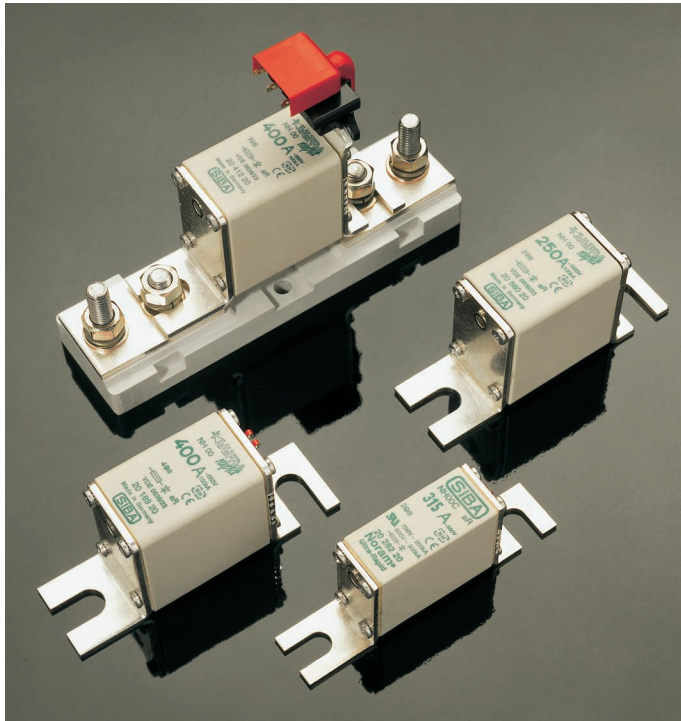



FUSES FOR SEMICONDUCTOR PROTECTION

EUROPEAN STANDARD

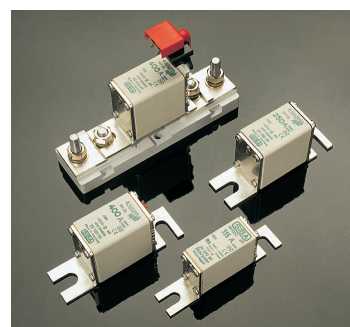
SIZES 000 AND 00



Class: aR
 Voltage rating: AC 660 V – AC 1000 V
 Current rating: 10 A to 400 A
 Approvals: 
 Standards: DIN 43653
 IEC 60269-1 and -4
 DIN VDE 0636-40
 UL 248-13

Features / Benefits

- ▶ Extremely high interrupting rating 100 kA – 300 kA
- ▶ Voltage rating AC 660 V – AC 1000 V
- ▶ Protection of Power Semiconductors according to IEC 60269-1 and -4
- ▶ Complies with DIN 43653 – sizes 000 and 00 with or without Topindicator and trip microswitch
- ▶ aR class 10 A–400 A according to IEC 60269-4 and DIN VDE 0636-40
- ▶ Fuse Bases and Accessories are available



FUSES FOR SEMICONDUCTOR PROTECTION

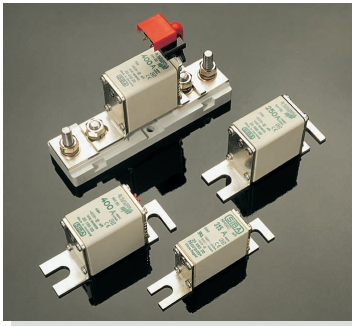
EUROPEAN STANDARD

SIZES 000 AND 00

Selection Guide

Size	Rated Voltage AC	Fixing Center	Indicator *	Part No. Type	Selector Guide Page	Techn. Data Page
000	660 V	3,15" (80 mm)	with Topindicator	20 282 04	URB 3	URB 10
000	660 V	3.15" (80 mm)	without Topindicator	20 282 41	URB 3	URB 10
000	660 V	3.15" (80 mm)	with microswitch fitting	20 558 04	URB 4	URB 10
000	690/700 V	3.15" (80 mm)	with Topindicator	20 282 20	URB 3	URB 11
000	690/700 V	3.15" (80 mm)	without Topindicator	20 282 21	URB 3	URB 11
000	690/700 V	3.15" (80 mm)	with microswitch fitting	20 558 20	URB 4	URB 11
00	660 V	3.15" (80 mm)	with Topindicator	20 189 04	URB 5	URB 12
00	660 V	3.15" (80 mm)	without Topindicator	20 189 41	URB 5	URB 12
00	660 V	3.15" (80 mm)	with microswitch fitting	20 412 04	URB 6	URB 12
00	690/700 V	3.15" (80 mm)	with Topindicator	20 189 20	URB 5	URB 13
00	690/700 V	3.15" (80 mm)	without Topindicator	20 189 21	URB 5	URB 13
00	690/700 V	3.15" (80 mm)	with microswitch fitting	20 412 20	URB 7	URB 13
00	1000 V	3.15" (80 mm)	with Topindicator	20 560 20	URB 8	URB 14
00	1000 V	3.15" (80 mm)	without Topindicator	20 560 21	URB 8	URB 14
00	1000 V	3.15" (80 mm)	with microswitch fitting	20 562 20	URB 9	URB 14
Fuse Base	1000 V			21 189 01		URB 15
Microswitch	250 V			28 002 05		URB 15

* Minimum operating voltage for Topindicator 6.5 V



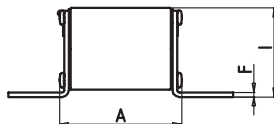
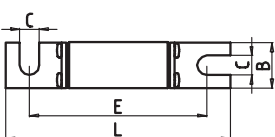
FUSES FOR SEMICONDUCTOR PROTECTION
EUROPEAN STANDARD SIZES 000 AND 00

Size 000 **Rated voltage AC 660 V** **Standard DIN 43653**

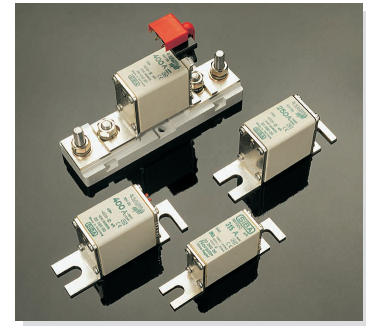
Rated current	Part No. with Topindicator	Part No. without Topindicator	UL Rec.	Weight (kg/100)	Pack
16 A	20 282 04	20 282 41		17	6
20 A	20 282 04	20 282 41		17	6
25 A	20 282 04	20 282 41		17	6
32 A	20 282 04	20 282 41		17	6
35 A	20 282 04	20 282 41		17	6
40 A	20 282 04	20 282 41		17	6
50 A	20 282 04	20 282 41		17	6
63 A	20 282 04	20 282 41		17	6
80 A	20 282 04	20 282 41		17	6
100 A	20 282 04	20 282 41		17	6
125 A	20 282 04	20 282 41		17	6
160 A	20 282 04	20 282 41		17	6

