

Limitor[®]- PT Back-up Fuses

with Controlled Power Dissipation

HIGH VOLTAGE IEC FUSES

DIN HV BACK-UP FUSES FOR TRANSFORMERS



Mersen HV fuse-links have been used for reliable protection in high-voltage switchgear and controlgear and high-voltage systems for decades.

Limitor[®]-PT HV fuses are back-up fuses as defined in the IEC 60282-1 standard and dedicated to protect transformers against the effects of short-circuit currents.

To guarantee high quality, Mersen uses the best materials: fuse-elements are in pure silver, caps are in copper coated with silver and bodies are in ceramic.

TECHNICAL DATA

	3/7,2kV 292mm 442mm	6/12kV 292mm	10/17,5kV 292mm 367mm 442mm	10/24kV 442mm
Rated current	6.3 ... 125 A	1 ... 200 A	6.3 ... 125 A	1 ... 125 A
Rated voltage range U _n	3/7.2 kV	6/12kV	10/17,5 kV	10/24 kV
Rated voltage of transformer	6 kV	10 kV	15 kV	20 kV

FEATURES & BENEFITS

- High breaking capacity
- High current limitation
- Low switching voltage
- Quick breaking
- Energy efficiency
- New cap design for a better compatibility with all types of clips and easier assembly
- Coordination with IEC 60787, IEC 62271-105, IEC/TR 62655
- Medium striker 80N/30mm
- CPD striker: controlled power dissipation
- Indoor and outdoor applications

APPLICATIONS

- HV Transformer protection

STANDARDS

- IEC 60282-1
- VDE 0670 part 4
- DIN 43625



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PRODUCT RANGE

Limitor- PT, Rated voltage 3 / 7,2 kV

Catalog number	Item number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_3 = I_{min}$	Cold resistance R_{20} (+/-10%)	Power dissipation at I_n	Weight	Package
Ø63mm, length 292mm									
45DB72V6,3PT-2	H1005889	6.3 A	1 kA ² s	63 kA	28 A	147 mΩ	6 W	2.2 kg	1
45DB72V10PT-2	L1005892	10 A	1.5 kA ² s	63 kA	45 A	80.3 mΩ	9 W	2.2 kg	1
45DB72V16PT-2	M1005893	16 A	3.4 kA ² s	63 kA	64 A	44.3 mΩ	12.8 W	2.2 kg	1
45DB72V25PT-2	N1005894	25 A	5.5 kA ² s	63 kA	100 A	27.5 mΩ	21 W	2.2 kg	1
45DB72V32PT-2	P1005895	31.5 A	10 kA ² s	63 kA	126 A	20.6 mΩ	25 W	2.2 kg	1
45DB72V40PT-2	Q1005896	40 A	12 kA ² s	63 kA	160 A	16.2 mΩ	33 W	2.2 kg	1
45DB72V50PT-2	R1005897	50 A	22 kA ² s	63 kA	200 A	11.3 mΩ	37 W	2.2 kg	1
45DB72V63PT-2	S1005898	63 A	42 kA ² s	63 kA	252 A	8.5 mΩ	46 W	2.2 kg	1
45DB72V80PT-2	T1005899	80 A	120 kA ² s	63 kA	320 A	6.8 mΩ	63 W	2.2 kg	1
45DB72V100PT-2	P1005274	100 A	220 kA ² s	63 kA	400 A	4.7 mΩ	70 W	2.2 kg	1
Ø63mm, length 442mm									
45DB72V6,3PT-3	A1005675	6.3 A	1 kA ² s	63 kA	28 A	166 mΩ	7 W	2.9 kg	1
45DB72V10PT-3	Y1005650	10 A	1.5 kA ² s	63 kA	45 A	90.8 mΩ	10 W	2.9 kg	1
45DB72V16PT-3	T1005669	16 A	3.4 kA ² s	63 kA	64 A	46.7 mΩ	14 W	2.9 kg	1
45DB72V25PT-3	V1005670	25 A	5.5 kA ² s	63 kA	100 A	31.1 mΩ	23 W	2.9 kg	1
45DB72V32PT-3	W1005671	31.5 A	10 kA ² s	63 kA	126 A	23.4 mΩ	29 W	2.9 kg	1
45DB72V40PT-3	X1005672	40 A	12 kA ² s	63 kA	160 A	18.3 mΩ	38 W	2.9 kg	1
45DB72V50PT-3	Y1005673	50 A	22 kA ² s	63 kA	200 A	12.8 mΩ	41 W	2.9 kg	1
45DB72V63PT-3	Z1005674	63 A	42 kA ² s	63 kA	252 A	9.6 mΩ	50 W	2.9 kg	1
45DB72V80PT-3	B1005676	80 A	120 kA ² s	63 kA	320 A	7.7 mΩ	69 W	2.9 kg	1
45DB72V100PT-3	S1005668	100 A	220 kA ² s	63 kA	400 A	5.3 mΩ	76 W	2.9 kg	1
Ø88mm, length 442mm									
45DB72V125PT-3	R1005276	125 A	450 kA ² s	63 kA	500 A	4.6 mΩ	107 W	5.7 kg	1

