вставки плавкие предохранители импорт стекло керамика продажа вп fuse d01 d02 d1 d2 d3 nv nh bussmann/hawker brush/dorman ferraz shawmut eti m schneider siemens siba weber bals lawson broadway lindner moeller ifo aei/aed littelfuse

gec-ee/ge, mem, fluvent , reyrolle, ind accs emp old/gec schneider elco sieger jung j.muller беларусь

продажа, вставки, плавкие, предохранитель импорт,предохранитель стекло, керамика, вп, d01, предохранитель d02,предохранитель d1, предохранитель d2,предохранитель d3,предохранитель nv,

предохранитель nh,fuse, bussmann, hawker, brush, dorman, ferraz shawmut, eti, m schneider, siemens, siba, weber bals , lawson, broadway, lindner, moeller, ifo, aei, aed,

gec-ee/ge, mem,fluvent, reyrolle/ind, accs ,emp, old/gec ,schneider, elco ,sieger jung, muller, littelfuse

радиодетали , электронные компоненты , склад минск, и под заказ отечественные и импортные, вставки плавкие, импорт стекло керамика, продажа, вп, d01, d02, d1, d2, d3, nv, nh, bussmann/hawker, brush/dorman, ferraz , shawmut eti, schneider, siemens, siba, weber, bals, lawson, broadway, lindner, moeller, ifo, aei/aed,

gec-ee/ge, mem, fluvent, reyrolle/ind, accs, emp, old/gec, schneider, elco, sieger, jung j.muller ,

VV

ВЫСОКОВОЛЬТНЫЕ ПРЕДОХРАНИТЕЛИ

РЕКОМЕНДАЦИИ ДЛЯ ЗАЩИТЫ ТРАНСФОРМАТОРОВ

ОПРЕДЕЛЕНИЯ И УСЛОВИЯ

ВЫСОКОВОЛЬТНЫЕ ПРЕДОХРАНИТЕЛИ

CESI HR

ETI Мощь требует контроля

ВЫСОКОВОЛЬТНЫЕ ПРЕДОХРАНИТЕЛИ С ВЫСОКОЙ ОТКЛЮЧАЮЩЕЙ СПОСОБНОСТЬЮ

Новая серия предохранителей VV Thermo предназначена для защиты линий электропередач, трансформаторов, конденсаторных батарей, электродвигателей от перегрузок и коротких замыканий. Токовременные характеристики соответствуют стандарту IEC 60282-1, п.3.3.3. “Резервные токоограничивающие плавкие предохранители”. Эти предохранители могут отключать ток в диапазоне от номинального максимального до номинального минимального тока отключения при определённых условиях применения и работы. Устанавливаются в:

- ячейки (SF6) с газовой изоляцией
- наружные и внутренние распределительные устройства
- специальных рабочих условиях (которые отличаются от нормальных рабочих условий по стандарту IEC 60282-1, п.2.1.)

Преимущества высоковольтных предохранителей ETI:

- малый нагрев из-за малой рассеиваемой мощности
- высокая отключающая способность (50 кА)
- три различных значения силы ударной иглы: 80 Н и 120 Н (с ограничителем температуры) и 50 Н (без ограничителя)
- надежная система влагонепроницаемости
- медленное старение
- низкое напряжение переключения
- по требованию возможна поставка предохранителей нестандартных размеров

Соответствие стандартам:

- IEC 60282-1, пятая редакция 01/2002 “Токоограничивающие плавкие предохранители” - испытано CESI Милан (Италия)
- DIN 43625 "Высоковольтные предохранители, номинальное напряжение 3.6 up t B (плавкие вставки)"
- VDE 0670 Part 402 / IEC 60787 “Выбор предохранителей для защиты трансформаторов”
- VDE 0670 Part 401 /IEC 60644 “Требования к высоковольтным предохранителям для защиты электромоторов”
- IEC 60549 “Высоковольтные предохранители для внешней защиты силовых конденсаторов”

Конструкция

Высоковольтный предохранитель сконструирован таким образом, что обеспечивает стабильные и надежные характеристики. Предохранитель представляет собой механически прочную и термостойкую фарфоровую трубку, покрытую глазурью. Цилиндры, защищенные гальваническим способом, изготовлены из электролитической меди или никеля, или по требованию покупателя посеребрены. Цилиндры запрессованы в углублении на трубке. Герметичность обеспечивает специальная износо- и термостойкая прокладка.

Конструкция и технология производства плавких элементов обеспечивают точные допуски и стабильные токовременные характеристики. Основой плавкой вставки является специальная медная лента, навитая на керамическую опору. Плавкий элемент помещен в кварцевый песок строго определённой грануляции и химического состава. Песок обеспечивает хорошее и надежное гашение электрической дуги.

Важным элементом предохранителя является также индикаторная система. Частью этой системы является термочувствительный элемент, который реагирует на повышение температуры предохранителя вследствие разных причин. Температура срабатывания -120 гр.С. Система настроена таким образом, что отключение цепи не происходит из-за кратковременных перегрузок. При повышении температуры предохранителя выше максимального значения предохранитель при помощи ударной иглы приводит в действие коммутационный механизм. Таким образом предохранители VV Thermo можно применять для защиты ячеек распределительных устройств SF6, где требуется дополнительная температурная защита.

Условное обозначение предохранителей:

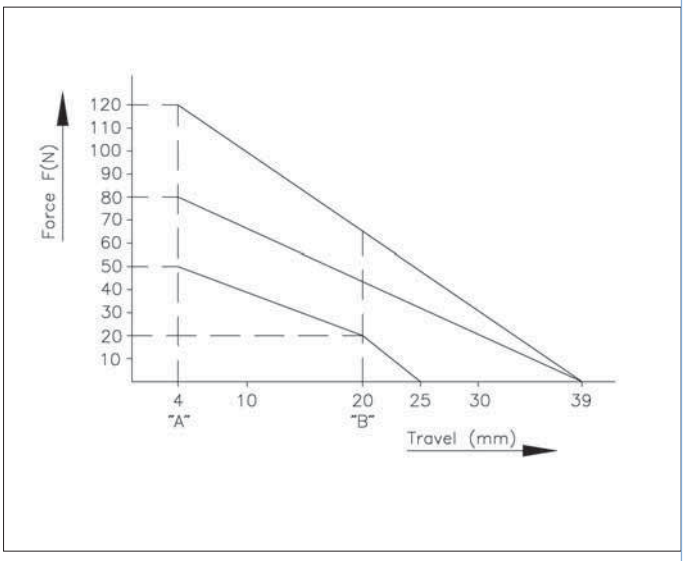
VV X-X - X kV - X A, где

VV - обозначение серии плавкого предохранителя

X-X исполнение по наличию ограничителя температуры и ударной силы иглы:
C - без ограничителя температуры с ударной силой иглы 50 Н;
T-D - с ограничителем температуры и ударной силой иглы 80 Н;
T-E - с ограничителем температуры и ударной силой иглы 120 Н.

X kV - номинальное напряжение плавкой вставки (кВ)

X A - номинальный ток плавкой вставки (А)



Основные технические данные

Номинальное напряжение (кВ)	Код	Максимальная сила ударной иглы	Номинальный ток	Отключающая способность кА	Минимальный номинальный ток отключения	Размеры		Электрические параметры				Вес (кг)
						"d" (мм)	"e" (мм)	Холодное сопротивление (мОм)	Потеря мощности Вт	Минимальный интеграл плавления	Максимальный интеграл плавления	
3/7.2	004225005	50	6A	50	25	53	192	200	10.0	50	200	1.1
	004225006		10A		46			55	6.6	161	1 530	
	004225007		16A		60			37	11.8	250	2 270	
	004225008		20A		80			31	15.3	430	3750	
	004225009		25A		105			24.5	22.1	650	5500	
	004225010		32A		130			18.2	30.1	1220	10 100	
	004225011		40A		178			13.2	36.9	2 270	18 100	
	004225012		50A		220	68		8.5	25.9	6 270	31 300	1.7
	004225013		63A		270			7.0	42.8	10 200	50 800	
	004225014		80A		360			5.2	50.3	18 700	93 500	
	004225015		100A		540	85		4.6	66.4	38 000	197 000	2.7
	004225016		125A		610			3.4	101	61 500	319 000	
	004225017		160A		810			2.7	135	102 200	528 000	
3/7.2	004226005	80	6A	50	25	53	192	200	10.0	50	200	1.1
	004226006		10A		46			55	6.6	161	1 530	
	004226007		16A		60			37	11.8	250	2 270	
	004226008		20A		80			31	15.3	430	3750	
	004226009		25A		105			24.5	22.1	650	5500	
	004226010		32A		130			18.2	30.1	1220	10 100	
	004226011		40A		178			13.2	36.9	2 270	18 100	
	004226012		50A		220	68		8.5	25.9	6 270	31 300	1.7
	004226013		63A		270			7.0	42.8	10 200	50 800	
	004226014		80A		360			5.2	50.3	18 700	93 500	
	004226015		100A		540	85		4.6	66.4	38 000	197 000	2.7
	004226016		125A		610			3.4	101	61 500	319 000	
	004226017		160A		810			2.7	135	102 200	528 000	
3/7.2	004227005	120	6A	50	25	53	192	200	10.0	50	200	1.1
	004227006		10A		46			55	6.6	161	1 530	
	004227007		16A		60			37	11.8	250	2 270	
	004227008		20A		80			31	15.3	430	3750	
	004227009		25A		105			24.5	22.1	650	5500	
	004227010		32A		130			18.2	30.1	1220	10 100	
	004227011		40A		178			13.2	36.9	2 270	18 100	
	004227012		50A		220	68		8.5	25.9	6 270	31 300	1.7
	004227013		63A		270			7.0	42.8	10 200	50 800	
	004227014		80A		360			5.2	50.3	18 700	93 500	
	004227015		100A		540	85		4.6	66.4	38 000	197 000	2.7
	004227016		125A		610			3.4	101	61 500	319 000	
	004227017		160A		810			2.7	135	102 200	528 000	

Основные технические данные

Номинальное напряжение (кВ)	Код	Максимальная сила ударной иглы	Номинальный ток	Максимальный номинальный ток отключения	Минимальный номинальный ток отключения	Размеры		Электрические параметры				Вес (кг)
						"d" (мм)	"e" (мм)	Холодное сопротивление (мОм)	Потеря мощности Вт	Минимальный интеграл плавления	Максимальный интеграл плавления	
6/12	004235005	50	6A	50	25	53	292	309	15.4	50	200	1.6
	004235006		10A		46			87	10.4	161	1 530	
	004235007		16A		60			61	19.4	250	2 270	
	004235008		20A		80			47	23.2	430	3750	
	004235009		25A		105			37	33.5	650	5500	
	004235010		32A		130			27.5	45.6	1220	10 100	
	004235011		40A		178			20	55.9	2 270	18 100	
	004235012		50A		220	68		14.3	43.6	6 270	31 300	2.8
	004235013		63A		270			10.6	64.8	10 200	50 800	
	004235014		80A		360			8.0	77.3	18 700	93 500	
	004235015		100A		540	85		7.2	104	38 000	197 000	4.0
	004235016		125A		610			5.1	152	61 500	319 000	
	004235017		160A		810			4.0	200	102 200	528 000	
6/12	004236005	80	6A	50	25	53	292	309	15.4	50	200	1.6
	004236006		10A		46			87	10.4	161	1 530	
	004236007		16A		60			61	19.4	250	2 270	
	004236008		20A		80			47	23.2	430	3750	
	004236009		25A		105			37	33.5	650	5500	
	004236010		32A		130			27.5	45.6	1220	10 100	
	004236011		40A		178			20	55.9	2 270	18 100	
	004236012		50A		220	68		14.3	43.6	6 270	31 300	2.8
	004236013		63A		270			10.6	64.8	10 200	50 800	
	004236014		80A		360			8.0	77.3	18 700	93 500	
	004236015		100A		540	85		7.2	104	38 000	197 000	4.0
	004236016		125A		610			5.1	152	61 500	319 000	
	004236017		160A		810			4.0	200	102 200	528 000	
6/12	004237005	120	6A	50	25	53	292	309	15.4	50	200	1.6
	004237006		10A		46			87	10.4	161	1 530	
	004237007		16A		60			61	19.4	250	2 270	
	004237008		20A		80			47	23.2	430	3750	
	004237009		25A		105			37	33.5	650	5500	
	004237010		32A		130			27.5	45.6	1220	10 100	
	004237011		40A		178			20	55.9	2 270	18 100	
	004237012		50A		220	68		14.3	43.6	6 270	31 300	2.8
	004237013		63A		270			10.6	64.8	10 200	50 800	
	004237014		80A		360			8.0	77.3	18 700	93 500	
	004237015		100A		540	85		7.2	104	38 000	197 000	4.0
	004237016		125A		610			5.1	152	61 500	319 000	
	004237017		160A		810			4.0	200	102 200	528 000	

Основные технические данные

Номинальное напряжение (кВ)	Код	Максимальная сила ударной иглы	Номинальный ток	Отключающая способность кА	Минимальный номинальный ток отключения	Размеры		Электрические параметры				Вес (кг)
						"d" (мм)	"e" (мм)	Холодное сопротивление (мОм)	Потеря мощности Вт	Минимальный интеграл плавления	Максимальный интеграл плавления	
10/17.5	004245005	50	6A	50	25	53	367	445	23.4	50	200	1.9
	004245006		10A		46			131	15.6	161	1 530	
	004245007		16A		60			82.6	26.4	250	2 270	
	004245008		20A		80			68.6	37.9	430	3750	
	004245009		25A		105			54.3	49.2	650	5500	
	004245010		32A		130			38.9	65.7	1220	10 100	
	004245011		40A		178			29.5	78.1	2 270	18 100	
	004245012		50A		220	68		19.8	65.2	6 270	31 300	3.1
	004245013		63A		270			15.8	101	10 200	50 800	
	004245014		80A		360			12.0	122	18 700	93 500	
	004245015		100A		540	85		9.8	166	38 000	197 000	4.6
	004245016		125A		610			7.2	219	61 500	319 000	
	004245017		160A		810			6.1	339	102 200	528 000	
10/17.5	004246005	80	6A	50	25	53	367	445	23.4	50	200	1.9
	004246006		10A		46			131	15.6	161	1 530	
	004246007		16A		60			82.6	26.4	250	2 270	
	004246008		20A		80			68.6	37.9	430	3750	
	004246009		25A		105			54.3	49.2	650	5500	
	004246010		32A		130			38.9	65.7	1220	10 100	
	004246011		40A		178			29.5	78.1	2 270	18 100	
	004246012		50A		220	68		19.8	65.2	6 270	31 300	3.1
	004246013		63A		270			15.8	101	10 200	50 800	
	004246014		80A		360			12.0	122	18 700	93 500	
	004246015		100A		540	85		9.8	166	38 000	197 000	4.6
	004246016		125A		610			7.2	219	61 500	319 000	
	004246017		160A		810			6.1	339	102 200	528 000	
10/17.5	004247005	120	6A	50	25	53	367	445	23.4	50	200	1.9
	004247006		10A		46			131	15.6	161	1 530	
	004247007		16A		60			82.6	26.4	250	2 270	
	004247008		20A		80			68.6	37.9	430	3750	
	004247009		25A		105			54.3	49.2	650	5500	
	004247010		32A		130			38.9	65.7	1220	10 100	
	004247011		40A		178			29.5	78.1	2 270	18 100	
	004247012		50A		220	68		19.8	65.2	6 270	31 300	3.1
	004247013		63A		270			15.8	101	10 200	50 800	
	004247014		80A		360			12.0	122	18 700	93 500	
	004247015		100A		540	85		9.8	166	38 000	197 000	4.6
	004247016		125A		610			7.2	219	61 500	319 000	
	004247017		160A		810			6.1	339	102 200	528 000	

Основные технические данные

Номинальное напряжение (кВ)	Код	Максимальная сила ударной иглы	Номинальный ток	Максимальный номинальный ток отключения	Минимальный номинальный ток отключения	Размеры		Электрические параметры				Вес (кг)
						"d" (мм)	"e" (мм)	Холодное сопротивление (мОм)	Потеря мощности Вт	Минимальный интеграл плавления	Максимальный интеграл плавления	
10/24	004255005	50	6A	50	25	53	442	550	28.9	50	200	2.3
	004255006		10A		46			162	19.2	161	1 530	
	004255007		16A		60			102	32.6	250	2 270	
	004255008		20A		80			85	46.9	430	3750	
	004255009		25A		105			67	60.7	650	5500	
	004255010		32A		130			48.0	81.1	1220	10 100	
	004255011		40A		178			36.4	96.4	2 270	18 100	
	004255012		50A		220	68		24.5	80.5	6 270	31 300	3.9
	004255013		63A		270			19.5	125	10 200	50 800	
	004255014		80A		360			14.8	151	18 700	93 500	
	004255015		100A		540	85		13.5	228	38 000	197 000	5.8
	004255016		125A		610			9.9	301	61 500	319 000	
10/24	004256005	80	6A	50	25	53	442	550	28.9	50	200	2.3
	004256006		10A		46			162	19.2	161	1 530	
	004256007		16A		60			102	32.6	250	2 270	
	004256008		20A		80			85	46.9	430	3750	
	004256009		25A		105			67	60.7	650	5500	
	004256010		32A		130			48.0	81.1	1220	10 100	
	004256011		40A		178			36.4	96.4	2 270	18 100	
	004256012		50A		220	68		24.5	80.5	6 270	31 300	3.9
	004256013		63A		270			19.5	125	10 200	50 800	
	004256014		80A		360			14.8	151	18 700	93 500	
	004256015		100A		540	85		13.5	228	38 000	197 000	5.8
	004256016		125A		610			9.9	301	61 500	319 000	
10/24	004257005	120	6A	50	25	53	442	550	28.9	50	200	2.3
	004257006		10A		46			162	19.2	161	1 530	
	004257007		16A		60			102	32.6	250	2 270	
	004257008		20A		80			85	46.9	430	3750	
	004257009		25A		105			67	60.7	650	5500	
	004257010		32A		130			48.0	81.1	1220	10 100	
	004257011		40A		178			36.4	96.4	2 270	18 100	
	004257012		50A		220	68		24.5	80.5	6 270	31 300	3.9
	004257013		63A		270			19.5	125	10 200	50 800	
	004257014		80A		360			14.8	151	18 700	93 500	
	004257015		100A		540	85		13.5	228	38 000	197 000	5.8
	004257016		125A		610			9.9	301	61 500	319 000	

