



Product Catalog

Medium Voltage Fuses

COOPER Circuit Protection



General Catalog Contents (Con't.)

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Medium Voltage Fuses

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Medium voltage fuses for motor circuits offer the following user benefits:

- Performance complies with latest ANSI Standards
- Dramatic reduction in energy let-through
- Lower power dissipation
- Low arc voltage during operation
- Includes heavy duty striker to IEC 282-1

Advantages of Edison Motor Fuses

During the full voltage starting of motors the fuse elements reach a considerably higher temperature than normally occurs under continuous operation. The resulting expansion and contraction of the fuse element can cause premature operation. The Edison motor circuit fuse incorporates provisions in the design of the element to minimize this effect and hence avoid the necessity of having to use a much larger size of fuse.

Edison fuses operate very quickly on heavy fault currents. This results from the steepness of the time-current characteristic, which also facilitates coordination with the other components of the circuit.

Lower power dissipation helps to ensure low temperature rise of, for example, multi-tier starters.

Switching (arc) voltages are appreciably less than permitted values and fall with lower values of system voltage. Thus, the 5.5kV fuses are equally suitable for use in 4.8kV, 4.16kV and 2.4kV circuits.

The superior low-overcurrent breaking performance is of advantage whether or not the striker is used to open the contactor.

“R” Rating

The R-Rated motor circuit fuses should be selected to coordinate with the motor and controller to provide short-circuit protection.

The actual “R” rating signifies a 20 second opening time at 100 times the “R” rating of the fuse.

For example:

2R fuse opens in 20 seconds at 200 amps.

12R fuse opens in 20 seconds at 1200 amps.

Motor Starting Application Application Procedure

For any motor the fuse current rating is determined by magnitude and duration of starting current, except in a few situations where the starting conditions are very light. The fuse current rating should be selected as follows.

Direct On-Line Starting

In the absence of specific information the starting current can usually be taken to be six times the motor full load current. The starting time will depend on the type of drive but will be approximately as follows:

Pump Motors	- 6 seconds
Mill Motors	- 10 to 15 seconds
Fan Motors	- 60 seconds

These are average values and the appropriate figures for starting current and starting time for the actual installation should be obtained wherever possible. Multiply the starting current by 1.6 and using this value of current and the starting time (it is recommended that a minimum time of 8 seconds be adopted) plot this point on the minimum melting time-current characteristics of the fuses. The correct current rating of fuse is then chosen as being the one immediately to the right of the point so plotted. The chosen fuse must also have a current rating of at least 1.3 times the full-load current of the associated motor.

The rating thus chosen will be adequate for normal applications where the associated motor is not started more than twice in any given period of one hour. For applications involving more frequent starting duties, a greater derating factor must be applied as shown in the following table.

Derating Factor

Maximum of starts per hour	Derating factor
2	1.6
4	1.7
8	2.0
16	2.2

The figures in the above table apply only when the Minimum Melting Time-Current Characteristic Curve is used.

For applications involving more frequent starting duty than 16 times per hour or where unusual duty cycles are involved consult Edison Customer Satisfaction for advice.

Assisted Starting

A similar method of fuse selection may be used as for direct-on-line starting (see above) but it must be noted that the normal running current of the motor is likely to be closer in value to the nominal current rating of the fuse than for direct-on-line applications.

The rating of fuse chosen will need to be appreciably greater than the motor running current to allow for restricted cooling inside control gear cubicles, particularly where multi-tier starters are involved. In case of doubt refer to Edison Customer Satisfaction for further guidance.

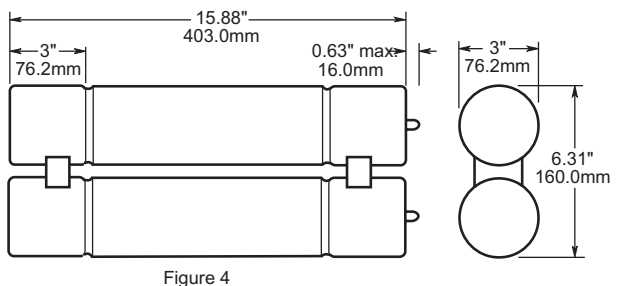
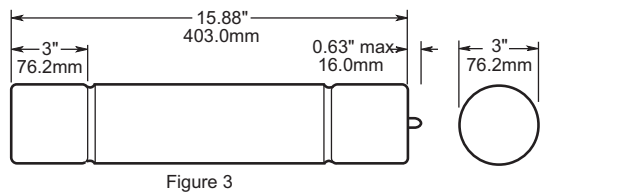
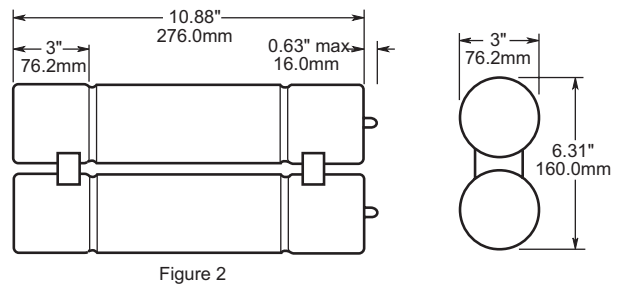
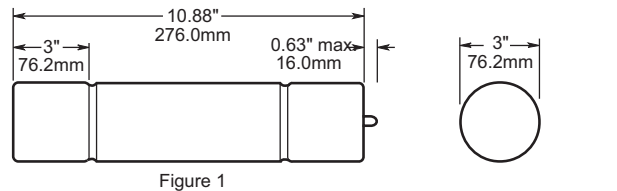


Medium Voltage R-Rated Fuses for 2.4 and 4.8kV Motors

List of Ratings

2.4kV System Voltage		
Catalog Symbol	Current Rating Amps at 40°C	Figure Number
2.75 VFRHA 2R	70	1
2.75 VFRHA 3R	100	
2.75 VFRHA 4R	130	
2.75 VFRHA 6R	170	
2.75 VKRHA 9R	200	
2.75 VKRHA 12R	230	
2.75 VKRHK 18R	390	2
2.75 VKRHK 24R	450	
4.8kV System Voltage		
5.5 VFNHA 2R	70	3
5.5 VFNHA 3R	100	
5.5 VFNHA 4R	130	
5.5 VFNHA 6R	170	
5.5 VKNHA 9R	200	
5.5 VKNHA 12R	230	
5.5 VKNHK 18R	390	4
5.5 VKNHK 24R	450	
5.5 VKNHK 30R	450	
5.5 VKNHK 36R	500	
5.5 VKNHK 40R	600	
5.5 VKNHK 48R	650	

Dimensions - in (mm)



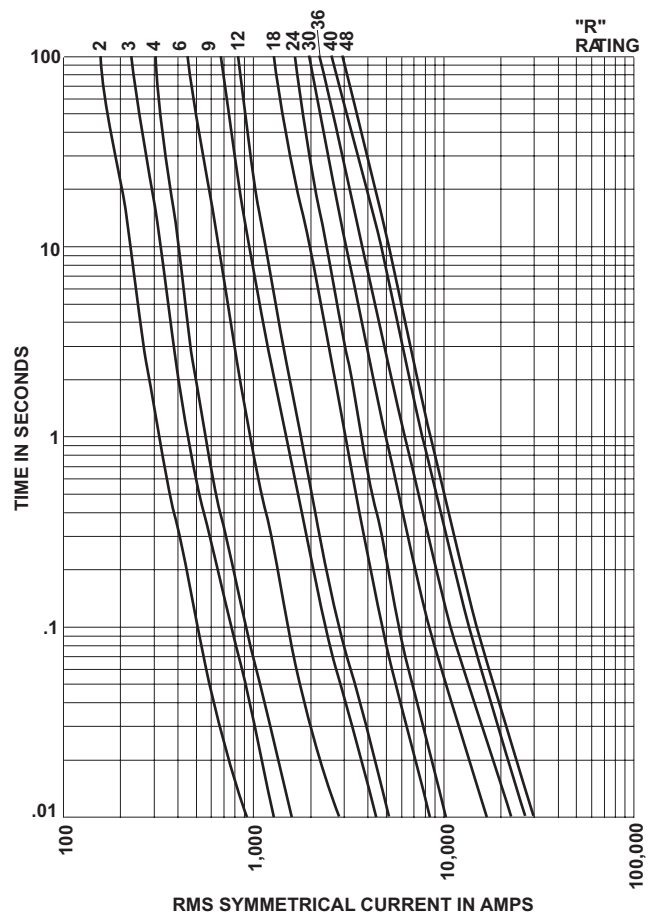
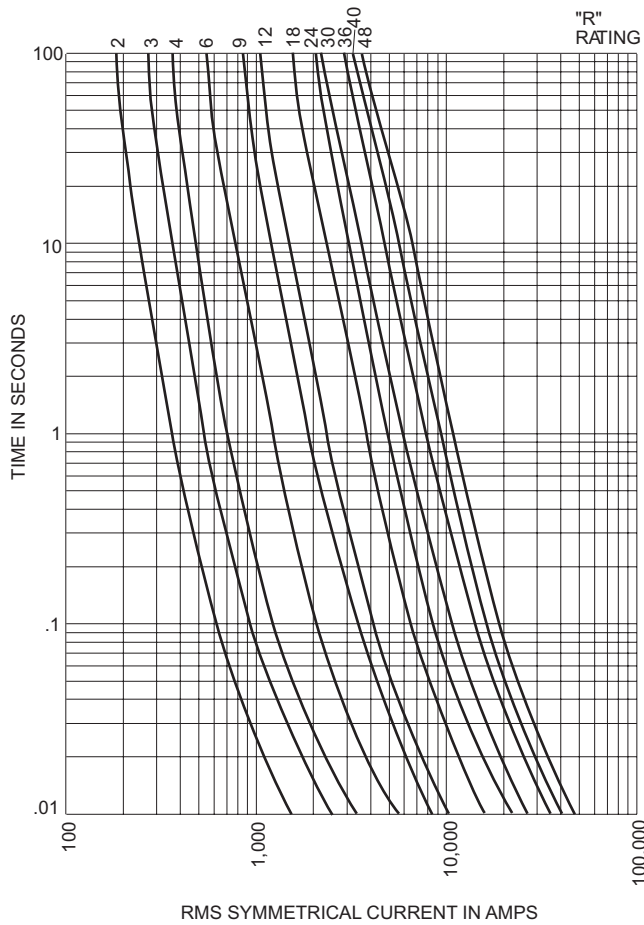
Notes:

1. Interrupting rating - 80,000 amps asymmetrical 60Hz.
2. These fuses are dimensionally interchangeable with corresponding R-Rated fuses produced by other leading North American manufacturers.

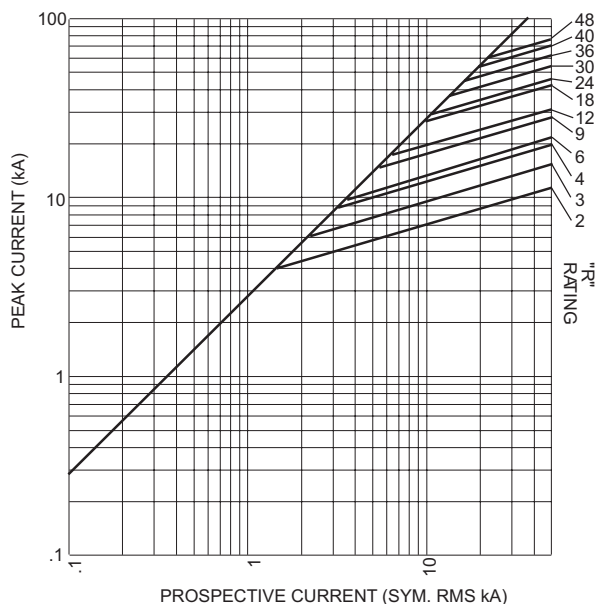
Time-Current Characteristics for 5.5kV and 2.75kV Fuses

Total Clear

Minimum Melt



Peak Let-Through Current Curve (5.5kV and 2.75kV Fuses)



Application for HV Motor Circuit Fuses

The following table is a general guide only based on a number of assumptions regarding the motor duty application which are listed below. Contact Edison Customer Satisfaction for specific application information. The application tables are based on the following assumptions:

Motor Efficiency ----- 90% Run Up Time ----- 10 Secs.
 Motor Power Factor ----- 0.9 Starting Method -- Full Voltage
 Starting Current ----- 6 x FLA Min. Fuse Size ----- 1.3 x FLA
 Starts/Hour ----- Max of 2/Hour

Hp	2.4kV			4.16kV			4.8kV		
	FLA Amps	2.4kV FUSE "R"	Amps	FLA Amps	4.16kV FUSE "R"	Amps	FLA Amps	4.8kV FUSE "R"	Amps
75	17	2R	70	—	—	—	—	—	—
100	22	2R	70	—	—	—	—	—	—
125	28	3R	70	16	2R	70	—	—	—
150	33	3R	100	19	2R	70	17	2R	70
200	44	4R	130	26	3R	100	22	2R	70
250	55	6R	170	32	3R	100	28	3R	100
300	67	6R	170	38	4R	130	33	3R	100
350	78	9R	170	45	4R	130	39	4R	130
400	89	9R	200	45	4R	130	44	4R	130
500	111	12R	230	64	6R	170	55	6R	170
600	133	18R	390	77	9R	200	67	6R	170
700	155	18R	390	90	9R	200	78	9R	200
800	177	18R	390	102	9R	230	89	9R	200
900	200	18R	390	115	12R	230	100	9R	200
1000	222	24	450	128	18R	390	111	12R	230
1100	244	24R	450	141	18R	390	122	12R	230
1200	266	24R	450	154	18R	390	133	18R	390
1400	311	30R	450	179	18R	390	155	18R	390
1600	355	36R	500	205	18R	390	177	18R	390
1800	399	40R	600	230	24R	450	200	18R	390
1900	422	40R	600	243	24R	450	211	18R	390
2000	444	40R	600	256	24R	450	222	24R	450
2200	488	48R	650	282	30R	450	244	24R	450
2400	—	—	—	307	30R	450	266	24R	450
2600	—	—	—	333	36R	500	288	30R	450
2800	—	—	—	358	36R	500	311	30R	450
3000	—	—	—	384	36R	500	333	36R	500
3500	—	—	—	448	40R	600	388	36R	500
4000	—	—	—	—	—	—	444	40R	600
4500	—	—	—	—	—	—	500	48R	650

Contact Edison Customer Satisfaction for applications regarding other operating conditions.



