

Fuses for Semiconductor Protection - European Standard**Class:** aR**Voltage ratings:** 660V_{AC} to 1000V_{AC}**Current ratings:** 16 A to 400 A**Standards:** UL 248-13
IEC 60269-1 & 4
DIN VDE 0636-40
DIN 43653**Approvals:****cUL[®]US** E180276**Features and Benefits**

- ▶ Extremely High interrupting ratings 100kA - 300kA
- ▶ Protection of Power Semiconductor according to IEC 60269 -1 & 4
- ▶ Complies with DIN 43653 for fuse sizes 000 and 00
- ▶ Class; aR, 16A - 400A according to IEC 60269-4 and DIN VDE 0636-40
- ▶ Fuse accessories available - Fuse Bases and Microswitches

Fuses for Applications

Fuses for Semiconductor Protection - European Standard

Article	Description		Selection Guide	Technical Data
690V _{AC} -IEC / 700V _{AC} -UL				
NH000 DIN80				
2028221	80mm mounting centers	No blown fuse indication	192	192 - 193
2028220	80mm mounting centers	With blown fuse indication		
2055820	80mm mounting centers	With fitting for microswitch		
NH00 DIN80				
2018921	80mm mounting centers	No blown fuse indication	194	194 - 195
2018920	80mm mounting centers	With blown fuse indication		
2041220	80mm mounting centers	With fitting for microswitch		
660V _{AC} -IEC				
NH000 DIN80				
2028241	80mm mounting centers	No blown fuse indication	196	196 - 197
2028204	80mm mounting centers	With blown fuse indication		
2055804	80mm mounting centers	With fitting for microswitch		
NH00 DIN80				
2018941	80mm mounting centers	No blown fuse indication	198	198 - 199
2018904	80mm mounting centers	With blown fuse indication		
2041204	80mm mounting centers	With fitting for microswitch		
1000V _{AC} -IEC				
2056021	80mm mounting centers	No blown fuse indication	200	200 - 201
2056020	80mm mounting centers	With blown fuse indication		
2056220	80mm mounting centers	With fitting for microswitch		
Accessories				
GL-Microswitch				
2800201	Standard Level	Single Change Over Circuit	202	
2800202				
2800203	Low Level			
2800204				
Fuse Base				
2118901	80mm mounting centers		203	
2118908				
2118911				

URB	Rated Voltage [U _n]	Rated Breaking Capacity	Test Voltage	Class	Standard(s)
C_{RU} US E180276	690V _{AC} - IEC 700V _{AC} - UL	200kA	660V _{AC}	aR	UL 248-13 IEC 60269-4 VDE 0636 Part 40
Size NH000 - DIN 80					

Rated Current I _n [A]	Without Indicator Article Number	UL rec	With Top Indicator Article Number	UL rec	With Top Indicator and Fitting for Microswitch Article Number	UL rec		Power Loss [W]	Pre-arcing I ² t [A ² s]	Total I ² t @ 660V _{AC} [A ² s]
32	2028221.32	✓	2028220.32	✓	2055820.32	✓		8	52	290
35	2028221.35	✓	2028220.35	✓	2055820.35	✓		9	66	360
40	2028221.40	✓	2028220.40	✓	2055820.40	✓		10	90	500
50	2028221.50	✓	2028220.50	✓	2055820.50	✓		12	140	770
63	2028221.63	✓	2028220.63	✓	2055820.63	✓		14	250	1 400
80	2028221.80	✓	2028220.80	✓	2055820.80	✓		18	470	2 600
100	2028221.100	✓	2028220.100	✓	2055820.100	✓		22	730	4 000
125	2028221.125	✓	2028220.125	✓	2055820.125	✓		26	1 300	7 200
160	2028221.160	✓	2028220.160	✓	2055820.160	✓		32	2 800	15 400
180	2028221.180	✓	2028220.180	✓	2055820.180	✓		35	3 700	20 400
200	2028221.200	✓	2028220.200	✓	2055820.200	✓		39	4 500	25 000
250	2028221.250	✓	2028220.250	✓	2055820.250	✓		47	8 000	44 000
315	2028221.315	✓	2028220.315	✓	2055820.315	✓		58	14 000	77 000

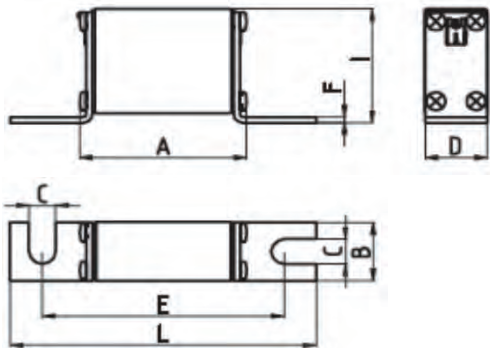
Weight [kg /1]

0.17

0.18

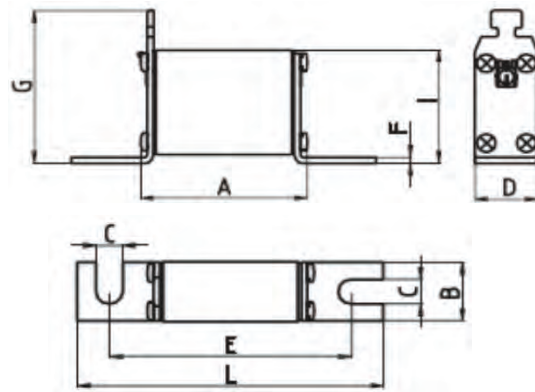
Units per Package

6



2028221 / 2028220

Dimensions [in / mm]	
A	2.17 / 55
B	0.79 / 20
C	0.33 / 8.5
D	0.80 / 20.4
E	3.07 / 78
F	0.08 / 2.0
G	2.09 / 53.2
I	1.50 / 38
L _{max}	3.94 / 100



2055820

Accessories

Fuse Bases			Microswitch (Red Hammer)	
UL File E186970	Page		UL File E309038	Page
2118901	203		2800201 - Standard	202
2118908			2800203 - Low Level	
2118911				

