                |
| 100                                                | 5ACLS-3R (270)   | JCL-A-3R (220)    | 5HCLS-3R (270)†   |                |
| 130                                                | 5ACLS-4R (360)   | JCL-A-4R (320)    | 5HCLS-4R (360)†   |                |
| 150                                                | 5ACLS-5R (450)   | JCL-A-5R (410)    | 5HCLS-5R (450)†   |                |
| 170                                                | 5ACLS-6R (540)   | JCL-A-6R (480)    | 5HCLS-6R (540)†   |                |
| 200                                                | 5ACLS-9R (740)   | JCL-A-9R (720)    | 5HCLS-9R (740)†   |                |
| 230                                                | 5ACLS-12R (1080) | JCL-A-12R (970)   | 5HCLS-12R (1080)† | 2              |
| 390                                                | 5ACLS-18R (1500) | JCL-A-18R (1430)† | 5HCLS-18R (1500)† |                |
| 450                                                | 5ACLS-24R (2200) | JCL-A-24R (1880)† | 5HCLS-24R (2200)† |                |

\* Does not comply with ANSI C37.46 for "R" rating.

† Not UL Recognized.

| Bolt-on (min. interrupting rating in amps) |                   |                   |  | No. of barrels |
|--------------------------------------------|-------------------|-------------------|--|----------------|
| Amps                                       | Regular           | Regular           |  |                |
| 30                                         | 5BCLS-30* (100)†  | —                 |  | 1              |
| 70                                         | 5BCLS-2R (180)†   | JCL-B-2R (165)†   |  |                |
| 100                                        | 5BCLS-3R (270)†   | JCL-B-3R (220)†   |  |                |
| 130                                        | 5BCLS-4R (360)†   | JCL-B-4R (320)†   |  |                |
| 150                                        | 5BCLS-5R (450)†   | JCL-B-5R (410)†   |  |                |
| 170                                        | 5BCLS-6R (540)†   | JCL-B-6R (480)†   |  |                |
| 200                                        | 5BCLS-9R (740)†   | JCL-B-9R (720)†   |  |                |
| 230                                        | 5BCLS-12R (1080)† | JCL-B-12R (970)†  |  | 2              |
| 390                                        | 5BCLS-18R (1500)† | JCL-B-18R (1430)† |  |                |
| 450                                        | 5BCLS-24R (2200)† | JCL-B-24R (1880)† |  |                |
| 600                                        | 5BCLS-32R (3000)† | —                 |  |                |
| 650                                        | 5BCLS-36R (3200)† | —                 |  |                |
| 800                                        | 5BCLS-44R (3600)† | —                 |  |                |

\* Does not comply with ANSI C37.46 for "R" rating.

† Not UL Recognized.

| GE Limitamp (min. interrupting rating in amps) |                    |                    |  | No. of barrels |
|------------------------------------------------|--------------------|--------------------|--|----------------|
| Amps                                           | Bolt-on            | Bolt-on            |  |                |
| 30                                             | —                  | —                  |  | 1              |
| 70                                             | 5MCLS-2R-A (180)   | 5MCLS-2R-B (180)   |  |                |
| 100                                            | 5MCLS-3R-A (270)   | 5MCLS-3R-B (270)   |  |                |
| 130                                            | 5MCLS-4R-A (360)   | 5MCLS-4R-B (360)   |  |                |
| 150                                            | 5MCLS-5R-A (450)   | 5MCLS-5R-B (450)   |  |                |
| 170                                            | 5MCLS-6R-A (540)   | 5MCLS-6R-B (540)   |  |                |
| 200                                            | 5MCLS-9R-A (850)   | 5MCLS-9R-B (850)   |  |                |
| 230                                            | 5MCLS-12R-A (1150) | 5MCLS-12R-B (1150) |  | 2              |
| 390                                            | 5MCLS-18R-A (1725) | 5MCLS-18R-B (1725) |  |                |
| 450                                            | 5MCLS-24R-A (2350) | 5MCLS-24R-B (2350) |  |                |

\* Does not comply with ANSI C37.46 for "R" rating.

† Not UL Recognized.

## 5CLS, JCL, JCL-A, 5ACLS and 5HCLS Type mountings — in (mm)

| Hole centers                 |               | Overall length C | Hole inset D | Hole ctr. E  | Contact hgt. F | Overall hgt. G | BIL (kV)      |    |
|------------------------------|---------------|------------------|--------------|--------------|----------------|----------------|---------------|----|
| Catalog no.                  | A             |                  |              |              |                |                |               | B  |
| Disconnect single barrel†    |               |                  |              |              |                |                |               |    |
| 5CLE-GDM-D                   | 15.24 (387.1) | 6 (152.4)        | 25 (647.7)   | 0.62 (15.7)  | 1.75 (44.4)    | 4.5 (114.3)    | 11.72 (297.7) | 60 |
| 5CLE-PDM-D                   |               |                  |              |              |                |                |               |    |
| 5HLE-PDM-D                   | 16.25 (412.8) | 23 (584.2)       |              |              |                |                |               |    |
| 5HLE-GDM-D                   |               |                  |              |              |                |                |               |    |
| Disconnect double barrel†    |               |                  |              |              |                |                |               |    |
| 5CLE-GDM-E                   | 15.24 (387.1) | 6 (152.4)        | 25 (647.7)   | 0.62 (15.7)  | 1.75 (44.4)    | 4.5 (114.3)    | 15.28 (388.1) | 60 |
| 5CLE-PDM-E                   |               |                  |              |              |                |                |               |    |
| 5HLE-GDM-E                   | 16.25 (412.8) | 23 (584.2)       |              |              |                |                |               |    |
| 5HLE-PDM-E                   |               |                  |              |              |                |                |               |    |
| Non-disconnect single barrel |               |                  |              |              |                |                |               |    |
| 5CLE-GNM-D                   | 15.24 (387.1) | 6 (152.4)        | 25 (635.0)   | 0.62 (15.7)  | 1.75 (44.4)    | 4.5 (114.3)    | 8.79 (223.3)  | 60 |
| 5CLE-PNM-D                   |               |                  |              |              |                |                |               |    |
| 5HLE-GNM-D                   | 16.25 (412.7) | 23 (584.2)       |              |              |                |                |               |    |
| 5HLE-PNM-D                   |               |                  |              |              |                |                |               |    |
| Non-disconnect double barrel |               |                  |              |              |                |                |               |    |
| 5HLE-PNM-E                   | 16.25 (412.7) | 6 (152.4)        | 25 (635.0)   | 0.62 (15.7)\ | 1.75 (44.4)    | 4.5 (114.3)    | 12.48 (317.0) | 60 |
| 5HLE-GNM-E                   |               |                  |              |              |                |                |               |    |



## 7.2 kV R-Rated fuses

### Catalog symbols/construction

- 8CLS-\_R/Standard (2R - 6R)
- 8ACLS-\_R/AMPGARD Hookeye\* (2R - 6R)
- 7BCLS-\_R/Bolt-on (2R - 6R)

\* For use in 400 amp AMPGARD motor starters.

### Ratings

- Volts
  - 7.2 kV (nominal)
  - 8.3 kV (max design 70-170 A standard and AMPGARD Hookeye)
  - 7.2 kV (max design 70-170 A bolt-on)
- Amps 70-170 A
- Interrupting ratings
  - 50 kA Sym.
  - 80 kA Asym.

### Recommended fuseclips and holders for standard constructions

| Amps                                  | Description                            | BIL (kV) | Cat. No.   |
|---------------------------------------|----------------------------------------|----------|------------|
| <b>Fuseclips</b>                      |                                        |          |            |
|                                       | 3" Enclosed fuseclip*                  |          | A3354730   |
| 70-170                                | 3" Open fuseclip                       | —        | 1A0065     |
|                                       | 3" Spring loaded open fuseclip         |          | 9078A67G04 |
| <b>Fuse holders for 7CLS and 8CLS</b> |                                        |          |            |
|                                       | Non-disconnect holder, porcelain       |          | 8HLE-PNM-D |
|                                       | Non-disconnect holder, glass polyester |          | 8HLE-GNM-D |
| 70-170                                | Disconnect holder, porcelain           | 75       | 8HLE-PDM-D |
|                                       | Disconnect holder, glass polyester     |          | 8HLE-GDM-D |

\* Single barrel only, not sold in pairs.

