IEC Standard Back-Up Fuse-Links

3 / 7.2 kV – 6 / 12 kV – 10 / 17.5 kV – 10 / 24 kV – 20 / 36 kV Ferrule German DIN Standard

Beyond our line of ANSI / IEEE current-limiting fuses, Mersen offers a full line of medium voltage fuse links according to the IEC standards. Among them, the back-up current-limiting fuse-links designed according to IEC 60 282-1 and meeting DIN 43 625 fuse-link dimensions. These fuse-links' operating range is between their minimum interrupting rating (I3) and their maximum interrupting rating (I1). When necessary, we offer these fuses with a controlled power dissipation (CPD) feature. These type CPD fuse-links, prevent overheating of the fuse compartment when installed in conjunction with a load break switch.

Features/Benefits:

- Conform to IEC 60-282-1 which is identical to German standard VDE 0670T4
- Conform to DIN 43 625: High voltage fuse-links rated voltage 3.6 to 36kV (Fuse-link dimensions)
- Blown-fuse indicator: The strikers of the MV fuse-links mentioned here have an effective length of 27mm and are a "medium type." This classification results from the energy released by the striker during the first 20 mm of operating distance. The initial force is about 80N and the force at the end of the course (27mm) is 15N.

Highlights:

- Outdoor use
- High breaking capacity
- High current limitation

Applications:

- Protection of transformers and distribution systems.

Ratings:

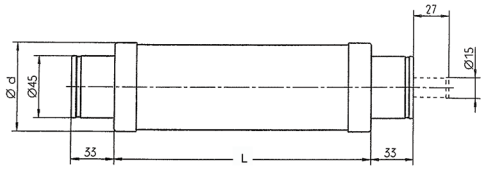
Size (L) 192:
Volts : 3/7.2kV AC
Amps : 2A to 200A
Size (L) 292:
Volts : 6/12kV AC
Amps : 1A to 200A
Size (L) 367:
Volts : 10/17.5kV AC
Amps : 6.3A to 100A
Size (L) 442:
Volts : 10/24kV AC
Amps : 1A to 200A
Size (L) 537:
Volts : 20/36kV AC
Amps : 2A to 63A
Size (L) 292:
Volts : 6/12kV AC
Amps : 1A to 200A with CPD
Size (L) 442:
Volts : 10/24kV AC
Amps : 1A to 125A with CPD

Definitions:

Back-up Fuse-links: Back-up fuse links have a rated minimum breaking capacity current above which the fuses are able to interrupt current. Back-up fuses are not designed to operate below their minimum breaking current (below I3). Their operating range is between their minimum interrupting rating (I3) and their maximum interrupting rating (I1). If protection is required for currents below I3, additional protection must be provided.

Rated Voltage Range: Medium voltage fuse links must operate at the voltage range for which they have been rated. When a current-limiting fuse clears a fault, the element melts and an arc is formed across the gap. The higher the fuse voltage rating, the higher the arc voltage will be and it will always be greater than the voltage rating of the fuse. Replacing a fuse in equipment with a fuse of a higher voltage rating can be destructive for the equipment. The rated voltage range provides the permissible voltage limits top and bottom the fuse can be used at.

Breaking Capacity I1: The breaking capacity is also referred to as the "rated maximum breaking current". This is the maximum current which can be interrupted by the fuse-link.



Definitions - Continued:

Minimum Breaking Capacity I3:

The minimum breaking current is referred to as the “rated minimum breaking current”. Back up fuses are not designed or intended to open below I3.

Control Power Dissipation:

Due to abnormal circumstances such as lightening strikes or atypical transformer inrush, some of the fuse elements can be damaged. The remaining elements will have to carry more current causing the fuse to dissipate significantly more heat. When these fuses are enclosed in a narrow fuse compartment that has limited thermal power acceptance, there is risk this may be exceeded. Type CPD fuse-links prevent such overheating. The CPD striker system releases the transformer switch before the permissible power acceptance of the fuse compartment is exceeded. The fuse should then be replaced.

