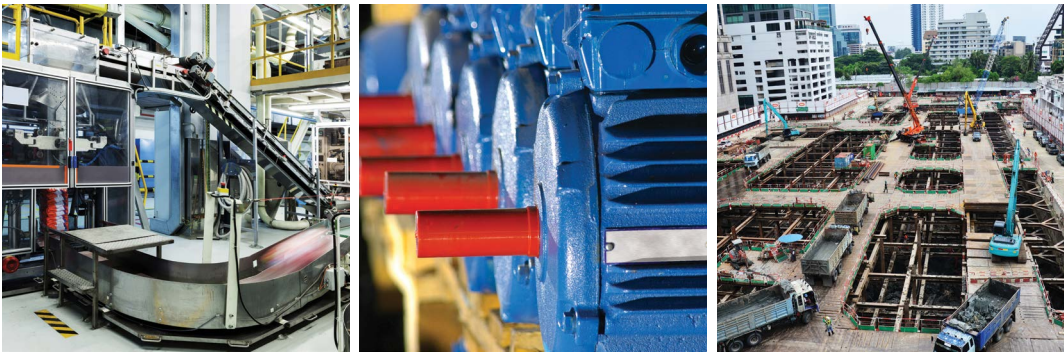


Section Overview

Since 1927 Littelfuse has been providing fuses to the industrial market. You can continue to count on our manufacturing and supply chain processes to deliver high quality fuses when you need them. At Littelfuse we leverage our global reach to stay on top of the latest applications and standards. Whether your circuit protection needs are focused on OEM, MRO, or construction, we are committed to being your circuit protection partner and appreciate your business.



FUSES

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CLASS L - KLPC SERIES POWR-PRO® FUSES

POWR-PRO® 600 Vac • Time-Delay • 200-6000 A



1
UL Class L Fuses



Description

KLPC series POWR-PRO® fuses meet or exceed the most stringent project specifications, including silver links, silver-plated copper end bells, glass-reinforced melamine bodies, O-ring seals between body and end bells, and granular quartz fillers.

Applications

- Switchboard mains and feeders
- Motor control center mains
- Large motor branch circuits
- Protection of power circuit breakers

Features/Benefits

- POWR-PRO® Performance
- Best-in-class time-delay withstand
- Current-Limiting
- Easily coordinated with other system components
- 300 kA AC Interrupting Rating (self-certified)

Specifications

Voltage Ratings	AC: 600 Vac or less DC: 480 V
Ampere Range	200 – 6000 A
Interrupting Ratings	AC: 200 kA rms symmetrical 300 kA rms symmetrical (Littelfuse self-certified) DC: 20,000 A
Approvals	AC: Standard 248-10, Class L UL Listed 601–6000 A (File: E81895) UL Recognized 200–600 A (File: E71611) CSA Certified 601–6000 A (File: LR29862) Federal Specifications 700–6000 A (QPL-W-F-1814) DC: Littelfuse self-certified
Material	Melamine body, Copper caps (silver plated)
Country of Origin	Mexico

Ordering Information

AMPERE RATINGS					
200	500	800	1350	2000	3000
250	600	900	1400	2100	3500
300	601	1000	1500	2200	4000
350	650	1100	1600	2300	4500
400	700	1200	1800	2400	5000
450	750	1300	1900	2500	6000

SERIES	AMPERAGE	CATALOG NUMBER	ORDERING NUMBER
KLPC	800	KLPC800	KLPC800.X

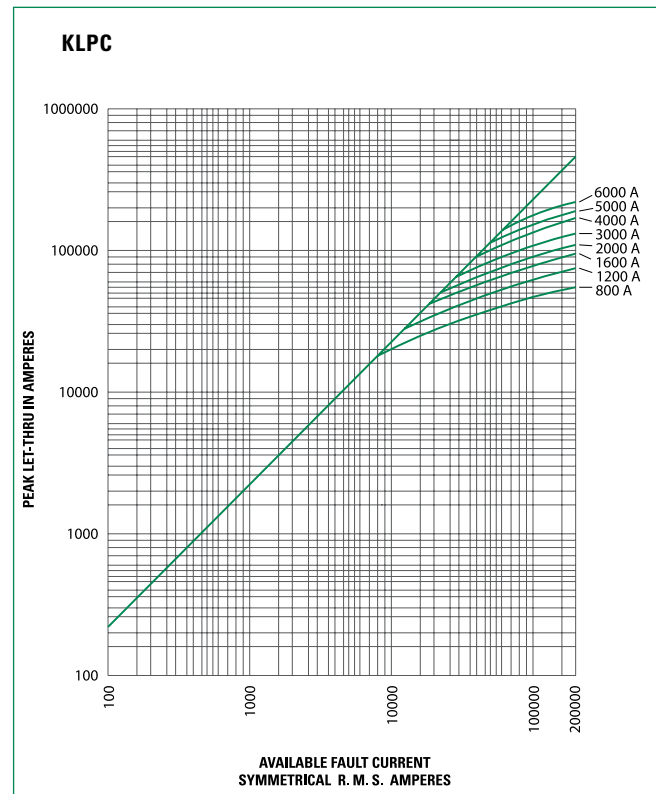
Web Resources

Download TC Curves, CAD drawings and other technical information: littelfuse.com/klpc

Dimensions

Please refer to the Class L dimensions 12

Peak Let-Thru Curve



Note: For more information, see Peak Let-Thru Table on pg. 11

CLASS L - KLLU SERIES FUSES

600 Vac • Time-Delay • 601-4000 A



Description

KLLU series fuses meet or exceed UL requirements for UL Class L fuses. The KLLU series offers an economical alternative to KLPC POWR-PRO® fuse with a slightly higher peak let through current.

Applications

- Service switches
- Switchboard mains and feeders
- Motor control center mains
- Large motor branch circuits
- Circuit breaker protection

Features/Benefits

- Current-Limiting
- Easily coordinated with other system components
- 200 kA AC Interrupting Rating

Specifications

Voltage Ratings

AC: 600 Vac or less
DC: 300 V

Ampere Range

601–4000 A

Interrupting Ratings

AC: 200 kA rms symmetrical
DC: 20 kA rms symmetrical
Standard 248-10, Class L
UL Listed (File: E81895)
CSA Certified (File: LR29862)

Approvals

DC: Littelfuse self-certified
Melamine body, Copper caps (silver plated)
Mexico

Material

Country of Origin

Ordering Information

AMPERE RATINGS					
601	750	1000	1400	1800	3000
650	800	1200	1500	2000	3500
700	900	1350	1600	2500	4000

SERIES	AMPERAGE	CATALOG NUMBER	ORDERING NUMBER
KLLU	601	KLLU601	KLLU601.X

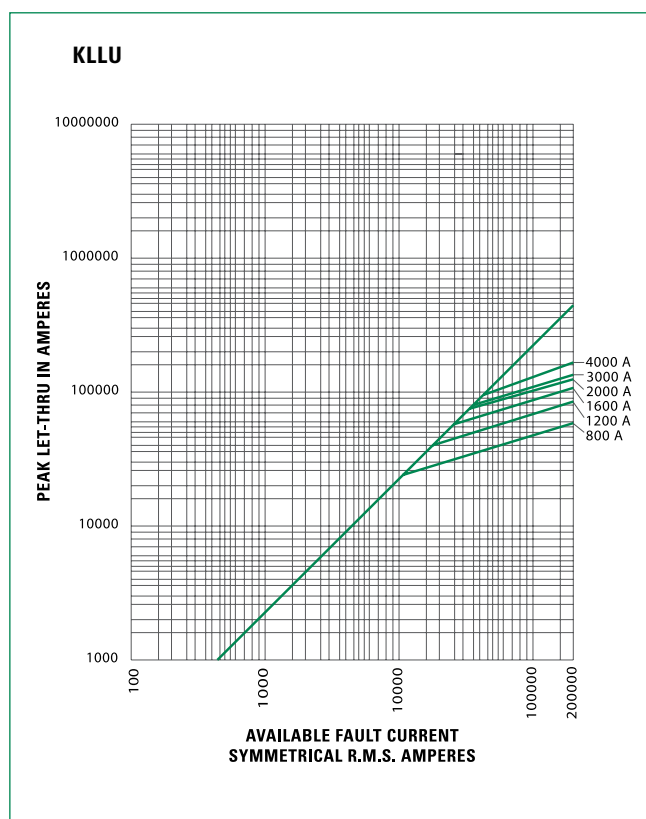
Web Resources

Download TC Curves, CAD drawings and other technical information: littelfuse.com/kllu

Dimensions

Please refer to the Class L dimensions 12

Peak Let-Thru Curve



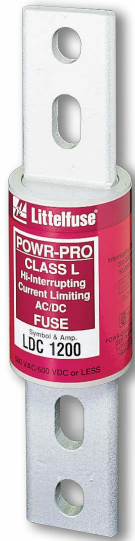
Note: For more information, see Peak Let-Thru Table on pg. 11

CLASS L - LDC SERIES POWR-PRO® FUSES

POWR-PRO® 600 Vac/dc • Fast Acting • 150-2000 A



1
UL Class L Fuses



Description

High DC voltage and interrupting ratings make the POWR-PRO® LDC ideal for DC applications. The DC interrupting performance exceeds UL listing requirements.

Applications

- Solar inverter and array protection
- UPS protection especially for large battery circuits
- DC distribution and variable speed drives
- Mass transit systems

Features/Benefits

- POWR-PRO® Performance
- Extremely Current-Limiting
- 600 Vac/dc rated
- 200 kA AC Interrupting Rating
- 50 kA DC Interrupting Rating

Specifications

Voltage Ratings	600 Vac/dc or less
Ampere Range	150–2000 A
Interrupting Ratings	AC: 200 kA rms symmetrical DC: 50 kA
Time Constant	16 ms
Approvals	Standard 248-10, Class L UL Listed 601–2000 A (File: E81895) UL Recognized 150–600 A (File: E71611) CSA Certified 800-2000 A (File: LR29862)
Material	Melamine body, Copper caps (silver plated)
Country of Origin	Mexico

Ordering Information

AMPERE RATINGS				
150	450	750	1201	1601
200	500	800	1300	1800
250	600	900	1350	1900
300	601	1000	1400	2000
350	650	1100	1500	
400	700	1200	1600	