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Limitor®- PT Back-up Fuses

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PRODUCT RANGE



45DB120V1PT



45DB120V125PT

Limitor- PT, Rated voltage 6 /12 kV

Catalog number	Item number	Rated current I _n	Clearing I ² t at Rated Voltage	Breaking capacity I _b	Minimum breaking current I _s = I _{min}	Cold resistance R ₂₀ (+/-10%)	Power dissipation at I _n	Weight	Package
Ø56mm, length 292mm									
45DB120V1PT	L1000119	1 A	0.09 kA ² s	63 kA	14 A	1500 mΩ	1.6 W	1.6 kg	1
45DB120V2PT	M1000120	2 A	0.28 kA ² s	63 kA	16 A	510 mΩ	2 W	1.6 kg	1
45DB120V4PT	N1000121	4 A	0.5 kA ² s	63 kA	22 A	338 mΩ	6 W	1.6 kg	1
45DB120V6,3PT	P1000122	6.3 A	0.6 kA ² s	63 kA	30 A	190 mΩ	8 W	1.6 kg	1
45DB120V10PT	Q1000123	10 A	1.15 kA ² s	63 kA	42 A	139 mΩ	16 W	1.6 kg	1
45DB120V16PT	R1000124	16 A	1.29 kA ² s	63 kA	54 A	107 mΩ	38 W	1.6 kg	1
45DB120V20PT	S1000125	20 A	3.2 kA ² s	63 kA	73 A	71 mΩ	38 W	1.6 kg	1
45DB120V25PT	T1000126	25 A	5.2 kA ² s	63 kA	93 A	52 mΩ	46 W	1.6 kg	1
45DB120V32PT	V1000127	31.5 A	7.2 kA ² s	63 kA	105 A	43 mΩ	65 W	1.6 kg	1
45DB120V40PT	W1000128	40 A	23.3 kA ² s	63 kA	125 A	23 mΩ	54 W	1.6 kg	1
45DB120V50PT	X1000129	50 A	34.9 kA ² s	63 kA	160 A	18 mΩ	70 W	1.6 kg	1
45DB120V63PT	Y1000130	63 A	58.3 kA ² s	63 kA	230 A	12 mΩ	85 W	1.6 kg	1
Ø65mm, length 292mm									
45DB120V80PT	Z1000131	80 A	90 kA ² s	63 kA	350 A	10.6 mΩ	114 W	2.2 kg	1
Ø78mm, length 292mm									
45DB120V100PT	A1000132	100 A	140 kA ² s	63 kA	500 A	8.5 mΩ	156 W	2.2 kg	1
Ø88mm, length 292mm									
45DB120V125PT	B1000133	125 A	440 kA ² s	63 kA	480 A	4 mΩ	117 W	3.8 kg	1
45DB120V160PT	C1000134	160 A	500 kA ² s	63 kA	560 A	4.3 mΩ	217 W	3.8 kg	1
45DB120V200PT	D1000135	200 A	654 kA ² s	63 kA	610 A	3.8 mΩ	333 W	3.8 kg	1

