

# Class CC/CD Fuses

## CCMR Series

**POWR-PRO®** 600 V ac • Dual Element • Time-Delay • ½–60 A



### Description

The CCMR Series dual-element, time-delay fuses carry the Littelfuse POWR-PRO® advanced technology designation. These fuses are ideal for space-saving protection of motor circuits up to 40 hp\* and are specifically designed to withstand sustained starting currents of small motors. Their superior time-delay capability eliminates needless downtime caused by power surges or equipment demands. They provide Type 2 “No Damage” protection for both NEMA- and IEC-type motor circuit components. Rating for rating, CCMR Series fuses are the most current-limiting fuses available.

POWR-PRO performance brand products offer advanced technology protection features such as high-interrupt capabilities up to 300 kA, low energy losses, and superior current limitation. 300 kA short-circuit testing for POWR-PRO products is self-certified and conducted at a nationally recognized testing laboratory.

### Features & Benefits

| FEATURES                                   | BENEFITS                                                                                                                   |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>POWR-PRO® technology</b>                | Superior protection against electrical system damage                                                                       |
| <b>Dual-element, time-delay protection</b> | Provides reliable time-delay characteristics to avoid unwanted fuse opening from surge currents in small horsepower motors |
| <b>Extremely current-limiting</b>          | Reduces damage caused by heating and magnetic effects of short-circuit currents                                            |
| <b>Available up to 60 A</b>                | Smallest footprint 600 V UL listed branch circuit fuse                                                                     |
| <b>Type 2 “No Damage” protection</b>       | Easy to coordinate and offer protection for both NEMA- and IEC-type motor circuit components                               |

### Applications

- Motor and motor branch circuit protection
- Contactor protection
- Heating and general industrial protection

\*Consult Motor Protection Tables on [www.littelfuse.com](http://www.littelfuse.com) or call 800-TEC-FUSE for specific motor sizing information.

# Class CC/CD Fuses

## CCMR Series

### Specifications

|                             |                                                                                                       |
|-----------------------------|-------------------------------------------------------------------------------------------------------|
| <b>Voltage Rating</b>       | Ac: 600 V<br>Dc: 250 V (CCMR 35–60 A)<br>300 V (CCMR 3/10–10 A)<br>500 V (CCMR 12–30 A)               |
| <b>Ampere Range</b>         | 3/10 – 60 A                                                                                           |
| <b>Interrupting Ratings</b> | Ac: 200 kA rms symmetrical<br>300 kA Littelfuse self-certified<br>Dc: 20 kA Littelfuse self-certified |
| <b>Applicable Standards</b> | UL 248-4; Class CC (CCMR 3/10–30 A)<br>UL 248-18; Class CD (CCMR 35–60 A)                             |
| <b>Environmental</b>        | RoHS Compliant (CCMR 3/10–30 A)                                                                       |
| <b>Country of Origin</b>    | Mexico                                                                                                |

### Certification & Compliance

|             |                                                                 |
|-------------|-----------------------------------------------------------------|
| <b>UL</b>   | UL Listed (File: E81895)                                        |
| <b>CSA</b>  | CSA Certified (File: LR29862)                                   |
| <b>CE</b>   | Declaration of Conformity: CCMR_P_210701_1 (3/10–30A)           |
| <b>RoHS</b> | RoHS 2 Directive 2011/65/EU; Directive (EU) 2015/863 (3/10–30A) |

### Accessories

LFC600 series fuse blocks (35–60 A Only)  
 L60030C series fuse blocks (3/10–30 A Only)  
 LPSC & LFPSC series dead-front fuse holders (3/10–30 A Only)  
 571 & 572 series panel-mount fuse holders (3/10–30 A Only)

### Ordering Information

| AMPERE | CATALOG NUMBER | PRODUCT MARKING | PACK QUANTITY | ORDERING NUMBER | UPC         | AGENCY APPROVALS |     |      |
|--------|----------------|-----------------|---------------|-----------------|-------------|------------------|-----|------|
|        |                |                 |               |                 |             | UL               | CSA | ROHS |
| 0.2    | CCMR.200       | CCMR 3/10 A     | 10            | CCMR.200TXP     | 07945896805 | •                | •   | •    |
|        |                |                 | 100           | CCMR.200HXP     | 07945896841 | •                | •   | •    |
| 0.25   | CCMR.250       | CCMR 1/4 A      | 10            | CCMR.250TXP     | 07945896806 | •                | •   | •    |
|        |                |                 | 100           | CCMR.250HXP     | 07945896842 | •                | •   | •    |
| 0.3    | CCMR.300       | CCMR 3/10 A     | 10            | CCMR.300TXP     | 07945896807 | •                | •   | •    |
|        |                |                 | 100           | CCMR.300HXP     | 07945896843 | •                | •   | •    |
| 0.5    | CCMR.500       | CCMR 1/2 A      | 10            | CCMR.500TXP     | 07945896808 | •                | •   | •    |
|        |                |                 | 100           | CCMR.500HXP     | 07945896844 | •                | •   | •    |
| 0.6    | CCMR.600       | CCMR 3/10 A     | 10            | CCMR.600TXP     | 07945896809 | •                | •   | •    |
|        |                |                 | 100           | CCMR.600HXP     | 07945896845 | •                | •   | •    |
| 0.8    | CCMR.800       | CCMR 3/10 A     | 10            | CCMR.800TXP     | 07945896810 | •                | •   | •    |
|        |                |                 | 100           | CCMR.800HXP     | 07945896846 | •                | •   | •    |
| 1      | CCMR001        | CCMR 1A         | 10            | CCMR001.TXP     | 07945896811 | •                | •   | •    |
|        |                |                 | 100           | CCMR001.HXP     | 07945896847 | •                | •   | •    |
| 1.25   | CCMR1.25       | CCMR 1 1/4 A    | 10            | CCMR1.25TXP     | 07945896812 | •                | •   | •    |
|        |                |                 | 100           | CCMR1.25HXP     | 07945896848 | •                | •   | •    |
| 1.4    | CCMR01.4       | CCMR 1 3/10 A   | 10            | CCMR01.4TXP     | 07945896813 | •                | •   | •    |
|        |                |                 | 100           | CCMR01.4HXP     | 07945896849 | •                | •   | •    |