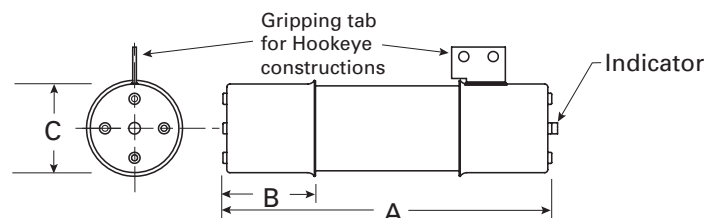
### 7.2 kV R-Rated fuse catalog numbers

| Amps | "R" Designation | Mounting style (minimum interrupting rating in amps) |                 |                | No. of barrels |
|------|-----------------|------------------------------------------------------|-----------------|----------------|----------------|
|      |                 | Standard                                             | AMPGARD Hookeye | Bolt-on        |                |
| 70   | 2R              | 8CLS-2R (160)                                        | 8ACLS-2R (160)  | 7BCLS-2R (160) | 1              |
| 100  | 3R              | 8CLS-3R (250)                                        | 8ACLS-3R (250)  | 7BCLS-3R (250) |                |
| 130  | 4R              | 8CLS-4R (325)                                        | 8ACLS-4R (325)  | 7BCLS-4R (325) |                |
| 150  | 5R              | 8CLS-5R (390)                                        | 8ACLS-5R (390)  | 7BCLS-5R (390) |                |
| 170  | 6R              | 8CLS-6R (500)                                        | 8ACLS-6R (500)  | 7BCLS-6R (500) |                |

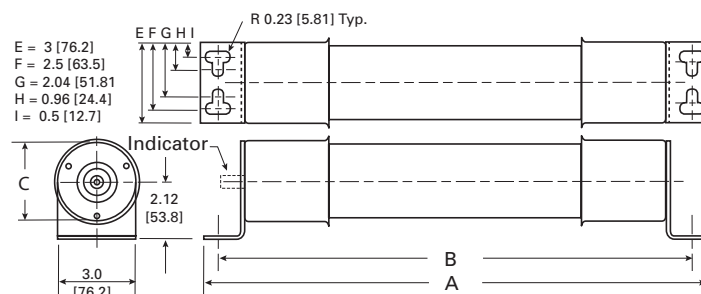
### Dimensions — in (mm)

| Construction    | Amps   | Dimension  |            |        |
|-----------------|--------|------------|------------|--------|
|                 |        | A          | B          | C      |
| Standard        |        | 15.8 (401) | 3 (76)     |        |
| AMPGARD Hookeye | 70-170 |            |            | 3 (76) |
| Bolt-on         |        | 19.2 (488) | 17.9 (455) |        |

### Standard and AMPGARD Hookeye



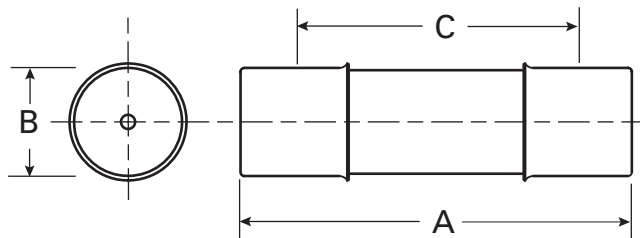
### Bolt-on



## E-Rated PT medium voltage fuses



Dimensions — in (mm)



### Catalog symbols (by maximum voltage rating)

- 2.475 kV
  - 2NCLPT-\_
- 3.6 kV
  - 3.6ABCNA\_
  - 3.6ABWNA\_
  - 3.6CAV\_
- 5.5 kV
  - JCW-\_
  - 5CLPT-\_E
  - 5NCLPT-\_E
  - 5NCLPT-\_E-A
  - 5.5ABWNA\_E
  - 5.5AMWNA\_E
  - 5.5CAV\_E
  - 5.5CAVH\_E
- 7.2 kV
  - 7.2ABWNA\_
  - 7.2ABCNA\_
  - 7.2AMWNA\_E
  - 7.2CAV\_
- 8.3 kV
  - 8CLPT-\_E-A
  - 8NCLPT-\_E
  - 8NCLPT-\_E-A
  - 8NCLPT-\_E-B
- 12 kV
  - 12ABCNA\_
  - 12CAV\_
- 15.5 kV
  - 15CLPT-\_E
  - 15NCLPT-\_E-A
  - 15NCLPT-\_E-B
  - 15.5CAV\_E
  - 15.5CAVH\_E
- 17.5 kV
  - 17.5ABGNA\_
  - 17.5CAV\_
- 24 kV
  - 24ABGNA\_
  - 24CAV\_
- 25.5 kV
  - 25CLPT-\_E
- 36 kV
  - 36ABGNA\_
  - 36CAV\_
- 38 kV
  - 38CAV\_E
  - 38CAVH\_E
  - 38CLPT-\_E

### Recommended fuseclip and block

| Description                                                                                                            | Catalog no.   |
|------------------------------------------------------------------------------------------------------------------------|---------------|
| Open fuseclip for 0.8 (20 mm) dia. fuses                                                                               | 1A1837        |
| Single-pole open fuse block with #10-32 phil-slot screw terminals rated 2500 V, 5 A maximum and 63 kA withstand rating | PTFB-2500-JCD |

### Ratings\*

- Volts 2.4 kV to 38 kV
- Amps 0.25 to 15 A
- Interrupting ratings 25 to 80 kA RMS Sym.

\* See catalog number tables for voltages, ampacities and interrupting ratings by catalog number.

### Agency information

- PT fuses conforming to the requirements for E-Rating meet the performance characteristics of IEEE/ANSI C37.46

