

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 cooper
- Striker 80N (medium type)
- Equipped 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.

**Ordering table fuse-links type CEF 3/7.2 kV:**

Catalogue number	Fuse name	Rated voltage $U_n$ [kV]	Rated current $I_n$ [A]	Length e [mm]	Diameter D [mm]	EAN 13 Code
1YMB710713M1512	CEF	3/7.2	6.3	192	53	5908270806382
1YMB710716M1512	CEF	3/7.2	10	192	53	5908270806399
1YMB710718M1512	CEF	3/7.2	16	192	53	5908270806306
1YMB710719M1512	CEF	3/7.2	20	192	53	5908270806313
1YMB710721M1512	CEF	3/7.2	25	192	53	5908270806320
1YMB710724M1512	CEF	3/7.2	31.5	192	53	5908270806337
1YMB710725M1512	CEF	3/7.2	40	192	53	5908270806344
1YMB710727M1512	CEF	3/7.2	50	192	53	5908270806351
1YMB710729M1612	CEF	3/7.2	63	192	65	5908270806368
1YMB710731M1612	CEF	3/7.2	80	192	65	5908270806375
1YMB710733M1612	CEF	3/7.2	100	192	65	5908270806382
1YMB710735M1812	CEF	3/7.2	125	192	87	5908270806399
1YMB710713M2512	CEF	3/7.2	6.3	292	53	5908270806306
1YMB710716M2512	CEF	3/7.2	10	292	53	5908270806313
1YMB710718M2512	CEF	3/7.2	16	292	53	5908270806320
1YMB710719M2512	CEF	3/7.2	20	292	53	5908270806337
1YMB710721M2512	CEF	3/7.2	25	292	53	5908270806344
1YMB710724M2512	CEF	3/7.2	31.5	292	53	5908270806351
1YMB710725M2512	CEF	3/7.2	40	292	53	5908270806368
1YMB710727M2512	CEF	3/7.2	50	292	53	5908270806375
1YMB710729M2612	CEF	3/7.2	63	292	65	5908270806382
1YMB710731M2612	CEF	3/7.2	80	292	65	5908270806399
1YMB710733M2612	CEF	3/7.2	100	292	65	5908270806306
1YMB710735M2812	CEF	3/7.2	125	292	87	5908270806313
1YMB710738M2812	CEF	3/7.2	160	292	87	5908270806320
1YMB710739M2812	CEF	3/7.2	200	292	87	5908270806382

**Ordering table fuse-links type CEF 6/12 kV:**

Catalogue number	Fuse name	Rated voltage $U_n$ [kV]	Rated current $I_n$ [A]	Length e [mm]	Diameter D [mm]	EAN 13 Code
1YMB711213M2512	CEF	6/12	6.3	292	53	5908270806269
1YMB711216M2512	CEF	6/12	10	292	53	5908270806276
1YMB711218M2512	CEF	6/12	16	292	53	5908270806283
1YMB711219M2512	CEF	6/12	20	292	53	5908270806290
1YMB711221M2512	CEF	6/12	25	292	53	5908270806306
1YMB711224M2512	CEF	6/12	31.5	292	53	5908270806313
1YMB711225M2512	CEF	6/12	40	292	53	5908270806320
1YMB711227M2612	CEF	6/12	50	292	65	5908270806337
1YMB711229M2612	CEF	6/12	63	292	65	5908270806344
1YMB711231M2612	CEF	6/12	80	292	65	5908270806351
1YMB711233M2612	CEF	6/12	100	292	65	5908270806368
1YMB711235M2812	CEF	6/12	125	292	87	5908270806375
1YMB711213M4512	CEF	6/12	6.3	442	53	5908270806382
1YMB711216M4512	CEF	6/12	10	442	53	5908270806399
1YMB711218M4512	CEF	6/12	16	442	53	5908270806306
1YMB711219M4512	CEF	6/12	20	442	53	5908270806313
1YMB711221M4512	CEF	6/12	25	442	53	5908270806320
1YMB711224M4512	CEF	6/12	31.5	442	53	5908270806337
1YMB711225M4512	CEF	6/12	40	442	53	5908270806344
1YMB711227M4612	CEF	6/12	50	442	65	5908270806351
1YMB711229M4612	CEF	6/12	63	442	65	5908270806368
1YMB711231M4612	CEF	6/12	80	442	65	5908270806375
1YMB711233M4612	CEF	6/12	100	442	65	5908270806382
1YMB711235M4612	CEF	6/12	125	442	65	5908270806399
1YMB711238M4812	CEF	6/12	160	442	87	5908270806306
1YMB711239M4812	CEF	6/12	200	442	87	5908270806313

