

ELF™ Current-Limiting Dropout Fuse

240-66

GENERAL

The Cooper Power Systems ELF™ Current-Limiting Dropout Fuse is a full range current-limiting fuse designed for mounting in an industry standard interchangeable cutout that is presently used for expulsion fuses. The ELF fuse is designed to be used to protect poletype transformers, single-phase and three-phase laterals and underground taps.

The full range current-limiting rating ensures reliable operation of all overloads and fault currents. The element construction consists of two separate sections (low-current section and high-current section) which are self-contained in one housing. The low-current section provides consistent, reliable clearing of all currents high enough to melt the element. The high-current section is a punched-hole ribbon design which controls peak arc voltage levels and limits both current and energy (I^2t) let-through levels during high-current fault clearing operation.

The ELF dropout fuse operates silently, unlike expulsion fuses. In addition, the explosive shower that exists with an expulsion fuse operation is eliminated. This offers increased safety to line personnel during circuit energization operations. In addition, the reliable drop open design* makes locating the fault easy.

PRODUCTION TESTS

Tests are conducted on 100% of production in accordance with Cooper Power Systems requirements.

- Physical Inspection
- I^2t Testing
- Resistance Testing
- Helium Mass Spectrometer Leak Testing



Figure 1.
ELF Current-Limiting Dropout Fuses.

INSTALLATION

The ELF fuse is designed to be mounted in 15 kV rated, 95 kV or 125 kV BIL and 27 kV rated, 125 kV or 170 kV BIL interchangeable open distribution cutouts including S & C Type XS, A.B. Chance Type C, Joslyn Type L and ABB Type ICX cutouts. It is easily hookstick installed due to its small size. Refer to Service Literature Section S240-66-1 for Installation Instructions.

*Patent applied for.

