Chanan

CHANGAN ELECTRIC

>> Fuse Series

CHANGAN GROUP CO.,LTD.

COMPANY INTRODUCTION

Changan Group Co., Ltd., is a Chinese enterprise founded in 1987, focusing on the industrial electrical appliance industry and integrating R&D, manufacturing, and trade. It is in the Economic Development Zone of Yueqing City, Zhejiang Province.

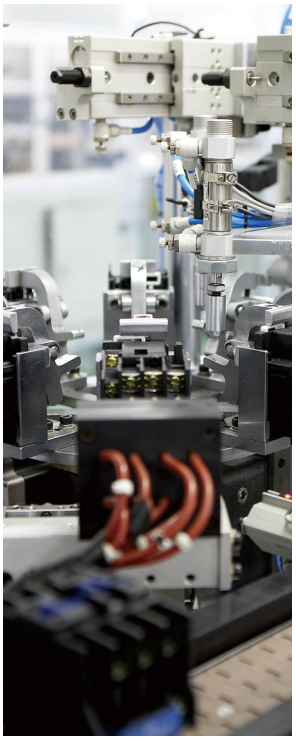
The group comprises three major manufacturing companies: Zhejiang Changan Electrical Engineering Co., Ltd., which specializes in the professional development and production of breakers, contactors, smart controllers, and other export-oriented products. Zhejiang Changan Transmission and Distribution Technology Co., Ltd. develops and produces medium and low voltage switchgears of 35KV and below, comprehensive compensation cabinets, power transformers, and related products of complete sets of power equipment. Zhejiang Changan New Energy Technology Co., Ltd. is dedicated to developing and manufacturing AC & DC EV Chargers, Photovoltaic supporting power equipment, and other related products.

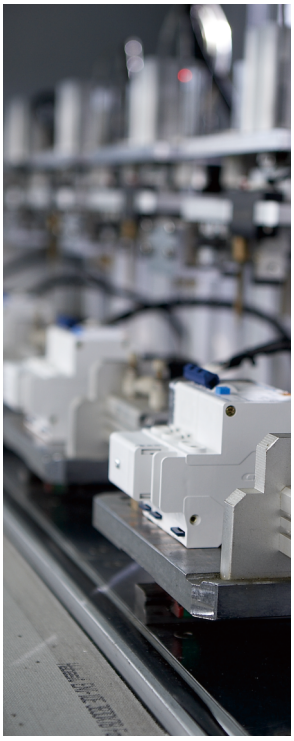
Changan Group has obtained ISO9001 quality system certification, and some products have also obtained CE, CB, TUV, UKCA, SEMKO, VDE, SAA, and other certifications. The products are highly regarded and have a presence in over 80 countries and regions around the world.

Changan Group adheres to the corporate philosophy of "Quality First, Customer First," and the tenet of "Serving Electric Power Intelligence." The company is committed to becoming an outstanding supplier in China's electrical industry with international ingenuity by constantly developing and innovating.

With a new image, a new starting point, and a new dream, Changan Group will continue to work hard to provide customers with better products and services.

WORKSHOP





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NH Fuse Series

Photovoltaic Fuse Series

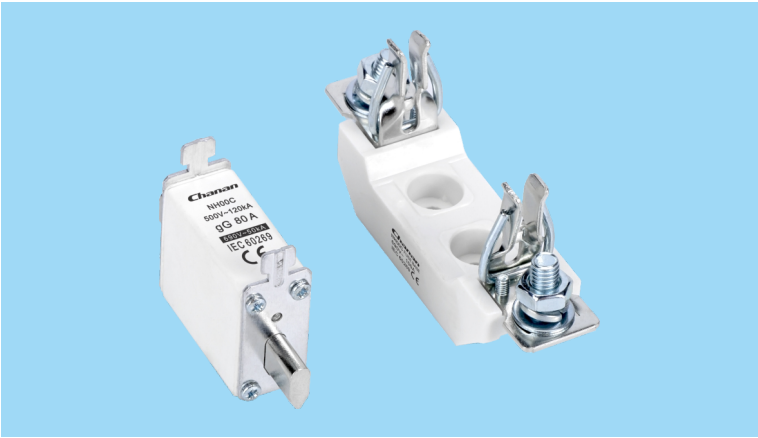
NH Fuse Links Overview

NH fuses, also known as NH Knife Blade Fuses or DIN NH Blade Fuses, They were primarily designed as general-purpose fuses for the protection of conductors. These fuses conform with IEC 60269 standards. It is important to note that NH fuses are one-time fuses, which means that once they have blown, they must be replaced with a new fuse that has the same characteristics.

Different types and applications of NH Fuse links

Application	Type	NH Fuse Size	Voltage
General Purpose	gL / gG	000 to 4a	500VAC to 690VAC
Motor protection	aM	000 to 4a	500VAC to 690VAC
Semiconductor protection	aR / gR	000 to 3	690V AC/DC
Semiconductor protection	aR / gR	000 to 3	1000V AC/DC
Solar PV protection	gPV	00 to 3	1000VDC
Battery protection	gS	000 to 3	440VDC to 550VDC

aR, gR	Protection of semiconductor devices, Very Fast Acting fuse
gL, gG	General Purpose, Fast Acting fuse
aM	Motor Protection, Slow Acting fuse
gPV	Protection of solar photovoltaic arrays
gS	Protection of Batteries



NH000

General

Rated voltage: 500VAC, 690VAC

Rated current: 2A~100A

Breaking capacity: 120kA(500VAC), 50kA(690VAC)