**Ordering table fuse-links type CEF 10/17.5 kV:**

Catalogue number	Fuse name	Rated voltage $U_n$ [kV]	Rated current $I_n$ [A]	Length $e$ [mm]	Diameter $D$ [mm]	EAN 13 Code
1YMB711713M2512	CEF	10/17.5	6.3	292	53	5908270806337
1YMB711716M2512	CEF	10/17.5	10	292	53	5908270806344
1YMB711718M2512	CEF	10/17.5	16	292	53	5908270806351
1YMB711719M2512	CEF	10/17.5	20	292	53	5908270806368
1YMB711721M2512	CEF	10/17.5	25	292	53	5908270806375
1YMB711724M2612	CEF	10/17.5	31.5	292	65	5908270806382
1YMB711725M2612	CEF	10/17.5	40	292	65	5908270806399
1YMB711727M2812	CEF	10/17.5	50	292	87	5908270806306
1YMB711729M2812	CEF	10/17.5	63	292	87	5908270806313
1YMB711731M2812	CEF	10/17.5	80	292	87	5908270806320
1YMB711733M2812	CEF	10/17.5	100 <sub>RC87</sub>	292	87	5908270806337
1YMB711713M3512	CEF	10/17.5	6.3	367	53	5908270806344
1YMB711716M3512	CEF	10/17.5	10	367	53	5908270806351
1YMB711718M3512	CEF	10/17.5	16	367	53	5908270806368
1YMB711719M3512	CEF	10/17.5	20	367	53	5908270806375
1YMB711721M3512	CEF	10/17.5	25	367	53	5908270806382
1YMB711724M3512	CEF	10/17.5	31.5	367	53	5908270806399
1YMB711725M3512	CEF	10/17.5	40	367	53	5908270806306
1YMB711727M3612	CEF	10/17.5	50	367	65	5908270806313
1YMB711729M3612	CEF	10/17.5	63	367	65	5908270806320
1YMB711731M3612	CEF	10/17.5	80	367	65	5908270806337
1YMB711733M3812	CEF	10/17.5	100	367	87	5908270806344
1YMB711735M3812	CEF	10/17.5	125 <sub>RC110</sub>	367	87	5908270806351
1YMB711713M4512	CEF	10/17.5	6.3	442	53	5908270806368
1YMB711716M4512	CEF	10/17.5	10	442	53	5908270806375
1YMB711718M4512	CEF	10/17.5	16	442	53	5908270806382
1YMB711719M4512	CEF	10/17.5	20	442	53	5908270806399
1YMB711721M4512	CEF	10/17.5	25	442	53	5908270806306
1YMB711724M4512	CEF	10/17.5	31.5	442	53	5908270806313
1YMB711725M4512	CEF	10/17.5	40	442	53	5908270806320
1YMB711727M4612	CEF	10/17.5	50	442	65	5908270806337
1YMB711729M4612	CEF	10/17.5	63	442	65	5908270806344
1YMB711731M4612	CEF	10/17.5	80	442	65	5908270806351
1YMB711733M4612	CEF	10/17.5	100	442	65	5908270806368
1YMB711735M4812	CEF	10/17.5	125	442	87	5908270806375

**Ordering table fuse-links type CEF 10/24 kV:**

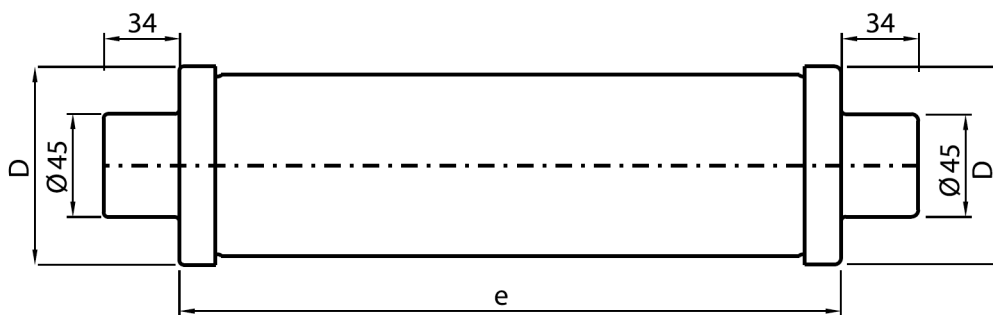
Catalogue number	Fuse name	Rated voltage $U_n$ [kV]	Rated current $I_n$ [A]	Length $e$ [mm]	Diameter $D$ [mm]	EAN 13 Code
1YMB712413M4512	CEF	10/24	6.3	442	53	5908270806344
1YMB712416M4512	CEF	10/24	10	442	53	5908270806351
1YMB712418M4512	CEF	10/24	16	442	53	5908270806368
1YMB712419M4512	CEF	10/24	20	442	53	5908270806375
1YMB712421M4512	CEF	10/24	25	442	53	5908270806382
1YMB712424M4512	CEF	10/24	31.5	442	53	5908270806399
1YMB712425M4512	CEF	10/24	40	442	53	5908270806306
1YMB712427M4612	CEF	10/24	50	442	65	5908270806313
1YMB712429M4612	CEF	10/24	63	442	65	5908270806320
1YMB712431M4612	CEF	10/24	80	442	65	5908270806337
1YMB712433M4812	CEF	10/24	100	442	87	5908270806344
1YMB712435M4812	CEF	10/24	125 <sub>RC105</sub>	442	87	5908270806382
1YMB712413M5512	CEF	10/24	6.3	537	53	5908270806375
1YMB712416M5512	CEF	10/24	10	537	53	5908270806382
1YMB712418M5512	CEF	10/24	16	537	53	5908270806399
1YMB712419M5512	CEF	10/24	20	537	53	5908270806306
1YMB712421M5512	CEF	10/24	25	537	53	5908270806313
1YMB712424M5512	CEF	10/24	31.5	537	53	5908270806320
1YMB712425M5512	CEF	10/24	40	537	53	5908270806337