ELF™ Current-Limiting Dropout Fuse

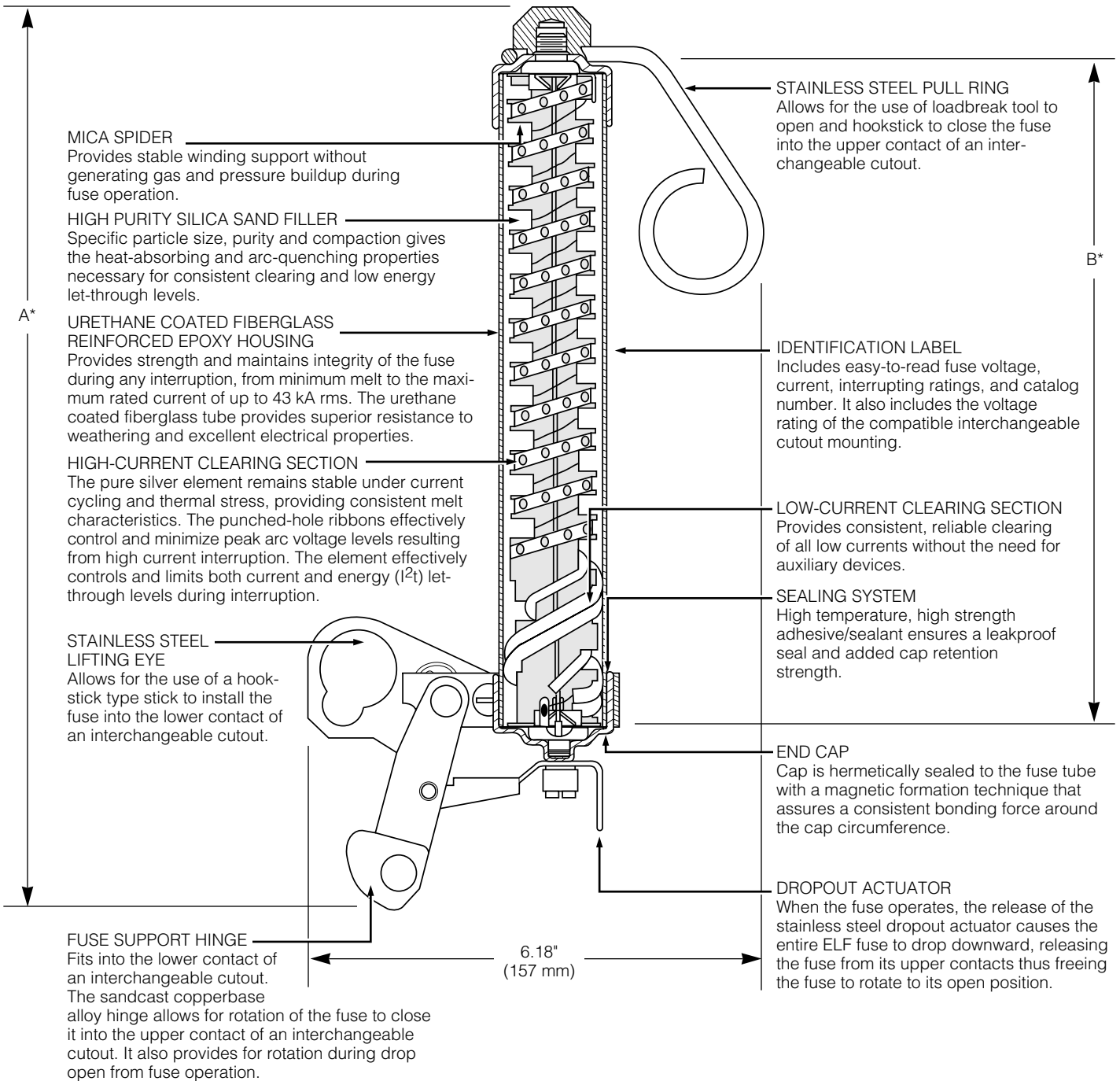


Figure 2.
Line illustration of single-barrel ELF fuse cutaway with dimensions.

* See Table 5, 6, or 7 for dimensions A and B.

TABLE 1
ELF Fuse Electrical Ratings and Characteristics

Fuse Ratings		Cutout Rating		Continuous Current Ratings (A) ^a			Minimum Melt I ² t (A ² • s)	Maximum Clear I ² t (A ² • s)	Maximum Interrupting Current (A rms symmetrical)
Voltage (kV)	Current (A)	Voltage (kV)	BIL (kV)	25°C	40°C	55°C			
8.3	6	15.0	95	8	7	6	520	4550	31000
8.3	8	15.0	95	12	11	11	1150	6500	31000
8.3	12	15.0	95	18	17	16	1150	7000	31000
8.3	18	15.0	95	25	24	23	1350	8600	31000
8.3	20	15.0	95	27	26	25	2000	11700	31000
8.3	25	15.0	95	34	33	31	2900	17000	31000
8.3	30	15.0	95	43	41	39	4000	20000	31000
8.3	40	15.0	95	50	48	46	8000	39000	31000
8.3	50*	15.0	95	68	65	62	16000	65000	31000
8.3	65*	15.0	95	78	75	71	20000	100000	31000
8.3	80*	15.0	95	95	91	87	32000	150000	31000
15.0	6	15.0	95	8	7	6	520	4550	20000
15.0	8	15.0	95	12	11	11	1150	6500	20000
15.0	12	15.0	95	18	17	16	1150	7000	20000
15.0	18	15.0	95	25	24	23	1350	8600	20000
15.0	20	15.0	95	27	26	25	2000	11700	20000
8.3	6	27	125	8	7	6	520	4550	31000
8.3	8	27	125	12	11	11	1150	6500	31000
8.3	12	27	125	18	17	16	1150	7000	31000
8.3	18	27	125	25	24	23	1350	8600	31000
8.3	20	27	125	27	26	25	2000	11700	31000
8.3	25	27	125	34	33	31	2900	17000	31000
8.3	30	27	125	43	41	39	4000	20000	31000
8.3	40	27	125	50	48	46	8000	39000	31000
8.3	50*	27	125	68	65	62	16000	65000	31000
8.3	65*	27	125	78	75	71	20000	100000	31000
8.3	80*	27	125	95	91	87	32000	150000	31000
15.0**	6	27	125	8	7	6	520	4550	43000
15.0**	8	27	125	12	11	11	1150	6500	43000
15.0**	12	27	125	18	17	16	1150	7000	43000
15.0**	18	27	125	25	24	23	1350	8600	43000
15.0**	20	27	125	27	26	25	2000	11700	43000
15.0**	25	27	125	34	33	31	2900	17000	43000
15.0	30	27	125	43	41	39	5100	25000	20000
15.0**	30*	27	125	43	41	39	5100	25000	43000
15.0**	40*	27	125	50	48	46	8000	39000	43000
15.0**	50*	27	125	68	65	62	16000	65000	43000
23.0	6	27	125	8	7	6	520	5200	31000
23.0	8	27	125	12	11	11	1150	7000	31000
23.0	12	27	125	18	17	16	1150	8000	31000
23.0	18	27	125	25	24	23	1350	10000	31000
23.0	20	27	125	27	26	25	2000	14000	31000
23.0	25*	27	125	34	33	31	2900	20000	13000
23.0	30*	27	125	43	41	39	5100	30000	13000
24.0	6	27	170	8	7	6	520	5200	13000
24.0	8	27	170	12	11	11	1150	7000	13000
24.0	12	27	170	18	17	16	1150	8000	13000
24.0	18	27	170	25	24	23	1350	10000	13000
24.0	20	27	170	27	26	25	2000	14000	13000

Notes: a-For temperatures other than listed, a deration factor of 0.26% per°C can be applied.

