

gR

TYPES
M, M-STRIKER PIN

RATED VOLTAGE
~690V

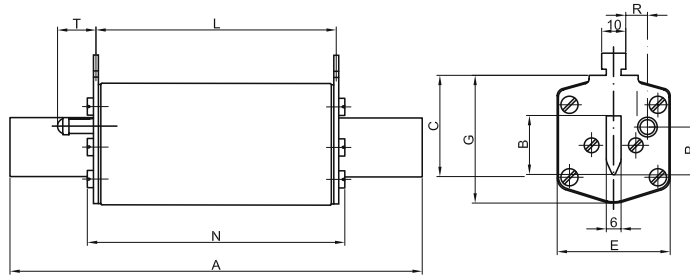
Technical data:			Application:
Standards: IEC 60269-4	Breaking capacity: ~200kA Rated voltage: ~690V, =550V		For battery protection in UPS systems.

M00CUQ2/125A/690V



Size	In (A)	Type (visual indicator with grip for microswitch NVS S)	Code No.	Operating I ² t-value (A ² s)	Power dissipation (W)	Type with striker pin	Code No.	Char.	Packaging (pcs)	Weight (g)
	10	M00CUQ2/10A/690V	004721204	100	6,5	-	-	gR	3/120	140
	16	M00CUQ2/16A/690V	004721205	220	8	M00CUQ2/16A/690V-K	004721220	gR	3/120	140
	20	M00CUQ2/20A/690V	004721206	320	9,5	M00CUQ2/20A/690V-K	004721221	gR	3/120	140
	25	M00CUQ2/25A/690V	004721207	600	11,8	M00CUQ2/25A/690V-K	004721222	gR	3/120	140
	32	M00CUQ2/32A/690V	004721208	920	12,5	M00CUQ2/32A/690V-K	004721223	gR	3/120	140
	35	M00CUQ2/35A/690V	004721209	920	13,1	M00CUQ2/35A/690V-K	004721224	gR	3/120	140
00C	40	M00CUQ2/40A/690V	004721210	1.400	14,1	M00CUQ2/40A/690V-K	004721225	gR	3/120	140
	50	M00CUQ2/50A/690V	004721211	2.250	15,6	M00CUQ2/50A/690V-K	004721226	gR	3/120	140
	63	M00CUQ2/63A/690V	004721212	3.600	17,8	M00CUQ2/63A/690V-K	004721227	gR	3/120	140
	80	M00CUQ2/80A/690V	004721213	6.200	20,6	M00CUQ2/80A/690V-K	004721228	gR	3/120	140
	100	M00CUQ2/100A/690V	004721214	10.000	23,7	M00CUQ2/100A/690V-K	004721229	gR	3/120	140
	125	M00CUQ2/125A/690V	004721215	13.000	30	M00CUQ2/125A/690V-K	004721230	gR	3/120	140
	160	M00CUQ2/160A/690V	004721216	23.000	35,9	M00CUQ2/160A/690V-K	004721231	gR	3/120	140

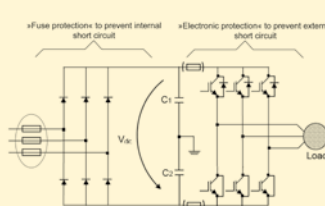
Dimensions:



Size	A	B	C	E	G	S	L	N	P	T
00C	78	15	35	21	42	6	46	53	20,5	18

remember

In the past, all soft-starters and drives incorporated internal high-speed fusing. As these devices have gotten smaller, cheaper, many manufacturers of medium to low power motor controllers have eliminated internal fusing. Adequate electrical protection is now in hand of designers.



Technical data on page 68

gR

TYPES
M, M-STRIKER PIN

RATED VOLTAGE
~690V

Technical data:

Standards:
IEC 60269-4

Breaking capacity:
~200kA
Rated voltage:
~690V, = 550V

Application:

For battery protection in UPS systems.

Size	In (A)	Type (visual indicator with grip for microswitch NVS S)	Code No.	Operating Pt-value (A ² s)	Power dissipation (W)	Type with striker pin		Char.	Packaging (pcs)	Weight (g)
						Type with striker pin	Code No.			
1	35	M1UQ2/35A/690V	004723209	920	13,1	-	-	gR	3/24	420
	40	M1UQ2/40A/690V	004723210	1.400	14,1	-	-	gR	3/24	420
	50	M1UQ2/50A/690V	004723211	2.250	15,6	M1UQ2/50A/690V-K	004723240	gR	3/24	420
	63	M1UQ2/63A/690V	004723212	3.600	17,8	M1UQ2/63A/690V-K	004723241	gR	3/24	420
	80	M1UQ2/80A/690V	004723213	6.200	20,6	M1UQ2/80A/690V-K	004723242	gR	3/24	420
	100	M1UQ2/100A/690V	004723214	10.000	23,7	M1UQ2/100A/690V-K	004723243	gR	3/24	420
	125	M1UQ2/125A/690V	004723215	13.000	30	M1UQ2/125A/690V-K	004723244	gR	3/24	420
	160	M1UQ2/160A/690V	004723216	23.000	35,9	M1UQ2/160A/690V-K	004723245	gR	3/24	420
	200	M1UQ2/200A/690V	004723217	47.000	31,5	M1UQ2/200A/690V-K	004723246	gR	3/24	420
	224	M1UQ2/224A/690V	004723218	60.000	36,8	M1UQ2/224A/690V-K	004723247	gR	3/24	420
	250	M1UQ2/250A/690V	004723219	70.000	42,7	M1UQ2/250A/690V-K	004723248	gR	3/24	420
	2	125	M2UQ2/125A/690V	004724215	13.000	30	M2UQ2/125A/690V-K	004724241	gR	3/24
160		M2UQ2/160A/690V	004724216	23.000	35,9	M2UQ2/160A/690V-K	004724242	gR	3/24	660
200		M2UQ2/200A/690V	004724217	47.000	31,5	M2UQ2/200A/690V-K	004724243	gR	3/24	660
224		M2UQ2/224A/690V	004724218	60.000	36,8	M2UQ2/224A/690V-K	004724244	gR	3/24	660
250		M2UQ2/250A/690V	004724219	70.000	42,7	M2UQ2/250A/690V-K	004724245	gR	3/24	660
315		M2UQ2/315A/690V	004724221	110.000	57	M2UQ2/315A/690V-K	004724246	gR	3/24	660
3	350	M2UQ2/350A/690V	004724222	150.000	67	M2UQ2/350A/690V-K	004724247	gR	3/24	660
	400	M2UQ2/400A/690V	004724223	170.000	76	M2UQ2/400A/690V-K	004724248	gR	3/24	660
	250	M3UQ2/250A/690V	004725219	70.000	42,7	M3UQ2/250A/690V-K	004725241	gR	3/24	870
	315	M3UQ2/315A/690V	004725221	110.000	57	M3UQ2/315A/690V-K	004725242	gR	3/24	870
	350	M3UQ2/350A/690V	004725222	150.000	67	M3UQ2/350A/690V-K	004725243	gR	3/24	870
	400	M3UQ2/400A/690V	004725223	170.000	76	M3UQ2/400A/690V-K	004725244	gR	3/24	870
	425	M3UQ2/425A/690V	004725224	200.000	84	M3UQ2/425A/690V-K	004725245	gR	3/24	870
	500	M3UQ2/500A/690V	004725226	240.000	102	M3UQ2/500A/690V-K	004725246	gR	3/24	870
	630	M3UQ2/630A/690V	004725228	400.000	138	M3UQ2/630A/690V-K	004725247	gR	3/24	870

