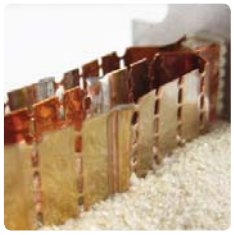
Fuse protection

Fuse links

The fuse link is a component designed to cut off dangerous currents. It is attained by adapting fusible melting strips that divide the arc into several subarcs and cool them by means of the quartz sand. A limitation of the peak current is reached minimising electrodynamical load of the installation and protecting the equipment by limiting thermal let-through current.

General characteristics

Ageing
Fuse element dedicated alloy makes fuses specially resistant to ageing effects.



Corrosion resistant
All metal parts are surface treated against corrosion.

Indicator
Clear indicator visibility on fuse status. Indicator conductor and spring are corrosion and ageing proof..

ROHS
All metal parts surface treatment are according to Rohs2 requirements.

Time/current characteristics

gG characteristic
General purpose cable and conductor protection.

aM characteristic
Motor and switchgear protection. Adapted to the starting current of motors and to the shortcircuit protection.

uR characteristic
Ultrarapid operation for semiconductor protection such as diodes, thyristors, or AC/DC motor drives. High breaking capacities.

gPV characteristic
Adapted to specific difficulties related to low DC overcurrents characteristic of photovoltaic protection.

Cylindrical fuses

Four sizes for industrial protection with and without indicator covering gG, aM and gPV curves.

Ranges
gG curve fuses with and without indicator
aM curve fuses with and without indicator
gPV curve fuses
Neutral links

Neozed fuses D0

Three different sizes for overload and short-circuit general line protection.

Ranges
Sizes D01, D02 and D03

Glass fuses F Class

Fine tuned fuses for low loads protection.

Ranges
Size 5x20

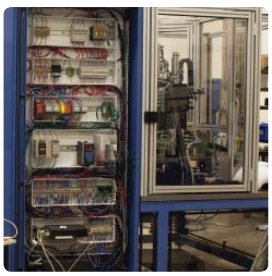
Knife fuses NH

Six different sizes for gG, aM and uR protection with high limitation characteristics.

Ranges
gG curve fuses with indicator
aM curve fuses with indicator
aR/gR curve fuses with indicator

Applications

- Distribution panels
- Automation equipment
- Control panels
- Motor protection
- Capacitor banks
- Machinery
- Photovoltaic installations
- Battery banks



→ Protection

Peak current "limitation" minimises considerably the electrodynamic load of the installation and protects the equipment.

→ Safety

No emission of gas, flames or arcs when clearing any value of overcurrent. Additionally the speed of operation on high short circuit currents limits significantly the flash hazard at the fault location.

→ Reliability

No moving parts to wear out or become contaminated by dust, oil or corrosion and no nuisance tripping. Fuse replacement ensures protection is restored to its original state of integrity.

→ Simple

Good selectivity minimises the part of the system effected by operation of protective device. High current limitation makes easy coordination between fuse links and other devices.

Cylindrical fuses

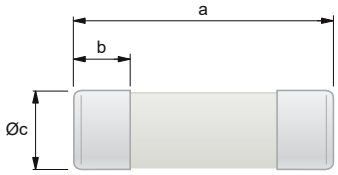
General characteristics

- Security fuses with silver-plated or nickel-plated contacts
- Silver-copper fuse element
- Steatite body with high resistivity to internal pressure
- Breaking capacity:
  - 120 kA - 500 V~
  - 80 kA - 690 V~

According to

- UNE 21103
- VDE 0636
- IEC 60269-2
- NFC63210

Dimensions



Size	Dimensions	a	b	Øc
00	8.5 x 31.5	31.5	6.3	8.5
0	10.3 x 38	38	9.4	10.3
1	14.3 x 51	51	11.3	14.3
2	22.2 x 58	58	14.7	22.2

values in mm

gG Curve

8x31 - Size 00

References		In (A)	V	kA	Weight (kg)	Pack.
Standard	With fusing indicator					
29F2GL	29F2GLIF	2	400	20	0.004	10
29F4GL	29F4GLIF	4	400	20	0.004	10
29F6GL	29F6GLIF	6	400	20	0.004	10
29F10GL	29F10GLIF	10	400	20	0.004	10
29F16GL	29F16GLIF	16	400	20	0.004	10
29F20GL	29F20GLIF	20	400	20	0.004	10
29F25GL	29F25GLIF	25	400	20	0.004	10

10x38 - Size 0

References		In (A)	V	kA	Weight (kg)	Pack.
Standard	With fusing indicator					
30F05GL		0,5	500	120	0.01	10
30F1GL		1	500	120	0.01	10
30F2GL	30F2GLIF	2	500	120	0.01	10
30F4GL	30F4GLIF	4	500	120	0.01	10
30F6GL	30F6GLIF	6	500	120	0.01	10
30F8GL	30F8GLIF	8	500	120	0.01	10
30F10GL	30F10GLIF	10	500	120	0.01	10
30F12GL	30F12GLIF	12	500	120	0.01	10
30F16GL	30F16GLIF	16	500	120	0.01	10
30F20GL	30F20GLIF	20	500	120	0.01	10
30F25GL	30F25GLIF	25	500	120	0.01	10
30F32GL	30F32GLIF	32	400	120	0.01	10

14x51 - Size 1

References		In (A)	V	kA	Weight (kg)	Pack.
Standard	With fusing indicator					
31F2GL	31F2GLIF	2	690	80	0.02	10
31F4GL	31F4GLIF	4	690	80	0.02	10
31F6GL	31F6GLIF	6	690	80	0.02	10
31F8GL	31F8GLIF	8	690	80	0.02	10
31F10GL	31F10GLIF	10	690	80	0.02	10
31F12GL	31F12GLIF	12	690	80	0.02	10
31F16GL	31F16GLIF	16	690	80	0.02	10
31F20GL	31F20GLIF	20	690	80	0.02	10
31F25GL	31F25GLIF	25	690	80	0.02	10
31F32GL	31F32GLIF	32	500	120	0.02	10
31F40GL	31F40GLIF	40	500	120	0.02	10
31F50GL	31F50GLIF	50	400	120	0.02	10

22x58 - Size 2

References		In (A)	V	kA	Weight (kg)	Pack.
Standard	With fusing indicator					
32F16GL	32F16GLIF	16	690	80	0.06	10
32F20GL	32F20GLIF	20	690	80	0.06	10
32F25GL	32F25GLIF	25	690	80	0.06	10
32F32GL	32F32GLIF	32	690	80	0.06	10
32F40GL	32F40GLIF	40	690	80	0.06	10
32F50GL	32F50GLIF	50	690	80	0.06	10
32F63GL	32F63GLIF	63	690	80	0.06	10
32F80GL	32F80GLIF	80	500	120	0.06	10
32F100GL	32F100GLIF	100	500	120	0.06	10
32F125GL	32F125GLIF	125	400	120	0.06	10

Cylindrical fuses

aM Curve

10x38 - Size 0

References		In (A)	V	kA	Weight (kg)	Pack.
Standard	With fusing indicator					
30F1AM		1	500	120	0.01	10
30F2AM	30F2AMIF	2	500	120	0.01	10
30F4AM	30F4AMIF	4	500	120	0.01	10
30F6AM	30F6AMIF	6	500	120	0.01	10
30F8AM	30F8AMIF	8	500	120	0.01	10
30F10AM	30F10AMIF	10	500	120	0.01	10
30F12AM	30F12AMIF	12	500	120	0.01	10
30F16AM	30F16AMIF	16	500	120	0.01	10
30F20AM	30F20AMIF	20	500	120	0.01	10
30F25AM	30F25AMIF	25	500	120	0.01	10
30F32AM	30F32AMIF	32	400	120	0.01	10

14x51 - Size 1

References		In (A)	V	kA	Weight (kg)	Pack.
Standard	With fusing indicator					
31F2AM	31F2AMIF	2	690	80	0.02	10
31F4AM	31F4AMIF	4	690	80	0.02	10
31F6AM	31F6AMIF	6	690	80	0.02	10
31F8AM	31F8AMIF	8	690	80	0.02	10
31F10AM	31F10AMIF	10	690	80	0.02	10
31F12AM	31F12AMIF	12	690	80	0.02	10
31F16AM	31F16AMIF	16	690	80	0.02	10
31F20AM	31F20AMIF	20	690	80	0.02	10
31F25AM	31F25AMIF	25	690	80	0.02	10
31F32AM	31F32AMIF	32	500	120	0.02	10
31F40AM	31F40AMIF	40	500	120	0.02	10
31F50AM	31F50AMIF	50	400	120	0.02	10

22x58 - Size 2

References		In (A)	V	kA	Weight (kg)	Pack.
Standard	With fusing indicator					
32F16AM	32F16AMIF	16	690	80	0.06	10
32F20AM	32F20AMIF	20	690	80	0.06	10
32F25AM	32F25AMIF	25	690	80	0.06	10
32F32AM	32F32AMIF	32	690	80	0.06	10
32F40AM	32F40AMIF	40	690	80	0.06	10
32F50AM	32F50AMIF	50	690	80	0.06	10
32F63AM	32F63AMIF	63	690	80	0.06	10
32F80AM	32F80AMIF	80	500	120	0.06	10
32F100AM	32F100AMIF	100	500	120	0.06	10
32F125AM	32F125AMIF	125	400	120	0.06	10

gPV Curve

10x38 - Size 0

References	In (A)	Energy Integrals I2t (A2s)		Power Loss (W)		Weight (kg)	Pack.
Standard		Pre-Arcing	Total at 1000V	0.8I^n	I^n		
30F2PV	2	1.2	3.4	0.6	1.0	0.01	10
30F6PV	6	30	90	1.1	1.8	0.01	10
30F8PV	8	3	32	1.2	2.1	0.01	10
30F10PV	10	7	70	1.3	2.3	0.01	10
30F12PV	12	12	120	1.5	2.7	0.01	10
30F15PV	15	22	220	1.7	2.9	0.01	10
30F20PV	20	34	240	2.1	3.5	0.01	10

14x51 - Size 1

References	In (A)	Energy Integrals I2t (A2s)		Power Loss (W)		Weight (kg)	Pack.
Standard		Pre-Arcing	Total at 1000V	0.8I^n	I^n		
31F20PV	20	27	568	2.7	5	0.02	10
31F25PV	25	65	943	2.7	5.1	0.02	10
31F32PV	32	120	1740	3.3	6.2	0.02	10

Neutral links

References	Size	Weight (kg)	Package
0NEUTRO	Size 0	0.002	10
1NEUTRO	Size 1	0.004	10
2NEUTRO	Size 2	0.008	10

Neozed fuses D0

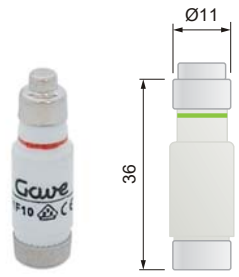
The D0-System, sometimes called NEOZED, is smaller than the DIAZED system, and does have a lower power dissipation, but also a lower rated voltage (400V~).

