

# Motor Protection

Amp-Trap® and 9F60 Series

## MEDIUM VOLTAGE FUSES

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. These fuses come with a 3 (size D) or 4 (size E) inch diameter barrels with ferrules and are mounted in spring reinforced clips. Used in and required for replacement in motor controllers by many major manufacturers.

## 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.
- 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
- Many parts offered in non-indicating versions for use in Class 1, Div 2 environments.
- Hook-eye option featured on some models for non-load break isolation by hookstick.
  - A051F part numbers include welded hook-eye feature and are designed for use in Eaton Ampgard MCC, and direct replacement for 5ACLS series Eaton fuses
  - Optional hook-eye is also available on A480 part numbers, factory installed.

M  
V

## Ratings:

### Amp-Trap

#### A240R

- **Volts:** 2.4kVAC
- **Amps:** 1 to 36R
- **IR:** 65kA Sym

#### A480R

- **Volts:** 4.8kVAC
- **Amps:** 2 to 36R
- **IR:** 64-65kA

#### A051F

- **Volts:** 5.08kV
- **Amps:** 2 to 24R
- **IR:** 50kA Sym

#### A072F

- **Volts:** 7.2kVAC
- **Amps:** 2 to 24R
- **IR:** 65kA Sym

### 9F60 SERIES TYPE EJ-2

#### 9F60

- **Volts:** 2.54kVAC, 5.08kVAC
- **Amps:** 2 to 36R
- **IR:** 50kA Sym

## APPLICATIONS:

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

## APPROVALS:



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

### DEFINITIONS:

**R-Rating:** R-Rated fuses are back-up fuses that operate as follows (Per IEEE C37.42-2016): 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 IEEE C37.42-2016 and should not be the sole factor in fuse selection.

### 2.4kV FERRULE MOUNTED FUSES:



#### 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						
A240R18R	18R	390	1500	2	B				
A240R24R	24R	450	2000						
A240R36R	36R**	650	2900	3	C				

\*\* 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)

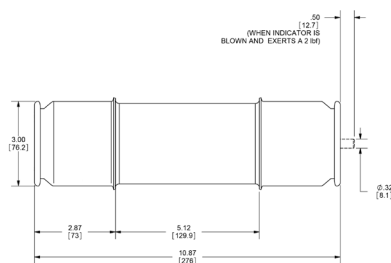


Figure A

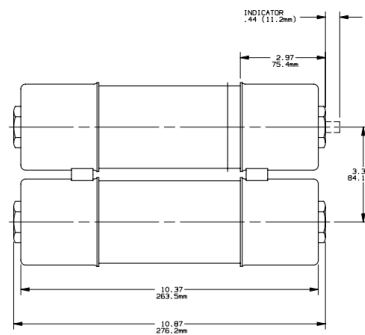


Figure B

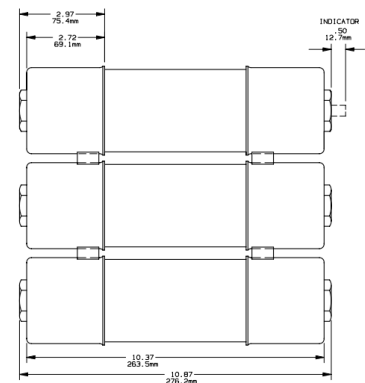


Figure C

**2.4kV AND 5.08kV FERRULE MOUNTED FUSES:**

**2.4kV R-Rated 9F60 EJ-2 Series**

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

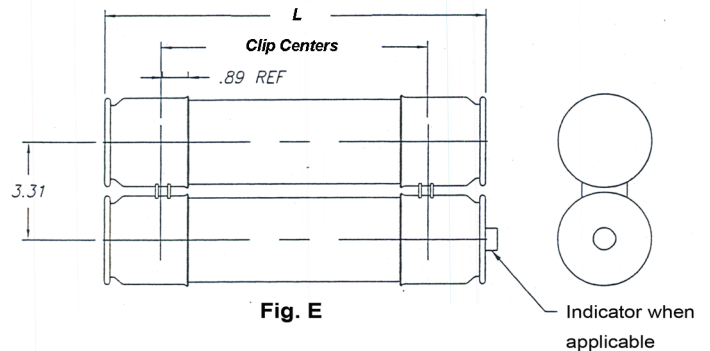
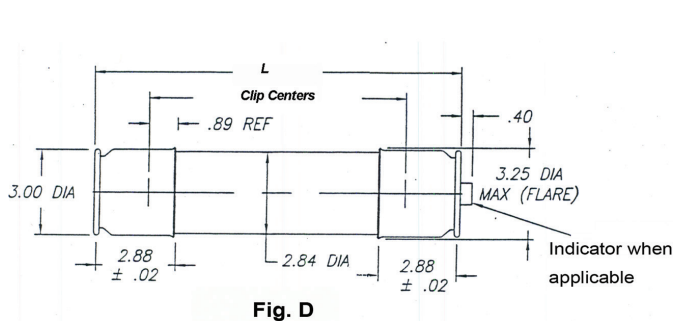


Catalog No.	Size	Continuous Amp rating at 40°C	Minimum Interrupting Rating RMS Amp	No of Barrels	Fig.	Indicating	Dimension L Inches (mm)	1 Phase interrupting rating	
								UL Component Recognition Max IR RMS Sym	Max Voltage Tested Max IR RMS Sym
9F60LCB502	2R	70	195	1	D	Yes	10.88 [276]	50kA at 2.54kV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