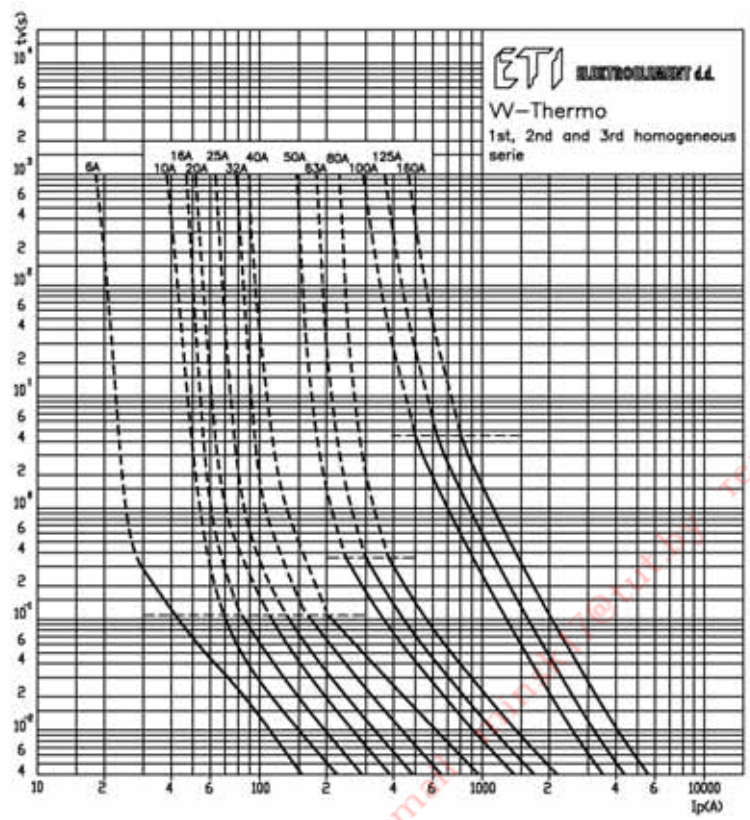
Основные технические данные

Номинальное напряжение (кВ)	Код	Максимальная сила ударной иглы	Номинальный ток	Максимальный номинальный ток отключения	Минимальный номинальный ток отключения	Размеры		Электрические параметры				Вес (кг)
						"d" (мм)	"e" (мм)	Холодное сопротивление (мОм)	Потеря мощности Вт	Минимальный интеграл плавления	Максимальный интеграл плавления	
20/36	004265005	50	6A	40	25	53	537	770	40.5	50	200	2,8
	004265006		10A		46			226	26.9	161	1 530	
	004265007		16A		60			142	45.6	250	2 270	
	004265008		20A		80			119	65.7	430	3750	
	004265009		25A		105	68		93.8	84.9	650	5500	4,7
	004265010		32A		130			67.2	113	1220	10 100	
	004265011		40A		178			50.9	134	2 270	18 100	
	004265012		50A		220	85		34.3	112	6 270	31 300	7,0
	004265013		63A		279			27.3	175	10 200	50 800	
20/36	004266005	80	6A	40	25	53	537	770	40.5	50	200	2,8
	004266006		10A		46			226	26.9	161	1 530	
	004266007		16A		60			142	45.6	250	2 270	
	004266008		20A		80			119	65.7	430	3750	
	004266009		25A		105	68		93.8	84.9	650	5500	4,7
	004266010		32A		130			67.2	113	1220	10 100	
	004266011		40A		178			50.9	134	2 270	18 100	
	004266012		50A		220	85		34.3	112	6 270	31 300	7,0
	004266013		63A		279			27.3	175	10 200	50 800	
20/36	004267005	120	6A	40	25	53	537	770	40.5	50	200	2,8
	004267006		10A		46			226	26.9	161	1 530	
	004267007		16A		60			142	45.6	250	2 270	
	004267008		20A		80			119	65.7	430	3750	
	004267009		25A		105	68		93.8	84.9	650	5500	4,7
	004267010		32A		130			67.2	113	1220	10 100	
	004267011		40A		178			50.9	134	2 270	18 100	
	004267012		50A		220	85		34.3	112	6 270	31 300	7,0
	004267013		63A		279			27.3	175	10 200	50 800	

Примечание:

По требованию покупателя возможна поставка предохранителей нестандартных размеров. Проконсультируйтесь с техническим персоналом ETI.

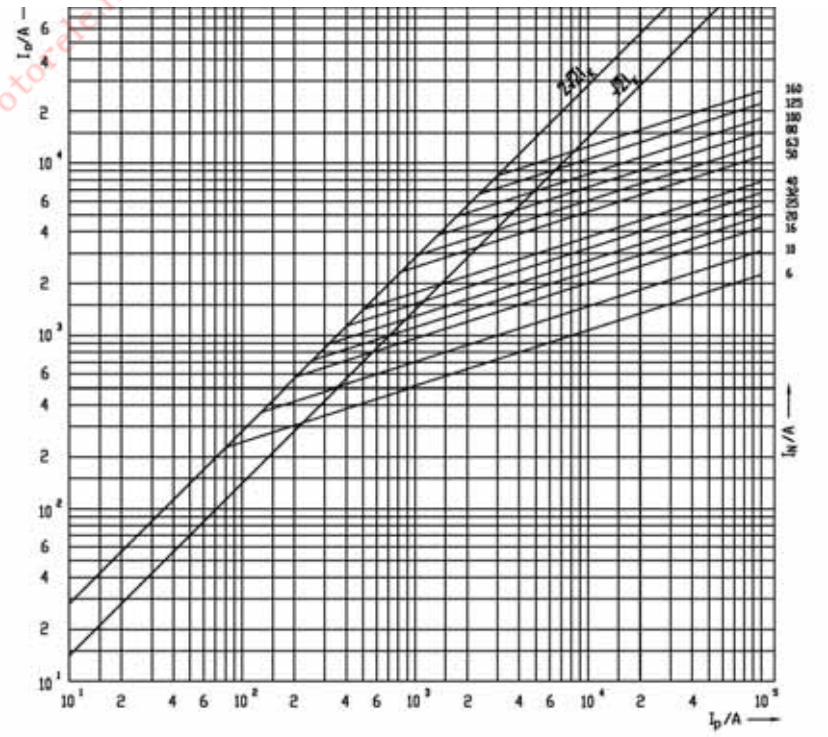
Токовременные характеристики для предохранителей VV-Thermo Back-up



I_p = Эффективный ток короткого замыкания

t_v = Время дуги

График тока отсечки для предохранителей VV-Thermo Back-up



I_p = Ожидаемый эффективный ток короткого замыкания

I_d = Ток отсечки

РЕКОМЕНДАЦИИ ДЛЯ ЗАЩИТЫ ТРАНСФОРМАТОРОВ

При выборе предохранителя для защиты главного трансформатора необходимо соблюдать следующее:

ХАРАКТЕРИСТИКИ ТРАНСФОРМАТОРА

- Номинальная мощность **Pn (кВА)**
- Напряжение короткого замыкания **Ucc (%)**
- Номинальный ток **Int**
- Ток включения обычно между **8-12xInt**
- Ток короткого замыкания **Icc**
- Ток перегрузки обычно **1,2 - 1.4 Int**
- Максимальное время стойкости при коротком замыкании в трансформаторе

  Стандартные значения:

  2 с для трансформаторов до **630 кВА**

  3 с для трансформаторов с большой номинальной мощностью

ОБЩИЕ ТРЕБОВАНИЯ

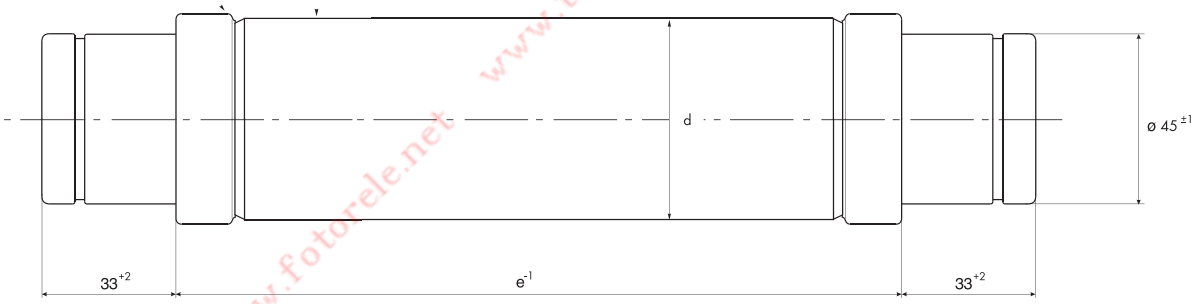
- Номинальное напряжение предохранителя должно быть не менее сетевого напряжения
- Ток включения не должен расплавить плавкий элемент быстрее 0,1 с
- Предохранитель должен прервать минимальный ток короткого замыкания в течение 2 секунд.
- Предохранитель должен выдержать номинальный ток **Int** и возможные перегрузки трансформатора **1,3 – 1,4 Int**
- В случае, когда неизвестны условия работы и установки, рекомендуется выбрать номинальный ток предохранителя больше 1,5 **Int**
- Для отключения тока короткого замыкания электропроводки должно выполняться условие $\mathbf{I_1 > Icc}$
- Для отключения тока короткого замыкания на трансформаторе Icc (повреждение вторичных клемм) должно выполняться условие $\mathbf{Icc \geq I_3}$

ХАРАКТЕРИСТИКИ ПРЕДОХРАНИТЕЛЯ

- Номинальное напряжение **Un (кВ)**
- Номинальный ток **In (A)**
- Кривые I/t см.рисунок
- Ток плавления $\mathbf{I_t}$ **(0,1 с)**
- Ток плавления $\mathbf{I_t}$ **(2 или 3 с)**
- Минимальный ток отсечки $\mathbf{I_3}$ **(A)**
- Максимальный ток отсечки $\mathbf{I_1}$ **(кА)**

Рекомендации для выбора номинального тока предохранителей

Номинальная ёмкость трансформатора (мощность трансформатора) (кВА)	6/7,2 кВ				10/12 кВ				20/24 кВ				30/36 кВ			
	Номинальный первичный ток трансформатора		Номинальный ток VV предо-хранителя I_F		Номинальный первичный ток трансформатора		Номинальный ток VV предохранителя I_F		Номинальный первичный ток трансформатора		Номинальный ток VV предохранителя I_F		Номинальный первичный ток трансформатора		Номинальный ток VV предохранителя I_F	
	при 6 кВ	при 7.2 кВ	I_{Fmin} (А)	I_{Fmax} (А)	при 10 кВ	при 12 кВ	I_{Fmin} (А)	I_{Fmax} (А)	при 20 кВ	при 24 кВ	I_{Fmin} (А)	I_{Fmax} (А)	при 30 кВ	при 36 кВ	I_{Fmin} (А)	I_{Fmax} (А)
50	4.8	4.1	10	16	2.9	2.4	6	10	1.5	1.2	4	6	0.96	0.8	2	4
75	7.2	6.2	16	20	4.3	3.6	10	16	2.2	1.8	4	6	1.4	1.2	4	6
100	9.6	8.2	25	32	5.8	4.8	10	16	2.9	2.4	6	10	1.9	1.6	6	10
125	12.1	10.3	32	40	7.2	6	16	20	3.6	3.0	6	10	2.4	2.0	6	10
160	15.4	13.2	40	50	9.2	7.7	20	25	4.6	3.8	10	16	3.1	2.6	6	10
200	19.2	16.4	40	50	11.5	9.6	25	32	5.8	4.8	10	16	3.8	3.2	10	16
250	24.1	20.6	50	63	14.4	12	32	40	7.2	6.0	16	20	4.8	4.0	10	16
315	30.3	26	50	63	18.2	15.2	40	50	9.1	7.6	20	25	6.1	5.1	16	20
400	38.5	33	63	80	23	19.2	50	63	11.5	9.6	25	32	7.7	6.4	20	25
500	48.1	41.2	80	100	28.8	24	50	63	14.4	12	32	40	9.6	8.0	20	25
630	60.6	51.9	100	125	36.4	30.3	63	80	18.1	15.2	40	50	12.1	10.1	25	32
800	76.9	66	100	125	46.2	38.5	80	100	23.1	19.2	50	63	15.4	12.8	40	50
1000	96.2	82.5	125	160	57.7	48.1	100	125	28.8	24.1	50	63	19.2	16.0	50	63



ОПРЕДЕЛЕНИЯ И УСЛОВИЯ

Предохранители Back-up

По стандарту IEC 60282-1, пятая редакция (2002-01), п.3.3.3. предохранители Back-up в определённых условиях применения могут отключить сеть с максимальным током отключения (I_1) и минимальным током отключения (I_3).

Предохранители Back-up не должны срабатывать при токе меньше минимального тока отключения. В случае, когда ток короткого замыкания трансформатора меньше минимального тока отключения, требуется обеспечить дополнительную защиту.

Диапазон номинального напряжения

Предохранители ETI VV Thermo должны работать при номинальном напряжении. В случае меньшего рабочего напряжения без обеспеченного ограничения проконсультируйтесь с техническим персоналом ETI.

Способность отключения I_1

Способность отключения, именуемая также “номинальный максимальный ток отключения”, представляет собой максимальное значение тока, который может отключить предохранитель. Значение должно быть больше ожидаемого максимального тока короткого замыкания.

Минимальный ток отключения I_3

Минимальный ток отключения, именуемый также “номинальный минимальный ток отключения”, предусмотрен для предохранителей Back-up. Предохранитель может отключить ток утечки выше указанного значения.

Потеря мощности предохранителя PN

Потеря мощности предохранителя VV Thermo приведена для нагрузки номинальным током предохранителя. Для расчёта защиты применением предохранителя VV Thermo, необходимо указать, что рабочий ток обычно ниже половины номинального тока.

Характеристики время-ток

Кривая время-ток показывает зависимость между интервалом времени и тока до перегрева серебряного плавкого элемента. Для согласования с другими защитными устройствами расчитывается интеграл для времени плавки ниже 100 мс.

Ограничение тока

Ограничение тока является основным преимуществом плавких предохранителей в сравнении с механическими выключателями. Для прерывания тока утечки контактные группы включателей требуют больше времени. Предохранитель VV прерывает ток утечки в течение нескольких милисекунд, и синусоидальный ток не достигает своего пикового значения.

Коммутационное напряжение

Этот параметр приведен в стандарте IEC 60282-1, пятая редакция (2002-01). При срабатывании предохранителя ток короткого замыкания должен быть ограничен и максимально уменьшен. Это обеспечивается коммутационным напряжением - мгновенным максимальным значением напряжения которое превышает номинальное значение напряжения и сводит ток к нулю. Значение коммутационного напряжения превышает максимальное номинальное напряжение не более чем в 2,2 раза.

Test Report CESI TEST GPS-A3/043650 p.1

client ETI ELEKTROELEMENT d.d. - Idrija - Slovenia

equipment under test Back-up current limiting Fuses

tests performed Breaking tests

normative documents IEC 60282-1 (2002-01)

receipt date of the sample December 18.2003

test date: from December 19.2003 to December 22.2003

no. of pages 15 no. of pages annexed 03

first issue date December 23.2003

prepared PeC/TEST - G. Greco

verified PeC/TEST - A. Di

approved PeC/TEST - V. Scarano

CESI

Test Report CESI TEST GPS-A3/043650 p.3

rated characteristics of the tested object assigned by the Client

current limiting fuse

manufacturer ETI

fuse base

voltage	kV
current	A
lightning impulse withstand voltage	kV
power frequency withstand voltage	kV

fuse link

type	VV-THERMO
voltage	12 kV
current	100-160 A
frequency	50 Hz
maximum breaking current	50 kA
minimum breaking current 100 A(at 12 kV)	- A
minimum breaking current 125 A(at 12 kV)	- A
minimum breaking current 160 A(at 12 kV)	815 A

characteristics of the fuse link

class	back-up
maximum cut-off current (160 A)	22 kA
resistance 100 A	7,30 mΩ ± 10 %
resistance 125 A	5,50 mΩ ± 10 %
resistance 160 A	4,50 mΩ ± 10 %

characteristics of the striker

type	medium
operating mechanism	spring

name and signature of Client's witness _____

Для заметок

CH10x38 gG 10A/500V

Особенности

Артикул	002620007
Наименование	CH10x38 gG 10A/500V
Вес	7.6
Группа	Цилиндрические предохранители gG
Группа 1	CH Низковольтные предохранители цилиндрические
Характеристика	gG
Номинальное напряжение ac (V)	500
Номинальный ток	10
Тип	CH
Типоразмер	CH10
Отключающая способность ac (kA)	100
Размеры	10X38

