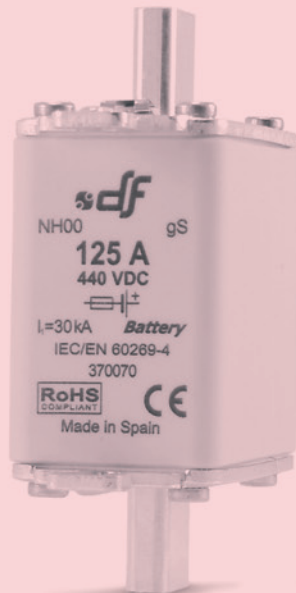
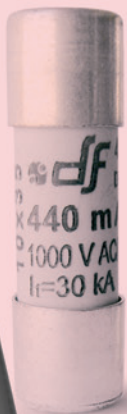
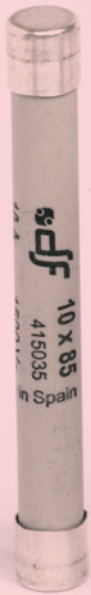
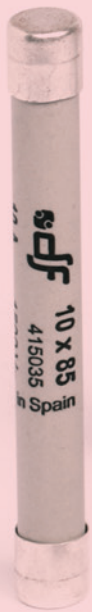




battery storage
multimeter
public lighting

SPECIAL FUSES



SPECIAL FUSES

PAGE 04 |

NH BATTERY PROTECTION FUSE-LINKS

PAGE 06 |

FUSE-LINKS FOR MULTIMETERS

PAGE 07 |

MV FUSE-LINKS FOR PUBLIC LIGHTING



SPECIAL FUSES

NH BATTERY PROTECTION FUSE-LINKS

DC NH BATTERY PROTECTION FUSE-LINKS

440V
550V

The use of batteries is growing due to the utilization in renewable installations. These batteries shall be appropriately protected against overcurrents that could shorten its life, specially against short-circuits, that shall be interrupted in a very short time. NH BATTERY fuse-links from DF Electric are capable to clearing all types of overcurrents, overloads and short-circuits, thus the fuse-links protect the batteries as well as cables and all switchgear of installation. These fuse-links are designed and manufactured with the same techniques that semiconductor fuse-links, which makes them very fast of operation and gives a good performance under continuous charge / discharge cycles. They are optimized to have reduced power dissipations that allow the utilization of a wide range of fuse-bases, disconnectors and fuse-switch-disconnectors. NH BATTERY fuse-links range comprise five sizes NH000, NH00, NH1, NH2 and NH3 with rated currents between 20A and 630A, with working voltages up to 440 V DC and 550 V DC. These fuse-links can be used also as a protection in other DC applications, but it is very important to take into account the kind of load and the time-constant of circuit in order to have a correct application (consult us).

	I _n (A)	REFERENCE	U (V DC)	BREAKING CAPACITY (kA DC)	PACKING Uni./BOX
NH000	20	370025	440	30	3/90
	25	370030	440	30	3/90
	32	370035	440	30	3/90
	40	370045	440	30	3/90
	50	370050	440	30	3/90
	63	370055	440	30	3/90
	80	370060	440	30	3/90
	100	370065	440	30	3/90
NH00	125	370070	440	30	3/60
	160	370075	440	30	3/60
NH1	200	370260	550	30	1/30
	250	370270	550	30	1/30
	280	370273	550	30	1/30
NH2	315	370370	550	30	1/20
	355	370375	550	30	1/20
	400	370380	550	30	1/20
	450	370387	550	30	1/20
NH3	500	370465	550	30	1/15
	630	370470	550	30	1/15