Size 000 **Rated voltage AC 690/700 V** **Standard DIN 43653**

Rated current	Part No. with Topindicator	Part No. without Topindicator	UL Rec.	Weight (kg/100)	Pack
32 A	20 282 20	20 282 21	✓	17	6
35 A	20 282 20	20 282 21	✓	17	6
40 A	20 282 20	20 282 21	✓	17	6
50 A	20 282 20	20 282 21	✓	17	6
63 A	20 282 20	20 282 21	✓	17	6
80 A	20 282 20	20 282 21	✓	17	6
100 A	20 282 20	20 282 21	✓	17	6
125 A	20 282 20	20 282 21	✓	17	6
160 A	20 282 20	20 282 21	✓	17	6
200 A	20 282 20	20 282 21	✓	17	6
250 A	20 282 20	20 282 21	✓	17	6
315 A	20 282 20	20 282 21	✓	17	6



- A** 2.17" (55 mm)
- B** 0.80" (20 mm)
- C** 0.33" (8.5 mm)
- D** 0.80" (20.4 mm)
- E** 3.07" (78 mm)
- F** 0.08" (2 mm)
- I** 1.54" (39 mm)
- L_(max)** 3.94" (100 mm)



FUSES FOR SEMICONDUCTOR PROTECTION

EUROPEAN STANDARD

SIZES 000 AND 00

Size
000

Rated voltage
AC 660 V

Standard
DIN 43653

Rated current	Part No. Topindicator and fitting for microswitch	UL Rec.	Weight (kg/100)	Pack
16 A	20 558 04		17	6
20 A	20 558 04		17	6
25 A	20 558 04		17	6
32 A	20 558 04		17	6
35 A	20 558 04		17	6
40 A	20 558 04		17	6
50 A	20 558 04		17	6
63 A	20 558 04		17	6
80 A	20 558 04		17	6
100 A	20 558 04		17	6
125 A	20 558 04		17	6
160 A	20 558 04		17	6

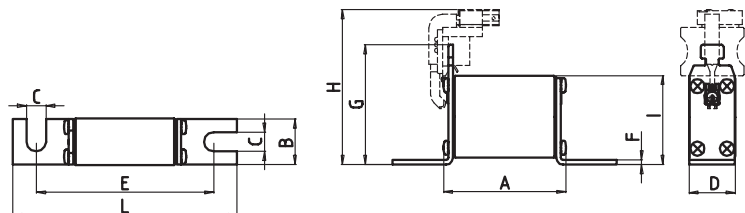
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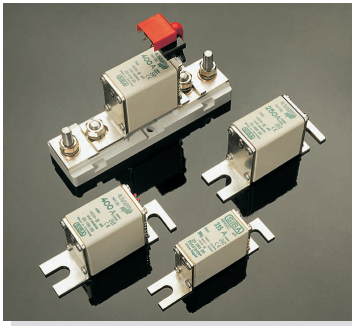
Rated voltage
AC 690/700 V

Standard
DIN 43653

Rated current	Part No. Topindicator and fitting for microswitch	UL Rec.	Weight (kg/100)	Pack
32 A	20 558 20		18	6
35 A	20 558 20		18	6
40 A	20 558 20		18	6
50 A	20 558 20		18	6
63 A	20 558 20		18	6
80 A	20 558 20		18	6
100 A	20 558 20		18	6
125 A	20 558 20		18	6
160 A	20 558 20		18	6
180 A	20 558 20		18	6
200 A	20 558 20		18	6
250 A	20 558 20		18	6
315 A	20 558 20		18	6

A 2.17" (55 mm)	F 0.08" (2 mm)
B 0.80" (20 mm)	G 2.10" (53 mm)
C 0.33" (8,5 mm)	H 2.76" (70 mm)
D 0.80" (20,4 mm)	I 1.54" (39 mm)
E 3.07" (78 mm)	L_(max) 3.94" (100 mm)





FUSES FOR SEMICONDUCTOR PROTECTION
EUROPEAN STANDARD

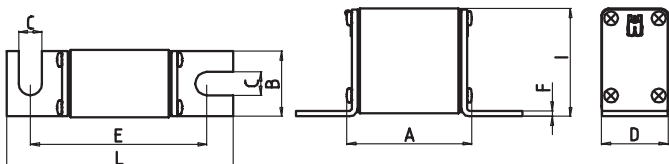
SIZES 000 AND 00

Size 00 **Rated voltage AC 660 V** **Standard DIN 43653**

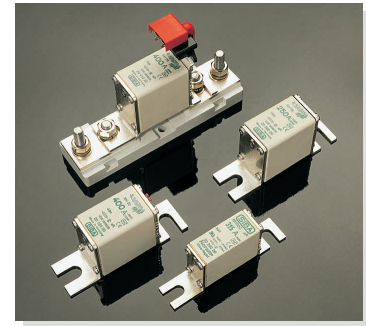
Rated current	Part No. with Topindicator	Part No. without Topindicator	UL Rec.	Weight (kg/100)	Pack
16 A	20 189 04	20 189 41		19	3
20 A	20 189 04	20 189 41		19	3
25 A	20 189 04	20 189 41		19	3
32 A	20 189 04	20 189 41		19	3
35 A	20 189 04	20 189 41		19	3
40 A	20 189 04	20 189 41		19	3
50 A	20 189 04	20 189 41		19	3
63 A	20 189 04	20 189 41		19	3
80 A	20 189 04	20 189 41		19	3
100 A	20 189 04	20 189 41		19	3
125 A	20 189 04	20 189 41		19	3
160 A	20 189 04	20 189 41		19	3
200 A	20 189 04	20 189 41		19	3
250 A	20 189 04	20 189 41		19	3

Size 00 **Rated voltage AC 690/700 V** **Standard DIN 43653**

Rated current	Part No. with Topindicator	Part No. without Topindicator	UL Rec.	Weight (kg/100)	Pack
32 A	20 189 20	20 189 21	✓	21	3
35 A	20 189 20	20 189 21	✓	21	3
40 A	20 189 20	20 189 21	✓	21	3
50 A	20 189 20	20 189 21	✓	21	3
63 A	20 189 20	20 189 21	✓	21	3
80 A	20 189 20	20 189 21	✓	21	3
100 A	20 189 20	20 189 21	✓	21	3
125 A	20 189 20	20 189 21	✓	21	3
160 A	20 189 20	20 189 21	✓	21	3
200 A	20 189 20	20 189 21	✓	21	3
250 A	20 189 20	20 189 21	✓	21	3
315 A	20 189 20	20 189 21	✓	21	3
350 A	20 189 20	20 189 21	✓	21	3
400 A	20 189 20	20 189 21	✓	21	3



A	2.17" (55 mm)	F	0.10" (2,5 mm)
B	1.13" (28,8 mm)	I	1.54" (39 mm)
C	0.40" (10,3 mm)	L_(max)	4.13" (105 mm)
D	1.16" (29,5 mm)		
E	3.07" (78 mm)		