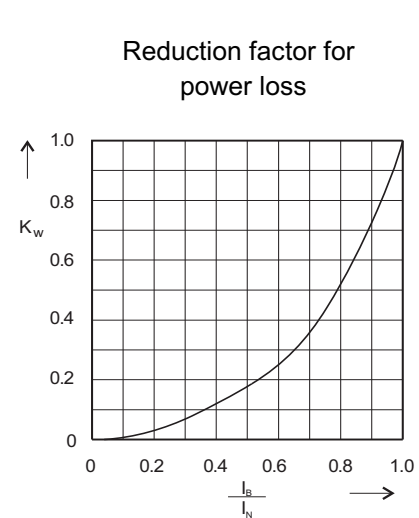
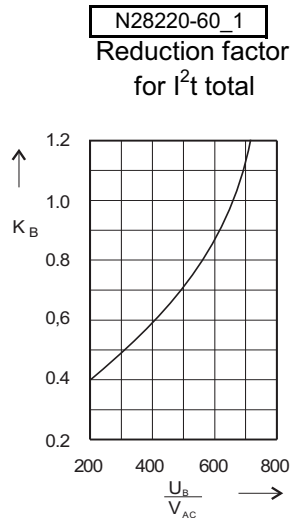
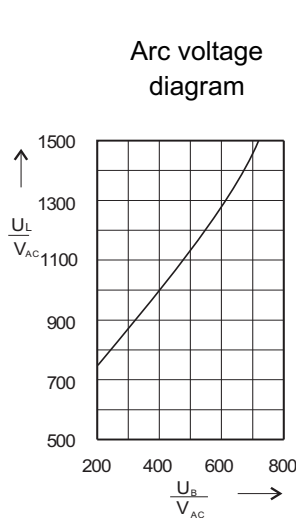
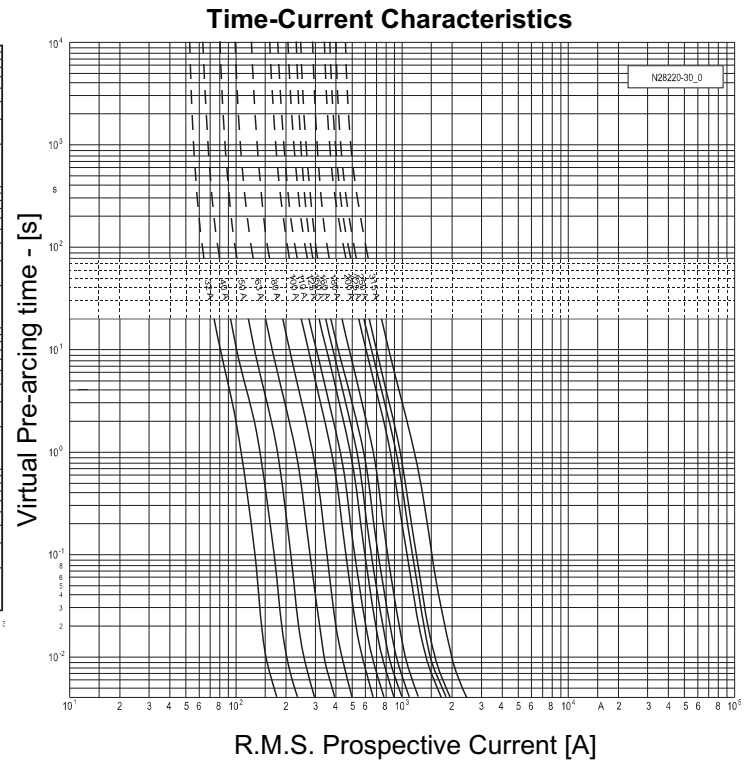
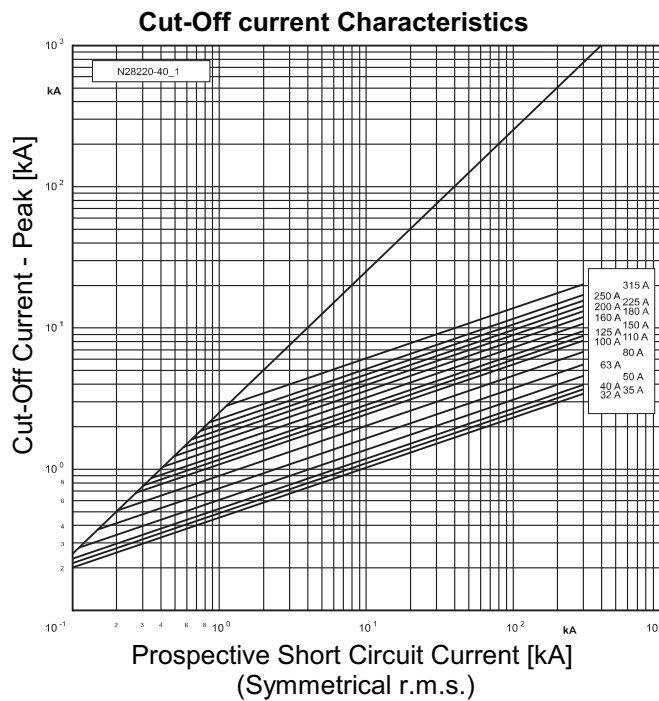
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URB	Rated Voltage	Rated Breaking Test	Class	Standard(s)
CU E180276 Size NH000 - DIN 80	[U _n] 690V _{AC} - IEC 700V _{AC} - UL	Capacity 200kA Voltage 660V _{AC}	aR	UL 248-13 IEC 60269-4 VDE 0636 Part 40

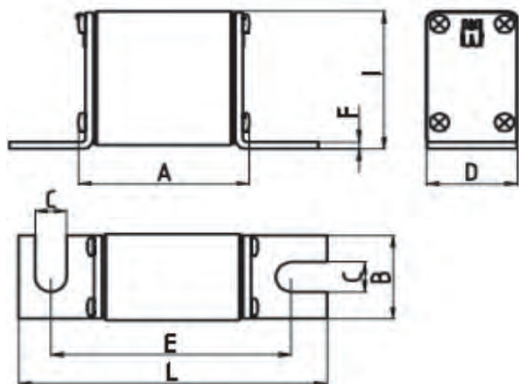
Coefficients for Heavy Duty Applications				
a	A2	B1	B2	Cf3
130	0.6	1.25	0.6	0.8



URB  E180276	Rated Voltage [U _n] 690V _{AC} - IEC 700V _{AC} - UL	Rated Breaking Capacity 200kA	Test Voltage 700V _{AC}	Class aR	Standard(s) UL 248-13 IEC 60269-4 VDE 0636 Part 40
Size NH00 - DIN 80					

