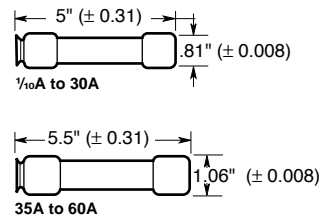


Fusetron® Dual-Element, Time-Delay Fuses Class RK5 – 600 Volt

FRS-R
1/10-60A



Dimensional Data



Catalog Symbol: FRS-R
Dual-Element, Time-Delay – 10 second (minimum) at 500% rated current
Current-Limiting
Ampere Rating: 1/10 to 60A
Voltage Rating: 600Vac (or less)
Interrupting Rating: 200,000A RMS Sym. dc Ratings (20,000AIC @ 250Vdc)
Agency Information:
UL Listed, Std. 248-12, Class RK5, Guide JDDZ, File E4273
CSA Certified, C22.2 No. 248.12, Class 1422-02, File 53787

Catalog Numbers

FRS-R-1/10	FRS-R-1 9/10	FRS-R-8
FRS-R-1/8	FRS-R-2	FRS-R-9
FRS-R-15/100	FRS-R-2 1/4	FRS-R-10
FRS-R-2/10	FRS-R-2 1/2	FRS-R-12
FRS-R-1/4	FRS-R-2 9/10	FRS-R-15
FRS-R-3/10	FRS-R-3	FRS-R-17 1/2
FRS-R-4/10	FRS-R-3 3/10	FRS-R-20
FRS-R-1/2	FRS-R-3 1/2	FRS-R-25
FRS-R-9/10	FRS-R-4	FRS-R-30
FRS-R-9/10	FRS-R-4 1/2	FRS-R-35
FRS-R-1	FRS-R-5	FRS-R-40
FRS-R-1 1/8	FRS-R-5 9/10	FRS-R-45
FRS-R-1 1/4	FRS-R-6	FRS-R-50
FRS-R-1 1/10	FRS-R-6 1/4	FRS-R-60
FRS-R-1 1/2	FRS-R-7	—
FRS-R-1 9/10	FRS-R-7 1/2	—

Carton Quantity and Weight

Ampere Ratings	Carton Qty.	Weight*	
		Lbs.	Kg.
1/10-15	10	0.40	0.181
17.5-30	10	0.50	0.277
35-60	10	3.10	1.406

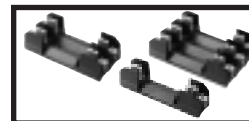
*Weight per carton.

General Information:

- Provides motor overload, ground fault and short-circuit protection. When used in circuits subject to surge currents such as those caused by motors, transformers and other inductive components, these fuses can be sized close to full-load amperes to give maximum overcurrent protection.
- Permits the use of smaller and less costly switches. The time-delay feature makes it possible to use fuse ampere ratings which are much smaller than those of non-time-delay fuses. Considerable cost saving occurs by permitting the use of smaller size switches, panels and fuses themselves.
- Provides a higher degree of short-circuit protection (greater current-limitation) in circuits in which surge currents or temporary overloads occur.
- Helps protect motors against burnout from overloads.
- Gives motor running back-up protection to motors without extra costs.
- Helps protect motors against burnout from single phasing on three phase systems.
- Simplifies and improves blackout prevention (selective coordination).
- Dual-element fuses can be applied in circuits subject to temporary motor overloads and surge currents to provide both high-performance, short-circuit and overload protection.
- The overload element provides protection against low level overcurrent of overloads and will hold an overload which is five times greater than the ampere rating of the fuse for a minimum of ten seconds.

Fuse Reducers For Class R Fuses

Equipment Fuse Clips	Desired Fuse (Case) Size	Catalog Number (Pairs) 600V
60A	30A	No. 663-R
100A	30A	No. 216-R
	60A	No. 616-R
200A	60A	No. 626-R



Recommended fuseblocks for Class R 600V fuses
See Data Sheet: 1111

CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000Vac, 75-1500Vdc). Refer to Data Sheet: 8002 or contact Bussmann Application Engineering at 314-527-1270 for more information.

