df Electric

RAPIDPLUS

HIGH SPEED FUSE LINKS FOR SEMICONDUCTORS

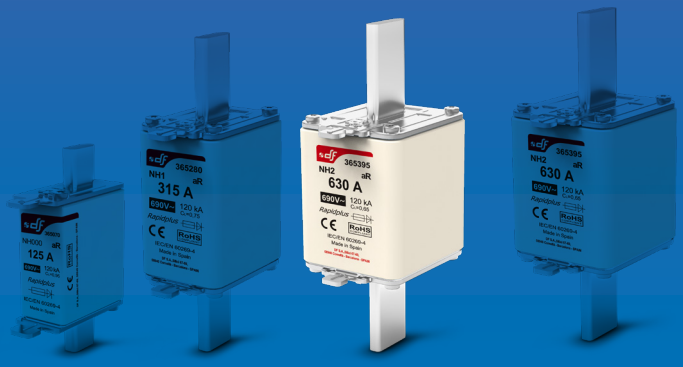
Rapidplus®

aR

NH

semiconductor protection fuse links

NH NH2



NH000 NH1 NH2 NH3

PROTECTING THE WORLD

dfelectric.es

Electric

aR
NH
semiconductor protection fuse links

NH2

RAPIDPLUS

Rapidplus®

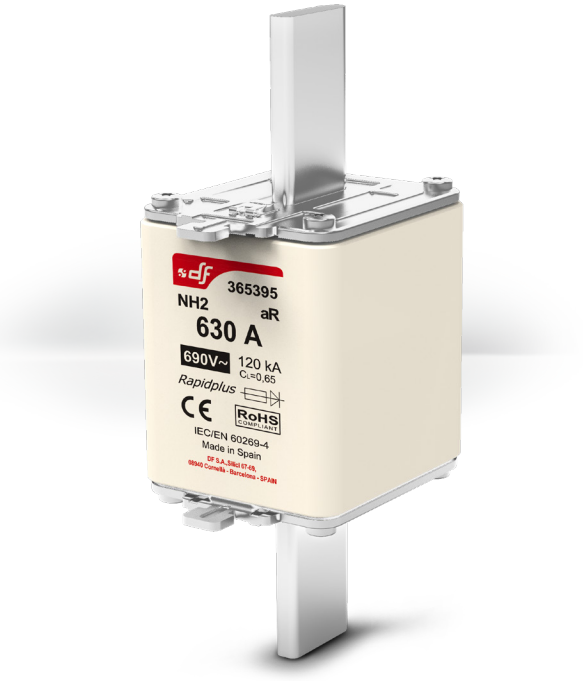
NH2

RATED VOLTAGE
690V AC

RATED CURRENT
200A...700A

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 NH2 690V AC 200A to 700A**

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.

RoHS COMPLIANT

Accessories

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

Range

In (A)	REFERENCE	PACKING Uni /BOX
200	**365350**	3/18
250	**365360**	3/18
315	**365370**	3/18
350	**365372**	3/18
400	**365380**	3/18
450	**365387**	3/18
500	**365390**	3/18
550	**365392**	3/18
630	**365395**	3/18
700	**365397**	3/18

aR
NH
semiconductor protection fuse links

RAPIDPLUS

Rapidplus®

NH2

Technical data

Rated voltage	690V AC 550V DC (L/R=10ms)
Rated current	200A...700A
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 25ºC it is necessary to apply a derating in maximum current.

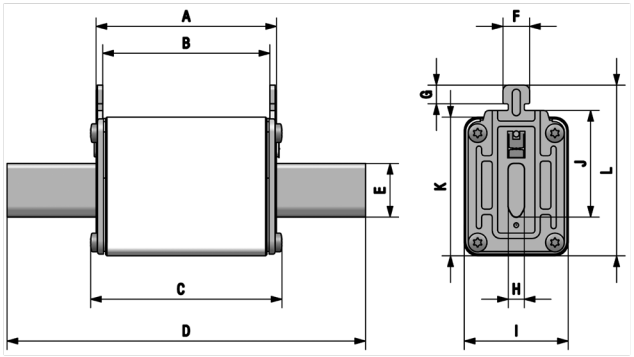
Standards

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

Dimensions



A	B	C	D	E	F	G	H	I	J	K	L
68	62	71,5	150	25	10	9,5	6	53	48	60	72

Weight 620gr

Power dissipation

I_n (A)	POWER DISSIPATION In (W)	POWER DISSIPATION 0,8 · In (A^2S)	PREARCING I^2t (A^2S)	OPERATING I^2t (A^2S)
200	95	53	1550	9430
250	100	56	3250	19670
315	102	57	6230	37720
350	104	58	9300	56340
400	129	72	13000	78700
450	137	77	17000	102000
500	148	83	23130	138830
550	152	85	32140	192840
630	170	95	47220	283330
700	178	99	68000	408000