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PRODUCT RANGE



45DB175V100PT

Limitor- PT, Rated voltage 10 /17,5 kV

Catalog number	Item number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_s = I_{min}$	Cold resistance R_{20} (+/-10%)	Power dissipation at I_n	Weight	Package
Ø63mm, length 292mm									
45DB175V6,3PT-2	V1005900	6.3 A	1 kA ² s	25 kA	32 A	331 mΩ	15.1 W	2.2 kg	1
45DB175V10PT-2	W1005901	10 A	1.5 kA ² s	25 kA	45 A	181 mΩ	22 W	2.2 kg	1
45DB175V16PT-2	V1005279	16 A	3.4 kA ² s	25 kA	64 A	99.6 mΩ	32 W	2.2 kg	1
45DB175V25PT-2	X1005902	25 A	5.5 kA ² s	25 kA	100 A	62.1 mΩ	54 W	2.2 kg	1
45DB175V32PT-2	Y1005903	31.5 A	10 kA ² s	25 kA	126 A	46.5 mΩ	69 W	2.2 kg	1
45DB175V40PT-2	Z1005904	40 A	12 kA ² s	25 kA	160 A	36.5 mΩ	94.3 W	2.2 kg	1
Ø88mm, length 292mm									
45DB175V50PT-2	A1005905	50 A	23 kA ² s	25 kA	200 A	21.4 mΩ	77 W	3.1 kg	1
Ø56mm, length 367mm									
45DB175V6,3PT	G1006118	6.3 A	1 kA ² s	63 kA	30 A	245 mΩ	11 W	5.7 kg	1
45DB175V10PT	H1006119	10 A	1.5 kA ² s	63 kA	43 A	180 mΩ	22 W	5.7 kg	1
45DB175V16PT	J1006120	16 A	2 kA ² s	63 kA	54 A	150 mΩ	53 W	5.7 kg	1
45DB175V25PT	K1006121	25 A	6 kA ² s	63 kA	93 A	78 mΩ	73 W	5.7 kg	1
45DB175V32PT	L1006122	31.5 A	10 kA ² s	63 kA	105 A	59 mΩ	95 W	5.7 kg	1
45DB175V40PT	M1006123	40 A	30 kA ² s	63 kA	125 A	33.8 mΩ	79 W	5.7 kg	1
45DB175V50PT	N1006124	50 A	50 kA ² s	63 kA	205 A	26 mΩ	106 W	5.7 kg	1
45DB175V63PT	P1006125	63 A	100 kA ² s	63 kA	280 A	18.4 mΩ	135 W	5.7 kg	1
Ø65mm, length 367mm									
45DB175V80PT	Q1006126	80 A	150 kA ² s	63 kA	350 A	15 mΩ	183 W	5.7 kg	1
Ø88mm, length 367mm									
45DB175V100PT	S1006128	100 A	200 kA ² s	63 kA	500 A	13 mΩ	240 W	5.7 kg	1
Ø63mm, length 442mm									
45DB175V50PT-3	B1005906	50 A	22 kA ² s	31.5 kA	200 A	23.2 mΩ	83 W	2.9 kg	1
45DB175V63PT-3	Z1005283	63 A	42 kA ² s	31.5 kA	252 A	17.4 mΩ	104 W	2.9 kg	1
Ø88mm, length 442mm									
45DB175V80PT-3	L1005639	80 A	120 kA ² s	31.5 kA	320 A	13.7 mΩ	135 W	5.7 kg	1
45DB175V100PT-3	C1005907	100 A	220 kA ² s	31.5 kA	400 A	9.6 mΩ	151 W	5.7 kg	1
45DB175V125PT-3	D1005908	125 A	300 kA ² s	31.5 kA	500 A	8 mΩ	217 W	5.7 kg	1
Ø88mm, length 537mm									
45DB175V100PT-4	E1005909	100 A	320 kA ² s	31.5 kA	400 A	9.6 mΩ	151 W	6.8 kg	1