E-Rated Power Fuses Having Full Range Clearing Capability for Medium Voltage Transformer Circuit Protection

Part Number	Amp Rating	Length (In)	Dia. (In)	# of Barrels	Clip Center (In)
MV055F1CAX5E	5E	15.75	2	1	12
MV055F1CAX7E	7E	15.75	2	1	12
MV055F1CAX10E	10E	15.75	2	1	12
MV055F1CAX15E	15E	15.75	2	1	12
MV055F1CAX20E	20E	15.75	2	1	12
MV055F1CAX25E	25E	15.75	2	1	12
MV055F1CAX30E	30E	15.75	2	1	12
MV055F1CAX40E	40E	15.75	2	1	12
MV055F1CAX50E	50E	15.75	2	1	12
MV055F1CAX65E	65E	15.75	2	1	12
MV055F1DAX10E	10E	15.75	3	1	12
MV055F1DAX15E	15E	15.75	3	1	12
MV055F1DAX20E	20E	15.75	3	1	12
MV055F1DAX25E	25E	15.75	3	1	12
MV055F1DAX30E	30E	15.75	3	1	12
MV055F1DAX40E	40E	15.75	3	1	12
MV055F1DAX50E	50E	15.75	3	1	12
MV055F1DAX65E	65E	15.75	3	1	12
MV055F1DAX80E	80E	15.75	3	1	12
MV055F1DAX100E	100E	15.75	3	1	12
MV055F1DAX125E	125E	15.75	3	1	12
MV055F1DAX150E	150E	15.75	3	1	12
MV055F1DAX175E	175E	15.75	3	1	12
MV055F1DAX200E	200E	15.75	3	1	12
MV055F2DAX250E	250E	15.75	3	2	12
MV055F2DAX300E	300E	15.75	3	2	12
MV055F2DAX350E	350E	15.75	3	2	12
MV055F2DAX400E	400E	15.75	3	2	12

MV055 Specifications

E-Rated Medium Voltage Fuses

Meets E-Rating requirements of ANSI C37.46

Meets Full Range requirements of ANSI C37.40.

Voltage Rating: 5,500Vac

Interrupting Rating: 50kA Maximum Symmetrical Amps

Current Limiting

Benefits:

- Standard clip center lengths and barrel diameters.
- 100% tested for reliability.
- Suitable for indoor or outdoor usage.
- Full Range capability.

Applications:

- For transformer and feeder protection.

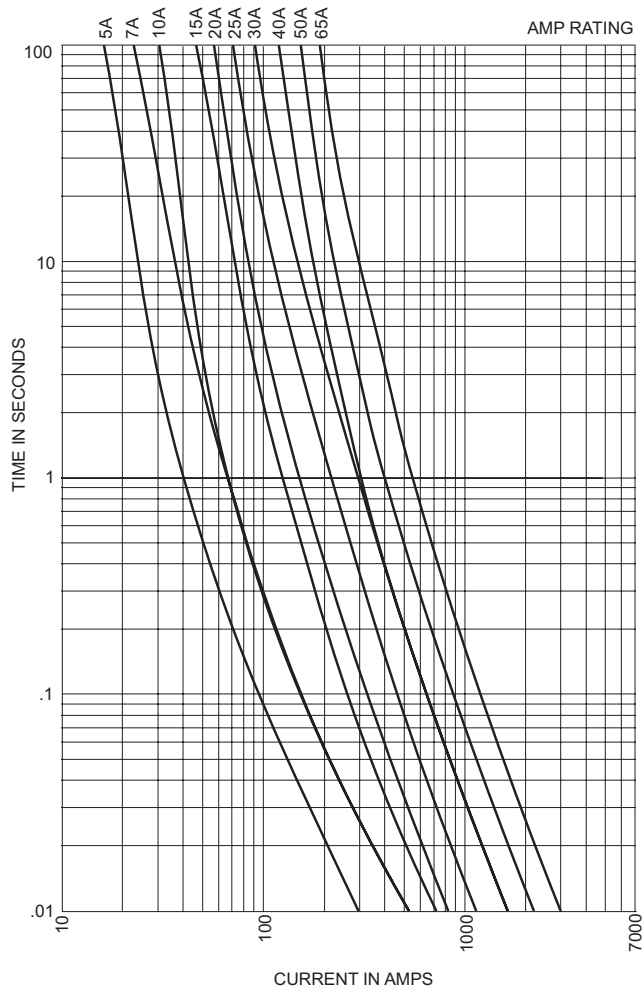
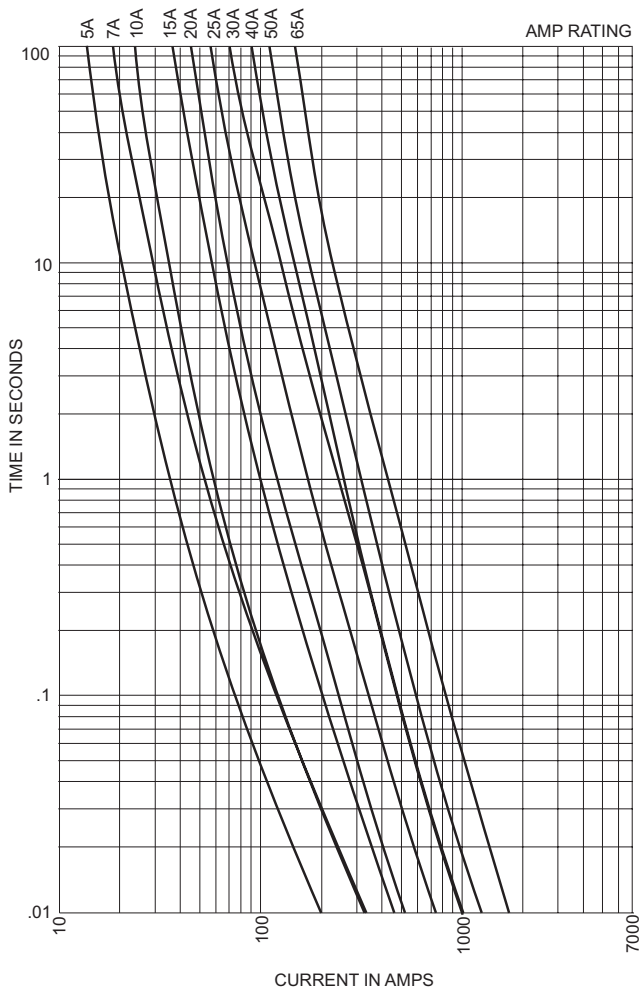
Recommended Fuseclips:

Refer to page 108 in this catalog.

