

m.schneider



HIGH VOLTAGE FUSE LINKS



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High voltage fuse links

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Product information high voltage fuse links

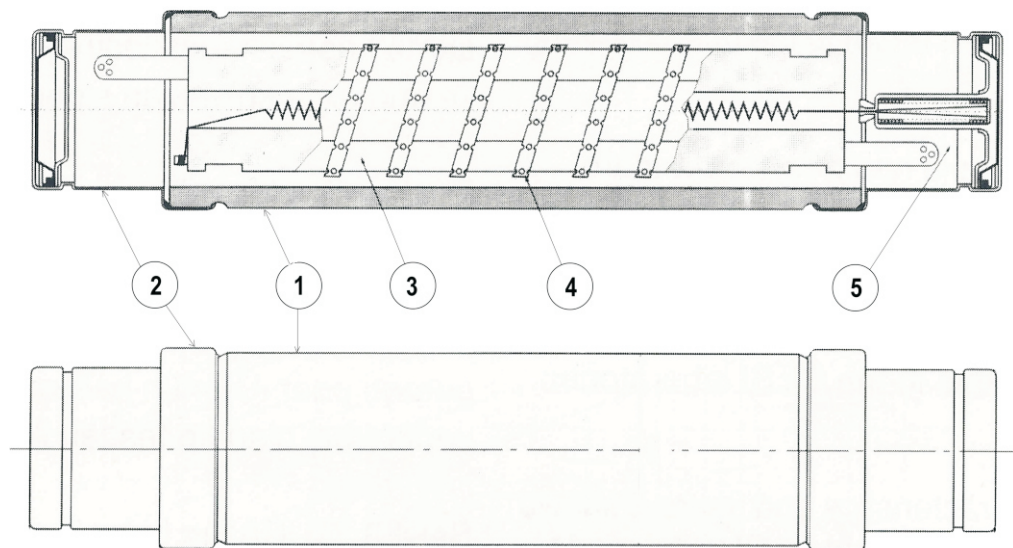
edition 2004/1

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High voltage fuse links

Specification



Assembly

- **Fuse body (1)**
The fuse body consist of ceramic material of high quality in brown, environmentally friendly colour.
- **Contact caps (2)**
The contact caps consist of high conductive, electrolytic copper and are either nickel or silver plated.
Excellent tightness and resulting high resistance to ageing is achieved due to a special method of rolling by pressing the contact caps into the groove of the fuse body's tube.
- **Fuse element**
Inside the fuse body silver fuse elements connected in parallel (4) are wound around a star core (3).
These fuse elements are exactly adapted to guarantee their correct function in case of short circuit currents.
The fuse elements are welded on to both contact caps.
- **Quartz sand filling**
The fuse body is filled with quartz sand with precise granulation. Optimum arc extinguishing as well as high interrupting capacity is guaranteed by the sand's granulation and composition.
- **Striker (5)**
see page 4

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High voltage fuse links

Specification

Design

- Partial range fuse links (back up fuse links) with striker
- for indoor and outdoor applications

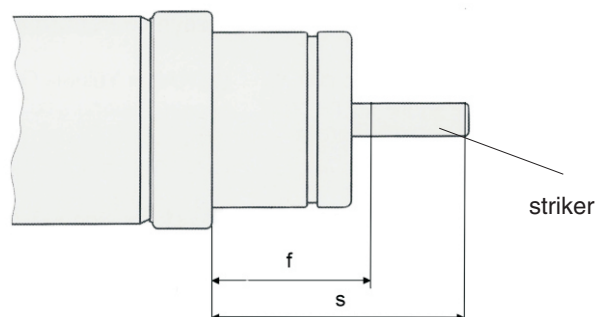
High voltage partial range fuse links are current limiting fuse links. Their function is to interrupt any current from the minimum breaking current I_{min} to the rated breaking capacity I_1 .

High voltage fuse links guarantee safe breaking of the lowest internal transformer short circuit current (secondary terminal short circuit) and can also interrupt the maximum main short circuit current (\leq nominal breaking capacity of fuse link).

The striker mechanism (5) provides a visual indication of the operation of the fuse link.

In connection with an indicating device at the high voltage disconnecter the striker can also be used as a mechanical indicator.

dimensions see page 11



Application

The range of applications for high voltage fuse links are the protection of high voltage power lines, transformers, motors, condensators as well as switch boards and distribution units for public utilities and the industry.

They guarantee safe protection of electrical equipment and installations against the thermic and dynamic effect of short circuit currents.

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High voltage fuse links

Advantages

- ⇒ **one design** for indoor and outdoor applications
- ⇒ **high breaking capacity** up to 63 kA
- ⇒ **safe breaking** at minimum cut off current
- ⇒ **time current characteristics** in accordance with VDE 0670 / part 4 and 402, ÖVE EN 60 282-1
- ⇒ **low power dissipation**
- ⇒ **silver fuse elements**
- ⇒ **optimum indication** due to striker mechanism
- ⇒ **low switching voltage**
- ⇒ **KEMA tested**