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Limitor®- PT Back-up Fuses

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PRODUCT RANGE



45DB240V1PT



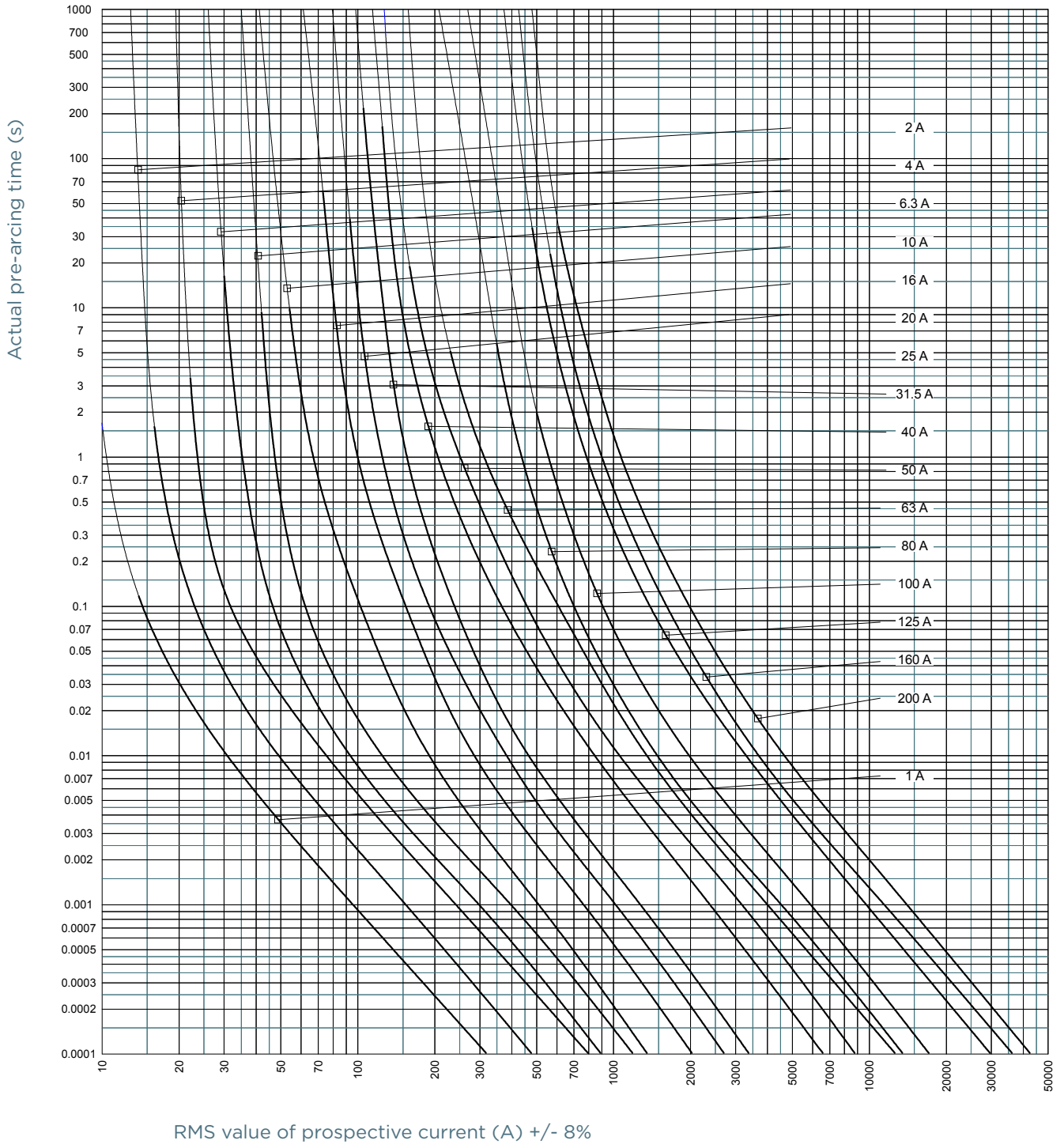
45DB240V125PT

Limitor- PT, Rated voltage 10 / 24 kV

Catalog number	Item number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_s = I_{min}$	Cold resistance $R_{20} (+/-10\%)$	Power dissipation at I_n	Weight	Package
Ø56mm, length 442mm									
45DB240V1PT	E1000136	1 A	0.09 kA ² s	63 kA	14 A	2100 mΩ	2 W	2.3 kg	1
45DB240V2PT	F1000137	2 A	0.34 kA ² s	63 kA	16 A	800 mΩ	3 W	2.3 kg	1
45DB240V4PT	G1000138	4 A	0.45 kA ² s	63 kA	23 A	550 mΩ	10 W	2.3 kg	1
45DB240V6,3PT	H1000139	6.3 A	0.53 kA ² s	63 kA	30 A	300 mΩ	13 W	2.3 kg	1
45DB240V10PT	J1000140	10 A	0.94 kA ² s	63 kA	43 A	220 mΩ	26 W	2.3 kg	1
45DB240V16PT	K1000141	16 A	1.4 kA ² s	63 kA	60 A	197 mΩ	73 W	2.3 kg	1
45DB240V20PT	L1000142	20 A	3.1 kA ² s	63 kA	76 A	134 mΩ	76 W	2.3 kg	1
45DB240V25PT	M1000143	25 A	4.5 kA ² s	63 kA	93 A	96 mΩ	89 W	2.3 kg	1
45DB240V32PT	N1000144	31.5 A	5.9 kA ² s	63 kA	105 A	79 mΩ	127 W	2.3 kg	1
45DB240V40PT	P1000145	40 A	18.8 kA ² s	63 kA	130 A	45 mΩ	114 W	2.3 kg	1
45DB240V50PT	Q1000146	50 A	33.5 kA ² s	63 kA	205 A	35 mΩ	147 W	2.3 kg	1
45DB240V63PT	R1000147	63 A	46.4 kA ² s	63 kA	280 A	25 mΩ	163 W	2.3 kg	1
Ø65mm, length 442mm									
45DB240V80PT	S1000148	80 A	84 kA ² s	63 kA	360 A	20.5 mΩ	233 W	3.1 kg	1
Ø78mm, length 442mm									
45DB240V100PT	T1000149	100 A	93.6 kA ² s	63 kA	430 A	18 mΩ	400 W	3.6 kg	1
Ø88mm, length 442mm									
45DB240V125PT	V1000150	125 A	350 kA ² s	63 kA	760 A	11 mΩ	340 W	4.3 kg	1