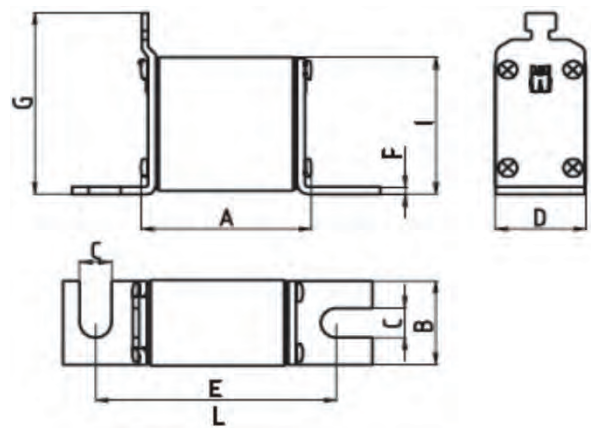
Rated Current I _n [A]	Without Indicator Article Number	UL rec	With Top Indicator Article Number	UL rec	With Top Indicator and Fitting for Microswitch Article Number	UL rec		Power Loss [W]	Pre-arcing I ² t [A ² s]	Total I ² t @ 660V _{AC} [A ² s]
35	2018921.35	✓	2018920.35	✓	2041220.35	✓		8	66	360
40	2018921.40	✓	2018920.40	✓	2041220.40	✓		10	90	500
50	2018921.50	✓	2018920.50	✓	2041220.50	✓		12	140	770
63	2018921.63	✓	2018920.63	✓	2041220.63	✓		14	250	1 400
80	2018921.80	✓	2018920.80	✓	2041220.80	✓		17	470	2 600
100	2018921.100	✓	2018920.100	✓	2041220.100	✓		21	730	4 000
125	2018921.125	✓	2018920.125	✓	2041220.125	✓		25	1 300	7 200
160	2018921.160	✓	2018920.160	✓	2041220.160	✓		31	2 800	15 400
180	2018921.180	✓	2018920.180	✓	2041220.180	✓		34	4 200	23 100
200	2018921.200	✓	2018920.200	✓	2041220.200	✓		37	5 000	27 500
250	2018921.250	✓	2018920.250	✓	2041220.250	✓		44	8 500	46 800
315	2018921.315	✓	2018920.315	✓	2041220.315	✓		53	15,600	86 000
350	2018921.350	✓	2018920.350	✓	2041220.350	✓		57	20 000	110 000
400	2018921.400	✓	2018920.400	✓	2041220.400	✓		68	28 400	156 000

Weight [kg /l]	
0.19	0.21
Units per Package	
6	



2018921 / 2018920

Dimensions [in / mm]	
A	2.20 / 56
B	1.13 / 28.8
C	0.40 / 10.3
D	1.16 / 29.5
E	3.07 / 78
F	0.98 / 2.5
G	2.48 / 63
I	1.85 / 47
L-max	4.13 / 105



2041220

2041220.200
Accessories

Fuse Bases			Microswitch (Red Hammer)	
UL File E186970	Page		UL File E309038	Page
2118901	203		2800201 - Standard	202
2118908			2800203 - Low Level	
2118911				

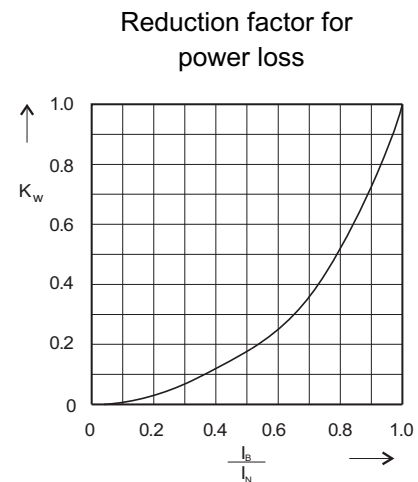
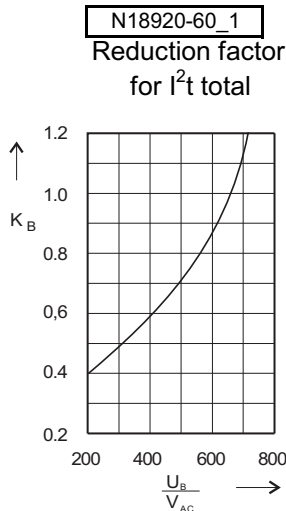
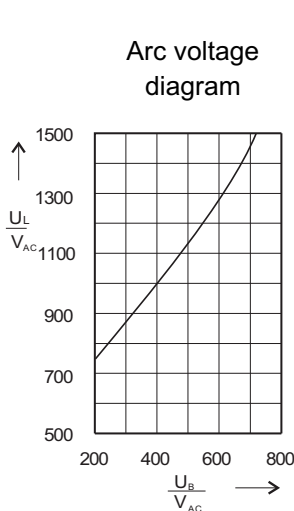
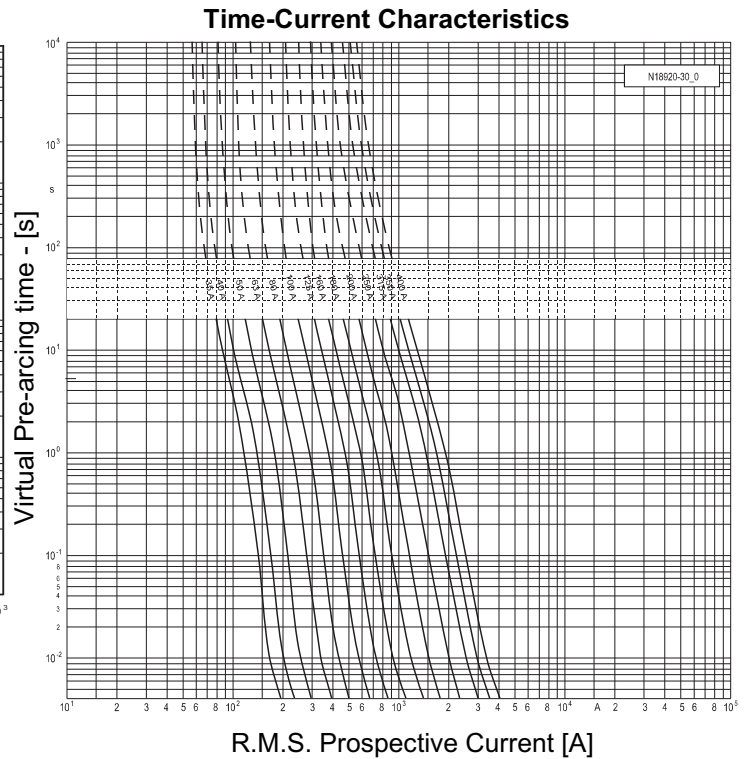
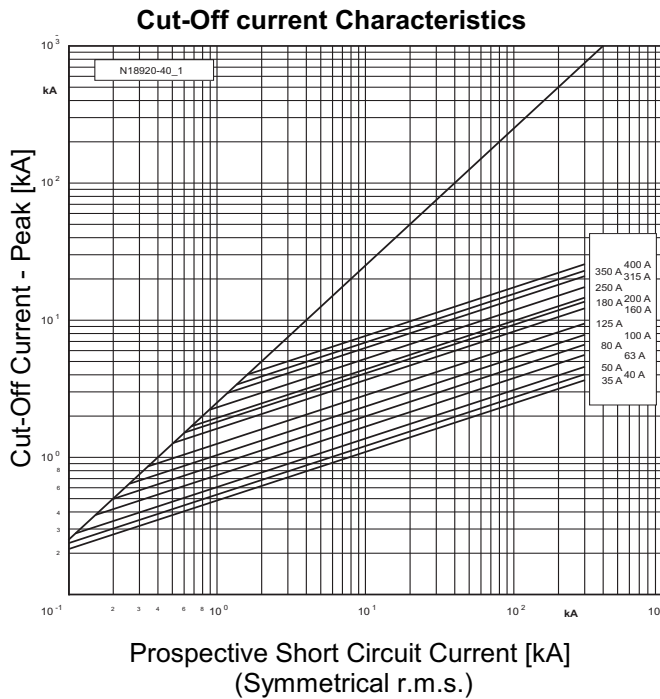
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URB	Rated Voltage [U _n]	Rated Breaking Test Capacity	Class aR	Standard(s)
CU E180276	690V _{AC} - IEC 700V _{AC} - UL	200kA		UL 248-13 IEC 60269-4 VDE 0636 Part 40
Size NH00 - DIN 80				