SERIES	AMPERAGE	CATALOG NUMBER	ORDERING NUMBER
LDC	700	LDC700	0LDC700.X

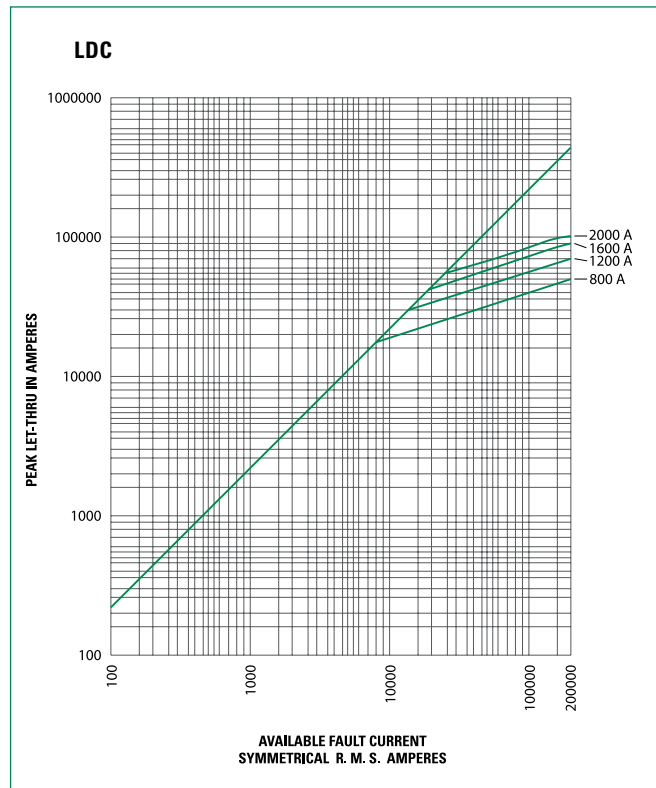
Web Resources

Download TC curves, CAD drawings and other technical documents: littelfuse.com/lcdc

Dimensions

Please refer to the Class L dimensions 12

Peak Let-Thru Curve



Note: For more information, see Peak Let-Thru Table on pg. 11

CLASS L CURRENT-LIMITING EFFECTS

Current-Limiting Effects of KLPC (600 V) Fuses

SHORT CIRCUIT CURRENT*	APPARENT RMS SYMMETRICAL CURRENT FOR VARIOUS FUSE RATINGS							
	800 A	1200 A	1600 A	2000 A	3000 A	4000 A	5000 A	6000 A
5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
10,000	8,800	10,000	10,000	10,000	10,000	10,000	10,000	10,000
15,000	10,500	13,500	15,000	15,000	15,000	15,000	15,000	15,000
20,000	12,000	15,000	19,000	20,000	20,000	20,000	20,000	20,000
25,000	13,000	16,000	21,000	24,000	25,000	25,000	25,000	25,000
30,000	14,000	18,000	23,000	26,000	30,000	30,000	30,000	30,000
35,000	15,000	19,000	24,000	27,000	32,000	35,000	35,000	35,000
40,000	16,000	20,000	25,000	28,000	34,000	40,000	40,000	40,000
50,000	17,000	22,000	27,000	31,000	37,000	42,500	50,000	50,000
60,000	18,000	24,000	29,000	34,000	40,000	46,000	52,000	60,000
80,000	20,000	26,000	32,000	37,000	44,000	51,000	57,000	70,000
100,000	21,000	27,000	34,000	40,000	46,000	57,000	65,000	75,000
150,000	23,000	31,000	38,000	44,000	54,000	67,000	75,000	87,000
200,000	24,000	34,000	42,000	46,000	57,000	70,000	80,000	95,000

Current-Limiting Effects of KLLU (600 V) Fuses

SHORT-CIRCUIT CURRENT*	APPARENT RMS SYMMETRICAL CURRENT FOR VARIOUS FUSE RATINGS					
	800 A	1200 A	1600 A	2000 A	3000 A	4000 A
5,000	5,000	5,000	5,000	5,000	5,000	5,000
10,000	10,000	10,000	10,000	10,000	10,000	10,000
15,000	11,900	15,000	15,000	15,000	15,000	15,000
20,000	13,000	18,500	20,000	20,000	20,000	20,000
25,000	14,000	20,000	25,000	25,000	25,000	25,000
30,000	14,500	21,000	26,500	30,000	30,000	30,000
35,000	15,000	22,000	28,500	34,000	35,000	35,000
40,000	16,000	23,000	30,000	35,000	37,000	40,000
50,000	17,000	24,000	32,000	38,000	39,000	44,000
60,000	18,000	26,000	34,000	42,000	43,000	50,000
80,000	19,000	28,000	36,000	44,000	46,000	54,500
100,000	21,000	30,000	38,000	46,000	48,000	57,500
150,000	24,000	35,000	44,000	50,000	51,000	68,000
200,000	26,000	38,000	48,000	53,000	60,000	74,000

Current-Limiting Effects of LDC (600 V) Fuses

SHORT CIRCUIT CURRENT*	APPARENT RMS SYMMETRICAL CURRENT FOR VARIOUS FUSE RATINGS			
	800 A	1200 A	1600 A	2000 A
5,000	5,000	5,000	5,000	5,000
10,000	8,500	10,000	10,000	10,000
15,000	9,750	14,000	15,000	15,000
20,000	10,500	15,000	19,000	20,000
25,000	11,500	16,000	21,000	25,000
30,000	12,000	17,000	22,000	26,000
35,000	12,500	18,000	23,000	28,000
40,000	13,500	19,000	24,000	30,000
50,000	14,000	21,000	26,000	32,000
60,000	15,000	22,000	28,000	34,000
80,000	16,000	24,000	30,000	36,000
100,000	18,000	25,000	33,000	40,000
150,000	20,000	30,000	38,000	44,000
200,000	23,000	32,000	41,000	46,000

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

CLASS L SERIES DIMENSIONS

1

UL Class L Fuses

Dimensions

AMPERES	FIG. NO.	DIMENSIONS INCHES (mm)												
		A	B	C	D	E	F	G	H	J	K	L	M	N
150-800	1	3 ³ / ₄ (95.3)	5 ³ / ₄ (146.1)	6 ³ / ₄ (171.5)	—	—	8 ⁵ / ₈ (219.1)	—	—	2 (50.8)	2 ¹ / ₂ (63.5)	3 ¹ / ₈ (9.5)	5 ⁵ / ₈ x 1 ¹ / ₈ (15.9) x (28.6)	—
900-1200	2	3 ³ / ₄ (95.3)	5 ³ / ₄ (146.1)	6 ³ / ₄ (171.5)	9 ¹ / ₄ (235.0)	9 ¹ / ₂ (241.3)	10 ³ / ₄ (273.1)	—	—	2 (50.8)	2 ¹ / ₂ (63.5)	3 ¹ / ₈ (9.5)	5 ⁵ / ₈ x 3 ³ / ₄ (15.9) x (19.1)	5 ⁵ / ₈ x 1 ¹ / ₈ (15.9) x (28.6)
1300-1600	2	3 ³ / ₄ (95.3)	5 ³ / ₄ (146.1)	6 ³ / ₄ (171.5)	9 ¹ / ₄ (235.0)	9 ¹ / ₂ (241.3)	10 ³ / ₄ (273.1)	—	—	2 ³ / ₈ (60.3)	3 (76.2)	7 ¹ / ₁₆ (11.1)	5 ⁵ / ₈ x 3 ³ / ₄ (15.9) x (19.1)	5 ⁵ / ₈ x 1 ¹ / ₈ (15.9) x (28.6)
1800-2000	2	3 ³ / ₄ (95.3)	5 ³ / ₄ (146.1)	6 ³ / ₄ (171.5)	9 ¹ / ₄ (235.0)	9 ¹ / ₂ (241.3)	10 ³ / ₄ (273.1)	—	—	2 ³ / ₄ (69.9)	3 ¹ / ₂ (88.9)	1 ¹ / ₂ (12.7)	5 ⁵ / ₈ x 3 ³ / ₄ (15.9) x (19.1)	5 ⁵ / ₈ x 1 ¹ / ₈ (15.9) x (28.6)
2100-2500	3	4 (101.6)	5 ³ / ₄ (146.1)	6 ³ / ₄ (171.5)	9 ¹ / ₄ (235.0)	9 ¹ / ₂ (241.3)	10 ³ / ₄ (273.1)	1 ⁵ / ₈ (41.3)	1 ³ / ₄ (44.5)	3 ¹ / ₂ (88.9)	5 (127.0)	3 ³ / ₄ (19.1)	5 ⁵ / ₈ x 3 ³ / ₄ (15.9) x (19.1)	5 ⁵ / ₈ x 1 ¹ / ₈ (15.9) x (28.6)
2501-3000	3	4 (101.6)	5 ³ / ₄ (146.1)	6 ³ / ₄ (171.5)	9 ¹ / ₄ (235.0)	9 ¹ / ₂ (241.3)	10 ³ / ₄ (273.1)	1 ⁵ / ₈ (41.3)	1 ³ / ₄ (44.5)	4 (101.6)	5 (127.0)	3 ³ / ₄ (19.1)	5 ⁵ / ₈ x 3 ³ / ₄ (15.9) x (19.1)	5 ⁵ / ₈ x 1 ¹ / ₈ (15.9) x (28.6)
3500-4000	4	4 (101.6)	5 ³ / ₄ (146.1)	6 ³ / ₄ (171.5)	9 ¹ / ₄ (235.0)	9 ¹ / ₂ (241.3)	10 ³ / ₄ (273.1)	1 ³ / ₄ (44.5)	3 ³ / ₄ (82.6)	4 ³ / ₄ (120.7)	5 ³ / ₄ (146.1)	3 ³ / ₄ (19.1)	5 ⁵ / ₈ x 1 ³ / ₈ (15.9) x (34.9)	5 ⁵ / ₈ x 1 ³ / ₈ (15.9) x (34.9)
4500-5000	5	4 (101.6)	5 ³ / ₄ (146.1)	—	9 ¹ / ₄ (235.0)	—	10 ³ / ₄ (273.1)	1 ⁵ / ₈ (41.3)	3 ³ / ₄ (82.6)	5 ¹ / ₄ (133.4)	7 ¹ / ₈ (181.0)	1 (25.4)	5 ⁵ / ₈ DIA. (15.9)	—
6000	5	4 (101.6)	5 ³ / ₄ (146.1)	—	9 ¹ / ₄ (235.0)	—	10 ³ / ₄ (273.1)	1 ⁵ / ₈ (41.3)	3 ³ / ₄ (82.6)	5 ¹ / ₄ (133.4)	7 ¹ / ₈ (181.0)	1 (25.4)	5 ⁵ / ₈ DIA. (15.9)	—

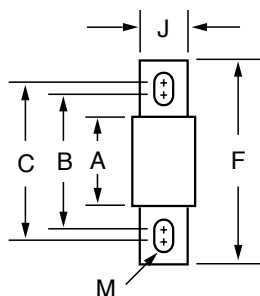


FIG. 1

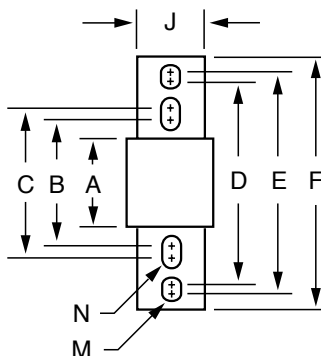


FIG. 2

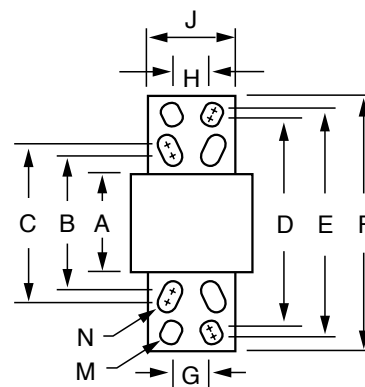


FIG. 3

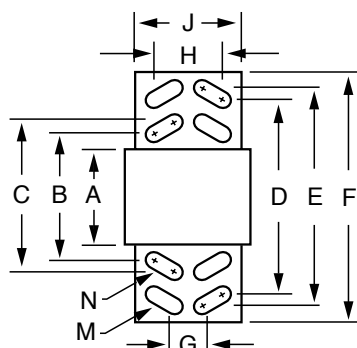


FIG. 4

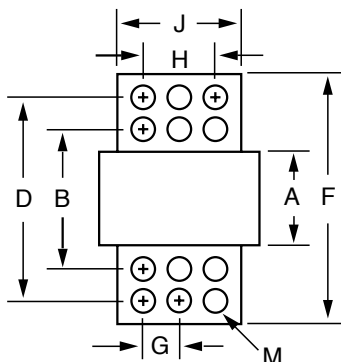
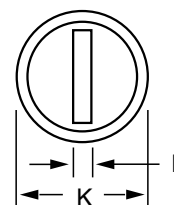