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High voltage fuse links

Production programme

Nominal voltage 6/12 kV



rated voltage range	design					article number
	rated current A	length e (mm)	d (mm)	w	p	
6/12kV	6 3	292	56	1,6	3	BSDL06
	10	292	56	1,6	3	BSDL10
	16	292	56	1,6	3	BSDL16
	20	292	56	1,6	3	BSDL20
	25	292	56	1,6	3	BSDL25
	31 5	292	56	1,6	3	BSDL32
	40	292	56	1,6	3	BSDL40
	50	292	56	1,6	3	BSDL50
	63	292	56	1,6	3	BSDL63
	80	292	65	2,1	3	BSDL80
	100	292	65	2,1	3	BSDL100
	125	292	88	3,7	3	BSDL125

Nominal voltage 10/24 kV



rated voltage range	design					article number
	rated current A	length e (mm)	d (mm)	w	p	
12/24kV	2	442	56	2,3	3	BSDM02
	4	442	56	2,3	3	BSDM04
	6 3	442	50,8	2,2	3	BSDM06
	10	442	50,8	2,3	3	BSDM10
	16	442	50,8	2,2	3	BSDM16
	20	442	50,8	2,3	3	BSDM20
	25	442	50,8	2,2	3	BSDM25
	31 5	442	50,8	2,2	3	BSDM30
	40	442	76,2	4,5	3	BSDM40
	50	442	76,2	4,5	3	BSDM50
	63	442	76,2	4,5	3	BSDM63
	80	442	65	3,1	3	BSDM80
	100	442	78	4,1	3	BSDM100

w = weight kg / piece

p = package unit (piece)

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High voltage fuse links

Production programme

Nominal voltage 20/36 kV



rated voltage range	design			w	p	article number
	rated current A	length e ₁ (mm)	d (mm)			
20/36kV	4	537	56	2,7	3	BSDQ04
	6	537	56	2,7	3	BSDQ06
	10	537	56	2,7	3	BSDQ10
	16	537	56	2,7	3	BSDQ16
	20	537	56	2,7	3	BSDQ20
	25	537	56	2,7	3	BSDQ25
	31.5	537	65	3,7	3	BSDQ32
	40	537	65	3,7	3	BSDQ40
	50	537	88	6,5	3	BSDQ50
	63	537	88	6,5	3	BSDQ63

w = weight kg / piece

p = package unit (piece)

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High voltage fuse links

Technical data

in accordance with IEC 60 282-1 / VDE 0670 part 4

ÖVE EN 60 282-1

dimensions to DIN 43 625

Nominal voltage 6/12 kV

article number	rated current I_N A	rated voltage U_N kV	rated breaking capacity I_1 kA	min. breaking current $I_3 = I_{\min}$ A	cold resistance R_{cold} mOhm	power dissipation P_{warm} W
BSDL06	6 3	6/12	63	30	190	8
BSDL10	10			42	199	16
BSDL16	16			54	107	38
BSDL20	20			73	71	38
BSDL25	25			93	52	46
BSDL32	31 5			105	43	66
BSDL40	40			125	23	54
BSDL50	50			160	18	70
BSDL63	63			230	12	85
BSDL80	80			350	10,8	114
BSDL100	100			500	8,5	156
BSDL125	125			480	4	117

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Technical data

in accordance with IEC 60 282-1 / VDE 0670 part 4
ÖVE EN 60 282-1
dimensions to DIN 43 625

Nominal voltage 10/24 kV

article number	rated current I_N A	rated voltage U_N kV	rated breaking capacity I_1 kA	min. breaking current $I_3 = I_{\min}$ A	cold resistance R_{cold} mOhm	power dissipation P_{warm} W
BSDM02	2	12/24	63	16	800	3
BSDM04	4			23	550	10
BSDM06	6,3		50	19	489	24
BSDM10	10			28	287	35
BSDM16	16			47	165	70
BSDM20	20			80	79,3	38
BSDM25	25			84	62,0	49
BSDM30	31,5			105	46,5	56
BSDM40	40			140	34,0	79
BSDM50	50			225	27,1	96
BSDM63	63			306	21,6	128
BSDM80	80		63	310	20,5	233
BSDM100	100			430	18,0	400

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High voltage fuse links

Technical data

in accordance with IEC 60 282-1 / VDE 0670 part 4

ÖVE EN 60 282-1

dimensions to DIN 43 625

Nominal voltage 20/36 kV

article number	rated current I_N A	rated voltage U_N kV	rated breaking capacity I_1 kA	min. breaking current $I_3 = I_{min}$ A	cold resistance R_{cold} mOhm	power dissipation P_{warm} W
BSDQ04	4	20/36	31.5	20	900	32
BSDQ06	6.3			23	827	39
BSDQ10	10			34	520	65
BSDQ16	16			70	210	67
BSDQ20	20			100	165	84
BSDQ25	25			110	125	100
BSDQ32	31.5			135	85	119
BSDQ40	40		20	203	65	176
BSDQ50	50			220	42	183
BSDQ63	63			360	35	271

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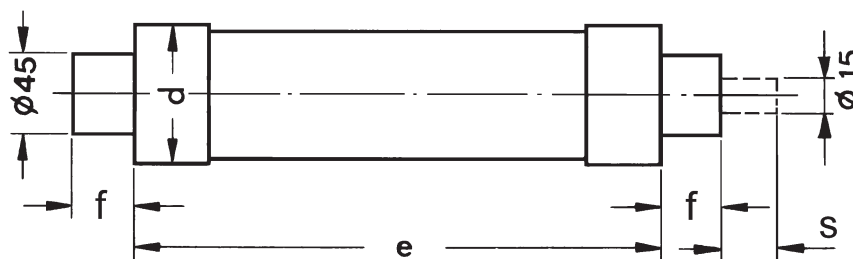
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Dimensions

