Fusing Equipment
Catalog Data
CA132033EN

Effective August 2015
Supersedes 240-80 June 2008

COOPER POWER SERIES

ELG current-limiting power fuse

General

Eaton's Cooper Power™ series ELG power fuse is a full-range general purpose current-limiting fuse that provides consistent clearing of low currents as well as reliable high speed interruption of high magnitude short-circuit currents. Its current-limiting capability limits both peak current magnitude and fault duration, thus limiting the total I^2t let-through energy of the short circuit.

The ELG fuse is designed to meet the needs of stringent industrial and utility applications. The high interrupting capacity and reduced let-through energy provide for excellent equipment protection.

ELG fuses are used to protect power transformers, feeders and other equipment that can benefit from their energy-limiting properties.

Noiseless operation and the lack of expulsion by-products make them ideal for indoor application in confined spaces. They fit in a standard power fuse mountings and are suitable for indoor and outdoor fuse installations. The "E" rated fuses have time-current characteristics that coordinate easily with other upstream and downstream protective devices.

Installation

No special tools are required. The ELG fuse is designed for indoor and outdoor mounting in industry standard in-air clip mountings and fused disconnect switches. See *Service Information S240-80-1 ELG Current-Limiting Power Fuse Installation Instructions* and the fuse mounting manufacturer's instructions for details.

Production tests

Tests are conducted on 100 percent of production in accordance with Eaton requirements.

- Physical Inspection
- I^2t Testing
- Resistance Testing

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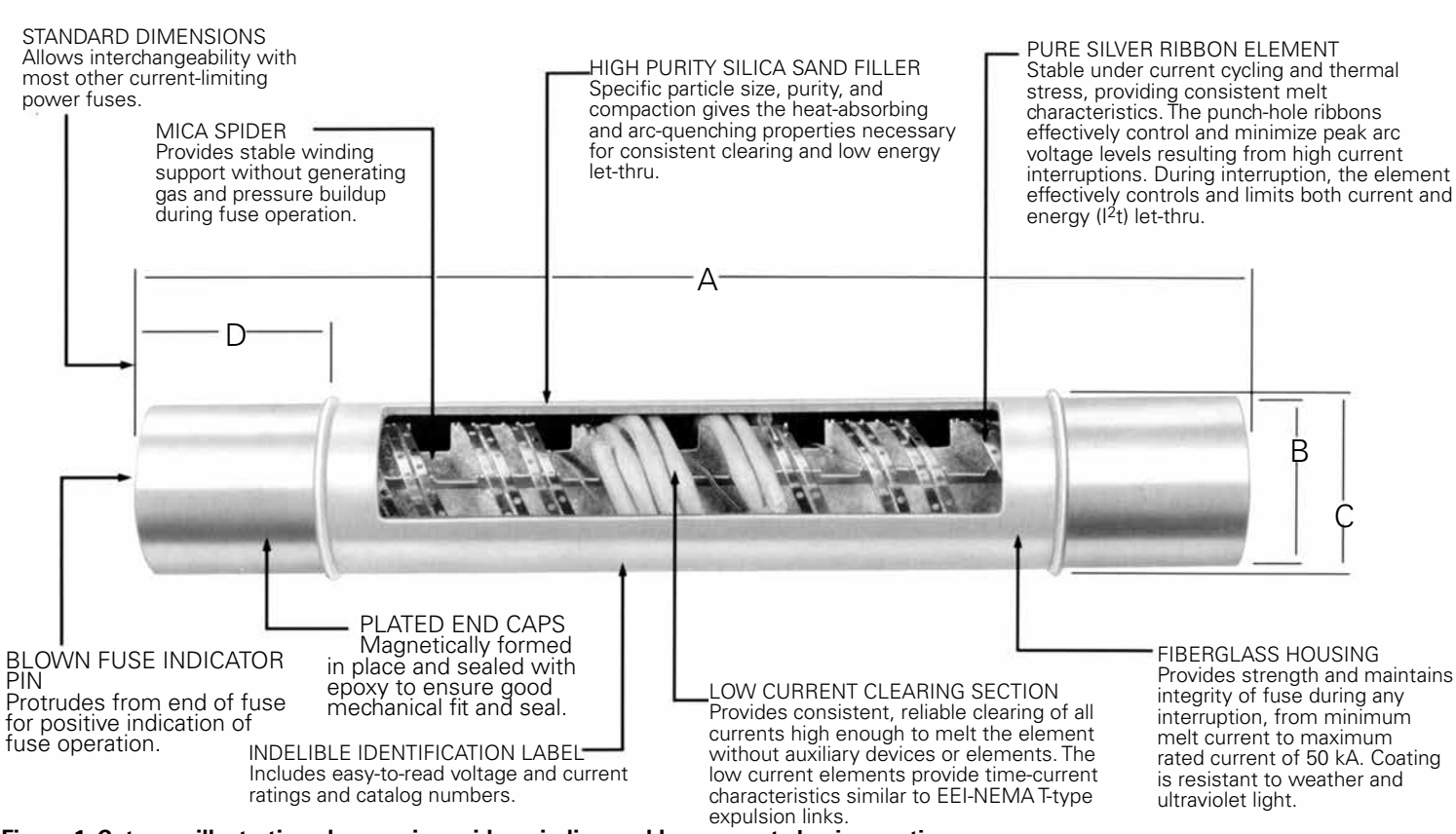

Figure 1. Cutaway illustration shows mica spider winding and low current clearing section.

Note: Dimensions given are for reference only.

