

FRN-R – 250Vac/125Vdc, 1/10-60A, Dual Element, Time-Delay Fuses



Dimensions - in



Description: Advanced protection, energy efficient Class RK5 dual element, current-limiting, time-delay fuses with optional open fuse indication on select ratings.

Time-delay – 10 seconds (minimum) at 500% of rated current (8 seconds for 1/10-30A sizes).

Catalog Symbol: FRN-R-(amp) (non-indicating)
FRN-R-(amp)ID (indicating)

Ratings:

- Volts – 250Vac, 125Vdc
- Amps – 1/10-60 Amps
- IR – 200kA Vac RMS Sym.
- 20kA Vdc

Agency Information:

CE, UL Listed, Std. 248-12, Class RK-5, Guide JDDZ, File E4273
CSA Certified, C22.2 No. 248.12, Class 1422-02, File 53787

Catalog Numbers (amps) – Non-indicating fuses

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

* Open fuse indication available by inserting the suffix "ID." E.g., FRN-R-15ID.

Carton Quantity and Weight

Amp Rating	Carton Qty.
1/10-15	10
17 1/2-30	10
35-60	10

Features:

- Provides motor overload, ground fault and short-circuit protection
- Helps protect motors against burnout from overloads
- 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.

Recommended Fuse Blocks

Fuse Amps	1-Pole	2-Pole	3-Pole
0-30	H25030-1	H25030-2	H25030-3
	R25030-1	R25030-2	R25030-3
35-60	H25060-1	H25060-2	H25060-3
	R25060-1	R25060-2	R25060-3

For additional information on the 250 volt fuse blocks, see Data Sheets # 1110 (R250), # 1112 (H250).

Fuse Reducers For Class R Fuses

Equipment	Desired Fuse (Case) Size	Catalog Numbers (Pairs) 250V
60A	30A	NO.263-R
100A	30A	NO.213-R
	60A	NO.216-R
200A	60A	NO.226-R

For additional information on Class R fuse reducers, see Data Sheet # 1118.

FRN-R — 250Vac/125Vdc, 1/10-60A, Dual Element, Time-Delay Fuses

Time-Current Curves - Average Melt

1/10 to 6 1/4 Amps



FRN-R – 250Vac/125Vdc, 1/10-60A, Dual Element, Time-Delay Fuses

Time-Current Curves - Average Melt

8 to 60 Amps



Current-Limitation Curves



Current-Limiting Effects

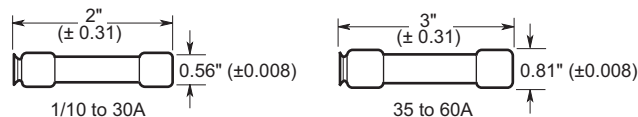
Prop. S.C.C.	Let-Through Current (Apparent RMS Symmetrical Vs. Fuse Rating)	
	30A	60A
5000	1000	2000
10,000	2000	3000
15,000	2000	3000
20,000	2000	4000
25,000	2000	4000
30,000	2000	4000
35,000	2000	4000
40,000	2000	5000
50,000	3000	5000
60,000	3000	5000
70,000	3000	6000
80,000	3000	6000
90,000	3000	6000
100,000	3000	6000
150,000	4000	7000
200,000	4000	8000

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FRN-R-1/10	FRN-R-3 3/10	FRN-R-20*
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FRN-R-9/10	FRN-R-4	FRN-R-30*
FRN-R-9/10	FRN-R-4 1/2	FRN-R-35*
FRN-R-1	FRN-R-5	FRN-R-40*
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FRN-R-1 1/2	FRN-R-7	
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* Open fuse indication available by inserting the suffix "ID." E.g., FRN-R-15ID.

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35-60	H25060-1	H25060-2	H25060-3
	R25060-1	R25060-2	R25060-3

For additional information on the 250 volt fuse blocks, see Data Sheets # 1110 (R250), # 1112 (H250).

