

Motor Protection

Amp-Trap® and 9F60 Series

2.4kV, 2.54kV, 4.8kV, 5.08kV and 7.2kV Ferrule mounted fuses:

Mersen R-Rated fuses are current-limiting, high interrupting rating fuses intended for the short circuit protection of medium voltage motors and motor controllers. R-Rated fuses are back-up fuses that have a minimum interrupting rating, and must be coordinated with overload relays in combination motor starters. The motor starter manufacturer generally specifies the R-Rated fuse size. These fuses come with a 3 (size D) or 4 (size E) inch diameter barrels with ferrules and are mounted in spring reinforced clips.

Features/Benefits:

- The Amp-Trap and 9F60 R-Rated fuses are UL Recognized.
- Ferrule mounting for standard clips and interchangeability with other brands of fuses.
- Current-limiting for superior equipment protection.
- Metal embossed catalog number and manufacturing date for lasting identification.
- Hookeye for non load-break isolation by hookstick
 - On the 4.8kV an optional hookeye mounted in the factory is available.
 - On all other 3" barrel if a hookeye is required, use the operating eye 9F61AAW612. (See page E58)
- Blown-fuse indicator to give positive identification of open fuse.
 - Amp trap: 3" Barrel 2 lb tripped force - 0.50 Inch
 - 9F60: 0.125 lb tripped force – 0.20 Inch

Highlights:

- R-Rated
- UL recognized

Applications:

- Short circuit protection of medium voltage motors and motor controllers.

Definitions:

R-Rating: R-Rated fuses are back-up fuses that operate as follows (Per ANSI C37.46-2000): An R-Rated fuse will melt in the range of 15 to 35 seconds at a value of current equal to 100 times the "R" rating.

Back-up Current-Limiting Fuses: A back-up current-limiting fuse is a fuse that can interrupt any current between its rated minimum interrupting current and its maximum interrupting current. Back-up fuses are not designed or intended to open under overload conditions.

Continuous Ampere Rating at 40°C: The continuous amp rating defines the thermal capability of the fuse per ANSI C37.46 and should not be the sole factor in fuse selection.



Ratings:

Amp-Trap A240R

Volts : 2.4kV AC
Amps : 1 to 36R
IR : 65kA Sym

A480R

Volts : 4.8kV AC
Amps : 2 to 36R
IR : 50kA Sym

A072F

Volts : 7.2kV AC
Amps : 2 to 24R
IR : 50kA Sym

9F60 SERIES TYPE EJ-2 9F60

Volts : 2.54kV AC
: 5.08kV ac
Amps : 2 to 36R
IR : 50kA Sym

Approvals:

- Amp-Trap: UL File E93367
- 9F60: UL File E191980



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2.4kV R-Rated Amp-Trap Series

7.5" (191 mm) Clip Centers – Barrel diameter size D (3")



Catalog No.	Size	Continuous Amp rating at 40°C	Minimum Interrupting Rating RMS Amp	No of Barrels	Fig.	Indicating	Dimension L Inches (mm)	1 Phase interrupting rating	
								UL Component Recognition Max IR RMS Sym	Max Voltage Tested Max IR RMS Sym
A240R1R	1R	35	100	1	A	Yes	10.88 (276)	65kA at 2.6kV	65kA at 2.6kV
A240R2R	2R	70	170						
A240R3R	3R	100	250						
A240R4R	4R	130	340						
A240R5R	5R	150	420						
A240R6R	6R	170	500						
A240R9R	9R	200	760						
A240R12R	12R	230	1000	2	B				
A240R18R	18R	390	1500						
A240R24R	24R	450	2000	3	C				
A240R36R	36R**	650	2900						

** Not recommended for use in fuse clips which grasp only one barrel.

2.4kV / 2.54kV Ferrule mounted fuses:

Indicator Flush with Surface

2 Lb. Force (Tripped)

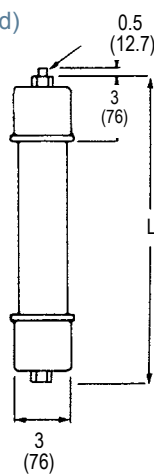


Figure A

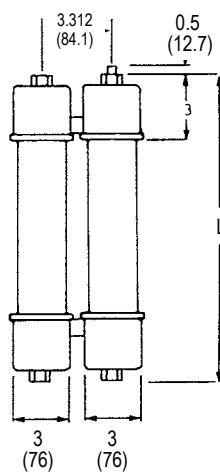


Figure B

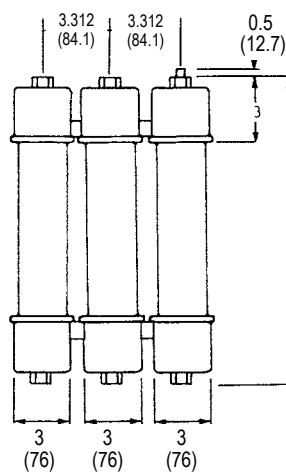


Figure C

Motor Protection

Amp-Trap® and 9F60 Series

2.4kV R-Rated 9F60 EJ-2 Series

7" (179 mm) Clip Centers – Barrel diameter size D (3")