FIG. 5



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 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 94

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

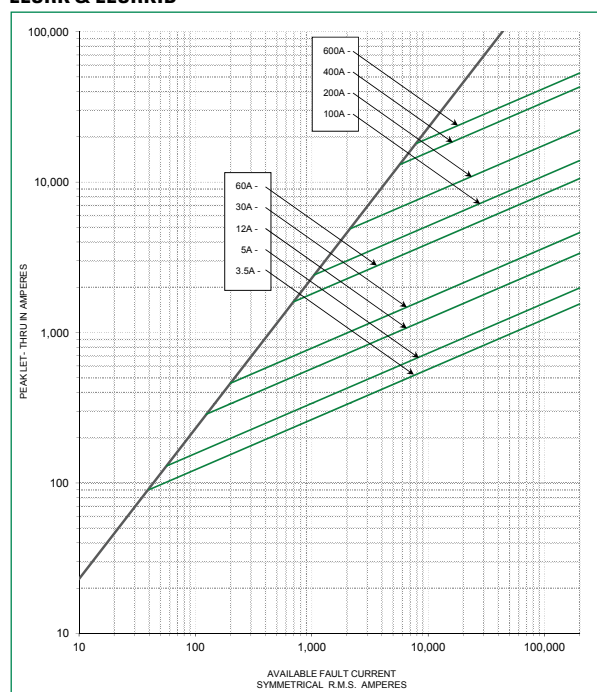
Download TC Curves, CAD drawings and other technical information: littelfuse.com/llsrk
littelfuse.com/llnrk

Dimensions

Please refer to the Class R dimensions..... 19

Peak Let-Thru Curve (600 V)

LLSRK & LLSRKID



Note: For more information, see Peak Let-Thru Table on pg. 14

CLASS RK1 – LLNRK • LLSRK • LLSRK_ID SERIES FUSES

1
UL Class RK1 Fuses

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

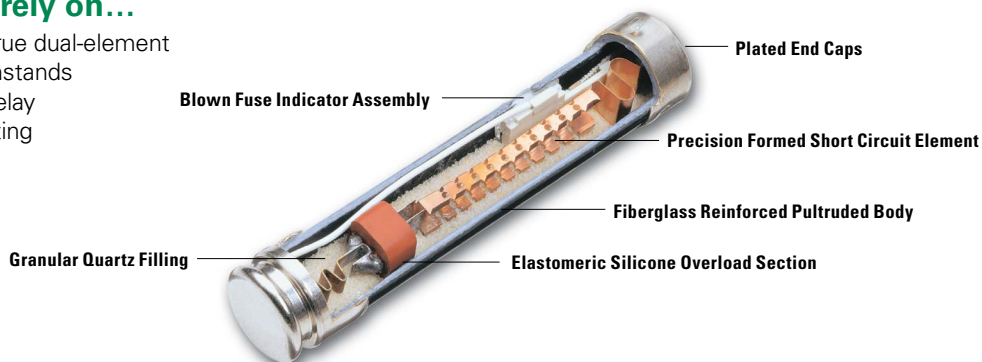
Current-Limiting Effects of LLNRK (250 V) Fuses

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.



CLASS RK1 – KLNR / KLSR SERIES FUSES

250/600 Vac • Fast-Acting • 1-600 A



Description

KLSR and KLSR series are an economical design providing the safety of a RK1 fuse. The single element design provides fast-acting overload and short-circuit protection.

Use POWR-PRO® LLNRK and LLSRK series RK1, dual-element, time-delay fuses in all new applications requiring the current-limiting ability of UL Class RK1 fuses or in existing applications where fast-acting RK1 or RK5 fuses have been opening on harmless system surges such as motor starting currents.

Applications

- Resistance heaters
- Lighting circuits
- Non-inductive loads

Features/Benefits

- Extremely Current-Limiting
- Indicating and DIN mount fuse blocks available

Specifications

Voltage Ratings

AC: 600 Vac or less (KLSR)
 250 Vac or less (KLNR)
 DC: 250 V (1 – 30 A KLSR);
 300 V (35 – 600 A KLSR)
 125 V (KLNR)

Ampere Range

1 – 600 A

Interrupting Ratings

AC: 200 kA rms symmetrical
 DC: 20 kA

Approvals

AC: Standard 248-12, Class RK1
 UL Listed (File: E81895)
 CSA Certified (File: LR29862)
 DC: Littelfuse self-certified

Material

1-60 A: Composite body, Bronze cap (nickel plated)
 70-100 A: Composite body, Copper caps
 110-600 A: Melamine body, Copper caps

Country of Origin

Mexico

Ordering Information

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

VOLTAGE	SERIES	AMP	CATALOG NUMBER	ORDERING NUMBER
600	KLSR	90	KLSR090	KLSR090.V
250	KLNR	90	KLNR090	KLNR090.V

Web Resources

Download TC Curves, CAD drawings and other technical information: littelfuse.com/klsr
littelfuse.com/klnr

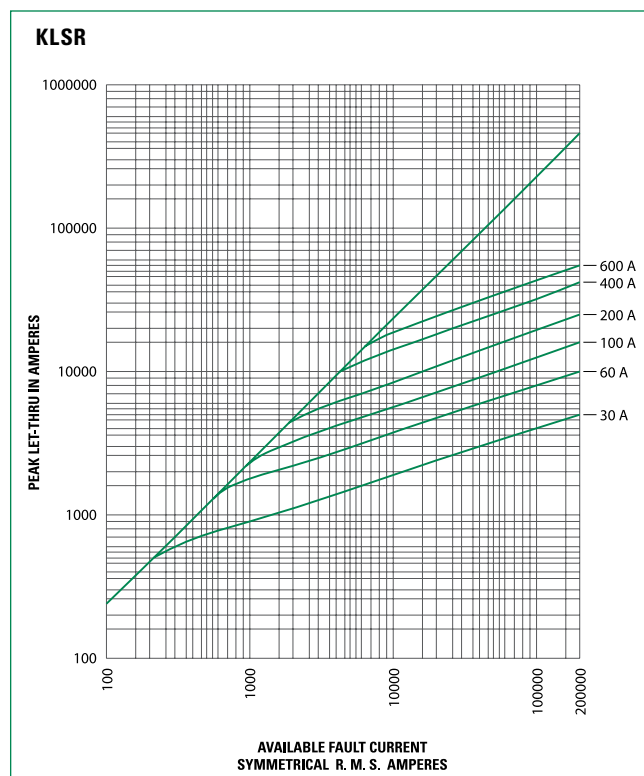
Recommended Fuse Blocks

LFR Series 94

Dimensions

Please refer to the Class R dimensions 19

Peak Let-Thru Curve (600 V)



CLASS RK5 – IDSR SERIES INDICATOR® POWR-PRO® FUSES

POWR-PRO® 600 Vac/dc • Dual Element • Time-Delay • 1/10-600 A



1

UL Class RK5 Fuses



Description

The IDSR combines 600 Vdc capability with indication to provide an ideal solution for many DC applications.

Applications

- DC circuits
- Solar inverters
- Motors
- Transformers
- Solenoids
- Fluorescent lighting

Features/Benefits

- POWR-PRO® Performance
- Current limiting
- Indication

Specifications

Voltage Ratings

AC: 600 Vac or less

DC: 600 Vdc or less

Ampere Range

1/10 – 600 A

Interrupting Ratings

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

DC: 20 kA

Approvals

Standard 248-12, Class RK5

UL Listed (File: E81895)

CSA Certified (File: LR29862)

Material

1/10-60 A: Composite body, Bronze caps

70-600 A: Composite body, Copper caps

Country of Origin

Mexico

Ordering Information

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

Note: All fuses rated 1A and above are Indicator® fuses.

VOLTAGE	SERIES	AMP	CATALOG NUMBER	ORDERING NUMBER
600	IDSR	30	IDSR030	IDSR030.T

Web Resources

Download TC Curves, CAD drawings and other technical information: littelfuse.com/idsr

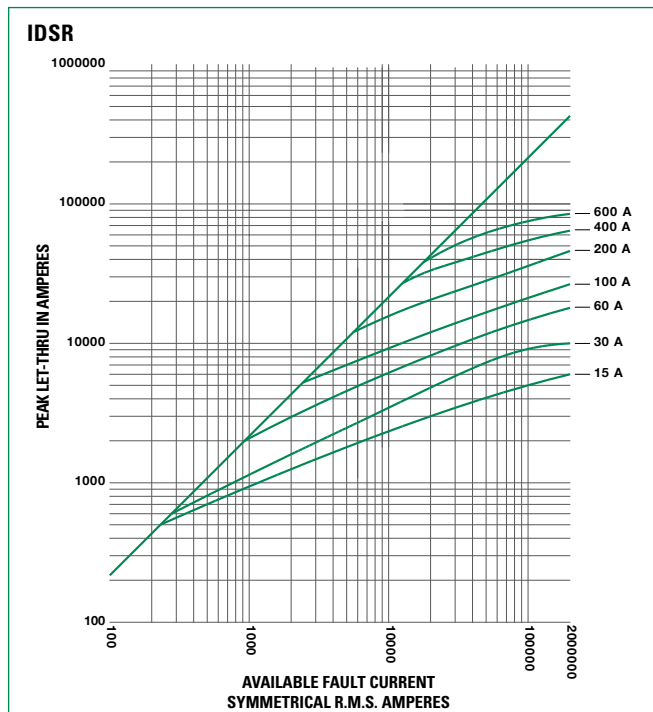
Recommended Fuse Blocks

LFR Series 94

Dimensions

Please refer to the Class R dimensions..... 19

Peak Let-Thru Curve



Note: For more information, see Peak Let-Thru Table on pg. 18

CLASS RK5 – FLNR_ID • FLSR_ID SERIES INDICATOR® FUSES

250/600 Vac • Dual Element • Time Delay • 1/10-600 A



Description

Available in both Indicating and Non-Indicating versions, the FLNR/FLSR series of fuses set the standard for general purpose fuses. The dual-element design provides advanced short circuit and overload protection. FLSR series fuses provide excellent protection for all types of circuits especially those containing motors.

