

## CLASS RK1 – LLNRK • LLSRK • LLSRK\_ID SERIES FUSES

**POWR-PRO®** 250/600 Vac • Dual Element • Time-Delay • 1/10-600 A**Description**

RK1 fuses are extremely current-limiting fuses meaning they greatly reduce or eliminate damage to circuits and equipment under short-circuit conditions. Replacing existing Class H, K and RK5 fuses with RK1 fuses is one of the easiest ways to immediately improve the protection of plant workers and equipment.

**Applications**

- All general purpose circuits
- Motors
- Transformers
- Safety upgrades

**Features/Benefits**

- POWR-PRO Performance
- Indication available
- Dual-element design
- Extremely Current-Limiting
- IEC Type 2 “No Damage” protection to IEC and NEMA type motor starters
- Indicating and DIN mount fuse holders available

**Specifications**

**Voltage Ratings** 600 Vac/300 Vdc (LLSRK/LLSRK\_ID)  
250 Vac/125 Vdc (LLNRK)

**Interrupting Ratings** AC: 200 kA rms symmetrical  
300 kA rms symmetrical  
(Littelfuse self-certified)

**Ampere Range** 1/10 – 600 A  
**Approvals**

DC: 20 kA  
1/10 – 600 A  
AC: Standard 248-12, Class RK1  
UL Listed (File: E81895)  
CSA Certified (File: LR29862)  
DC: Littelfuse self-certified  
Federal Specification WF-1814  
(QPL- W-F-1814)

**Recommended Fuse Holders**

LFR60 Series • LFR25 Series

**Ordering Information**

| AMPERE RATINGS |        |        |        |     |     |     |
|----------------|--------|--------|--------|-----|-----|-----|
| 1/10           | 1      | 2 8/10 | 6 1/4  | 25  | 80  | 250 |
| 15/100         | 1 1/8  | 3      | 7      | 30  | 90  | 300 |
| 2/10           | 1 1/4  | 3 2/10 | 8      | 35  | 100 | 350 |
| 1/4*           | 1 4/10 | 3 1/2  | 9      | 40  | 110 | 400 |
| 3/10           | 1 6/10 | 4      | 10     | 45  | 125 | 450 |
| 4/10           | 1 8/10 | 4 1/2  | 12     | 50  | 150 | 500 |
| 1/2            | 2      | 5      | 15     | 60  | 175 | 600 |
| 6/10           | 2 1/4  | 5 6/10 | 17 1/2 | 70  | 200 |     |
| 8/10           | 2 1/2  | 6      | 20     | 75* | 225 |     |

Note: All LLSRK\_ID fuses rated 1 amp and above are Indicator® fuses.

\*Ampere rating only available for the 600 V.

**600 V**

| TYPE           | SERIES   | AMP | CATALOG NUMBER | ORDERING NUMBER |
|----------------|----------|-----|----------------|-----------------|
| INDICATING     | LLSRK_ID | 60  | LLSRK060ID     | LSRK060.TXID    |
| NON-INDICATING | LLSRK    | 60  | LLSRK060       | LSRK060.T       |

**250 V**

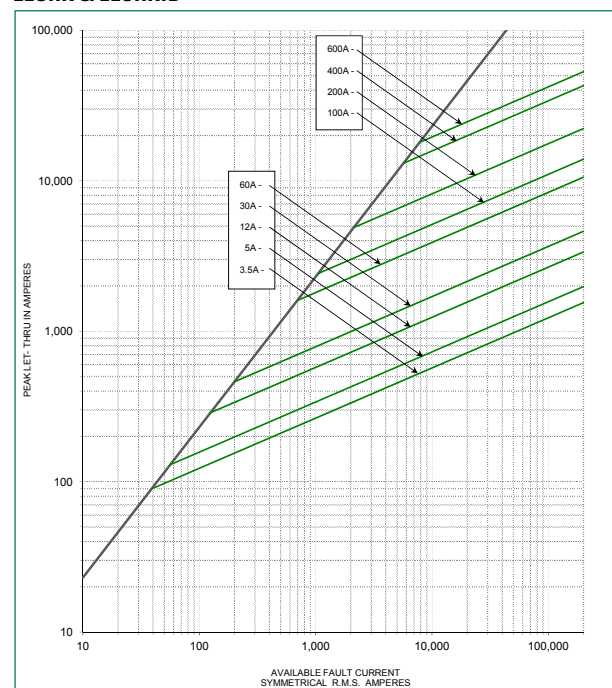
| TYPE           | SERIES | AMP | CATALOG NUMBER | ORDERING NUMBER |
|----------------|--------|-----|----------------|-----------------|
| NON-INDICATING | LLNRK  | 80  | LLNRK080       | LNRK080.V       |

