Low voltage branch circuit fuses



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| т                                                                             | JJN                                                                                                                 | 300V<br>600V                                   | 1-32<br>1-33                                 |
| Plug fuses .                                                                  | SL, TL and W<br>P, S, T and TC<br>MB Edison base circuit                                                            | 125V<br>125V                                   | 1-34<br>1-35                                 |
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Holders and blocks for branch circuit fuses

| <b>Class</b><br>CC                                                                    | <b>Fuses</b><br>LP-CC<br>FNQ-R<br>KTK-R                               | Volts           600V                                                                 | 1-8                                |
|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------|
| <ul> <li>OPM-1038</li> <li>OPM-1038</li> <li>CHCC_D 1</li> <li>HPF-RR from</li> </ul> | R 3-pole, panel<br>RSW 3-pole w/<br>to 3-pole, DIN-<br>ont panel moun | el/DIN-Rail mount<br>/DIN-Rail mount<br>switch, panel/DIN-Rail mo<br>Rail mount<br>t | 9-11<br>ount . 9-10<br>9-2<br>9-53 |
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HPF-RR



HPS-RR



CHCC\_D

BCM

| <b>Class</b><br>G                         | <b>Fuses</b><br>SC | <b>Volts</b><br>600/480V | Page |
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| Holders <ul> <li>HP front page</li> </ul> | inel accessible,   | front panel mount        | 9-53 |
|                                           |                    | lapters                  |      |





| Class    | Fuses | Volts | Page |
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| K5 and H | NON   | 250V  |      |
|          | NOS   | 600V  |      |

### Blo

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Modular knifeblade

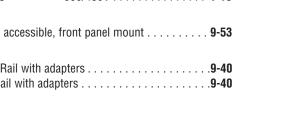




Modular type



HM600



| Janu II | NON           | 2000                            |        |  |
|---------|---------------|---------------------------------|--------|--|
|         | NOS           | 600V                            | . 1-21 |  |
| locks   |               |                                 |        |  |
| Modular | knifahlada fu | ca blacks 250/6001/ papal mount | 0-17   |  |

BH

Modular knifeblade

RM250

# Low voltage, branch circuit fuses Holders and blocks for branch circuit fuses

| Class  | Fuses    | Volts | Page |
|--------|----------|-------|------|
| L      | KRP-C_SP | 600V  | 1-22 |
|        | KRP-CL   | 600V  | 1-23 |
|        | KLU      | 600V  | 1-24 |
|        | KTU      | 600V  | 1-24 |
| Blocks |          |       |      |

### Blocks

- 51215 1-pole, panel mount\*
- 51235 3-pole, panel mount\*

**Fuses** 

FRN-R

\*Call our customer satisfaction team at 636-527-3877 for more information.





| Class | Fuses     | Volts | Page |
|-------|-----------|-------|------|
| RK1   | LPN-RK_SP | 250V  | 1-25 |
|       | LPS-RK_SP | 600V  | 1-25 |
|       | KTN-R     | 250V  | 1-28 |

### Blocks

Class

Blocks

RK5

- Modular knifeblade fuse blocks 250/600V, panel mount . . 9-17
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- RM600 1- to 3-pole 600V, panel/DIN-Rail mount . . . . . . 9-24

Volts

• Modular knifeblade fuse blocks 250/600V, panel mount . . 9-17 • RM250 1- to 3-pole 250V, panel/DIN-Rail mount . . . . . . 9-24

• RM600 1- to 3-pole 600V, panel/DIN-Rail mount . . . . . . 9-24



Modular knifeblade

Page



T300



RM600



T600

| Class                       | Fuses             | Volts        | Page |
|-----------------------------|-------------------|--------------|------|
| Т                           | JJN               | 300V         |      |
|                             | JJS               | 600V         |      |
| Blocks                      |                   |              |      |
| <ul> <li>BH mod</li> </ul>  | ular-style, panel | mount (<60A) |      |
| • T300 1-                   | to 4-pole 300V,   | panel mount  |      |
| <ul> <li>T600 1-</li> </ul> | to 3-nole 600V    | nanel mount  | 0-38 |

Holders and blocks for branch circuit fuses

| CH Class .                                                                                                                                                           | EFuse holder, pa<br>J modular 1- to 3                                                                                                  | 600V<br>600V         |      | TCFH                                | CH                    | Safety J™ | Modular type |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------|------|-------------------------------------|-----------------------|-----------|--------------|
| <ul> <li>Safety J<sup>™</sup> panel/DIN-</li> <li>Blocks</li> <li>Power dist</li> <li>Modular k</li> <li>JM600, pa</li> <li>JP pyrami</li> <li>Modular ty</li> </ul> | modular holders<br>Rail mount<br>tribution fuse blo<br>nifeblade fuse blo<br>nel/DIN-Rail mo<br>d blocks, panel r<br>ype fuse blocks 6 |                      |      | Power<br>distribution<br>fuse block | Modular<br>knifeblade | JM600     | JP           |
| <b>Class</b><br>Plug fuses                                                                                                                                           | <b>Fuses</b><br>W, TL, T,<br>P and TC                                                                                                  | <b>Volts</b><br>125V | Page | 0)                                  |                       | e         | •            |
| Box cove<br>• Standard                                                                                                                                               |                                                                                                                                        | ounting              | 9-42 | Fuse only                           | With gro              |           | With switch  |

### Fuse reducers for Class R fuses 250V

| Equipment fuse clip amps | Desired fuse<br>(case) amp size | Catalog no.<br>(pairs) 250V |
|--------------------------|---------------------------------|-----------------------------|
| 60                       | 30                              | NO.263-R                    |
| 100                      | 30                              | NO.213-R                    |
| 100                      | 60                              | NO.216-R                    |
| 200                      | 60                              | NO.226-R                    |
|                          | 100                             | NO.2621-R                   |
| 400                      | 100                             | NO.2641-R                   |
| 400                      | 200                             | NO.242-R                    |
|                          | 100                             | NO.2661-R                   |
| 600                      | 200                             | NO.2662-R                   |
|                          | 400                             | NO.2664-R*                  |

Fuse reducers for Class R fuses 600V

| Equipment<br>fuse clip amps | Desired fuse<br>(case) amp size | Catalog no.<br>(pairs) 600V |
|-----------------------------|---------------------------------|-----------------------------|
| 60                          | 30                              | NO.663-R                    |
| 100                         | 30                              | NO.216-R                    |
| 100                         | 60                              | NO.616-R                    |
| 200                         | 60                              | NO.626-R                    |
|                             | 100                             | NO.2621-R                   |
| 400                         | 100                             | NO.2641-R                   |
| 400                         | 200                             | NO.642-R                    |
|                             | 100                             | NO.2661-R                   |
| 600                         | 200                             | NO.2662-R                   |
|                             | 400                             | NO.2664-R*                  |

\*Single reducer only (pair not required).

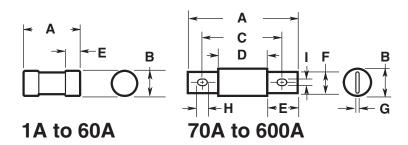
\*Single reducer only (pair not required).

Branch circuit fuses - dimensions

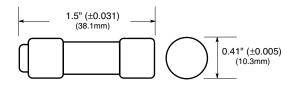
### Class J dimensions - in (mm)

### Low-Peak<sup>™</sup> and Limitron<sup>™</sup> fuses LPJ and JKS — 600V

| Amp Range | А            | В           | С            | D           | E           | F           | G           | Н           |             |
|-----------|--------------|-------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1-30      | 2.25 (57.2)  | 0.81 (20.6) | _            | _           | 0.50 (12.7) | _           | _           | _           |             |
| 35-60     | 2.38 (60.3)  | 1.06 (27.0) | _            | _           | 0.63 (15.9) | _           | _           | _           | _           |
| 70-100    | 4.63 (117.5) | 1.13 (28.6) | 3.63 (92.1)  | 2.63 (66.7) | 1.00 (25.4) | 0.75 (28.6) | 0.13 (3.2)  | 0.41 (10.4) | 0.28 (7.1)  |
| 110-200   | 5.75 (146.1) | 1.63 (41.4) | 4.38 (111.1) | 3.00 (76.2) | 1.38 (34.9) | 1.13 (28.6) | 0.19 (4.8)  | 0.38 (9.5)  | 0.28 (7.1)  |
| 225-400   | 7.12 (181.0) | 2.11 (53.6) | 5.25 (133.3) | 3.26 (82.8) | 1.87 (47.6) | 1.62 (41.2) | 0.25 (6.4)  | 0.56 (14.2) | 0.40 (10.3) |
| 450-600   | 8.00 (203.2) | 2.60 (66.0) | 6.00 (152.4) | 3.31 (84.0) | 2.12 (54.0) | 2.00 (50.8) | 0.53 (13.5) | 0.72 (18.3) | 0.53 (13.5) |



Class CC dimensions - in (mm)



### Class RK1 and RK5 dimensions - in (mm)

Basic dimensions are same as Class H, one-time (NON and NOS) and superlag renewable RES and REN fuses. NOTE: These fuses can be used to replace existing Class H, RK1 and RK5 fuses relating to dimensional compatibility.

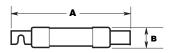
#### Ferrule styles

| Amp     | 250V     |             | 600V        |             |
|---------|----------|-------------|-------------|-------------|
| range   | Α        | В           | Α           | В           |
| 1⁄10-30 | 2 (50.8) | 0.56 (14.3) | 5.0 (127.0) | 0.81 (20.6) |
| 35-60   | 3 (76.2) | 0.81 (20.6) | 5.5 (139.7) | 1.06 (27.0) |

#### Fusetron - (FRN-R and FRS-R) and Limitron - (KTN-R and KTS-R)

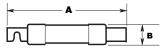
| Amp     | 250V          |             |               |             |
|---------|---------------|-------------|---------------|-------------|
| range   | Α             | В           | Α             | В           |
| 70-100  | 5.88 (149.2)  | 1.06 (26.9) | 7.88 (200.0)  | 1.34 (34.0) |
| 110-200 | 7.13 (181.0)  | 1.56 (39.6) | 9.63 (244.5)  | 1.84 (46.7) |
| 225-400 | 8.63 (219.1)  | 2.38 (60.5) | 11.63 (295.3) | 2.59 (65.8) |
| 450-600 | 10.38 (263.5) | 2.88 (73.2) | 13.38 (339.7) | 3.13 (79.5) |

### ↓ ↓ B





| Amp     | 250V          |             |               |             |
|---------|---------------|-------------|---------------|-------------|
| range   | Α             | В           | Α             | В           |
| 70-100  | 5.88 (149.2)  | 1.16 (29.5) | 7.88 (200.0)  | 1.16 (29.5) |
| 110-200 | 7.13 (181.0)  | 1.66 (42.2) | 9.63 (244.5)  | 1.66 (42.2) |
| 225-400 | 8.63 (219.1)  | 2.38 (60.5) | 11.63 (295.3) | 2.38 (60.5) |
| 450-600 | 10.38 (263.5) | 2.88 (73.2) | 13.38 (339.7) | 2.88 (73.2) |

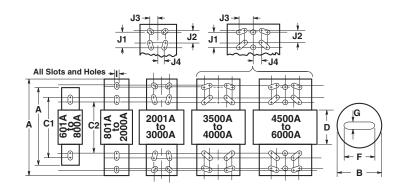


### Class L dimensions - in (mm)

Low-Peak and Limitron fuses

| Amp       |               |              |              |              |             |              |             |             |             |             |             |             |
|-----------|---------------|--------------|--------------|--------------|-------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Range     | Α             | В            | C1           | C2           | D           | F            | G           | 1           | J1          | J2          | J3          | J4          |
| 601-800   | 8.63 (219.1)  | 2.40 (61.0)  | 6.75 (171.5) | 5.75 (146.1) | 3.75 (95.3) | 2.00 (50.8)  | 0.38 (9.5)  | 0.63 (15.9) | _           | _           | _           | _           |
| 801-1200  | 10.75 (273.1) | 2.40 (61.0)  | 6.75 (171.5) | 5.75 (146.1) | 3.75 (95.3) | 2.00 (50.8)  | 0.38 (9.5)  | 0.63 (15.9) | _           | _           | _           | _           |
| 1350-1600 | 10.75 (273.1) | 3.00 (76.2)  | 6.75 (171.5) | 5.75 (146.1) | 3.75 (95.3) | 2.38 (60.3)  | 0.44 (11.1) | 0.63 (15.9) | _           | _           | _           | _           |
| 1800-2000 | 10.75 (273.1) | 3.50 (88.9)  | 6.75 (171.5) | 5.75 (146.1) | 3.75 (95.3) | 2.75 (69.9)  | 0.50 (12.7) | 0.63 (15.9) | _           | _           | _           | _           |
| 2001-2500 | 10.75 (273.1) | 4.80 (122.0) | 6.75 (171.5) | 5.75 (146.1) | 3.75 (95.3) | 3.50 (88.9)  | 0.75 (19.1) | 0.63 (15.9) | 1.75 (44.5) | 1.38 (34.9) | 0.88 (22.2) | 0.81 (20.6) |
| 3000      | 10.75 (273.1) | 5.00 (127.0) | 6.75 (171.5) | 5.75 (146.1) | 3.75 (95.3) | 4.00 (101.6) | 0.75 (19.1) | 0.63 (15.9) | 1.75 (44.5) | 1.38 (34.9) | 0.88 (22.2) | 0.81 (20.6) |
| 3500-4000 | 10.75 (273.1) | 5.75 (146.1) | 6.75 (171.5) | 5.75 (146.1) | 3.75 (95.3) | 4.75 (120.7) | 0.75 (19.1) | 0.63 (15.9) | 1.75 (44.5) | 1.38 (34.9) | 1.63 (41.3) | 0.88 (22.2) |
| 4500-5000 | 10.75 (273.1) | 6.25 (158.8) | 6.75 (171.5) | 5.75 (146.1) | 3.75 (95.3) | 5.25 (133.4) | 1.00 (25.4) | 0.63 (15.9) | 1.75 (44.5) | 1.38 (34.9) | 1.63 (41.3) | 0.88 (22.2) |
| 6000      | 10.75 (273.1) | 7.13 (181.0) | 6.75 (171.5) | 5.75 (146.1) | 3.75 (95.3) | 5.75 (146.1) | 1.00 (25.4) | 0.63 (15.9) | 1.75 (44.5) | 1.38 (34.9) | 1.63 (41.3) | 0.88 (22.2) |

NOTE: KRP-CL (150A to 600A) fuses have same dimensions as 601-800A case size. KTU (200-600A) have same dimensions, except tube 3" length x 2" diameter (76.2 x 50.8mm); terminal 1%" width x 1%" thick (41.3 x 31.8mm).