FUSES FOR SEMICONDUCTOR PROTECTION

EUROPEAN STANDARD

SIZES 000 AND 00

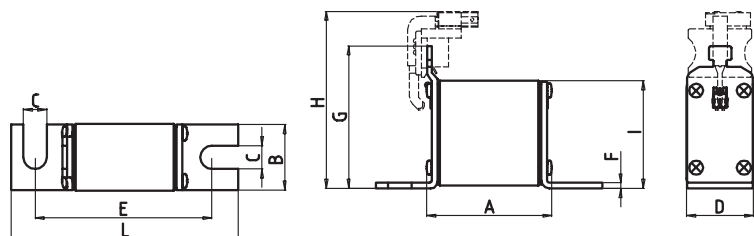
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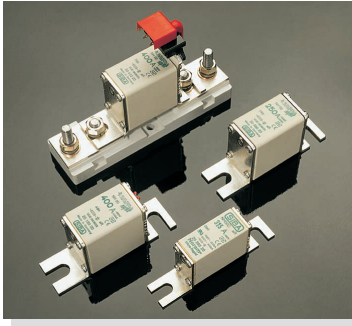
Rated voltage
AC 660 V

Standard
DIN 43653

Rated current	Part No. Topindicator and fitting for microswitch	UL Rec.	Weight (kg/100)	Pack
16 A	20 412 04		21	3
20 A	20 412 04		21	3
25 A	20 412 04		21	3
32 A	20 412 04		21	3
35 A	20 412 04		21	3
40 A	20 412 04		21	3
50 A	20 412 04		21	3
63 A	20 412 04		21	3
80 A	20 412 04		21	3
100 A	20 412 04		21	3
125 A	20 412 04		21	3
160 A	20 412 04		21	3
200 A	20 412 04		21	3
250 A	20 412 04		21	3

A 2.17" (55 mm)	F 0.10" (2.5 mm)
B 1.13" (28.8 mm)	G 2.48" (63 mm)
C 0.40" (10.3 mm)	H 3.15" (80 mm)
D 1.16" (29.5 mm)	I 1.54" (39 mm)
E 3.07" (78 mm)	L_(max) 4.13" (105 mm)



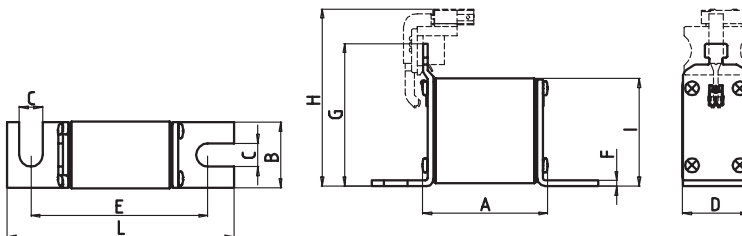


FUSES FOR SEMICONDUCTOR PROTECTION
EUROPEAN STANDARD

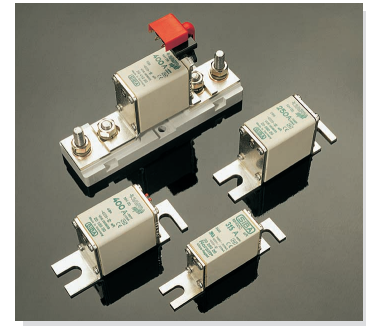
SIZES 000 AND 00

Size **00** Rated voltage **AC 690/700 V** Standard **DIN 43653**

Rated current	Part No. Topindicator and fitting for microswitch	UL Rec.	Weight (kg/100)	Pack
32 A	20 412 20		21	3
35 A	20 412 20		21	3
40 A	20 412 20		21	3
50 A	20 412 20		21	3
63 A	20 412 20		21	3
80 A	20 412 20		21	3
100 A	20 412 20		21	3
125 A	20 412 20		21	3
160 A	20 412 20	✓	21	3
200 A	20 412 20	✓	21	3
250 A	20 412 20	✓	21	3
315 A	20 412 20	✓	21	3
350 A	20 412 20	✓	21	3
400 A	20 412 20		21	3



A	2.17" (55 mm)	F	0.10" (2.5 mm)
B	1.13" (28.8 mm)	G	2.48" (63 mm)
C	0.40" (10.3 mm)	H	3.15" (80 mm)
D	1.16" (29.5 mm)	I	1.54" (39 mm)
E	3.07" (78 mm)	L_(max)	4.13" (105 mm)



FUSES FOR SEMICONDUCTOR PROTECTION

EUROPEAN STANDARD

SIZES 000 AND 00

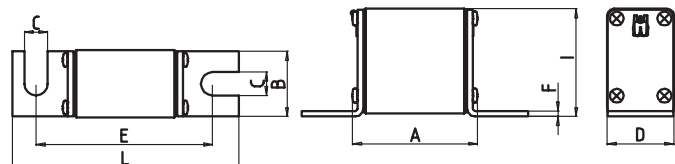
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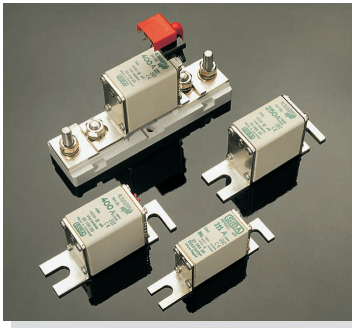
Rated voltage
AC 1000 V

Standard
DIN 43653

Rated current	Part No. with Topindicator	Part No. without Topindicator	UL Rec.	Weight (kg/100)	Pack
32 A	20 560 20	20 560 21		21	3
40 A	20 560 20	20 560 21		21	3
50 A	20 560 20	20 560 21		21	3
63 A	20 560 20	20 560 21		21	3
80 A	20 560 20	20 560 21		21	3
100 A	20 560 20	20 560 21		21	3
125 A	20 560 20	20 560 21		21	3
160 A	20 560 20	20 560 21		21	3
200 A	20 560 20	20 560 21		21	3
250 A	20 560 20	20 560 21		21	3
315 A (AC 900 V)	20 560 20	20 560 21		21	3

A 2.17" (55 mm)	F 0.10" (2,5 mm)
B 1.13" (28,8 mm)	I 1.54" (39 mm)
C 0.40" (10,3 mm)	L_(max) 4.13" (105 mm)
D 1.16" (29,5 mm)	
E 3.07" (78 mm)	



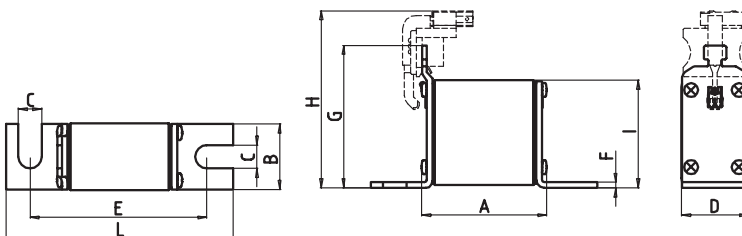


FUSES FOR SEMICONDUCTOR PROTECTION
EUROPEAN STANDARD

SIZES 000 AND 00

Size 00	Rated voltage AC 1000 V	Standard DIN 43653
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Rated current	Part No. Topindicator and fitting for microswitch	UL Rec.	Weight (kg/100)	Pack
32 A	20 562 20		21	3
40 A	20 562 20		21	3
50 A	20 562 20		21	3
63 A	20 562 20		21	3
80 A	20 562 20		21	3
100 A	20 562 20		21	3
125 A	20 562 20		21	3
160 A	20 562 20		21	3
200 A	20 562 20		21	3
250 A	20 562 20		21	3
315 A (AC 900 V)	20 562 20		21	3