* Double-barrel design

** 15kV, 125 kV BIL, 6 through 25 A (single barrel part numbers FAK44W6 through FAK44W25) and 30 through 50 A (double barrel part numbers FAK44W30P, FAK44W40, and FAK44W50) have been tested and approved for 17.2 kV application.

ELF™ Current-Limiting Dropout Fuse

TABLE 2
Recommended ELF Current-Limiting Dropout Fuse Voltage Ratings

System Voltage (kV)		Recommended Fuse Ratings (kV)			
Nominal	Maximum	Four-Wire Multi-Grounded Neutral		Three-Wire Wye or Delta	
		Single-Phase	Three-Phase	Single-Phase (Line-to-Line)	Three-Phase
2.4	2.54	–	–	8.3	8.3
4.16/2.4	4.4/2.54	8.3	8.3	–	–
4.16	4.4	–	–	8.3	8.3
4.8	5.08	–	–	8.3	8.3
6.9	7.26	–	–	8.3	8.3
7.2	7.62	–	–	8.3	8.3
7.97	8.4	–	–	8.3	8.3
8.32/4.8	8.8/5.08	8.3	8.3	–	–
11.0	12.0	–	–	15	15
12.0/6.93	12.7/7.33	8.3	15 or 8.3 ^a	–	–
12.47/7.2	13.2/7.62	8.3	15 or 8.3 ^a	–	–
12.47	13.2	–	–	15	15
13.2/7.62	13.97/8.07	8.3	15 or 8.3 ^a	–	–
13.2	13.97	–	–	15	15
13.8/7.97	14.52/8.38	8.3	15 or 8.3 ^a	–	–
13.8	14.52	–	–	15	15
14.4	15.24	–	–	15	15
16.3	17.1	–	–	15 ^c	15 ^c
20.78/12.0	22.0/12.7	15	23 or 15 ^a	–	–
22.0	24.0	–	–	23 ^b	23 ^b
22.86/13.2	24.2/13.97	15	23 or 15 ^a	–	–
23.0	24.34	–	–	23 ^b	23 ^b
24.9/14.4	26.4/15.24	15	15 ^{a,c}	–	–
34.5/19.92	36.5/21.08	23	–	–	–

Notes: a- This lower voltage fuse rating may be used if either of the following conditions are met:

- 1) If the probability of a line-to-line or a three-phase ungrounded fault is very low.

-or-

- 2) If all of the below conditions are met:

- If the probability of a three-phase ungrounded primary fault is very low.
- If a secondary breaker or other series connected device is used to interrupt secondary faults.
- If no more than 50% of the secondary load is delta connected.
- If the line-to-line primary fault current is high enough to assure simultaneous operation of two fuses by melting at a maximum of 0.2 seconds.

b- A 23 kV rated fuse is recommended where 125 kV BIL interchangeable cutout mountings are used and a 24 kV rated fuse is recommended where 170 kV BIL interchangeable cutout mountings are used.

c- 15 kV, 125 kV BIL, 6 through 25 A (single barrel part numbers FAK44W6 through FAK44W25) and 30 through 50 A (double barrel part numbers FAK44W30P, FAK44W40, and FAK44W50) are recommended for this application.

TABLE 3
Recommendations for Distribution Transformers in Single-Phase Applications (Refer to Figure 3 for primary voltage connections, Figures A and D.)

Fuse Voltage	8.3 kV		8.3 kV		8.3 kV		8.3 kV	
System Voltage	2400 Δ		4160 Y/2400		4800 Δ		8320 Y/4800	
Single-Phase Transformer Size (kVA)	Figure A		Figure D		Figure A		Figure D	
	Rated Amps	Fuse Rating	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings
10	4.17	6	4.17	6	2.08	6 ^a	2.08	6 ^a
15	6.25	12 ^a	6.25	12 ^a	3.13	6	3.13	6
25	10.42	18	10.42	18	5.21	8	5.21	8
37.5	15.63	20	15.63	20	7.81	12	7.84	12
50	20.83	30	20.83	30	10.42	18	10.42	18
75	31.25	40	31.25	40	15.63	20	15.63	20
100	41.67	50	41.67	50	20.83	30	20.83	30
167	69.58	80	69.58	80	34.79	50	34.79	50
250	104.17	—	104.17	—	52.08	65	52.08	65
333	138.75	—	138.75	—	69.38	80	69.38	80

