Electric

RAPIDPLUS

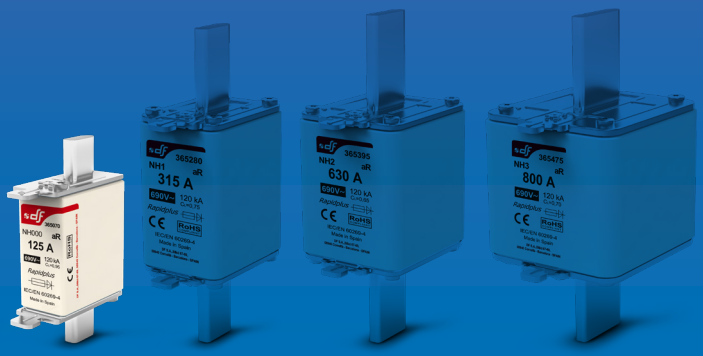
HIGH SPEED FUSE LINKS FOR SEMICONDUCTORS

Rapidplus®

aR
NH

semiconductor protection
fuse links

NH NH000



NH000 NH1 NH2 NH3

PROTECTING
THE WORLD

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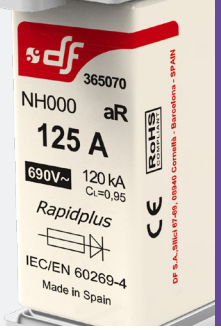

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RAPIDPLUS

Rapidplus®

NH000

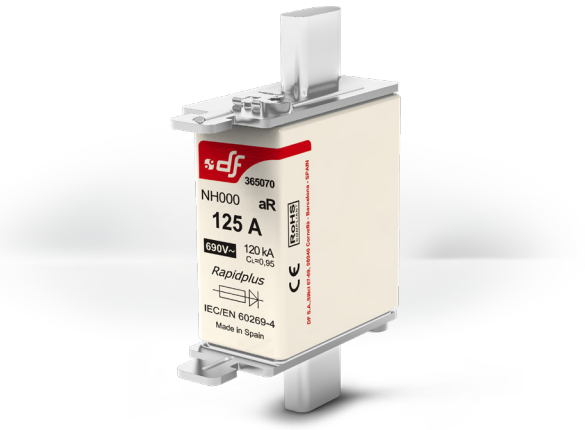
NH000

RATED VOLTAGE
690V AC

RATED CURRENT
16A...250A

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 NH000 690V AC 16A to 250A**

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.

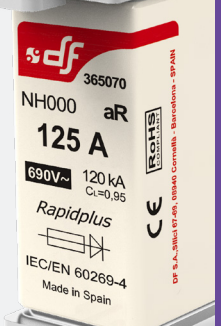
RoHS COMPLIANT

Accessories

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

Range

In (A)	REFERENCE	PACKING Uni /BOX
16	**365020**	3/90
20	**365025**	3/90
25	**365030**	3/90
32	**365035**	3/90
40	**365045**	3/90
50	**365050**	3/90
63	**365055**	3/90
80	**365060**	3/90
100	**365065**	3/90
125	**365070**	3/90
160	**365075**	3/90
200	**365080**	3/90
250	**365085**	3/90



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semiconductor protection fuse links

NH000

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Technical data

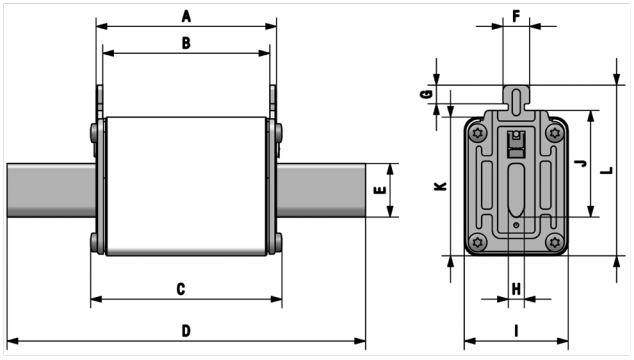
Rated voltage	690V AC 440V DC (L/R=10ms)
Rated current	16A...250A
Rated breaking capacity	120kA @690V AC 30kA @440V DC
Operating class	aR
Rated frequency	42...62Hz
Storage temperature	-40°C ... 80°C
Operating temperature *	-25°C ... 60°C

