

Bezpieczniki europejskie

7,2 - 36kV
od 6,3 do 125A



Typ: IBD z wybijakiem

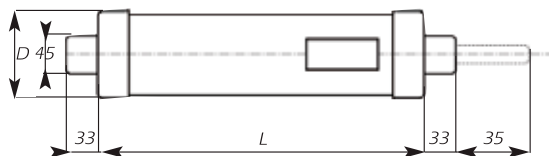
Główna charakterystyka

Napięcie znamionowe	Prąd znamionowy	Wymiary		Numer referencyjny	Prąd wyłączalny najmniejszy	Zdolność wyłączeniowa	Napięcie wyłączalne największe	Straty mocy @ I _n	Całkowite I ² t @ U _n	Waga	Numer katalogowy		
		L mm	D mm										
3/7.2	6.3	192	D1 = 53	S209293	31	25	23	3.5	0.9	1.1	45DIN72V6,3P		
	10			T209294	20	50	23	8.9	1.82	1.1	45DIN72V10P		
	16			V209295	35	50	23	15	8.3	1.1	45DIN72V16P		
	20			W209296	52	50	23	15	11	1.1	45DIN72V20P		
	25			X209297	76	50	23	16	14	1.1	45DIN72V25P		
	31.5			Y209298	102	50	23	20	19	1.1	45DIN72V31,5P		
	40		Z209299	128	50	23	28	25	1.1	45DIN72V40P			
	50		D2 = 73	A209300	159	50	23	29	48	1.8	45DIN72V50P		
	63			B209301	210	50	23	35	60	1.8	45DIN72V63P		
	80			C209302	280	25	23	53	160	1.8	45DIN72V80P		
	100			D209303	350	25	23	67	205	1.8	45DIN72V100P		
	6/12			6.3	292	D1 = 53	F209305	31	25	37	12	0.9	1.6
10		G209306		20			50	37	19	1.82	1.6	45DIN120V10P	
16		H209307	34	50			37	27	8.3	1.6	45DIN120V16P		
20		J209308	51	50			37	28	11	1.6	45DIN120V20P		
25		K209309	76	50			37	29	14	1.6	45DIN120V25P		
31.5		L209310	101	50			37	36	19	1.6	45DIN120V31,5P		
40		M209311	125	50		37	50	25	1.6	45DIN120V40P			
50		D2 = 73	N209312	159		50	37	52	48	2.6	45DIN120V50P		
63			P209313	210		50	37	64	60	2.6	45DIN120V63P		
80			Q209314	290		25	37	115	160	2.6	45DIN120V80P		
100			R209315	350		25	37	120	205	2.6	45DIN120V100P		
10/17.5			6.3	292		D1 = 53	T209317	31	25	55	14	4.5	1.6
	10		V209318		20		50	55	30	22	1.6	45DIN175V10P	
	16	W209319	35		50		55	40	28	1.6	45DIN175V16P		
	20	X209320	52		50		55	42	31	1.6	45DIN175V20P		
	25	Y209321	78		50		55	45	34	1.6	45DIN175V25P		
	31.5	Z209322	104		50		55	55	39	1.6	45DIN175V31,5P		
	40	A209323	125		50		55	82	42	1.6	45DIN175V40P		
	50	D3 = 87	N220099*										45AL175V50P-2
	63		J220164*										45AL175V63P-2
	80		V202671*									45AL175V80P-2	
	80	D3 = 87	D220458*									45AL175V80P-3	
	100		H220186*									45AL175V100P-3	
	125		K082027*		680	50	40	69	290	5,3		45AL175V125P-3	
	10/24	6.3	442		D1 = 53	S209339	31	25	70	20	4.5	2.3	45DIN240V6,3P
		10				T209340	20	50	70	42	22	2.3	45DIN240V10P
		16				V209341	35	50	70	57	28	2.3	45DIN240V16P
		20				W209342	52	50	70	60	31	2.3	45DIN240V20P
		25				X209343	78	50	70	64	34	2.3	45DIN240V25P
31.5		Y209344		104		50	70	77	39	2.3	45DIN240V31,5P		
40		Z209345		128		50	70	115	42	2.3	45DIN240V40P		
50		D2=73		A209346		150	50	70	118	50	2.3	45DIN240V50P	
63				B209347		200	50	70	140	107	3.9	45DIN240V63P	
80				D3=87	H082186*	350	40	56	76	98	5,3	45AL240V80P-3	
100		T220541*										45AL240V100P-3	
50		D2=73			M209357	150	50	70	108	50	4.6	45DIN240V50P-4	
63				N209358	200	50	70	130	107	4.6	45DIN240V63P-4		
80				D3=87	M082190*	350	40	56	73	98	6,4	45AL240V80P-4	
100		N082191*			460	40	56	78	165	6,4	45AL240V100P-4		
125		P082192*			480	40	56	93	210	6,4	45AL240V125P-4		
20/36		6.3		537	D1 = 53	S209362	31	25	106	32	0.9	2.7	45DIN360V6,3P
		10				T209363	22	40	106	55	1.82	2.7	45DIN360V10P
	16	V209364	38			40	106	82	8.3	2.7	45DIN360V16P		
	20	W209365	57			40	106	85	11	2.7	45DIN360V20P		
	25	D2=73	X209366		85	40	106	87	14	2.7	45DIN360V25P		
	31.5		Y209367		102	40	106	125	19	4.6	45DIN360V31,5P		
	40		Z209368		135	40	106	164	25	4.6	45DIN360V40P		

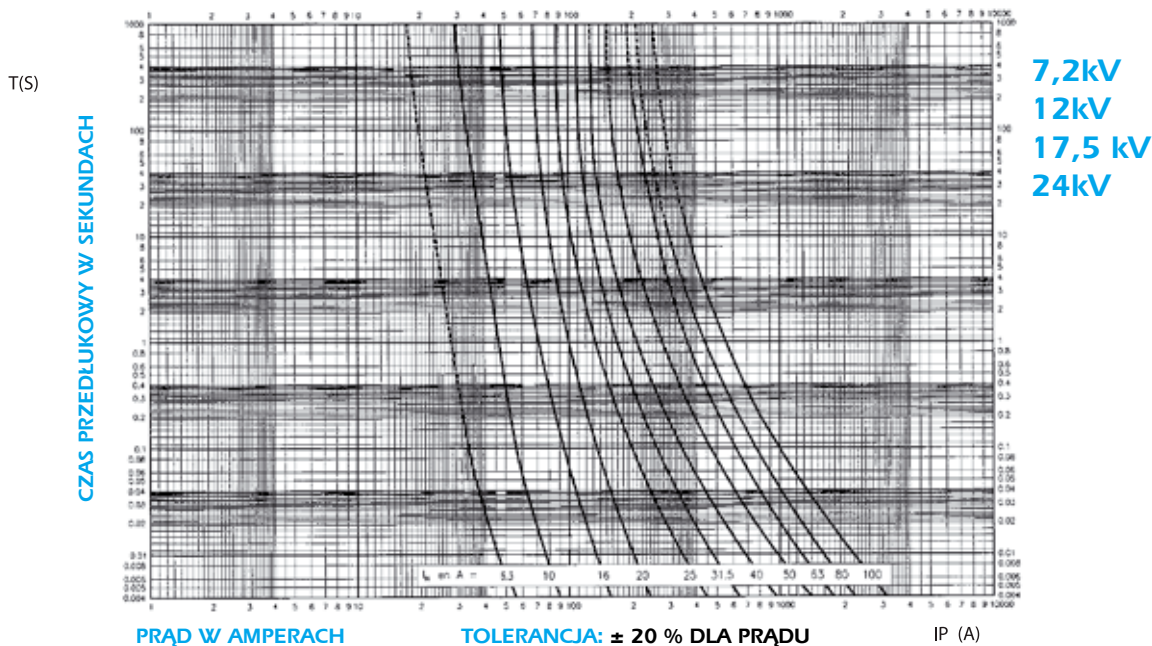
* Tylko do użytku zewnętrznego

Typ: IBD z wybijakiem

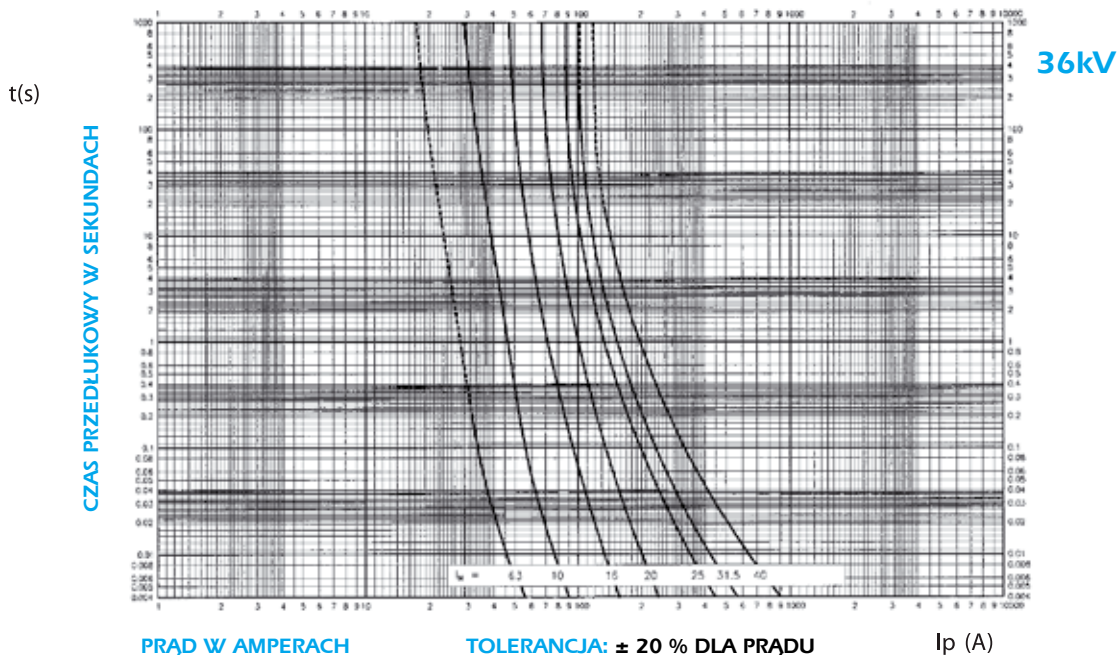
7,2 - 36kV
od 6,3 do 125A



Charakterystyki czasowo - prądowe



Charakterystyki czasowo - prądowe



Limitor[®] NF/UTE Back-up fuses

Low power loss 24kV - Type FR

HIGH VOLTAGE IEC FUSES

NF/UTE HV BACK-UP FUSES FOR TRANSFORMERS



UTE HV fuses are designed to protect HV/LV power distribution transformers.

Designed to be coordinated with other equipment, these current limiting fuse-links interrupt fault currents before they reach their peak. The fault current is interrupted inside the fuse-link body and although this is very fast, there is no sign of it outside.

They were specially designed with very low power losses, for use in SF6-insulated or compact air-insulated fused switchgear combinations.

The main elements in these fuses are: a barrel of class F insulating synthetic material, nickel plated aluminum end contacts, pure silver fuse elements and a composite material fuse element holder to withstand high temperatures.

Thanks to their structure, based on a synthetic material, FR fuse-links are the perfect answer to the stress involved in use inside HV bays and fuse-link chambers.

TECHNICAL DATA

	24kV 520mm
Rated current	6.3 ... 63 A
Rated voltage U ⁿ	24 kV
Rated voltage of transformer	20 kV
Breaking capacity I ₁	12.5 kA
Peak arc voltage	58 kV
Package	3

FEATURES & BENEFITS

- Reduce power losses by 30 to 40%
- 9 ratings between 6,3 and 63A
- Superior mechanical strength
- Outstanding withstand to operating stresses
- 100% synthetic structure
- With or without striker, average type striker with force 1+/- 0.5 Joules
- High breaking capacity
- High current limitation
- In accordance with:
IEC 62271-105
IEC 62271-107
IEC 60787
IEC/TR 62655

APPLICATIONS

- HV Transformers protection
- Fused switch gear combination
- Best used in SF6 insulated switch gear and compact switch gear
- For indoor use
- Operating temperature: -25°C to +40°C

STANDARDS

- IEC 60282-1
- UTE C64-210



Limitor® NF/UTE Back-up fuses

Low power loss 24kV - Type FR

PRODUCT RANGE

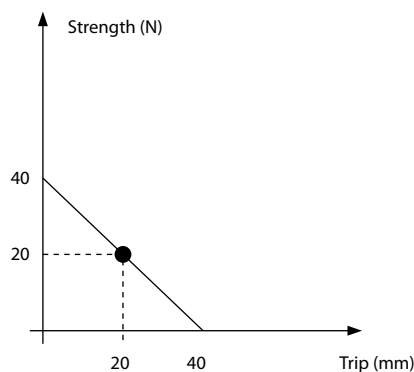


FRECO240V63

Rated voltage 24kV, length 520 mm, Ø 55mm

Catalog number	Reference number	Rated voltage AC (IEC)	Rated current I_n	Minimum breaking current $I_3 = I_{min}$	Power dissipation at I_n	Operating I^2t at Rated Voltage	Weight
without striker							
FR240V6,3	S1047965	24 kV	6.3 A	31.5 A	25 W	0.32 kA ² s	2.1 kg
FRECO240V10	S1045205	24 kV	10 A	50 A	25 W	1.3 kA ² s	2.1 kg
FRECO240V16	B1043534	24 kV	16 A	80 A	35 W	4.7 kA ² s	2.1 kg
FRECO240V20	V1045207	24 kV	20 A	100 A	43 W	7.5 kA ² s	2.1 kg
FRECO240V25	X1045209	24 kV	25 A	125 A	46 W	10.1 kA ² s	2.1 kg
FRECO240V31,5	L1047361	24 kV	31.5 A	157.5 A	53 W	18.8 kA ² s	2.1 kg
FRECO240V43	H1043540	24 kV	43 A	215 A	70 W	38 kA ² s	2.1 kg
FRECO240V50	Z1045211	24 kV	50 A	250 A	91 W	39.3 kA ² s	2.1 kg
FRECO240V63	Y1048384	24 kV	63 A	315 A	120 W	66.5 kA ² s	2.1 kg
with striker							
FR240V6,3P	T1047966	24 kV	6.3 A	31.5 A	25 W	0.32 kA ² s	2.1 kg
FRECO240V10P	T1045206	24 kV	10 A	50 A	25 W	1.3 kA ² s	2.1 kg
FRECO240V16P	G1043539	24 kV	16 A	80 A	35 W	4.7 kA ² s	2.1 kg
FRECO240V20P	W1045208	24 kV	20 A	100 A	43 W	7.5 kA ² s	2.1 kg
FRECO240V25P	Y1045210	24 kV	25 A	125 A	46 W	10.1 kA ² s	2.1 kg
FRECO240V31,5P	M1047362	24 kV	31.5 A	157.5 A	53 W	18.8 kA ² s	2.1 kg
FRECO240V43P	L1043543	24 kV	43 A	215 A	70 W	38 kA ² s	2.1 kg
FRECO240V50P	A1045212	24 kV	50 A	250 A	91 W	39.3 kA ² s	2.1 kg
FRECO240V63P	Z1048385	24 kV	63 A	315 A	120 W	66.5 kA ² s	2.1 kg

CHARACTERISTICS OF TRIP INDICATOR



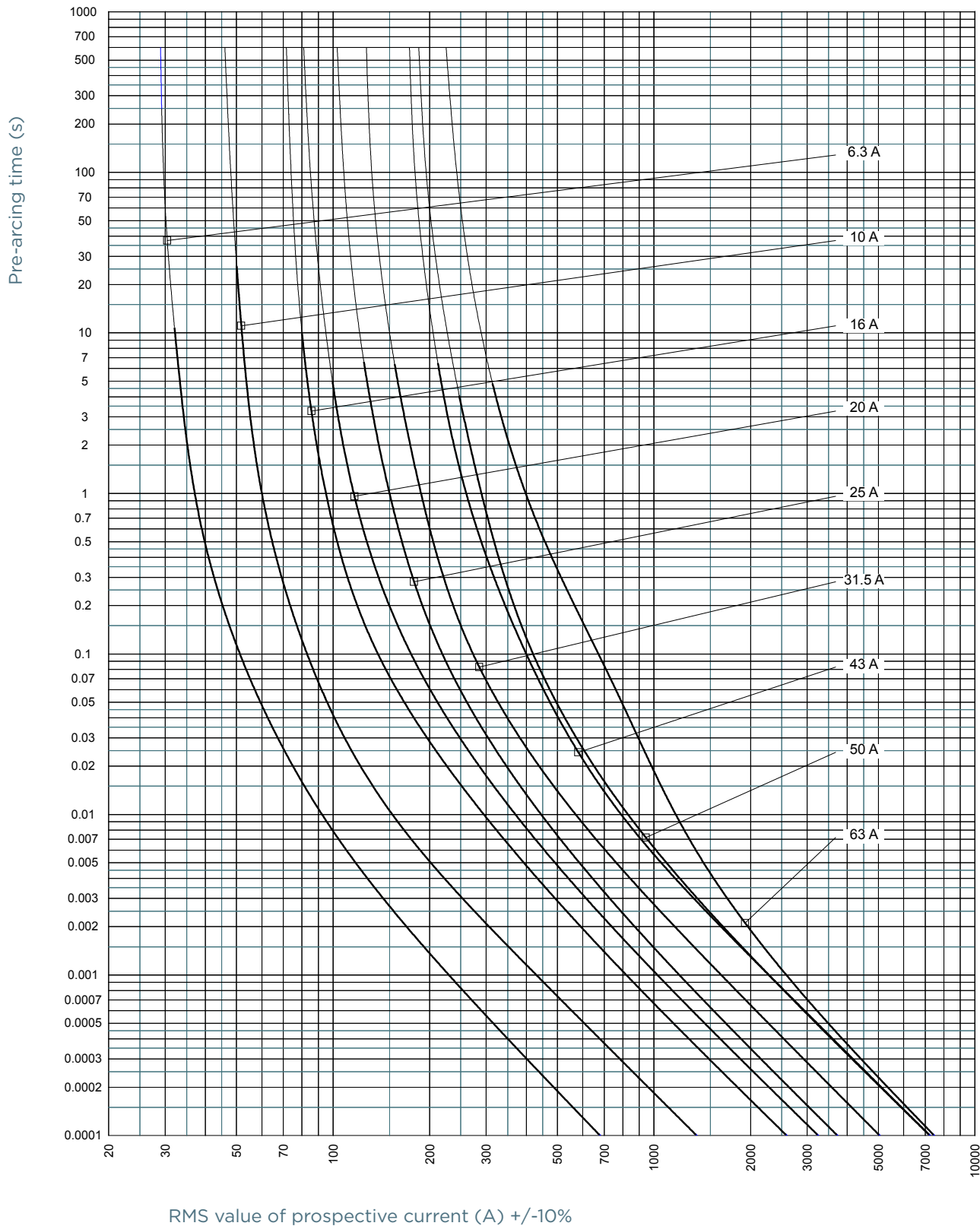
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Limitor[®] NF/UTE Back-up fuses

Low power loss 24kV - Type FR

TIME CURRENT CHARACTERISTIC CURVES

Limitor[®] NF/UTE 24kV 6.3 - 63A without striker



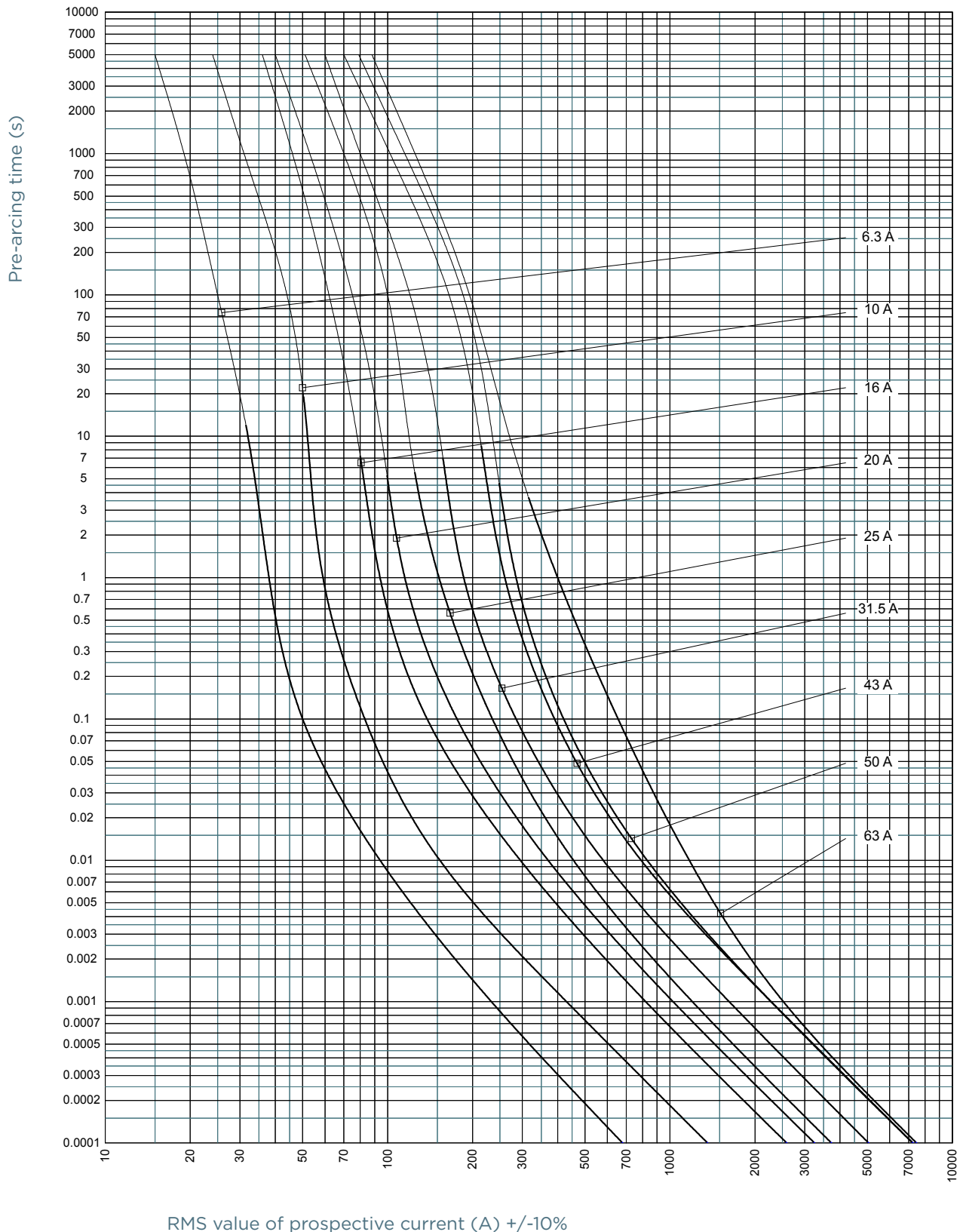
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Limitor® NF/UTE Back-up fuses

Low power loss 24kV - Type FR

TIME CURRENT CHARACTERISTIC CURVES

Limitor® NF/UTE 24kV 6.3 - 63A with striker



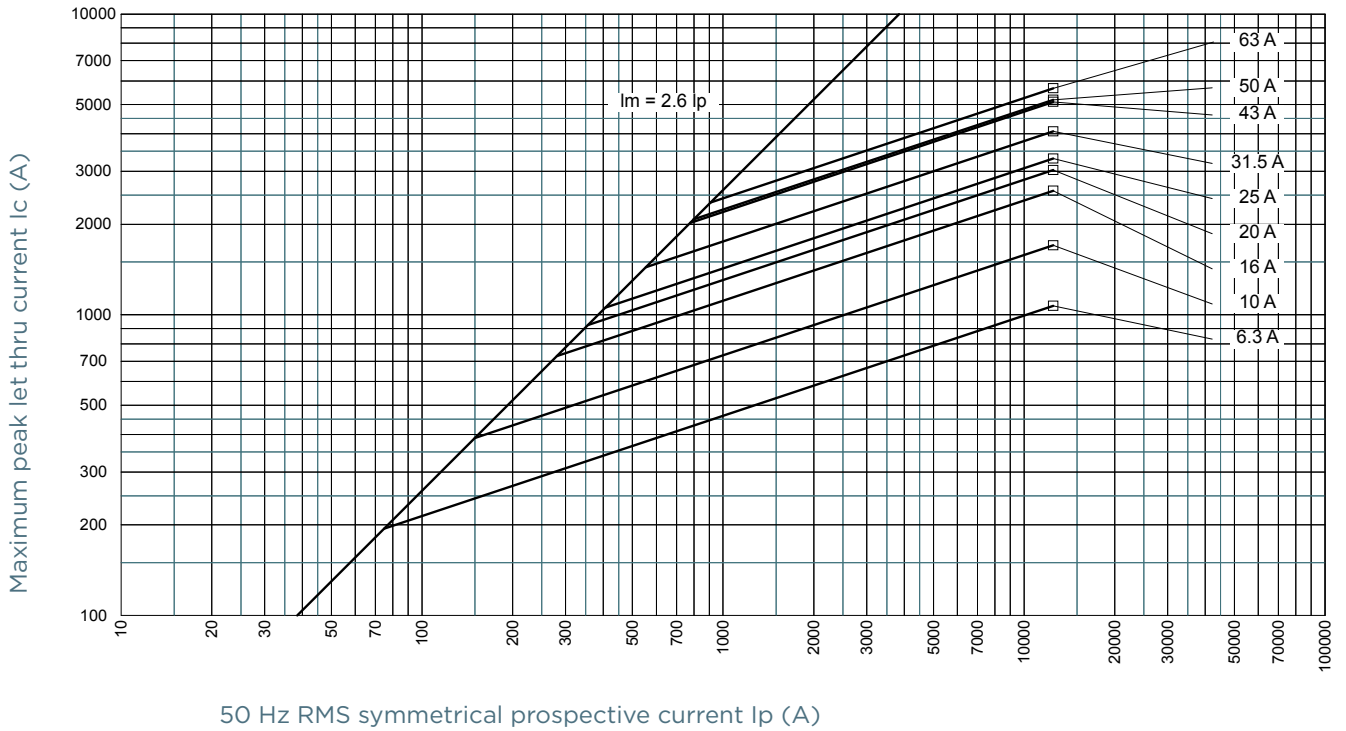
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Limitor[®] NF/UTE Back-up fuses

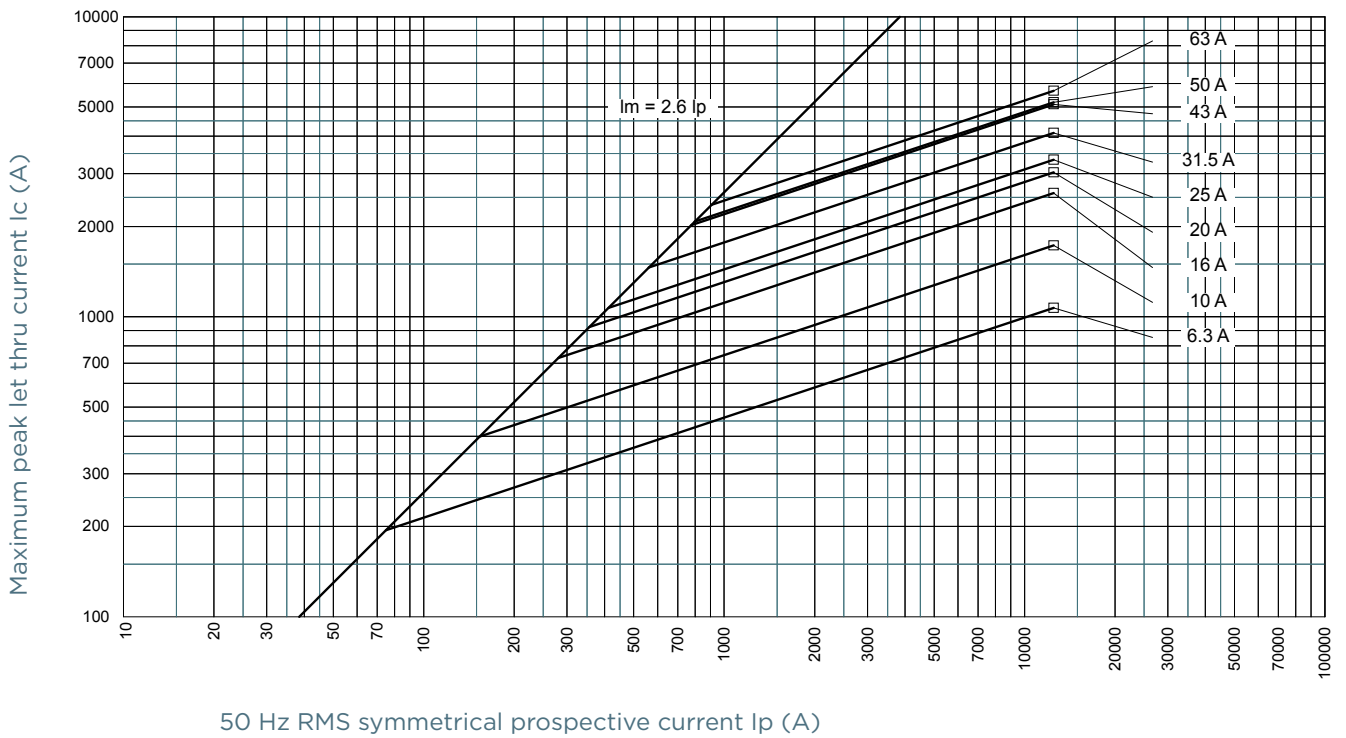
Low power loss 24kV - Type FR

CUT-OFF CURRENT CHARACTERISTIC

Limitor[®] NF/UTE 24kV 6.3 - 63A without striker



Limitor[®] NF/UTE 24kV 6.3 - 63A with striker

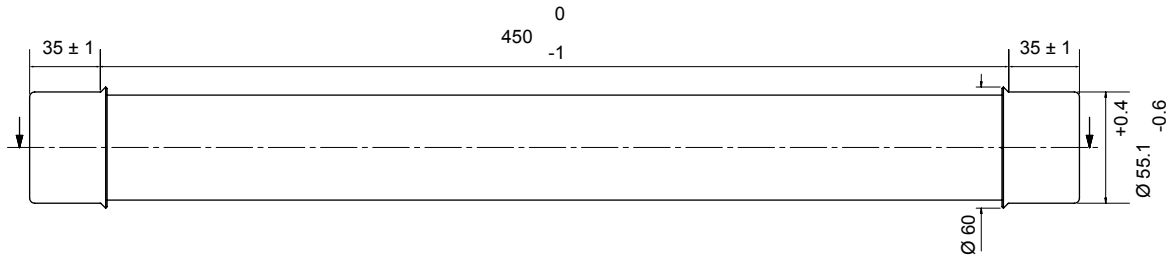


Limitor[®] NF/UTE Back-up fuses

Low power loss 24kV - Type FR

DIMENSIONS

IEC HV fuse-link Limitor[®] NF/UTE ECO Type FR Ø 55mm



Dimensions in mm

Limitor[®] - NF/UTE Back-up Fuses

7,2kV to 24kV - Type FR

HIGH VOLTAGE IEC FUSES

NF/UTE HV BACK-UP FUSES FOR TRANSFORMERS



FR-type fuses are designed to protect HV/LV power distribution transformers. Designed to be coordinated with other equipment, these current limiting fuse-links interrupt fault currents before they reach their peak. The fault current is interrupted inside the fuse-link body and although this is very fast, there is no sign of it outside.

The main elements in these fuses are: a barrel of class F insulating synthetic material, nickel plated aluminium end contacts, pure silver fuse elements and a composite material fuse element holder to withstand high temperatures.

Thanks to their structure, based on a synthetic material, FR fuse-links are the perfect answer to the stress involved in use inside HV bays and fuse-link chambers.