Catalog No.	Size	Continuous Amp rating at 40°C	Minimum Interrupting Rating RMS Amp	No of Barrels	Fig.	Indicating	Dimension L Inches (mm)	1 Phase interrupting rating	
								UL Component Recognition Max IR RMS Sym	Max Voltage Tested Max IR RMS Sym
9F60LCB502	2R	70	195	1	D	Yes	10.88 (276)	50kA at 2.54kV	50kA at 2.54kV
9F60LCB503	3R	100	270						
9F60LCB504	4R	130	370						
9F60LCB506	6R	170	580						
9F60LCB509	9R	200	820						
9F60LCB512	12R	230	1150	2	E				
9F60MCB518	18R	390	1800						
9F60MCB524	24R	450	2400						
9F60LCL302	2R	70	195	1	D	No	10.88 (276)	50kA at 2.54kV	50kA at 2.54kV
9F60LCL303	3R	100	270						
9F60LCL304	4R	130	370						
9F60LCL306	6R	170	580						
9F60LCL309	9R	200	820						
9F60LCL312	12R	230	1150	2	E				
9F60MCL318	18R	390	1800						
9F60MCL324	24R	450	2400						

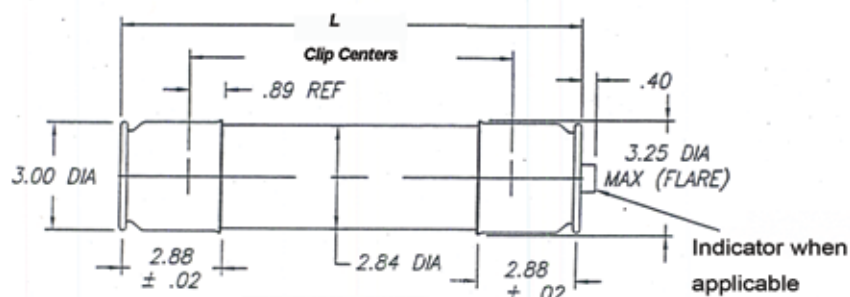


Fig. D

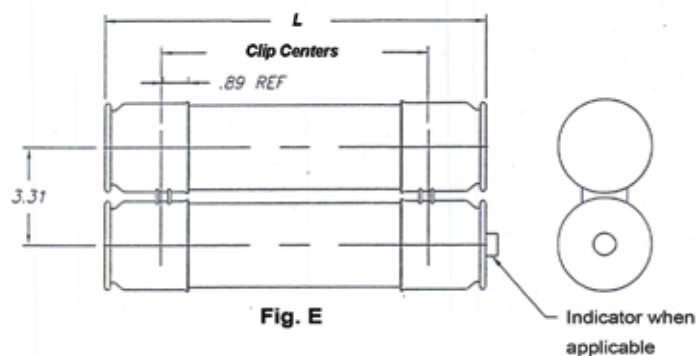


Fig. E

Motor Protection

Amp-Trap® and 9F60 Series

4.8kV / 5.08kV Ferrule Mounted Fuses:

4.8kV R-Rated Amp-Trap Series

12.5" (317 mm) Clip Centers – Barrel diameter size D (3")



Catalog No.	Size	Continuous Amp rating at 40°C	Minimum Interrupting Rating RMS Amp	No of Barrels	Fig.	Indicating	Dimension L Inches (mm)	1 Phase interrupting rating	
								UL Component Recognition Max IR RMS Sym	Max Voltage Tested Max IR RMS Sym
A480R2R-1	2R	70	190	1	A	Yes	15.88 (403)	65kA at 5.5kV	65kA at 5.5kV
A480R3R-1	3R	100	225						
A480R4R-1	4R	130	330						
A480R5R-1	5R	150	400						
A480R6R-1	6R	170	500						
A480R9R-1	9R	200	740						
A480R12R-1	12R	230	955	2	B			64kA at 5.5kV	64kA at 5.5kV
A480R18R-1	18R	390	1440						
A480R24R-1	24R	450	1910						
A480R36R-1	36R**	650	2810	3	C				

4.8kV R-Rated Amp-Trap Series with Hookeye

12.75" (324 mm) Clip Centers – Barrel diameter size D (3")



Catalog No.	Size	Continuous Amp rating at 40°C	Minimum Interrupting Rating RMS Amp	No of Barrels	Fig.	Indicating	Dimension L Inches (mm)	1 Phase interrupting rating	
								UL Component Recognition Max IR RMS Sym	Max Voltage Tested Max IR RMS Sym
A480R2R-1HE	2R	70	190	1	A	Yes	16.13 (410)	50kA at 5.08kV	63kA at 5.5kV
A480R3R-1HE	3R	100	225						
A480R4R-1HE	4R	130	330						
A480R5R-1HE	5R	150	400						
A480R6R-1HE	6R	170	500						
A480R9R-1HE	9R	200	740						
A480R12R-1HE	12R	230	955	2	B				
A480R18R-1HE	18R	390	1440						
A480R24R-1HE	24R	450	1910						