Fuse Voltage	8.3 kV		8.3 kV		8.3 kV		15.0 kV	
System Voltage	7200 Δ		12470 Y/7200		13200 Y/7620		12000 Δ	
Single-Phase Transformer Size (kVA)	Figure A		Figure D		Figure D		Figure A	
	Rated Amps	Fuse Rating	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings
10	1.39	6 ^a	1.39	6 ^a	1.31	6 ^a	.83	6 ^a
15	2.08	6 ^a	2.08	6 ^a	1.97	6 ^a	1.25	6 ^a
25	3.47	6	3.47	6	3.28	6	2.08	6 ^a
37.5	5.21	8	5.21	8	4.92	8	3.13	6
50	6.94	12 ^a	6.94	12 ^a	6.56	12 ^a	4.17	6
75	10.42	18	10.42	18	9.84	18 ^a	6.25	12 ^a
100	13.89	20	13.89	20	13.12	18	8.33	12
167	23.19	30	23.19	30	21.92	30	13.92	20
250	34.72	50	34.72	50	32.81	40 ^b	20.83	30
333	46.25	65	46.25	65 ^c	43.70	50	27.75	40
500	69.44	80	69.44	80 ^c	65.62	80 ^c	41.67	50

Fuse Voltage	15.0 kV		15.0 kV		15.0 kV		23.0 kV	
System Voltage	13200 Δ		14400 Δ		24940 Y/14400		34500Y/19920	
Single-Phase Transformer Size (kVA)	Figure A		Figure A		Figure D		Figure D	
	Rated Amps	Fuse Rating	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings
10	.76	6 ^a	.69	6 ^a	.69	6 ^a	.50	6 ^a
15	1.14	6 ^a	1.04	6 ^a	1.04	6 ^a	.75	6 ^a
25	1.89	6 ^a	1.74	6 ^a	1.74	6 ^a	1.25	6 ^a
37.5	2.84	6 ^a	2.60	6 ^a	2.60	6 ^a	1.88	6 ^a
50	3.79	6	3.47	6	3.47	6	2.51	6 ^a
75	5.68	8	5.21	8	5.21	8	3.77	6
100	7.58	12	6.94	12 ^a	6.94	12 ^a	5.02	8
167	12.65	18	11.60	18	11.60	18	8.38	12
250	18.94	25	17.36	25	17.36	25	12.55	18
333	25.23	30	23.13	30	23.13	30	16.72	25
500	37.88	50	34.72	50	34.72	50	25.10	30

Notes: Recommended fuse ratings are based on the use of Cooper Power Systems ELF fuse time-current characteristics in R240-91-42 (dated 9/95), R240-91-43 (dated 5/96), and R240-91-44 (dated 9/95).

Recommendations provide overload protection (fusing ratio) between 200-300% rated load.

$$\text{Fusing Ratio} = \frac{\text{Fuse Min. Melt Current at 300 sec.}}{\text{Transformer Full Load Current}} \times 100$$

a - Fuse allows more than 300% load for 300 seconds.

b - 8.3 kV rated fuse is a single-barrel fuse, 15 kV rated fuse is a double-barrel fuse.

c - Available only at 8.3 kV.

ELF™ Current-Limiting Dropout Fuse

TABLE 4†
Recommendations for Distribution Transformers in Three-Phase Applications (Refer to Figure 3 for primary voltage connections, Figures B, C, E, and F.)

Fuse Voltage	8.3 kV				8.3 kV		8.3 kV				8.3 kV	
System Voltage	2400 Δ				4160 Y/2400		4800 Δ				8320 Y/4800	
Single-Phase kVA	Figure B*		Figure C		Figures E* and F		Figure B*		Figure C		Figures E* and F	
	Rated Amps	Fuse Rating	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings
10	4.17	6	7.22	12 ^a	4.17	6	2.08	6 ^a	3.61	6	2.08	6 ^a
15	6.25	12 ^a	10.83	18	6.25	12 ^a	3.13	6	5.41	8	3.13	6
25	10.42	18	18.04	25	10.42	18	5.21	8	9.02	12	5.21	8
37.5	15.63	20	27.06	40	15.63	20	7.81	12	13.53	18	7.84	12
50	20.83	30	36.09	50	20.83	30	10.42	18	18.04	25	10.42	18
75	31.25	40	54.13	80	31.25	40	15.63	20	27.06	40	15.63	20
100	41.67	50	72.17	—	41.67	50	20.83	30	36.08	50	20.83	30
167	69.58	80	120.28	—	69.58	80	34.79	50	60.14	80	34.79	50
250	104.17	—	180.42	—	104.17	—	52.08	65	90.21	—	52.08	65
333	138.75	—	240.56	—	138.75	—	69.38	80	120.28	—	69.38	80