General characteristics

- High breaking capacity up to 50kA at 400 V AC
- Strong limiting capacity of the electrodynamic short circuit effects
- Simple and efficient selectivity

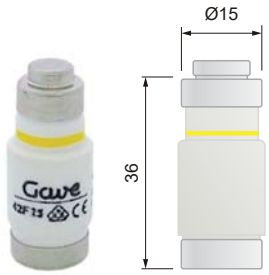
According to

- IEC 60269-1
- IEC 60269-3
- VDE -DIN 0636/301



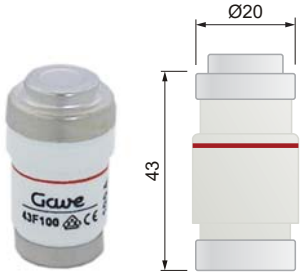
Size D01

References	Type	In (A)	Weight (kg/piece)	Package
41F2	E 14	2	0.006	10
41F4	E 14	4	0.006	10
41F6	E 14	6	0.006	10
41F10	E 14	10	0.006	10
41F16	E 14	16	0.006	10



Size D02

References	Type	In (A)	Weight (kg/piece)	Package
42F20	E 18	20	0.01	10
42F25	E 18	25	0.01	10
42F35	E 18	35	0.01	10
42F50	E 18	50	0.01	10
42F63	E 18	63	0.01	10



Size D03

References	Type	In (A)	Weight (kg/piece)	Package
43F80	M 30 x 2	80	0.04	10
43F100	M 30 x 2	100	0.04	10

Glass fuses F Class

Glass fuses are designed to protect electronic boards from low overcurrents that risk damaging electronic circuits or its components

General characteristics

- Size 5x20
- Characteristics F - Fast
- Voltage 250V
- Breaking capacity L35A

According to

- EN60127.2.1
- VDE0820

Size 20x5,2

References	In (A)	V	Package
80F0,5	0,5	250	100
80F1	1	250	100
80F1,6	1,6	250	100
80F2	2	250	100
80F2,5	2,5	250	100
80F3	3	250	100
80F3,15	3,15	250	100
80F4	4	250	100
80F5	5	250	100
80F6	6	250	100
80F6,3	6,3	250	100
80F8	8	250	100
80F10	10	250	100
80F12,5	12,5	250	100
80F16	16	250	100
80F20	20	250	100

Fusion time

Nominal current (In)	Test current			
	1,5xIn	2,1xIn	4xIn	10xIn
50 mA - 20 A	> 1 h	< 30 min	< 300 ms	< 20 ms

Knife fuses NH

Industrial fuses are designed to protect installations and equipment against overload and short-circuit currents on low voltage electrical circuits.

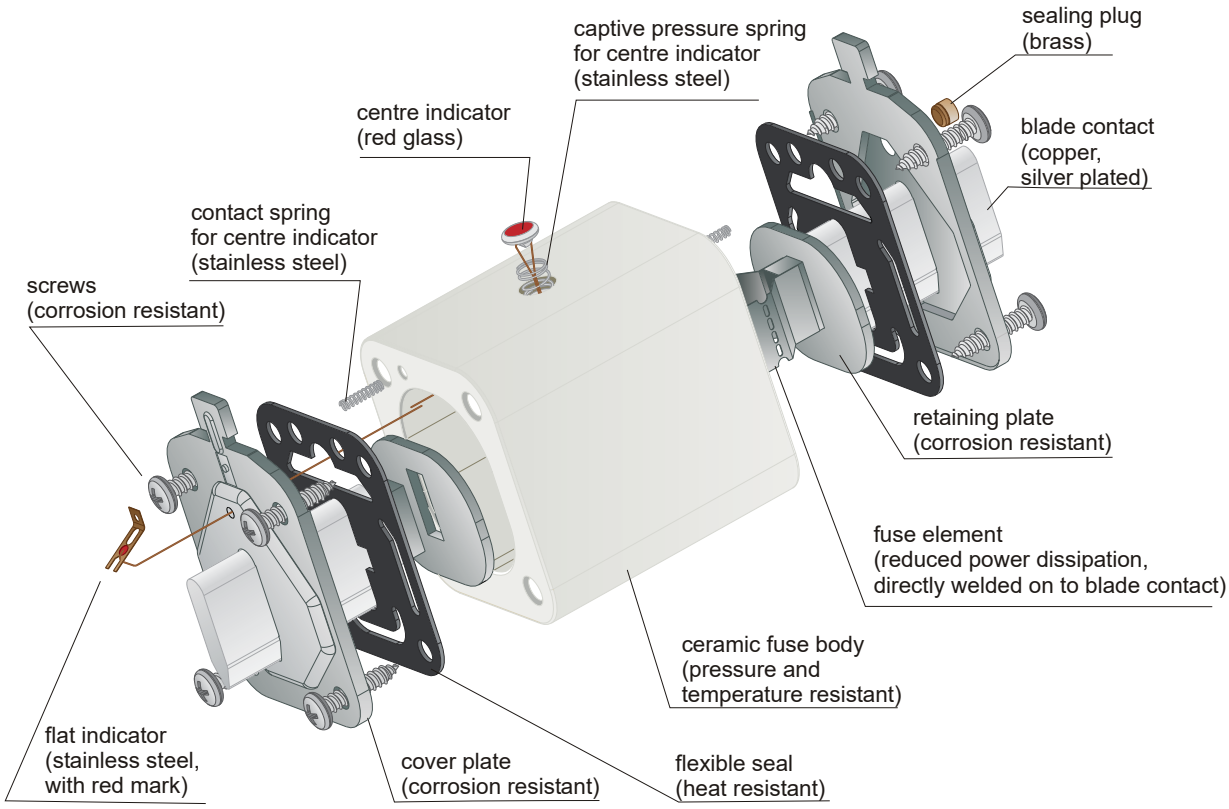
General characteristics

- High breaking capacity up to 120 kA at 500V AC
- Optimal selectivity
- Low power dissipation

According to

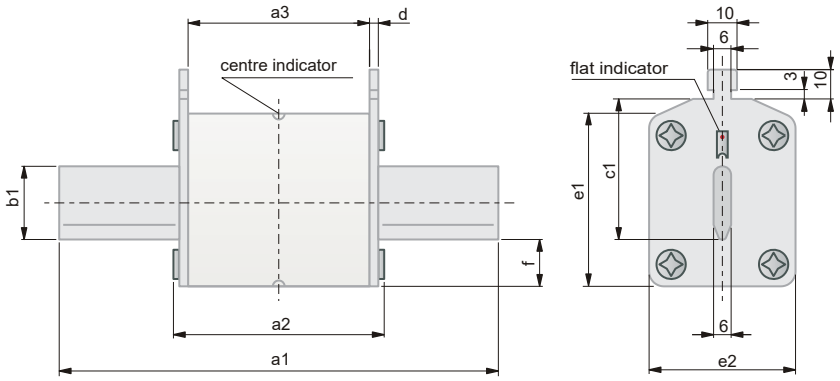
- IEC 60269-1
- IEC 60269-2
- VDE -DIN 0636/21
- DIN 43620

Structure and materials



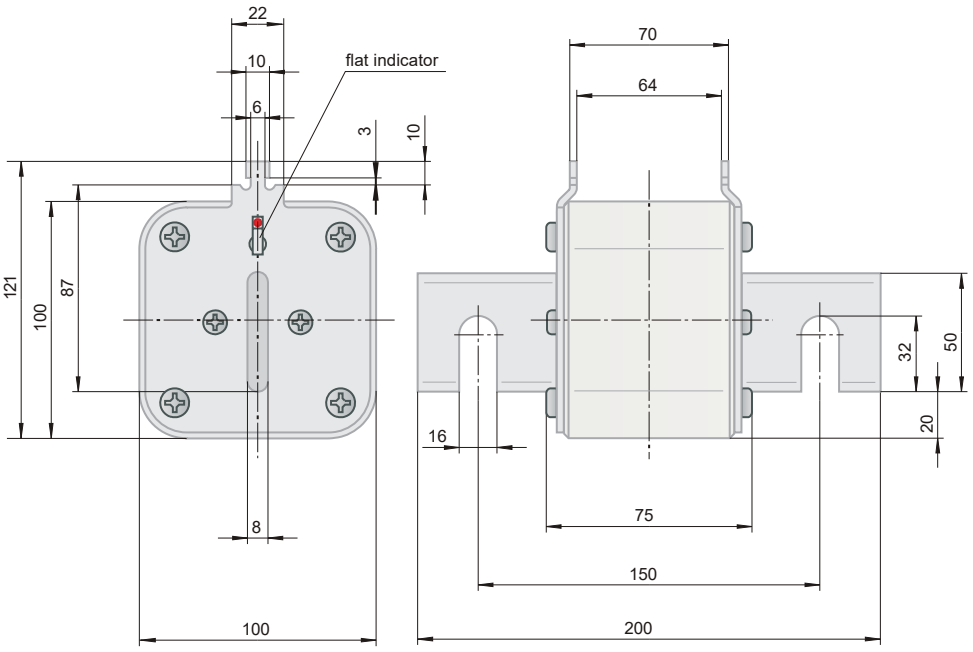
Dimensions

Sizes 00C to 3



Size	A1	A2	A3	A4	B	C	E1	E2	F
00C	78,5	53	45	49	15	35	40	21	7
00	78,5	53	45	49	15	35	44	28	14,5
0	125	68	62	66	15	35	44	35	14
1C	134	68	62	67	15	40	44	35	14
1	134	70	62	67	20	40	51,5	44	13,5
2C	150	70	62	67	20	48	51,5	44	13,5
2	150	70	62	67	25	48	60,5	54	14,5
3C	150	70	62	67	25	60	60,5	54	14,5
3	150	70	62	67	32	60	74	70	17

Size 4



Knife fuses NH

gG Curve with fusing indicator

Size 00C and 00

References	Type	In (A)	V	Weight (kg/piece)	Package
66920006	00C	6	500	0.12	3
66920010	00C	10	500	0.12	3
66920016	00C	16	500	0.12	3
66920020	00C	20	500	0.12	3
66920025	00C	25	500	0.12	3
66920032	00C	32	500	0.12	3
66920040	00C	40	500	0.12	3
66920050	00C	50	500	0.12	3
66920063	00C	63	500	0.12	3
66920080	00C	80	500	0.12	3
66920100	00C	100	500	0.12	3
66920125	00	125	500	0.17	3
66920160	00	160	500	0.17	3

Size 0

References	Type	In (A)	V	Weight (kg/piece)	Package
67020016	0	16	500	0.27	3
67020020	0	20	500	0.27	3
67020025	0	25	500	0.27	3
67020032	0	32	500	0.27	3
67020040	0	40	500	0.27	3
67020050	0	50	500	0.27	3
67020063	0	63	500	0.27	3
67020080	0	80	500	0.27	3
67020100	0	100	500	0.27	3
67020125	0	125	500	0.27	3
67020160	0	160	500	0.27	3

Size 1C and 1

References	Type	In (A)	V	Weight (kg/piece)	Package
67120063	1C	63	500	0.28	3
67120080	1C	80	500	0.28	3
67120100	1C	100	500	0.28	3
67120125	1C	125	500	0.28	3
67120160	1C	160	500	0.28	3
67120200	1	200	500	0.41	3
67120250	1	250	500	0.41	3

Size 2C and 2

References	Type	In (A)	V	Weight (kg/piece)	Package
67220160	2C	160	500	0.42	3
67220200	2C	200	500	0.42	3
67220250	2C	250	500	0.42	3
67220315	2	315	500	0.61	3
67220355	2	355	500	0.61	3
67220400	2	400	500	0.61	3

Size 3C and 3

References	Type	In (A)	V	Weight (kg/piece)	Package
67320315	3C	315	500	0.62	3
67320400	3C	400	500	0.62	3
67320500	3	500	500	0.92	3
67320630	3	630	500	0.92	3