Accessories:

Mersen offers clips, indoor and outdoor fuse supports along with signaling systems:

Fuse clips:

Size 45mm with connection lug: Cat # MR45R

Size 45mm without the connection lug: Cat # MR55R

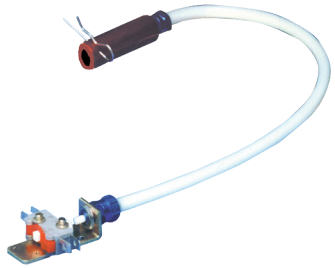
Flexible microswitch voltage range 12 / 36 kV:

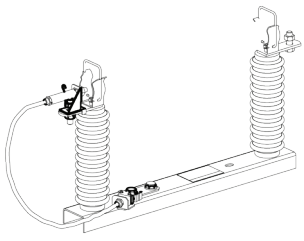
1 NO/NC Ref # E092855

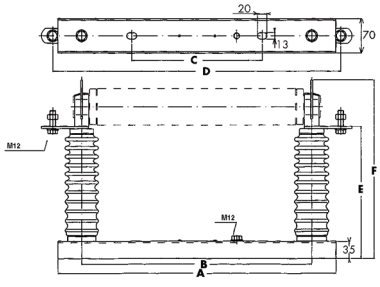
2 NO/NC Ref # F092856

Indoor and Outdoor Fuse Support:

	Catalog No.	Voltage (kV)	Size L (mm)	Dielectric Whithstand (phase to ground)		Dimensions					
				50 Hz - 1min kV RMS	1.2/50µs peak voltage	A	B	C	D	E	F
Indoor	SI72V192	7.2	192	20	60	400	226	322	347	175	270
	SI120V292	12	292	28	75	424	324	200	445	175	270
	SI175V292	17.5	292	38	95	424	324	200	445	220	315
	SI175/367	17.5	367	38	95	576	401	270	522	218	313
	SI240V442	24	442	50	125	576	476	270	597	270	365
	SI360V537	36	537	70	170	670	570	350	691	354	449
outdoor	SE120V292	12	292	28	75	424	324	200	445	261	356
	SE175V292	17.5	292	38	95	424	324	200	445	261	356
	SE175V367	17.5	367	38	95	576	401	270	521	263	358
	SE240V442	24	442	50	125	576	476	270	597	309	404
	SE360V537	36	537	70	170	670	570	350	691	381	476







IEC Standard Back-Up Fuse-Links

3 / 7.2 kV – 6 / 12 kV – 10 / 17.5 kV – 10 / 24 kV – 20 / 36 kV
Ferrule German DIN Standard

3 / 7.2 kV Rated Voltage Range – Back-up with Striker
Size: L = 192mm

Catalog No.	Ref #	I_N (A)	D (mm)	Maximum breaking current I1 (kA)	Minimum breaking current I3 (A)	Weight (kg)
45DB72V2P	N1000098	2	56	63	15	1.1
45DB72V4P	P1000099	4	56	63	20	1.1
45DB72V6,3PD	S209293	6.3	56	63	20	1.1
45DB72V10PD	T209294	10	56	63	35	1.1
45DB72V16PD	V209295	16	56	63	64	1.1
45DB72V20PD	W209296	20	56	63	80	1.1
45DB72V25PD	X209297	25	56	63	95	1.1
45DB72V32PD	Y209298	31.5	56	63	110	1.1
45DB72V40PD	Z209299	40	56	63	134	1.1
45DB72V50PD	A209300	50	56	63	190	1.1
45DB72V63P	B209301	63	65	63	220	1.4
45DB72V80P	C209302	80	65	63	300	1.4
45DB72V100P	D209303	100	65	63	350	1.4
45DB72V125PD	Q1000100	125	88	63	435	2.4
45DB72V160P	R1000101	160	88	63	500	2.4
45DB72V200P	S1000102	200	88	63	610	2.4

