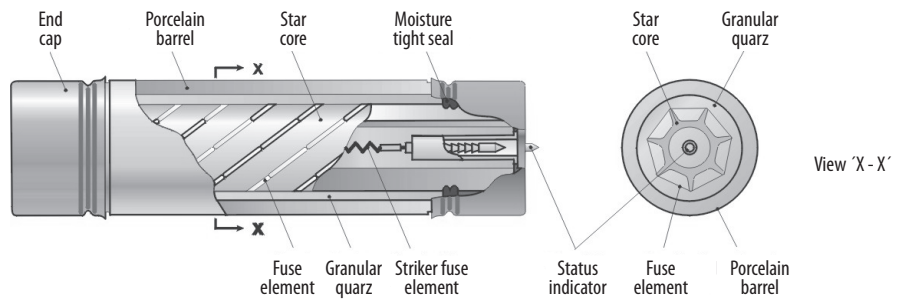


MV FUSE-LINKS

- Medium-voltage fuse-links of series PL, PM, PQ are used for protection of MV side of distribution transformers and other devices working with voltage over AC 1 000 V.
- They reliably interrupt of all currents from their rated breaking capacity I_n down to minimum breaking current I_3 specified in the tables and on the fuse-links label
- Limited function range - protecting against short-circuit and higher overcurrent (back-up fuses)
- They are suitable for both outdoor and indoor applications.
- Status indicator is used for visual indication of blown fuse and for activation of other accessories. In case of a failure of a phase the respective fuse can initiate disconnection of the remaining phases of the system.



MV fuse-links 10/12 kV

I_n [A]	Type	Order code	Size DxL [mm]	Power losses P_v [W]	Resistor R_k [mΩ]	Min. breaking current I_3 [A]	I^2t_c [A ² s]	Weight [kg]	Package [pcs]
6.3	PL45 6,3	OEZ:14807	51x292	10	222	23	1 000	1.700	1
10	PL45 10	OEZ:14808	51x292	16	131	35	2 300	1.700	1
16	PL45 16	OEZ:14809	51x292	16	54.6	53	3 900	1.700	1
20	PL45 20	OEZ:14810	51x292	18	39.1	73	5 400	1.700	1
25	PL45 25	OEZ:14811	51x292	24	31.2	87	8 400	1.700	1
31.5	PL45 31,5	OEZ:14812	51x292	28	23.4	111	15 000	1.700	1
40	PL45 40	OEZ:14813	51x292	36	17.2	143	25 000	1.700	1
50	PL45 50	OEZ:14814	51x292	47	13.5	168	31 000	1.700	1
63	PL45 63	OEZ:14815	51x292	60	10.6	235	47 000	1.700	1
80	PL45 80	OEZ:14816	64x292	72	7.81	272	91 000	3.300	1
100	PL45 100	OEZ:14817	64x292	85	5.74	388	140 000	3.300	1

MV fuse-links 22/25 kV

I_n [A]	Type	Order code	Size DxL [mm]	Power losses P_v [W]	Resistor R_k [mΩ]	Min. breaking current I_3 [A]	I^2t_c [A ² s]	Weight [kg]	Package [pcs]
6.3	PM45 6,3	OEZ:14818	51x442	20	444	23	1 000	2.500	1
10	PM45 10	OEZ:14819	51x442	32	262	34	2 300	2.500	1
16	PM45 16	OEZ:14820	51x442	34	109	56	3 900	2.500	1
20	PM45 20	OEZ:14821	51x442	38	78.2	73	5 400	2.500	1
25	PM45 25	OEZ:14822	51x442	49	62.4	92	8 400	2.500	1
31.5	PM45 31,5	OEZ:14823	51x442	59	46.8	92	15 000	2.500	1
40	PM45 40	OEZ:14824	51x442	79	34.3	118	25 000	2.500	1
50	PM45 50	OEZ:14825	51x442	98	27	185	31 000	2.500	1
63	PM45 63	OEZ:14826	64x442	127	21.1	217	47 000	3.700	1
80	PM45 80	OEZ:14428	76x442	153	15.7	265	91 000	5.100	1
100	PM45 100	OEZ:14429	76x442	400	18	430	94 000	5.100	1

MV fuse-links 35/38.5 kV

I_n [A]	Type	Order code	Size DxL [mm]	Power losses P_v [W]	Resistor R_k [mΩ]	Min. breaking current I_3 [A]	I^2t_c [A ² s]	Weight [kg]	Package [pcs]
6.3	PQ45 6,3	OEZ:14827	51x537	34	684	23	1 200	2.900	1
10	PQ45 10	OEZ:14828	51x537	44	402	35	3 000	2.900	1
16	PQ45 16	OEZ:14829	51x537	52	165	70	5 100	2.900	1
20	PQ45 20	OEZ:14830	51x537	62	117	98	8 200	2.900	1
25	PQ45 25	OEZ:14831	51x537	85	98	112	15 000	2.900	1
31.5	PQ45 31,5	OEZ:14832	76x537	96	73.4	116	23 000	6.250	1
40	PQ45 40	OEZ:14833	76x537	116	52.4	178	39 000	6.250	1
50	PQ45 50	OEZ:14834	76x537	133	36.8	255	81 000	6.250	1