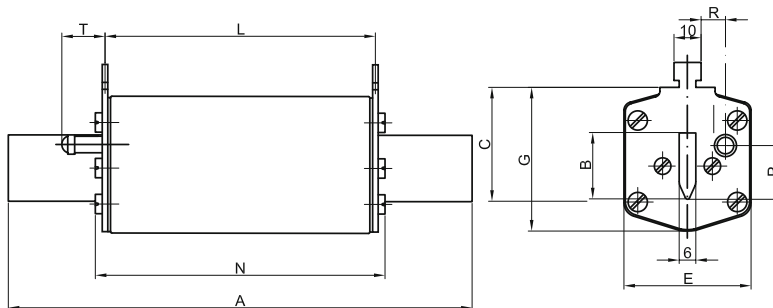
M2UQ2/250A/690V



ULTRA QUICK

Note: for size 1,2 modify hand of NVSS

Dimensions:



Size	A	B	C	E	G	S	L	N	P	R	T
1	135	24	40	46	52	6	65	73	20,5	13,7	27,5
2	150	30	48	54	61	6	65	73	27,3	16,2	27,5
3	150	37	60	64	74	6	65	73	35,6	17	27,5

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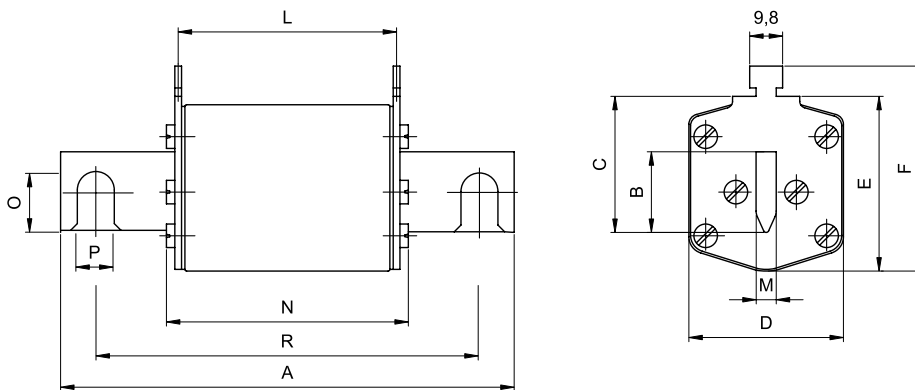
TYPES
M, S

RATED VOLTAGE
~500V

Technical data:		Application:
Standards: IEC 60269-4	Breaking capacity: ~200kA Rated voltage: ~500V	Fuse-links type M are applied in fuse base (for example PK4 or fuse disconnecter).

Size	In (A)	Type (visual indicator with grip for microswitch NVS 5)	Code No.	Operating I ² t-value (A ² s)	Power dissipation (W)	Char.	Packaging (pcs)	Weight (g)
4	800	S4UQ2/800A/500V	004716130	620.000	164	gR	1	2350
	1000	S4UQ2/1000A/500V	004716132	1.150.000	188	gR	1	2350
	1250	S4UQ2/1250A/500V	004716133	2.000.000	246	gR	1	2350
4a	800	M4aUQ2/800A/500V	004717230	620.000	164	gR	1	2700
	1000	M4aUQ2/1000A/500V	004717232	1.150.000	188	gR	1	2700
	1250	M4aUQ2/1250A/500V	004717233	2.000.000	246	gR	1	2700
	1500	M4aUQ2/1500A/500V	004717235	3.800.000	310	gR	1	2700
	1600	M4aUQ2/1600A/500V	004717236	4.500.000	320	gR	1	2700

Dimensions:



Size	A	B	C	D	E	F	L	N	M	O	P	R
4	200	50	87	95	112	122	65	78	8	32	16	150
4a	200	50	85	95	112	122	87	97	6	—	—	—

Technical data on page 68

gR	TYPES	RATED VOLTAGE
	S80mm	~690V

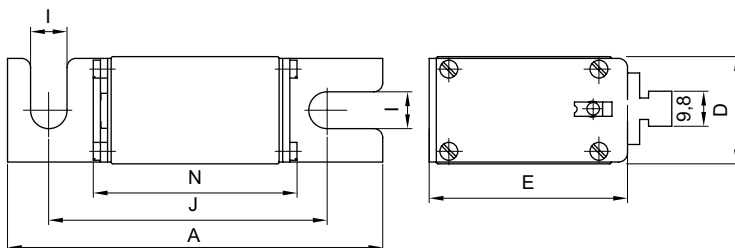
Technical data:		Application:
Standards: IEC 60269-4	Breaking capacity: ~200kA Rated voltage: ~690V, =550V	For battery protection in UPS systems.