Catalogue number	Fuse name	Rated voltage $U_n$ [kV]	Rated current $I_n$ [A]	Length $e$ [mm]	Diameter $D$ [mm]	EAN 13 Code
1YMB712427M5612	CEF	10/24	50	537	65	5908270806344
1YMB712429M5612	CEF	10/24	63	537	65	5908270806351
1YMB712431M5612	CEF	10/24	80	537	65	5908270806368
1YMB712433M5812	CEF	10/24	100	537	87	5908270806375
1YMB712435M5812	CEF	10/24	125	537	87	5908270806382

#### Ordering table fuse-links type CEF 20/36 kV:

Catalogue number	Fuse name	Rated voltage $U_n$ [kV]	Rated current $I_n$ [A]	Length $e$ [mm]	Diameter $D$ [mm]	EAN 13 Code
1YMB713613M5512	CEF	20/36	6.3	537	53	5908270806399
1YMB713616M5512	CEF	20/36	10	537	53	5908270806306
1YMB713618M5512	CEF	20/36	16	537	53	5908270806313
1YMB713619M5512	CEF	20/36	20	537	53	5908270806320
1YMB713621M5512	CEF	20/36	25	537	53	5908270806337
1YMB713624M5612	CEF	20/36	31.5	537	65	5908270806344
1YMB713625M5612	CEF	20/36	40	537	65	5908270806351
1YMB713627M5812	CEF	20/36	50	537	87	5908270806368
1YMB713629M5812	CEF	20/36	63	537	87	5908270806375

#### Dimension drawing fuse-links type CEF:



#### 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 <sup>3</sup>	315 <sup>3</sup>					
5	10	16	20	20	25	31.5	31.5	50	50	63	100	100	125	160	200	250 <sup>3</sup>	315 <sup>3</sup>			
6	6.3	10	16	20	20	25	31.5	40	50	50	63	100	100	125	160	200	250 <sup>3</sup>	315 <sup>3</sup>		
10	4 <sup>2</sup>	10	10	16	16	20	20	25	31.5	31.5	50	50	63	80	100	125	160	200		
12	4 <sup>1,2</sup>	6.3	10	10	16	16	20	20	25	31.5	40	50	50	63	80	100	125	160	200	
15	4 <sup>1,2</sup>	6.3	10	10	10	16	16	20	20	25	31.5	40	40	50	63	80	100	125		
20	2 <sup>1,2</sup>	4 <sup>2</sup>	6.3	10	10	10	16	16	20	20	25	31.5	31.5	40	50	63	80	100	125	
24	2 <sup>1,2</sup>	4 <sup>1,2</sup>	6.3	6.3	10	10	10	16	16	20	20	25	25	31.5	40	50	63	80	100	
27	6.3 <sup>1</sup>	6.3 <sup>1</sup>	6.3	6.3	6.3	10	10	10	16	16	20	20	25	31.5	40	50	63			
30	6.3 <sup>1</sup>	6.3 <sup>1</sup>	6.3 <sup>1</sup>	6.3	6.3	6.3	10	10	10	16	20	20	20	25	31.5	40	50	63		
36	6.3 <sup>1</sup>	6.3 <sup>1</sup>	6.3 <sup>1</sup>	6.3	6.3	6.3	10	10	10	16	16	20	20	25	31.5	40	50	63		63

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

**Technical data fuse-links type CEF:**

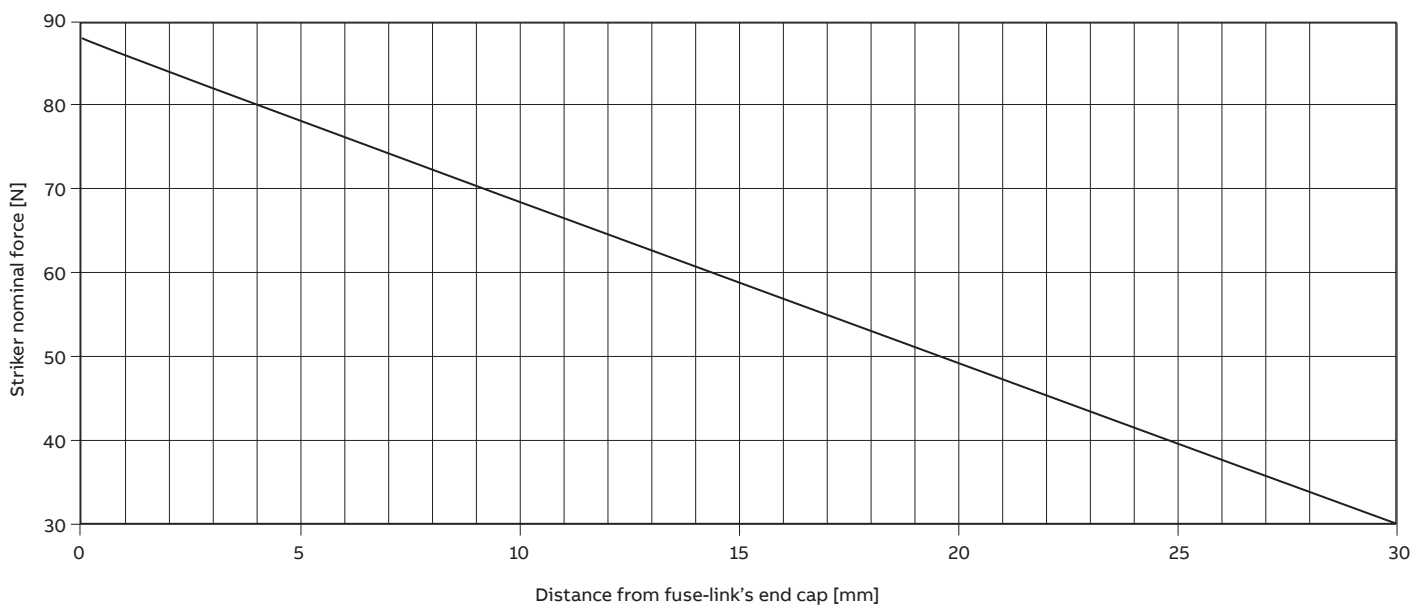
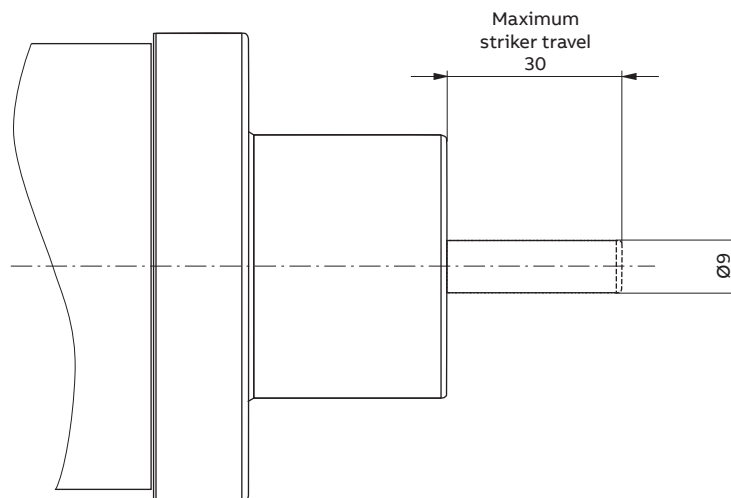
Fuses are meeting requirements of the standards: IEC 60282-1, PN-EN 60282-1, IEC 60787, DIN 43625, VDE 0670-T4 and VDE 0670-T402. All ratings are back-up type, equipped with 80N striker (medium type) and sealed for indoor/outdoor application. For fuses with rated current marked with RC (i.e. 125<sub>RC110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