Size 4

References	Type	In (A)	V	Weight (kg/piece)	Package
67420630	4	630	500	2.10	1
67420800	4	800	500	2.10	1
67421000	4	1000	500	2.34	1
67421200	4	1250	500	2.34	1

Knife fuses NH

aM Curve with fusing indicator

Size 00

References	Type	In (A)	V	Weight (kg/piece)	Package
66930010	00C	10	690	0.12	3
66930016	00C	16	690	0.12	3
66930020	00C	20	690	0.12	3
66930025	00C	25	690	0.12	3
66930032	00C	32	690	0.12	3
66930040	00C	40	690	0.12	3
66930050	00C	50	690	0.12	3
66930063	00C	63	690	0.12	3
66930080	00C	80	690	0.12	3
66930100	00	100	690	0.17	3
66930125	00	125	690	0.17	3

Size 0

References	Type	In (A)	V	Weight (kg/piece)	Package
67030016	0	16	690	0.27	3
67030020	0	20	690	0.27	3
67030025	0	25	690	0.27	3
67030032	0	32	690	0.27	3
67030040	0	40	690	0.27	3
67030050	0	50	690	0.27	3
67030063	0	63	690	0.27	3
67030080	0	80	690	0.27	3
67030100	0	100	690	0.27	3
67030125	0	125	690	0.27	3
67030160	0	160	690	0.27	3

Size 1

References	Type	In (A)	V	Weight (kg/piece)	Package
67130063	1C	63	690	0.28	3
67130080	1C	80	690	0.28	3
67130100	1C	100	690	0.28	3
67130125	1C	125	690	0.28	3
67130160	1C	160	690	0.28	3
67130200	1	200	690	0.41	3
67130250	1	250	690	0.41	3

Size 2

References	Type	In (A)	V	Weight (kg/piece)	Package
67230160	2C	160	690	0.51	3
67230200	2C	200	690	0.51	3
67230250	2C	250	690	0.51	3
67230315	2	315	690	0.61	3
67230355	2	355	690	0.61	3
67230400	2	400	690	0.61	3

Size 3

References	Type	In (A)	V	Weight (kg/piece)	Package
67330315	3C	315	690	0.62	3
67330400	3C	400	690	0.62	3
67330500	3	500	690	0.92	3
67330630	3	630	690	0.92	3

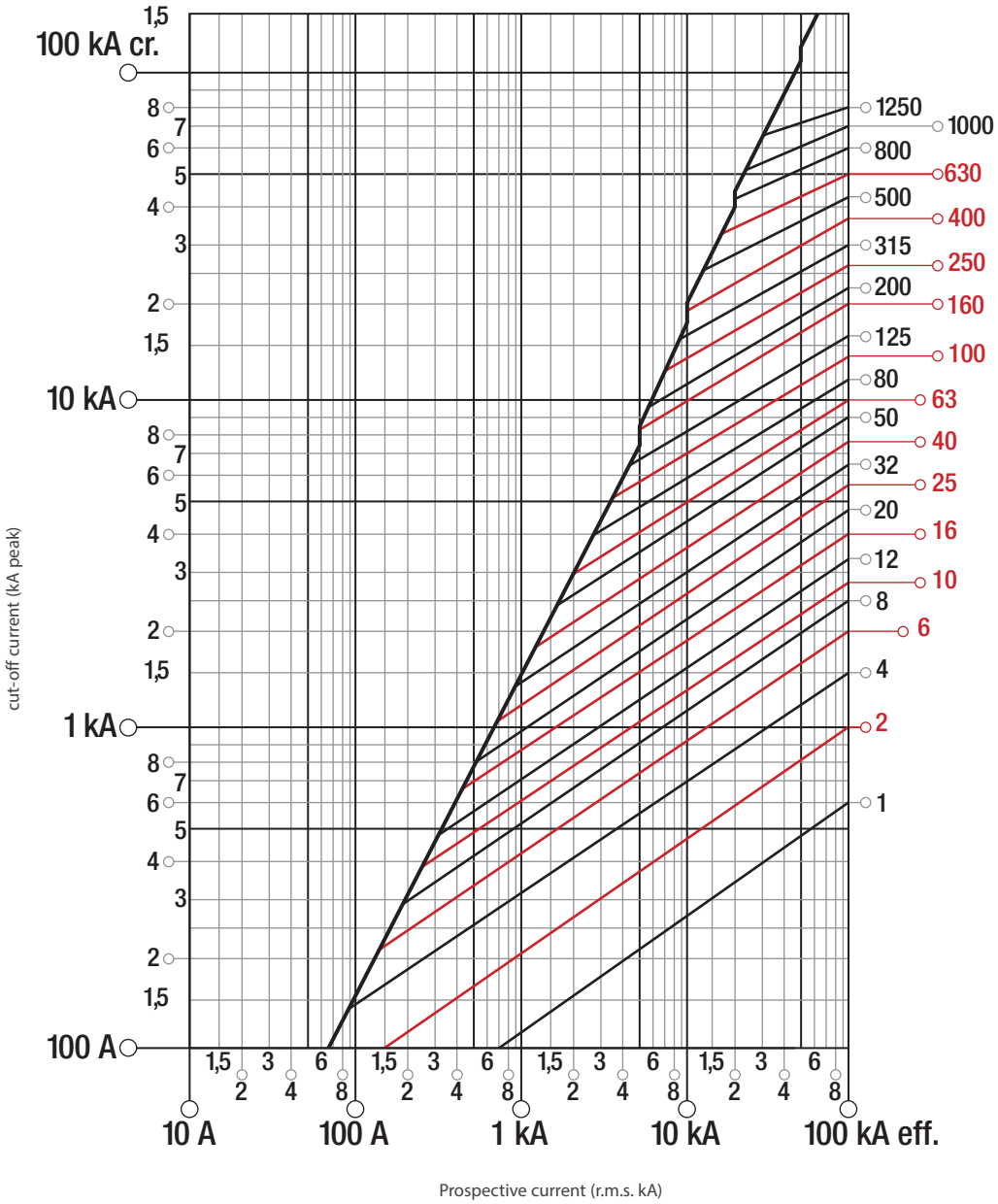
Size 4

References	Type	In (A)	V	Weight (kg/piece)	Package
67430630	4	630	500	2.10	1
67430800	4	800	500	2.10	1
67431000	4	1000	500	2.14	1
67431200	4	1250	500	2.14	1