Size	In (A)	Type (visual indicator with grip for microswitch NVS 5)	Code No.	Operating I ² t-value (A ² s)	Power dissipation (W)	Char.	Packaging (pcs)	Weight (g)
00C	10	S00CUQ2/80/10A/690V	004721104	100	6,5	gR	3/54	140
	16	S00CUQ2/80/16A/690V	004721105	220	8	gR	3/54	140
	20	S00CUQ2/80/20A/690V	004721106	320	9,5	gR	3/54	140
	25	S00CUQ2/80/25A/690V	004721107	600	11,8	gR	3/54	140
	32	S00CUQ2/80/32A/690V	004721108	920	12,5	gR	3/54	140
	35	S00CUQ2/80/35A/690V	004721109	920	13,1	gR	3/54	140
	40	S00CUQ2/80/40A/690V	004721110	1.400	14,1	gR	3/54	140
	50	S00CUQ2/80/50A/690V	004721111	2.250	15,6	gR	3/54	140
	63	S00CUQ2/80/63A/690V	004721112	3.600	17,8	gR	3/54	140
	80	S00CUQ2/80/80A/690V	004721113	6.200	20,6	gR	3/54	140
	100	S00CUQ2/80/100A/690V	004721114	10.000	23,7	gR	3/54	140
	125	S00CUQ2/80/125A/690V	004721115	13.000	30	gR	3/54	140
	160	S00CUQ2/80/160A/690V	004721116	23.000	35,9	gR	3/54	140

S00CUQ2/80/125A/690V



Dimensions:



Size	A	D	E	I	J	N
00C	101	21	40	8,5	78	54

remember



One of the fastest growing markets for fuses is protection of semiconductor devices !!!

gR

TYPES
S110mm

RATED VOLTAGE
~690V

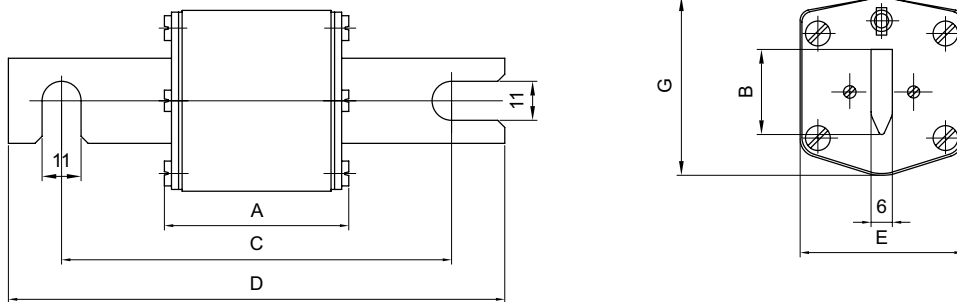
Technical data:		Application:
Standards: IEC 60269-4	Breaking capacity: ~200kA Rated voltage: ~690V, = 550V	For battery protection in UPS systems.

S1UQ2/110/250A/690V



Size	In (A)	Type with visual indicator	Code No.	Operating I _t -value (A ² s)	Power dissipation (W)	Char.	Packaging (pcs)	Weight (g)
1	80	S1UQ2/110/80A/690V	004723113	6.200	9,5	gR	1/26	390
	100	S1UQ2/110/100A/690V	004723114	10.000	12,7	gR	1/26	390
	125	S1UQ2/110/125A/690V	004723115	13.000	17,6	gR	1/26	390
	160	S1UQ2/110/160A/690V	004723116	23.000	23,8	gR	1/26	390
	200	S1UQ2/110/200A/690V	004723117	47.000	31,5	gR	1/26	390
	224	S1UQ2/110/224A/690V	004723118	60.000	36,8	gR	1/26	390
	250	S1UQ2/110/250A/690V	004723119	70.000	42,7	gR	1/26	390
2	125	S2UQ2/110/125A/690V	004724115	13.000	17,6	gR	3/24	510
	160	S2UQ2/110/160A/690V	004724116	23.000	23,8	gR	3/24	510
	200	S2UQ2/110/200A/690V	004724117	47.000	31,5	gR	3/24	510
	224	S2UQ2/110/224A/690V	004724118	60.000	36,8	gR	3/24	510
	250	S2UQ2/110/250A/690V	004724119	70.000	42,7	gR	3/24	510
	315	S2UQ2/110/315A/690V	004724121	110.000	57	gR	3/24	510
	350	S2UQ2/110/350A/690V	004724122	150.000	67	gR	3/24	510
3	400	S2UQ2/110/400A/690V	004724123	170.000	76	gR	3/24	510
	250	S3UQ2/110/250A/690V	004725119	70.000	42,7	gR	3/24	830
	315	S3UQ2/110/315A/690V	004725121	110.000	57	gR	3/24	830
	350	S3UQ2/110/350A/690V	004725122	150.000	67	gR	3/24	830
	400	S3UQ2/110/400A/690V	004725123	170.000	76	gR	3/24	830
	425	S3UQ2/110/425A/690V	004725124	200.000	84	gR	3/24	830
	500	S3UQ2/110/500A/690V	004725126	240.000	102	gR	3/24	830
630	S3UQ2/110/630A/690V	004725128	400.000	138	gR	3/24	830	

Dimensions:



Size	A	B	C	D	E	G
1	72	24	110	140	46	51
2	72	30	110	140	54	59
3	72	37	110	140	64	70

Technical data on page 72

gR

 TYPES
G

 RATED VOLTAGE
 ~500V

Technical data:

 Standards:
 IEC 60269-4

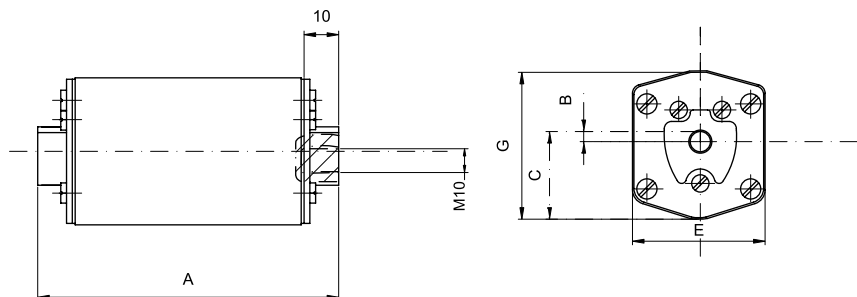
 Breaking capacity:
 ~200kA
 Rated voltage:
 ~500V

Application:

Fuse-links type G has threaded studs so fuses are mounted by special screws to busbars.

Size	In (A)	Type with visual indicator	Code No.	Operating Pt-value (A ² s)	Power dissipation (W)	Char.	Packaging (pcs)	Weight (g)
1	35	G1UQ2/35A/500V	004713509	670	15	gR	1/24	360
	40	G1UQ2/40A/500V	004713510	1.000	16,2	gR	1/24	360
	50	G1UQ2/50A/500V	004713511	1.500	17,5	gR	1/24	360
	63	G1UQ2/63A/500V	004713512	2.200	20	gR	1/24	360
	80	G1UQ2/80A/500V	004713513	3.300	23,1	gR	1/24	360
	100	G1UQ2/100A/500V	004713514	7.200	26,4	gR	1/24	360
	125	G1UQ2/125A/500V	004713515	10.000	34	gR	1/24	360
	160	G1UQ2/160A/500V	004713516	21.000	40,1	gR	1/24	360
	200	G1UQ2/200A/500V	004713517	30.000	43,8	gR	1/24	360
	224	G1UQ2/224A/500V	004713518	41.000	48,5	gR	1/24	360
	250	G1UQ2/250A/500V	004713519	52.000	53	gR	1/24	360
	2	125	G2UQ2/125A/500V	004714515	10.000	34	gR	1/24
160		G2UQ2/160A/500V	004714516	21.000	40,1	gR	1/24	520
200		G2UQ2/200A/500V	004714517	30.000	43,8	gR	1/24	520
224		G2UQ2/224A/500V	004714518	41.000	48,5	gR	1/24	520
250		G2UQ2/250A/500V	004714519	52.000	53	gR	1/24	520
315		G2UQ2/315A/500V	004714521	82.000	63	gR	1/24	520
350		G2UQ2/350A/500V	004714522	110.000	66	gR	1/24	520
3	400	G2UQ2/400A/500V	004714523	160.000	70	gR	1/24	520
	250	G3UQ2/250A/500V	004715519	52.000	53	gR	1/24	800
	315	G3UQ2/315A/500V	004715521	82.000	63	gR	1/24	800
	350	G3UQ2/350A/500V	004715522	110.000	66	gR	1/24	800
	400	G3UQ2/400A/500V	004715523	160.000	70	gR	1/24	800
	425	G3UQ2/425A/500V	004715524	200.000	70	gR	1/24	800
	500	G3UQ2/500A/500V	004715526	260.000	96	gR	1/24	800
	630	G3UQ2/630A/500V	004715528	340.000	135	gR	1/24	800

G2UQ2/350A/500V

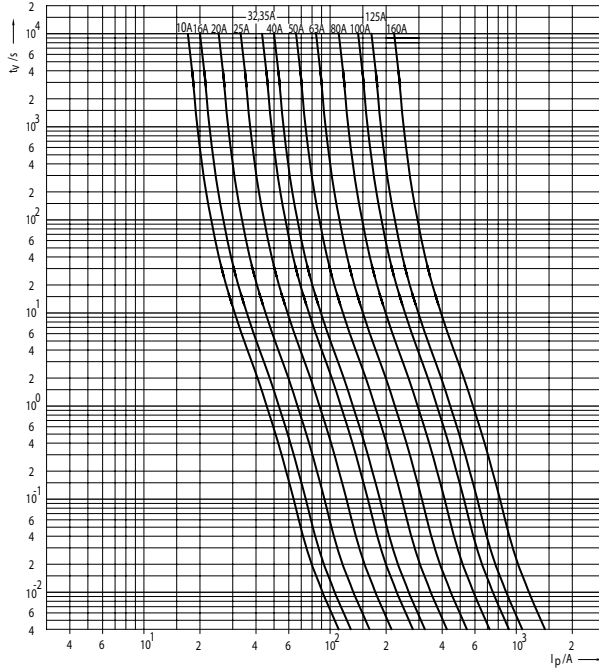

Dimensions:


Size	A	B	C	E	G
1	85	8,5	25	46	50
2	72	2	29,5	54	59
3	83	2	34	64	70

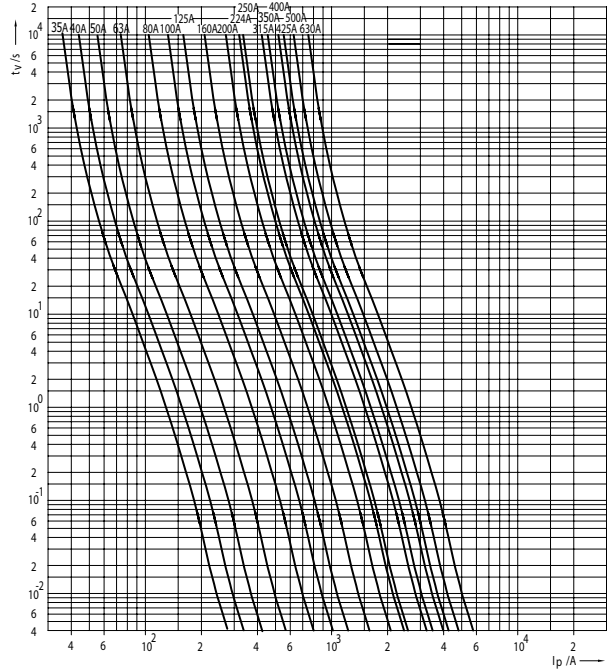
RATED VOLTAGE
~690V

gR

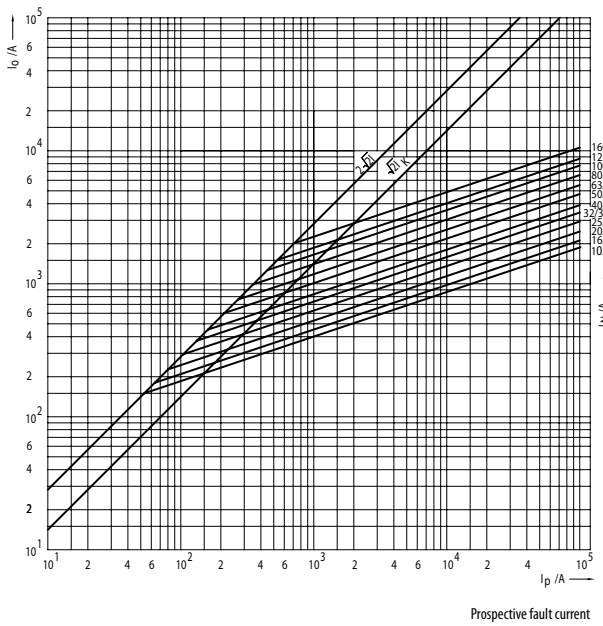
Time/current characteristics of fuse-links Ultra Quick M, S - size 00C



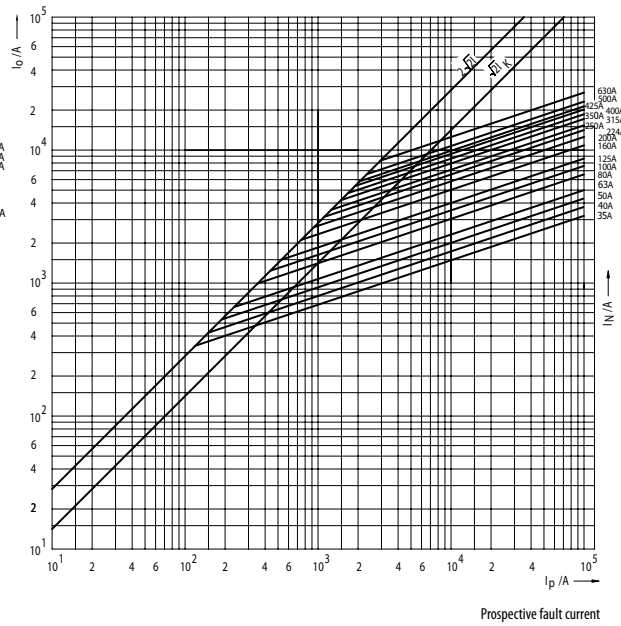
Time/current characteristics of fuse-links Ultra Quick M, S, G - size 1, 2, 3