E-Rated Medium Voltage Fuses for Transformer and Feeder Protection

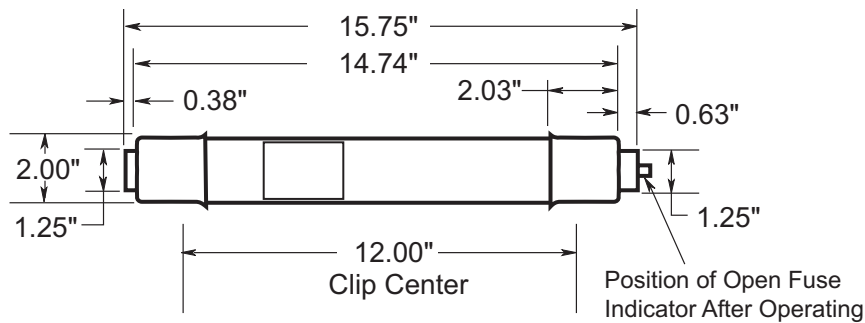
Time-Current Characteristics—Min. Melt

Time-Current Characteristics—Total Clear



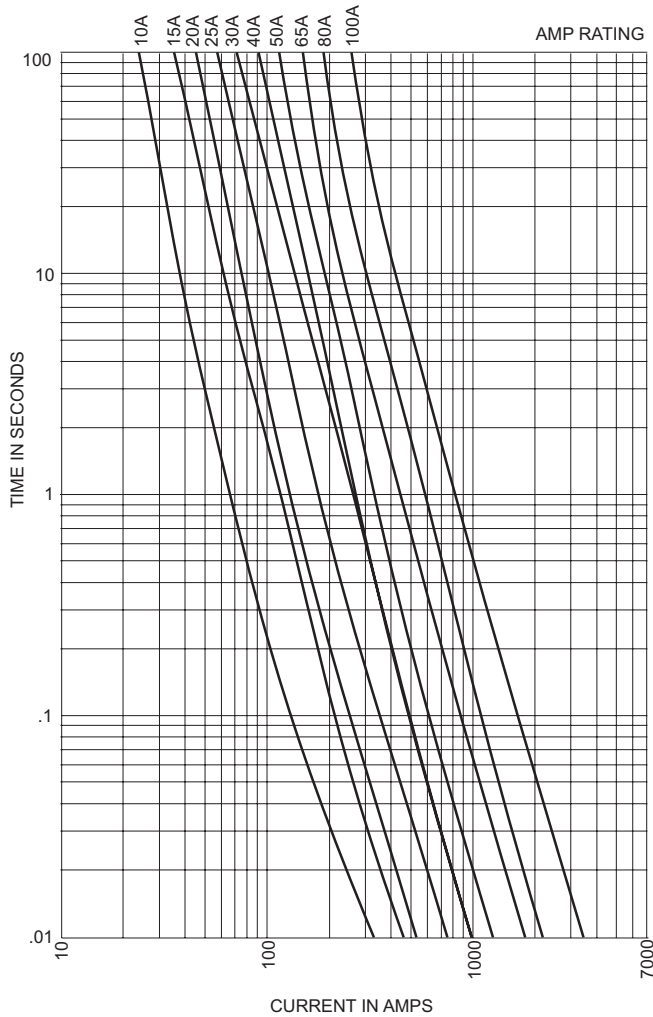
Dimensions - in

MV055F1CAX

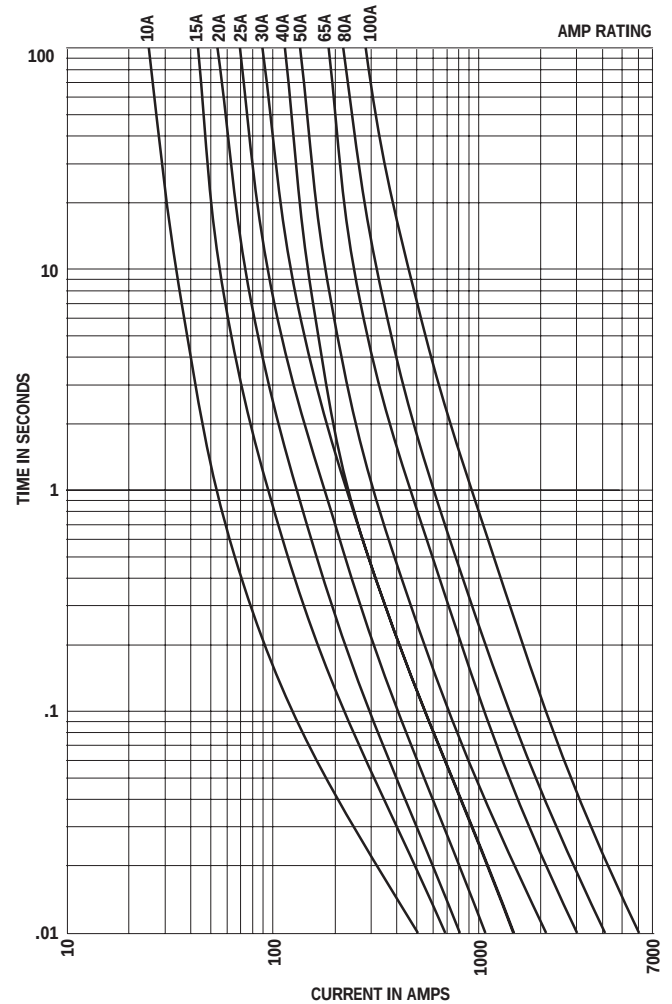


E-Rated Medium Voltage Fuses for Transformer and Feeder Protection

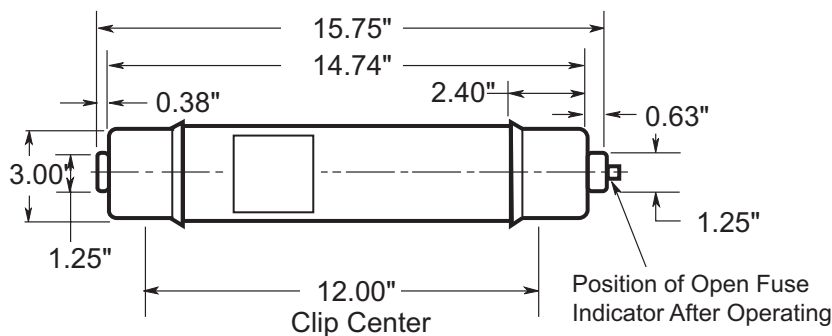
Time-Current Characteristics—Min. Melt

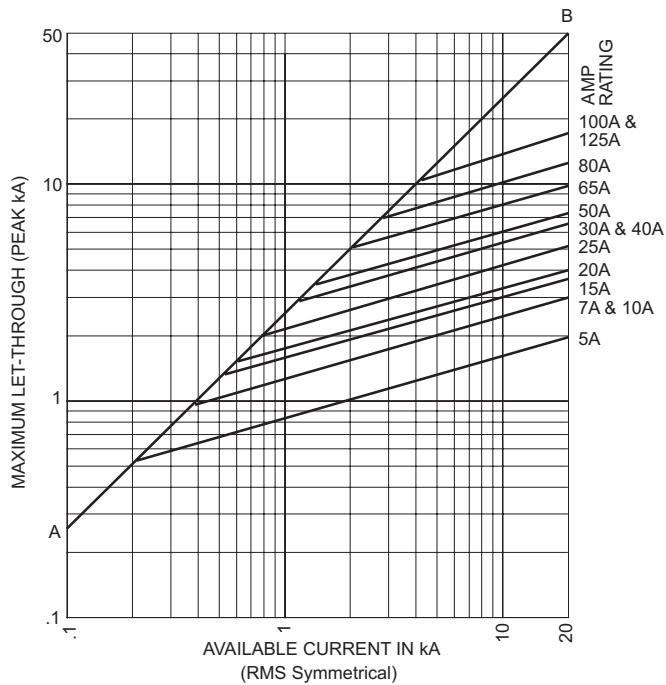
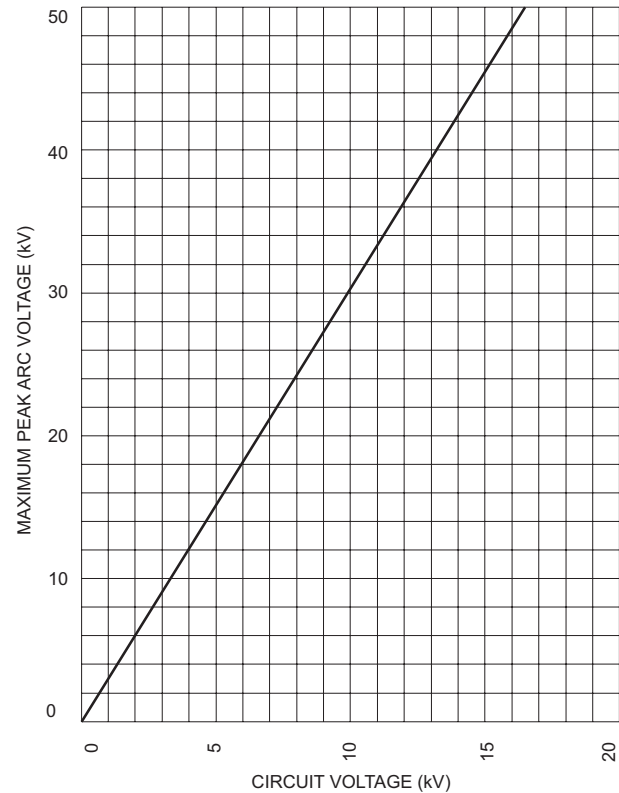


Time-Current Characteristics—Total Clear



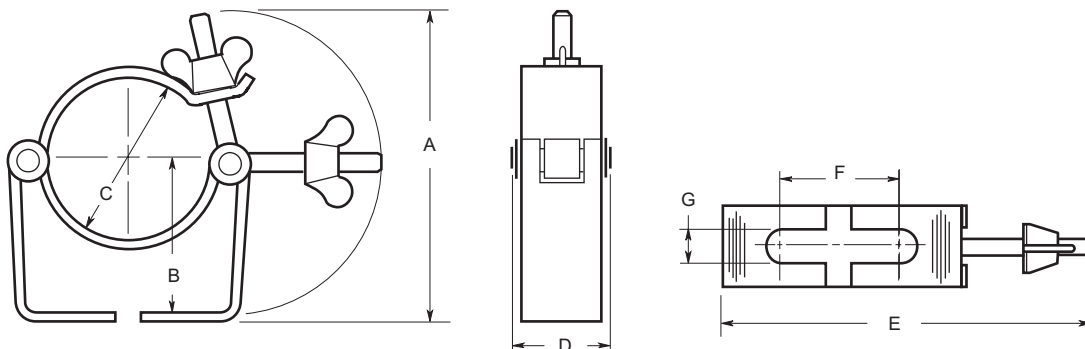
Dimensions - in MV055F1DAX



E-Rated Medium Voltage Fuses for Transformer and Feeder Protection**Maximum Peak Let-Through Current Curves****Max. Peak Arc Voltage for E-Rated Full Range Power Fuse****Recommended Fuse Clips for Medium Voltage Fuses**

Part No.	Fuse Diameter	Clip Dimensions - in						
		A	B	C	D	E	F	G
A3354710	2 inches	3.39	1.97	2.00	1.18	4.41	1.50	0.39
A3354730	3 inches	3.94	2.44	3.00	1.18	5.51	1.50	0.39

Fuseclips are for single barrel applications only.





E-Rated Power Fuses Having Full Range or Back-up Clearing Capability for Medium Voltage Transformer Circuit Protection

Part Number	Amp Rating	Length (In)	Dia. (In)	# of Barrels	Clip Center (In)
8.25FFNHA20E	20E	15.88	3	1	12
8.25FFNHA25E	25E	15.88	3	1	12
8.25FFNHA30E	30E	15.88	3	1	12
8.25FFNHA40E	40E	15.88	3	1	12
8.25FFNHA50E	50E	15.88	3	1	12
8.25FFNHA65E	65E	15.88	3	1	12
8.25FFNHA75E	75E	15.88	3	1	12
8.25FFNHA100E	100E	15.88	3	2	12
8.25FFNHA150E	150E	15.88	3	2	12
8.25BFNHA80*	80A	15.88	3	1	12
8.25BFNHA100*	100A	15.88	3	1	12
8.25BFNHA150*	150A	15.88	3	2	12
8.25BKNHK200*	200A	15.88	3	2	12

*Back-up protection only.

8.25FFNH Specifications

E-Rated Medium Voltage Fuses

Meets E-Rating requirements of ANSI C37.46

Meets Full Range requirements of ANSI C37.40

8.25BFNH Specifications

Back-up Medium Voltage Fuses

Meets Back-up requirements of ANSI C37.40

Voltage Rating: 8250Vac

Interrupting Rating: 80kA Max. Sym. Amps

Current Limiting

Low power dissipation

Low arc voltage during operation

Benefits:

- Standard clip center lengths and barrel diameters.
- Standard blown fuse striker pin may be used for indication or tripping purposes.
- 100% tested for reliability.
- Suitable for indoor or outdoor usage.

Applications:

- For transformer and feeder protection.

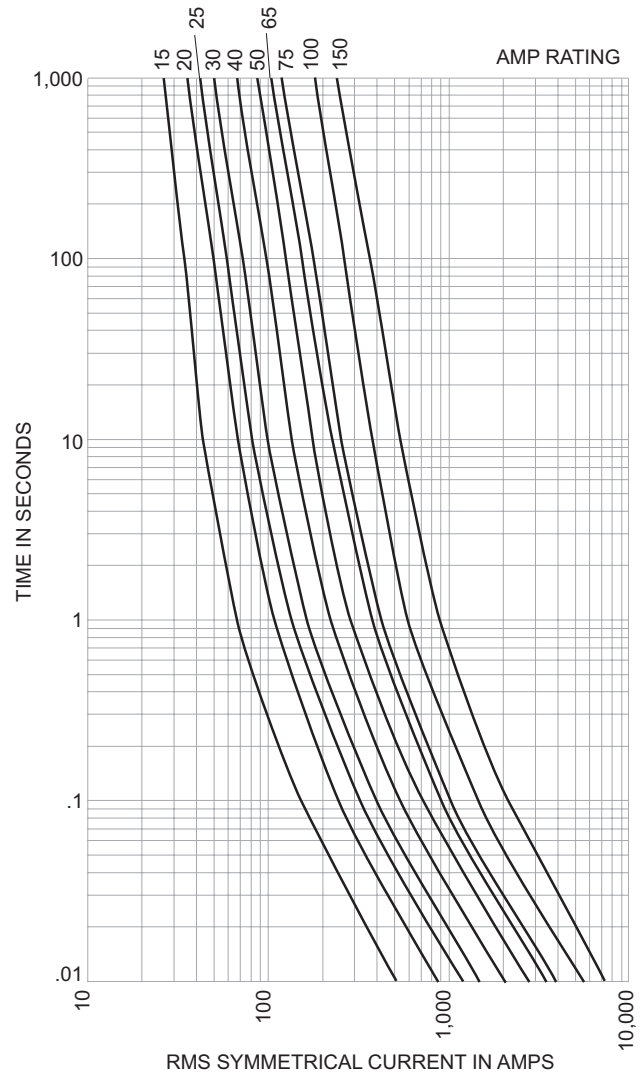
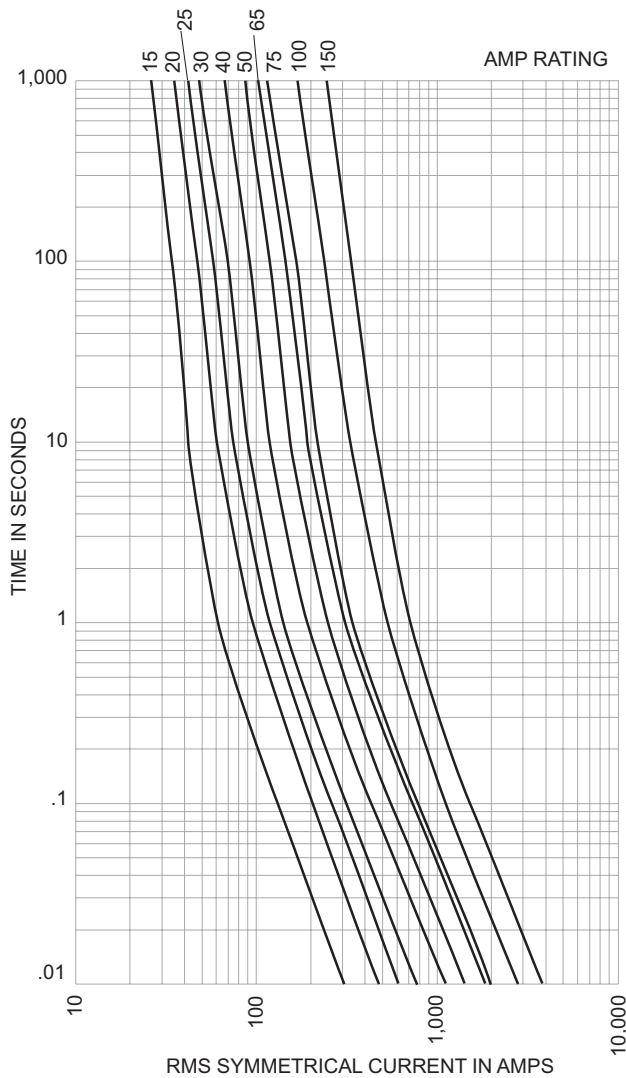
Recommended Fuse Clips:

Refer to page 110 in this catalog.

