



Part Number: **CCMR035**.

Technology: Fuses

Series: CCMR

CCMR Series - Class CC Dual Element Time Delay Fuse for Short-Circuit Protection of Motor Branch-circuits

For space-saving protection of motor circuits up to 40 HP**, we recommend Littelfuse POWR-PRO? CCMR series fuses.

- These fuses are the only true dual-element time-delay CC fuses specifically engineered for motor branch circuit protection.
- They provide Type II protection (no damage) to both NEMA-rated and the more sensitive IEC (International Electromechanical Commission) type motor circuit components.
- CCMR series fuses are now available in larger sizes — from 35 to 60 amperes! No other 600V fuse is available with this current carrying capacity in a package this small.
- Compared to other UL Listed fuses, Class CC fuses are the most current limiting, rating for rating.
- Because they are physically compact, they provide this superior protection in a fraction of the space required by other fuse classes.

For example, when 600V three-pole, 30 ampere Class R fuse blocks are replaced by Littelfuse Class CC fuse blocks, panel-mounting space is reduced approximately 70%. This is especially important when a panel contains many fuses to protect multiple circuit components.

Applications:

Three types of Class CC Fuses, specifically designed to protect different types of components:

1. Motor protection – CCMR series; dual-element, time-delay fuses specifically designed to protect motor circuits up to 40 HP**.
2. Small transformer protection (control power transformers) – KLDR series, time-delay fuses designed to withstand the high magnetizing inrush of transformers.
3. General purpose protection of equipment requiring fast overload protection – KLKR series, fast-acting fuses used for protection of equipment containing solid-state devices or other electronic components requiring fast response on overloads.

Safety:

- 200,000 A.I.R. — Reliable interruption of all overcurrents up to 200,000 amperes.
- Extremely current limiting — Reduces damage caused by heating and magnetic effects of short-circuit currents... stops damaging short-circuit faster than any mechanical protective device.

Space Saving:

- Class CC fuses are the smallest 600V, 200,000 A.I.R. fuses approved for branch circuit protection.

Economical

- Current limiting design often permits use of readily available, less costly equipment.

Electrical Characteristics

| Property | Value |
|------------------------|--------------|
| Amp Rating (A) | 35 |
| Form Factor | Class CC |
| Fuse Class | Supplemental |
| Opening Characteristic | Slo-Blo® |
| Resistance (Ohms) | 0.00426 |
| Voltage Rating (V) | 600 |

Axial Lead and Cartridge Fuses

Midget

RoHS **Pb** **Class CC*** Fast-Acting & Slo-Blo® Type Fuses CCMR Series



Fast-acting KLKR fuses provide fast-acting protection to equipment containing surge sensitive components. Use KLKR fuses for non-inductive loads not requiring time delay. CCMR fuses (formerly KLMR) are specifically designed to withstand sustained starting currents of small motors. The CCMR fuses provide short-circuit protection for motor branch-circuits. KLDR fuses are specifically designed to withstand the momentary high magnetizing currents of control transformers, solenoids, and similar inductive loads.

ELECTRICAL CHARACTERISTICS:

| % of Ampere Rating | Ampere Rating | Opening Time |
|--------------------|---------------|----------------------------|
| 110% | 1/10–30 | 15 minutes, Minimum |
| 135% | 1/10–30 | 1 hour, Maximum |

AGENCY APPROVALS: DC ratings are self-certified. KLKR Series: UL listed Fast-Acting Class CC per UL 248 and CSA Certified. KLDR, CCMR Series: UL listed Time-Delay Class CC per UL 248 and CSA Certified.

*CCMR 35-60A UL Listed Time-Delay Class CD.

INTERRUPTING RATING:

- AC: 200,000 ampere
- DC: 20,000 amperes

ORDERING INFORMATION:



ENVIRONMENTAL SPECS: only KLKR is RoHS compliant and lead-free

AGENCY FILE NUMBERS: UL E81895, CSA LR 29862.