Rated frequency: 50Hz

Utilization category: gG/gL

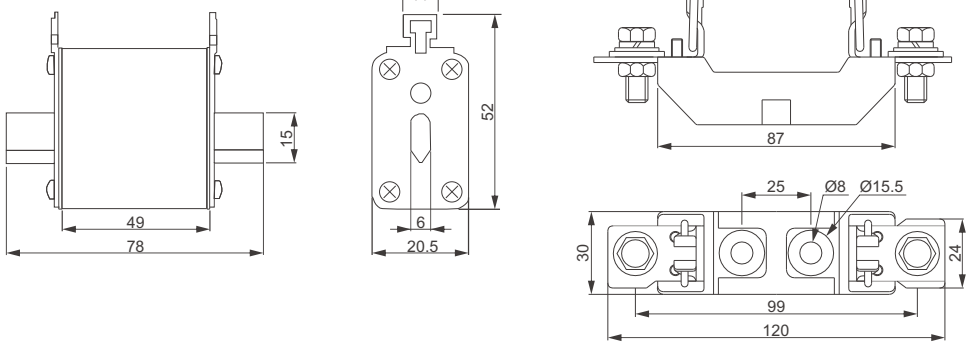
Pollution level: Level 3

Installation category: Class III

Main Technical Data

Model	Equivalent models	Rated current (A)	Rated voltage (V)	I^2t (Amps^2 seconds)		Power loss (W)
				Pre-arcing	I_1 120kA at 500V	
NH000-2A	RT16-000 NT000 RT20-000 RO30A 3NA3	2	500 690	3	6	3.9
NH000-4A		4		6	12	1.8
NH000-6A		6		14	21	2
NH000-10A		10		58	290	1.5
NH000-16A		16		234	1200	2.3
NH000-20A		20		490	2500	2.2
NH000-25A		25		920	4600	3.1
NH000-32A		32		1800	9000	3.4
NH000-35A		35		2400	11800	3.7
NH000-40A		40		3300	16500	4
NH000-50A		50		5900	29500	4.9
NH000-63A		63		6300	24900	4.6
NH000-80A		80		9800	38900	6.3
NH000-100A		100		18100	72300	7.4

Dimension (mm)



NH00

General

Rated voltage: 500VAC, 690VAC

Rated current: 50A~160A

Breaking capacity: 120kA(500VAC), 50kA(690VAC)

Rated frequency: 50Hz

Utilization category: gG/gL

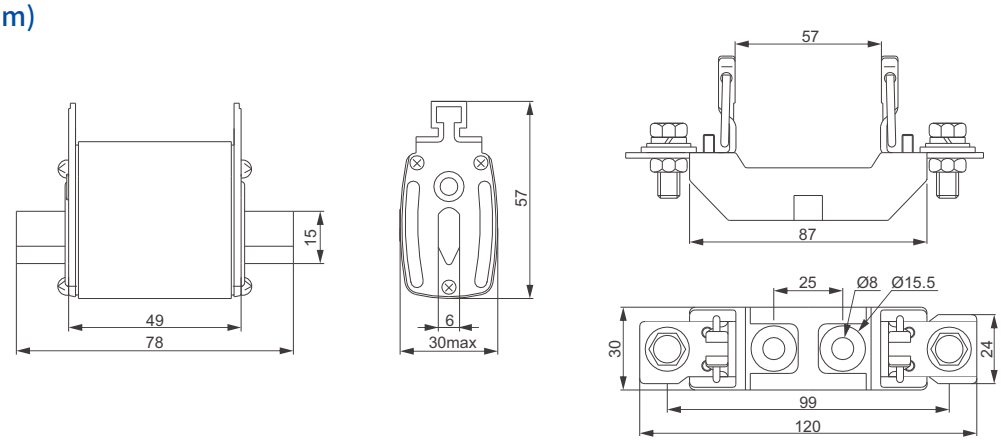
Pollution level: Level 3

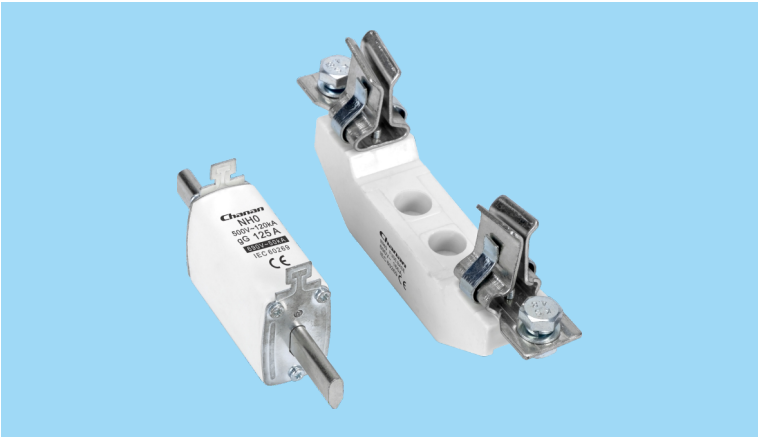
Installation category: Class III

Main Technical Data

Model	Equivalent models	Rated current (A)	Rated voltage (V)	I^2t (Amps^2 seconds)		Power loss (W)
				Pre-arcing	I_1 120kA at 500V	
NH00-50A	RT16-00 NT00 RT20-00 RO31 3NA3	50	500 690	5800	21500	5
NH00-63A		63		5800	25000	5
NH00-80A		80		11000	35000	7
NH00-100A		100		19000	60000	7.5
NH00-125A		125		25000	125000	10
NH00-160A		160		64000	310000	10