**Web Resources**

Download TC Curves, CAD drawings and other technical information: [littelfuse.com/llsrk](http://littelfuse.com/llsrk)  
[littelfuse.com/llnrk](http://littelfuse.com/llnrk)

**Dimensions**

Please refer to the Class R dimensions page 3.

**Peak Let-Thru Curve (600 V)****LLSRK & LLSRKID**

Note: For more information, see Peak Let-Thru Table

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## Current-Limiting Effects of LLSRK and LLSRK\_ID (600 V) Fuses

| SHORT CIRCUIT<br>CURRENT* | APPARENT RMS SYMMETRICAL CURRENT FOR VARIOUS FUSE RATINGS |     |       |       |       |       |       |        |        |
|---------------------------|-----------------------------------------------------------|-----|-------|-------|-------|-------|-------|--------|--------|
|                           | 3.5 A                                                     | 5 A | 12 A  | 30 A  | 60 A  | 100 A | 200 A | 400 A  | 600 A  |
| 5,000                     | 196                                                       | 251 | 427   | 586   | 1,341 | 1,764 | 2,821 | -      | -      |
| 10,000                    | 247                                                       | 316 | 538   | 739   | 1,689 | 2,222 | 3,554 | 6,850  | 8,489  |
| 15,000                    | 283                                                       | 362 | 616   | 845   | 1,934 | 2,544 | 4,069 | 7,842  | 9,718  |
| 20,000                    | 312                                                       | 399 | 677   | 930   | 2,129 | 2,800 | 4,478 | 8,631  | 10,696 |
| 25,000                    | 336                                                       | 430 | 730   | 1,002 | 2,293 | 3,016 | 4,824 | 9,297  | 11,522 |
| 30,000                    | 357                                                       | 456 | 776   | 1,065 | 2,437 | 3,205 | 5,126 | 9,880  | 12,244 |
| 35,000                    | 376                                                       | 481 | 816   | 1,121 | 2,565 | 3,374 | 5,397 | 10,401 | 12,889 |
| 40,000                    | 393                                                       | 502 | 854   | 1,172 | 2,682 | 3,528 | 5,642 | 10,874 | 13,476 |
| 50,000                    | 423                                                       | 541 | 919   | 1,263 | 2,889 | 3,800 | 6,078 | 11,714 | 14,516 |
| 60,000                    | 450                                                       | 575 | 977   | 1,342 | 3,070 | 4,038 | 6,459 | 12,448 | 15,426 |
| 80,000                    | 495                                                       | 633 | 1,075 | 1,477 | 3,379 | 4,445 | 7,109 | 13,700 | 16,979 |
| 100,000                   | 533                                                       | 682 | 1,158 | 1,591 | 3,640 | 4,788 | 7,658 | 14,758 | 18,290 |
| 150,000                   | 610                                                       | 781 | 1,326 | 1,821 | 4,167 | 5,481 | 8,766 | 16,894 | 20,936 |
| 200,000                   | 671                                                       | 859 | 1,460 | 2,005 | 4,586 | 6,032 | 9,648 | 18,594 | 23,043 |