### Class T dimensions - in (mm)

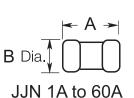
### Limitron fuses

#### JJN - 300V

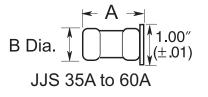
| Amp range | А            | В           | С           | D           |
|-----------|--------------|-------------|-------------|-------------|
| 1-30      | 0.88 (22.2)  | 0.41 (10.3) | _           |             |
| 35-60     | 0.88 (22.2)  | 0.56 (14.3) | _           |             |
| 70-100    | 2.16 (54.8)  | 0.75 (19.1) | 1.56 (39.7) | 0.84 (21.4) |
| 110-200   | 2.44 (61.9)  | 0.88 (22.2) | 1.69 (42.9) | 0.84(21.4)  |
| 225-400   | 2.75 (69.9)  | 1.00 (25.4) | 1.84 (46.8) | 0.86 (21.8) |
| 450-600   | 3.06 (77.8)  | 1.25 (31.8) | 2.03 (51.6) | 0.88 (22.2) |
| 601-800   | 3.38 (85.7)  | 1.75 (44.5) | 2.22 (56.4) | 0.89 (22.6) |
| 801-1200  | 4.00 (101.6) | 2.00 (50.8) | 2.53 (64.3) | 1.08 (27.4) |
|           |              |             |             |             |

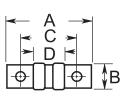
### JJS - 600V

| Amp range | А            | В           | С           | D           |
|-----------|--------------|-------------|-------------|-------------|
| 1-30      | 1.50 (38.1)  | 0.56 (14.3) | _           |             |
| 35-60     | 1.56 (39.7)  | 0.81 (20.6) | _           |             |
| 70-100    | 2.95 (75.0)  | 0.75 (19.1) | 236 (59.9)  | 1.64 (41.7) |
| 110-200   | 3.25 (82.6)  | 0.88 (22.2) | 2.50 (63.5) | 1.66 (42.1) |
| 225-400   | 3.63 (92.1)  | 1.00 (25.4) | 2.72 (69.1) | 1.73 (44.1) |
| 450-600   | 3.98 (101.2) | 1.25 (31.8) | 2.96 (75.0) | 1.78 (45.2) |
| 601-800   | 4.33 (109.9) | 1.75 (44.5) | 3.17 (80.6) | 1.88 (47.6) |



JJS 1A to 30A





### JJN 70A to 1200A JJS 70A to 800A

Low-Peak<sup>™</sup> time-delay, rejection-type fuses

### **LP-CC Class CC**

### Specifications:

**Description:** Time-delay, current-limiting, rejection-type fuse – 12 seconds (minimum) at 200% rated amps.

**Dimensions:** 1<sup>3</sup>/<sub>2</sub>" x 1 <sup>1</sup>/<sub>2</sub>" (10.3 x 38.1mm). **Ratings:** 

### Volts — 600Vac (or less)

- 300Vdc (½-2½A and 20-30A)
- 150Vdc (2<sup>%</sup>-15A)

Amps — ½-30A

- IR 200kA RMS Sym.
  - 20kA DC

**Agency information:** CE, Std. 248-4, Class CC, UL Listed, Guide JDDZ, File E4273, CSA Certified; Class 1422-02, File 53787, RoHS compliant (15-30A).

LP-CC

RoHS

### Features and benefits:

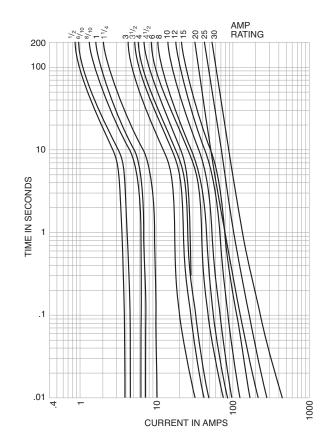
- Time-delay coupled with Class CC current-limiting response provides close sizing on small motor and relay circuits, and maximum component short-circuit current rating protection.
- 200kA interrupting rating provides high ratings for control circuit locations.
- Class CC rejection feature, with appropriate fuse block, prevents inserting lesser-rated supplementary fuses.
- Inventory consolidation of <sup>1</sup>/<sub>2</sub> x 1 <sup>1</sup>/<sub>2</sub> inch supplementary fuses reduces SKU investment and minimizes potential for misapplying fuse.
- Selective coordination ratio of 2:1 (within Low-Peak fuse family) prevents electrical shutdowns from extending beyond the failed circuit.

### **Typical applications:**

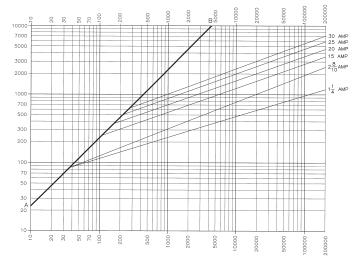
- · Specialized circuits
- · Industrial control
- Isolated, in-line fuse holder

#### Catalog numbers (amps) LP-CC-1/2 LP-CC-2-1/2 LP-CC-7 ½ LP-CC-% LP-CC-2-% LP-CC-8 LP-CC-% LP-CC-3 LP-CC-9 LP-CC-3-2/10 LP-CC-1 LP-CC-10 LP-CC-3-1/2 LP-CC-12 LP-CC-1-1/8 LP-CC-1-1/4 LP-CC-4 LP-CC-15 LP-CC-1-1/10 LP-CC-4-1/2 LP-CC-20 LP-CC-1-1/2 LP-CC-5 LP-CC-25 LP-CC-1-%10 LP-CC-5-% LP-CC-30 LP-CC-1-8/10 LP-CC-6 LP-CC-2 LP-CC-6-1/4 LP-CC-2-1/4 LP-CC-7

### Time-current characteristics-average melt



### **Current limitation curves**



Recommended fuse holders and blocks for Class CC fuses • See page 1-2

### Low voltage branch circuit fuses

RoHS

### **FNQ-R Class CC**

### **Specifications:**

**Description:** Time-delay, branch circuit, rejection-type fuse.

**Dimensions:** <sup>1</sup>/<sub>2</sub><sup>2</sup> x 1 ½" (10.3 x 38.1mm).

### **Ratings:**

- Volts 600Vac (or less)
  - 300Vdc (15-20A)
    - 32Vdc (Self Certified)

Amps — ¼-30A

- IR 200kA RMS Sym.
  - 20kA DC (15 and 20A only)

Agency information: CE, Std. 248-4, Class CC, UL Listed, Guide JDDZ, File E4273 CSA Certified,

Class 1422-01, File 53787, RoHS compliant.

### Features and benefits:

- Time-delay compatible with inrush characteristic of small control transformers.
- Current limitation at Class CC levels provides maximum component short-circuit current rating protection.
- 200kA interrupting rating provides high ratings for control circuit locations.
- Class CC rejection feature, with appropriate fuse block, prevents inserting lesser-rated supplementary fuses.

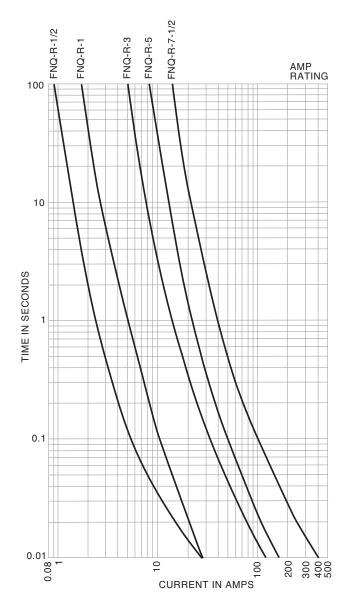
### **Typical applications:**

- · Line protection, small control transformers
- Industrial control
- Isolated, in-line fuse holders

### Catalog numbers (amps)

| FNQ-R-1/4                            | FNQ-R-1-%    | FNQ-R-6      |
|--------------------------------------|--------------|--------------|
| FNQ-R-3/0                            | FNQ-R-1-%    | FNQ-R-6-1/4  |
| FNQ-R-1/10                           | FNQ-R-2      | FNQ-R-7      |
| FNQ-R-½                              | FNQ-R-2-1/4  | FNQ-R-7-1/2  |
| FNQ-R-%                              | FNQ-R-2-1/2  | FNQ-R-8      |
| FNQ-R-¾                              | FNQ-R-2-%    | FNQ-R-9      |
| FNQ-R-%10                            | FQN-R-3      | FNQ-R-10     |
| FNQ-R-1                              | FNQ-R-3-2/10 | FNQ-R-12     |
| FNQ-R-1-16                           | FNQ-R-3-1/2  | FNQ-R-15     |
| FNQ-R-1- <sup>1</sup> ⁄ <sub>4</sub> | FNQ-R-4      | FNQ-R-17-1/2 |
| FNQ-R-1-%                            | FNQ-R-4-1/2  | FNQ-R-20     |
| FNQ-R-1-1/10                         | FNQ-R-5      | FNQ-R-25     |
| FNQ-R-1-1/2                          | FNQ-R-5-%    | FNQ-R-30     |
|                                      |              |              |





For superior electrical protection, Eaton recommends upgrading FNQ-R fuse applications to Bussmann series Low-Peak LP-CC fuses See page 1-7.

# Recommended fuse holders and blocks for Class CC 600V fuses

• See page 1-2

Limitron<sup>™</sup> rejection-type fuse

### **KTK-R Class CC**

### Specifications:

**Description:** Fast-acting, branch circuit, rejection-type fuse.

**Dimensions:** <sup>1</sup><sup>3</sup>/<sub>2</sub>" x 1 <sup>1</sup>/<sub>2</sub>" (10.3 x 38.1mm). **Ratings:** 

Volts — 600Vac (or less)

Amps — 1/10-30A

IR - 200kA RMS Sym.

Agency information: CE, Std. 248-4, Class CC, UL Listed, Guide JDDZ, File E4273 CSA Certified, File 53787, Class 1422-02, RoHS compliant.

### Features and benefits:

• Current limitation at Class CC levels provides maximum component short-circuit current protection.

RoHS

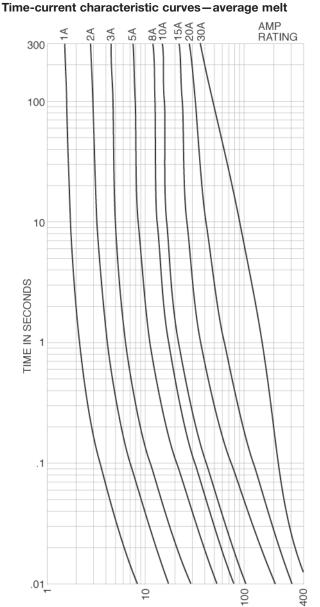
- 200kA interrupting rating provides high ratings for control circuit locations.
- Class CC rejection feature, with appropriate fuse block, prevents inserting lesser-rated supplementary fuses.

### **Typical applications:**

- · Specialized circuits
- Industrial control
- · Isolated, in-line fuse holders (street lighting)

#### Catalog numbers (amps)

| KTK-R-1/10              | KTK-R-1     | KTK-R-7  |
|-------------------------|-------------|----------|
| KTK-R-1/8               | KTK-R-1-1/2 | KTK-R-8  |
| KTK-R- <sup>2</sup> /10 | KTK-R-2     | KTK-R-9  |
| KTK-R-1/4               | KTK-R-2-½   | KTK-R-10 |
| KTK-R-‰                 | KTK-R-3     | KTK-R-12 |
| KTK-R- <sup>4</sup> /10 | KTK-R-3-½   | KTK-R-15 |
| KTK-R-½                 | KTK-R-4     | KTK-R-20 |
| KTK-R-%                 | KTK-R-5     | KTK-R-25 |
| KTK-R-¾                 | KTK-R-6     | KTK-R-30 |
|                         |             |          |



RMS SYMMETRICAL CURRENT IN AMPS

For superior electrical protection, Eaton recommends upgrading KTK-R fuse applications to Bussmann series Low-Peak LP-CC fuses See page 1-7.

Recommended fuse holders and blocks for Class CC fuses • See page 1-2

### Low voltage branch circuit fuses

Time-delay Low-Peak CUBEFuse<sup>™</sup> finger-safe fuse

### TCF 600V Class CF



### Fuse catalog numbers indicating (amps)

| TCF6    | TCF25 | TCF50 | TCF100 |
|---------|-------|-------|--------|
| TCF10   | TCF30 | TCF60 |        |
| TCF15   | TCF35 | TCF70 |        |
| TCF17-½ | TCF40 | TCF80 |        |
| TCF20   | TCF45 | TCF90 |        |

### Fuse catalog numbers non-indicating (amps)

|         | •         | 0.      | • /      |
|---------|-----------|---------|----------|
| TCF1RN  | TCF17-½RN | TCF40RN | TCF80RN  |
| TCF3RN  | TCF20RN   | TCF45RN | TCF90RN  |
| TCF6RN  | TCF25RN   | TCF50RN | TCF100RN |
| TCF10RN | TCF30RN   | TCF60RN |          |
| TCF15RN | TCF35RN   | TCF70RN |          |
|         |           |         |          |

### Specifications:

**Description:** Finger-safe fuse and fuse holder system; dual-element, time-delay fuse; 10 seconds minimum operating time at 500% rated amps.

