

Current sensing Bay-O-Net fuse link



General

Eaton protects both distribution apparatus from damaging currents and distribution systems from failed apparatus with its Cooper Power series current sensing Bay-O-Net fuse link that is used in Eaton's Cooper Power series Bay-O-Net fuse assemblies (see *Catalog CA132015EN Sidewall-Mounted and Cover-Mounted Bay-O-Net Fuse Assembly*). They are used on single-phase conventional and self-protected distribution transformers and other apparatus rated through 500 kVA, and on three-phase equipment through 1500 kVA.

A Bay-O-Net fuse is ideal for use in a two-fuse protection scheme with a current-limiting backup fuse. In this arrangement, secondary faults and overload currents are cleared by the Bay-O-Net fuse, and high level faults are cleared by the current-limiting fuse. The two fuses are connected in series, and are coordinated so that the current-limiting fuse operates only upon internal equipment failure. (See *Catalog CA132013EN ELSP Current-Limiting Backup Fuse* to order an ELSP current-limiting backup fuse.) If the Bay-O-Net fuse will not be used in series with a current-limiting fuse, an isolation link is required. (See *Catalog CA132012EN Isolation Link*.)

Bay-O-Net fuses are comparable in cost to internal cartridge fuses but have the advantages of being field-replaceable. Bay-O-Net fuses can easily be coordinated with upstream devices.

INSTALLATION

No special tools are required. A hotstick is used to remove the Bay-O-Net fuse cartridge holder from non-pressurized apparatus. The fuse cartridge is then replaced, and the holder reinserted using a hotstick. Refer to *Service Information MN132002EN Bay-O-Net Fuse Re-fusing Installation Instructions* for re-fusing instructions.

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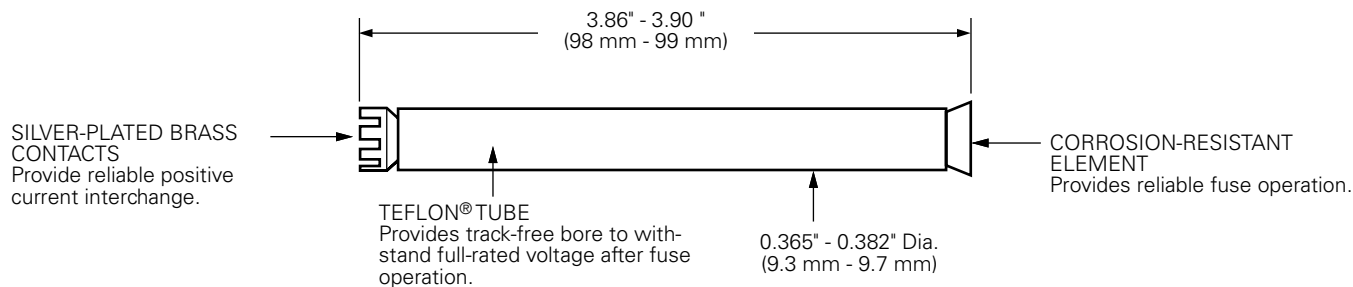


Figure 1. Fuse Link features and dimensional information.

Note: Dimensions given are for reference only.

Table 1. Electrical Ratings and Characteristics

Voltage (kV)	Catalog Number	Maximum Single-Phase Interrupting Rating*		
		Cover-Mounted Assembly (rms symmetrical) in Mineral Oil	Sidewall-Mounted Assembly (rms symmetrical) in Mineral Oil	Sidewall-Mounted Assembly (rms symmetrical) in Envirotemp™ FR3™ Fluid
8.3	353C04-C08	3500 A	3500 A	3500 A
	353C10-C12	3500 A	3500 A	2500 A
	353C14-C17	3500 A	3500 A	3500 A
15.5	353C04-C08	2500 A	2500 A	2500 A
	353C10-C12	2500 A	2500 A	1500 A
	353C14-C17	2500 A	2500 A	2500 A
23.0	353C04-C17	1000 A	1000 A	1000 A

* In Eaton's Cooper Power series Bay-O-Net assemblies only. Where available fault current exceeds rated value, coordinated current-limiting fusing such as an ELSF (Catalog CA132013EN) or approved equivalent must be provided.

Table 2. Bay-O-Net Fuse Link

Continuous Current Rating (A)	Catalog Number*
6	4000353C04
10	4000353C06
15	4000353C08
25	4000353C10
40	4000353C12
65	4000353C14
100	4000353C16
140	4000353C17

* Add suffix "B" to order individual fuse; add "M" to order bag of 50.