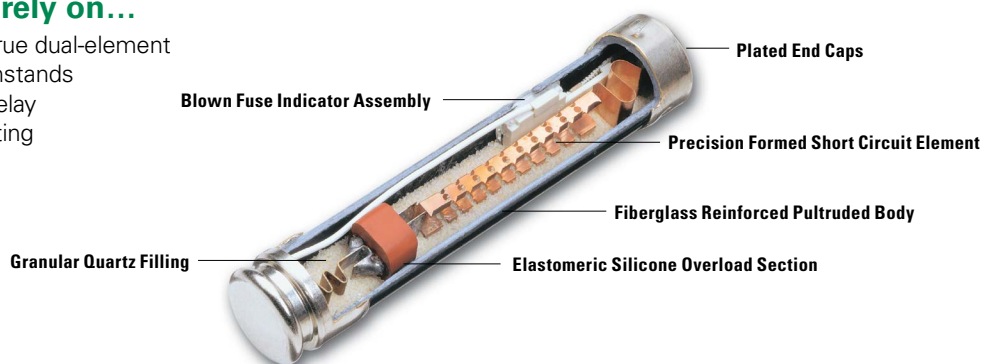
## Current-Limiting Effects of LLNRK (250 V) Fuses

| SHORT CIRCUIT<br>CURRENT* | APPARENT RMS SYMMETRICAL CURRENT FOR VARIOUS FUSE RATINGS |       |       |       |        |        |
|---------------------------|-----------------------------------------------------------|-------|-------|-------|--------|--------|
|                           | 30 A                                                      | 60 A  | 100 A | 200 A | 400 A  | 600 A  |
| 5,000                     | 900                                                       | 1,400 | 2,000 | 2,700 | 4,800  | 5,000  |
| 10,000                    | 1,100                                                     | 1,900 | 2,700 | 3,500 | 6,200  | 8,500  |
| 15,000                    | 1,250                                                     | 2,100 | 3,100 | 4,200 | 7,000  | 9,500  |
| 20,000                    | 1,400                                                     | 2,400 | 3,500 | 4,600 | 8,000  | 10,800 |
| 25,000                    | 1,500                                                     | 2,600 | 3,900 | 5,000 | 8,300  | 11,500 |
| 30,000                    | 1,600                                                     | 2,800 | 4,000 | 5,250 | 9,000  | 12,000 |
| 35,000                    | 1,700                                                     | 2,850 | 4,300 | 5,500 | 9,500  | 12,500 |
| 40,000                    | 1,800                                                     | 3,000 | 4,600 | 5,800 | 9,800  | 13,500 |
| 50,000                    | 1,900                                                     | 3,200 | 4,800 | 6,300 | 10,200 | 14,000 |
| 60,000                    | 2,000                                                     | 3,500 | 5,200 | 6,700 | 11,000 | 15,000 |
| 80,000                    | 2,200                                                     | 3,900 | 5,700 | 7,200 | 12,200 | 16,000 |
| 100,000                   | 2,300                                                     | 4,000 | 6,000 | 8,100 | 12,700 | 17,000 |
| 150,000                   | 2,500                                                     | 4,500 | 6,700 | 9,100 | 14,000 | 19,000 |
| 200,000                   | 2,600                                                     | 4,800 | 7,000 | 9,700 | 15,000 | 20,000 |

\*Prospective RMS Symmetrical Amperes Short-Circuit Current  
 Note: Data derived from Peak Let-Thru Curves

## LLSRK\_ID Fuses—Quality Construction for performance you can rely on...

Littelfuse **LLSRK\_ID** Fuses feature true dual-element construction. This robust design withstands repeated surges within rated time delay without opening needlessly, eliminating downtime caused by power surges or equipment demands.