**Dimensions:** See dimensions illustration.

Poles: 1-pole (gangable)

### **Ratings:**

Volts — 600Vac (or less)

— 300Vdc (or less)

Amps — 1-100A

- IR 300kA RMS Sym. (UL)
  - 200kA RMS Sym. (CSA)
  - 100kA DC (UL and CSA)

**Agency information:** CE, UL Listed Guide JDDZ, File E4273, CSA Certified Fuse: Class 1422- 02, File 53787, UL Listed Fuse holder: Guide IZND, File E214079, CSA Certified Fuse holder: Class 6225-01, File 47235.

### Features and benefits:

- Separate overload and short-circuit elements provide time delay for sizing of high inrush loads linked with Class J current limitation.
- Selective coordination ratio of 2:1 (within Low-Peak fuse family) prevents electrical shutdowns from extending beyond the failed circuit.
- Smallest footprint of any Class CC, J, T or RK fuse provides substantial space savings and installation flexibility.
- IEC 60529 and finger-safe rating provides enhanced workplace safety.

### **Typical applications:**

- Electrical panelboards
- Machinery disconnects
- Industrial control
- Required finger-safe systems

### Carton quantity and weight

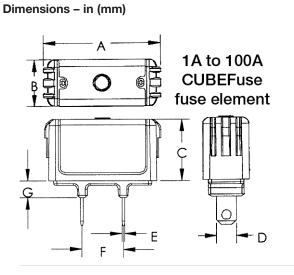
| Amp     | Carton | Weight per carton |      |  |
|---------|--------|-------------------|------|--|
| rating  | qty.   | lbs               | kg   |  |
| 1-30A   | 12     | 1.39              | 0.63 |  |
| 35-60A  | 12     | 1.42              | 0.65 |  |
| 70-100A | 6      | 1.74              | 0.79 |  |

### Recommended fuse holders for Class CF fuses • See page 1-16

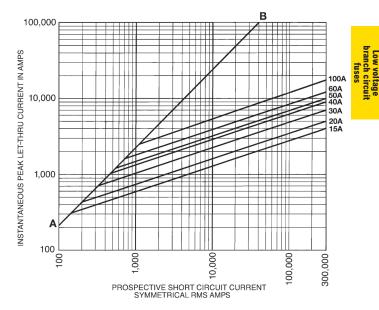
Data Sheet: 9000 (fuses) and 9007 (holders)

Time-delay Low-Peak CUBEFuse<sup>™</sup> finger-safe fuse

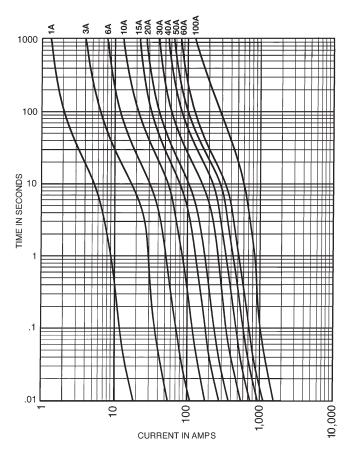
### **Current limitation curves**



| Fuse  |         | Dimensions - in (mm) |         |         |        |         |        |  |
|-------|---------|----------------------|---------|---------|--------|---------|--------|--|
| amps  | Α       | В                    | С       | D       | E      | F       | G      |  |
| 1-15  | 1.88    | 0.75                 | 1.00    | 0.23    | 0.04   | 0.63    | 0.28   |  |
|       | (47.75) | (19.05)              | (25.40) | (5.84)  | (1.02) | (15.93) | (7.11) |  |
| 17 ½  | 1.88    | 0.75)                | 1.00    | 0.31    | 0.04   | 0.63    | 0.28   |  |
|       | (47.75) | (19.05)              | (25.40) | (7.87)  | (1.02) | (15.93) | (7.11) |  |
| 20    | 1.88    | 0.75)                | 1.00    | 0.31    | 0.04   | 0.63    | 0.28   |  |
|       | (47.75) | (19.05)              | (25.40) | (7.87)  | (1.02) | (15.93) | (7.11) |  |
| 25-30 | 1.88    | 0.75                 | 1.00    | 0.31    | 0.04   | 0.63    | 0.28   |  |
|       | (47.75) | (19.05)              | (25.40) | (7.87)  | (1.02) | (15.93) | (7.11) |  |
| 35-40 | 2.13    | 1.00                 | 1.13    | 0.36    | 0.04   | 0.63    | 0.38   |  |
|       | (54.10) | (25.40)              | (28.58) | (9.10)  | (1.02) | (15.93) | (9.65) |  |
| 45-50 | 2.13    | 1.00                 | 1.13    | 0.44    | 0.04   | 0.63    | 0.38   |  |
|       | (54.10) | (25.40)              | (28.58) | (11.13) | (1.02) | (15.93) | (9.65) |  |
| 60    | 2.13    | 1.00                 | 1.13    | 0.44    | 0.04   | 0.63    | 0.38   |  |
|       | (54.10) | (25.40)              | (28.58) | (11.13) | (1.02) | (15.93) | (9.65) |  |
| 70    | 3.01    | 1.00                 | 1.26    | 0.49    | 0.06   | 0.58    | 0.38   |  |
|       | (76.45) | (25.40)              | (32.00) | (12.45) | (1.60) | (14.78) | (9.65) |  |
| 80-90 | 3.01    | 1.00                 | 1.26    | 0.49    | 0.06   | 0.58    | 0.38   |  |
|       | (76.45) | (25.40)              | (32.00) | (12.45) | (1.60) | (14.78) | (9.65) |  |
| 100   | 3.01    | 1.00                 | 1.26    | 0.57    | 0.06   | 0.58    | 0.38   |  |
|       | (76.45) | (25.40)              | (32.00) | (14.48) | (1.60) | (14.78) | (9.65) |  |



Time-current characteristic curves-average melt



### FCF 600V Class CF fuse



Catalog symbol: FCF\_RN

Fast-acting fuse: 4 minutes maximum clearing time at 200% rated current for 1 to 30A fuse 6 minutes maximum clearing time at 200%

rated current for 35 to 60A fuse

Dimensions: See dimensions illustration.

### Poles: 1-pole (gangable)

### **Ratings:**

Volts — 600Vac/dc (or less)

- Amps 1-100A
  - IR 300kA RMS Sym. (UL)
  - 200kA RMS Sym. (CSA)
    - 50kA DC (UL and CSA)

### Agency information:

UL Listed Fuse: Guide JFHR, File E4273, CSA Certified fuse: Class 1422- 02, File 53787, CE compliance for the European Union low voltage directive

### Other ratings/specifications:

Watts loss at rated current: FCF15RN: 3.48W FCF30RN: 5.45W FCF60RN: 7.27W

# **Operating and storage temperature range:** -40 to 80°C

### Material specifications:

- Case: glass filled PES (Polyethersulfone)
- Terminals: copper alloy
- Terminal plating: electroless tin

### Carton quantity and weight

| Amp     | Carton | Weight per carton |      |  |
|---------|--------|-------------------|------|--|
| rating  | qty.   | lbs               | kg   |  |
| 1-30A   | 12     | 1.39              | 0.63 |  |
| 35-60A  | 12     | 1.42              | 0.65 |  |
| 70-100A | 6      | 1.74              | 0.79 |  |

#### Data Sheet: 2147

### Features and benefits:

- The world's first finger-safe power fuse system.
- Smallest footprint of any class fuse including Class J, CC, T and RK.
- Class CF meets Class J fast-acting electrical performance requirements.
- Faster response to damaging faults to help reduce destructive thermal and magnetic forces.
- True fast-acting fuse construction.
- High interrupting rating to safely interrupt faults up to 300kA.
- No venting of arc or molten metal and gases during opening.
- Low let-through currents under fault conditions.

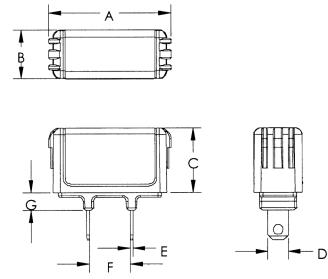
### Fuse catalog numbers non-indicating (amps)

|         |         |         | - /      |
|---------|---------|---------|----------|
| FCF1RN  | FCF20RN | FCF45RN | FCF90RN  |
| FCF3RN  | FCF25RN | FCF50RN | FCF100RN |
| FCF6RN  | FCF30RN | FCF60RN | _        |
| FCF10RN | FCF35RN | FCF70RN | _        |
| FCF15RN | FCF40RN | FCF80RN | _        |
|         |         |         |          |

UPS and critical application fast-acting CUBEFuse<sup>™</sup> finger-safe fuse

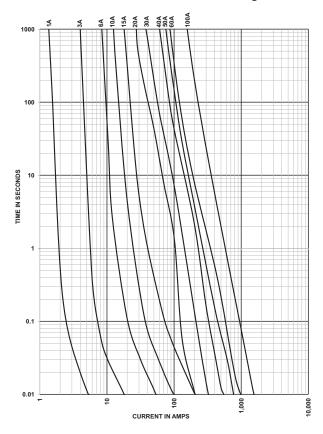
### Dimensions - in (mm)





| Fuse  |         |         | Dime    | nsions - ir | n (mm) |         |        |
|-------|---------|---------|---------|-------------|--------|---------|--------|
| amps  | Α       | В       | С       | D           | E      | F       | G      |
| 1-15  | 1.88    | 0.75    | 1.00    | 0.23        | 0.04   | 0.63    | 0.28   |
|       | (47.75) | (19.05) | (25.40) | (5.84)      | (1.02) | (15.93) | (7.11) |
| 20    | 1.88    | 0.75    | 1.00    | 0.31        | 0.04   | 0.63    | 0.28   |
|       | (47.75) | (19.05) | (25.40) | (7.87)      | (1.02) | (15.93) | (7.11) |
| 25-30 | 1.88    | 0.75    | 1.00    | 0.31        | 0.04   | 0.63    | 0.28   |
|       | (47.75) | (19.05) | (25.40) | (7.87)      | (1.02) | (15.93) | (7.11) |
| 35-40 | 2.13    | 1.00    | 1.13    | 0.36        | 0.04   | 0.63    | 0.38   |
|       | (54.10) | (25.40) | (28.58) | (9.10)      | (1.02) | (15.93) | (9.65) |
| 45-50 | 2.13    | 1.00    | 1.13    | 0.44        | 0.04   | 0.63    | 0.38   |
|       | (54.10) | (25.40) | (28.58) | (11.13)     | (1.02) | (15.93) | (9.65) |
| 60    | 2.13    | 1.00    | 1.13    | 0.44        | 0.04   | 0.63    | 0.38   |
|       | (54.10) | (25.40) | (28.58) | (11.13)     | (1.02) | (15.93) | (9.65) |
| 70    | 3.01    | 1.00    | 1.26    | 0.49        | 0.06   | 0.58    | 0.38   |
|       | (76.45) | (25.40) | (32.00) | (12.45)     | (1.60) | (14.78) | (9.65) |
| 80-90 | 3.01    | 1.00    | 1.26    | 0.49        | 0.06   | 0.58    | 0.38   |
|       | (76.45) | (25.40) | (32.00) | (12.45)     | (1.60) | (14.78) | (9.65) |
| 100   | 3.01    | 1.00    | 1.26    | 0.57        | 0.06   | 0.58    | 0.38   |
|       | (76.45) | (25.40) | (32.00) | (14.48)     | (1.60) | (14.78) | (9.65) |

Time-current characteristic curves-average melt





Wind fast-acting CUBEFuse<sup>™</sup> – finger-safe fuse

### **WCF 690V**



Catalog Symbol: WCF\_RN

**Description:** Finger-safe, fast-acting CUBEFuse for wind power generation.

Electrical characteristics: Maximum clearing time at 200% rated current:

- 4 minutes for 1 to 30A fuses
- 6 minutes for 35 to 60A fuses
- 8 minutes for 70 to 100A fuses

### Ratings:

- Volts 690Vac
- Amps 1-100A
  - IR 50kA AC (1-60A)
  - IR 30kA AC (70-100A)

### Agency information:

- UL Recognized Fuse: Guide JFHR, File E56412
- cURus component certified C22.2
- CE compliance for the European Union low voltage directive

### Other ratings/specifications:

| Watts loss at rated current: | WCF15RN:  | 3.48W  |
|------------------------------|-----------|--------|
|                              | WCF30RN:  | 5.45W  |
|                              | WCF60RN:  | 7.27W  |
|                              | WCF100RN: | 11.50W |

Operating and storage temperature range: -40 to 90°C

### Material specifications:

- Case: glass filled PES (Polyethersulfone)
- Terminals: copper alloy
- Terminal plating: electroless tin

#### Installation:

Fits 690V WCF holders. See page 1-16

### Application:

- Wind systems:
  - Transformer protection
  - Pitch and speed control
  - Turbine HVAC and lighting

### Features and benefits:

- Maximize uptime and reliability using fuses designed and listed to UL 248-1.
- Minimize chances of equipment failure and personnel injury when using full range fuses having the industry's fastest response time to low-magnitude faults.
- Maximize return on investment with fuses proven to withstand harsh temperatures.
- Minimize design time, operating outage time and replacement cost with fuses qualified in excessively changing environmental conditions.
- Simplify compatibility with readily available industry standard holders.
- Temperature derating: Designed to maximize rated capacity in elevated environmental temperatures.
- Overload protection: Proven to clear faults faster than the UL requirement.
- Power loss: Minimal energy consumption leading to increased efficiency.