MV FUSE-LINKS

Criteria for assignment of fuse-links to transformers

At assigning fuse-links to transformers, the following criteria must be complied with:

- MV fuse-link must withstand a surge magnetizing current of the transformer equal to twelve rated currents of the transformer for 0.1 s.
- At short-circuited secondary terminals, the MV fuse-link must disconnect in 2 s.
- At short-circuited secondary terminals of the transformer, the minimum breaking current I_3 of the fuse-link must be lower than the current, that can arise in the primary side circuit at this short-circuit.
- MV fuse-link must be discriminating with a LV fuse-link or circuit-breaker used on the secondary side of the transformer (it can be checked by means of SICHR program).
- If more options are shown in the assignment table, it is necessary to consider another criteria such as length of MV supply line, short-circuit power in the EHV network branch point, and u_k of the transformer. The recommendations are generally valid for both outdoor and fully-enclosed types. Influence of encapsulation is eliminated by selection of rated current of the fuse-link, which exceeds sufficiently rated current of the transformer.
- If a transformer will be exposed to overcurrent, it is recommended to use a fuse-link of higher rated current.
- Given recommendations should not be applied for special transformers, that fed e.g. motor circuits where there is starting current bigger than rated current of fuse-link.

Specifications

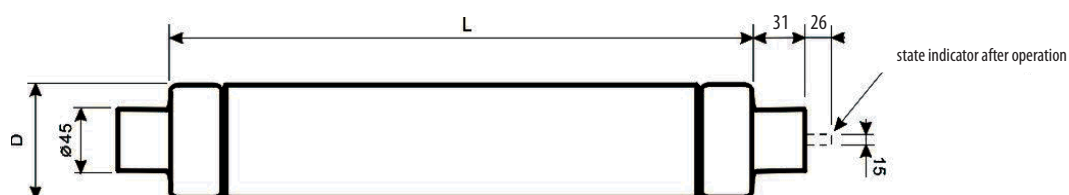
Type		PL45	PM45	PQ45
Standards		IEC 60282-1 VDE 0670 DIN 43625	IEC 60282-1 VDE 0670 DIN 43625	IEC 60282-1 VDE 0670 DIN 43625
Rated breaking capacity	I_n	63 kA	50 kA	35.5 kA

Recommended assignment of MV fuse-links to distribution transformers

Transformer [kVA]	10/12 kV			22/25 kV		35/38.5 kV	
	Fuse-link PL45			Fuse-link PM45		Fuse-link PQ45	
	$I_{n \min}$ [A]	$I_{n \max}$ [A]		$I_{n \min}$ [A]	$I_{n \max}$ [A]	$I_{n \min}$ [A]	$I_{n \max}$ [A]
50	6.3	10.0 ¹⁾		6.3	6.3	-	-
100	16.0	20.0 ¹⁾		6.3	10.0 ¹⁾	6.3	6.3
125	16.0	20.0 ¹⁾		6.3	10.0 ¹⁾	6.3	10.0 ¹⁾
160	20.0	31.5 ¹⁾		10.0	16.0 ¹⁾	10.0	10.0
200	25.0	31.5		10.0	16.0 ¹⁾	10.0	10.0
250	25.0	40.0 ¹⁾		16.0	20.0 ¹⁾	10.0	16.0 ¹⁾
315	31.5	40.0		16.0	20.0	16.0	16.0
400	40.0	50.0		25.0	31.5	16.0	16.0
500	50.0	50.0		25.0	31.5	16.0	16.0
630	63.0	63.0		31.5	40.0	20.0	25.0
800	100.0	100.0		40.0	40.0	25.0	31.5
1000	100.0	100.0		50.0	50.0	31.5	31.5
1250	100.0	100.0		50.0	63.0	31.5	40.0
1600	100.0	100.0		63.0	80.0	31.5	40.0