Cut-off characteristics of fuse-links Ultra Quick M, S - size 00C



Cut-off characteristics of fuse-links Ultra Quick M, S, G - size 1, 2, 3



ULTRA QUICK

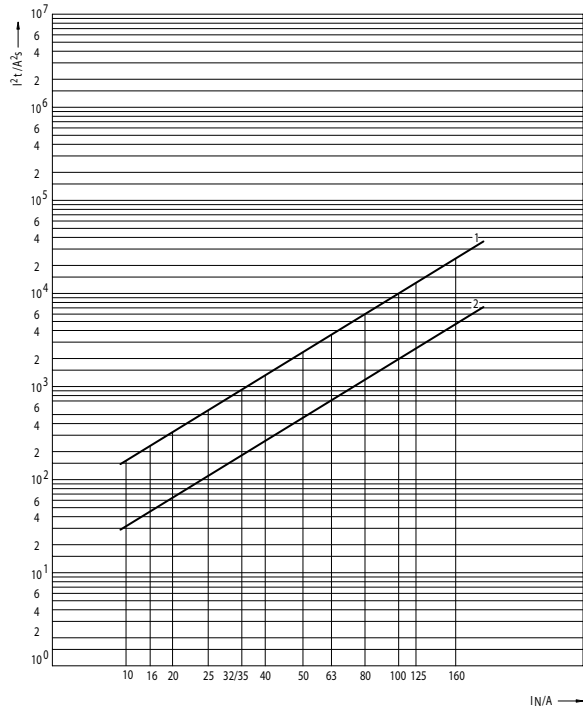
CHARACTERISTICS

SYSTEM NV/NH

gR

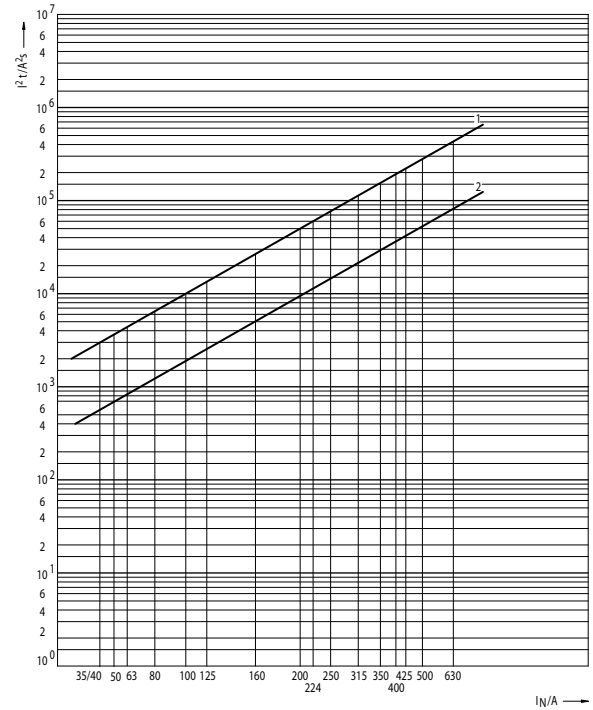
RATED VOLTAGE
~690V

Joule Integral (I^2t) for Ultra Quick M, S - size 00C



1 - Operating I^2t value at 690V
2 - Pre-arcing I^2t value

Joule Integral (I^2t) for Ultra Quick M, S, G - size 1, 2, 3

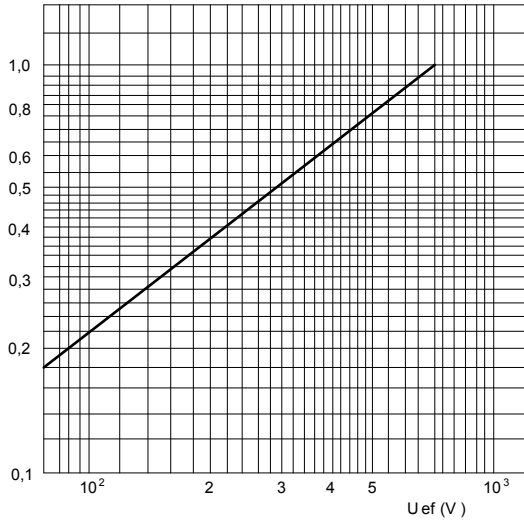


1 - Operating I^2t value at 690V
2 - Pre-arcing I^2t value

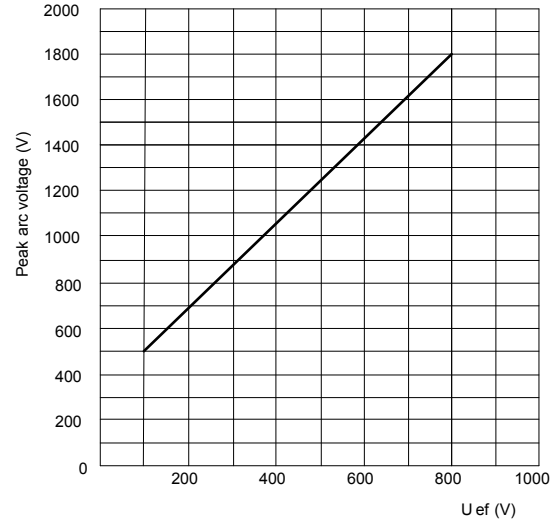
RATED VOLTAGE
~690V

gR

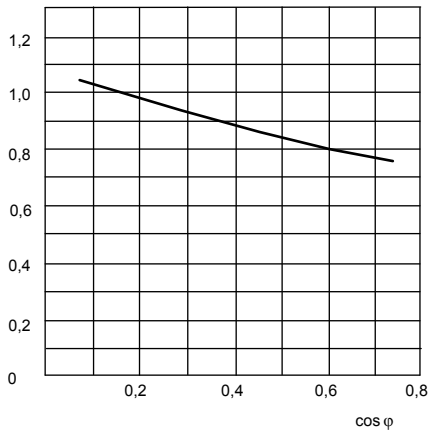
Conversion factor for total Joule integral



Maximum arc voltage occurring



Correction factor for performance factor $\cos\varphi \neq 0,15$ for operating I²t values



Correction factor for converting the power dissipation for percentage load

Load (%)	Correction factor
10	0,005
20	0,025
30	0,063
40	0,122
50	0,204
60	0,31
70	0,442
80	0,6
90	0,785
100	1

CHARACTERISTICS

SYSTEM NV/NH

gR

RATED VOLTAGE
~690V

Power dissipation, pre-arcing Joule Integral and Operating Joule Integral for Ultra Quick

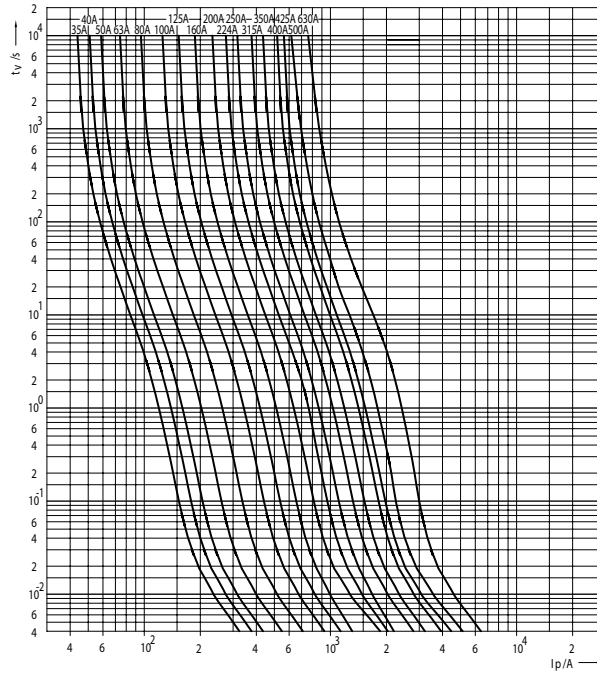
Size	I _N	Power dissipation	Pre-arcing	Operating	Operating	Operating	Operating
			Joule integral I ² t (1ms)	Joule Integral I ² t ~230V	Joule Integral I ² t ~400V	Joule Integral I ² t ~500V	Joule Integral I ² t ~690V
	A	W	A ² s	A ² s	A ² s	A ² s	A ² s
M00C, S00C	10	6,50	20	43	63	80	100
	16	7,93	42	95	139	176	220
	20	9,52	63	138	202	256	320
	25	11,8	110	258	378	480	600
	32	12,5	180	396	580	736	920
	35	13,1	180	396	580	736	920
	40	14,1	250	602	882	1.120	1.400
	50	15,6	449	968	1.418	1.800	2.250
	63	17,8	700	1.548	2.268	2.880	3.600
	80	20,6	1.100	2.666	3.906	4.960	6.200
	100	23,7	2.000	4.300	6.300	8.000	10.000
	125	30,0	2.500	5.590	8.190	10.400	13.000
	160	35,9	4.400	9.890	14.490	18.400	23.000
M1, S1, G1 M2, S2, G2 M3, S3, G3	80	9,52	1.200	2.709	3.969	5.040	6.300
	100	12,7	1.650	4.300	6.300	8.000	10.000
	125	17,6	2.200	5.590	8.190	10.400	13.000
	160	23,8	4.300	9.890	14.490	18.400	23.000
	200	31,5	8.500	20.210	29.610	37.600	47.000
	224	36,8	10.000	25.800	37.800	48.000	60.000
	250	42,7	15.000	30.100	44.100	56.000	70.000
	315	57	20.000	47.300	69.300	88.000	110.000
	350	67	28.000	64.500	94.500	120.000	150.000
	400	76	32.000	73.100	107.100	136.000	170.000
	425	84	40.000	86.000	126.000	160.000	200.000
	500	102	44.000	103.200	151.200	192.000	240.000
	630	138	80.000	172.000	252.000	320.000	400.000

