

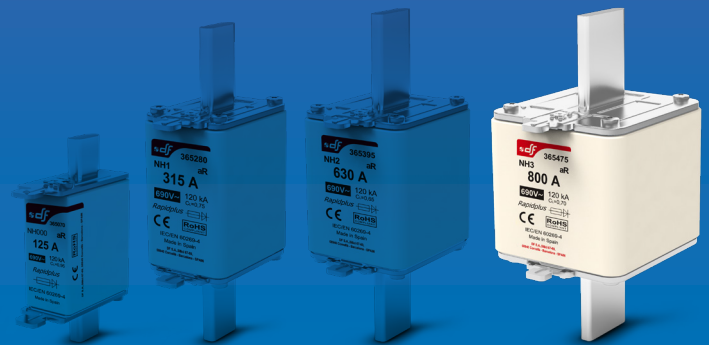
Rapidplus®

RAPIDPLUS

HIGH SPEED FUSE LINKS FOR SEMICONDUCTORS

aR NH

semiconductor protection
fuse links



NH000

NH1

NH2

NH3

PROTECTING THE WORLD



NH3

RATED VOLTAGE
690V AC

RATED CURRENT
500A...1000A

BREAKING CAPACITY
120kA

STANDARDS

IEC/EN 60269-1
IEC/EN 60269-4

Rapidplus® NH fuse links for semiconductors

RAPIDPLUS NH aR fuse links have a very low I^2t values thanks to the special melting elements design, manufactured with pure silver. The sand is solidified in order to have a good arcing control, high breaking capacity and excellent capability for cyclic loads.

These fuse links have a trip indicator that can be used as a visual indication or can be equipped with a microswitch mounted directly on the fuse link.

The range comprises the following fuse links:

→ Size NH3 690V AC 500A to 1000A

Typical application comprise protection of semiconductors (diodes, thyristors, triacs, etc) used in power rectifiers, UPS, converters, motor drives, soft starters, solid state relays, photovoltaic inverters, welding inverters and any application where it is necessary to protect power semiconductor devices.



Accessories

REFERENCE	DESCRIPTION	PACKING Uni /BOX
357010	MICROSWITCH FOR NH FUSELINKS NH000...NH3	1/12



Range

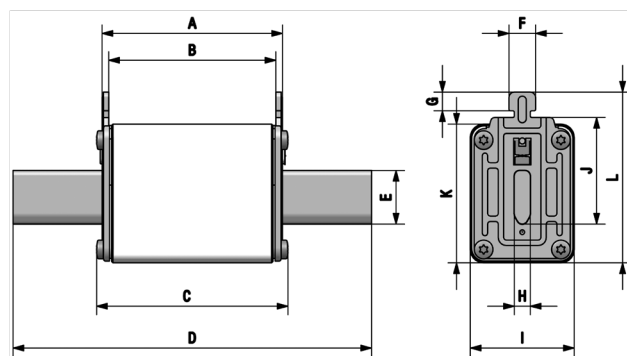
I_n (A)	REFERENCE	PACKING Uni /BOX
500	365465	1/15
550	365467	1/15
630	365470	1/15
700	365472	1/15
800	365475	1/15
900	365480	1/15
1000	365485	1/15

Technical data

Rated voltage	690V AC 550V DC (L/R=10ms)
Rated current	500A...1000A
Rated breaking capacity	120kA @690V AC 30kA @550V DC
Operating class	aR
Rated frequency	42...62Hz
Storage temperature	-40°C ... 80°C
Operating temperature *	-25°C ... 60°C

* For ambient temperatures higher than 25°C it is necessary to apply a derating in maximum current.