Веб-страница продукта

Другая документация

CE сертификат

Технические данные

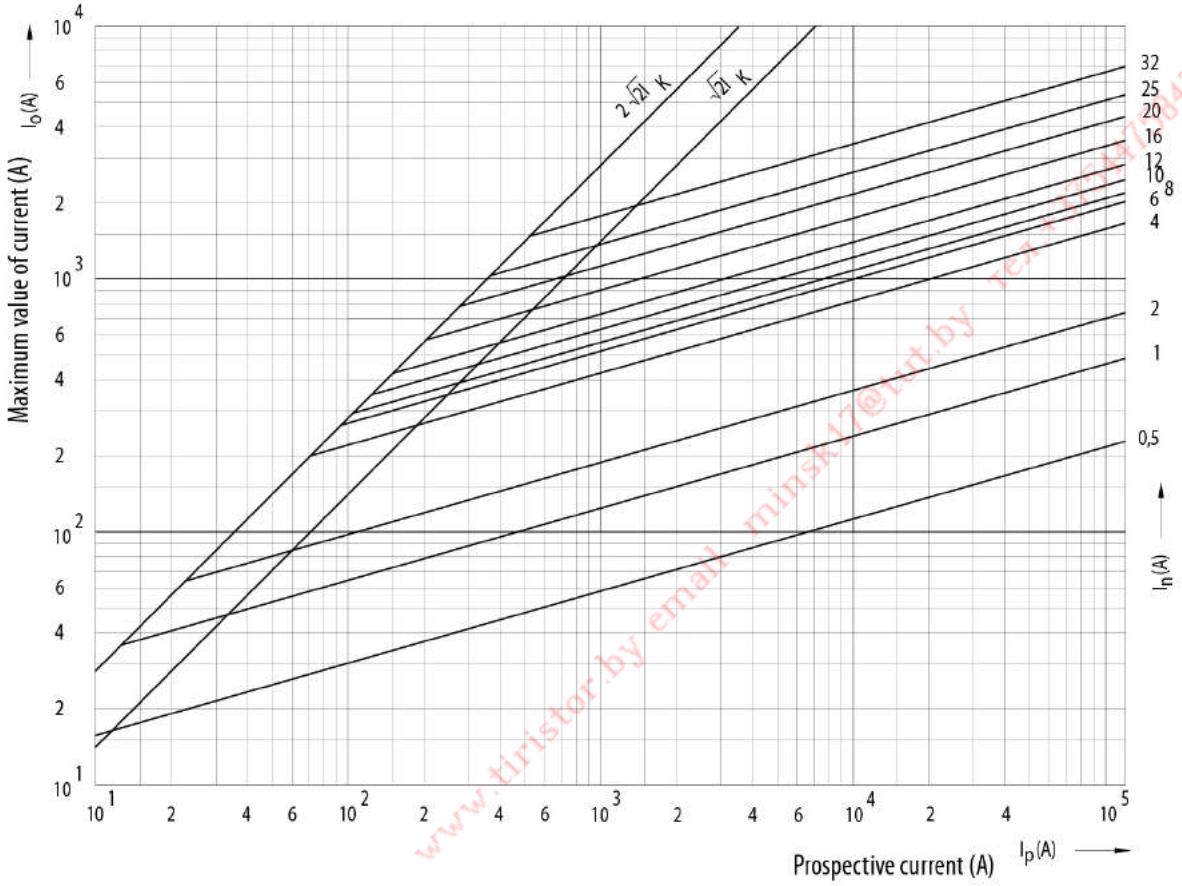
ETIM международная спецификация

Номинальный ток	10A
Размер	10x38 mm
Номинальное напряжение	AC 500/600 V

С бойком/с ударником

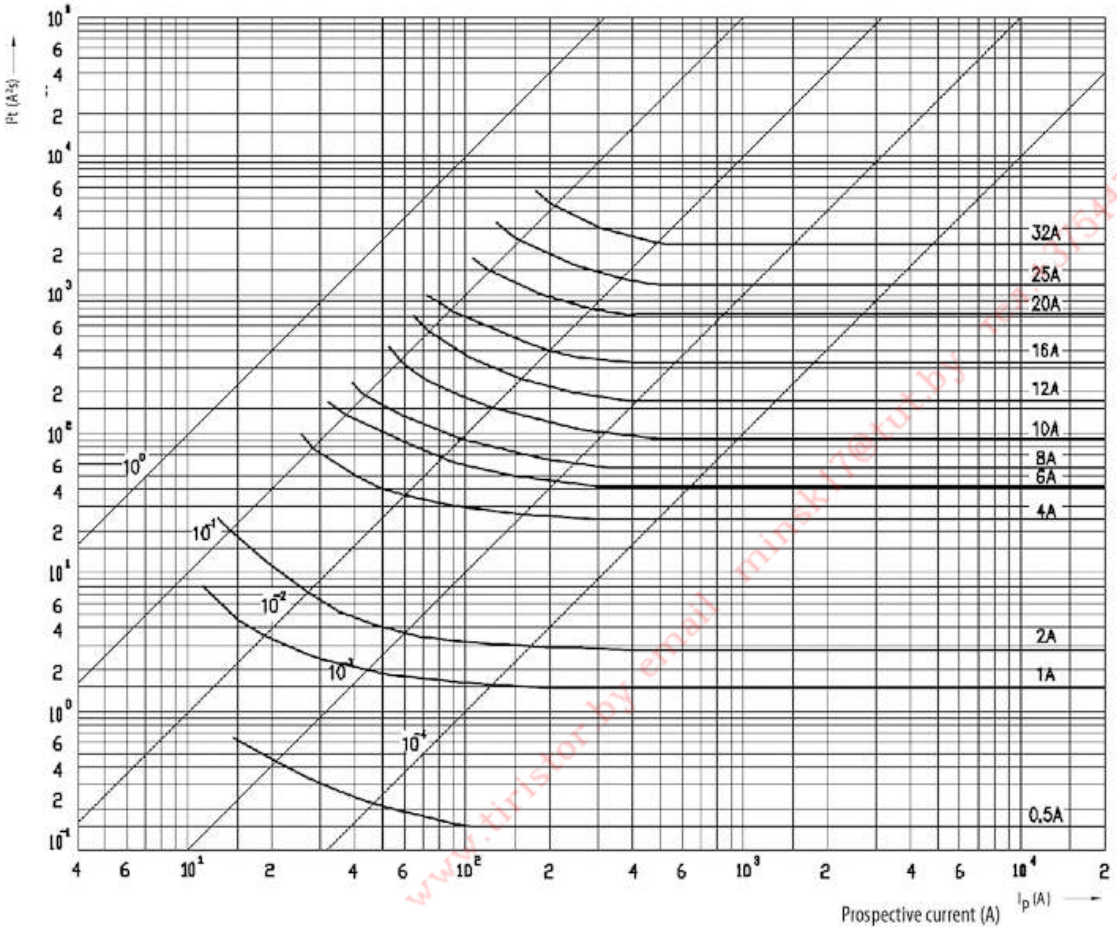
Характеристики токов отключения

Cut-off current characteristics CH10



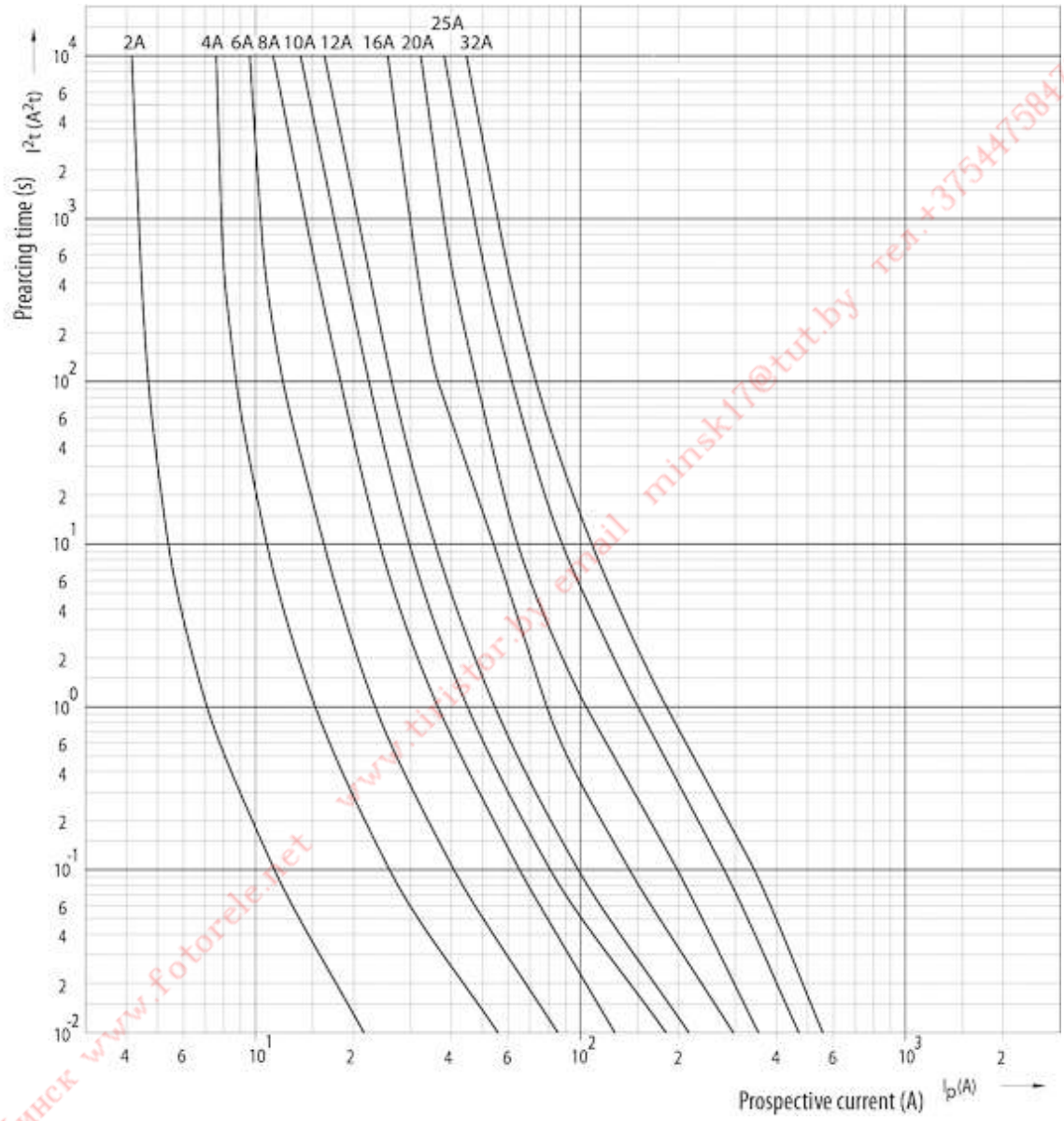
Технические характеристики

Melting energy characteristics I^2t CH10

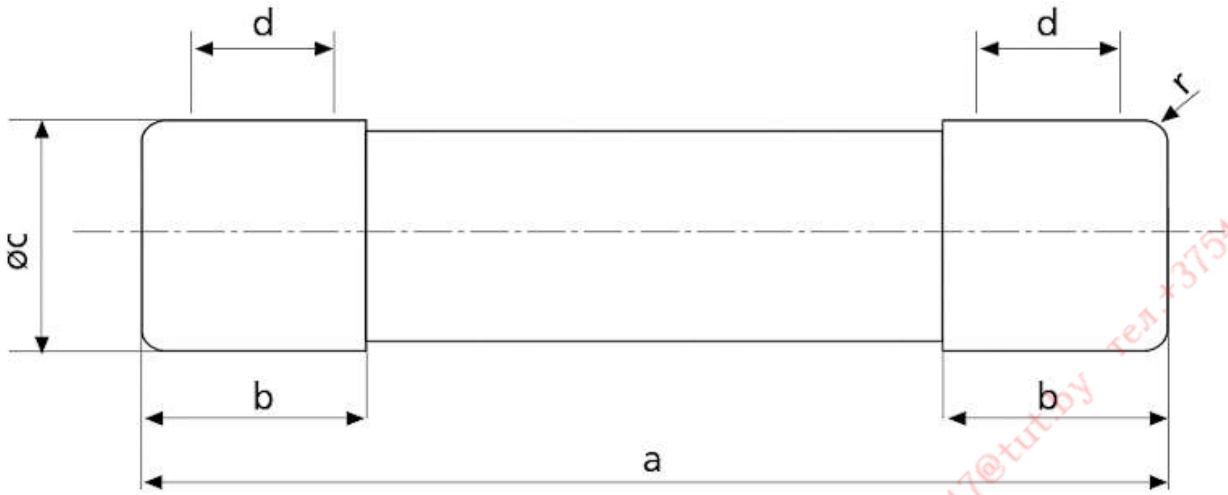


Токо - временные характеристики

Time current characteristics I/t, gG CH10



Габаритные размеры



	a	$b_{max.}$	c	$d_{min.}$	r
8 x 32	31,5±0,5	6,7	8,5±0,1	4	1±0,5
10 x 38	38,0±0,6	10,5	10,3±0,1	6	1,5±0,5
14 x 51	51,0+0,6/-1	13,8	14,3±0,1	7,5	±1
22 x 58	58,0+0,1	16,2	22,2±0,1	11	±1

Low voltage NH knife-blade fuse-links

NV KOMBI advantages

ETI is introducing a new generation of low-voltage fuse-links from size NV00C up to to NV3 with new, dual indication of fuse-link operation, called KOMBI. The indicator is easily visible on the top and centre of the fuse-link, whether it is situated in a standard fuse base or vertical fuse rail or in fuse-switch disconnector.

The most important advantages of NV/NH KOMBI fuse-links:

- High breaking capacity, 120 kA
- Rated voltages: 400 V a.c., 500 V a.c., 690 V a.c. and 1000 V a.c and up to 440 V d.c. In case of use in d.c. voltages, consultation with ETI technical team is recommended.
- Two versions of covers: aluminium, when the removal tag is under voltage and plastic, when insulated metal removal tag is incorporated into the plastic cover
- VDE certificates and CCA/CB test reports

General about NV/NH fuse-links

Their dimensions correspond with DIN 43620, other technical characteristics correspond with the requirements of the following standards:

- Rated voltage 400V/500V/690V/gG: IEC 60269-1:2005 / EN 60269-1:1998+A1:2005 IEC 60269-2:1986+Corr.1: 1996+A11995+A2:2001 / EN 60269-2:1995+A1:1998+A2:2002 IEC 60269-2-1:2004 / HD 60269-2-1:2005
- Rated voltage 690V/aM: VDE 0636-2011
- Rated voltage 400V/gF: PN-IEC 60269-2
- Rated voltage 400V/gTr: VDE 0636-2011

Short description of constituent parts for NV fuse-links

The body of the fuse-link is made of quality steatite which is highly resistant against temperature overloads.

In the inner part of the steatite body there is a copper melting element which is welded on a specially shaped inner part of the contact knife by spot welding. By careful shaping of this part we achived that during assembly the melting element is placed exactly into the middle of the inner place. The remaining inside place of the ceramic body is filled up with precisely determined granulation and chemical structure quarz sand. All contact knives are additionally protected with a layer of silver or on special order of nickel. On the base of cyclic tests we have proved that the fusing characteristics are very stable and the tolerance on the current axis can be up to ± 10%.

Fuse-link NV/NH gG

Rated current	Breaking capacity	Rated voltage
2-1600 A	120 kA	400, 500, 690 V

	NV/NH 00C KOMBI gG			NV/NH 00C I KOMBI gG*				
rated current	code No.			code No.			weight	packaging
[A]	~ 400V	~ 500V	~ 690V	~ 400V	~ 500V	~ 690V	[g]	[pcs]
2	004181101	004181201	004181301	004191101	004191201	004191301	125	3/120
4	004181102	004181202	004181302	004191102	004191202	004191302	125	3/120
6	004181103	004181203	004181303	004191103	004191203	004191303	125	3/120
10	004181104	004181204	004181304	004191104	004191204	004191304	125	3/120
16	004181105	004181205	004181305	004191105	004191205	004191305	125	3/120
20	004181106	004181206	004181306	004191106	004191206	004191306	125	3/120
25	004181107	004181207	004181307	004191107	004191207	004191307	125	3/120
32	004181108	004181208	004181308	004191108	004191208	004191308	125	3/120
35	004181109	004181209	004181309	004191109	004191209	004191309	125	3/120
40	004181110	004181210	004181310	004191110	004191210	004191310	125	3/120
50	004181111	004181211	004181311	004191111	004191211	004191311	125	3/120
63	004181112	004181212		004191112	004191212		125	3/120
80	004181113	004181213		004191113	004191213		125	3/120
100	004181114	004181214		004191114	004191214		125	3/120

* INSULATED

technical data on page 74

NEW!

NV/NH 00 C gG with striker pin			
rated current [A]	code No. ~ 690 V	weight [g]	packaging [pcs]
2	004111172	135	3
4	004111173	135	3
6	004111174	135	3
10	004111175	135	3
16	004111176	135	3
20	004111177	135	3
25	004111178	135	3
32	004111179	135	3
35	004111180	135	3
40	004111181	135	3

	NV/NH 00 KOMBI gG			NV/NH 00 I KOMBI gG*				
rated current [A]	code No. ~ 400 V	~ 500 V	~ 690 V	~ 400 V	~ 500 V	~ 690 V	weight [g]	packaging [pcs]
63			004182312			004192312	173	3/90
80			004182313			004192313	173	3/90
100			004182314			004192314	173	3/90
125	004182115	004182215	004182315	004192115	004192215	004192315	173	3/90
160	004182116	004182216		004192116	004192216		173	3/90

* INSULATED

NEW!

NV/NH 00 gG with striker pin			
rated current [A]	code No. ~ 690 V	weight [g]	packaging [pcs]
50	004111182	205	3
63	004111183	205	3
80	004111184	205	3
100	004111185	205	3
125	004111186	205	3

NV/NH 0 KOMBI gG				
rated current [A]	code No. ~ 500 V	~690 V	weight [g]	packaging [pcs]
6	004183203	004183303	226	3/45
10	004183204	004183304	226	3/45
16	004183205	004183305	226	3/45
20	004183206	004183306	226	3/45
25	004183207	004183307	226	3/45
32	004183208	004183308	226	3/45
35	004183209	004183309	226	3/45
40	004183210	004183310	226	3/45
50	004183211	004183311	226	3/45
63	004183212	004183312	226	3/45
80	004183213	004183313	226	3/45
100	004183214	004183314	226	3/45
125	004183215	004183315	226	3/45
160	004183216		226	3/45

rated current [A]	NV/NH 1C KOMBI gG code No. ~ 400V	~ 500V	~ 690V	NV/NH 1C I KOMBI gG* code No. ~ 400V	~ 500V	~ 690V	weight [g]	packaging [pcs]
25	004184107	004184207	004184307	004194107	004194207	004194307	233	3/45
32	004184108	004184208	004184308	004194108	004194208	004194308	233	3/45
35	004184109	004184209	004184309	004194109	004194209	004194309	233	3/45
40	004184110	004184210	004184310	004194110	004194210	004194310	233	3/45
50	004184111	004184211	004184311	004194111	004194211	004194311	233	3/45
63	004184112	004184212	004184312	004194112	004194212	004194312	233	3/45
80	004184113	004184213	004184313	004194113	004194213	004194313	233	3/45
100	004184114	004184214	004184314	004194114	004194214	004194314	233	3/45
125	004184115	004184215	004184315	004194115	004194215	004194315	233	3/45
160	004184116	004184216		004194116	004194216		233	3/45

* INSULATED

rated current [A]	NV/NH 1 KOMBI gG code No. ~ 400 V	~ 500 V	~ 690 V	NV/NH 1 I KOMBI gG* code No. ~ 400 V	~ 500 V	~ 690 V	weight [g]	packaging [pcs]
63	004184120	004184220	004184320	004194120	004194220	004194320	430	3/24
80	004184121	004184221	004184321	004194121	004194221	004194321	430	3/24
100	004184122	004184222	004184322	004194122	004194222	004194322	430	3/24
125	004184123	004184223	004184323	004194123	004194223	004194323	430	3/24
160	004184124	004184224	004184324	004194124	004194224	004194324	430	3/24
200	004184117	004184217	004184317	004194117	004194217	004194317	430	3/24
224	004184118	004184218	004184318	004194118	004194218	004194318	430	3/24
250	004184119	004184219	004184319	004194119	004194219	004194319	430	3/24

* INSULATED

NEW!

rated current [A]	NV/NH 1 gG with striker pin code No. ~ 690 V	weight [g]	packaging [pcs]
63	004113340	452	3
80	004113341	452	3
100	004113342	452	3
125	004113343	452	3
160	004113344	452	3
200	004113345	452	3
224	004113346	452	3
250	004113347	452	3

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rated current	NV/NH 2C KOMBI gG code No.			NV/NH 2C I KOMBI gG* code No.			weight	packaging
[A]	~ 400 V	~ 500 V	~ 690 V	~ 400 V	~ 500 V	~ 690 V	[g]	[pcs]
63	004185112	004185212	004185312	004195112	004195212	004195312	430	3/15
80	004185113	004185213	004185313	004195113	004195213	004195313	430	3/15
100	004185114	004185214	004185314	004195114	004195214	004195314	430	3/15
125	004185115	004185215	004185315	004195115	004195215	004195315	430	3/15
160	004185116	004185216	004185316	004195116	004195216	004195316	430	3/15
200	004185117	004185217	004185317	004195117	004195217	004195317	430	3/15
224	004185118	004185218	004185318	004195118	004195218	004195318	430	3/15
250	004185119	004185219	004185319	004195119	004195219	004195319	430	3/15

* INSULATED

rated current	NV/NH 2 KOMBI gG code No.			NV/NH 2 I KOMBI gG* code No.			weight	packaging
[A]	~ 400 V	~ 500 V	~ 690 V	~ 400 V	~ 500 V	~ 690 V	[g]	[pcs]
280	004185120	004185220	004185320	004195120	004195220	004195320	500	3/15
300	004185121	004185221	004185321	004195121	004195221	004195321	500	3/15
315	004185122	004185222	004185322	004195122	004195222	004195322	500	3/15
355	004185123	004185223		004195123	004195223		500	3/15
400	004185124	004185224		004195124	004195224		500	3/15

* INSULATED

NEW!