Dimension (mm)





NH0

General

Rated voltage: 500VAC, 690VAC

Rated current: 20A~160A

Breaking capacity: 120kA(500VAC), 50kA(690VAC)

Rated frequency: 50Hz

Utilization category: gG/gL

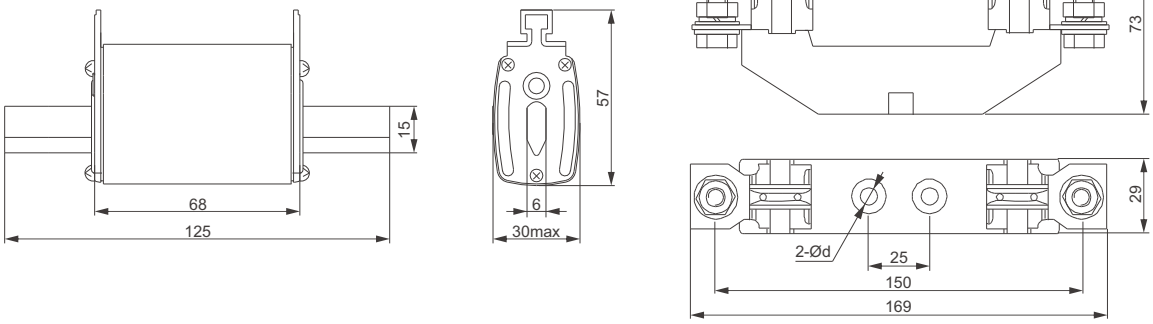
Pollution level: Level 3

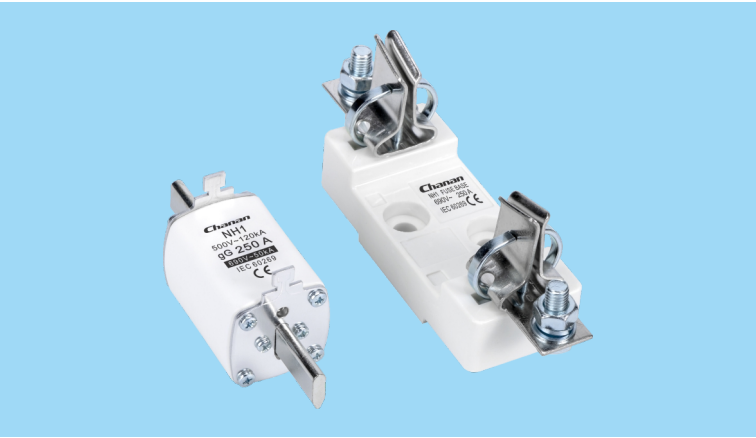
Installation category: Class III

Main Technical Data

Model	Equivalent models	Rated current (A)	Rated voltage (V)	I^2t (Amps² seconds)		Power loss (W)
				Pre-arcing	I_1 120kA at 500V	
NH0-20A	RT16-0 NT0 RT20-0 RO31B 3NA3	20	500 690	490	2500	3.5
NH0-25A		25		1200	5600	3.2
NH0-32A		32		1800	9000	4.8
NH0-35A		35		2400	11800	4.7
NH0-40A		40		3300	16500	5
NH0-50A		50		5600	27800	6.3
NH0-63A		63		6600	26100	5.6
NH0-80A		80		9800	38900	7.1
NH0-100A		100		20600	82300	7.5
NH0-125A		125		25000	125000	11.8
NH0-160A		160		62000	310000	12.3

Dimension (mm)





NH1

General

Rated voltage: 500VAC, 690VAC

Rated current: 50A~250A

Breaking capacity: 120kA(500VAC), 50kA(690VAC)