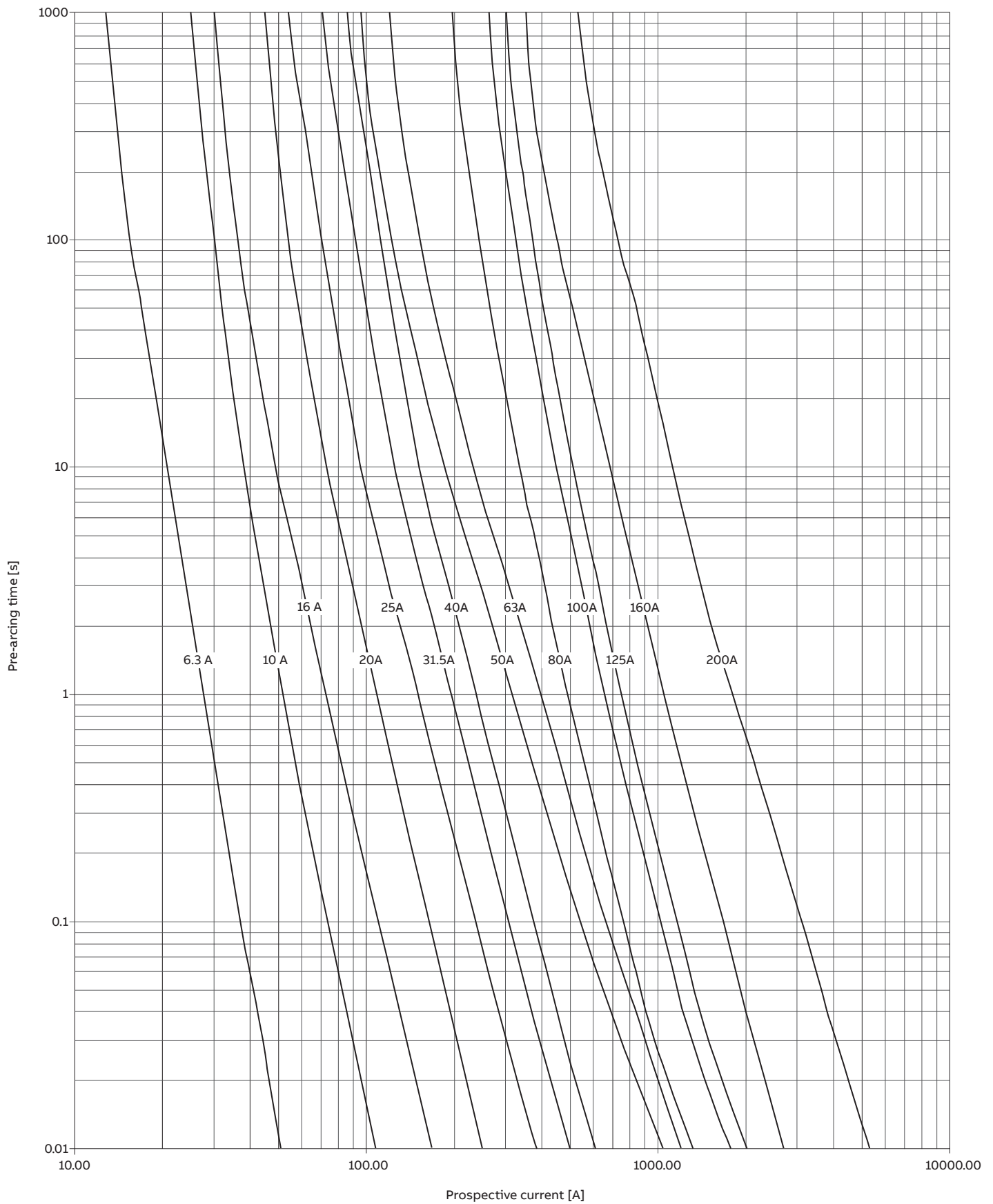
Fuse name	Rated voltage U <sub>n</sub> [kV]	Rated current I <sub>n</sub> [A]	Fuse breaking capacity I <sub>1</sub> [kA]	Fuse minimal breaking current I <sub>3</sub> [A]	Diameter D [mm]	Length e [mm]	Rated power P <sub>w</sub> [W]	Fuse-link cold resistance [mΩ]
CEF	3/7.2	6.3	63	48	53	192	9	186.40
CEF	3/7.2	10	63	43	53	192	12	96.60
CEF	3/7.2	16	63	72	53	192	18	59.50
CEF	3/7.2	20	63	72	53	192	20	39.80
CEF	3/7.2	25	63	110	53	192	17	22.80
CEF	3/7.2	31.5	63	115	53	192	23	17.07
CEF	3/7.2	40	63	143.5	53	192	31	14.10
CEF	3/7.2	50	63	215	53	192	32	9.36
CEF	3/7.2	63	63	220	65	192	43	7.70
CEF	3/7.2	80	63	320	65	192	47	5.00
CEF	3/7.2	100	63	380	65	192	62	3.90
CEF	3/7.2	125	63	380	87	192	81	3.30
CEF	3/7.2	6.3	63	48	53	292	9	186.40
CEF	3/7.2	10	63	43	53	292	12	96.60
CEF	3/7.2	16	63	72	53	292	18	57.27
CEF	3/7.2	20	63	72	53	292	20	39.10
CEF	3/7.2	25	63	110	53	292	17	22.80
CEF	3/7.2	31.5	63	115	53	292	23	17.07
CEF	3/7.2	40	63	143.5	53	292	31	14.10
CEF	3/7.2	50	63	215	53	292	32	9.36
CEF	3/7.2	63	63	220	65	292	43	7.70
CEF	3/7.2	80	63	320	65	292	47	5.00
CEF	3/7.2	100	63	380	65	292	62	3.90
CEF	3/7.2	125	63	380	87	292	81	3.30
CEF	3/7.2	160	50	480	87	292	103	2.60
CEF	3/7.2	200	50	650	87	292	109	1.70
CEF	6/12	6.3	63	44	53	292	17	332.09
CEF	6/12	10	63	43.5	53	292	18	151.00
CEF	6/12	16	63	63	53	292	29	90.42
CEF	6/12	20	63	72.5	53	292	31	61.73
CEF	6/12	25	63	104	53	292	28	35.31
CEF	6/12	31.5	63	116	53	292	34	26.95
CEF	6/12	40	63	150	53	292	51	22.27
CEF	6/12	50	63	200	65	292	48	14.78
CEF	6/12	63	63	218	65	292	63	12.15
CEF	6/12	80	63	318	65	292	72	8.00
CEF	6/12	100	63	375	65	292	93	6.50
CEF	6/12	125	63	375	87	292	124	5.30
CEF	6/12	6.3	63	44	53	442	17	332.09
CEF	6/12	10	63	43.5	53	442	18	151.00
CEF	6/12	16	63	63	53	442	29	90.42
CEF	6/12	20	63	72.5	53	442	31	61.73
CEF	6/12	25	63	104	53	442	28	35.31
CEF	6/12	31.5	63	116	53	442	34	26.95
CEF	6/12	40	63	150	53	442	51	22.27
CEF	6/12	50	63	200	65	442	48	14.78
CEF	6/12	63	63	218	65	442	63	12.15
CEF	6/12	80	63	318	65	442	72	8.00
CEF	6/12	100	63	375	65	442	93	6.50
CEF	6/12	125	63	375	87	442	124	5.30
CEF	6/12	160	63	480	87	442	170	3.98
CEF	6/12	200	63	700	87	442	166	2.73