Coefficients for Heavy Duty Applications				
a	A2	B1	B2	Cf3
130	0.6	1.25	0.6	0.8



URB	Rated Voltage [U _n] 660V _{AC} - IEC	Rated Breaking Test Capacity 100kA	Class gR≤100A aR≥125A	Standard(s) IEC 60269-4 VDE 0636 Part 40
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Size NH000 - DIN 80

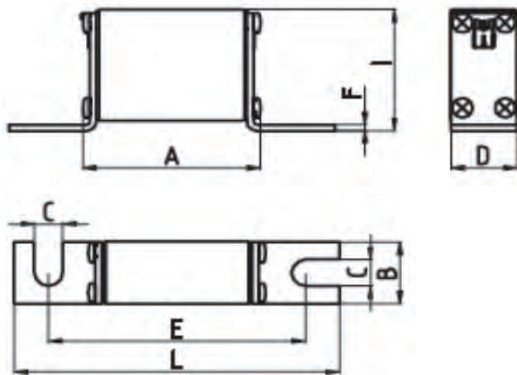
Rated Current I _n [A]	Without Indicator Article Number	With Top Indicator Article Number	With Top Indicator and Fitting for Microswitch Article Number		Power Loss [W]	Pre-arcing I ² t [A ² s]	Total I ² t @ 660V _{AC} [A ² s]
16	2028241.16	2028204.16	2055804.16		5	10	70
20	2028241.20	2028204.20	2055804.20		6	17	120
25	2028241.25	2028204.25	2055804.25		7	29	200
32	2028241.32	2028204.32	2055804.32		9	66	450
35	2028241.35	2028204.35	2055804.35		9	81	550
40	2028241.40	2028204.40	2055804.40		10	103	700
50	2028241.50	2028204.50	2055804.50		11	184	1 300
63	2028241.63	2028204.63	2055804.63		13	330	2 300
80	2028241.80	2028204.80	2055804.80		18	512	3 500
100	2028241.100	2028204.100	2055804.100		22	930	6 400
125	2028241.125	2028204.125	2055804.125		24	1 650	11 200
160	2028241.160	2028204.160	2055804.160		28	4 250	29 000

Weight [kg /1]

0.17

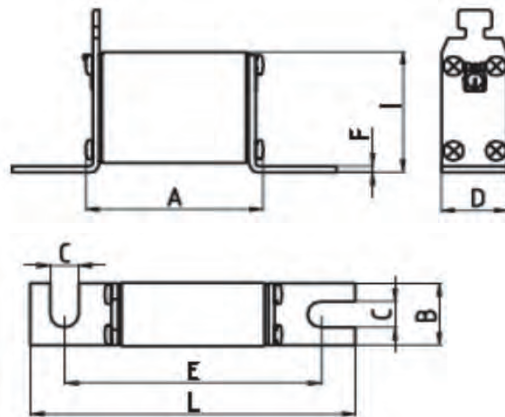
Units per Package

6



2028241 / 2028204

Dimensions [in / mm]	
A	2.17 / 55
B	0.79 / 20
C	0.33 / 8.5
D	0.80 / 20.4
E	3.07 / 78
F	0.08 / 2.0
G	2.09 / 53.2
I	1.50 / 38
L _{max}	3.94 / 100



2055804

Accessories

Fuse Bases			Microswitch (Red Hammer)	
UL File E186970	Page		UL File E309038	Page
2118901	203		2800201 - Standard	202
2118908			2800203 - Low Level	
2118911				

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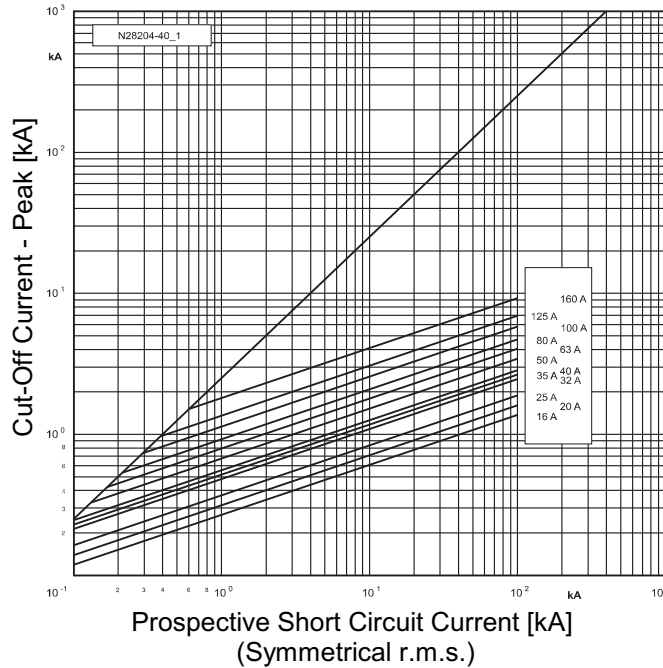
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URB	Rated Voltage [U _n] 660V _{AC} - IEC	Rated Breaking Test Capacity 100kA	Class gR≤100A aR≥125A	Standard(s) IEC 60269-4 VDE 0636 Part 40
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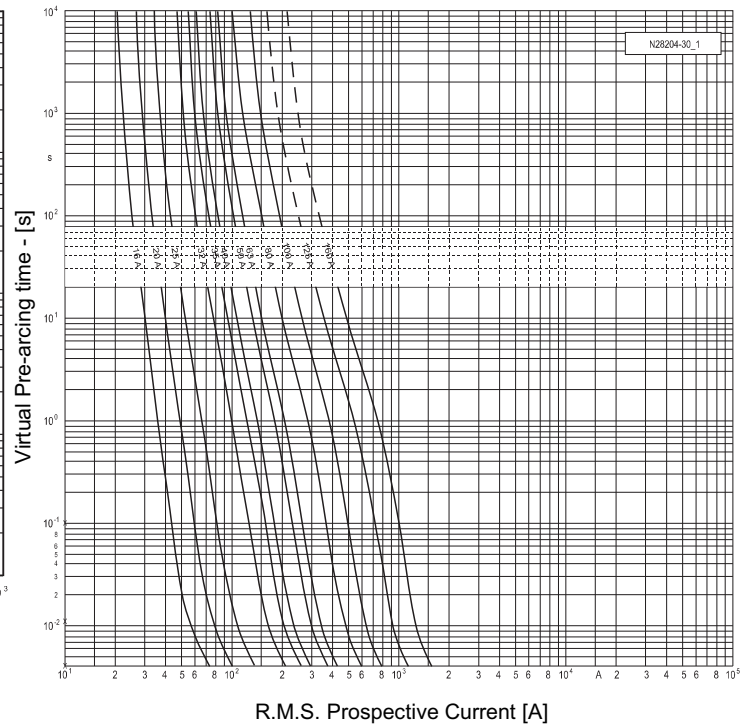
Size NH000 - DIN 80