Rated frequency: 50Hz

Utilization category: gG/gL

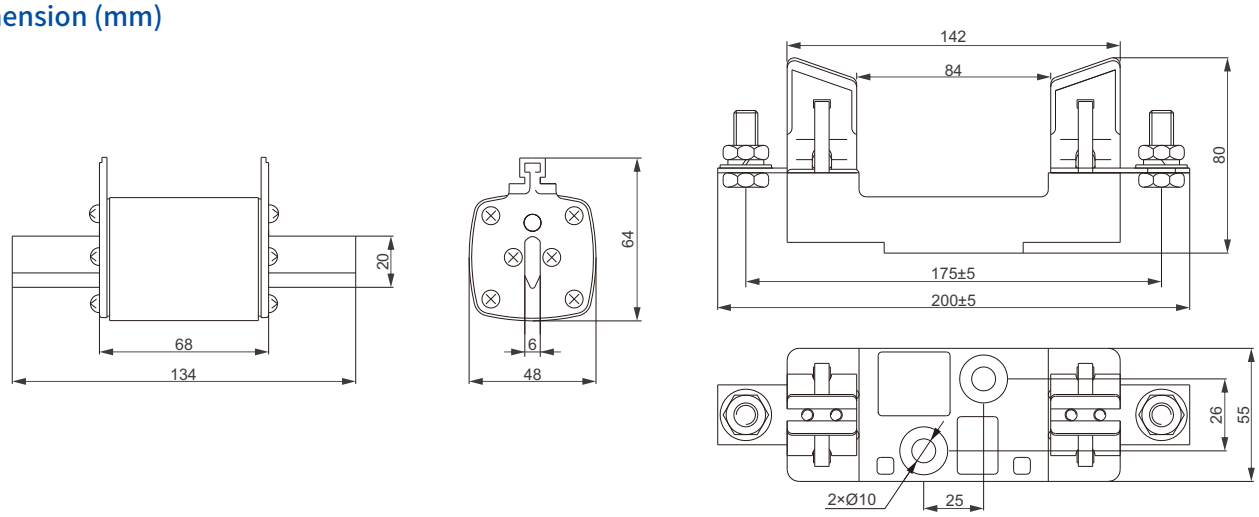
Pollution level: Level 3

Installation category: Class III

Main Technical Data

Model	Equivalent models	Rated current (A)	Rated voltage (V)	I^2t (Amps^2 seconds)		Power loss (W)
				Pre-arcing	I_1 120kA at 500V	
NH1-50A	RT16-1 NT1 RT20-1 RO32 3NA3	50	500 690	6350	18000	6.4
NH1-63A		63		6800	23000	5.6
NH1-80A		80		10500	31200	7.7
NH1-100A		100		22000	68200	8.2
NH1-125A		125		29000	82000	13
NH1-160A		160		62000	310000	12.3
NH1-200A		200		97000	368600	15
NH1-224A		224		124000	471200	18
NH1-250A		250		151300	574900	19

Dimension (mm)



NH2

General

Rated voltage: 500VAC, 690VAC

Rated current: 250A~400A

Breaking capacity: 120kA(500VAC), 50kA(690VAC)

Rated frequency: 50Hz

Utilization category: gG/gL

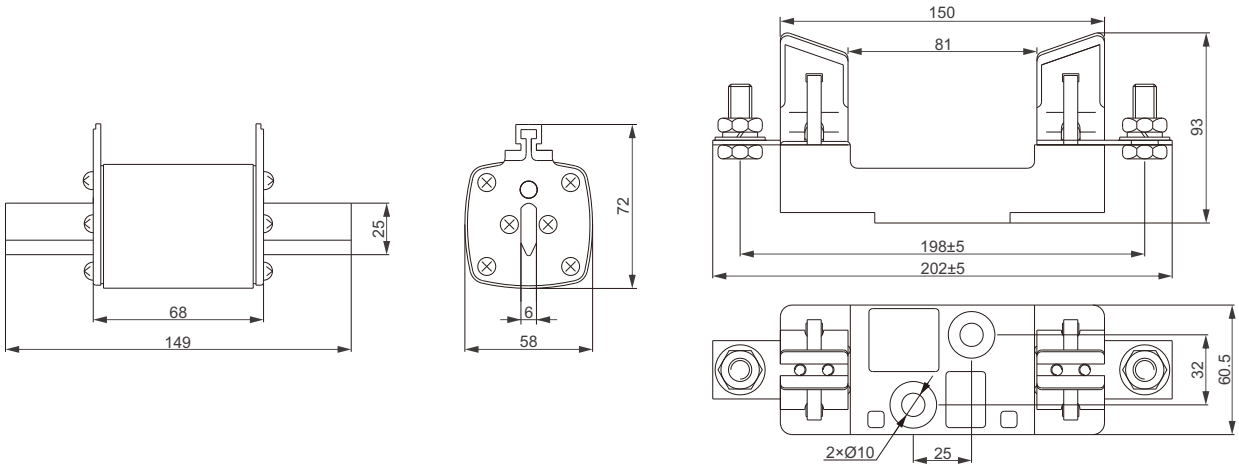
Pollution level: Level 3

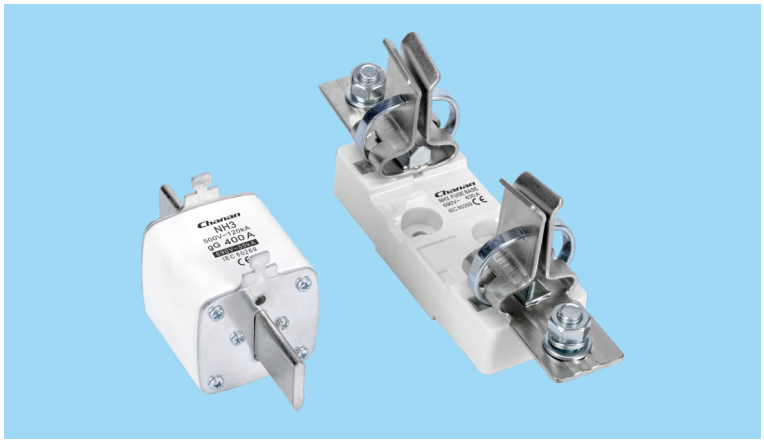
Installation category: Class III

Main Technical Data

Model	Equivalent models	Rated current (A)	Rated voltage (V)	I^2t (Amps^2 seconds)		Power loss (W)
				Pre-arcing	I_1 120kA at 500V	
NH2-250A	RT16-2 NT2 RT20-2 RO33 3NA3	250	500 690	170000	437000	23
NH2-200A		300		320000	840000	20
NH2-315A		315		361700	1446500	21
NH2-355A		355		446500	1785800	27
NH2-400A		400		642900	2571500	30

Dimension (mm)





NH3

General

Rated voltage: 500VAC, 690VAC

Rated current: 315A~630A

Breaking capacity: 120kA(500VAC), 50kA(690VAC)