## 2.475 to 38 kV PT E-Rated fuses

| Dimensions — in (mm)            |           |            |                | Catalog no. (IR - kA)       |                   | Recommended fuseclip |
|---------------------------------|-----------|------------|----------------|-----------------------------|-------------------|----------------------|
| Amps                            | Length A  | Diameter B | Clip centers C | Indicating                  | Non-indicating    |                      |
| 2.475 kV maximum system voltage |           |            |                |                             |                   |                      |
| 0.25                            | 4.5 (114) | 0.8 (20)   | 3.9 (99)       | —                           | 2NCLPT-.25E (63)  | 1A1837               |
| 0.5                             |           |            |                | —                           | 2NCLPT-.5E (63)   |                      |
| 1                               |           |            |                | —                           | 2NCLPT-1E (40)    |                      |
| 2                               |           |            |                | —                           | 2NCLPT-2E (40)    |                      |
| 5                               |           |            |                | —                           | 2NCLPT-5E (25)    |                      |
| 3.6 kV maximum system voltage   |           |            |                |                             |                   |                      |
| 2                               | 8.7 (221) | 1.6 (41)   | 7.6 (193)      | —                           | 3.6CAV2 (50)      | 1A1837               |
| 3.15                            | 5.6 (142) | 1 (25)     | 4.4 (112)      | —                           | 3.6ABWNA3.15 (50) | A3354705             |
| 3.15                            | 7.7 (195) |            | 6.5 (165)      | —                           | 3.6ABCNA3.15 (50) |                      |
| 6.3                             | 5.6 (142) |            | 4.4 (112)      | —                           | 3.6ABWNA6.3 (50)  |                      |
| 6.3                             | 7.7 (195) |            | 6.5 (165)      | —                           | 3.6ABCNA6.3 (50)  |                      |
| 10                              |           |            |                | —                           | 3.6ABCNA10 (50)   |                      |
| 5.5 kV maximum system voltage   |           |            |                |                             |                   |                      |
| 0.5                             | 5.6 (142) | 0.8 (20)   | 4.8 (122)      | —                           | 5.5AMWNA0.5E (50) | 1A1837               |
| 0.5                             |           | 1 (25)     | 4.4 (112)      | —                           | 5.5ABWNA0.5E (50) | A3354705             |
| 0.5                             | 7.4 (188) | 1.6 (41)   | 6.2 (157)      | 5.5CAVH0.5E (50)            | JCW-1/2E (40)     | 1A0835               |
| 0.5                             | 9.5 (241) | 1.6 (41)   | 8.1 (206)      | 5CLPT-.5 (50) <sup>†</sup>  | 5NCLPT-.5E-A (50) | 1A0835               |
| 1                               | 5.6 (142) | 1 (25)     | 4.4 (112)      | —                           | 5.5ABWNA1E (50)   | A3354705             |
| 1                               |           | 0.8 (20)   | 4.8 (122)      | —                           | 5.5AMWNA1.0E (50) | 1A1837               |
| 1                               | 7.4 (188) | 1.6 (41)   | 6.2 (157)      | 5.5CAVH1E (50)              | JCW-1E (40)       | 1A0835               |
| 1                               | 9.5 (241) |            | 8.1 (206)      | 5CLPT-1 (50) <sup>†</sup>   | 5NCLPT-1E-A (50)  |                      |
| 1.5                             |           |            |                | 5CLPT-1.5 (50) <sup>†</sup> | —                 |                      |
| 2                               | 5.6 (142) | 1 (25)     | 4.4 (112)      | —                           | 5.5ABWNA2E (50)   | A3354705             |
| 2                               |           | 0.8 (20)   | 8.1 (206)      | —                           | 5NCLPT-2E (50)    | 1A1837               |
| 2                               |           |            | 4.8 (122)      | —                           | 5.5AMWNA2.0E (50) |                      |
| 2                               | 7.4 (188) | 1.6 (41)   | 6.2 (157)      | 5.5CAVH2E (50)              | JCW-2E (40)       | 1A0835               |
| 3                               | 5.6 (142) | 1 (25)     | 4.4 (112)      | —                           | 5.5ABWNA3E (50)   | A3354705             |
| 3                               |           | 0.8 (20)   | 4.8 (122)      | —                           | 5.5AMWNA3.0E (50) | 1A1837               |
| 3                               | 9.5 (241) | 1.6 (41)   | 8.1 (206)      | 5CLPT-3E (50)               | 5NCLPT-3E (50)    | 1A0835               |
| 3                               | 7.4 (188) |            | 6.2 (157)      | —                           | JCW-3E (40)       |                      |
| 4                               | 5.6 (142) | 0.8 (20)   | 4.8 (122)      | —                           | 5.5AMWNA4.0E (50) | 1A1837               |
| 5                               | 9.5 (241) | 1.6 (41)   | 8.1 (206)      | 5CLPT-5E (50)               | 5NCLPT-5E-A (50)  | 1A0835               |
| 5                               | 5.6 (142) | 1 (25)     | 4.4 (112)      | —                           | 5.5ABWNA5E (50)   | A3354705             |
| 5                               |           | 0.8 (20)   | 4.8 (122)      | —                           | 5.5AMWNA5.0E (50) | 1A1837               |
| 5                               | 7.3 (185) | 1.6 (41)   | 5.9 (150)      | —                           | JCW-5E (40)       | 1A0835               |
| 10                              | 9.5 (241) |            | 8.1 (206)      | 5CLPT-10E (50)              | 5NCLPT-10E (50)   |                      |
| 15                              | 7.4 (188) |            | 6.2 (157)      | —                           | 5.5CAV15E (50)    |                      |

<sup>†</sup> Due to manufacturing variations, this fuse does not comply with ANSI C37.46 for "E" rating.

## 2.475 to 38 kV PT E-Rated fuses

| Dimensions — in (mm)           |            |            |                | Catalog no. (IR - kA)      |                    | Recommended fuseclip |
|--------------------------------|------------|------------|----------------|----------------------------|--------------------|----------------------|
| Amps                           | Length A   | Diameter B | Clip centers C | Indicating                 | Non-indicating     |                      |
| 7.2 kV maximum system voltage  |            |            |                |                            |                    |                      |
| 0.5                            |            |            |                |                            | 7.2AMWNA0.5E (50)  |                      |
| 1                              | 5.6 (142)  | 0.8 (20)   | 4.8 (122)      |                            | 7.2AMWNA1.0E (50)  | 1A1837               |
| 2                              |            |            |                |                            | 7.2AMWNA2.0E (50)  |                      |
| 2                              | 8.7 (221)  | 1.6 (41)   | 7.5 (190)      |                            | 7.2CAV2 (40)       | 1A0835               |
| 3                              | 5.6 (142)  | 0.8 (20)   | 4.8 (122)      |                            | 7.2AMWNA3.0E (50)  | 1A1837               |
| 3.15                           | 5.6 (142)  | 1 (25.4)   | 4.4 (112)      |                            | 7.2ABWNA3.15 (45)  | A3354705             |
| 3.15                           | 7.7 (195)  |            | 6.5 (165)      |                            | 7.2ABCNA3.15 (45)  |                      |
| 4                              | 5.6 (142)  | 0.8 (20)   | 4.8 (122)      | —                          | 7.2AMWNA4.0E (50)  | 1A1837               |
| 4                              | 8.7 (221)  | 1.6 (41)   | 7.5 (190)      |                            | 7.2CAV4 (40)       | 1A0835               |
| 5                              | 5.6 (142)  | 0.8 (20)   | 4.8 (122)      |                            | 7.2AMWNA5E (50)    | 1A1837               |
| 6                              | 8.7 (221)  | 1.6 (41)   | 7.5 (190)      |                            | 7.2CAV6 (40)       | 1A0835               |
| 6.3                            | 5.6 (142)  | 1 (25.4)   | 4.4 (112)      |                            | 7.2ABWNA6.3 (45)   | A3354705             |
| 6.3                            | 7.7 (195)  |            | 6.5 (165)      |                            | 7.2ABCNA6.3 (45)   |                      |
| 10                             | 8.7 (221)  | 1.6 (41)   | 7.5 (190)      |                            | 7.2CAV10 (40)      | 1A0835               |
| 8.3 kV maximum system voltage  |            |            |                |                            |                    |                      |
| 0.5                            | 9.5 (241)  | 1.6 (41)   | 8.1 (206)      | 8CLPT-.5 (50) <sup>†</sup> | 8NCLPT-.5E-A (50)  | 1A0835               |
| 1                              | 5 (127)    | 1.1 (28)   | 4 (102)        |                            | 8NCLPT-1E (50)     | A3354705             |
| 1                              | 9.5 (241)  | 1.6 (41)   | 8.1 (206)      | —                          | 8NCLPT-1E-A (50)   | 1A0835               |
| 2                              | 8 (203)    | 0.8 (20)   | 7.2 (183)      |                            | 8NCLPT-2E (25)     | 1A1837               |
| 2                              | 9.5 (241)  | 1.6 (41)   | 8.1 (206)      |                            | 8NCLPT-2E-A (50)   | 1A0835               |
| 3                              | 12.9 (328) |            | 11.5 (292)     | 8CLPT-3E (50)              | 8NCLPT-3E-B (50)   |                      |
| 4                              | 8 (203)    | 0.8 (20)   | 7.2 (183)      | —                          | 8NCLPT-4E (25)     | 1A1837               |
| 5                              | 5 (127)    | 1.1 (28)   | 4 (102)        |                            | 8NCLPT-5E (50)     | A3354705             |
| 5                              | 12.9 (328) | 1.6 (41)   | 11.5 (292)     | 8CLPT-5E (50)              | 8NCLPT-5E-B (50)   | 1A0835               |
| 8                              | 5 (127)    | 1.1 (28)   | 4 (102)        | —                          | 8NCLPT-8E          | A3354705             |
| 10                             | 12.9 (328) | 1.6 (41)   | 11.5 (292)     | 8CLPT-10E (50)             | 8NCLPT-10E-B (50)  | 1A0835               |
| 12 kV maximum system voltage   |            |            |                |                            |                    |                      |
| 2                              | 8.7 (221)  | 1.6 (41)   | 7.5 (190)      | —                          | 12CAV2 (40)        | 1A0835               |
| 3.15                           | 7.7 (195)  | 1 (25)     | 6.5 (165)      |                            | 12ABCNA3.15 (45)   | A3354705             |
| 15.5 kV maximum system voltage |            |            |                |                            |                    |                      |
| 0.5                            | 12.9 (328) | 1.6 (41)   | 11.5 (292)     | 15.5CAVH0.5E (80)          | 15NCLPT-.5E-A (50) | 1A0835               |
| 1                              | 12.9 (328) |            | 11.5 (292)     | 15.5CAVH1E (80)            | 15NCLPT-1E-A (50)  |                      |
| 2                              | 12.9 (328) |            | 11.5 (292)     | 15.5CAVH2E (80)            | 15NCLPT-2E (50)    |                      |
| 3                              | 12.9 (328) |            | 11.5 (292)     | —                          | 15.5CAV3E (80)     |                      |
| 3                              | 17.6 (447) |            | 16.1 (409)     | —                          | 15NCLPT-3E (50)    |                      |
| 3                              | 17.6 (447) |            | 16.1 (409)     | 15CLPT-3E (50)             | —                  |                      |
| 5                              | 12.9 (328) |            | 11.5 (292)     | —                          | 15.5CAV5E (80)     |                      |
| 5                              | 17.6 (447) |            | 16.1 (409)     | 15CLPT-5E (50)             | 15NCLPT-5E (50)    |                      |
| 7                              | 12.9 (328) |            | 11.5 (292)     | —                          | 15.5CAV7E (80)     |                      |
| 10                             | 17.6 (447) |            | 16.1 (409)     | 15CLPT-10E (50)            | 15NCLPT-10E (50)   |                      |
| 17.5 kV maximum system voltage |            |            |                |                            |                    |                      |
| 2                              |            |            |                |                            | 17.5CAV2 (40)      |                      |
| 4                              | 8.7 (221)  | 1.6 (41)   | 7.5 (190)      | —                          | 17.5CAV4 (40)      | 1A0835               |
| 6                              |            |            |                |                            | 17.5CAV6 (40)      |                      |
| 10                             |            |            |                |                            | 17.5CAV10 (40)     |                      |