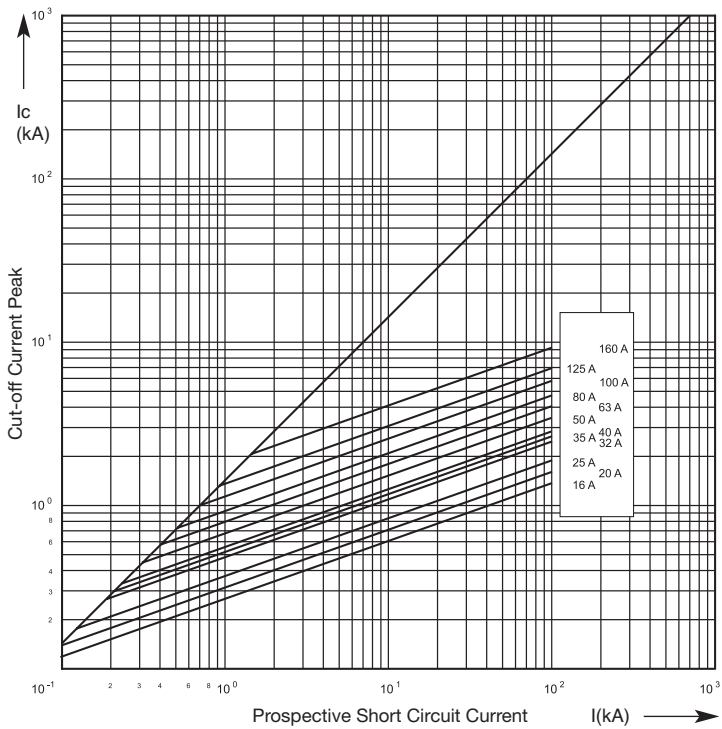


A	2.17" (55 mm)	F	0.10" (2.5 mm)
B	1.13" (28.8 mm)	G	2.48" (63 mm)
C	0.40" (10.3 mm)	H	3.15" (80 mm)
D	1.16" (29.5 mm)	I	1.54" (39 mm)
E	3.07" (78 mm)	L_(max)	4.13" (105 mm)

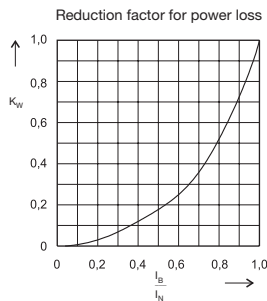
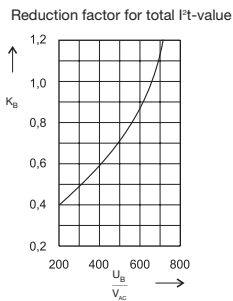
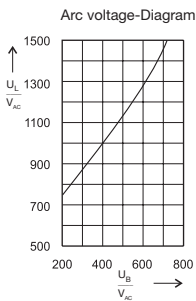
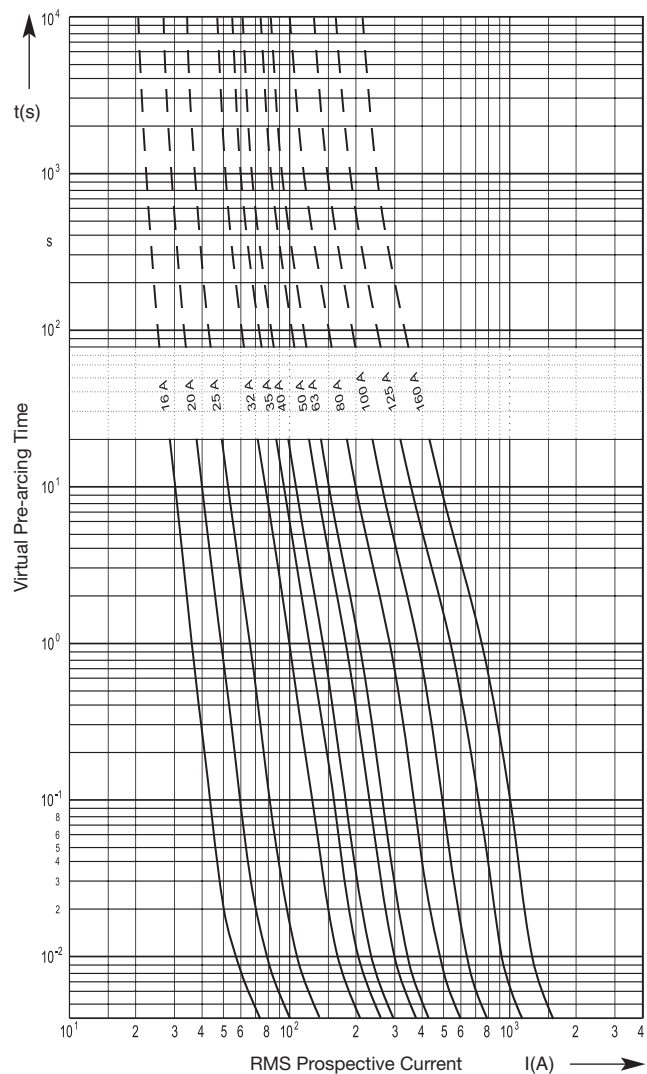
Size 000	Rated voltage AC 660 V	Operating class aR	Rated breaking capacity 100 kA
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Rated current	Part No. with Topindicator	Part No. without Topindicator	Part No. Topindicator and fitting for microswitch	Power loss W	Pre-arcing I ² t-value A ² s	Total I ² t-value @ 660 V A ² s
16 A	20 282 04	20 282 41	20 558 04	5	10	70
20 A	20 282 04	20 282 41	20 558 04	6	17	120
25 A	20 282 04	20 282 41	20 558 04	7	29	200
32 A	20 282 04	20 282 41	20 558 04	9	66	450
35 A	20 282 04	20 282 41	20 558 04	9	81	550
40 A	20 282 04	20 282 41	20 558 04	10	103	700
50 A	20 282 04	20 282 41	20 558 04	11	184	1,300
63 A	20 282 04	20 282 41	20 558 04	13	330	2,300
80 A	20 282 04	20 282 41	20 558 04	18	512	3,500
100 A	20 282 04	20 282 41	20 558 04	22	930	6,400
125 A	20 282 04	20 282 41	20 558 04	24	1,650	11,200
160 A	20 282 04	20 282 41	20 558 04	28	4,250	29,000