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U _N Kv	I _N A	d	e	f	s ¹⁾
6/12	6 3-50	56	292	33	24
	63-100	65			
	125	88			
10/24	2-6	56	442	33	24
	6 3-31 5	50 8		34	26
	40-63	76 2		34	26
	80-100	65		33	24
20/36	4-25	56	537	33	24
	32-40	65			
	50-63	88			

1) s.....maximum distance of striker after operation

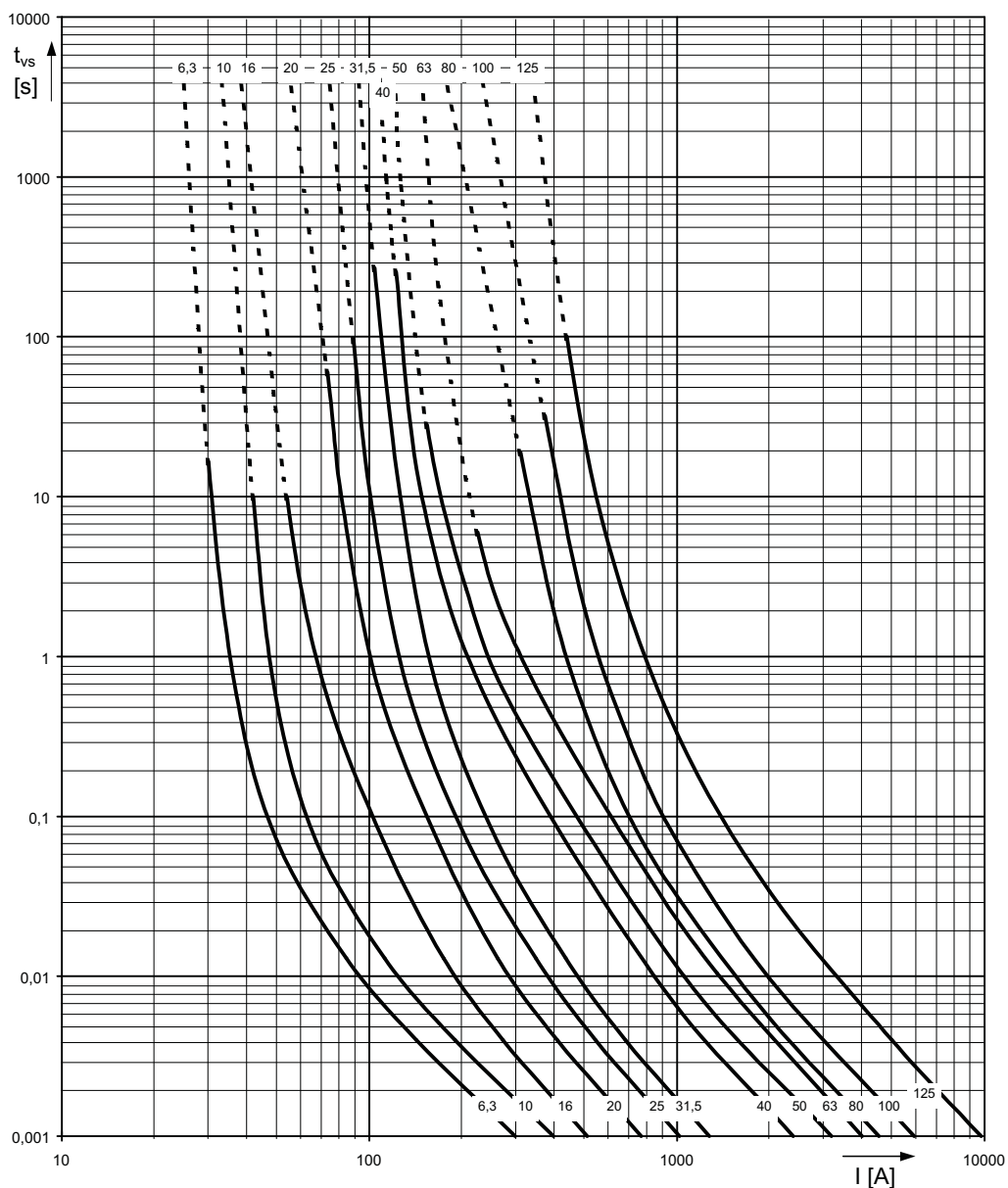


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Time current characteristics