¹⁾ only for transformers with $u_k = 4\%$

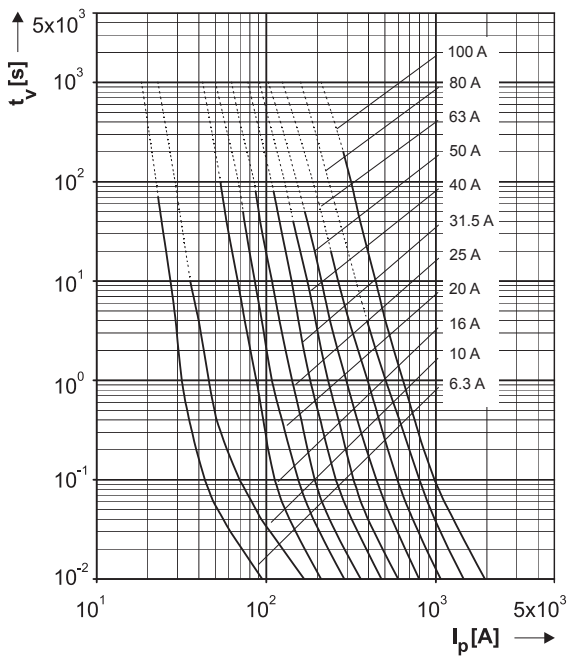
Dimensions



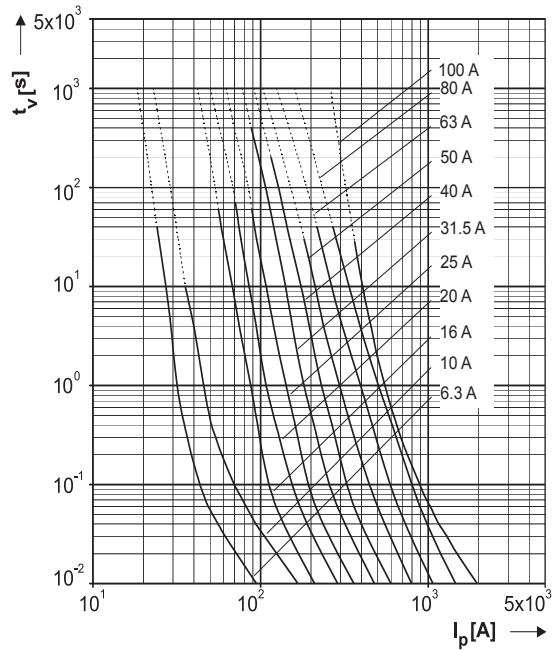
MV FUSE-LINKS

Characteristics

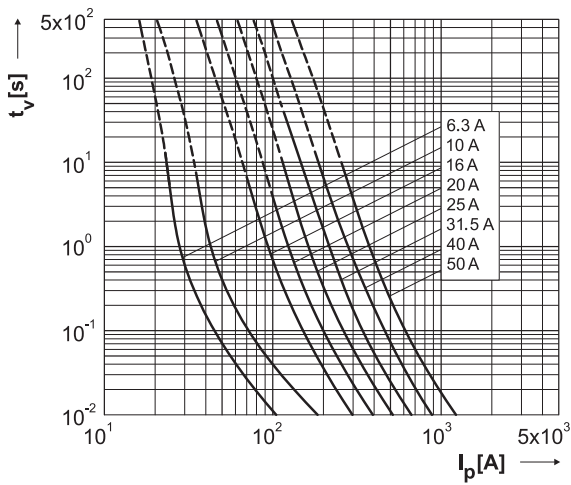
Preacting time/current characteristic
PL45



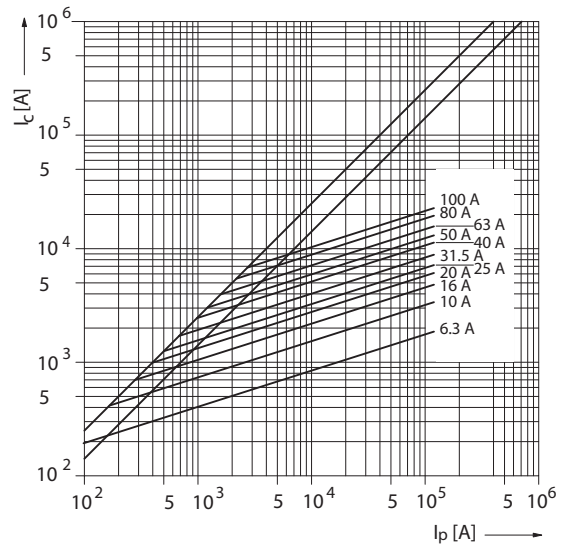
Preacting time/current characteristic
PM45



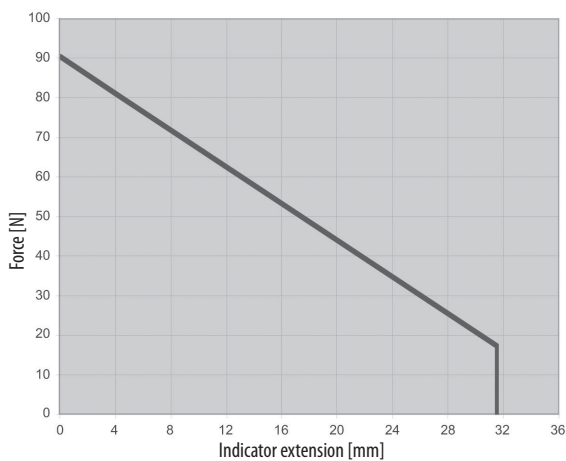
Preacting time/current characteristic
PQ45



Cut-off characteristic
PL45, PM45, PQ45



Characteristic of the tripping system
PL45, PM45



Characteristic of the tripping system
PQ45