* 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

Dimensions



A	B	C	D	E	F	G	H	I	J	K	L
49	45	52	78,5	15	10	9,5	6	21	35	40	53

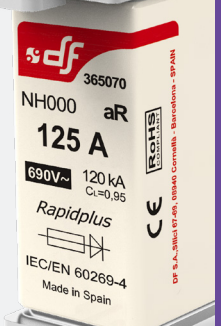
Weight 120gr

Materials

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

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)
16	4,5	2,5	7	62
20	5,2	2,9	15	121
25	6,8	3,8	24	200
32	8	4,5	33	213
40	9,1	5,1	59	379
50	9,5	5,3	157	1000
63	12	6,9	290	2270
80	15	8,4	550	4300
100	17	9,5	720	5880
125	20	11	1410	11540
160	26	15	2340	19080
200	36	20	3490	28500
250	46	26	6500	53000



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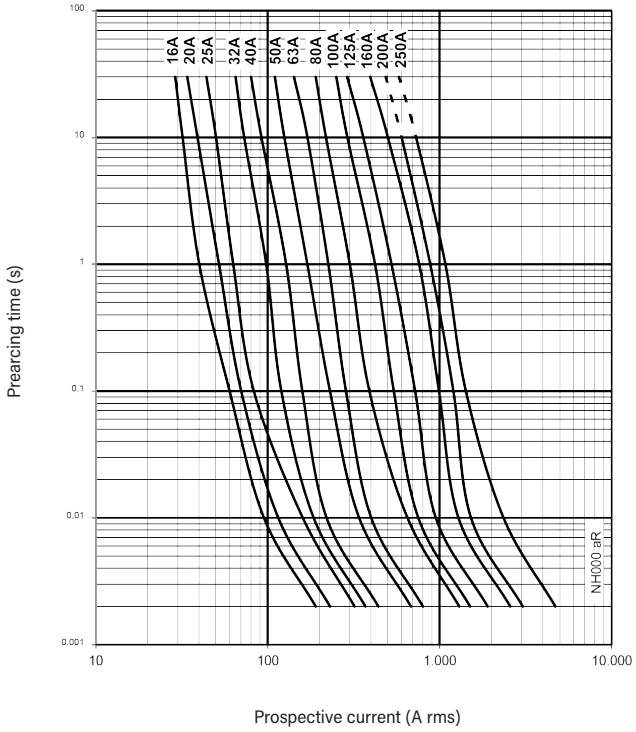
t-I characteristics



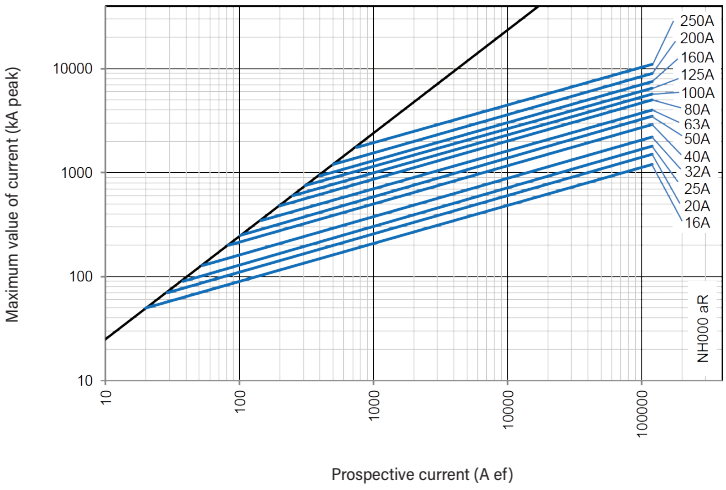
Fuse load constant

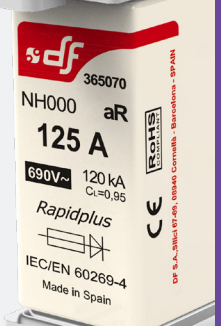
Due to the high power dissipation of NH aR fuse links, it is necessary to apply a derating factor that determines the maximum allowable continuous current when these fuse links are installed in an NH base or in a fuse switch disconnector.

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

I_n (A)	OPEN TYPE FUSE BASES	FUSE SWITCH DISCONNECTORS
16	1	1
20	1	1
25	1	1
32	1	1
40	1	1
50	1	1
63	1	1
80	1	0,95
100	1	0,90
125	0,95	0,85
160	0,90	0,75
200	0,80	0,70
250	0,80	0,60