rated current	NV/NH 2 gG with striker pin code No.	weight	packaging
[A]	~ 690 V	[g]	[pcs]
160	004114345	593	3
200	004114346	593	3
224	004114347	593	3
250	004114348	593	3
300	004114349	593	3
315	004114350	593	3

rated current [A]	NV/NH 3C KOMBI gG code No. ~ 400 V	~ 500 V	~ 690 V	weight [g]	packaging [pcs]
250	004186119	004186219	004186319	510	3/12
280	004186120	004186220	004186320	510	3/12
300	004186121	004186221	004186321	510	3/12
315	004186122	004186222	004186322	510	3/12
355	004186123	004186223		510	3/12
400	004186124	004186224		510	3/12

rated current	NV/NH 3 KOMBI gG code No.			NV/NH 3 I KOMBI gG* code No.			weight	packaging
[A]	~ 400 V	~ 500 V	~ 690 V	~ 400 V	~ 500 V	~ 690 V	[g]	[pcs]
200				004196123	004196223	004196323	923	3/12
225				004196124	004196224	004196324	923	3/12
250				004196125	004196225	004196325	923	3/12
300				004196126	004196226	004196326	923	3/12
315				004196127	004196227	004196327	923	3/12
355			004186328	004196128	004196228	004196328	923	3/12
400			004186329	004196129	004196229	004196329	923	3/12
425	004186130	004186230	004186330	004196130	004196230	004196330	923	3/12
500	004186131	004186231	004186331	004196131	004196231	004196331	923	3/12
560	004186132	004186232		004196132	004196232		923	3/12
630	004186133	004186233		004196133	004196233		923	3/12

NEW!

rated current [A]	NV/NH 3 gG with striker pin code No. ~ 690 V	weight [g]	packaging [pcs]
250	004115120	895	3
300	004115121	895	3
315	004115122	895	3
400	004115123	895	3
425	004115124	895	3
500	004115125	895	3

rated current [A]	NV/NH 4 gG code No. 500 V	weight [g]	packaging [pcs]
630	004116101	2130	1/12
710	004116102	2130	1/12
800	004116103	2130	1/12
900	004116105	2130	1/12
1000	004116104	2130	1/12
1250	004116106	2130	1/12

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NV/NH 4a gG

rated current [A]	code No. 500 V		690 V	weight [g]	packaging [pcs]
		SI			
630	004116108	004176026	004176105	2170	1/12
710	004116109	004176027	004176106	2170	1/12
800	004116110	004176028	004176107	2170	1/12
900	004116111	004176029	004176108	2170	1/12
1000	004116112	004176030	004176109	2170	1/12
1250	004116113	004176031	004176110	2170	1/12
1500	004116119	004176032		2170	1/12
1600	004116120	004176033		2170	1/12

NV/NH 4a gG with striker pin NEW!

rated current [A]	code No. ~ 690 V	weight [g]	packaging [pcs]
500	004116186	2835	1
630	004116187	2835	1
800	004116188	2835	1
1000	004116189	2835	1
1250	004116190	2835	1

NV/NH 1 1000 V a.c. gG

rated current [A]	code No.	weight [g]	packaging [pcs]
10	004113703	487	3/24
16	004113704	487	3/24
20	004113705	487	3/24
25	004113706	487	3/24
32	004113707	487	3/24
35	004113708	487	3/24
40	004113710	487	3/24
50	004113711	487	3/24
63	004113712	487	3/24
80	004113713	487	3/24
100	004113714	487	3/24
125	004113715	487	3/24
160	004113716	487	3/24
200	004113717	487	3/24

Fuse-link NV/NH aM

Rated current	Breaking capacity	Rated voltage
2-1250 A	**100 kA**	**690 V**

Fuse-links with aM characteristics are intended for protection of switchgears and controlgears as well as motors in motor drives where gG characteristics do not comply with all requirements of succesful protection of these devices. They are made in all standard NV sizes from 00 to 4a for all standard rated currents and for voltages to 690 V. Their main duty is to enable a full usage of switchgears and controlgears in the region of starting currents and to prevent sparking or descruction of protective contacts in case of short-circuit currents. It should be noted that these fuse-links are intended only for protection in the limited region (in the region of short-circuit currents).

NV/NH fuse-link aM

rated current [A]	code No. 690 V							
	NV 00 C kombi	NV 00 kombi	NV 0	NV 1 kombi	NV 2 C kombi	NV 2 kombi	NV3 kombi	NV4a
2	004181401							
4	004181402							
6	004181403							
10	004181404			004184425				
16	004181405		004112125**	004184426				
20	004181406		004112126**	004184427				
25	004181407		004112127**	004184428				
32	004181408		004112128**					
35	004181409		004112129**	004184429	004185429			
40	004181410		004112130**	004184430	004185430			
50	004181411	004182411	004112131**	004184431	004185431			
63	004181412	004182412	004112132**	004184420	004185412			
80	004181413*	004182413	004112133**	004184421	004185413			
100	004181414*	004182414	004112134**	004184422	004185414			
125		004111735**	004112135**	004184423	004185415			
160		004111736**	004112136**	004184424	004185416	004185425		
200				004184417	004185417	004185426		
224				004184418	004185418	004185427		
250				004184419	004185419	004185428		
280						004185420		
300						004185421		
315						004185422		
355						004185423	004186428	
400						004185424	004186429	
425							004186430	
500							004186431	
630								004187432**
710								004187433**
800								004187434**
900								004187435**
1000								004187436**
1250								004187437**

Weight and packaging the same as for gG fuse-links.
* 500 V
** NOT in KOMBI version

Fuse-link NV/NH gF

Rated current	Breaking capacity	Rated voltage
20-250 A	**100 kA**	**400 V**

Fuse-links with gF current characteristics are intendend for protection of low voltage installations and energy lines, where expected short circuit currents are low. We offer all standard rated currents in sizes NV00C, NV00, NV1C and NV1 for voltages of up to 400V.

NV/NH fuse-link gF

rated current	code No. 400 V				weight	packaging
[A]	NV/NH 00 C	NV/NH 00	NV/NH 1 C	NV/NH 1	[g]	[pcs]
20	004119200		004139200		the same as for gG fuse-links	the same as for gG fuse-links
25	004119201		004139201			
32	004119202		004139202			
40	004119203		004139203			
50	004119204		004139204			
63		004119100	004139205			
80		004119101	004139206			
100		004119102	004139207			
125		004119103	004139208			
160		004119104	004139209			
200				004139100		
250				004139101		

Fuse-link NV/NH gTr

Rated transformer power	Breaking capacity	Rated voltage
50-1000 kVA	**100 kA**	**400 V**

NV/NH fuse-link gTr

rated transformer power	code No.			weight	packaging
[kVA]	NV/NH 2	NV/NH 3	NV/NH 4a	[g]	[pcs]
50	004114400*	004115400*	004116400	the same as for gG fuse-links	the same as for gG fuse-links
75	004114401*	004115401*	004116401		
100	004114402*	004115402*	004116402		
125	004114403*	004115403*	004116403		
160	004114404*	004115404*	004116404		
200	004114405*	004115405*	004116405		
250	004114406*	004115406*	004116406		
315		004115407*	004116407		
400		004115408*	004116408		
500		004115409	004116409		
630		004115410	004116410		
800			004116411		
1000			004116412		

* KOMBI version

ULTRA QUICK

Предохранители для защиты полупроводниковых устройств

ETI Мощь требует контроля

Предохранители для защиты полупроводниковых устройств

Введение

Предохранители – одни из самых распространенных защитных устройств, которые первыми начали применяться в электротехнической промышленности. Их неоспоримые преимущества позволяют и сегодня применять их в самых различных отраслях промышленности, в частности для защиты полупроводниковых устройств (диодов, тиристоров, транзисторов) в преобразователях тока и частоты. Полупроводниковые устройства способны выдерживать воздействие допустимых максимальных непрерывных токов и пиковых инверсивных напряжений. При этом данные устройства не рассчитаны на токи перегрузки и нуждаются в чувствительной быстродействующей защите.

Предохранители ETI для полупроводниковых устройств серии ULTRA-QUICK - оптимальное решение для защиты полупроводниковых устройств.

Основные сведения о маркировке предохранителей

Предохранители маркируются двумя буквами, первая из которых обозначает диапазон отключения

a - частичный диапазон
Предохранители с частичным диапазоном действия гарантируют надежную защиту оборудования от токов короткого замыкания (токи К.З.)

g - полный диапазон
Предохранители с полным диапазоном действия гарантируют надежную защиту оборудования от токов перегрузки и короткого замыкания

Вторая буква описывает тип защищаемого оборудования (характеристику или категорию).

L – кабели и распределители
B – горное оборудование
M – цепи двигателей и отключающие устройства
R – полупроводники
Tr – трансформаторы

Сочетание «диапазон отключения» и «тип защищаемого оборудования» дает следующие комбинации, стандарт IEC TR 61818, «Инструкция по применению низковольтных предохранителей».

gL:	Полный диапазон	- защита кабелей и распределителей
aM:	Частичный диапазон	- защита от короткого замыкания цепей двигателей
gR, gS:	Полный диапазон	- защита полупроводниковых устройств
aR:	Частичный диапазон	- защита полупроводниковых устройств
gB:	Полный диапазон	- защита горного оборудования
gTr:	Полный диапазон	- защита трансформаторов

Предохранители ETI для защиты полупроводниковых устройств серии “ULTRA-QUICK” соответствуют стандартам IEC 60269 и VDE 0636. Ниже приведен список стандартов характеристик и габаритов:

• IEC 60269-4: Дополнительные требования к предохранителям, применяемым для защиты полупроводниковых устройств

• IEC 60269-4-1: Стандартизация предохранителей

• IEC 60269-3-1: Дополнительные требования к предохранителям для эксплуатации лицами без надлежащей квалификации (предохранители для бытового применения)

• IEC 60269-2-1: Дополнительные требования к предохранителям для эксплуатации специально подготовленным персоналом (предохранители для промышленного применения)

• DIN 43 620, DIN 43 653

• VDE 0636-201 Низковольтные предохранители (Группа-NH)

• DIN EN 60269-4, VDE 0636 часть 40 Низковольтные предохранители часть 4; дополнительные требования к BS 88 часть 4

Основные требования, предъявляемые к предохранителям для защиты полупроводниковых устройств:

- Достаточно быстрое срабатывание для предотвращения повреждения других устройств
- Срабатывание до повреждения полупроводникового устройства - быстродействие
- Высокая номинальная отключающая способность
- Высокая отключающая способность в цепях постоянного тока
- Ограничение тока короткого замыкания
- Защита полупроводниковых устройств от импульсов перенапряжения – низкое напряжение дуги

Выбор предохранителей для защиты полупроводниковых устройств (ПЗПУ)

Что необходимо знать при выборе предохранителей для защиты полупроводниковых устройств?

При выборе ПЗПУ, необходимо руководствоваться «Инструкцией по защите полупроводниковых конверторов от токов перегрузки при помощи предохранителей» (IEC60146-6). В инструкции описаны технические характеристики предохранителей и конверторов, которые нужно учитывать для правильного применения ПЗПУ в конверторах, а также даны специальные рекомендации для обеспечения нормальной работы конверторов, защищенных предохранителями.

При выборе предохранителя потребитель должен учитывать условия, при которых будет функционировать ПЗПУ, учитывая нормальный режим работы и режим короткого замыкания. Несколько советов для выбора ПЗПУ:

A: Ток нагрузки, проходящий через полупроводниковое устройство (I_{sem}) должен быть ниже или равен номинальному току выбранной плавкой вставки (I_{nv}). Предохранители, защищающие полупроводниковые устройства, выдерживают этот ток длительное время. При пульсирующем токе пользователю лучше проконсультироваться с ETI.

$$I_{sem} \leq I_{nv}$$

B: Рабочее напряжение полупроводника (U_{sem}) дожно быть ниже или равно номинальному напряжению плавкой вставки (U_{nv}). По вопросам приложенного напряжения AC и DC, постоянной времени и фактора мощности обращайтесь в ETI.

$$U_{sem} \leq U_{nv}$$

C: Рабочие значения I^2t (максимальная энергия) выбранного предохранителя должны быть ниже чем I^2t полупроводника (I^2t_{sem}). По вопросам параллельной работы, селективности и избирательности при высоких уровнях к.з. обращайтесь в ETI.

$$I^2t_{opv} < I^2t_{sem}$$

D: При других номинальных токах, которые не включены в настоящий каталог, проконсультируйтесь, пожалуйста, с отделением ETI R&D.

Таблица диапазонов предохранителей для защиты полупроводниковых устройств серии ULTRA-QUICK

Группа	Серия	Тип	Размер	Номинальный ток	Номинальное напряжение	Примене-ние	Стр.
D0			D01, D02	2A – 63A	400В	gR	6
D			DI, DII, DIII, DIV, DV	2A – 200A	500В	gR	7
BS	-	-	BS8, BS17, BS38, BS38T	6A – 800A	240В	aR	8
	-	-	BS8, BS17, BS17D, BS38, BS38T	6A – 700A	690В	aR	9
NV/NH	UQU-N	M	00C, 00, 0, 1, 2, 3	6A – 630A	690В	aR/gR	10, 11
	UQ U	S80мм	00C, 00	6A – 160A	690В	aR/gR	12
		S97мм	0	6A – 160A	690В	aR/gR	12
		S110мм	1, 2, 3	35A – 630A	690В	aR/gR	13
	UQ01 ультра быстр.	M	00	10A – 160A	690В	aR	23
		S80мм	00, 00C	10A – 400A	690В	aR	24
			00	32A – 315A	1000В	aR	28
			1, 2, 3	80A – 1250A	690В	aR	25
		S110мм	1, 2, 3	80A – 1250A	690В	aR	26
			1, 2, 3	63A – 1000A	1000В	aR	29
		G	1, 2, 3	80A – 1250A	690В	aR	27
			1, 2, 3	63A – 1000A	1000В	aR	30
	UQ1 супер быстр.	M	00C, 1,2,3	10A – 630A	690В	aR	14, 15
			0	32A – 160A	1000В	aR	20
		S80мм	00C, 00, 1, 2, 3	10A – 1250A	690В	aR	16, 17
		S110мм	1, 2, 3	32A – 1250A	690В	aR	18
			1, 2, 3	100A – 800A	1000В	aR	21
		G	1, 2, 3	32A – 1250A	690В	aR	19
			1, 2, 3	100A – 800A	1000В	aR	22
	UQ2 быстр.	M	00C, 1, 2, 3, 4, 4a	6A – 1500A	500В	gR	31, 32
			00C, 1, 2, 3	10A – 630A	690В	gR	36, 37
			1, 2, 3	80A – 630A	1200В	aR	41
		S80мм	00C	16A – 160A	500В	gR	33
			00C	10A – 160A	690В	gR	38
		S110мм	1, 2, 3	35A – 630A	500В	gR	34
			1, 2, 3	80A – 630A	690В	gR	39
		S170мм	1, 2, 3	80A – 630A	1200В	aR	42
		G	1, 2, 3	35A – 630A	500В	gR	35
			1, 2, 3	80A – 630A	690В	gR	40
			1, 2, 3	80A – 630A	1200В	aR	43

Маркировка предохранителей ULTRA-QUICK для защиты полупроводниковых устройств:

Группы D и D0

D0-предохранитель

размер	серия	ток
D01	UQ	2A
D02		макс. 63A

D-предохранитель

размер	серия	ток
DI	UQ	2A
DII		макс. 200A
DIII		
DIV		
DV		

Группы BS и NV/NH

BS-предохранители

тип	диаметр (T-парный, D- двойной)	серия	длина	ток	напряжение
BS	8	UQ	38	2A	240B
	17		41	макс. 800A	
	17D		59		
	38		63		690B
	38T		64		
			70		
			83		

NV/NH-предохранители

тип	размер	сигнальный контакт	серия	кривая	расстояние	ток	напряжение
S	00	M	UQ	01	/80	/10A	/690B
M	0	*		1	110	макс. 1500A	500B
G	00C			2	97		1000B
	1			U	170		1200B
	2			U-N			
	3						
	4						
	4a						

Индикаторы срабатывания плавких вставок ULTRA-QUICK

Чувствительное устройство, подсоединенное параллельно к плавкой вставке, представляет собой металлическую нить с высоким сопротивлением, прикрепленную с одной стороны к пружинному механизму. При перегорании основного плавкого элемента перегорает натянутая нить, и индикатор, представляющий собой тонкую металлическую пластину, выталкивается наружу, сигнализируя о срабатывании.

Индикатор на рис. 1 обеспечивает визуальную сигнализацию срабатывания предохранителя. Если этого недостаточно, для дистанционной сигнализации срабатывания дополнительно используется сигнальный контакт NVS5, который устанавливается на верхней крышке предохранителя (Рис.2).

Рис. 1

Рис. 2

Другой тип сигнализации срабатывания представлен внутренним индикатором. Он расположен в центре керамического основания в передней части плавкой вставки. После срабатывания предохранителя из его керамического основания выталкивается пластиковый боек (Рис.3).

Рис. 3

Рис. 4

Для дистанционной сигнализации мы предлагаем сигнальный контакт МК (Рис.4 и Рис.5), устанавливаемый на дополнительный адаптер АМК (Рис.6 и Рис. 7).


Рис. 5


Рис. 6


Рис. 7

Рис. 8

Адаптеры АМК1 и АМК2 предназначены для установки сигнального контакта МК на корпусе плавких вставок на 690В и 1000В.

ГРУППА D0

НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~400В

D01UQ6A

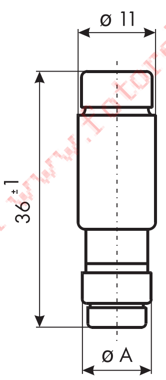
D02UQ50A

Технические данные:			Способ установки:
Стандарты: **IEC269** **VDE 0636**	Отключающая способность: **~50кА / - 8кА** Номинальное напряжение: **~ 400В / - 250В**	Характеристика: **gR**	Предохранители D0 применяются в держателях E14 и E18 и разъединителях VLD01 и STV D02.