- VOLTAGE RATINGS:**
- AC: 600 Volts
 - DC: 250 Volts (CCMR 2/10 – 2A)
 - (CCMR 4 1/2 – 10A)
 - (CCMR 35 – 60A)
 - 300 Volts (CCMR 2 1/4 – 4A)
 - 300 Volts (KLDR)
 - 300 Volts (KLKR)

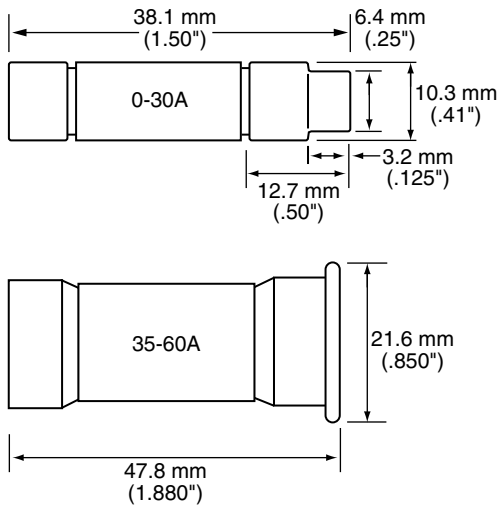
| Ampere Rating | Catalog Number | Nominal Resistance Cold Ohms | Catalog Number | Nominal Resistance Cold Ohms | Catalog Number | Nominal Resistance Cold Ohms |
|---------------|----------------|------------------------------|----------------|------------------------------|----------------|------------------------------|
| 1/10 | — | — | KLDR.100 | 246 | KLKR.100 | 79.33 |
| 1/8 | — | — | KLDR.125 | 134.9 | KLKR.125 | 56.52 |
| 15/100 | — | — | KLDR.150 | 96 | — | — |
| 3/16 | — | — | KLDR.187 | 66.4 | — | — |
| 2/10 | CCMR.200 | 68.4 | KLDR.200 | 57.8 | KLKR.200 | 28.21 |
| 1/4 | CCMR.250 | 43.3 | KLDR.250 | 31.61 | KLKR.250 | 19.22 |
| 3/10 | CCMR.300 | 28.6 | KLDR.300 | 25.5 | KLKR.300 | 15.10 |
| 4/10 | — | — | KLDR.400 | 13.6 | — | — |
| 1/2 | CCMR.500 | 7.62 | KLDR.500 | 15.9 | KLKR.500 | 6.95 |
| 6/10 | CCMR.600 | 8.2 | KLDR.600 | 9.99 | — | — |
| 3/4 | — | — | KLDR.750 | 6.08 | KLKR.750 | 3.581 |
| 8/10 | CCMR.800 | 4.013 | KLDR.800 | 6.2 | — | — |
| 1 | CCMR.001. | 2.59 | KLDR.001. | 4.0 | KLKR.001. | .2342 |
| 1 1/8 | — | — | KLDR.1.12 | 2.94 | — | — |
| 1 1/4 | CCMR.1.25 | 1.687 | KLDR.1.25 | 2.33 | — | — |
| 1 4/10 | CCMR.01.4 | 1.33 | KLDR.01.4 | 1.5 | — | — |
| 1 1/2 | CCMR.01.5 | 1.24 | KLDR.01.5 | .898 | KLKR.01.5 | .225 |
| 1 6/10 | CCMR.01.6 | .9894 | KLDR.01.6 | .625 | — | — |
| 1 8/10 | CCMR.01.8 | .7783 | KLDR.01.8 | .486 | — | — |
| 2 | CCMR.002. | .485 | KLDR.002. | .55 | KLKR.002. | .135 |
| 2 1/4 | CCMR.2.25 | .4166 | KLDR.2.25 | .52 | — | — |
| 2 1/2 | CCMR.02.5 | .3375 | KLDR.02.5 | .333 | KLKR.02.5 | .0906 |
| 2 8/10 | CCMR.02.8 | .2400 | KLDR.02.8 | .26 | — | — |
| 3 | CCMR.003. | .2188 | KLDR.003. | .21 | KLKR.003. | .0776 |
| 3 2/10 | CCMR.03.2 | .1855 | KLDR.03.2 | .171 | — | — |
| 3 1/2 | CCMR.03.5 | .1346 | KLDR.03.5 | .239 | KLKR.03.5 | .0562 |
| 4 | CCMR.004. | .1231 | KLDR.004. | .118 | KLKR.004. | .0468 |
| 4 1/2 | CCMR.04.5 | .093 | KLDR.04.5 | .082 | — | — |
| 5 | CCMR.005. | .0704 | KLDR.005. | .0399 | KLKR.005. | .0332 |
| 5 6/10 | CCMR.05.6 | .0535 | KLDR.05.6 | .0334 | — | — |
| 6 | CCMR.006. | .0517 | KLDR.006. | .0315 | KLKR.006. | .0238 |
| 6 1/4 | CCMR.6.25 | .0464 | KLDR.6.25 | .03 | — | — |
| 7 | CCMR.007. | .0369 | KLDR.007. | .0253 | KLKR.007. | .0208 |
| 7 1/2 | CCMR.07.5 | .027 | KLDR.07.5 | .0205 | — | — |
| 8 | CCMR.008. | .023 | KLDR.008. | .0193 | KLKR.008. | .0177 |
| 9 | CCMR.009. | .0193 | KLDR.009. | .0155 | KLKR.009. | .0151 |
| 10 | CCMR.010. | .0133 | KLDR.010. | .0122 | KLKR.010. | .01325 |
| 12 | CCMR.012. | .0114 | KLDR.012. | .0114 | KLKR.012. | .00852 |
| 15 | CCMR.015. | .00708 | KLDR.015. | .00708 | KLKR.015. | .0074 |
| 17 1/2 | CCMR.17.5 | .00495 | KLDR.17.5 | .00495 | — | — |
| 20 | CCMR.020. | .00360 | KLDR.020. | .0036 | KLKR.020. | .00511 |
| 25 | CCMR.025. | .00250 | KLDR.025. | .0025 | KLKR.025. | .003775 |
| 30 | CCMR.030. | .00240 | KLDR.030. | .0024 | KLKR.030. | .002954 |
| 35 | CCMR.035. | .00426 | — | — | — | — |
| 40 | CCMR.040. | .00286 | — | — | — | — |
| 45 | CCMR.045. | .00246 | — | — | — | — |
| 50 | CCMR.050. | .00182 | — | — | — | — |
| 60 | CCMR.060. | .00118 | — | — | — | — |