Cut-off-characteristics



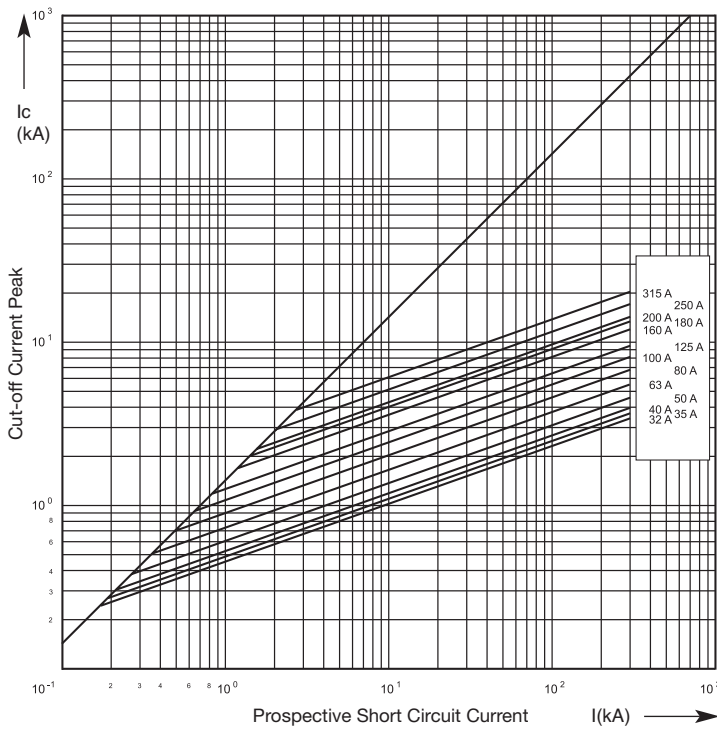
Time / Current Characteristics



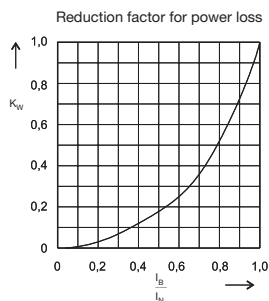
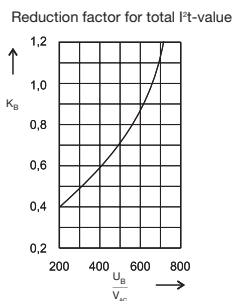
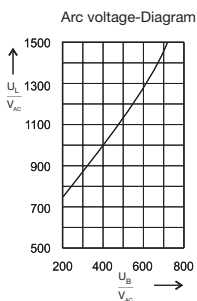
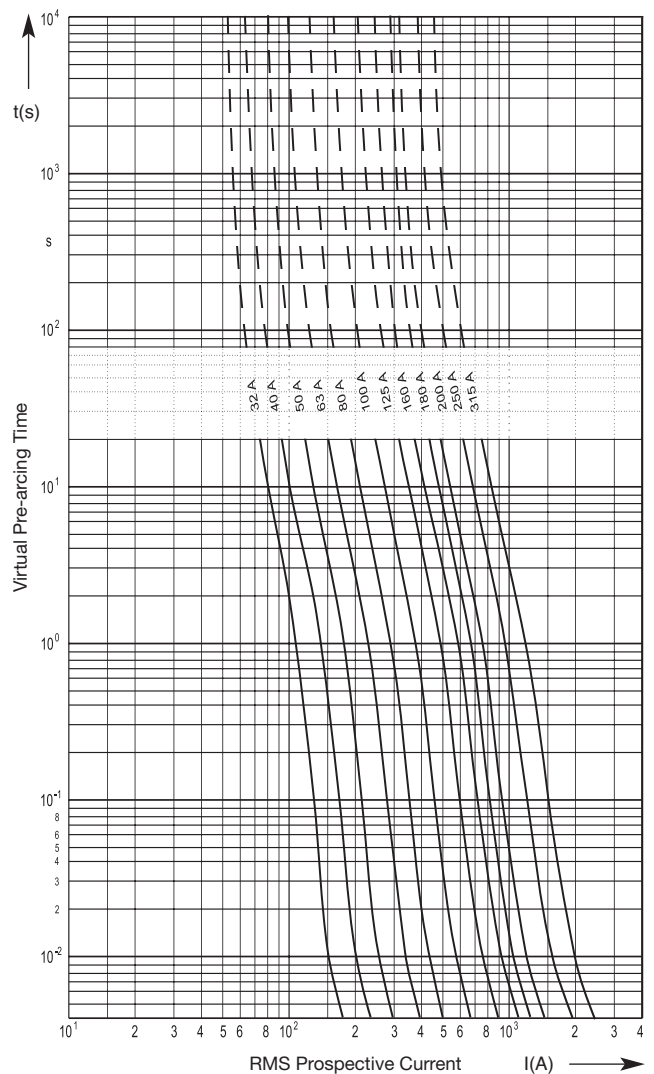
Size 000	Rated voltage AC 690/700 V	Operating class aR	Rated breaking capacity 600 V / 300 kA · 700 V / 200 kA
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Rated current	Part No. with Topindicator	Part No. without Topindicator	Part No. Topindicator and fitting for microswitch	Power loss W	Pre-arcing I ² t-value A ² s	Total I ² t-value @ 660 V A ² s
32 A	20 282 20	20 282 21	20 558 20	8	52	290
35 A	20 282 20	20 282 21	20 558 20	9	66	360
40 A	20 282 20	20 282 21	20 558 20	10	90	500
50 A	20 282 20	20 282 21	20 558 20	12	140	770
63 A	20 282 20	20 282 21	20 558 20	14	250	1,400
80 A	20 282 20	20 282 21	20 558 20	18	470	2,600
100 A	20 282 20	20 282 21	20 558 20	22	730	4,000
125 A	20 282 20	20 282 21	20 558 20	26	1,300	7,200
160 A	20 282 20	20 282 21	20 558 20	32	2,800	15,400
180 A	20 282 20	20 282 21	20 558 20	35	3,700	20,400
200 A	20 282 20	20 282 21	20 558 20	39	4,500	25,000
250 A	20 282 20	20 282 21	20 558 20	47	8,000	44,000
315 A	20 282 20	20 282 21	20 558 20	58	14,000	77,000