# Class CC/CD Fuses

## CCMR Series

### Ordering Information

| AMPERE | CATALOG NUMBER | PRODUCT MARKING | PACK QUANTITY | ORDERING NUMBER | UPC         | AGENCY APPROVALS |     |      |
|--------|----------------|-----------------|---------------|-----------------|-------------|------------------|-----|------|
|        |                |                 |               |                 |             | UL               | CSA | ROHS |
| 1.5    | CCMR01.5       | CCMR 1 ½ A      | 10            | CCMR01.5TXP     | 07945896814 | •                | •   | •    |
|        |                |                 | 100           | CCMR01.5HXP     | 07945896850 | •                | •   | •    |
| 1.6    | CCMR01.6       | CCMR 1 5/10 A   | 10            | CCMR01.6TXP     | 07945896815 | •                | •   | •    |
|        |                |                 | 100           | CCMR01.6HXP     | 07945896851 | •                | •   | •    |
| 1.8    | CCMR01.8       | CCMR 1 5/10 A   | 10            | CCMR01.8TXP     | 07945896816 | •                | •   | •    |
|        |                |                 | 100           | CCMR01.8HXP     | 07945896852 | •                | •   | •    |
| 2      | CCMR002        | CCMR 2A         | 10            | CCMR002.TXP     | 07945896817 | •                | •   | •    |
|        |                |                 | 100           | CCMR002.HXP     | 07945896853 | •                | •   | •    |
| 2.25   | CCMR2.25       | CCMR 2 ¼ A      | 10            | CCMR2.25TXP     | 07945896818 | •                | •   | •    |
|        |                |                 | 100           | CCMR2.25HXP     | 07945896854 | •                | •   | •    |
| 2.5    | CCMR02.5       | CCMR 2 ½ A      | 10            | CCMR02.5TXP     | 07945896819 | •                | •   | •    |
|        |                |                 | 100           | CCMR02.5HXP     | 07945896855 | •                | •   | •    |
| 2.8    | CCMR02.8       | CCMR 2 5/10 A   | 10            | CCMR02.8TXP     | 07945896820 | •                | •   | •    |
|        |                |                 | 100           | CCMR02.8HXP     | 07945896856 | •                | •   | •    |
| 3      | CCMR003        | CCMR 3A         | 10            | CCMR003.TXP     | 07945896821 | •                | •   | •    |
|        |                |                 | 100           | CCMR003.HXP     | 07945896857 | •                | •   | •    |
| 3.2    | CCMR03.2       | CCMR 3 2/10 A   | 10            | CCMR03.2TXP     | 07945896822 | •                | •   | •    |
|        |                |                 | 100           | CCMR03.2HXP     | 07945896858 | •                | •   | •    |
| 3.5    | CCMR03.5       | CCMR 3 ½ A      | 10            | CCMR03.5TXP     | 07945896823 | •                | •   | •    |
|        |                |                 | 100           | CCMR03.5HXP     | 07945896859 | •                | •   | •    |
| 4      | CCMR004        | CCMR 4A         | 10            | CCMR004.TXP     | 07945896824 | •                | •   | •    |
|        |                |                 | 100           | CCMR004.HXP     | 07945896860 | •                | •   | •    |
| 4.5    | CCMR04.5       | CCMR 4 ½ A      | 10            | CCMR04.5TXP     | 07945896825 | •                | •   | •    |
|        |                |                 | 100           | CCMR04.5HXP     | 07945896861 | •                | •   | •    |
| 5      | CCMR005        | CCMR 5A         | 10            | CCMR005.TXP     | 07945896826 | •                | •   | •    |
|        |                |                 | 100           | CCMR005.HXP     | 07945896862 | •                | •   | •    |
| 5.6    | CCMR05.6       | CCMR 5 5/10 A   | 10            | CCMR05.6TXP     | 07945896827 | •                | •   | •    |
|        |                |                 | 100           | CCMR05.6HXP     | 07945896863 | •                | •   | •    |
| 6      | CCMR006        | CCMR 6A         | 10            | CCMR006.TXP     | 07945896828 | •                | •   | •    |
|        |                |                 | 100           | CCMR006.HXP     | 07945896864 | •                | •   | •    |
| 6.25   | CCMR6.25       | CCMR 6 ¼ A      | 10            | CCMR6.25TXP     | 07945896829 | •                | •   | •    |
|        |                |                 | 100           | CCMR6.25HXP     | 07945896865 | •                | •   | •    |
| 7      | CCMR007        | CCMR 7A         | 10            | CCMR007.TXP     | 07945896830 | •                | •   | •    |
|        |                |                 | 100           | CCMR007.HXP     | 07945896866 | •                | •   | •    |
| 7.5    | CCMR07.5       | CCMR 7 ½ A      | 10            | CCMR07.5TXP     | 07945896831 | •                | •   | •    |
|        |                |                 | 100           | CCMR07.5HXP     | 07945896867 | •                | •   | •    |
| 8      | CCMR008        | CCMR 8A         | 10            | CCMR008.TXP     | 07945896832 | •                | •   | •    |
|        |                |                 | 100           | CCMR008.HXP     | 07945896868 | •                | •   | •    |
| 9      | CCMR009        | CCMR 9A         | 10            | CCMR009.TXP     | 07945896833 | •                | •   | •    |
|        |                |                 | 100           | CCMR009.HXP     | 07945896869 | •                | •   | •    |
| 10     | CCMR010        | CCMR 10A        | 10            | CCMR010.TXP     | 07945896834 | •                | •   | •    |
|        |                |                 | 100           | CCMR010.HXP     | 07945896870 | •                | •   | •    |
| 12     | CCMR012        | CCMR 12A        | 10            | CCMR012.TXP     | 07945896835 | •                | •   | •    |
|        |                |                 | 100           | CCMR012.HXP     | 07945896871 | •                | •   | •    |
| 15     | CCMR015        | CCMR 15A        | 10            | CCMR015.TXP     | 07945896836 | •                | •   | •    |
|        |                |                 | 100           | CCMR015.HXP     | 07945896872 | •                | •   | •    |
| 17.5   | CCMR17.5       | CCMR 17 ½ A     | 10            | CCMR17.5TXP     | 07945896837 | •                | •   | •    |
|        |                |                 | 100           | CCMR17.5HXP     | 07945896873 | •                | •   | •    |