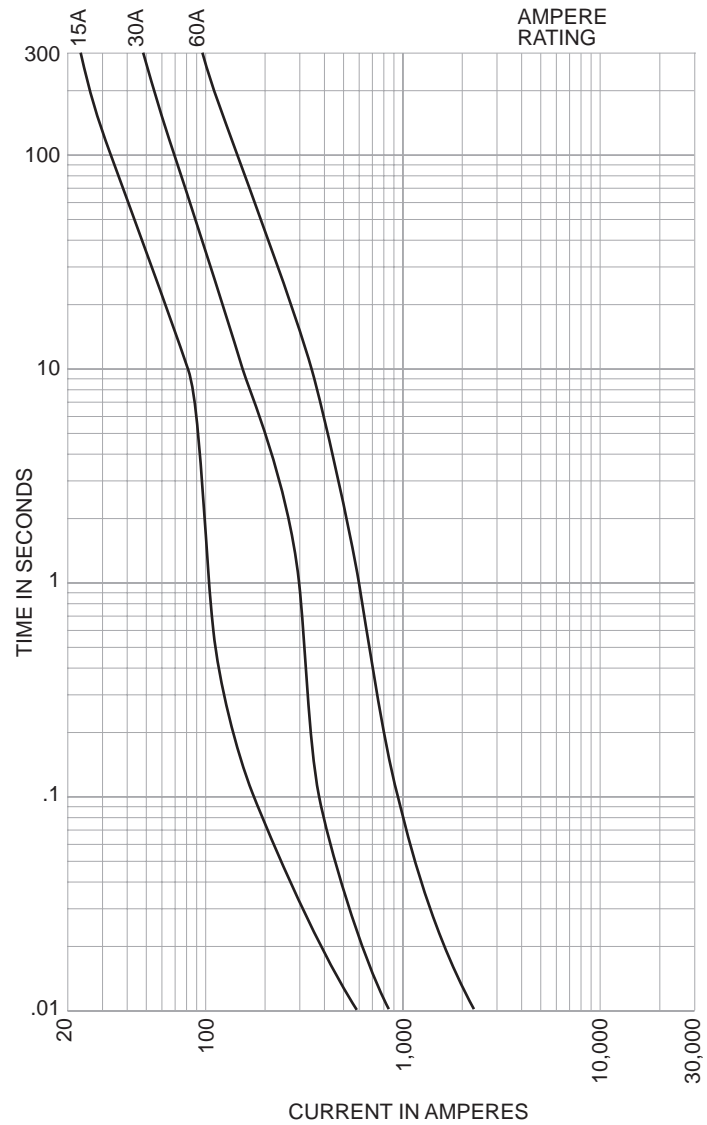
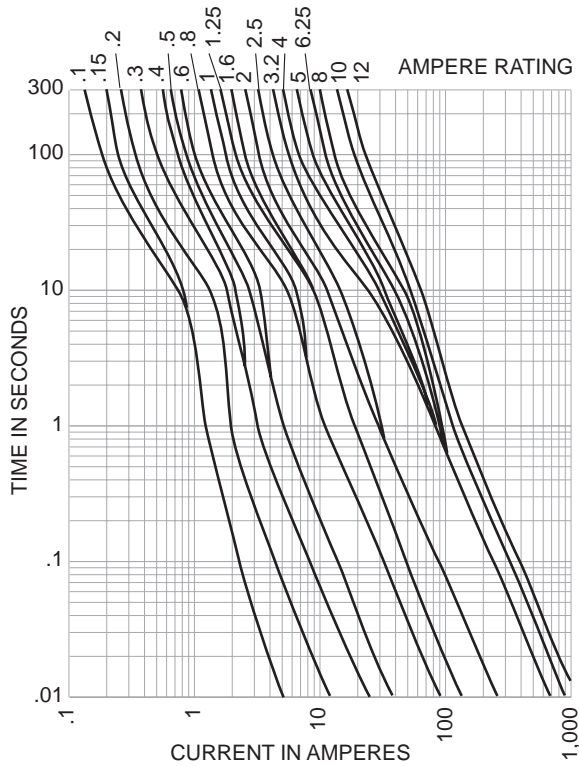
Fusetron®