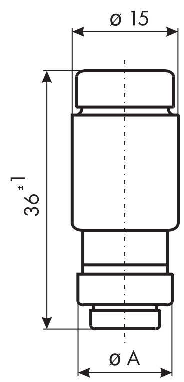
Размер	In (A)	Тип	Код №	Рабочее I^2t-значение (A^2s)	Потери мощности (Вт)	Характеристика	Цвет	Диаметр A	Упаковка (шт)	Вес(г)
D01	2	D01UQ2A	004311001	6.3	2,3	gR	розовый	7.3	10/500	6
	4	D01UQ4A	004311002	13	3,1	gR	коричневый	7.3	10/500	6
	6	D01UQ6A	004311003	20	4,0	gR	зеленый	7.3	10/500	6
	10	D01UQ10A	004311004	65	4,2	gR	красный	8.5	10/500	6
	16	D01UQ16A	004311005	200	5,3	gR	серый	9.7	10/500	6
D02	20	D02UQ20A	004312001	275	8,0	gR	голубой	10.9	10/500	11
	25	D02UQ25A	004312002	480	9,0	gR	коричневый	12.1	10/500	12
	35	D02UQ35A	004312003	1.000	10,0	gR	черный	13.3	10/500	13
	50	D02UQ50A	004312004	1.800	15,0	gR	белый	14.5	10/500	13
	63	D02UQ63A	004312005	2.500	17,0	gR	медный	15.9	10/500	15

Габариты:

D01



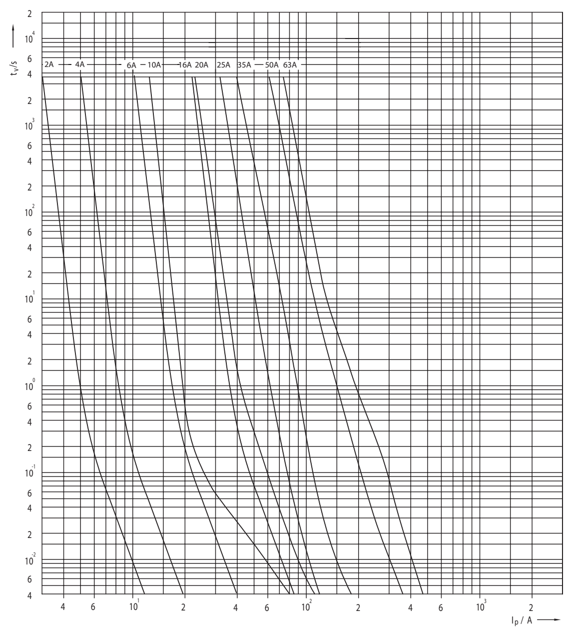
D02



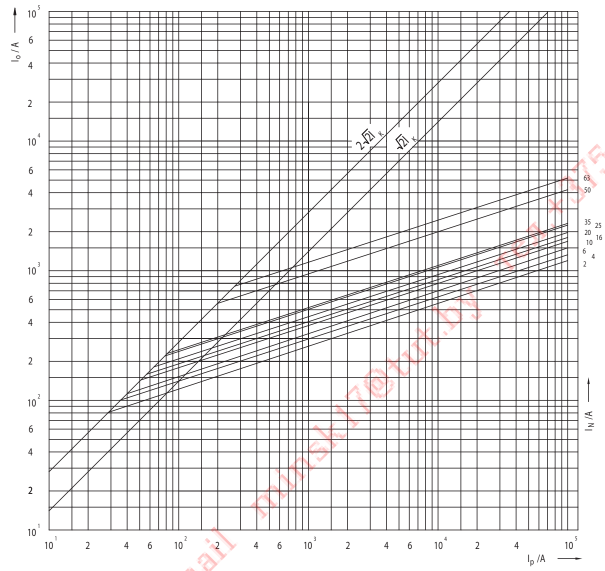
НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ

~400В

Токовременные характеристики предохранителей Ultra Quick D01 и D02

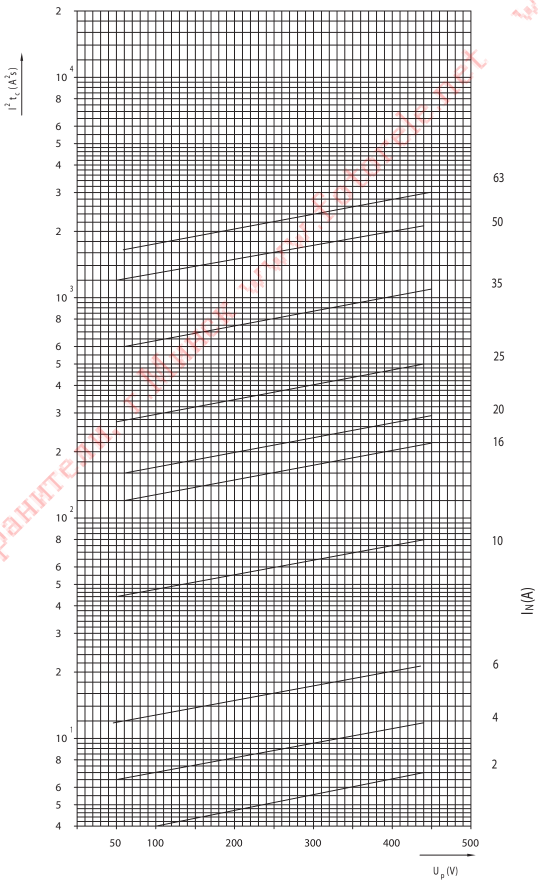


Характеристики предельного тока отключения для предохранителей Ultra Quick D01 и D02



Ожидаемый ток КЗ

Интеграл Джоуля (I²t) для Ultra Quick D01 и D02



Потери мощности, энергия дуги и полная энергия для Ultra Quick D01 и D02

I_n	Потери мощности	Энергия дуги I^2t (1мс)	Полная энергия I^2t ~100В	Полная энергия I^2t_c ~200В	Полная энергия I^2t_c ~400В
A	Вт	A^2s	A^2s	A^2s	A^2s
2	2,3	1	2,3	4	6,3
4	3,1	2	4,7	8	13
6	4,0	5	7	12	20
10	4,2	12	25	40	65
16	5,3	35	70	100	200
20	8,0	55	120	180	275
25	9,0	85	160	280	480
35	10,0	180	250	450	1.000
50	15,0	250	550	850	1.800
63	17,0	550	800	1.200	2.500

ULTRA QUICK

ГРУППА D

НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~500В

DIUQ4A

DIIUQ16A

DIIIUQ35A

DIVUQ80A

DVUQ200A

Технические данные:

Стандарты:
DIN 49515
IEC269

Отключающая способность:
~50кА / - 8кА

Номинальное напряжение:
~ 500В / - 315В

Характеристика:
gR

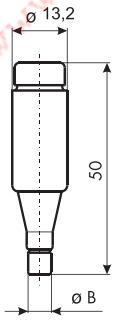
Способ установки:

Предохранители группы D предназначены для установки в держателях E16, E27, E33, R 1 1/4", R2'.

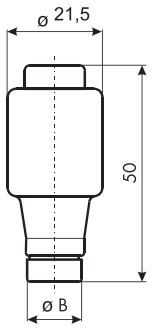
Размер	In (A)	Тип	Код №	Рабочее I^2t-значение (A^2s)	Потери мощности (Вт)	Характеристика	Цвет	Диаметр В	Упаковка (шт)	Вес(г)
D I	2	DIUQ2A	004321001	5.8	2,1	gR	розовый	6	10/500	12
	4	DIUQ4A	004321002	11	2,5	gR	коричневый	6	10/500	12
	6	DIUQ6A	004321003	18	3,2	gR	зеленый	6	10/500	12
	10	DIUQ10A	004321004	40	3,6	gR	красный	8	10/500	13
	16	DIUQ16A	004321005	60	6,3	gR	серый	10	10/500	14
	20	DIUQ20A	004321006	139	7,3	gR	голубой	12	10/500	15
	25	DIUQ25A	004321007	205	9,0	gR	желтый	14	10/500	16
D II	2	DIIUQ2A	004322001	5.8	2,1	gR	розовый	6	5/500	27
	4	DIIUQ4A	004322002	11	2,5	gR	коричневый	6	5/500	27
	6	DIIUQ6A	004322003	18	3,2	gR	зеленый	6	5/500	27
	10	DIIUQ10A	004322004	40	3,6	gR	красный	8	5/500	27
	16	DIIUQ16A	004322005	60	6,3	gR	серый	10	5/500	28
	20	DIIUQ20A	004322006	139	7,3	gR	голубой	12	5/500	29
	25	DIIUQ25A	004322007	205	9,0	gR	желтый	14	5/500	30
	30	DIIUQ30A	004322008	310	10,0	gR	черный	14	5/500	30
D III	35	DIIIUQ35A	004323001	539	12,0	gR	черный	16	5/500	48
	50	DIIIUQ50A	004323002	1.250	19,0	gR	белый	18	5/500	49
	63	DIIIUQ63A	004323003	1.890	23,0	gR	медный	20	5/500	52
D IV	80	DIVUQ80A	004324001	4.200	33,0	gR	серебряный	5	3/48	105
	100	DIVUQ100A	004324002	8.450	51,0	gR	красный	7	3/48	110
D V	125	DVUQ125A	004325001	16.000	60,0	gR	желтый	5	10/60	185
	160	DVUQ160A	004325002	24.000	71,0	gR	медный	7	10/60	210
	200	DVUQ200A	004325003	40.000	90,0	gR	голубой	9	10/60	215

Габариты:

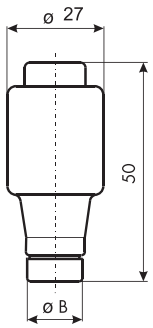
DI



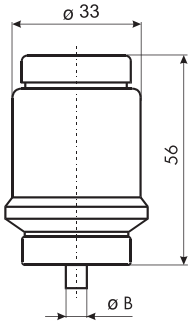
DII



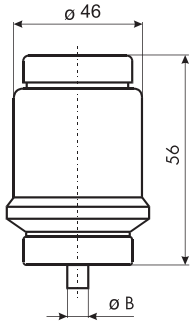
DIII



DIV

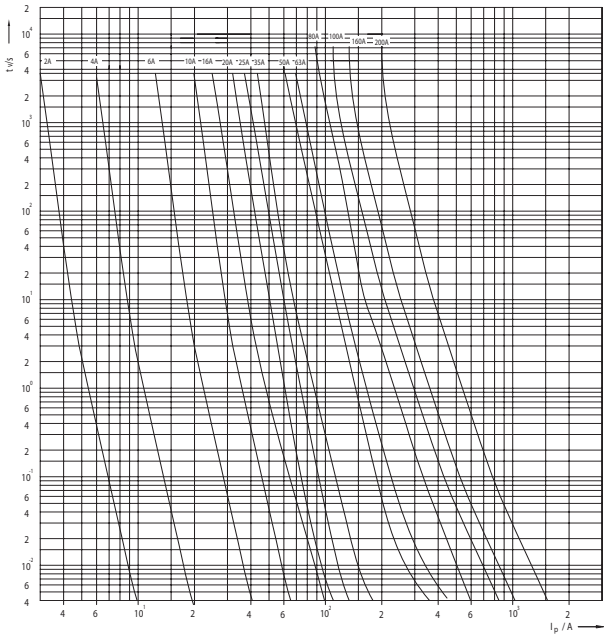


DV

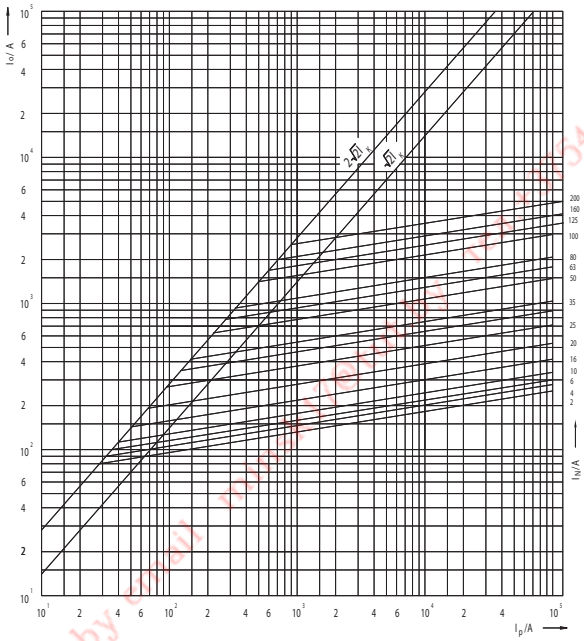


ULTRA QUICK

Токовременные характеристики предохранителей Ultra Quick DI, DII, DIII, DIV, DV.

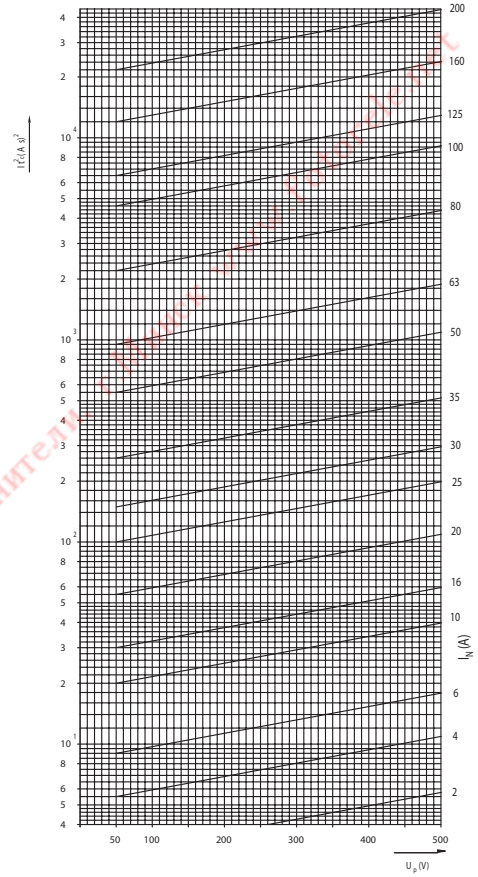


Характеристики предельного тока отключения для предохранителей Ultra Quick DI, DII, DIII, DIV, DV.



Ожидаемый ток КЗ

Интеграл Джоуля (I^2t) для Ultra Quick DI, DII, DIII, DIV, DV



Потери мощности, энергия дуги и полная энергия для Ultra Quick DI, DII, DIII, DIV, DV.

I_n	Потери мощности	Энергия дуги I^2t (1мс)	Полная энергия I^2t ~125В	Полная энергия I^2t_c ~250В	Полная энергия I^2t_c ~500В
A	Вт	A^2s	A^2s	A^2s	A^2s
2	2,1	0,7	1,8	3,5	5,8
4	2,5	1,8	4,1	6	11
6	3,2	4	6	10	18
10	3,6	8	12,5	23	40
16	6,3	16,2	34	40	60
20	7,3	35,8	67	85	139
25	9,0	48,9	85	116	205
30	10,0	85	120	170	310
35	12,0	135	220	300	539
50	19,0	340	600	780	1.250
63	23,0	530	850	1.115	1.890
80	33,0	980	1.480	2.110	4.200
100	51,0	1.950	3.000	4.200	8.450
125	60,0	3.100	4.300	6.000	16.000
160	71,0	10.000	12.000	18.000	24.000
200	90,0	17.000	22.000	31.000	40.000

ГРУППА **BS**

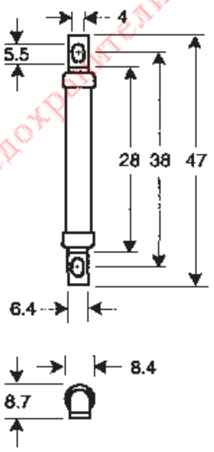
НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~240В

Технические данные:			Способ установки:
Стандарты: **BS88: Part 4** **IEC 60269-4-1**	Отключающая способность: **~ 200кА** Номинальное напряжение: **~ 240В**	Характеристика: **gR**	Предохранители группы BS крепятся винтами на шину.

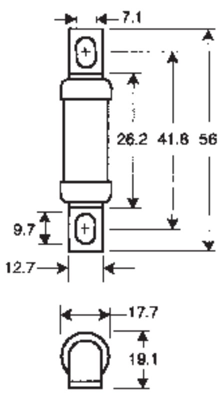
Размер	In (A)	Тип	Код №	Рабочее I^2t-значение (A^2s)	Потери мощности (Вт)	Характ.	Упаковка (шт)	Вес (г)
BS8	6	BS8UQ/38/6A/240B	004750001	9	1	aR	10	5.5
	10	BS8UQ/38/10A/240B	004750002	22	2,5	aR	10	5.5
	12	BS8UQ/38/12A/240B	004750003	32	2,5	aR	10	5.5
	16	BS8UQ/38/16A/240B	004750004	100	2,5	aR	10	5.5
	20	BS8UQ/38/20A/240B	004750005	160	4	aR	10	5.5
BS17	25	BS17UQ/41/25A/240B	004750106	250	4	aR	10	31
	32	BS17UQ/41/32A/240B	004750108	450	5	aR	10	31
	35	BS17UQ/41/35A/240B	004750109	600	5	aR	10	31
	50	BS17UQ/41/50A/240B	004750112	1.400	7	aR	10	31
	63	BS17UQ/41/63A/240B	004750115	2.200	9	aR	10	31
	80	BS17UQ/41/80A/240B	004750119	3.800	10	aR	10	31
	100	BS17UQ/41/100A/240B	004750122	7.500	10	aR	10	31
	125	BS17UQ/41/125A/240B	004750125	7.500	16	aR	10	31
	160	BS17UQ/41/160A/240B	004750128	16.000	20	aR	10	31
	180	BS17UQ/41/180A/240B	004750131	29.000	21	aR	10	31
BS38	160	BS38UQ/59/160A/240B	004750227	16.000	17	aR	10	180
	200	BS38UQ/59/200A/240B	004750233	20.000	28	aR	10	180
	250	BS38UQ/59/250A/240B	004750236	40.000	28	aR	10	180
	315	BS38UQ/59/315A/240B	004750239	75.000	35	aR	10	180
	355	BS38UQ/59/355/240B	004750242	100.000	35	aR	10	180
	400	BS38UQ/59/400A/240B	004750244	160.000	40	aR	10	180
	450	BS38UQ/59/450A/240B	004750245	220.000	42	aR	10	180
BS38T	400	BS38TUQ/59/400A/240B	004750344	80.000	60	aR	5	370
	500	BS38TUQ/59/500A/240B	004750346	170.000	64	aR	5	370
	630	BS38TUQ/59/630A/240B	004750349	300.000	75	aR	5	370
	710	BS38TUQ/59/710A/240B	004750352	460.000	77	aR	5	370
	800	BS38TUQ/59/800A/240B	004750353	600.000	82	aR	5	370

Габариты:

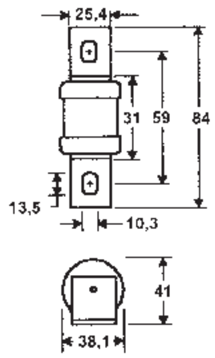
BS8



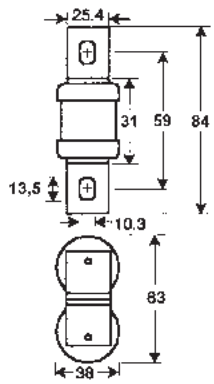
BS17



BS38



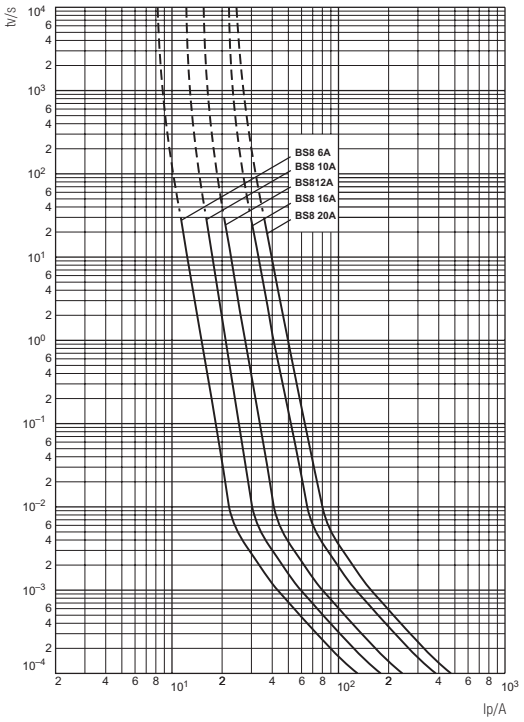
BS38T



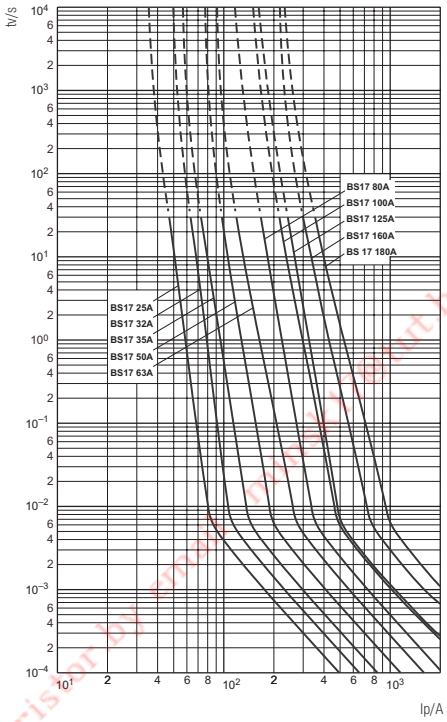
ULTRA QUICK

НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~240В

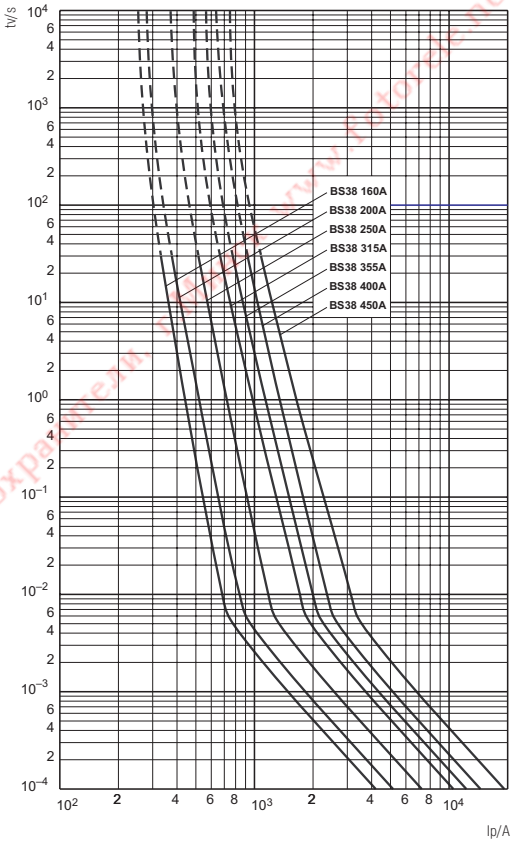
Токовременные характеристики предохранителей Ultra Quick BS8



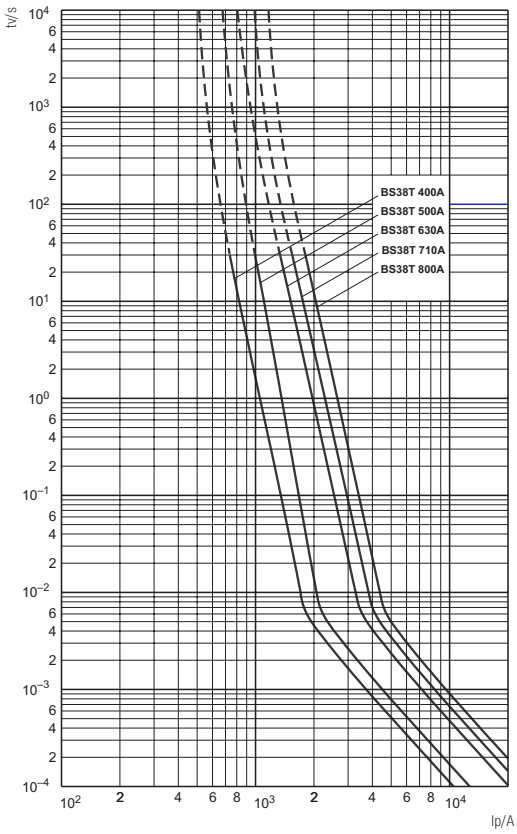
Токовременные характеристики предохранителей Ultra Quick BS17



Токовременные характеристики предохранителей Ultra Quick BS38



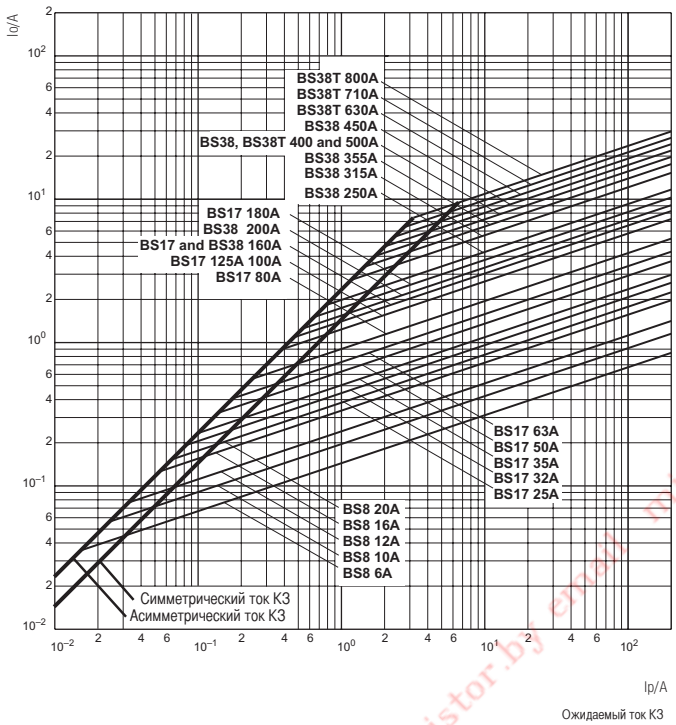
Токовременные характеристики предохранителей Ultra Quick BS38T



НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ

~240В

Характеристики предельного тока отключения для предохранителей Ultra Quick BS8, BS17, BS38, BS38T



Потери мощности, энергия дуги и полная энергия для Ultra Quick BS8, BS17, BS38, BS38T

Размер	I_n	Потери мощности	Энергия дуги I^2t (1мс)	Полная энергия I^2t ~120В	Полная энергия I^2t ~240В
	A	Вт	A^2s	A^2s	A^2s
BS8	**6**	1	2	6	9
	10	2,5	3,8	12	22
	12	2,5	7	22	32
	16	2,5	20	50	100
	20	4	25	80	160
BS17	**25**	4	18	120	250
	32	5	32	200	450
	35	5	50	320	600
	50	7	100	500	1.400
	63	9	180	1.100	2.200
	80	10	300	1.900	3.800
	100	10	600	3.800	7.500
	125	16	600	3.800	7.500
	160	20	1.100	7.000	16.000
	180	21	1.600	12.000	29.000
BS38	**160**	17	1.100	7.000	16.000
	200	28	1.500	10.000	20.000
	250	28	3.200	20.000	40.000
	315	35	6.000	35.000	75.000
	355	35	8.000	50.000	100.000
	400	40	14.000	70.000	160.000
	450	42	18.000	100.000	220.000
BS38T	**400**	60	6.000	35.000	80.000
	500	64	14.000	80.000	170.000
	630	75	24.000	150.000	300.000
	710	77	32.000	200.000	460.000
	800	82	52.000	300.000	600.000

НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~690В

Технические данные:

Стандарты:
BS88: Part 4
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 690В

Характеристика:
aR

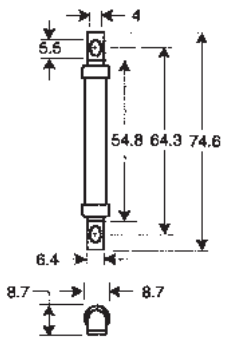
Способ установки:

Предохранители группы BS крепятся винтами на шину.

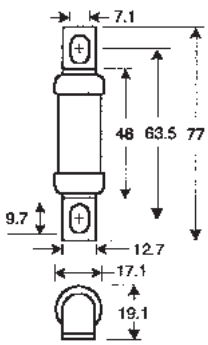
Размер	In (A)	Тип	Код №	Рабочее I^2t-значение (A^2s)	Потери мощности (Вт)	Характ.	Упаковка (шт)	Вес (г)
BS8	6	BS8UQ/64/6A/690B	004750501	12	2	aR	10	8
	10	BS8UQ/64/10A/690B	004750502	48	3	aR	10	8
	12	BS8UQ/64/12A/690B	004750503	65	3	aR	10	8
	16	BS8UQ/64/16A/690B	004750504	110	7	aR	10	8
	20	BS8UQ/64/20A/690B	004750505	220	7	aR	10	8
BS17	25	BS17UQ/63/25A/690B	004750606	250	7	aR	10	42
	32	BS17UQ/63/32A/690B	004750608	350	11	aR	10	42
	35	BS17UQ/63/35A/690B	004750609	200	9	aR	10	42
	40	BS17UQ/63/40A/690B	004750610	300	9	aR	10	42
	45	BS17UQ/63/45A/690B	004750611	450	11	aR	10	42
	50	BS17UQ/63/50A/690B	004750612	600	11	aR	10	42
	56	BS17UQ/63/56A/690B	004750613	1.500	14	aR	10	42
	63	BS17UQ/63/63A/690B	004750615	750	12	aR	10	42
	71	BS17UQ/63/71A/690B	004750617	950	17	aR	10	42
	80	BS17UQ/63/80A/690B	004750619	1.500	20	aR	10	42
	90	BS17UQ/63/90A/690B	004750621	2.100	20	aR	10	42
	100	BS17UQ/63/100A/690B	004750622	2.800	23	aR	10	42
BS17D	90	BS17DUQ/70/90A/690B	004750721	4.500	19	aR	5	90
	110	BS17DUQ/70/110A/690B	004750723	6.500	27	aR	5	90
	120	BS17DUQ/70/120A/690B	004750724	3.100	32	aR	5	90
	140	BS17DUQ/70/140A/690B	004750726	3.800	36	aR	5	90
	160	BS17DUQ/70/160A/690B	004750728	5.700	46	aR	5	90
BS38	160	BS38UQ/83/160A/690B	004750628	25.000	26	aR	5	240
	180	BS38UQ/83/180A/690B	004750631	13.500	40	aR	5	240
	200	BS38UQ/83/200A/690B	004750633	18.500	40	aR	5	240
	250	BS38UQ/83/250A/690B	004750636	37.500	48	aR	5	240
	315	BS38UQ/83/315A/690B	004750640	77.000	55	aR	5	240
	350	BS38UQ/83/350A/690B	004750642	105.000	55	aR	5	240
BS38T	200	BS38TUQ/83/200A/690B	004750933	23.000	42	aR	5	450
	225	BS38TUQ/83/225A/690B	004750935	40.000	42	aR	5	450
	315	BS38TUQ/83/315A/690B	004750939	91.000	51	aR	5	450
	355	BS38TUQ/83/355A/690B	004750943	140.000	54	aR	5	450
	400	BS38TUQ/83/400A/690B	004750944	72.500	85	aR	5	450
	450	BS38TUQ/83/450A/690B	004750945	105.000	90	aR	5	450
	500	BS38TUQ/83/500A/690B	004750946	150.000	100	aR	5	450
	630	BS38TUQ/83/630A/690B	004750950	310.000	100	aR	5	450
	700	BS38TUQ/83/700A/690B	004750952	420.000	120	aR	5	450

Габариты:

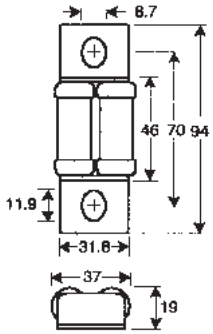
BS8



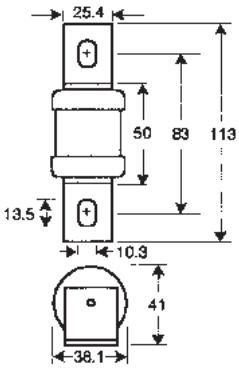
BS17



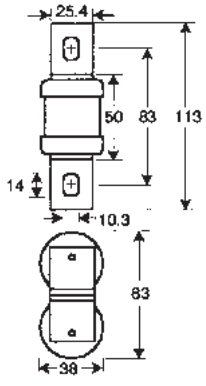
BS17D



BS38

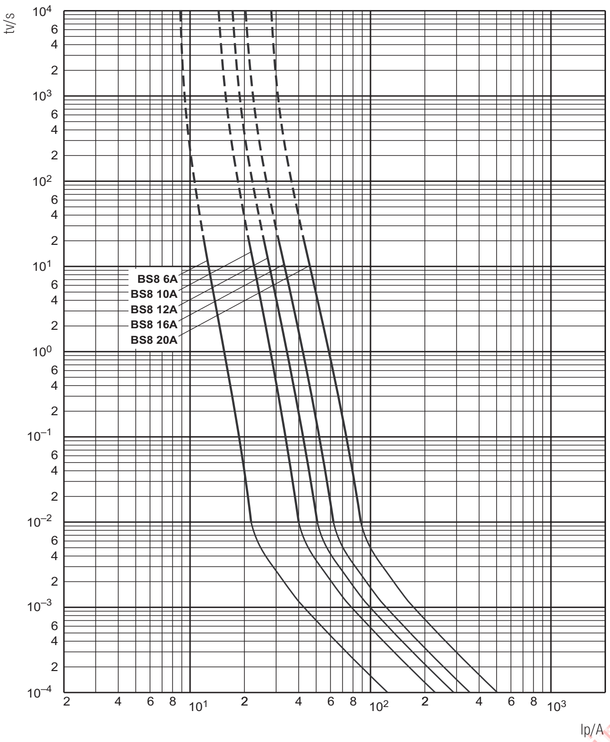


BS38T

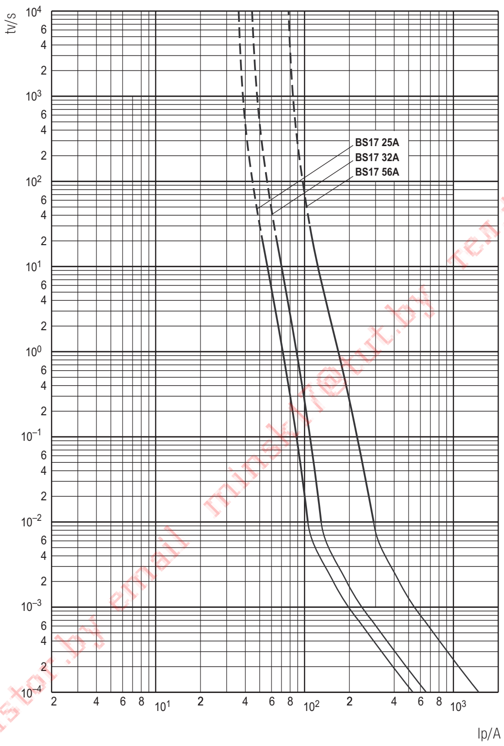


НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~690В

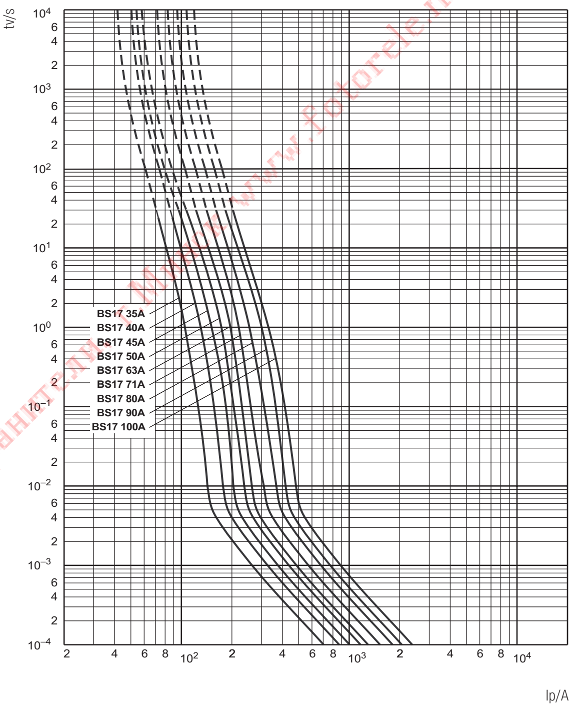
Токовременные характеристики предохранителей Ultra Quick BS8



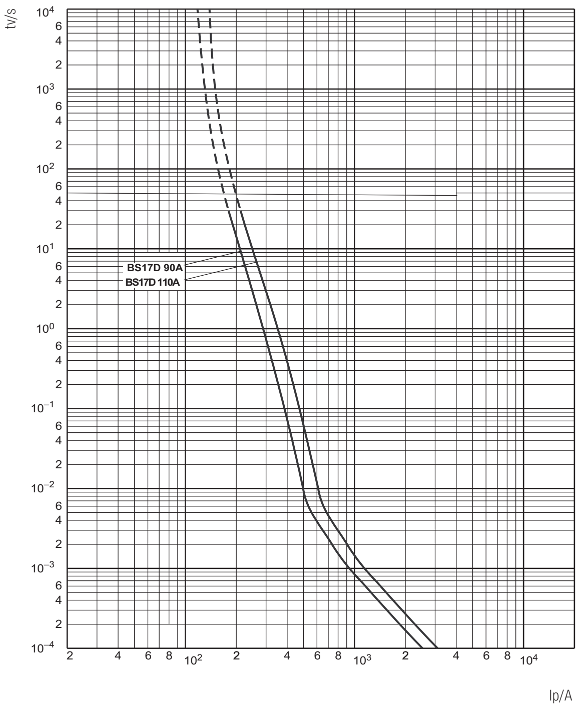
Токовременные характеристики предохранителей Ultra Quick BS17



Токовременные характеристики предохранителей Ultra Quick BS17



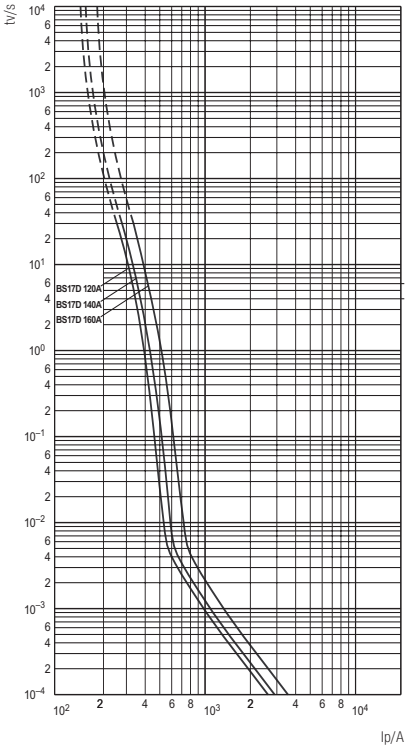
Токовременные характеристики предохранителей Ultra Quick BS17D