TECHNICAL DATA

	7,2kV 520mm	12kV 520mm	24kV 520mm
Rated current	6.3 ... 125 A	6.3 ... 100 A	6.3 ... 63 A
Rated voltage U ⁿ	7.2 kV	12 kV	24 kV
Rated voltage of transformer	6 kV	10 kV	20 kV
Breaking capacity I ₁	12.5 kA	12.5 kA	12.5 kA
Peak arc voltage	20 kV	34 kV	58 kV
Package	3	3	3

FEATURES & BENEFITS

- Superior mechanical strength
- Outstanding withstand to operating stresses
- 100% synthetic structure
- Average type striker: force 1 ±0.5 Joules
- Back-up fuse links
- High breaking capacity
- High current limitation
- EDF Approval which guarantees high performances and quality of fuses manufactured (24kV)
- In accordance with:
IEC 62271-105
IEC 62271-107
IEC 60787
IEC/TR 62655

APPLICATIONS

- HV Transformers protection
- Fused switch gear combination
- Best used in SF6 insulated switch gear and compact switch gear
- For indoor use
- Operating temperature: -25°C to +40°C

STANDARDS

- IEC 60282-1
- UTE C64-210



Limitor® - NF/UTE Back-up Fuses

7,2kV to 24kV - Type FR

PRODUCT RANGE

Rated voltage 7.2kV, length 520mm, Ø 55mm

Catalog number	Reference number	Rated voltage AC (IEC)	Rated current I_n	Minimum breaking current $I_s = I_{min}$	Power dissipation at I_n	Operating I^2t at Rated Voltage	Weight
without striker							
FR72V6,3	Z227584	7.2 kV	6.3 A	31.5 A	12 W	0.3 kA²s	2.3 kg
FR72V16	A227585	7.2 kV	16 A	80 A	26 W	1.6 kA²s	2.3 kg
FR72V32	B227586	7.2 kV	32 A	160 A	44 W	6 kA²s	2.3 kg
FR72V43	C227587	7.2 kV	43 A	215 A	61 W	12 kA²s	2.3 kg
FR72V63	D227588	7.2 kV	63 A	315 A	71 W	24 kA²s	2.3 kg
55AL72V80	H087982	7.2 kV	80 A	360 A	100 W	45 kA²s	2.3 kg
55AL72V100	K088927	7.2 kV	100 A	450 A	130 W	80 kA²s	2.3 kg
55AL72V125	N088953	7.2 kV	125 A	582 A	130 W	200 kA²s	2.3 kg
with striker							
FR72V6,3P	E227589	7.2 kV	6.3 A	31.5 A	12 W	0.3 kA²s	2.3 kg
FR72V16P	F227590	7.2 kV	16 A	80 A	26 W	1.6 kA²s	2.3 kg
FR72V32P	G227591	7.2 kV	32 A	160 A	44 W	6 kA²s	2.3 kg
FR72V43P	H227592	7.2 kV	43 A	215 A	61 W	12 kA²s	2.3 kg
FR72V63P	J227593	7.2 kV	63 A	315 A	71 W	24 kA²s	2.3 kg
55AL72V80P	J085453	7.2 kV	80 A	360 A	100 W	45 kA²s	2.3 kg
55AL72V100P	K085454	7.2 kV	100 A	450 A	130 W	80 kA²s	2.3 kg
55AL72V125P	M085456	7.2 kV	125 A	582 A	130 W	200 kA²s	2.3 kg

Rated voltage 12kV, length 520 mm, Ø 55mm

Catalog number	Reference number	EDF Number	Rated voltage AC (IEC)	Rated current I_n	Minimum breaking current $I_s = I_{min}$	Power dissipation at I_n	Operating I^2t at Rated Voltage	Weight
without striker								
FR120V6,3	X210240	-	12 kV	6.3 A	31.5 A	25 W	0.3 kA²s	2.3 kg
FR120V16	Y210241	73.02.136	12 kV	16 A	80 A	53 W	1.6 kA²s	2.3 kg
FR120V32	Z210242	73.02.137	12 kV	32 A	160 A	89 W	6 kA²s	2.3 kg
FR120V43	A210243	-	12 kV	43 A	215 A	123 W	12 kA²s	2.3 kg
FR120V63	B210244	73.02.138	12 kV	63 A	315 A	142 W	24 kA²s	2.3 kg
55AL120V80	K088973	-	12 kV	80 A	360 A	100 W	100 kA²s	2.3 kg
55AL120V100	L088974	-	12 kV	100 A	450 A	130 W	180 kA²s	2.3 kg
with striker								
FR120V6,3P	D210246	-	12 kV	6.3 A	31.5 A	25 W	0.3 kA²s	2.3 kg
FR120V16P	E210247	73.02.136	12 kV	16 A	80 A	53 W	1.6 kA²s	2.3 kg
FR120V32P	F210248	73.02.137	12 kV	32 A	160 A	89 W	6 kA²s	2.3 kg
FR120V43P	G210249	-	12 kV	43 A	215 A	123 W	12 kA²s	2.3 kg
FR120V63P	H210250	73.02.138	12 kV	63 A	315 A	142 W	24 kA²s	2.3 kg
55AL120V80P	Q085436	-	12 kV	80 A	360 A	100 W	100 kA²s	2.3 kg
55AL120V100P	R085437	-	12 kV	100 A	450 A	130 W	180 kA²s	2.3 kg

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Limitor® - NF/UTE Back-up Fuses

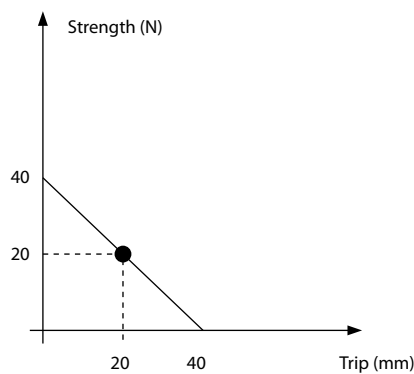
7,2kV to 24kV - Type FR

PRODUCT RANGE

Rated voltage 24kV, length 520 mm, Ø 55mm

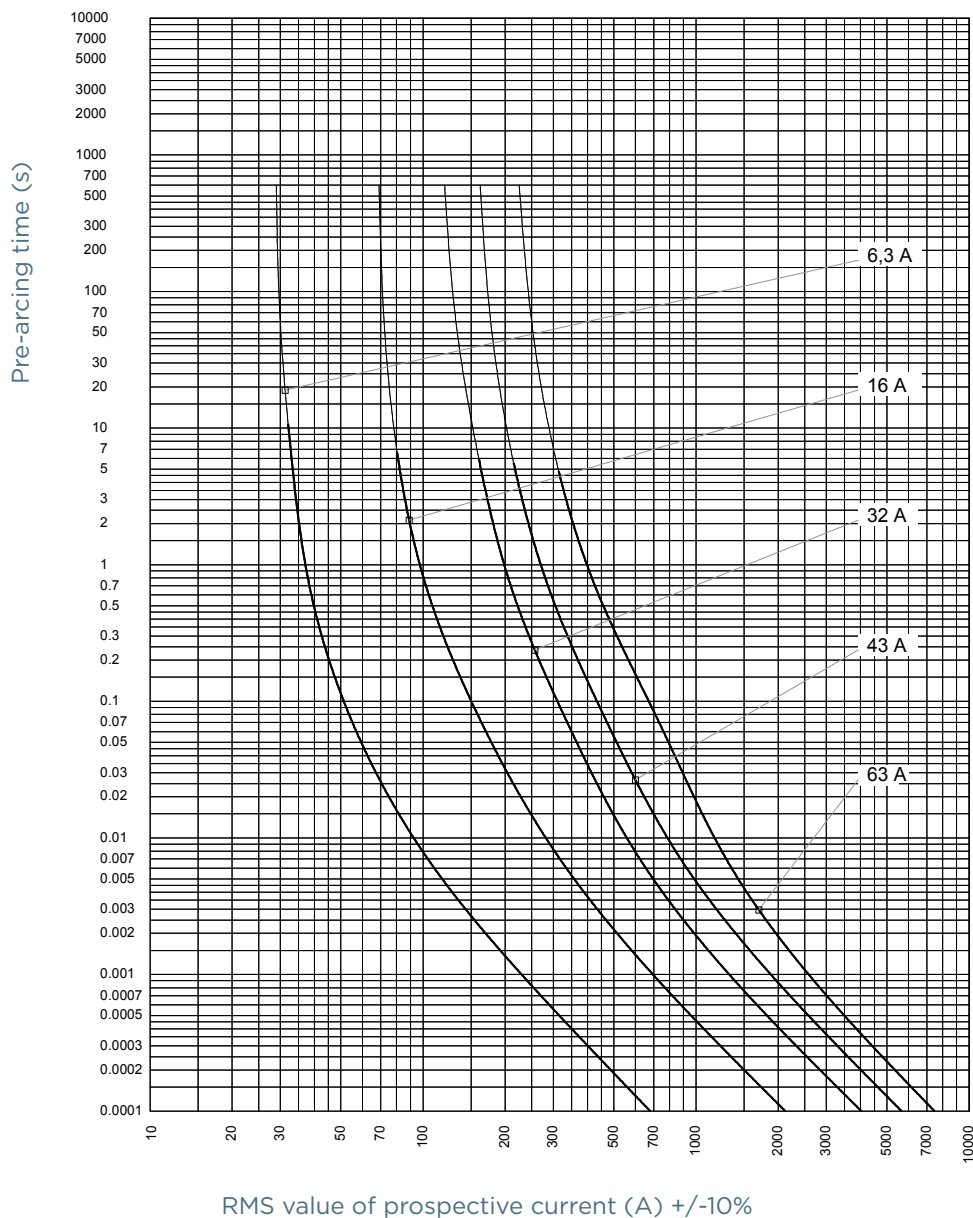
Catalog number	Reference number	EDF Number	Rated voltage AC (IEC)	Rated current I_n	Minimum breaking current $I_3 = I_{min}$	Power dissipation at I_n	Operating I^2t at Rated Voltage	Weight
without striker								
LOT-FR240V6.3	A210795	73.02.132	24 kV	6.3 A	31.5 A	25 W	0.63 kA ² s	2.1 kg
LOT-FR240V16	B210796	73.02.133	24 kV	16 A	80 A	53 W	3.3 kA ² s	2.1 kg
LOT-FR240V32	G226234	73.02.133	24 kV	32 A	160 A	89 W	13 kA ² s	2.1 kg
LOT-FR240V43	C210797	73.02.134	24 kV	43 A	215 A	123 W	25 kA ² s	2.1 kg
LOT-FR240V63	D210798	73.02.135	24 kV	63 A	315 A	142 W	50 kA ² s	2.1 kg
with striker								
LOT-FR240V6.3P	G227430	73.02.132	24 kV	6.3 A	31.5 A	25 W	0.63 kA ² s	2.1 kg
LOT-FR240V16P	H227431	73.02.133	24 kV	16 A	80 A	53 W	3.3 kA ² s	2.1 kg
LOT-FR240V32P	J227432	-	24 kV	32 A	160 A	89 W	13 kA ² s	2.1 kg
LOT-FR240V43P	K227433	73.02.134	24 kV	43 A	215 A	123 W	25 kA ² s	2.1 kg
LOT-FR240V63P	L227434	73.02.135	24 kV	63 A	315 A	142 W	50 kA ² s	2.1 kg

CHARACTERISTICS OF TRIP INDICATOR



TIME CURRENT CHARACTERISTIC CURVES

Limitor® NF/UTE 7.2kV, 12kV, 24kV 6.3 - 63A without striker

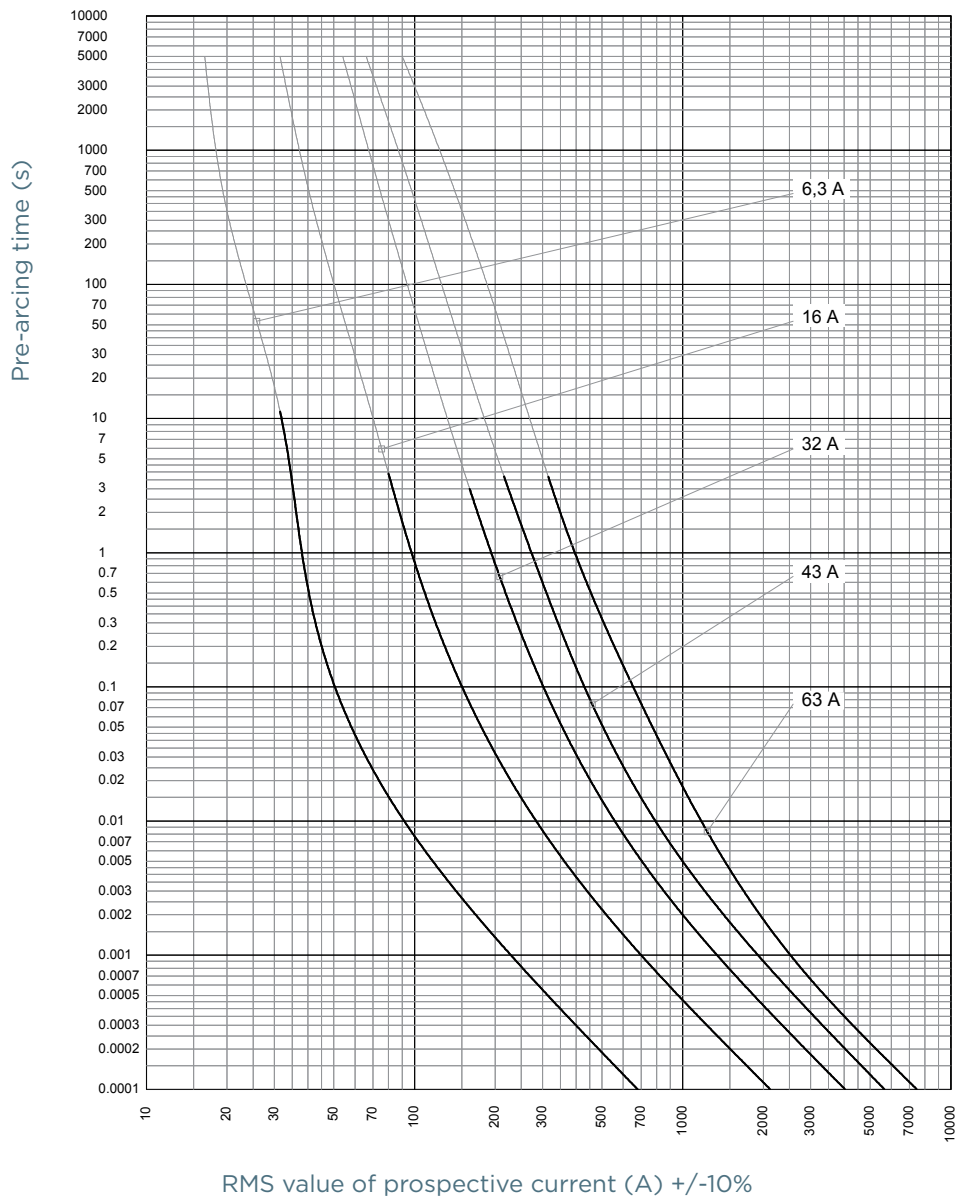


Limitor® - NF/UTE Back-up Fuses

7,2kV to 24kV - Type FR

TIME CURRENT CHARACTERISTIC CURVES

Limitor® NF/UTE 7.2kV, 12kV, 24kV 6.3 - 63A with striker



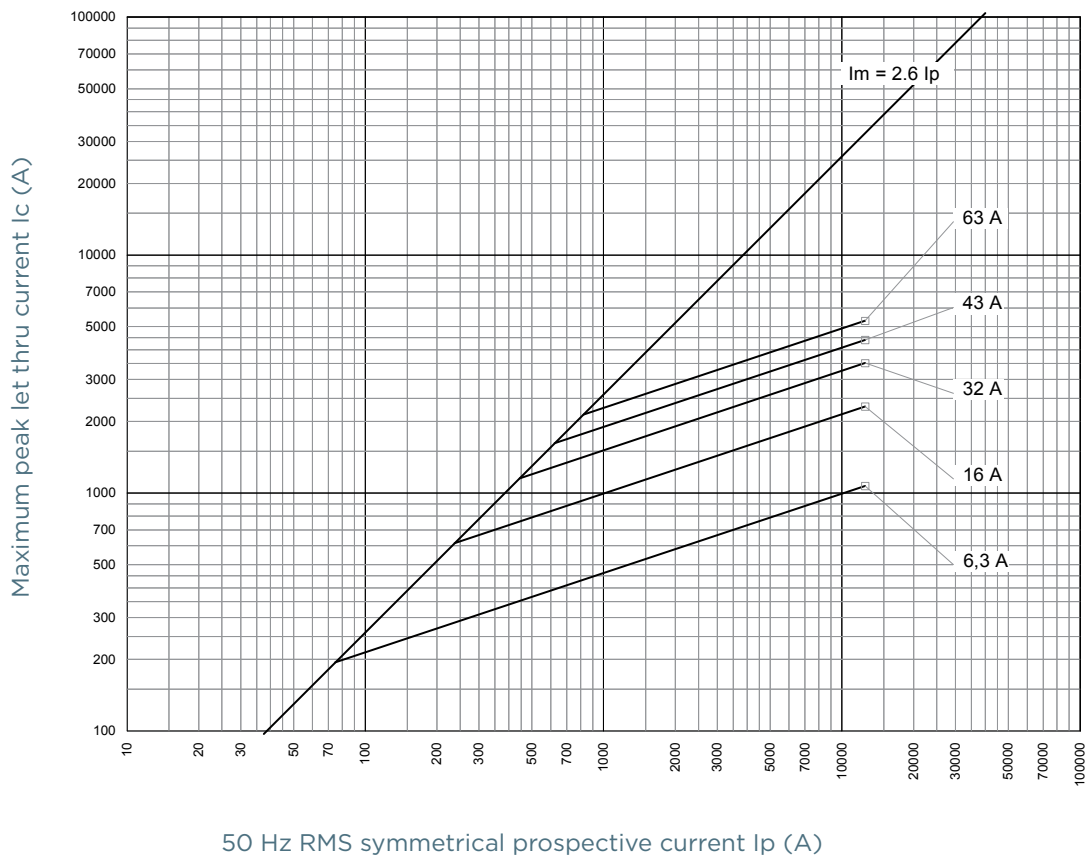
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Limitor[®] - NF/UTE Back-up Fuses

7,2kV to 24kV - Type FR

CUT-OFF CURRENT CHARACTERISTIC

Limitor[®] NF/UTE 7.2kV, 12kV, 24kV 6.3 - 63A without striker



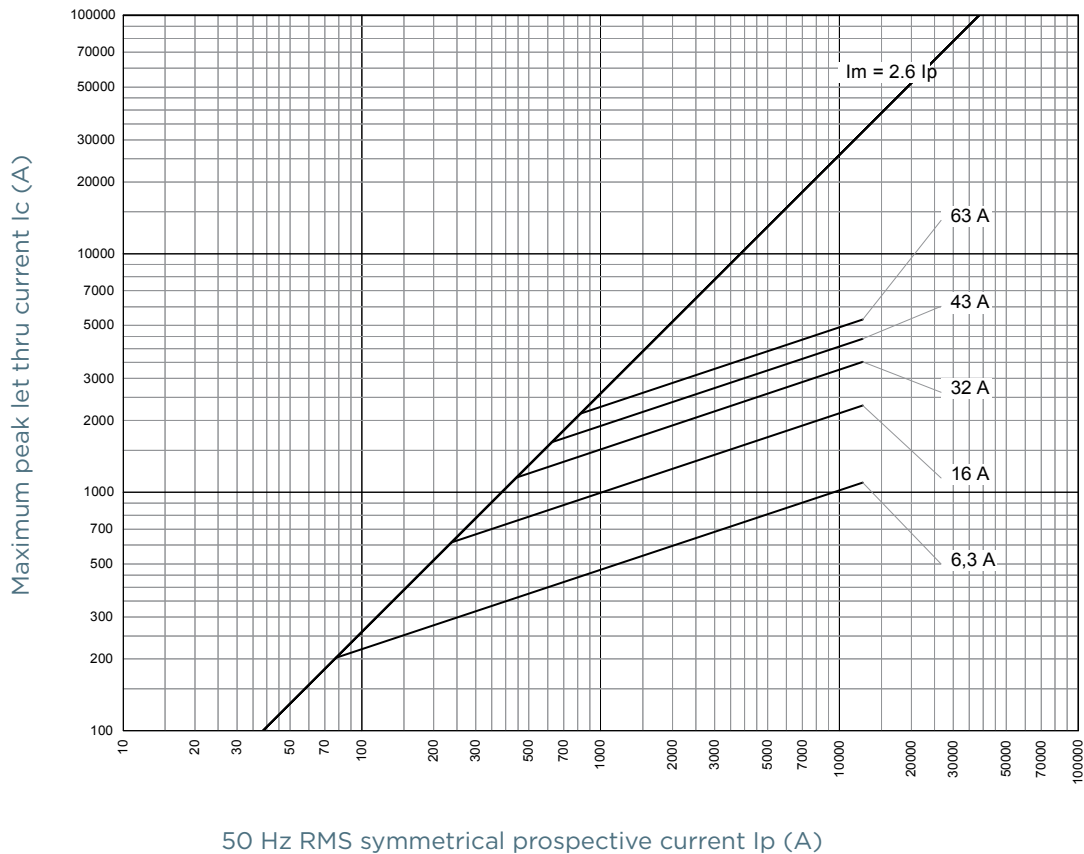
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7,2kV to 24kV - Type FR

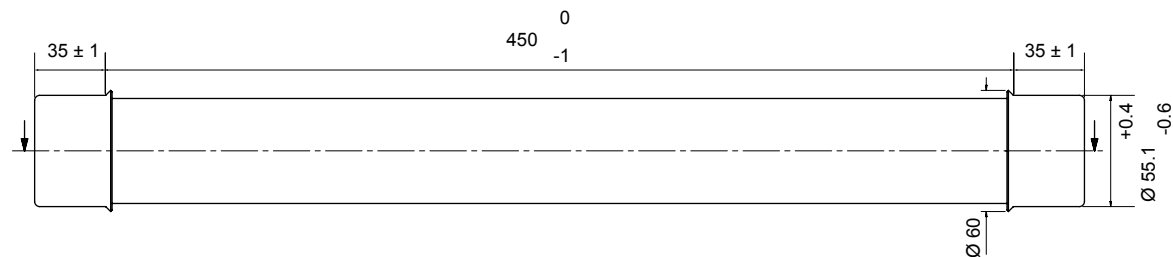
CUT-OFF CURRENT CHARACTERISTIC

Limitor® NF/UTE 7.2kV, 12kV, 24kV 6.3 - 63A with striker



DIMENSIONS

IEC HV fuse-link Limitor® NF/UTE Type FR 55mm (113500)



Dimensions in mm

Limitor® - NF/UTE Back-up Fuses

7,2kV to 24kV - Type FR

SELECTION TABLE

Rated voltage range of fuse-link [kV]		3/7.2		6/12		10/24		10/24		20/36	
Service voltage of transformer [kV]		6		10		15		20		30	
Relative short-circuit voltage	Transformer output [kVA]	Transformer rated current [A]	Rated current of fuses [A]	Transformer rated current [A]	Rated current of fuses [A]	Transformer rated current [A]	Rated current of fuses [A]	Transformer rated current [A]	Rated current of fuses [A]	Transformer rated current [A]	Rated current of fuses [A]
Uk = 4%	25	2	6.3	1	6.3	1	6.3	1	6.3		
	50	5	16	3	6.3	2	6.3	1	6.3	1	6.3
	63	6	16	4	16	2	6.3	2	6.3	1	6.3
	80	8	16	5	16	3	6.3	2	6.3	2	6.3
	100	10	16	6	16	4	6.3	3	6.3	2	6.3
	125	12	32	7	16	5	16	4	6.3	2	6.3
	160	15	32	9	16	6	16	5	16	3	6.3
	200	19	32	12	32	8	16	6	16	4	6.3
	250	24	43	14	32	10	16	7	16	5	16
	315	30	63	18	32	12	32	9	16	6	16
	400	38	63	23	43	15	32	12	32	8	16
	500	48	80	29	63	19	32	14	32	10	16
Uk = 5%	630	61	100	36	63	24	43	18	32	12	32
	800	77	125	46	80	31	63	23	43	15	32
	1000			58	100	38	63	29	63	19	32
	1250							36	63		

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Limitor[®]- P Back-up Fuses

without 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[®]-P HV fuses are back-up fuses as defined in the IEC 60282-1 standard and dedicated to protect transformers against 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	6/12kV	10/17,5kV	10/24kV	20/36kV
	192 mm	292 mm	292 mm	442 mm	537 mm
	292 mm	442 mm	367 mm	537 mm	
	442 mm		442 mm	537 mm	
Rated current	2 ... 200 A	1 ... 250 A	6.3 ... 125 A	1 ... 200 A	2 ... 4 A
Rated voltage range U _n	3/7.2 kV	6/12kV	10/17,5 kV	10/24 kV	30/36 kV
Rated voltage of transformer	6 kV	10 kV	15 kV	20 kV	30 kV
Package	1	1	1	1	1

FEATURES & BENEFITS

- High breaking capacity
- High current limitation
- Low switching voltage
- Quick breaking
- Medium striker 80N/30mm
- Indoor and outdoor applications
- 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

APPLICATIONS

- HV Transformer protection

STANDARDS

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



Limitor®- P Back-up Fuses

without Controlled Power Dissipation

PRODUCT RANGE



45DB72V2P

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

Catalog number	Reference number	Rated current I_n	Clearing at Rated Voltage I^2t	Breaking capacity I_b	Minimum breaking current $I_3 = I_{min}$	Cold resistance	Power dissipation at I_n	Weight	Package
Ø56mm, length 192mm									
45DB72V2P	N1000098	2 A	0.6 kA ² s	63 kA	15 A	256 mΩ	1.8 W	1.5 kg	1
45DB72V4P	P1000099	4 A	0.8 kA ² s	63 kA	20 A	256 mΩ	5 W	1.5 kg	1
Ø65mm, length 192mm									
45DB72V63P	B209301	63 A	41.2 kA ² s	63 kA	220 A	8.75 mΩ	60 W	1.5 kg	1
45DB72V80P	C209302	80 A	84 kA ² s	63 kA	300 A	6.25 mΩ	85 W	1.5 kg	1
45DB72V100P	D209303	100 A	93.6 kA ² s	63 kA	350 A	5 mΩ	85 W	1.5 kg	1
Ø88mm, length 192mm									
45DB72V160P	R1000101	160 A	500 kA ² s	63 kA	435 A	3 mΩ	75 W	2.4 kg	1
45DB72V200P	S1000102	200 A	654 kA ² s	63 kA	610 A	2.5 mΩ	200 W	2.4 kg	1
Ø63mm, length 292mm									
45DB72V6,3P-2	Q1005689	6.3 A	1 kA ² s	63 kA	28 A	147 mΩ	6 W	2.4 kg	1
45DB72V10P-2	M1005686	10 A	1.5 kA ² s	63 kA	45 A	80.3 mΩ	9 W	2.4 kg	1
45DB72V16P-2	N1005273	16 A	3.4 kA ² s	63 kA	64 A	44.3 mΩ	12.8 W	2.4 kg	1
45DB72V25P-2	A1005882	25 A	5.5 kA ² s	63 kA	100 A	27.5 mΩ	21 W	2.4 kg	1
45DB72V32P-2	N1005687	31.5 A	10 kA ² s	63 kA	126 A	20.6 mΩ	25 W	2.4 kg	1
45DB72V40P-2	B1005699	40 A	12 kA ² s	63 kA	160 A	16.2 mΩ	33 W	2.4 kg	1
45DB72V50P-2	P1005688	50 A	22 kA ² s	63 kA	200 A	11.3 mΩ	37 W	2.4 kg	1
45DB72V63P-2	R1005690	63 A	42 kA ² s	63 kA	252 A	8.5 mΩ	46 W	2.4 kg	1
45DB72V80P-2	S1005691	80 A	120 kA ² s	63 kA	320 A	6.8 mΩ	63 W	2.4 kg	1
45DB72V100P-2	B1005883	100 A	220 kA ² s	63 kA	400 A	4.7 mΩ	70 W	2.4 kg	1
Ø63mm, length 442mm									
45DB72V6,3P-3	N1005664	6.3 A	1 kA ² s	63 kA	28 A	166.6 mΩ	7 W	2.9 kg	1
45DB72V10P-3	F1005657	10 A	1.5 kA ² s	63 kA	45 A	90.87 mΩ	10 W	2.9 kg	1
45DB72V16P-3	H1005659	16 A	3.4 kA ² s	63 kA	64 A	46.79 mΩ	14 W	2.9 kg	1
45DB72V25P-3	J1005660	25 A	5.5 kA ² s	63 kA	100 A	31.19 mΩ	23 W	2.9 kg	1
45DB72V32P-3	C1005884	31.5 A	10 kA ² s	63 kA	126 A	23.4 mΩ	29 W	2.9 kg	1
45DB72V40P-3	K1005661	40 A	12 kA ² s	63 kA	160 A	18.37 mΩ	38 W	2.9 kg	1
45DB72V50P-3	L1005662	50 A	22 kA ² s	63 kA	200 A	12.86 mΩ	41 W	2.9 kg	1
45DB72V63P-3	M1005663	63 A	42 kA ² s	63 kA	252 A	9.64 mΩ	50 W	2.9 kg	1
45DB72V80P-3	P1005665	80 A	120 kA ² s	63 kA	320 A	7.72 mΩ	69 W	2.9 kg	1
45DB72V100P-3	E1005656	100 A	220 kA ² s	63 kA	400 A	5.37 mΩ	76 W	2.9 kg	1
Ø88mm, length 442mm									
45DB72V125P-3	E1005886	125 A	450 kA ² s	63 kA	500 A	4.62 mΩ	107 W	5.7 kg	1
45DB72V160P-3	Q1005275	160 A	530 kA ² s	40 kA	640 A	3.6 mΩ	146 W	5.7 kg	1

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Limiter[®]- P Back-up Fuses

without Controlled Power Dissipation

PRODUCT RANGE

Limiter- P, Rated voltage 6 /12 kV

Catalog number	Reference number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_3 = I_{min}$	Cold resistance	Power dissipation at I_n	Weight	Package
Ø56mm, length 292mm									
45DB120V1P	T1000103	1 A	0.2 kA ² s	63 kA	14 A	1400 mΩ	1.6 W	1.7 kg	1
45DB120V2P	V1000104	2 A	0.4 kA ² s	63 kA	16 A	500 mΩ	2.2 W	1.7 kg	1
45DB120V4P	W1000105	4 A	0.7 kA ² s	63 kA	22 A	340 mΩ	6 W	1.7 kg	1
45DB120V6,3P	F209305	6.3 A	1 kA ² s	63 kA	30 A	185 mΩ	9 W	1.7 kg	1
45DB120V10P	G209306	10 A	1.5 kA ² s	63 kA	42 A	138 mΩ	17 W	1.7 kg	1
45DB120V16P	H209307	16 A	2 kA ² s	63 kA	54 A	107 mΩ	38 W	1.7 kg	1
45DB120V20P	J209308	20 A	4 kA ² s	63 kA	73 A	71 mΩ	38 W	1.7 kg	1
45DB120V25P	K209309	25 A	6 kA ² s	63 kA	93 A	52 mΩ	46 W	1.7 kg	1
45DB120V32P	L209310	31.5 A	10 kA ² s	63 kA	105 A	42 mΩ	65 W	1.7 kg	1
45DB120V40P	M209311	40 A	30 kA ² s	63 kA	125 A	22.5 mΩ	54 W	1.7 kg	1
45DB120V50P	N209312	50 A	50 kA ² s	63 kA	160 A	18 mΩ	70 W	1.7 kg	1
45DB120V63P	P209313	63 A	100 kA ² s	63 kA	230 A	12.8 mΩ	85 W	1.7 kg	1
Ø65mm, length 292mm									
45DB120V80P	Q209314	80 A	150 kA ² s	63 kA	350 A	10.6 mΩ	115 W	2.1 kg	1
Ø78mm, length 292mm									
45DB120V100P	R209315	100 A	200 kA ² s	63 kA	500 A	8.5 mΩ	156 W	3.1 kg	1
Ø88mm, length 292mm									
45DB120V125P	X1000106	125 A	440 kA ² s	63 kA	480 A	4.75 mΩ	117 W	3.7 kg	1
45DB120V160P	Y1000107	160 A	500 kA ² s	63 kA	560 A	4.25 mΩ	217 W	3.7 kg	1
45DB120V200P	Z1000108	200 A	654 kA ² s	63 kA	610 A	3.75 mΩ	333 W	3.7 kg	1
45DB120V250P	Y1014919	250 A	-	63 kA	740 A	3.7 mΩ	335 W	3.7 kg	1
Ø63mm, length 442mm									
45DB120V6,3P-3	F1006094	6.3 A	1 kA ² s	31.5 kA	31.5 A	244.9 mΩ	11 W	5.8 kg	1
45DB120V10P-3	G1006095	10 A	1.5 kA ² s	31.5 kA	45 A	133.6 mΩ	15 W	5.8 kg	1
45DB120V16P-3	H1006096	16 A	3.4 kA ² s	31.5 kA	64 A	73.9 mΩ	21.8 W	5.8 kg	1
45DB120V25P-3	J1006097	25 A	5.5 kA ² s	31.5 kA	100 A	45.9 mΩ	35 W	5.8 kg	1
45DB120V32P-3	K1006098	31.5 A	10 kA ² s	31.5 kA	126 A	34.4 mΩ	43 W	5.8 kg	1
45DB120V40P-3	L1006099	40 A	12 kA ² s	31.5 kA	160 A	27 mΩ	57 W	5.8 kg	1
45DB120V50P-3	M1006100	50 A	22 kA ² s	31.5 kA	200 A	18.9 mΩ	63 W	5.8 kg	1
45DB120V63P-3	N1006101	63 A	42 kA ² s	31.5 kA	252 A	14.2 mΩ	78 W	5.8 kg	1
Ø88mm, length 442mm									
45DB120V80P-3	P1006102	80 A	120 kA ² s	31.5 kA	320 A	9.4 mΩ	83 W	5.8 kg	1
45DB120V100P-3	Q1006103	100 A	220 kA ² s	31.5 kA	400 A	6.55 mΩ	91 W	5.8 kg	1
45DB120V125P-3	R1006104	125 A	450 kA ² s	31.5 kA	500 A	5.46 mΩ	130 W	5.8 kg	1
45DB120V160P-3	S1006105	160 A	530 kA ² s	31.5 kA	640 A	4.07 mΩ	170 W	5.8 kg	1