### Catalog numbers (amp rating)

| Non-indicating wind CUBEFuse |         |         |         |          |  |  |  |
|------------------------------|---------|---------|---------|----------|--|--|--|
| WCF1RN                       | WCF15RN | WCF35RN | WCF60RN | WCF100RN |  |  |  |
| WCF3RN                       | WCF20RN | WCF40RN | WCF70RN | _        |  |  |  |
| WCF6RN                       | WCF25RN | WCF45RN | WCF80RN | _        |  |  |  |
| WCF10RN                      | WCF30RN | WCF50RN | WCF90RN | _        |  |  |  |

### Carton quantity and weight

| Amp     | Carton | Weight per carton |      |  |  |
|---------|--------|-------------------|------|--|--|
| rating  | qty.   | lbs               | kg   |  |  |
| 1-30A   | 12     | 1.39              | 0.63 |  |  |
| 35-60A  | 12     | 1.42              | 0.65 |  |  |
| 70-100A | 6      | 1.74              | 0.79 |  |  |

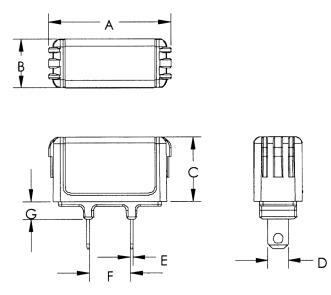
Recommended fuse holders for Class CF fuses • See page 1-16

Data Sheet: 9009

**Current limitation curves** 

Wind fast-acting CUBEFuse<sup>™</sup> – finger-safe fuse

### Dimensions - in (mm)



| Fuse  |         |         | Dime    | nsions - ir | n (mm) |         |        |
|-------|---------|---------|---------|-------------|--------|---------|--------|
| Amps  | Α       | В       | С       | D           | E      | F       | G      |
| 1-15  | 1.88    | 0.75    | 1.00    | 0.23        | 0.04   | 0.63    | 0.28   |
|       | (47.75) | (19.05) | (25.40) | (5.84)      | (1.02) | (15.93) | (7.11) |
| 20    | 1.88    | 0.75)   | 1.00    | 0.31        | 0.04   | 0.63    | 0.28   |
|       | (47.75) | (19.05) | (25.40) | (7.87)      | (1.02) | (15.93) | (7.11) |
| 25-30 | 1.88    | 0.75    | 1.00    | 0.31        | 0.04   | 0.63    | 0.28   |
|       | (47.75) | (19.05) | (25.40) | (7.87)      | (1.02) | (15.93) | (7.11) |
| 35-40 | 2.13    | 1.00    | 1.13    | 0.36        | 0.04   | 0.63    | 0.38   |
|       | (54.10) | (25.40) | (28.58) | (9.10)      | (1.02) | (15.93) | (9.65) |
| 45-50 | 2.13    | 1.00    | 1.13    | 0.44        | 0.04   | 0.63    | 0.38   |
|       | (54.10) | (25.40) | (28.58) | (11.13)     | (1.02) | (15.93) | (9.65) |
| 60    | 2.13    | 1.00    | 1.13    | 0.44        | 0.04   | 0.63    | 0.38   |
|       | (54.10) | (25.40) | (28.58) | (11.13)     | (1.02) | (15.93) | (9.65) |
| 70    | 3.01    | 1.00    | 1.26    | 0.49        | 0.06   | 0.58    | 0.38   |
|       | (76.45) | (25.40) | (32.00) | (12.45)     | (1.60) | (14.78) | (9.65) |
| 80-90 | 3.01    | 1.00    | 1.26    | 0.49        | 0.06   | 0.58    | 0.38   |
|       | (76.45) | (25.40) | (32.00) | (12.45)     | (1.60) | (14.78) | (9.65) |
| 100   | 3.01    | 1.00    | 1.26    | 0.57        | 0.06   | 0.58    | 0.38   |
|       | (76.45) | (25.40) | (32.00) | (14.48)     | (1.60) | (14.78) | (9.65) |

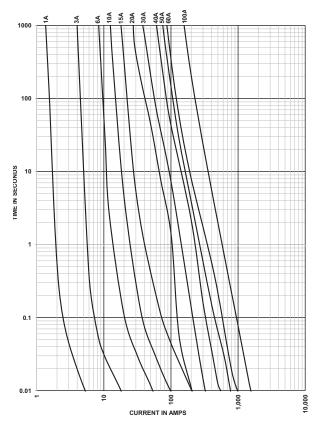
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Time-current characteristic curves-average melt

PECTIVE SHORT CIRCUIT CU

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PRO



Low voltage branch circuit fuses

### **CUBEFuse fuse holders**

### Catalog symbols:

|          |             | Ampacity             |
|----------|-------------|----------------------|
| 600V     | 690V (Wind) | (holds any CUBEFuse) |
| TCFH30N  | TCFH30NW    | (1-30A)              |
| TCFH60N  | TCFH60NW    | (1-60A)              |
| TCFH100N | TCFH100NW   | (1-100A)             |

Construction: Finger-safe

Mounting: 35mm DIN-Rail or panel mount

### **Ratings:**

| Volts:            | 600V (UL, CSA)                           |
|-------------------|------------------------------------------|
|                   | 690V (cURus - Wind version) <sup>†</sup> |
| Withstand rating: | 300kA RMS Sym. (UL)                      |
|                   | 200kA RMS Sym. (CSA)                     |
|                   | 100kA DC (UL and CSA)                    |
|                   | 50kA AC (cURus, 1-60A Wind version)      |

### Agency information:

- UL Listed fuse holder: Guide IZLT, File E14853
- CSA Certified fuse holder: Class 6225-01, File 47235
- cURus component Certified
- CE compliance for the European Union low voltage directive

†690 self certified.

### **CUBEFuse™** holder applications



**Operating and storage temperature range:** -40 to 80°C

### Material specifications:

- Holder case: glass filled PBT
- Interface clips: copper alloy
- Interface clip plating: tin
- Terminals: steel
- DIN-Rail spring: stainless steel

| CUBEFuse  |       |                | CUBEFuse type and ampacity range per CUBEFuse holder |             |              |        |  |  |  |
|-----------|-------|----------------|------------------------------------------------------|-------------|--------------|--------|--|--|--|
| holder    |       | Non-indicating | Indicating                                           |             |              |        |  |  |  |
| catalog   |       | time-delay     | time-delay                                           | Fast-acting | Photovoltaic | Wind   |  |  |  |
| number    | Volts | TCF_RN         | TCF_                                                 | FCF_RN      | PVCF_RN      | WCF_RN |  |  |  |
| TCFH30N   | 600   | 1-30           | 6-30                                                 | 1-30        | —            | —      |  |  |  |
| TCFH60N   | 600   | 1-60           | 6-60                                                 | 1-60        | 35-60        | -      |  |  |  |
| TCFH100N  | 600   | 1-100          | 6-100                                                | 1-100       | 35-100       | -      |  |  |  |
| TCFH30NW  | 690   | —              | —                                                    | —           | —            | 1-30   |  |  |  |
| TCFH60NW  | 690   | —              | —                                                    | _           | —            | 1-60   |  |  |  |
| TCFH100NW | 690   | —              | —                                                    | —           | —            | 1-100  |  |  |  |

### Terminal torque ratings by conductor and holder size (75°C Cu only)

| TCFH30N / TCFH30NW |                   | TCFH60N /        | TCFH60NW         | TCFH100N / TCFH100NW        |               |  |
|--------------------|-------------------|------------------|------------------|-----------------------------|---------------|--|
| Single             | Dual              | Single           | Dual             | Single                      | Dual          |  |
| 10-8AWG 25Lb-In    | 18-10AWG 25Lb-In* | 14-10AWG 20Lb-In | 18-10AWG 20Lb-In | 18-10AWG 25Lb-In**          | 6AWG 45Lb-In⁺ |  |
| 18-12AWG 20Lb-In   |                   | 8-4AWG 35Lb-In   | 8-6AWG 35Lb-In   | 8-1AWG 40Lb-In <sup>†</sup> |               |  |

\* 18-10AWG stranded, 14-18AWG solid

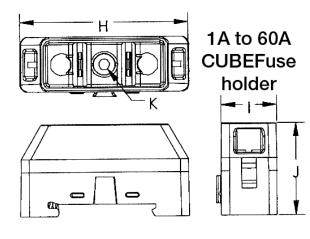
\*\* Solid and stranded

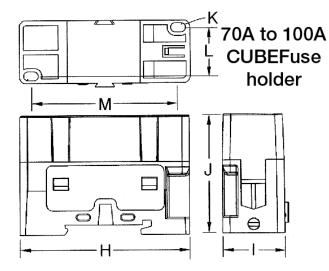
† Stranded

Data Sheet: 9007

 $\mathsf{CUBEFuse}^{\scriptscriptstyle\mathsf{TM}} \text{ finger-safe fuse holders}$ 

### Dimensions - in (mm)





### Low voltage branch circuit fuses

### CUBEFuse<sup>™</sup> holder catalog numbers

| Catalog   | og CUBEFuse Wire range (Cu/AWG) |        | Dimensions - in (mm) |         |         |         |        |         |         |
|-----------|---------------------------------|--------|----------------------|---------|---------|---------|--------|---------|---------|
| number    | amp range                       | Single | Dual                 | Н       | I       | J       | K      | L       | Μ       |
| TCFH30N   | 1-30                            | 14-8   | 14-10                | 2.30    | 0.76    | 1.36    | 0.15   | —       | —       |
| TCFH30NW  | 1-30                            | 14-8   | 14-10                | (58.5)  | (19.37) | (34.24) | (3.76) | —       | —       |
| TCFH60N   | 1-60                            | 14-4   | 10-6                 | 2.60    | 1.03    | 1.60    | 0.17   | —       | —       |
| TCFH60NW  | 1-00                            | 14-4   | 10-0                 | (66.12) | (26.23) | (40.64) | (4.34) | —       | —       |
| TCFH100N  | 1-100                           | 10-1   | 6                    | 2.91    | 1.05    | 2.01    | 0.15   | 0.80    | 2.51    |
| TCFH100NW | 1-100                           | 10-1   | O                    | (73.81) | (26.74) | (50.93) | (3.81) | (20.39) | (63.65) |

### General purpose fuses

### SC Class G

### **Specifications:**

**Description:** Fast-acting (½-6A), time-delay (7-60A) fuse.

**Dimensions:** See dimensions illustration.

### **Ratings:**

- Volts 600Vac (½-20A)
  - 480Vac (25-60A)
  - 170Vdc (½-20A)
  - 300Vdc (30 and 60A only)
- Amps ½-60A
  - IR 100kA RMS Sym.
    - 10kA DC

Agency information: CE, Std. 248-5,

Class G, UL Listed, Guide JDDZ, File E4273, CSA Certified, Class 1422-01, File 53787, RoHS compliant.

### Features and benefits:

- Current limiting for component protection, providing Class G energy-limitation for branch circuit protection.
- 100kA interrupting rating provides cost-effective branch circuit fusing.
- Variations in length help prevent overfusing.

### **Typical applications:**

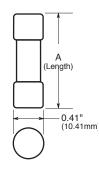
- · Fusible branch panelboards
- HVAC branch circuit protection

### Catalog numbers (amps)

| -      |        |       |       |       |       |  |
|--------|--------|-------|-------|-------|-------|--|
| SC-1/2 | SC-2-½ | SC-6  | SC-12 | SC-30 | SC-50 |  |
| SC-1   | SC-3   | SC-7  | SC-15 | SC-35 | SC-60 |  |
| SC-1-½ | SC-4   | SC-8  | SC-20 | SC-40 |       |  |
| SC-2   | SC-5   | SC-10 | SC-25 | SC-45 |       |  |

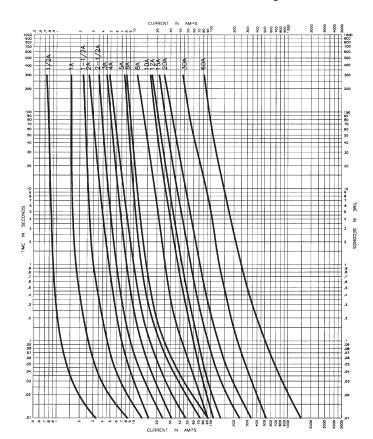
#### **Dimensions -in (mm)**

| Length      | Diameter                                  |
|-------------|-------------------------------------------|
| 1.31 (33.3) | 0.41″ (10.4)                              |
| 1.41 (35.8) | 0.41″ (10.4)                              |
| 1.62 (41.2) | 0.41″ (10.4)                              |
| 2.25 (57.1) | 0.41″ (10.4)                              |
|             | 1.31 (33.3)<br>1.41 (35.8)<br>1.62 (41.2) |

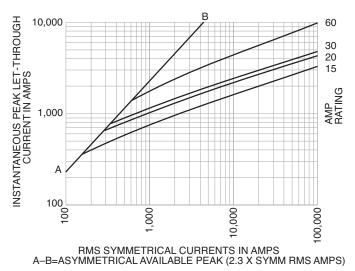


RoHS





### **Current limitation curves**



Recommended fuse holders and blocks for Class G fuses • See page 1-2

Data Sheet: 1024

Low-Peak<sup>™</sup> dual-element, time-delay fuses

### LPJ\_SP Class J

Available with indication

Specifications: Description: Dual-element,

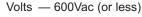
time-delay fuse;

10 seconds (minimum) at 500% rated amps. Now available with optional indication on select ratings (see catalog numbers table).

0

INDICATO

**Dimensions:** See page 1-5 for Class J dimensions. **Ratings:** 





— 300Vdc (or less) Amps — 1-600A

IR — 300kA RMS Sym.

— 100kA DC

**Agency information:** CE, UL Listed, Guide JFHR, File E56412, CSA Certified (200k AIR) Class J per CSA-22.2 No. 248.8, Class 1422-02, File 53787, RoHS compliant.

### Features and benefits:

- Separate overload and short-circuit elements provide time delay for sizing of high inrush loads linked with Class J current limitation.
- Selective coordination ratio of 2:1 (within Low-Peak fuse family) prevents electrical shutdowns from extending beyond the failed circuit.
- Series combination ratings with branch circuit breakers allows broad range of coverage, independent of breaker manufacturer.