TIME CURRENT CHARACTERISTIC CURVES

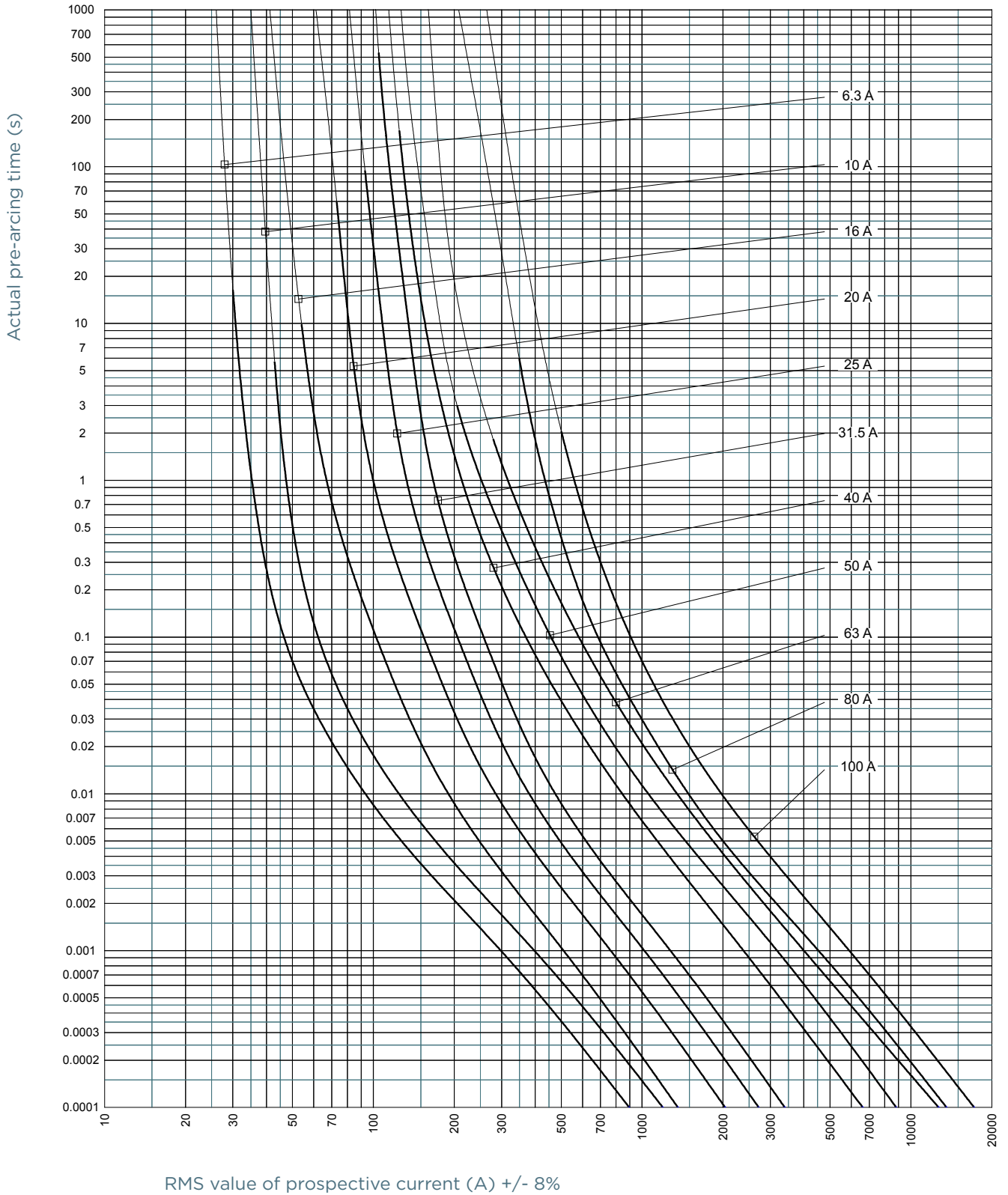
Limitor® PT 12kV 292mm



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TIME CURRENT CHARACTERISTIC CURVES