Cut-off-characteristics



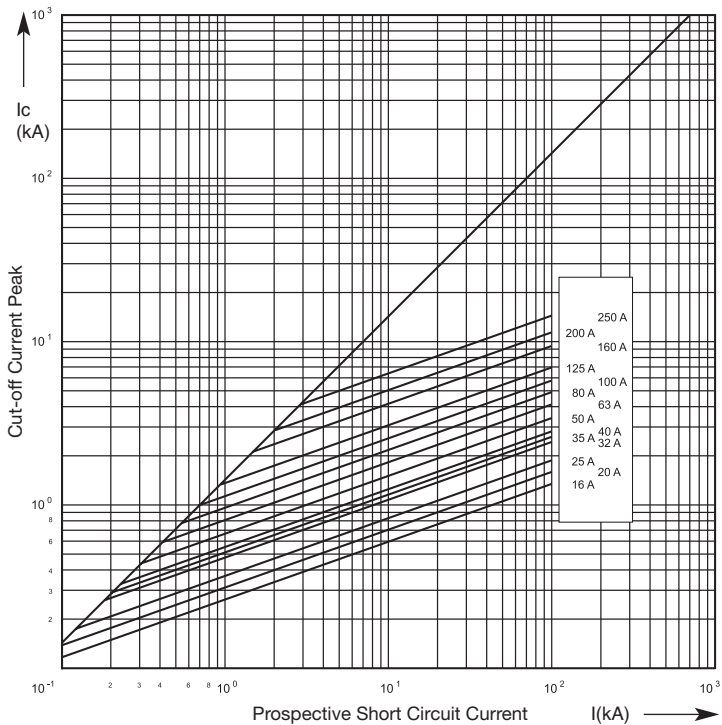
Time / Current Characteristics



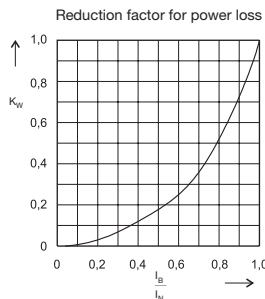
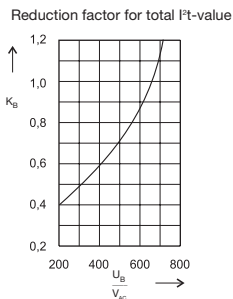
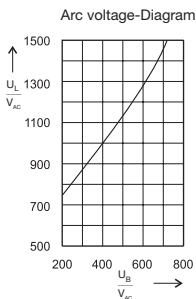
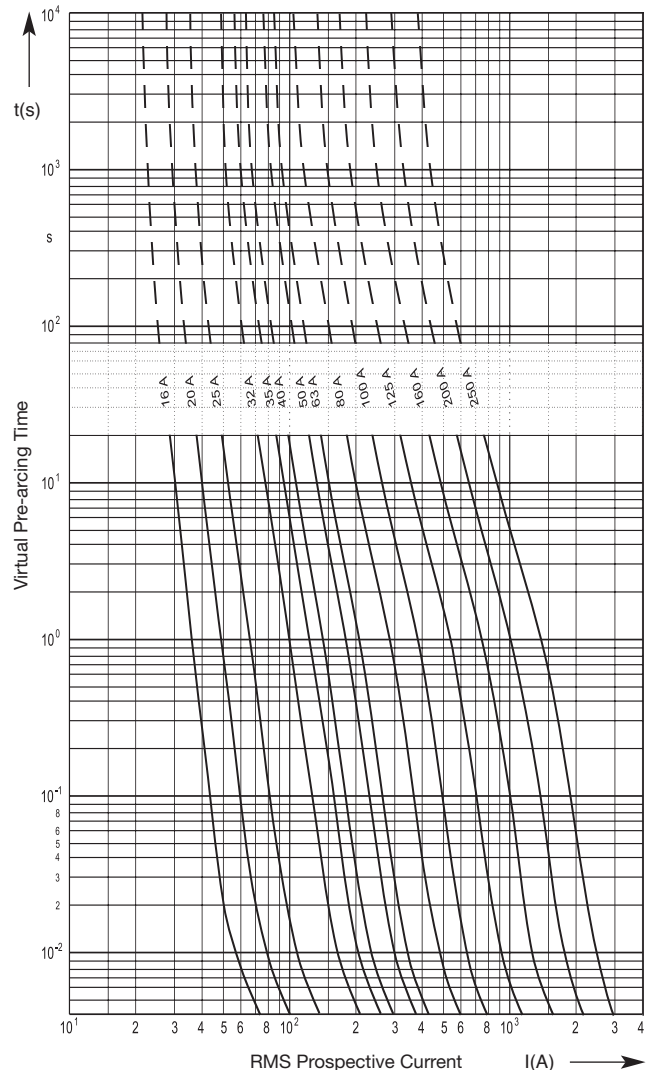
Size 00	Rated voltage AC 660 V	Operating class aR	Rated breaking capacity 100 kA
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Rated current	Part No. with Topindicator	Part No. without Topindicator	Part No. Topindicator and fitting for microswitch	Power loss W	Pre-arcing I ² t-value A ² s	Total I ² t-value @ 660 V A ² s
16 A	20 189 04	20 189 41	20 412 04	4.6	10	70
20 A	20 189 04	20 189 41	20 412 04	5.5	17	120
25 A	20 189 04	20 189 41	20 412 04	6.7	29	200
32 A	20 189 04	20 189 41	20 412 04	8.9	66	450
35 A	20 189 04	20 189 41	20 412 04	9.2	81	550
40 A	20 189 04	20 189 41	20 412 04	9.8	103	700
50 A	20 189 04	20 189 41	20 412 04	11.0	184	1,300
63 A	20 189 04	20 189 41	20 412 04	13.0	330	2,300
80 A	20 189 04	20 189 41	20 412 04	15.0	512	3,500
100 A	20 189 04	20 189 41	20 412 04	18.0	930	6,400
125 A	20 189 04	20 189 41	20 412 04	22.0	1,650	11,200
160 A	20 189 04	20 189 41	20 412 04	26.0	4,250	29,000
200 A	20 189 04	20 189 41	20 412 04	28.0	8,000	54,400
250 A	20 189 04	20 189 41	20 412 04	31.0	16,800	114,300