Indoor fuse support: SI72V192

6 / 12 kV Rated Voltage Range – Back-up with Striker
Size: L = 292mm

Catalog No.	Ref #	I_N (A)	D (mm)	Maximum breaking current I1 (kA)	Minimum breaking current I3 (A)	Weight (kg)
45DB120V1P	T1000103	1	56	63	14	1.7
45DB120V2P	V1000104	2	56	63	16	1.7
45DB120V4P	W1000105	4	56	63	22	1.7
45DB120V6,3P	F209305	6.3	56	63	30	1.7
45DB120V10P	G209306	10	56	63	42	1.7
45DB120V16P	H209307	16	56	63	54	1.7
45DB120V20P	J209308	20	56	63	73	1.7
45DB120V25P	K209309	25	56	63	93	1.7
45DB120V32P	L209310	31.5	56	63	105	1.7
45DB120V40P	M209311	40	56	63	125	1.7
45DB120V50P	N209312	50	56	63	160	1.7
45DB120V63P	P209313	63	56	63	230	1.7
45DB120V80P	Q209314	80	65	63	350	2.1
45DB120V100P	R209315	100	65	63	500	3.1
45DB120V125P	X1000106	125	88	63	480	3.7
45DB120V160P	Y1000107	160	88	63	560	3.7
45DB120V200P	Z1000108	200	88	63	610	3.7

Indoor fuse support: SI120V292 Outdoor fuse support: SE120V292

IEC Standard Back-Up Fuse-Links

10 / 17.5 kV Rated Voltage Range – Back-up with Striker Size: L = 367mm

Catalog No.	Ref #	I_N (A)	D (mm)	Maximum breaking current I1 (kA)	Minimum breaking current I3 (A)	Weight (kg)
45DB175V6,3P	V1000564	6.3	56	63	30	2.1
45DB175V10P	W1000565	10	56	63	43	2.1
45DB175V16P	X1000566	16	56	63	54	2.1
45DB175V20P	Y1000567	20	56	63	73	2.1
45DB175V25P	Z1000568	25	56	63	93	2.1
45DB175V32P	A1000569	31.5	56	63	105	2.1
45DB175V40P	B1000570	40	56	63	125	2.1
45DB175V50P	C1000571	50	56	63	205	2.1
45DB175V63P	D1000572	63	56	63	280	2.1
45DB175V80P	E1000573	80	65	63	350	2.6
45DB175V100P	F1000574	100	88	63	500	3.5

Indoor fuse support: SI175V367 Outdoor fuse support: SE175V367

10 / 24 kV Rated Voltage Range – Back-up with Striker Size: L = 442mm

Catalog No.	Ref #	I_N (A)	D (mm)	Maximum breaking current I1 (kA)	Minimum breaking current I3 (A)	Weight (kg)
45DB240V1P	A1000109	1	56	63	14	2.5
45DB240V2P	B1000110	2	56	63	16	2.5
45DB240V4P	C1000111	4	56	63	23	2.5
45DB240V6,3P	S209339	6.3	56	63	30	2.5
45DB240V10P	T209340	10	56	63	43	2.5
45DB240V16P	V209341	16	56	63	54	2.5
45DB240V20P	W209342	20	56	63	73	2.5
45DB240V25P	X209343	25	56	63	93	2.5
45DB240V32P	Y209344	31.5	56	63	105	2.5
45DB240V40P	Z209345	40	56	63	125	2.5
45DB240V50P	A209346	50	56	63	205	2.5
45DB240V63P	B209347	63	56	63	280	2.5
45DB240V80P	C209348	80	65	63	310	3.1
45DB240V100P	D209349	100	78	63	430	4.2
45DB240V125P	D1000112	125	88	40	760	5.9
45DB240V160P	E1000113	160	88	31.5	900	5.9
45DB240V200P	F1000114	200	88	31.5	1050	5.9