Applications

- Service entrance switches
- Transformers
- Switchboard mains and feeders
- Motor control central mains and motor branch circuits
- All general purpose circuits

Features/Benefits

- Indication
- Dual-element design
- Available without indication
- Current limiting

Specifications

Voltage Ratings

AC: 250 V (FLNR_ID); 600 V (FLSR_ID)
 DC: 125 V (FLNR 1/10 – 30 A);
 125 V (FLNR_ID 35 – 600 A);
 300 V (FLSR_ID)

Interrupting Ratings

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

Ampere Range Approvals

DC: 20 kA
 1/10 – 600 A
 Standard 248-12, Class RK5
 UL Listed (File: E81895)
 CSA Certified (File: LR29862)
 Federal Specification WF-1814
 (QPL- W-F-1814)

Dimensions

Please refer to the Class R dimensions page 19.

Ordering Information

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

*FLNR only. †FLNR, FLSR, FLSR_ID only. **FLNR, FLSR, FLSR_ID only

Note: For 1/10 – 30A 250 volt fuses, order non-indicating FLNR series fuses.

TYPE	VOLT	SERIES	AMP	CATALOG NUMBER	ORDERING NUMBER
NON-INDICATING	600	FLSR	15	FLSR015	FLSR015.T
INDICATING	600	FLSR_ID	15	FLSR015ID	FLSR015.TXID
NON-INDICATING	250	FLNR	60	FLNR060	FLNR060.T
INDICATING	250	FLNR_ID	60	FLNR060ID	FLNR060.TXID

Web Resources

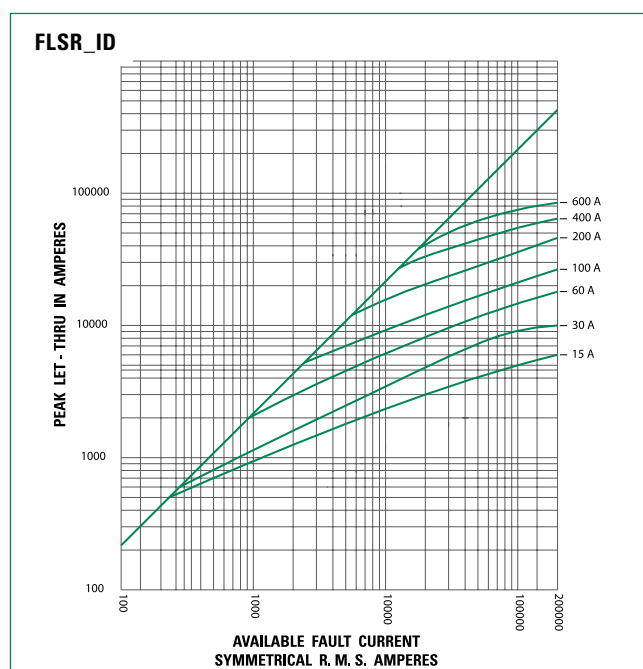
Download TC Curves, CAD drawings and other technical information: littelfuse.com/flsr

littelfuse.com/flnr

Recommended Fuse Holders

LFR60 Series • LFR25 Series 94

Peak Let-Thru Curve (600 V)



Note: For more information, see Peak Let-Thru Table on page 18.

CLASS RK5 CURRENT-LIMITING EFFECTS

 1
 UL Class RK5 Fuses

Current-Limiting Effects of IDSR (600 V) Fuses

SHORT CIRCUIT CURRENT*	APPARENT RMS SYMMETRICAL CURRENT FOR VARIOUS FUSE RATINGS						
	15 A	30 A	60 A	100 A	200 A	400 A	600 A
5,000	800	1,100	2,100	3,200	5,000	5,000	5,000
10,000	1,100	1,600	2,900	4,300	7,300	10,000	10,000
15,000	1,300	1,900	3,400	5,000	8,600	13,700	15,000
20,000	1,400	2,200	3,800	5,600	9,500	15,500	19,000
25,000	1,500	2,500	4,100	6,100	10,300	16,700	21,500
30,000	1,600	2,700	4,500	6,500	11,000	17,700	23,500
35,000	1,700	2,900	4,700	6,800	11,600	18,600	25,200
40,000	1,800	3,100	5,000	7,200	12,100	19,400	26,600
50,000	1,900	3,400	5,400	7,800	13,100	20,800	29,500
60,000	2,000	3,600	5,800	8,300	13,900	22,000	30,600
80,000	2,200	4,000	6,300	9,100	15,400	24,000	33,200
100,000	2,300	4,200	6,800	9,800	16,700	25,500	35,100
150,000	2,600	4,500	7,700	11,200	19,300	28,100	38,000
200,000	2,800	4,600	8,400	12,400	21,400	30,000	39,600

Current-Limiting Effects of FLNR and FLNR_ID (600 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	1,250	2,100	3,200	5,000	5,000	5,000
10,000	1,600	2,850	4,300	7,250	10,000	10,000
15,000	1,800	3,400	5,000	8,500	13,500	15,000
20,000	2,250	3,800	5,500	9,500	15,750	19,000
25,000	2,450	4,100	5,700	10,250	17,000	21,000
30,000	2,700	4,500	6,400	10,750	18,000	23,000
35,000	2,900	4,800	6,700	11,500	19,000	24,250
40,000	3,000	5,000	7,250	12,000	19,500	27,000
50,000	3,400	5,250	7,750	13,000	21,000	29,000
60,000	3,600	5,750	8,100	14,000	22,000	30,500
80,000	3,900	6,250	9,000	15,000	24,000	33,000
100,000	4,300	6,750	9,750	16,500	26,000	35,000
150,000	4,500	7,600	11,100	19,000	28,000	38,000
200,000	4,600	8,400	12,250	21,500	30,000	40,000

Current-Limiting Effects of FLNR and FLNR_ID (250V) 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	1,400	2,100	3,100	5,000	5,000	5,000
10,000	1,550	2,500	3,900	6,500	9,500	10,000
15,000	2,000	3,150	4,400	7,250	10,500	14,000
20,000	2,250	3,400	5,000	8,250	12,000	16,000
25,000	2,400	3,750	5,250	9,000	12,500	16,500
30,000	2,550	4,100	5,600	9,500	13,500	18,000
35,000	2,650	4,300	5,800	9,750	14,000	19,000
40,000	2,800	4,400	6,250	10,250	15,000	20,000
50,000	3,000	5,000	6,500	10,500	16,000	21,000
60,000	3,200	5,250	7,000	11,500	17,000	23,000
80,000	3,400	5,750	7,500	12,500	19,000	25,500
100,000	3,850	6,000	8,000	13,500	21,000	27,500
150,000	4,100	7,000	9,000	15,200	24,000	31,500
200,000	4,300	7,500	9,750	16,500	26,000	34,000

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

CLASS R SERIES DIMENSIONS

Dimensions

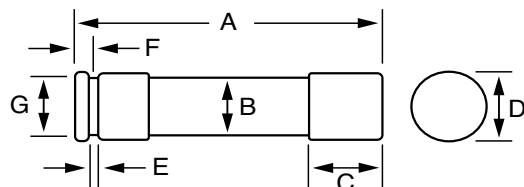


FIG. 1

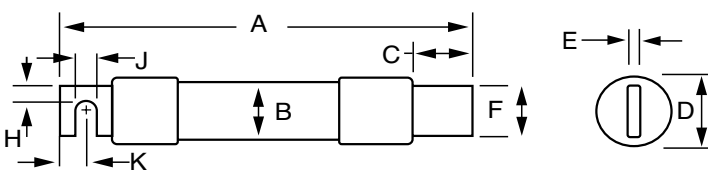


FIG. 2

70-600A

AMPS	FIGURE NUMBER	SERIES	DIMENSIONS INCHES (mm)									
			A	B	C	D	E	F	G	H	J	K
1/10-30	1	LLNRK KLNR FLNR	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 KLNR FLSR IDSR	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 KLNR FLNR	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 KLNR FLSR IDSR	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 KLNR FLNR	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 KLNR FLSR IDSR	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 KLNR FLNR	7 1/8 (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 KLNR FLSR IDSR	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 KLNR FLNR	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 KLNR FLSR IDSR	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 KLNR FLNR	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 KLNR FLSR IDSR	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)

1

UL Class R Fuses

CLASS K5 - NLN / NLS SERIES (ONE-TIME) FUSES

250/600 Vac • “One-Time” • 1-600 A



1
UL Class K5 Fuses



Description

NLN and NLS fuses provide low cost protection for general purpose feeder and branch circuits when available short circuit currents are less than 50 kA.

Note: Canadian Electrical Code NLKP Type P fuse available. Visit littelfuse.com/nlkp

Applications

General purpose residential and commercial circuits with little or no motor load.

Features/Benefits

- Economical
- 50 kA interrupting rating
- Indicating and DIN mount holders available

Web Resources

Download TC Curves, CAD drawings and other technical information: littelfuse.com/nln
littelfuse.com/nls

Dimensions

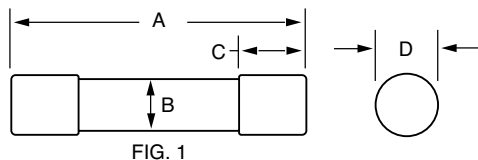


FIG. 1

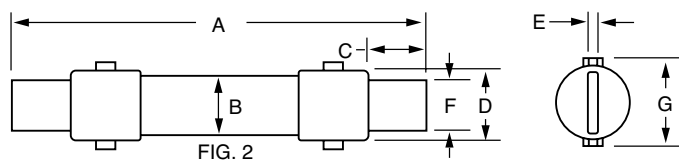


FIG. 2

AMPERES	REFER TO FIG. NO.	SERIES	DIMENSIONS INCHES (mm)						
			A	B	C	D	E	F	G
1 – 30	1	NLN	2 (50.8)	½ (12.7)	½ (12.7)	9/16 (14.3)	—	—	—
		NLS	5 (127.0)	¾ (19.1)	5/8 (15.9)	13/16 (20.6)	—	—	—
35 – 60	1	NLN	3 (76.2)	¾ (19.1)	5/8 (15.9)	13/16 (20.6)	—	—	—
		NLS	5½ (139.7)	1 (25.4)	5/8 (15.9)	1½ (38.1)	—	—	—
70 – 100	2	NLN	5½ (149.2)	1 (25.4)	1 (25.4)	1½ (38.1)	1/8 (3.2)	¾ (19.1)	1½ (38.1)
		NLS	7½ (200.0)	1¼ (31.8)	1 (25.4)	1½ (38.1)	1/8 (3.2)	¾ (19.1)	1½ (38.1)
110 – 200	2	NLN	7½ (181.0)	1½ (38.1)	1½ (38.1)	1½ (38.1)	3/16 (4.8)	1½ (38.1)	1½ (38.1)
		NLS	9½ (244.5)	1¾ (44.5)	1½ (38.1)	1¾ (44.5)	3/16 (4.8)	1½ (38.1)	1½ (38.1)
225 – 400	2	NLN	8½ (219.1)	2 (50.8)	1½ (38.1)	2 (50.8)	¼ (6.4)	1½ (38.1)	2 (50.8)
		NLS	11½ (295.3)	2½ (63.5)	1½ (38.1)	2½ (63.5)	¼ (6.4)	1½ (38.1)	2 (50.8)
450 – 600	2	NLN	10¾ (263.5)	2½ (63.5)	2¼ (57.2)	2½ (63.5)	¼ (6.4)	2 (50.8)	2½ (63.5)
		NLS	13¾ (339.7)	3 (76.2)	2¼ (57.2)	3 (76.2)	¼ (6.4)	2 (50.8)	2½ (63.5)

Specifications

Voltage Ratings

AC: 600 Vac or less (NLS)
250 Vac or less (NLN)
DC: 400 V (NLS 35 – 60 A)
500 V (NLS 8 – 30 A) (NLS 225 – 600 A)
600 V (NLS 1 – 7 A) (NLS 70 – 200 A)
250 V (NLN)

Ampere Range

1 – 600 A

Interrupting Ratings

AC: 50 kA rms symmetrical
DC: 20 kA (1 – 60 A)
50 kA (70 – 600 A)

Approvals

Standard 248-9, Class K5
UL Listed (File: E81895)
CSA Certified (File: LR29862)

Material

NLS: 1-15 A: Fiber body, Bronze cap
20-60 A: Composite body, Bronze cap
70-600 A: Fiber body, Copper cap (tin plated)
NLN: 1-30 A: Ceramic body
35-60 A: Fiber body, Bronze cap
70-600 A: Fiber body, Copper cap (tin plated)

Country of Origin

Mexico

Ordering Information

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

*NLKP series available only in those amperages preceded by an asterisk.