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AXIAL LEAD AND
CARTRIDGE FUSES

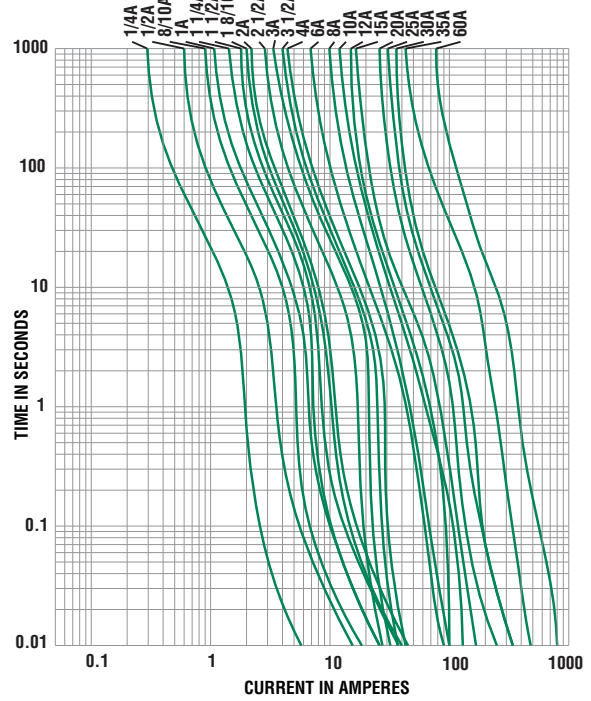
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AXIAL LEAD AND
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Axial Lead and Cartridge Fuses