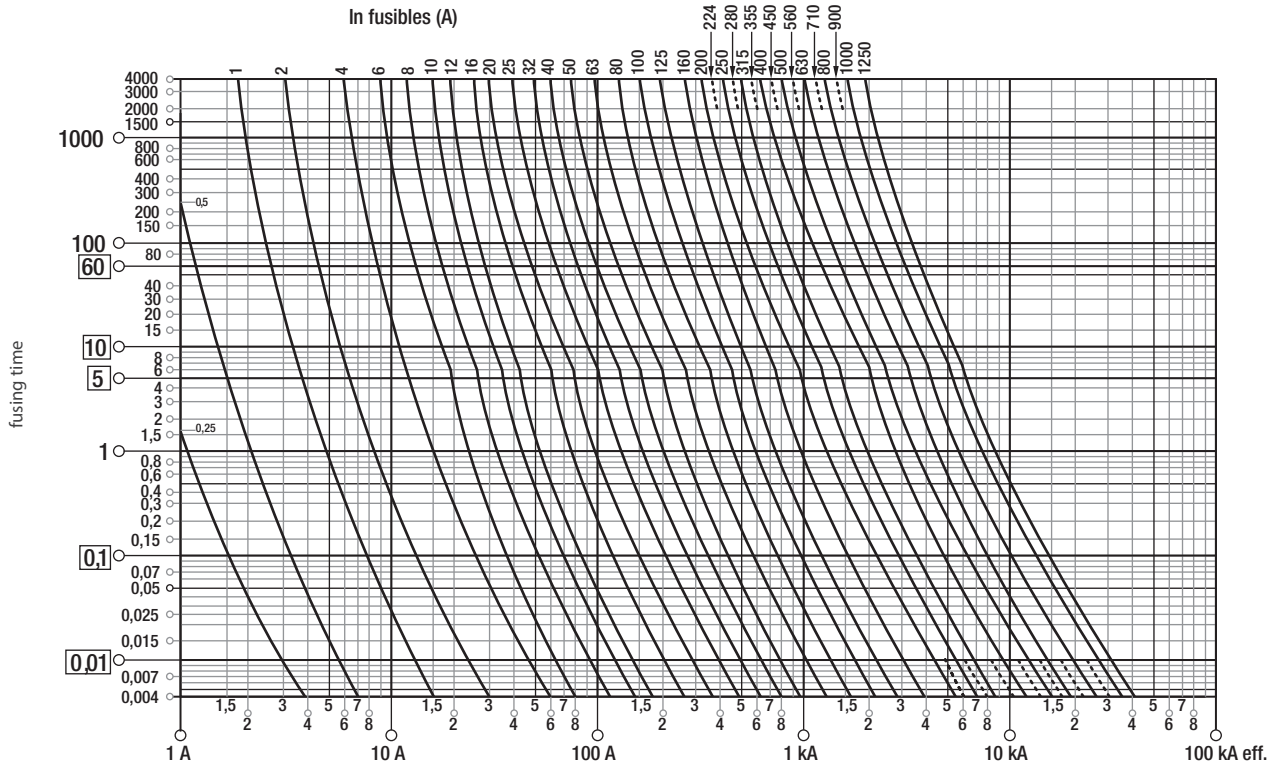
Industrial fuses

gG Fuse curves characteristics

Current cut-off diagram



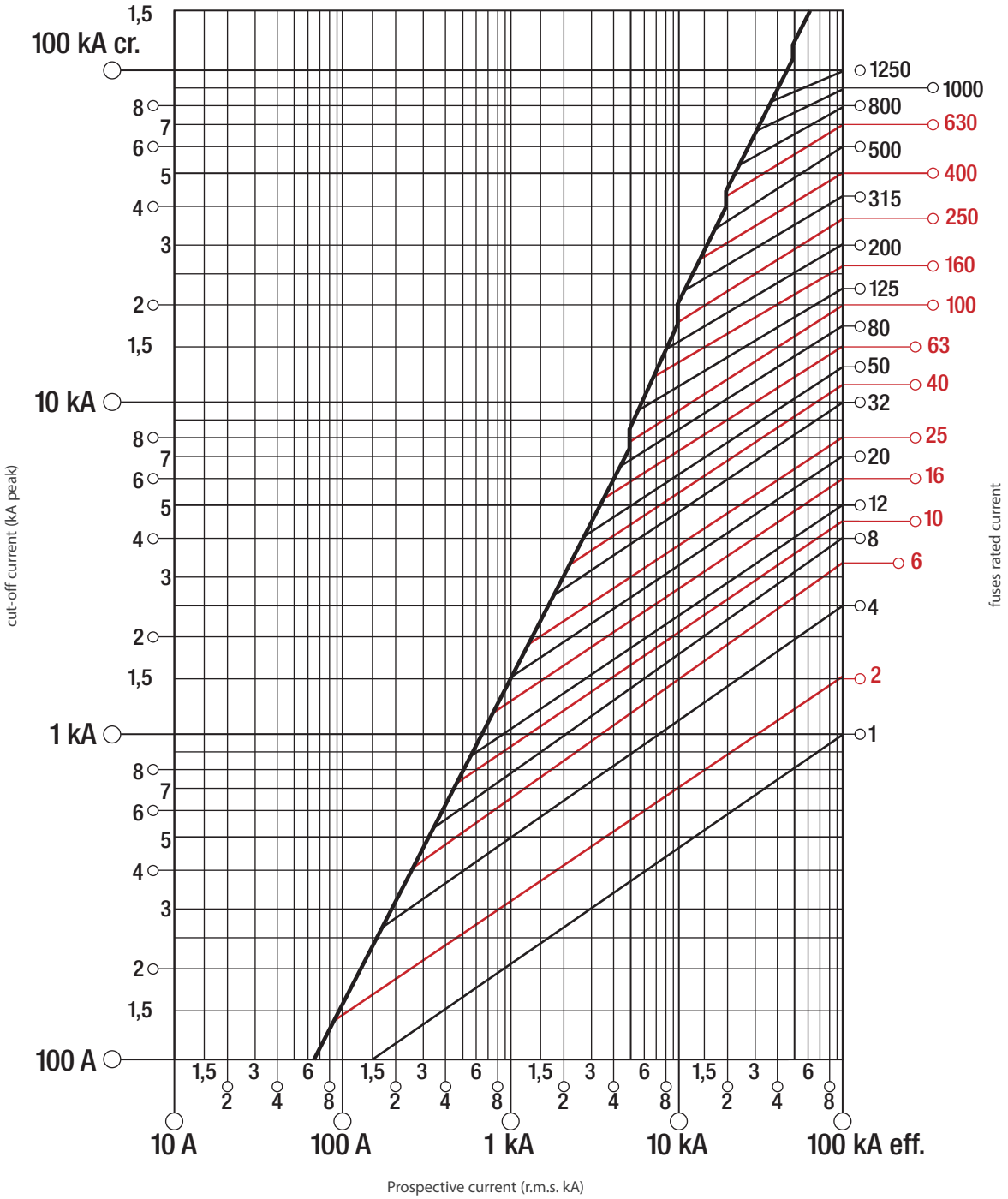
Time/current operating characteristics



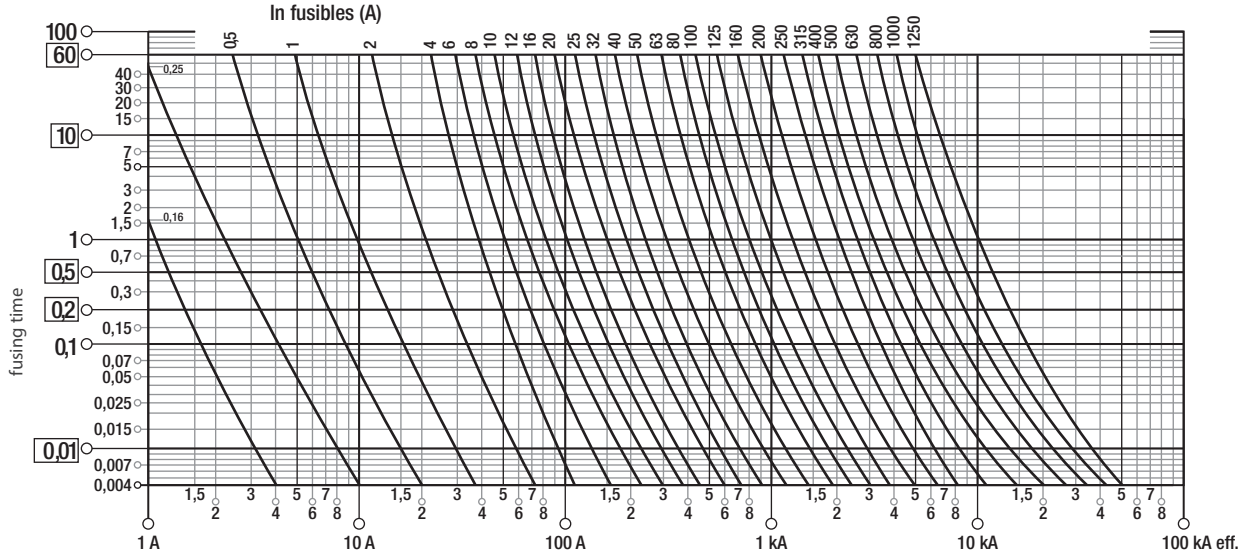
Industrial fuses

aM Fuse curves characteristics

Current cut-off diagram

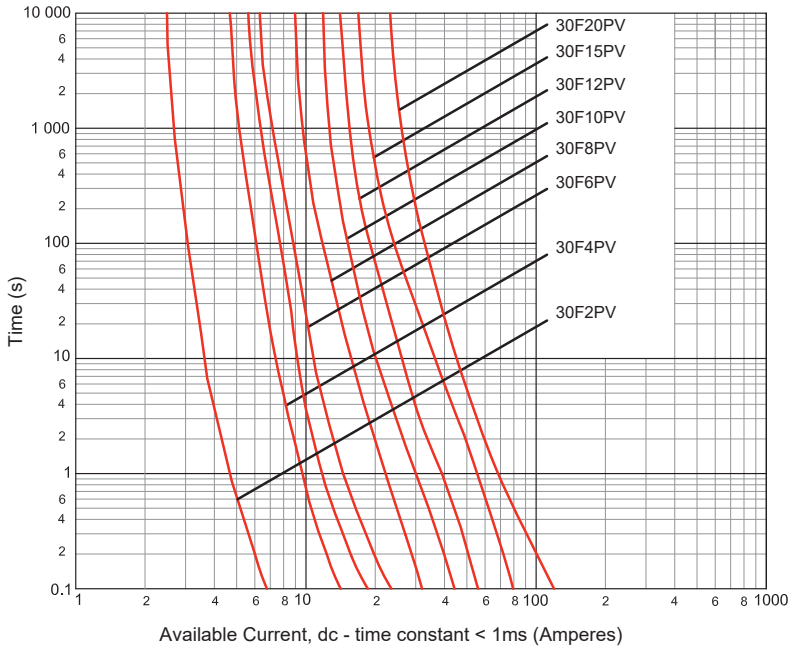


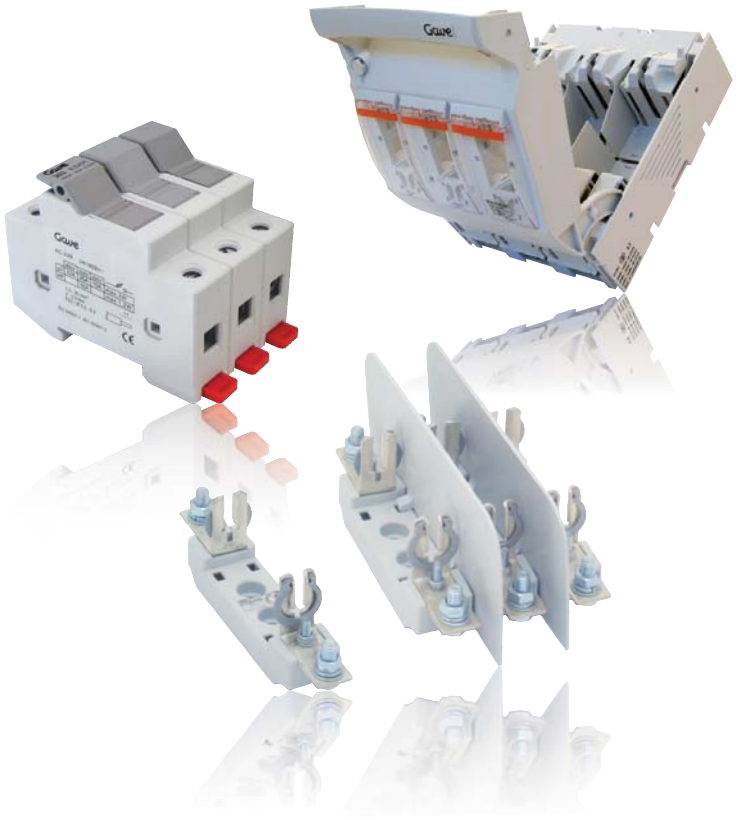
Time/current operating characteristics



gPV Fuse curves characteristics

Time/current operating characteristics





Fuse bases and switch disconnectors

Fuse systems are used in electrical distribution, automation and switchgear assemblies. They are a simple way to integrate high breaking capacity protection into confined spaces. The range of cylindrical fuse-holders, NH Fuse bases and NH Fuse disconnectors offer a wide range of combination possibilities that fit into multiple application specific designs. All product ranges conform to IEC 60269 standards.

General characteristics

Modularity
Flexibility on sizes and number of poles.

Corrosion resistant
All metal parts are surface treated against corrosion.

Materials
High thermal stability of plastics prevent overheating damages.

Contacts
Optimised surface treatment for quality transmission and temperature control.

➜ *IEC 947-3*

Cylindrical fuseholders and NH closed fuse bases are **fuse-switch-disconnector single opening** products according to Table 1 on IEC 947-3, therefore they are able to perform make-break operations and satisfy the requirements specified for the isolation function. In addition to short-circuit performance capability, requirements on mechanical and electrical endurance are also fulfilled.

Cylindrical Fuseholders

Industrial modular disconnector fuseholders for line and motor protection.

Ranges
400V AC size 00
690V AC sizes 0, 1 and 2
1000V DC size 0 and 1

Fuse bases

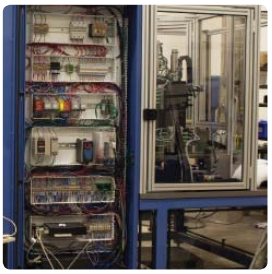
Open NH fuse bases are offered in single pole and triple pole configurations.

Ranges
1 and 3 poles 690VAC sizes 00, 0, 1, 2
and 3 high pressure contacts
Screw fixing contacts Size 4 single pole
Photovoltaic sizes 1, 2XL and 3XL

NH Switch disconnectors

Fuse shortcircuit protection and safe circuit disconnection.

Ranges
Single pole sizes 00 and 1
Triple pole sizes 00, 1, 2 and 3
Four pole sizes 00, 1 and 3
Triple pole busbar mounting sizes 00, 1 and 2



Vertical NH
Fuse-rails and Fuse-Switches

Vertical Fuse-rails and Fuse-Switches are intended for power distribution in cable distribution cabinets and transformer stations. A range of sizes, terminal connections and mounting options are available.