# Class CC/CD Fuses

## CCMR Series

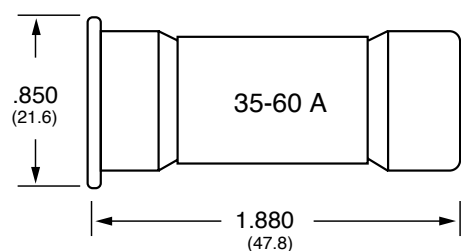
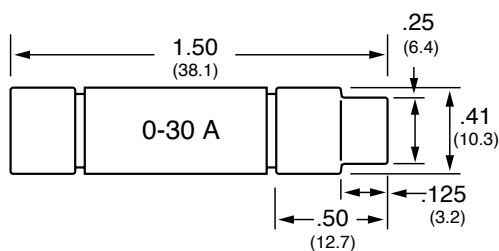
### Ordering Information

| AMPERE | CATALOG NUMBER | PRODUCT MARKING | PACK QUANTITY | ORDERING NUMBER | UPC         | AGENCY APPROVALS |     |      |
|--------|----------------|-----------------|---------------|-----------------|-------------|------------------|-----|------|
|        |                |                 |               |                 |             | UL               | CSA | ROHS |
| 20     | CCMR020        | CCMR 20A        | 10            | CCMR020.TXP     | 07945896838 | •                | •   | •    |
|        |                |                 | 100           | CCMR020.HXP     | 07945896874 | •                | •   | •    |
| 25     | CCMR025        | CCMR 25A        | 10            | CCMR025.TXP     | 07945896839 | •                | •   | •    |
|        |                |                 | 100           | CCMR025.HXP     | 07945896875 | •                | •   | •    |
| 30     | CCMR030        | CCMR 30A        | 10            | CCMR030.TXP     | 07945896840 | •                | •   | •    |
|        |                |                 | 100           | CCMR030.HXP     | 07945896876 | •                | •   | •    |
| 35     | CCMR035        | CCMR 35         | 10            | CCMR035.T       | 07945801706 | •                | •   |      |
| 40     | CCMR040        | CCMR 40         | 10            | CCMR040.T       | 07945801707 | •                | •   |      |
| 45     | CCMR045        | CCMR 45         | 10            | CCMR045.T       | 07945801708 | •                | •   |      |
| 50     | CCMR050        | CCMR 50         | 10            | CCMR050.T       | 07945801709 | •                | •   |      |
| 60     | CCMR060        | CCMR 60         | 10            | CCMR060.T       | 07945801710 | •                | •   |      |

### Electrical Specifications

| AMPERAGE RATING | VOLTAGE RATING |     | INTERRUPTING RATING |       | WATTS LOSS AT 100 % RATED CURRENT (W) | WATTS LOSS AT 80 % RATED CURRENT (W) | TOTAL CLEARING I <sup>2</sup> T (A <sup>2</sup> SEC) 200 KA |
|-----------------|----------------|-----|---------------------|-------|---------------------------------------|--------------------------------------|-------------------------------------------------------------|
|                 | AC             | DC  | AC                  | DC    |                                       |                                      |                                                             |
| 2¼              | 600            | 300 | 200 kA              | 20 kA | 1.55                                  | 0.99                                 | 351                                                         |
| 2½              | 600            | 300 | 200 kA              | 20 kA | 1.99                                  | 1.26                                 | 192                                                         |
| 3               | 600            | 300 | 200 kA              | 20 kA | 1.55                                  | 1.02                                 | 286                                                         |
| 4               | 600            | 300 | 200 kA              | 20 kA | 1.62                                  | 1.04                                 | 1870                                                        |
| 5               | 600            | 300 | 200 kA              | 20 kA | 1.89                                  | 1.20                                 | 1060                                                        |
| 6¼              | 600            | 300 | 200 kA              | 20 kA | 1.72                                  | 1.08                                 | 797                                                         |
| 7½              | 600            | 300 | 200 kA              | 20 kA | 1.72                                  | 1.09                                 | 983                                                         |
| 8               | 600            | 300 | 200 kA              | 20 kA | 1.39                                  | 0.83                                 | 431                                                         |
| 10              | 600            | 300 | 200 kA              | 20 kA | 1.49                                  | 0.90                                 | 1250                                                        |
| 15              | 600            | 500 | 200 kA              | 20 kA | 1.77                                  | 1.03                                 | 1120                                                        |
| 20              | 600            | 500 | 200 kA              | 20 kA | 2.3                                   | 1.39                                 | 918                                                         |
| 30              | 600            | 500 | 200 kA              | 20 kA | 2.75                                  | 1.62                                 | 1790                                                        |