Dimensions



A	B	C	D	E	F	G	H	I	J	K	L
68	62	73	150	32	10	9,5	6	70	60	75	87

Weight 1,02kg

Standards

IEC/EN 60269-1
IEC/EN 60269-4
RoHS Compliant



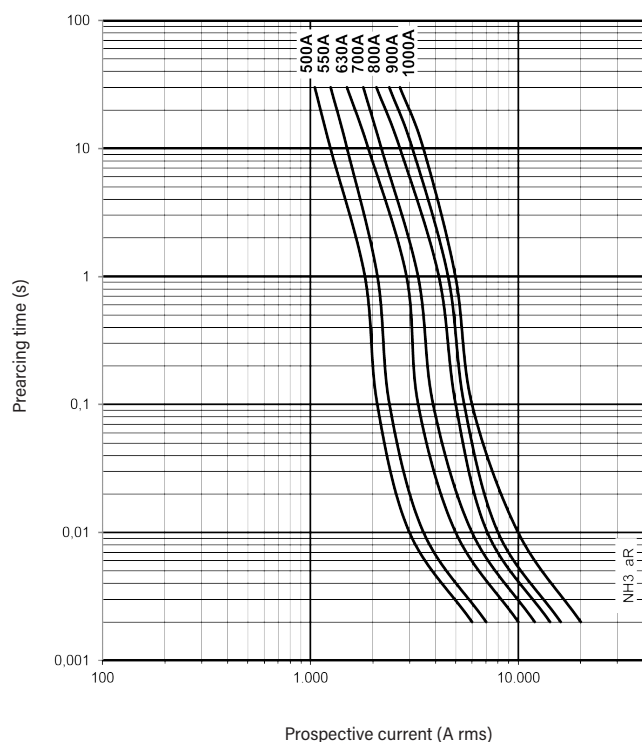
Materials

Body	Steatite C221
Contact blades	Copper or brass (silver plated)
Plates	Aluminium
Screws	Zinc plated steel

Power dissipation

I_n	POWER DISSIPATION I_n	POWER DISSIPATION $0,8 \cdot I_n$	PREARCING I^2t	OPERATING I^2t
(A)	(W)	(A ² S)	(A ² S)	(A ² S)
500	136	76	24460	120320
550	145	81	34170	168060
630	159	89	45500	223750
700	184	103	65520	322200
800	191	107	97870	481310
900	216	121	126380	621520
1000	268	150	182000	895000

t-I characteristics



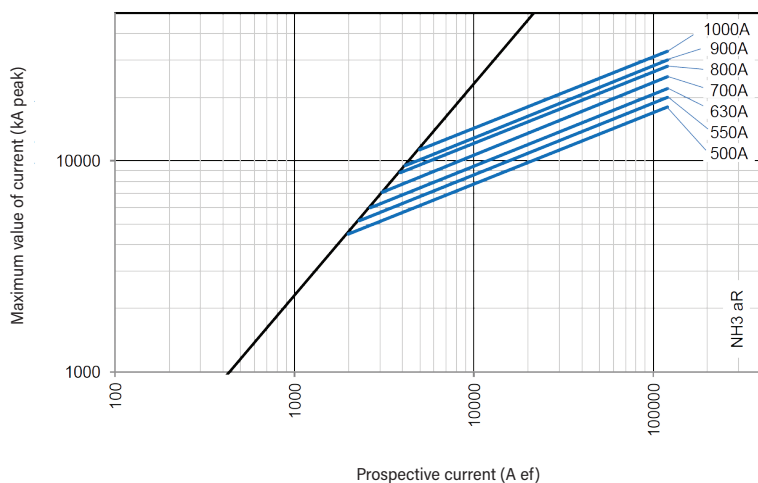
Fuse load constant

Due to the high power dissipation of NH aR fuse links, it is necessary to apply a derating factor that determines the maximum allowable continuous current when these fuse links are installed in an NH base or in a fuse switch disconnector.