Fuse name	Rated voltage $U_n$ [kV]	Rated current $I_n$ [A]	Fuse breaking capacity $I_1$ [kA]	Fuse minimal breaking current $I_3$ [A]	Diameter D [mm]	Length e [mm]	Rated power $P_w$ [W]	Fuse-link cold resistance [mΩ]
CEF	10/17.5	6.3	63	44	53	292	23	465.24
CEF	10/17.5	10	63	46	53	292	26	212.96
CEF	10/17.5	16	63	76.5	53	292	43	130.62
CEF	10/17.5	20	63	76.5	53	292	46	87.37
CEF	10/17.5	25	63	110	53	292	40	49.80
CEF	10/17.5	31.5	63	122	65	292	49	37.35
CEF	10/17.5	40	63	160	65	292	70	28.40
CEF	10/17.5	50	63	205	87	292	69	20.47
CEF	10/17.5	63	63	218	87	292	92	16.81
CEF	10/17.5	80	63	330	87	292	110	11.00
CEF	10/17.5	100 <sub>RC87</sub>	63	380	87	292	100	8.80
CEF	10/17.5	6.3	63	44	53	367	23	465.24
CEF	10/17.5	10	63	46	53	367	26	212.96
CEF	10/17.5	16	63	76.5	53	367	43	130.62
CEF	10/17.5	20	63	76.5	53	367	46	87.37
CEF	10/17.5	25	63	110	53	367	40	49.80
CEF	10/17.5	31.5	63	122	53	367	49	37.35
CEF	10/17.5	40	63	160	53	367	70	28.40
CEF	10/17.5	50	63	205	65	367	69	20.47
CEF	10/17.5	63	63	218	65	367	92	16.81
CEF	10/17.5	80	63	330	65	367	110	11.00
CEF	10/17.5	100	63	380	87	367	137	8.80
CEF	10/17.5	125 <sub>RC110</sub>	63	380	87	367	140	7.40
CEF	10/17.5	6.3	63	44	53	442	23	465.24
CEF	10/17.5	10	63	46	53	442	26	212.96
CEF	10/17.5	16	63	76.5	53	442	43	130.62
CEF	10/17.5	20	63	76.5	53	442	46	87.37
CEF	10/17.5	25	63	110	53	442	40	49.80
CEF	10/17.5	31.5	63	122	53	442	49	37.35
CEF	10/17.5	40	63	160	53	442	70	28.40
CEF	10/17.5	50	63	205	65	442	69	20.47
CEF	10/17.5	63	63	218	65	442	92	16.81
CEF	10/17.5	80	63	330	65	442	110	11.18
CEF	10/17.5	100	63	380	65	442	136	8.52
CEF	10/17.5	125	63	380	87	442	183	7.40
CEF	10/24	6.3	63	43	53	442	28	572.6
CEF	10/24	10	63	46	53	442	33	272.2
CEF	10/24	16	63	76.5	53	442	55	168.9
CEF	10/24	20	63	76.5	53	442	59	112.5
CEF	10/24	25	63	110	53	442	57	64.8
CEF	10/24	31.5	63	122	53	442	65	48.9
CEF	10/24	40	63	160	53	442	89	40.2
CEF	10/24	50	63	205	65	442	92	27.0
CEF	10/24	63	63	215	65	442	127	21.9
CEF	10/24	80	63	325	65	442	152	15.6
CEF	10/24	100	63	375	87	442	200	12.9
CEF	10/24	125 <sub>RC105</sub>	40	380	87	442	173	10.5