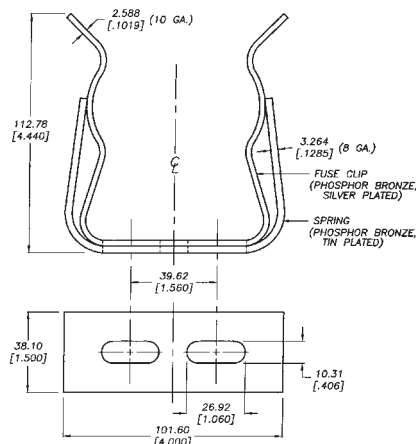
E-Rated Medium Voltage Fuses for 8.25 FFNHA and 8.25 FFNHK Fuses

Time-Current Characteristics – Min. Melt

Time-Current Characteristics – Total Melting

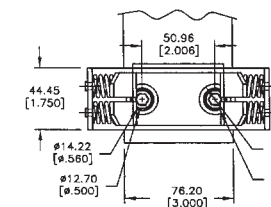
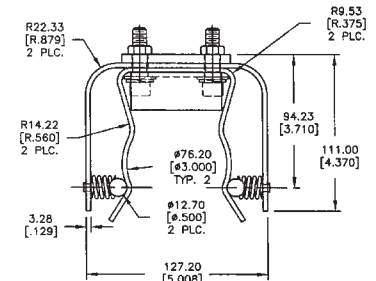


1A0065
3" Diameter Clip



2 CLIP ASSEMBLIES PER PACKAGE.
DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

9078A67G04
3" Diameter Clip

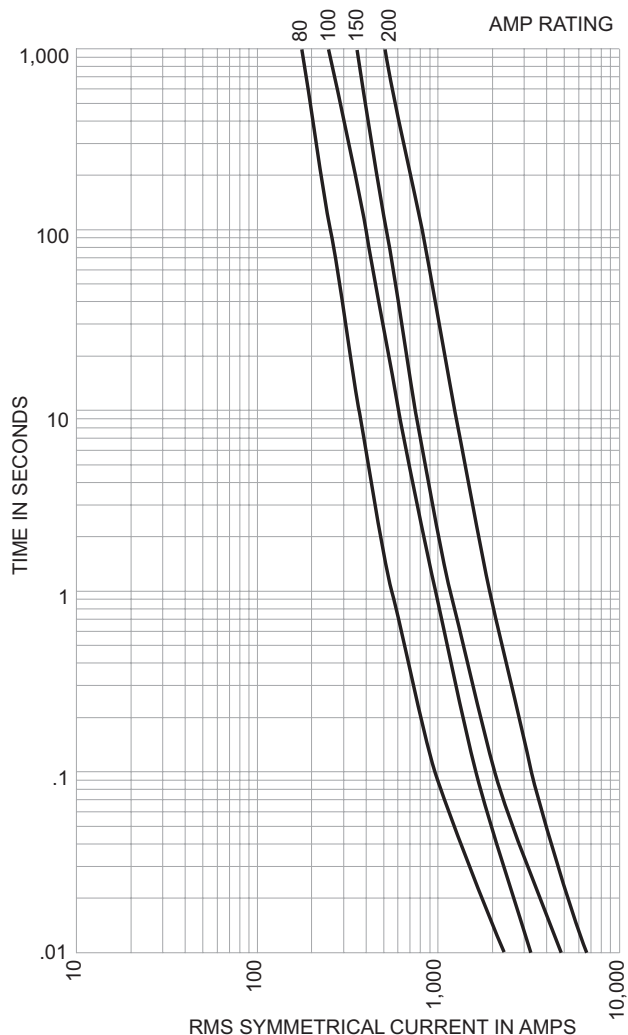
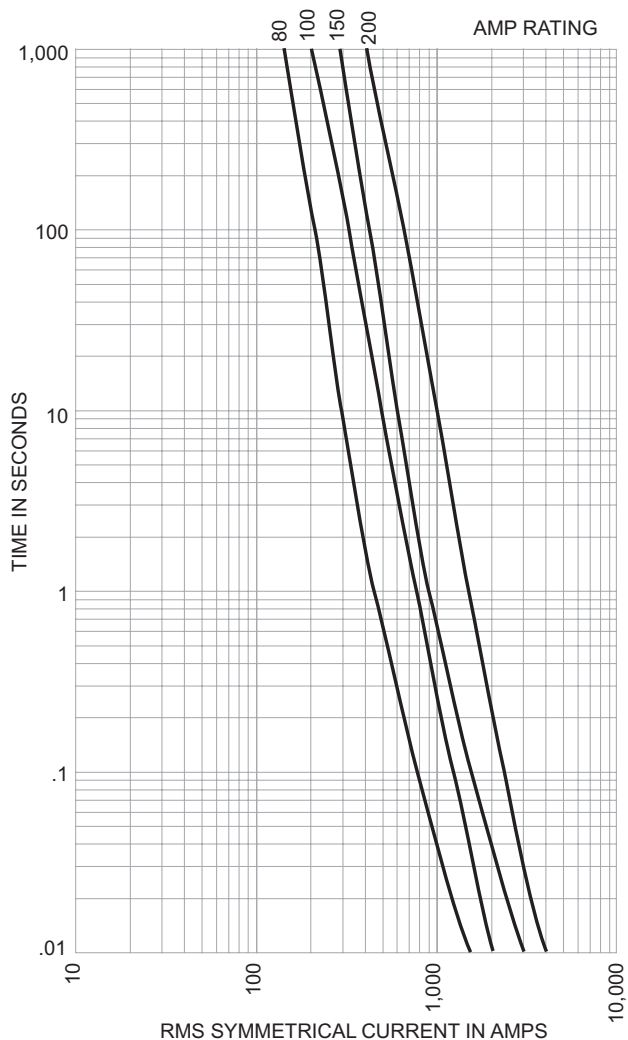


2 Cup assemblies per package.
Dimensions shown are for reference only.

Back-up Medium Voltage Fuses for 8.25 BFNHA, 8.25 BFHNC, and 8.25 BKNHK Fuses

Time-Current Characteristics—Min. Melt

Time-Current Characteristics—Max. Clear





E-Rated Power Fuses Having Full Range Clearing Capability for Medium Voltage Transformer Circuit Protection

Part Number	Amp Rating	Length (In)	Dia. (In)	# of Barrels	Clip Center (In)
MV155F1CBX5E	5E	18.75	2	1	15
MV155F1CBX7E	7E	18.75	2	1	15
MV155F1CBX10E	10E	18.75	2	1	15
MV155F1CBX15E	15E	18.75	2	1	15
MV155F1CBX20E	20E	18.75	2	1	15
MV155F1CBX25E	25E	18.75	2	1	15
MV155F1CBX30E	30E	18.75	2	1	15
MV155F1DBX10E	10E	18.75	3	1	15
MV155F1DBX15E	15E	18.75	3	1	15
MV155F1DBX20E	20E	18.75	3	1	15
MV155F1DBX25E	25E	18.75	3	1	15
MV155F1DBX30E	30E	18.75	3	1	15
MV155F1DBX40E	40E	18.75	3	1	15
MV155F1DBX50E	50E	18.75	3	1	15
MV155F1DBX65E	65E	18.75	3	1	15
MV155F1DBX80E	80E	18.75	3	1	15
MV155F1DBX100E	100E	18.75	3	1	15
MV155F2DBX125E	125E	18.75	3	2	15
MV155F2DBX150E	150E	18.75	3	2	15
MV155F2DBX175E	175E	18.75	3	2	15
MV155F2DBX200E	200E	18.75	3	2	15
MV155F1DCX65E	65E	21.75	3	1	18
MV155F1DCX80E	80E	21.75	3	1	18
MV155F1DCX100E	100E	21.75	3	1	18
MV155F2DCX125E	125E	21.75	3	2	18
MV155F2DCX150E	150E	21.75	3	2	18
MV155F2DCX175E	175E	21.75	3	2	18
MV155F2DCX200E	200E	21.75	3	2	18

MV155 Specifications

E-Rated Medium Voltage Fuses

Meets E-Rating requirements of ANSI C37.46

Meets Full Range requirements of ANSI C37.40.

Voltage Rating: 15,500Vac

Interrupting Rating: 50kA Maximum Symmetrical Amps

Current Limiting

Benefits:

- Standard clip center lengths and barrel diameters.
- 100% tested for reliability.
- Suitable for indoor or outdoor usage.
- Full Range capability.

Applications:

- For transformer and feeder protection.

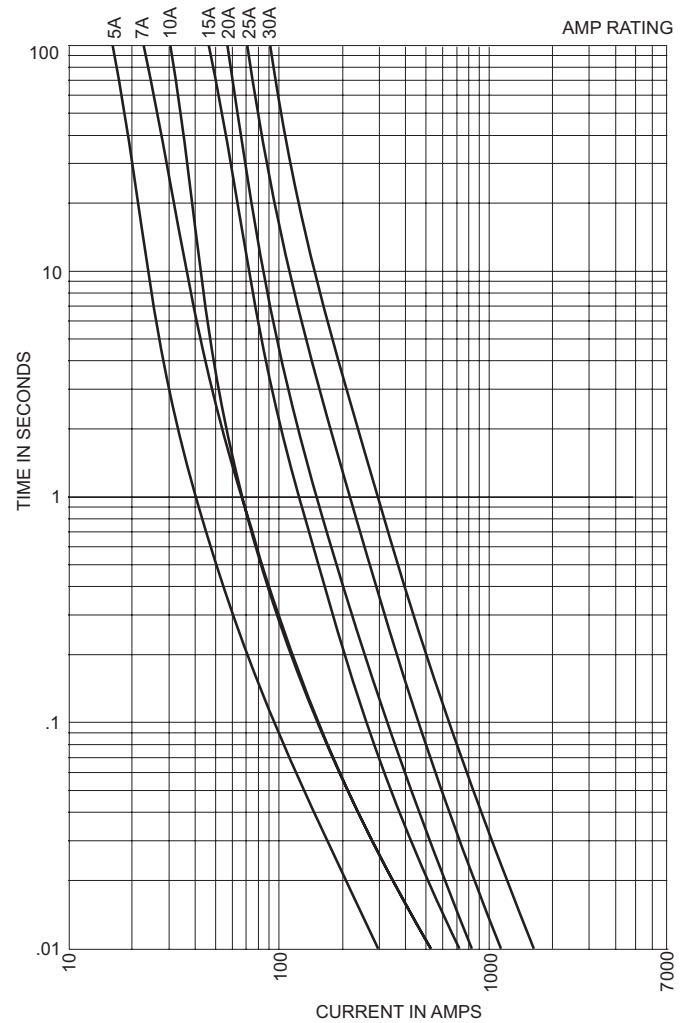
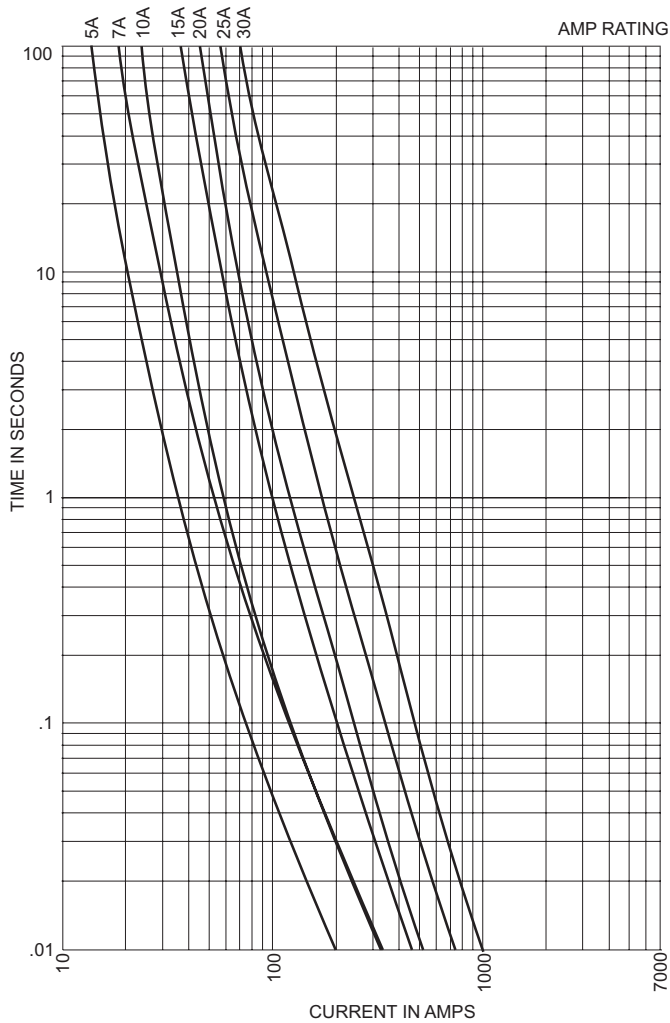
Recommended Fuseclips:

Refer to page 115 in this catalog.