Further information consult

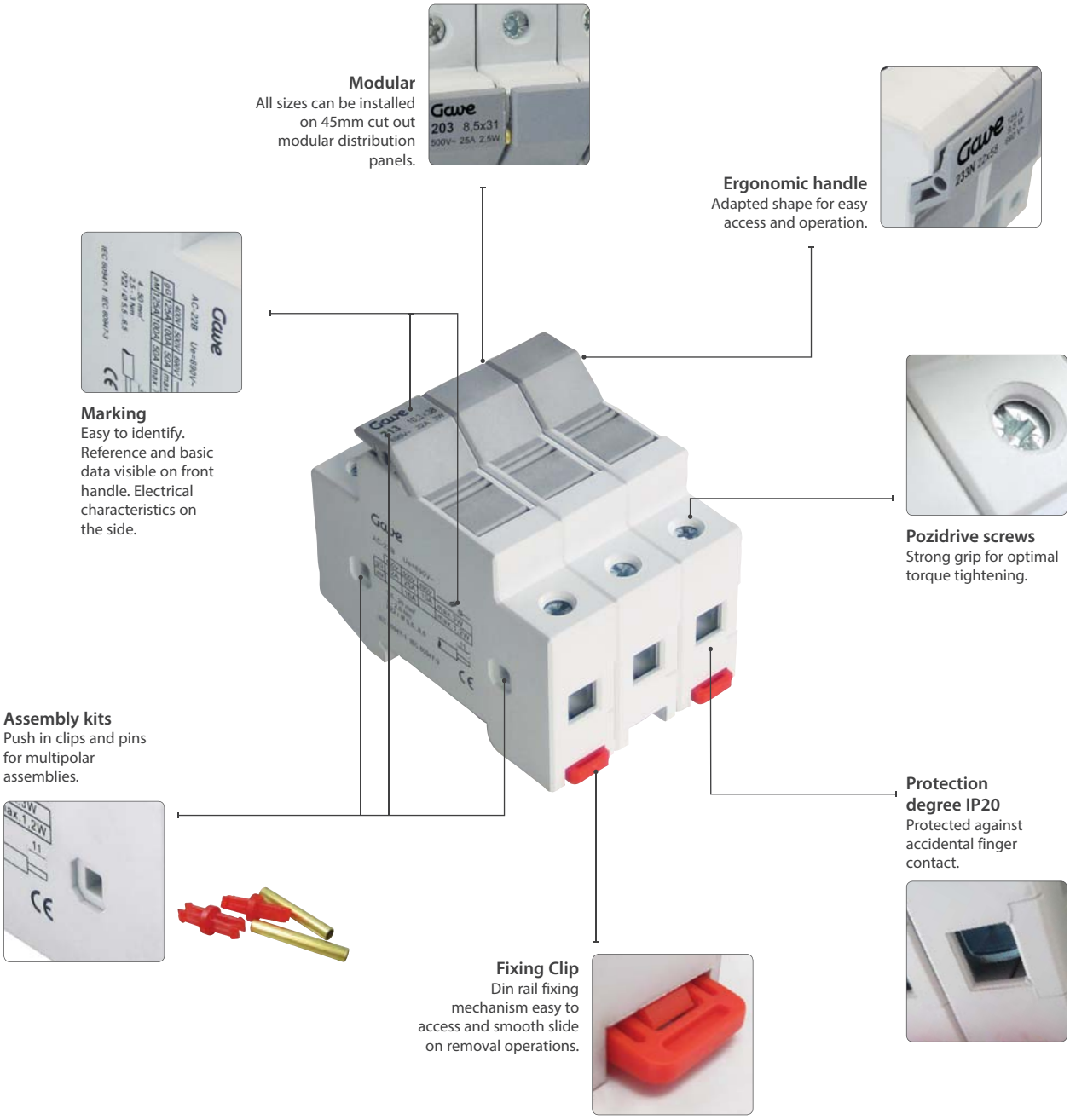
Cylindrical fuseholders

Complete range of modular industrial fuseholders

*«Designed to guarantee **safety disconnection** and **equipment protection** on your low voltage power and control circuits»*

Designed by experience

The new range of modular fuseholders is the outcome of extensive experience on the field of fuse protection. This **complete range** comprises four standard sizes plus a DC model. We have combined modern look with ergonomic **design** and provided the range with **mounting flexibility** using multipolar assembly kits.



General characteristics

- On load breaking fuse disconnectors.
- Easy and quick DIN rail mounting.
- High insulation voltage rating.
- Resistant to abnormal heat and fire (Glow wire flammability test at 960ºC according to IEC 695-2-1)
- Elevated vibration withstand.
- DIN modular range (45mm cut out)
- Multipolar assemblies.
- Contact surfaces silver plated.

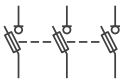
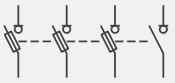
According to standards

- IEC 60947-1
- IEC 60947-3

Cylindrical fuseholders

Size 00

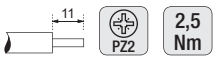
- Modular 45 mm cut out - 1 module (17,5mm) X pole.
- Mounting 35mm DIN rail.
- Simultaneous breaking on multipolar versions.
- High temperature resistant plastics.

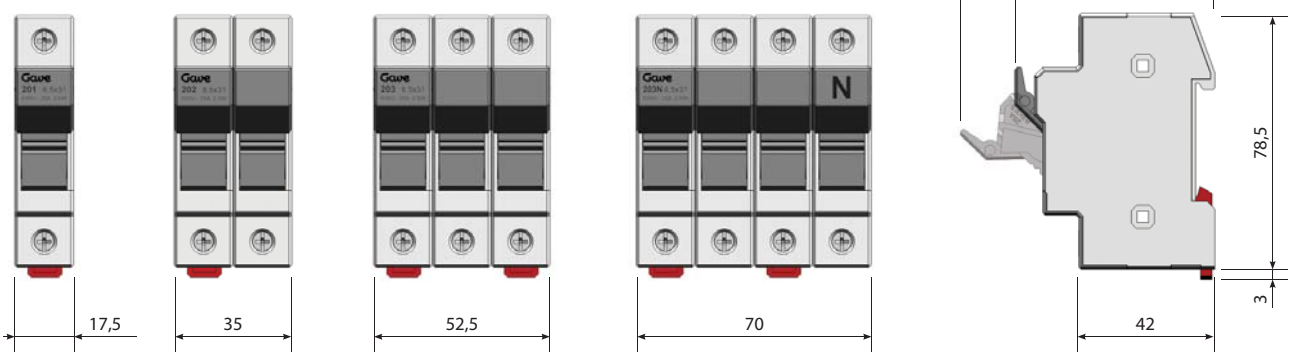
References	Thermal rating	Fuse size	Poles	Modules	Electrical diagram	Package
201	25 A	8,5 x 31,5	1P	1		12
202	25 A	8,5 x 31,5	2P	2		6
203	25 A	8,5 x 31,5	3P	3		4
203N	25 A	8,5 x 31,5	3P+N	4		3

Assembly kits

Reference	Description	Package
21KE	multipolar assembly kit s.00&0 (2 clips + 1 Pin)	12

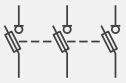
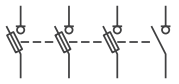
Dimensions





Size 0

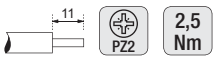
- Modular 45 mm cut out - 1 module (17,5mm) X pole.
- Mounting 35mm DIN rail.
- Simultaneous breaking on multipolar versions.
- High temperature resistant plastics.

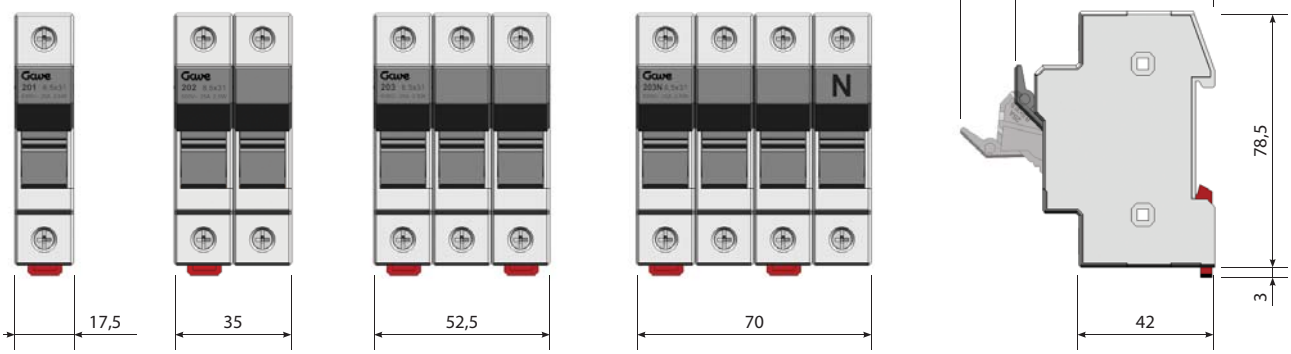
References	Thermal rating	Fuse size	Poles	Modules	Electrical diagram	Package
211	32 A	10 x 38	1P	1		12
211N	32 A	10 x 38	1P+N	2		6
212	32 A	10 x 38	2P	2		6
213	32 A	10 x 38	3P	3		4
213N	32 A	10 x 38	3P+N	4		3

Assembly kits

Reference	Description	Package
21KE	multipolar assembly kit s.00&0 (2 clips + 1 Pin)	12

Dimensions

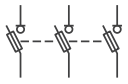
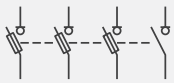




Cylindrical fuseholders

Size 1

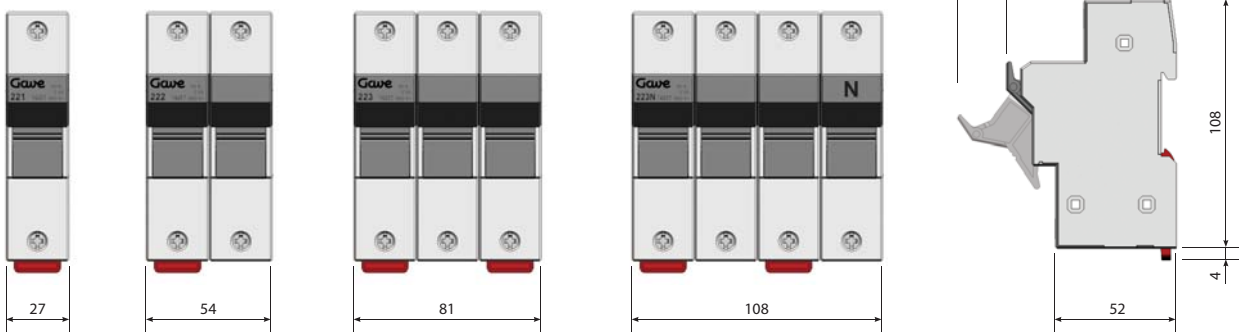
- Modular 45 mm cut out - 1,5 module (27mm) X pole.
- Mounting 35mm DIN rail.
- Simultaneous breaking on multipolar versions.
- Ergonomic handle.
- High temperature resistant plastics.

References	Thermal rating	Fuse size	Poles	Modules	Electrical diagram	Package
221	50 A	14 x 51	1P	1		6
222	50 A	14 x 51	2P	2		3
223	50 A	14 x 51	3P	3		2
223N	50 A	14 x 51	3P+N	4		1

Assembly kits

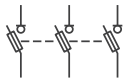
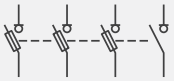
Reference	Description	Package
23KE	multipolar assembly kit s.1&2 (3 clips + 1 Pin)	10

Dimensions



Size 2

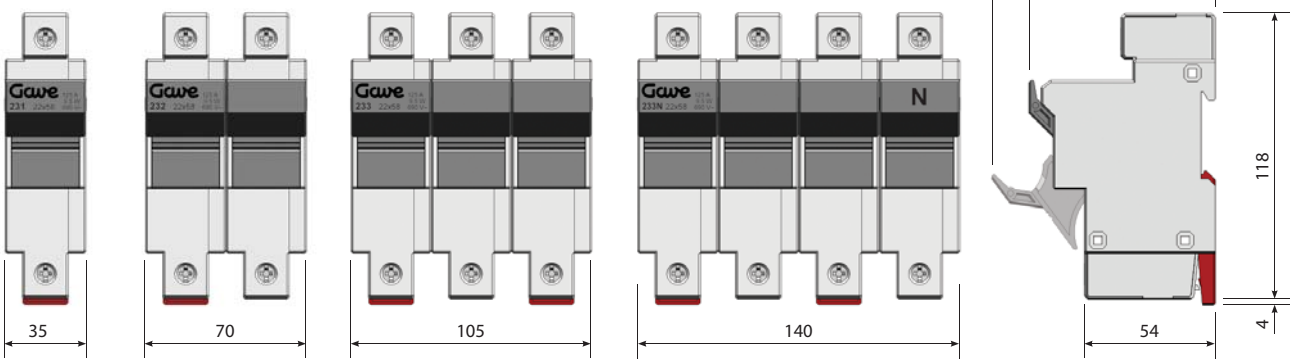
- Modular 45 mm cut out - 2 module (35mm) X pole .
- Mounting 35mm DIN rail.
- Simultaneous breaking on multipolar versions.
- Ergonomic handle.
- High temperature resistant plastics.