$$I_{MAX} = I_n \times C_L$$

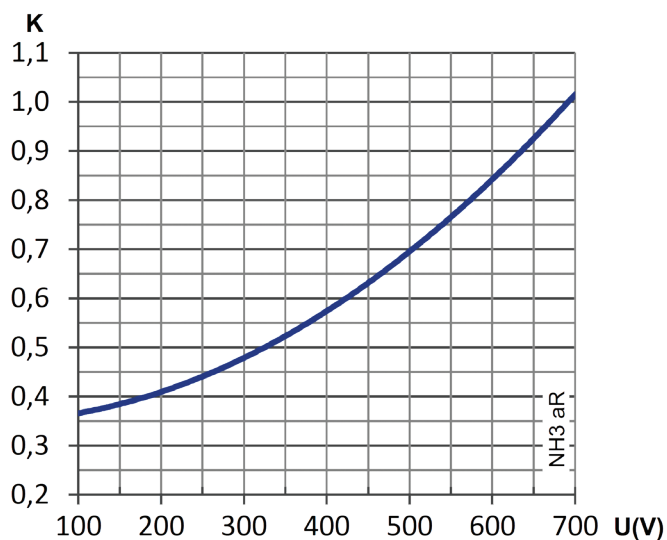
I_n (A)	OPEN TYPE FUSE BASES	FUSE SWITCH DISCONNECTORS
500	0,70	0,65
550	0,70	0,65
630	0,70	0,65
700	0,70	0,60
800	0,70	0,60
900	0,65	0,55
1000	0,60	0,50