for high voltage fuse links 6/10kV 6.3 - 125A

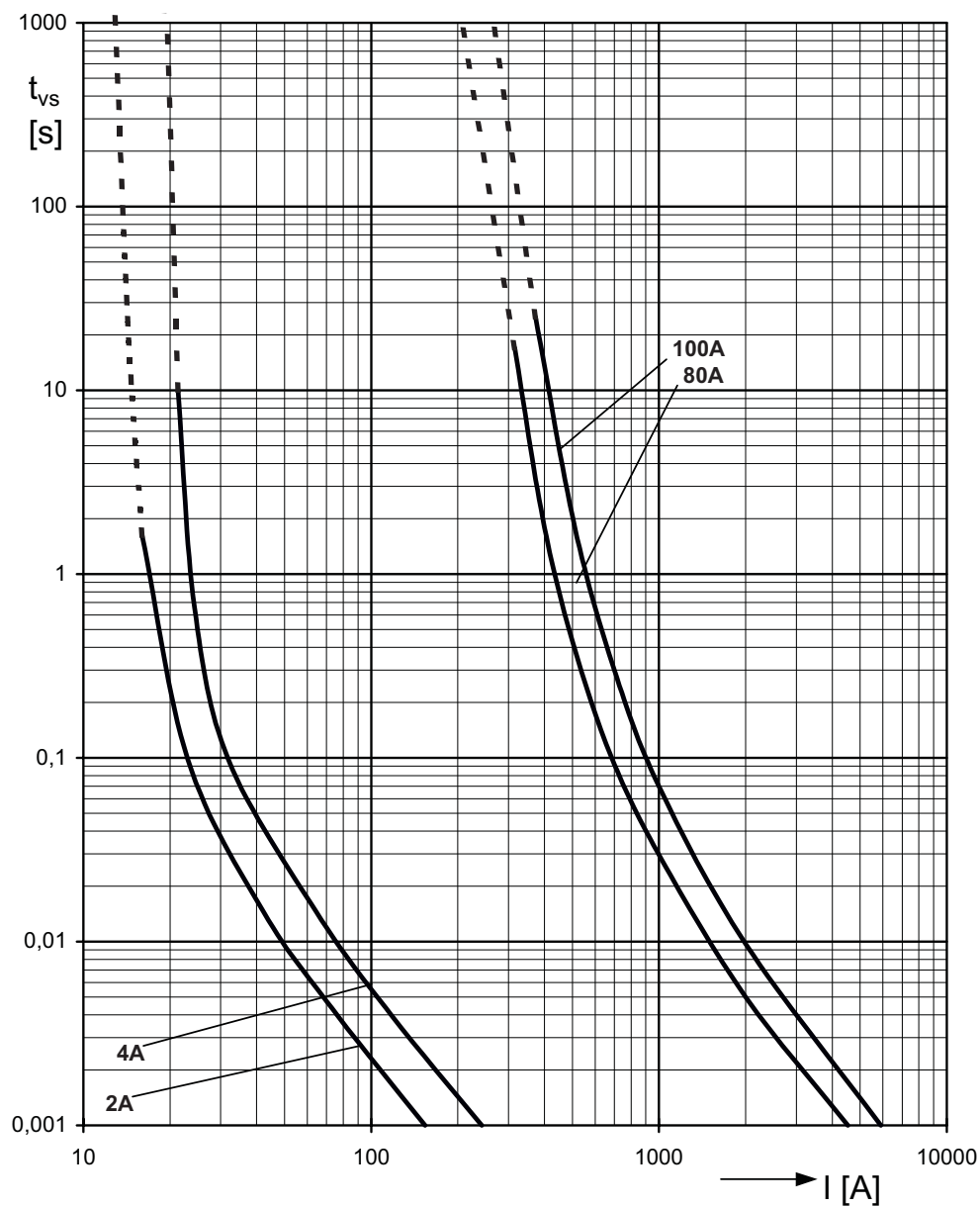


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Time currents characteristics

