

DISTRIBUTION SOLUTIONS

Fuse-links type CEF

Rated voltages: 3/7.2 kV – 20/36 kV

Rated currents: 6.3 A – 200 A



Optimized power losses by 20% comparing to previous design lowers environmental impact and generates additional savings through product life-cycle



Robust design suitable for harsh conditions, proven by tests according to the latest IEC standards, secures continuous protection and reliable operation



Compatibility with other ABB products provides fast and accurate product selection

Fuse-links type CEF are designed to protect distribution transformers, cables, overhead lines and other apparatus against thermal and dynamic effects of short-circuit currents.

Key features:

- Designed and type tested acc. to IEC 60282-1, VDE 0670-T4 and VDE 0670-T402
- Low power losses, generating additional savings during product life-cycle
- Top level breaking performance with currents up to 63kA RMS
- Outdoor sealing included in standard version, designed and tested for harsh conditions
- Welded current path
- Contacts made from silver coated copper
- Striker 80N (medium type)
- Standard types with Temperature Control Unit – additional protection against thermal stresses in small enclosures
- Low switching voltages secure safe operation in wide working voltage range, from 10kV to 24kV marked as 10/24kV.

CEF ordering and technical table:

Fuses are meeting requirements of the standards: IEC 60282-1, PN-EN 60282-1, IEC 60787, DIN 43625, VDE 0670-T4 and VDE 0670-T402. All ratings are back-up type, equipped with 80N striker (medium type) and sealed for indoor/outdoor application. For fuses with rated current marked with RC (i.e. 125_{RC110}A), maximum application continuous current should not exceed RC value indicated in subscript.

Catalog number	Fuse name	Rated voltage U _r [kV]	Rated current I _n [A]	Rated frequency f _r [Hz]	Breaking capacity I _n [kA]	Minimal breaking current I _β [A]	Diameter D [mm]	Length e [mm]	Rated power P _n [W]	Cold resistance [mΩ]	Pre-arcing integral [A ² s]	Total interrupting integral [A ² s]	Weight [kg]	EAN 13 Code
1YMB710713M1512	CEF	3/7.2	6.3	50	63	48	53	192	9	186.4	4.5	560	1.2	5908270806887
1YMB710716M1512	CEF	3/7.2	10	50	63	43	53	192	12	96.6	24	1 800	1.2	5908270806894
1YMB710718M1512	CEF	3/7.2	16	50	63	72	53	192	18	59.5	135	6 060	1.2	5908270806900
1YMB710719M1512	CEF	3/7.2	20	50	63	72	53	192	20	39.8	265	10 300	1.2	5908270806917
1YMB710721M1512	CEF	3/7.2	25	50	63	110	53	192	17	22.8	490	17 000	1.2	5908270806924
1YMB710724M1512	CEF	3/7.2	31.5	50	63	115	53	192	23	17.1	890	29 000	1.2	5908270806931
1YMB710725M1512	CEF	3/7.2	40	50	63	143.5	53	192	31	14.1	1600	49 000	1.2	5908270806948
1YMB710727M1512	CEF	3/7.2	50	50	63	215	53	192	32	9.4	3375	99 000	1.2	5908270806955
1YMB710729M1612	CEF	3/7.2	63	50	63	220	65	192	43	7.7	5150	106 000	1.6	5908270806962
1YMB710731M1612	CEF	3/7.2	80	50	63	320	65	192	47	5.0	7040	215 000	1.6	5908270806979
1YMB710733M1612	CEF	3/7.2	100	50	63	380	65	192	62	3.9	10300	319 000	1.6	5908270806986
1YMB710735M1812	CEF	3/7.2	125	50	63	380	87	192	81	3.3	17200	472 000	2.6	5908270806993
1YMB710713M2512	CEF	3/7.2	6.3	50	63	48	53	292	9	186.4	4.5	560	1.6	5908270807006
1YMB710716M2512	CEF	3/7.2	10	50	63	43	53	292	12	96.6	24	1 800	1.6	5908270807013
1YMB710718M2512	CEF	3/7.2	16	50	63	72	53	292	18	57.3	135	6 060	1.6	5908270807020
1YMB710719M2512	CEF	3/7.2	20	50	63	72	53	292	20	39.1	265	10 300	1.6	5908270807037
1YMB710721M2512	CEF	3/7.2	25	50	63	110	53	292	17	22.8	490	17 000	1.6	5908270807044
1YMB710724M2512	CEF	3/7.2	31.5	50	63	115	53	292	23	17.1	890	29 000	1.6	5908270807051
1YMB710725M2512	CEF	3/7.2	40	50	63	143.5	53	292	31	14.1	1600	49 000	1.6	5908270807068
1YMB710727M2512	CEF	3/7.2	50	50	63	215	53	292	32	9.4	3375	99 000	1.6	5908270807075
1YMB710729M2612	CEF	3/7.2	63	50	63	220	65	292	43	7.7	5150	106 000	2.3	5908270807082
1YMB710731M2612	CEF	3/7.2	80	50	63	320	65	292	47	5.0	7040	215 000	2.3	5908270807099
1YMB710733M2612	CEF	3/7.2	100	50	63	380	65	292	62	3.9	10300	319 000	2.3	5908270807105
1YMB710735M2812	CEF	3/7.2	125	50	63	380	87	292	81	3.3	17200	472 000	3.6	5908270807112
1YMB710738M2812	CEF	3/7.2	160	50	50	480	87	292	103	2.6	35000	430 000	3.6	5908270807129
1YMB710739M2812	CEF	3/7.2	200	50	50	650	87	292	109	1.7	76000	750 000	3.6	5908270807488
1YMB711213M2512	CEF	6/12	6.3	50	63	44	53	292	17	332.1	4.5	560	1.6	5908270806269
1YMB711216M2512	CEF	6/12	10	50	63	43.5	53	292	18	151.0	24	1 800	1.6	5908270806276
1YMB711218M2512	CEF	6/12	16	50	63	72.5	53	292	29	90.4	135	6 060	1.6	5908270806283
1YMB711219M2512	CEF	6/12	20	50	63	72.5	53	292	31	61.7	265	10 300	1.6	5908270806290
1YMB711221M2512	CEF	6/12	25	50	63	104	53	292	28	35.3	490	17 000	1.6	5908270806306
1YMB711224M2512	CEF	6/12	31.5	50	63	116	53	292	34	27.0	890	29 000	1.6	5908270806313
1YMB711225M2512	CEF	6/12	40	50	63	150	53	292	51	22.3	1600	49 000	1.6	5908270806320
1YMB711227M2612	CEF	6/12	50	50	63	200	65	292	48	14.8	3375	99 000	2.3	5908270806337
1YMB711229M2612	CEF	6/12	63	50	63	218	65	292	63	12.2	5150	106 000	2.3	5908270806344
1YMB711231M2612	CEF	6/12	80	50	63	330	65	292	72	8.0	7040	215 000	2.3	5908270806351
1YMB711233M2612	CEF	6/12	100	50	63	375	65	292	93	6.5	10300	319 000	2.3	5908270806368
1YMB711235M2812	CEF	6/12	125	50	63	375	87	292	124	5.3	17200	472 000	3.6	5908270806375
1YMB711213M4512	CEF	6/12	6.3	50	63	44	53	442	17	332.1	4.5	560	2.3	5908270806382
1YMB711216M4512	CEF	6/12	10	50	63	43.5	53	442	18	151.0	24	1 800	2.3	5908270806399
1YMB711218M4512	CEF	6/12	16	50	63	72.5	53	442	29	90.4	135	6 060	2.3	5908270806405
1YMB711219M4512	CEF	6/12	20	50	63	72.5	53	442	31	61.7	265	10 300	2.3	5908270806412
1YMB711221M4512	CEF	6/12	25	50	63	104	53	442	28	35.3	490	17 000	2.3	5908270806429
1YMB711224M4512	CEF	6/12	31.5	50	63	116	53	442	34	27	890	29 000	2.3	5908270806436
1YMB711225M4512	CEF	6/12	40	50	63	150	53	442	51	22.3	1600	49 000	2.3	5908270806443
1YMB711227M4612	CEF	6/12	50	50	63	200	65	442	48	14.8	3375	99 000	3.3	5908270806450
1YMB711229M4612	CEF	6/12	63	50	63	218	65	442	63	12.2	5150	106 000	3.3	5908270806467
1YMB711231M4612	CEF	6/12	80	50	63	330	65	442	72	8.0	7040	215 000	3.3	5908270806474
1YMB711233M4612	CEF	6/12	100	50	63	375	65	442	93	6.5	10300	319 000	3.3	5908270806481
1YMB711235M4612	CEF	6/12	125	50	63	375	65	442	124	5.3	17200	472 000	3.3	5908270807877