### Dimensions Inches (mm)

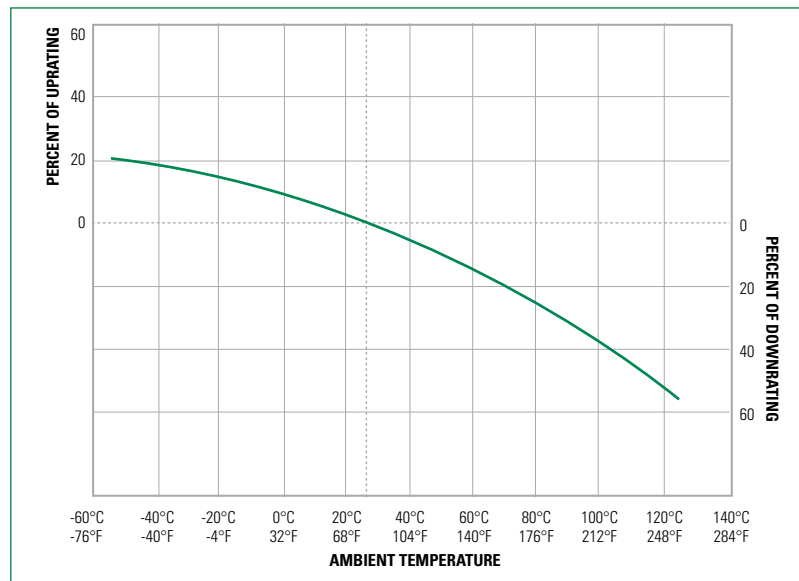


# Class CC/CD Fuses

## CCMR Series

### Temperature Derating Curve

Ambient temperature: temperature of air immediately surrounding fuse



### Current-Limiting Effects