VOLTAGE	SERIES	AMP	CATALOG NUMBER	ORDERING NUMBER
600	NLS	20	NLS020	0NLS020.T
250	NLN	15	NLN015	0NLN015.T

Recommended Fuse Blocks

LFH Series 94

CLASS J - JTD SERIES INDICATOR® POWR-PRO® FUSES

POWR-PRO® 600 Vac • Time Delay • $\frac{8}{10}$ –600 A



Description

The Littelfuse POWR-PRO® JTD_ID Indicator Class J fuse provides visual blown fuse indication and maximum protection in a compact package. The current-limiting time delay JTD_ID offers a patented design which reduces nuisance fuse openings.

Features/Benefits

- POWR-PRO® Performance
- Current-Limiting
- IEC Type 2 Protection
- Indication and non-indication version available
- Indicating and DIN mount holders available

Applications

- Fused combination motor controllers and motor control centers
- Transformer protection
- Protection for series rated molded case circuit-breaker panels
- General purpose circuits

Web Resources

Download TC Curves, CAD drawings and other technical information: littelfuse.com/jtd

Recommended Fuse Holders

LFJ60 Series 91
 LFPSJ Series ($\frac{8}{10}$ –60 A).....118

Dimensions

Please refer to the Class J dimensions 23

Specifications

Voltage Ratings

Ac: 600 V
 Dc: 300 V ($\frac{8}{10}$ –100 A)
 500 V (110–600 A)

Amperage Range

$\frac{8}{10}$ –600 A

Interrupting Rating

Ac: 200 kA rms symmetrical
 300kA rms symmetrical
 (Littelfuse self-certified)

Material

Dc: 20 kA
 Body: Melamine
 Caps: Nickel-plated Bronze ($\frac{8}{10}$ –60 A)
 Brass (70–200 A)
 Brass Cap with Copper Blade (225–600 A)

Approvals

Ac: Standard 248-8, Class J
 UL Listed (File: E81895)
 CSA Certified (File: LR29862)

Country of Origin

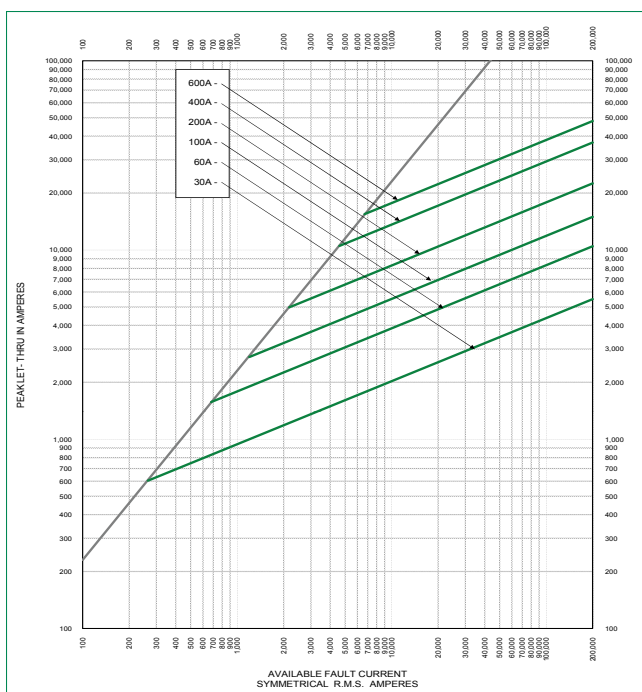
Dc: Littelfuse self-certified
 Mexico

Ordering Information

AMPERAGE RATINGS							
$\frac{8}{10}$	2¼	4½	10	35	90	225	600
1	2½	5	12	40	100	250	—
1¼	2¾	5½	15	45	110	300	—
1½	3	6	17½	50	125	350	—
1¾	3½	7	20	60	150	400	—
1⅞	3¾	8	25	70	175	450	—
2	4	9	30	80	200	500	—

TYPE	SERIES	AMPERAGE	CATALOG NUMBER	ORDERING NUMBER
INDICATING	JTD_ID	60	JTD60ID	0JTD060.TXID
NON-INDICATING	JTD	60	JTD60	0JTD060.T

Peak Let-Thru Curve



CLASS J – JLS SERIES FUSES

600 VAC • Fast-Acting • 1-600 A



1
UL Class J Fuses



Description

The UL Listed Class J JLS Series fuses provide space saving, fast-acting overload and short-circuit protection for vital industrial and power conversion applications. Littelfuse's JLS Series fuses offer best in class current limitation that prevents equipment damage from overcurrent faults.

Features and Benefits

- Superior performance in a space saving package
- Reliable interruption of all overcurrents with protection up to 200kA
- Extremely current limiting
- Fast-acting protection for surge-sensitive devices and components
- Reduces heating and magnetic effects due to overcurrents, extending equipment life
- Economical and readily available

Applications

- Power conversion device protection
- Variable speed drives
- Rectifiers
- Resistive loads
- Solid-state devices

Web Resources

Download TC curves, CAD drawings and other technical information: littelfuse.com/jls

Recommended Fuse Holders

LFJ60 Series	91
LFPSJ Series (8/10-60 A).....	118

Specifications

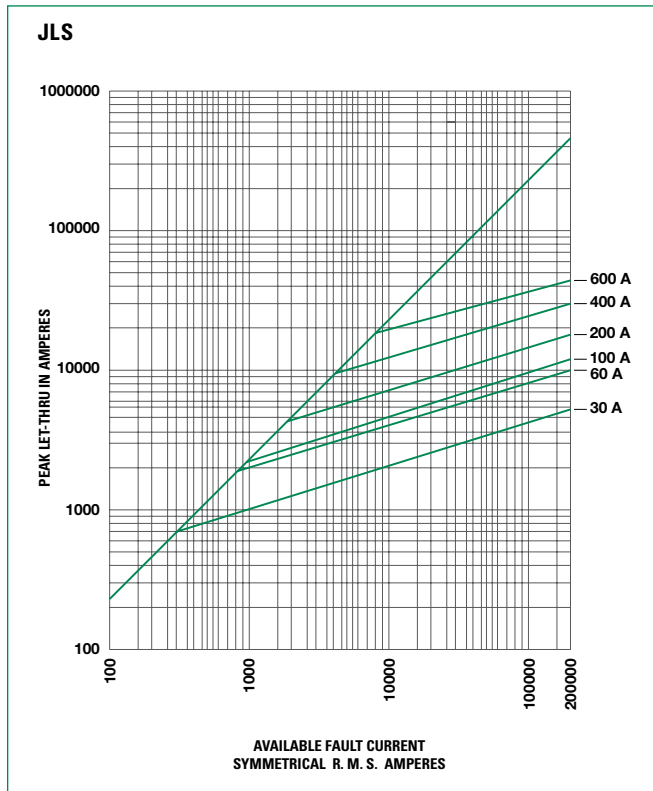
Voltage Ratings	600 VAC
Interrupting Ratings	200 kA rms symmetrical
Ampere Range	1-600 A
Approvals	Standard 248-8, Class J UL Listed (File: E81895) CSA Certified (File: LR29862) Federal Specification WF-1814 (QPL-W-F-1814)

Ordering Information

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

TYPE	SERIES	AMPERAGE	CATALOG NUMBER	ORDERING NUMBER
NON-INDICATING	JLS	110	JLS110	QJLS110.X

Peak Let-Thru Curve



Dimensions

Please refer to the Class J dimensions 23

CLASS J DIMENSIONS AND CURRENT-LIMITING EFFECTS

Dimensions Inches (mm)

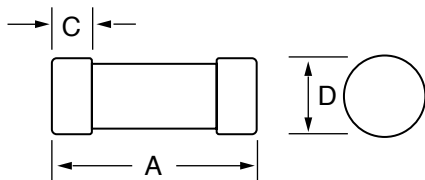


Fig. 1

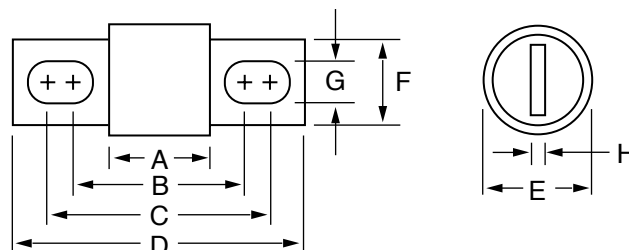


Fig. 2

Dimensions of JTD_ID, JTD and JLS

AMPERES	FIGURE NUMBER	DIMENSIONS INCHES (mm)							
		A	B	C	D	E	F	G	H
1 – 30	1	2¼ (57.2)	—	½ (12.7)	13/16 (20.6)	—	—	—	—
35 – 60	1	2¾ (60.3)	—	5/8 (15.9)	1¼ (27.0)	—	—	—	—
70 – 100	2	2½ (66.7)	3 ¹⁷ / ₃₂ (89.7)	3 ²³ / ₃₂ (94.5)	4 ⁵ / ₈ (117.5)	1½ (28.6)*	¾ (19.1)	9/32 (7.1)	⅛ (3.2)
110 – 200	2	3 (76.2)	4 ⁹ / ₃₂ (108.7)	4 ¹⁵ / ₃₂ (113.5)	5¾ (146.1)	1½ (38.1)	1½ (28.6)	9/32 (7.1)	3/16 (4.8)
225 – 400	2	3¾ (85.7)	5/8 (130.2)	5¾ (136.5)	7½ (181.0)	2 (50.8)	1½ (41.3)	13/32 (10.3)	¼ (6.4)
450 – 600	2	3¾ (95.3)	5 ⁷ / ₃₂ (148.4)	6 ⁵ / ₃₂ (156.4)	8 (203.2)	2½ (63.5)	2 (50.8)	17/32 (13.5)	3/8 (9.5)