Fuse Reducers For Class R Fuses

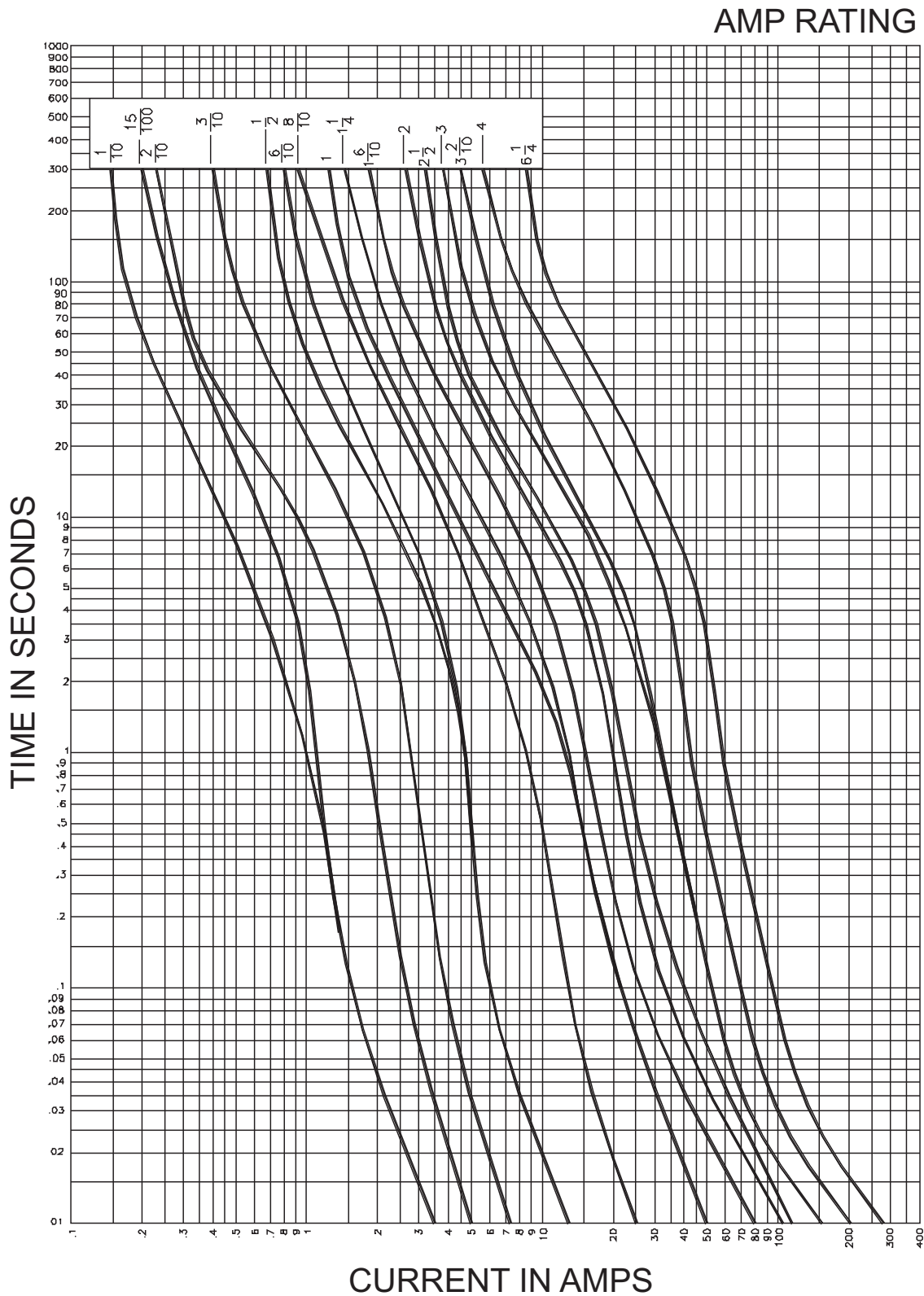
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Time-Current Curves - Average Melt