for high voltage fuse links 10/24kV 2 - 4A and 80 - 100A

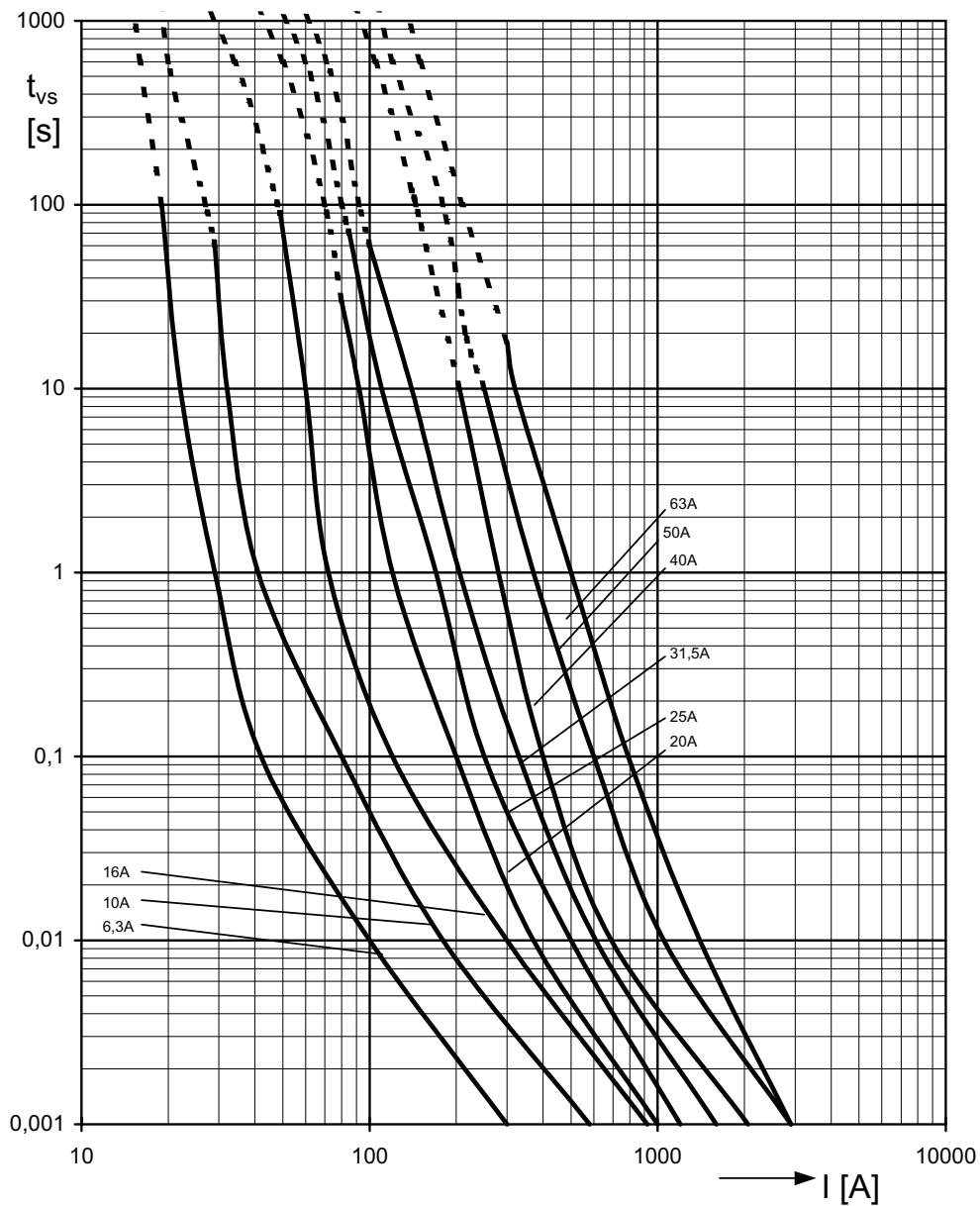


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Time current characteristics