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Limitor®- P Back-up Fuses

without Controlled Power Dissipation

PRODUCT RANGE



45DB175V6,3P

Limitor- P, Rated voltage 10 / 17,5

Catalog number	Reference number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_3 = I_{min}$	Cold resistance	Power dissipation at I_n	Weight	Package
Ø63mm, length 292mm									
45DB175V6,3P-2	A1005698	6.3 A	1 kA ² s	25 kA	32 A	331 mΩ	15.1 W	2.2 kg	1
45DB175V10P-2	T1005692	10 A	1.2 kA ² s	25 kA	45 A	181 mΩ	22 W	2.2 kg	1
45DB175V16P-2	X1005695	16 A	3.4 kA ² s	25 kA	64 A	99.6 mΩ	32 W	2.2 kg	1
45DB175V25P-2	S1005277	25 A	5.5 kA ² s	25 kA	100 A	62.1 mΩ	54 W	2.2 kg	1
45DB175V32P-2	Y1005696	31.5 A	10 kA ² s	25 kA	126 A	46.5 mΩ	69 W	2.2 kg	1
45DB175V40P-2	Z1005697	40 A	12 kA ² s	25 kA	160 A	36.5 mΩ	94.3 W	2.2 kg	1
Ø88mm, length 292mm									
45DB175V50P-2	L1005685	50 A	23 kA ² s	25 kA	200 A	21.4 mΩ	77 W	2.2 kg	1
Ø56mm, length 367mm									
45DB175V6,3P	V1000564	6.3 A	1 kA ² s	63 kA	30 A	245 mΩ	11 W	2.2 kg	1
45DB175V10P	W1000565	10 A	1.5 kA ² s	63 kA	43 A	180 mΩ	22 W	2.2 kg	1
45DB175V16P	X1000566	16 A	2 kA ² s	63 kA	54 A	150 mΩ	53 W	2.2 kg	1
45DB175V20P	Y1000567	20 A	4 kA ² s	63 kA	73 A	102 mΩ	56 W	2.2 kg	1
45DB175V25P	Z1000568	25 A	6 kA ² s	63 kA	93 A	78 mΩ	73 W	2.2 kg	1
45DB175V32P	A1000569	31.5 A	10 kA ² s	63 kA	105 A	59 mΩ	95 W	2.2 kg	1
45DB175V40P	B1000570	40 A	30 kA ² s	63 kA	125 A	33.8 mΩ	79 W	2.2 kg	1
45DB175V50P	C1000571	50 A	50 kA ² s	63 kA	205 A	26 mΩ	106 W	2.2 kg	1
45DB175V63P	D1000572	63 A	100 kA ² s	63 kA	280 A	18.4 mΩ	130 W	2.2 kg	1
Ø65mm, length 367mm									
45DB175V80P	E1000573	80 A	150 kA ² s	63 kA	350 A	15 mΩ	180 W	3.1 kg	1
Ø78mm, length 367mm									
45DB175V100P	F1000574	100 A	200 kA ² s	63 kA	500 A	13 mΩ	280 W	3.1 kg	1
Ø63mm, length 442mm									
45DB175V50P-3	D1005655	50 A	22 kA ² s	31.5 kA	200 A	23.2 mΩ	83 W	2.9 kg	1
45DB175V63P-3	F1005887	63 A	42 kA ² s	31.5 kA	252 A	17.4 mΩ	104 W	2.9 kg	1
Ø88mm, length 442mm									
45DB175V80P-3	J1005637	80 A	120 kA ² s	31.5 kA	320 A	13.7 mΩ	135 W	5.68 kg	1
45DB175V100P-3	Y1005282	100 A	220 kA ² s	31.5 kA	400 A	9.6 mΩ	151 W	5.68 kg	1
45DB175V125P-3	C1005677	125 A	300 kA ² s	31.5 kA	500 A	8 mΩ	217 W	5.68 kg	1
Ø88mm, length 537mm									
45DB175V100P-4	H1005636	100 A	220 kA ² s	31.5 kA	400 A	9.6 mΩ	151 W	5.68 kg	1
45DB175V125P-4	A1005284	125 A	300 kA ² s	31.5 kA	500 A	8 mΩ	217 W	5.68 kg	1

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Limiter®- P Back-up Fuses

without Controlled Power Dissipation

PRODUCT RANGE

Limiter- P, Rated voltage 10 / 24 kV

Catalog number	Reference number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_s = I_{min}$	Cold resistance	Power dissipation at I_n	Weight	Package
Ø56mm, length 442mm									
45DB240V1P	A1000109	1 A	0.2 kA ² s	63 kA	14 A	2170 mΩ	2.2 W	2.5 kg	1
45DB240V2P	B1000110	2 A	0.4 kA ² s	63 kA	16 A	800 mΩ	3.4 W	2.5 kg	1
45DB240V4P	C1000111	4 A	0.7 kA ² s	63 kA	23 A	545 mΩ	10 W	2.5 kg	1
45DB240V6,3P	S209339	6.3 A	1 kA ² s	63 kA	30 A	297 mΩ	13 W	2.5 kg	1
45DB240V10P	T209340	10 A	1.5 kA ² s	63 kA	43 A	220 mΩ	26 W	2.5 kg	1
45DB240V16P	V209341	16 A	2 kA ² s	63 kA	54 A	197 mΩ	73 W	2.5 kg	1
45DB240V20P	W209342	20 A	4 kA ² s	63 kA	73 A	132 mΩ	76 W	2.5 kg	1
45DB240V25P	X209343	25 A	6 kA ² s	63 kA	93 A	96 mΩ	89 W	2.5 kg	1
45DB240V32P	Y209344	31.5 A	10 kA ² s	63 kA	105 A	78 mΩ	127 W	2.5 kg	1
45DB240V40P	Z209345	40 A	30 kA ² s	63 kA	125 A	45 mΩ	114 W	2.5 kg	1
45DB240V50P	A209346	50 A	50 kA ² s	63 kA	205 A	35 mΩ	147 W	2.5 kg	1
45DB240V63P	B209347	63 A	100 kA ² s	63 kA	280 A	24 mΩ	170 W	2.5 kg	1
Ø65mm, length 442mm									
45DB240V80P	C209348	80 A	150 kA ² s	63 kA	310 A	20 mΩ	233 W	3.1 kg	1
Ø78mm, length 442mm									
45DB240V100P	D209349	100 A	200 kA ² s	63 kA	430 A	18 mΩ	400 W	4.2 kg	1
Ø88mm, length 442mm									
45DB240V125P	D1000112	125 A	350 kA ² s	40 kA	760 A	11.7 mΩ	340 W	5.9 kg	1
45DB240V160P	E1000113	160 A	500 kA ² s	31.5 kA	900 A	9.45 mΩ	515 W	5.9 kg	1
45DB240V200P	F1000114	200 A	730 kA ² s	31.5 kA	1050 A	7 mΩ	740 W	5.9 kg	1
Ø88mm, length 537mm									
45DB240V80P-4	B1008551	80 A	120 kA ² s	25 kA	360 A	17.5 mΩ	185 W	6.99 kg	1
45DB240V100P-4	C1008552	100 A	220 kA ² s	25 kA	450 A	13.1 mΩ	234 W	6.99 kg	1

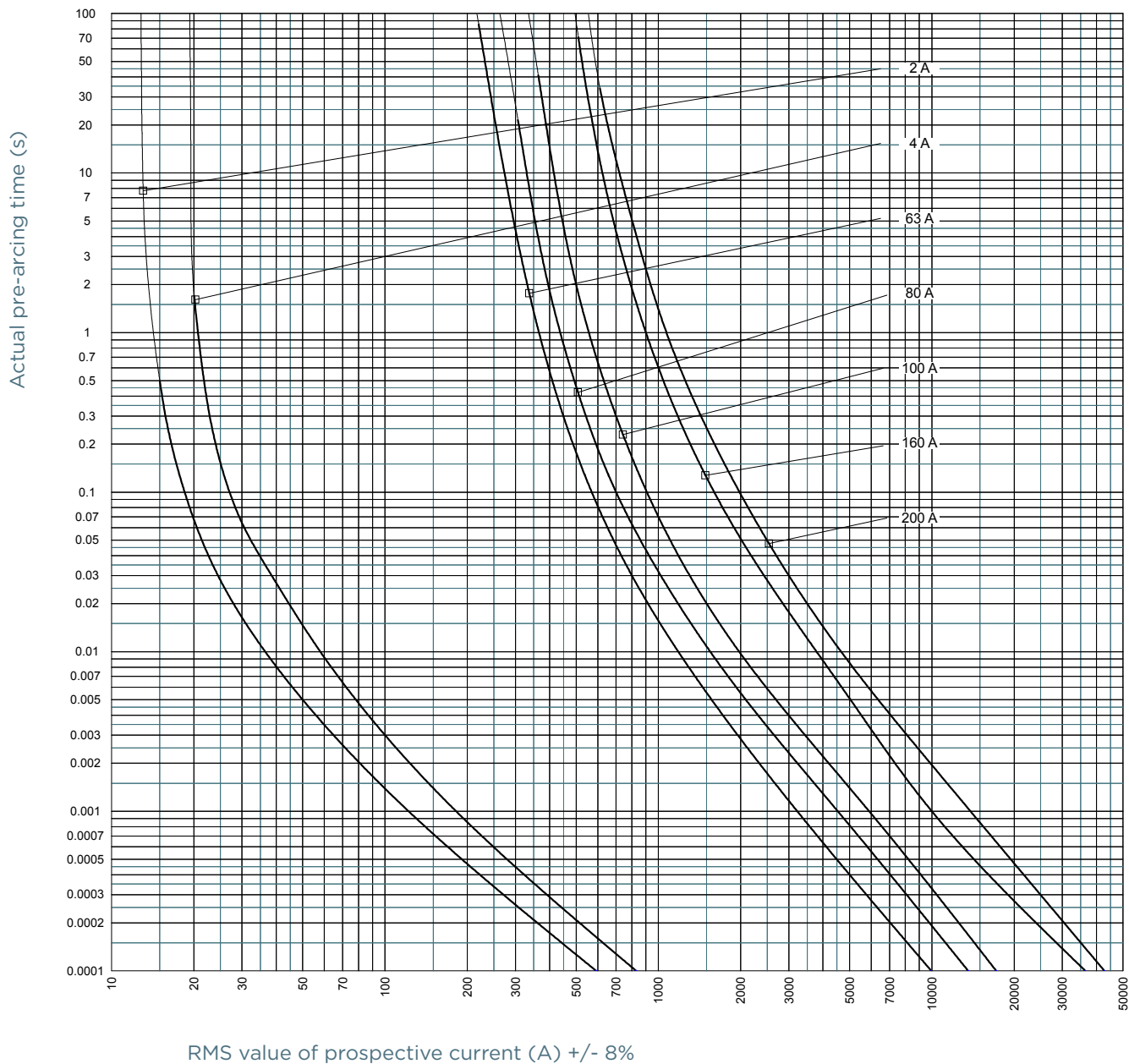
Limiter-P, Rated voltage 20 / 36kV

Catalog number	Reference number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_s = I_{min}$	Cold resistance	Power dissipation at I_n	Weight	Package
Ø56mm, length 537mm									
45DB360V2P	G1000115	2 A	0.6 kA ² s	31.5 kA	15 A	950 mΩ	9 W	2.7 kg	1
45DB360V4P	H1000116	4 A	0.8 kA ² s	31.5 kA	20 A	900 mΩ	32 W	2.7 kg	1

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TIME CURRENT CHARACTERISTIC CURVES

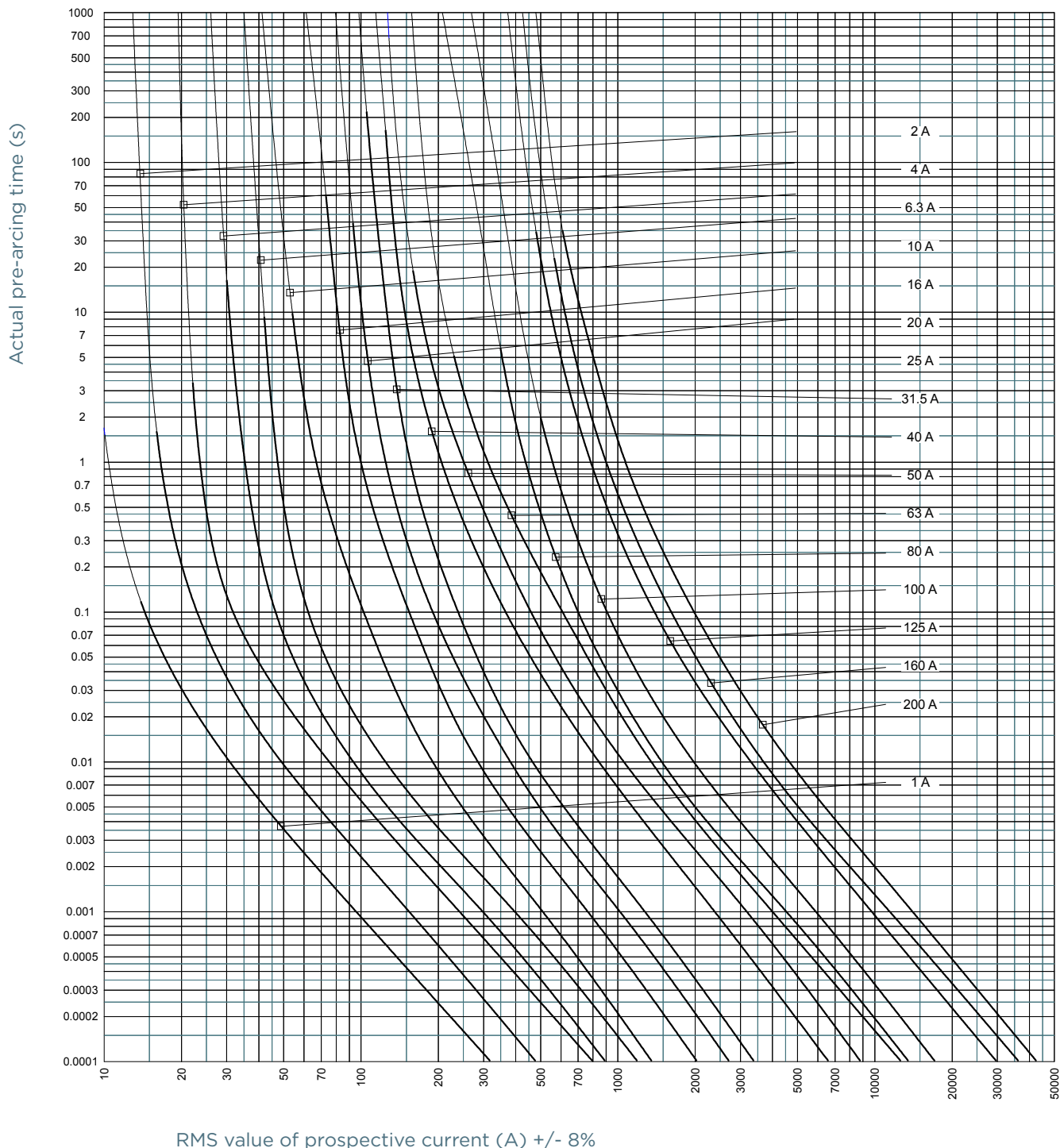
Limitor[®] P 7,2kV 192mm



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TIME CURRENT CHARACTERISTIC CURVES

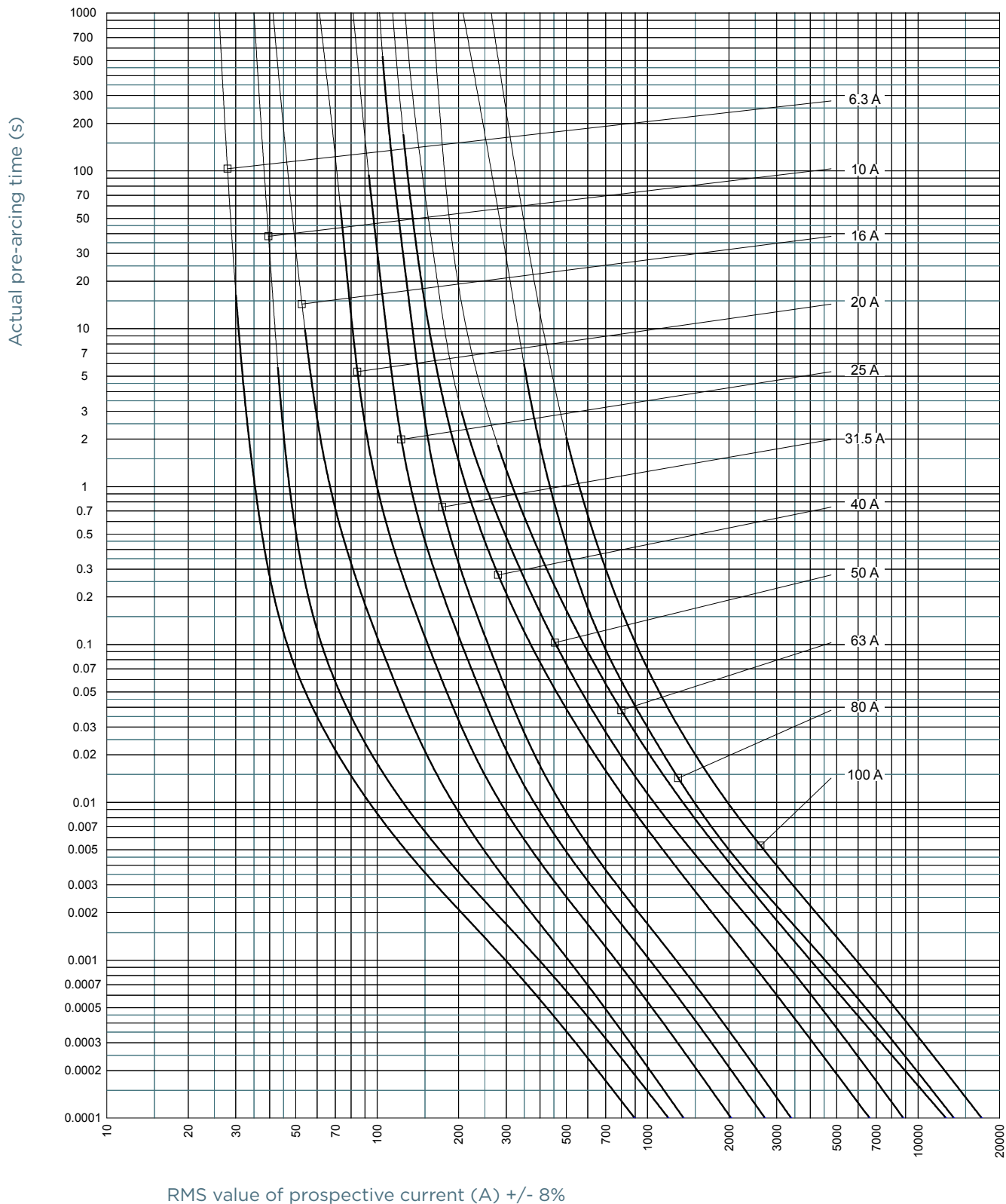
Limitor[®] P 12kV 292mm



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TIME CURRENT CHARACTERISTIC CURVES

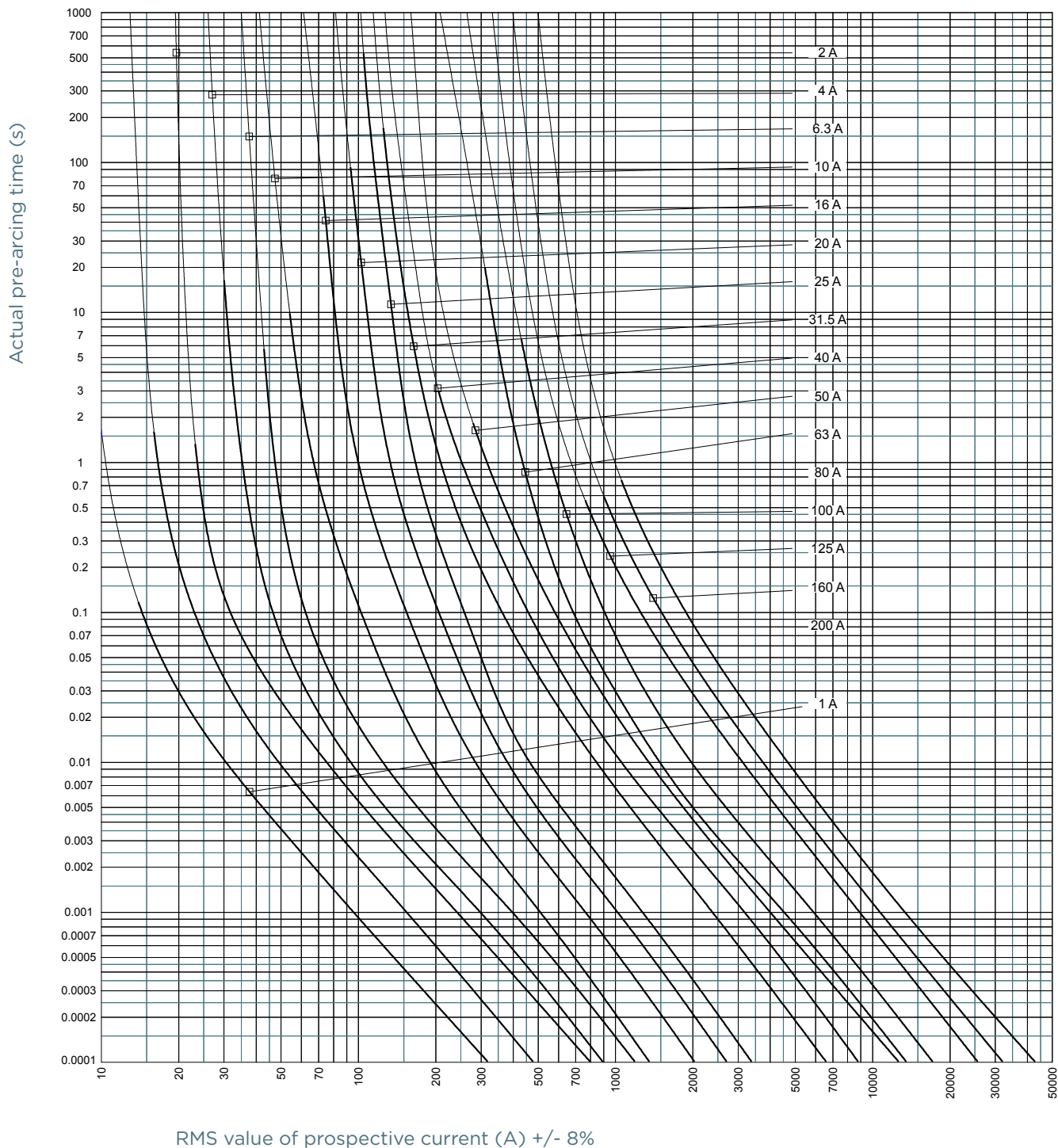
Limitor[®] P 17,5V 367mm



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TIME CURRENT CHARACTERISTIC CURVES

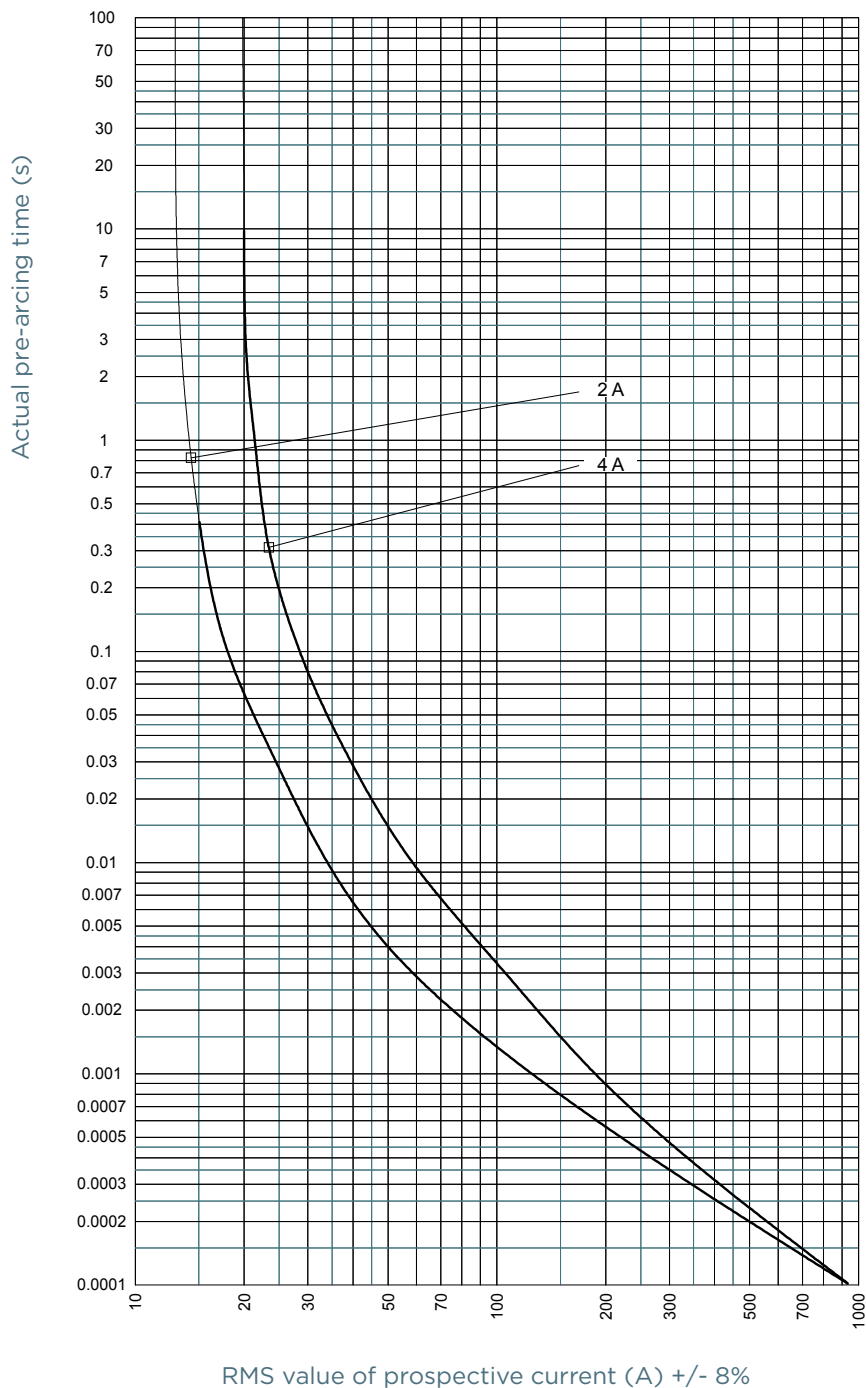
Limitor[®] P 24kV 442mm



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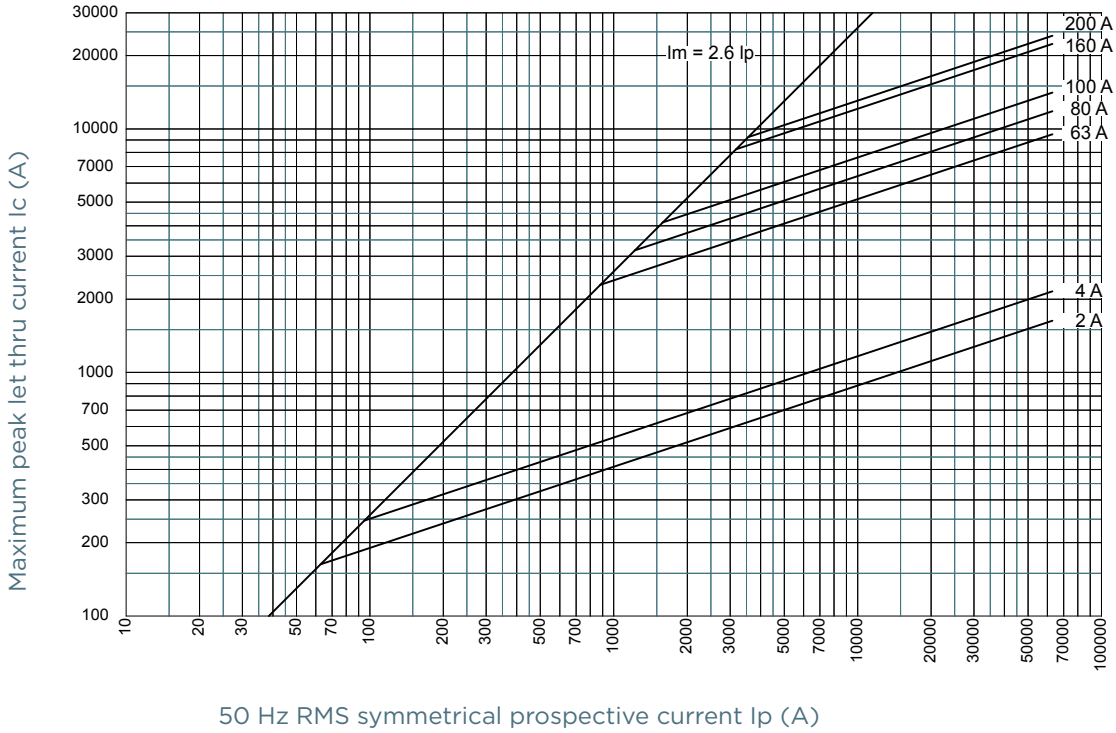
TIME CURRENT CHARACTERISTIC CURVES