Rated frequency: 50Hz

Utilization category: gG/gL

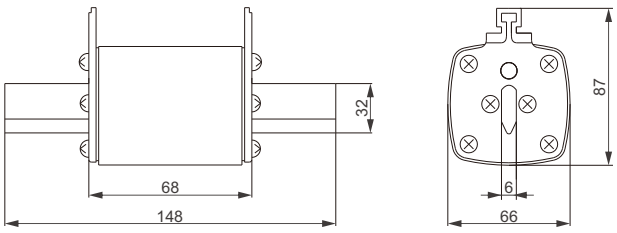
Pollution level: Level 3

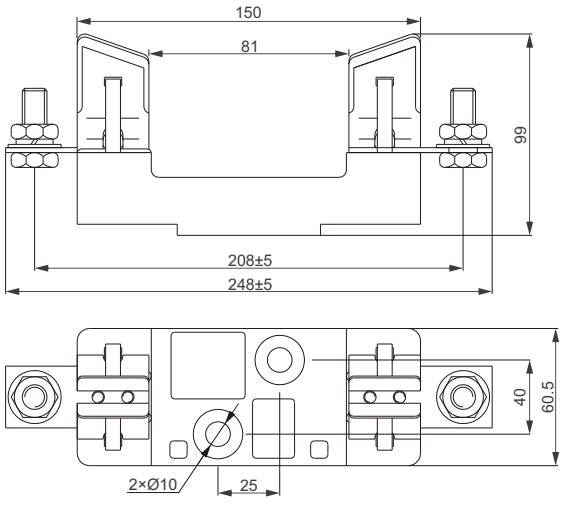
Installation category: Class III

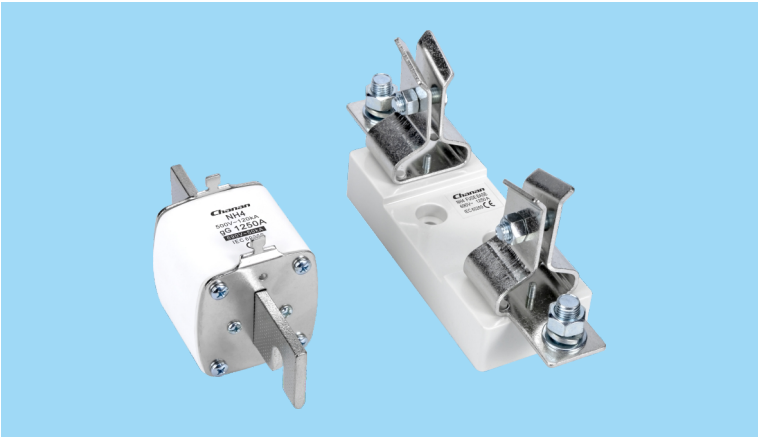
Main Technical Data

Model	Equivalent models	Rated current (A)	Rated voltage (V)	I^2t (Amps^2 seconds)		Power loss (W)
				Pre-arcing	I_1 120kA at 500V	
NH3-315A	RT16-3 NT3 RT20-3 RO34 3NA3	315	500 690	375000	970000	22
NH3-355A		355		400000	1110000	25
NH3-400A		400		642900	2571500	30
NH3-425A		425		570000	1934000	30
NH3-450A		450		670000	2260000	33
NH3-500A		500		886000	3898400	37
NH3-630A		630		1590000	6996000	47

Dimension (mm)







NH4

General

Rated voltage: 500VAC, 690VAC

Rated current: 500A~1250A

Breaking capacity: 120kA(500VAC), 50kA(690VAC)

Rated frequency: 50Hz

Utilization category: gG/gL

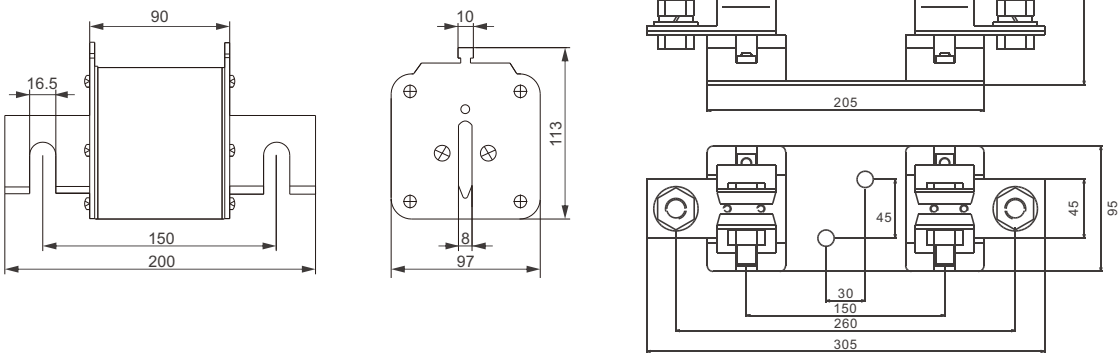
Pollution level: Level 3

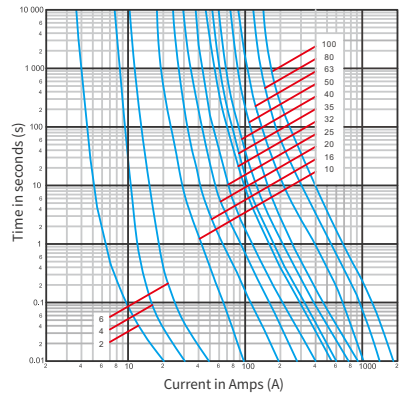
Installation category: Class III

Main Technical Data

Model	Equivalent models	Rated current (A)	Rated voltage (V)	I^2t (Amps^2 seconds)		Power loss (W)
				Pre-arcing	I_1 120kA at 500V	
NH4-500A	RT16-4 NT4 RT20-4 RO39 3NA3	500	500 690	800000	3850000	37
NH4-630A		630		880000	4100000	48
NH4-800A		800		1500000	6480000	68
NH4-1000A		1000		4800000	13000000	80
NH4-1250A		1250		7000000	18000000	108