† Does not comply with ANSI C37.46 for "E" rating.

## 2.475 to 38 kV PT E-Rated fuses

|                                | Dimensions — in (mm) |            |                | Catalog no. (IR - kA)          |                | Recommended fuseclip |
|--------------------------------|----------------------|------------|----------------|--------------------------------|----------------|----------------------|
| Amps                           | Length A             | Diameter B | Clip centers C | Indicating                     | Non-indicating |                      |
| 24 kV maximum system voltage   |                      |            |                |                                |                |                      |
| 2                              | 13.49 (340)          | 1.6 (41)   | 12.2 (310)     | —                              | 24CAV2 (40)    | 1A0835               |
| 3                              |                      |            |                | —                              | 24CAV3 (40)    |                      |
| 4                              |                      |            |                | —                              | 24CAV4 (40)    |                      |
| 25.5 kV maximum system voltage |                      |            |                |                                |                |                      |
| 0.5                            | 17.6 (447)           | 1.6 (41)   | 16.1 (410)     | 25CLPT-.5 (43.5) <sup>†</sup>  | —              | 1A0835               |
| 1                              |                      |            |                | 25CLPT-1 (43.5) <sup>†</sup>   | —              |                      |
| 36 kV maximum system voltage   |                      |            |                |                                |                |                      |
| 2                              | 17.3 (439)           | 1.6 (41)   | 16.1 (410)     | —                              | 36CAV2 (40)    | 1A0835               |
| 4                              |                      |            |                | —                              | 36CAV4 (40)    |                      |
| 38 kV maximum system voltage   |                      |            |                |                                |                |                      |
| 0.5                            | 17.3 (439)           | 1.6 (41)   | 16.1 (409)     | 38CAVH0.5E (40)                | —              | 1A0835               |
| 0.5                            | 18.6 (472)           |            | 17.1 (434)     | 38CLPT-0.5 (43.5) <sup>†</sup> | —              |                      |
| 1                              |                      |            |                | 38CAVH1E (40)                  | —              |                      |
| 2                              | 17.3 (439)           |            | 16.1 (409)     | 38CAVH2E (40)                  | —              |                      |
| 4                              |                      |            |                | —                              | 38CAV4E (40)   |                      |

<sup>†</sup> Does not comply with ANSI C37.46 for "E" rating.

## CLPT Type mountings and hardware

|                                   |                     |          | Catalog no.                                     |                           |                                        |                                |
|-----------------------------------|---------------------|----------|-------------------------------------------------|---------------------------|----------------------------------------|--------------------------------|
| Amps                              | Fuse mounting type* | BIL (kV) | Mounting (including live parts, end fittings)** |                           | Live parts (including end fittings)*** | End fittings (disconnect only) |
|                                   |                     |          | Porcelain insulator                             | Glass-polyester insulator |                                        |                                |
| 5.5 kV maximum (4.8 kV nominal)†  |                     |          |                                                 |                           |                                        |                                |
| 0.5–10                            | Non-disconnect      | 60       | 5CLPT-PNM-A                                     | 5CLPT-GNM-A               | CLPT-NL                                | —                              |
|                                   | Disconnect††        |          | 5CLPT-PDM-A                                     | 5CLPT-GDM-A               | CLPT-DL                                | CLPT-DF                        |
| 8.3 kV maximum (7.2 kV nominal)†  |                     |          |                                                 |                           |                                        |                                |
| 0.5–2                             | Non-disconnect      | 75       | 8CLPT-PNM-A                                     | 8CLPT-GNM-A               | CLPT-NL                                | —                              |
|                                   | Disconnect††        |          | 8CLPT-PDM-A                                     | 8CLPT-GDM-A               | CLPT-DL                                | CLPT-DF                        |
| 3–10                              | Non-disconnect      |          | 8CLPT-PNM-B                                     | 8CLPT-GNM-B               | CLPT-NL                                | —                              |
|                                   | Disconnect††        |          | 8CLPT-PDM-B                                     | 8CLPT-GDM-B               | CLPT-DL                                | CLPT-DF                        |
| 15.5 kV maximum (14.4 kV nominal) |                     |          |                                                 |                           |                                        |                                |
| 0.5–2                             | Non-disconnect      | 95       | 15CLPT-PNM-A                                    | 15CLPT-GNM-A              | CLPT-NL                                | —                              |
|                                   | Disconnect††        |          | 15CLPT-PDM-A                                    | 15CLPT-GDM-A              | CLPT-DL                                | CLPT-DF                        |
| 3–10                              | Non-disconnect      |          | 15CLPT-PNM-B                                    | 15CLPT-GNM-B              | CLPT-NL                                | CLPT-DF                        |
|                                   | Disconnect††        |          | 15CLPT-PDM-B                                    | 15CLPT-GDM-B              | CLPT-DL                                | —                              |
| 25.5 kV Maximum (23 kV Nominal)   |                     |          |                                                 |                           |                                        |                                |
| 0.5–1                             | Non-disconnect      | 150      | 25CLPT-PNM-A                                    | —                         | 25CLPT-NL                              | —                              |
|                                   | Disconnect††        |          | 25CLPT-PDM-A                                    |                           | 25CLPT-DL                              | CLPT-DF                        |
| 38 kV Maximum (34.5 kV Nominal)   |                     |          |                                                 |                           |                                        |                                |
| 0.5                               | Disconnect††        | N/A      | Not applicable                                  | Not applicable            | CLPT-NL                                | CLPT-DF                        |
|                                   | Non-disconnect      |          | 38CLPT-PNM-A                                    |                           | CLPT-DL                                | —                              |

\* See page 7-35 for dimensions and diagrams of typical mountings.