Cut-off characteristics

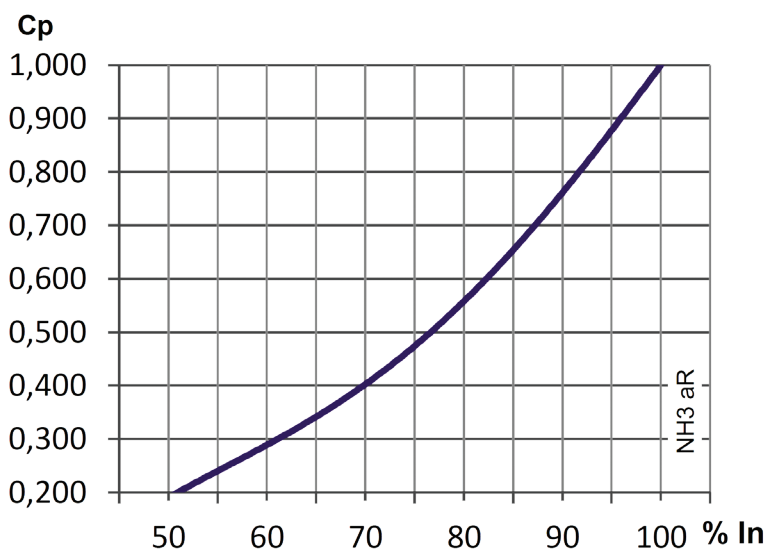




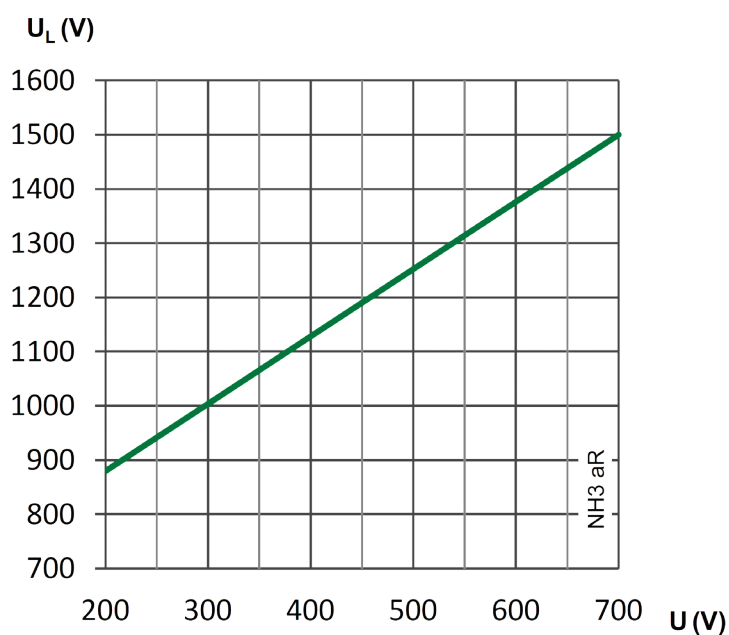
I²t Total clearing correction factor



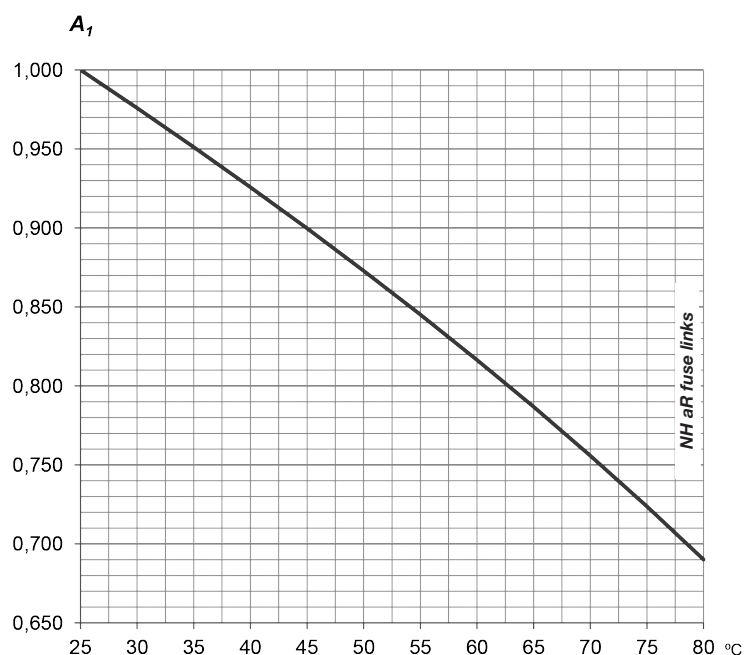
Power dissipation correction factor



Arc voltage



Ambient temperature correction coefficient



TECHNICAL CHARACTERISTICS

(Introduction)

I^2t Total clearing correction factor (C_K)

Total clearing I^2t values at rated voltage and at power factor of 0,15-0,20 are given in electrical characteristics tables.

For other voltages, clearing I^2t values can be calculated multiplying these values by correction factor C_K .

Power dissipation correction factor (C_P)

Power dissipation values are given at rated voltage (I_n) and at $0,8 \cdot I_n$ (80% of rated current). It is possible to calculate values of power dissipation for other currents multiplying these values by correction factor C_P for power loss as a function of % of rated current.

This value is very important to choose the appropriate fuse base to install these fuse links. The power dissipation of fuse link at the normal working conditions must be lower than the maximum value that the fuse base can withstand.

Arc voltage (U_L)

This graphic gives the peak arc voltage U_L that can appear across the fuse link during operation as a function of working voltage.

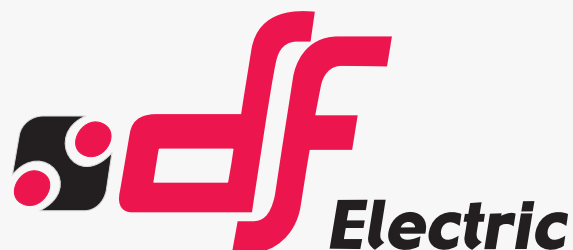
Fuse load constant (C_L)

Due to the high power dissipation of NH aR fuse links, it is necessary to apply a derating factor that determines the maximum allowable continuous current when these fuses are installed in an NH base or in a disconnector.

Ambient temperature correction coefficient (A_1)

Fuse current ratings are established by type tests with an ambient temperature of 25°C.

When the utilization ambient temperature is higher than this reference value, the fuse-link must be "de-rated". The rated current of fuse link must be multiplied by a derating factor A_1 to find the maximum operating current.