Fuse Voltage	8.3 kV				15.0 kV or 8.3 kV ^d		15.0 kV or 8.3 kV ^d		15.0 kV			
System Voltage	7200 Δ				12470 Y/7200		13200 Y/7620		12000 Δ			
Single-Phase kVA	Figure B*		Figure C		Figures E* and F		Figures E* and F		Figure B*		Figure C	
	Rated Amps	Fuse Rating	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings
10	1.39	6 ^a	2.41	6 ^a	1.39	6 ^a	1.31	6 ^a	.83	6 ^a	1.44	6 ^a
15	2.08	6 ^a	3.61	6	2.08	6 ^a	1.97	6 ^a	1.25	6 ^a	2.17	6 ^a
25	3.47	6	6.01	8	3.47	6	3.28	6	2.08	6 ^a	3.61	6
37.5	5.21	8	9.02	12	5.21	8	4.92	8	3.13	6	5.41	8
50	6.94	12 ^a	12.03	18	6.94	12 ^a	6.56	12 ^a	4.17	6	7.22	12 ^a
75	10.42	18	18.04	25	10.42	18	9.84	18 ^a	6.25	12 ^a	10.83	18
100	13.89	20	24.06	30	13.89	20	13.12	18	8.33	12	14.43	20
167	23.19	30	40.10	50	23.19	30	21.92	30	13.92	20	24.06	30
250	34.72	50	60.14	80	34.72	50	32.81	40 ^b	20.83	30	36.08	50
333	46.25	65	80.19	—	46.25	65 ^c	43.70	50	27.75	40	48.11	50
500	69.44	80	120.28	—	69.44	80 ^c	65.62	80 ^c	41.67	50	72.17	—

Fuse Voltage	15.0 kV				15.0 kV				15 kV ^{d, e}			
System Voltage	13200 Δ				14400 Δ				24940 Y/14400			
Single-Phase kVA	Figure B*		Figure C		Figure B*		Figure C		Figures E* and F			
	Rated Amps	Fuse Rating	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings	Rated Amps	Fuse Ratings
10	.76	6 ^a	1.31	6 ^a	.69	6 ^a	1.20	6 ^a	.69	6 ^a	.69	6 ^a
15	1.14	6 ^a	1.97	6 ^a	1.04	6 ^a	1.80	6 ^a	1.04	6 ^a	1.04	6 ^a
25	1.89	6 ^a	3.28	6	1.74	6 ^a	3.01	6	1.74	6 ^a	1.74	6 ^a
37.5	2.84	6	4.92	8	2.60	6 ^a	4.51	8 ^a	2.60	6 ^a	2.60	6 ^a
50	3.79	6	6.56	12 ^a	3.47	6	6.01	8	3.47	6	3.47	6
75	5.68	8	9.84	18 ^a	5.21	8	9.02	12	5.21	8	5.21	8
100	7.58	12	13.12	25	6.94	12 ^a	12.03	18	6.94	12 ^a	6.94	12 ^a
167	12.65	18	21.87	30	11.60	18	20.05	25	11.60	18	11.60	18
250	18.94	25	32.80	50	17.36	25	30.07	40	17.36	25	17.36	25
333	25.23	30	43.74	—	23.13	30	40.09	50	23.13	30	23.13	30
500	37.88	50	65.61	—	34.72	50	60.14	—	34.72	50	34.72	50

*The recommended fuse sizes for this connection are based on equal size transformers in the bank. If a larger transformer is used in the bank for supplying single-phase loads, the fuse selections should be based on the larger transformer kVA.

† See notes on page 7.

Notes (Table 4): Recommended fuse ratings are based on the use of Cooper Power Systems ELF fuse time-current characteristics in R240-91-42 (dated 9/95), R240-91-43 (dated 5/96), and R240-91-44 (dated 9/95).

Recommendations provide overload protection (fusing ratio) between 200-300% rated load.

$$\text{Fusing Ratio} = \frac{\text{Fuse Min. Melt Current at 300 sec.}}{\text{Transformer Full Load Current}} \times 100$$

a - Fuse allows more than 300% load for 300 seconds.

b - 8.3 kV rated fuse is a single-barrel fuse, 15 kV rated fuse is a double-barrel fuse.

c - Available only at 8.3 kV.

d - This lower voltage fuse rating may be used if either of the following conditions are met:

- 1) If the probability of a line-to-line or a three-phase ungrounded fault is very low.

