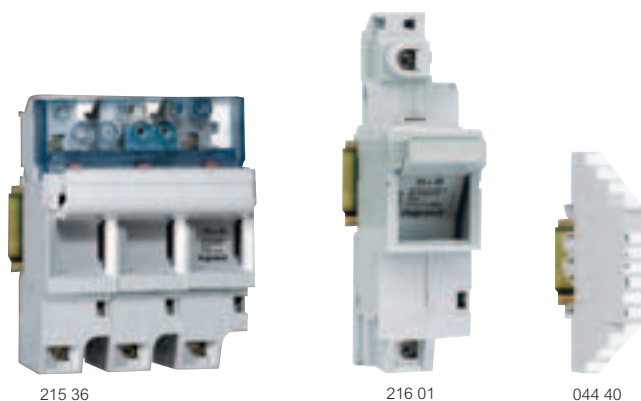


SP fuse carriers with protected terminals



215 36

216 01

044 40

Conform to IEC 60269-2
Veritas approved
Height under front plate 44 mm
Mixed socket screw head for easier cable clamping
Screw or rail and mounting

Pack	Cat.Nos	SP 51 for HRC fuses 14 x 51		
5	215 01	1P	Connection	No of modules
1	215 03	2P	1 x 35 mm ²	1.5
1	215 04	3P	or	3
1	215 05	3P + equipped neutral	2 x 16 mm ²	4.5
With 5 A - 250 V~ changeover micro-switch Cartridge presence, prebreak and device against single-phase operation				
1	215 36	3P	1 x 35 mm ² or 2 x 16 mm ²	4.5

Pack	Cat.Nos	SP 58 for HRC fuses 22 x 58		
3	216 01	1P	Connection	No of modules
1	216 04	3P	1 x 50 mm ²	2
1	216 05	3P + equipped neutral	or 2 x 25 mm ²	8
With 5 A - 250 V~ changeover micro-switch Cartridge presence, prebreak and device against single-phase operation				
1	216 36	3P	1 x 50 mm ² or 2 x 25 mm ²	6

Accessories

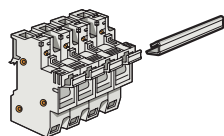
Spacing unit

Placed between mechanisms to aid cooling

Link handle

For SP 51 or SP 58
Length 300 mm,
can be cut to required length

No of modules
0.5



SP fuse carriers with protected terminals

Choice of equipment

Type	Rated current	Maximum cartridge rating					
		400 V~		500 V~		690 V~	
		gG	aM	gG	aM	gG	aM
SP 51	50 A	50	50	50	40	25	25
SP 58	100 A (125 A in 400 V)	125	125	100	100	50	50

These values are standardized according to IEC 60269-2/2-1
They can be reduced or increased under certain specific applications

Index of protection: IP 2X - IP 2XC - under front plate

Equipment derating

Recommended for equipment exposed to high temperatures:

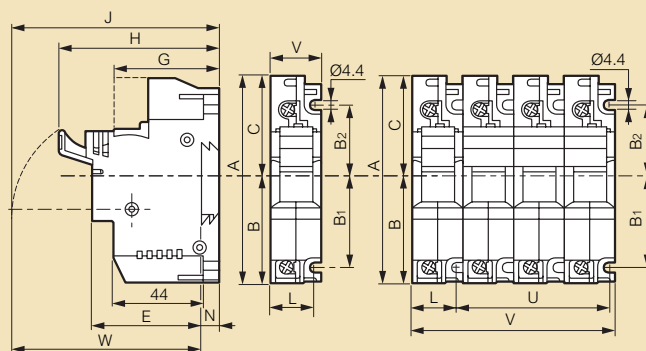
- Ambient temperature over 35 °C: derate fuse by one rating per 10 °C (UTE C 20-051 / IEC 60943)
- Side-by-side equipment and simultaneous function

2 - 3 devices	0.9 x I _n
4 - 5 devices	0.8 x I _n
6 - 7 - 8 - 9 devices	0.7 x I _n
≥ 10 devices	0.6 x I _n

This coefficient is to be applied on the nominal rating of the base (IEC 60439-1)

- Uninterrupted usage: it may be necessary to upgrade the bases by one size

Dimensions (mm)