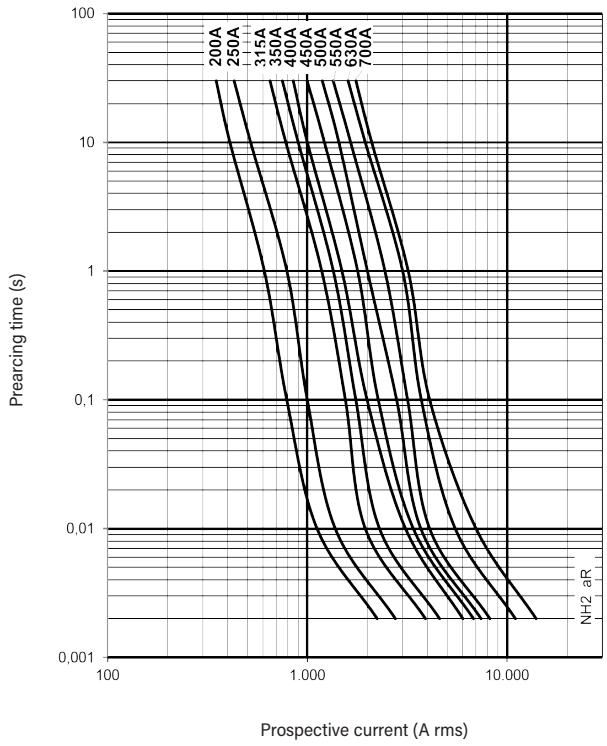
aR
NH
semiconductor protection fuse links

RAPIDPLUS

Rapidplus®

NH2

t-I characteristics



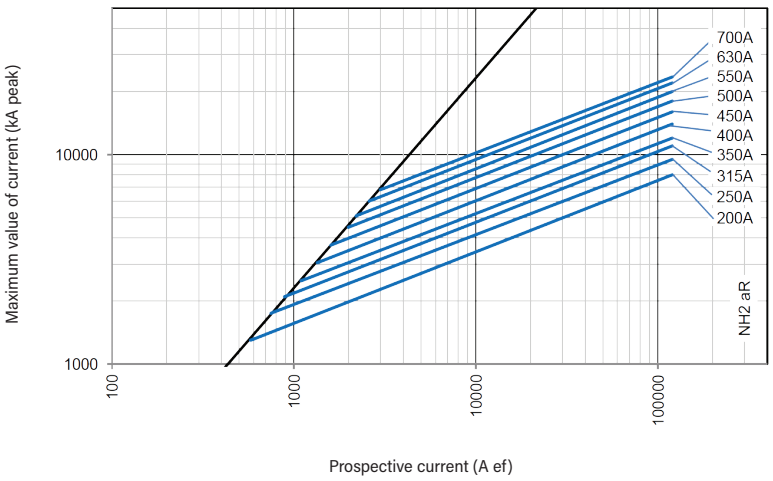
Fuse load constant

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
200	0,70	0,65
250	0,70	0,65
315	0,70	0,65
350	0,70	0,65
400	0,70	0,65
450	0,65	0,60
500	0,65	0,60
550	0,65	0,60
630	0,65	0,55
700	0,65	0,55

Cut-off characteristics



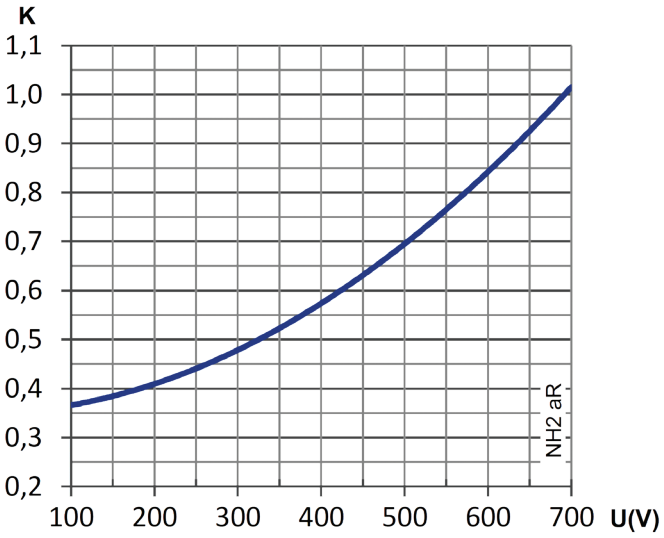
aR
NH
semiconductor protection fuse links