Fuse name	Rated voltage $U_n$ [kV]	Rated current $I_n$ [A]	Fuse breaking capacity $I_1$ [kA]	Fuse minimal breaking current $I_3$ [A]	Diameter $D$ [mm]	Length $e$ [mm]	Rated power $P_w$ [W]	Fuse-link cold resistance [mΩ]
CEF	10/24	6.3	63	43	53	537	28	572.6
CEF	10/24	10	63	46	53	537	33	272.2
CEF	10/24	16	63	76.5	53	537	55	168.9
CEF	10/24	20	63	76.5	53	537	59	112.5
CEF	10/24	25	63	110	53	537	57	64.8
CEF	10/24	31.5	63	122	53	537	65	48.9
CEF	10/24	40	63	160	53	537	89	40.2
CEF	10/24	50	63	205	65	537	92	27.0
CEF	10/24	63	63	215	65	537	127	21.9
CEF	10/24	80	63	325	65	537	152	15.6
CEF	10/24	100	63	375	87	537	200	12.9
CEF	10/24	125	63	375	87	537	234	10.6
CEF	20/36	6.3	40	37	53	537	47	925.0
CEF	20/36	10	40	37.5	53	537	50	413.6
CEF	20/36	16	40	59	53	537	85	254.0
CEF	20/36	20	40	62.5	53	537	88	162.3
CEF	20/36	25	40	100	53	537	87	104.0
CEF	20/36	31.5	40	158	65	537	118	84.0
CEF	20/36	40	40	164	65	537	135	57.7
CEF	20/36	50	40	230	87	537	157	43.5
CEF	20/36	63	40	299	87	537	225	36.6