References	Thermal rating	Fuse size	Poles	Modules	Electrical diagram	Package
231	125 A	22 x 58	1P	1		3
232	125 A	22 x 58	2P	2		2
233	125 A	22 x 58	3P	3		3
233N	125 A	22 x 58	3P+N	4		1

Assembly kits

Reference	Description	Package
23KE	multipolar assembly kit s.1&2 (3 clips + 1 Pin)	10

Dimensions



PV Fuseholders

Photovoltaic installations

- 1000V cc DC-20B.
- Mounting 35mm DIN rail.
- High temperature resistant plastics.
- Elevated insulation characteristics.

According to

- IEC 60947-1
- IEC 60947-3

See dimensions on page 223

References	Thermal rating	Fuse size	Poles	Modules	Package
211PV	32 A	10 x 38	1P	1	12
212PV	32 A	10 x 38	2P	2	6

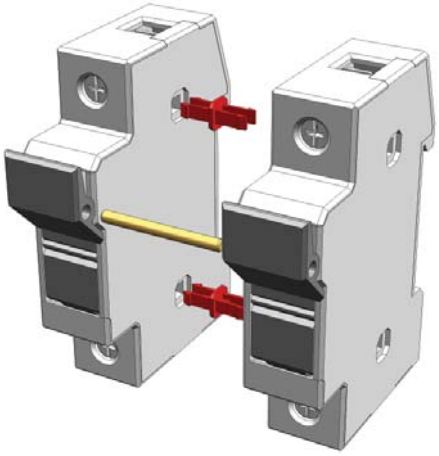
Multipole assemblies

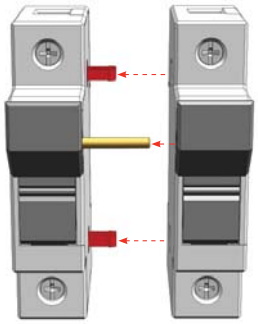
Each bag of kits size 00&0 is sufficient for:

- 12 multipolar assemblies.
- 12 two pole assemblies.
- 6 three pole assemblies.
- 4 four pole assemblies.

Each bag of kits size 1&2 is sufficient for:

- 10 multipolar assemblies.
- 10 two pole assemblies.
- 5 three pole assemblies.
- 3 four pole assemblies.





	Size 00	Size 0	Size 1	Size 2
Nº pins/assemblie	1	1	1	1
Nº clips/assemblie	2	2	3	3

Technical data

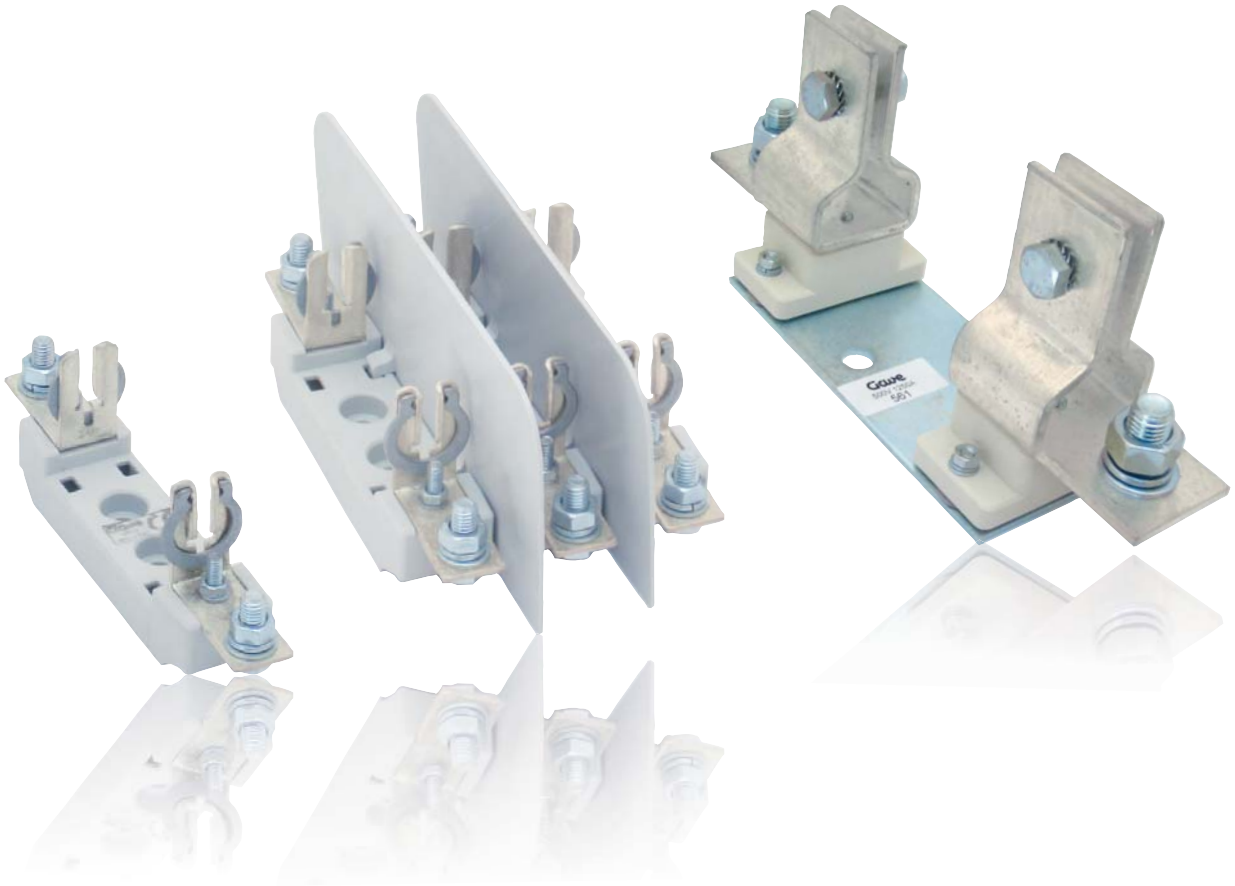
Parameters			Size 00		Size 0 DC		Size 0		Size 1		Size 2	
Fuse size			8,5 x 31,5		10 x 38		10 x 38		14 x 51		22 x 58	
Rated current		Ith (A)										
		gG 400V	25		32		32		50		125*	
		gG 500V	20		25		25		50		100	
		gG 690V			10		10		25		50	
		aM 400V	-		-		-		50		125*	
		aM 500V	-		16		16		40		100	
		aM 690V	-		-		-		25		50	
Rated power dissipation		W										
		gG fuse	2,5		3		3		5		9,5	
		aM fuse	-		1,2		1,2		3		7	
Rated impulse withstand voltage		Uimp kV	6		6		6		8		8	
Max. Operating voltage		Ue V~	400		1000 Vdc		690		690		690	
Operating category			AC-22B		DC-20		AC-22B		AC-22B		AC-21B	
Wire section			min.	máx	min.	máx	min.	máx	min.	máx	min.	máx
	stranded	mm^2	1x1,5	1x25 2x10	1x1,5	1x25 2x10	1x1,5	1x25 2x10	1x1,5	1x35 2x16	1x4	1x50 2x25
	flexible	mm^2	1x1,5	1x25 2x10	1x1,5	1x25 2x10	1x1,5	1x25 2x10	1x1,5	1x35 2x16	1x4	1x50 2x25
Torque		Nm	2 - 2,5		2 - 2,5		2 - 2,5		2,5 - 3		2,5 - 3	
Connection screws / Pz2		Ø	5,5 - 6,5		5,5 - 6,5		5,5 - 6,5		5,5 - 6,5		5,5 - 6,5	
Flame Resistant	IEC 60695-2-1		960 ºC		960 ºC		960 ºC		960 ºC		960 ºC	

*125A intermittent use (100A continuous use)

Derating table

Parameters		Size 00	Size 0	Size 1	Size 2
In / Un 400V~	A	25	32	50	125
In / Un 500V~	A	20	20	40	80
Acc. ambient temperature	20 º C	1	1	1	1
	30 º C	0,95	0,95	0,95	0,95
	40 º C	0,90	0,90	0,90	0,90
	50 º C	0,80	0,80	0,80	0,80
Acc. number of poles	1-3 phases	1	1	1	1
	4-6 phases	0,8	0,8	0,8	0,8
	7-9 phases	0,7	0,7	0,7	0,7
	>10 phases	0,6	0,6	0,6	0,6

NH fuse bases



Functions

Open type fuse bases are intended to be used on applications that we intend to protect equipment against short-circuit and overload conditions and where we have space and thermal constrains that limit the use of switch-fuse disconnectors.

According to standards

- VDE 0660/ part 100
- IEC/EN 60 269-2-1
- VDE 0636 / part 201

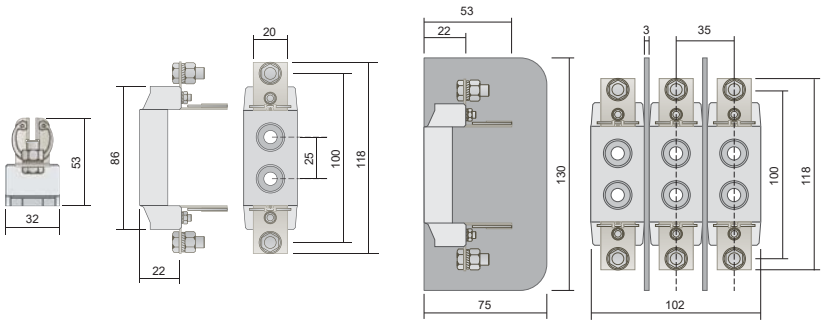
General characteristics

- Single-pole and triple-pole NH fuse base up to 1250A
- Panel fastening
- Screw connection
- Contact clips with elastic springs securing the pressure on the fuse (on size 4, the pressure is secured by screw)
- Polyester base reinforced with fibreglass
- Phases splitter to group single-pole fuse bases
- Strapped clamps for a better connection
- Triple-pole bases supplied with phase splitters