for high voltage fuse links 10/24kV 6.3 - 63A

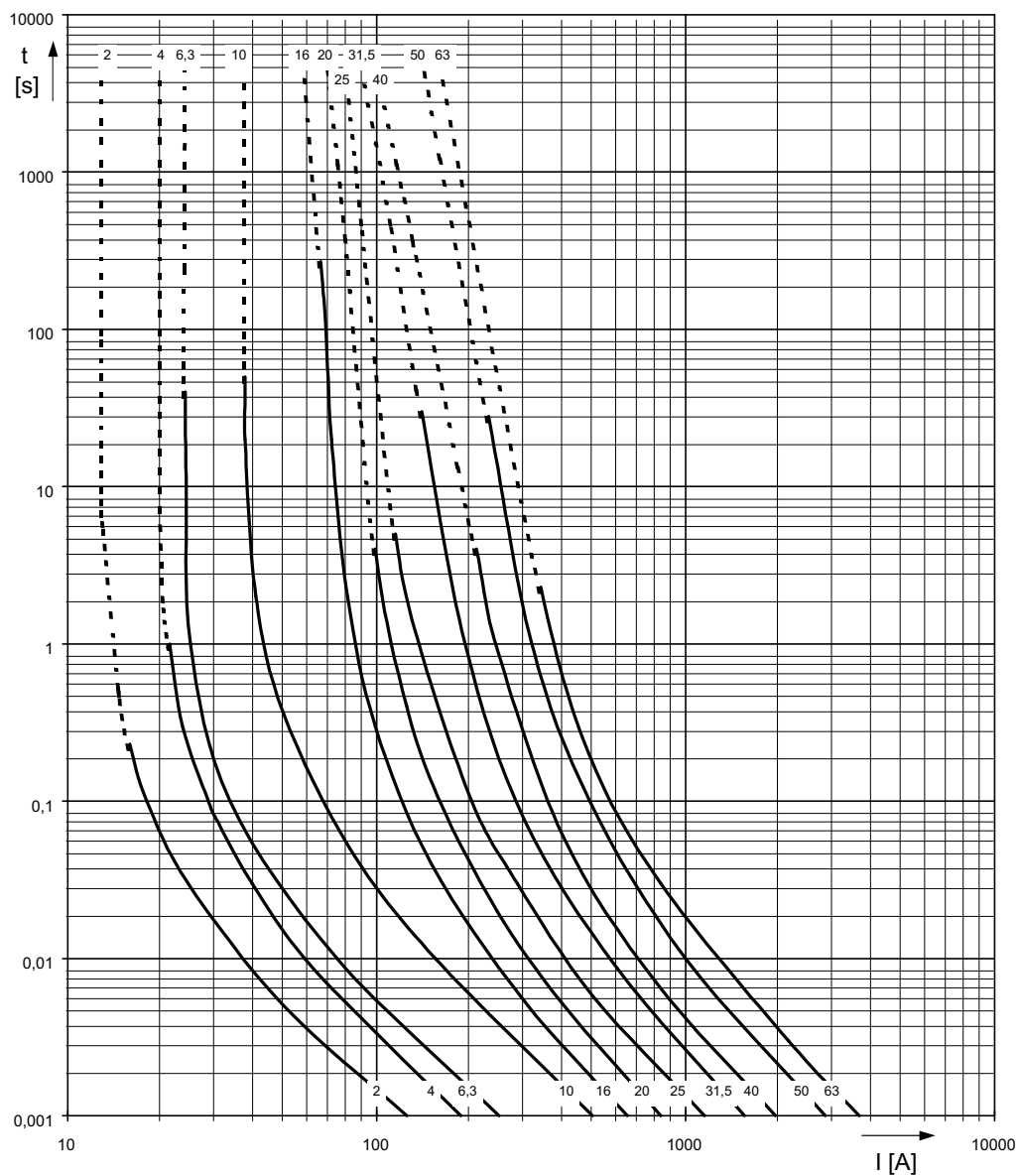


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High voltage fuse links

Time current characteristics

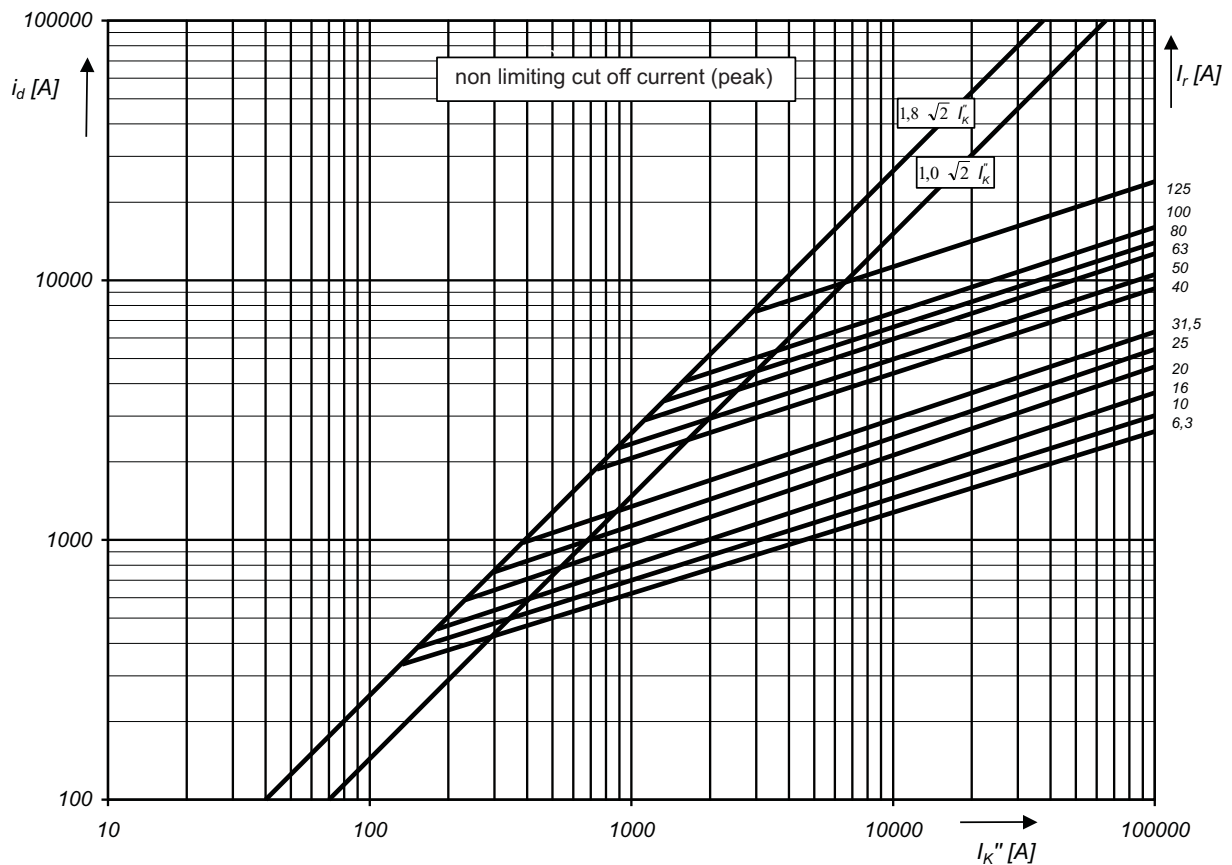
for high voltage fuse links 20/36kV 4 - 63A