**5.08kV R-Rated 9F60 EJ-2 Series**

12" (305 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
9F60LJD502	2R	70	195	1	D	Yes	15.97 [406]	50kA at 5.08kV	50kA at 5.08kV
9F60LJD503	3R	100	270						
9F60LJD504	4R	130	370						
9F60LJD506	6R	170	580						
9F60LJD509	9R	200	820						
9F60LJD512	12R	230	1150						
9F60MJD518	18R	390	1800	2	E				
9F60MJD524	24R	450	2400						
9F60LJN302	2R	70	195	1	D	No	15.97 [406]	50kA at 5.08kV	50kA at 5.08kV
9F60LJN303	3R	100	270						
9F60LJN304	4R	130	370						
9F60LJN306	6R	170	580						
9F60LJN309	9R	200	820						
9F60LJN312	12R	230	1150						
9F60MJN318	18R	390	1800	2	E				
9F60MJN324	24R	450	2400						



### 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 Sum	Max Voltage Tested Max IR RMS Sum
A480R2R-1	2R	70	190	1	F	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	G		64kA at 5.5kV	64kA at 5.5kV	
A480R18R-1	18R	390	1440						
A480R24R-1	24R	450	1910						
A480R36R-1	36R**	650	2810	3	H				

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

#### 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 Sum	Max Voltage Tested Max IR RMS Sum
A480R2R-1HE	2R	70	190	1	F	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	G				
A480R18R-1HE	18R	390	1440						
A480R24R-1HE	24R	450	1910						

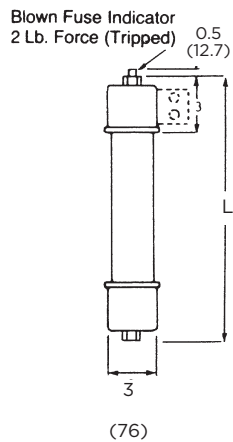


Figure F

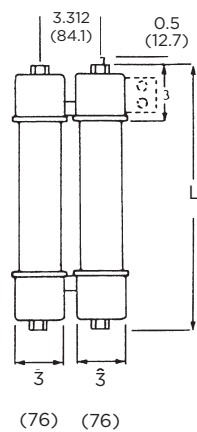


Figure G

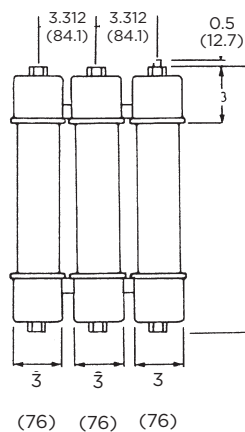
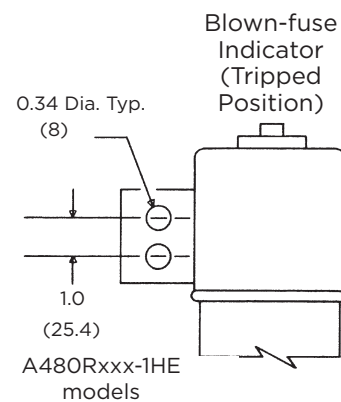


Figure H



4.8kV / 5.08kV FERRULE MOUNTED FUSES:

5.08kV R-Rated Amp-Trap Ferrule Mount w/ Hookeye, for use in Ampgard Switchgear



Catalog No.	Size	Continuous Amp rating at 40°C	Rated Minimum Interrupting Current	No of Barrels	Fig.	Indicating	Dimension L Inches (mm)	UL Component Recognition Max IR RMS Sym	Max Voltage Tested Max IR RMS Sym
A051F1DHRO – 2R	2R	70	200	1	I	Yes**	15.88 [403.2]	50kA @5.08kV	50kA @5.08kV
A051F1DHRO – 3R	3R	100	290						
A051F1DHRO – 4R	4R	130	360						
A051F1DHRO – 5R	5R	150	450						
A051F1DHRO – 6R	6R	170	600						
A051F1DHRO – 9R	9R	200	900						
A051F1DHRO – 12R	12R	230	1200	2	J				
A051F2DHRO – 18R	18R	390	1500						
A051F2DHRO – 24R	24R	450	2200						

\*\* All part numbers available without indication by substituting "DHRO" w/ "DHRN". Example: A051F1DHRN-24R

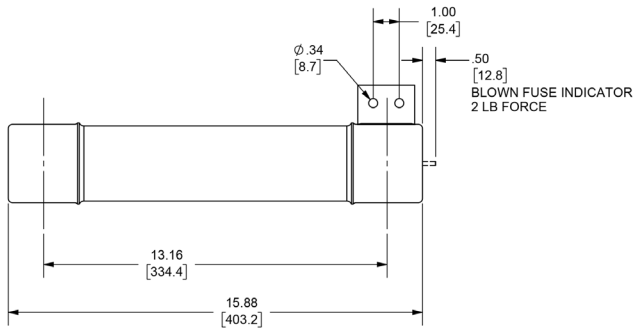


Figure I

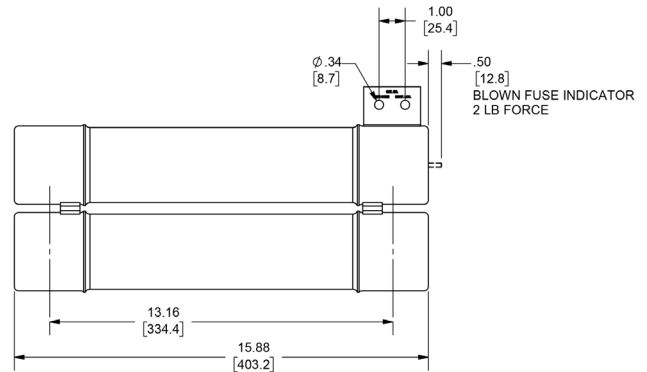


Figure J