Limitor[®] P 36kV 537mm

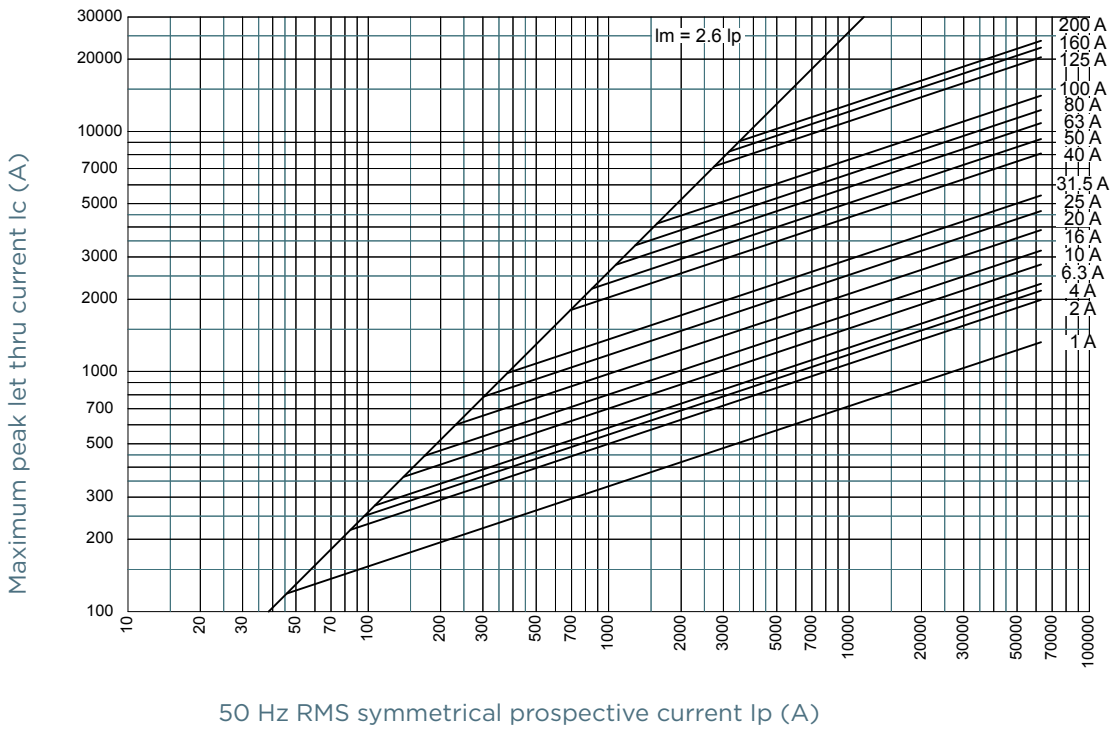


CUT-OFF CURRENT CHARACTERISTIC

Limitor[®] P 7,2kV 192mm



Limitor[®] P 12kV 292mm

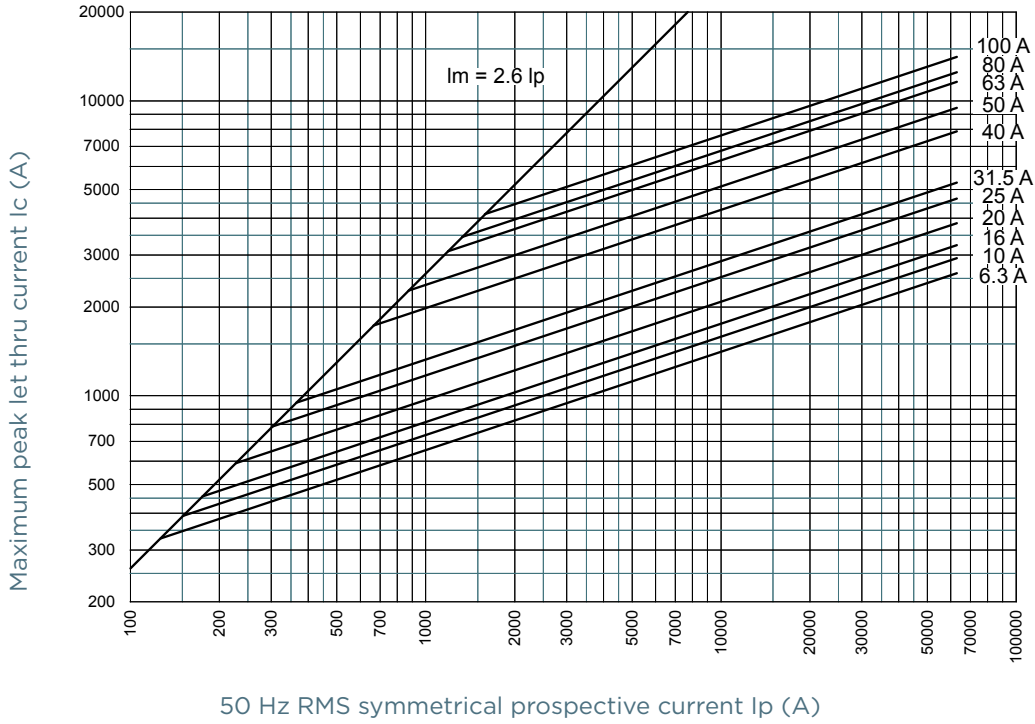


Limitor®- P Back-up Fuses

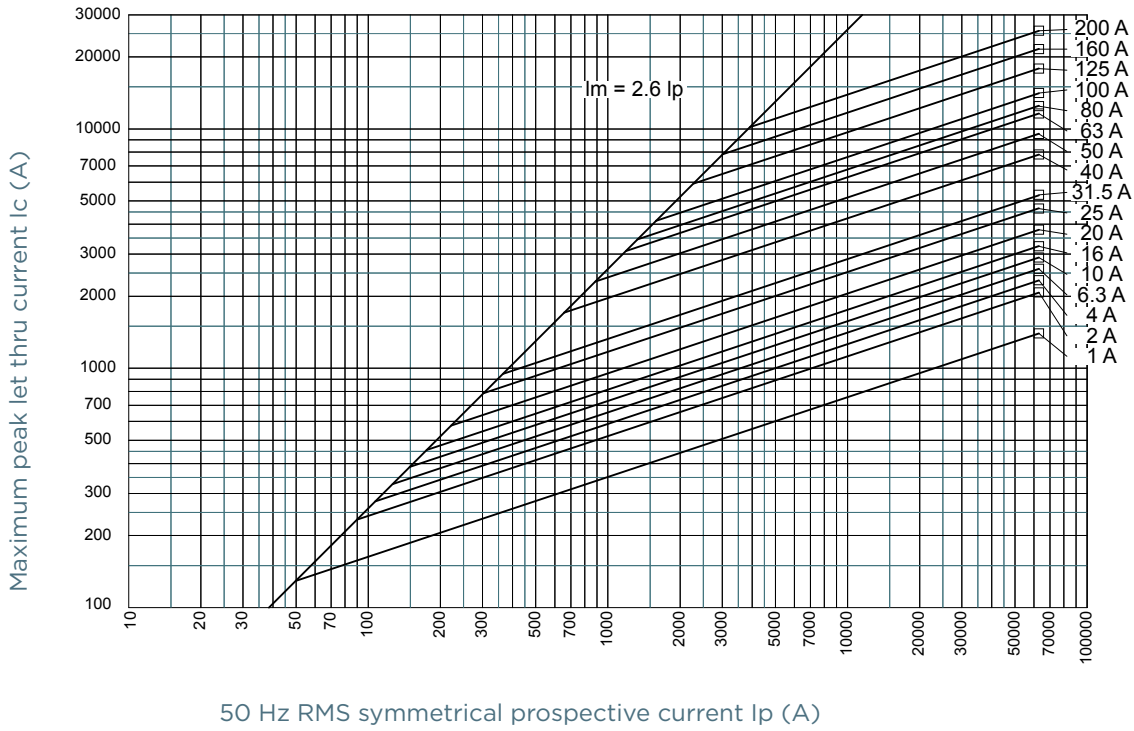
without Controlled Power Dissipation

CUT-OFF CURRENT CHARACTERISTIC

Limitor® P 17,5V 367mm



Limitor® P 24kV 442mm



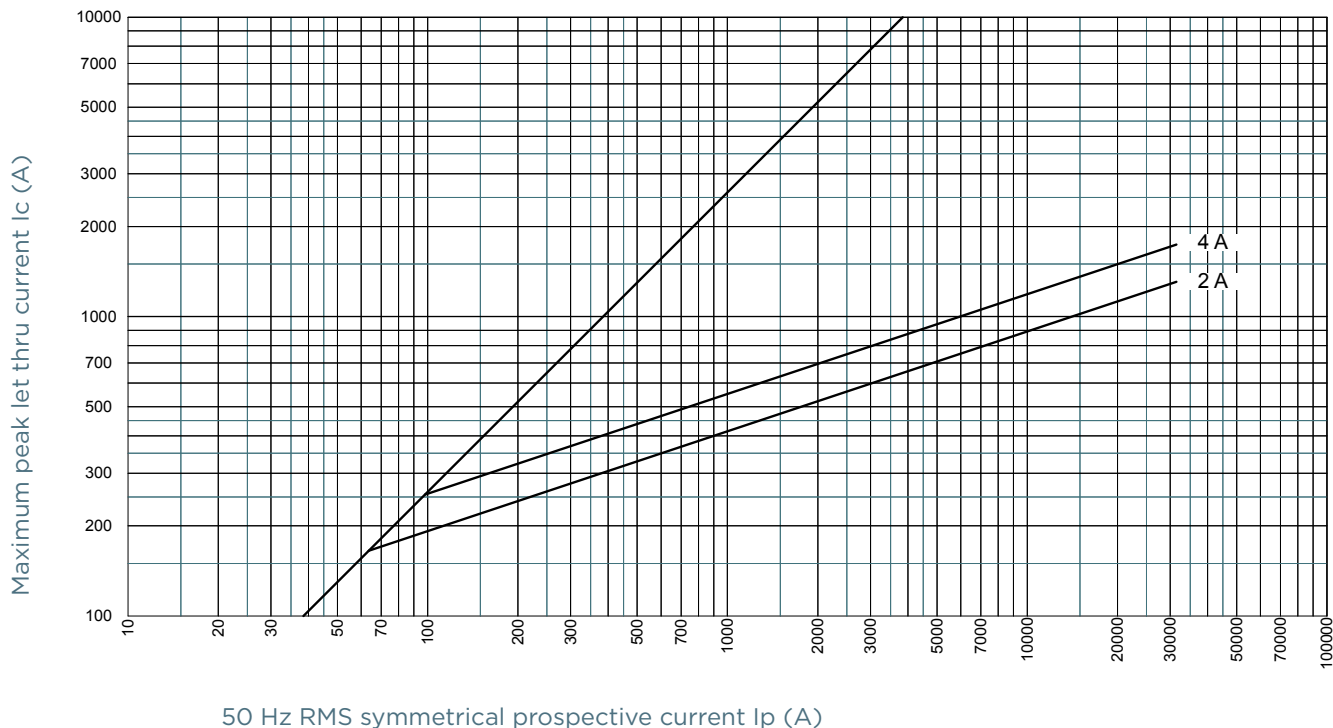
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Limitor[®]- P Back-up Fuses

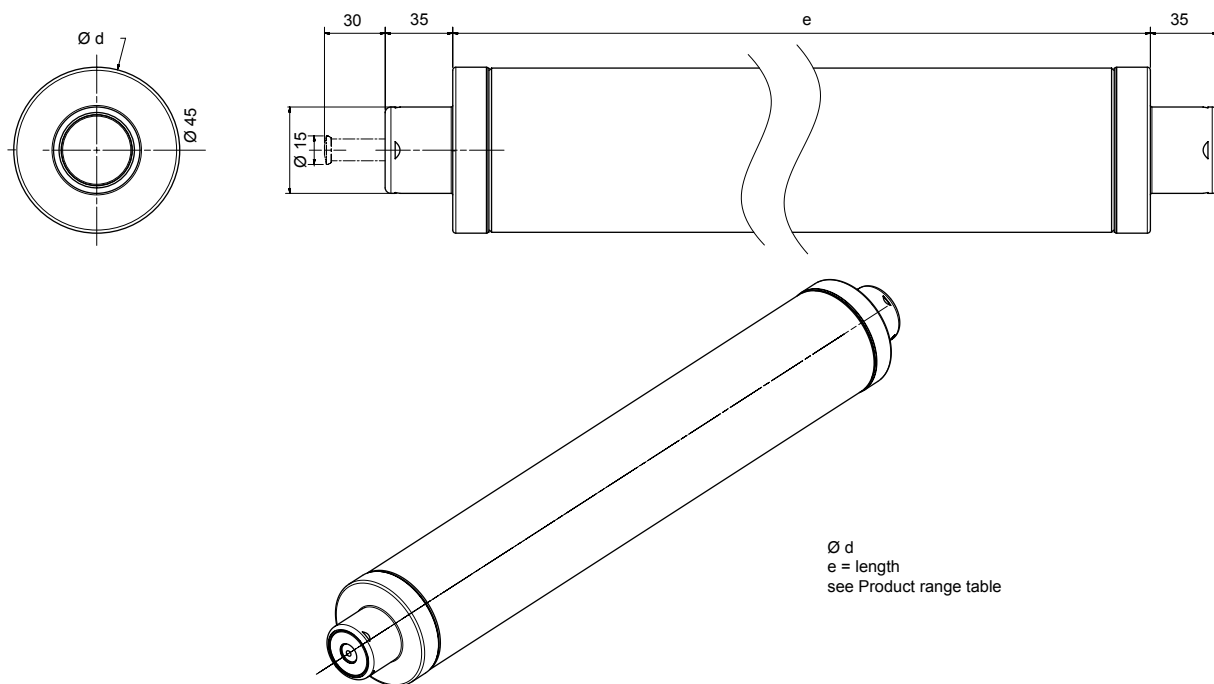
without Controlled Power Dissipation

CUT-OFF CURRENT CHARACTERISTIC

Limitor[®] P 36kV 537mm



DIMENSIONS



Dimensions in mm

Limitor®- P Back-up Fuses

without 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

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Limiter[®]- PD Back-up Fuses

without 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.

Limiter[®]-PD HV fuses are back-up fuses as defined in the standards: IEC 60282-1 and VDE 0670 T402 and dedicated to protect transformers against effects of short-circuit currents.

The VDE 0670 T402 defines fuses between 6.3A and 160A, for other ratings, thanks to consult Limitor[®]-P HV fuses range.

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 192mm	6/12kV 292mm	10/24kV 442mm	20/36kV 537mm
Rated current	6.3 ... 160 A	6.3 ... 160 A	6.3 ... 100 A	6.3 ... 63 A
Rated voltage range U_n	3/7.2 kV	6/12kV	10/24 kV	20/36 kV
Rated voltage of transformer	6 kV	10 kV	20 kV	30 kV

FEATURES & BENEFITS

- High breaking capacity
- High current limitation
- Low switching voltage
- Quick breaking
- medium striker 80N/30mm
- 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
- Indoor and outdoor applications

APPLICATIONS

- HV Transformer protection

STANDARDS

- IEC 60282-1
- VDE 0670 part 4
- VDE 0670 part 402
- DIN 43625



Limator®- PD Back-up Fuses

without Controlled Power Dissipation

PRODUCT RANGE



45DB72V125PD

Rated voltage 3 / 7,2 kV, length 192mm

Catalog number	Reference number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_s = I_{min}$	Cold resistance	Power dissipation at I_n	Weight	Package
Ø56mm									
45DB72V6,3PD	S209293	6.3 A	0.8 kA ² s	63 kA	21 A	256 mΩ	11 W	1.1 kg	1
45DB72V10PD	T209294	10 A	3 kA ² s	63 kA	38 A	144 mΩ	19 W	1.1 kg	1
45DB72V16PD	V209295	16 A	2.34 kA ² s	63 kA	65 A	41 mΩ	13 W	1.1 kg	1
45DB72V20PD	W209296	20 A	3.9 kA ² s	63 kA	92 A	32 mΩ	14.5 W	1.1 kg	1
45DB72V25PD	X209297	25 A	4.9 kA ² s	63 kA	110 A	25 mΩ	20 W	1.1 kg	1
45DB72V32PD	Y209298	31.5 A	7 kA ² s	63 kA	123 A	19 mΩ	23 W	1.1 kg	1
45DB72V40PD	Z209299	40 A	14 kA ² s	63 kA	140 A	12.3 mΩ	30 W	1.1 kg	1
45DB72V50PD	A209300	50 A	25.3 kA ² s	63 kA	194 A	9.3 mΩ	35 W	1.1 kg	1
Ø65mm									
45DB72V63PD	M1000235	63 A	61.7 kA ² s	63 kA	220 A	7 mΩ	60 W	1.6 kg	1
45DB72V80PD	N1000236	80 A	87.4 kA ² s	63 kA	300 A	5.2 mΩ	85 W	1.6 kg	1
Ø78mm									
45DB72V100PD	P1000237	100 A	180 kA ² s	63 kA	440 A	4 mΩ	96 W	1.6 kg	1
Ø88mm									
45DB72V125PD	Q1000100	125 A	440 kA ² s	63 kA	440 A	2.9 mΩ	75 W	2.8 kg	1
45DB72V160PD	Q1000238	160 A	654 kA ² s	63 kA	610 A	2.3 mΩ	120 W	2.8 kg	1

Rated voltage 6 / 12 kV, length 292mm

Catalog number	Reference number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_s = I_{min}$	Cold resistance	Power dissipation at I_n	Weight	Package
Ø56mm									
45DB120V6,3PD	R1000239	6.3 A	0.8 kA ² s	63 kA	23 A	409 mΩ	19 W	1.7 kg	1
45DB120V10PD	S1000240	10 A	3 kA ² s	63 kA	35 A	231 mΩ	29 W	1.7 kg	1
45DB120V16PD	T1000241	16 A	3.7 kA ² s	63 kA	64 A	69 mΩ	21 W	1.7 kg	1
45DB120V20PD	V1000242	20 A	4.7 kA ² s	63 kA	90 A	53 mΩ	25 W	1.7 kg	1
45DB120V25PD	W1000243	25 A	4.92 kA ² s	63 kA	95 A	41 mΩ	31 W	1.7 kg	1
45DB120V32PD	X1000244	31.5 A	7 kA ² s	63 kA	110 A	31 mΩ	39 W	1.7 kg	1
45DB120V40PD	Y1000245	40 A	14 kA ² s	63 kA	134 A	20 mΩ	46 W	1.7 kg	1
45DB120V50PD	Z1000246	50 A	25.3 kA ² s	63 kA	190 A	16.7 mΩ	62 W	1.7 kg	1
Ø65mm									
45DB120V63PD	A1000247	63 A	63 kA ² s	63 kA	220 A	11.7 mΩ	60 W	2.2 kg	1
45DB120V80PD	B1000248	80 A	87 kA ² s	63 kA	345 A	8.7 mΩ	82 W	2.2 kg	1
Ø78mm									
45DB120V100PD	C1000249	100 A	180 kA ² s	63 kA	400 A	6.7 mΩ	96 W	3.1 kg	1
Ø88mm									
45DB120V125PD	D1000250	125 A	440 kA ² s	63 kA	480 A	4.9 mΩ	117 W	4.05 kg	1
45DB120V160PD	E1000251	160 A	654 kA ² s	63 kA	610 A	3.8 mΩ	175 W	4.05 kg	1

Limitor®- PD Back-up Fuses

without Controlled Power Dissipation

PRODUCT RANGE

Rated voltage 10 / 24 kV, length 442mm

Catalog number	Reference number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_3 = I_{min}$	Cold resistance	Power dissipation at I_n	Weight	Package
Ø56mm									
45DB240V6,3PD	F1000252	6.3 A	0.8 kA ² s	63 kA	23 A	640 mΩ	32 W	2.36 kg	1
45DB240V10PD	G1000253	10 A	2 kA ² s	63 kA	36 A	386 mΩ	48 W	2.36 kg	1
45DB240V16PD	H1000254	16 A	2.34 kA ² s	63 kA	73 A	127 mΩ	43 W	2.36 kg	1
45DB240V20PD	J1000255	20 A	3.9 kA ² s	63 kA	91 A	97 mΩ	53 W	2.36 kg	1
45DB240V25PD	K1000256	25 A	6.5 kA ² s	63 kA	116 A	74 mΩ	64 W	2.36 kg	1
45DB240V32PD	L1000257	31.5 A	7 kA ² s	63 kA	125 A	61 mΩ	85 W	2.36 kg	1
45DB240V40PD	M1000258	40 A	14.2 kA ² s	63 kA	161 A	43 mΩ	103 W	2.36 kg	1
Ø65mm									
45DB240V50PD	N1000259	50 A	24.2 kA ² s	63 kA	230 A	35 mΩ	146 W	3.1 kg	1
45DB240V63PD	P1000260	63 A	46.4 kA ² s	63 kA	350 A	25 mΩ	163 W	3.1 kg	1
45DB240V80PD	Q1000261	80 A	104 kA ² s	63 kA	460 A	19 mΩ	196 W	3.1 kg	1
Ø88mm									
45DB240V100PD	R1000262	100 A	140 kA ² s	63 kA	420 A	14 mΩ	279 W	4.1 kg	1



45DB360V63PD

Rated voltage 20 / 36 kV, length 537mm

Catalog number	Reference number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_3 = I_{min}$	Cold resistance	Power dissipation at I_n	Weight	Package
Ø56mm									
45DB360V6,3PD	S209362	6.3 A	0.6 kA ² s	31.5 kA	23 A	827 mΩ	39 W	2.7 kg	1
45DB360V10PD	T209363	10 A	2 kA ² s	31.5 kA	34 A	463 mΩ	65 W	2.7 kg	1
45DB360V16PD	V209364	16 A	2.34 kA ² s	31.5 kA	70 A	210 mΩ	67 W	2.7 kg	1
45DB360V20PD	W209365	20 A	3.9 kA ² s	31.5 kA	100 A	165 mΩ	84 W	2.7 kg	1
45DB360V25PD	X209366	25 A	6.5 kA ² s	31.5 kA	110 A	125 mΩ	100 W	2.7 kg	1
Ø65mm									
45DB360V32PD	Y209367	31.5 A	7 kA ² s	31.5 kA	135 A	85 mΩ	119 W	3.7 kg	1
45DB360V40PD	Z209368	40 A	14.2 kA ² s	20 kA	205 A	65 mΩ	176 W	3.7 kg	1
Ø88mm									
45DB360V50PD	J1000117	50 A	40 kA ² s	20 kA	220 A	42 mΩ	183 W	6.5 kg	1
45DB360V63PD	K1000118	63 A	61.7 kA ² s	20 kA	360 A	35 mΩ	271 W	6.5 kg	1

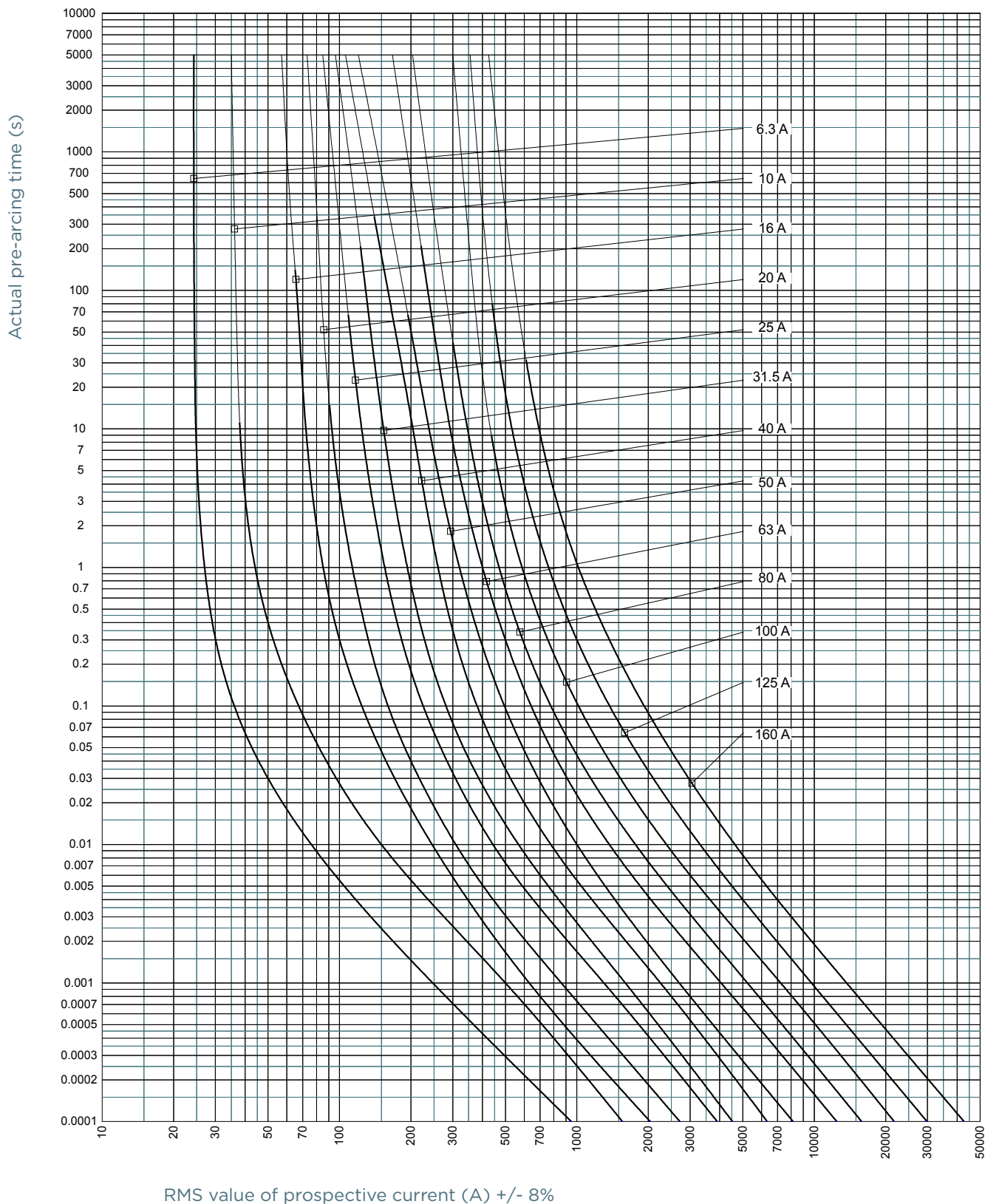
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Limitor[®]- PD Back-up Fuses

without Controlled Power Dissipation

TIME CURRENT CHARACTERISTIC CURVES

Limitor[®] PD 7,2kV 192mm



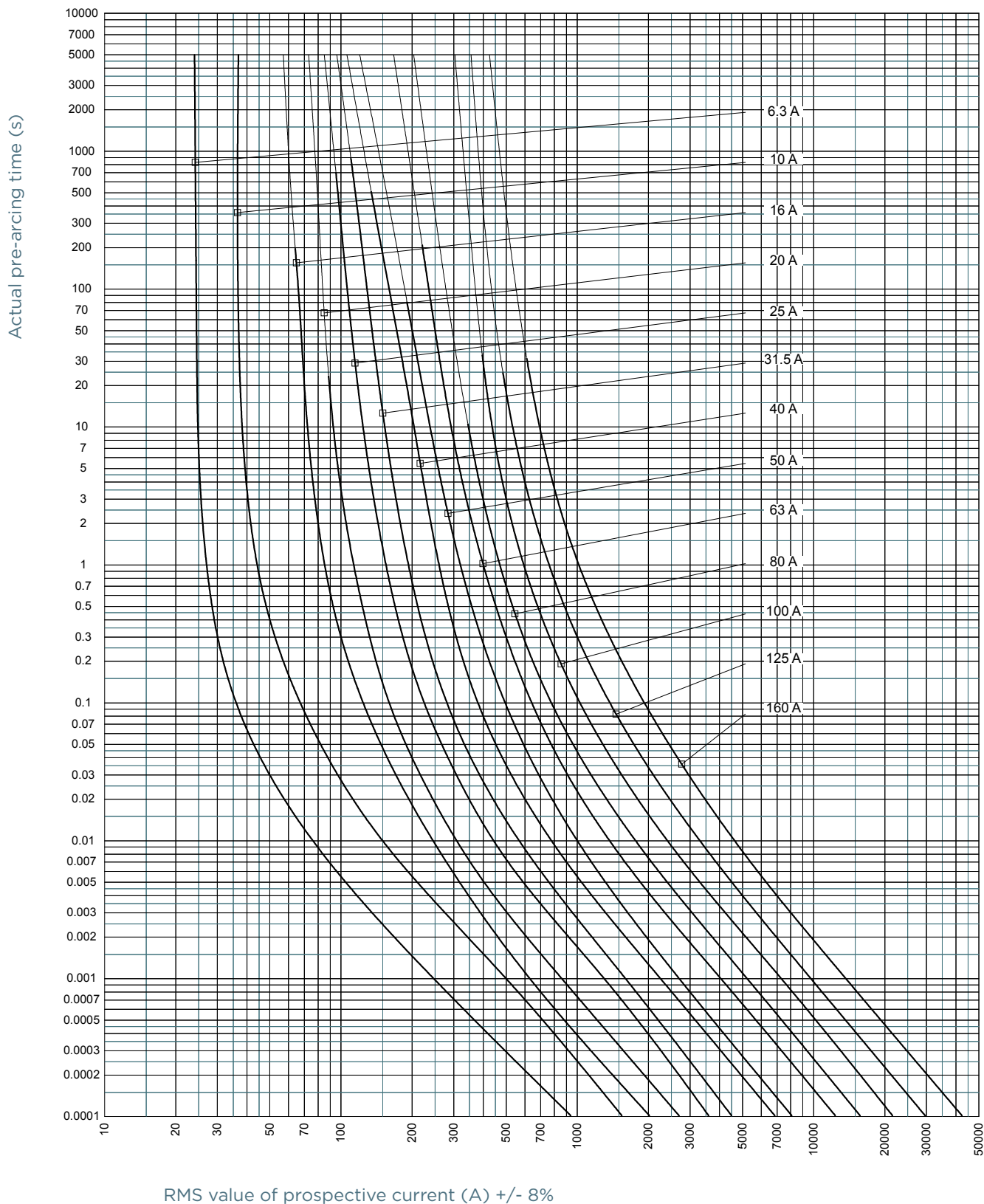
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Limitor[®]- PD Back-up Fuses

without Controlled Power Dissipation

TIME CURRENT CHARACTERISTIC CURVES

Limitor[®] PD 12kV 292mm



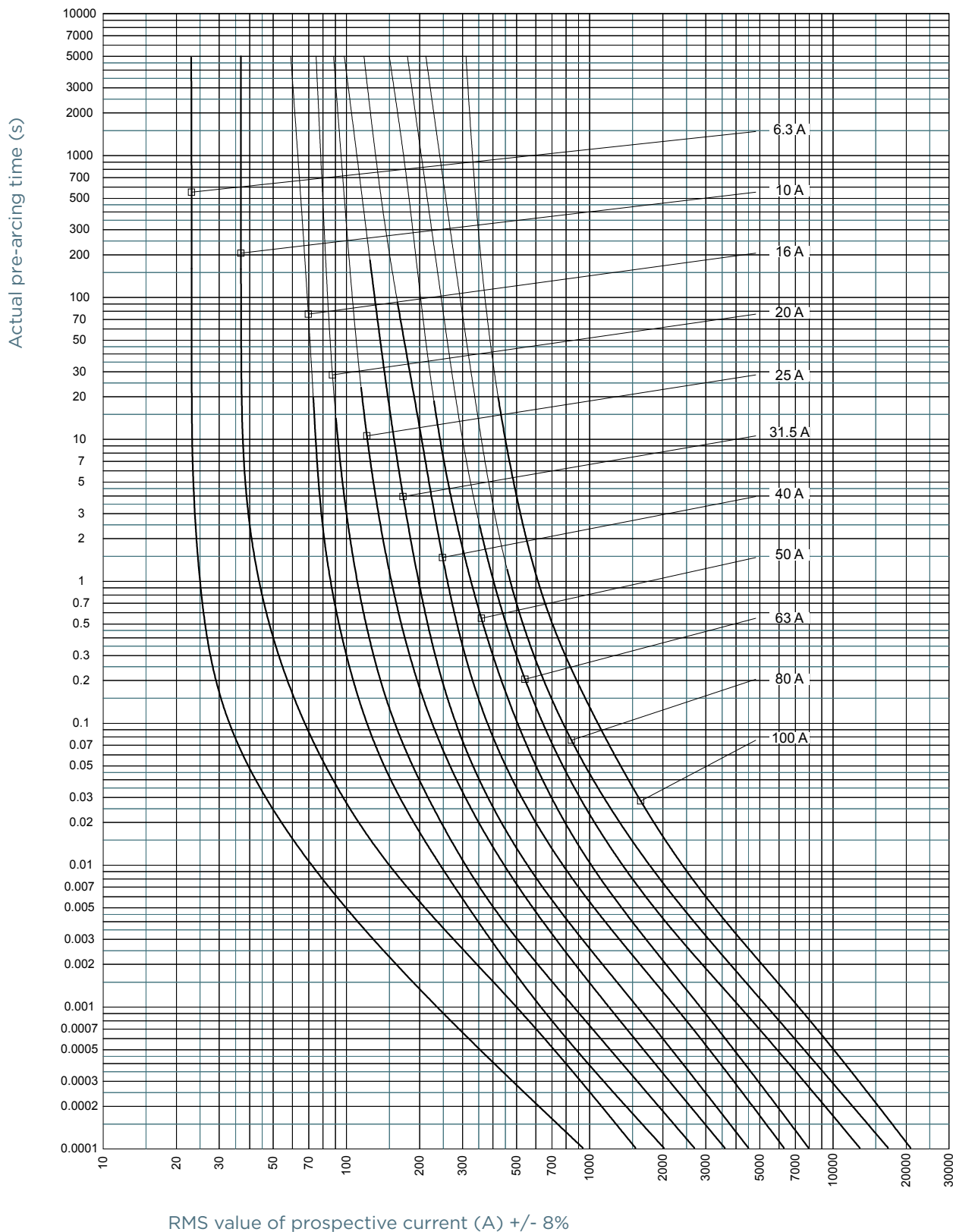
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Limitor[®]- PD Back-up Fuses

without Controlled Power Dissipation

TIME CURRENT CHARACTERISTIC CURVES

Limitor[®] PD 24kV 442mm



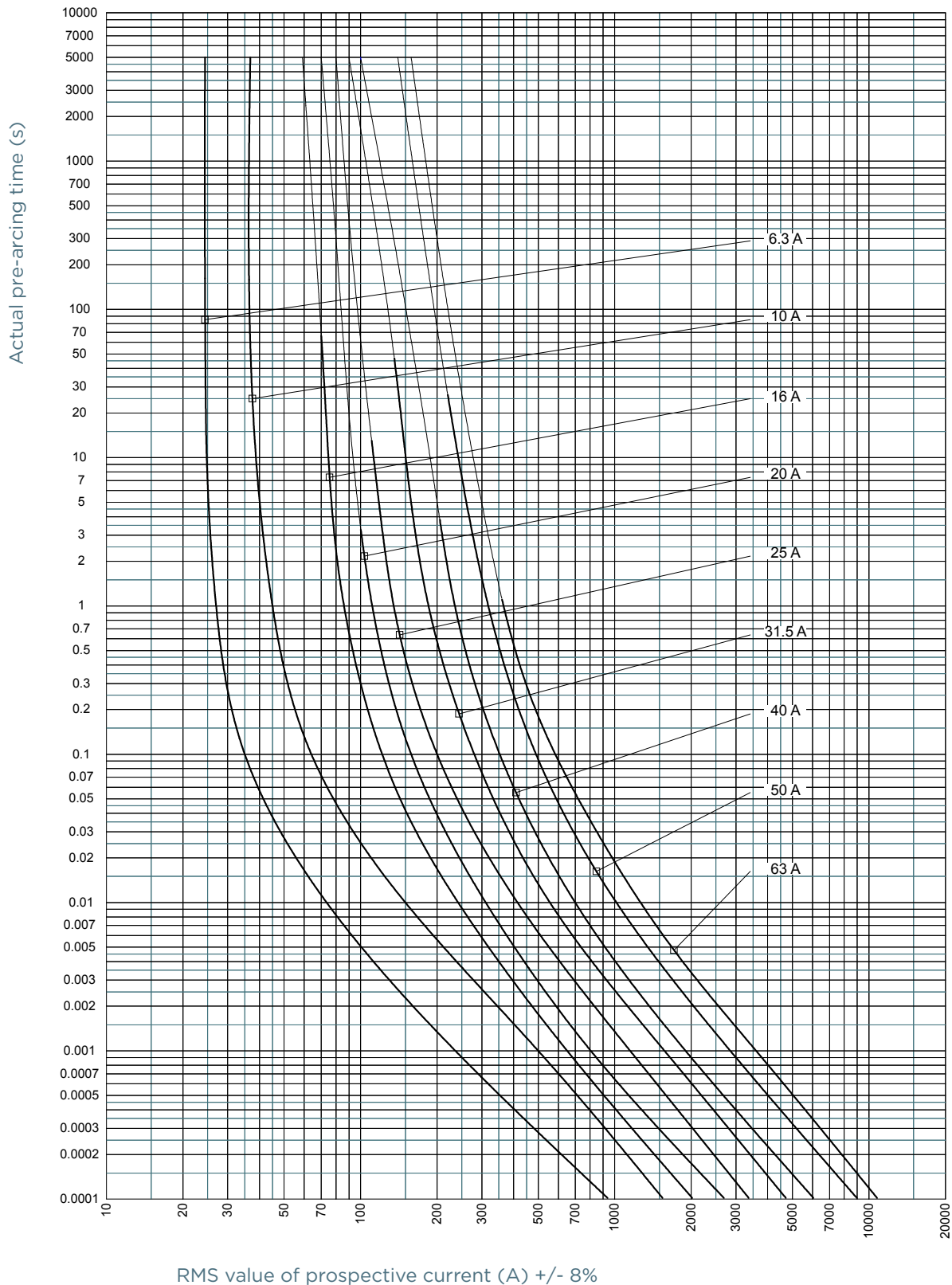
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Limitor[®]- PD Back-up Fuses

