

# FUSE CLASS AND SELECTION CHART

UL CLASS	LITTELFUSE SERIES	OVERLOAD CHARACTERISTICS	AC RATINGS			DC RATINGS			RECOMMENDED FUSE BLOCKS AND FUSE HOLDERS	FUSE SERIES PAGE NUMBERS
			VOLTAGE (VOLTS)	CURRENT (AMPERES)	INTERRUPTING (AMPERES)	VOLTAGE (VOLTS)	CURRENT (AMPERES)	INTERRUPTING (AMPERES)		
<b>L</b>	KLPC	Time-Delay	600	200 - 6000	200K / 300K*	480	200 - 6000	20,000	-	8
	KLLU	Time-Delay	600	601 - 4000	200,000	300	601 - 4000	20,000		9
	LDC	Fast-Acting	600	150 - 2000	200,000	600	150 - 2000	50,000		10
<b>RK1</b>	LLNRK	Time-Delay	250	0.1 - 600	200K / 300K*	125	0.1 - 600	20,000	LFR25	13
	LLSRK_ID	Time-Delay	600	0.1 - 600		300	0.1 - 600		LFR60	13
	LLSRK	Time-Delay	600	0.1 - 600		300	0.1 - 600		LFR60	13
	KLNR	Fast-Acting	250	1 - 600	125	1 - 600	LFR25		15	
	KLSR	Fast-Acting	600	1 - 600	200,000	250 300	1 - 30 35 - 600		LFR60	15
<b>RK5</b>	FLNR_ID	Time-Delay	250	35 - 600	200K / 300K*	125	35 - 600	20,000	LFR25	17
	FLNR		250	0.1 - 600		125	0.1 - 600			17
	FLSR_ID		600	0.1 - 600		300	0.1 - 600		LFR60	17
	FLSR		600	0.1 - 600		300	0.1 - 600			17
	IDSR		600	0.1 - 600		600	0.1 - 600			16
<b>J</b>	JTD_ID	Time-Delay	600	0.8 - 600	200K / 300K*	300	0.8 - 100	20,000	LFJ60 • LFPSJ	21
	JTD	Time-Delay	600	0.8 - 600		500	110 - 600			21
	JLS	Fast-Acting	600	1 - 600	200,000	-	-			-
<b>T</b>	JLLN	Fast-Acting	300	1 - 1200	200,000	160 125	1 - 60 70 - 1200	20,000	LFT30 • LSCR002 (700-800A)	24
	JLLS		600	1 - 1200		300	1 - 1200		LFT60 • LSCR002 (700-800A)	24
<b>CC</b>	CCMR	Time-Delay	600	0.2 - 30	200K / 300K*	250 250 300 500	0.2 - 2 4.5 - 10 2.25 - 4 12 - 30	20,000	L60030C • LFPS • LPSC • 571 • 572 • LEC • LEY	27
	KLDR	Time-Delay	600	0.1 - 30	200,000	300	0.1 - 30			28
	KLKR	Fast-Acting	600	0.1 - 30	200,000	300	0.1 - 30			28
<b>CD</b>	CCMR	Time-Delay	600	35 - 60	200K / 300K*	250	35 - 60	20,000	LFC60060	27
<b>G</b>	SLC	Time Lag	600	0.5 - 20	100,000	170	0.5 - 60	10,000	LFG600 (½ - 20A)	26
			480	25 - 60					LFG480 (25 - 60A)	
<b>Solar</b>	SPF	Solar	-	-	-	1000	1 - 30	20,000	LFPHV	60
	SPFJ	Solar	600	125-450	200,000	1000	70 - 450	20K (70 - 200A) 10K (250 - 400A) 20K (450A)	LFJ1000	61
	SPFI	Solar	-	-	-	1000	2 - 30	20,000	Not Required	59
	SPXV	Solar	-	-	-	1500	6 - 30	30,000	LPXV	57
	SPXI	Solar	-	-	-	1500	2.5 - 30	30,000	Not Required	58
<b>K5</b>	NLN	Fast-Acting	250	1 - 600	50,000	250	1 - 600	20K (1 - 60A) 50K (70 - 600A)	LFH25	20
	NLS		600	1 - 600		600 500 400 600 500	1 - 7 8 - 30 35 - 60 70 - 200 225 - 600	20K (1 - 60A) 50K (70 - 600A)	LFH60	20
<b>High-Speed</b>	L15S	Very Fast-Acting	150	1 - 1000	200,000	150 100	1 - 60 70 - 1000	20,000	LSCR • 1LFS	69
	L25S		250	1 - 800		250 200	1 - 200 225 - 800			69
	L50S		500	10 - 800		450	10 - 800			69
	L60S		600	1 - 800		-	-			69
	L70S		700	10 - 800		650	10 - 800			69
<b>Midget (Supplementary)</b>	BLF	Fast-Acting	250 125	0.5 - 15 20 - 30	10,000	-	-	-	L60030M • LFPSM • 571 • 572 • LEB • LEX	30
	BLN	Fast-Acting	250	1 - 30	10,000	-	-	-		30
	BLS	Fast-Acting	600 250	0.2 - 5 6 - 10	10,000	-	-	-		31
	FLA	Time-Delay	125	0.1 - 30	10,000	-	-	-		31
	FLM	Time-Delay	250	0.1 - 30	10,000	125	0.1 - 30	10,000		30
	FLQ	Time-Delay	500	0.1 - 30	10,000	300	0.1 - 30	10,000		30
	KLK	Fast-Acting	600	0.1 - 30	100K / 200K*	500	0.1 - 30	50,000		30
	KLKD	Fast-Acting	600	0.1 - 30	100,000	600	0.1 - 30	50,000		30
	KLQ	Time-Delay	600	1 - 6	10,000	-	-	-		31
FLU	Fast-Acting	1000	0.44/ 11	10,000 20,000	1000	0.44 11	10,000 20,000	LFPHV	31	
<b>Plug</b>	S00, T00	Time-Delay	125	0.25 - 30	10,000	-	-	-	Box Cover Units	63
	SLO, TLO	Medium Time-Delay	125	15 - 30	10,000	-	-	-		
<b>Telecom</b>	L17T	Fast-Acting	-	-	-	170	70 - 1200	100,000	LTFD Series	50
	TLN		-	-	-		1 - 600		LFR25	51
	TLS		-	-	-		1 - 125		LTFD101 • LFT30060 (cartridge)	52