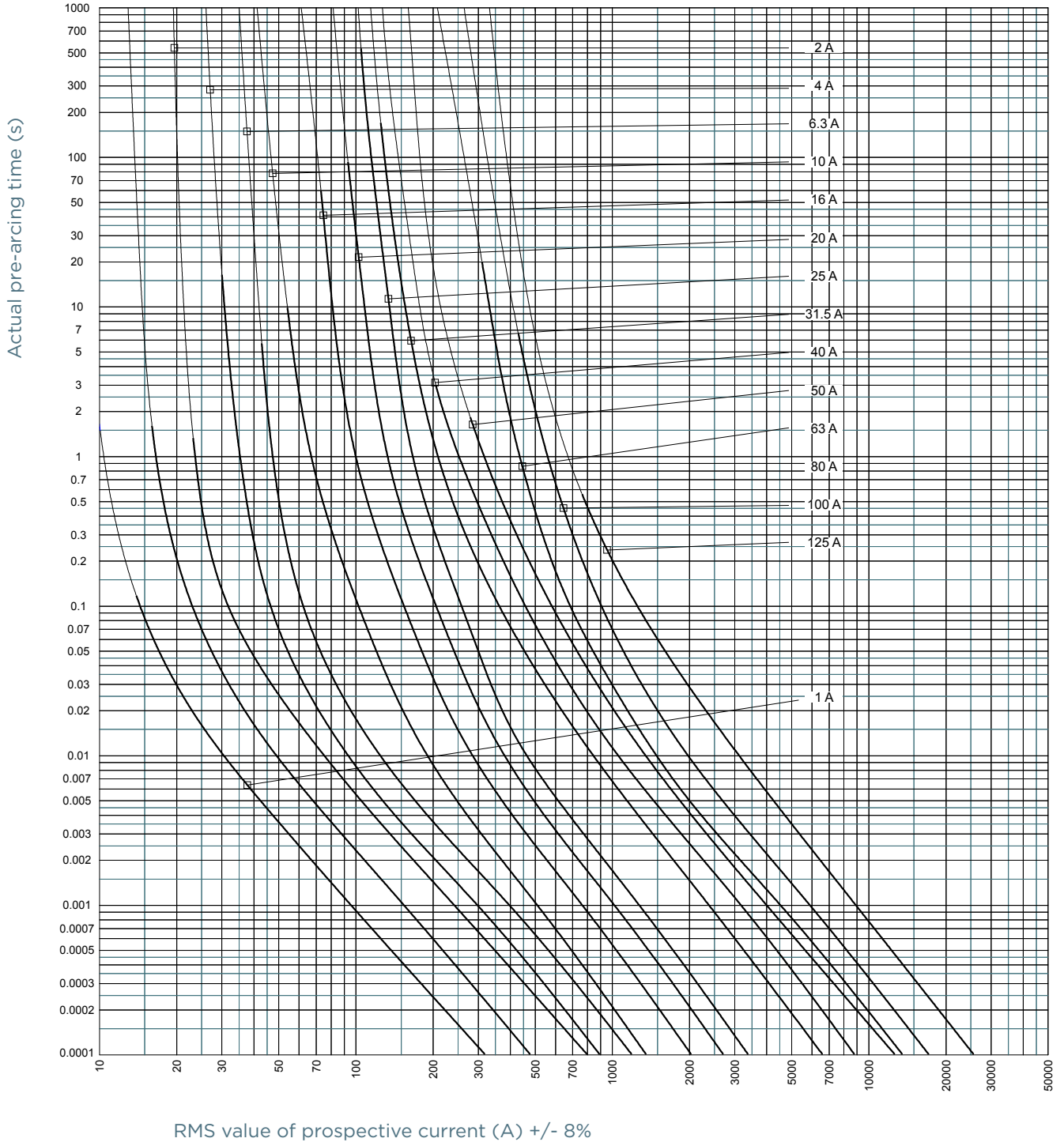
Limitor[®] PT 17,5V 367mm



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TIME CURRENT CHARACTERISTIC CURVES

Limitor[®] PT 24kV 442mm



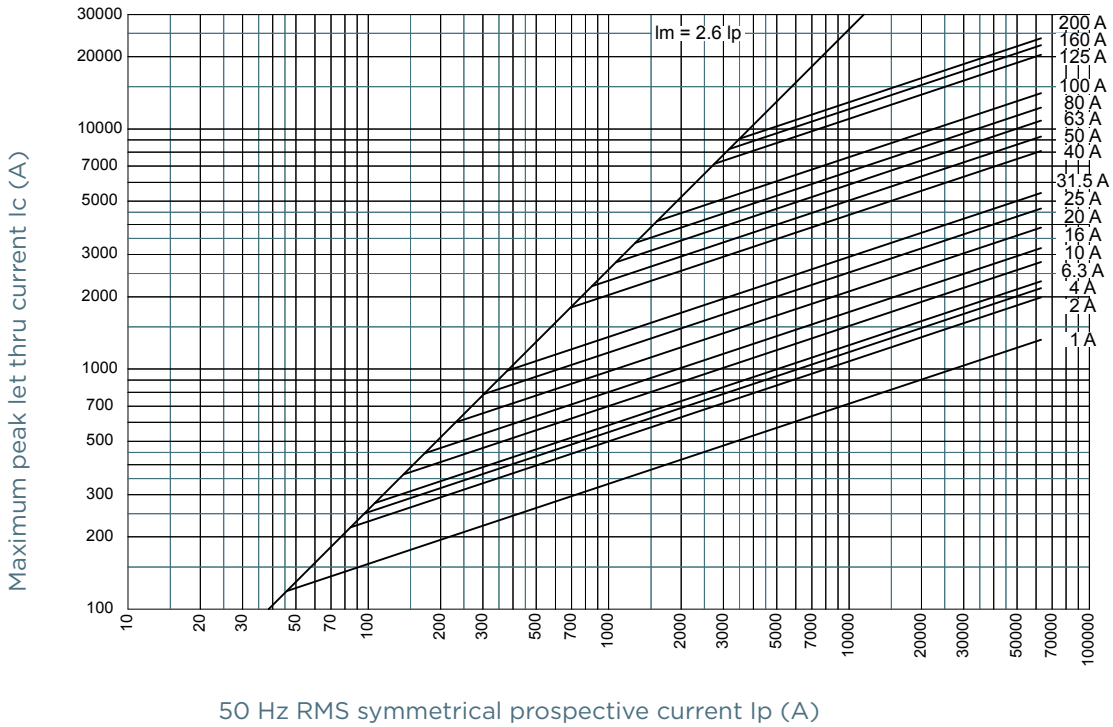
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Limitor[®]- PT Back-up Fuses