	A	B	B ₁	B ₂	C	E	G	H	J
SP 51	106	54.5	45	35	51.5	55	53	1P 2P/3P	1P 96
SP 58	140	74	65	45	66	59	53	81 84 87 90	111

	J	L	N	U	2P	3P	4P	1P	2P	V	3P	4P	1P	2P/3P	W
SP 51	99	20.7	9	26.5	53	79.5	26.5	53	79.5	106	87	90	101	109	
SP 58	114	27	9	36	72	108	36	72	108	144	101	109			

HRC cartridge fuses



Technical data and dimensions (p. 113 to 115)

Pack	Cat.Nos		Cylindrical type gG		
	Without indicator	With indicator	Rating (Amps)	Voltage ~ (Volts)	Rupture capacity (Amps)
			Conform to EN 60269-1 and 2, IEC 60269-1, 2 and 2-1 Veritas approved		
			10 x 38 HRC		
10	133 94		0.5		
10	133 01		1		
10	133 02	134 02	2		
10	133 04	134 04	4		
10	133 06	134 06	6		
10	133 08	134 08	8	500	100 000
10	133 10	134 10	10		
10	133 16	134 16	16		
10	133 20	134 20	20		
10	133 25	134 25	25		
			14 x 51 HRC		
10	143 06		6		
10	143 10		10		
10	143 16	145 16	16		
10	143 20	145 20	20	500	100 000
10	143 25	145 25	25		
10	143 32	145 32	32		
10	143 40	145 40	40		
10	143 50 ⁽¹⁾	145 50 ⁽¹⁾	50		
			22 x 58 HRC		
10	153 16		16		
10	153 20		20		
10	153 25		25		
10	153 32		32		
10	153 40		40	500	100 000
10	153 50	155 50	50		
10	153 63	155 63	63		
10	153 80	155 80	80		
10	153 96	155 96	100		
10	153 97 ⁽¹⁾	155 97 ⁽¹⁾	125	400	

Pack	Cat.Nos		Cylindrical type aM (motor rated)		
	Without indicator	With indicator	Rating (Amps)	Voltage ~ (Volts)	Rupture capacity (Amps)
			Conform to EN 60269-1, IEC 60269-1 Veritas approved		
			8.5 x 31.5		
10	120 04		4		
10	120 06		6	400	20 000
10	120 08		8		
10	120 10		10		
			Conform to EN 60296-1 and 2, IEC 60269-1, 2 and 2-1 Veritas approved		
			10 x 38 HRC		
10	130 95		0.50		
10	130 01		1		
10	130 02		2		
10	130 04		4		
10	130 06		6	500	100 000
10	130 08		8		
10	130 10		10		
10	130 12		12		
10	130 16		16		
10	130 20 ⁽²⁾		20	400	
10	130 25 ⁽²⁾		25	400	
			14 x 51 HRC		
10		141 02	2		
10		141 04	4		
10		141 06	6		
10		141 08	8		
10	140 10	141 10	10		
10	140 12	141 12	12	500	100 000
10	140 16	141 16	16		
10	140 20	141 20	20		
10	140 25	141 25	25		
10	140 32	141 32	32		
10	140 40	141 40	40		
10	140 50 ⁽¹⁾	141 50 ⁽¹⁾	50	400	
			22 x 58 HRC		
10	150 25	151 25	25		
10	150 32	151 32	32		
10	150 40	151 40	40		
10	150 50	151 50	50	500	100 000
10	150 63	151 63	63		
10	150 80	151 80	80		
10	150 96	151 95	100		
10	150 97	151 97	125	400	

Neutral links

10	123 00	8.5 x 31.5
10	133 00	10 x 38
10	143 00	14 x 51
10	153 00	22 x 58



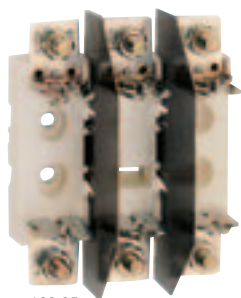
Isolating fuse carriers 8.5 x 31.5 and 10 x 38

see p. 145

(1) Overrating described by standards
(2) Overrating not described by standards

blade type cartridge fuses

bases



160 05



162 00



170 02



199 16



Terminal shield 199 22



Technical data and dimensions (p. 113 to 115)