-or-

2) If all of the below conditions are met:

- If the probability of a three-phase ungrounded primary fault is very low.
- If a secondary breaker or other series connected device is used to interrupt secondary faults.
- If no more than 50% of the secondary load is delta connected.
- If the line-to-line primary fault current is high enough to assure simultaneous operation of two fuses by melting at a maximum of 0.2 seconds.

e - 15 kV, 125 kV BIL 6 through 25 A (single-barrel part numbers FAK44W6 through FAK44W25) and 30 through 50 A (double-barrel part numbers FAK44W30P, FAK44W40, and FAK44W50) are recommended for this application.

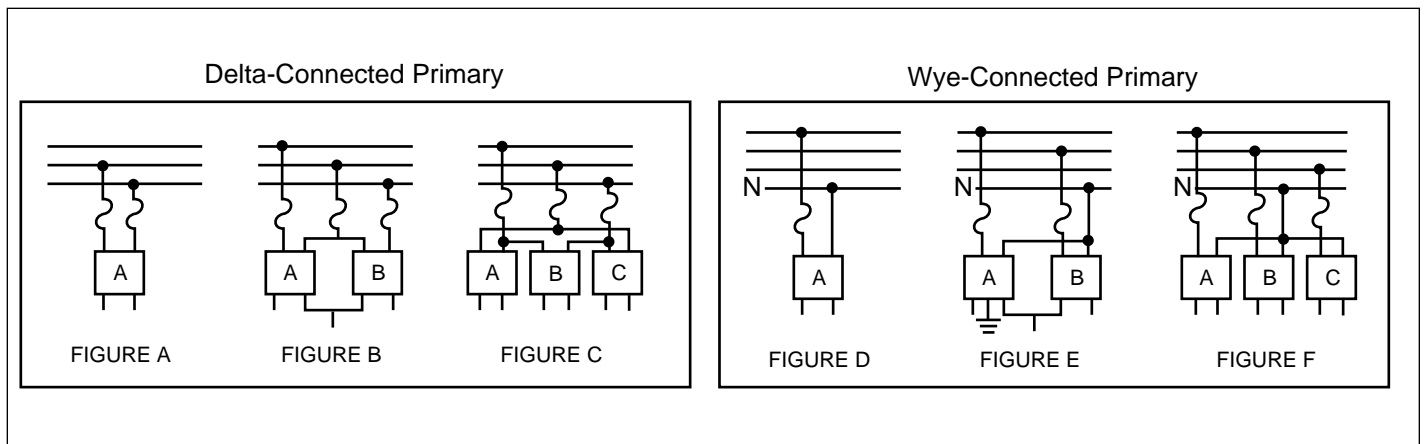


Figure 3.
Schematic of primary voltage system connections.

ELF™ Current-Limiting Dropout Fuse

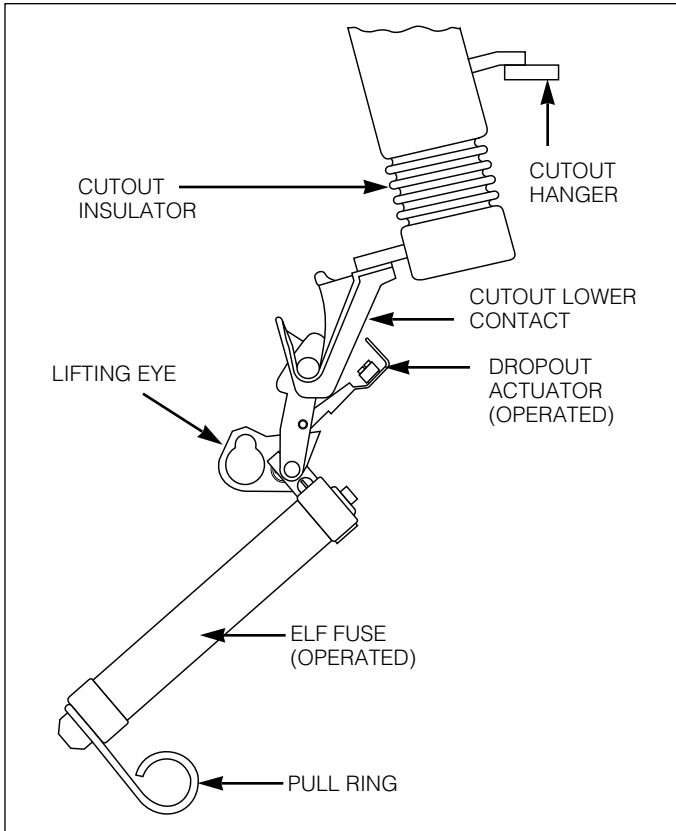


Figure 4.
ELF fuse in interchangeable cutout after dropping open due to operation of dropout actuator.