Size 00

References	Fuse size	In (A)	Poles	Package
511	NH00	160 A	1	3
513	NH00	160 A	3	1

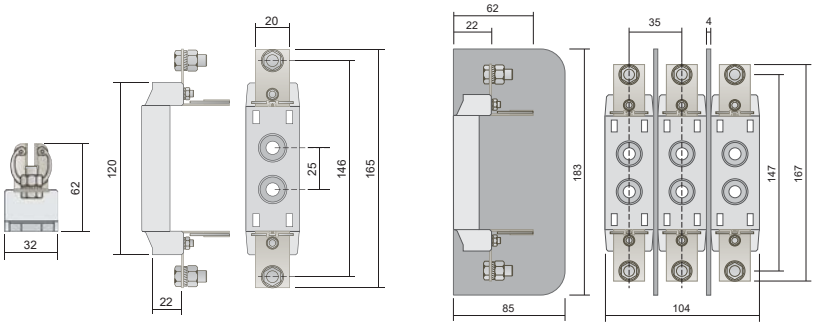
Dimensions



Size 0

References	Fuse size	In (A)	Poles	Package
521	NH0	160 A	1	3
523	NH0	160 A	3	1

Dimensions

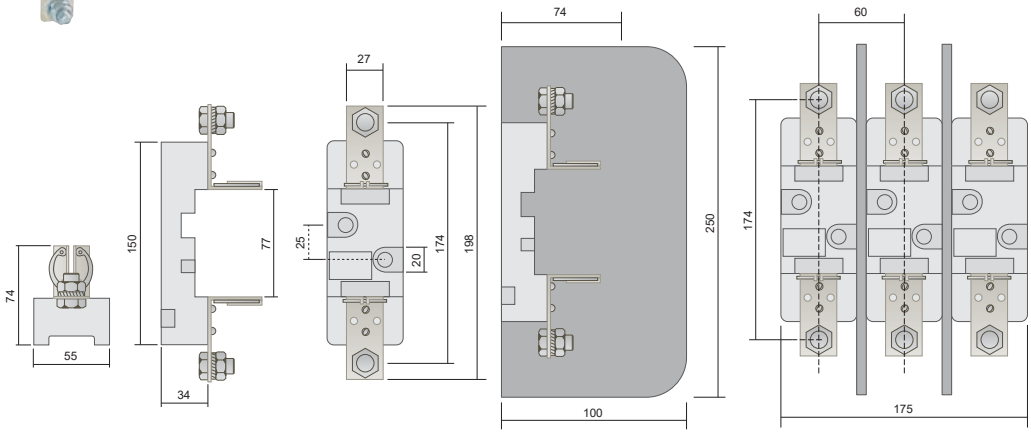


NH fuse bases

Size 1

References	Fuse size	In (A)	Poles	Package
531	NH1	250 A	1	3
533	NH1	250 A	3	1

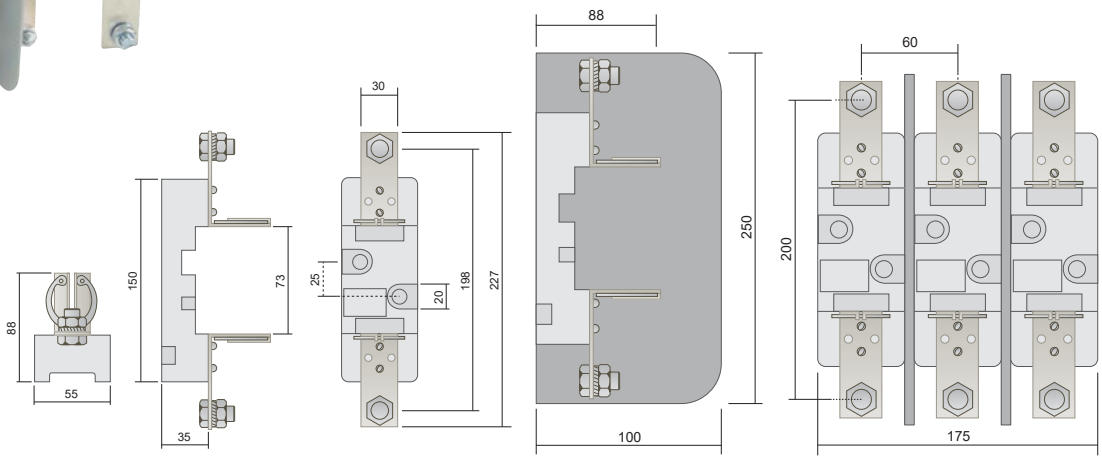
Dimensions



Size 2

References	Fuse size	In (A)	Poles	Package
541	NH2	400 A	1	3
543	NH2	400 A	3	1

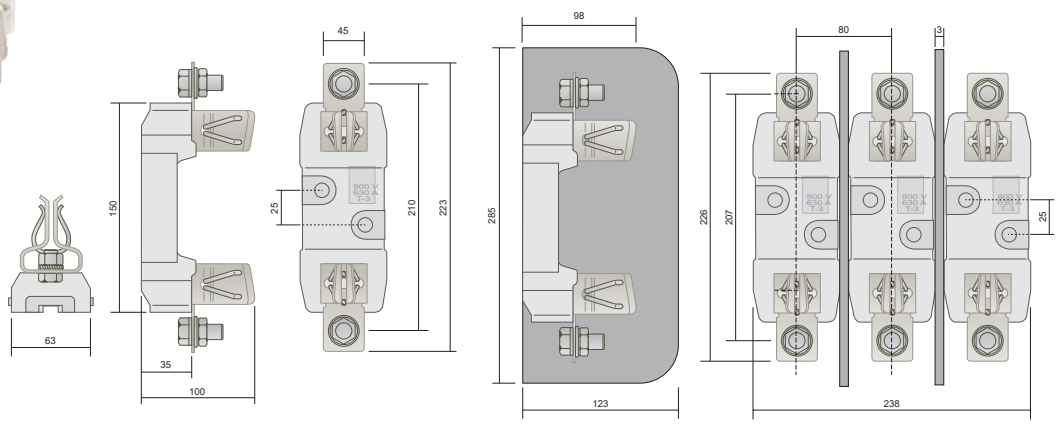
Dimensions



Size 3

References	Fuse size	In (A)	Poles	Package
551	NH3	630 A	1	3
553	NH3	630 A	3	1

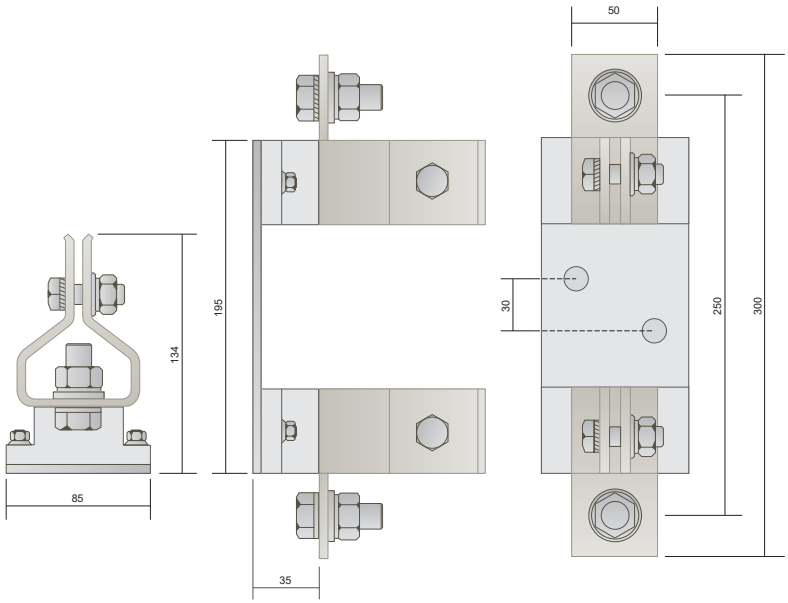
Dimensions



Size 4

References	Fuse size	In (A)	Poles	Package
561	NH4	1250 A	1	1

Dimensions



NH fuse bases

Accessories

Isolating plate

References	Description	Package
51SEP	Plate for NH base size 00	1
52SEP	Plate for NH base size 0	1
53SEP	Plate for NH base size 1-2	1
55SEP	Plate for NH base size 3	1
56SEP	Plate for NH base size 4	1

Extraction Handle

References	Description	Package
64010011	Extraction handle for NH fuse	1

Photovoltaic NH fuse bases

PV range of NH fuse bases cover sizes NH 1, 2XL, and 3L and are specially designed for photovoltaic applications characterised for operating at elevated voltage values in particular environments with high temperatures.

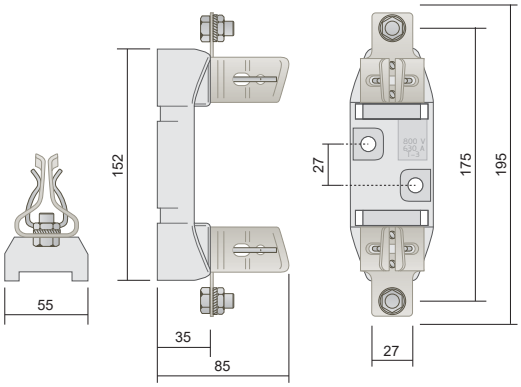
They use cooper silver plated Lyra type contacts with an extensive contact area for the fuse blades that provide good heat dissipation. A spring washer that has followed resistance treatment tensions the contact to ensure good electrical transmission.

Size 1 base are made of self-extinguishing plastics with highly insulating properties. Special sizes 2XL and 3L use ceramic bases that raise contact distance to the bottom while offering good insulation characteristics.

Size 1

References	Fuse size	In (A)	Poles	Package
531PV	NH1	250 A	1	3

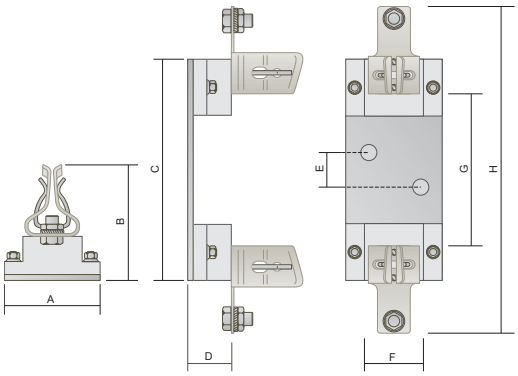
Dimensions



Size 2XL/3L

References	Fuse size	In (A)	Poles	Package
541PV	NH2XL	400 A	1	3
551PV	NH3L	630 A	1	3

Dimensions



Ref.	A	B	C	D	E	F	G	H
541PV	85	100	195	35	30	55	134	278
551PV	85	100	195	35	30	52	134	288

NH Fuse switch disconnectors

Gave introduces a new range of NH fuse switch disconnectors characterised by its wide range of sizes, modularity and scope of accessories.

Functions

NH fuse switch disconnectors are used on low voltage electrical systems that require high protection against shortcircuit while securing on load circuit disconnection and isolation. We can find application on switchboard, distribution systems, OEM,..

According to standards

- IEC/EN 60 947-3
- VDE 0660 / part 100
- IEC/EN 60 269-2-1
- VDE 0636 / part 201

General characteristics

- Four sizes available from 00 to 3 (up to 630A).
- Range uniformity and modularity.
- Size 00 and 1 offer single pole, double pole, triple pole and quadruple pole models.
- Mounting options. Size 000 DIN rail or base mounting. Other sizes base mounting or busbar mounting.
- Installation flexibility vertical or horizontal. Sizes 00,1 and 2.
- Self extinguishing halogen free materials.

Product construction

Base: Manufactured of halogen free glass reinforced self-extinguishing material with high thermal stability characteristics. Copper contacts offer galvanic surface coating. Contact springs made of stainless steel. Symmetrical switch suitable for bottom / top cable terminal connections

Cover: The switch operating cover is made of halogen free glass reinforced self-extinguishing material. Supplied with large windows which enable to clearly check internal fuse characteristics and indicator status. Ergonomic handle for easy operation.

Touch protection IP20. When fuse link is in test mode IP rating is maintained.