| SHORT<br>CIRCUIT<br>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 |

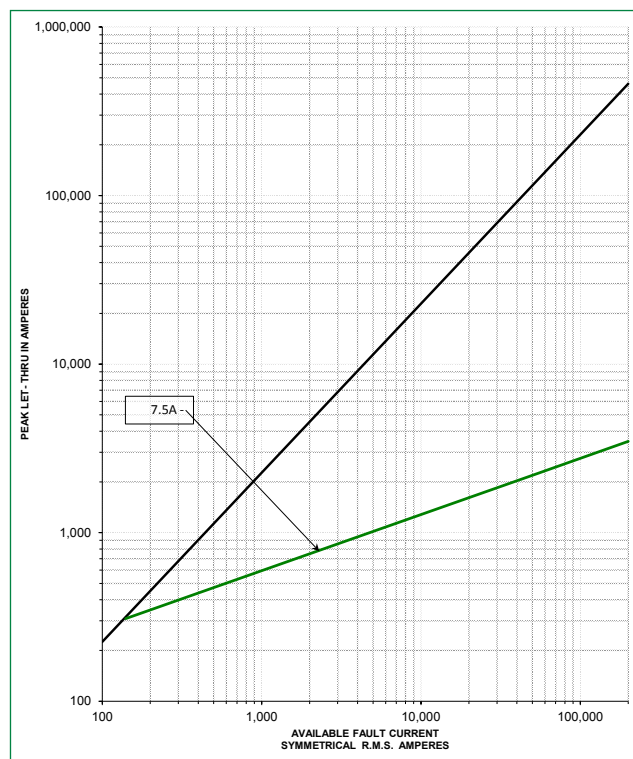
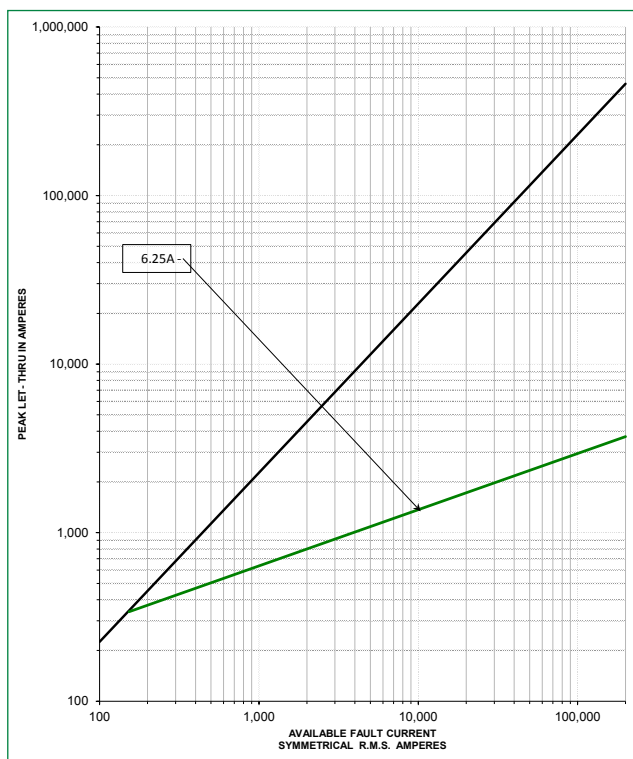
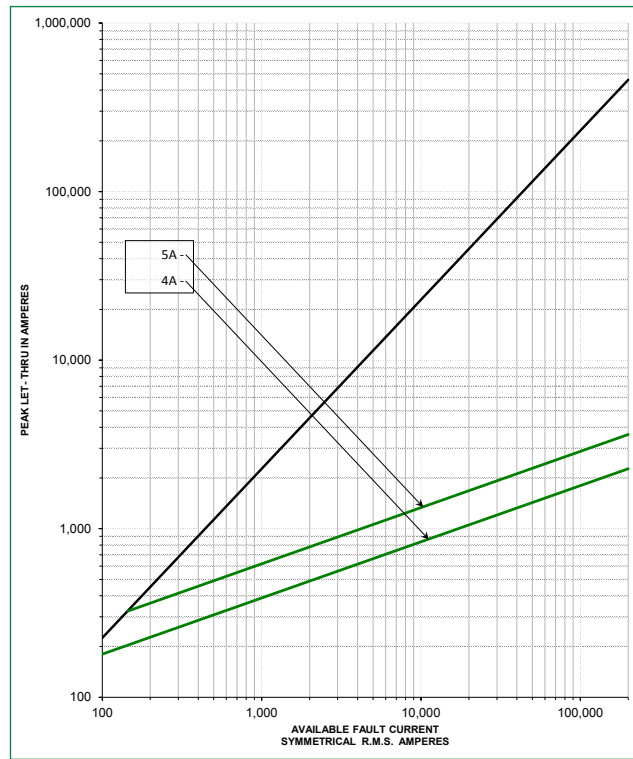
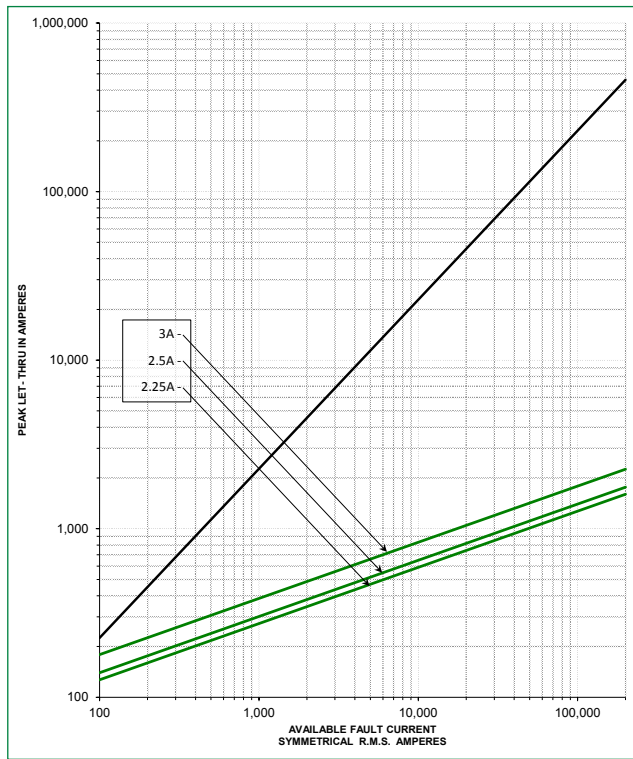
\*Prospective RMS Symmetrical Amperes Short-Circuit Current

