

# Transformer Protection

## Amp-Trap® CS-3 Series and 9F60/9F62 Series

### 2.75kV, 5.5kV, 8.25kV, 15.5kV, 25.8kV and 38kV Ferrule Mounted Fuses

Mersen fuses for the protection of transformers and distribution lines deliver overload and short circuit protection. These current-limiting fuses will melt at current that can be as low as 1.7 times the fuse current ratings up to its maximum interrupting rating. These fuses are designed to withstand the transformer magnetizing inrush current. They have 2 (size C), 3 (size D) and 4 (size E) inch diameter barrels with ferrules and are mounted in spring reinforced clips.

#### Features/Benefits:

- Amp-Trap CS-3 and 9F62 series are UL listed for compatibility with UL listed equipment.
- Ferrule mounting for standard clips and interchangeability with other brands of fuses.
- Current-limiting for superior equipment protection.
- Non-venting for silent operation
- Metal embossed catalog number and manufacturing date for lasting identification.
- Outdoor usage for the 9F62 and 9F60 type EJO.
- Blown-fuse indicator to give positive identification of open fuse:
  - Amp-Trap: 2" Barrel 1 lb tripped force - 0.19 Inch
  - Amp-Trap: 3" Barrel 2 lb tripped force - 0.50 Inch
  - 9F60/9F62: 0.125 lb tripped force – 0.20 Inch
- Accessories - see page E53

#### Highlights:

- E-Rated
- UL listed
- Outdoor use



#### Applications:

- Protection for 2.4kV to 34.5kV transformers or distribution systems.

#### Definitions:

##### General Purpose Current-Limiting Fuses (Per IEEE Std C37.40-2003):

A general purpose current-limiting fuse is one that is capable of interrupting all currents from its rated interrupting current down to the current that causes melting of the fusible element(s) in one hour or more.

**E-Rating:** E-Rated fuses are general purpose fuses that operate as follow (Per ANSI C37.46-2000):

- 100E or less – must melt in 300 seconds (5 mins.) at 200 to 240% of E (ampere) rating.
- Over 100E – must melt in 600 seconds (10 mins.) at 220 to 264% of E (ampere) rating.
- Example: A 100E fuse must melt in 300 seconds with an applied current of 200 to 240 amperes.

##### Power Distribution Fuses:

Defines fuses designed prior to the time where the ANSI standards defined the term "General Purpose" and do not meet all of the general purpose definition. These fuses are capable of interrupting all currents above 2.2 to 3 times the fuse's rated current up to its maximum interrupting rating.