Indoor fuse support: SI240V442 Outdoor fuse support: SE240V442

20 / 36 kV Rated Voltage Range – Back-up with Striker Size: L = 537mm

Catalog No.	Ref #	I_N (A)	D (mm)	Maximum breaking current I1 (kA)	Minimum breaking current I3 (A)	Weight (kg)
45DB360V2P	G1000115	2	56	31.5	15	2.7
45DB360V4P	H1000116	4	56	31.5	20	2.7
45DB360V6,3PD	S209362	6.3	56	31.5	20	2.7
45DB360V10PD	T209363	10	56	31.5	33	2.7
45DB360V16PD	V209364	16	56	31.5	66	2.7
45DB360V20PD	W209365	20	56	31.5	95	2.7
45DB360V25PD	X209366	25	56	31.5	110	2.7
45DB360V32PD	Y209367	31.5	65	31.5	135	3.7
45DB360V40PD	Z209368	40	65	20	200	3.7
45DB360V50PD	J1000117	50	88	20	220	6.5
45DB360V63PD	K1000118	63	88	20	280	6.5

Indoor fuse support: SI360V537 Outdoor fuse support: SE360V537

IEC Standard Back-Up Fuse-Links

6 / 12 kV – 10 / 24 kV
Ferrule German DIN standard with Control Power Dissipation (CPD) striker system

6 / 12 kV Rated Voltage Range – Back-up with CPD Striker Size: L = 292mm

Catalog No.	Ref #	I_N (A)	D (mm)	Maximum breaking current I1 (kA)	Minimum breaking current I3 (A)	Weight (kg)
45DB120V1PT	L1000119	1	56	63	14	1.6
45DB120V2PT	M1000120	2	56	63	16	1.6
45DB120V4PT	N1000121	4	56	63	22	1.6
45DB120V6,3PT	P1000122	6.3	56	63	30	1.6
45DB120V10PT	Q1000123	10	56	63	42	1.6
45DB120V16PT	R1000124	16	56	63	54	1.6
45DB120V20PT	S1000125	20	56	63	73	1.6
45DB120V25PT	T1000126	25	56	63	93	1.6
45DB120V32PT	V1000127	31.5	56	63	105	1.6
45DB120V40PT	W1000128	40	56	63	125	1.6
45DB120V50PT	X1000129	50	56	63	160	1.6
45DB120V63PT	Y1000130	63	56	63	230	1.6
45DB120V80PT	Z1000131	80	65	63	350	2.1
45DB120V100PT	A1000132	100	65	63	500	2.1
45DB120V125PT	B1000133	125	88	63	480	3.7
45DB120V160PT	C1000134	160	88	63	560	3.7
45DB120V200PT	D1000135	200	88	63	610	3.7

Indoor fuse support: SI120V292 Outdoor fuse support: SE120V292

10 / 24 kV Rated Voltage Range – Back-up with CPD Striker Size: L = 442mm

Catalog No.	Ref #	I_N (A)	D (mm)	Maximum breaking current I1 (kA)	Minimum breaking current I3 (A)	Weight (kg)
45DB240V1PT	E1000136	1	56	63	14	2.3
45DB240V2PT	F1000137	2	56	63	16	2.3
45DB240V4PT	G1000138	4	56	63	23	2.3
45DB240V6,3PT	H1000139	6.3	56	63	30	2.3
45DB240V10PT	J1000140	10	56	63	43	2.3
45DB240V16PT	K1000141	16	56	63	54	2.3
45DB240V20PT	L1000142	20	56	63	73	2.3
45DB240V25PT	M1000143	25	56	63	93	2.3
45DB240V32PT	N1000144	31.5	56	63	105	2.3
45DB240V40PT	P1000145	40	56	63	125	2.3
45DB240V50PT	Q1000146	50	56	63	205	2.3
45DB240V63PT	R1000147	63	56	63	280	2.3
45DB240V80PT	S1000148	80	65	63	310	3.1
45DB240V100PT	T1000149	100	78	63	430	4.1
45DB240V125PT	V1000150	125	88	40	760	5.9

Indoor fuse support: SI240V442 Outdoor fuse support: SE240V442