Dual-Element, Time-Delay Fuses

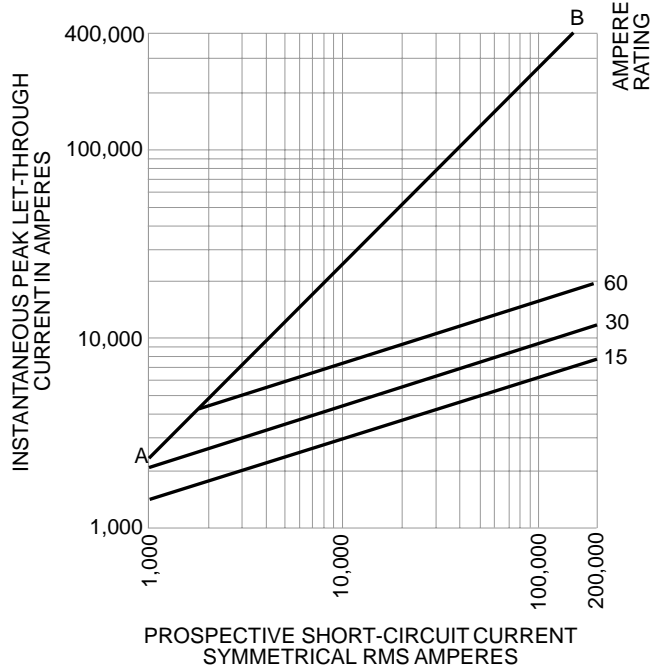
Class RK5 - 600 Volt

FRS-R
1/10-60A

Time-Current Characteristic Curves—Average Melt



Current-Limitation Curves



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Fusetron®

Dual-Element, Time-Delay Fuses

Class RK5 — 600 Volt

FRS-R

65-600A



Catalog Symbol: FRS-R

Dual-Element, Time-Delay – 10 seconds (minimum) at 500% rated current

Current-Limiting

Ampere Rating: 65 to 600A †

Voltage Rating: 600Vac (or less)

Interrupting Rating: 200,000A RMS Sym.

dc Ratings (20,000AIC @ 300Vdc)

Agency Information:

UL Listed, Std. 248-12, Class RK5, Guide JDDZ, File E4273

CSA Certified, C22.2 No. 248.12, Class 1422-01, File 53787

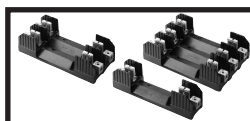
Catalog Numbers

FRS-R-65	FRS-R-135	FRS-R-325
FRS-R-70	FRS-R-150	FRS-R-350
FRS-R-75	FRS-R-175	FRS-R-400
FRS-R-80	FRS-R-200	FRS-R-450
FRS-R-90	FRS-R-225	FRS-R-500
FRS-R-100	FRS-R-250	FRS-R-600
FRS-R-110	FRS-R-275	—
FRS-R-125	FRS-R-300	—

Carton Quantity and Weight

Ampere Ratings	Carton Qty.	Weight*	
		Lbs.	Kg.
65-100	1	0.54	0.245
101-200	1	1.22	0.544
201-400	1	3.00	1.359
401-600	1	5.00	2.268

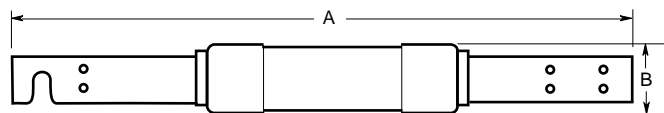
*Weight per carton.



Recommended fuseblocks for Class R 600V fuses
See Data Sheet: 1111

† To obtain information for 0-60A, access Data Sheet: 1017

Dimensional Data



Dimensions (inches)

Ampere Ratings	A	B
65-100	7.88 (± 0.062)	1.11 (± 0.020)
110-200	9.63 (± 0.062)	1.61 (± 0.020)
225-400	11.63 (± 0.094)	2.34 (± 0.020)
450-600	13.38 (± 0.094)	2.88 (± 0.020)

General Information:

- Provides motor overload, ground fault and short-circuit protection. When used in circuits subject to surge currents such as those caused by motors, transformers and other inductive components, these fuses can be sized close to full-load amperes to give maximum overcurrent protection.
- The time-delay feature makes it possible to use fuse ampere ratings which are much smaller than those of non-time-delay fuses. Considerable cost saving occurs by permitting the use of smaller size switches, panels and fuses themselves.
- Provides a good degree of short-circuit protection (greater current-limitation) to help protect downstream components from high fault currents.
- Gives motor running back-up protection to motors without extra costs.
- Helps protect motors against burnout from overloads and single phasing when sized properly.
- Simplifies and improves blackout prevention (selective coordination ratios).
- Dual-element fuses can be applied in circuits subject to temporary motor overloads and surge currents to provide both high-performance, short-circuit and overload protection.