**Fuse-link striker force and dimensions:**

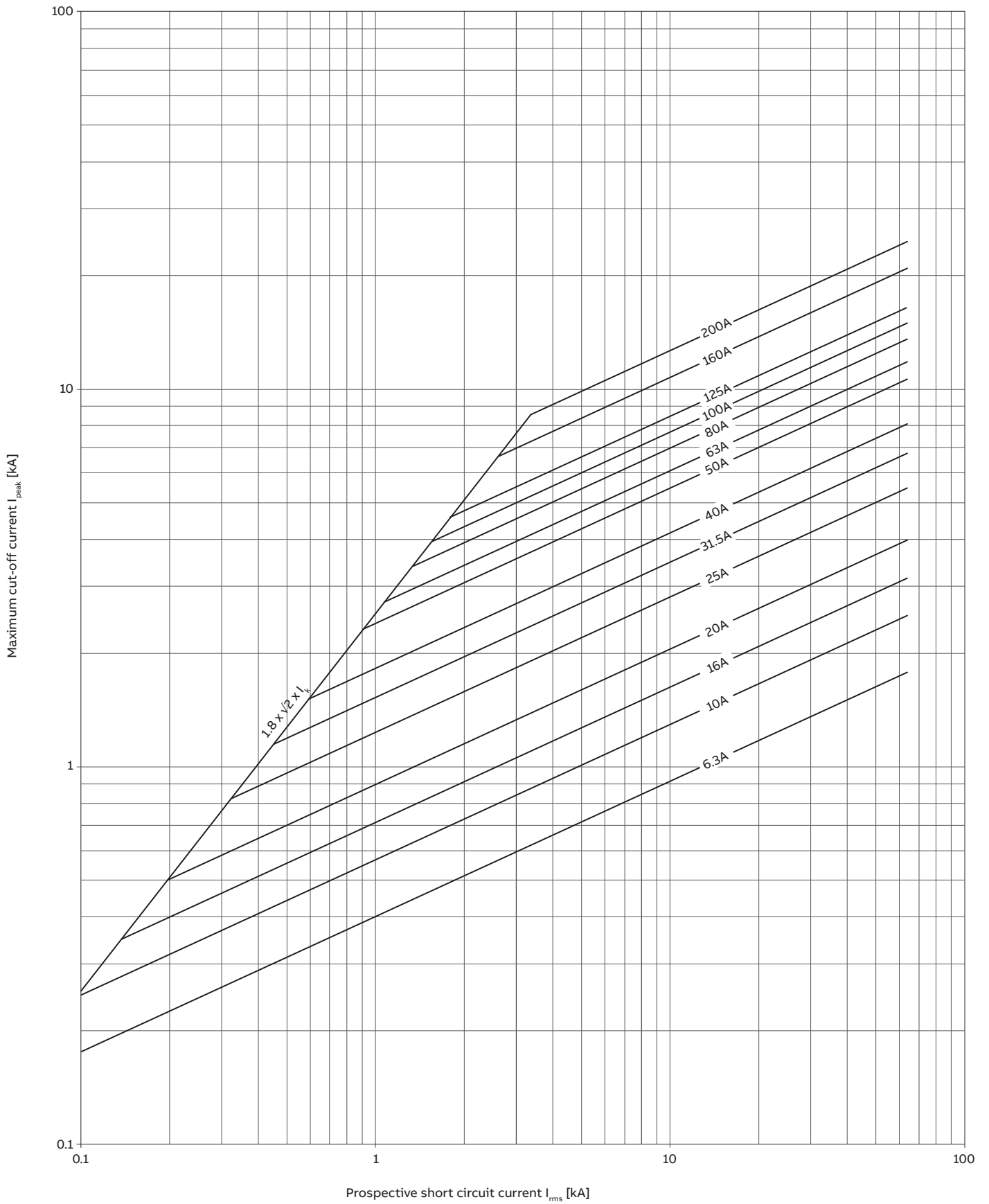


**CEF 3/7.2 kV; 6/12kV; 10/17.5 kV; 10/24 kV time-current characteristics:**

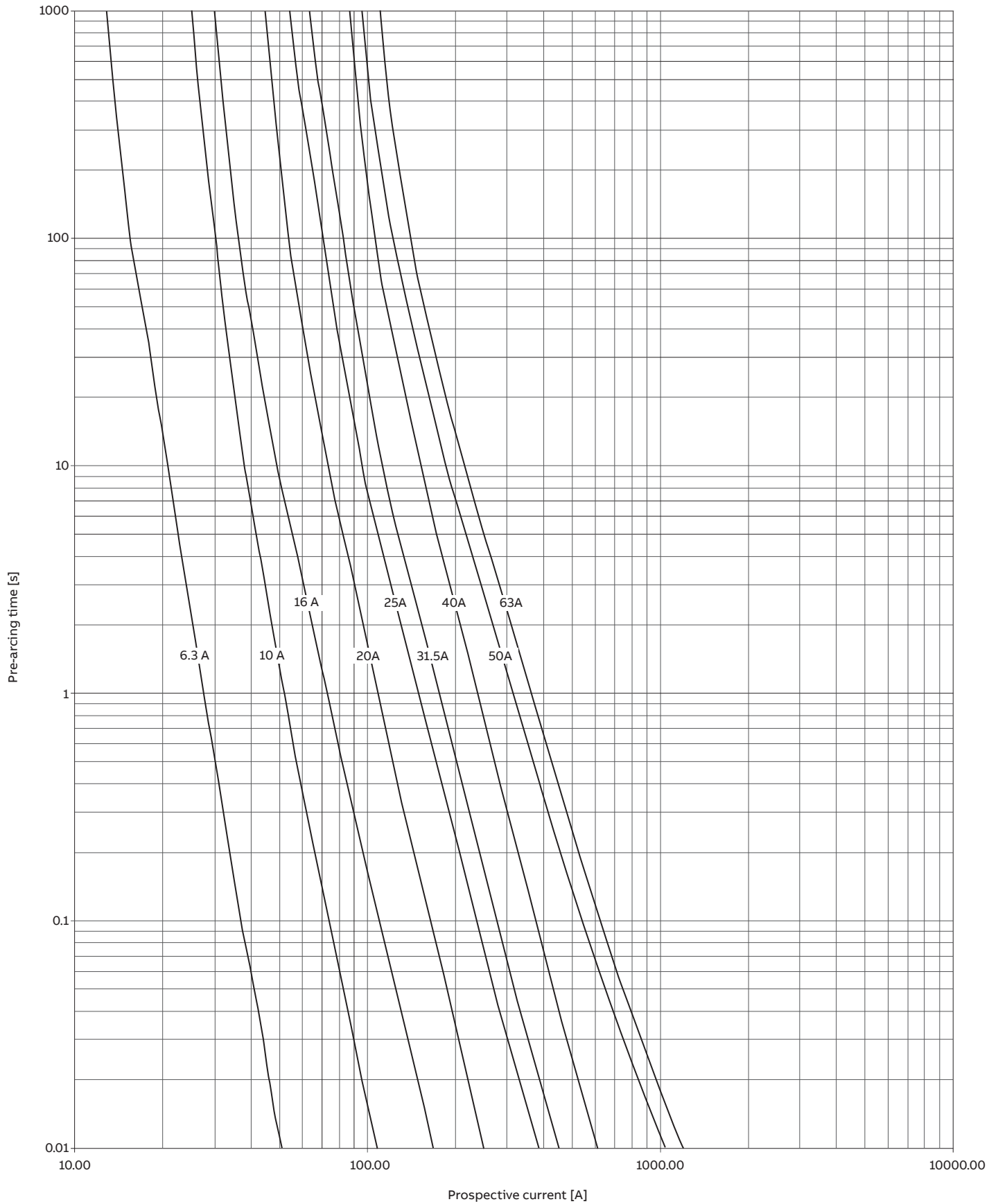
Characteristics show the average melting time as a function of the prospective current and are recorded from cold condition of fuse-link. The tolerance is  $\pm 10\%$  referred to the current.