Coefficients for Heavy Duty Applications				
a	A2	B1	B2	Cf3
130	0.8	1.25	0.8	0.8

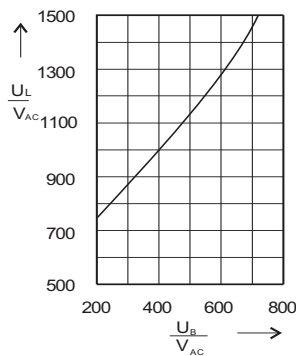
Cut-Off current Characteristics



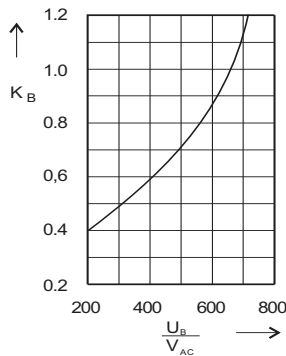
Time-Current Characteristics



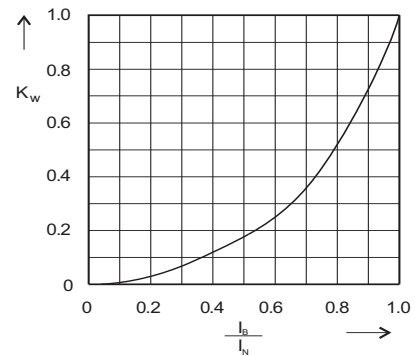
Arc voltage diagram



N28204-60_1
Reduction factor for I²t total



Reduction factor for power loss

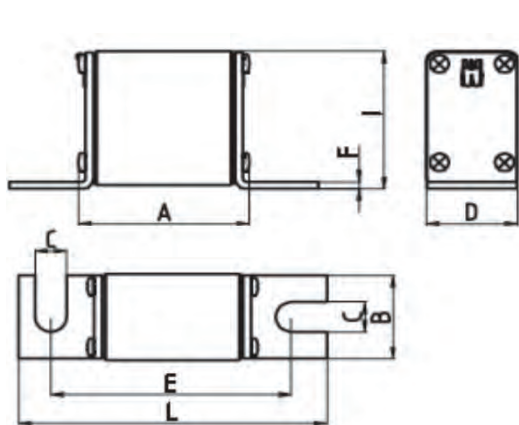


URB	Rated Voltage [U _n] 660VAC - IEC	Rated Breaking Test Capacity 200kA	Class gR≤100A aR>100A	Standard(s) IEC 60269-4 VDE 0636 Part 40
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Size NH00 - DIN 80

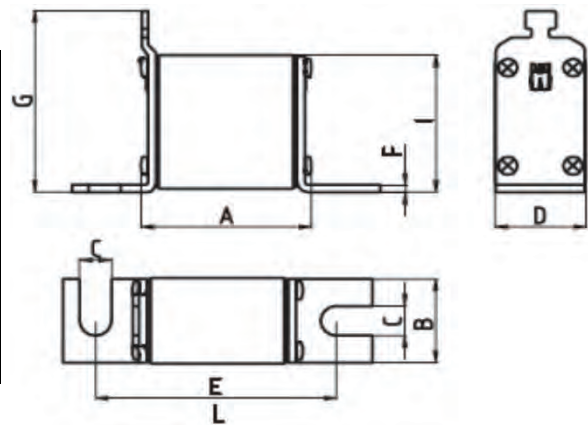
Rated Current I _n [A]	Without Indicator Article Number	With Top Indicator Article Number	With Top Indicator and Fitting for Microswitch Article Number		Power Loss [W]	Pre-arcing I ² t [A ² s]	Total I ² t @ 660V _{AC} [A ² s]
16	2018941.16	2018904.16	2041204.16		4.6	10	70
20	2018941.20	2018904.20	2041204.20		5.5	17	120
25	2018941.25	2018904.25	2041204.25		6.7	29	200
32	2018941.32	2018904.32	2041204.32		8.9	66	450
35	2018941.35	2018904.35	2041204.35		9.2	81	550
40	2018941.40	2018904.40	2041204.40		9.8	103	700
50	2018941.50	2018904.50	2041204.50		11	184	1 300
63	2018941.63	2018904.63	2041204.63		13	330	2 300
80	2018941.80	2018904.80	2041204.80		15	512	3 500
100	2018941.100	2018904.100	2041204.100		18	930	6 400
125	2018941.125	2018904.125	2041204.125		22	1 650	11 200
160	2018941.160	2018904.160	2041204.160		26	4 250	29 000
200	2018941.200	2018904.200	2041204.200		28	8 000	54 400
250	2018941.250	2018904.250	2041204.250		31	16 800	114 300

Weight [kg /l]	
0.19	0.21
Units per Package	
6	



2018941 / 2018904

Dimensions [in / mm]	
A	2.20 / 56
B	1.13 / 28.8
C	0.40 / 10.3
D	1.16 / 29.5
E	3.07 / 78
F	0.98 / 2.5
G	2.48 / 63
I	1.85 / 47
L-max	4.13 / 105



2041204

Accessories

Fuse Bases			Microswitch (Red Hammer)	
UL File E186970	Page		UL File E309038	Page
2118901	203		2800201 - Standard	202
2118908			2800203 - Low Level	
2118911				