Catalog number	Fuse name	Rated voltage U_r [kV]	Rated current I_r [A]	Rated frequency f_r [Hz]	Breaking capacity I_b [kA]	Minimal breaking current I_n [A]	Diameter D [mm]	Length e [mm]	Rated power P_n [W]	Cold resistance [mΩ]	Pre-arcing integral [A²s]	Total interrupting integral [A²s]	Weight [kg]	EAN 13 Code
1YMB711238M4812	CEF	6/12	160	50	63	480	87	442	170	4.0	35000	430 000	5.3	5908270806504
1YMB711239M4812	CEF	6/12	200	50	63	700	87	442	166	2.7	90000	860 000	5.3	5908270806511
1YMB711713M2512	CEF	10/17.5	6.3	50	63	44	53	292	23	465.2	4.5	560	1.6	5908270807136
1YMB711716M2512	CEF	10/17.5	10	50	63	46	53	292	26	213.0	24	1 800	1.6	5908270807143
1YMB711718M2512	CEF	10/17.5	16	50	63	76.5	53	292	43	130.6	135	6 060	1.6	5908270807150
1YMB711719M2512	CEF	10/17.5	20	50	63	76.5	53	292	46	87.4	265	10 300	1.6	5908270807167
1YMB711721M2512	CEF	10/17.5	25	50	63	110	53	292	40	49.8	490	17 000	1.6	5908270807174
1YMB711724M2612	CEF	10/17.5	31.5	50	63	122	65	292	49	37.4	890	29 000	2.3	5908270807181
1YMB711725M2612	CEF	10/17.5	40	50	63	160	65	292	70	28.4	1600	49 000	2.3	5908270807198
1YMB711727M2812	CEF	10/17.5	50	50	63	205	87	292	69	20.5	3375	99 000	3.6	5908270807204
1YMB711729M2812	CEF	10/17.5	63	50	63	218	87	292	92	16.8	5150	106 000	3.6	5908270807211
1YMB711731M2812	CEF	10/17.5	80	50	63	330	87	292	110	11.0	7040	215 000	3.6	5908270807228
1YMB711733M2812	CEF	10/17.5	100 _{RCB7}	50	63	380	87	292	100	8.8	10300	319 000	3.6	5908270807235
1YMB711713M3512	CEF	10/17.5	6.3	50	63	44	53	367	23	465.2	4.5	560	1.9	5908270807242
1YMB711716M3512	CEF	10/17.5	10	50	63	46	53	367	26	213.0	24	1 800	1.9	5908270807259
1YMB711718M3512	CEF	10/17.5	16	50	63	76.5	53	367	43	130.6	135	6 060	1.9	5908270807266
1YMB711719M3512	CEF	10/17.5	20	50	63	76.5	53	367	46	87.4	265	10 300	1.9	5908270807273
1YMB711721M3512	CEF	10/17.5	25	50	63	110	53	367	40	49.8	490	17 000	1.9	5908270807280
1YMB711724M3512	CEF	10/17.5	31.5	50	63	122	53	367	49	37.4	890	29 000	1.9	5908270807297
1YMB711725M3512	CEF	10/17.5	40	50	63	160	53	367	70	28.4	1600	49 000	1.9	5908270807303
1YMB711727M3612	CEF	10/17.5	50	50	63	205	65	367	69	20.5	3375	99 000	2.7	5908270807310
1YMB711729M3612	CEF	10/17.5	63	50	63	218	65	367	92	16.8	5150	106 000	2.7	5908270807327
1YMB711731M3612	CEF	10/17.5	80	50	63	330	65	367	110	11.0	7040	215 000	2.7	5908270807334
1YMB711733M3812	CEF	10/17.5	100	50	63	380	87	367	137	8.8	10300	319 000	4.4	5908270807341
1YMB711735M3812	CEF	10/17.5	125 _{RC110}	50	63	380	87	367	140	7.4	17200	472 000	4.4	5908270807358
1YMB711713M4512	CEF	10/17.5	6.3	50	63	44	53	442	23	465.2	4.5	560	2.3	5908270807365
1YMB711716M4512	CEF	10/17.5	10	50	63	46	53	442	26	213.0	24	1 800	2.3	5908270807372
1YMB711718M4512	CEF	10/17.5	16	50	63	76.5	53	442	43	130.6	135	6 060	2.3	5908270807389
1YMB711719M4512	CEF	10/17.5	20	50	63	76.5	53	442	46	87.4	265	10 300	2.3	5908270807396
1YMB711721M4512	CEF	10/17.5	25	50	63	110	53	442	40	49.8	490	17 000	2.3	5908270807402
1YMB711724M4512	CEF	10/17.5	31.5	50	63	122	53	442	49	37.4	890	29 000	2.3	5908270807419
1YMB711725M4512	CEF	10/17.5	40	50	63	160	53	442	70	28.4	1600	49 000	2.3	5908270807426
1YMB711727M4612	CEF	10/17.5	50	50	63	205	65	442	69	20.5	3375	99 000	3.3	5908270807433
1YMB711729M4612	CEF	10/17.5	63	50	63	218	65	442	92	16.8	5150	106 000	3.3	5908270807440
1YMB711731M4612	CEF	10/17.5	80	50	63	330	65	442	110	11.2	7040	215 000	3.3	5908270807457
1YMB711733M4612	CEF	10/17.5	100	50	63	380	65	442	136	8.5	10300	319 000	3.3	5908270807464
1YMB711735M4812	CEF	10/17.5	125	50	63	380	87	442	183	7.4	17200	472 000	5.3	5908270807471
1YMB712413M4512	CEF	10/24	6.3	50	63	43	53	442	28	572.6	4.5	560	2.3	5908270806542
1YMB712416M4512	CEF	10/24	10	50	63	46	53	442	33	272.2	24	1 800	2.3	5908270806559
1YMB712418M4512	CEF	10/24	16	50	63	76.5	53	442	55	168.9	135	6 060	2.3	5908270806566
1YMB712419M4512	CEF	10/24	20	50	63	76.5	53	442	59	112.5	265	10 300	2.3	5908270806573
1YMB712421M4512	CEF	10/24	25	50	63	110	53	442	57	64.8	490	17 000	2.3	5908270806580
1YMB712424M4512	CEF	10/24	31.5	50	63	122	53	442	65	48.9	890	29 000	2.3	5908270806597
1YMB712425M4512	CEF	10/24	40	50	63	160	53	442	89	40.2	1600	49 000	2.3	5908270806603
1YMB712427M4612	CEF	10/24	50	50	63	205	65	442	92	27.0	3375	99 000	3.3	5908270806610
1YMB712429M4612	CEF	10/24	63	50	63	215	65	442	127	21.9	5150	106 000	3.3	5908270806627
1YMB712431M4612	CEF	10/24	80	50	63	325	65	442	152	15.6	7040	215 000	3.3	5908270806634
1YMB712433M4812	CEF	10/24	100	50	63	375	87	442	200	12.9	10300	319 000	5.3	5908270806641
1YMB712435M4812	CEF	10/24	125 _{RC105}	50	40	380	87	442	173	10.5	17200	472 000	5.3	5908270807860
1YMB712413M5512	CEF	10/24	6.3	50	63	43	53	537	28	572.6	4.5	560	3.1	5908270806672
1YMB712416M5512	CEF	10/24	10	50	63	46	53	537	33	272.2	24	1 800	3.1	5908270806689
1YMB712418M5512	CEF	10/24	16	50	63	76.5	53	537	55	168.9	135	6 060	3.1	5908270806696
1YMB712419M5512	CEF	10/24	20	50	63	76.5	53	537	59	112.5	265	10 300	3.1	5908270806702
1YMB712421M5512	CEF	10/24	25	50	63	110	53	537	57	64.8	490	17 000	3.1	5908270806719
1YMB712424M5512	CEF	10/24	31.5	50	63	122	53	537	65	48.9	890	29 000	3.1	5908270806726
1YMB712425M5512	CEF	10/24	40	50	63	160	53	537	89	40.2	1600	49 000	3.1	5908270806733