#### Ratings

- See page E3 for listing

#### Approvals:

- UL listed to standard File E143362



# Transformer Protection

## Amp-Trap<sup>®</sup> CS-3 Series and 9F60/9F62 Series

### Ferrule Mounted Fuses

**Amp-Trap CS-3 Series:** (Indoors or outdoors in a weatherproof enclosure)

A055F: 5.5kV – AC: 5E to 450E – 63kA I.R. Sym

A825X: 8.25kV – AC: 10E to 200E – 50kA I.R. Sym

A155F: 15.5kV – AC: 5E to 200E – 50 kA I.R. Sym

**9F62 Series Type EJO-1:** (Indoors and outdoors)

9F62: 5.5kV – AC: 25A to 450A – 50kA IR Sym

9F62: 8.3kV – AC: 20A to 250A – 50 kA IR Sym

9F62: 15.5kV – AC: 20A to 200A – 50 kA IR Sym



**9F60 Series Type EJO-1:** (Indoors and outdoors)

9F60: 2.75kV – AC: 1E to 200E – 50kA IR Sym

9F60: 5.5kV – AC: 0.5E to 200E – 50kA IR Sym

9F60: 8.25kV – AC: 0.5E to 200E – 50kA IR Sym

9F60: 15.5kV – AC: 0.5E to 100E – 50kA IR Sym

9F60: 25.8kV – AC: 0.5E to 100E – 25kA to 35kA IR Sym

9F60: 38kV – AC: 1E to 80E – 13kA to 26kA IR Sym



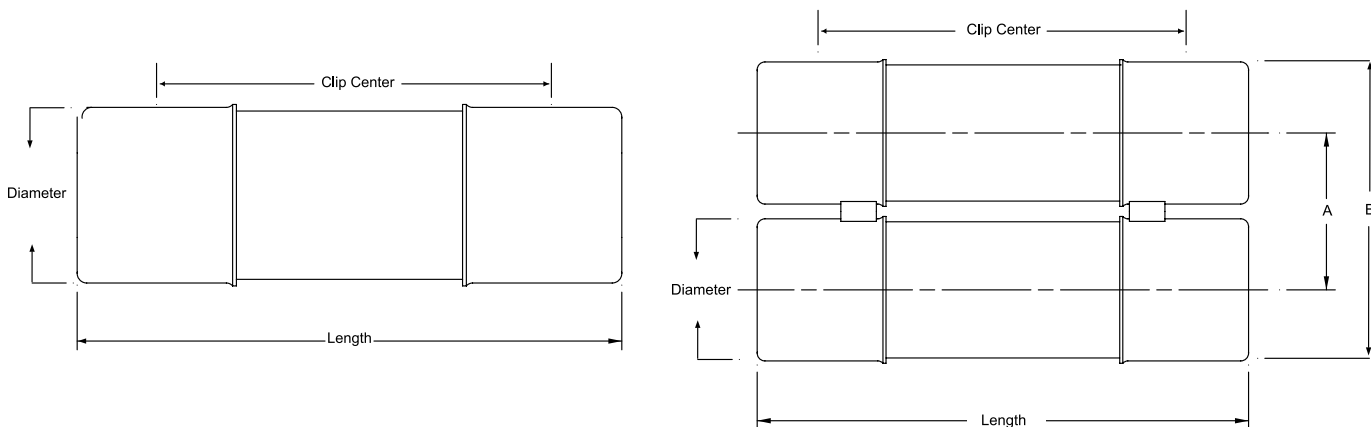
**9F60 Series Type EJ-1:** (Indoors or outdoors in a weatherproof enclosure)

9F60: 2.75kV – AC: 1E to 200E – 47kA to 52kA IR Sym

9F60: 5.5kV – AC: 0.5E to 25E – 63kA IR Sym

9F60: 15.5kV – AC: 2E to 175E – 31kA to 50kA IR Sym

9F60: 25.8kV – AC: 0.5E to 2E – 35kA IR Sym



9F series      A = 3.31 inches (84mm)

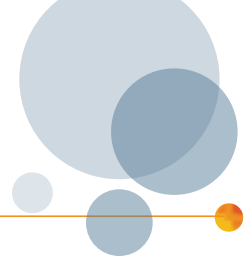
9F series      B = 6.16 inches (160mm)

Amp-Trap series A = 3.63 inches (92 mm)

Amp-Trap series B = 6.63 inches (169 mm)

# Transformer Protection

## Amp-Trap® CS-3 Series and 9F60/9F62 Series



### 15kV / 15.5kV Ferrule mounted fuses:

#### 15.5kV Power Distribution fuses – 9F60 Series, E-Rated EJ-1 12" (305 mm) Clip Centers - Suitable for use indoors or in an enclosure only

Catalog No.	Amp Rating	No. of Barrels	Indicating	Diameter Inches (mm)	Length Inches (mm)	Max Voltage	Max IR RMS Sym	Fuse Support Indoor (EK-1)	Fuse Support Outdoor (EK0-1)	Fuse Disconnect Indoor (EK-3)	Fuse Disconnect Outdoor (EK0-3)
9F60CJH002	2E	1	Yes	2 (50.8)	14.18 (360)	15.5 kV	50kA*	9F61AEG201	N/A	9F61AEG205	N/A
9F60CJH003	3E										
9F60CJH005	5E										
9F60CJH007	7E										
9F60CJH010	10E										

\* These fuses were designed and originally tested at a higher maximum interrupting rating value. Consult factory for further information.

#### 15.5kV Power Distribution fuses – 9F60 Series, E-Rated EJO-1 15" (381 mm) Clip Centers - Suitable for use indoors or outdoors



Catalog No.	Amp Rating	No. of Barrels	Indicating	Diameter Inches (mm)	Length Inches (mm)	Max Voltage	Max IR RMS Sym	Fuse Support Indoor (EK-1)	Fuse Support Outdoor (EK0-1)	Fuse Disconnect Indoor (EK-3)	Fuse Disconnect Outdoor (EK0-3)
9F60DMH005	0.5E	1	Yes	2 (50.8)	17.2 (437)	15.5 kV	50kA*	9F61AGG201 (13.8kV nominal - 95kV BIL) 9F61AGJ201 (14.4kV nominal - 110kV BIL)	9F61CGL209	9F61AGG205 (13.8kV nominal - 95kV BIL) 9F61AGJ205 (14.4kV nominal - 110kV BIL)	9F61CGL210
9F60DMH001	1E										
9F60DMH002	2E										
9F60DMH003	3E										
9F60DMH005	5E										
9F60DMH007	7E										
9F60DMH010	10E										
9F60FMH015	15E	1	Yes	3 (76.2)	18.88 (480)	15.5 kV	50kA	9F61AGG301 (13.8kV nominal - 95kV BIL) 9F61AGJ301 (14.4kV nominal - 110kV BIL)	9F61CGL309	9F61AGG305 (13.8kV nominal - 95kV BIL) 9F61AGJ305 (14.4kV nominal - 110kV BIL)	9F61CGL310
9F60FMH020	20E										
9F60FMH025	25E										
9F60FMH030	30E										
9F60FMH040	40E										
9F60FMH050	50E										
9F60HMH065	65E	2	Yes	3 (76.2)	18.88 (480)	15.5 kV	50kA	9F61AGG401 (13.8kV nominal - 95kV BIL) 9F61AGJ401 (14.4kV nominal - 110kV BIL)	9F61CGL409	9F61AGG405 (13.8kV nominal - 95kV BIL) 9F61AGJ405 (14.4kV nominal - 110kV BIL)	9F61CGL410
9F60HMH080	80E										
9F60HMH100	100E										

\* These fuses were designed and originally tested at a higher maximum interrupting rating value. Consult factory for further information.