E-Rated Medium Voltage Fuses for Transformer and Feeder Protection

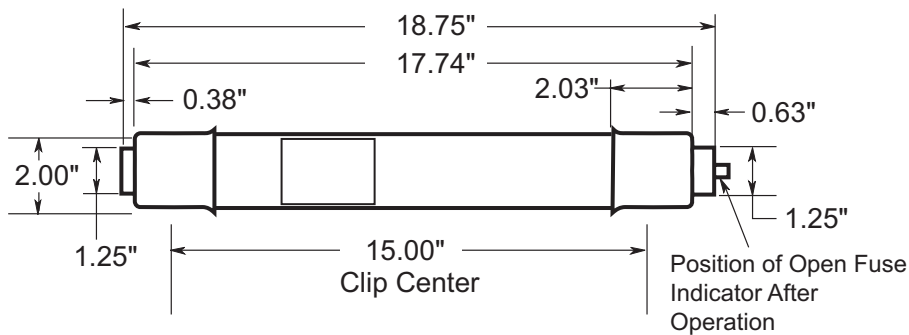
Time-Current Characteristics – Min. Melt

Time-Current Characteristics –Total Clear



Dimensions - in

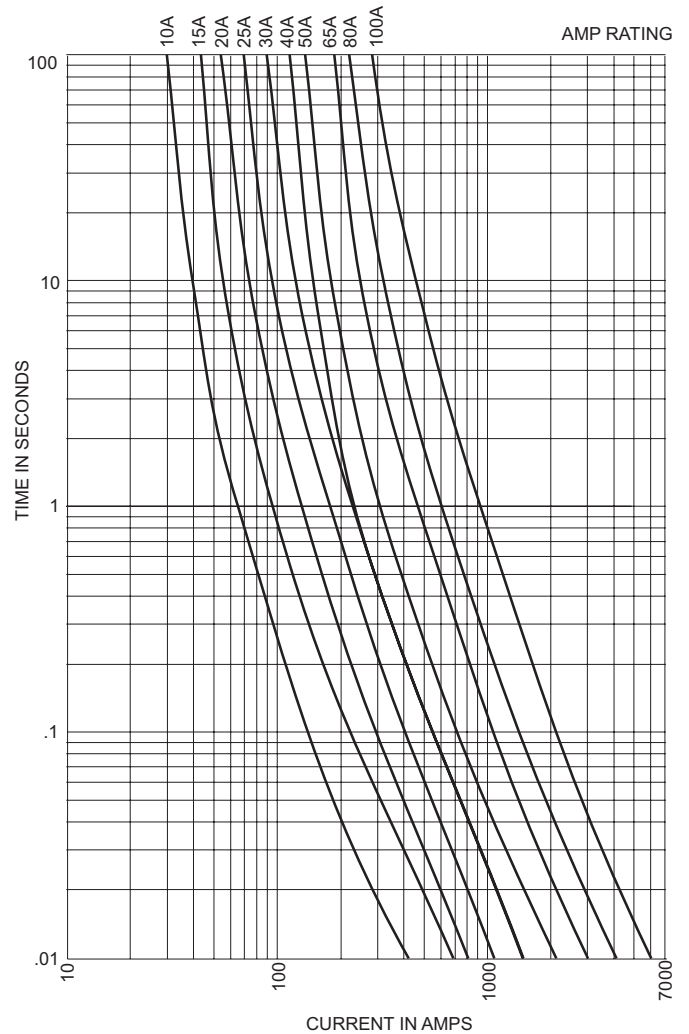
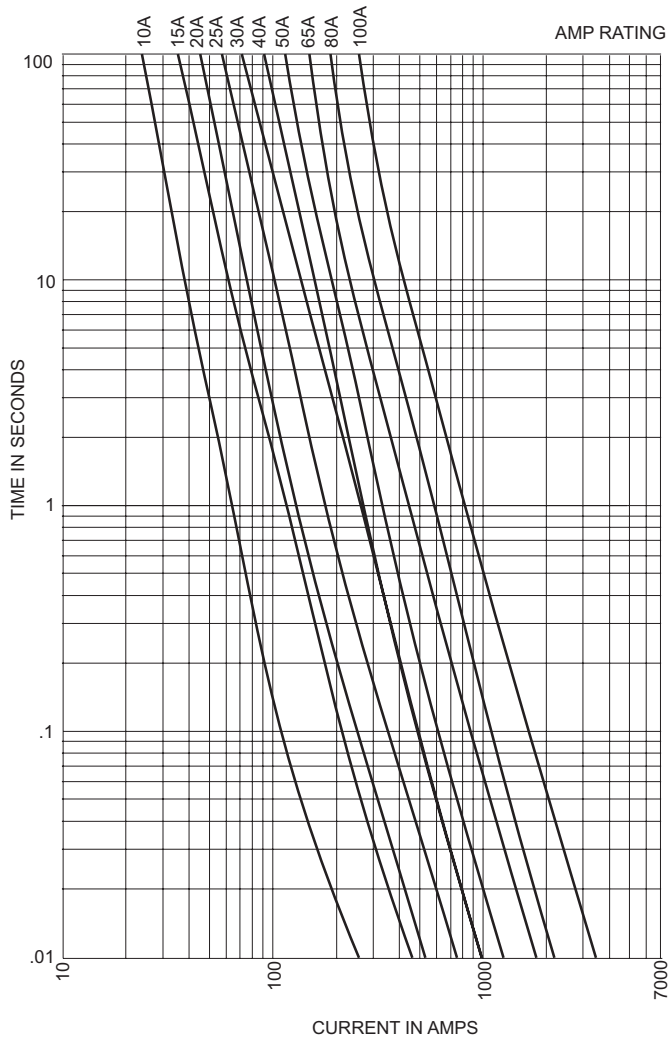
MV155F1CBX



E-Rated Medium Voltage Fuses for Transformer and Feeder Protection

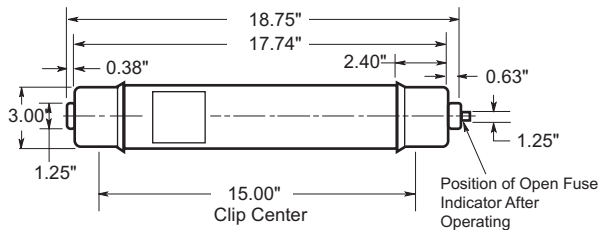
Time-Current Characteristics – Min. Melt

Time-Current Characteristics – Total Clear

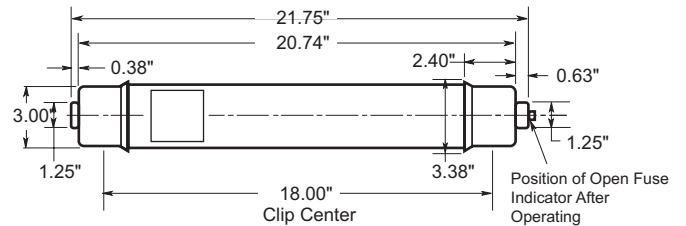


Dimensions - in

MV155F1DBX

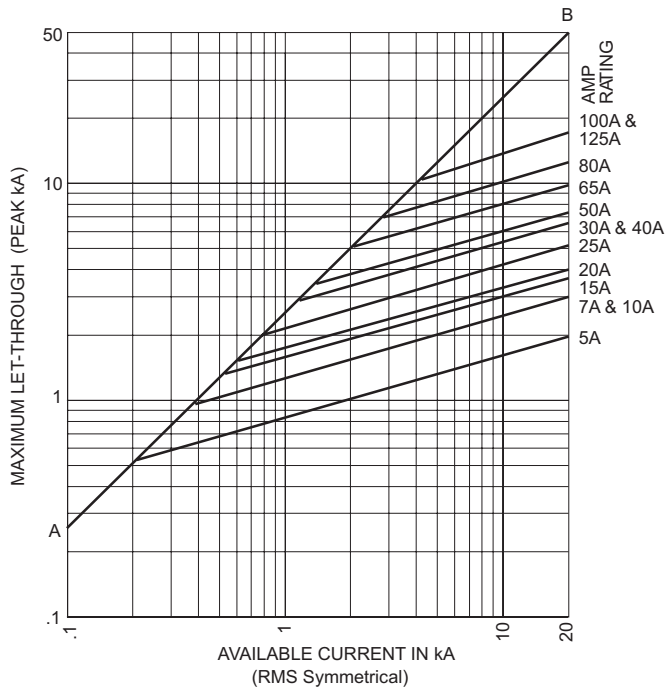


MV155F1DCX

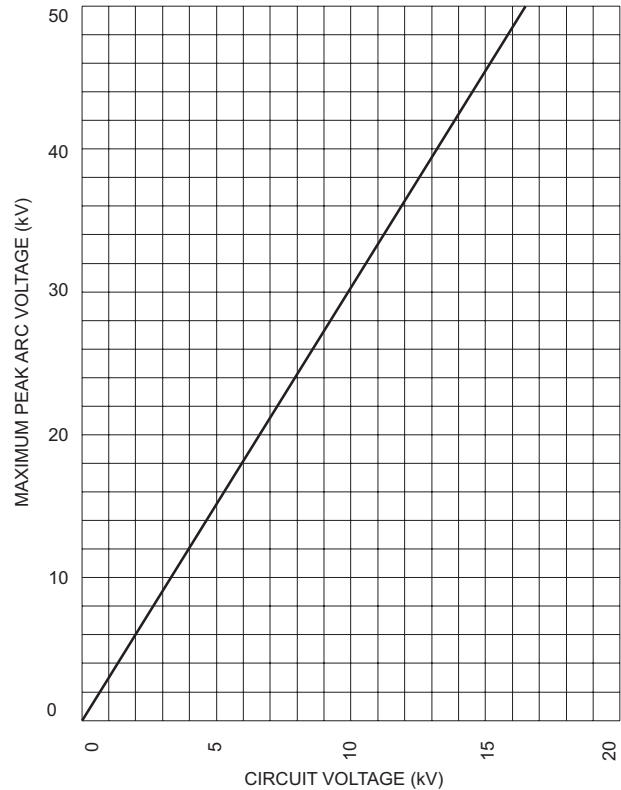


E-Rated Medium Voltage Fuses for Transformer and Feeder Protection

Max. Peak Let-through Current Curves



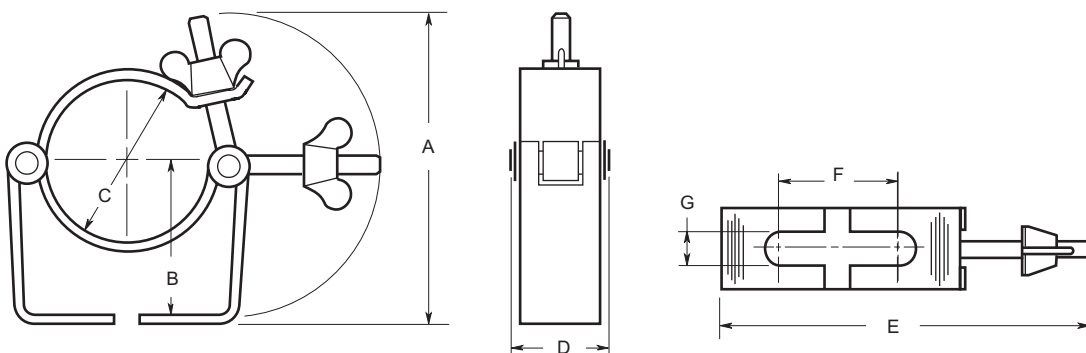
Maximum Peak Arc Voltage for E-Rated Full Range Power Fuse



Recommended Fuse Clips for Medium Voltage Fuses

Part No.	Fuse Diameter	Clip Dimensions - in						
		A	B	C	D	E	F	G
A3354710	2 inches	3.39	1.97	2.00	1.18	4.41	1.50	0.39
A3354730	3 inches	3.94	2.44	3.00	1.18	5.51	1.50	0.39

Fuseclips are for single barrel applications only.





These are a range of fuses with low current rating, for use with voltage transformers or operating transformers to provide isolation of the associated system in the event of faults in the transformer circuit.

Advantages of Edison Potential Transformer Fuses

Most fuses have two elements in parallel, ensuring satisfactory operation at much smaller values of overcurrent than is possible with single element fuse.

The elements are wound on a ceramic former, thus ensuring correct spacing of the elements from the body wall and from each other and hence giving assurance of correct operation in service.

Switching (arc) voltages comply with the IEC282-1.