Current limiting diagram

High voltage fuse links, 6/12 kV, 6 - 125A

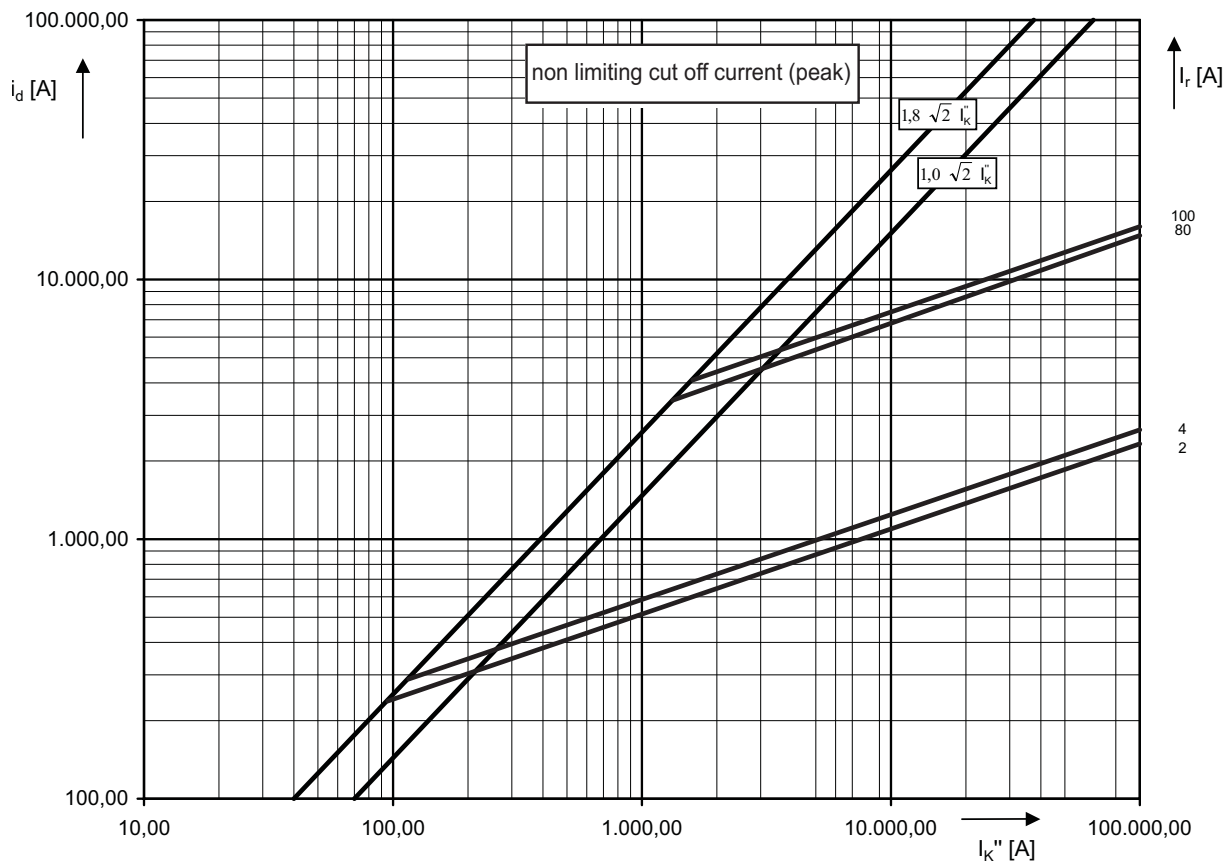
High voltage fuse links already interrupt the increase of short circuit currents prior to reaching the possible peak value. The diagram shows the limiting let-through current values (peak values) dependent on the unprotected short circuit current (effective value) under unfavourable switching conditions and the power factor assigned to the respective nominal current of the NH-fuse links.



Current limiting diagram

High voltage fuse links, 10/24 kV 2 - 4A, 80 - 100A

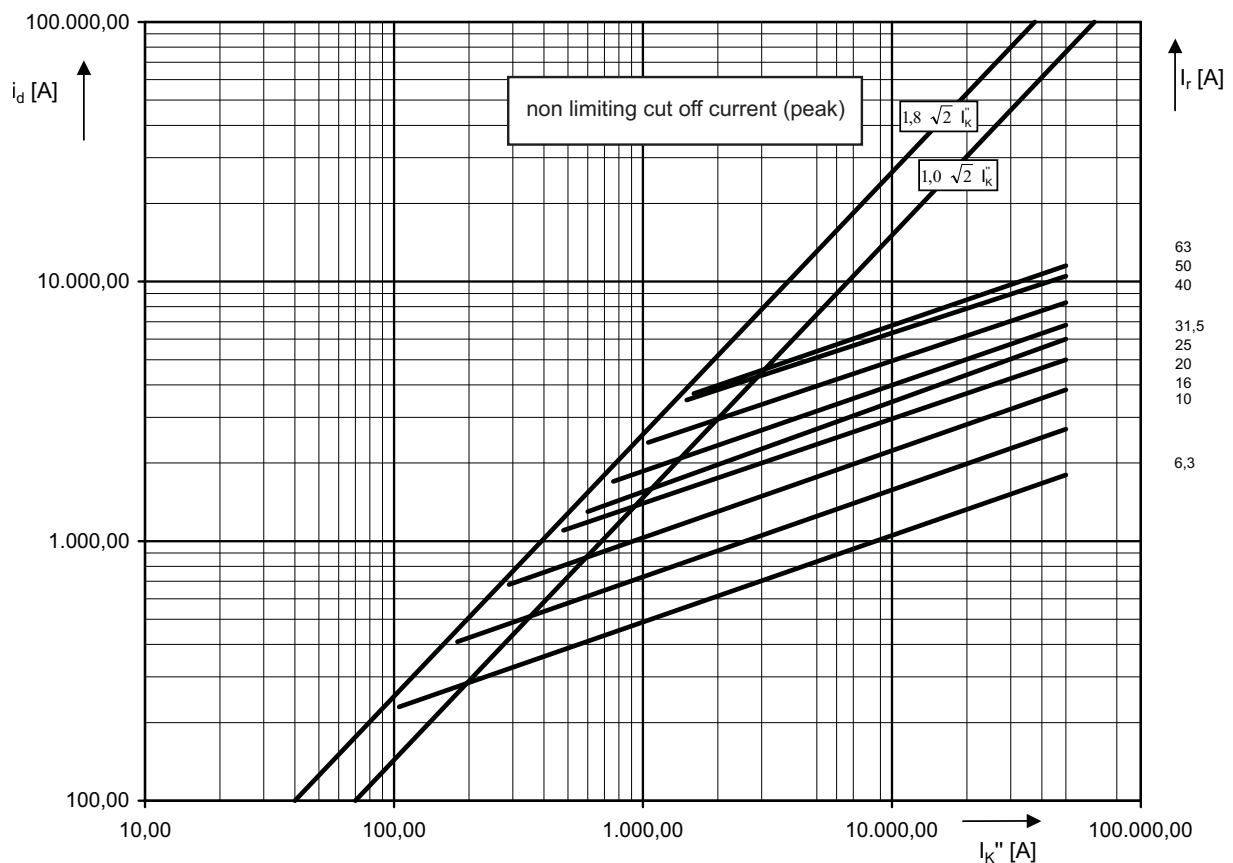
High voltage fuse links already interrupt the increase of short circuit currents prior to reaching the possible peak value. The diagram shows the limiting let-through current values (peak values) dependent on the unprotected short circuit current (effective value) under unfavourable switching conditions and the power factor assigned to the respective nominal current of the NH-fuse links.