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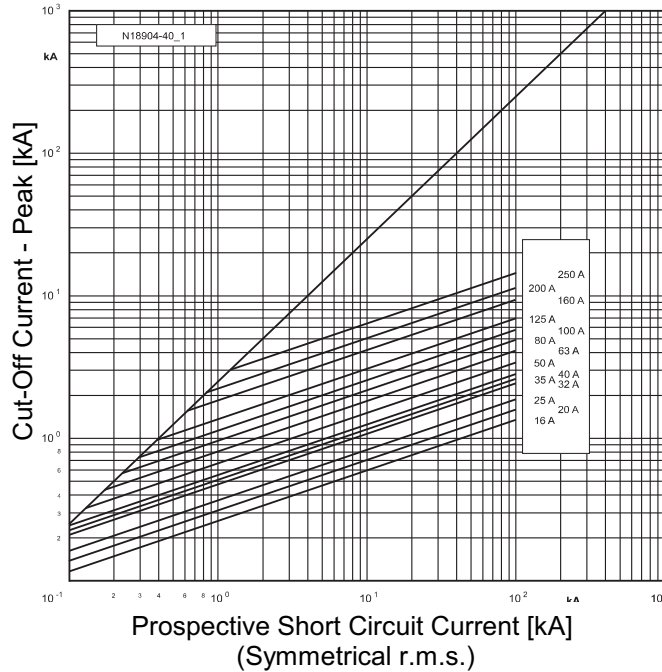
URB	Rated Voltage [U _n] 660VAC - IEC	Rated Breaking Test Capacity 200kA	Class gR≤100A aR>100A	Standard(s) IEC 60269-4 VDE 0636 Part 40
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Size NH00 - DIN 80

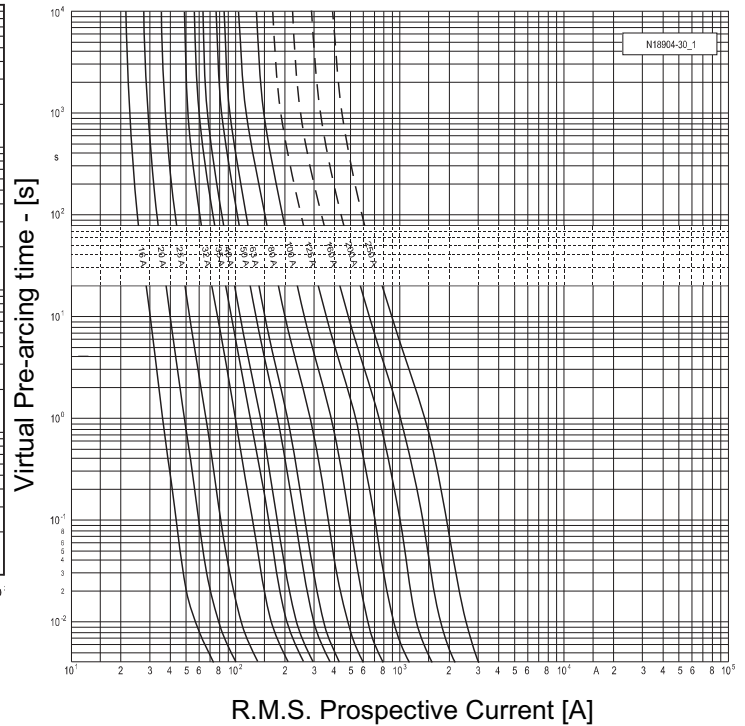
Coefficients for Heavy Duty Applications

a	A2	B1	B2	Cf3
130	0.8	1.25	0.8	0.8

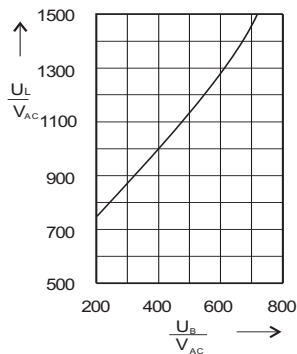
Cut-Off current Characteristics



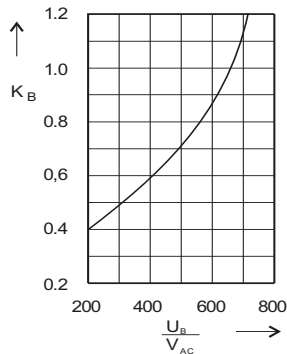
Time-Current Characteristics



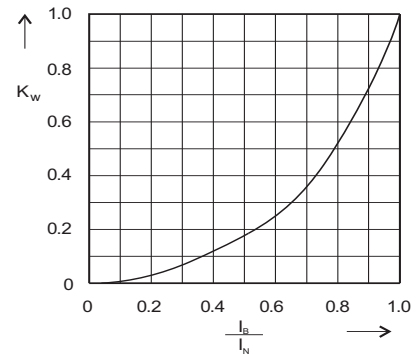
Arc voltage diagram



N18904-60_1
Reduction factor for I²t total



Reduction factor for power loss



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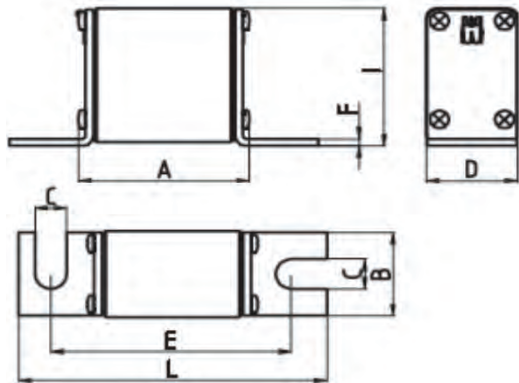
URB	Rated Voltage [U _n] 1000V _{AC}	Rated Breaking Test Capacity 100kA 30kA	Class aR 750V _{DC} (L/R=4ms)	Standard(s) IEC 60269-4 VDE 0636 Part 40
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Size NH00 - DIN 80

Rated Current I _n [A]	Without Indicator Article Number	With Top Indicator Article Number	With Top Indicator and Fitting for Microswitch Article Number		Power Loss [W]	Pre-arcing I ² t [A ² s]	Total I ² t @ 1000V _{AC} [A ² s]
32	2056021.32	2056020.32	2056220.32		14	32	220
40	2056021.40	2056020.40	2056220.40		16	56	400
50	2056021.50	2056020.50	2056220.50		18	100	700
63	2056021.63	2056020.63	2056220.63		22	180	1 200
80	2056021.80	2056020.80	2056220.80		25	410	2 800
100	2056021.100	2056020.100	2056220.100		28	740	5 000
125	2056021.125	2056020.125	2056220.125		32	1 300	9 000
160	2056021.160	2056020.160	2056220.160		40	2 600	17 500
200	2056021.200	2056020.200	2056220.200		46	4 600	31 000
250	2056021.250	2056020.250	2056220.250		51	8 200	55 000
280*	2056021.280 *	2056020.280 *	2056220.280 *		55	10 600	70 500
315*	2056021.315 *	2056020.315 *	2056220.315 *		59	16 000	106 000