Fuse Reducers For Class R Fuses

Equipment Fuse Clips	Desired Fuse (Case) Size	Catalog Number (Pairs) 600V
200A	100A	No. 2621-R
	100A	No. 2641-R
400A	200A	No. 642-R
	100A	No. 2661-R
600A	200A	No. 2662-R
	400A	No. 2664-R*

*Single reducer only (pair not required).

For additional information, see Data Sheet: 1118.

CE CE logo denotes compliance with European Union Low Voltage Directive (50-1000Vac, 75-1500Vdc). Refer to Data Sheet: 8002 or contact Bussmann Application Engineering at 636-527-1270 for more information.

Fusetron®

Dual-Element, Time-Delay Fuses

Class RK5 — 600 Volt

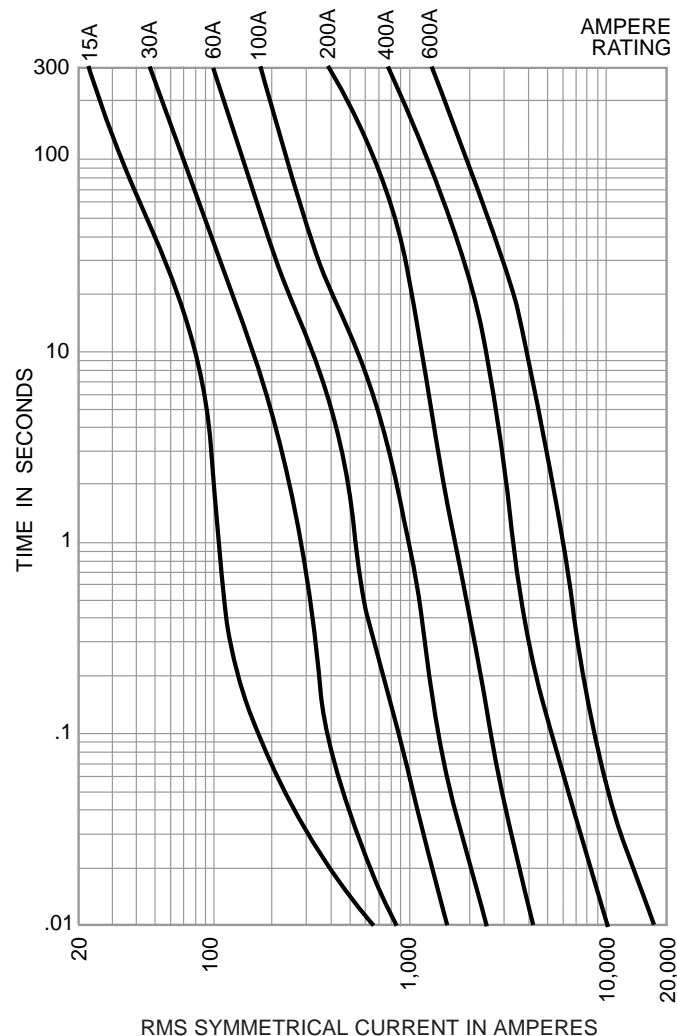
FRS-R
65-600A

Current-Limiting Effects

FRS-R Apparent RMS Symmetrical Let-Through Current						
Prospective SCC	30A	60A	100A	200A	400A	600A
5,000	1,400	2,000	2,900	3,950	5,000	5,000
10,000	1,850	2,650	3,600	5,100	8,550	10,000
15,000	2,200	3,200	4,100	5,950	9,750	13,700
20,000	2,450	3,550	4,500	6,600	10,700	15,000
25,000	2,700	3,900	4,850	7,150	11,500	16,100
30,000	2,900	4,280	5,150	7,650	12,200	17,050
35,000	3,100	4,400	5,400	8,100	12,800	17,900
40,000	3,300	4,760	5,600	8,500	13,400	18,700
50,000	3,550	5,150	6,050	9,250	14,400	20,050
60,000	3,800	5,500	6,400	9,850	15,250	21,250
80,000	4,300	6,100	7,000	10,950	16,750	23,300
100,000	4,500	6,600	7,550	11,900	18,000	25,000
150,000	5,200	8,000	8,600	13,800	20,550	28,450
200,000	5,800	8,500	9,400	15,350	22,550	31,200

For information on previous design FRS-R, 70-600, see Data Sheet: 1153.