Application Notes

1. In order to minimize the risk of deterioration of the fine fuse elements caused by corona, it is desirable to mount the fuses so that grounded metal is not in the immediate vicinity of the part of the barrel between the ferrules.
2. It is recommended that all three fuses are replaced when the fuse in one or two phases has operated unless it is definitely known that no overcurrent has passed through the unopened fuses.

AB & AM Series Fuses for Potential Transformers

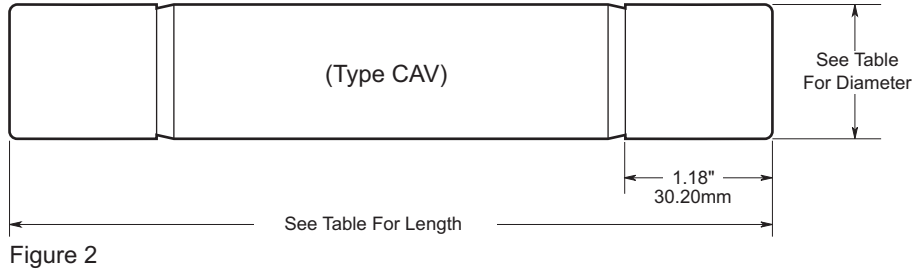
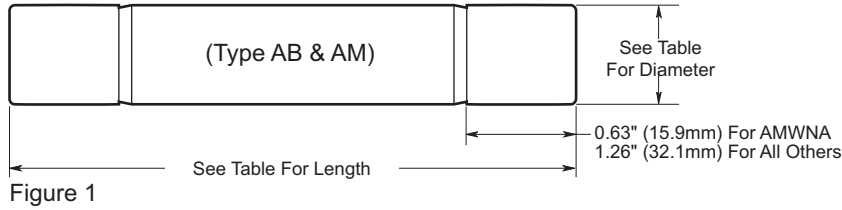
kV	Catalog Number	Amp Ratings	Type	Dimensions - inches (Figure 1)		IR
				Length	Diameter	
3.6	3.6ABWNA(amp)	3.15, 6.3	AB	5.6	1	50kA
3.6	3.6ABCNA(amp)	3.15, 6.3, 10	AB	7.69	1	
5.5	5.5ABWNA(amp)	0.5E, 1.0E, 2.0E, 3.0E, 5.0E	AB	5.6	1	
5.5	5.5AMWNA(amp)	0.5E, 1.0E, 2.0E, 3.0E, 4.0E, 5.0E	AM	5.6	0.81	
7.2	7.2ABWNA(amp)	3.15, 6.3	AB	5.6	1	
7.2	7.2ABCNA(amp)	3.15, 6.3	AB	7.69	1	
12.0	12ABCNA(amp)	3.15	AB	7.69	1	
15.5	15.5ABFNA(amp)	3.15	AB	10.00	1	
17.5	17.5ABGNA(amp)	3.15	AB	14.13	1	
24.0	24ABGNA(amp)	3.15	AB	14.13	1	
36.0*	36ABGNA(amp)	3.15	AB	14.13	1	

*For clean indoor applications only.

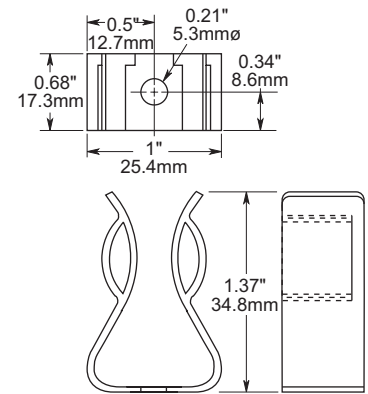
CAV Series Fuses for Potential Transformers

kV	Catalog Number	Amp Ratings	Type	Dimensions - inches (Figure 2)		IR
				Length	Diameter	
3.6	3.6CAV(amp)	2	8CAV	8.66	1.63	40kA
5.5	5.5CAV(amp)	15E	7CAV	7.375		
5.5	5.5CAVH(amp)	0.5E, 1E, 2E	7CAVH	7.375		
7.2	7.2CAV(amp)	2, 4, 6, 10	8CAV	8.66		
12	12CAV(amp)	2	8CAV	8.66		
15.5	15.5CAV(amp)	0.5E, 1E, 2E, 3E, 7E	12CAV	12.87		
15.5	15.5CAVH(amp)	0.5E, 1E, 2E	12CAVH	12.87		
17.5	17.5CAV(amp)	2, 4, 6, 10	8CAV	8.66		
24	24CAV(amp)	2, 3, 4	13CAV	13.39		
36	36CAV(amp)	2, 4	17CAV	17.32		
38	38CAV(amp)	4E	17CAV	17.32		
38	38CAVH(amp)	0.5E, 1E, 2E	17CAV	17.32		

Dimensions - in (mm)



Fuseclips



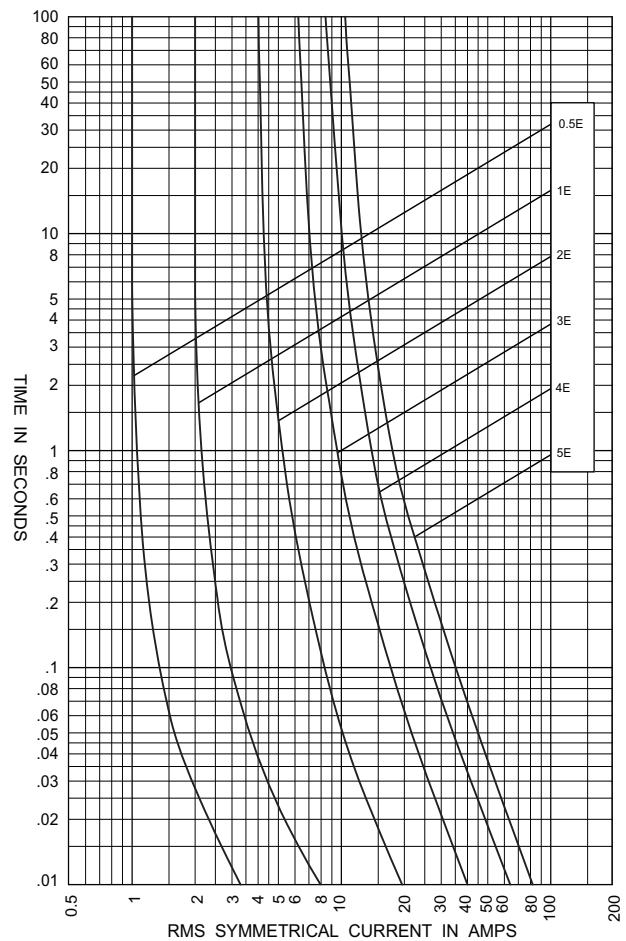
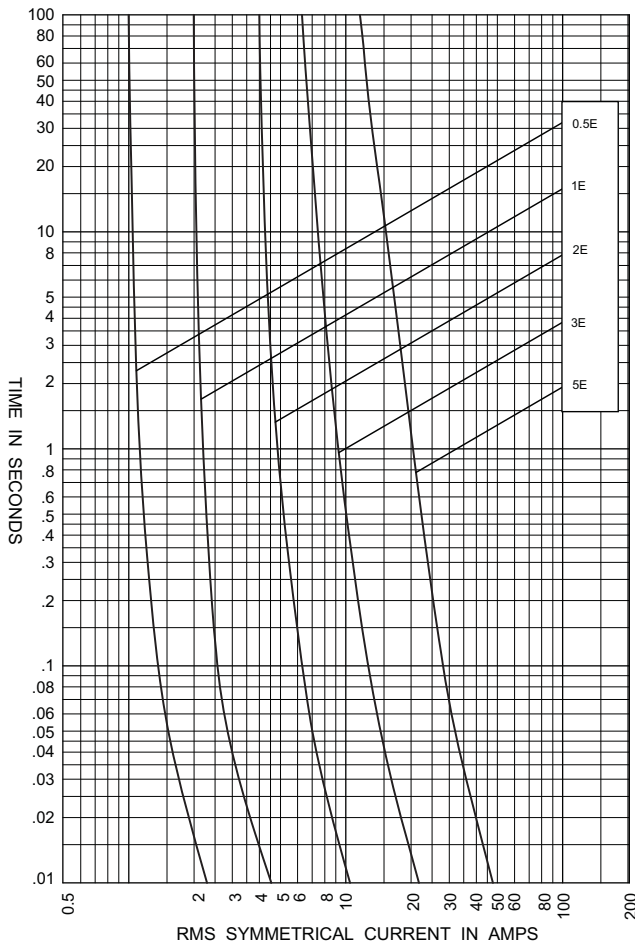
Part No. A3354705

For 1" diameter potential transformer fuses.

Time-Current Curves

5.5kV AMWNA

5.5kV ABWNA





DIN Dimension Fuses To Specification DIN 43.625

This product group covers current limiting fuses with dimensions to DIN 43.625 and performance in compliance with IEC 282-1.

Advantages of Edison High Voltage Current - Limiting Fuses

The low power dissipation of Edison fuses ensures low temperature rise of switchgear in which they are incorporated.

The elements use the 'M' (metallurgical) effect, similar to that used in low voltage fuses. This ensures that, with melting on long time overloads, excessive temperatures are not reached and damage to switchgear components, such as epoxy encapsulating enclosures, is thus prevented. Fuses that do not employ this feature are not only hotter running by comparison but also usually need to employ a higher current rating of fuse for the same service; thus an Edison 40A fuse is equivalent in terms of thermal performance to many other types of 63A rating.

Edison fuses exhibit considerable limitation of current and I^2t under short-circuit conditions. The stress on circuit components is thereby minimized and the reduction of energy release at the fault reduces fire risks.

Switching (arc) voltages are appreciably less than permitted values and fall with lower values of recovery voltage. The use of, for example, 12kV fuse on 6/7.2kV systems is therefore permissible.

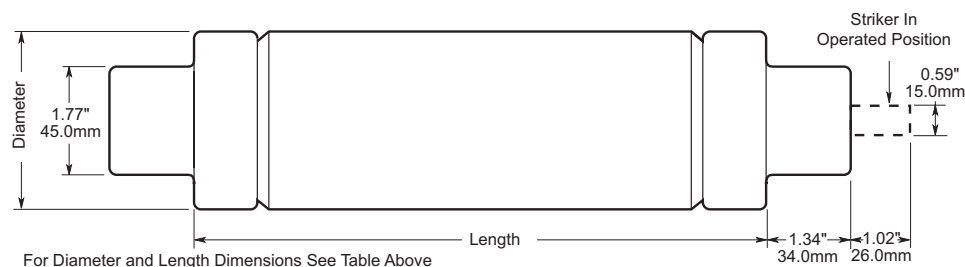
Striker Characteristics

The spring operated striker pin has a travel and energy output in compliance with the requirements of DIN 43625 and IEC 282-1.

Recommended Fuse Clipss:

Refer to page 122 in this catalog.

Dimensions - Inches (mm)



Ratings and Dimensions

kV	Catalog Numbers	Amp Ratings	Dimensions - in (mm) Diameter x Length	IR RMS Sym
3.6	3.6ADOSJ(amp)	6.3, 10, 16, 20, 25, 31.5, 40	2.00 x 7.56 (51 x 192)	50kA
	3.6WDOSJ(amp)	50, 63, 80, 100, 125	2.00 x 7.56 (51 x 192)	
	3.6WFOSJ(amp)	160, 200	3.00 x 7.56 (76 x 192)	
	3.6ADLSJ(amp)	25, 40	2.00 x 11.50 (51 x 292)	
	3.6WDLSJ(amp)	50, 63, 80, 100, 125	2.00 x 11.50 (51 x 292)	
	3.6WFLSJ(amp)	160, 200	3.00 x 11.50 (76 x 292)	
	3.6WKLSJ(amp)	250, 315, 400	3.00 x 11.50 (76 x 292)	
7.2	7.2DLSJ(amp)	6.3, 10, 16, 20, 25, 31.5, 40, 50, 63	2.00 x 11.50 (51 x 292)	40kA
	7.2TFLSJ(amp)	80, 100, 125, 160	3.00 x 11.50 (76 x 292)	
	7.2WKMSJ(amp)	200, 225, 250, 315, 355	3.00 x 17.41 (76 x 442)	
12	12TDLEJ(amp)	6.3, 10, 16, 20, 25, 31.5, 40, 50, 63	2.00 x 11.50 (51 x 292)	63kA
	12THLEJ(amp)	80, 100	2.52 x 11.50 (64 x 292)	
	12TKLEJ(amp)	125	3.00 x 11.50 (76 x 292)	
	12TXLEJ(amp)	160, 200	3.50 x 11.50 (88 x 292)	
17.5	17.5DLSJ(amp)	6.3, 10, 16, 20, 25, 31.5, 40	2.00 x 11.50 (51 x 292)	50kA
	17.5TFLSJ(amp)	50	3.00 x 11.50 (76 x 292)	35.5kA
	17.5DMEJ(amp)	6.3, 10, 16, 20, 25, 31.5, 40, 50, 63	2.00 x 17.41 (51 x 442)	50kA
	17.5THMEJ(amp)	80, 100	2.52 x 17.41 (64 x 442)	
	17.5TKMEJ(amp)	125	3.00 x 17.41 (76 x 442)	
24	24DMEJ(amp)	6.3, 10, 16, 20, 25, 31.5, 40, 50	2.00 x 17.41 (51 x 442)	50kA
	24THMEJ(amp)	63	2.52 x 17.41 (64 x 442)	
	24TFMEJ(amp)	80, 100	3.00 x 17.41 (76 x 442)	
	24TXMEJ(amp)	125, 160	3.46 x 17.41 (88 x 442)	
36	36DQSJ(amp)	3.15, 6.3, 10, 16, 20, 25	2.00 x 21.16 (51 x 537)	31.5kA
	36TFQSJ(amp)	31.5, 40, 50	3.00 x 21.16 (51 x 537)	35.5kA
	36TXQEJ(amp)	63	3.46 x 21.16 (88 x 537)	20kA