Note: Data Derived from Peak Let-Thru Curve

# Class CC/CD Fuses

## CCMR Series

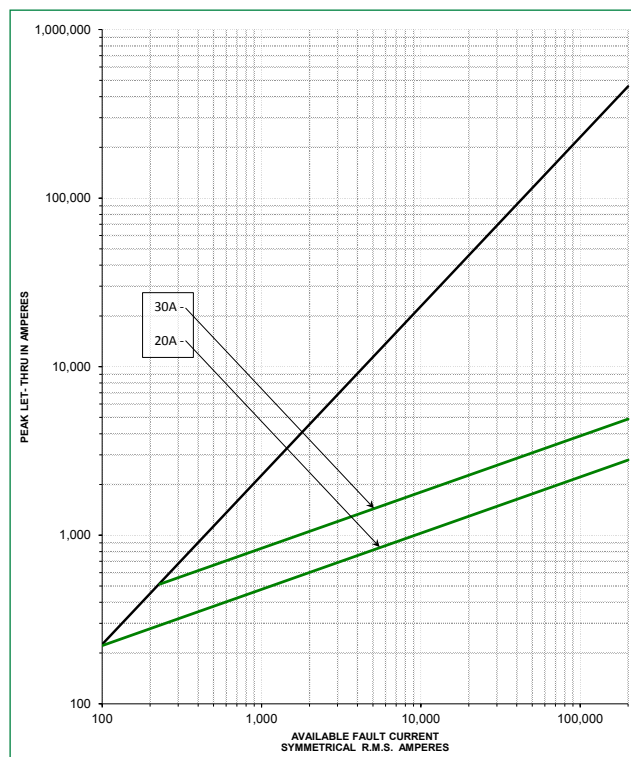
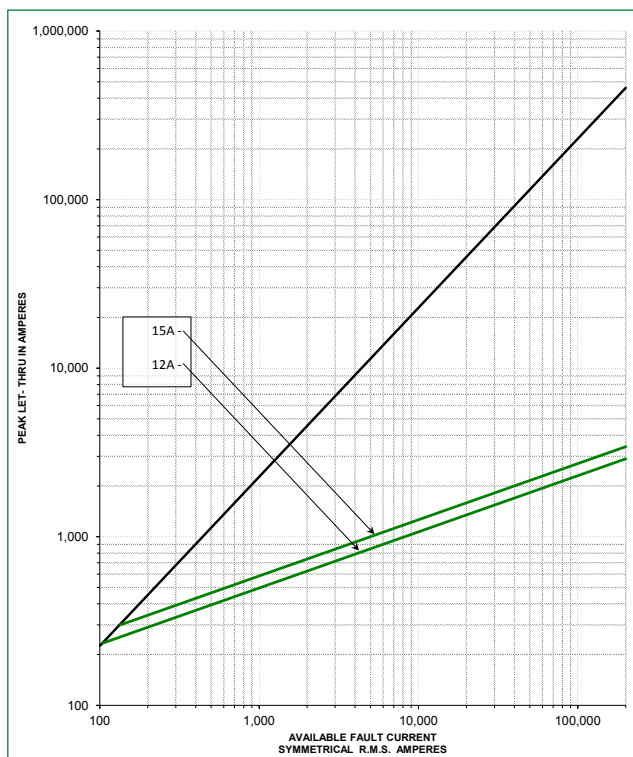
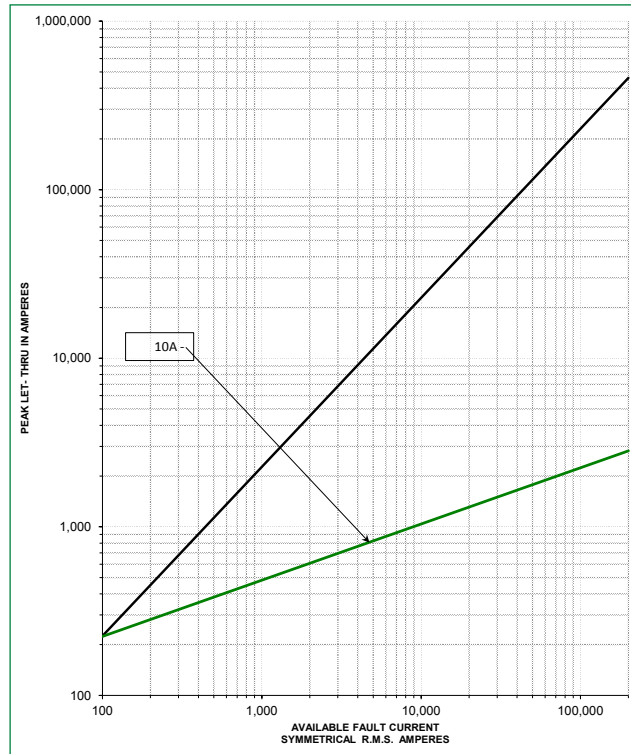
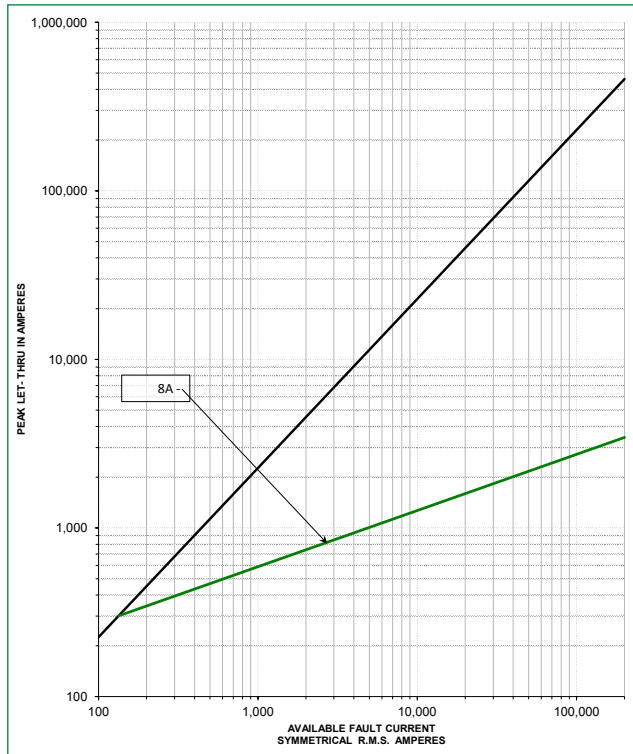
### Peak Let-Thru Curves