without Controlled Power Dissipation

TIME CURRENT CHARACTERISTIC CURVES

Limitor[®] PD 36kV 537mm



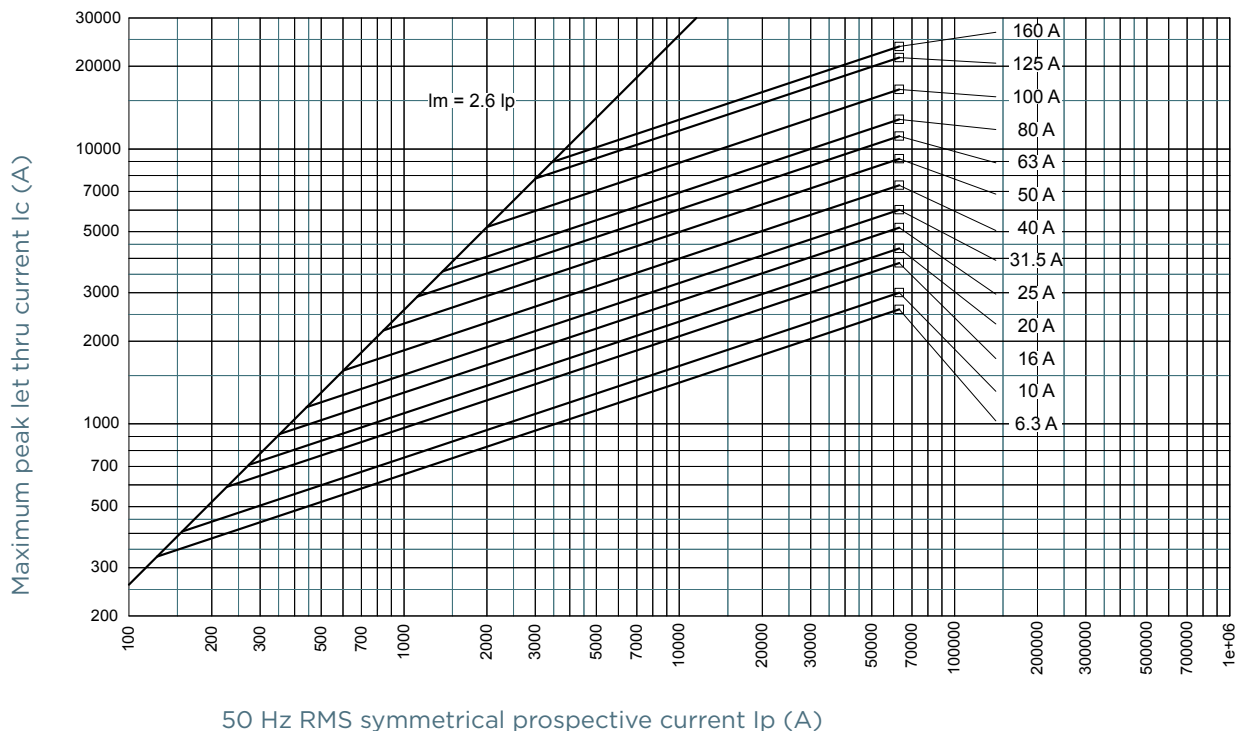
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Limitor[®]- PD Back-up Fuses

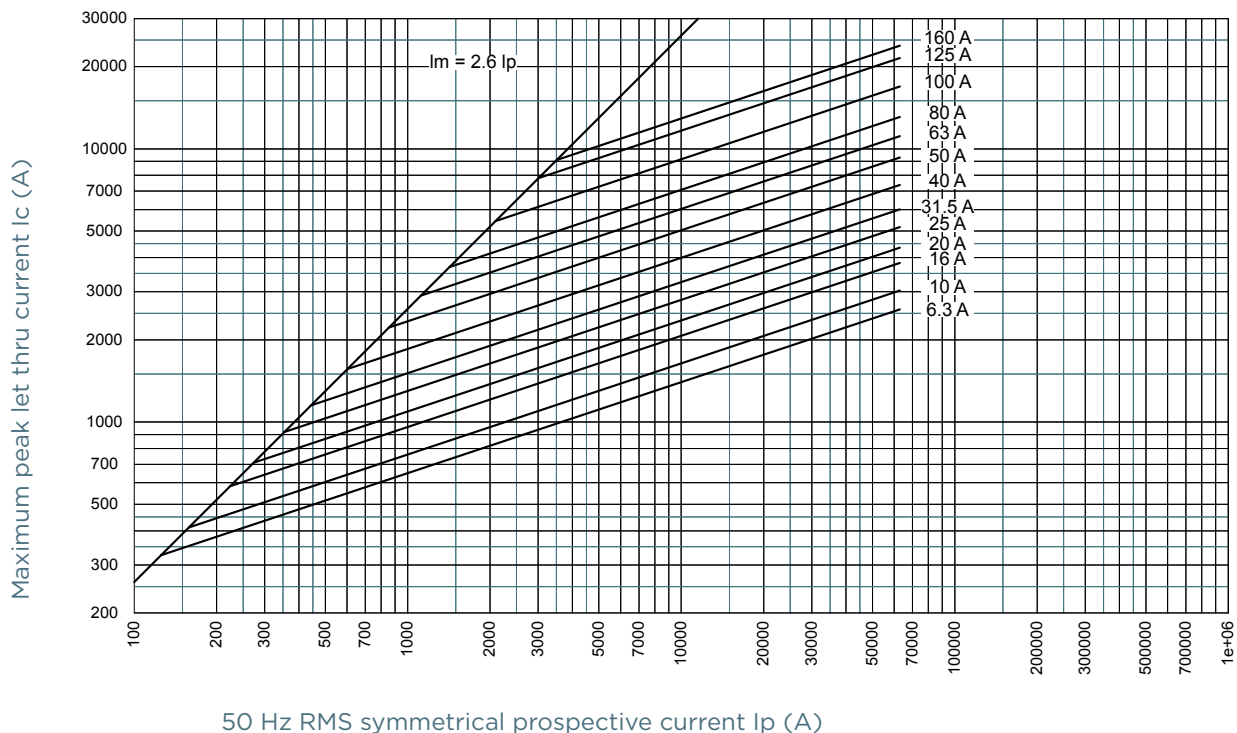
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CUT-OFF CURRENT CHARACTERISTIC

Limitor[®] PD 7,2kV 192mm



Limitor[®] PD 12kV 292mm



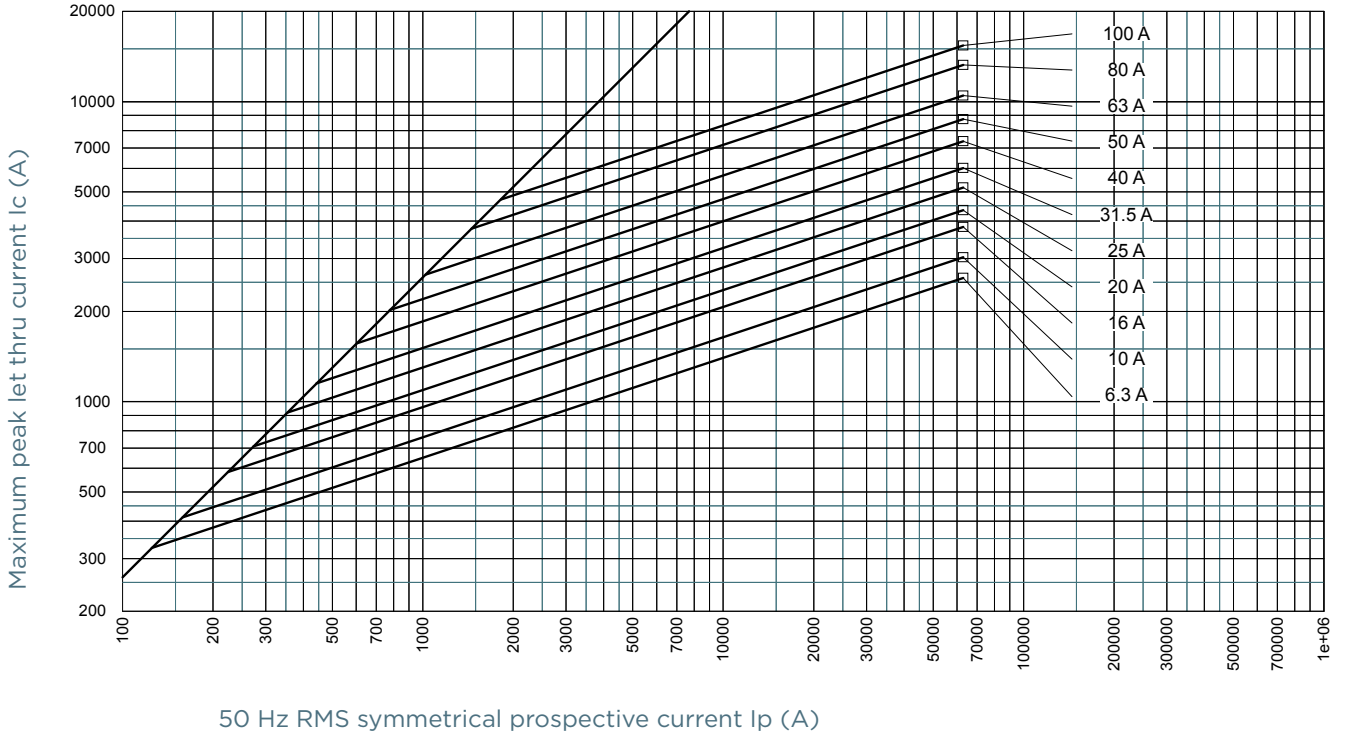
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Limitor[®]- PD Back-up Fuses

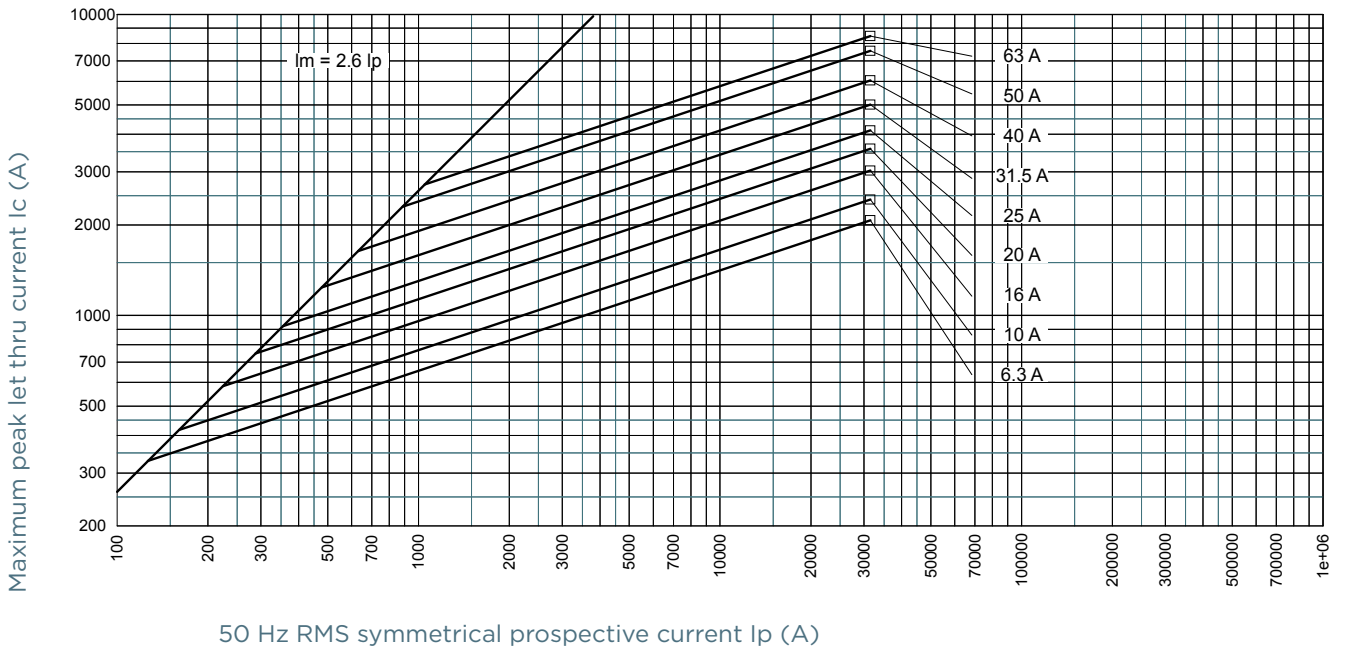
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CUT-OFF CURRENT CHARACTERISTIC

Limitor[®] PD 24kV 442mm



Limitor[®] PD 36kV 537mm

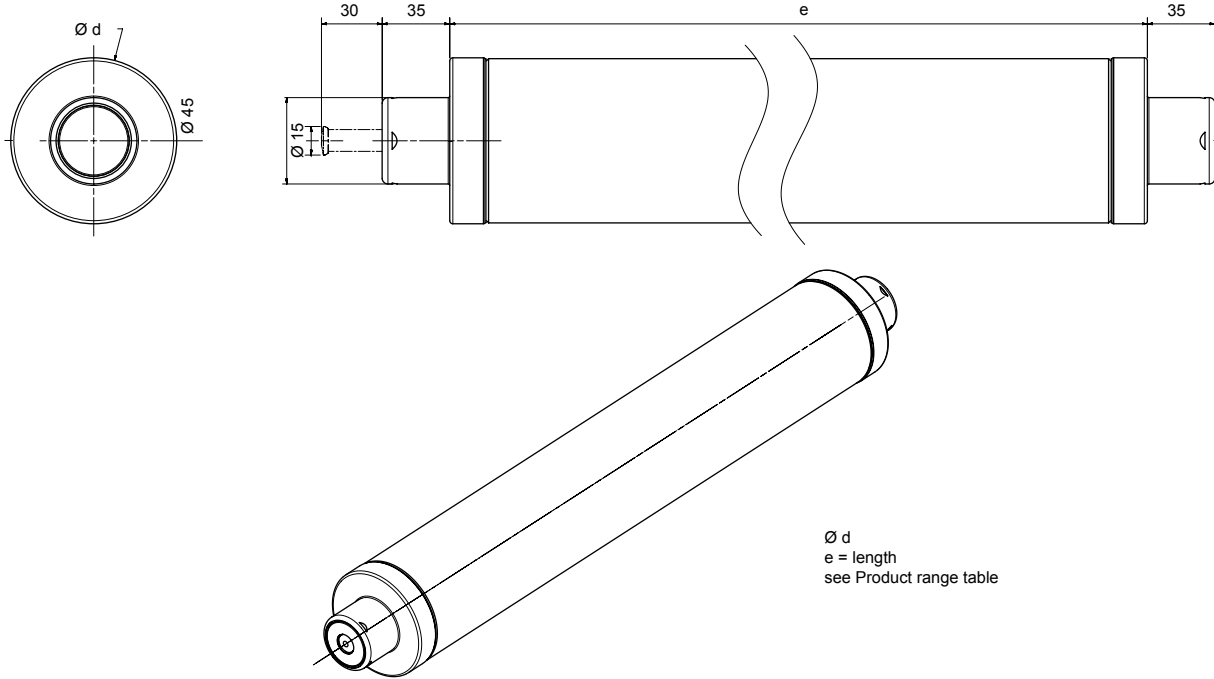


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Limiter[®]- PD Back-up Fuses

without Controlled Power Dissipation

DIMENSIONS



Dimensions in mm

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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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Limiter®- PT Back-up Fuses

with Controlled Power Dissipation

PRODUCT RANGE

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

Catalog number	Reference number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_3 = I_{min}$	Cold resistance	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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Limiter®- PT Back-up Fuses

with Controlled Power Dissipation

PRODUCT RANGE



45DB120V1PT



45DB120V125PT

Limiter- PT, Rated voltage 6 /12 kV

Catalog number	Reference number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_3 = I_{min}$	Cold resistance	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	1.7 kg	1
45DB120V2PT	M1000120	2 A	0.28 kA ² s	63 kA	16 A	510 mΩ	2 W	1.7 kg	1
45DB120V4PT	N1000121	4 A	0.5 kA ² s	63 kA	22 A	338 mΩ	6 W	1.7 kg	1
45DB120V6,3PT	P1000122	6.3 A	0.6 kA ² s	63 kA	30 A	190 mΩ	8 W	1.7 kg	1
45DB120V10PT	Q1000123	10 A	1.15 kA ² s	63 kA	42 A	139 mΩ	16 W	1.7 kg	1
45DB120V16PT	R1000124	16 A	1.29 kA ² s	63 kA	54 A	107 mΩ	38 W	1.7 kg	1
45DB120V20PT	S1000125	20 A	3.2 kA ² s	63 kA	73 A	71 mΩ	38 W	1.7 kg	1
45DB120V25PT	T1000126	25 A	5.2 kA ² s	63 kA	93 A	52 mΩ	46 W	1.7 kg	1
45DB120V32PT	V1000127	31.5 A	7.2 kA ² s	63 kA	105 A	43 mΩ	65 W	1.7 kg	1
45DB120V40PT	W1000128	40 A	23.3 kA ² s	63 kA	125 A	23 mΩ	54 W	1.7 kg	1
45DB120V50PT	X1000129	50 A	34.9 kA ² s	63 kA	160 A	18 mΩ	70 W	1.7 kg	1
45DB120V63PT	Y1000130	63 A	58.3 kA ² s	63 kA	230 A	12 mΩ	85 W	1.7 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	3.1 kg	1
Ø88mm, length 292mm									
45DB120V125PT	B1000133	125 A	440 kA ² s	63 kA	480 A	4 mΩ	117 W	3.95 kg	1
45DB120V160PT	C1000134	160 A	500 kA ² s	63 kA	560 A	4.3 mΩ	217 W	3.95 kg	1
45DB120V200PT	D1000135	200 A	654 kA ² s	63 kA	610 A	3.8 mΩ	333 W	3.95 kg	1

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Limitor®- PT Back-up Fuses

with Controlled Power Dissipation

PRODUCT RANGE



45DB175V100PT

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

Catalog number	Reference number	Rated current I _n	Clearing I ² t at Rated Voltage	Breaking capacity I _b	Minimum breaking current I ₃ = I _{min}	Cold resistance	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	2.208 kg	1
45DB175V10PT-2	W1005901	10 A	1.5 kA ² s	25 kA	45 A	181 mΩ	22 W	2.208 kg	1
45DB175V16PT-2	V1005279	16 A	3.4 kA ² s	25 kA	64 A	99.6 mΩ	32 W	2.208 kg	1
45DB175V25PT-2	X1005902	25 A	5.5 kA ² s	25 kA	100 A	62.1 mΩ	54 W	2.208 kg	1
45DB175V32PT-2	Y1005903	31.5 A	10 kA ² s	25 kA	126 A	46.5 mΩ	69 W	2.208 kg	1
45DB175V40PT-2	Z1005904	40 A	12 kA ² s	25 kA	160 A	36.5 mΩ	94.3 W	2.208 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	5.65 kg	1
45DB175V10PT	H1006119	10 A	1.5 kA ² s	63 kA	43 A	180 mΩ	22 W	5.65 kg	1
45DB175V16PT	J1006120	16 A	2 kA ² s	63 kA	54 A	150 mΩ	53 W	5.65 kg	1
45DB175V25PT	K1006121	25 A	6 kA ² s	63 kA	93 A	78 mΩ	73 W	5.65 kg	1
45DB175V32PT	L1006122	31.5 A	10 kA ² s	63 kA	105 A	59 mΩ	95 W	5.65 kg	1
45DB175V40PT	M1006123	40 A	30 kA ² s	63 kA	125 A	33.8 mΩ	79 W	5.65 kg	1
45DB175V50PT	N1006124	50 A	50 kA ² s	63 kA	205 A	26 mΩ	106 W	5.65 kg	1
45DB175V63PT	P1006125	63 A	100 kA ² s	63 kA	280 A	18.4 mΩ	135 W	5.65 kg	1
Ø65mm, length 367mm									
45DB175V80PT	Q1006126	80 A	150 kA ² s	63 kA	350 A	15 mΩ	183 W	5.65 kg	1
Ø88mm, length 367mm									
45DB175V100PT	S1006128	100 A	200 kA ² s	63 kA	500 A	13 mΩ	240 W	5.65 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	5.678 kg	1
45DB175V100PT-3	C1005907	100 A	220 kA ² s	31.5 kA	400 A	9.6 mΩ	151 W	5.678 kg	1
45DB175V125PT-3	D1005908	125 A	300 kA ² s	31.5 kA	500 A	8 mΩ	217 W	5.678 kg	1
Ø88mm, length 537mm									
45DB175V100PT-4	E1005909	100 A	320 kA ² s	31.5 kA	400 A	9.6 mΩ	151 W	6.823 kg	1

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Limitor®- PT Back-up Fuses

with Controlled Power Dissipation

PRODUCT RANGE



45DB240V1PT



45DB240V125PT

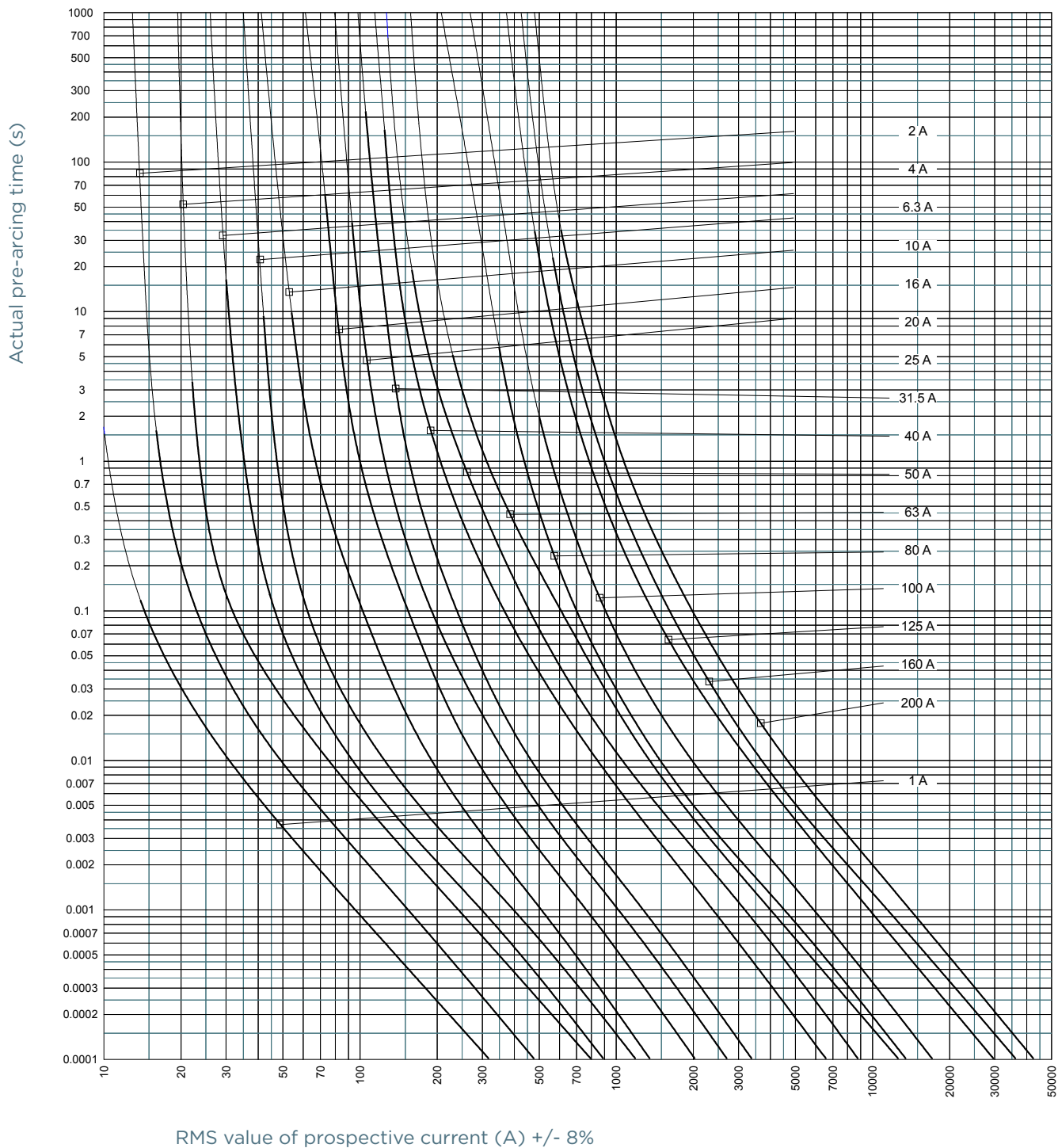
Limitor- PT, Rated voltage 10 / 24 kV

Catalog number	Reference number	Rated current I _n	Clearing I ² t at Rated Voltage	Breaking capacity I _b	Minimum breaking current I _z = I _{min}	Cold resistance	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	54 A	197 mΩ	73 W	2.3 kg	1
45DB240V20PT	L1000142	20 A	3.1 kA ² s	63 kA	73 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	125 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	310 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	4.5 kg	1
Ø88mm, length 442mm									
45DB240V125PT	V1000150	125 A	350 kA ² s	40 kA	760 A	11 mΩ	340 W	5.9 kg	1

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TIME CURRENT CHARACTERISTIC CURVES

Limitor® PT 12kV 292mm

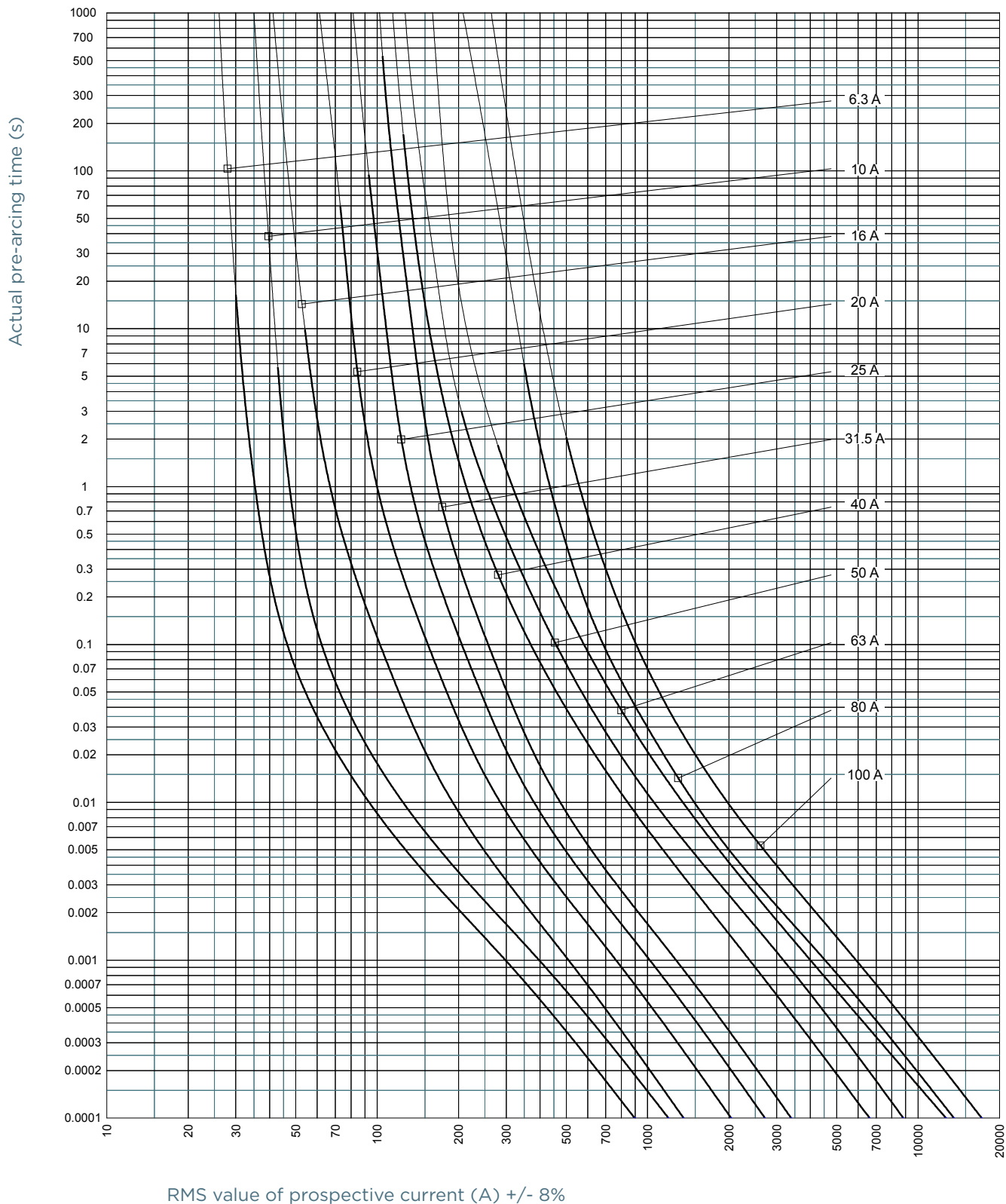


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Limitor[®]- PT Back-up Fuses with Controlled Power Dissipation

TIME CURRENT CHARACTERISTIC CURVES

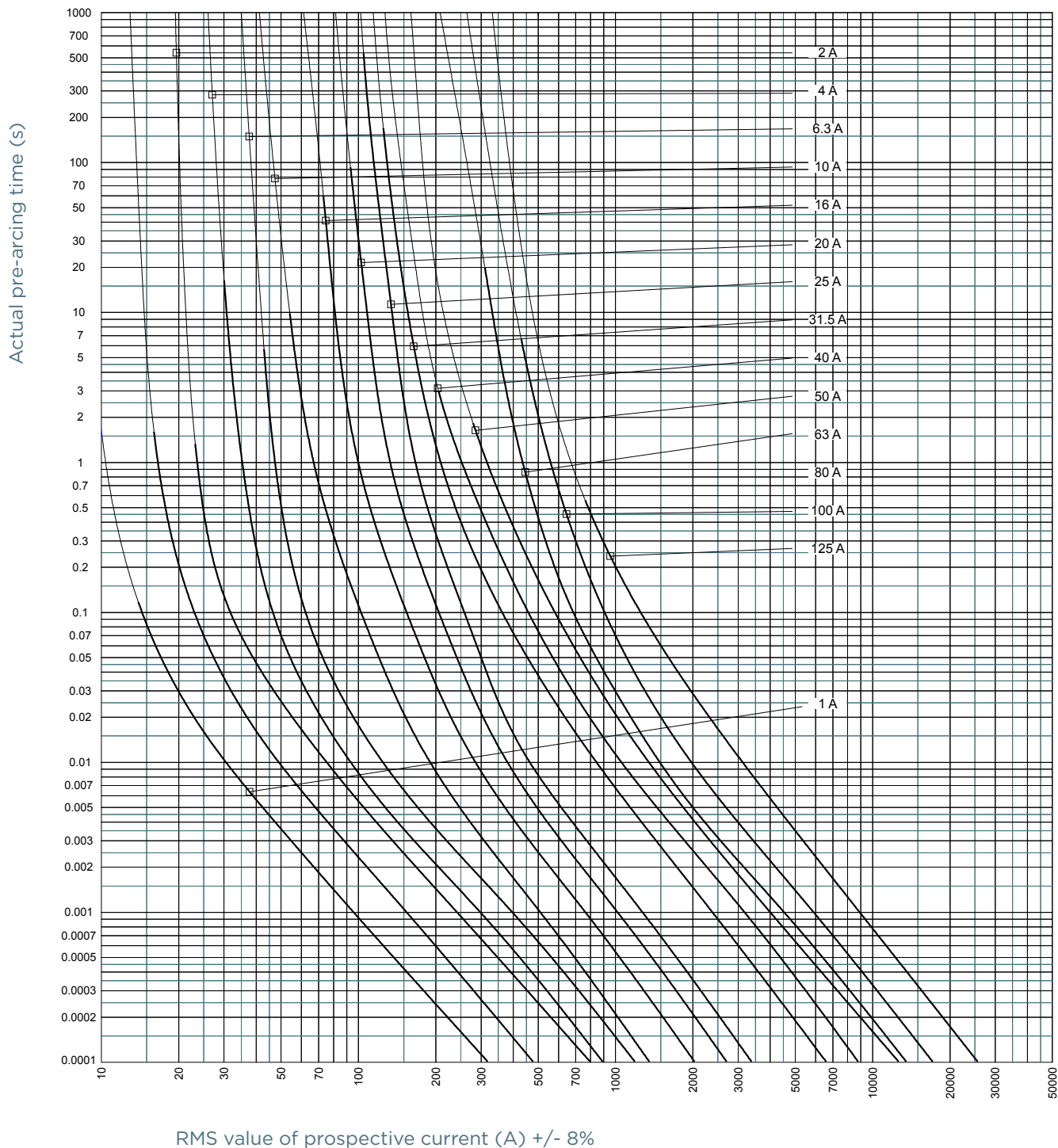
Limitor[®] PT 17,5V 367mm



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TIME CURRENT CHARACTERISTIC CURVES