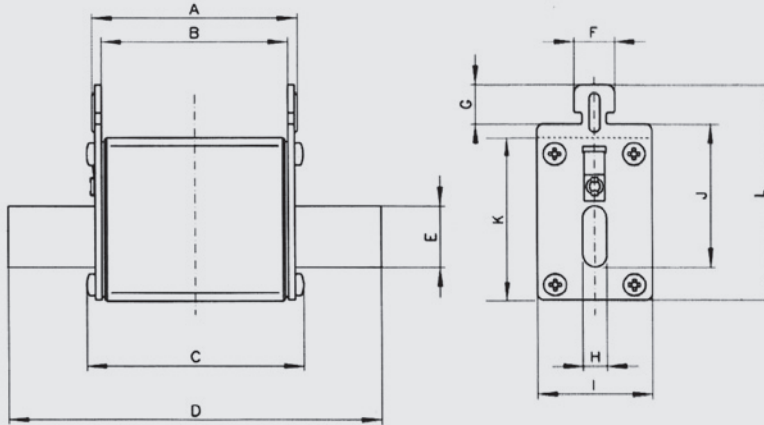


SPECIAL FUSES

NH BATTERY PROTECTION FUSE-LINKS

TECHNICAL

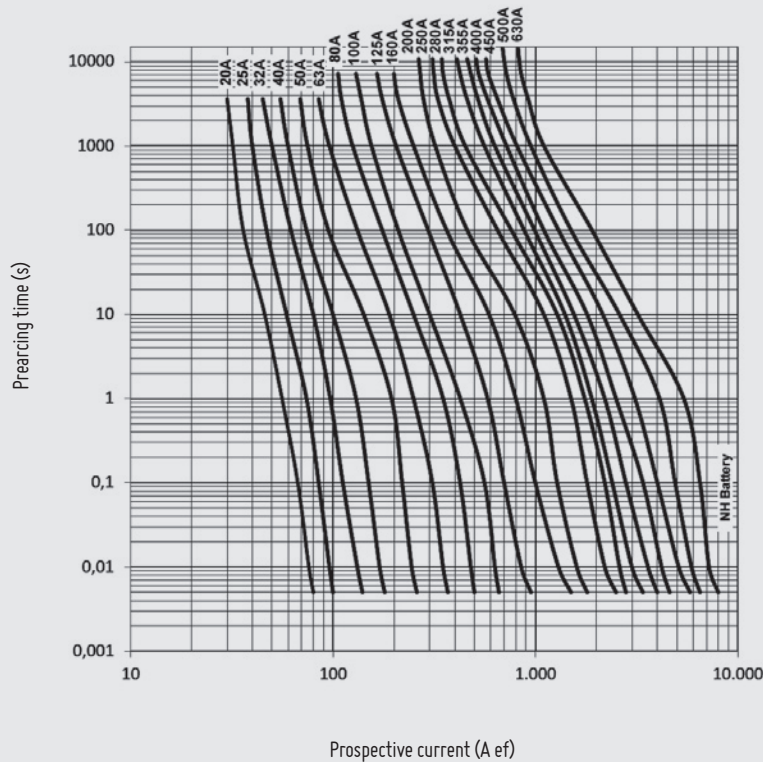
NH BATTERY PROTECTION FUSE-LINKS DIMENSIONS



SIZE	A	B	C	D	E	F	G	H	I	J	K	L
NH000	49	45	52	78,5	15	10	9,5	6	21	35	40	53
NH00	49	44	52	78,5	15	10	9,5	6	29	35	47	59
NH1	68	62	71,5	135	20	10	9,5	6	39	40	52	64
NH2	68	62	71,5	150	25	10	9,5	6	53	48	60	72
NH3	68	62	73	150	32	10	9,5	6	70	60	75	87

TECHNICAL

NH BATTERY PROTECTION FUSE-LINKS t-I CHARACTERISTICS



SPECIAL FUSES

FUSE-LINKS FOR MULTIMETERS



FUSE-LINKS FOR MULTIMETERS

DMM fuse links are specially designed for the protection of multimeters. They have fast acting characteristics and are available in two rated currents: 0,44A (440 mA) and 11A. Intended to carry 100% of rated current continuously. Maximum working voltage is 1000V AC/DC.