# Class CC/CD Fuses

## CCMR Series

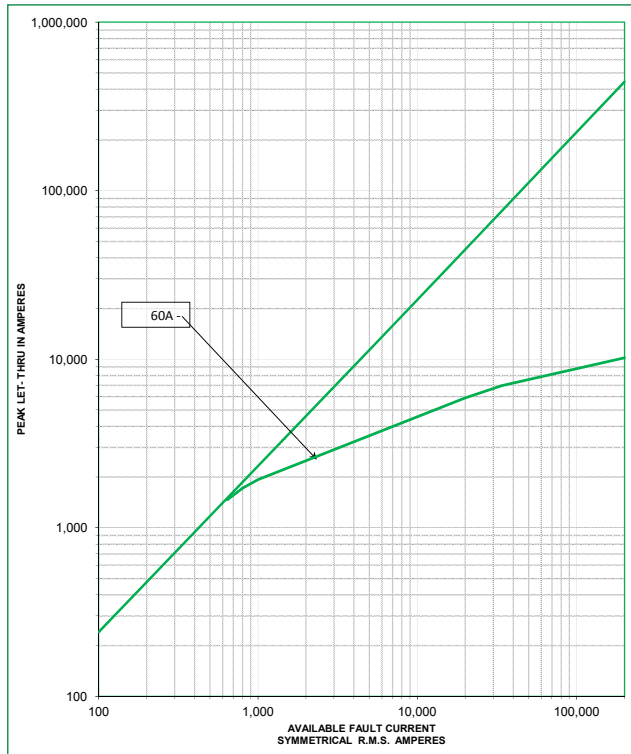
### Peak Let-Thru Curves



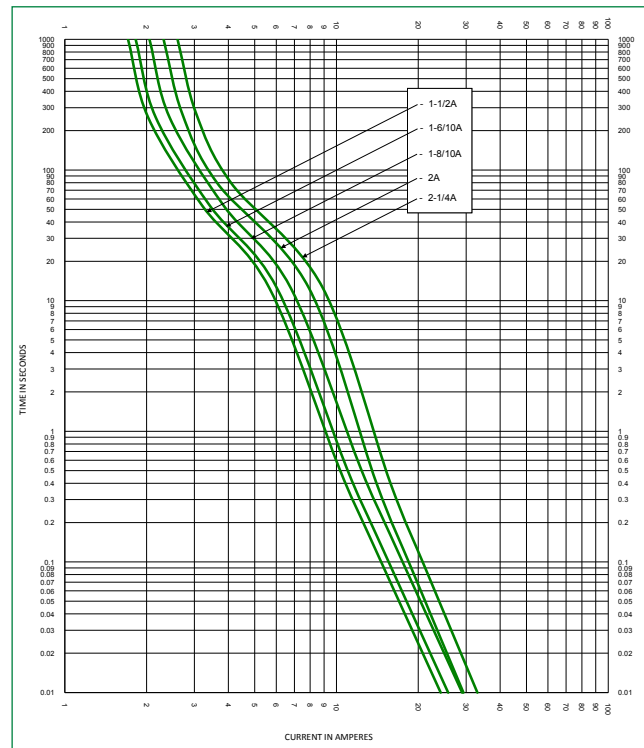
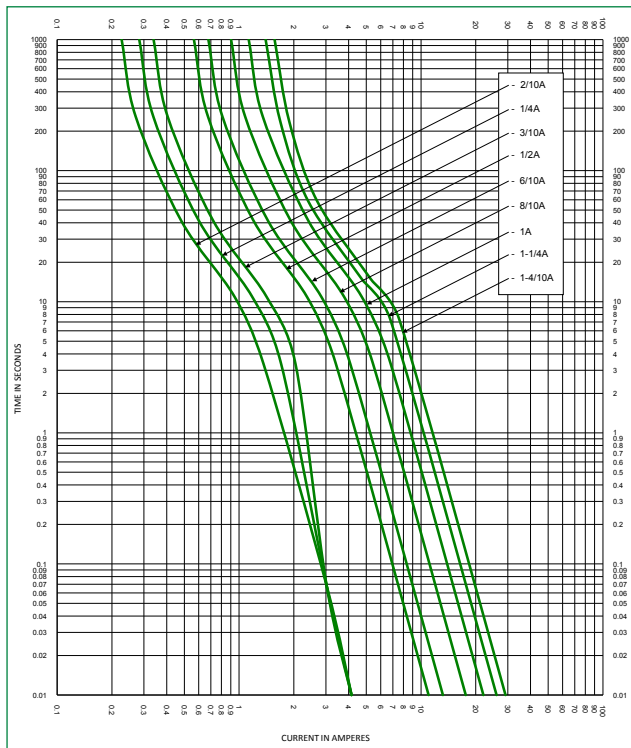
# Class CC/CD Fuses