Dimension (mm)





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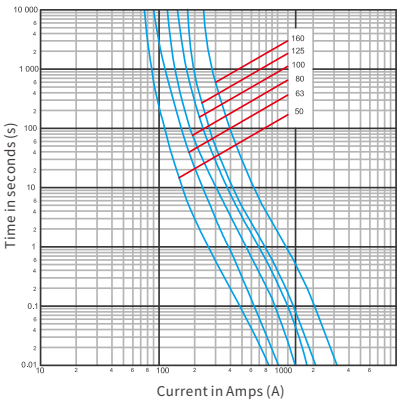
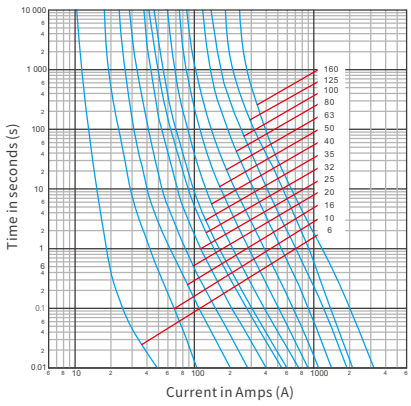


NH00



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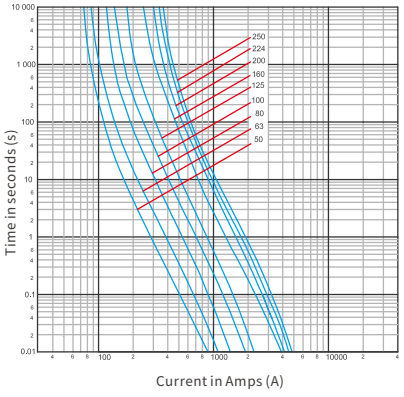

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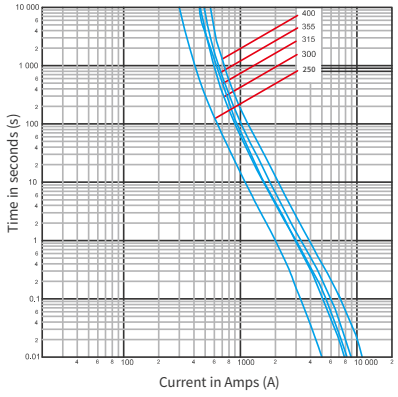

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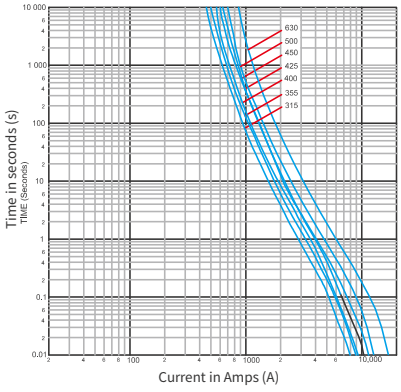

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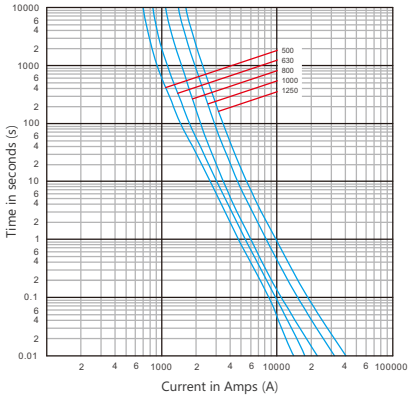


NH4

Fuse Protection of PV Strings

Photovoltaic (PV) fuses are a critical component in solar energy systems. They are designed to provide protection for cables and PV modules from line-line, line-ground, and mismatch faults. Their primary purpose is to prevent fire and safely open a faulted circuit in the event of an overcurrent situation. By incorporating PV fuses, we can ensure the safety of people and equipment while maximizing system efficiency.

Changan's series photovoltaic gPV solar fuses are specifically designed to protect DC systems up to 1500 VDC. They are suitable for the DC protection of solar panels, combiner boxes, and battery storage etc.

Some key considerations when selecting photovoltaic fuses:

1.**Rated Voltage:** The voltage rating of a fuse must be greater than or equal to the maximum system voltage.

2.**Rated Current:** The fuse should be rated to carry the maximum current that your PV system can produce but not too high that it wouldn't protect the system in case of an overcurrent situation.

3.**Breaking Capacity:** This is the maximum current that can safely be interrupted by the fuse. Fuse datasheets often include breaking current-time characteristics, which can be helpful in determining the appropriate fuse.

4.**Environmental Considerations:** PV fuses must be able to withstand the environmental conditions where they will be installed. This includes temperature extremes, humidity, and exposure to sunlight.

5.**Standards Compliance:** Ensure that the chosen fuse complies with all relevant standards and regulations.

Remember, installing an appropriately rated fuse is essential to protect your solar panel system from potential damage due to overcurrent or short circuit situations. It's always a clever idea to consult with a professional if you're unsure about which fuse to choose.