\*\*End fittings supplied only when required.

<sup>†</sup> Refers to 5CLPT, 5NCLPT, 8CLPT and 8NCLPT-A or -B fuses only.

<sup>††</sup>Disconnect mountings provide a means for fuse extraction only. Do not use a disconnect mounting for load switching or fuse removal while energized.

## HVA, HVB, HVJ, HVL, HVR, HVT, HVU, HVW and HVX fast-acting PT fuses

Medium voltage, non-time delay, fast-acting fuses.

### Ratings\*

- Volts 1-10 kV
- Amps 1/16-10 A
- \* See catalog number table for possible volt/amp combinations.

### Features

- Physical size varies with electrical rating of fuse to prevent overfusing
- Space-saving size

### Typical applications

- Medium voltage instrument and circuit protection

### Test specifications

| Catalog symbol          | Percent load | Opening time  |
|-------------------------|--------------|---------------|
| HVA, HVB, HVJ, HVL      | 110          | 4 hours (min) |
|                         | 135          | 1 hour (max)  |
| HVR, HVT, HVU, HVW, HVX | 100          | 4 hours (min) |
|                         | 150          | 1 hour (max)  |

### Recommended fuseclips and blocks

| Fuse catalog symbol | Block catalog no. | Fuseclip catalog no. |
|---------------------|-------------------|----------------------|
| HVA, HVR            | 4528*             | 5960                 |
| HVB, HVT            | 4529*             |                      |
| HVJ, HVU            | —                 | 4180                 |
| HVL, HVX            |                   |                      |

\* Use #8 screws.



| Catalog symbol | kV  | Amps                                                                | Max. IR (amps) | Dimensions — in (mm) |           |
|----------------|-----|---------------------------------------------------------------------|----------------|----------------------|-----------|
|                |     |                                                                     |                | Diameter             | Length    |
| HVA            | 1   | 1/16, 1/10, 1/8, 2/10, 1/4, 3/8, 1/2, 3/4, 1, 1-1/2, 2, 3, 4, 6, 10 | 20 DC / 30 AC  | 0.4 (10)             | 3 (76)    |
| HVB            | 2.5 | 1/2, 3/4, 1, 1-1/2, 2, 3                                            | 8 DC / 12 AC   |                      | 4.5 (114) |
| HVJ            | 5   | 1/16, 1/8, 1/4, 1/2, 3/4, 1, 1-1/2, 2, 4, 6*                        | 4 DC / 6 AC    | 0.8 (21)             | 5 (126.9) |
| HVL            | 10  | 1/16, 1/8, 1/4, 1/2, 1, 1-1/2, 2, 3*                                | 2 DC / 3 AC    |                      | 10 (254)  |
| HVR            | 1   | 1/2, 1, 2, 3, 4, 5                                                  | 500 AC         | 0.4 (10)             | 3 (76)    |
| HVW            | 1.2 | 1, 2, 3, 4, 5, 8                                                    | 4 DC / 167 AC  |                      | 2.3 (57)  |
| HVT            | 2.5 | 1/2, 1, 2, 3, 5                                                     | 500 AC         | 0.8 (20)             | 4.5 (114) |
| HVU            | 5   | 1/2, 1, 2, 3, 4, 5                                                  | 500 AC         |                      | 5 (127)   |
| HVX            | 10  | 1/2, 1, 3, 5                                                        | 1200 AC        |                      | 10 (254)  |

\* AC only.

### Catalog number build-a-code

Fuse catalog symbol      Amps

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E.g., HVB-3/4 (2.5 kV 3/4 amp fuse)

## British standard dimensioned IEC fuses for motor circuit protection

The Bussmann series IEC motor fuses are designed to meet the specific requirements necessary for motor protection. During the starting cycle of direct on-line motors, the fuse elements will reach a considerably higher temperature than during normal operation; (this is due to the high amount of current the motor will draw as it starts, typically, six times its normal load current value). This results in expansion and contraction of the fuse elements and could cause premature operation of the fuse.

Bussmann series motor fuses encompass an advanced design to minimize this effect. This, therefore, negates the need to over specify the fuse rating due to high values of motor starting current.

These motor fuses operate extremely quickly under heavy fault currents, resulting from the time / current characteristic. Low power dissipation ensures low temperature rise, important in multi-tier starters for example. Switching (arc), voltages are lower than permitted values, therefore, 5.5 kV fuses are also suitable for 4.8 kV and 2.4 kV circuits.



| Catalog symbol | kV  | IR (kA) | Amps/rating                             | Dimensions — in (mm) |          |                                                   |
|----------------|-----|---------|-----------------------------------------|----------------------|----------|---------------------------------------------------|
|                |     |         |                                         | Length               | Diameter | Dimension standard                                |
| 3.6WJON6       | 3.6 | 50      | 5, 6.3, 10, 16, 20, 25, 31.5, 40, 50    | 7.6 (192)            | 1.4 (36) | BS 2692 (TA1) Interchangeable with GEC Type K2 PA |
| 3.6WDOH6       |     |         | 50, 63, 80, 100, 125                    |                      | 2 (51)   |                                                   |
| 3.6WFOH6       |     |         | 160, 200                                |                      | 3 (76)   |                                                   |
| 3.6WDLSJ       |     |         | 50, 63, 80, 100, 125                    | 11.5 (292)           | 2 (51)   | DIN 43625                                         |
| 3.6WFLSJ       |     |         | 160, 200                                |                      | 3 (76)   |                                                   |
| 3.6WDFHO       |     |         | 50, 63, 80, 100, 125                    | 10 (254)             | 2 (51)   | BS 2692 (TA2)                                     |
| 3.6WFFHO       |     |         | 160, 200                                |                      |          |                                                   |
| 3.6WKFHO       |     |         | 250, 315, 355, 400                      |                      |          |                                                   |
| 5.5VFNHA       |     | 60      | 2R, 3R, 4R, 6R                          | 15.9 (403)           | 3 (76)   | ANSI R-Rated                                      |
| 5.5VKNHA       |     |         | 9R, 12R, 18R, 24R                       |                      |          |                                                   |
| 7.2WFNHO       | 7.2 | 40      | 25, 31.5, 40, 50, 63, 80, 100, 125, 160 |                      |          | BS 2692 (TA4)                                     |
| 7.2WKNHO       |     | 63      | 200, 224, 250, 315                      | 17.4 (442)           |          | DIN 43625                                         |
| 7.2WFMSJ       |     |         | 25, 31.5, 40, 50, 63, 80, 125, 160      |                      |          |                                                   |
| 7.2WKMSJ       |     |         | 200, 224, 250, 315, 355                 |                      |          |                                                   |

### Catalog number build-a-code

Fuse catalog symbol      Amps

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E.g., 3.6WKFHO-315 (315 amp 3.6 kV fuse)

## DIN dimensioned IEC fuses for transformer protection

DIN dimension fuses to Specification DIN 43625 covering current-limiting fuses with performance in compliance with IEC 60282-1. These are in accordance with the R10 and, in some cases, the R20 series of preferred numbers.

### Ratings\*

- Volts 3.6-36 kV
- Amps 6.3-100 A
- Interrupting ratings 20-50 kA

\* See catalog number table for possible volt/amp combinations.