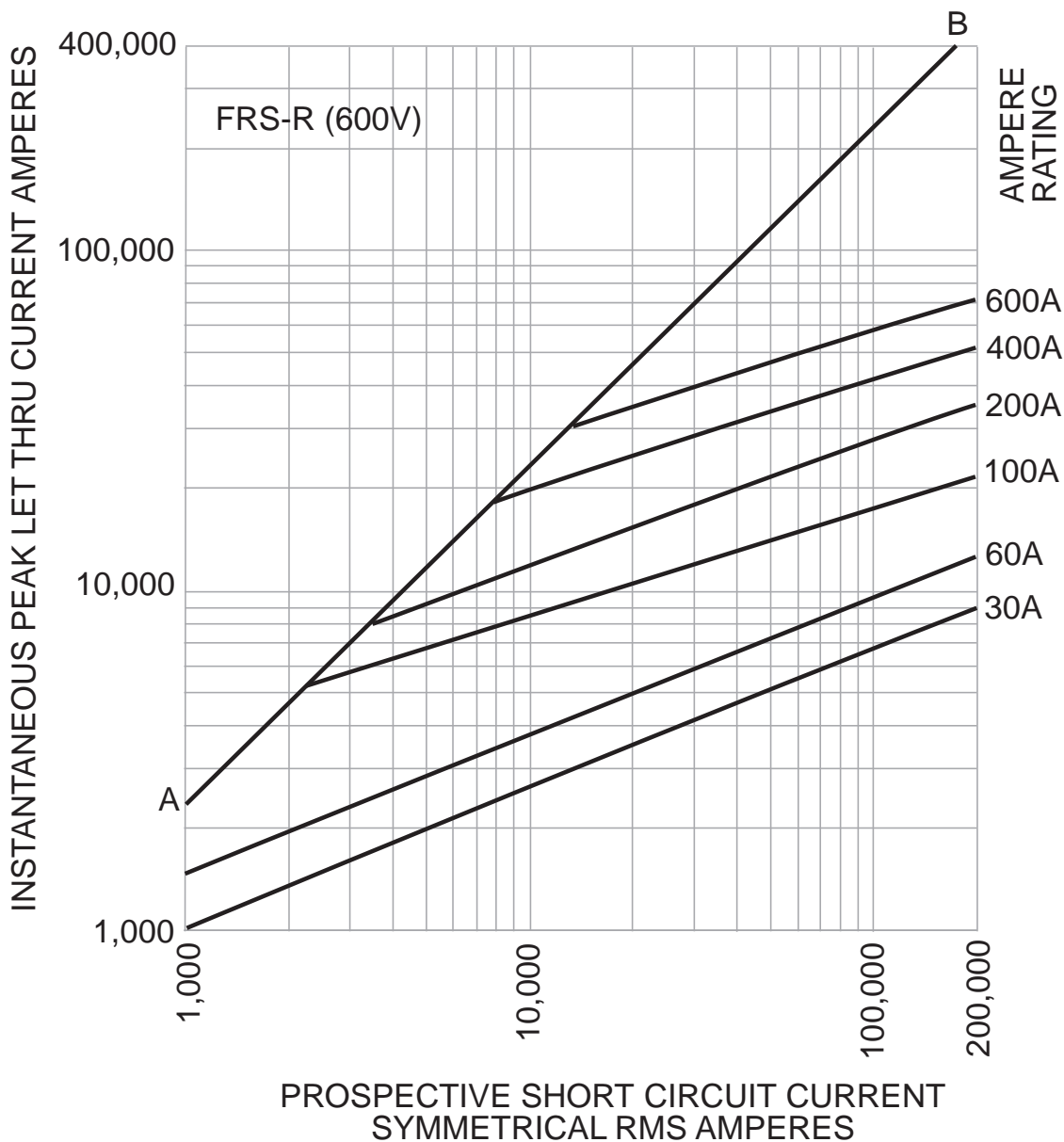
Time-Current Characteristic Curves—Average Melt



Fusetron®
 Dual-Element, Time-Delay Fuses
 Class RK5 — 600 Volt

FRS-R
 65-600A

Current-Limitation Curves



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