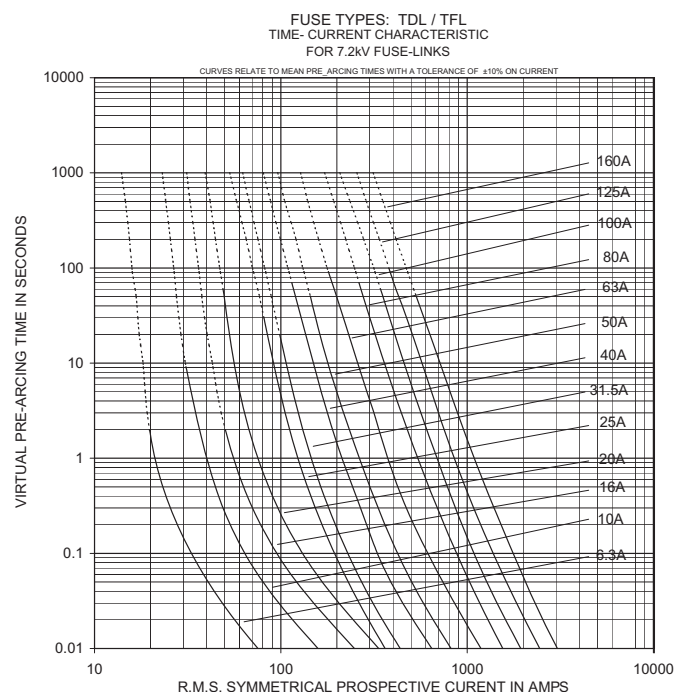
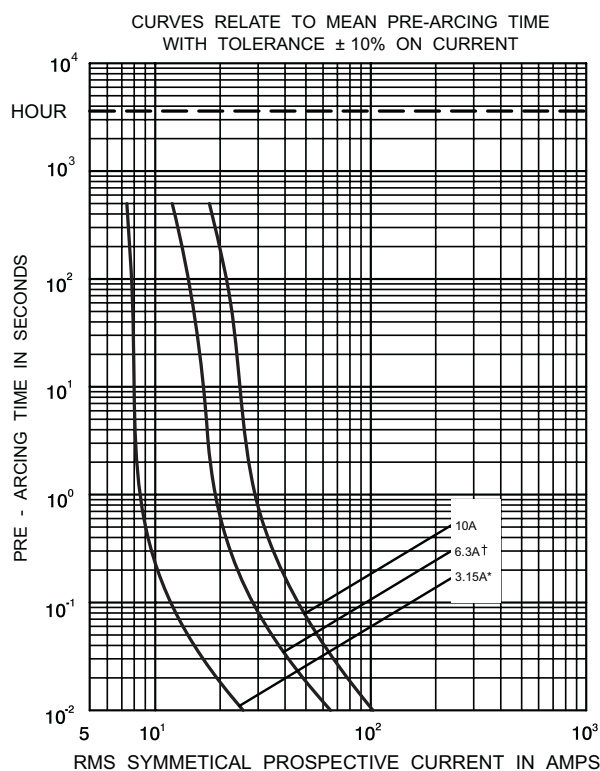
Time-Current Characteristics–Average

For 3.6kV Fuses:

- 3.6ADOS 3.6WDLS
- 3.6WDOS 3.6WFLS
- 3.6ADLS 3.6WKLS

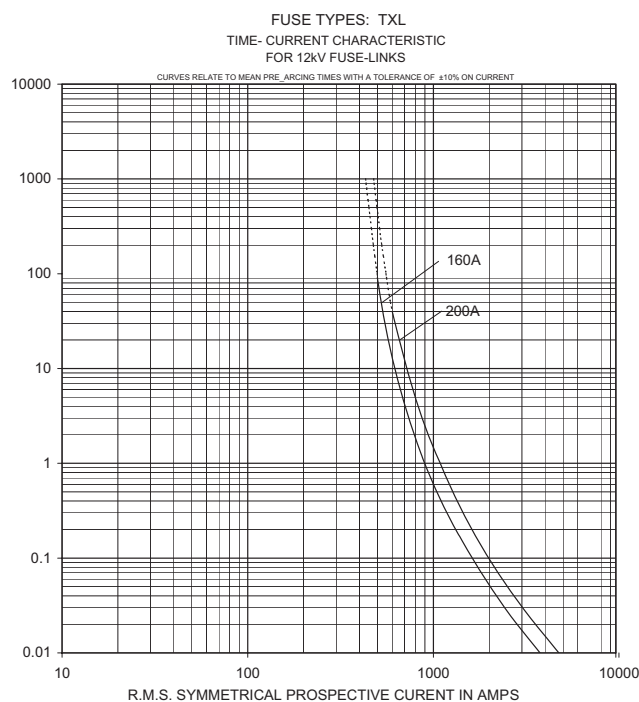
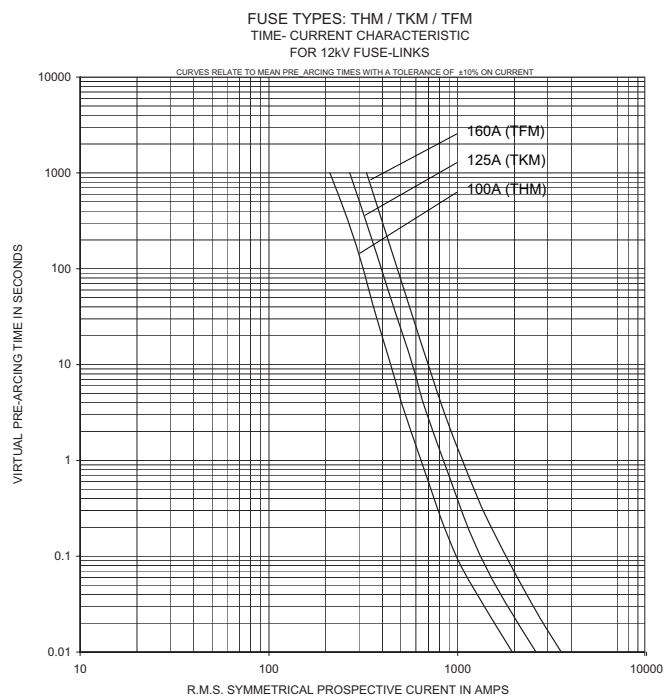
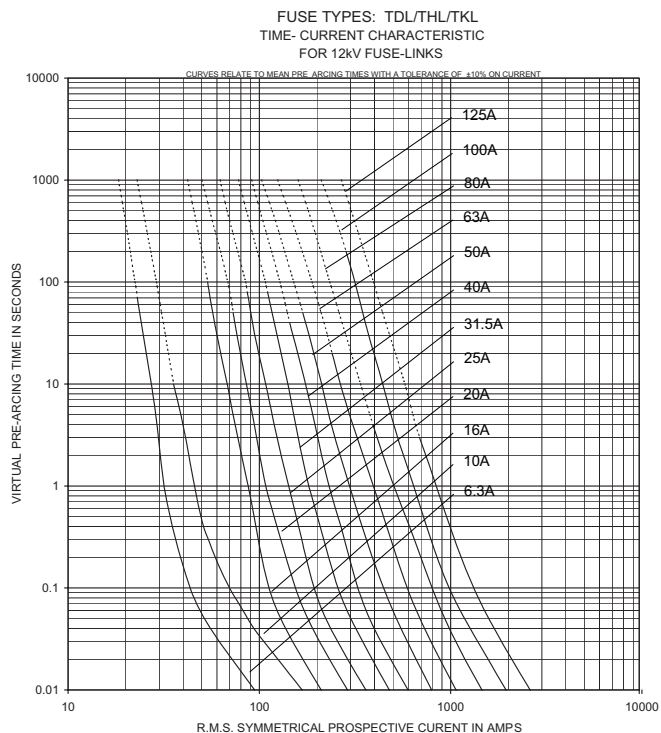
For 7.2kV Fuses:

- 7.2DLSJ
- 7.2TFLSJ
- 7.2WKMSJ



Time-Current Characteristics–Average

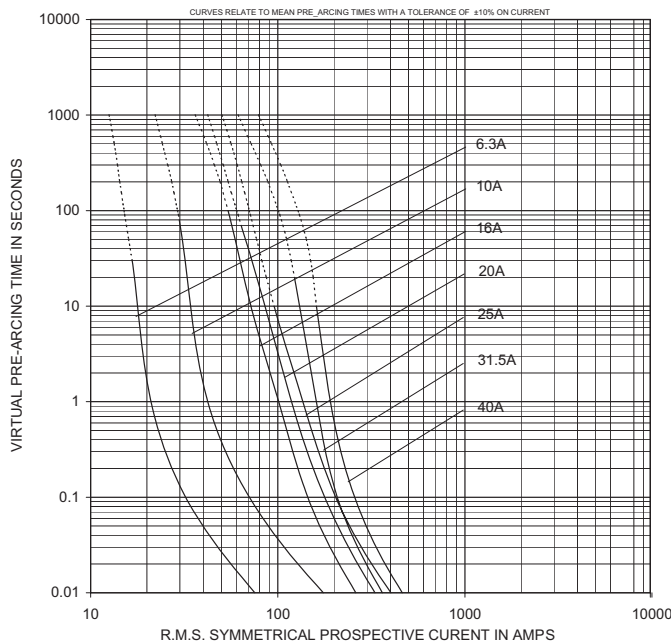
For 12kV Fuses: • 12TDLEJ • 12TXLEJ
• 12THLEJ
• 12TKLEJ