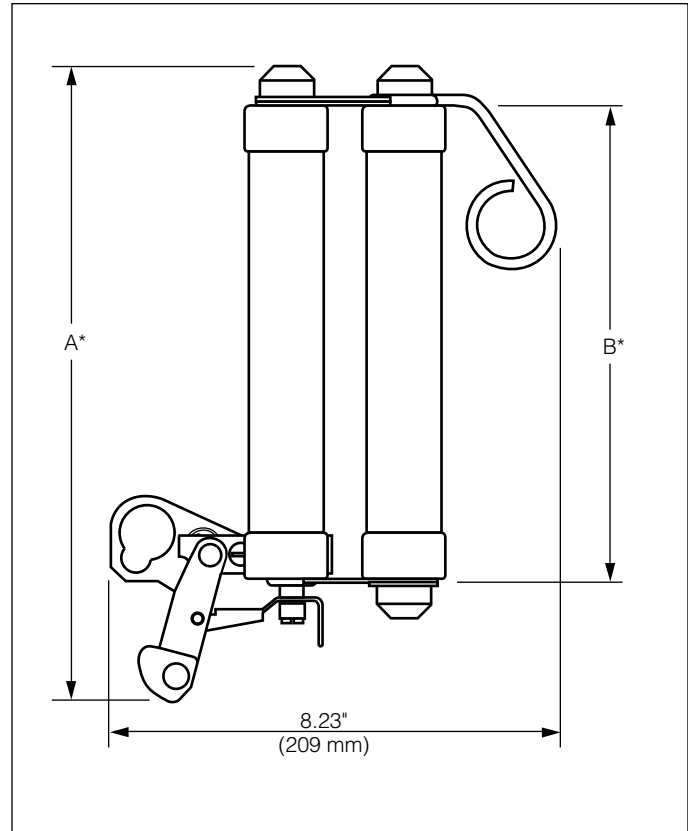


Figure 5.
Double-barrel ELF fuse dimensions.

*See Table 5, 6, or 7 for dimensions A and B.

OPERATION

When the ELF fuse clears a fault, the dropout actuator operates and allows the fuse to drop open in the cutout. (Refer to Figure 4.)

ORDERING INFORMATION

To order a Cooper Power Systems ELF Current-Limiting Dropout Fuse, determine the amperage rating and the voltage ratings of the application, specify required fuse from Table 5, 6, or 7.

TABLE 5
ELF Current-Limiting Dropout Fuse Catalog Numbers for 15 kV, 95 kV BIL Interchangeable Cutouts

Fuse Rating		ELF Fuse Catalog No.	Figure	Dimensions	
Voltage (kV)	Current Rating (A)			A	B
8.3	6	FAK23W6	2	11.84" (300mm)	8.83" (224 mm)
8.3	8	FAK23W8	2	11.84" (300mm)	8.83" (224 mm)
8.3	12	FAK23W12	2	11.84" (300mm)	8.83" (224 mm)
8.3	18	FAK23W18	2	11.84" (300mm)	8.83" (224 mm)
8.3	20	FAK23W20	2	11.84" (300mm)	8.83" (224 mm)
8.3	25	FAK23W25	2	11.84" (300mm)	8.83" (224 mm)
8.3	30	FAK23W30	2	11.84" (300mm)	8.83" (224 mm)
8.3	40	FAK23W40	2	11.84" (300mm)	8.83" (224 mm)
8.3	50	FAK23W50*	5	11.84" (300mm)	8.83" (224 mm)
8.3	65	FAK23W65*	5	11.84" (300mm)	8.83" (224 mm)
8.3	80	FAK23W80*	5	11.84" (300mm)	8.83" (224 mm)
15.0	6	FAK24W6	2	11.84" (300mm)	8.83" (224 mm)
15.0	8	FAK24W8	2	11.84" (300mm)	8.83" (224 mm)
15.0	12	FAK24W12	2	11.84" (300mm)	8.83" (224 mm)
15.0	18	FAK24W18	2	11.84" (300mm)	8.83" (224 mm)
15.0	20	FAK24W20	2	11.84" (300mm)	8.83" (224 mm)