PROTECTING THE WORLD

HEAD OFFICE AND FACTORY

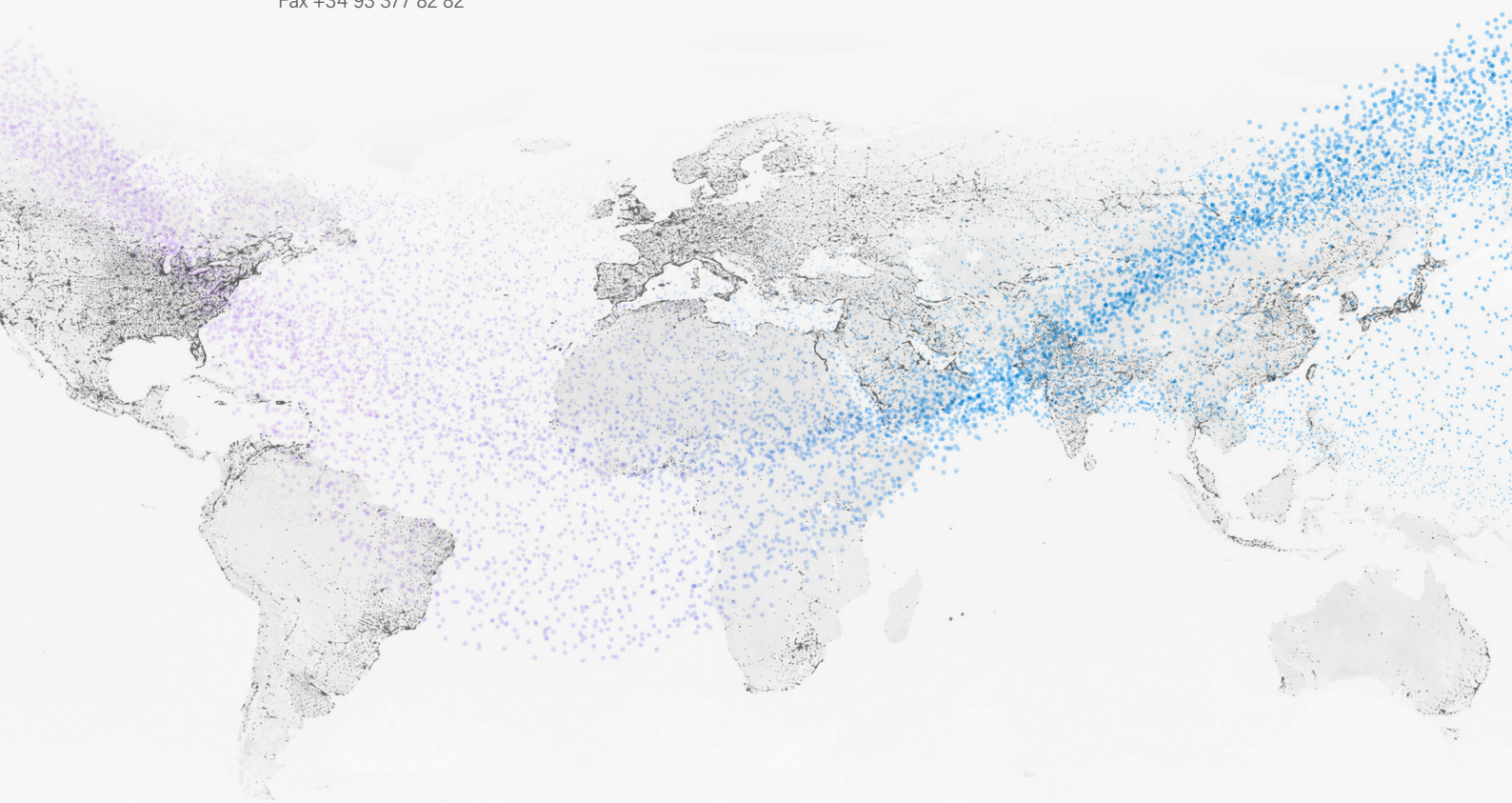
SILICI, 67-69
08940 CORNELLA DE LLOBREGAT
BARCELONA · SPAIN
Tel. +34 93 377 85 85
Fax +34 93 377 82 82

INTERNATIONAL SALES

Tel. +34 93 475 08 64
Fax +34 93 480 07 75
export@dfelectric.es

NATIONAL SALES

Tel. 93 475 08 64
Fax 93 480 07 76
comercial@dfelectric.es



dfelectric.es



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The "electro technical expert" logo marked on the products included in this data sheet indicates that the installation of these products must be carried out by expert personnel with specialized knowledge.



To prevent electrical hazards, carry out the installation without voltage.



Safety notice
Please capture the following QR code and read our safety notice carefully before installing our products.



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