### Agency information

- Compliant with DIN dimensional standard DIN 43625, VDE 0670 part 4, VDE 0670 part 40Z and with IEC 60282-1 (2005)

### Features

- DIN dimensioned for retrofitting in existing hardware
- Open fuse indicator for ease in troubleshooting
- Designed for use in IEC equipment



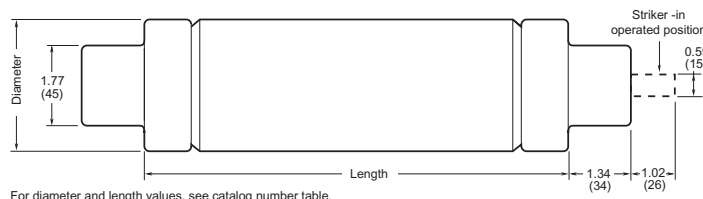
### Typical applications

- Medium voltage IEC designed equipment

### Recommended fuseclips

- Catalog numbers 270303, A3354745, see page 7-36.

### Dimensions — in (mm)



| kV   | Catalog symbol | Amps                                    | Dimensions — in (mm) |            | IR RMS Sym. (kA) |
|------|----------------|-----------------------------------------|----------------------|------------|------------------|
|      |                |                                         | Diameter             | Length     |                  |
| 3.6  | 3.6ADOSJ       | 6.3, 10, 16, 20, 25, 31.5, 40           | 2.0 (51)             | 7.6 (192)  | 40               |
|      | 3.6WDOSJ       | 50, 63, 80, 100, 125                    |                      |            |                  |
|      | 3.6WFOSJ       | 160, 200                                | 3.0 (76)             | 11.5 (292) | 50               |
|      | 3.6ADLSJ       | 25, 40                                  | 2.0 (51)             |            |                  |
|      | 3.6WKLSJ       | 250, 315, 400                           | 3.0 (76)             |            |                  |
| 7.2  | 7.2DLSJ        | 6.3, 10, 16, 20, 25, 31.5, 40, 50, 63   | 2.0 (51)             | 11.5 (292) | 40               |
|      | 7.2TFLSJ       | 80, 100, 125, 160                       | 3.0 (76)             |            |                  |
| 12   | 12TDLEJ        | 6.3, 10, 16, 20, 25, 31.5, 40, 50, 63   | 2.0 (51)             | 11.5 (292) | 63               |
|      | 12THLEJ        | 80, 100                                 | 2.5 (64)             |            |                  |
|      | 12TKLEJ        | 125                                     | 3.0 (76)             |            |                  |
|      | 12TXLEJ*       | 160, 200                                | 3.5 (88)             |            |                  |
| 17.5 | 17.5TDLSJ*     | 6.3, 10, 16, 20, 25, 31.5, 40           | 2.0 (51)             | 17.4 (442) | 35.5             |
|      | 17.5TFLSJ*     | 50                                      | 3.0 (76)             |            |                  |
|      | 17.5TDMEJ      | 6.3, 10, 16, 20, 25, 31.5, 40, 50, 63   | 2.0 (51)             |            | 50               |
|      | 17.5THMEJ      | 80, 100                                 | 2.5 (64)             |            |                  |
|      | 17.5TKMEJ      | 125                                     | 3.0 (76)             |            |                  |
| 24   | 24TDMEJ        | 6.3, 10, 16, 20, 25, 31.5, 40, 50       | 2.0 (51)             | 21.2 (537) | 50               |
|      | 24THMEJ        | 63                                      | 2.5 (64)             |            |                  |
|      | 24TFMEJ        | 80, 100* <sup>1</sup>                   | 3.0 (76)             |            | 31.5             |
|      | 24TXMEJ*       | 125 <sup>2</sup> , 160                  | 3.5 (88)             |            |                  |
| 36   | 36TDQSJ        | 3.15 <sup>3</sup> , 6.3, 10, 16, 20, 25 | 2.0 (51)             | 21.2 (537) | 35.5             |
|      | 36TFQSJ        | 31.5, 40, 50                            | 3.0 (76)             |            |                  |
|      | 36TXQEJ*       | 63                                      | 3.5 (88)             |            | 20               |

\* Not compliant with VDE 0670, part 402.

1 IR RMS Sym. is 63 kA

2 IR RMS Sym. is 40 kA

3 IR RMS Sym. is 20 kA

### Catalog number build-a-code

Fuse catalog symbol      Amps

----- - ----

E.g., 17.5THMEJ-80 (17.5 kV 80 amp fuse)



## Expulsion fuse links for use in high voltage distribution cut-outs

Expulsion fuse links available in a wide range of options from 15 to 72 kV in ANSI Type T and K characteristics. Expulsion fuse link current ratings should be selected on the basis of maximum expected transient no-damage currents rather than on full load current. In addition, the selection of higher current ratings will reduce the possibility of supply interruption due to transient surges such as those due to lightning strikes.

Links should be handled with a reasonable degree of care when installing. Excessively rough handling may damage the element.

It is normal, under certain fault conditions, for arc extinguishing material and/or metal particles to be expelled from the fuse assembly. It is therefore recommended that reasonable precautions be taken to prevent the installation being approached by unauthorized persons.

When ordering, select from the table below the characteristics in each column you need your fuse link to have.

Example: 15TB30 is a 15 kV, ANSI C 37-42 compliant fuse with a fixed button head terminal that is rated for 30 amps.

The fuse link assembly for a given range is standard to all rated voltages. The exception is the tail length that's varied to suit the expulsion carrier dimensions of different ratings.

### Ratings\*

- Volts 15-72 kV
- Amps 1-100 A
- Interrupting rating 8 kA approximate

\* See catalog number configuring table for possible volt/amp combinations.

### Agency information

- Type T, complies with ANSI C37-42
- Type K, complies with ANSI C37-42

### Features

- Wide range of options available from 15 kV to 72 kV in ANSI T and K characteristics.
- Extra rapid option also available.



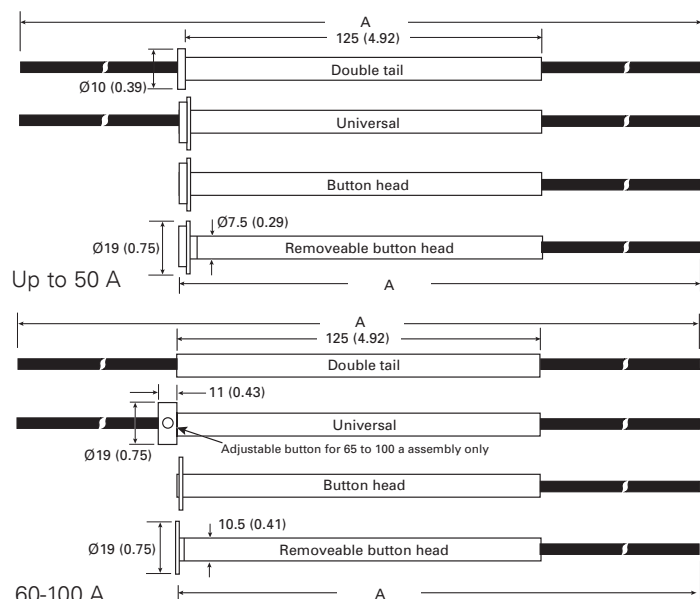
### Typical applications

- Primary side transformer protection
- Feeder protection
- Capacitor bank protection

### Fuse label color coding

| Type | Color  | Type | Color |
|------|--------|------|-------|
| XA   | Pink   | T    | Green |
| K    | Yellow | S    | —     |

### Dimensions — mm (in)



| Link kV | A        | Link kV | A         |
|---------|----------|---------|-----------|
| 15      | 533 (21) | 46      | 787 (31)  |
| 25      | 660 (26) | 72      | 1016 (40) |

Notes: Type BR is similar to button head shown, except that the button head is attached via a 1/4" UNF thread. Tails can be cut to desired length.