Bases for blade type cartridge fuses			Accessories		
Pack	Cat.Nos		Pack	Cat.Nos	
		Fibreglass reinforced polyester base Contact points are sprung except for size 4 (bolts) Bases with 10 A - 250 V~ micro-switch have a "cartridge present" signalling device for fuses with standardised striker Conform to EN 60269-1 and 2 and IEC 60269-1, 2 and 2-1 - VDE 0636-21 Veritas approved			
	Single pole	Triple pole ⁽¹⁾			
3	160 01		5	199 02	Handle
1		160 05			For all sizes
			10	199 09	Separation dividers
3	162 00		10	199 15	Size 00 (for Cat.No 160 01 and Cat.No 162 00)
1		162 04	10	199 16	Size 0
			10	199 17	Size 1
			10	199 18	Size 2
1		165 03	2	199 19	Size 3
3	165 02		2		Size 4
					Terminal shields
					For complete protection of blade type cartridge fuse bases
3	170 00		10	199 20	Size 00
1		170 03	10	199 21	Size 0
1	170 02		10	199 22	Size 1
			10	199 23	Size 2
3	175 00				
1		175 03			
1	181 02				
1	185 02				

(1) Supplied with 2 dividers
(2) Base with 2 micro-switch, please consult us

HRC blade type cartridge fuses

gG/aM type



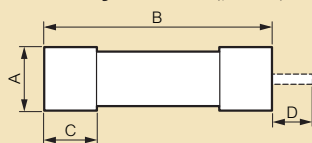
Technical data and dimensions (p. 113 to 115)

Pack	Cat.Nos		Type gG (IEC) / gL (VDE)			Pack	Cat.Nos		Type aM (motor rated)			
			Conform to EN 60269-1 and 2 - IEC 60269-1, 2 and 2-1 - VDE 0636-21 Veritas approved						Conform to EN 60269-1 and 2 - IEC 60269-1, 2 and 2-1 - VDE 0636-22 Veritas approved			
			Fully insulated end plate and handle lugs						Fully insulated end plate and handle lugs			
			Rating (Amps)	Voltage ~ (Volts)	Rupture capacity (Amps)				Rating (Amps)	Voltage ~ (Volts)	Rupture capacity (Amps)	
			Size 00						Size 00			
10	163 18	With indicator With striker	25	500	120 000	3	160 35	With indicator With striker	63	500	120 000	
10	163 20		32			3	160 40		80			
10	163 22		35			3	160 45		100			
10	163 25		40			3	160 50 ⁽¹⁾		125			
10	163 30		50									
10	163 35		63									
10	163 40		80			3	166 35		63			
10	163 45		100			3	166 40		80			
10	163 50		125			3	166 45		100			
10	163 55		160			3	166 50		125			
										3	166 55	
			Size 0						Size 1			
3	168 35		63	500	120 000	3			125	500	120 000	
3	168 40		80			3	171 50	160				
3	168 45		100			3	171 55	200				
3	168 50		125			3	171 60	250				
3	168 55		160									
			Size 1						Size 2			
3	173 50		125	500	120 000	3	176 60		200	500	120 000	
3	173 55		160			3	176 65	250				
3	173 60		200			3	176 70	315				
3	173 65		250			3	176 75	400				
			Size 2						Size 3			
3	178 60		200	500	120 000	3	180 75		500	500	120 000	
3	178 65		250			3	180 80	630				
3	178 70		315									
3	178 75		400									
			Size 3						Size 4			
3	181 25		500	500	120 000	1	184 80		630	500	120 000	
3	181 30		630			1	184 85	800				
						1	184 90		1000			
			Size 4									
1	185 80		630	500	120 000							
1	185 85		800									
1	185 90		1 000									
1	185 95 ⁽¹⁾		1 250									

(1) Overrating not described by standards

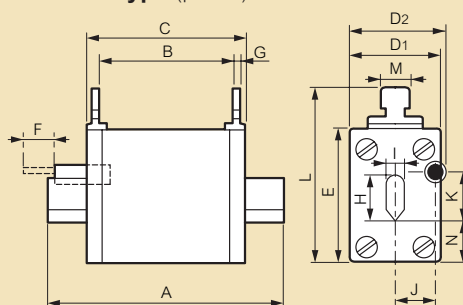
cartridge fuses

■ HRC cylindrical (p. 110)



Size (mm)	A	B	C	D
8.5 x 31.5	8.5	31.5	6.3	-
10 x 38	10.3	38	10	-
14 x 51	14.3	51	13	7.5
22 x 58	22.2	58	16	7.5

