

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



**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

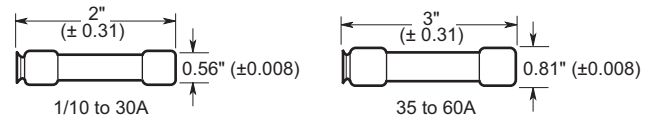
|              |              |               |
|--------------|--------------|---------------|
| FRN-R-1/10   | FRN-R-1 1/10 | FRN-R-8*      |
| FRN-R-1/8    | FRN-R-2      | FRN-R-9*      |
| FRN-R-15/100 | FRN-R-2 1/4  | FRN-R-10*     |
| FRN-R-3/10   | FRN-R-2 1/2  | FRN-R-12*     |
| FRN-R-1/4 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

### Dimensions - in



### 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

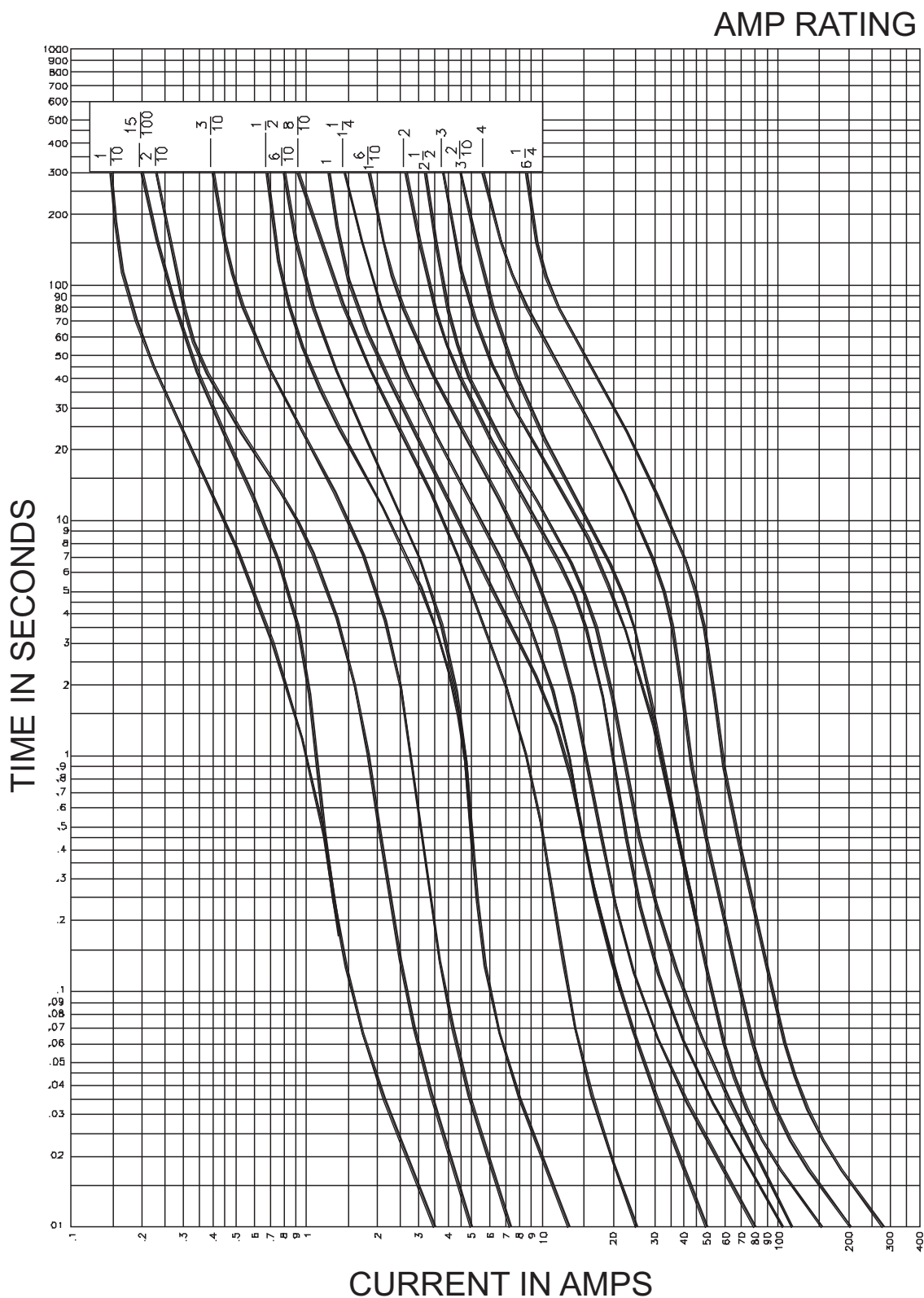
| Equipment  | Desired Fuse | Catalog Numbers |
|------------|--------------|-----------------|
| Fuse Clips | (Case) Size  | (Pairs) 250V    |
| 60A        | 30A          | NO.263-R        |
| 100A       | 30A          | NO.213-R        |
|            | 60A          | NO.216-R        |
| 200A      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