### Catalog number configuration table

| Available voltage ratings (kV) | 1st letter = current characteristics type                                                                                                                                                                                                       | 2nd letter = termination type                                                                                   | Available amps ratings                                                        |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| 15, 25, 46, 72                 | <b>T</b> = complies with ANSI C 37-42 requirements for slow acting T characteristics                                                                                                                                                            | <b>B</b> = a fixed NEMA button head link                                                                        | 1, 2, 3, 4, 5, 6, 7.5, 8, 10, 12, 15, 20, 25, 30, 40, 50, 60, 65, 75, 80, 100 |
|                                | <b>K</b> = complies with ANSI C 37-42 requirements for fast acting K characteristics                                                                                                                                                            | <b>U</b> = a universal link, with double tail and slip off NEMA button head                                     |                                                                               |
|                                | <b>XA</b> = this type of expulsion fuse link has an extra rapid characteristic. It is suitable for applications where a high degree of system protection is required at the expense of discrimination.                                          | <b>D</b> = double tailed link without NEMA button head                                                          |                                                                               |
|                                | <b>S</b> = Solid links rated at 100 amps are also available in both button head and universal versions for fitting into expulsion fuse carriers where required. These can be ordered in a similar way using the abbreviation S, e.g. 15SB, etc. | <b>BR</b> = as pattern B but the button head is attached via a 1/4" UNF thread to allow use of an extension rod |                                                                               |

**FL — Type H, and EEI-NEMA Type K and T fuses**

Medium voltage fuses: Type H (high surge), EEI-NEMA Type K (fast-acting), EEI-NEMA Type T (time-delay).

High-surge, Type H fuses are manufactured in ratings of 1, 2, 3, 5, and 8 amps and were developed for primary fusing of small-sized transformers. Type H links are manufactured in the universal button head design.

Type N fuses conform to previous NEMA standards and are superseded by Type K and T links. Type N fuses are manufactured in the universal button design in ratings of 5 through 200 amps for use in standard NEMA dimensioned cutouts rated through 27 kV.

**Ratings\***

- Volts rated to 27 kV
- Amps 1-200 A

\* See catalog number table for type and amp combinations.

**Features**

- Wide range of EEI-NEMA type fuse links for use in open fuse cutouts
- Voltage rating up to 27 kV for flexible application
- Can be coordinated with other overcurrent protective devices for sectionalizing to isolate feeder branches

**Typical applications**

- Medium voltage fused cutouts

**Type K universal silver-element cutout fuses rated to 27 kV**

| Catalog no.                                                            |      |
|------------------------------------------------------------------------|------|
| Fast-acting EEI-NEMA Type K                                            | Amps |
| <b>Non-removable button-head for standard open or enclosed cutouts</b> |      |
| FL12K8                                                                 | 8    |
| FL12K10                                                                | 10   |
| FL12K12                                                                | 12   |
| FL12K15                                                                | 15   |
| FL12K25                                                                | 25   |
| FL12K50                                                                | 50   |

**Type H (high-surge), K and T universal tin element cutout fuses rated to 27 kV**

| Catalog no.                                                                |                    |                   |      |
|----------------------------------------------------------------------------|--------------------|-------------------|------|
| EEI-NEMA                                                                   |                    |                   |      |
| Type H high surge                                                          | Type K fast-acting | Type T time-delay | Amps |
| <b>Non-removable button-head for standard open or enclosed cutouts</b>     |                    |                   |      |
| FL11H1                                                                     | FL11K1             | FL11T1            | 1    |
| FL11H2                                                                     | FL11K2             | FL11T2            | 2    |
| FL11H3                                                                     | FL11K3             | FL11T3            | 3    |
| FL11H5                                                                     | FL11K5             | FL11T5            | 5    |
| —                                                                          | FL11K6             | FL11T6            | 6    |
| FL11H8                                                                     | FL11K8             | FL11T8            | 8    |
| —                                                                          | FL11K10            | FL11T10           | 10   |
| —                                                                          | FL11K12            | FL11T12           | 12   |
| —                                                                          | FL11K15            | FL11T15           | 15   |
| —                                                                          | FL11K20            | FL11T20           | 20   |
| —                                                                          | FL11K25            | FL11T25           | 25   |
| —                                                                          | FL11K30            | FL11T30           | 30   |
| —                                                                          | FL11K40            | FL11T40           | 40   |
| —                                                                          | FL11K50            | FL11T50           | 50   |
| —                                                                          | FL11K65            | FL11T65           | 65   |
| —                                                                          | FL11K80            | FL11T80           | 80   |
| —                                                                          | FL11K100           | FL11T100          | 100  |
| —                                                                          | FL11K140           | FL11T140          | 140  |
| —                                                                          | FL11K200           | FL11T200          | 200  |
| <b>Removable button-head for cutouts requiring removable-button links*</b> |                    |                   |      |
| —                                                                          | FL3K1              | FL3T1             | 1    |
| —                                                                          | FL3K2              | FL3T2             | 2    |
| —                                                                          | FL3K3              | FL3T3             | 3    |
| —                                                                          | FL3K5              | FL3T5             | 5    |
| —                                                                          | FL3K6              | FL3T6             | 6    |
| —                                                                          | FL3K8              | FL3T8             | 8    |
| —                                                                          | FL3K10             | FL3T10            | 10   |
| —                                                                          | FL3K12             | FL3T12            | 12   |
| —                                                                          | FL3K15             | FL3T15            | 15   |
| —                                                                          | FL3K20             | FL3T20            | 20   |
| —                                                                          | FL3K25             | FL3T25            | 25   |
| —                                                                          | FL3K30             | FL3T30            | 30   |
| —                                                                          | FL3K40             | FL3T40            | 40   |
| —                                                                          | FL3K50             | FL3T50            | 50   |
| —                                                                          | FL3K65             | FL3T65            | 65   |
| —                                                                          | FL3K80             | FL3T80            | 80   |
| —                                                                          | FL3K100            | FL3T100           | 100  |
| —                                                                          | FL3K140            | FL3T140           | 140  |
| —                                                                          | FL3K200            | FL3T200           | 200  |

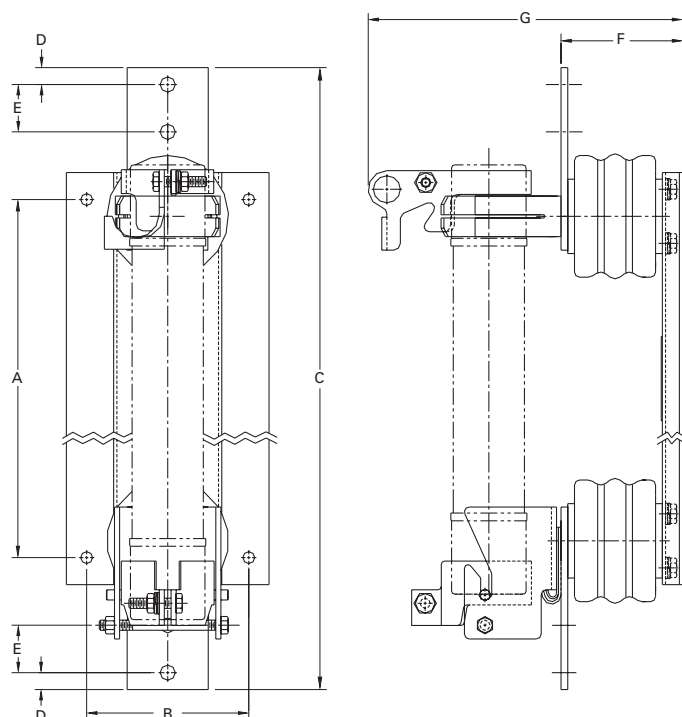
\* Adapter-type removable-button links with ferrule adapter to convert to double-leader links are available in K and T types. Order by description.