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## Dimensions

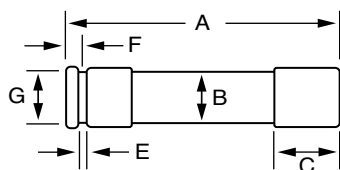


FIG. 1

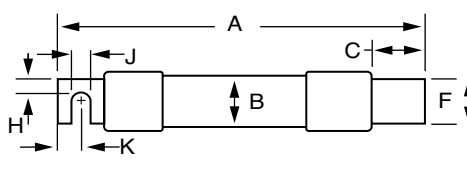


FIG. 2

70-600A

| AMPS    | FIGURE NUMBER | SERIES           | DIMENSIONS INCHES (mm) |              |                |                |            |              |            |             |               |               |
|---------|---------------|------------------|------------------------|--------------|----------------|----------------|------------|--------------|------------|-------------|---------------|---------------|
|         |               |                  | A                      | B            | C              | D              | E          | F            | G          | H           | J             | K             |
| 1/10–30 | 1             | LLNRK            | 2 (50.8)               | 1/2 (12.7)   | 1/2 (12.7)     | 9/16 (14.3)    | 5/64 (2.0) | 5/32 (4.0)   | 3/8 (9.5)  | —           | —             | —             |
|         |               | LLSRK<br>LSRK_ID | 5 (127.0)              | 3/4 (19.1)   | 5/8 (15.9)     | 13/16 (20.6)   | 3/32 (2.4) | 3/16 (4.8)   | 5/8 (15.9) | —           | —             | —             |
| 35–60   | 1             | LLNRK            | 3 (76.2)               | 3/4 (19.1)   | 5/8 (15.9)     | 13/16 (20.6)   | 3/32 (2.4) | 3/16 (4.8)   | 5/8 (15.9) | —           | —             | —             |
|         |               | LLSRK<br>LSRK_ID | 5 1/2 (139.7)          | 1 (25.4)     | 5/8 (15.9)     | 1 1/16 (27.0)  | 3/32 (2.4) | 1/4 (6.4)    | 7/8 (22.2) | —           | —             | —             |
| 70–100  | 2             | LLNRK            | 5 7/8 (149.2)          | 1 (25.4)     | 1 1/16 (27.0)  | 1 1/16 (27.0)  | 1/8 (3.2)  | 3/4 (19.1)   | —          | 1/4 (6.4)   | 9/32 (7.1)    | 1/2 (12.7)    |
|         |               | LLSRK<br>LSRK_ID | 7 7/8 (200.0)          | 1 1/4 (31.8) | 1 1/16 (27.0)  | 1 5/16 (33.3)  | 1/8 (3.2)  | 3/4 (19.1)   | —          | 1/4 (6.4)   | 9/32 (7.1)    | 1/2 (12.7)    |
| 110–200 | 2             | LLNRK            | 7 7/8 (181.0)          | 1 1/2 (38.1) | 1 15/32 (37.3) | 1 19/32 (40.5) | 3/16 (4.8) | 1 1/8 (28.6) | —          | 7/16 (11.1) | 9/32 (7.1)    | 1 1/16 (17.5) |
|         |               | LLSRK<br>LSRK_ID | 9 5/8 (244.5)          | 1 3/4 (44.5) | 1 15/32 (37.3) | 1 27/32 (46.8) | 3/16 (4.8) | 1 1/8 (28.6) | —          | 7/16 (11.1) | 9/32 (7.1)    | 1 1/16 (17.5) |
| 225–400 | 2             | LLNRK            | 8 5/8 (219.1)          | 2 (50.8)     | 1 15/16 (49.2) | 2 3/32 (53.2)  | 1/4 (6.4)  | 1 5/8 (41.3) | —          | 5/8 (15.9)  | 13/32 (10.3)  | 1 5/16 (23.8) |
|         |               | LLSRK<br>LSRK_ID | 11 5/8 (295.3)         | 2 1/2 (63.5) | 2 (50.8)       | 2 19/32 (65.9) | 1/4 (6.4)  | 1 5/8 (41.3) | —          | 5/8 (15.9)  | 13/32 (10.3)  | 1 5/16 (23.8) |
| 450–600 | 2             | LLNRK            | 10 3/8 (263.5)         | 2 1/2 (63.5) | 2 3/8 (60.3)   | 2 19/32 (65.9) | 1/4 (6.4)  | 2 (50.8)     | —          | 3/4 (19.1)  | 1 7/32 (13.5) | 1 1/8 (28.6)  |
|         |               | LLSRK<br>LSRK_ID | 13 3/8 (339.7)         | 3 (76.2)     | 2 13/32 (61.1) | 3 3/32 (78.6)  | 1/4 (6.4)  | 2 (50.8)     | —          | 3/4 (19.1)  | 1 7/32 (13.5) | 1 1/8 (28.6)  |

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