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

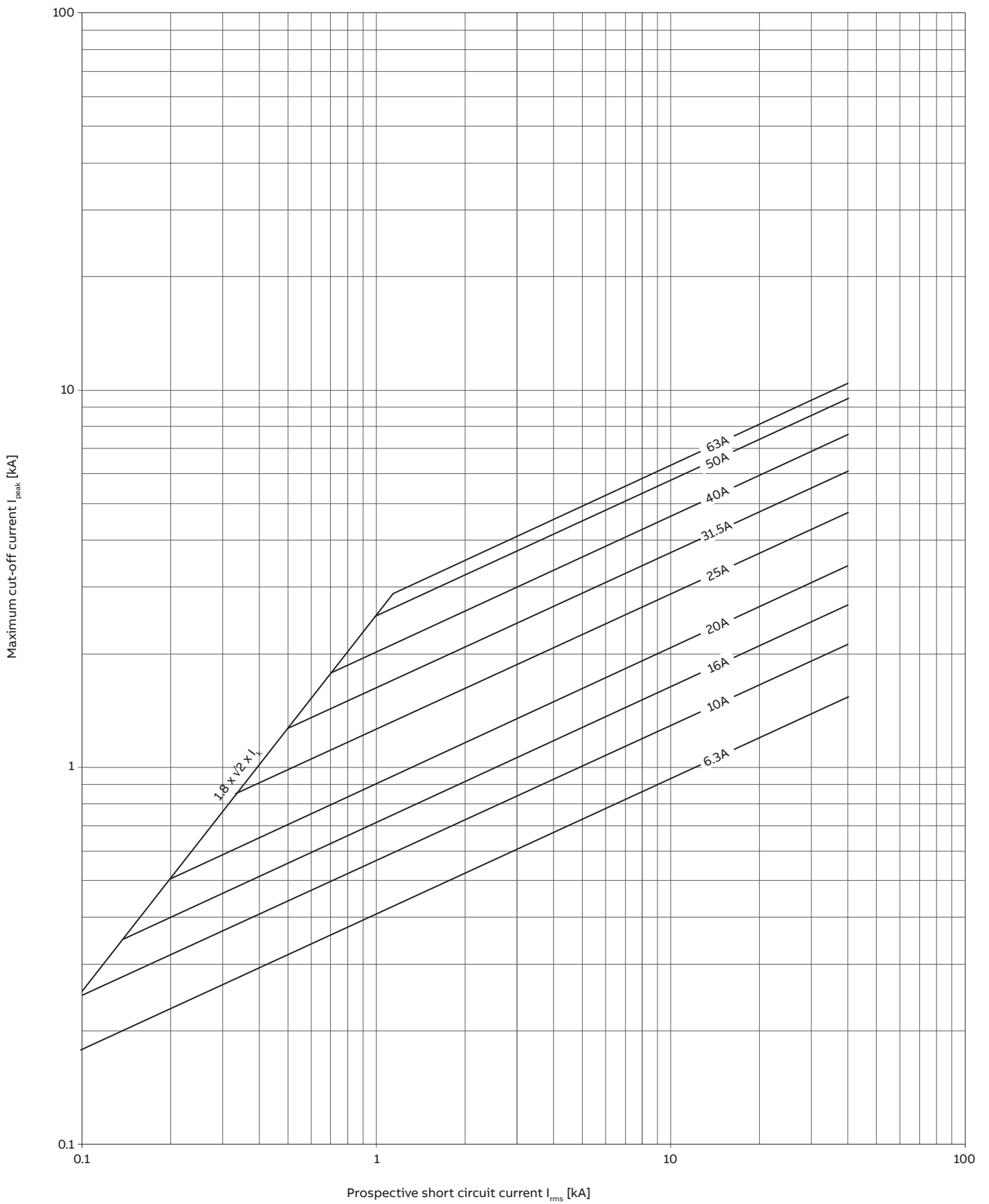


Characteristics show the cut-off current corresponding to a prospective short circuit current. Characteristics are valid for frequency 50Hz.

**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.

**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 disconnecter, 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 fuses 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.

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