Cut-off characteristics





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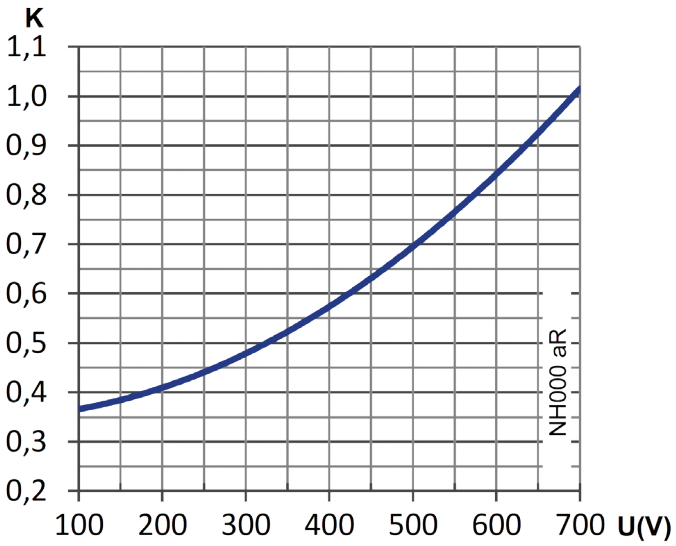
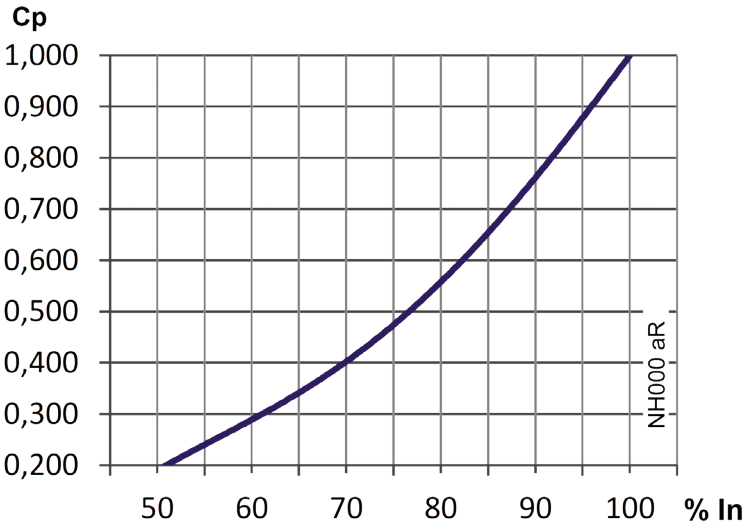
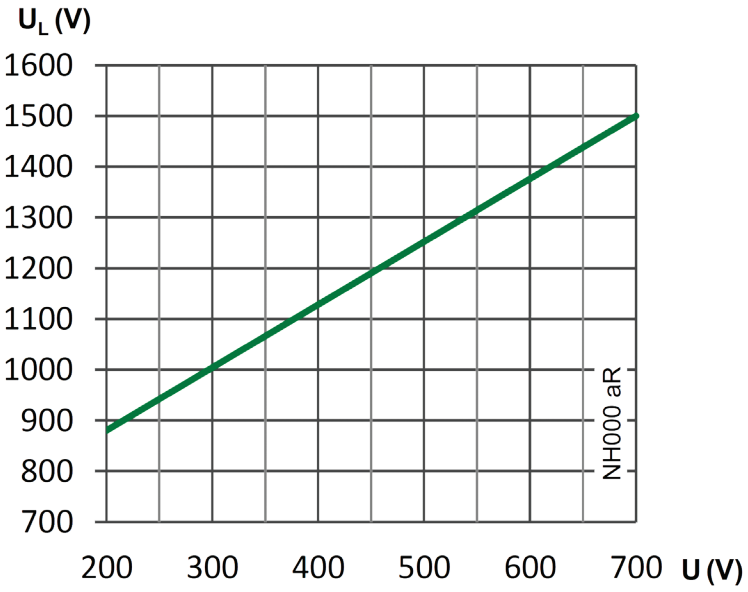
I²t Total clearing correction factor



