

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)
DC: 20 kA

Ampere Range 1/10 – 600 A

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

Current-Limiting Effects of LLNRK (250 V) Fuses

| SHORT CIRCUIT 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



| 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 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 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 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 LLSRK_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 LLSRK_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 LLSRK_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) |