Table 1. Electrical Ratings and Characteristics

Fuse Type:	General Purpose (Full Range), "E" Rated
Voltage and Current Ratings	
8.3 kV	8 A through 125 A
Maximum Interrupting Current	50,000 A rms symmetrical

Tests are conducted in accordance with IEEE Std C37.41™ standard.

Table 2. Minimum Melt and Maximum Clear I^2t Levels

		8.3 kV Fuses	
"E"* Rating (A)	Continuous Current Rating (A)*	Minimum Melt (A^2 * s)	Maximum Clear (A^2 * s)
Mounting Code C			
8	12	1,460	9,800
10	15	1,460	9,800
15	25	2,280	13,800
20	30	2,280	13,800
25	34	3,280	27,300
30	46	9,110	53,400
40	60	9,110	53,400
50	62	13,120	69,200
65	70	17,860	96,700
Mounting Code D			
15	25	–	–
20	30	2,280	13,800
25	34	3,280	27,300
30	46	9,110	53,400
40	60	9,110	53,400
50	65	13,120	69,200
65	80	17,860	96,700
80	100	40,190	130,000
100	120	71,440	220,000
125	140	110,630	420,000
150	160	–	–

* At 25 °C ambient temperature

Table 3. Insulator or Clip Spacing Dimensional Information

Description	Dimension in./(mm)
8.3 kV	12 in. (305 mm)

Table 4. Fuse Dimensional Information

	Dimensions in./(mm)			
Maximum kV	**A**	**B**	**C**	**D**
Mounting Code C				
8.3	14.14 (359)	2.00 (51)	2.20 (56)	2.25 (57)
Mounting Code D				
8.3	15.86 (403)	3.00 (76)	3.25 (83)	3.12 (79)

Ordering information

To order an ELG power fuse, determine the amperage, voltage, and mounting requirements of the application and specify the fuse required from Table 5.

Table 5. ELG Fuse

	8.3 kV	
"E" Rating (A)	**Item Number**	**Catalog Number**
Mounting Code C		
8	F8ELG8C	3583008M02M
10	F8ELG10C	3583010M02M
15	F8ELG15C	3583015M02M
20	F8ELG20C	3583020M02M
25	F8ELG25C	3583025M02M
30	F8ELG30C	3583030M02M
40	F8ELG40C	3583040M02M
50	F8ELG50C	3583050M02M
65	F8ELG65C	3583065M02M
Mounting Code D		
15	–	–
20	F8ELG20D	3583020M01M
25	F8ELG25D	3583025M01M
30	F8ELG30D	3583030M01M
40	F8ELG40D	3583040M01M
50	F8ELG50D	3583050M01M
65	F8ELG65D	3583065M01M
80	F8ELG80D	3583080M01M
100	F8ELG100D	3583100M01M
125	F8ELG125D	3583125M01M
150	–	–

Method A

Using the correlation charts

Use Tables 6 and 7 to determine the amperage of the fuse required for the application. Then use Table 5 to determine the fuse catalog number. Correlation is based on IEEE Std C57.92™ standard Loading Guide, IEEE Std C57.109™ standard Through-Fault Guide, and *Reference Data TD132004EN Pad-Mounted Transformer Fusing Philosophies*.

Contact your Eaton representative for further information or other applications.

Method B

Using TCC curves

To determine or confirm the ELG fuse that will coordinate with upstream and downstream system requirements, use the time-current characteristic curves and specify the fuse indicated from Table 5. For full size TCC curves, refer to R240-91-90.

Table 6. Recommended Fuse Current Ratings at 100% Loading

	8.3 kV						
	Nominal Three-Phase Voltage (kV) Phase-to-Phase						
Three-Phase Transformer kVA	7.2	7.62	8.32	12.0-12.47[a]	13.2[a]	13.8[a]	14.4[a]
30	–	–	–	–	–	–	–
45	8	8	–	–	–	–	–
75	8	8	8	8	8	–	–
112.5	8	8	8	8	8	8	8
150	15	15	10	8	8	8	8
225	20	20	15	10	10	10	8
300	25	25	20	15	15	15	15
500	40	40	40	25	25	20	20
750	80	65	65	40	30	30	30
1000	80	80	80	50	50	40	40
1500	125	125	125	80	80	80	80
2000	–	–	–	100	100	80	80
2500	–	–	–	125	125	125	100

Table 7. Recommended Fuse Current Ratings at 150% Loading

	8.3 kV						
	Nominal Three-Phase Voltage (kV) Phase-to-Phase						
Three-Phase Transformer kVA	7.2	7.62	8.32	12.0, 12.47[a]	13.2[a]	13.8[a]	14.4[a]
30	–	–	–	–	–	–	–
45	8	8	8	–	–	–	–
75	8	8	8	8	8	–	–
112.5	15	15	15	8	8	8	8
150	20	20	20	10	10	10	8
225	25	25	25	15	15	15	15
300	40	40	40	20	20	20	20
500	65	65	65	40	30	30	30
750	80	80	80	50	50	50	40
1000	125	125	125	65	65	65	65
1500	125	–	–	125	100	100	80
2000	–	–	–	–	–	125	125

Note: Recommended fuses meet inrush criteria of 25 times transformer full load current for 0.01 second, 12 times transformer full load for 0.1 second and 3 times transformer full load for 10 seconds.

a. Recommended fuse is 8.3 kV rated and is limited to gnd Y/gnd Y transformer with no more than 50% delta connected secondary load. Phase-to-ground rated fuses are frequently recommended for Y-Y connections. 8.3 kV rated fuses cannot be used above 8.32 kV for delta applications.

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