ULTRA QUICK

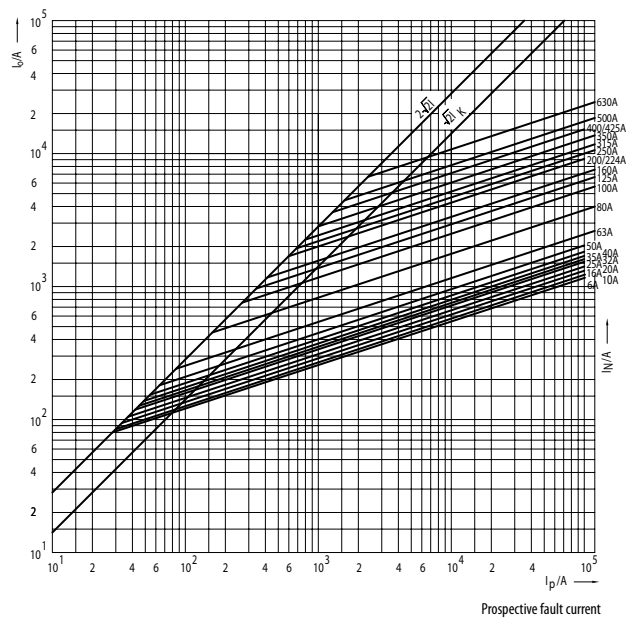
RATED VOLTAGE
~500V

gR

Time/current characteristics of fuse-links Ultra Quick G - size 1, 2, 3



Cut-off characteristics of fuse-links Ultra Quick G - size 1, 2, 3



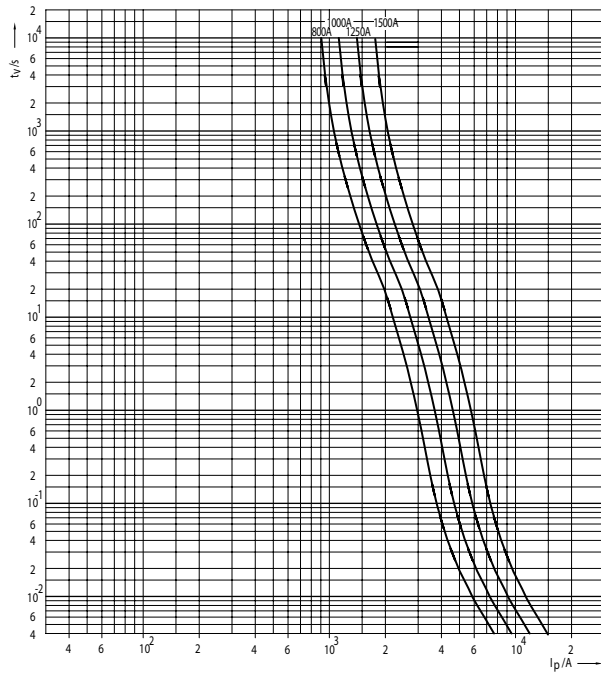
CHARACTERISTICS

SYSTEM NV/NH

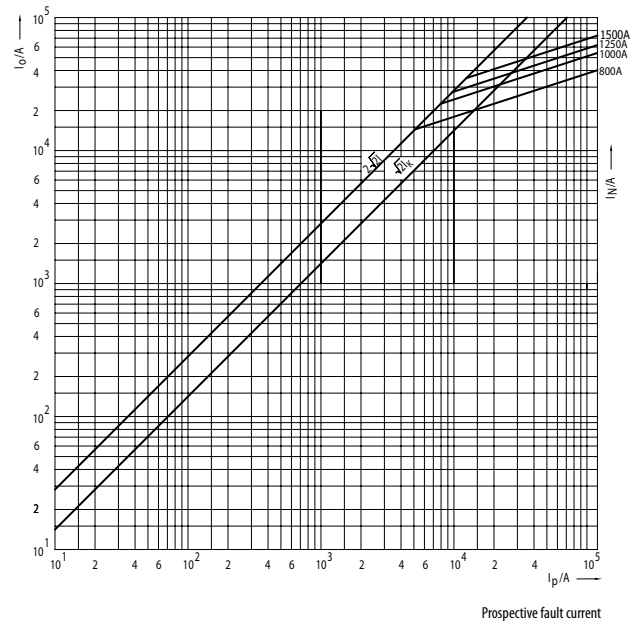
gR

RATED VOLTAGE
~500V

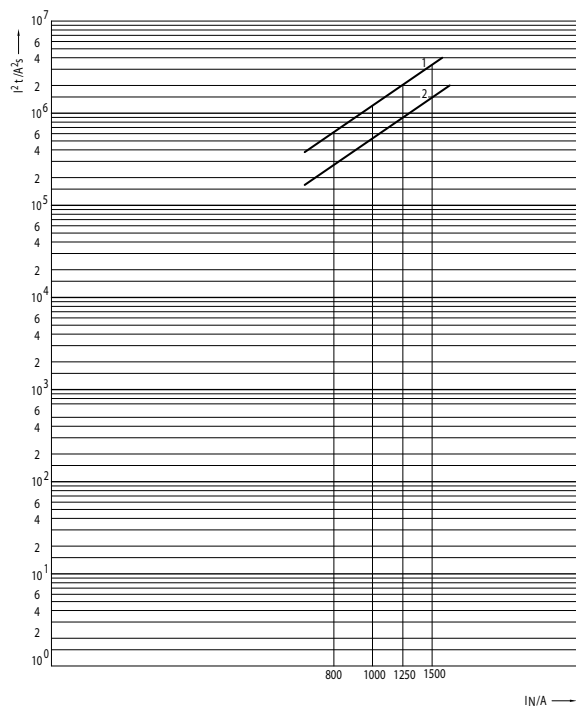
Time/current characteristics of fuse-links Ultra Quick M, S - size 4 and 4a



Cut-off characteristics of fuse-links Ultra Quick M, S - size 4 and 4a



Joule Integral (I^2t) for Ultra Quick M, S - size 4 and 4a

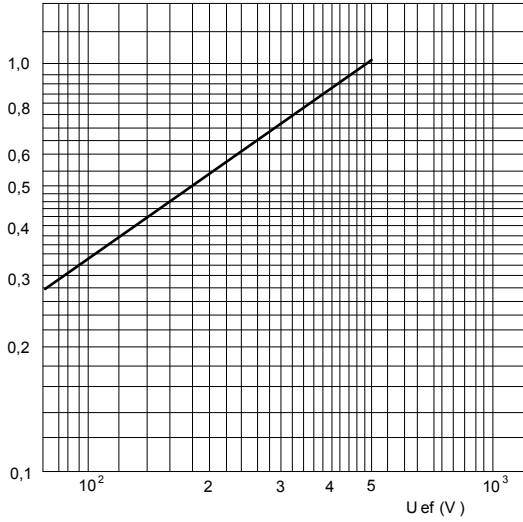


- 1 - Operating I^2t value at 500V
- 2 - Pre-arcing I^2t value

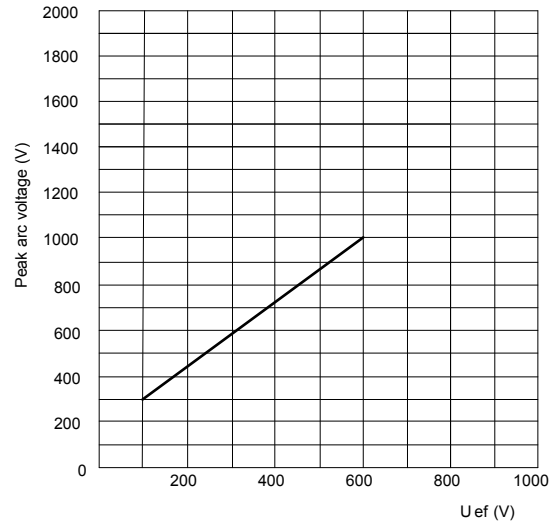
RATED VOLTAGE
~500V

gR

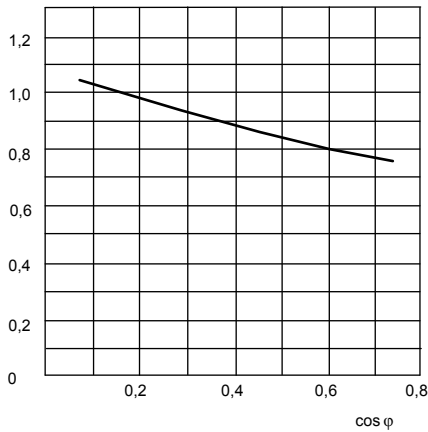
Conversion factor for total Joule integral



Maximum arc voltage occurring



Correction factor for performance factor $\cos\varphi \neq 0,15$ for operating I^2t values



Correction factor for converting the power dissipation for percentage load

Load (%)	Correction factor
10	0,005
20	0,025
30	0,063
40	0,122
50	0,204
60	0,31