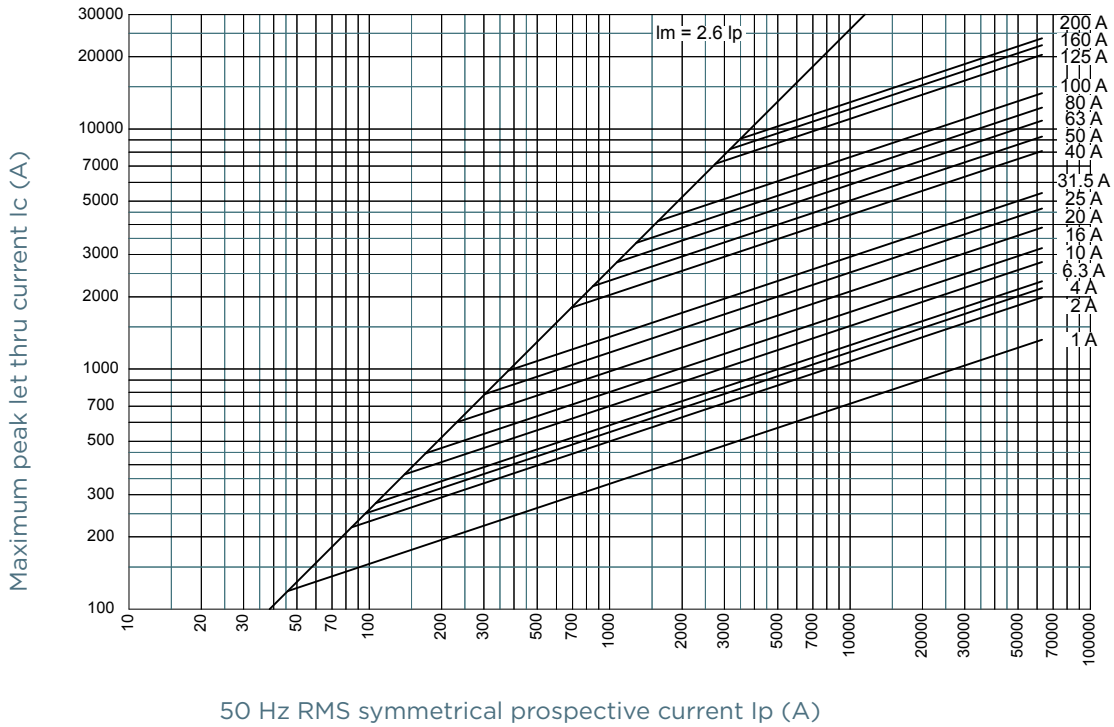
Limitor[®] PT 24kV 442mm



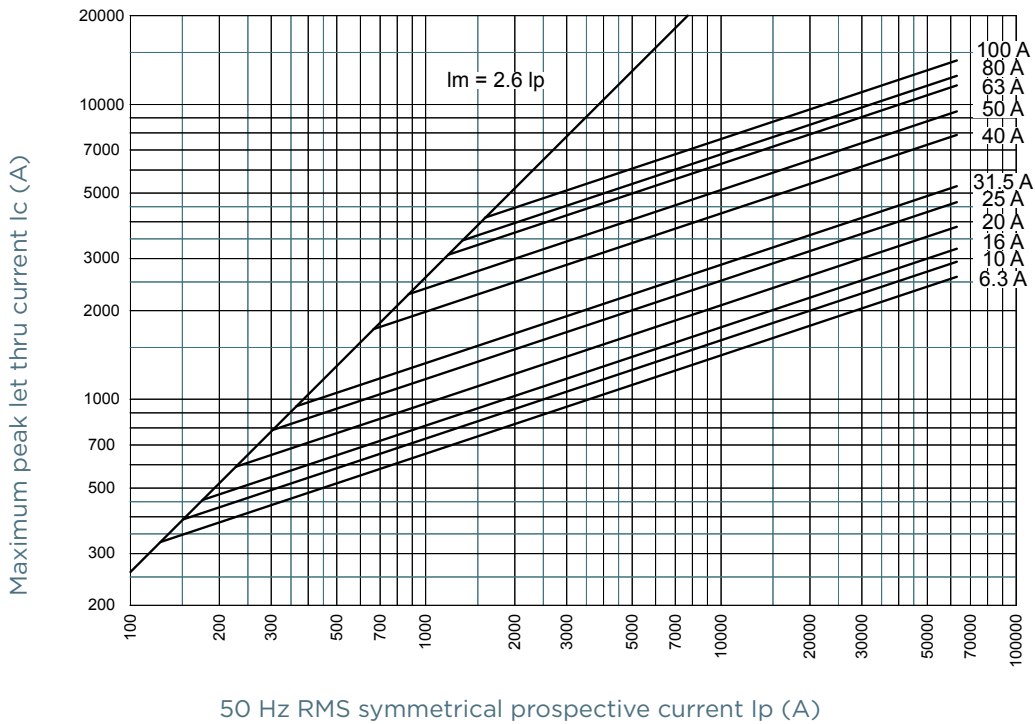
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CUT-OFF CURRENT CHARACTERISTIC

Limitor® PT 12kV 292mm



Limitor® PT 17,5V 367mm



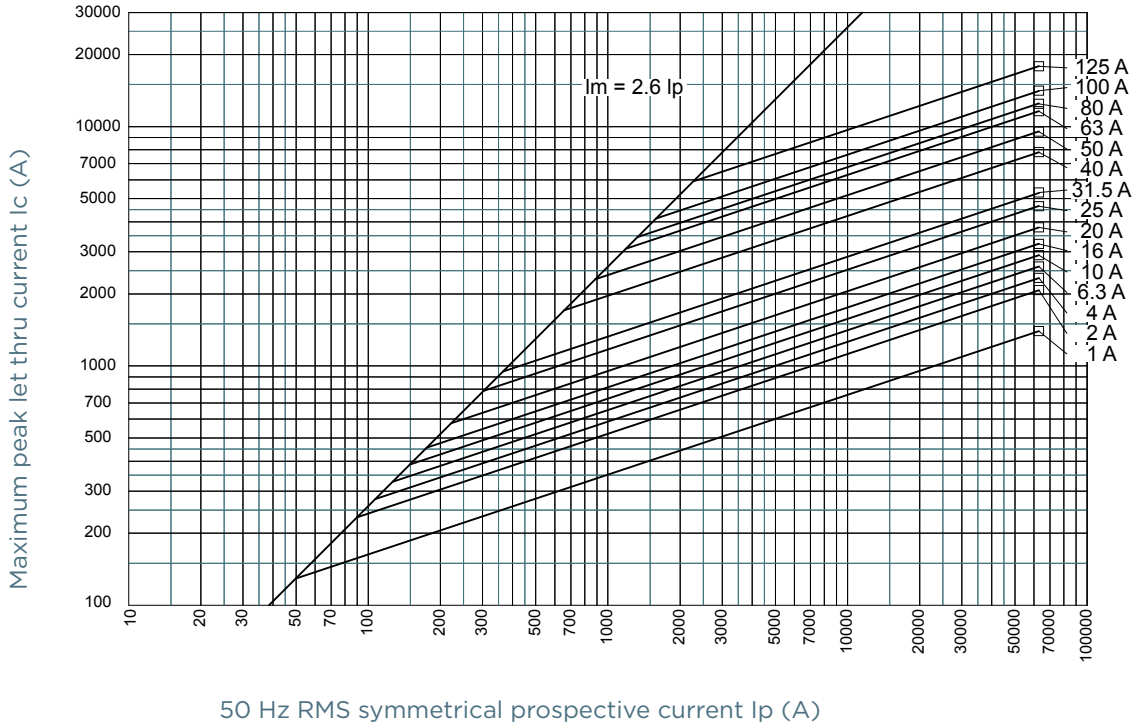
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Limitor®- PT Back-up Fuses

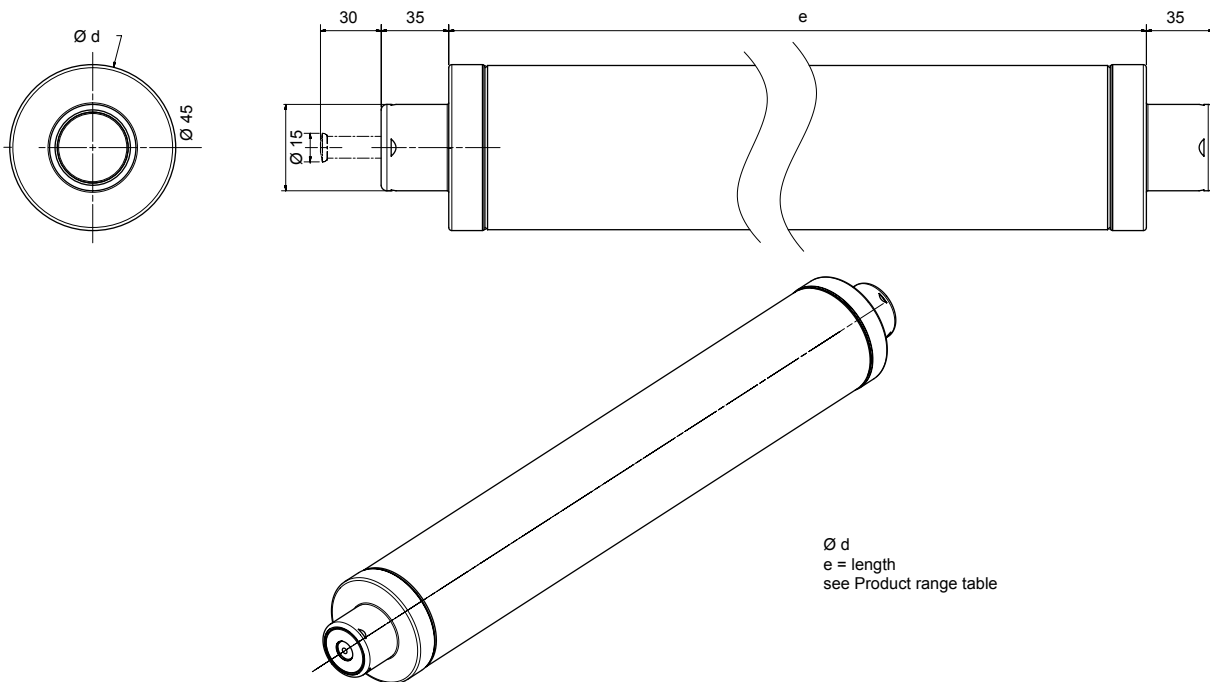
with Controlled Power Dissipation

CUT-OFF CURRENT CHARACTERISTIC

Limitor® PT 24kV 442mm



DIMENSIONS



Dimensions in mm

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

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Limitor[®] - PTD 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[®]-PTD HV fuse-links are back-up fuses as defined in the standards: IEC 60282-1 and VDE 0670 T402 and dedicated to protect transformers in combination with air or gas insulated switchgear against the thermal and dynamic 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.

Limitor[®]-PTD HV fuse-links are perfectly designed to be used in combination with HV switchgear.

Siemens and Ormazabal recommend Limitor[®]-PTD HV fuses to be used in their gas-insulated switchgear.

TECHNICAL DATA

	6/12kV 292mm	10/24kV 442mm	20/36kV 537mm
Rated current	10 ... 160 A	6.3 ... 100 A	6.3 ... 50 A
Rated voltage range U _n	6/12kV	10/24 kV	20/36 kV
Rated voltage of transformer	10 kV	20 kV	30 kV
Package	1	1	1

FEATURES & BENEFITS

- High breaking capacity
- High current limitation
- Low switching voltage
- Medium striker 80N/30mm
- CPD striker: controlled power dissipation
- Indoor and outdoor applications
- Quick breaking
- Non-ageing
- 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 and VDE 0670 T303

APPLICATIONS

- HV Transformer protection

STANDARDS

- IEC 60282-1
- VDE 0670 part 4
- VDE 0670 part 402
- DIN 43625



Limiter®- PTD Back-up Fuses

with Controlled Power Dissipation

PRODUCT RANGE

Rated voltage 6 /12 kV, length 292mm

Catalog number	Reference number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_3 = I_{min}$	Cold resistance	Power dissipation at I_n	Weight
Ø56mm								
45DB120V10PTD	S1000263	10 A	3 kA ² s	63 kA	35 A	227 mΩ	29 W	1.7 kg
45DB120V16PTD	T1000264	16 A	3.7 kA ² s	63 kA	64 A	66 mΩ	21 W	1.7 kg
45DB120V20PTD	V1000265	20 A	4.7 kA ² s	63 kA	90 A	51 mΩ	25 W	1.7 kg
45DB120V25PTD	W1000266	25 A	4.9 kA ² s	63 kA	95 A	40 mΩ	29 W	1.7 kg
45DB120V32PTD	X1000267	31.5 A	7 kA ² s	63 kA	110 A	30 mΩ	39 W	1.7 kg
45DB120V40PTD	Y1000268	40 A	14 kA ² s	63 kA	134 A	20 mΩ	46 W	1.7 kg
45DB120V50PTD	Z1000269	50 A	25 kA ² s	63 kA	190 A	15 mΩ	62 W	1.7 kg
Ø65mm								
45DB120V63PTD	A1000270	63 A	63 kA ² s	63 kA	220 A	12 mΩ	62 W	2.2 kg
45DB120V80PTD	B1000271	80 A	87 kA ² s	63 kA	345 A	8.7 mΩ	85 W	2.2 kg
45DB120V100PTD	C1000272	100 A	140 kA ² s	63 kA	500 A	8.1 mΩ	152 W	2.2 kg
Ø88mm								
45DB120V125PTD	D1000273	125 A	430 kA ² s	63 kA	480 A	4.5 mΩ	117 W	4.05 kg
45DB120V160PTD	E1000274	160 A	670 kA ² s	63 kA	610 A	4 mΩ	175 W	4.05 kg

Rated voltage 10 / 24 kV, length 442mm

Catalog number	Reference number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_3 = I_{min}$	Cold resistance	Power dissipation at I_n	Weight
Ø56mm								
45DB240V6,3PTD	F1000275	6.3 A	0.8 kA ² s	63 kA	23 A	640 mΩ	31 W	2.36 kg
45DB240V10PTD	G1000276	10 A	2 kA ² s	63 kA	36 A	386 mΩ	48 W	2.36 kg
45DB240V16PTD	H1000277	16 A	2.3 kA ² s	63 kA	73 A	127 mΩ	42 W	2.36 kg
45DB240V20PTD	J1000278	20 A	3.9 kA ² s	63 kA	91 A	97 mΩ	53 W	2.36 kg
45DB240V25PTD	K1000279	25 A	6.5 kA ² s	63 kA	116 A	73 mΩ	60 W	2.36 kg
45DB240V32PTD	L1000280	31.5 A	7 kA ² s	63 kA	125 A	57 mΩ	84 W	2.36 kg
45DB240V40PTD	M1000281	40 A	14.2 kA ² s	63 kA	161 A	41 mΩ	96 W	2.36 kg
Ø65mm								
45DB240V50PTD	N1000282	50 A	24.2 kA ² s	63 kA	230 A	35 mΩ	146 W	3.2 kg
45DB240V63PTD	P1000283	63 A	46.4 kA ² s	63 kA	350 A	24 mΩ	163 W	3.2 kg
45DB240V80PTD	Q1000284	80 A	104 kA ² s	63 kA	460 A	19 mΩ	196 W	3.2 kg
Ø88mm								
45DB240V100PTD	R1000285	100 A	140 kA ² s	63 kA	420 A	14 mΩ	279 W	4.1 kg

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Limitor[®]- PTD Back-up Fuses

with Controlled Power Dissipation

PRODUCT RANGE

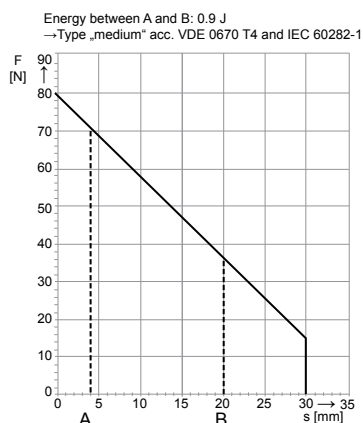


45DB360V6,3PTD

Rated voltage 20 / 36 kV, length 537mm

Catalog number	Reference number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_s = I_{min}$	Cold resistance	Power dissipation at I_n	Weight
Ø56mm								
45DB360V6,3PTD	S1000286	6.3 A	0.6 kA ² s	31.5 kA	23 A	889 mΩ	39 W	2.7 kg
45DB360V10PTD	T1000287	10 A	2 kA ² s	31.5 kA	34 A	529 mΩ	66 W	2.7 kg
45DB360V16PTD	V1000288	16 A	2.35 kA ² s	31.5 kA	70 A	190 mΩ	67 W	2.7 kg
45DB360V20PTD	W1000289	20 A	3.9 kA ² s	31.5 kA	100 A	153 mΩ	84 W	2.7 kg
45DB360V25PTD	X1000290	25 A	6.5 kA ² s	31.5 kA	110 A	118 mΩ	100 W	2.7 kg
Ø65mm								
45DB360V32PTD	Y1000291	31.5 A	7 kA ² s	31.5 kA	135 A	82 mΩ	119 W	2.7 kg
45DB360V40PTD	Z1000292	40 A	14.2 kA ² s	20 kA	205 A	63 mΩ	176 W	3.8 kg
Ø88mm								
45DB360V50PTD	A1000293	50 A	40 kA ² s	20 kA	220 A	41 mΩ	183 W	6.5 kg

CHARACTERISTICS OF TRIP INDICATOR

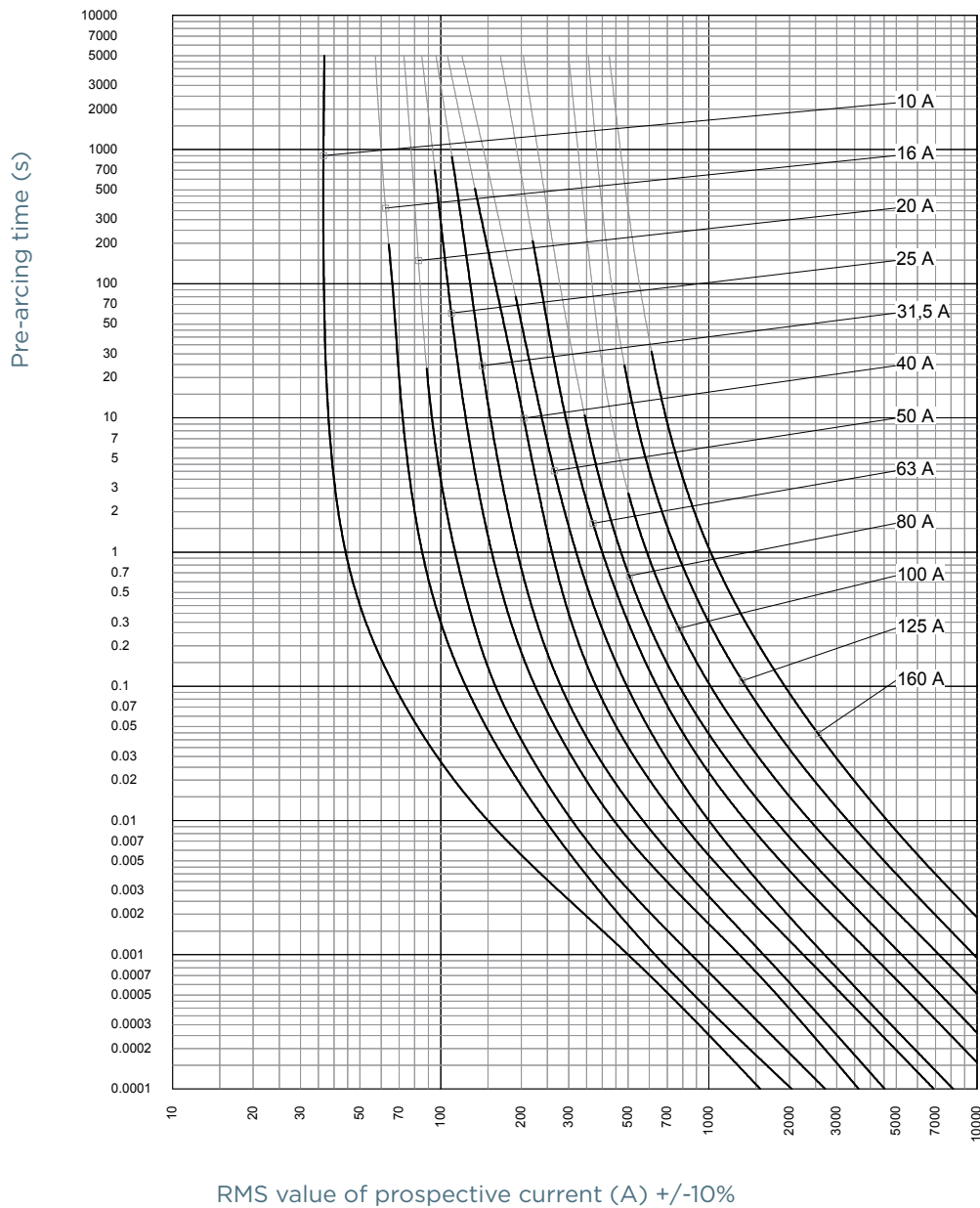


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Limitor[®]- PTD Back-up Fuses with Controlled Power Dissipation

TIME CURRENT CHARACTERISTIC CURVES

Limitor[®]-PTD 12kV 10-160A

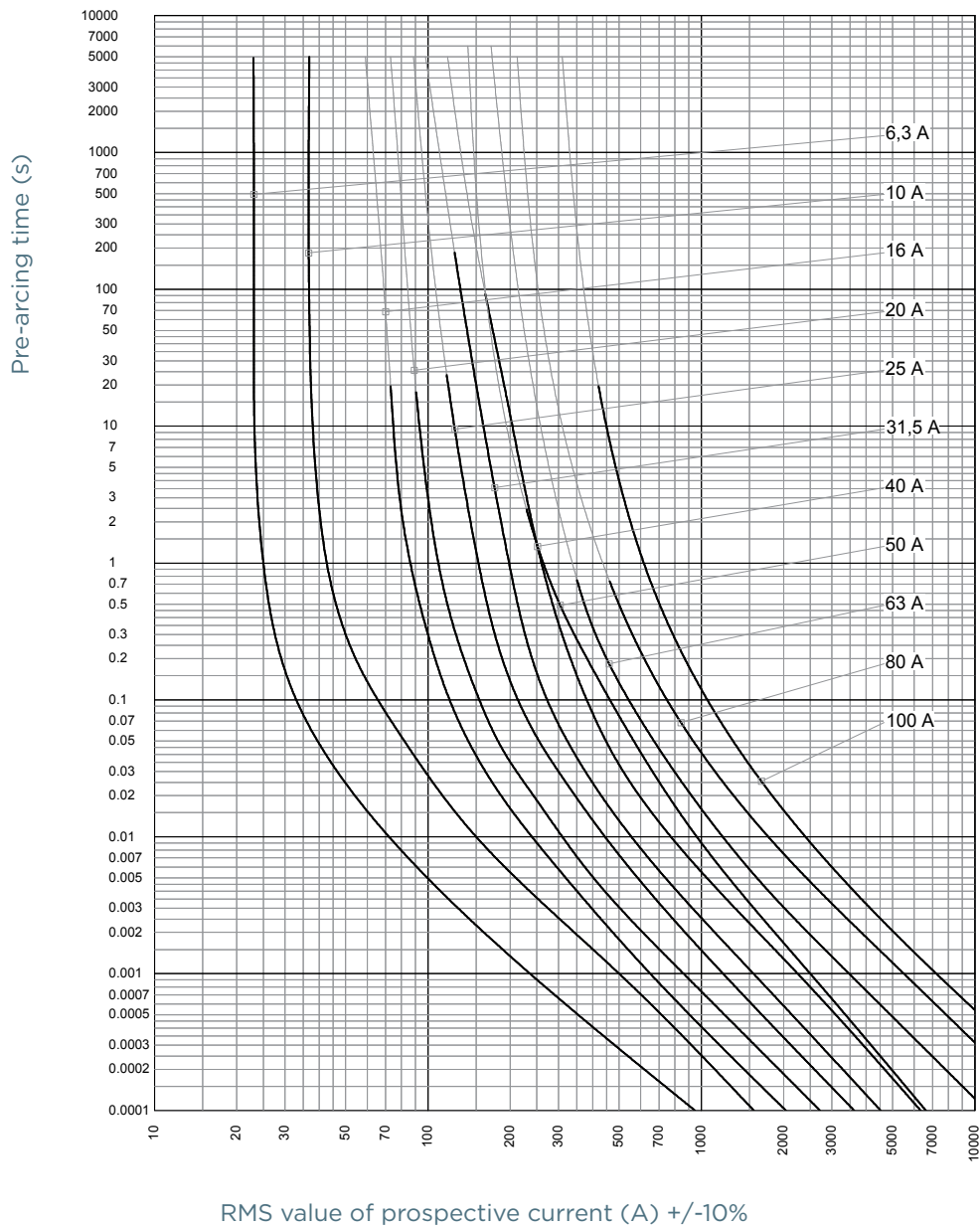


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Limitor[®]- PTD Back-up Fuses with Controlled Power Dissipation

TIME CURRENT CHARACTERISTIC CURVES

Limitor[®]-PTD 24kV 6.3-100A

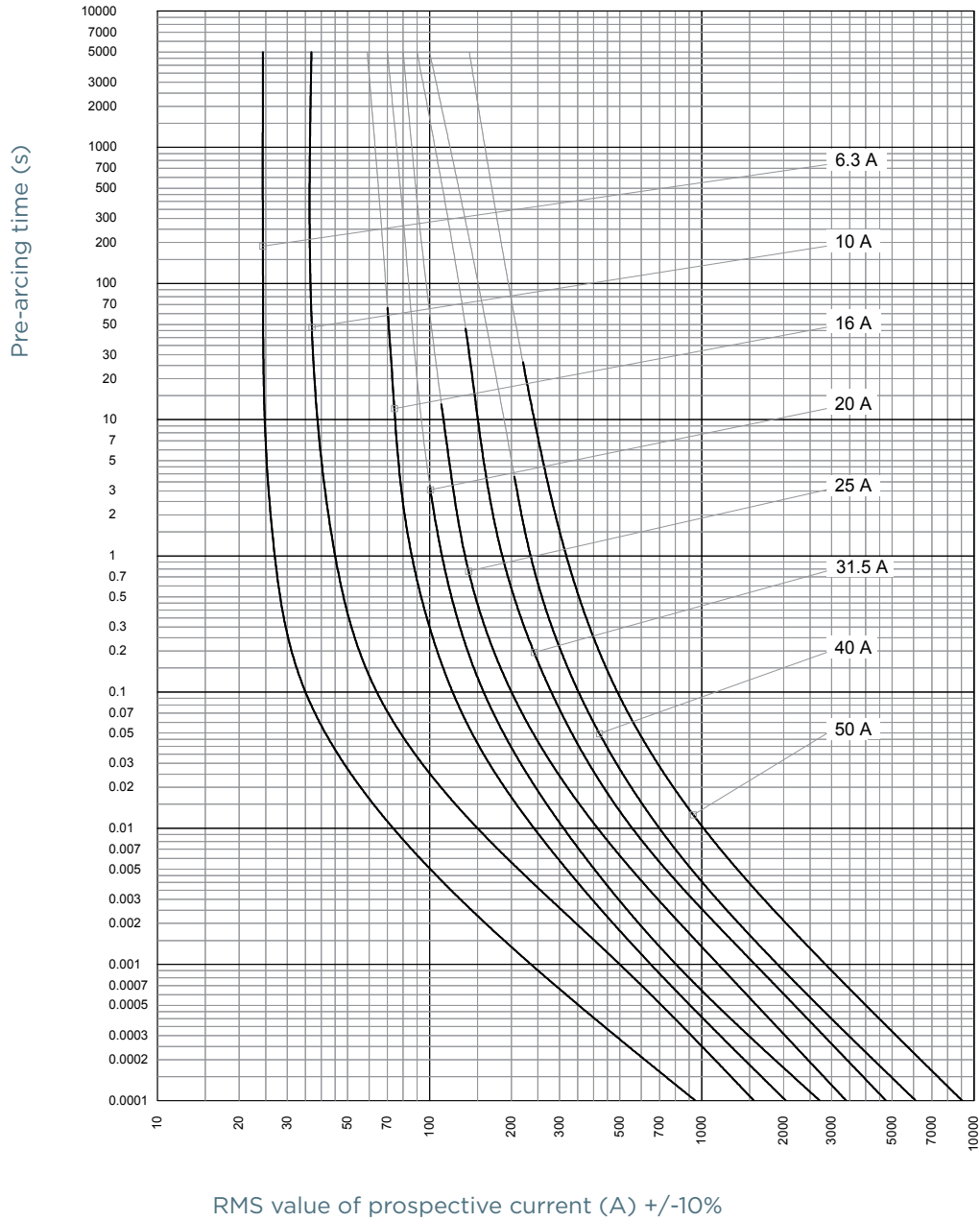


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Limitor®- PTD Back-up Fuses with Controlled Power Dissipation

TIME CURRENT CHARACTERISTIC CURVES

Limitor®-PTD 36kV 6.3-50A

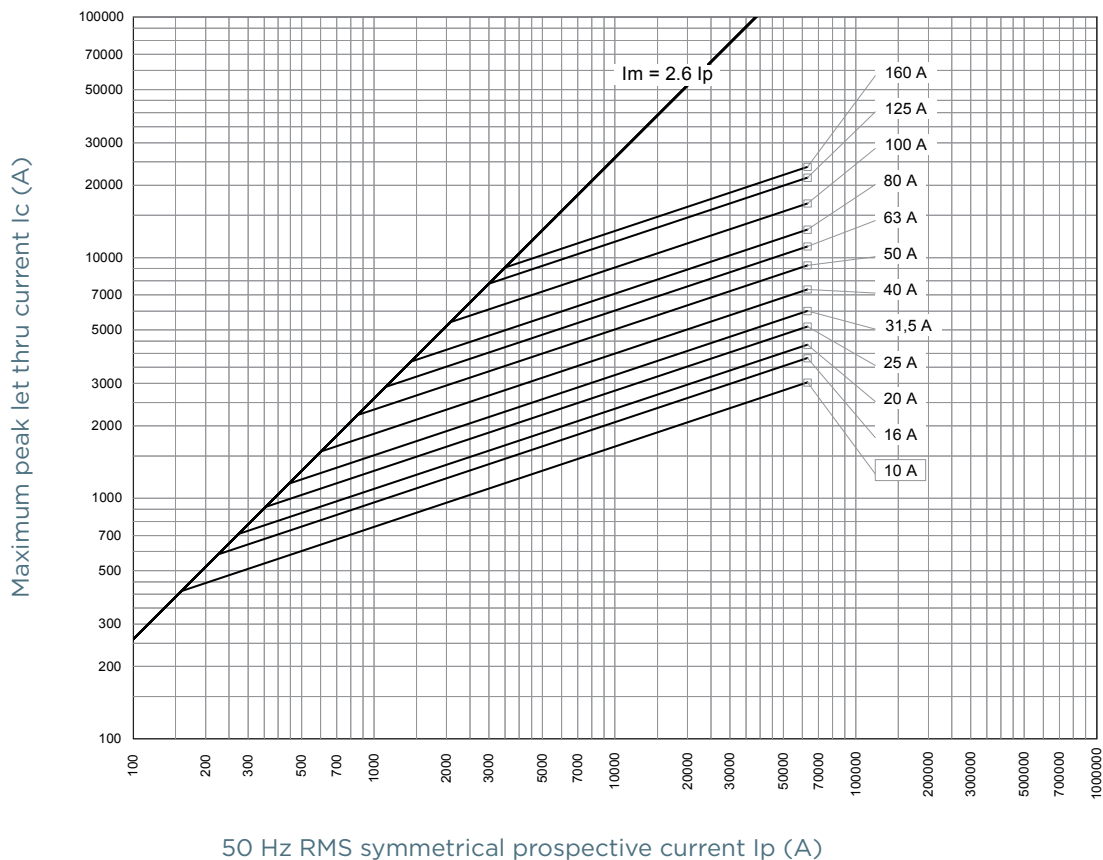


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Limitor[®]- PTD Back-up Fuses with Controlled Power Dissipation