Current limiting diagram

High voltage fuse links, 10/24 kV 6,3 - 63A

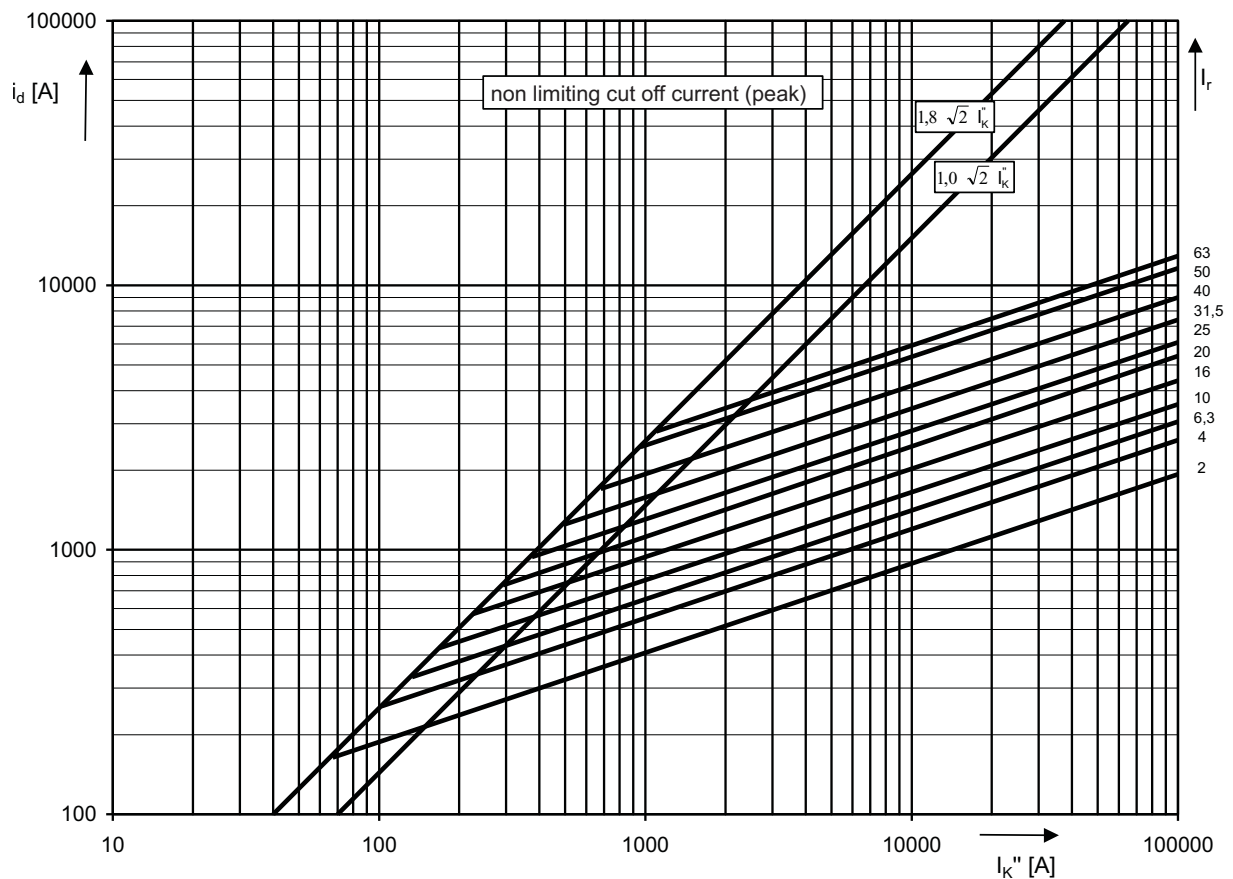
High voltage fuse links already interrupt the increase of short circuit currents prior to reaching the possible peak value. The diagram shows the limiting let-through current values (peak values) dependent on the unprotected short circuit current (effective value) under unfavourable switching conditions and the power factor assigned to the respective nominal current of the NH-fuse links.



Current limiting diagram

High voltage fuse links, 20/36 kV, 4 - 63A

High voltage fuse links already interrupt the increase of short circuit currents prior to reaching the possible peak value. The diagram shows the limiting let-through current values (peak values) dependent on the unprotected short circuit current (effective value) under unfavourable switching conditions and the power factor assigned to the respective nominal current of the NH-fuse links.



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