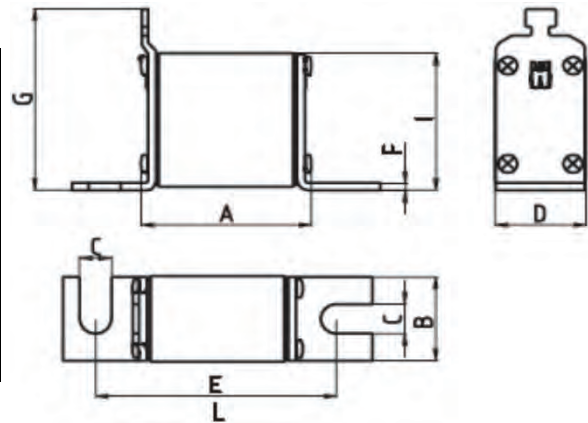
* Rated 900Vac

Weight [kg /1]	
0.19	0.21
Units per Package	
6	



2056021 / 2056020

Dimensions [in /mm]	
A	2.20 / 56
B	1.13 / 28.8
C	0.40 / 10.3
D	1.16 / 29.5
E	3.07 / 78
F	0.98 / 2.5
G	2.48 / 63
I	1.85 / 47
L-max	4.13 / 105



2056220

Accessories

Fuse Bases			Microswitch (Red Hammer)	
UL File E186970	Page		UL File E309038	Page
2118901	203		2800201 - Standard	202
2118908			2800203 - Low Level	
2118911				

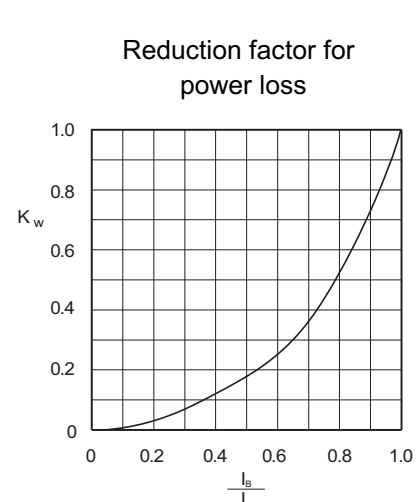
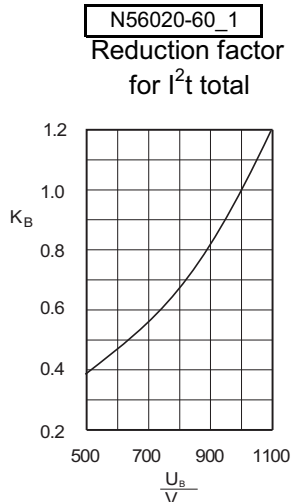
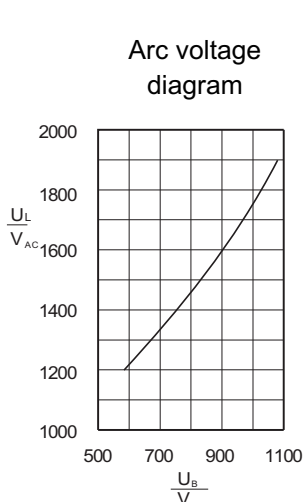
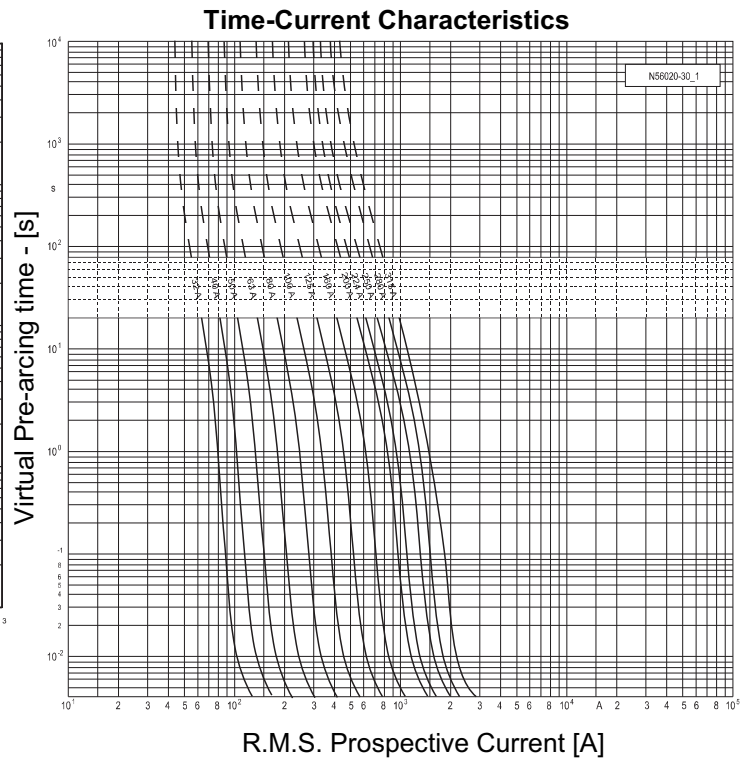
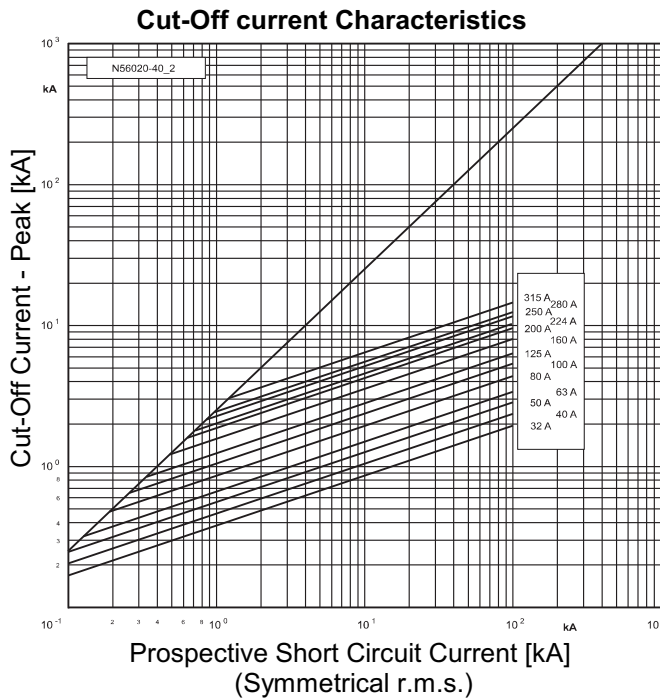
SIBA LLC