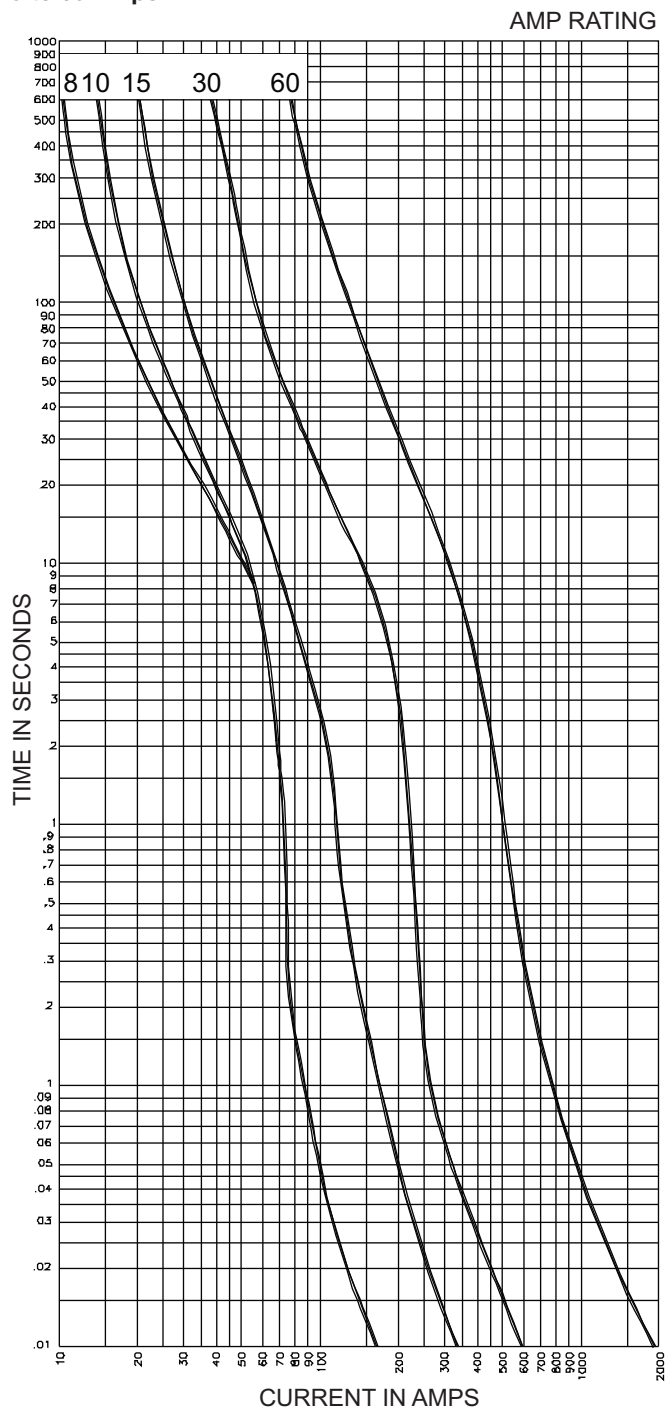
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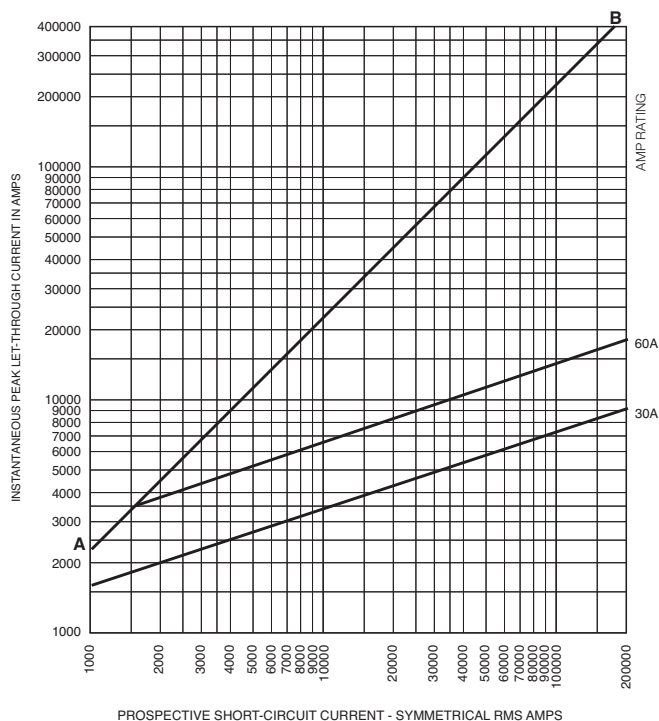
FRN-R – 250Vac/125Vdc, 1/10-60A, Dual Element, Time-Delay Fuses

Time-Current Curves - Average Melt

8 to 60 Amps



Current-Limitation Curves



Current-Limiting Effects

Prop. S.C.C.	Let-Through Current (Apparent RMS Symmetrical Vs. Fuse Rating)	
	30A	60A
5000	1000	2000
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15,000	2000	3000
20,000	2000	4000
25,000	2000	4000
30,000	2000	4000
35,000	2000	4000
40,000	2000	5000
50,000	3000	5000
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