*70-100 A JLS dimension = 1 (25.4)

Current-Limiting Effects of JTD_ID (600 V) Fuses

SHORT CIRCUIT CURRENT†	APPARENT RMS SYMMETRICAL CURRENT FOR VARIOUS FUSE RATINGS						
	15 A	30 A	60 A	100 A	200 A	400 A	600 A
5,000	565	750	1,500	1,800	2,800	4,800	5,000
10,000	675	925	1,900	2,450	3,600	5,700	7,750
15,000	775	1,050	2,100	2,800	4,100	6,500	9,000
20,000	825	1,125	2,300	3,000	4,400	7,250	9,700
25,000	900	1,200	2,500	3,300	5,000	8,000	10,500
30,000	950	1,300	2,600	3,500	5,100	8,400	11,000
35,000	1,000	1,350	2,700	3,700	5,400	9,000	12,000
40,000	1,050	1,400	2,800	3,900	5,600	9,200	12,500
50,000	1,100	1,500	3,000	4,200	6,000	10,000	13,000
60,000	1,200	1,600	3,200	4,500	6,400	10,500	14,000
80,000	1,300	1,700	3,400	4,900	7,200	11,200	15,500
100,000	1,375	1,800	3,600	5,200	7,800	12,200	16,500
150,000	1,500	2,000	3,950	6,000	9,000	14,500	19,000
200,000	1,600	2,175	4,000	6,500	10,000	16,000	20,500

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

CLASS T - JLLN / JLLS SERIES FUSES

300/600 V ac • Fast-Acting • 1–1200 A



1

UL Class T Fuses



Description

JLLN / JLLS series fuses are less than 1/3 the size of comparable Class R fuses and are typically used for short circuit protection of drives and surge sensitive components. When rated in accordance with the NEC*, JLLN / JLLS fuses provide fast-acting overload and short circuit protection for non-inductive circuits and equipment.

Features/Benefits

- Extremely current-limiting
- Compact design
- 200 kA interrupting rating
- JLLN 35–60 amperes available with PCB mounts

Applications

- Variable speed drive protection
- Power conversion devices (inverters, rectifiers, UPS)
- Power supplies and power distribution units
- Compact mains switches

Recommended Fuse Holders

LFT30 series
LFT60 series
LSCR series for 70–800 amperes

Web Resources

Download TC curves, CAD drawings and other technical information: Littelfuse.com/jlln
Littelfuse.com/jlls

*NEC is a trademark of it's respective owner.

Specifications

JLLN

Voltage Ratings

Ac: 300 V
Dc: 160 V (1–60 A)
125 V (70–1200 A)

Ampere Range

Interrupting Ratings

1–1200 A
Ac: 200 kA rms symmetrical
Dc: 50 kA (1–30 A)
20 kA (35–1200 A)

Approvals

Ac: UL Standard 248-15, Class T
UL Listed (File: E81895): 1–1200 A
CSA Certified (File: LR29862): 1–600 A
Dc: UL Listed (File: E81895): 1–1200 A

Material

1–30 A: melamine body, bronze caps
35–1200 A: melamine body, copper caps

Environmental

RoHS compliant

JLLS

Voltage Ratings

Ac: 600 V
Dc: 300 V
1–1200 A

Ampere Range

Interrupting Ratings

Ac: 200 kA rms symmetrical
Dc: 20 kA

Approvals

Ac: UL Standard 248-15, Class T
UL Listed (File: E81895): 1–1200 A
CSA Certified (File: LR29862): 1–600 A
Dc: Littelfuse self-certified

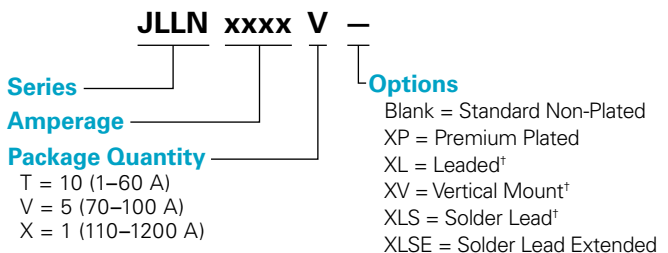
Material

1–30 A: melamine body, copper caps
35–60 A: melamine body, bronze caps
70–1200 A: melamine body, copper caps

Environmental

RoHS compliant

Part Numbering System



SERIES	AMP	PACK SIZE	PLATING SUFFIX	MOUNT SUFFIX	CATALOG NUMBER	ORDERING NUMBER
JLLS	6	T	—	—	JLLS006	JLLS006.T
JLLN	35	T	—	XL†	JLLN035L	JLLN035.TXL
JLLN	40	T	—	XLSE†	JLLN040LSE	JLLN040.TXLSE
JLLN	100	V	XP	—	JLLN100P	JLLN100.VXP

†Option is available for JLLN 35–60 amperes only. Premium plating is standard

Ordering Information

AMPERE RATINGS					
1	25	70	175	450	1100
2	30	80	200	500	1200
3	35	90	225	600	
6	40	100	250	700	
10	45	110	300	800	
15	50	125	350	900*	
20	60	150	400	1000	

*JLLS only

CLASS T - JLLN / JLLS SERIES FUSES

Dimensions Inches (mm)

AMPERES	REFER TO FIG. NO.	SERIES	DIMENSIONS INCHES (mm)						
			A	B	C	D	E	F	G
1–30	1	JLLN	.875 (22.2)	—	.281 (7.1)	.406 (10.3)	—	—	—
		JLLS	1.500 (38.1)	—	.281 (7.1)	.562 (14.3)	—	—	—
35–60	1	JLLN	.875 (22.2)	—	.281 (7.1)	.562 (14.3)	—	—	—
	2	JLLS	1.562 (39.7)	.812 (20.6)	.406 (10.3)	.994 (25.2)	.062 (1.6)	1.094 (27.8)	—
70–100	3	JLLN	2.156 (54.8)	1.562 (39.7)	.750 (19.1)	.812 (20.6)	.830 (21.1)	.281 (7.1)	.125 (3.2)
		JLLS	2.953 (75.0)	2.352 (59.7)	.750 (19.1)	.828 (21.0)	1.625 (41.3)	.281 (7.1)	.125 (3.2)
110–200	3	JLLN	2.437 (61.9)	1.687 (42.9)	.875 (22.2)	1.062 (27.0)	.830 (21.1)	.343 (8.7)	.187 (4.8)
		JLLS	3.250 (82.6)	2.507 (63.7)	.875 (22.2)	1.078 (27.4)	1.656 (42.1)	.343 (8.7)	.187 (4.8)
225–400	3	JLLN	2.750 (69.9)	1.843 (46.8)	1.000 (25.4)	1.312 (33.3)	.828 (21.0)	.406 (10.3)	.250 (6.4)
		JLLS	3.625 (92.1)	2.718 (69.1)	1.000 (25.4)	1.593 (40.5)	1.712 (43.5)	.406 (10.3)	.250 (6.4)
450–600	3	JLLN	3.062 (77.8)	2.031 (51.6)	1.250 (31.8)	1.593 (40.5)	.875 (22.2)	.484 (12.3)	.312 (7.9)
		JLLS	3.984 (101.2)	2.953 (75.0)	1.250 (31.8)	2.062 (52.4)	1.765 (44.8)	.484 (12.3)	.312 (7.9)
700–800	3	JLLN	3.375 (85.7)	2.218 (56.4)	1.750 (44.5)	2.062 (52.4)	.875 (22.2)	.546 (13.9)	.375 (9.5)
		JLLS	4.328 (109.9)	3.171 (80.6)	1.750 (44.5)	2.500 (63.5)	1.860 (47.2)	.546 (13.9)	.375 (9.5)
900–1200	3	JLLN	4.000 (101.6)	2.531 (64.3)	2.000 (50.8)	2.500 (63.5)	1.033 (26.2)	.609 (15.5)	.437 (11.1)
		JLLS	5.271 (133.9)	3.801 (96.5)	2.000 (50.8)	2.625 (66.7)	2.303 (58.5)	.609 (15.5)	.437 (11.1)

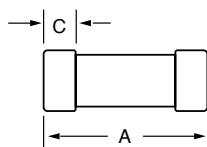


Fig. 1

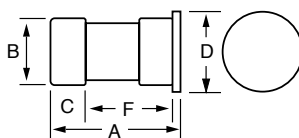


Fig. 2

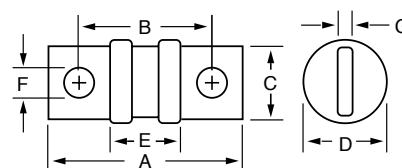


Fig. 3

CLASS G - SLC CLASS G FUSES

480/600 VAC • Time-Delay • 1/2-60 A



1
UL Class G Fuses



Specifications

Voltage Ratings	600 VAC (1/2 – 20 A) 480 VAC (25 – 60 A) 170 VDC (1/2 – 60 A) (Littelfuse self-certified)
Interrupting Ratings	AC: 100 kA rms symmetrical DC: 10 kA
Ampere Range	1/2 – 60 A
Approvals	Standard 248-5, Class G UL Listed (File: E81895) CSA Certified (File: LR29862) Federal Specification WF-1814 (QPL-W-F-1814)
Environmental	RoHS Compliant

Description

Littelfuse SLC fuses provide cost effective branch circuit protection. Fuse length varies to prevent over-fusing. Compact Class G fuses were the first fuse series to approach midget fuse dimensions and meet NEC® requirements for branch-circuit protection.

Features/Benefits

- Branch circuit rated
- Current-limiting
- 100 kA interrupting rating
- 600 VAC rated 1/2-20 A

Applications

- Branch circuit protection

Web Resources

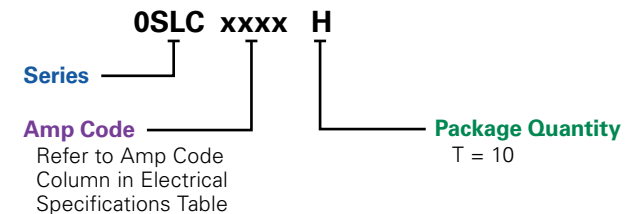
Download TC Curves, CAD drawings and other technical information: littelfuse.com/slc

Recommended Fuse Holders

LFG60 Series (1-20 A)	105
LFG48 Series (25-60 A)	105

Ordering Information

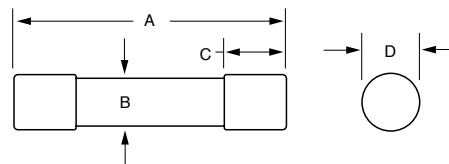
Part Numbering System



SERIES	AMP	PACKAGE QUANTITY	CATALOG NUMBER	ORDERING NUMBER
SLC	2	10	SLC002	0SLC002.T

Dimensions

Ferrule Version



AMP	DIMENSIONS INCHES (mm)			
	A	B	C	D
1/2 – 15	1 5/16 (33.3)	3/8 (9.5)	9/32 (7.1)	13/32 (10.3)
20	1 13/32 (35.7)	3/8 (9.5)	9/32 (7.1)	13/32 (10.3)
25, 30	1 5/8 (41.3)	3/8 (9.5)	9/32 (7.1)	13/32 (10.3)
35 – 60	2 1/4 (57.2)	3/8 (9.5)	1/2 (12.7)	13/32 (10.3)

CLASS CC/CD - CCMR SERIES POWR-PRO® FUSES

POWR-PRO® 600 Vac • Dual Element • Time-Delay • $\frac{2}{10}$ -60 A



Description

The CCMR series is ideal for space saving protection of motors up to 40 hp*. It was designed specifically to withstand sustained starting currents of small motors. The CCMR 60 fuse is the smallest 60 A fuse available rated at 600 V. Compared to other UL Listed fuses, Class CC fuses are the most current-limiting, rating for rating.