**1000V
AC/DC**

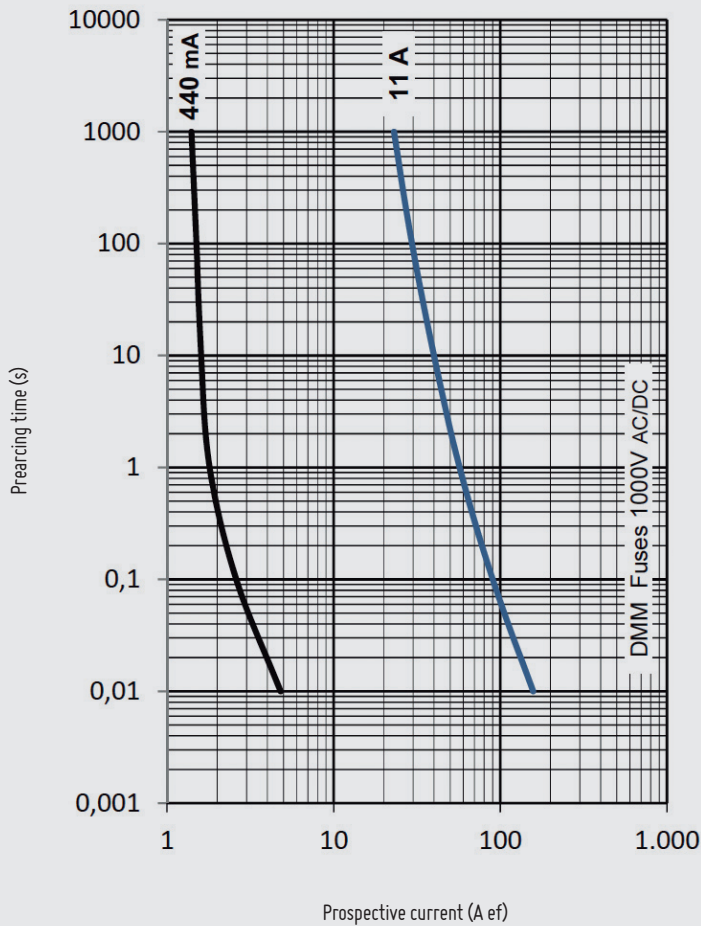
	I_n (A)	REFERENCE	BREAKING CAPACITY (kA)	PACKING Uni./BOX
10x35	0,44	416005	30	10
10x38	11	416010	30	10



TECHNICAL

FUSE-LINKS FOR MULTIMETERS

t-I CHARACTERISTICS



SPECIAL FUSES

MV FUSE-LINKS FOR PUBLIC LIGHTING

MV FUSE-LINKS FOR PUBLIC LIGHTING

Supply of public lighting systems in urban streets, roads, tunnels and motorways in low voltage cause some problems with voltage drop and high energy losses that lead to the utilization of high cross section of conductors when lines are very long. To avoid these inconveniences, supply networks at higher voltages are usually used (between 900V and 5500V AC) by means of special transformers designed for this purpose that increase the voltage for transportation and reduce it in the destination at adequate levels. These distribution networks allow energy transportation at very high distances with installations more economic and efficient.

For protection of these networks in the **medium voltage(MV)** side it is necessary to use fuse links with adequate rated voltages. MV cylindrical fuse links range lighting applications from DF ELECTRIC comprise three sizes with dimensions 10x85, 10x150 and 10x180 mm, with rated currents between 2A and 12A, and rated voltages of 1500V AC, 2500V AC and 5500V AC. They have a **g breaking range** (protection against overload and short-circuits) and are made with ceramic tubes having high breaking capacity and good withstand against thermal chock. Contacts are made in silver plated copper.