Cut-off-characteristics



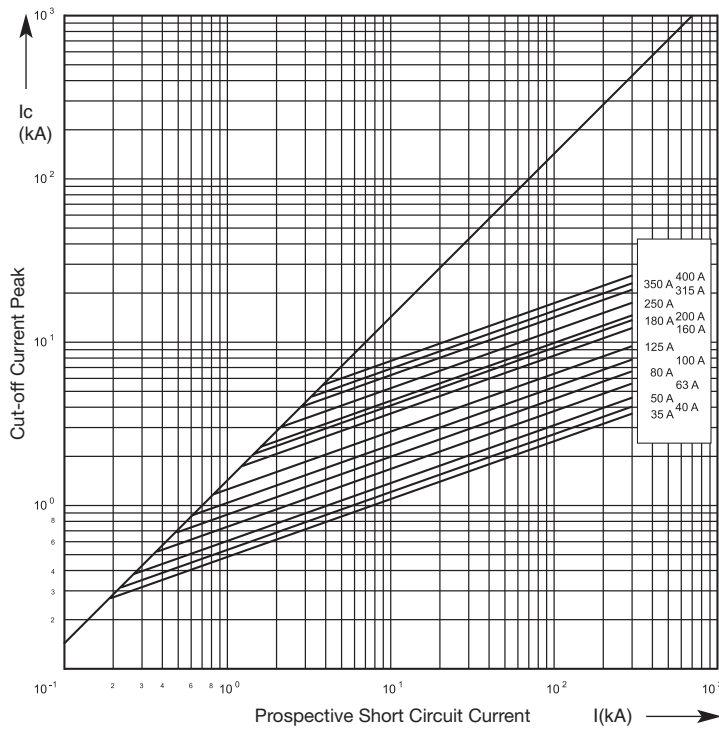
Time / Current Characteristics



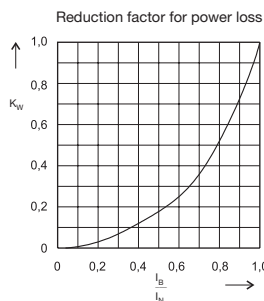
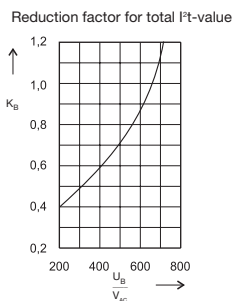
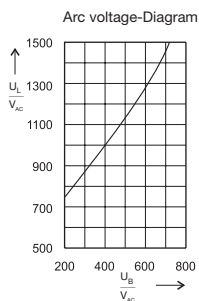
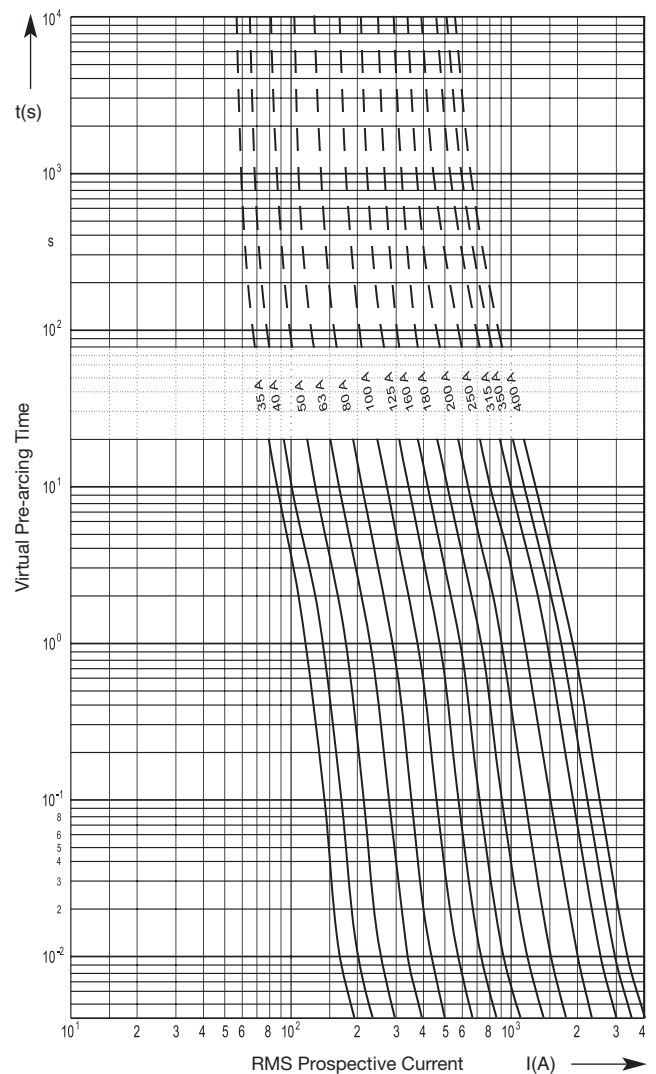
Size 00	Rated voltage AC 690/700 V	Operating class aR	Rated breaking capacity 600 V / 300 kA · 700 V / 200 kA
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Rated current	Part No. with Topindicator	Part No. without Topindicator	Part No. Topindicator and fitting for microswitch	Power loss W	Pre-arcing I ² t-value A ² s	Total I ² t-value @ 660 V A ² s
35 A	20 189 20	20 189 21	20 412 20	8	66	360
40 A	20 189 20	20 189 21	20 412 20	10	90	500
50 A	20 189 20	20 189 21	20 412 20	12	140	770
63 A	20 189 20	20 189 21	20 412 20	14	250	1,400
80 A	20 189 20	20 189 21	20 412 20	17	470	2,600
100 A	20 189 20	20 189 21	20 412 20	21	730	4,000
125 A	20 189 20	20 189 21	20 412 20	25	1,300	7,200
160 A	20 189 20	20 189 21	20 412 20	31	2,800	15,400
180 A	20 189 20	20 189 21	20 412 20	34	4,200	23,100
200 A	20 189 20	20 189 21	20 412 20	37	5,000	27,500
250 A	20 189 20	20 189 21	20 412 20	44	8,500	46,800
315 A	20 189 20	20 189 21	20 412 20	53	15,600	86,000
350 A	20 189 20	20 189 21	20 412 20	57	20,000	110,000
400 A	20 189 20	20 189 21	20 412 20	68	28,400	156,000