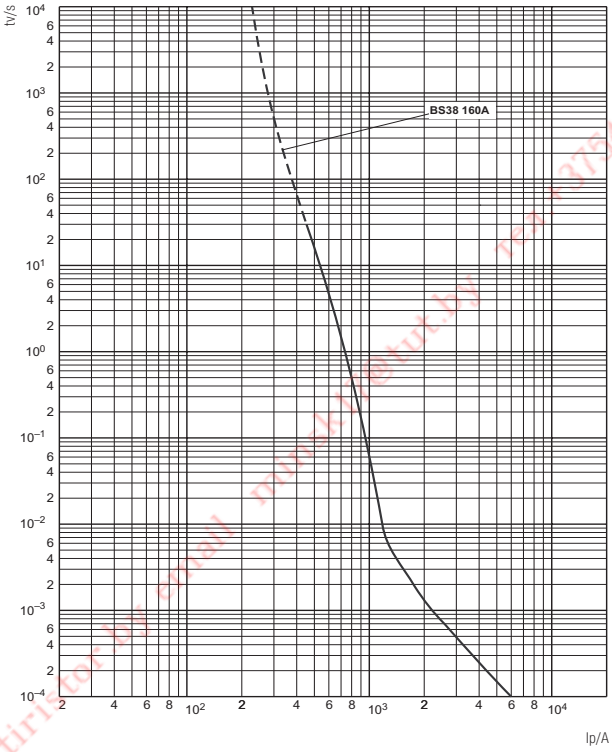
ULTRA QUICK

НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~690В

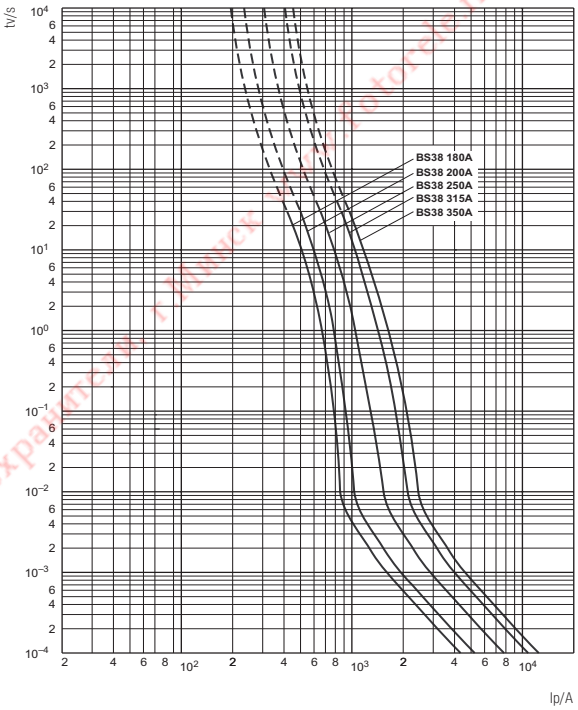
Токовременные характеристики предохранителей Ultra Quick BS17D



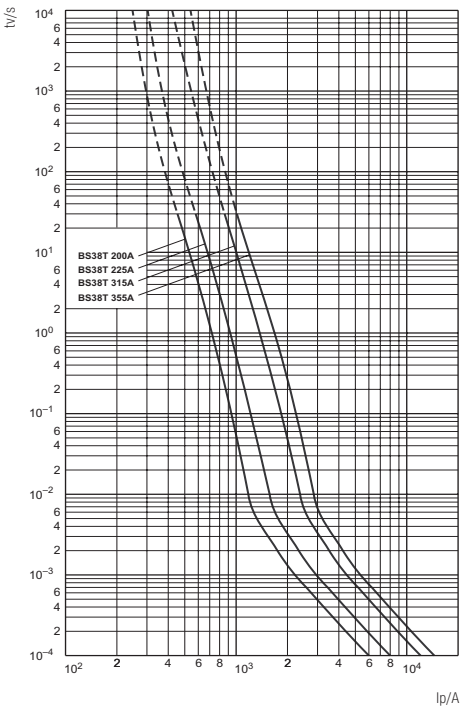
Токовременные характеристики предохранителей Ultra Quick BS38



Токовременные характеристики предохранителей Ultra Quick BS38

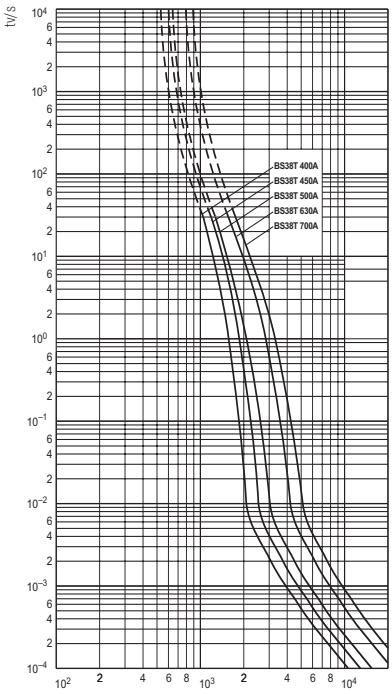


Токовременные характеристики предохранителей Ultra Quick BS38T

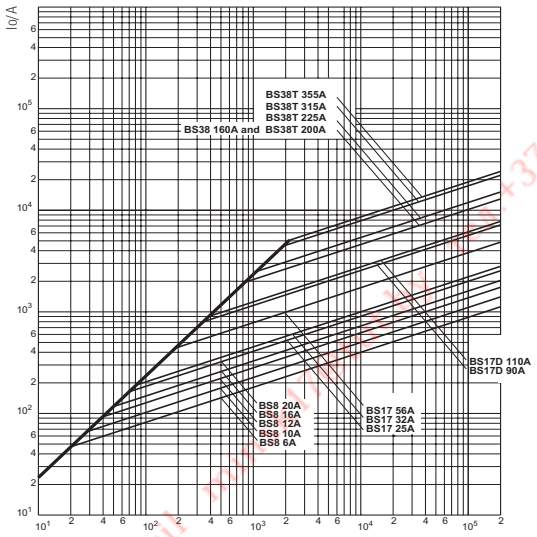


НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~690В

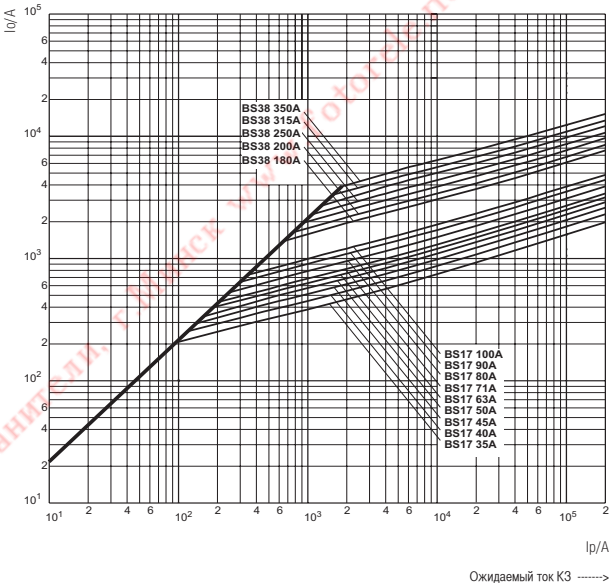
Токовременные характеристики предохранителей Ultra Quick BS38T



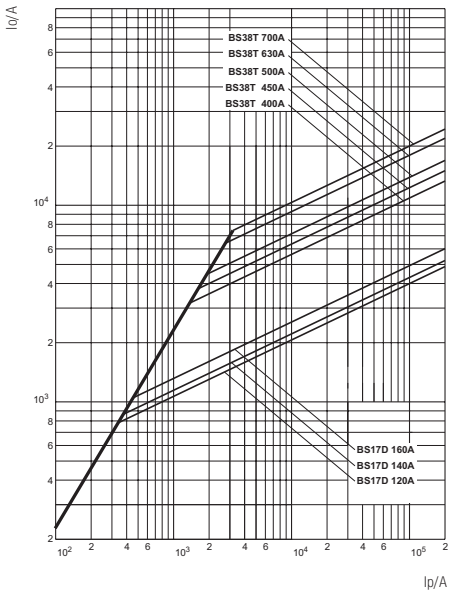
Характеристики предельного тока отключения для предохранителей Ultra Quick BS8, BS17, BS17D, BS38, BS38T



Характеристики предельного тока отключения для предохранителей Ultra Quick BS17, BS38



Характеристики предельного тока отключения для предохранителей Ultra Quick BS17D, BS38T



НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~690В

Потери мощности, энергия дуги и полная энергия для Ultra Quick BS8, BS17, BS17D, BS38, BS38T

Размер	I_n	Потери мощности	Энергия дуги I^2t (1мс)	Полная энергия I^2t ~415В	Полная энергия I^2t ~690В
	A	Вт	A^2s	A^2s	A^2s
BS8	6	2	1,8	8,5	12
	10	3	7	30	48
	12	3	10	40	65
	16	7	16	66	110
	20	7	32	150	220
BS17	25	7	25	150	250
	32	11	32	190	350
	35	9	33	130	200
	40	9	52	180	300
	45	11	76	120	450
	50	11	103	380	600
	56	14	135	950	1.500
	63	12	135	480	750
	71	17	210	600	950
	80	20	250	900	1.500
	90	20	360	1.300	2.100
	100	23	470	1.800	2.800
BS17D	90	19	490	3.000	4.500
	110	27	600	4.000	6.500
	120	32	540	1.900	3.100
	140	36	850	2.500	3.800
	160	46	1.000	3.700	5.700
BS38	160	26	2.400	15.000	25.000
	180	40	1.400	7.500	13.500
	200	40	2.600	10.500	18.500
	250	48	5.200	20.500	37.500
	315	55	10.000	40.000	77.000
	350	55	15.000	60.000	105.000
BS38T	200	42	2.200	16.000	23.000
	225	42	3.700	26.000	40.000
	315	51	8.600	62.000	91.000
	355	54	13.500	97.000	140.000
	400	85	10.000	40.000	72.500
	450	90	15.000	60.000	105.000
	500	100	20.000	82.000	150.000
	630	100	45.000	180.000	310.000
	700	120	60.000	245.000	420.000

ГРУППА **NV/NH**

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQU-N	**M**	**~690В**

Технические данные:

Стандарты:
DIN 43620
VDE 0636-201

Отключающая способность:
~50кА/ - 25кА
Номинальное напряжение:
~ 690В/ - 440В

Характеристика:
gR/aR

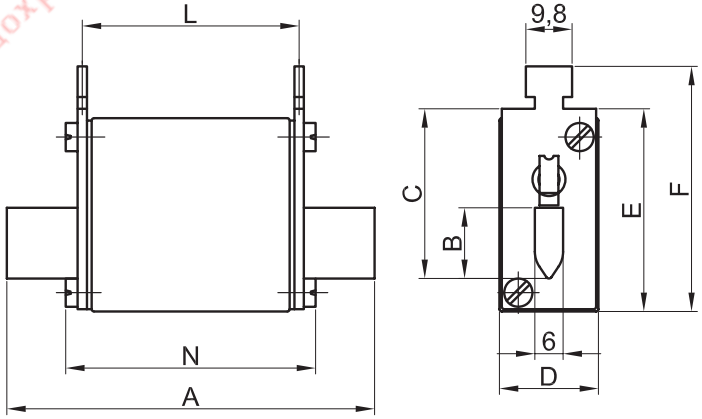
Способ установки:

Предохранители типа M устанавливаются в держателях предохранителей (например PK).

M00UQ U-N/6A/690B

Размер	In (A)	Тип с визуальным индикатором и возможностью подключения сигнального контакта NVS 5)	Код №	Рабочее I^2t-значение (A^2s)	Потери мощности (Вт)	Характ.	Упаковка (шт)	Вес (г)
00C	6	M00CUQU-N/6A/690B	004331018	19	2,8	gR	3/120	180
	10	M00CUQU-N/10A/690B	004331019	62	3,3	gR	3/120	180
	16	M00CUQU-N/16A/690B	004331020	154	4,1	gR	3/120	180
	20	M00CUQU-N/20A/690B	004331021	290	5	gR	3/120	180
	25	M00CUQU-N/25A/690B	004331022	590	5,8	gR	3/120	180
	35	M00CUQU-N/35A/690B	004331023	1.160	8	gR	3/120	180
	40	M00CUQU-N/40A/690B	004331024	1.500	11	gR	3/120	180
	50	M00CUQU-N/50A/690B	004331025	2.370	16	gR	3/120	180
	63	M00CUQU-N/63A/690B	004331026	4.650	20	gR	3/120	180
	80	M00CUQU-N/80A/690B	004331027	5.350	25	gR	3/120	180
	100	M00CUQU-N/100A/690B	004331028	10.500	32	gR	3/120	180
	125	M00CUQU-N/125A/690B	004331029	21.300	40	gR	3/120	180
00	6	M00UQU-N/6A/690B	004331201	18	2,8	gR	3/90	180
	10	M00UQU-N/10A/690B	004331202	60	3,3	gR	3/90	180
	16	M00UQU-N/16A/690B	004331203	170	4,1	gR	3/90	180
	20	M00UQU-N/20A/690B	004331204	250	5	gR	3/90	180
	25	M00UQU-N/25A/690B	004331205	460	5,8	gR	3/90	180
	35	M00UQU-N/35A/690B	004331214	1.000	8	gR	3/90	180
	40	M00UQU-N/40A/690B	004331208	1.300	11	gR	3/90	180
	50	M00UQU-N/50A/690B	004331209	1.500	16	gR	3/90	180
	63	M00UQU-N/63A/690B	004331210	3.000	20	gR	3/90	180
	80	M00UQU-N/80A/690B	004331211	5.300	25	gR	3/90	180
	100	M00UQU-N/100A/690B	004331212	9.000	32	gR	3/90	180
	125	M00UQU-N/125A/690B	004331213	16.000	40	gR	3/90	180
	160	M00UQU-N/160A/690B	004331215	24.000	44	aR	3/90	180
0	6	M0UQU-N/6A/690B	004332201	18	2,8	gR	3/45	320
	10	M0UQU-N/10A/690B	004332202	60	3,3	gR	3/45	320
	16	M0UQU-N/16A/690B	004332203	170	4,1	gR	3/45	320
	20	M0UQU-N/20A/690B	004332204	250	5	gR	3/45	320
	25	M0UQU-N/25A/690B	004332205	460	5,8	gR	3/45	320
	35	M0UQU-N/35A/690B	004332216	1.000	8	gR	3/45	320
	40	M0UQU-N/40A/690B	004332208	1.300	11	gR	3/45	320
	50	M0UQU-N/50A/690B	004332209	1.500	16	gR	3/45	320
	63	M0UQU-N/63A/690B	004332210	3.000	20	gR	3/45	320
	80	M0UQU-N/80A/690B	004332211	5.300	25	gR	3/45	320
	100	M0UQU-N/100A/690B	004332212	9.000	32	gR	3/45	320
	125	M0UQU-N/125A/690B	004332213	16.000	40	gR	3/45	320
	160	M0UQU-N/160A/690B	004332214	24.000	44	aR	3/45	320

Габариты:



Размер	A	B	C	D	E	F	L	N
00C	80	15	35	21	40	50.5	47	54
00	80	15	35	28	40	50.5	47	54
0	125	15	35	28	47	56.5	66	66

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQU-N	**M**	**~690В**

Технические данные:

Стандарты:
DIN 43620
VDE 0636-201

Отключающая способность:
~50кА/ - 25кА
Номинальное напряжение:
~ 690В/ - 440В

Характеристика:
gR/aR

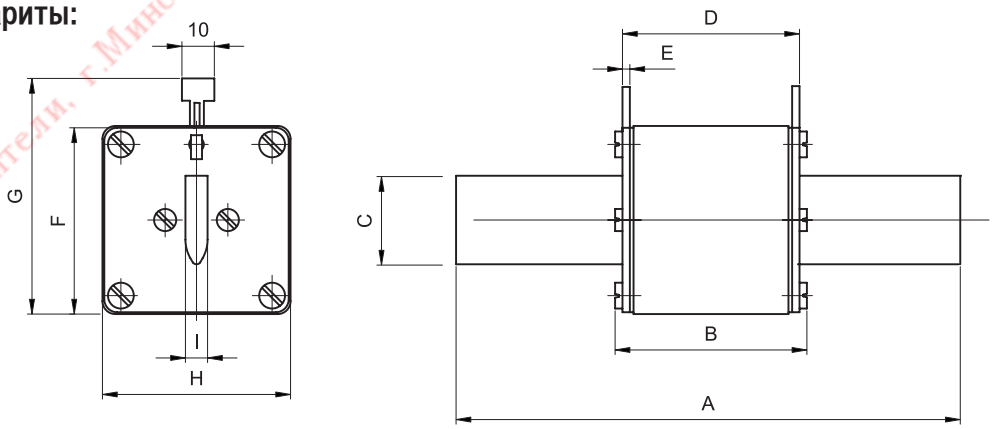
Способ установки:

Предохранители типа M устанавливаются в держателях предохранителей (например PK).

Размер	In (A)	Тип с визуальным индикатором и возможностью подключения сигнального контакта NVS 5)	Код №	Рабочее I^2t-значение (A^2s)	Потери мощности (Вт)	Характ.	Упаковка (шт)	Вес (г)
1	35	M1UQU-N/35A/690B	004333217	1.000	8	gR	3/24	450
	50	M1UQU-N/50A/690B	004333208	1.500	16	gR	3/24	450
	63	M1UQU-N/63A/690B	004333209	3.000	20	gR	3/24	450
	80	M1UQU-N/80A/690B	004333210	5.300	25	gR	3/24	450
	100	M1UQU-N/100A/690B	004333211	9.000	32	gR	3/24	450
	125	M1UQU-N/125A/690B	004333212	16.000	40	gR	3/24	450
	160	M1UQU-N/160A/690B	004333213	24.000	44	aR	3/24	450
	200	M1UQU-N/200A/690B	004333214	40.000	58	aR	3/24	450
	224	M1UQU-N/224A/690B	004333215	52.000	60	aR	3/24	450
	250	M1UQU-N/250A/690B	004333216	65.000	63	aR	3/24	450
2	80	M2UQU-N/80A/690B	004334209	5.300	25	gR	3/15	680
	100	M2UQU-N/100A/690B	004334210	9.000	32	gR	3/15	680
	125	M2UQU-N/125A/690B	004334211	16.000	40	gR	3/15	680
	160	M2UQU-N/160A/690B	004334213	24.000	44	aR	3/15	680
	200	M2UQU-N/200A/690B	004334214	40.000	58	aR	3/15	680
	250	M2UQU-N/250A/690B	004334216	60.000	63	aR	3/15	680
	280	M2UQU-N/280A/690B	004334218	100.000	75	aR	3/15	680
	300	M2UQU-N/300A/690B	004334219	140.000	85	aR	3/15	680
	315	M2UQU-N/315A/690B	004334220	175.000	95	aR	3/15	680
	355	M2UQU-N/355A/690B	004334221	220.000	100	aR	3/15	680
	400	M2UQU-N/400A/690B	004334222	270.000	105	aR	3/15	680
3	250	M3UQU-N/250A/690B	004335207	60.000	63	aR	3/12	880
	280	M3UQU-N/280A/690B	004335208	100.000	75	aR	3/12	880
	315	M3UQU-N/315A/690B	004335209	175.000	95	aR	3/12	880
	355	M3UQU-N/355A/690B	004335210	300.000	100	aR	3/12	880
	400	M3UQU-N/400A/690B	004335211	441.700	105	aR	3/12	880
	450	M3UQU-N/450A/690B	004335213	530.000	115	aR	3/12	880
	500	M3UQU-N/500A/690B	004335214	620.000	130	aR	3/12	880
	560	M3UQU-N/560A/690B	004335215	730.000	135	aR	3/12	880
	630	M3UQU-N/630A/690B	004335216	850.000	140	aR	3/12	880

M2UQU-N/80A/690B

Габариты:



Размер	A	B	C	D	E	F	G	H	I
1	135	75	20	68	2	40	61.5	46	6
2	150	75	26	68	2	48	71.5	57	6
3	150	75	36	68	2	60	81.5	69	6