Easy direct installation by snapping on to the bus bars.

Locking and sealing devices.

Parking position of switch operating cover.

Technical specifications

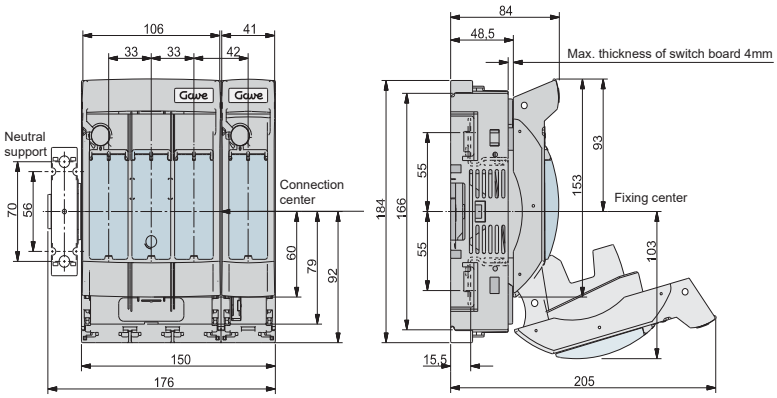
Fuse			NH 00	NH 1	NH 2	NH 3
Conventional free air thermal current with fuse links Ith			160 A	250 A	400 A	630 A
Max. Allowed power dissipation of nh-fuse links Pn			12 W	23 W	34 W	48 W
Conventional free air thermal current with solid links Ith			200 A	400 A	630 A	780 A
Max. Allowed power dissipation of solid links Pn			1.2 W	2.6 W	9 W	17,5 W
Utilization category	AC 21 B	690 V	125 A	200 A	315 A	500 A
	AC 21 B	400 V				
	DC 21 B1)	440 V			400 A	
	AC 23 B	400 V	160 A	250 A	400 A	630 A
	AC 22 B	500 V	160 A	250 A	400 A	630 A
	DC 22 B	220 V	160 A	250 A		
Rated operational voltage Ue			690 V	690 V	690 V	690 V
Rated insulation voltage Ui			1000 V	1000 V	1000 V	1000 V
Rated impulse withstand voltage Uimp			8 kV	12 kV	12 kV	12 kV
Rated frequency			50–60 Hz	50–60 Hz	50–60 Hz	50-60 Hz
Degree of protection			IP20	IP20	IP20	IP20
Pollution degree			3	3	3	3
Rated duty			uninterrupted duty	uninterrupted duty	uninterrupted duty	uninterrupted duty
Rated short-circuit making capacity with solid links Icm			6.2 kAsw	8.2 kAsw	10.6 kAsw	18,6 kAsw
Rated short-circuit making capacity with fuse links		400 V AC	80 kA / Ie = 160 A	80 kA / Ie = 200 A	80 kA / Ie = 400 A	80 kA / Ie = 630 A
		500 V AC	80 kA Ie = 160 A	80 kA Ie = 200 A	80 kA Ie = 400 A	80 kA Ie = 630 A
		690 V AC	50 kA Ie = 125 A	80 kA Ie = 200 A	80 kA Ie = 315 A	50 kA Ie = 500 A
Rated short-time withstand current with solid links Icw			4 kA / 1 s	8 kA / 1 s	13 kA / 1 s	18 kA / 1 s
Power dissipation ith without NH-Fuse links			2.3 W	3.5 W	20 W	40 W
Power dissipation ith without solid links			3.3 W	8 W	50 W	150 W
Cable terminal connections			M8 Screw	M10 Screw	M10 Screw	M12 Screw
Bus bar		Type / Width	60mm / 5-10mm	40-60mm / 5-10mm	40-60mm / 5-10mm	-

NH Fuse switch disconnectors

NH 00 Fuse switch

References	Poles	Current (A)	Connection	Weight (kg)
711	1	160	M8 screw	0,32
713	3	160	M8 screw	0,74
714	4	160	M8 screw	1,04

Dimensions

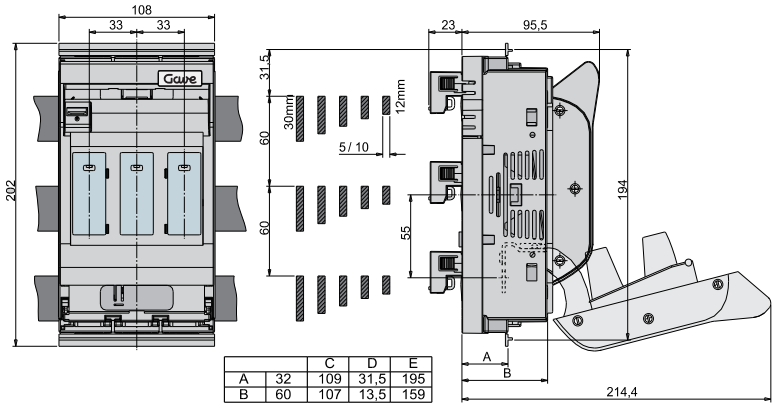


NH 00 Fuse switch

Direct installation on to bus bar systems

References	Poles	Current (A)	Connection	Weight (kg)
713PC	3	160	60mm bus bar systems M8 screw	1,04

Dimensions

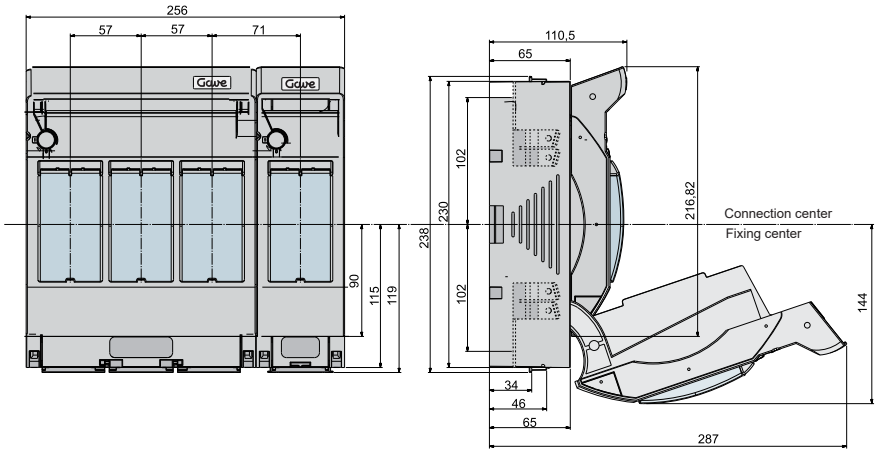


		C	D	E
A	32	109	31,5	195
B	60	107	13,5	159

NH 1 Fuse switch

References	Poles	Current (A)	Connection	Weight (kg)
731	1	250	M10 screw	1,00
733	3	250	M10 screw	2,42
734	4	250	M10 screw	3,42

Dimensions

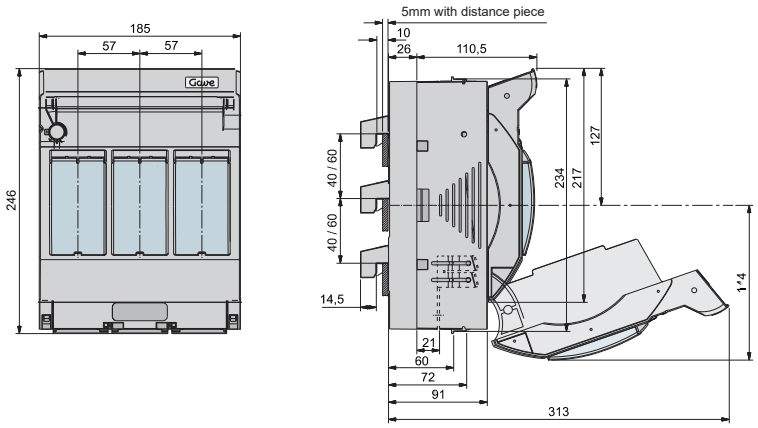


NH 1 Fuse switch

Direct installation on to bus bar systems

References	Poles	Current (A)	Connection	Weight (kg)
733PC	3	250	40-60mm bus bar systems M10 screw	3,12

Dimensions

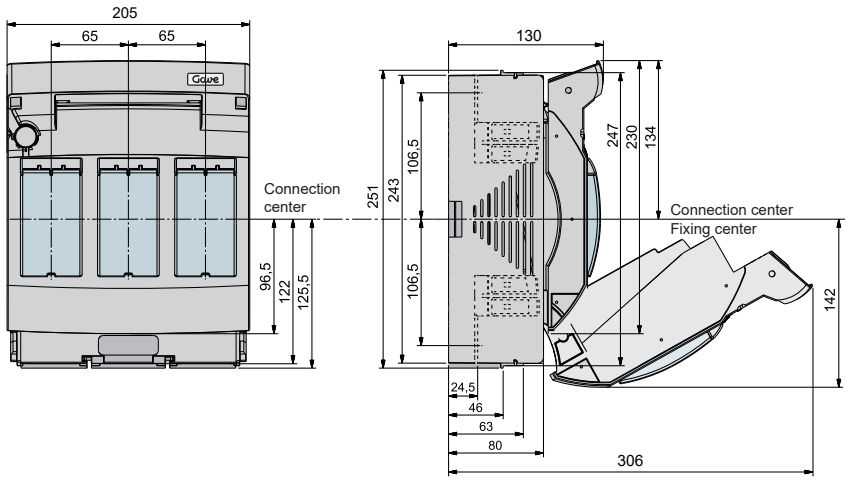


NH Fuse switch disconnectors

NH 2 Fuse switch

References	Poles	Current (A)	Connection	Weight (kg)
743	3	400	M10 screw	3,47

Dimensions

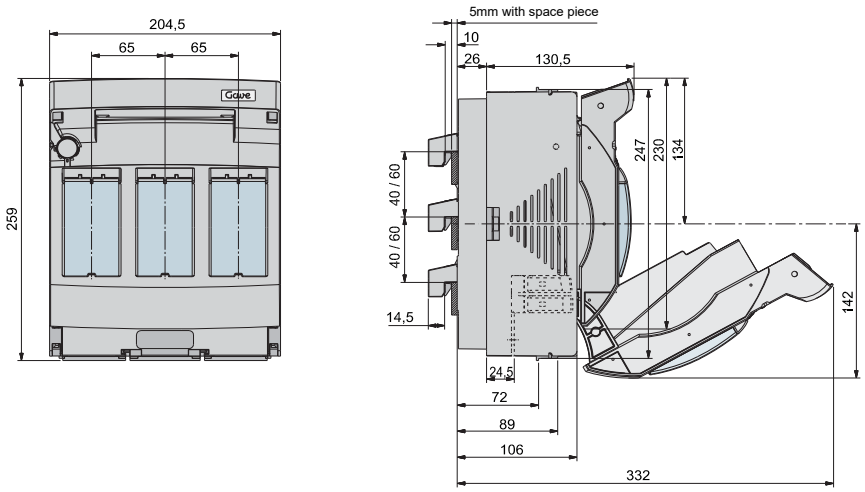


NH 2 Fuse switch

Direct installation on to bus bar systems

References	Poles	Current (A)	Connection	Weight (kg)
743PC	3	400	40-60 mm bus bar systems M12 screw	4,5

Dimensions



NH 3 Fuse switch

References	Poles	Current (A)	Connection	Weight (kg)
753	3	630	M12 screw	4,94
754	4	630	M12 screw	7,44

Dimensions