Features/Benefits

- POWR-PRO® Performance
- Extremely current-limiting
- Ratings up to 60 Amps
- 300 kA Interrupting Rating (self-certified)

Applications

- Motor and motor branch circuit protection

Specifications

Voltage Rating

AC: 600 Vac or less
 DC: 250 V (CCMR $\frac{2}{10}$ –2 A)
 (CCMR $\frac{4}{1/2}$ –10 A)
 (CCMR 35–60 A)
 300 V (CCMR $\frac{2}{1/4}$ –4 A)
 500 V (CCMR 12–30 A)

Ampere Rating

$\frac{2}{10}$ –60 A

Interrupting Rating

AC: 200 kA rms symmetrical
 300 kA Littelfuse self-certified
 DC: 20 kA

Approvals

AC: Standard 248-4, Class CC
 UL Listed $\frac{2}{10}$ -30 A (File: E81895)
 Standard 248, Class CD
 UL Listed 35-60 A (File: E81895)
 CSA Certified (File: LR29862)

Material

DC: Littelfuse self-certified
 $\frac{2}{10}$ -30 A: Melamine body,
 Bronze cap (nickel plated)

Environmental

RoHS Compliant (except 35-60 A)

Country of Origin

Mexico

*Consult Motor Protection Tables on page 208 in the Technical Application Guide section for specific motor sizing information.

Ordering Information

AMPERE RATINGS						
$\frac{2}{10}$	1	2	$3\frac{1}{2}$	$6\frac{1}{4}$	12	35
$\frac{1}{4}$	$1\frac{1}{4}$	$2\frac{1}{4}$	4	7	15	40
$\frac{3}{10}$	$1\frac{4}{10}$	$2\frac{1}{2}$	$4\frac{1}{2}$	$7\frac{1}{2}$	$17\frac{1}{2}$	45
$\frac{1}{2}$	$1\frac{1}{2}$	$2\frac{8}{10}$	5	8	20	50
$\frac{6}{10}$	$1\frac{6}{10}$	3	$5\frac{6}{10}$	9	25	60
$\frac{8}{10}$	$1\frac{8}{10}$	$3\frac{2}{10}$	6	10	30	

SERIES	AMP	ROHS	CATALOG NUMBER	ORDERING NUMBER
CCMR	10	•	CCMR010	CCMR010.TXP
CCMR	45		CCMR045	CCMR045.T

Web Resources

Download TC Curves, CAD drawings and other technical information: littelfuse.com/ccmr

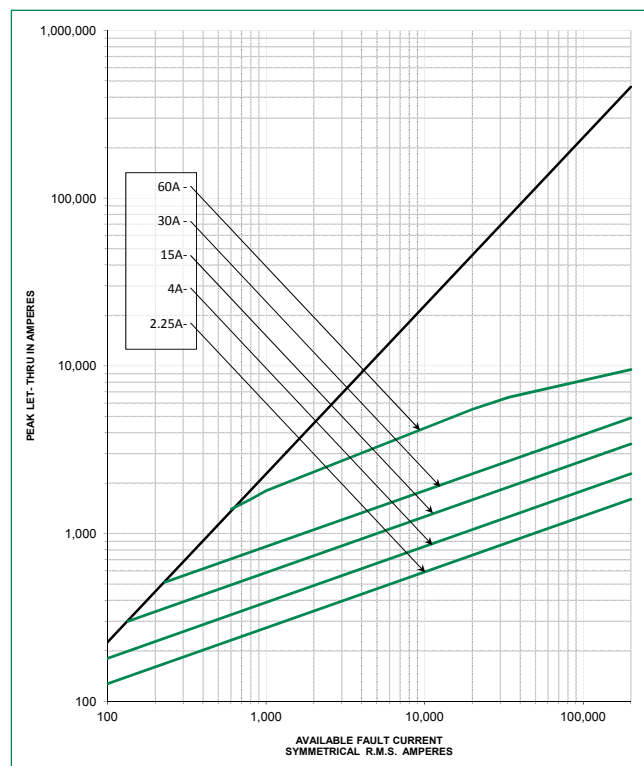
Recommended Fuse Holders

LFC600 Series	107
L60030C Series	107
LPSC Touch-Safe Series	117

Dimensions

Please refer to the Class CC/CD dimensions 29

Peak Let-Thru Curve



Note: For more information, see Peak Let-Thru Table on pg. 29

CLASS CC - KLDR / KLKR SERIES FUSES

1
UL Class CC Fuses

KLDR Series 600 Vac/300 Vdc • Time-Delay • 1/10-30 A



Description

KLDR fuses are time-delay fuses designed to protect control transformers, solenoids and similar inductive components with high magnetizing currents during the first half-cycle. They provide excellent protection of motor branch circuits containing IEC or NEMA rated motor controllers or contactors.

Specifications

Voltage Rating	AC: 600 Vac or less DC: 300 Vdc
Ampere Range	1/10 – 30 A
Interrupting Rating	AC: 200 kA rms symmetrical DC: 20 kA
Approvals	AC: Standard 248-4, Class CC UL Listed 1/10-30 A (File: E81895) CSA Certified 1/10-30 A (File: LR29862) DC: Littelfuse self-certified
Material	Melamine body Bronze caps (nickel plated)
Environmental	RoHS Compliant
Country of Origin	Mexico

Ordering Information

AMPERE RATINGS				
1/10	6/10	1 8/10	4 1/2	10
1/8	3/4	2	5	12
15/100	8/10	2 1/4	5 6/10	15
3/16	1	2 1/2	6	17 1/2
2/10	1 1/8	2 8/10	6 1/4	20
1/4	1 1/4	3	7	25
3/10	1 4/10	3 2/10	7 1/2	30
4/10	1 1/2	3 1/2	8	—
1/2	1 6/10	4	9	—

SERIES	AMP	CATALOG NUMBER	ORDERING NUMBER
KLDR	10	KLDR010	KLDR010.TXP

Web Resources

For additional information, visit:
littelfuse.com/klkr

Recommended Fuse Holders

L60030C Series	107
LPSC Touch-Safe Series	117

Dimensions

Please refer to the Class CC dimensions 29

KLKR Series 600 Vac/300 Vdc • Fast-Acting • 1/10-30 A



Description

KLKR Series Class CC fuses are fast-acting fuses intended for general purpose branch circuit protection. Their compact size, fast-acting overload response, and highly current-limiting design make them ideal for use in OEM equipment and control panels.

Specifications

Voltage Rating	AC: 600 Vac or less DC: 300 Vdc
Ampere Range	1/10 – 30 A
Interrupting Rating	AC: 200 kA rms symmetrical DC: 20 kA
Approvals	AC: Standard 248-4, Class CC UL Listed 1/10-30 A (File: E81895) CSA Certified 1/10-30 A (File: LR29862) DC: Littelfuse self-certified
Material	Melamine body Bronze caps (nickel plated)
Environmental	RoHS Compliant
Country of Origin	Mexico

Ordering Information

AMPERE RATINGS				
1/10	1/2	2 1/2	6	12
1/8	3/4	3	7	15
2/10	1	3 1/2	8	20
1/4	1 1/2	4	9	25
3/10	2	5	10	30

SERIES	AMP	CATALOG NUMBER	ORDERING NUMBER
KLKR	12	KLKR012	KLKR012.T

Web Resources

For additional information, visit:
littelfuse.com/klkr

Recommended Fuse Holders

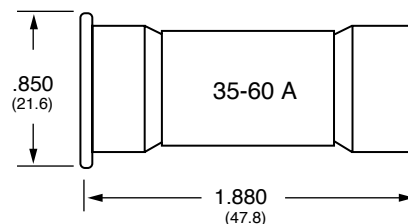
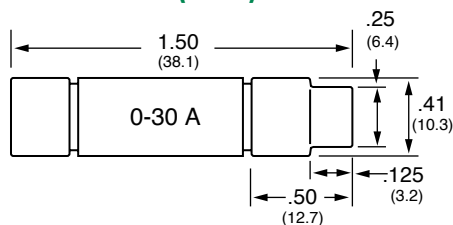
L60030C Series	107
LPSC Touch-Safe Series	117

Dimensions

Please refer to the Class CC dimensions 29

CLASS CC / CD DIMENSIONS AND CURRENT-LIMITING EFFECTS

Dimensions Inches (mm)