Catalog number	Fuse name	Rated voltage U_r [kV]	Rated current I_r [A]	Rated frequency f_r [Hz]	Breaking capacity I_1 [kA]	Minimal breaking current I_3 [A]	Diameter D [mm]	Length e [mm]	Rated power P_w [W]	Cold resistance [mΩ]	Pre-arcing integral [A ² s]	Total interrupting integral [A ² s]	Weight [kg]	EAN 13 Code
1YMB712427M5612	CEF	10/24	50	50	63	205	65	537	92	27.0	3375	99 000	3.9	5908270806740
1YMB712429M5612	CEF	10/24	63	50	63	215	65	537	127	21.9	5150	106 000	3.9	5908270806757
1YMB712431M5612	CEF	10/24	80	50	63	325	65	537	152	15.6	7040	215 000	3.9	5908270806764
1YMB712433M5812	CEF	10/24	100	50	63	375	87	537	200	12.9	10300	319 000	6.4	5908270806771
1YMB712435M5812	CEF	10/24	125	50	63	375	87	537	234	10.6	17200	472 000	6.4	5908270806788
1YMB712525M2811	CEF	10/25.8	40	50	16	119	87	292	91	40.2	1446	32 538	3.6	5908270806238
1YMB712527M2811	CEF	10/25.8	50	50	16	191	87	292	93	26	4339	85 791	3.6	5908270806245
1YMB712529M2811	CEF	10/25.8	63	50	16	278	87	292	97	17.2	8099	155 020	3.6	5908270806252
1YMB713613M5512	CEF	20/36	6.3	50	40	37	53	537	47	925.0	4.5	560	3.1	5908270806795
1YMB713616M5512	CEF	20/36	10	50	40	37.5	53	537	50	413.6	24	1 800	3.1	5908270806801
1YMB713618M5512	CEF	20/36	16	50	40	59	53	537	85	254.0	135	6 060	3.1	5908270806818
1YMB713619M5512	CEF	20/36	20	50	40	62.5	53	537	88	162.3	265	10 300	3.1	5908270806825
1YMB713621M5512	CEF	20/36	25	50	40	100	53	537	87	104.0	490	17 000	3.1	5908270806832
1YMB713624M5612	CEF	20/36	31.5	50	40	158	65	537	118	84.0	1050	20 700	3.9	5908270806849
1YMB713625M5612	CEF	20/36	40	50	40	164	65	537	135	57.7	1850	39 000	3.9	5908270806856
1YMB713627M5812	CEF	20/36	50	50	40	230	87	537	157	43.5	4040	99 600	6.4	5908270806863
1YMB713629M5812	CEF	20/36	63	50	40	299	87	537	225	36.6	5800	89 500	6.4	5908270806870

CEF ordering and technical table (special version without TCU):

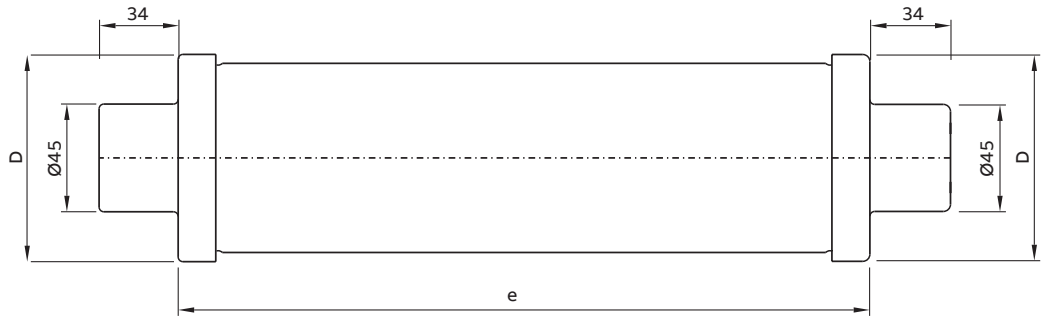
Fuses are meeting requirements of the standards: IEC 60282-1, PN-EN 60282-1, IEC 60787, DIN 43625, VDE 0670-T4 and VDE 0670-T402. All ratings are back-up type, equipped with 80N striker (medium type) and sealed for indoor/outdoor application. For fuses with rated current marked with RC (i.e. 125_{RC110} A), maximum application continuous current should not exceed RC value indicated in subscript.