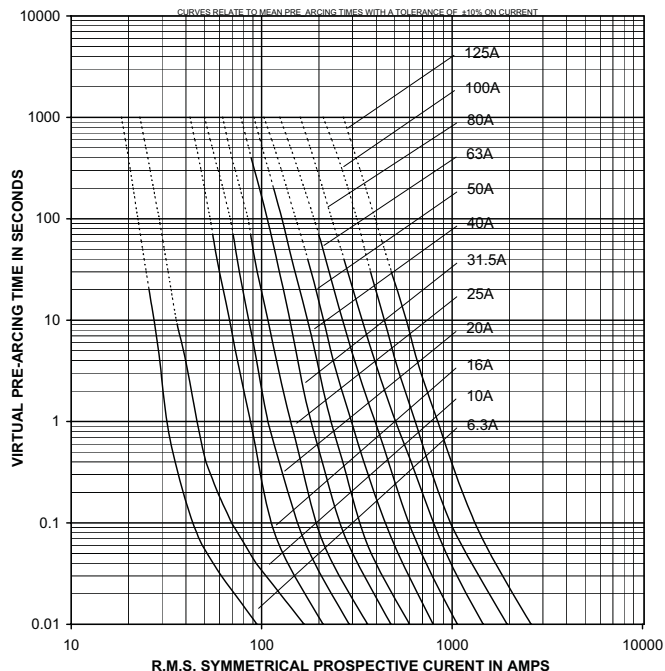
Time-Current Characteristics–Average

For 17.5kV Fuses: • 17.5TDLSJ • 17.5THMEJ
• 17.5TFLSJ • 17.5TKMEJ
• 17.5TDMEJ

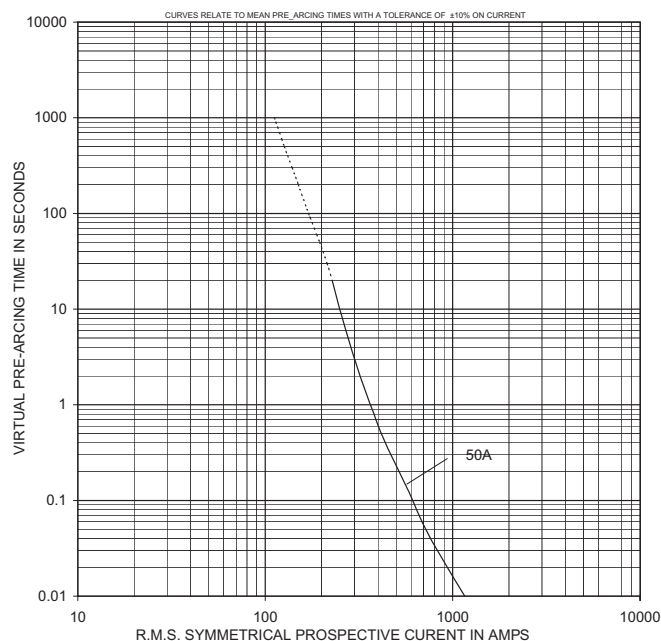
FUSE TYPES: TDL
TIME- CURRENT CHARACTERISTIC
FOR 17.5kV FUSE-LINKS



FUSE TYPES: TDM/THM/TKM
TIME- CURRENT CHARACTERISTIC
FOR 17.5kV FUSE-LINKS



FUSE TYPES: TFL
TIME- CURRENT CHARACTERISTIC
FOR 17.5kV FUSE-LINKS



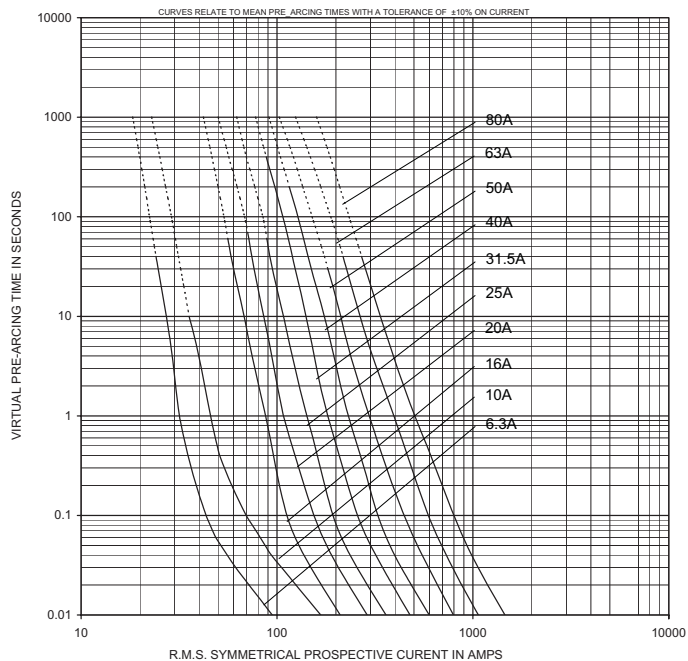
3.6kV – 36kV High Voltage DIN Distribution Fuses



Average Time-Current Curves

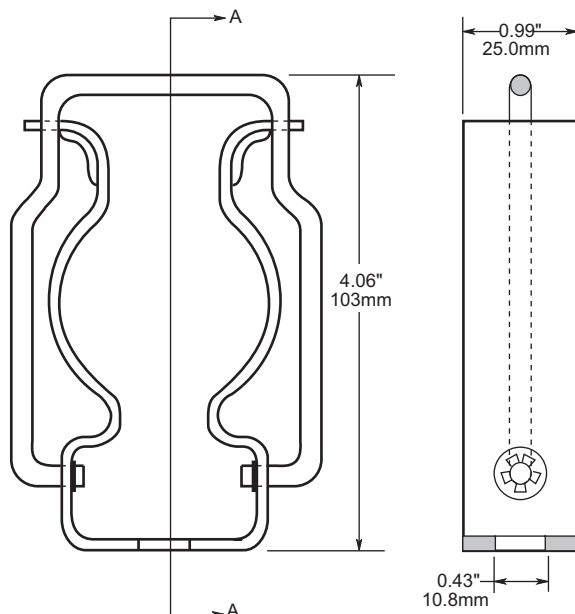
For 24-27.6kV Fuses: • 24TDMEJ • 24TXMEJ
• 24THMEJ
• 24TFMEJ

FUSE TYPES: TDM/THM/TFM
TIME- CURRENT CHARACTERISTIC
FOR 24kV FUSE-LINKS



DIN Fuseclips

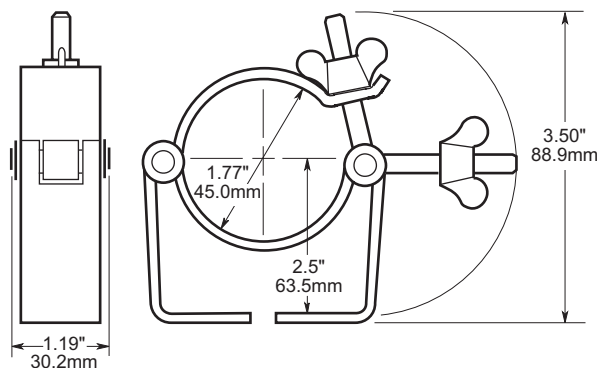
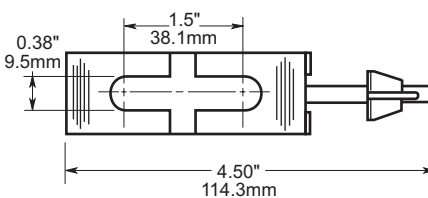
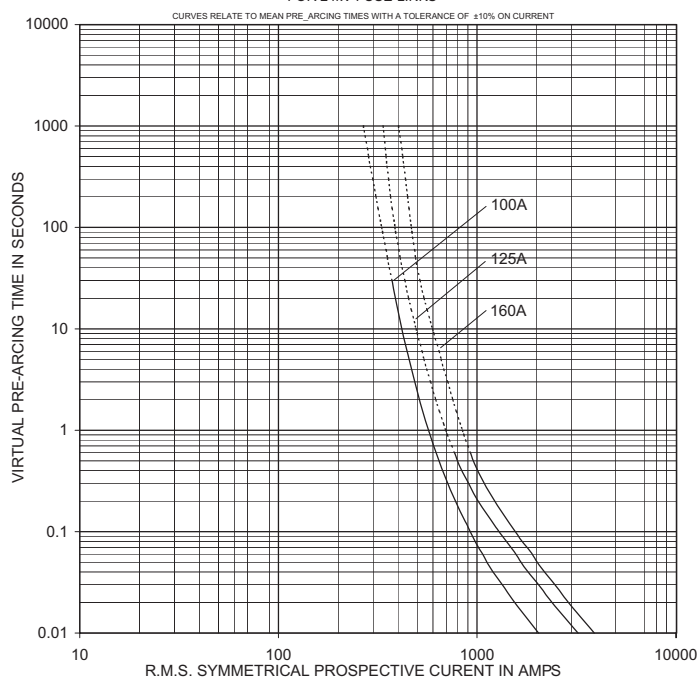
Suitable for use with all DIN HV fuses having 45mm end fittings.



Part No. 270303

For Standard Duty (up to 200A)

FUSE TYPES: TFM / TXM
TIME- CURRENT CHARACTERISTIC
FOR 24kV FUSE-LINKS



Part No. A3354745

Heavy Duty

General Guide to the Selection of Fuses.

For use in the Primary Circuit of Three-Phase Transformers

Transformer 3-ph kVA	Fuse Reference and Rating in Amps									
Fuse kV	3.6kV	7.2kV		12kV	17.5kV				24kV	
System kV	2.4kV	4.16kV	6.9kV	10kV	12.47kV	13.2kV	13.8kV	15.5kV	20kV	24kV
25	ADLSJ 16	TDLSJ 10	TDLSJ 6.3	TDLEJ 6.3	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3
30	ADLSJ 16	TDLSJ 10	TDLSJ 6.3	TDLEJ 6.3	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3
40	ADLSJ 20	TDLSJ 16	TDLSJ 10	TDLEJ 6.3	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3
45	ADLSJ 20	TDLSJ 16	TDLSJ 10	TDLEJ 6.3	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3
63	ADLSJ 31.5	TDLSJ 20	TDLSJ 16	TDLEJ 10	TDMEJ 10	TDMEJ 10	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3	TDMEJ 6.3
75	ADLSJ 40	TDLSJ 25	TDLSJ 16	TDLEJ 10	TDMEJ 10	TDMEJ 10	TDMEJ 10	TDMEJ 10	TDMEJ 6.3	TDMEJ 6.3
100	ADLSJ 40	TDLSJ 25	TDLSJ 20	TDLEJ 10	TDMEJ 10	TDMEJ 10	TDMEJ 10	TDMEJ 10	TDMEJ 10	TDMEJ 6.3
112	ADLSJ 40	TDLSJ 31.5	TDLSJ 20	TDLEJ 16	TDMEJ 10	TDMEJ 10	TDMEJ 10	TDMEJ 10	TDMEJ 10	TDMEJ 6.3
125	WDLSJ 50	TDLSJ 31.5	TDLSJ 25	TDLEJ 16	TDMEJ 10	TDMEJ 10	TDMEJ 10	TDMEJ 10	TDMEJ 10	TDMEJ 10
150	WDLSJ 50	TDLSJ 40	TDLSJ 25	TDLEJ 16	TDMEJ 16	TDMEJ 16	TDMEJ 16	TDMEJ 10	TDMEJ 10	TDMEJ 10
200	WDLSJ 63	TDLSJ 50	TDLSJ 31.5	TDLEJ 20	TDMEJ 16	TDMEJ 16	TDMEJ 16	TDMEJ 16	TDMEJ 10	TDMEJ 10
225	WDLSJ 80	TDLSJ 50	TDLSJ 40	TDLEJ 20	TDMEJ 16	TDMEJ 16	TDMEJ 16	TDMEJ 16	TDMEJ 10	TDMEJ 10
300	WDLSJ 100	TDLSJ 63	TDLSJ 40	TDLEJ 25	TDMEJ 20	TDMEJ 20	TDMEJ 20	TDMEJ 20	TDMEJ 16	TDMEJ 10
400	WDLSJ 125	TDLSJ 80	TDLSJ 50	TDLEJ 31.5	TDMEJ 31.5	TDMEJ 25	TDMEJ 25	TDMEJ 20	TDMEJ 20	TDMEJ 20
450	WFLSJ 160	TFLSJ 80	TDLSJ 63	TDLEJ 40	TDMEJ 31.5	TDMEJ 31.5	TDMEJ 31.5	TDMEJ 25	TDMEJ 20	TDMEJ 20
500	WFLSJ 160	TFLSJ 100	TDLSJ 63	TDLEJ 40	TDMEJ 31.5	TDMEJ 31.5	TDMEJ 31.5	TDMEJ 31.5	TDMEJ 25	TDMEJ 20
600	WFLSJ 200	TFLSJ 125	TFLSJ 80	TDLEJ 50	TDMEJ 40	TDMEJ 40	TDMEJ 40	TDMEJ 31.5	TDMEJ 25	TDMEJ 20
750	WKLSJ 250	TFLSJ 160	TFLSJ 80	TDLEJ 63	TDMEJ 50	TDMEJ 50	TDMEJ 40	TDMEJ 40	TDMEJ 31.5	TDMEJ 25
1000	WKLSJ 315	WKMSJ 200	TFLSJ 125	THLEJ 80	TDMEJ 63	TDMEJ 63	TDMEJ 63	TDMEJ 50	TDMEJ 40	TDMEJ 31.5
1250	WKLSJ 400	WKMSJ 250	TSFLSJ 160	THLEJ 100	TDMEJ 80	TDMEJ 80	TDMEJ 80	TDMEJ 63	TDMEJ 50	TDMEJ 40
1500	–	WKMSJ 315	TFLSJ 160	TKLEJ 125	TDMEJ 100	TDMEJ 100	TDMEJ 80	TDMEJ 80	THMEJ 63	TDMEJ 50
2000	–	–	WKMSJ 250	–	TKMEJ 125	TKMEJ 125	TKMEJ 125	TDMEJ 100	–	–
2500	–	–	WKMSJ 315	–	–	–	–	TKMEJ 125	–	–

Selection of these fuses has been based on a compromise between the following:

1. The fuse should withstand transformer magnetizing inrush currents, taken as 12 times full load current for 0.1 second.
2. The fuse should coordinate with the highest rating of the secondary fuse likely to be used.
3. The fuse should operate reasonably quickly in the event of a transformer inter-turn fault or a fault in the secondary terminal zone of the transformer.

NOTES:

- A. In general, the recommendations apply equally to the use of fuse in open air or in an encapsulated enclosure, since "1" and "2" above dictate the use of a fuse current rating sufficiently above the transformer current rating to nullify any adverse thermal affect of encapsulation. However, if the transformer is subjected to long time overcurrents, a higher rate of fuse may be required.
- B. The above recommendations are not generally applicable to transformers feeding motor circuits with starting currents in excess of the rated current of the fuse. In this event, please consult your local Edison representative.
- C. Recommendations for other voltages are available on request.
- D. While the above recommendations give a good general guide, recommendations for specific cases will be sent on receipt of full details of the application.