70	0,442
80	0,6
90	0,785
100	1

CHARACTERISTICS

SYSTEM NV/NH

gR

RATED VOLTAGE
~500V

Power dissipation, pre-arcing Joule Integral and Operating Joule Integral for Ultra Quick

Size	I_N	Power dissipation	Pre-arcing Joule integral I^2t (1ms)	Operating Joule Integral $I^2t \sim 230V$	Operating Joule Integral $I^2t \sim 400V$	Operating Joule Integral $I^2t \sim 500V$
	A	W	A ² s	A ² s	A ² s	A ² s
G1, G2, G3, M4a, S4	35	15,0	160	369	536	670
	40	16,2	250	550	800	1.000
	50	17,5	400	825	1.200	1.500
	63	20,0	600	1.210	1.760	2.200
	80	23,1	900	1.815	2.640	3.300
	100	26,4	1.500	3.960	5.760	7.200
	125	34,0	2.500	5.500	8.000	10.000
	160	40,1	6.000	11.550	16.800	21.000
	200	43,8	7.900	16.500	24.000	30.000
	224	48,5	10.000	22.550	32.800	41.000
	250	53	12.500	28.600	41.600	52.000
	315	63	20.000	45.100	65.600	82.000
	350	66	26.000	60.500	88.000	110.000
	425	70	40.000	88.000	128.000	200.000
	500	96	50.000	110.000	160.000	260.000
	630	135	66.000	143.000	208.000	340.000
	800	164	250.000	341.000	496.000	620.000
1000	188	580.000	632.500	920.000	1.150.000	
1250	246	900.000	1.100.000	1.600.000	2.000.000	
1500	310	1.600.000	2.090.000	3.040.000	3.800.000	

ULTRA QUICK