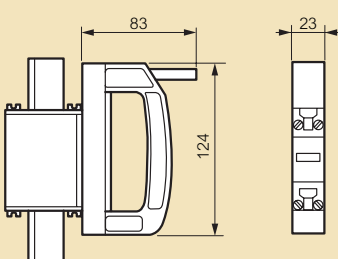
■ Blade type (p. 111)



Size (mm)	00	0	1	2	3	4
A	78	125	135	150	150	200
B	44	62	64	64	61	61
C	52	67	74	74	75	78
D1	30	36	47	50	70	90
D2	-	39	47	50	64	77
E	46	46	52	60	75	107
F	-	14	14	14	14	14
G	2.5	2.5	3	3	2.5	2.5
H	15	15	21	28	36	60
I	6	6	6	6	6	8
J	-	14.5	16	19	23	27
K	-	14.5	14.5	14.5	14.5	14.5
L	59	59	64	72	88	119
M	10	10	10	10	10	10
N	14.5	14.5	14.5	14.5	18	23

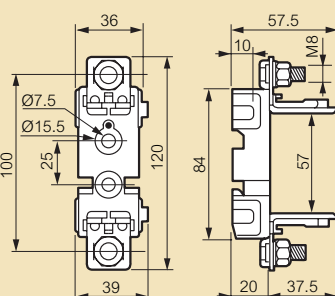
Note: Force of striker at the beginning of stroke 1.9 kg and 1 kg at the end according to NF C 63-213

■ Removable handle (p. 111)

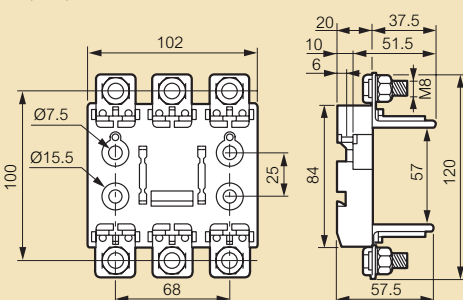


■ Bases for blade type (p. 111)

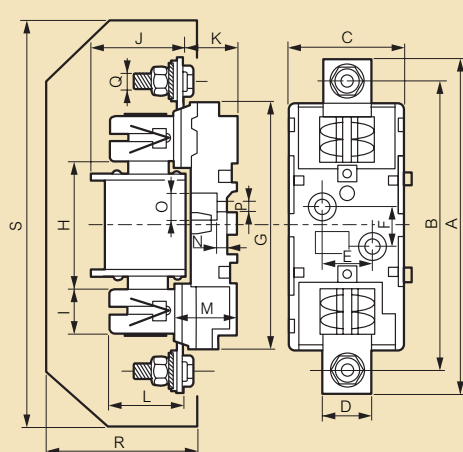
Size 00
Single pole Cat.Nos 160 01 - 162 00



Triple pole Cat.Nos 160 05 - 162 04



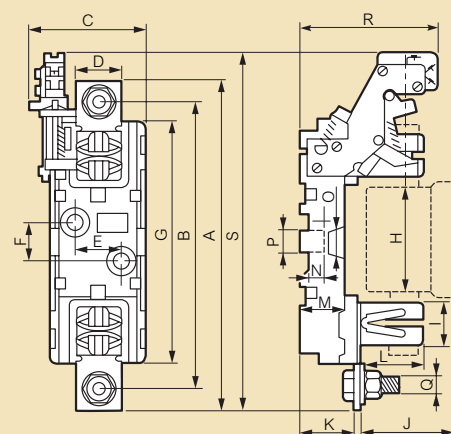
Sizes 0 to 4
Single pole without micro-switch



Size (mm)	0	1	2	3	4
A	171	200	225	250	320
B	150	175	200	210	270
C	47	59	67	82	114
D	20	25	30	41	51
E	-	30	30	30	45
F	25	25	25	25	30
G	125	150	170	158	220
H	75	80	80	83	98
I	23	28	32	35	50
J	68	68	83	92	125
K	24	35	35	35	40
L	43	46	58	68	93
M	28	38	39	40	40
N	11.5	13.5	13.5	14	14
O	14	20	20	20	28
P	7.5	10.5	10.5	10.5	13
Q	8	10	10	12	16
R	96	107	121	110	138
S	180	224	240	266	336

Size 0 to 4 (continued)