Catalog number	Fuse name	Rated voltage U_r [kV]	Rated current I_r [A]	Rated frequency f_r [Hz]	Breaking capacity I_1 [kA]	Minimal breaking current I_3 [A]	Diameter D [mm]	Length e [mm]	Rated power P_w [W]	Cold resistance [mΩ]	Pre-arcing integral [A ² s]	Total interrupting integral [A ² s]	Weight [kg]	EAN 13 Code
1YMB710713M1513	CEF	3/7.2	6.3	50	63	48	53	192	9	186.4	4.5	560	1.2	5908270842069
1YMB710716M1513	CEF	3/7.2	10	50	63	43	53	192	12	96.6	24	1 800	1.2	5908270842076
1YMB710718M1513	CEF	3/7.2	16	50	63	72	53	192	18	59.5	135	6 060	1.2	5908270842083
1YMB710719M1513	CEF	3/7.2	20	50	63	72	53	192	20	39.8	265	10 300	1.2	5908270842090
1YMB710721M1513	CEF	3/7.2	25	50	63	110	53	192	17	22.8	490	17 000	1.2	5908270842106
1YMB710724M1513	CEF	3/7.2	31.5	50	63	115	53	192	23	17.1	890	29 000	1.2	5908270842113
1YMB710725M1513	CEF	3/7.2	40	50	63	143.5	53	192	31	14.1	1600	49 000	1.2	5908270842120
1YMB710727M1513	CEF	3/7.2	50	50	63	215	53	192	32	9.4	3375	99 000	1.2	5908270842137
1YMB710729M1613	CEF	3/7.2	63	50	63	220	65	192	43	7.7	5150	106 000	1.6	5908270842144
1YMB710731M1613	CEF	3/7.2	80	50	63	320	65	192	47	5.0	7040	215 000	1.6	5908270842151
1YMB710733M1613	CEF	3/7.2	100	50	63	380	65	192	62	3.9	10300	319 000	1.6	5908270842168
1YMB710735M1813	CEF	3/7.2	125	50	63	380	87	192	81	3.3	17200	472 000	2.6	5908270842175
1YMB710713M2513	CEF	3/7.2	6.3	50	63	48	53	292	9	186.4	4.5	560	1.6	5908270842182
1YMB710716M2513	CEF	3/7.2	10	50	63	43	53	292	12	96.6	24	1 800	1.6	5908270842199
1YMB710718M2513	CEF	3/7.2	16	50	63	72	53	292	18	57.3	135	6 060	1.6	5908270842205
1YMB710719M2513	CEF	3/7.2	20	50	63	72	53	292	20	39.1	265	10 300	1.6	5908270842212
1YMB710721M2513	CEF	3/7.2	25	50	63	110	53	292	17	22.8	490	17 000	1.6	5908270842229
1YMB710724M2513	CEF	3/7.2	31.5	50	63	115	53	292	23	17.1	890	29 000	1.6	5908270842236
1YMB710725M2513	CEF	3/7.2	40	50	63	143.5	53	292	31	14.1	1600	49 000	1.6	5908270842243
1YMB710727M2513	CEF	3/7.2	50	50	63	215	53	292	32	9.4	3375	99 000	1.6	5908270842250
1YMB710729M2613	CEF	3/7.2	63	50	63	220	65	292	43	7.7	5150	106 000	2.3	5908270842267
1YMB710731M2613	CEF	3/7.2	80	50	63	320	65	292	47	5.0	7040	215 000	2.3	5908270842274
1YMB710733M2613	CEF	3/7.2	100	50	63	380	65	292	62	3.9	10300	319 000	2.3	5908270842281
1YMB710735M2813	CEF	3/7.2	125	50	63	380	87	292	81	3.3	17200	472 000	3.6	5908270842298
1YMB710738M2813	CEF	3/7.2	160	50	50	480	87	292	103	2.6	35000	430 000	3.6	5908270842304
1YMB710739M2813	CEF	3/7.2	200	50	50	650	87	292	109	1.7	76000	750 000	3.6	5908270842311
1YMB711213M2513	CEF	6/12	6.3	50	63	44	53	292	17	332.1	4.5	560	1.6	5908270842328
1YMB711216M2513	CEF	6/12	10	50	63	43.5	53	292	18	151.0	24	1 800	1.6	5908270842335