Fuse Base Product Selection Guide

CA	F	1	–	10	X	PV	–	10
Company Code	Fuse Base	Design No.		DC Voltage Grade: 10: 1000VDC 15: 1500VDC	Blank: Without Lamp X : With Lamp	For Solar DC system: PV: General type PVH: High enclosurer type (for CAF1-10PVH-10 new type only)		Fitting to Size of Fuse link: 10: for 10x38mm 1000V 10L: for 10x85mm 1500V 14L: for 14x85mm 1500V

CAFL10D10

General

Rated voltage: 1000V

Rated current: 2A~32A

Core size: 10×38mm

Utilization category: gPV

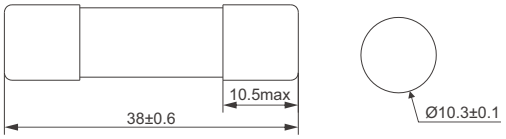
Standard: IEC60269-6

Breaking capacity: 30kA

Main Technical Data

Model	Rated current (A)	I^2t (Amps^2 seconds)		Power loss (W)	
		Pre-arcing	Total clear	0.8In	1.0In
CAFL10D1002	2	1.2	3.3	0.68	1.36
CAFL10D1003	3	3.9	11	0.75	1.42
CAFL10D1004	4	10	27	0.94	1.58
CAFL10D1005	5	18	48	0.98	1.83
CAFL10D1006	6	31	89	1.10	1.84
CAFL10D1008	8	3.1	31	1.13	1.86
CAFL10D1010	10	7.2	68	1.21	2.08
CAFL10D1012	12	16	136	1.38	2.62
CAFL10D1015	15	24	215	1.67	2.95
CAFL10D1020	20	38	392	1.92	3.12
CAFL10D1025	25	71	508	2.10	3.46
CAFL10D1030	30	102	821	2.30	3.78
CAFL10D1032	32	264	1020	2.60	4.20

Dimension (mm)



CAFL15D10L

General

Rated voltage: 1500V

Rated current: 2A~35A

Core size: 10×85mm

Utilization category: gPV

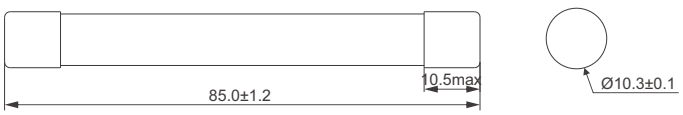
Standard: IEC60269-6

Breaking capacity: 50kA

Main Technical Data

Model	Rated current (A)	I^2t (Amps^2 seconds)		Power loss (W)	
		Pre-arcing	Total clear	0.8In	1.0In
CAFL10D1002	2	4	8	1.0	2.0
CAFL10D1003	3	6	11	1.1	2.1
CAFL10D1004	4	8	14	1.2	2.2
CAFL10D1005	5	11	22	1.4	2.4
CAFL10D1006	6	15	30	1.5	2.6
CAFL10D1008	8	9	35	1.8	3.0
CAFL10D1010	10	10	98	2.2	3.5
CAFL10D1012	12	12	120	2.5	3.8
CAFL10D1015	15	14	170	3.0	4.8
CAFL10D1020	20	34	400	3.5	6.2
CAFL10D1025	25	65	550	4.0	7.2
CAFL10D1030	30	95	750	4.5	8.3
CAFL10D1032	32	116	792	4.8	8.9
CAFL10D1035	35	143	980	5.0	9.3

Dimension (mm)



CAFL15D14L

General

Rated voltage: 1500V

Rated current: 25A~50A

Core size: 15×85mm

Utilization category: gPV

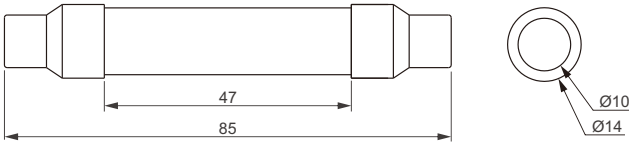
Standard: IEC60269-6

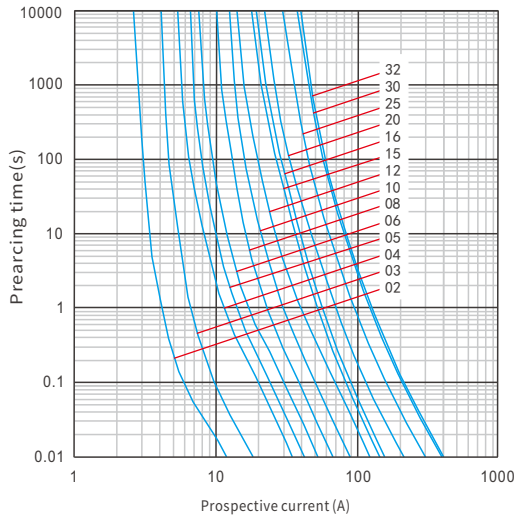
Breaking capacity: 30kA

Main Technical Data

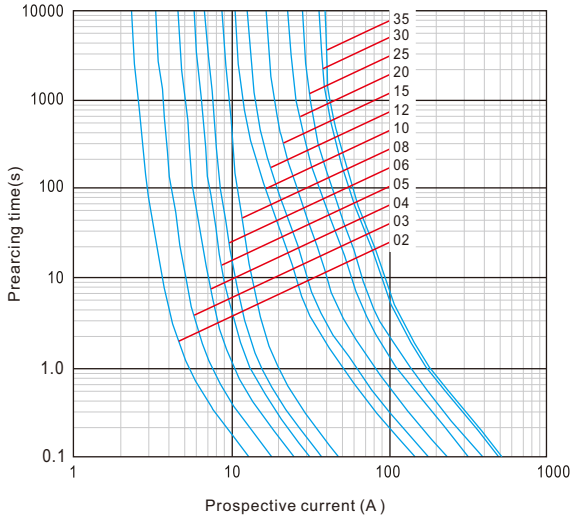
Model	Rated current (A)	I^2t (Amps² seconds)		Power loss (W)	
		Pre-arcing	Total clear	0.8In	1.0In
CAFL15D14L25	25	160	580	4.3	7.8
CAFL15D14L30	30	230	780	5.0	9.2
CAFL15D14L32	32	250	1050	6.0	11
CAFL15D14L40	40	650	2640	8.2	15
CAFL15D14L45	45	900	3260	8.8	16
CAFL15D14L50	50	1065	3820	10.3	18.8