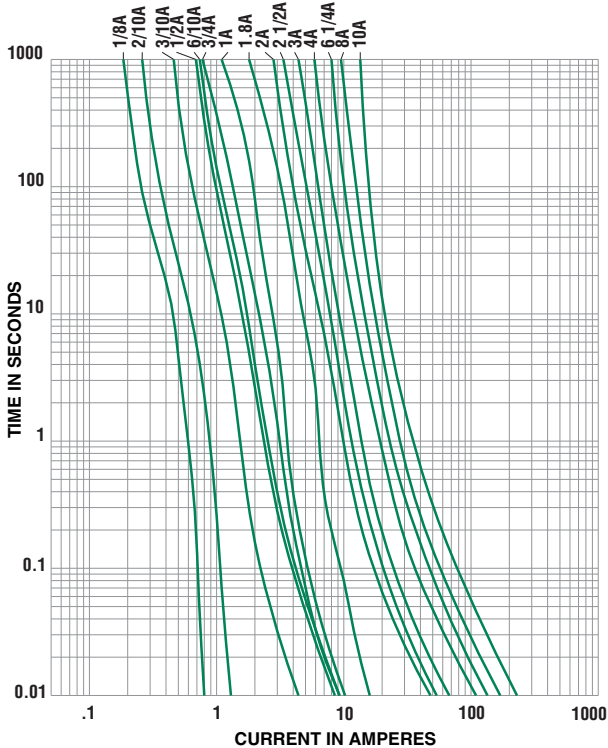
RoHS **Pb** **Class CC*** Fast-Acting & Slo-Blo® Type Fuses CCMR Series



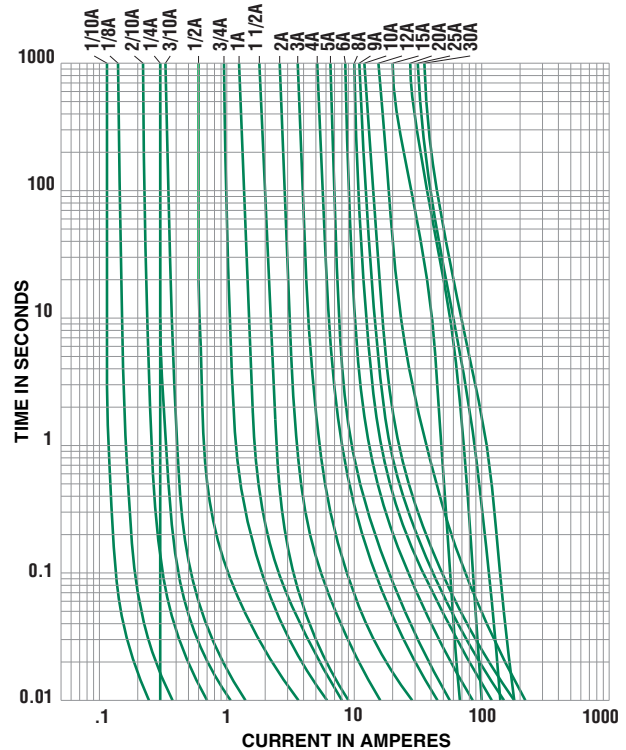
Average Time Current Curve (CCMR)



Average Time Current Curve (KLDR)



Average Time Current Curve (KLKR)



AXIAL LEAD AND
CARTRIDGE FUSES