\* Littelfuse® self-certified

# 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
- Switchboard mains and feeders
- Motor control central mains and motor branch circuits
- All general purpose circuits

## Features/Benefits

- Indicator and Non-Indicator versions available
- Dual-element design
- Current limiting

## Specifications

<b>Voltage Ratings</b>	AC: 600 Vac or less (FLSR_ID) 250 Vac or less (FLNR_ID) DC: 300 V (FLSR_ID) 125 V (FLNR 1/10 – 30 A); 125 V (FLNR_ID 35 – 600 A)
<b>Ampere Range</b>	1/10 – 600 A
<b>Interrupting Ratings</b>	AC: 200 kA rms symmetrical 300 kA rms symmetrical (Littelfuse self-certified) DC: 20 kA
<b>Approvals</b>	Standard 248-12, Class RK5 UL Listed (File: E81895) CSA Certified (File: LR29862) Federal Specification WF-1814 (QPL- W-F-1814)
<b>Material</b>	FLSR: 1/10-60 A: Composite body, Bronze caps 70-600 A: Composite body, Copper caps FLNR: 1/10-60 A: Fiber body, Bronze caps 70-600 A: Composite body, Copper caps
<b>Country of Origin</b>	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 8/10	12	45	110	350
1/4	1 1/4	2 9/10	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 9/10	3 1/2	7 1/2	25	75**	200	600

Note: For 1/10 – 30A 250 volt fuses, order non-indicating FLNR series fuses.  
\*FLNR only. †FLNR, FLSR, FLSR\_ID only. \*  
\*\*FLNR, FLSR, FLSR\_ID only

VOLTAGE	INDICATION	SERIES	AMP	CATALOG NUMBER	ORDERING NUMBER
600 V	–	FLSR	15	FLSR015	FLSR015.T
600 V	•	FLSR_ID	15	FLSR015ID	FLSR015.TXID
250 V	–	FLNR	60	FLNR060	FLNR060.T
250 V	•	FLNR_ID	60	FLNR060ID	FLNR060.TXID

## Web Resources

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

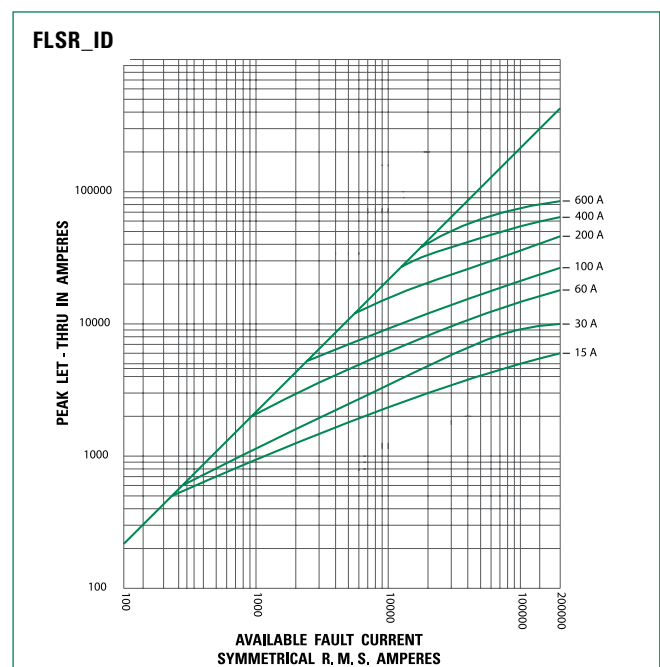
## Recommended Fuse Blocks

LFR Series ..... 88

## Dimensions

Please refer to the Class R dimensions..... 19  
Refer to FLNR dim. for FLNR\_ID and the FLSR dim. for FLSR\_ID.

## Peak Let-Thru Curve (600 V)



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

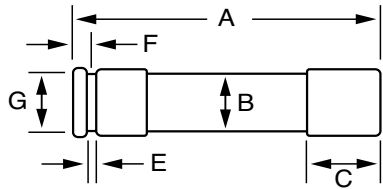


FIG. 1

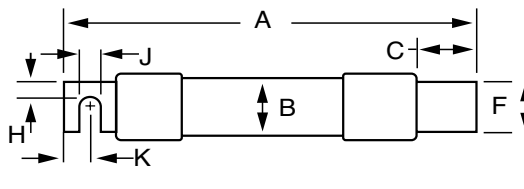
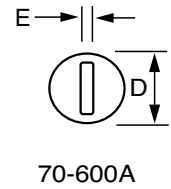


FIG. 2



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 KLSR 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 KLSR 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 KLSR 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 KLSR 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 KLSR FLSR IDSR	11 15/8 (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 KLSR 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)