	I_n (A)	REFERENCE	BREAKING CAPACITY (kA)	PACKING Uni./BOX
10x85 1500V AC	2	415005	20	4/24
	3,15	415010	20	4/24
	4	415015	20	4/24
	5	415020	20	4/24
	6,3	415025	20	4/24
	8	415030	20	4/24
	10	415035	20	4/24
	12	415040	20	4/24



10x150 2500V AC	2	415105	15	4/24
	3,15	415110	15	4/24
	4	415115	15	4/24
	5	415120	15	4/24
	6,3	415125	15	4/24
	8	415130	15	4/24
	10	415135	15	4/24
	12	415140	15	4/24



10x180 3200V AC	2	415205	15	4/24
	2,5	415210	15	4/24
	3,15	415215	15	4/24
	4	415220	15	4/24
	5	415225	15	4/24
	6,3	415230	15	4/24
	8	415235	15	4/24
	10	415240	15	4/24
12	415245	15	4/24	



10x180 5500V AC	2	415305	10	4/24
	2,5	415310	10	4/24
	3,15	415315	10	4/24
	4	415320	10	4/24

STANDARDS 2002/95/EC	APPROVALS RoHS compliant 2002/95/EC
-------------------------	--

TECHNICAL TECHNICAL DATA PAGE 05	TECHNICAL DIMENSIONS & I-t CHARACTERISTICS PAGE 06
--	---

SPECIAL FUSES

MV FUSE-LINKS FOR PUBLIC LIGHTING



TECHNICAL

MV FUSE-LINKS FOR PUBLIC LIGHTING TECHNICAL DATA

10x85

**1500V
AC**

I_n (A)	I^2t Prearcing (A ² s)	Operating I^2t (A ² s)	Power loss $0.8 \cdot I_n$ (W)	Power loss I_n (W)
2	2,5	3,3	0,9	1,6
3,15	8,8	12	1,1	2,1
4	23	31	1,2	2,2
5	31	41	1,7	3,0
6,3	63	85	2,2	3,3
8	141	190	2,1	3,8
10	235	316	2,5	4,6
12	253	340	3,5	6,4

10x150

**2500V
AC**

2	2,5	3,9	1,6	2,7
3,15	8,8	14	2,1	3,6
4	23	36	2,2	4,0
5	31	48	2,9	5,3
6,3	63	100	4,0	6,0
8	141	222	3,6	6,5
10	275	433	4,2	7,8
12	314	494	5,9	11,1

10x180

**3200V
AC**

2	2,5	4,4	1,7	3,0
2,5	4,0	7,1	2,3	4,0
3,15	8,8	16	2,5	4,3
4	23	42	2,6	4,6
5	31	55	3,6	6,6
6,3	63	114	4,8	7,2
8	141	254	5,8	8,2
10	275	495	5,0	9,1
12	314	565	7,1	13

10x180

**5500V
AC**

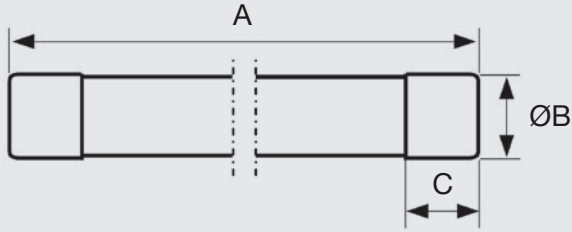
2	2,5	7	1,7	3,0
2,5	4,0	11	2,3	4,0
3,15	8,8	25	2,5	4,3
4	23	65	2,6	4,6