### **Typical applications:**

- Power panelboards
- · Branch circuit breaker panelboard mains
- Machinery disconnects
- Industrial control

### Catalog numbers (amps)

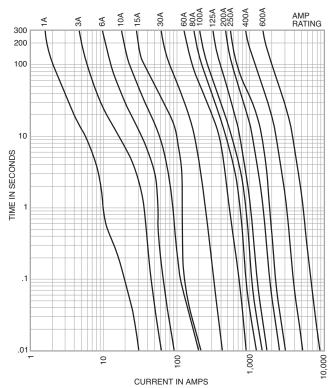
| LPJ-1SP                               | LPJ-4-½SP   | LPJ-25SP*  | LPJ-125SP* |
|---------------------------------------|-------------|------------|------------|
| LPJ-1- <sup>1</sup> /SP               | LPJ-5SP     | LPJ-30SP*  | LPJ-150SP* |
| LPJ-1-%SP                             | LPJ-5-‰SP   | LPJ-35SP*  | LPJ-175SP* |
| LPJ-1-%SP                             | LPJ-6SP*    | LPJ-40SP*  | LPJ-200SP* |
| LPJ-2SP                               | LPJ-7SP*    | LPJ-45SP*  | LPJ-225SP* |
| LPJ-2- <sup>1</sup> /SP               | LPJ-8SP*    | LPJ-50SP*  | LPJ-250SP* |
| LPJ-2- <sup>1</sup> / <sub>2</sub> SP | LPJ-9SP*    | LPJ-60SP*  | LPJ-300SP* |
| LPJ-2-%SP                             | LPJ-10SP*   | LPJ-70SP*  | LPJ-350SP* |
| LPJ-3SP                               | LPJ-12SP*   | LPJ-80SP*  | LPJ-400SP* |
| LPJ-3-‰SP                             | LPJ-15SP*   | LPJ-90SP*  | LPJ-450SP* |
| LPJ-3-½SP                             | LPJ-17-½SP* | LPJ-100SP* | LPJ-500SP* |
| LPJ-4SP                               | LPJ-20SP*   | LPJ-110SP* | LPJ-600SP* |
|                                       |             |            |            |

\*Available with optional permanent replace fuse indication. To order, place "I" at end of

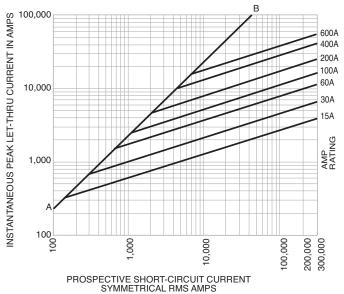
catalog number. Example: LPJ-6SPI. Available with silver plated terminals. Add SP/ in front of catalog number.

#### Data Sheets: 1006 (0-60) and 1007 (70-600)

### Time-current characteristic curves-average melt



### **Current limitation curves**



Recommended fuse holders and blocks for Class J fuses • See page 1-4

### Limitron<sup>™</sup> fast-acting fuses

### **JKS Class J**

**Specifications:** Description: Fast-acting, current-limiting fuse. Dimensions: See page 1-5 for

Class J dimensions.

**Ratings:** 

Volts — 600Vac (or less) Amps - 1-600A

IR - 200kA RMS Sym.



Agency information: CE, Std. 248-8, Class J, UL Listed, Guide

JDDZ, File E4273, CSA Certified, Class 1422-02, File 53787.

### Features and benefits:

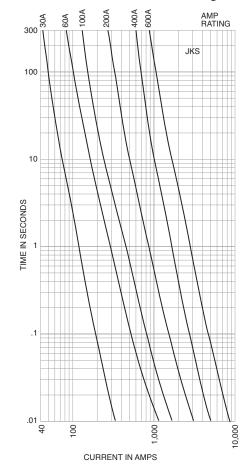
- · Current limitation for non-inductive circuits provides Class J current-limiting response to maximum ground fault and short-circuit conditions.
- · 200kA interrupting rating provides high ratings at all circuit locations.
- · Economical solutions for high-fault circuits.

### **Typical applications:**

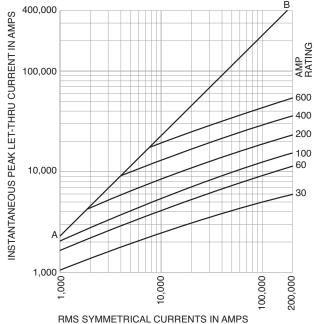
- · Power panelboards
- Machinery disconnects
- Catalog numbers (amps)

| outding ht | inibers (unips) |         |         |
|------------|-----------------|---------|---------|
| JKS-1      | JKS-15          | JKS-70  | JKS-225 |
| JKS-2      | JKS-20          | JKS-80  | JKS-250 |
| JKS-3      | JKS-25          | JKS-90  | JKS-300 |
| JKS-4      | JKS-30          | JKS-100 | JKS-350 |
| JKS-5      | JKS-35          | JKS-110 | JKS-400 |
| JKS-6      | JKS-40          | JKS-125 | JKS-450 |
| JKS-8      | JKS-45          | JKS-150 | JKS-500 |
| JKS-10     | JKS-50          | JKS-175 | JKS-600 |
| JKS-12     | JKS-60          | JKS-200 |         |
|            |                 |         |         |

### Time-current characteristic curves-average melt



### **Current limitation curves**



A-B=ASYMMETRICAL AVAILABLE PEAK (2.3 X SYMM RMS AMPS)

For superior electrical protection, Eaton recommends upgrading JKS fuse applications to Bussmann series Low-Peak LPJ fuses See page 1-19.

Recommended fuse holders and blocks for Class J fuses • See page 1-4

Data Sheet: 1026 (1-60) and 1027 (70-600)

NOS-1

NOS-2

NOS-3

NOS-4

NOS-5

NOS-6

NOS-7

NOS-8

NOS-9

NOS-10

250V

Fuse amp

size

30

30

60

60

100

100

200

100

200

400

Clip

amp

sizė

60

100

100

200

200

400

400

600

600

600

General purpose one-time fuses

NOS-70

NOS-75

NOS-80

NOS-90

NOS-100

NOS-110

NOS-125

NOS-150

NOS-175

100

200

100

200

400

NOS (600Vac) catalog numbers (amps) NOS-12

NOS-15

NOS-20

NOS-25

NOS-30

NOS-35

NOS-40

NOS-45

NOS-50

NO.2641

NO.2642

NO.2661

NO 2662

NO.2664

### NON (250Vac) Class K5 and H NOS (600Vac) Class K5 and H

### **Specifications:**

**Description:** General purpose, non-current-limiting fuses.

Dimensions: See page 1-5 for dimensions.

#### **Ratings:**

- Volts NON:
  - 250Vac
  - 125Vdc (0-100A)
  - NOS:
  - 600Vac
- Amps ½-600A
  - IR 50kA RMS Sym. (NON and NOS Class) K5 0-60A)
    - 10kA RMS Sym. (NON and NOS Class H 65-600A)

NON 250Vac AC IR SDA 125Vdc DC IR SDA

- 50kA @ 125Vdc (NON Class K5 0-60A)
- 10kA @ 125Vdc (NON Class H 65-100A)

Agency information: CE, UL Listed - 250V: Class K5 (0-60A), Std. 248-9, Class H (65-600A), Std. 248-6, (125Vdc: NON 0-100), 600V: Class K5 (0-60A), Std. 248-9, Class H (70-600A), Std. 248-6, Guide JDDZ, File E4273, CSA Certified - 250V: (0-12, 65-600)†, 600V: (0-600), Class 1421-01, File 53787.

+ For CSA Certified 15-60A ratings, see PON on page 7-3.

#### Features and benefits:

· Basic overcurrent protection.

#### **Typical applications:**

· Light duty circuit locations

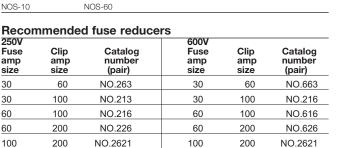
### NON (250Vac) catalog numbers (amps)

|           | ,         |         |         |
|-----------|-----------|---------|---------|
| NON-1/2   | NON-5     | NON-40  | NON-175 |
| NON-½     | NON-6     | NON-45  | NON-200 |
| NON-¾     | NON-6-1/4 | NON-50  | NON-225 |
| NON-%     | NON-7     | NON-60  | NON-250 |
| NON-1     | NON-8     | NON-65  | NON-300 |
| NON-1-1/4 | NON-9     | NON-70  | NON-350 |
| NON-1-½   | NON-10    | NON-75  | NON-400 |
| NON-1-%   | NON-12    | NON-80  | NON-450 |
| NON-2     | NON-15    | NON-90  | NON-500 |
| NON-2-½   | NON-20    | NON-100 | NON-600 |
| NON-3     | NON-25    | NON-110 |         |
| NON-3-%   | NON-30    | NON-125 |         |
| NON-4     | NON-35    | NON-150 |         |
|           |           |         |         |

### Recommended fuse holders and blocks for Class K5 and H 250V and 600V fuses

See page 1-2

Data Sheet: 1030



400

400

600

600

600

NO.2641

NO.2642

NO.2661

NO 2662

NO.2664

1-21

NOS-200

NOS-225

NOS-250

NOS-300

NOS-350

NOS-400

NOS-450

NOS-500

NOS-600

Low volt branch ci fuses

### Low-Peak<sup>™</sup> time-delay fuses

### KRP-C\_SP Class L

### **Specifications:**

**Description:** Time-delay fuse – 4 seconds (minimum) at 500% rated amps. **Dimensions:** See page 1-6 for Class L dimensions.

### **Ratings:**

- Volts 600Vac (or less)
- 300Vdc (601-2000A, 3000A)
- Amps 601-6000A

(use KRP-CL for current ratings under 601A)

- IR 300kA RMS Sym.
  - 100kA DC

Agency information: CE, UL Listed-

248-10, Guide JFHR, File E56412,

CSA Certified (200k AIR), Class 1422-02, File 53787, Class L per CSA C22.2, No. 248.10, RoHS compliant.

### Features and benefits:

- Time-delay of four seconds at five times rating allows closer sizing on large motor loads combined with Class L current limitation.
- Selective coordination ratio of 2:1 (within Low-Peak fuse family) prevents electrical shutdowns from extending beyond the failed circuit.
- Interrupting rating of 300kA RMS symmetrical provides adequate ratings without obsolescence for all electrical systems, big or small.
- Quality construction, using high-grade materials, provides lower watts loss and operating temperatures with superior arc quenching during current-limiting action.

### **Typical applications:**

- · Large distribution switchboards
- · Power panelboards
- · Large machinery disconnects



RoHS

### Catalog numbers (amps)

|             | ····         |              |              |
|-------------|--------------|--------------|--------------|
| KRP-C-601SP | KRP-C-1000SP | KRP-C-1800SP | KRP-C-3500SP |
| KRP-C-650SP | KRP-C-1100SP | KRP-C-1900SP | KRP-C-4000SP |
| KRP-C-700SP | KRP-C-1200SP | KRP-C-2000SP | KRP-C-4500SP |
| KRP-C-750SP | KRP-C-1350SP | KRP-C-2001SP | KRP-C-5000SP |
| KRP-C-800SP | KRP-C-1400SP | KRP-C-2400SP | KRP-C-6000SP |
| KRP-C-801SP | KRP-C-1500SP | KRP-C-2500SP |              |
| KRP-C-900SP | KRP-C-1600SP | KRP-C-3000SP |              |
|             |              |              |              |

Data Sheets: 1008 and 1009

Low-Peak<sup>™</sup> time-delay fuses

# 

Time-current characteristic curves-average melt

CURRENT IN AMPS

### KRP-CL current-limiting, time-delay fuses

### **Specifications:**

Description: Current-limiting, time-delay fuse.

**Dimensions:** See page 1-6 for Class L dimensions. **Ratings:** 

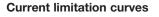
Volts — 600Vac (or less)

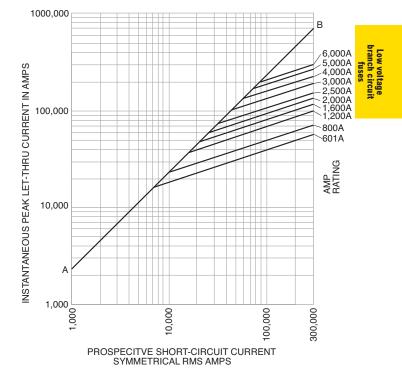
Amps — 225-600A

IR — 200kA RMS Sym.

### Features and benefits:

• Time-delay of four seconds at five times rating allows closer sizing inductive loads coupled with an equivalent Class L current limitation.





Data Sheets: 1008 and 1009

 Class L case size for amp ratings from 225 to 600A allows downsize fusing of large Class L fused switches for improved circuit protection.

#### Typical applications:

- · Large distribution switchboards
- Power panelboards
- Machinery disconnects

| Catalog numbers (amps) |            |            |  |
|------------------------|------------|------------|--|
| KRP-CL-225             | KRP-CL-350 | KRP-CL-500 |  |
| KRP-CL-250             | KRP-CL-400 | KRP-CL-600 |  |
| KRP-CL-300             | KRP-CL-450 |            |  |

Recommended fuse holders and blocks for Class L fuses • See page 1-3

Data Sheet: 1016

BoHS

### **KTU Class L**

### **Specifications:**

**Description:** Fast-acting, bolt-mount fuse.

**Dimensions:** See page 1-6 for Class L dimensions.

### Ratings:

Volts — 600Vac (or less)

Amps — 601-6000A

IR — 200kA RMS Sym.

Agency information: CE, Std. 248-10, Class L, UL Listed, Guide JDDZ, File E4273 CSA Certified, Class 1422-02, File 53787, RoHS compliant.

### Features and benefits:

- 200kA interrupting rating provides high ratings at all circuit locations.
- · Economical solutions for high-fault circuits.
- Quality construction using high-grade materials provides lower watts loss and operating temperatures with superior arc quenching during current-limiting action.