Blown Fuse Indicator
2 Lb. Force (Tripped)

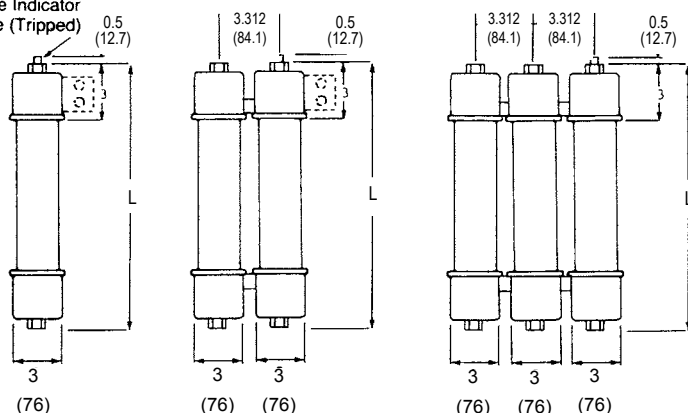
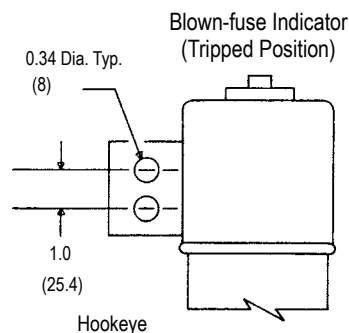


Figure A

Figure B

Figure C



RV

12" (305 mm) Clip Centers – Barrel diameter size D (3")



14" (356 mm) Clip Centers – Barrel diameter size E (4") – Use clip parts 9F61BNW452

Technical drawing of a rectangular metal plate, showing three views: front, top, and side.

Front View (Top): Shows the overall dimensions of the plate. The total width is 5.31. The central slot width is 4.25. The total length is 14.06 ± 0.03. The distance from the right edge to the center of the slot is 4.22. The distance from the top edge to the center of the slot is 8.45. The distance from the bottom edge to the center of the slot is .75. The distance from the right edge to the center of the slot is .38.

Top View (Bottom): Shows the plate from the top. The total width is 5.31. The central slot width is 4.25. The total length is 14.06 ± 0.03. The distance from the right edge to the center of the slot is 4.22. The distance from the top edge to the center of the slot is 8.45. The distance from the bottom edge to the center of the slot is .75. The distance from the right edge to the center of the slot is .38.

Side View (Left): Shows the plate from the side. The total width is 5.31. The central slot width is 4.25. The total length is 14.06 ± 0.03. The distance from the right edge to the center of the slot is 4.22. The distance from the top edge to the center of the slot is 8.45. The distance from the bottom edge to the center of the slot is .75. The distance from the right edge to the center of the slot is .38.

Labels:

- CONTACT BEARING SURFACE
- NAMEPLATE
- INDICATOR (WHEN PROVIDED)

Motor Protection

Amp-Trap® and 9F60 Series

7.2kV Ferrule Mounted Fuses:

7.2kV R-Rated Amp-Trap Series

12.5" (317 mm) Clip Centers – Barrel diameter size D (3")



Catalog No.	Size	Continuous Amp rating at 40°C	Minimum Interrupting Rating RMS Amp	No of Barrels	Fig.	Indicating	Dimension L Inches (mm)	1 Phase Interrupting rating	Max Voltage Tested
								UL Component Recognition Max IR RMS Sym	Max IR RMS Sym
A072F1D0R0-2R	2R	70	190	1	A	Yes	15.88 (403)	50kA at 7.2kV	50kA at 7.7kV
A072F1D0R0-3R	3R	100	225						
A072F1D0R0-4R	4R	130	330						
A072F1D0R0-5R	5R	150	400						
A072F1D0R0-6R	6R	170	500						
A072F1D0R0-9R	9R	200	740						
A072F1D0R0-12R	12R	230	955	2	B				
A072F2D0R0-18R	18R	390	1440						
A072F2D0R0-24R	24R	450	1910						

Indicator Flush with Surface
2 Lb. Force (Tripped)

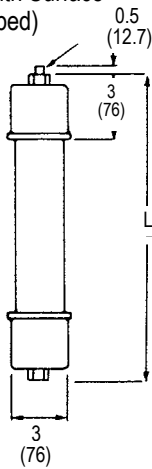


Figure A

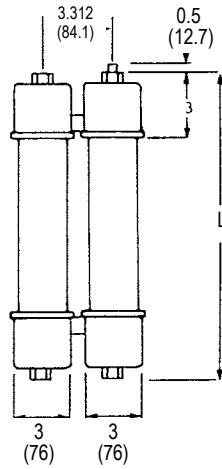


Figure B