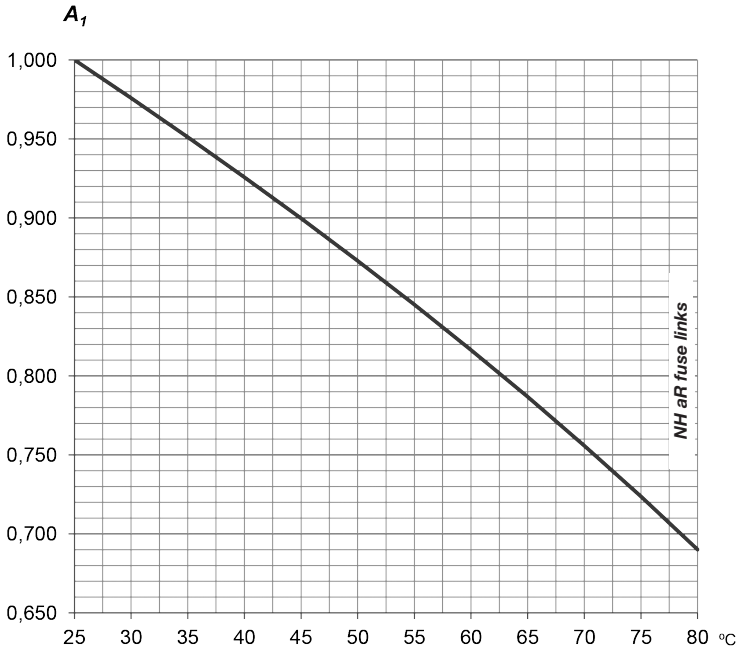
Power dissipation correction factor

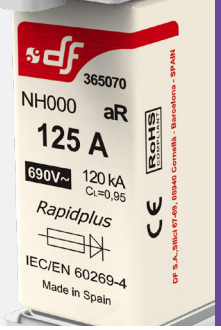


Arc voltage



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

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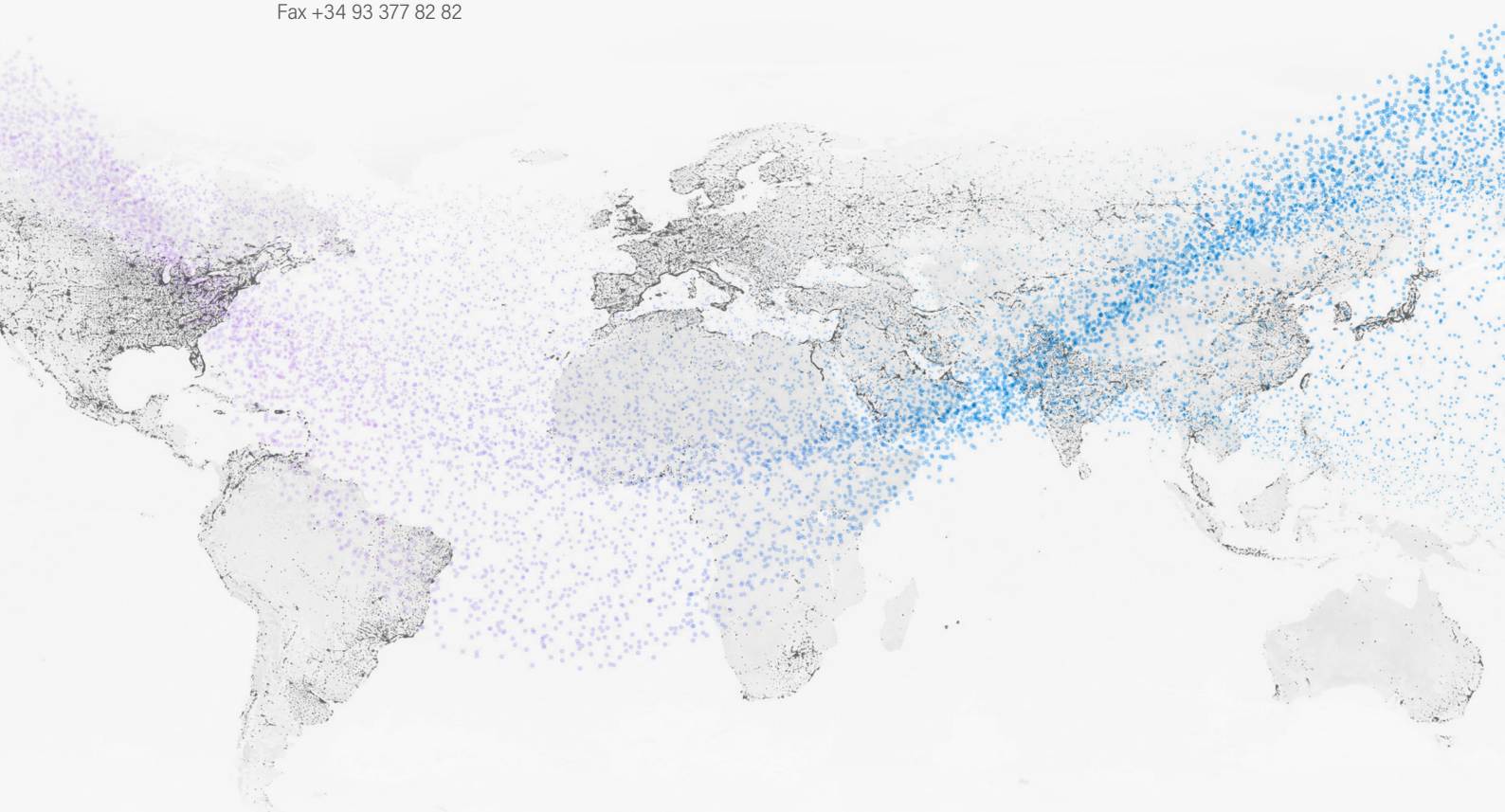

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MADE IN SPAIN

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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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