29 Fairfield Place
West Caldwell, New Jersey 07006

e-mail: info@sibafuse.com
www.siba-fuses.us

URB	Rated Voltage [U _n] 1000V _{AC}	Rated Breaking Test Capacity 100kA 30kA	Class aR 1000V _{AC} 750V _{DC} (L/R=4ms)	Standard(s) IEC 60269-4 VDE 0636 Part 40
Size NH00 - DIN 80				

Coefficients for Heavy Duty Applications				
a	A2	B1	B2	Cf3
130	0.6	1.25	0.6	0.8

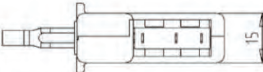
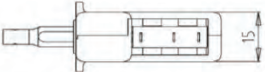


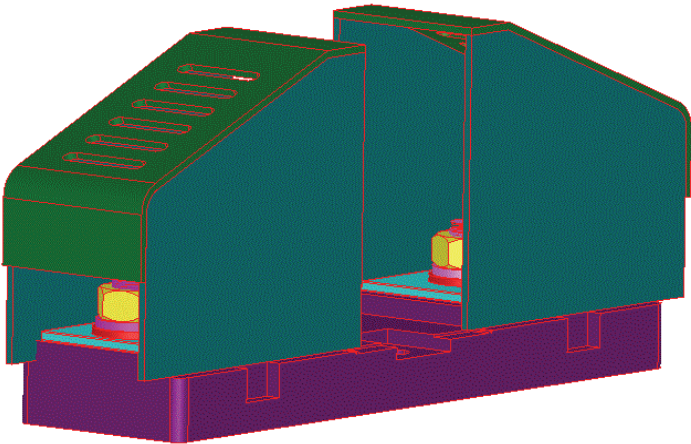
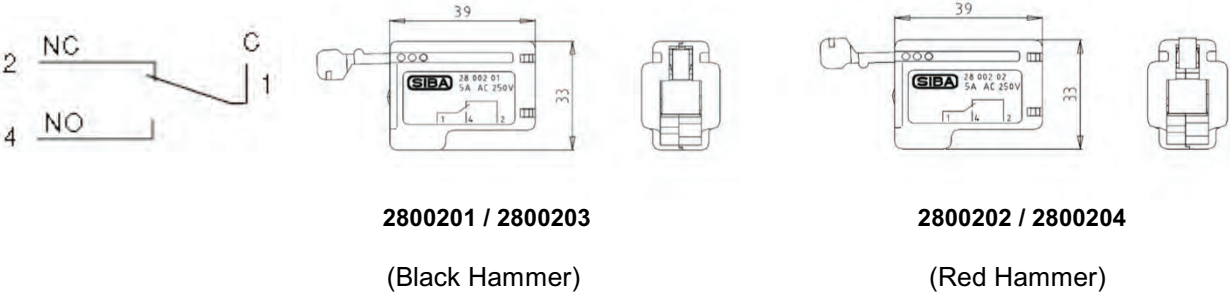
URB

Accessories

Microswitches and Fuse Bases

GL Microswitch							
Standard Level							
Article Number	Insulating Voltage [V]	Change Over Circuits	Interrupt Rating				
			AC		DC		
			[V]	[A]	[V]	[A]	
			2800201	—	1	250	5(resistive)
2800202	3(inductive)	26	3(inductive L/R =10ms)				
Low Level							
			Interrupt Rating				
			Minimum		Maximum		
			2800203	2800204	5V _{AC}	5V _{DC}	1mA(resistive)
Weight [kg / 1]							
0.02							
Units per Package							
10							





Fuse Base 2118908

URB



E186970

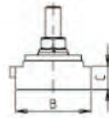
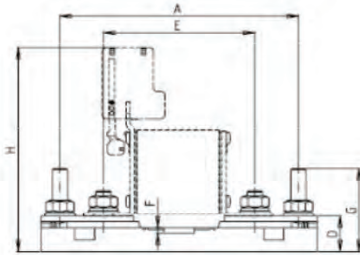
Size NH000/00 DIN 80

Rated Voltage
1000VAC

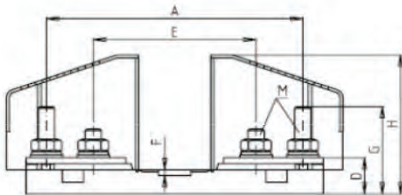
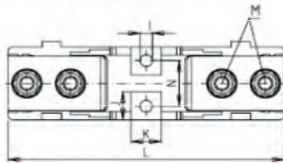
Rated Current
400A

Power Acceptance
34W

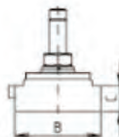
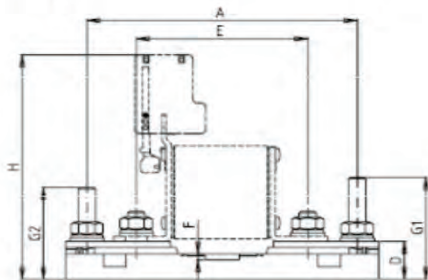
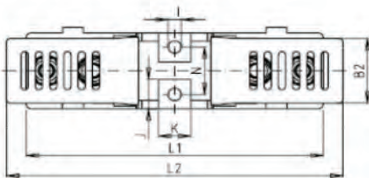
Accessories
Fuse Bases



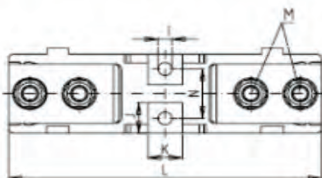
2118901



2118908



2118911



	Dimensions		
	[in / mm]		
	2118901	2118908	2118911
A	4.96 / 126	4.96 / 126	4.96 / 126
B	1.57 / 40	—	—
B₁	—	1.57 / 40	—
B₂	—	1.34 / 34	—
C	0.50 / 13	0.50 / 13	0.50 / 13
D	0.75 / 19	0.75 / 19	0.75 / 19
E	3.15 / 80	3.15 / 80	3.15 / 80
F	0.12 / 3	0.12 / 3	0.12 / 3
G	1.73 / 44	1.81 / 46	—
G₁	—	—	2.00 / 51
G₂	—	—	1.73 / 44
H	4.40 / 112	2.91 / 74	4.40 / 112
I	0.26 / 6.5	0.26 / 6.5	0.26 / 6.5
J	0.60 / 15.5	0.60 / 15.5	0.60 / 15.5
K	0.63 / 16	0.63 / 16	0.63 / 16
L_{max}	5.75 / 146	—	5.75 / 146
L₁	—	5.75 / 146	—
L₂	—	6.50 / 165	—
M	M8	M8	M8
N	0.98 / 25	0.98 / 25	0.98 / 25
Max M8 nut torque 12N•m 8.8lb•ft 106lb•in			
Max base mounting torque 4N•m 3lb•ft 35lb•in			