CUT-OFF CURRENT CHARACTERISTIC

Limitor[®]-PTD 12kV 10-160A

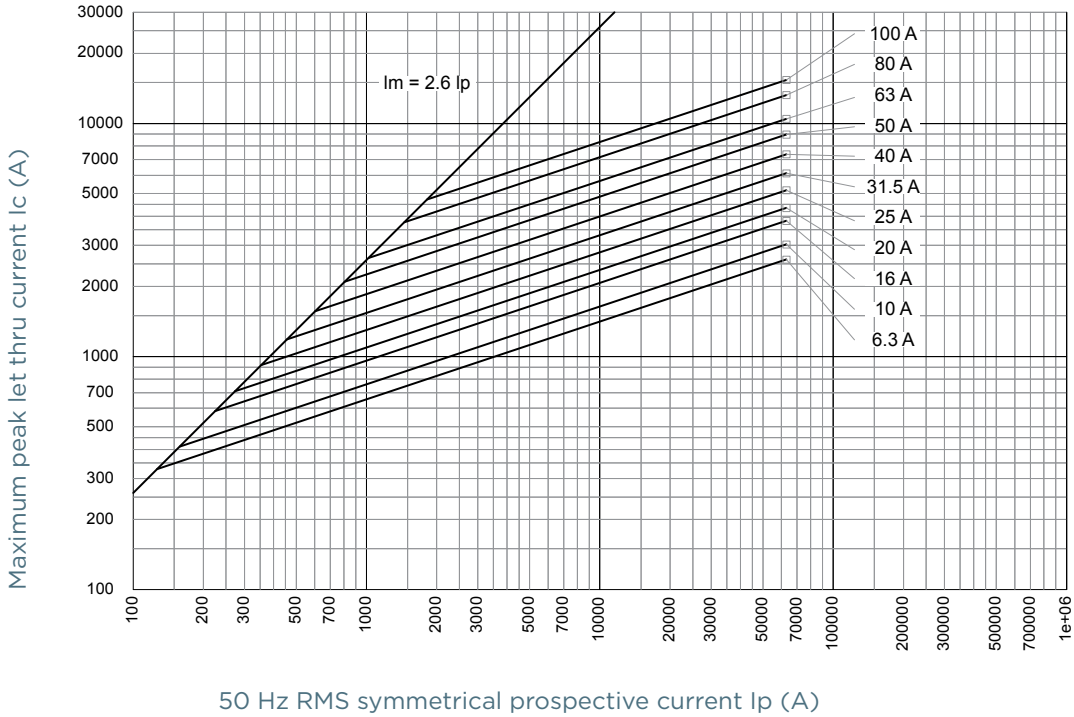


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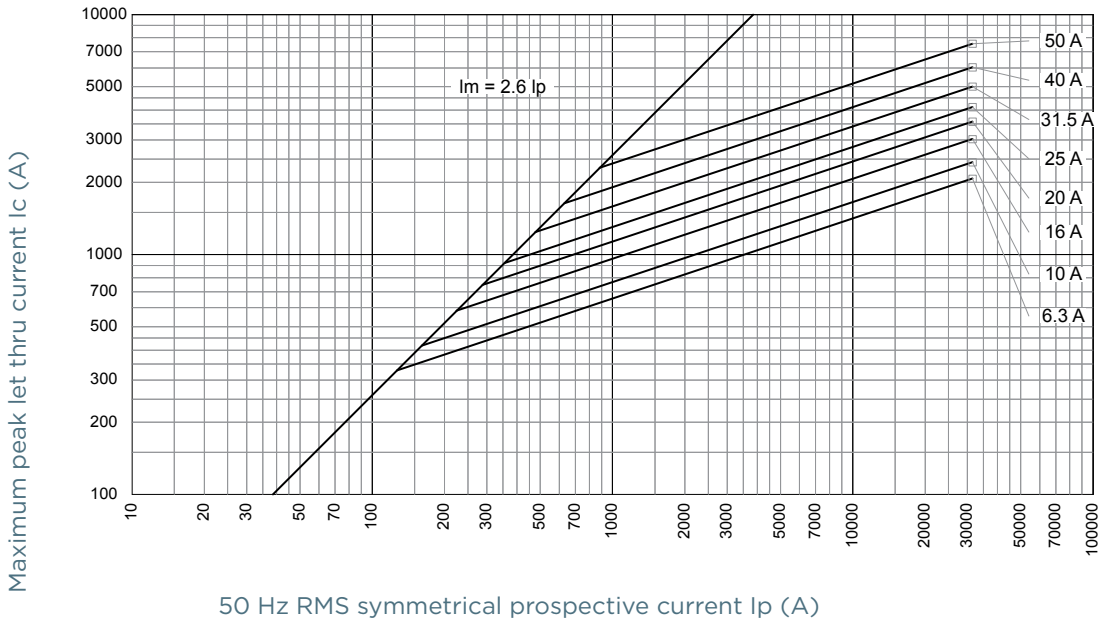
Limitor[®]- PTD Back-up Fuses with Controlled Power Dissipation

CUT-OFF CURRENT CHARACTERISTIC

Limitor[®]-PTD 24kV 6.3-100A



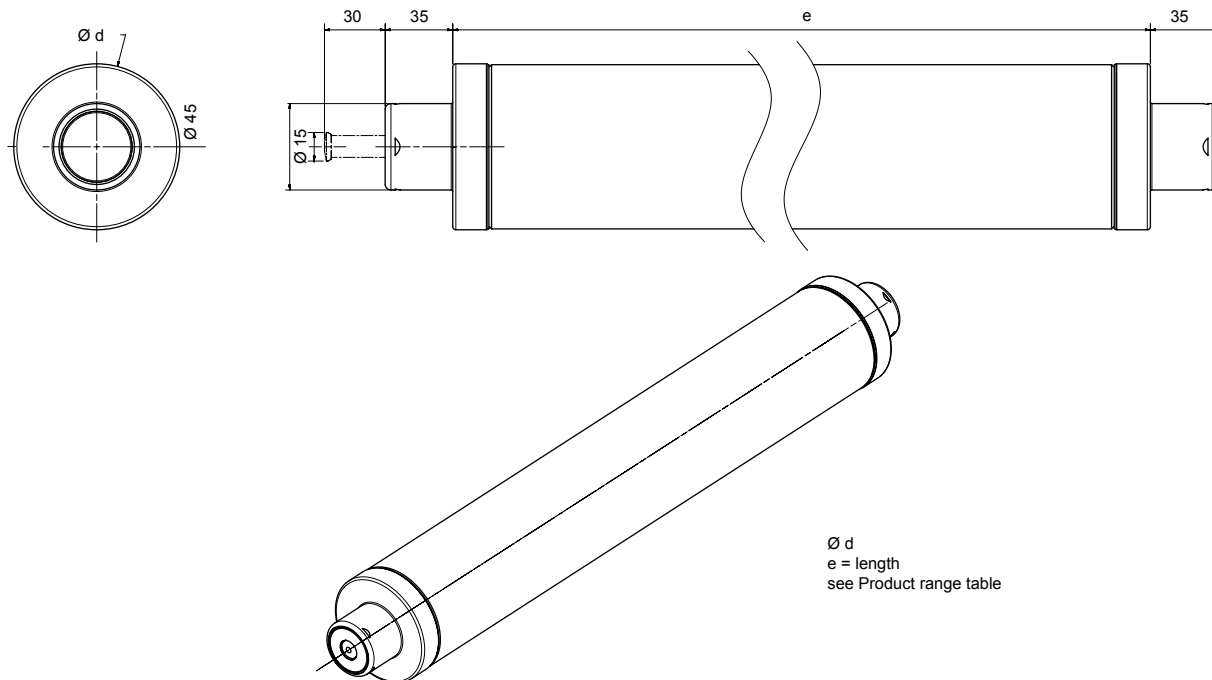
Limitor[®]-PTD 36kV 6.3-50A



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Limiter[®]- PTD Back-up Fuses with Controlled Power Dissipation

DIMENSIONS



Dimensions in mm

Limitor®- PTD Back-up Fuses

with Controlled Power Dissipation

SELECTION TABLE

Rated voltage range of fuse-link [kV]		6/12			10/24			20/36		
Service voltage of transformer [kV]		10			20			30		
Relative short-circuit voltage	Transformer output [kVA]	Transformer rated current [A]	Rated current of fuse-link [A]	Power dissipation of HV fuse-links at rated current of transformer [W]	Transformer rated current [A]	Rated current of fuse-link [A]	Power dissipation of HV fuse-links at rated current of transformer [W]	Transformer rated current [A]	Rated current of fuse-link [A]	Power dissipation of HV fuse-links at rated current of transformer [W]
Uk = 4%	100	5.8	16	2.4	2.9	10	3.3	1.9	6.3	2.8
	125	7.2	16	3.6	3.6	10	5	2.4	10	3
	160	9.2	20	4.5	4.6	16	2.9	3.1	10	4.7
	200	11.4	25	5.3	5.8	16	4.6	3.8	16	3
	250	14.4	31.5	6.7	7.2	16–25	3.8–7.2	4.8	16	4.5
	315	18.2	40	8.6	9.1	25	6.2	6.1	20	5.6
	400	23.1	50	10.7	11.6	25–31	8.3–10.2	7.7	25	6.5
	500	28.9	63	10.4	14.4	31.5	13	9.6	25	10
Uk = 5%	630	36.4	80	13.1	18.2	40	15.2	12.1	31.5	12.3
	800	46.2	100	20.8	23.1	50	15.9	15.4	40	16.9
Uk = 6%	1000	57.7	125	18.3	28.9	63	22.7	19.2	40–50	17.3–27.6
	1250	72.2	125	26.3	36.1	63	24.1	24.1	40	46.9
	1600	92.4	160	42.1	46.1	80	36.9	30.8	50	51.7
	2000	–	–	–	57.8	100	48.1	38.6	63	45.7

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Limitor[®] - PTS Back-up Fuses

with Low Power Dissipation and Thermal Striker

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.

For the Limitor[®]-PTS range, Mersen innovates with new fuse-element designs to reduce power losses and new thermal striker to prevent overheating in the fuse compartment of the switch gear.

Mersen uses the best materials : fuse-elements are in pure silver, caps are in copper coated with silver and body is in ceramic.

Limitor[®]-PTS HV fuse-links are dedicated to protect transformers in combination with air or gas insulated switchgear against the thermal and dynamic effects of short-circuits.

Siemens and Ormazabal recommend Limitor[®]-PTS HV fuses to be used in their gas-insulated switchgear.

TECHNICAL DATA

	6/12 kV 292mm	6/12 kV 442mm	10/24 kV 442mm	20/36 kV 537mm
Rated current	10 ... 160 A	100 ... 160 A	10 ... 125 A	10 ... 80 A
Rated voltage range U _n	6/12kV	6/12kV	10/24 kV	20/36 kV
Rated voltage of transformer	10 kV	10 kV	20 kV	30 kV
Package	1	1	1	1

FEATURES & BENEFITS

- Low switching voltage
- Large current ratings range
- Very low power losses
- Energy efficiency
- New thermal striker patented by Mersen to prevent overheating
- Medium striker 80N / 30mm
- New cap design for a better compatibility with all types of clips and easier assembly
- Outdoor and indoor use
- Coordination with IEC 60787, IEC 62271-105 and VDE 0670 T303

APPLICATIONS

- Best used in SF6 insulated switch gear and compact switch gear
- HV Transformer protection

STANDARDS

- IEC 60282-1
- VDE 0670 part 4
- VDE 0670 part 402
- DIN 43625



Limitor® - PTS Back-up Fuses

with Low Power Dissipation and Thermal Striker

PRODUCT RANGE

Rated voltage 6 / 12 kV, length 292mm

Catalog number	Reference number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_3 = I_{min}$	Cold resistance	Power dissipation at I_n	Weight
Ø 56mm								
45DB120V10PTS2	R1032945	10 A	3000 A ² s	65 kA	35 A	227 mΩ	29 W	2.24 kg
45DB120V16PTS2	S1032946	16 A	3700 A ² s	65 kA	64 A	66 mΩ	21 W	2.24 kg
45DB120V20PTS2	T1032947	20 A	4700 A ² s	65 kA	90 A	51 mΩ	25 W	2.24 kg
45DB120V25PTS2	V1032948	25 A	4920 A ² s	65 kA	95 A	40 mΩ	29 W	2.24 kg
45DB120V32PTS2	W1032949	31.5 A	7000 A ² s	65 kA	110 A	30 mΩ	39 W	2.24 kg
45DB120V40PTS2	X1032950	40 A	14 kA ² s	65 kA	134 A	20 mΩ	46 W	2.24 kg
45DB120V50PTS2	Y1032951	50 A	25.3 kA ² s	65 kA	190 A	15 mΩ	62 W	2.24 kg
Ø 65mm								
45DB120V63PTS2	M1018313	63 A	57 kA ² s	80 kA	260 A	11.9 mΩ	58 W	2.6 kg
45DB120V80PTS2	N1018314	80 A	90 kA ² s	80 kA	280 A	9.6 mΩ	82 W	2.6 kg
Ø 78mm								
45DB120V100PTS2	P1018315	100 A	145 kA ² s	80 kA	350 A	7.5 mΩ	105 W	2.6 kg
Ø 88mm								
45DB120V125PTS2	Q1018316	125 A	296 A ² s	80 kA	440 A	5.3 mΩ	110 W	2.6 kg

Rated voltage 6 / 12 kV, length 442mm

Catalog number	Reference number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_3 = I_{min}$	Cold resistance	Power dissipation at I_n	Weight
Ø 78mm								
45DB120V100PTS3	R1018317	100 A	150 kA ² s	80 kA	350 A	7.5 mΩ	95 W	5.1 kg
45DB120V125PTS3	S1018318	125 A	300 kA ² s	80 kA	440 A	5.4 mΩ	105 W	5.1 kg
45DB120V160PTS3	V1018320	160 A	500 kA ² s	80 kA	660 A	4.1 mΩ	145 W	5.1 kg

Rated voltage 10 / 24 kV, length 442mm

Catalog number	Reference number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_3 = I_{min}$	Cold resistance	Power dissipation at I_n	Weight
Ø 56mm								
45DB240V10PTS	Z1032952	10 A	2000 A ² s	65 kA	36 A	386 mΩ	48 W	2.3 kg
45DB240V16PTS	A1032953	16 A	2340 A ² s	65 kA	73 A	127 mΩ	42 W	2.3 kg
45DB240V20PTS	B1032954	20 A	3900 A ² s	65 kA	91 A	97 mΩ	53 W	2.3 kg
45DB240V25PTS	C1032955	25 A	6500 A ² s	65 kA	113 A	73 mΩ	60 W	2.3 kg
45DB240V32PTS	D1032956	31.5 A	7000 A ² s	65 kA	125 A	57 mΩ	84 W	2.3 kg
45DB240V40PTS	E1032957	40 A	14.2 kA ² s	65 kA	161 A	41 mΩ	96 W	2.3 kg
Ø 65mm								
45DB240V50PTS	X1018322	50 A	39 kA ² s	65 kA	230 A	27.4 mΩ	82 W	3.3 kg
Ø 78mm								
45DB240V63PTS	Y1018323	63 A	63 kA ² s	65 kA	250 A	21.6 mΩ	102 W	3.3 kg
45DB240V80PTS	Z1018324	80 A	99 kA ² s	65 kA	280 A	17.3 mΩ	153 W	4.1 kg
Ø 88mm								
45DB240V100PTS	A1018325	100 A	159 kA ² s	65 kA	350 A	13.6 mΩ	200 W	4.1 kg
45DB240V125PTS	B1018326	125 A	290 kA ² s	65 kA	440 A	10.1 mΩ	254 W	4.1 kg

Limitor® - PTS Back-up Fuses

with Low Power Dissipation and Thermal Striker

PRODUCT RANGE

Rated voltage 20 / 36 kV, length 537mm

Catalog number	Reference number	Rated current I_n	Clearing I^2t at Rated Voltage	Breaking capacity I_b	Minimum breaking current $I_3 = I_{min}$	Cold resistance	Power dissipation at I_n	Weight
Ø 56mm								
45DB360V10PTS	F1032958	10 A	2000 A ² s	31.5 kA	34 A	529 mΩ	66 W	6.6 kg
45DB360V16PTS	G1032959	16 A	2340 A ² s	31.5 kA	66 A	190 mΩ	67 W	6.6 kg
45DB360V20PTS	H1032960	20 A	3900 A ² s	31.5 kA	95 A	153 mΩ	84 W	6.6 kg
45DB360V25PTS	J1032961	25 A	6500 A ² s	31.5 kA	110 A	118 mΩ	100 W	6.6 kg
Ø 65mm								
45DB360V32PTS	K1032962	31.5 A	7000 A ² s	20 kA	135 A	82 mΩ	119 W	6.6 kg
45DB360V40PTS	L1032963	40 A	14200 A ² s	20 kA	200 A	63 mΩ	176 W	6.6 kg
Ø 88mm								
45DB360V50PTS	M1032964	50 A	40000 A ² s	20 kA	225 A	40 mΩ	183 W	6.6 kg
45DB360V63PTS	C1018327	63 A	65000 A ² s	36 kA	260 A	31.9 mΩ	165 W	6.6 kg
45DB360V80PTS	F1018330	80 A	112 kA ² s	36 kA	350 A	24.2 mΩ	230 W	6.6 kg

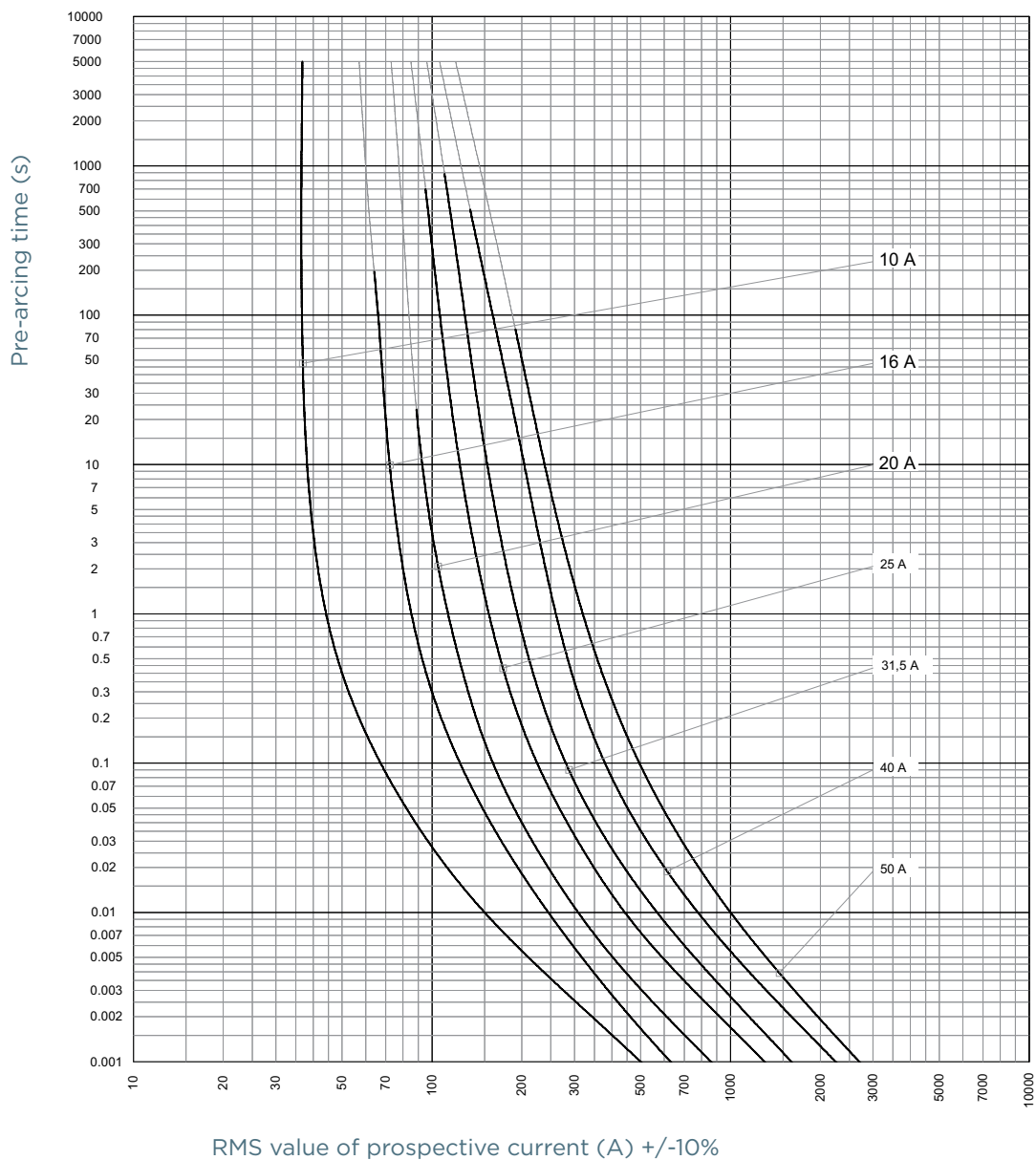
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Limitor[®] - PTS Back-up Fuses

with Low Power Dissipation and Thermal Striker

TIME CURRENT CHARACTERISTIC CURVES

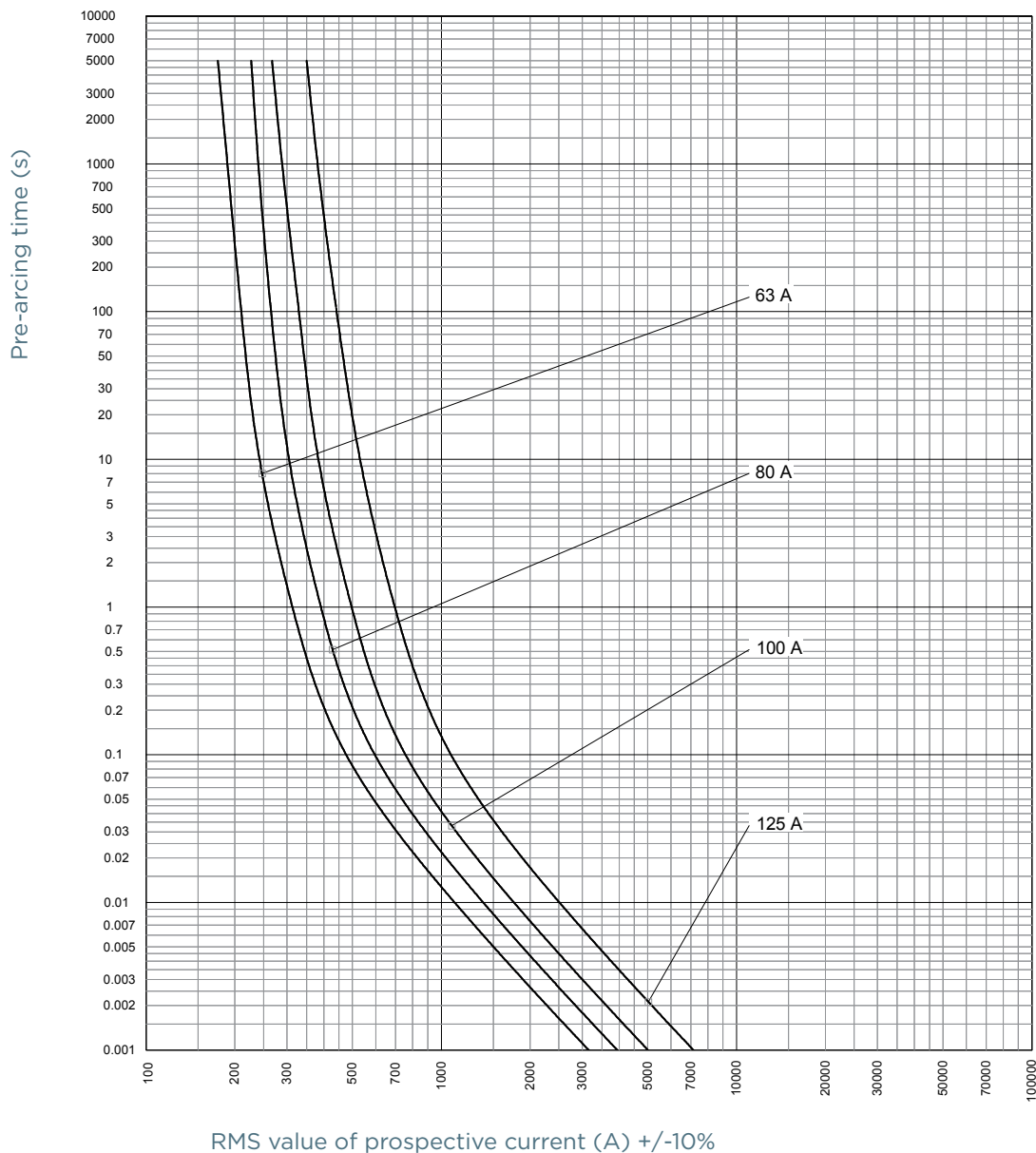
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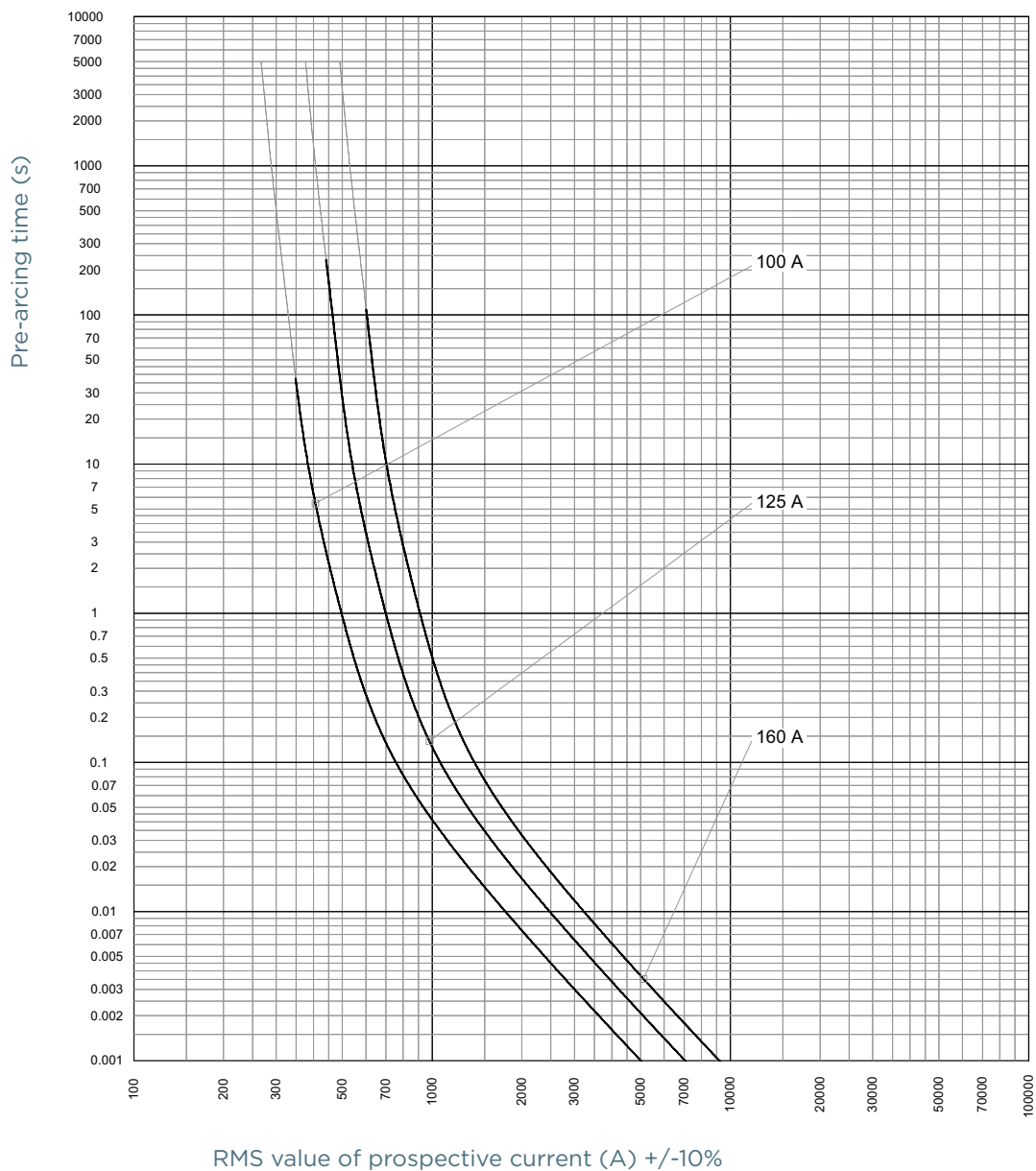
TIME CURRENT CHARACTERISTIC CURVES