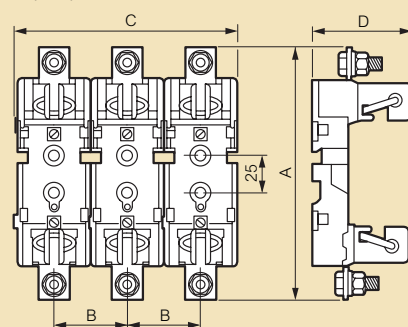
Single pole with micro-switch



Size (mm)	0	1	2	3	4
A	171	200	225	250	320
B	150	175	200	210	270
C	63	72	78	91	114
D	20	25	30	41	51
E	-	30	30	30	45
F	25	25	25	25	30
G	125	150	170	158	220
H	75	80	80	83	98
I	23	28	32	35	50
J	68	68	83	92	125
K	24	35	35	35	40
L	43	46	58	68	93
M	28	38	39	40	40
N	11.5	13.5	13.5	14	14
O	14	20	20	20	28
P	7.5	10.5	10.5	10.5	13
Q	8	10	10	12	16
R	75	85	90	94	105.5
S	198	215	229	242	280

Size 0 - 1 - 2

Triple pole



Size (mm)	0	1	2
A	171	200	225
B	48	62.5	68
C	144	180	204
D	67	81	93

selection charts

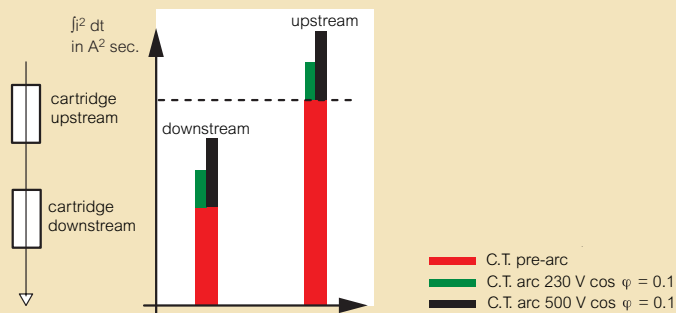
■ How to select a protection system ?

Depending on the type of failure, overload or short-circuit, use 2 series of data

① Overloads: use the operating zone curves of the different protection devices. On the same row, the operating zones should not overlap

② Short-circuits: use the $\bar{I}^2t$ tables. The total $\bar{I}^2t$ of the protection system the furthest downstream must be less than the upstream protection pre-arc $\bar{I}^2t$

■ Example of good selection



■ Selection between cartridge fuses (according to IEC 60269-2-1)

Upstream rating gG cartridge fuse (A)	Downstream maximum rating determined according to class and voltage to obtain selection	
	aM	gG
2		
4	1	1
6	2	2
8	2	2
10	2	4
12	2	4
16	4	6
20	6	10
25	8	16
32	10	20
35	12	20
40	12	25
50	16	32
63	20	40
80	25	50
100	36	63
125	40	80
160	63	100
200	80	125
250	125	160
315	125	200
400	160	250
500	200	315
630	250	400
800	315	500
1 000	400	630
1 250	500	800

Upstream rating aM cartridge fuse (A)	Downstream maximum rating determined according to class and voltage to obtain selection	
	aM	gG
2	1	1
4	2	4
6	2	6
8	4	8
10	6	10
12	6	12
16	10	16
20	12	20
25	12	25
32	20	32
36	20	32
40	25	32
50	25	40
63	40	50
80	50	63
100	63	80
125	80	100
160	100	125
200	125	160
250	160	160
315	200	200
400	250	250
500	315	315
630	400	400
800	500	500
1 000	630	500
1 250	800	630