### **Typical applications:**

- · Large distribution switchboards
- · Power panelboards

### Catalog numbers (amps)

| KTU-601 | KTU-1000 | KTU-2001 |  |
|---------|----------|----------|--|
| KTU-650 | KTU-1100 | KTU-2400 |  |
| KTU-700 | KTU-1200 | KTU-2500 |  |
| KTU-750 | KTU-1400 | KTU-3000 |  |
| KTU-800 | KTU-1500 | KTU-3500 |  |
| KTU-801 | KTU-1600 | KTU-4000 |  |
| KTU-850 | KTU-1800 | KTU-5000 |  |
| KTU-900 | KTU-2000 | KTU-6000 |  |
|         |          |          |  |

### **KLU Class L**

### **Specifications:**

**Description:** Time-delay, bolt-mount fuse - 5 seconds (minimum) at 500% rated amps. See KRP-CL for amp ratings below 601A.

**Dimensions:** See page 1-6 for Class L dimensions.

Ratings:

Volts — 600Vac (or less)

Amps - 601-4000A

IR — 200kA RMS Sym.

Agency information: CE, Std. 248-10,

Class L, UL Listed, Guide JDDZ, File E4273, CSA Certified, CSA Class 1422-02, File 53787, RoHS compliant.

### Features and benefits:

- 200kA interrupting rating provides high ratings at all circuit locations.
- · Economical solutions for high fault circuits.

### **Typical applications:**

- · Large distribution switchboards
- Power panelboards

### Catalog numbers (amps)

· Large machinery disconnects

| •        | · · · ·  |          |
|----------|----------|----------|
| KLU-601  | KLU-1200 | KLU-2500 |
| KLU-650  | KLU-1500 | KLU-3000 |
| KLU-700  | KLU-1600 | KLU-4000 |
| KLU-800  | KLU-1800 |          |
| KLU-1000 | KLU-2000 |          |
|          |          |          |

For superior electrical protection, Eaton recommends upgrading KTU fuse applications to Bussmann series Low-Peak KRP-C fuses See page 1-22.

Recommended fuse holders and blocks for Class L fuses • See page 1-3 For superior electrical protection, Eaton recommends upgrading KLU fuse applications to Bussmann series Low-Peak KRP-C fuses See page 1-22.

Recommended fuse holders and blocks for Class L fuses • See page 1-3





RoHS

Low-Peak<sup>™</sup> dual-element, time-delay fuses

### LPN-RK\_SP (250V) Class RK1 LPS-RK\_SP (600V) Class RK1

0.

INDICATOF

Available with indication

### Specifications: Description:

Current-limiting, dual-element, time-delay fuse; 10 seconds (minimum) at 500% rated amps (8 seconds for 0-30A sizes). Now available with optional indication on select ratings (see catalog numbers table).

**Dimensions:** See page 1-5 for Class RK1 dimensions. **Ratings:** 

### Volts LPN-RK:

- 250Vac (or less)
- 125Vdc (0-60A)
- 250Vdc (70-600A)

### LPS-RK:

- 600Vac (or less)
- 300Vdc
- Amps 1/10-600A
  - IR 300kA RMS Sym.
    - 100kA DC

Agency information: CE, UL Listed, Guide JFHR, File E56412, CSA Certified (200k AIR), Class RK1 per CSA C22.2, No. 248.12, Class 1422-02, File 53787.

### Features and benefits:

- Separate overload and short-circuit elements provide time delay for close sizing of high inrush loads linked with RK1 current-limitation and selective coordination ratio of 2:1 (within Low-Peak fuse family) helps prevent widespread blackouts.
- Inventory consolidation of Class RK1, RK5 and H fuses for reduced SKU investment and minimizing potential for misapplying fuse.
- 300kA RMS symmetrical interrupting rating provides adequate ratings without obsolescence for all electrical systems, big or small.
- Insulated end caps reduces exposure to live parts and extends air gap to distance between blades of adjacent mounted fuses or to housing.

### **Typical applications:**

- Large distribution switchboards
- Power panelboards
- Motor control centers
- Machinery disconnect switches

#### LPN catalog numbers (amps)

| LPN-RK-1/10SP   | LPN-RK-3-1/SP  | LPN-RK-60SP*  |
|-----------------|----------------|---------------|
| LPN-RK-15/100SP | LPN-RK-4SP     | LPN-RK-70SP*  |
| LPN-RK-%SP      | LPN-RK-4-1/SP  | LPN-RK-80SP*  |
| LPN-RK-%SP      | LPN-RK-5SP     | LPN-RK-90SP*  |
| LPN-RK-1/10SP   | LPN-RK-5-%SP   | LPN-RK-100SP* |
| LPN-RK-½SP      | LPN-RK-6SP     | LPN-RK-110SP* |
| LPN-RK-%SP      | LPN-RK-6-1/SP  | LPN-RK-125SP* |
| LPN-RK-%SP      | LPN-RK-8SP     | LPN-RK-150SP* |
| LPN-RK-1SP      | LPN-RK-9SP     | LPN-RK-175SP* |
| LPN-RK-1-%SP    | LPN-RK-10SP    | LPN-RK-200SP* |
| LPN-RK-1-1/SP   | LPN-RK-12SP    | LPN-RK-225SP* |
| LPN-RK-1-1/0SP  | LPN-RK-15SP    | LPN-RK-250SP* |
| LPN-RK-1-%SP    | LPN-RK-17-1/SP | LPN-RK-300SP* |
| LPN-RK-1-%SP    | LPN-RK-20SP    | LPN-RK-350SP* |
| LPN-RK-2SP      | LPN-RK-25SP    | LPN-RK-400SP* |
| LPN-RK-2-1/SP   | LPN-RK-30SP    | LPN-RK-450SP* |
| LPN-RK-2-1/SP   | LPN-RK-35SP*   | LPN-RK-500SP* |
| LPN-RK-2-%SP    | LPN-RK-40SP*   | LPN-RK-600SP* |
| LPN-RK-3SP      | LPN-RK-45SP*   |               |
| LPN-RK-3-%SP    | LPN-RK-50SP*   |               |
|                 |                |               |

\*Available with optional indication. To order, place "I" at end of catalog number. Example: LPN-RK-35SPI.

0-60A fuses available with Nickel plate option. (Ex: LPS-RK30SPNP) 70-600A fuses available with Tin plate option. Example: LPS-RK-100SP-TP.

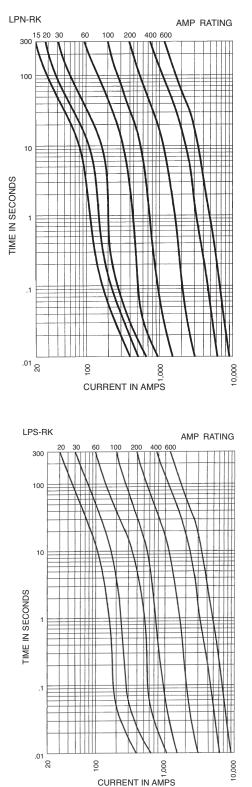
#### LPS catalog numbers - (amps)

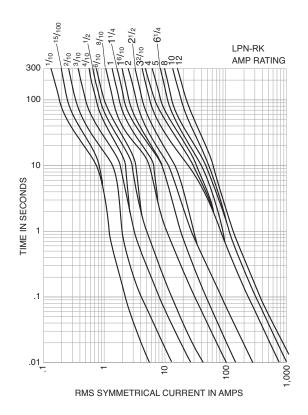
| e outureg       | mannaoro       | (ampo)         |               |
|-----------------|----------------|----------------|---------------|
| LPS-RK-1/10SP   | LPS-RK-2-1/SP  | LPS-RK-10SP*   | LPS-RK-100SP* |
| LPS-RK-‰SP      | LPS-RK-2-½SP   | LPS-RK-12SP*   | LPS-RK-110SP* |
| LPS-RK-‰SP      | LPS-RK-2-%SP   | LPS-RK-15SP*   | LPS-RK-125SP* |
| LPS-RK-1/0SP    | LPS-RK-3SP     | LPS-RK-17-½SP* | LPS-RK-150SP* |
| LPS-RK-½SP      | LPS-RK-3-%SP   | LPS-RK-20SP*   | LPS-RK-175SP* |
| LPS-RK-‰SP      | LPS-RK-3-½SP   | LPS-RK-25SP*   | LPS-RK-200SP* |
| LPS-RK-%SP      | LPS-RK-4SP     | LPS-RK-30SP*   | LPS-RK-225SP* |
| LPS-RK-1SP      | LPS-RK-4-½SP   | LPS-RK-35SP*   | LPS-RK-250SP* |
| LPS-RK-1-%SP    | LPS-RK-5SP     | LPS-RK-40SP*   | LPS-RK-300SP* |
| LPS-RK-1-¼SP    | LPS-RK-5-%SP   | LPS-RK-45SP*   | LPS-RK-350SP* |
| LPS-RK-1-1/10SP | LPS-RK-6SP*    | LPS-RK-50SP*   | LPS-RK-400SP* |
| LPS-RK-1-½SP    | LPS-RK-6-1/SP* | LPS-RK-60SP*   | LPS-RK-450SP* |
| LPS-RK-1-%SP    | LPS-RK-7SP*    | LPS-RK-70SP*   | LPS-RK-500SP* |
| LPS-RK-1-%SP    | LPS-RK-8SP*    | LPS-RK-80SP*   | LPS-RK-600SP* |
| LPS-RK-2SP      | LPS-RK-9SP*    | LPS-RK-90SP*   |               |
|                 |                |                |               |

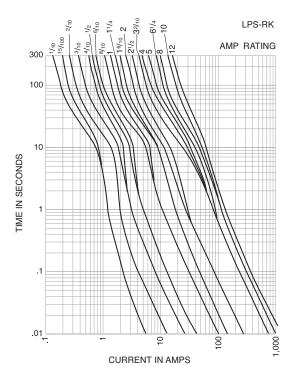
\*Available with optional replace fuse indication. To order, place "I" at end of Catalog Number. Example: LPS-RK-15SPI.

Data Sheets: LPN-RK – 1003 (0-60) and 1004 (70-600) LPS-RK – 1001 (0-60) and 1002 (70-600) Recommended fuse holders and blocks for Class RK1 fuses • See page 1-3 Low-Peak<sup>™</sup> dual-element, time-delay fuses

### Time-current characteristic curves-average melt



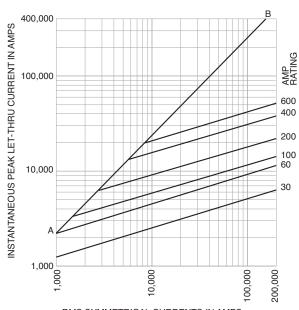




Data Sheets: LPN-RK - 1003 (0-60) and 1004 (70-600) Data Sheets: LPS-RK - 1001 (0-60) and 1002 (70-600)

Recommended fuse holders and blocks for Class RK1 fuses • See page 1-3

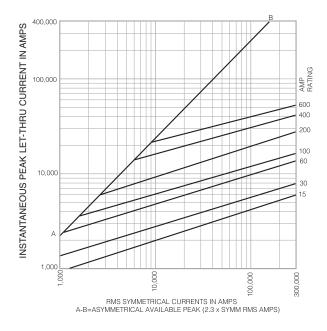
Low-Peak<sup>™</sup> dual-element, time-delay fuses



#### Current limitation curves—LPN-RK

RMS SYMMETRICAL CURRENTS IN AMPS A-B=ASYMMETRICAL AVAILABLE PEAK (2.3 X SYMM RMS AMPS)

Current limitation curves-LPS-RK



Data Sheets: LPN-RK - 1003 (0-60) and 1004 (70-600) Data Sheets: LPS-RK - 1001 (0-60) and 1002 (70-600)

Recommended fuse holders and blocks for Class RK1 fuses • See page 1-3

### KTN-R (250V) Class RK1

### **Specifications:**

Description: Fast-acting, current-limiting fuse.

Dimensions: See page 1-5 for Class RK1 dimensions.

### **Ratings:**

- Volts 250Vac (or less)
  - 250Vac (70-350A)
- Amps 1-600A
  - IR 200kA RMS Sym.
    - 100kA Vdc

Agency information: CE, Std. 248-12, Class RK1,

UL Listed, Guide JDDZ, File E4273, CSA Certified, Class 1422-02, File 53787.

### Features and benefits:

- · Current limitation for non-inductive circuits provides Class RK1 current-limiting response to maximum ground fault and short-circuit conditions.
- 200kA interrupting rating provides high ratings at all circuit locations.
- · Economical solutions for high-fault circuits.

### **Typical applications:**

· Panelboards

#### Catalog numbers (amps)

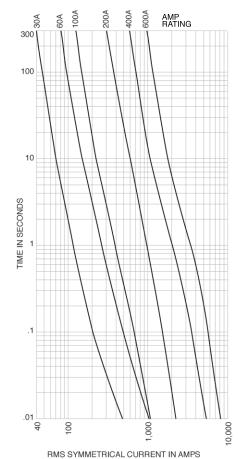
| •        | • • •     |           |
|----------|-----------|-----------|
| KTN-R-1  | KTN-R-30  | KTN-R-125 |
| KTN-R-2  | KTN-R-35  | KTN-R-150 |
| KTN-R-3  | KTN-R-40  | KTN-R-175 |
| KTN-R-4  | KTN-R-45  | KTN-R-200 |
| KTN-R-5  | KTN-R-50  | KTN-R-225 |
| KTN-R-6  | KTN-R-60  | KTN-R-250 |
| KTN-R-8  | KTN-R-70  | KTN-R-300 |
| KTN-R-10 | KTN-R-75  | KTN-R-350 |
| KTN-R-12 | KTN-R-80  | KTN-R-400 |
| KTN-R-15 | KTN-R-90  | KTN-R-450 |
| KTN-R-20 | KTN-R-100 | KTN-R-500 |
| KTN-R-25 | KTN-R-110 | KTN-R-600 |

For superior electrical protection, Eaton recommends upgrading KTN-R fuse applications to Bussmann series Low-Peak LPN-RK fuses See page 1-25.