## PT fuse mountings — in (mm)

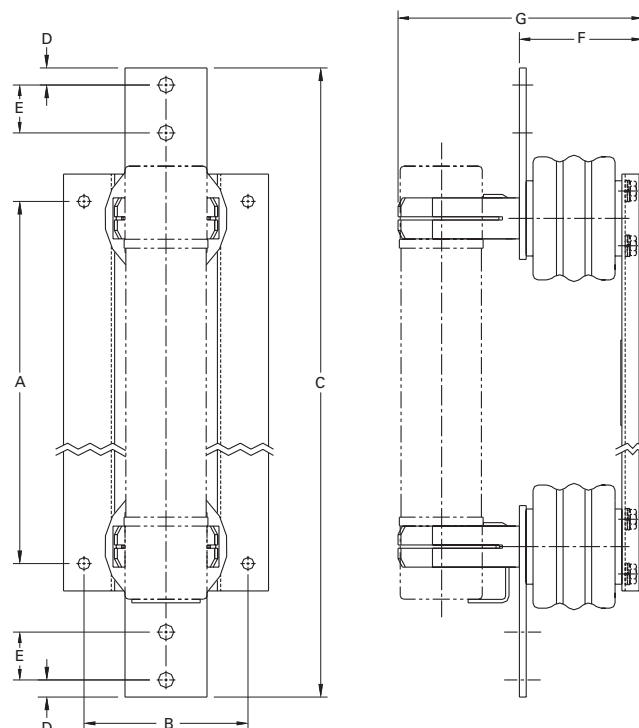
| Catalog no.            | Hole ctrs. A  | Hole ctrs. B | Overall length C | Hole Inset D | Hole ctrs. E | Contact hgt. F | Overall hgt. G | BIL (kV) |
|------------------------|---------------|--------------|------------------|--------------|--------------|----------------|----------------|----------|
| 5.5 kV Disconnect†     |               |              |                  |              |              |                |                |          |
| 5CLPT-GDM-A            | 9.37 (238)    | 6 (152.4)    | 18.63 (473.2)    | 0.75 (19)    | 1.75 (44.4)  | 4.5 (114.3)    | 9.56 (242.8)   | 60       |
| 5CLPT-PDM-A            |               |              |                  |              |              |                |                |          |
| 5.5 kV Non-disconnect  |               |              |                  |              |              |                |                |          |
| 5CLPT-GNM-A            | 9.37 (238)    | 6 (152.4)    | 18.63 (473.2)    | 0.75 (19)    | 1.75 (44.4)  | 4.5 (114.3)    | 6.94 (176.2)   | 60       |
| 5CLPT-PNM-A            |               |              |                  |              |              |                |                |          |
| 8.3 kV Disconnect†     |               |              |                  |              |              |                |                |          |
| 8CLPT-GDM-A            | 9.37 (238)    | 6 (152.4)    | 18.63 (473.2)    | 0.75 (19)    | 1.75 (44.4)  | 7 (177.8)      | 12.06 (306.3)  | 75       |
| 8CLPT-GDM-B            |               |              |                  |              |              |                |                |          |
| 8CLPT-PDM-A            |               |              | 22 (558.8)       |              |              |                |                |          |
| 8CLPT-PDM-B            |               |              |                  |              |              |                |                |          |
| 8.3 kV Non-disconnect  |               |              |                  |              |              |                |                |          |
| 8CLPT-GNM-A            | 9.37 (238)    | 6 (152.4)    | 18.63 (473.2)    | 0.75 (19)    | 1.75 (44.4)  | 7 (177.8)      | 9.44 (239.8)   | 75       |
| 8CLPT-PNM-A            |               |              |                  |              |              |                |                |          |
| 8CLPT-GNM-B            | 22 (558.8)    |              |                  |              |              |                |                |          |
| 8CLPT-PNM-B            |               |              |                  |              |              |                |                |          |
| 15.5 kV Disconnect†    |               |              |                  |              |              |                |                |          |
| 15CLPT-GDM-A           | 12.74 (323.6) | 6 (152.4)    | 22 (558.8)       | 0.75 (19)    | 1.75 (44.4)  | 7 (177.8)      | 12.06 (306.3)  | 95       |
| 15CLPT-PDM-A           |               |              |                  |              |              |                |                |          |
| 15CLPT-GDM-B           | 26.63 (676.4) |              |                  |              |              |                |                |          |
| 15CLPT-PDM-B           |               |              |                  |              |              |                |                |          |
| 15.5 kV Non-disconnect |               |              |                  |              |              |                |                |          |
| 15CLPT-GNM-A           | 12.74 (323.6) | 6 (152.4)    | 22 (558.8)       | 0.75 (19)    | 1.75 (44.4)  | 7 (177.8)      | 9.44 (239.8)   | 95       |
| 15CLPT-PNM-A           |               |              |                  |              |              |                |                |          |
| 15CLPT-GNM-B           | 26.63 (676.4) |              |                  |              |              |                |                |          |
| 15CLPT-PNM-B           |               |              |                  |              |              |                |                |          |
| 25.5 kV Disconnect†    |               |              |                  |              |              |                |                |          |
| 25CLPT-PDM-A           | 19.12 (485.6) | 7 (177.8)    | 26.63 (676.4)    | 0.75 (19)    | 1.75 (44.4)  | 12 (304.8)     | 17.06 (433.3)  | 150      |
| 25.5 kV Non-disconnect |               |              |                  |              |              |                |                |          |
| 25CLPT-PNM-A           | 26.63 (676.4) | 7 (177.8)    | 26.63 (676.4)    | 0.75 (19)    | 1.75 (44.4)  | 12 (304.8)     | 14.75 (374.6)  | 150      |

† Disconnect mountings provide a means for fuse extraction only. Do not use a disconnect mounting for load switching or fuse removal while energized.

## Disconnect mountings††



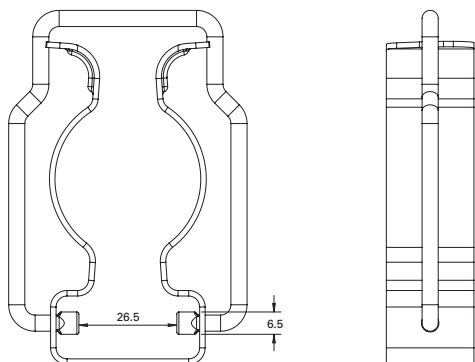
## Non-disconnect mountings



Medium voltage fuses

| Description                 | Fuse dia. — in (mm) | Fig. | Clip Dimensions — in (mm) |           |           |           |            |          |          | Catalog no. |
|-----------------------------|---------------------|------|---------------------------|-----------|-----------|-----------|------------|----------|----------|-------------|
|                             |                     |      | A                         | B         | Ø C       | D         | E          | F        | G        |             |
| DIN clip and stirrup        | 1.8 (45)            | 1    | —                         | —         | —         | —         | —          | —        | —        | 270303      |
| Enclosed fuseclip           |                     | 2    | 3.5 (89)                  | 2.5 (63)  | 1.8 (45)  |           | 4.4 (112)  |          |          | A3354745*   |
| Enclosed fuseclip           | 2 (51)              | 2    | 3.75 (95)                 | 1.98 (50) | 2.01 (51) | 1.19 (30) | 4.54 (115) | 1.5 (38) | 0.4 (10) | A3354710*   |
| Enclosed fuseclip           |                     | 2    | 4.14 (105)                | 2.45 (62) | 3.01 (76) |           | 5.64 (143) |          |          | A3354730*   |
| Open fuseclip               | 3 (76)              | 3    |                           |           |           |           |            |          |          | 1A0065      |
| Spring loaded open fuseclip |                     | 4    | See dimensions drawing    |           |           |           |            |          |          | 9078A67G04  |

Figure 1



Technical drawing of a fuse clip assembly, showing side and top views with dimensions and material specifications.

**Side View Dimensions and Labels:**

- Top wire diameter: 2.588 [1019] (10 GA.)
- Bottom wire diameter: 3.264 [1285] (8 GA.)
- Overall height: 112.78 [4.440]
- Center line:  $\phi$
- Labels: FUSE CLIP (PHOSPHOR BRONZE, SILVER PLATED), SPRING (PHOSPHOR BRONZE, TIN PLATED)

**Top View Dimensions:**

- Overall width: 101.60 [4.000]
- Distance between center lines: 39.62 [1.560]
- Distance from center line to right edge: 26.92 [1.060]
- Overall height: 38.10 [1.500]
- Distance from bottom edge to center line: 10.31 [.406]

Figure 4