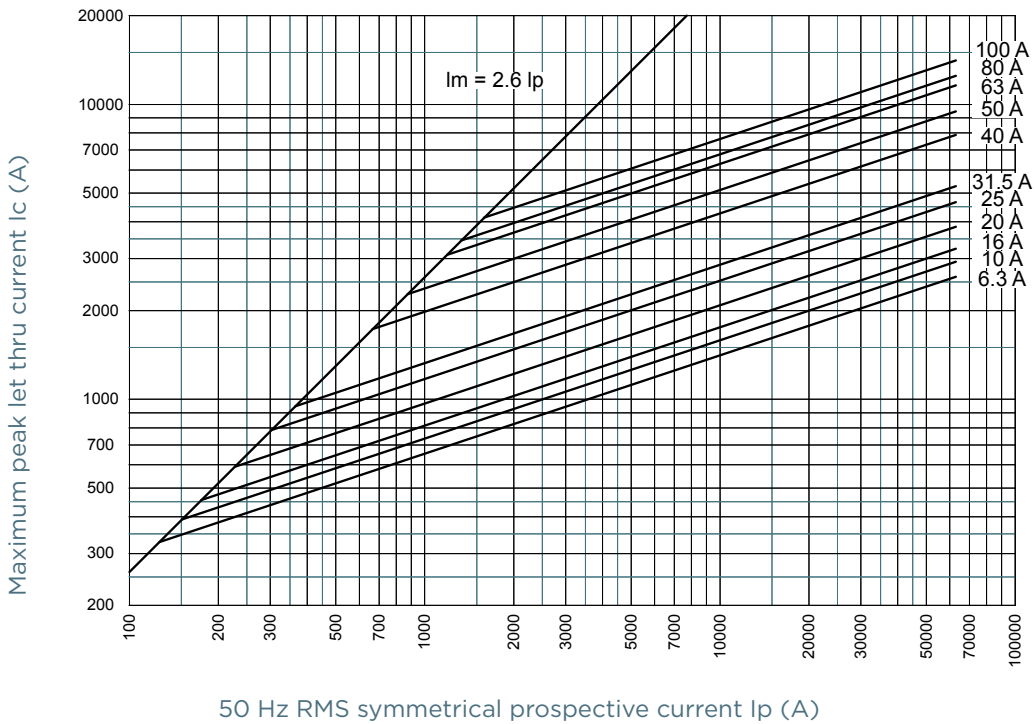
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CUT-OFF CURRENT CHARACTERISTIC