SPECIAL FUSES

MV FUSE-LINKS FOR PUBLIC LIGHTING

TECHNICAL

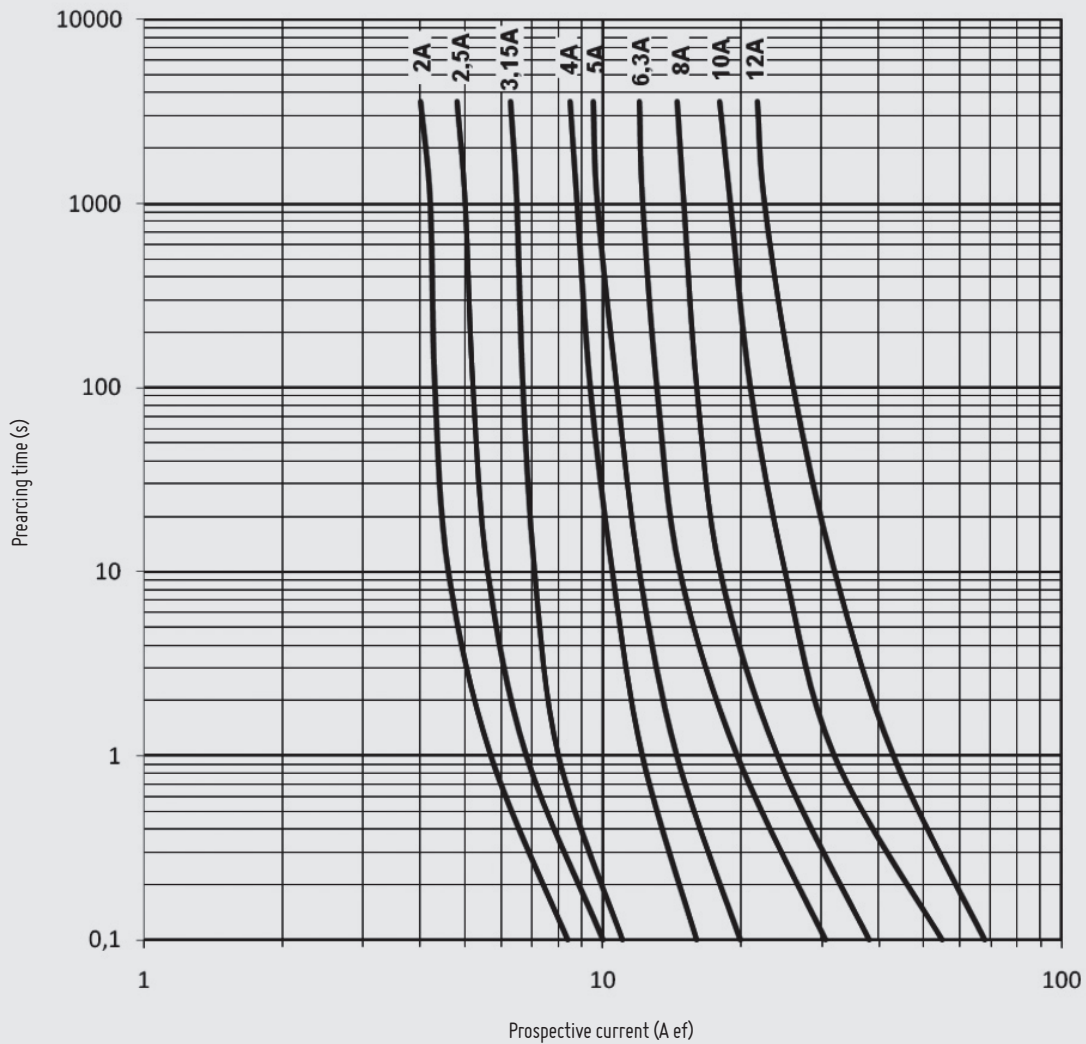
MV FUSE-LINKS FOR PUBLIC LIGHTING DIMENSIONS



SIZE	A	B	C
10x85	85	10,3	10
10x150	150	10,3	10
10x180	180	10,3	10

TECHNICAL

MV FUSE-LINKS FOR LIGHTING APPLICATIONS t-I CHARACTERISTICS





HEAD OFFICE & FACTORY

SILICI, 67-69

08940 CORNELLA DE LLOBREGAT

BARCELONA

SPAIN

Tel. +34 93 377 85 85

Fax +34 93 377 82 82

EXPORT SALES

Tel. +34 93 475 08 64

Fax +34 93 480 07 75

export@df-sa.es

NATIONAL SALES

Tel. 93 475 08 64

Fax 93 480 07 76

comercial@df-sa.es

www.df-sa.es/special-fuses