Dimension (mm)

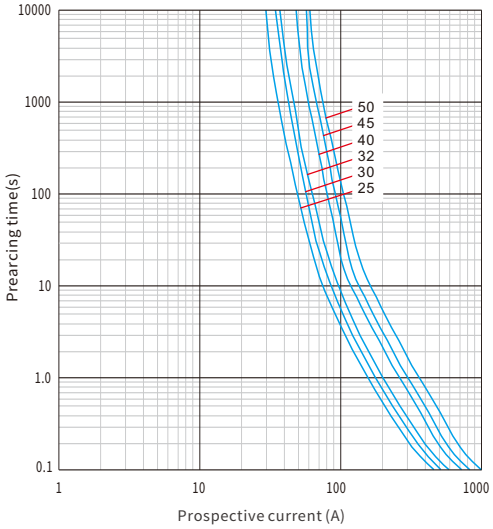




CAFL10D10



CAFL15D10L

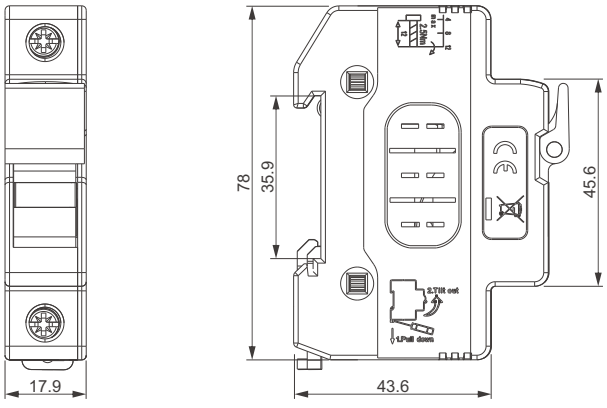


CAFL15D14L

Main Technical Data

Rated voltage	1000VDC
Rated current	32A
Size of Fuse Link	10×38mm
Protection characteristics	gPV
Mechanical Life	500
Product Width	18mm
Tightening Torque	2.5Nm 14In-lbs
Terminal size for Cable	6mm^2 8-18AWG
Ambient temperature(<35°C)	-5°C~+40°C
Storage Temperature	-25°C~+40°C
Standard	IEC60269-6, IEC60947-3
Mounting	On DIN rail EN60715(35mm) by means of fast clip device

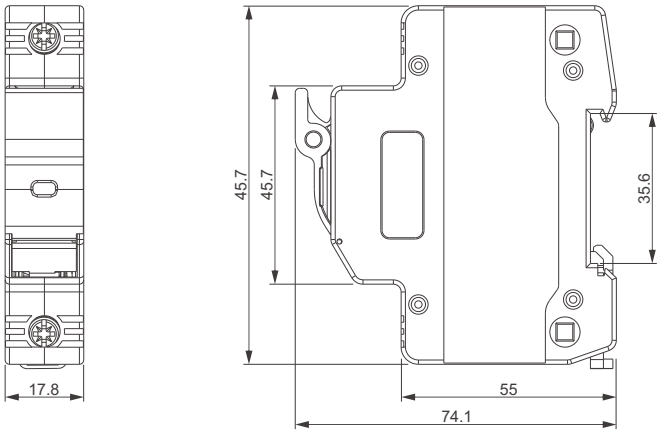
Dimension (mm)



Main Technical Data

Rated voltage	1000VDC
Rated current	32A
Size of Fuse Link	10×38mm
Protection characteristics	gPV
Mechanical Life	500
Product Width	18mm
Tightening Torque	2.5Nm 14In-lbs
Terminal size for Cable	6mm^2 8-18AWG
Ambient temperature(<35°C)	-5°C~+40°C
Storage Temperature	-25°C~+40°C
Standard	IEC60269-6, IEC60947-3
Mounting	On DIN rail EN60715(35mm) by means of fast clip device

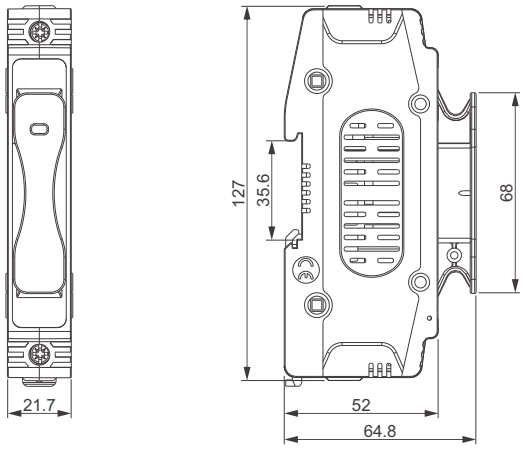
Dimension (mm)



Main Technical Data

Rated voltage	1500VDC
Rated current	50A
Size of Fuse Link	10×85mm, 14×85mm
Protection characteristics	gPV
Mechanical Life	500
Product Width	22mm
Tightening Torque	2.5Nm 14In-lbs
Terminal size for Cable	10mm^2 8-18AWG
Ambient temperature(<35°C)	-5°C~+40°C
Storage Temperature	-25°C~+40°C
Standard	IEC60269-6, IEC60947-3
Mounting	On DIN rail EN60715(35mm) by means of fast clip device

Dimension (mm)



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