# Transformer Protection

## Amp-Trap® CS-3 Series and 9F60/9F62 Series

### 15.5kV General Purpose fuses – 9F62 Series, EJO-1 – UL Listed 15" (381 mm) Clip Centers - Suitable for use indoors or outdoors



Catalog No.	Amp Rating	No. of Barrels	Indicating	Diameter Inches (mm)	Length Inches (mm)	Max Voltage	Max IR RMS Sym	Fuse Support Indoor (EK-1)	Fuse Support Outdoor (EK0-1)	Fuse Disconnect Indoor (EK-3)	Fuse Disconnect Outdoor (EK0-3)
9F62DD050	50A	1	Yes	3 (76.2)	18.88 (480)	15.5 kV	50kA	9F61AGG301 (13.8kV nominal - 95kV BIL) 9F61AGJ301 (14.4kV nominal - 110kV BIL)	9F61CGL309	9F61AGG305 (13.8kV nominal - 95kV BIL) 9F61AGJ305 (14.4kV nominal - 110kV BIL)	9F61CGL310
9F62DD065	65A										
9F62DD080	80A										
9F62DD100	100A										
9F62FDD125	125A	2	Yes	3 (76.2)	18.88 (480)	15.5 kV	50kA	9F61AGG401 (13.8kV nominal - 95kV BIL) 9F61AGJ401 (14.4kV nominal - 110kV BIL)	9F61CGL409	9F61AGG405 (13.8kV nominal - 95kV BIL) 9F61AGJ405 (14.4kV nominal - 110kV BIL)	9F61CGL410
9F62FDD150	150A										
9F62FDD175	175A										
9F62FDD200	200A										

### 15.5kV E-Rated Amp-Trap CS-3 series – UL Listed 15" (381 mm) Clip Centers - Suitable for use indoors or in an enclosure only



Catalog No.	Amp Rating	No. of Barrels	Indicating	Diameter Inches (mm)	Length Inches (mm)	Max Voltage	Max IR RMS Sym	Fuse Support Indoor (EK-1)	Fuse Support Outdoor (EK0-1)	Fuse Disconnect Indoor (EK-3)	Fuse Disconnect Outdoor (EK0-3)
A155F1C0R0-5E	5E	1	Yes	2 (50.8)	17.03 (433)	15.5kV	50kA	9F61AGG201 (13.8kV nominal - 95kV BIL) 9F61AGJ201 (14.4kV nominal - 110kV BIL)	N/A	9F61AGG205 (13.8kV nominal - 95kV BIL) 9F61AGJ205 (14.4kV nominal - 110kV BIL)	N/A
A155F1C0R0-7E	7E										
A155F1C0R0-10E	10E										
A155F1C0R0-15E	15E										
A155F1C0R0-20E	20E										
A155F1C0R0-25E	25E										
A155F1C0R0-30E	30E	1	Yes	3 (76.2)	18.87 (479)	15.5kV	50kA	9F61AGG301 (13.8kV nominal - 95kV BIL) 9F61AGJ301 (14.4kV nominal - 110kV BIL)	N/A	9F61AGG305 (13.8kV nominal - 95kV BIL) 9F61AGJ305 (14.4kV nominal - 110kV BIL)	N/A
A155F1D0R0-10E	10E										
A155F1D0R0-15E	15E										
A155F1D0R0-20E	20E										
A155F1D0R0-25E	25E										
A155F1D0R0-30E	30E										
A155F1D0R0-40E	40E	2	Yes	3 (76.2)	18.87 (479)	15.5kV	50kA	-	N/A	-	N/A
A155F1D0R0-50E	50E										
A155F2D0R0-65E	65E										
A155F2D0R0-80E	80E										
A155F2D0R0-100E	100E										

### 15.5kV E-Rated Amp-Trap CS-3 series – UL Listed 18" (457 mm) Clip Centers - Suitable for use indoors or in an enclosure only



Catalog No.	Amp Rating	No. of Barrels	Indicating	Diameter Inches (mm)	Length Inches (mm)	Max Voltage	Max IR RMS Sym	Fuse Support Indoor (EK-1)	Fuse Support Outdoor (EK0-1)	Fuse Disconnect Indoor (EK-3)	Fuse Disconnect Outdoor (EK0-3)
A155F1D0R0-65E	65E	1	Yes	3 (76.2)	21.75 (552)	15.5kV	50kA	-	N/A	-	N/A
A155F1D0R0-80E	80E										
A155F1D0R0-100E	100E										
A155F2D0R0-125E	125E	2	Yes	3 (76.2)	21.75 (552)	15.5kV	50kA	-	N/A	-	N/A
A155F2D0R0-150E	150E										
A155F2D0R0-175E	175E										
A155F2D0R0-200E	200E										