* Double-barrel design

TABLE 6
ELF Current-Limiting Dropout Fuse Catalog Numbers for 15 kV, 125 kV BIL and 27 kV, 125 kV BIL Interchangeable Cutouts

Fuse Rating		ELF Fuse Catalog No.	Figure	Dimensions	
Voltage (kV)	Current Rating (A)			A	B
8.3	6	FAK43W6	2	15.35" (310 mm)	12.34" (313 mm)
8.3	8	FAK43W8	2	15.35" (310 mm)	12.34" (313 mm)
8.3	12	FAK43W12	2	15.35" (310 mm)	12.34" (313 mm)
8.3	18	FAK43W18	2	15.35" (310 mm)	12.34" (313 mm)
8.3	20	FAK43W20	2	15.35" (310 mm)	12.34" (313 mm)
8.3	25	FAK43W25	2	15.35" (310 mm)	12.34" (313 mm)
8.3	30	FAK43W30	2	15.35" (310 mm)	12.34" (313 mm)
8.3	40	FAK43W40	2	15.35" (310 mm)	12.34" (313 mm)
8.3	50	FAK43W50*	5	15.35" (310 mm)	12.34" (313 mm)
8.3	65	FAK43W65*	5	15.35" (310 mm)	12.34" (313 mm)
8.3	80	FAK43W80*	5	15.35" (310 mm)	12.34" (313 mm)

15.0**	6	FAK44W6	2	15.35" (390 mm)	12.34" (313 mm)
15.0**	8	FAK44W8	2	15.35" (390 mm)	12.34" (313 mm)
15.0**	12	FAK44W12	2	15.35" (390 mm)	12.34" (313 mm)
15.0**	18	FAK44W18	2	15.35" (390 mm)	12.34" (313 mm)
15.0**	20	FAK44W20	2	15.35" (390 mm)	12.34" (313 mm)
15.0**	25	FAK44W25	2	15.35" (390 mm)	12.34" (313 mm)
15.0	30	FAK44W30	2	15.35" (390 mm)	12.34" (313 mm)
15.0**	30	FAK44W30P*	5	15.35" (390 mm)	12.34" (313 mm)
15.0**	40	FAK44W40*	5	15.35" (390 mm)	12.34" (313 mm)
15.0**	50	FAK44W50*	5	15.35" (390 mm)	12.34" (313 mm)

23.0	6	FAK45W6	2	15.35" (390 mm)	12.34" (313 mm)
23.0	8	FAK45W8	2	15.35" (390 mm)	12.34" (313 mm)
23.0	12	FAK45W12	2	15.35" (390 mm)	12.34" (313 mm)
23.0	18	FAK45W18	2	15.35" (390 mm)	12.34" (313 mm)
23.0	20	FAK45W20	2	15.35" (390 mm)	12.34" (313 mm)
23.0	25	FAK45W25*	5	15.35" (390 mm)	12.34" (313 mm)
23.0	30	FAK45W30*	5	15.35" (390 mm)	12.34" (313 mm)

* Double-barrel design

**15kV, 125 kV BIL, 6 through 25 A (single barrel part numbers FAK44W6 through FAK44W25) and 30 through 50 A (double barrel part numbers FAK44W30P, FAK44W40, and FAK44W50) have been tested and approved for 17.2 kV application.

TABLE 7
ELF Current-Limiting Dropout Fuse Catalog Numbers for 27 kV, 170 kV BIL Interchangeable Cutouts

Fuse Rating		ELF Fuse Catalog No.	Figure	Dimensions	
Voltage (kV)	Current Rating (A)			A	B
24.0	6	FAK46W6	2	18.8" (478mm)	15.7" (399 mm)
24.0	8	FAK46W8	2	18.8" (478mm)	15.7" (399 mm)
24.0	12	FAK46W12	2	18.8" (478mm)	15.7" (399 mm)
24.0	18	FAK46W18	2	18.8" (478mm)	15.7" (399 mm)
24.0	20	FAK46W20	2	18.8" (478mm)	15.7" (399 mm)

ADDITIONAL INFORMATION

Refer to the following reference literature for application recommendations:

- R240-66-1 ELF Fuse Coordination Tables with Protecting Fuse Links
- R240-66-2 ELF Fuse Coordination Tables with Protected Fuse Links
- R240-91-42 8.3 kV ELF Fuse Time-Current Characteristic Curves
- R240-91-43 15.0 kV ELF Fuse Time-Current Characteristic Curves
- R240-91-44 23.0 kV ELF Fuse Time-Current Characteristic Curves
- CP-9415 ELF Certified Test Report

Contact your Cooper Power Systems representative for future information.