NH2

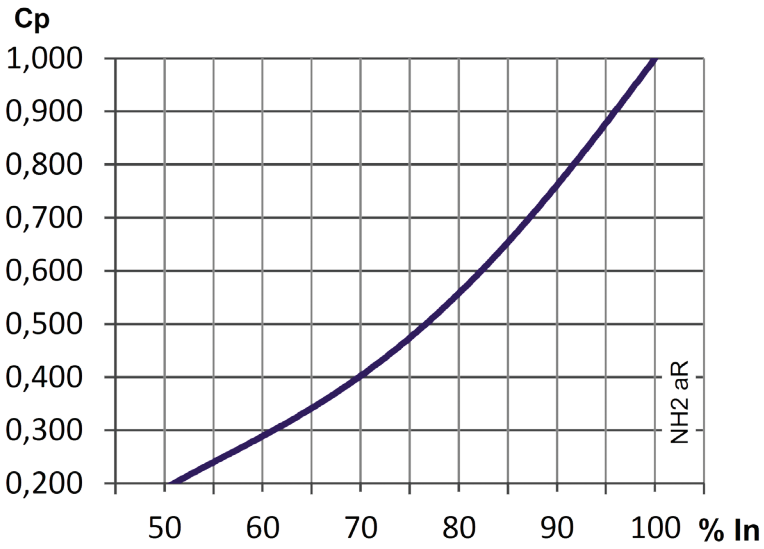
RAPIDPLUS

Rapidplus®

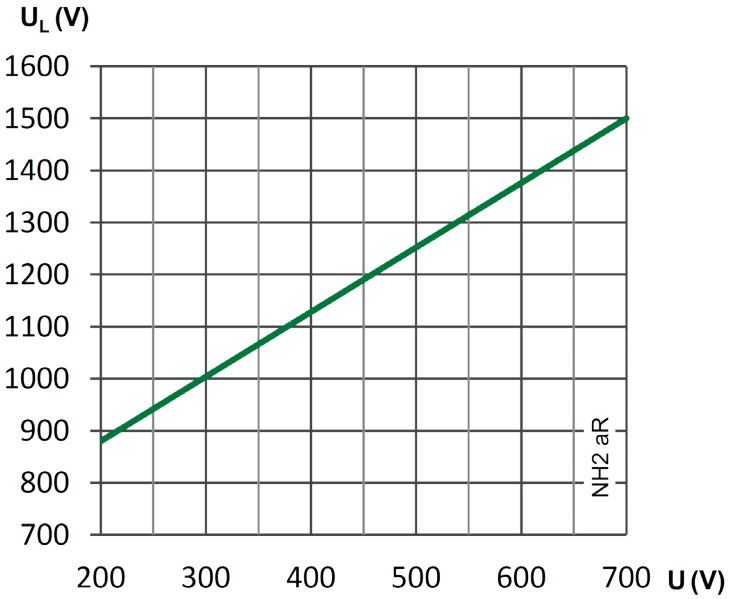
I²t Total clearing correction factor



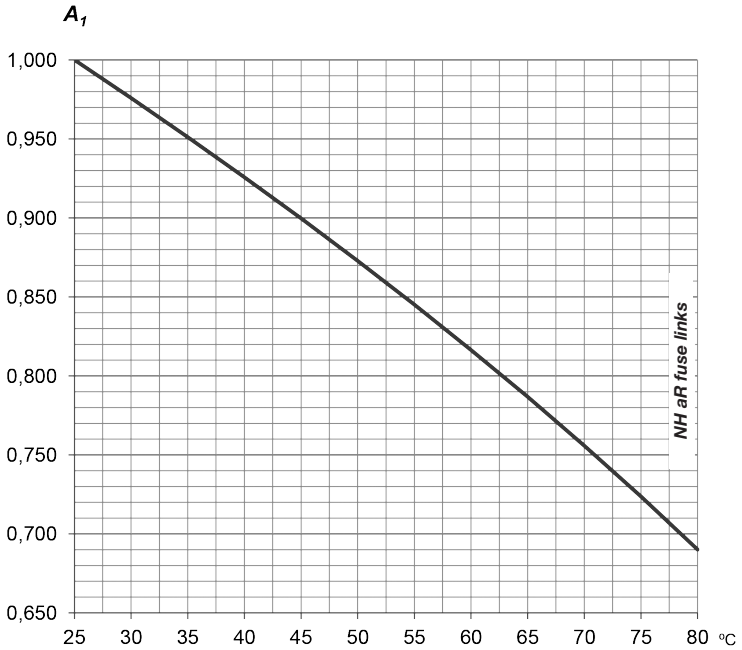
Power dissipation correction factor



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 $\mathbf{C_K}$.

Power dissipation correction factor (C_P)

Power dissipation values are given at rated voltage (In) 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 $\mathbf{U_L}$, 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.