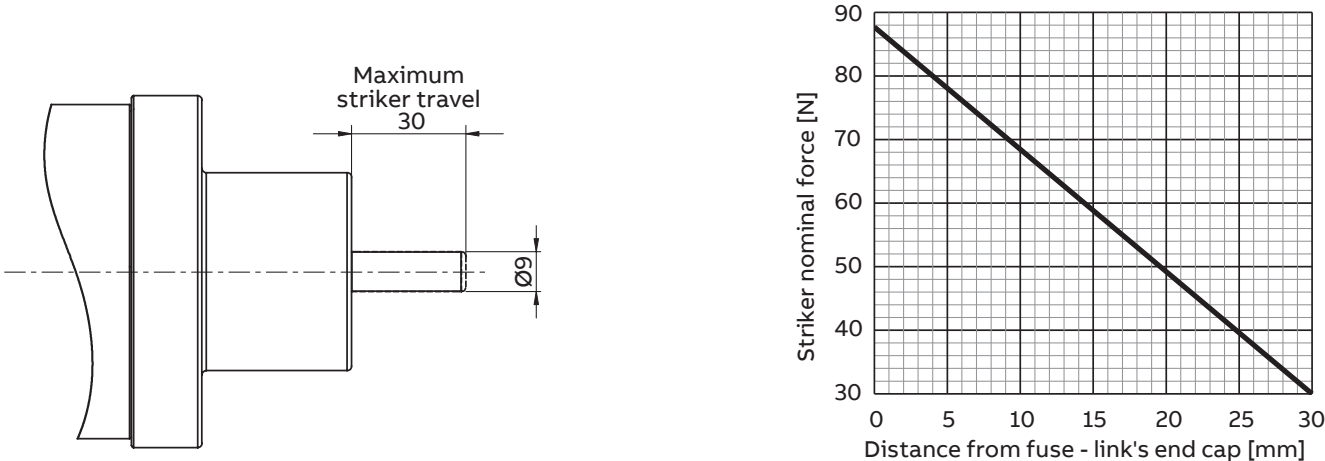
Catalog number	Fuse name	Rated voltage U_i [kV]	Rated current I_n [A]	Rated frequency f_n [Hz]	Breaking capacity I_{cs} [kA]	Minimal breaking current I_{cs} [A]	Diameter D [mm]	Length e [mm]	Rated power P_n [W]	Cold resistance [mΩ]	Pre-arcing integral [A ² s]	Total interrupting integral [A ² s]	Weight [kg]	EAN 13 Code
1YMB711218M2513	CEF	6/12	16	50	63	72.5	53	292	29	90.4	135	6 060	1.6	5908270842342
1YMB711219M2513	CEF	6/12	20	50	63	72.5	53	292	31	61.7	265	10 300	1.6	5908270842359
1YMB711221M2513	CEF	6/12	25	50	63	104	53	292	28	35.3	490	17 000	1.6	5908270842366
1YMB711224M2513	CEF	6/12	31.5	50	63	116	53	292	34	27.0	890	29 000	1.6	5908270842373
1YMB711225M2513	CEF	6/12	40	50	63	150	53	292	51	22.3	1600	49 000	1.6	5908270842380
1YMB711227M2613	CEF	6/12	50	50	63	200	65	292	48	14.8	3375	99 000	2.3	5908270842397
1YMB711229M2613	CEF	6/12	63	50	63	218	65	292	63	12.2	5150	106 000	2.3	5908270842403
1YMB711231M2613	CEF	6/12	80	50	63	330	65	292	72	8.0	7040	215 000	2.3	5908270842410
1YMB711233M2613	CEF	6/12	100	50	63	375	65	292	93	6.5	10300	319 000	2.3	5908270842427
1YMB711235M2813	CEF	6/12	125	50	63	375	87	292	124	5.3	17200	472 000	3.6	5908270842434
1YMB711213M4513	CEF	6/12	6.3	50	63	44	53	442	17	332.1	4.5	560	2.3	5908270842441
1YMB711216M4513	CEF	6/12	10	50	63	43.5	53	442	18	151.0	24	1 800	2.3	5908270842458
1YMB711218M4513	CEF	6/12	16	50	63	72.5	53	442	29	90.4	135	6 060	2.3	5908270842465
1YMB711219M4513	CEF	6/12	20	50	63	72.5	53	442	31	61.7	265	10 300	2.3	5908270842472
1YMB711221M4513	CEF	6/12	25	50	63	104	53	442	28	35.3	490	17 000	2.3	5908270842489
1YMB711224M4513	CEF	6/12	31.5	50	63	116	53	442	34	27	890	29 000	2.3	5908270842496
1YMB711225M4513	CEF	6/12	40	50	63	150	53	442	51	22.3	1600	49 000	2.3	5908270842502
1YMB711227M4613	CEF	6/12	50	50	63	200	65	442	48	14.8	3375	99 000	3.3	5908270842519
1YMB711229M4613	CEF	6/12	63	50	63	218	65	442	63	12.2	5150	106 000	3.3	5908270842526
1YMB711231M4613	CEF	6/12	80	50	63	330	65	442	72	8.0	7040	215 000	3.3	5908270842533
1YMB711233M4613	CEF	6/12	100	50	63	375	65	442	93	6.5	10300	319 000	3.3	5908270842540
1YMB711235M4613	CEF	6/12	125	50	63	375	65	442	124	5.3	17200	472 000	3.3	5908270842557
1YMB711238M4813	CEF	6/12	160	50	63	480	87	442	170	4.0	35000	430 000	5.3	5908270842564
1YMB711239M4813	CEF	6/12	200	50	63	700	87	442	166	2.7	90000	860 000	5.3	5908270842571
1YMB711713M2513	CEF	10/17.5	6.3	50	63	44	53	292	23	465.2	4.5	560	1.6	5908270842588
1YMB711716M2513	CEF	10/17.5	10	50	63	46	53	292	26	213.0	24	1 800	1.6	5908270842595
1YMB711718M2513	CEF	10/17.5	16	50	63	76.5	53	292	43	130.6	135	6 060	1.6	5908270842601
1YMB711719M2513	CEF	10/17.5	20	50	63	76.5	53	292	46	87.4	265	10 300	1.6	5908270842618
1YMB711721M2513	CEF	10/17.5	25	50	63	110	53	292	40	49.8	490	17 000	1.6	5908270842625
1YMB711724M2613	CEF	10/17.5	31.5	50	63	122	65	292	49	37.4	890	29 000	2.3	5908270842632
1YMB711725M2613	CEF	10/17.5	40	50	63	160	65	292	70	28.4	1600	49 000	2.3	5908270842649
1YMB711727M2813	CEF	10/17.5	50	50	63	205	87	292	69	20.5	3375	99 000	3.6	5908270842656
1YMB711729M2813	CEF	10/17.5	63	50	63	218	87	292	92	16.8	5150	106 000	3.6	5908270842663
1YMB711731M2813	CEF	10/17.5	80	50	63	330	87	292	110	11.0	7040	215 000	3.6	5908270842670
1YMB711733M2813	CEF	10/17.5	100 _{RC87}	50	63	380	87	292	100	8.8	10300	319 000	3.6	5908270842687
1YMB711713M3513	CEF	10/17.5	6.3	50	63	44	53	367	23	465.2	4.5	560	1.9	5908270842694
1YMB711716M3513	CEF	10/17.5	10	50	63	46	53	367	26	213.0	24	1 800	1.9	5908270842700
1YMB711718M3513	CEF	10/17.5	16	50	63	76.5	53	367	43	130.6	135	6 060	1.9	5908270842717
1YMB711719M3513	CEF	10/17.5	20	50	63	76.5	53	367	46	87.4	265	10 300	1.9	5908270842724
1YMB711721M3513	CEF	10/17.5	25	50	63	110	53	367	40	49.8	490	17 000	1.9	5908270842731
1YMB711724M3513	CEF	10/17.5	31.5	50	63	122	53	367	49	37.4	890	29 000	1.9	5908270842748
1YMB711725M3513	CEF	10/17.5	40	50	63	160	53	367	70	28.4	1600	49 000	1.9	5908270842755
1YMB711727M3613	CEF	10/17.5	50	50	63	205	65	367	69	20.5	3375	99 000	2.7	5908270842762
1YMB711729M3613	CEF	10/17.5	63	50	63	218	65	367	92	16.8	5150	106 000	2.7	5908270842779
1YMB711731M3613	CEF	10/17.5	80	50	63	330	65	367	110	11.0	7040	215 000	2.7	5908270842786
1YMB711733M3813	CEF	10/17.5	100	50	63	380	87	367	137	8.8	10300	319 000	4.4	5908270842793
1YMB711735M3813	CEF	10/17.5	125 _{RC110}	50	63	380	87	367	140	7.4	17200	472 000	4.4	5908270842809
1YMB711713M4513	CEF	10/17.5	6.3	50	63	44	53	442	23	465.2	4.5	560	2.3	5908270842816
1YMB711716M4513	CEF	10/17.5	10	50	63	46	53	442	26	213.0	24	1 800	2.3	5908270842823
1YMB711718M4513	CEF	10/17.5	16	50	63	76.5	53	442	43	130.6	135	6 060	2.3	5908270842830
1YMB711719M4513	CEF	10/17.5	20	50	63	76.5	53	442	46	87.4	265	10 300	2.3	5908270842847
1YMB711721M4513	CEF	10/17.5	25	50	63	110	53	442	40	49.8	490	17 000	2.3	5908270842854
1YMB711724M4513	CEF	10/17.5	31.5	50	63	122	53	442	49	37.4	890	29 000	2.3	5908270842861
1YMB711725M4513	CEF	10/17.5	40	50	63	160	53	442	70	28.4	1600	49 000	2.3	5908270842878
1YMB711727M4613	CEF	10/17.5	50	50	63	205	65	442	69	20.5	3375	99 000	3.3	5908270842885
1YMB711729M4613	CEF	10/17.5	63	50	63	218	65	442	92	16.8	5150	106 000	3.3	5908270842892
1YMB711731M4613	CEF	10/17.5	80	50	63	330	65	442	110	11.2	7040	215 000	3.3	5908270842908