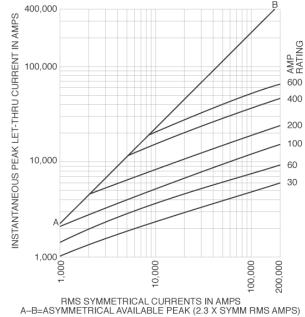
Recommended fuse holders and blocks for Class RK1 fuses

• See page 1-3

### Time-current characteristic curves-average melt



### **Current limitation curves**



Data Sheet: 1043

Limitron<sup>™</sup> fast-acting fuses

### KTS-R (600V) Class RK1

### **Specifications:**

**Description:** Fast-acting, current-limiting fuse.

**Dimensions:** See page 1-5 for Class RK1 dimensions.

#### **Ratings:**

Volts — 600Vac (or less)

Amps - 1-600A

IR — 200kA RMS Sym.

Agency information: CE, Std. 248-12, Class RK1, UL Listed, Guide JDDZ, File E54273, CSA Certified, C22.2 No. 248.12, Class 1422-02, File 53787.

#### Features and benefits:

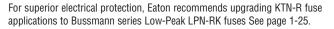
- Current limitation for non-inductive circuits provides Class RK1 current-limiting response to maximum ground fault and short-circuit conditions.
- 200kA interrupting rating provides high ratings at all circuit locations.
- · Economical solutions for high-fault circuits.

### **Typical applications:**

· Panelboards

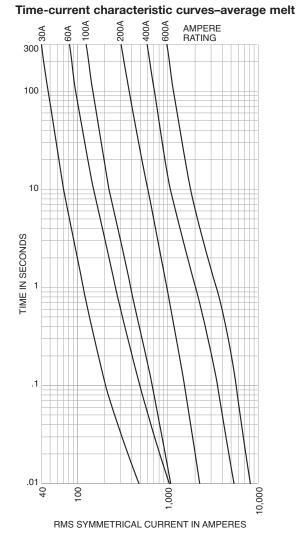
### Catalog numbers (amps)

| · · · · · · · · · · · · · · · · · · · | - (- 1)   |           |
|---------------------------------------|-----------|-----------|
| KTS-R-1                               | KTS-R-30  | KTS-R-125 |
| KTS-R-2                               | KTS-R-35  | KTS-R-150 |
| KTS-R-3                               | KTS-R-40  | KTS-R-175 |
| KTS-R-4                               | KTS-R-45  | KTS-R-200 |
| KTS-R-5                               | KTS-R-50  | KTS-R-225 |
| KTS-R-6                               | KTS-R-60  | KTS-R-250 |
| KTS-R-8                               | KTS-R-70  | KTS-R-300 |
| KTS-R-10                              | KTS-R-75  | KTS-R-350 |
| KTS-R-12                              | KTS-R-80  | KTS-R-400 |
| KTS-R-15                              | KTS-R-90  | KTS-R-450 |
| KTS-R-20                              | KTS-R-100 | KTS-R-500 |
| KTS-R-25                              | KTS-R-110 | KTS-R-600 |

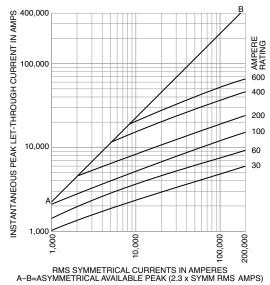


### Recommended fuse holders and blocks for Class RK1 fuses

• See page 1-3



#### **Current limitation curves**



Available

indication

with

LAY FUSE

LIMITING

Fusetron<sup>™</sup> energy efficient, dual-element, time-delay fuses

### FRN-R (250V) Class RK5

### **Specifications:**

**Description:** Dual-element, time-delay fuse – 10 seconds (minimum) at 500% rated amps (8 seconds for 0-30A sizes). Available with indication on select ratings (see catalog numbers table).

Dimensions: See page 1-5 for Class RK5 dimensions.

### Ratings:

- Volts 250Vac (or less)
  - 125Vdc (1/10-60A, 110-200A)
- 250Vdc (225-600A)
- Amps 1/10-600A

IR — 200kA RMS Sym. — 20kA DC

Agency information: CE, Std. 248-12, Class RK5,

UL Listed, Guide JDDZ, File E4273, CSA Certified, Class 1422-01, File 53787.

### Features and benefits:

- Separate overload and short-circuit elements provide time delay for sizing as close as 125% of motor FLA.
- 2:1 selective coordination amp ratio (within the Fusetron RK5 fuse family) prevents overcurrent events from opening upstream Fusetron fuses.
- Insulated end caps for 225A-600A fuses reduces exposure to live parts and extends air gap to distance between blades of adjacent mounted fuses or to housing.

### **Typical applications:**

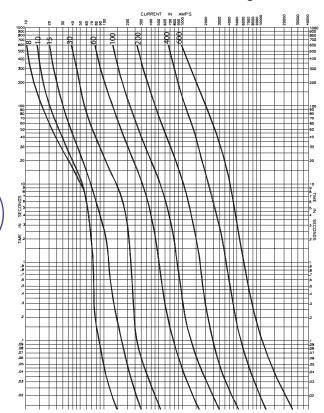
- Power panelboards
- Combination starters
   Machinery disconnects
- Motor control centers

### Catalog numbers (amps)

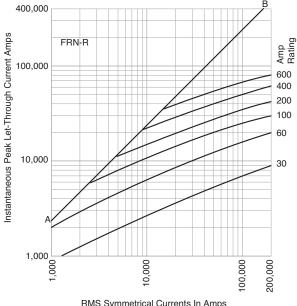
| <b>J</b>     |             |             |           |
|--------------|-------------|-------------|-----------|
| FRN-R-1/10   | FRN-R-2     | FRN-R-10*   | FRN-R-100 |
| FRN-R-1/8    | FRN-R-2-1/4 | FRN-R-12*   | FRN-R-110 |
| FRN-R-15/100 | FRN-R-2-1/2 | FRN-R-15*   | FRN-R-125 |
| FRN-R-%      | FRN-R-2-‰   | FRN-R-17-½* | FRN-R-150 |
| FRN-R-1/4    | FRN-R-3     | FRN-R-20*   | FRN-R-175 |
| FRN-R-%      | FRN-R-3-‰   | FRN-R-25*   | FRN-R-200 |
| FRN-R-1/10   | FRN-R-3-½   | FRN-R-30*   | FRN-R-225 |
| FRN-R-1/2    | FRN-R-4     | FRN-R-35*   | FRN-R-250 |
| FRN-R-%      | FRN-R-4-1/2 | FRN-R-40*   | FRN-R-300 |
| FRN-R-%      | FRN-R-5     | FRN-R-45*   | FRN-R-350 |
| FRN-R-1      | FRN-R-5-%   | FRN-R-50*   | FRN-R-400 |
| FRN-R-1-1/8  | FRN-R-6     | FRN-R-60*   | FRN-R-450 |
| FRN-R-1-1/4  | FRN-R-6-1/4 | FRN-R-70    | FRN-R-500 |
| FRN-R-1-1/10 | FRN-R-7     | FRN-R-75    | FRN-R-600 |
| FRN-R-1-1/2  | FRN-R-7-1/2 | FRN-R-80    |           |
| FRN-R-1-%    | FRN-R-8*    | FRN-R-85    |           |
| FRN-R-1-%    | FRN-R-9*    | FRN-R-90    |           |
|              |             |             |           |

\*Available with indication. To order, place "ID" at the end of the catalog number. Example: FRN-R-30ID

### Time-current characteristic curves-average melt



### **Current limitation curves**



A-B = Asymmetrical Available Peak (2.3 x Sym RMS Amps)

For superior electrical protection, Eaton recommends upgrading FRN-R fuse applications to Bussmann series Low-Peak LPN-RK fuses. See page 1-25.

Recommended fuse holders and blocks for Class RK5 fuses • See page 1-3

Recommended fuse reducers for Class R fuses

See page 1-4

### FRS-R (600V) Class RK5

### **Specifications:**

**Description:** Dual-element, time-delay fuse – 10 seconds (minimum) at 500% rated amps. Now available with optional indication on select ratings (see catalog numbers table).

**Dimensions:** See page 1-5 for Class RK5 dimensions. **Ratings:** 

- Volts 600Vac (or less)
  - 300Vdc <sup>1</sup>/<sub>10</sub>-30A, 65-600
  - 250Vdc 35-60A
- Amps 1/10-600A
  - IR 200kA RMS Sym.
  - 20kA DC
- . . .. ..

**Agency information:** CE, Std. 248-12, Class RK5,

UL Listed, Guide JDDZ, File E4273, CSA Certified, Class 1422-02, File 53787.

### Features and benefits:

- 2:1 selective coordination ratio (within RK5 fuse family) prevents electrical shutdowns from extending beyond the failed circuit.
- Insulated end caps for 65-600A fuses reduces exposure to live parts and extends air gap to distance between blades of adjacent mounted fuses or to housing.

#### **Typical applications**

Power panelboards
 Combination starters

Available with

indication

AY FUSE

LIMITING

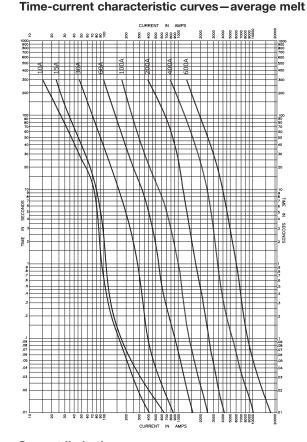
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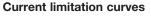
Motor control centers
 Machinery disconnects

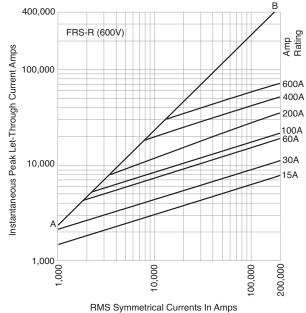
### Catalog numbers (amps)

| FRS-R-2      | FRS-R-10*                                                                                                                                                                                      | FRS-R-100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FRS-R-2-1/4  | FRS-R-12*                                                                                                                                                                                      | FRS-R-110                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FRS-R-2-1/2  | FRS-R-15*                                                                                                                                                                                      | FRS-R-125                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FRS-R-2-%    | FRS-R-17-1/2*                                                                                                                                                                                  | FRS-R-150                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FRS-R-3      | FRS-R-20*                                                                                                                                                                                      | FRS-R-175                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FRS-R-3-%    | FRS-R-25*                                                                                                                                                                                      | FRS-R-200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FRS-R-3-1/2  | FRS-R-30*                                                                                                                                                                                      | FRS-R-225                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FRS-R-4      | FRS-R-35*                                                                                                                                                                                      | FRS-R-250                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FRS-R-4-1/2  | FRS-R-40*                                                                                                                                                                                      | FRS-R-300                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FRS-R-5      | FRS-R-45*                                                                                                                                                                                      | FRS-R-350                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FRS-R-5-%    | FRS-R-50*                                                                                                                                                                                      | FRS-R-400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FRS-R-6*     | FRS-R-60*                                                                                                                                                                                      | FRS-R-450                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FRS-R-6-1/4* | FRS-R-65                                                                                                                                                                                       | FRS-R-500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FRS-R-7*     | FRS-R-70                                                                                                                                                                                       | FRS-R-600                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| FRS-R-7-1/2* | FRS-R-75                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| FRS-R-8*     | FRS-R-80                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| FRS-R-9*     | FRS-R-90                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|              | FRS-R-2-¼<br>FRS-R-2-½<br>FRS-R-2-%<br>FRS-R-3-%<br>FRS-R-3-%<br>FRS-R-3-%<br>FRS-R-4-½<br>FRS-R-4-½<br>FRS-R-5-%<br>FRS-R-5-%<br>FRS-R-6*<br>FRS-R-6*<br>FRS-R-6-¼*<br>FRS-R-7-½*<br>FRS-R-8* | FRS-R-2-¼         FRS-R-12*           FRS-R-2-½         FRS-R-15*           FRS-R-2-%         FRS-R-17-½*           FRS-R-3         FRS-R-20*           FRS-R-3-%         FRS-R-20*           FRS-R-3-½         FRS-R-30*           FRS-R-3-½         FRS-R-30*           FRS-R-4         FRS-R-35*           FRS-R-4-½         FRS-R-40*           FRS-R-5         FRS-R-45*           FRS-R-5-%         FRS-R-60*           FRS-R-6*         FRS-R-60*           FRS-R-6-½*         FRS-R-65           FRS-R-7*         FRS-R-70           FRS-R-7*         FRS-R-75           FRS-R-8*         FRS-R-80 |

\*Available with indication. To order, place "ID" at the end of the catalog number. Example: FRS-R-7ID.







A-B = Asymmetrical Available Peak (2.3 x Sym RMS Amps)

Recommended fuse holders and blocks for Class RK5 fuses • See page 1-3

Recommended fuse reducers for Class R fuses • See page 1-4

For superior electrical protection, Eaton recommends upgrading FRS-R fuse applications to Bussmann series Low-Peak LPS-RK fuses. See page 1-25.

Data Sheet: 1017 (1/10-60), 1018 (65-600)

### Limitron fast-acting fuses

### JJN 300V, Class T

### Specifications:

**Description:** Very fast-acting, current-limiting fuse.

**Dimensions:** See page 1-6 for Class T dimensions.

### **Ratings:**

- Volts 300Vac (or less)
  - 160Vdc (15-600A)
  - 170Vdc (601-1200A)
- Amps 1-1200A
  - IR 200kA RMS Sym.
    - 20kA DC @ 160Vdc
    - 100kA DC @ 170Vdc

**Agency information:** CE, Std. 248-15, Class T, UL Listed, Guide JDDZ, File E4273, CSA Certified, Class 1422-02, File 53787, RoHS compliant.

### Features and benefits:

- Series combination ratings with branch circuit breakers allows broad range of coverage, independent of breaker manufacturer.
- Current limitation for non-inductive circuits provides Class T current-limiting response to maximum ground fault and short-circuit conditions.
- 200kA interrupting rating provides high ratings at all circuit locations.
- · Small footprint allows more efficient use of available space.