## CCMR Series

### Peak Let-Thru Curves



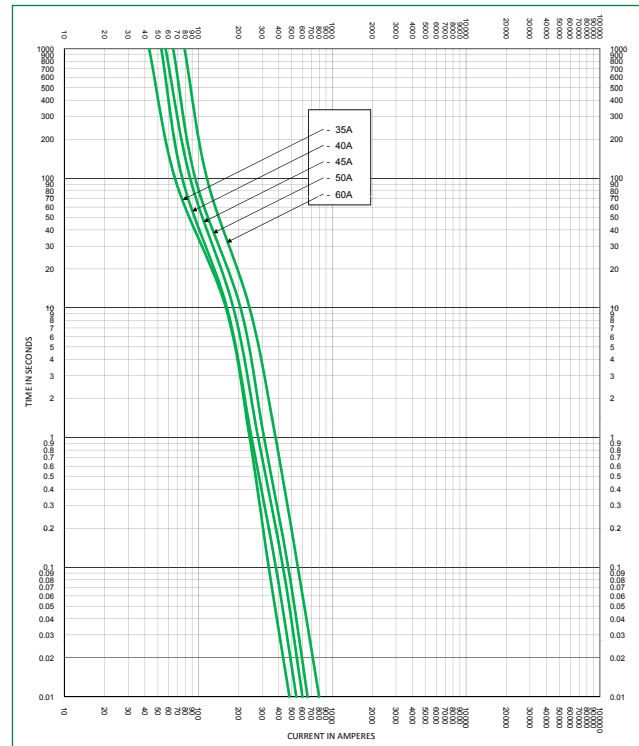
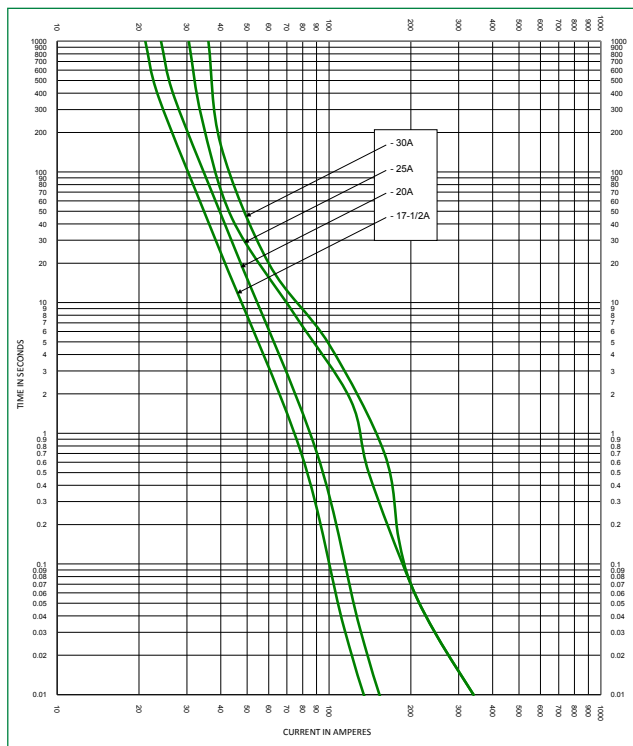
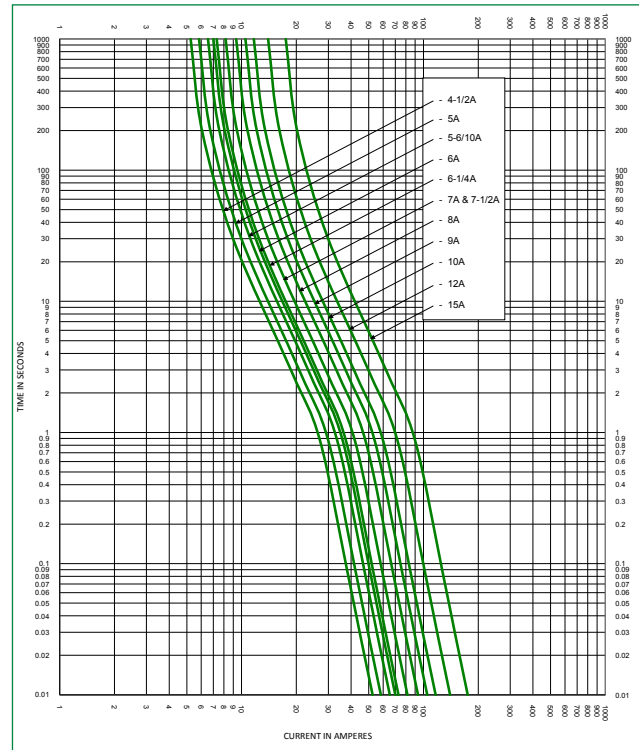
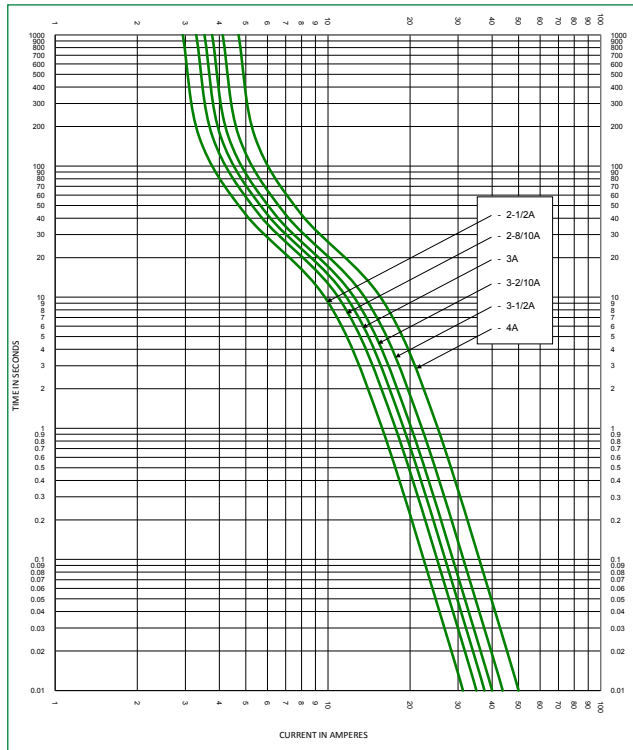
### Time Current Curves



# Class CC/CD Fuses

## CCMR Series

### Time Current Curves



**Disclaimer Notice** – Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at [www.littelfuse.com/product-disclaimer](http://www.littelfuse.com/product-disclaimer).