Catalog number	Fuse name	Rated voltage U_r [kV]	Rated current I_r [A]	Rated frequency f_r [Hz]	Breaking capacity I_b [kA]	Minimal breaking current I_n [A]	Diameter D [mm]	Length e [mm]	Rated power P_w [W]	Cold resistance [mΩ]	Pre-arcing integral [A²s]	Total interrupting integral [A²s]	Weight [kg]	EAN 13 Code
1YMB711733M4613	CEF	10/17.5	100	50	63	380	65	442	136	8.5	10300	319 000	3.3	5908270842915
1YMB711735M4813	CEF	10/17.5	125	50	63	380	87	442	183	7.4	17200	472 000	5.3	5908270842922
1YMB712413M4513	CEF	10/24	6.3	50	63	43	53	442	28	572.6	4.5	560	2.3	5908270842939
1YMB712416M4513	CEF	10/24	10	50	63	46	53	442	33	272.2	24	1 800	2.3	5908270842946
1YMB712418M4513	CEF	10/24	16	50	63	76.5	53	442	55	168.9	135	6 060	2.3	5908270842953
1YMB712419M4513	CEF	10/24	20	50	63	76.5	53	442	59	112.5	265	10 300	2.3	5908270842960
1YMB712421M4513	CEF	10/24	25	50	63	110	53	442	57	64.8	490	17 000	2.3	5908270842977
1YMB712424M4513	CEF	10/24	31.5	50	63	122	53	442	65	48.9	890	29 000	2.3	5908270842984
1YMB712425M4513	CEF	10/24	40	50	63	160	53	442	89	40.2	1600	49 000	2.3	5908270842991
1YMB712427M4613	CEF	10/24	50	50	63	205	65	442	92	27.0	3375	99 000	3.3	5908270843004
1YMB712429M4613	CEF	10/24	63	50	63	215	65	442	127	21.9	5150	106 000	3.3	5908270843011
1YMB712431M4613	CEF	10/24	80	50	63	325	65	442	152	15.6	7040	215 000	3.3	5908270843028
1YMB712433M4813	CEF	10/24	100	50	63	375	87	442	200	12.9	10300	319 000	5.3	5908270843035
1YMB712435M4813	CEF	10/24	125 _{RC105}	50	40	380	87	442	173	10.5	17200	472 000	5.3	5908270843042
1YMB712413M5513	CEF	10/24	6.3	50	63	43	53	537	28	572.6	4.5	560	3.1	5908270843059
1YMB712416M5513	CEF	10/24	10	50	63	46	53	537	33	272.2	24	1 800	3.1	5908270843066
1YMB712418M5513	CEF	10/24	16	50	63	76.5	53	537	55	168.9	135	6 060	3.1	5908270843073
1YMB712419M5513	CEF	10/24	20	50	63	76.5	53	537	59	112.5	265	10 300	3.1	5908270843080
1YMB712421M5513	CEF	10/24	25	50	63	110	53	537	57	64.8	490	17 000	3.1	5908270843097
1YMB712424M5513	CEF	10/24	31.5	50	63	122	53	537	65	48.9	890	29 000	3.1	5908270843103
1YMB712425M5513	CEF	10/24	40	50	63	160	53	537	89	40.2	1600	49 000	3.1	5908270843110
1YMB712427M5613	CEF	10/24	50	50	63	205	65	537	92	27.0	3375	99 000	3.9	5908270843127
1YMB712429M5613	CEF	10/24	63	50	63	215	65	537	127	21.9	5150	106 000	3.9	5908270843134
1YMB712431M5613	CEF	10/24	80	50	63	325	65	537	152	15.6	7040	215 000	3.9	5908270843141
1YMB712433M5813	CEF	10/24	100	50	63	375	87	537	200	12.9	10300	319 000	6.4	5908270843158
1YMB712435M5813	CEF	10/24	125	50	63	375	87	537	234	10.6	17200	472 000	6.4	5908270843165

Dimensional drawing of fuse-link type CEF



Fuse-link striker force and dimensions



Choice of fuse-links for transformer protection:

Line voltage (kV)	Transformer rating (kVA)																		
	25	50	75	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3000
	Fuse-link I_n (A)																		
3	10	20	25	31.5	40	50	50	63	100	125	160	160	200	250 ³	315 ³				
5	10	16	20	20	25	31.5	31.5	50	50	63	100	100	125	160	200	250 ³	315 ³		
6	6.3	10	16	20	20	25	31.5	40	50	50	63	100	100	125	160	200	250 ³	315 ³	
10	4 ²	10	10	16	16	20	20	25	31.5	31.5	50	50	63	80	100	125	160	200	
12	4 ^{1,2}	6.3	10	10	16	16	20	20	25	31.5	40	50	50	63	80	100	125	160	200
15	4 ^{1,2}	6.3	10	10	10	16	16	20	20	25	31.5	40	40	50	63	80	100	125	
20	2 ^{1,2}	4 ²	6.3	10	10	10	16	16	20	20	25	31.5	31.5	40	50	63	80	100	125
24	2 ^{1,2}	4 ^{1,2}	6.3	6.3	10	10	10	16	16	20	20	25	25	31.5	40	50	63	80	100
27	6.3 ¹	6.3 ¹	6.3	6.3	6.3	10	10	10	16	16	20	20	25	31.5	40	50	63		
30	6.3 ¹	6.3 ¹	6.3 ¹	6.3	6.3	6.3	10	10	10	16	20	20	20	25	31.5	40	50	63	
36	6.3 ¹	6.3 ¹	6.3 ¹	6.3	6.3	6.3	10	10	10	16	16	20	20	25	31.5	40	50	63	63

¹ – fuse is not able to clear independently transformer's secondary side terminals short-circuit current; ² – fuse type CEF-VT; ³ – fuse type CMF

Recommended fuse rating is on the crossing of transformer rating and line voltage. For different line voltage level, please use closest smaller value from the table. The table was calculated according to standards IEC 60787 and IEC 62271-105 with following assumptions:

- Maximum long lasting transformer overload – 120%
- Magnetizing transformer inrush current – $12 \times I_n$ during 100ms (up to 800 kVA) or $10 \times I_n$ during 100ms (800 kVA and above)
- Transformer short-circuit voltage according to IEC 60076-5
- No fuse derating due to small enclosures assumed

For different working conditions fuse selection has to be recalculated.

Temperature Control Unit:

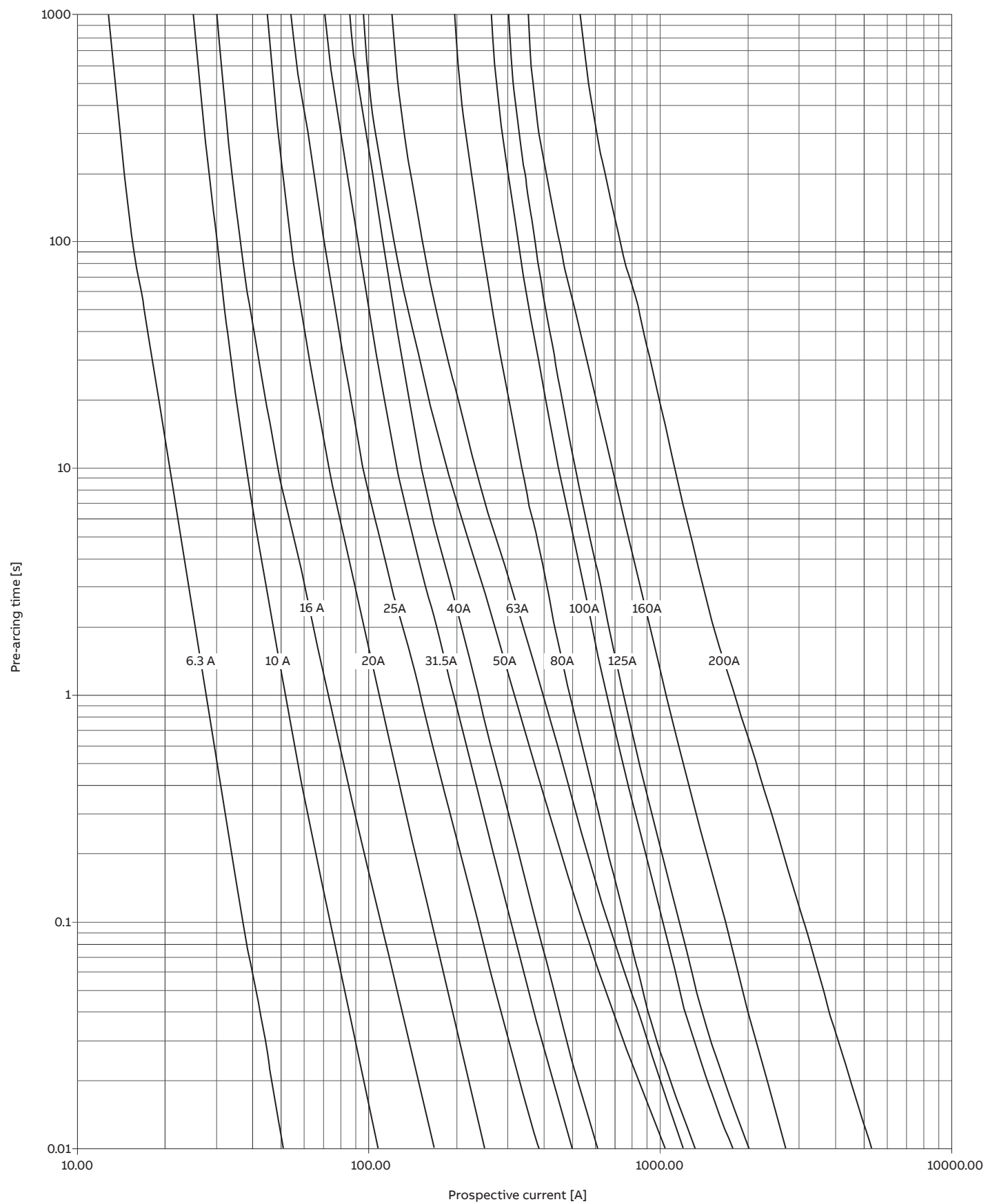
The Temperature Control Unit (TCU) is tripping device which is integrated with the striker of high-voltage (HV) fuses. It is activated when the allowable temperature in the switchgear is exceeded. When the temperature is too high the TCU activates the striker by releasing the switch disconnector, which in turn opens the electric circuit and avoids further temperature increases. The high temperatures inside the switchgear interior may be caused by external conditions or by a high current passing through the fuse link.