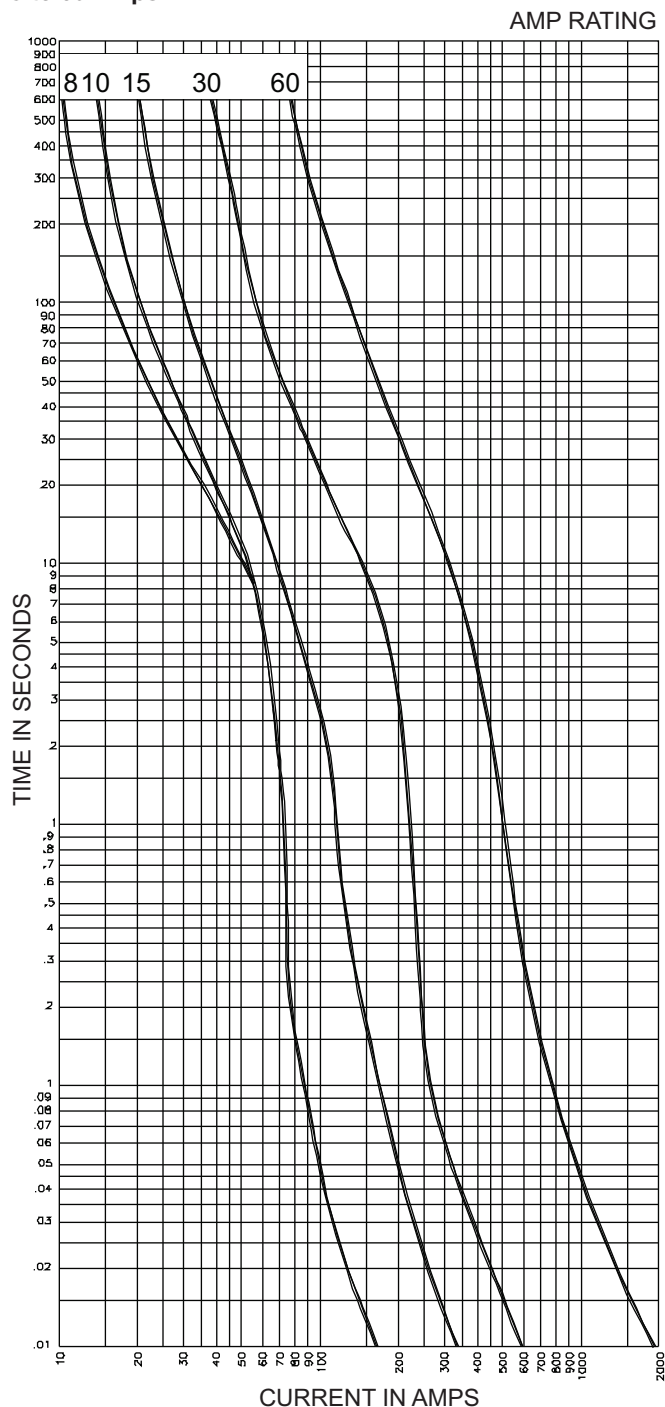
1/10 to 6 1/4 Amps



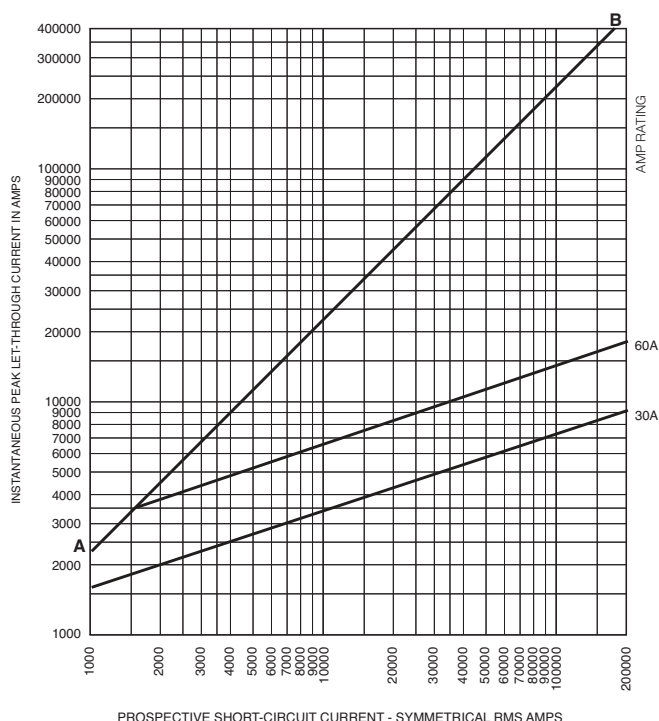
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### Time-Current Curves - Average Melt

8 to 60 Amps



### Current-Limitation Curves



### Current-Limiting Effects

| Prosp.<br>S.C.C. | Let-Through Current<br>(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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