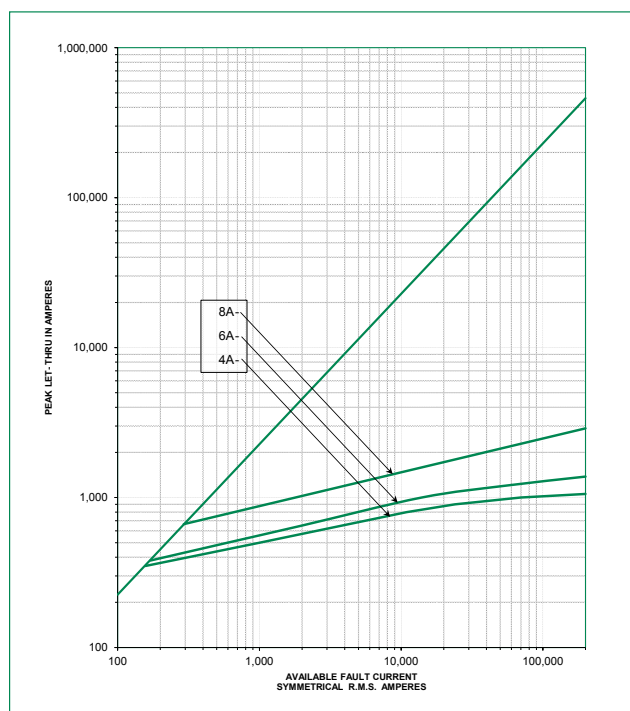


Current-Limiting Effects of CCMR (600 V) fuses

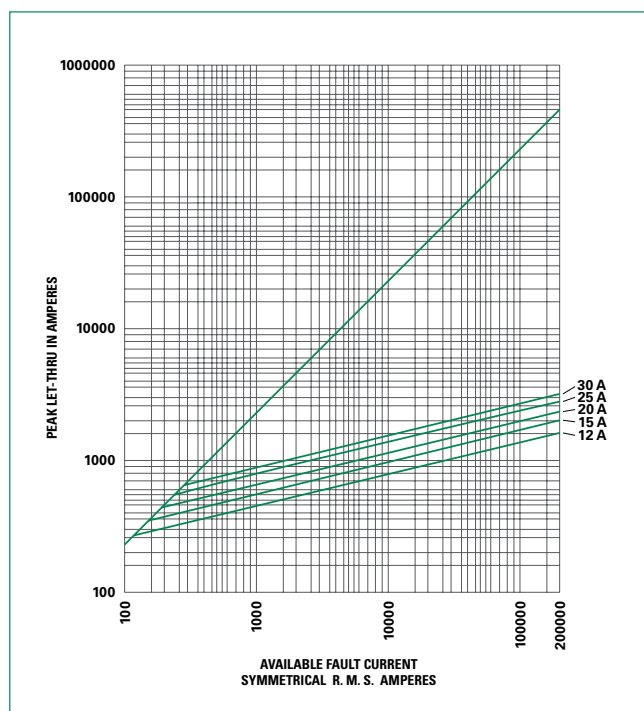
SHORT CIRCUIT CURRENT*	APPARENT RMS SYMMETRICAL CURRENT FOR VARIOUS FUSE RATINGS																	
	2.25A	2.5A	3A	4A	5A	6.25A	7.5A	8A	10A	12A	15A	20A	30A	35A	40A	45A	50A	60A
5,000	203	224	287	289	460	472	442	437	359	369	435	355	621	1,170	1,240	1,320	1,070	1,525
10,000	256	282	361	364	580	595	557	551	452	465	548	447	783	1,480	1,565	1,670	1,355	1,930
15,000	293	323	413	416	664	681	637	631	517	532	627	512	896	1,695	1,795	1,915	1,555	2,200
20,000	323	356	455	458	730	750	702	694	569	585	690	563	987	1,870	1,980	2,110	1,710	2,430
25,000	348	383	490	493	787	808	756	748	613	630	743	607	1,063	2,015	2,135	2,275	1,845	2,620
30,000	370	407	521	524	836	858	803	795	651	670	790	645	1,129	2,145	2,270	2,420	1,965	2,780
35,000	389	429	548	552	880	903	845	837	686	705	832	679	1,189	2,260	2,390	2,550	2,070	2,885
40,000	407	448	573	577	920	944	884	875	717	737	870	709	1,243	2,360	2,500	2,665	2,165	3,025
50,000	438	483	617	622	991	1,017	952	942	772	794	937	764	1,339	2,545	2,695	2,875	2,330	3,200
60,000	466	513	656	661	1,053	1,081	1,012	1,001	821	844	995	812	1,423	2,705	2,865	3,055	2,480	3,350
80,000	513	564	722	727	1,159	1,190	1,114	1,102	903	929	1,096	894	1,566	2,985	3,160	3,365	2,730	3,540
100,000	552	608	778	783	1,249	1,282	1,200	1,187	973	1,001	1,180	963	1,687	3,215	3,405	3,630	2,945	3,685
150,000	632	696	890	897	1,430	1,467	1,373	1,359	1,114	1,146	1,351	1,102	1,931	3,685	3,905	4,160	3,375	4,030
200,000	696	766	980	987	1,574	1,615	1,511	1,496	1,226	1,261	1,487	1,213	2,125	4,060	4,300	4,580	3,720	4,230

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

Peak Let-Thru Curve KLDR



Peak Let-Thru Curve KLKR



10 x 38mm MIDGET FUSES

KLK Series Fast-Acting Fuse 600 Vac

UL QPL RoHS CE



AMPERE RATINGS			
1/10	1	5	15
1/8	1 1/2	6	20
2/10	2	7	25
1/4	2 1/2	8	30
3/10	3	9	—
1/2	3 1/2	10	—
3/4	4	12	—

Specifications

Fast-acting, high-interrupting capacity fuse designed for control circuits, HID lighting, street-lighting, meter circuits.

Voltage Ratings	600 Vac 500 Vdc
Interrupting Ratings	100 kA @ 600 Vac 50 kA @ 500 Vdc (capable of 200 kA)
Approvals	UL Listed (E10480) CSA Certified (LR29862)
Dimensions	L 38.1mm (1 1/2") D 10.31mm (13/32")

littelfuse.com/klk

KLKD Series Fast-Acting Fuse 600 Vac/dc

UL QPL RoHS CE



AMPERE RATINGS			
1/10	1	5	15
1/8	1 1/2	6	20
2/10	2	7	25
1/4	2 1/2	8	30
3/10	3	9	—
1/2	3 1/2	10	—
3/4	4	12	—

Specifications

Fast-acting, high DC rated fuse used in solar combiner boxes, DC control circuits, UPS protection. Available in PC board mount.

Voltage Ratings	600 Vac/dc
Interrupting Ratings	100 kA @ 600 Vac 10 kA @ 600 Vdc (UL 248-19) 50 kA @ 600 Vdc (UL 248-14) (capable of 200 kA)
Approvals	UL Listed (E339112 & E10480) CSA Certified (LR29862)
Dimensions	L 38.1mm (1 1/2") D 10.31mm (13/32")

littelfuse.com/klkd

FLM Series Time-Delay Fuse 250 Vac

UL QPL RoHS Pb



AMPERE RATINGS				
1/10	8/10	2	4 1/2	10
15/100	1	2 1/4	5	12
2/10	1 1/8	2 1/2	5 6/10	15
1/4	1 1/4	2 8/10	6	20
3/10	1 4/10	3	6 1/4	25
4/10	1 1/2	3 2/10	7	30
1/2	1 6/10	3 1/2	8	—
6/10	1 8/10	4	9	—

Specifications

250V time-delay fuses used to protect circuits with high in-rush. Especially suited for supplemental protection of small motors.

Voltage Ratings	250 Vac 125 Vdc self-certified @ 10 kA
Interrupting Ratings	10 kA @ 250 Vac
Approvals	UL Listed (File: E10480) CSA Certified (029862_0_000)
Dimensions	L 38.1mm (1 1/2") D 10.31mm (13/32")

littelfuse.com/flm

FLQ Series Time-Delay Fuse 500 Vac

UL QPL RoHS



AMPERE RATINGS				
1/10	1/2	2	5	12
1/8	6/10	2 1/4	5 6/10	14
15/100	8/10	2 1/2	6	15
3/16	1	3	6 1/4	20
2/10	1 1/8	3 2/10	7	25
1/4	1 1/4	3 1/2	8	30
3/10	1 1/2	4	9	—
4/10	1 6/10	4 1/2	10	—

Specifications

500V time-delay fuses for supplemental protection of control power transformers, solenoids, and circuits with high in-rush. Ideal for 480 V systems.

Voltage Ratings	500 Vac 300 Vdc self-certified @ 10 kA
Interrupting Ratings	10 kA @ 500V ac
Approvals	UL Listed (E10480) CSA Certified (LR29862)
Dimensions	L 38.1mm (1 1/2") D 10.31mm (13/32")

littelfuse.com/flq

BLN Series Fast-Acting Fuse 250 Vac

UL QPL RoHS



AMPERE RATINGS				
1	3	6	12	25
1 1/2	4	8	15	30
2	5	10	20	—

Specifications

250 volt BLN fuses provide low-cost protection for military applications and control circuits.

Voltage Ratings	250 Vac
Interrupting Ratings	10 kA @ 250 Vac
Approvals	UL Listed (E10480) CSA Certified (LR29862)
Dimensions	L 38.1mm (1 1/2") D 10.31mm (13/32")

littelfuse.com/bln

BLF Series Fast-Acting Fuse 125/250 Vac

UL QPL RoHS



AMPERE RATINGS			
1/2	3	7	15
1	4	8	20
1 1/2	5	9	25
2	6	10	30
2 1/2	6 1/4	12	—

Specifications

BLF fuses are the lowest price midget fuse. They are suitable for control circuit and instrument protection in dry locations.

Voltage Ratings	250 Vac 1/2 - 15 A 125 Vac 20 - 30 A
Interrupting Ratings	10 kA @ rated Vac
Approvals	UL Listed (E10480) CSA Certified (LR29862)
Dimensions	L 38.1mm (1 1/2") D 10.31mm (13/32")

littelfuse.com/blf

10 x 38mm MIDGET FUSES

BLS Series Fast-Acting Fuse 600 Vac / 250 Vac



AMPERE RATINGS				
2/10	1	3	8	
4/10	1 1/2	4	10	
1/2	1 5/10	5	—	
3/4	1 8/10	6	—	
8/10	2	7	—	

Specifications

Slightly shorter than a traditional 10 x 38, BLS fuses provide space saving protection for low amperage applications.

Voltage Ratings	600 Vac 2/10 - 5 A 250 Vac 6 - 10 A
Interrupting Ratings	10 kA @ rated Vac
Approvals	UL Listed (E10480) CSA Certified (LR29862)
Dimensions	L 34.9 mm (1 3/8") D 10.31 mm (13/32")

littelfuse.com/bls

KLQ Series Increased Time-Delay 600 Vac



AMPERE RATINGS			
1	2	5	
1 5/10	3	6	

Specifications

Same physical size as the BLS fuse with more time delay. Designed to protect gaseous vapor fixtures, HID ballasts and other electronic lighting circuits.

Voltage Ratings	600 Vac
Interrupting Ratings	10 kA @ rated Vac
Approvals	UL Listed (E10480) CSA Certified (LR29862)
Dimensions	L 34.9 mm (1 3/8") D 10.31 mm (13/32")

littelfuse.com/klq

FLA Series Time-Delay Pin Indicating Fuse 125 Vac



AMPERE RATINGS					
1/10	8/10	2	4 1/2	12*	
15/100	1	2 1/4	5	15*	
2/10	1 1/8	2 1/2	5 5/10	20*	
1/4	1 1/4	3	6	25*	
3/10	1 4/10	3	6 1/4	30*	
4/10	1 1/2	3 2/10	7	—	
1/2	1 5/10	3 1/2	8	—	
5/10	1 8/10	4	10	—	

*12-30 A are dual tube design

Specifications

Pin indicating time-delay fuses. Use in conjunction with special fuse blocks to operate mechanical signal switches or energize alarm circuits.

Voltage Ratings	125 Vac
Interrupting Ratings	10 kA @ rated Vac
Approvals	UL Listed (E10480)
Dimensions	L 38.1 mm (1 1/2") D 10.31 mm (13/32")

littelfuse.com/fla

FLU Series Multimeter Protection 1000 Vac/dc



Specifications

Multimeter protection fuses.

Voltage Rating	1000 Vac/Vdc
Interrupting Rating	44/100 A: 10 kA 11 A: 20 kA
Ampere Ratings	44/100 & 11 A
Time Constant	10 ms
Approvals	UL Recognized (E10480) CSA Certified (LR29862)
Dimensions	44/100 A: 13/32" x 1 3/8" 11 A: 13/32" x 1 1/2"

littelfuse.com/flu

10 x 38mm Midget Fuse Holder Configurations

OPEN FUSE BLOCK



L60030M
pg. 107

PC BOARD MOUNT FUSE BLOCK



L60030MPCB
pg. 109

POWR-SAFE DEAD FRONT HOLDERS



LPSC/LPSM (600 V)
pg. 117



LPHV (1000 V)
pg. 116