



Part Number: **CCMR020**.

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)	20
Form Factor	Class CC
Fuse Class	Supplemental
Opening Characteristic	Slo-Blo®
Resistance (Ohms)	0.0036
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:

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	—	—	—	—



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

AGENCY FILE NUMBERS: UL E81895, CSA LR 29862.

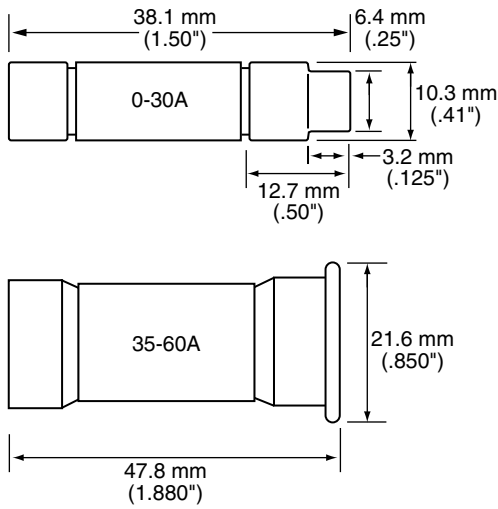
VOLTAGE RATINGS: AC: 600 Volts
 DC: 250 Volts (CCMR 2/10 – 2A)
 (CCMR 4 1/2 – 10A)
 (CCMR 35 – 60A)
 300 Volts (CCMR 2 1/4 – 4A)
 300 Volts (KLDR)
 300 Volts (KLKR)

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AXIAL LEAD AND CARTRIDGE FUSES

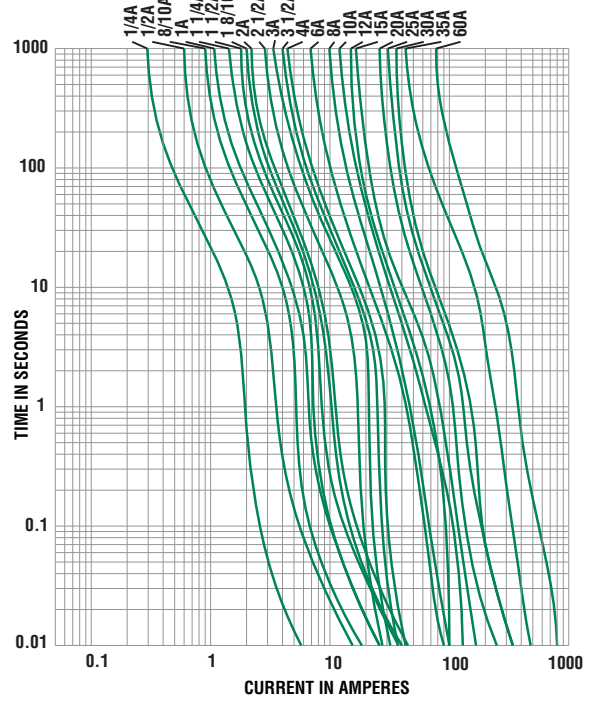
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AXIAL LEAD AND CARTRIDGE FUSES

Axial Lead and Cartridge Fuses

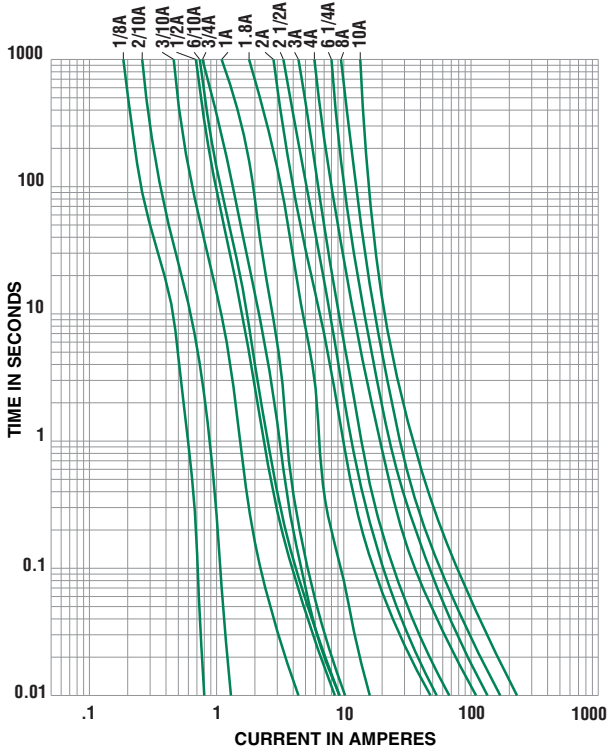
RoHS **Pb** **Class CC*** Fast-Acting & Slo-Blo® Type Fuses CCMR Series



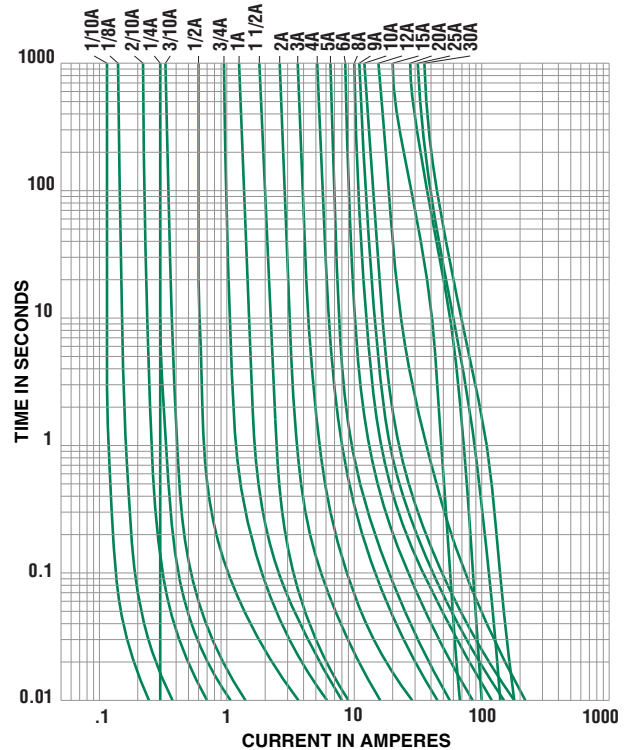
Average Time Current Curve (CCMR)



Average Time Current Curve (KLDR)



Average Time Current Curve (KLKR)



AXIAL LEAD AND
CARTRIDGE FUSES