Cut-off-characteristics



Time / Current Characteristics

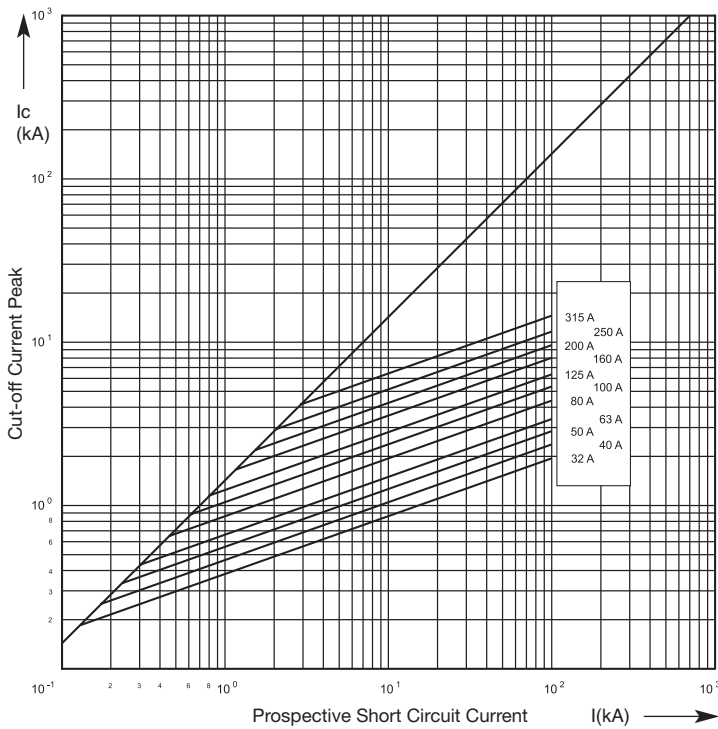


Size 00	Rated voltage AC 1000 V	Operating class aR	Rated breaking capacity 100 kA
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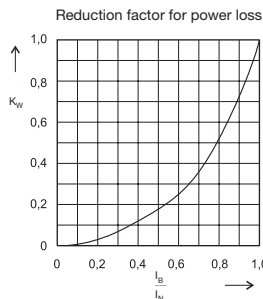
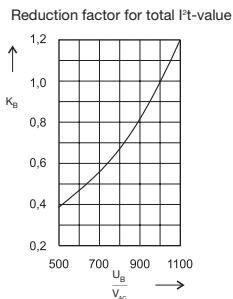
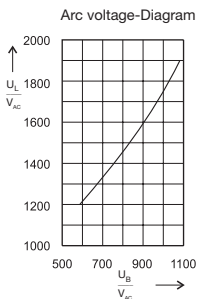
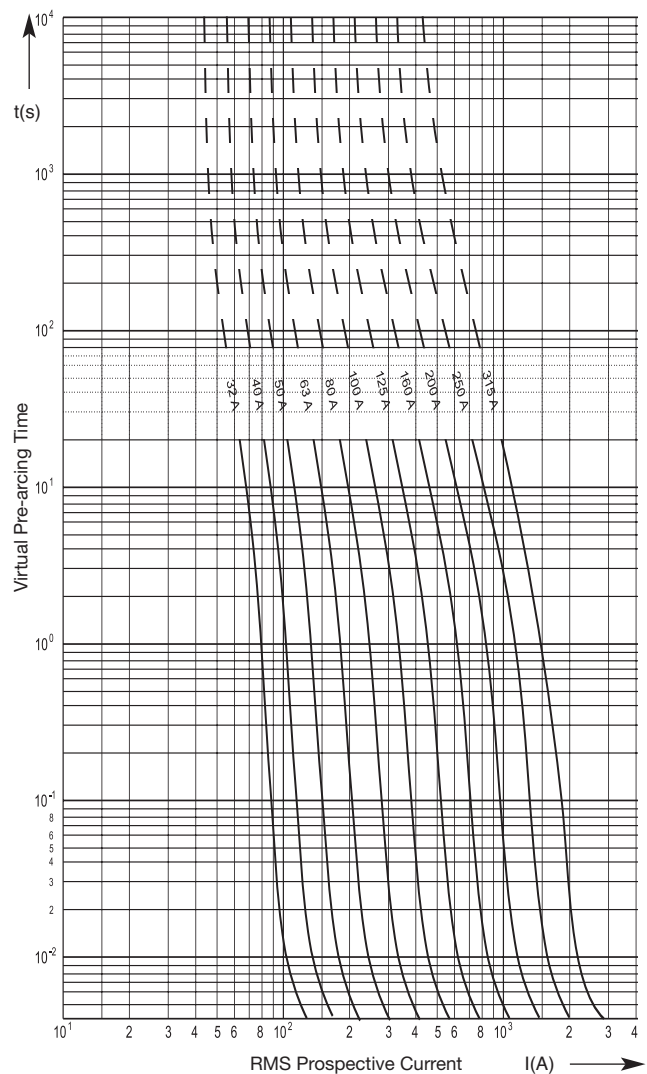
Rated current	Part No. with Topindicator	Part No. without Topindicator	Part No. Topindicator and fitting for microswitch	Power loss W	Pre-arcing I ² t-value A ² s	Total I ² t-value at 1000 V A ² s
32 A	20 560 20	20 560 21	20 562 20	14	32	220
40 A	20 560 20	20 560 21	20 562 20	16	58	400
50 A	20 560 20	20 560 21	20 562 20	18	100	700
63 A	20 560 20	20 560 21	20 562 20	22	180	1,200
80 A	20 560 20	20 560 21	20 562 20	25	410	2,800
100 A	20 560 20	20 560 21	20 562 20	28	740	5,000
125 A	20 560 20	20 560 21	20 562 20	32	1,300	9,000
160 A	20 560 20	20 560 21	20 562 20	40	2,600	17,500
200 A	20 560 20	20 560 21	20 562 20	46	4,600	31,000
250 A	20 560 20	20 560 21	20 562 20	51	8,200	55,000
315 A	20 560 20	20 560 21	20 562 20	58	16,000	96,000

(AC 900 V)

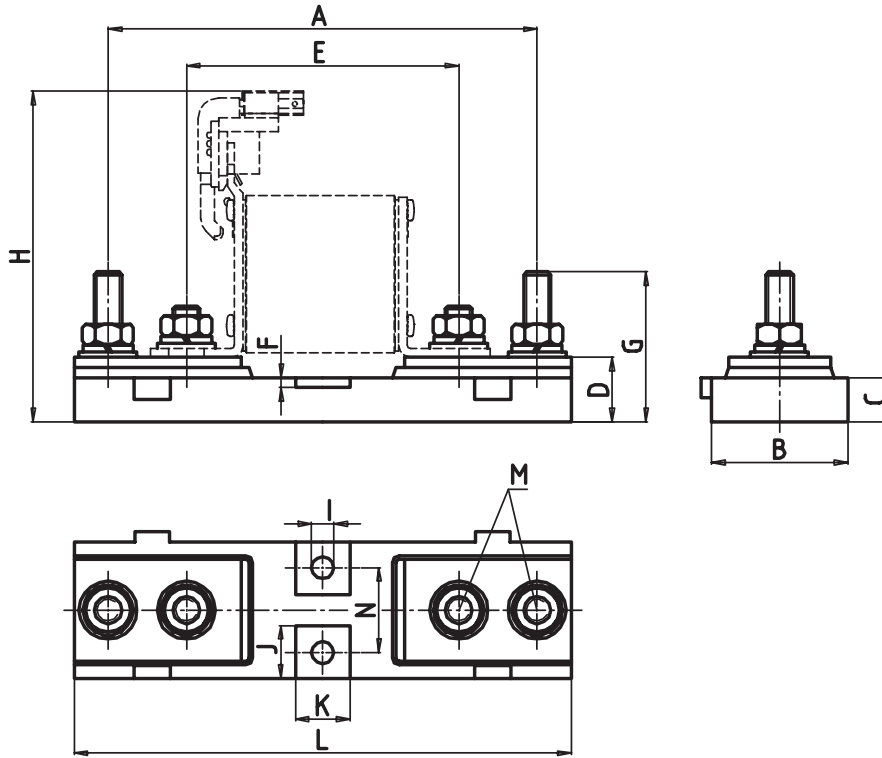
Cut-off-characteristics



Time / Current Characteristics



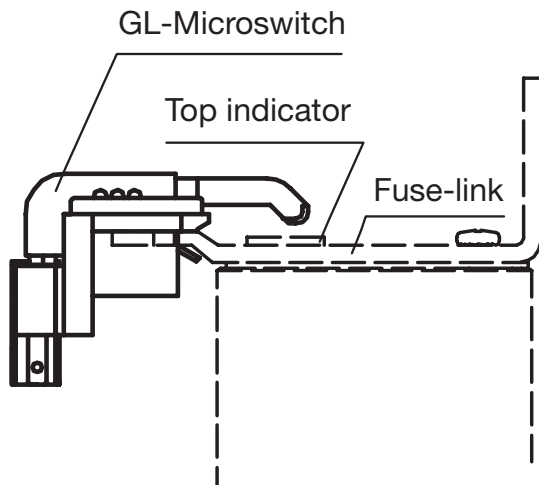
Fuse Base 400 A	Size 000 and 00	Rated voltage AC 1000 V	Standard DIN 43653
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RU 600 V
Part No. 21 189 01
Rated Current: 400 A
Rated Power Acceptance: 34 W
Nut Torque: 22 Nm

A	4.96" (126 mm)
B	1.57" (40 mm)
C	0.50" (13 mm)
D	0.75" (19 mm)
E	3.15" (80 mm)
F	0.12" (3 mm)
G	1.73" (44 mm)
H	3.82" (97 mm)
I	0.26" (6,5 mm)
J	0.60" (15,5 mm)
K	0.63" (16 mm)
L_(max)	5.75" (146 mm)
M	M 8
N	0.98" (25 mm)

Microswitch	Rated voltage AC 250 V
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Part No. 28 002 05

Rated voltage	Breaking capacity	
	non inductive Load	inductive Load
AC 250 V	5 A	5 A

Rated voltage	Breaking capacity	
	non inductive Load	inductive Load (L/R = 25 ms)
DC 60 V	500 mA	200 mA
DC 24 V	2 A	2 A