Ordering information

To order a current sensing Bay-O-Net fuse link, determine the requirements of the application from Tables 3 and 4 and specify the fuse required from Table 2.

Method A

Using the Correlation Charts

Use Tables 3 and 4 to complete catalog number 4000353___. For 19.9 kV single-phase and 34.5 kV three-phase applications, an ELSP current-limiting backup fuse is recommended. (See Catalog CA132013EN for more information.)

If the Bay-O-Net link is not used with a current-limiting fuse, an isolation link is required. (See Catalog CA132012EN).

Correlation is based on IEEE Std C57.92™-1981 standard, Loading Guide, IEEE Std C57.109™-1993 standard, Through-Fault Guide, and Reference Data TD132004EN Pad-Mounted Transformer Fusing Philosophies.

Table 3. Single-Phase Transformer (Phase-to-Ground) Applications^a

Transformer kVA	Transformer Primary Voltage (kV)										
	2.4	4.16	4.8	7.2	7.62	8.32	12.0	12.47	13.2	13.8	14.4
10	C06*	C04*	C04*	C04*	C04*	C04*	C04*	C04*	C04*	C04*	C04*
15	C08*	C06*	C06*	C04*	C04*	C04*	C04*	C04*	C04*	C04*	C04*
25	C10*	C08*	C06	C06*	C04*	C04*	C04*	C04*	C04*	C04*	C04*
37.5	C10	C08	C08	C06	C06	C06	C06*	C06*	C04*	C04*	C04*
50	C12	C10	C10*	C08*	C08*	C08*	C06*	C06*	C06*	C06*	C06*
75	C14*	C12*	C10	C10*	C10	C08*	C08*	C08*	C08*	C06	C06
100	C14	C12	C12	C10	C10	C10	C08	C08	C08	C08	C08*
167	C17*	C14*	C14*	C12	C12	C12	C10	C10	C10	C10	C10
250	—	C16	C16*	C14*	C14*	C14*	C12	C12	C12	C12*	C12*
333	—	C17*	C17*	C16*	C14	C14*	C14*	C12	C12	C12	C12
500	—	—	—	C17*	C17*	C16	C14	C14*	C14*	C14*	C14*

Table 4. Three-Phase Transformer (Phase-to-Phase) Applications^a

Transformer kVA	Transformer Primary Voltage (kV)									
	2.4	4.16	4.8	8.32	12.0, 12.47	13.2	13.8, 14.4	20.8 ^b	22.9 ^b	24.94 ^b
45	C10*	C08*	C06	C06*	C04*	C04*	C04*	C04*	C04*	C04*
75	C12*	C10*	C08	C06	C06*	C06*	C06*	C04*	C04*	C04
112.5	C12	C10	C10	C08	C06	C06	C06	C06*	C04*	C04
150	C14*	C12	C12*	C10*	C08*	C08*	C08*	C06*	C06*	C06
225	C16*	C14*	C12	C10	C10*	C10*	C08	C08*	C08*	C06
300	C17*	C14	C14*	C12	C10	C10	C10	C08	C08	C08
500	—	C17*	C16	C14*	C12	C12	C12	C10	C10	C10
750	—	—	C17	C16*	C14*	C14*	C14*	C12	C12	C12
1000	—	—	—	C17*	C16*	C14	C14	C14*	C12	C12
1500	—	—	—	—	C17*	C17*	C16	C14	C14*	C14*
2000	—	—	—	—	—	C17	C17	C16*	C16*	C16*
2500	—	—	—	—	—	—	—	C17*	C17*	C16

Note: Recommendations are based on fuse melting at 3 to 4 times transformer rated current at 5 minutes. Recommended fuses meet inrush current requirement of 12 times transformer rated current for 0.1 second.

* Recommended fuses provide more than 4 times transformer rated current for 5 minutes.

a. Bay-O-Net links alone should not be used at voltages greater than 17100 V for delta configurations or 24940 gnd Y/14400. For applications through 23 kV delta or 34500 gnd Y/19920, a 23 kV rated ELSP fuse (Catalog CA132013EN) is recommended in series with the Bay-O-Net link.

b. Recommended fuse is limited to gnd Y/gnd Y transformer with less than 50% delta loading.

Method B

Using Time-Current Curves

To determine or confirm the current sensing Bay-O-Net fuse that will coordinate with upstream and downstream system requirements, use time-current characteristic curves and specify the fuse indicated from Table 2.

For full size TCC curves R240-91-50, contact your Eaton representative.

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For Eaton's Cooper Power series Bay-O-Net fuse link product information call 1-877-277-4636 or visit: www.cooperpower.com.