■ Motor protection

Motor three-phase									Cartridges																	
230 V			400 V			500 V			10 x 38 ratings		14 x 51 ratings		22 x 58 ratings		S. 00 ratings		S. 0 ratings		S. 1 ratings		S. 2 ratings		S. 3 ratings		S. 4 ratings	
kW	Hp	In A	kW	Hp	In A	kW	Hp	In A	gG	aM	gG	aM	gG	aM	gG	aM	gG	aM	gG	aM	gG	aM	gG	aM	gG	aM
0.37	0.5	1.8	0.75	1	2	1.5	2	2.6	4	2	4	2														
0.75	1	3.5	1.5	2	3.5	2.2	3	3.8	8	4	8	4														
1.1	1.5	4.4	2.2	3	5	3.7	5	5.9	12	6	12	6														
1.8	2.5	7	3	4	6.6	4	5.5	6.5	16	8	16	8	16													
2.2	3	8.7	4	5.5	8.5	5.5	7.5	9	20	10	20	10	20													
3	4	11.5	5.5	7.5	11.5	7.5	10	12	25	12	25	12	25	25	25											
4	5.5	14.3	7.5	10	15.5	11	15	18.4	20 ⁽¹⁾	32	20	32	20	32	20	32	20									
5.5	7.5	20	11	15	22	15	20	23	20 ⁽¹⁾	50	25	50	25	50	25	50	25									
7.5	10	27	15	20	30	18.5	25	28.5			32	50	32	50	32	50	32									
10	13.5	35	18.5	25	37	25	34	39.4			40	63	40	63	40	63	40	63								
11	15	39	22	30	44	30	40	45			50 ⁽¹⁾	80	50	80	50	80	50	80								
15	20	52	25	34	51	40	54	60				100	63	100	63	100	63									
18.5	25	64	30	40	60	45	60	65					80	125	80	125	80	125	80	125						
22	30	75	37	50	72	51	70	75					80	125	80	125	80	125	80	125						
25	35	85	45	60	85	63	109	89					100	160	100	160	100	160								
30	40	103	55	75	105	80	110	112					125 ⁽¹⁾	200	125	200	125	200	125	200	125	200				
45	60	147	75	100	138	110	150	156							160	250	160	250								
55	75	182	90	125	170	132	180	187										200	315	200						
75	100	239	110	150	205	160	220	220										250	400	250						
80	160	260	132	180	245	220	300	310												315						
90	125	295	160	218	300															315						
110	150	356	200	270	370	250	340	360												400						
132	180	425	250	340	475	335	450	472															500			
160	218	520	315	430	584	450	610	608															630			
220	300	710	400	550	750	500	680	680																	800	

(1) 400 V max.

blade cartridge fuses gG and aM types

The gG or aM types protect the conductors of electrical circuits in the event of overload or short-circuit

gG cartridge fuses:

The selectivity ratio is 1.6 instead of 2

The breaking capacity of 120,000 A provides full protection in the most critical situations

aM cartridge fuses:

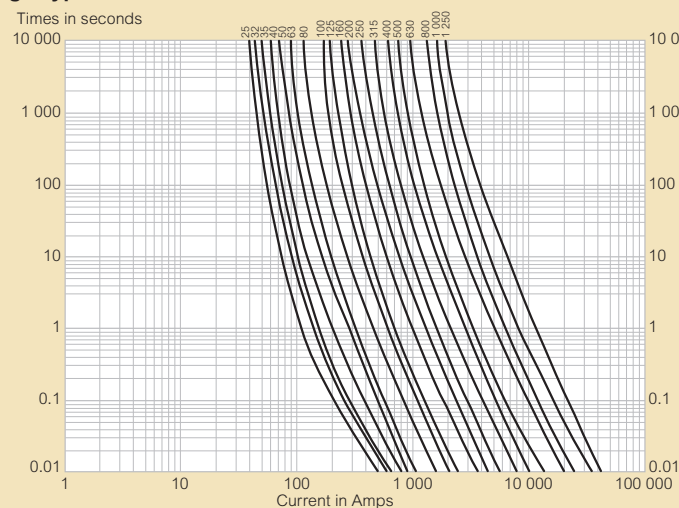
These cartridge fuses must be combined with a low-overload thermal protection device

The breaking capacity of 100,000 A from size 10 x 38 upwards provides full protection in the most critical situations

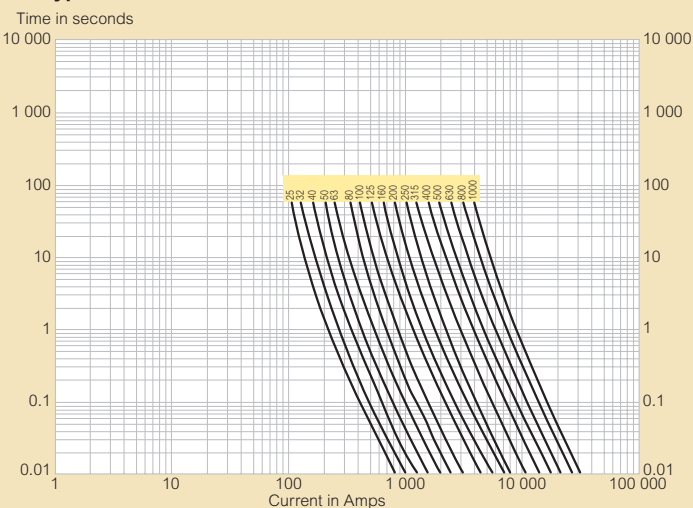
Cylindrical industrial cartridge fuses can be used to protect DC circuits supplied at up to 48 V max.