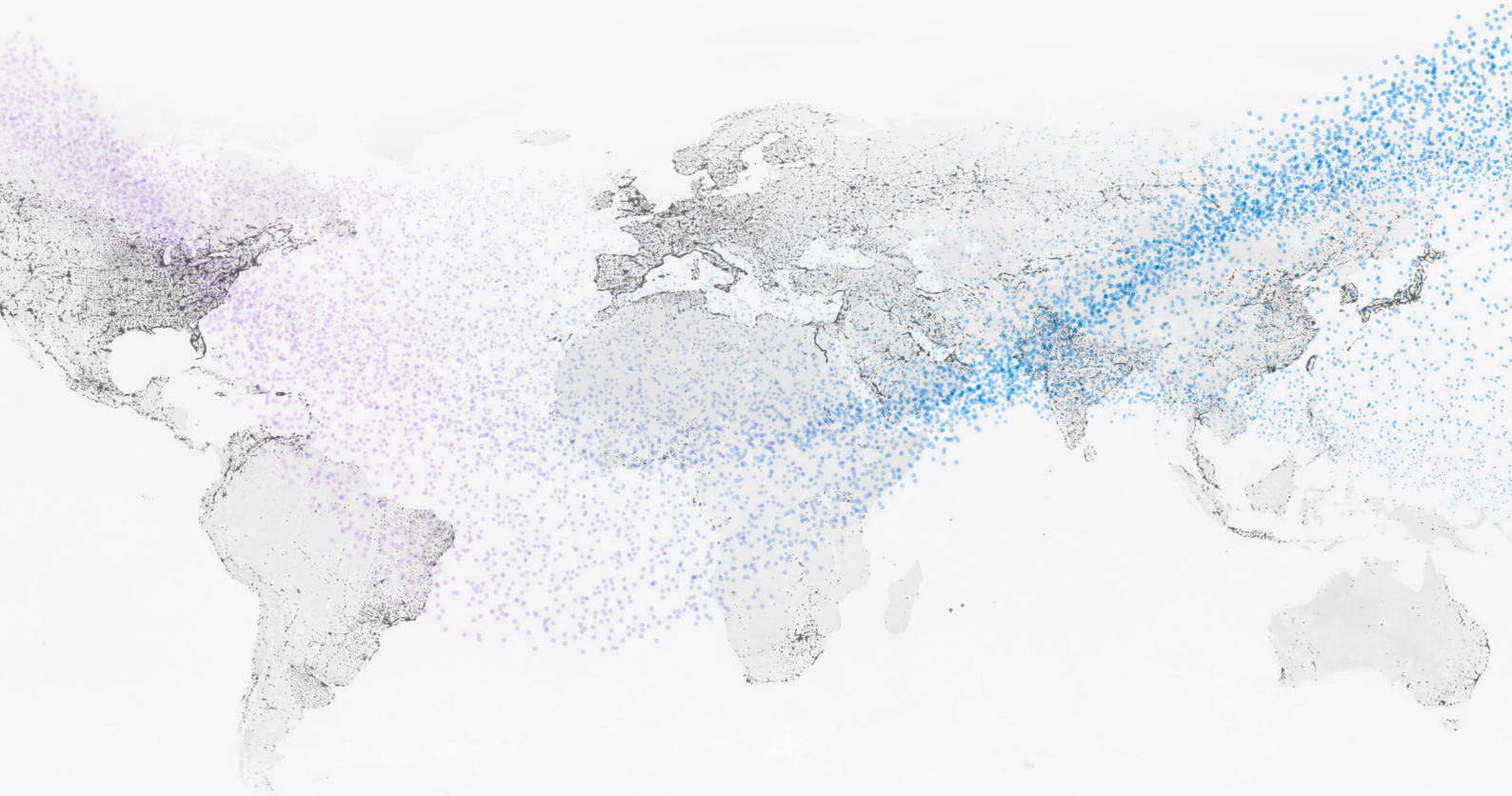
When the utilization ambient temperature is higher than this reference value, the fuse-link must be "de-rated". The rated current of fuse link must be multiplied by a derating factor A_1 to find the maximum operating current.

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

FABRICADO EN ESPAÑA
MADE IN SPAIN

According to the waste of electrical and electronic equipment directive, electrical material should not be part of the usual waste. This symbol alerts users that these products should be recycled according to local environmental waste disposal regulations.

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.

The data reflected in this technical record are subject to the correct installation of the product in accordance with manufacturer's instructions, relevant installation standards and professional practices, maintained and used in applications for which they were made.

The products described in this document have been designed, developed and tested in accordance with specific standard. They are considered components that are integrated as part of installation, machine or equipment. The correct general operation of the referred product is responsibility of the manufacturer of the installation, machine or equipment.

DF ELECTRIC cannot guarantee the characteristics of an installation, machine or equipment that has been designed by a third party. Once a product has been selected, the user must verify that it is appropriate for its application, through the verifications and/or tests that it deems appropriate.

DF ELECTRIC retains the right to change the dimensions, specifications, materials or design of its products at any time with or without notice.