Limitor[®] PT 12kV 292mm



Limitor[®] PT 17.5V 367mm

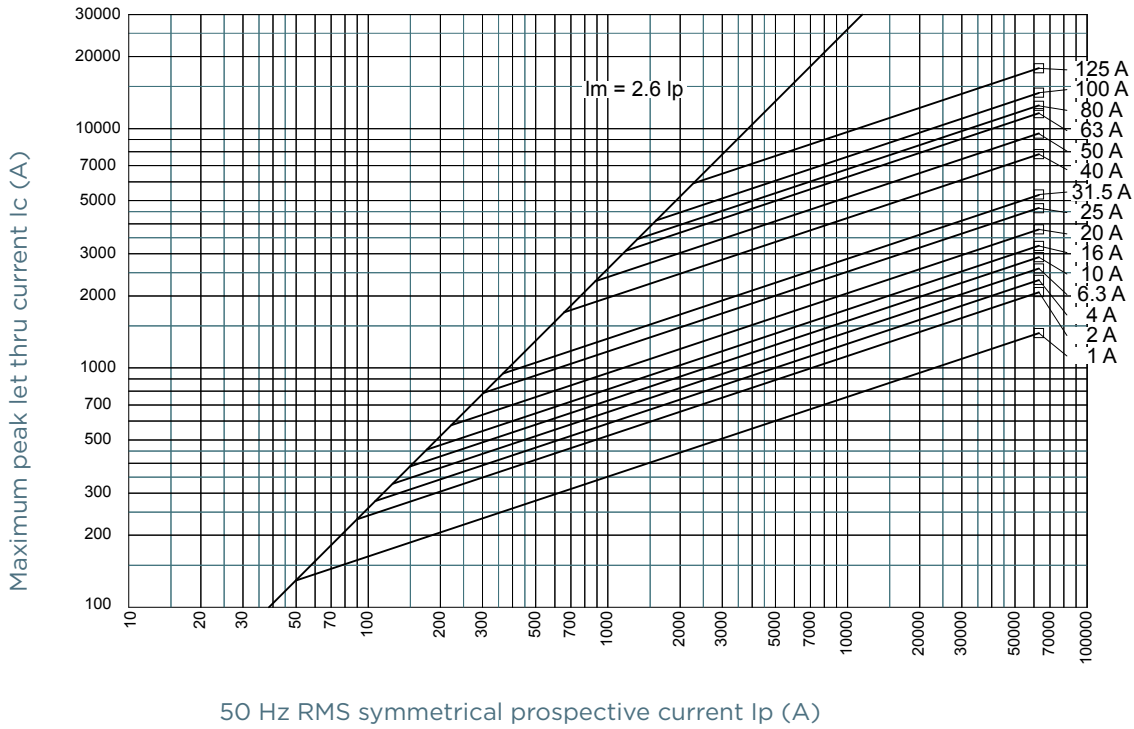


Limitor[®]- PT Back-up Fuses

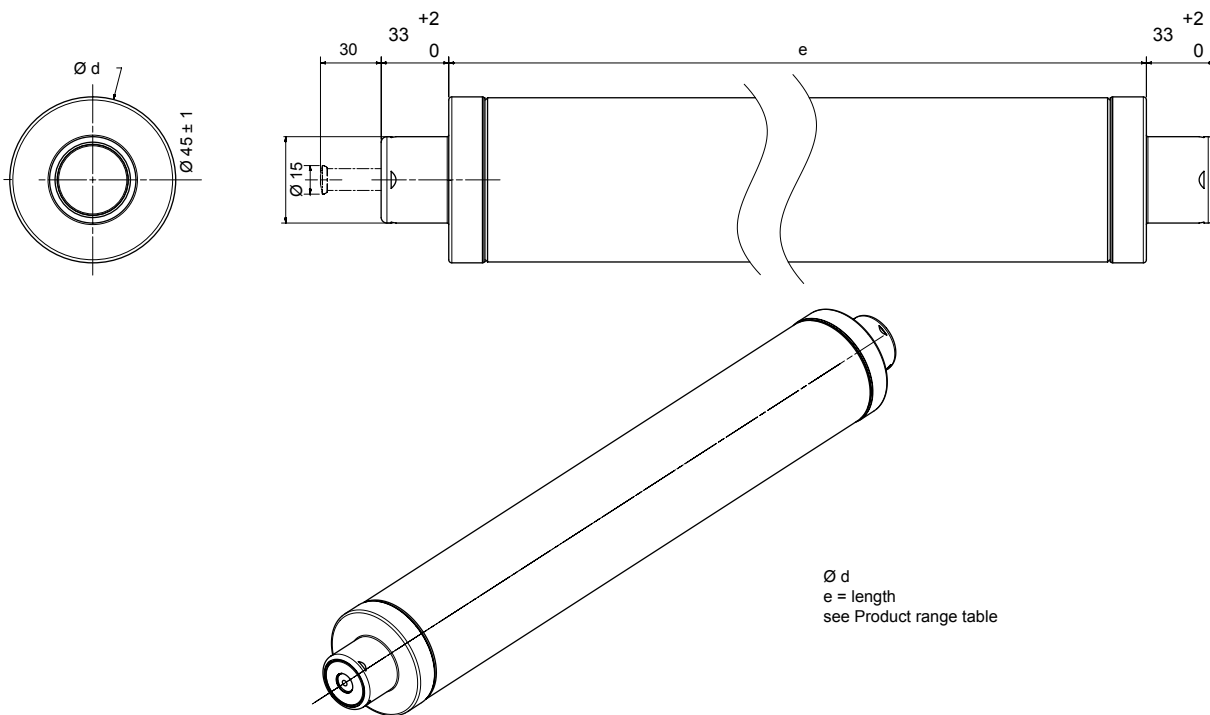
with Controlled Power Dissipation

CUT-OFF CURRENT CHARACTERISTIC

Limitor[®] PT 24kV 442mm



DIMENSIONS



Dimensions in mm

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Limitor®- PT Back-up Fuses

with Controlled Power Dissipation

SELECTION TABLE

Rated voltage range of fuse-link [kV]		3/7.2		6/12		10/24		20/36	
Service voltage of transformer [kV]		6		10		20		30	
Relative short-circuit voltage	Transformer output [kVA]	Transformer rated current [A]	Rated current of fuse-link [A]	Transformer rated current [A]	Rated current of fuse-link [A]	Transformer rated current [A]	Rated current of fuse-link [A]	Transformer rated current [A]	Rated current of fuse-link [A]
Uk = 4%	50	4.8	16-20	2.9	10	1.5	4	0.96	2-6.3
	100	9.6	20-31.5	5.8	16-20	2.9	10	1.9	6.3-10
	125	12	25-40	7.2	20-25	3.6	10-16	2.4	10
	160	15.4	31.5-50	9.2	20-31.5	4.6	16-20	3.1	10
	200	19.2	40-63	11.5	25-40	5.8	16-20	3.8	10-16
	250	24.1	40-80	14.4	31.5-50	7.2	20-25	4.8	16-20
	315	30.3	50-100	18.2	40-63	9.1	20-31.5	6.1	16-25
	400	38.5	63-125	23.1	40-80	11.5	25-40	7.7	20-25
	500	48.1	80-160	28.9	50-100	14.4	31.5-50	9.6	20-31.5
	630	60.6	100-200	36.4	63-100	18.2	40-63	12.1	25-40
Uk = 5%	800	77.1	125-200	46.2	80-125	23.1	40-63	15.4	31.5-40
	1000	96.3	125-160	57.7	100-160	28.9	50-80	19.2	40-50
Uk = 6%	1250	120.3	160-200	72.2	125-200	36.1	63-100	24.1	40-50
	1600	154	200	92.4	125-200	46.2	80-100	30.8	50-63