List of possible reasons of too high temperatures inside fuse compartment:

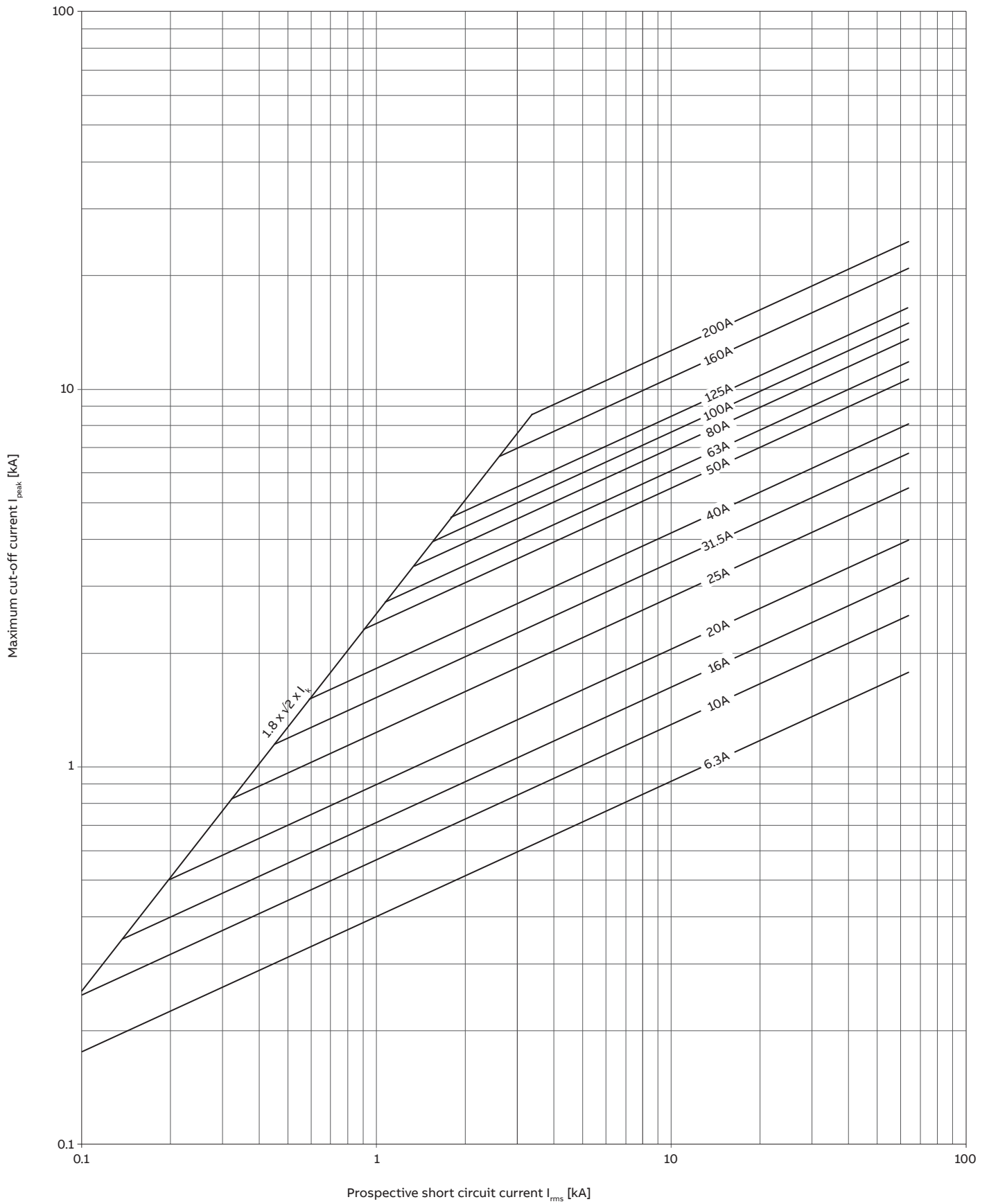
- reduced heat transfer inside the switchgear,
- over-heating of degraded conducting contacts,
- long-term fuse overloads,
- improper selection of the fuse rating,
- local melting of fuse elements caused by transformer inrush currents, starting currents of motors etc.

Safety is significantly increased when fuse are equipped with a TCU. This is especially true in devices where fuses are located inside closed fuse compartments, as is the case in SF6 switchgear. However, in gas insulated switchgear fuse canisters or in the narrow panels of air switchgear the risk of overheating is high because cooling is limited. High temperatures in switchgears cause degradation and oxidation of the metal contacts, degradation of switchgear equipment or enclosures, and insulator ageing. Unfavorable effects, i.e. temperature rise inside the switchgear, leads to internal short-circuit and further temperature increases. In case of reaching to high temperature, TCU will be activated, releasing a striker and opening associated switch, thus eliminating the threat.