■ Rupture capacity curves

gG type

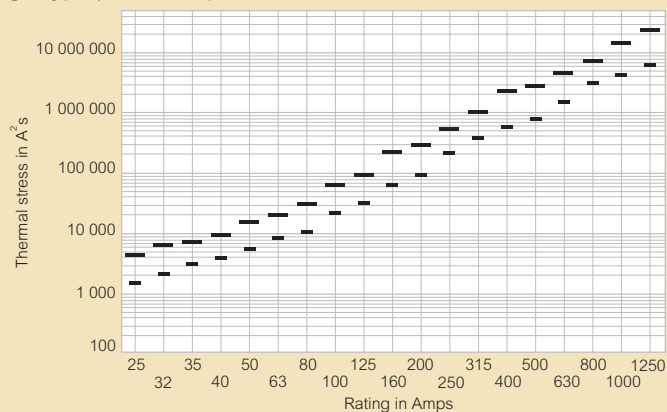


aM type



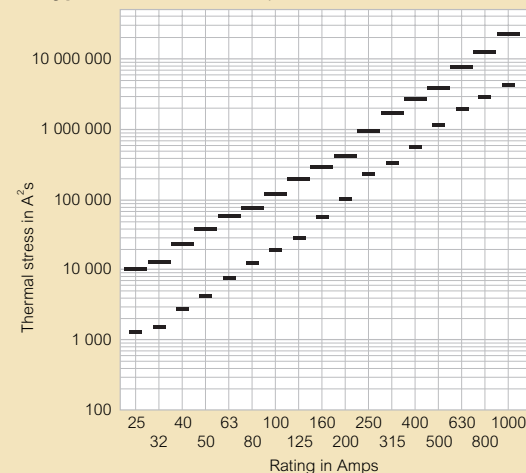
■ Thermal stresses ($\int I^2 dt$)

gG type (for 500 V~)

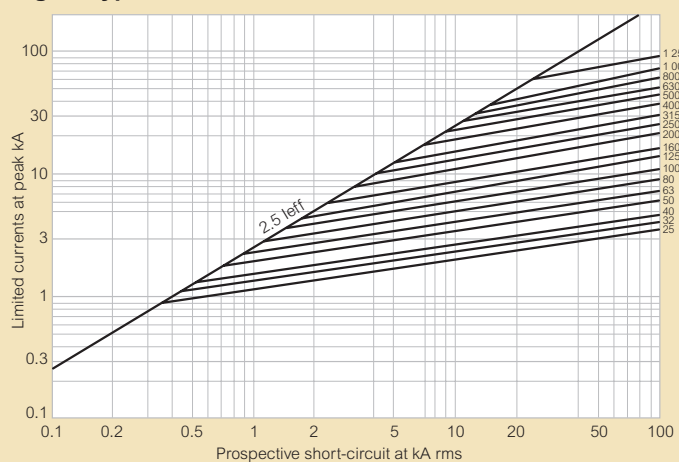


- Total maximum thermal stress for critical current
- - Pre-arc thermal stress for critical current

aM type for 500 V~ - except 1250 A for 400 V



■ gG⁽¹⁾ type limitation curve



(1) For aM cartridge fuses, see technical data sheets in the Legrand e-catalogue

■ Consumption in watts when hot, at rated current

Fuse ratings (A)	Cartridge fuses			
	gG		aM	
	Size 00	Size 0 to 4	Size 00	Size 0 to 4
25	2.1		1.3	
32	3		1.8	
35	3			
40	3.3	4.2	2.5	
50	4.5	5.5	3	
63	6	6.5	3.6	3.9
80	7	8.5	5.2	5.5
100	7.5	9.5	6	6.5
125	13	12	7	8.5
160	15	15		11.5
200		19		13.5
250		23		17
315		24		24
400		33		28
500		36		34
630		45		41
800		51		49
1000		77		70
1250		80		75