Limitor®-PTS 6/12kV 292mm 63-125A



TIME CURRENT CHARACTERISTIC CURVES

Limitor[®]-PTS 6/12kV 442mm 100-160A

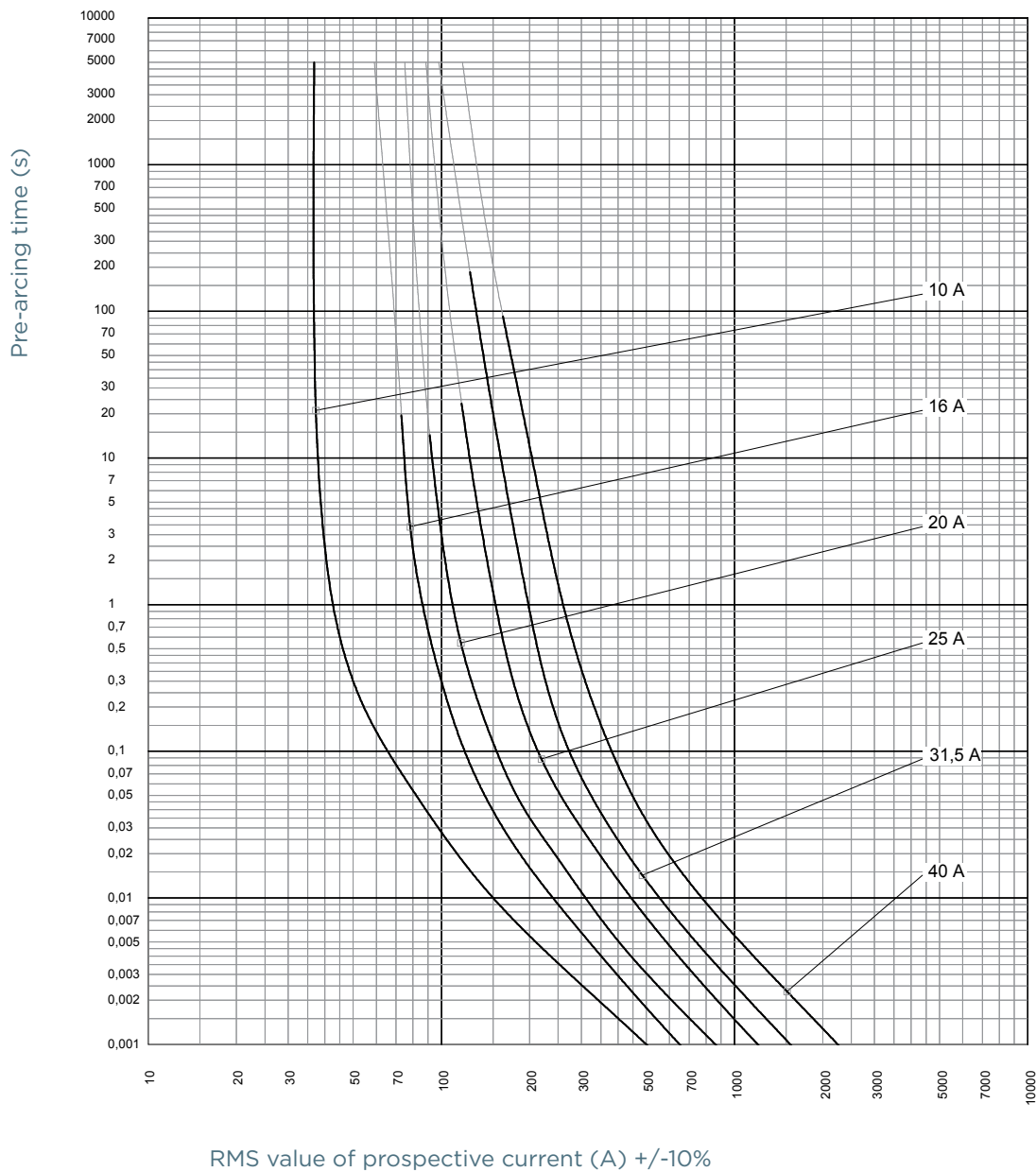


Limitor® - PTS Back-up Fuses

with Low Power Dissipation and Thermal Striker

TIME CURRENT CHARACTERISTIC CURVES

Limitor®-PTS 10/24kV 442mm 10A-40A



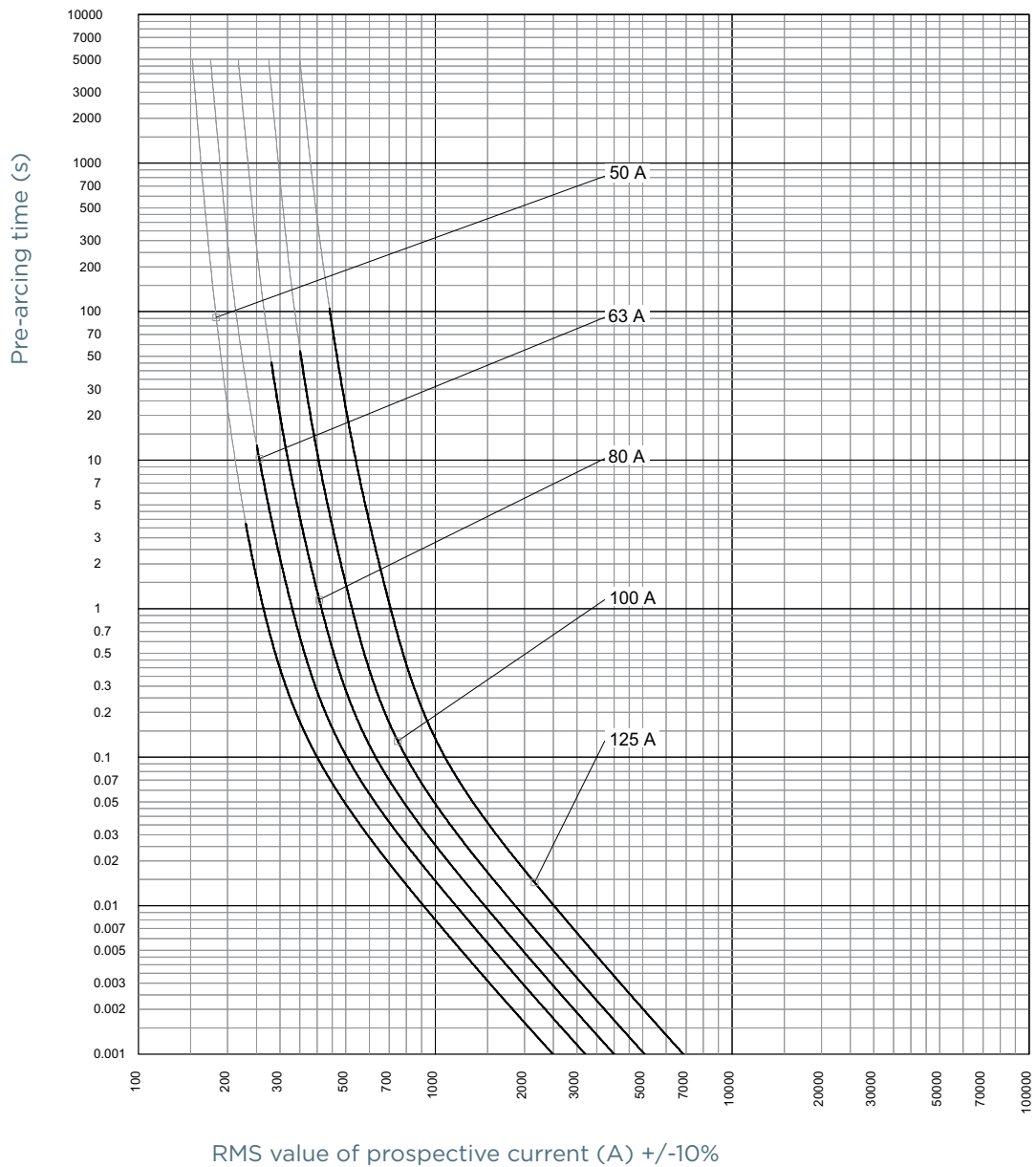
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Limitor[®] - PTS Back-up Fuses

with Low Power Dissipation and Thermal Striker

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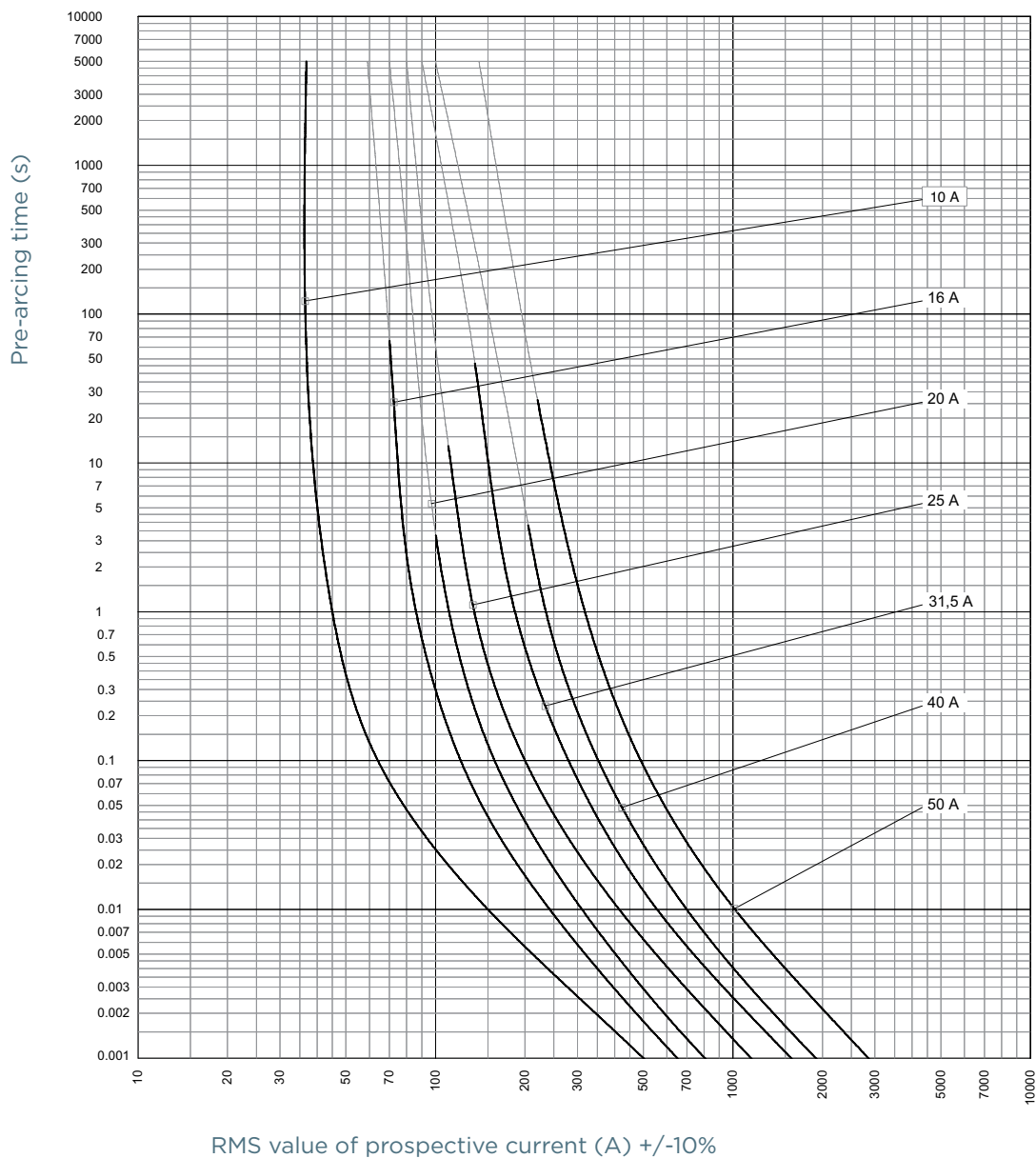
Limitor[®]-PTS 10/24kV 442mm 50-125A



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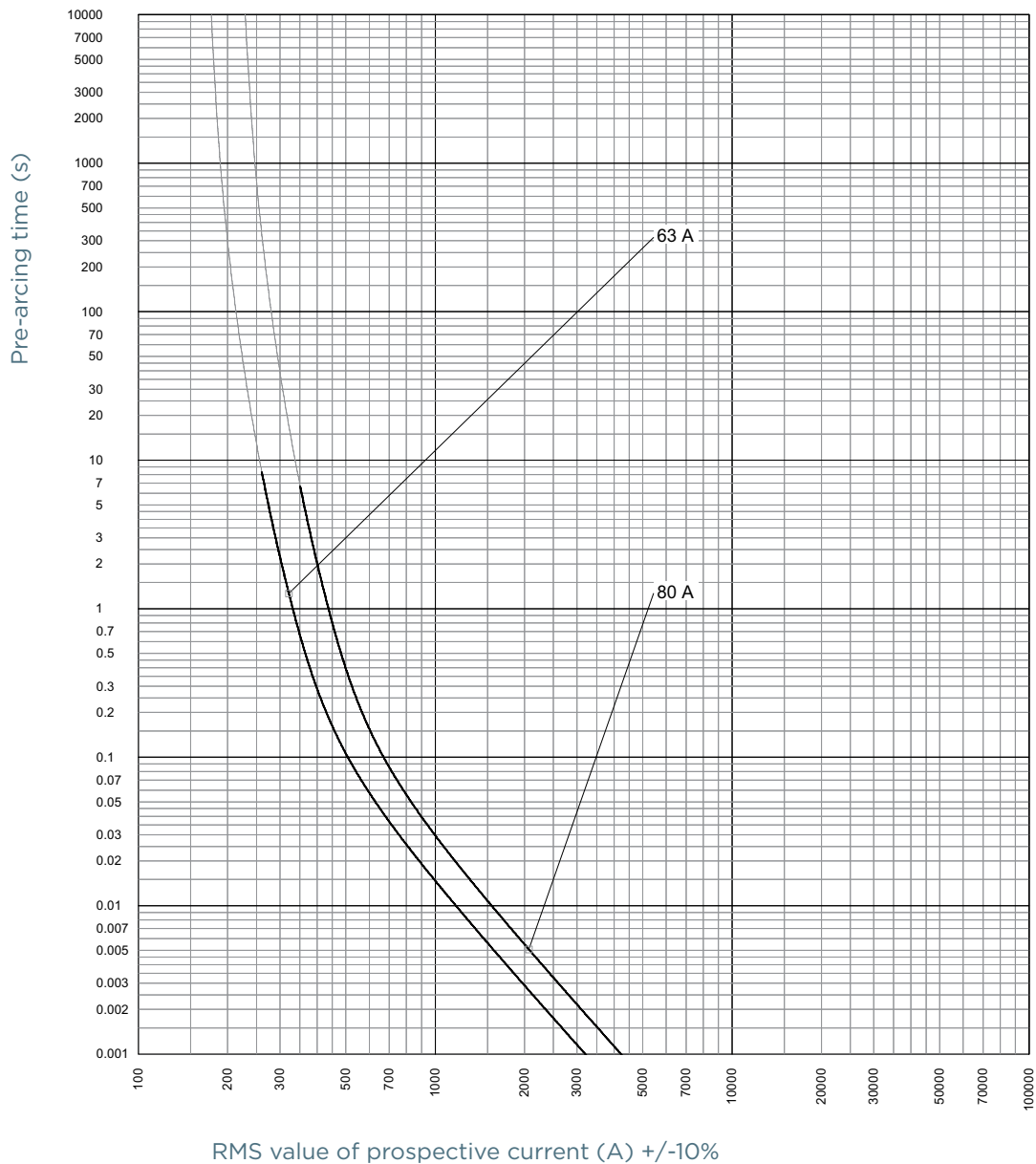
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Limitor®-PTS 20/36kV 537mm 10-50A



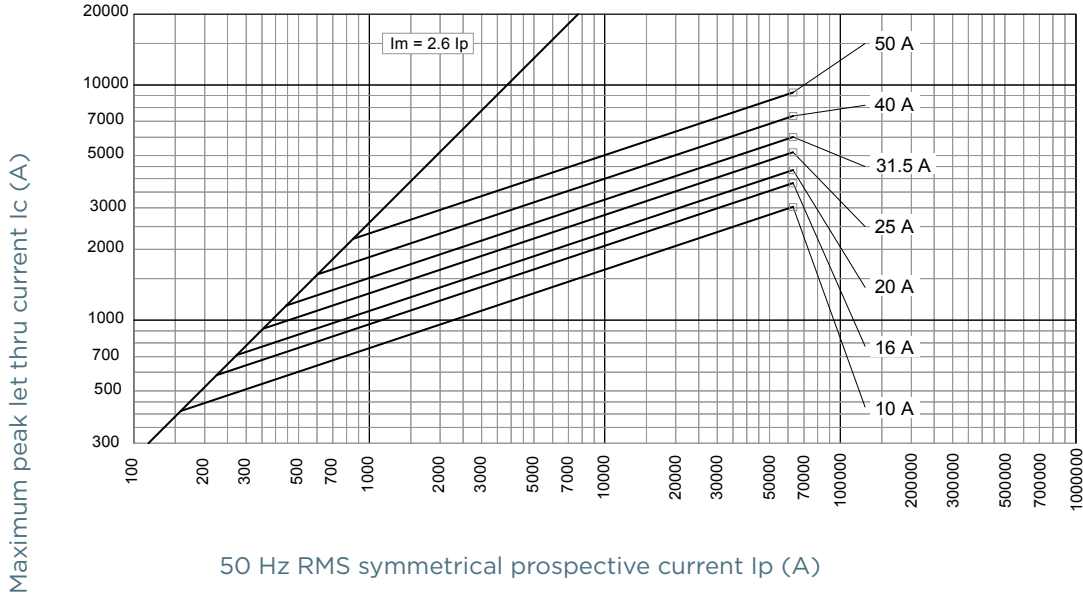
TIME CURRENT CHARACTERISTIC CURVES

Limitor®-PTS 20/36kV 537mm 63-80A

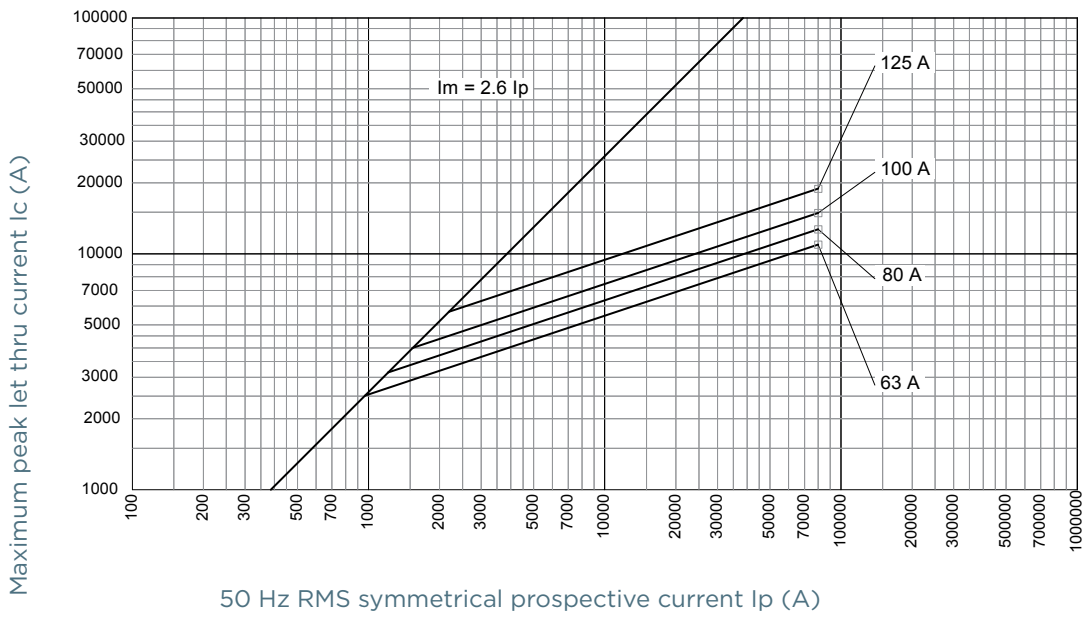


CUT-OFF CURRENT CHARACTERISTIC

Limitor®-PTS 6/12kV 292mm 10-50A

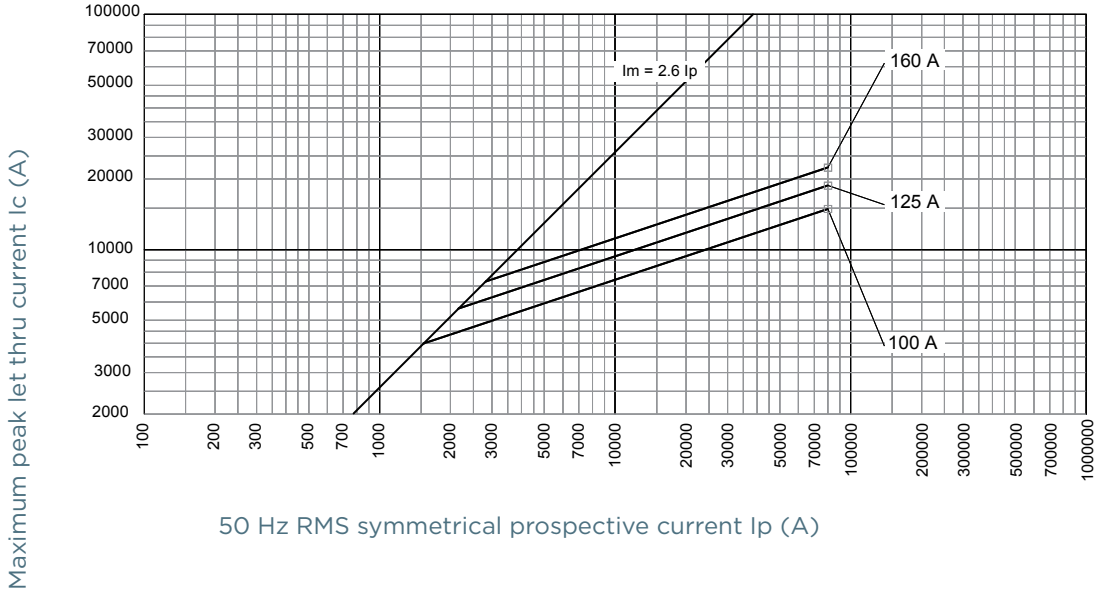


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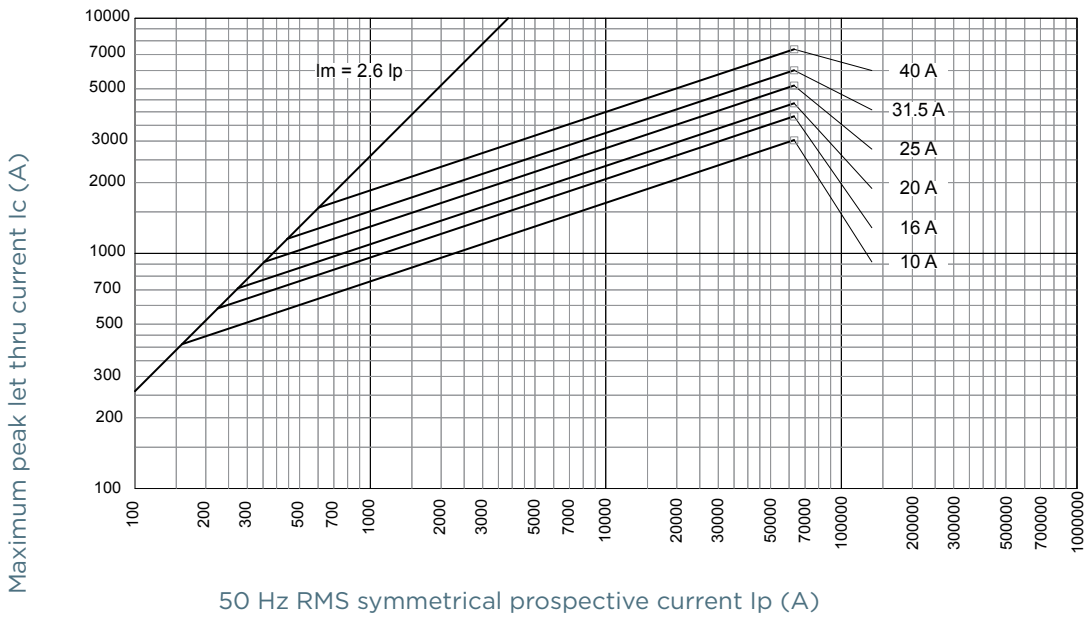


CUT-OFF CURRENT CHARACTERISTIC

Limitor[®]-PTS 6/12kV 442mm 100-160A

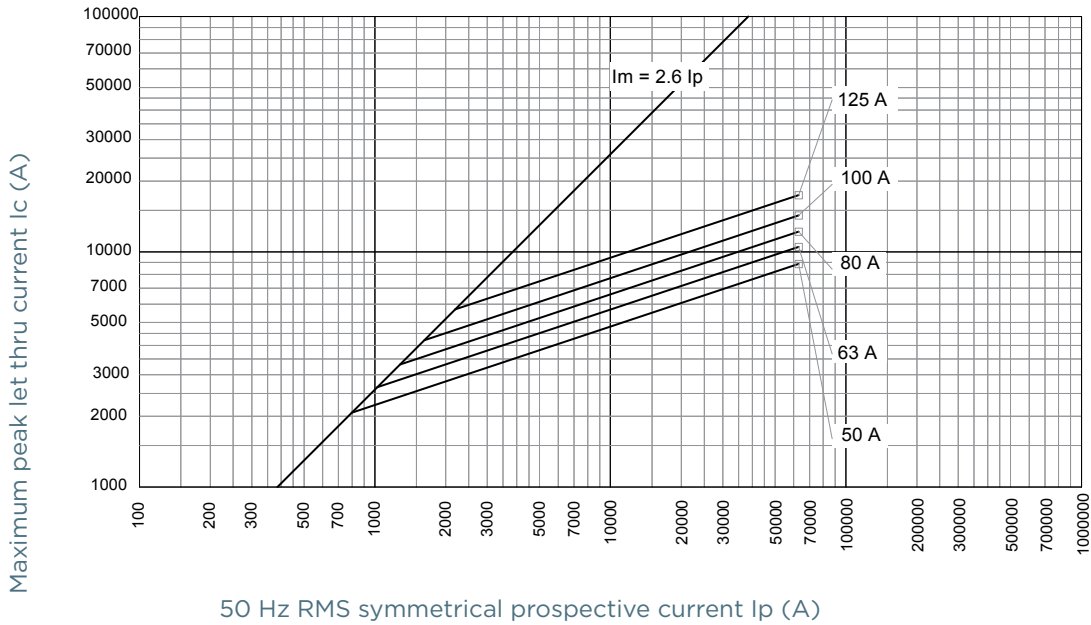


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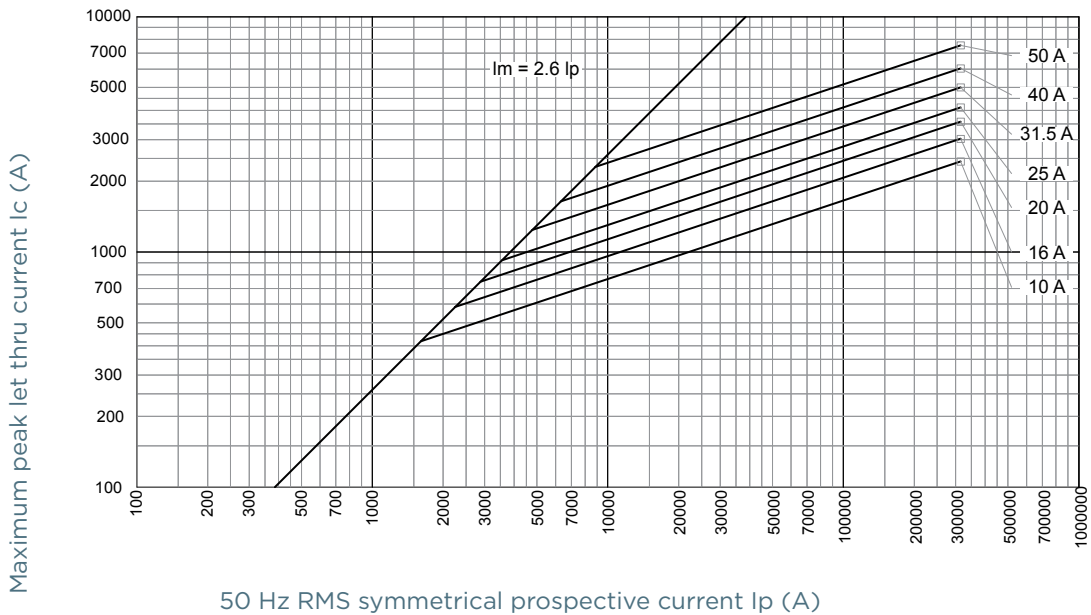


CUT-OFF CURRENT CHARACTERISTIC

Limitor[®]-PTS 10/24kV 442mm 50-125A



Limitor[®]-PTS 20/36kV 537mm 10-50A



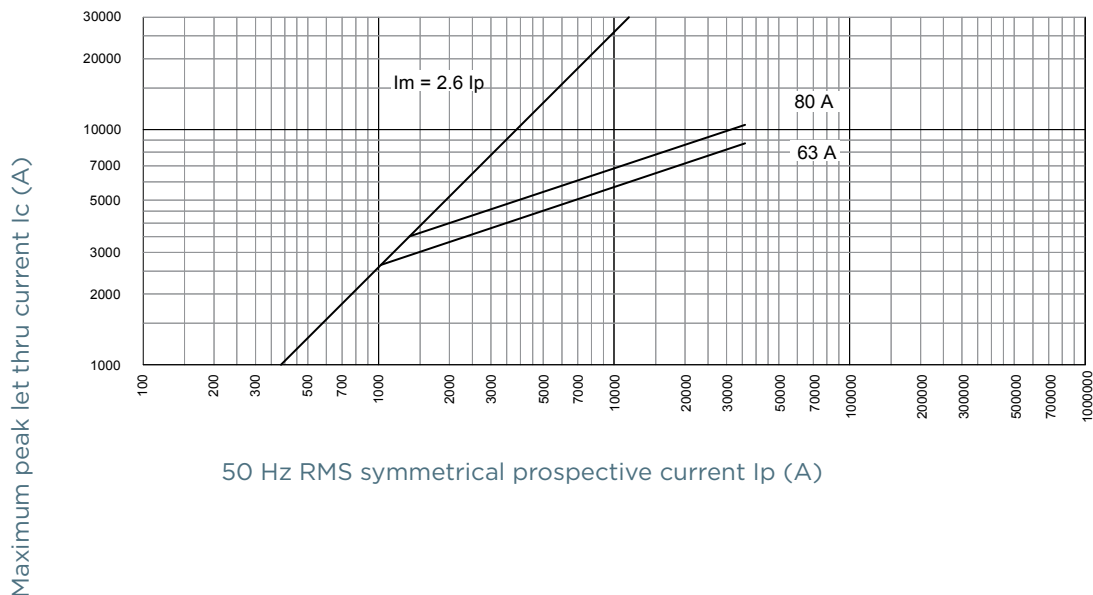
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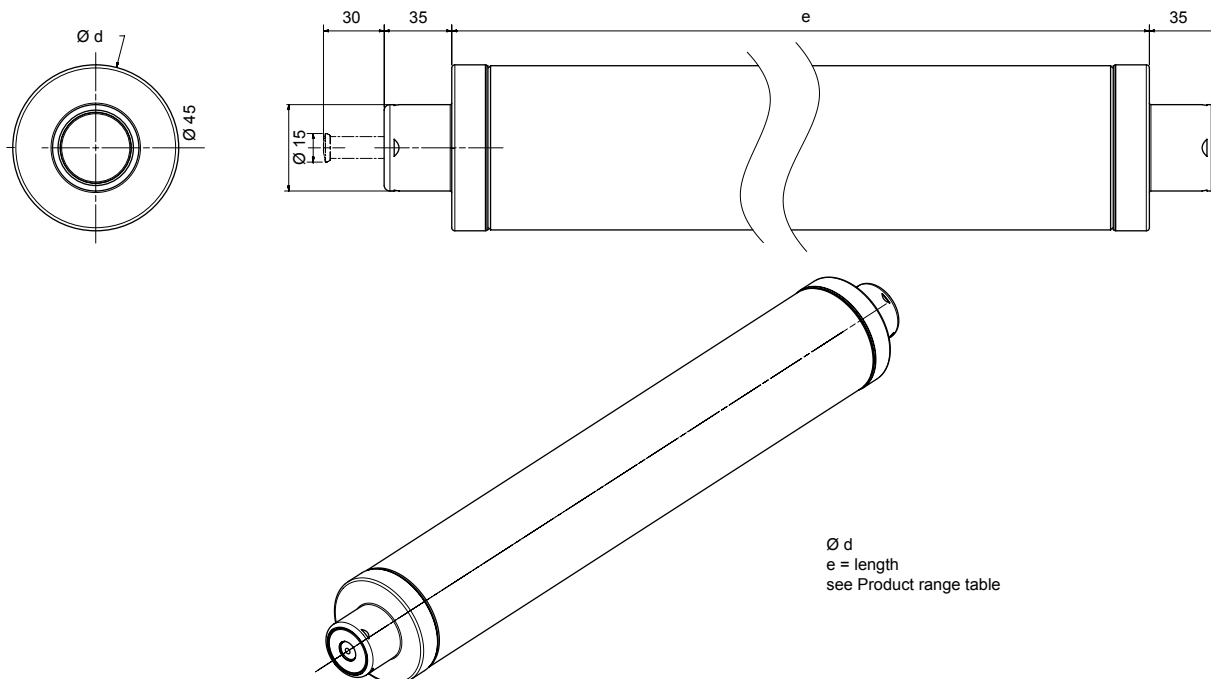
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CUT-OFF CURRENT CHARACTERISTIC

Limitor[®]-PTS 20/36kV 537mm 63-80A



DIMENSIONS



Rated voltage	e
6/12 kV	292
12/24 kV	442
20/36 kV	537

Dimensions in mm

Limitor® - PTS Back-up Fuses

with Low Power Dissipation and Thermal Striker

DIMENSIONS

Rated voltage	e	Rated voltage	e	Rated voltage	e
6/12 kV	292	6/12 kV	292	6/12 kV	292
10/24 kV	442	6/12 kV	442	10/24 kV	442
20/26 kV	537	10/24 kV	442	20/36 kV	537
		20/36 kV	537		

SELECTION TABLE

Rated voltage range of fuse-link [kV]		6/12			10/24			20/36		
Service voltage of transformer [kV]		10			20			30		
Relative short-circuit voltage	Transformer output [kVA]	Transformer rated current [A]	Rated current of fuse-link [A]	Power dissipation of HV fuse-links at rated current of transformer [W]	Transformer rated current [A]	Rated current of fuse-link [A]	Power dissipation of HV fuse-links at rated current of transformer [W]	Transformer rated current [A]	Rated current of fuse-link [A]	Power dissipation of HV fuse-links at rated current of transformer [W]
Uk = 4%	100	5,8	16	1,9	2,9	10	2,4	1,9	6,3	2,3
	125	7,2	16	3,4	3,6	10	4,3	2,4	10	1,3
	160	9,2	20	4,3	4,6	16	2,1	3,1	10	4,0
	200	11,5	25	4,9	5,8	16	3,8	3,8	16	1,3
	250	14,4	31,5	6,6	7,2	16–25	3–6,7	4,8	16	3,4
	315	18,2	40	7,4	9,1	25	5,4	6,1	20	4,2
	400	23,1	50	10,5	11,5	25–31	8,4–10,2	7,7	25	6,0
	500	28,9	63	9,9	14,4	31,5	14,3	9,6	25	11
Uk = 5%	630	36,4	80	13,1	18,2	40	15,4	12,1	31,5	13,1
	800	46,2	100	17,9	23,1	50	13,9	15,4	40	19,4
Uk = 6%	1000	57,7	125	18,7	28,9	63	17,3	19,2	40–50	20,1–32
	1250	72,2	125	30,3	36,1	63	26,5	24,1	40	52,8
	1600	92,4	160	39,9	46,2	80	42,1	30,8	50	58,6
	2000	–	–	–	57,7	100	55	38,6	63	50,3

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