CEF 3/7.2 kV; 6/12kV; 10/17.5 kV; 10/24 kV time-current characteristics:

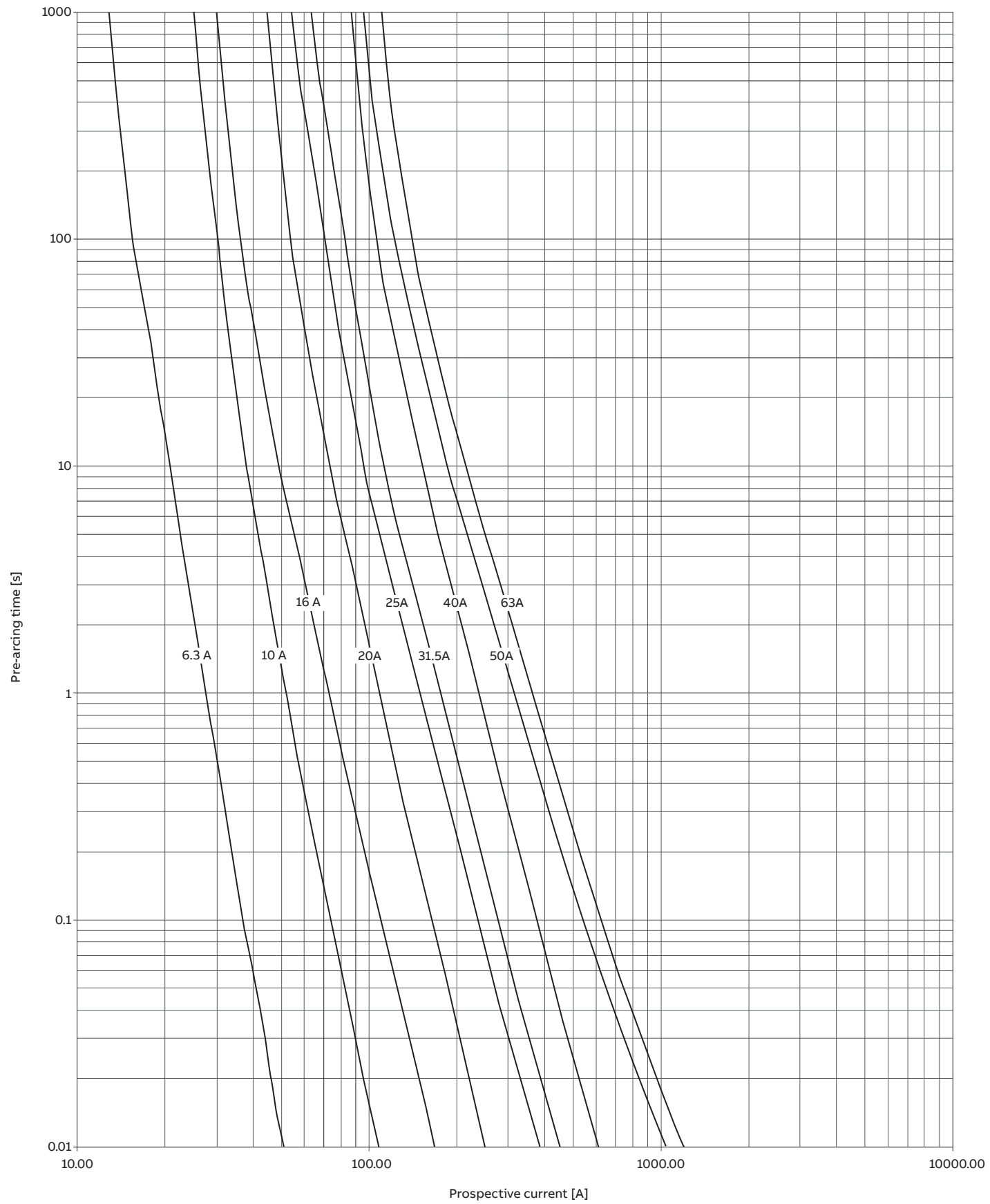


Characteristics show the average melting time as a function of the prospective current and are recorded from cold condition of fuse-link. The tolerance is $\pm 10\%$ referred to the current.

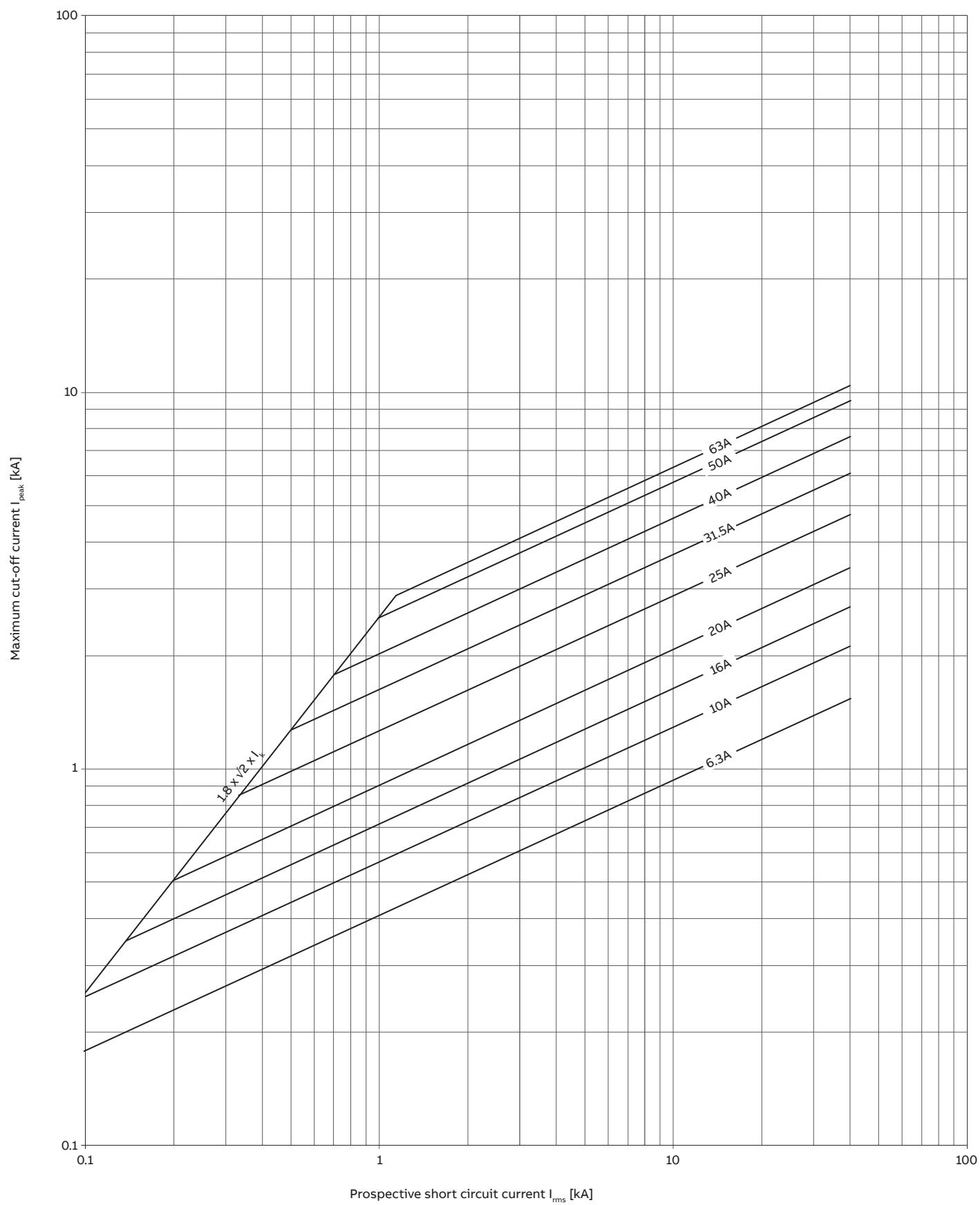
CEF 3/7.2 kV; 6/12kV; 10/17.5 kV; 10/24 kV cut-off current characteristics:

Characteristics show the cut-off current corresponding to a prospective short circuit current. Characteristics are valid for frequency 50Hz.

CEF 20/36 kV time-current characteristics:



Characteristics show the average melting time as a function of the prospective current and are recorded from cold condition of fuse-link. The tolerance is $\pm 10\%$ referred to the current.

CEF 20/36kV cut-off characteristics:


Characteristics show the cut-off current corresponding to a prospective short circuit current. Characteristics are valid for frequency 50Hz.

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