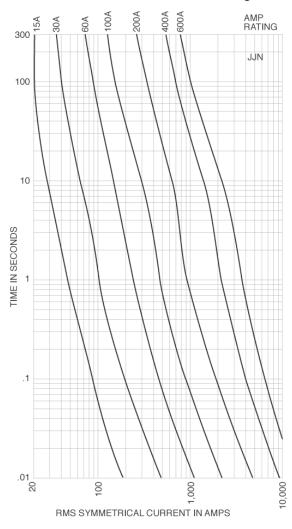
#### **Typical applications:**

- · Large apartment complexes
- Multi-family meter stacks
- VFD line protection

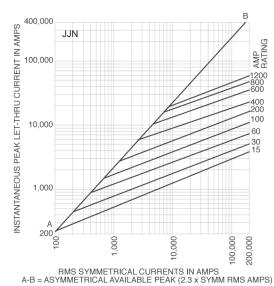
### Catalog numbers (amps)

|        | -      |        |         |         |         |          |
|--------|--------|--------|---------|---------|---------|----------|
| JJN-1  | JJN-15 | JJN-40 | JJN-80  | JJN-150 | JJN-300 | JJN-600  |
| JJN-2  | JJN-20 | JJN-45 | JJN-90  | JJN-175 | JJN-350 | JJN-700  |
| JJN-3  | JJN-25 | JJN-50 | JJN-100 | JJN-200 | JJN-400 | JJN-800  |
| JJN-6  | JJN-30 | JJN-60 | JJN-110 | JJN-225 | JJN-450 | JJN-1000 |
| JJN-10 | JJN-35 | JJN-70 | JJN-125 | JJN-250 | JJN-500 | JJN-1200 |

Time-current characteristic curves-average melt



### **Current limitation curves**



Recommended fuse holders and blocks for Class T fuses

See page 1-3

Data Sheet: 1025



Limitron fast-acting fuses

### Time-current characteristic curves-average melt



**Specifications:** 

**Description:** Very fast-acting, current-limiting fuse.

**Dimensions:** See page 1-6 for Class T dimensions.

### **Ratings:**

Volts - 600Vac (or less)

Amps - 1-800A

IR - 200kA RMS Sym.

Agency information: CE, Std. 248-15, Class T, UL Listed, Guide JDDZ, File E4273, CSA Certified, Class 1422-02, File 53787, RoHS compliant.

BoHS

### Features and benefits:

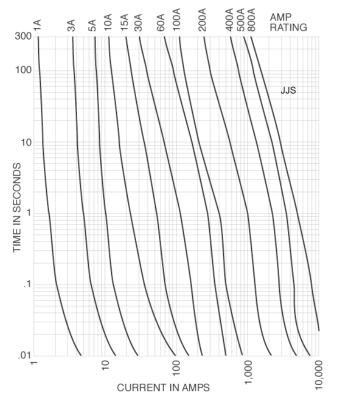
- Series combination ratings with branch circuit breakers allows broad range of coverage, independent of breaker manufacturer.
- Current limitation for non-inductive circuits provides Class T current-limiting response to maximum ground fault and short-circuit conditions.
- 200kA interrupting rating provides high ratings at all circuit locations.
- · Small footprint allows more efficient use of available space.

### **Typical applications:**

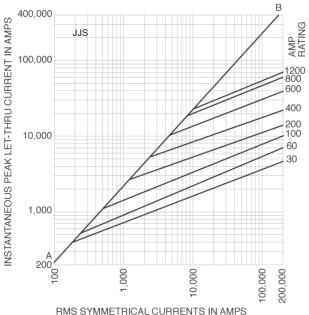
- Large apartment complexes
- Multi-family meter stacks
- VFD line protection

#### Catalog numbers (amps)

| JJS-1  | JJS-15 | JJS-40 | JJS-80  | JJS-150 | JJS-300 | JJS-600 |
|--------|--------|--------|---------|---------|---------|---------|
| JJS-2  | JJS-20 | JJS-45 | JJS-90  | JJS-175 | JJS-350 | JJS-800 |
| JJS-3  | JJS-25 | JJS-50 | JJS-100 | JJS-200 | JJS-400 |         |
| JJS-6  | JJS-30 | JJS-60 | JJS-110 | JJS-225 | JJS-450 |         |
| JJS-10 | JJS-35 | JJS-70 | JJS-125 | JJS-250 | JJS-500 |         |



#### **Current limitation curves**



RMS SYMMETRICAL CURRENTS IN AMPS A–B=ASYMMETRICAL AVAILABLE PEAK (2.3 X SYMM RMS AMPS)

Recommended fuse holders and blocks for Class T fuses

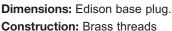
See page 1-3

### Plug fuses

### W

### Specifications:

**Description:** Fast-acting plug fuse.



with plastic body.

### Ratings:

Volts - 125Vac

Amps — ½-12A

IR — 10kA RMS Sym.

Agency information: CE, Std. 248-11, UL Listed, Guide JEFV, File E12112.

### Features and benefits:

 Dependable, fast-acting circuit protection with 10kA interrupting rating for added safety when applied to existing plug fuse systems and 125-volt single-phase control circuits.

### **Typical applications:**

- Replacement only in existing systems.
- For general purpose circuit protection.
- · Use for lighting and other non-motor circuits.

### Catalog numbers\* (amps)

| W-1/2 | W-2 ½ | W-6   | W-10      |  |
|-------|-------|-------|-----------|--|
| W-1   | W-3   | W-6 ½ | W-12      |  |
| W-1 % | W-4   | W-7   | W-DUMMY** |  |
| W-2   | W-5   | W-8   |           |  |

\*W-15, W-20, W-25, and W-30 plug fuses obsoleted. Suggest replacing with either T-(Amp) or TL-(Amp) plug fuses.

\*\* Non-conductive dummy base. Not a fuse.

### SL and TL

### Specifications

Description: Time-delay,

loaded link plug fuse.

- Dimensions:
  - SL Rejection base TL — Edison base

### Construction:

- SL Plastic base with rejection threads
- TL Brass threads with plastic body

### **Ratings:**

Volts - 125Vac

Amps - 15-30A

IR — 10kA RMS Sym.

Agency information: CE, Std. 248-11, UL Listed, Guide JEFV, File E12112.

### Features and benefits

- Time-delay loaded link TL Edison base plug fuses pass motor overload starting currents without opening and allow closer sizing to motor load for added protection.
- Time-delay loaded link SL fuses provide a rejection feature (when used alone or with Fustat adapters to retrofit Edison base holders) to help prevent overfusing.

### **Typical applications**

- Small motor and inductive load circuits with high in-rush current levels.
- Used with box cover units to provide equipment protection.
- Applications benefiting from fuse rejection (SL series only).

### SL catalog numbers (amps)

SL-15 SL-20 SL-25 SL-30

# TL-15 TL-20 TL-25 TL-30

Recommended fuse holders for W plug fuses

• See page 1-4

Data Sheet: 1036

Recommended fuse holders for SL and TL plug fuses

See page 1-4

· See page 1-36 for Fustat adapters for use with SL plug fuses

Data Sheets: 1033 (SL) and 1035 (TL)





Plug fuses

### S and T

### **Specifications:**

**Description:** Dual-element, time-delay plug fuse.

### **Dimensions:**

- S Rejection base
- T Edison base

### **Construction:**

- S Plastic base with rejection threads
- T Brass threads with plastic body

### Ratings:

- Volts 125Vac
- Amps S: ¼-30A
  - T: 3⁄10-30A
  - IR 10kA RMS Sym.

Agency information: CE, Std. 248-11, Type S and T: UL Listed (0-6¼) Guide JFHR, File E56412 (7-30A) Guide JEFV, File E12112; CSA Certified, Class 1423-01, File 53787.

### Features and benefits:

- Time-delay, dual-element T Edison base plug fuses provide small motor overload protection when used with box cover units.
- Time-delay, dual-element S plug fuses provide a rejection feature (when used alone or with Fustat adapters to retrofit Edison base holders) to prevent overfusing of branch circuits.

### **Typical applications:**

- S residential load centers
- T box cover units for small motor overload protection
- · Applications benefiting from fuse rejection (S only)

### S catalog numbers (amps)

| S-1/4  | S-1/10   | S-1-%   | S-2-1/10 | S-4-1/2  | S-7  | S-14 |  |
|--------|----------|---------|----------|----------|------|------|--|
| S-¾    | S-1      | S-1-‰   | S-3      | S-5      | S-8  | S-15 |  |
| S-1/10 | S-1-1⁄8  | S-2     | S-3-1/10 | S-5-1/10 | S-9  | S-20 |  |
| S-1/2  | S-1-¼    | S-2-1/4 | S-3-½    | S-6      | S-10 | S-25 |  |
| S-%10  | S-1-1/10 | S-2-½   | S-4      | S-6-1/4  | S-12 | S-30 |  |

#### T catalog numbers (amps)

|        | •        |          | ,     |      |      |  |
|--------|----------|----------|-------|------|------|--|
| T-3/10 | T-1-1⁄8  | T-2-1⁄4  | T-4   | T-7  | T-15 |  |
| T-1/10 | T-1-¼    | T-2-½    | T-4-½ | T-8  | T-20 |  |
| T-½    | T-1-1/10 | T-2-1/10 | T-5   | T-9  | T-25 |  |
| T-%0   | T-1-%    | T-3      | T-5-% | T-10 | T-30 |  |
| T-%    | T-1-%    | T-3-‰    | T-6   | T-12 |      |  |
| T-1    | T-2      | T-3-½    | T-6-¼ | T-14 |      |  |

#### Data Sheet: 1032 (S) and 1034 (T)

Recommended fuse holders for S and T plug fuses

• See page 1-4

• See page 1-36 for Fustat adapters for use with S plug fuse

### P and TC

### Specifications:

Description:

- P Type P dual-element fuse
- TC Type D dual-element, time-delay fuse

### Dimensions: Edison base

**Construction:** Brass threads with plastic body.

### **Ratings:**

Volts — 125Vac or less

- Amps 15-30A
- IR 10kA

### Agency information:

P - CSA Certified

TC - CSA Certified (Class 1423-01, File # 53787)

### Features and benefits:

- "P" rating for Canadian applications.
- Non-time delay for non-inductive loads
- ТС
  - "D" rating for Canadian applications
  - Heavy duty TC fuses are industrial strength products, featuring dual-element construction.
  - This spring loaded design provides superior short-circuit and overload protection.
  - The TC fuses have more time-delay than the medium duty fuses in order to better protect industrial motors and residential circuits.

### Typical applications:

- P Non-inductive loads, residential load centers
- TC Box cover units for small motor overload protection

#### P catalog numbers (amps)

| P-15                      | P-20 | P-25 | P-30 |  |  |
|---------------------------|------|------|------|--|--|
| TC catalog numbers (amps) |      |      |      |  |  |

| TC-15 | TC-20 | TC-25 | TC-30 |  |
|-------|-------|-------|-------|--|



- Recommended fuse holders for P and TC plug fuses
- See page 1-4
- · See page 1-36 for Fustat adapters for use with S plug fuse





### MB Edison base circuit breakers



### **Specifications:**

**Description:** Edison base manual reset circuit breakers. **Dimensions:** Edison base

Construction: Brass threads with plastic body

### **Ratings:**

Volts — 125Vac only

Amps — 15-20A

IR — 10kA RMS Sym.

Agency information: UL Listed, File E14942

### Features and benefits:

- Fit standard Edison base fuse receptacles.
- Resettable upon overload event.

### **Typical applications:\***

 Replacing Edison base plug fuses in residential fuse panels.
 Catalog numbers\* (Amps) MB-15

MB-15 MB-20

\* Not for use in box cover units or for inductive loads.

### SA Fustat fuse adapters



### **Specifications:**

**Description:** Adapters for using Type S and SL rejection fuses in Edison base fuse sockets.

**Agency information:** UL Listed, File E12853; CSA Certified File #6225-01, File #47235.

### Features and benefits:

- Fustat adapters screw into the "Edison" thread fuse sockets of standard fuse boxes making it easy to retrofit existing fuse installations
- Available in various amp ratings to cover a wide range of rating requirements

### **Typical applications:**

• Plug fuse installations where it is desirable to restrict fuse amp ratings

### Catalog numbers (amps)

| SA-1*   | SA-3-1/10* | SA-10*  |
|---------|------------|---------|
| SA-1-¼* | SA-4*      | SA-15** |
| SA-1-%* | SA-5*      | SA-20** |
| SA-2*   | SA-6-1⁄4*  | SA-30** |
| SA-2-½* | SA-8*      |         |

\* Single motor circuits. \*\* Branch circuits.

# Fustat<sup>™</sup> adapters for small motor protection\*

| Adapter       | Accepts tuses                                                          |  |
|---------------|------------------------------------------------------------------------|--|
| SA-1          | S-1 or smaller                                                         |  |
| SA-1-¼        | S-1-¼ or smaller                                                       |  |
| SA-1-%        | S-1-% or smaller                                                       |  |
| SA-2          | S-2 or S-1-%                                                           |  |
| SA-2-½        | S-2-½ to S-1-‰                                                         |  |
| SA-3-1/10     | S-3- <sup>2</sup> / <sub>10</sub> to S-1- <sup>9</sup> / <sub>10</sub> |  |
| SA-4          | S-4 to S-3-½                                                           |  |
| SA-5          | S-5 to S-3-1⁄2                                                         |  |
| SA-6-¼        | S-6-¼ to S-3-½                                                         |  |
| SA-8          | S-8 to S-7                                                             |  |
| SA-10         | S-10 to S-7                                                            |  |
| SA-15         | S-15 to S-7                                                            |  |
| SA-20         | S-20                                                                   |  |
| SA-30         | S-30 to S-25                                                           |  |
| Both motor ru | unning and short-circuit protection.                                   |  |

#### Fustat<sup>™</sup> adapters for branch circuit protection

| Adapter | Accepts fuses | • |
|---------|---------------|---|
| SA-15   | S-15 to S-7   |   |
| SA-20   | S-20          |   |
| SA 30   | S-30 to S-25  |   |