ГРУППА **NV/NH**

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQU	**S80mm/97mm**	**~690В**

Технические данные:

Стандарты:
DIN 43653
IEC 60269-4-1

Отключающая способность:
~50кА/ - 25кА
Номинальное напряжение:
~ 690В/ - 440В

Характеристика:
gR/aR

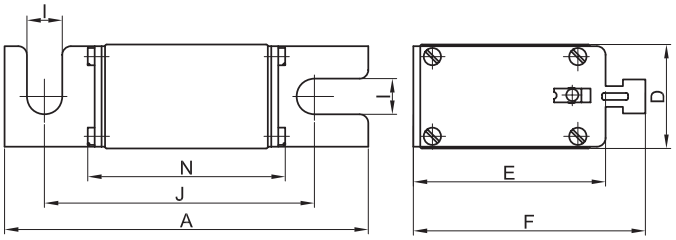
Способ установки:

Предохранители типа S размеров 00C, 00 и 0 устанавливаются в держателях US00-1/80 и монтируются болтами на шину

S00UQU/80/6A/690B

Размер	In (A)	Тип с визуальным индикатором и возможностью подключения сигнального контакта NVS 5	Код №	Рабочее I^2t-значение (A^2s)	Потери мощности (Вт)	Характ.	Упаковка (шт)	Вес (г)
00C	6	S00CUQU/80/6A/690B	004331003	19	2,8	aR	3/120	180
	10	S00CUQU/80/10A/690B	004331004	62	3,3	aR	3/120	180
	16	S00CUQU/80/16A/690B	004331005	154	4,1	aR	3/120	180
	20	S00CUQU/80/20A/690B	004331006	290	5	aR	3/120	180
	25	S00CUQU/80/25A/690B	004331007	590	5,8	aR	3/120	180
	35	S00CUQU/80/35A/690B	004331008	1.160	8	aR	3/120	180
	40	S00CUQU/80/40A/690B	004331009	1.500	11	aR	3/120	180
	50	S00CUQU/80/50A/690B	004331010	2.370	16	aR	3/120	180
	63	S00CUQU/80/63A/690B	004331011	4.650	20	aR	3/120	180
	80	S00CUQU/80/80A/690B	004331012	5.350	25	aR	3/120	180
	100	S00CUQU/80/100A/690B	004331013	10.500	32	aR	3/120	180
	125	S00CUQU/80/125A/690B	004331014	21.300	40	aR	3/120	180
00	6	S00UQU/80/6A/690B	004331102	18	2,8	gR	3/90	180
	10	S00UQU/80/10A/690B	004331103	60	3,3	gR	3/90	180
	16	S00UQU/80/16A/690B	004331104	170	4,1	gR	3/90	180
	20	S00UQU/80/20A/690B	004331105	250	5	gR	3/90	180
	25	S00UQU/80/25A/690B	004331106	460	5,8	gR	3/90	180
	35	S00UQU/80/35A/690B	004331116	1.000	8	gR	3/90	180
	40	S00UQU/80/40A/690B	004331110	1.300	11	gR	3/90	180
	50	S00UQU/80/50A/690B	004331111	1.500	16	gR	3/90	180
	63	S00UQU/80/63A/690B	004331112	3.000	20	gR	3/90	180
	80	S00UQU/80/80A/690B	004331113	5.300	25	gR	3/90	180
	100	S00UQU/80/100A/690B	004331114	9.000	32	gR	3/90	180
	125	S00UQU/80/125A/690B	004331115	16.000	40	gR	3/90	180
	160	S00UQU/80/160A/690B	004331117	24.000	44	aR	3/90	180
0	6	S0UQU/97/6A/690B	004332101	18	2,8	gR	3/45	320
	10	S0UQU/97/10A/690B	004332102	60	3,3	gR	3/45	320
	16	S0UQU/97/16A/690B	004332103	170	4,1	gR	3/45	320
	20	S0UQU/97/20A/690B	004332104	250	5	gR	3/45	320
	25	S0UQU/97/25A/690B	004332105	460	5,8	gR	3/45	320
	35	S0UQU/97/35A/690B	004332116	1.000	8	gR	3/45	320
	40	S0UQU/97/40A/690B	004332108	1.300	11	gR	3/45	320
	50	S0UQU/97/50A/690B	004332109	1.500	16	gR	3/45	320
	63	S0UQU/97/63A/690B	004332110	3.000	20	gR	3/45	320
	80	S0UQU/97/80A/690B	004332111	5.300	25	gR	3/45	320
	100	S0UQU/97/100A/690B	004332112	9.000	32	gR	3/45	320
	125	S0UQU/97/125A/690B	004332113	16.000	40	gR	3/45	320
	160	S0UQU/97/160A/690B	004332114	24.000	44	aR	3/45	320

Габариты:



Размер	A	D	E	F	I	J	N
00C	105	21	48	58	11.5	80	54
00	105	27	48	58	11.5	80	54
0	121	27	48	58	11.5	97	69

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQU	**S110mm**	**~690В**

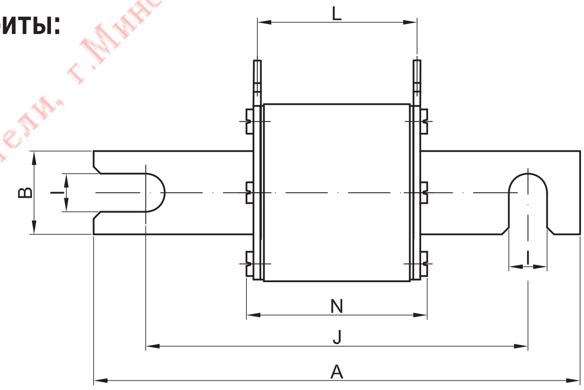
Технические данные:			Способ установки:
Стандарты: **DIN 43653** **IEC 60269-4-1**	Отключающая способность: **~50кА/ - 25кА** Номинальное напряжение: **~ 690В/ - 440В**	Характеристика: **gR/aR**	Предохранители типа S 110мм размеров 1, 2, 3 устанавливаются в универсальных держателях US1..3-1/80-110 и монтируются болтами на шину.

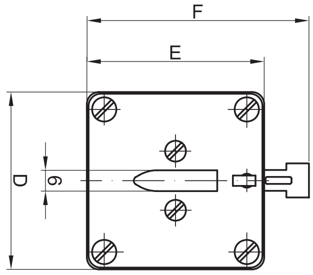
Размер	In (A)	Тип с визуальным индикатором и возможностью подключения сигнального контакта NVS 5	Код №	Рабочее I^2t-значение (A^2s)	Потери мощности (Вт)	Характ.	Упаковка (шт)	Вес (г)
1	35	S1UQU/110/35A/690B	004333117	1.000	8	gR	3/24	450
	50	S1UQU/110/50A/690B	004333108	1.500	16	gR	3/24	450
	63	S1UQU/110/63A/690B	004333109	3.000	20	gR	3/24	450
	80	S1UQU/110/80A/690B	004333110	5.300	25	gR	3/24	450
	100	S1UQU/110/100A/690B	004333111	9.000	32	gR	3/24	450
	125	S1UQU/110/125A/690B	004333112	16.000	40	gR	3/24	450
	160	S1UQU/110/160A/690B	004333113	24.000	44	aR	3/24	450
	200	S1UQU/110/200A/690B	004333114	40.000	58	aR	3/24	450
	224	S1UQU/110/224A/690B	004333115	52.000	60	aR	3/24	450
	250	S1UQU/110/250A/690B	004333116	65.000	63	aR	3/24	450
2	80	S2UQU/110/80A/690B	004334109	5.300	25	gR	3/15	680
	100	S2UQU/110/100A/690B	004334110	9.000	32	gR	3/15	680
	125	S2UQU/110/125A/690B	004334111	16.000	40	gR	3/15	680
	160	S2UQU/110/160A/690B	004334112	24.000	44	aR	3/15	680
	200	S2UQU/110/200A/690B	004334113	40.000	58	aR	3/15	680
	250	S2UQU/110/250A/690B	004334115	60.000	63	aR	3/15	680
	280	S2UQU/110/280A/690B	004334116	100.000	75	aR	3/15	680
	300	S2UQU/110/300A/690B	004334121	140.000	85	aR	3/15	680
	315	S2UQU/110/315A/690B	004334117	175.000	95	aR	3/15	680
	355	S2UQU/110/355A/690B	004334118	220.000	100	aR	3/15	680
	400	S2UQU/110/400A/690B	004334119	270.000	105	aR	3/15	680
3	250	S3UQU/110/250A/690B	004335117	60.000	63	aR	3/12	880
	280	S3UQU/110/280A/690B	004335108	100.000	75	aR	3/12	880
	315	S3UQU/110/315A/690B	004335109	175.000	95	aR	3/12	880
	355	S3UQU/110/355A/690B	004335110	300.000	100	aR	3/12	880
	400	S3UQU/110/400A/690B	004335111	441.700	105	aR	3/12	880
	450	S3UQU/110/450A/690B	004335113	530.000	115	aR	3/12	880
	500	S3UQU/110/500A/690B	004335114	620.000	130	aR	3/12	880
	560	S3UQU/110/560A/690B	004335115	730.000	135	aR	3/12	880
	630	S3UQU/110/630A/690B	004335116	850.000	140	aR	3/12	880

S2UQU/110/80A/690B

ULTRA QUICK

Габариты:

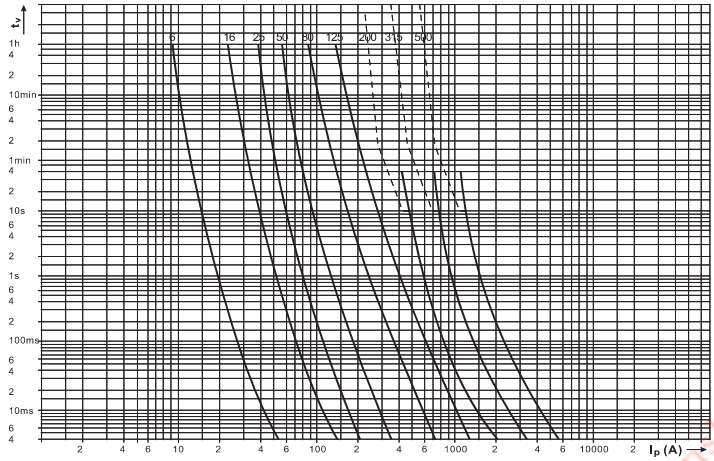


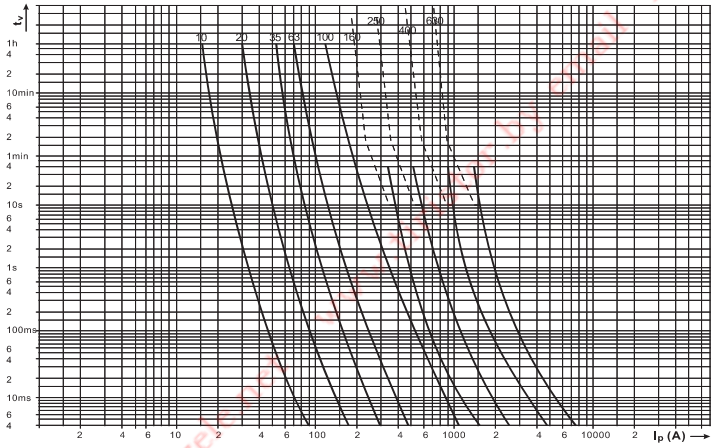


Размер	A	B	D	E	F	I	J	L	N
1	140	26	46	46	57.5	11.5	110	66	75
2	140	26	57	57	71.5	11.5	110	66	75
3	140	36	69	69	81.5	11.5	110	66	75

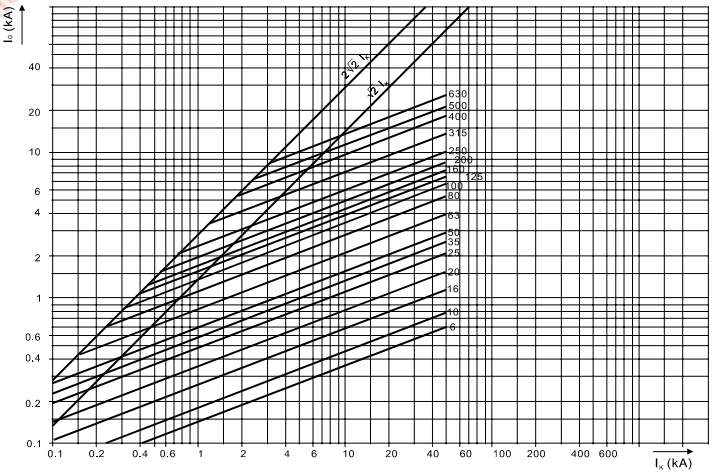
СЕРИЯ		НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ U/U-N		**~690В**

Токовременные характеристики предохранителей Ultra Quick MUQ U-N, SUQ U





Характеристики предельного тока отключения для предохранителей Ultra Quick MUQ U-N, SUQ U

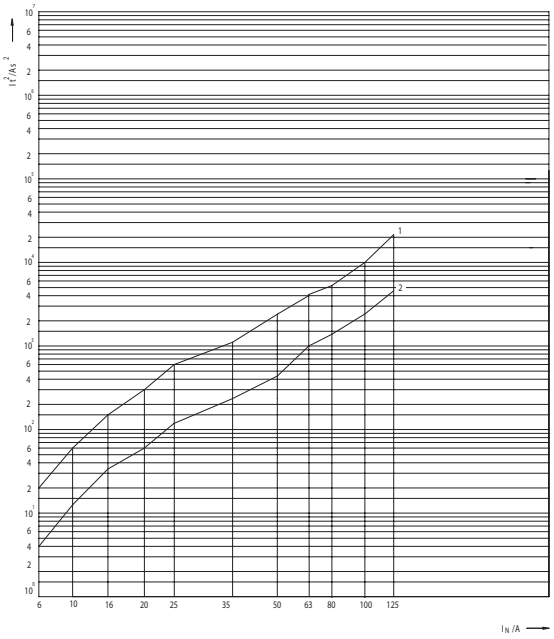


Ожидаемый ток КЗ ------>

СЕРИЯ
UQ U/U-N

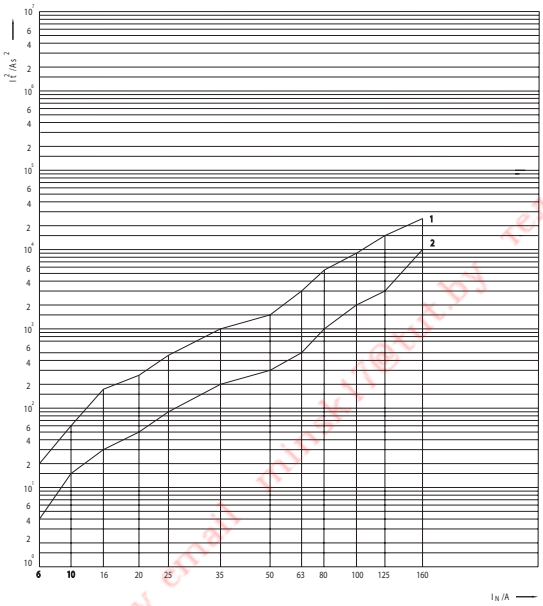
НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~690В

Интеграл Джоуля (I²t) для Ultra Quick MUQ U-N, SUQ U - размер 00C



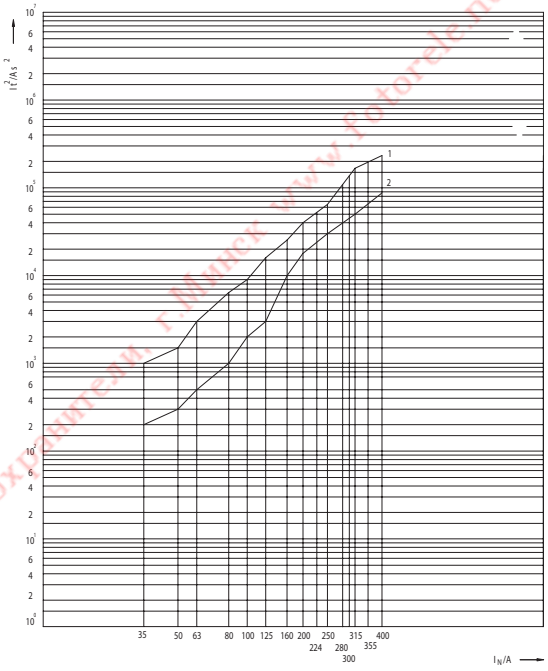
1 - Рабочее значение I²t
2 - Значение дуги I²t

Интеграл Джоуля (I²t) для Ultra Quick MUQ U-N, SUQ U - размер 00 и 0



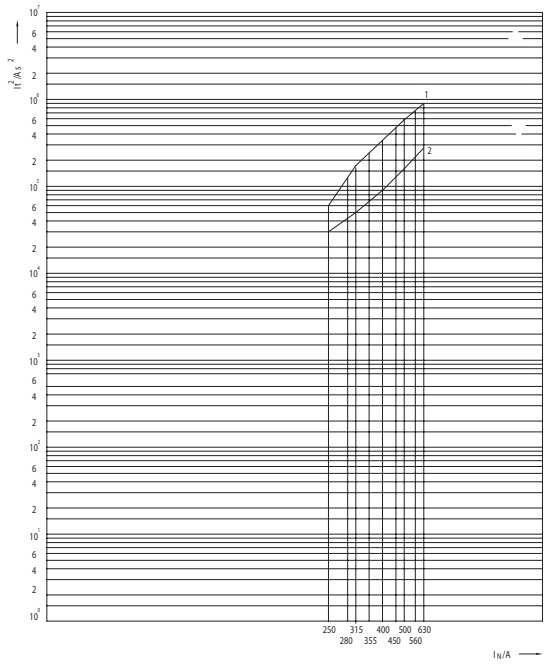
1 - Рабочее значение I²t при 690В
2 - Значение дуги I²t

Интеграл Джоуля (I²t) для Ultra Quick MUQ U-N, SUQ U - размер 1, 2



1 - Рабочее значение I²t
2 - Значение дуги I²t

Интеграл Джоуля (I²t) для Ultra Quick MUQ U-N, SUQ U - размер 3



1 - Рабочее значение I²t при 690В
2 - Значение дуги I²t

СЕРИЯ
UQ U/U-N

НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~690В

Потери мощности, энергия дуги и полная энергия для Ultra Quick

Размер	I_n	Потери мощности	Энергия дуги I^2t (1мс)	Полная энергия I^2t ~180В	Полная энергия I^2t ~330В	Полная энергия I^2t ~690В
	A	Вт	A^2s	A^2s	A^2s	A^2s
M00C, S00C	6	2,8	4	7	10	19
	10	3,3	13	22	31	62
	16	4,1	32	54	77	154
	20	5	60	103	145	290
	25	5,8	123	209	296	590
	35	8	242	410	580	1.160
	40	11	313	530	750	1.500
	50	16	490	840	1.180	2.370
	63	20	960	1.650	2.300	4.650
	80	25	1.100	1.890	2.660	5.350
	100	32	2.180	3.690	5.200	10.500
	125	40	4.450	7.550	10.600	21.300
M00, S00, M0, S0	6	2,8	4	7	10	18
	10	3,3	13	20	35	60
	16	4,1	32	56	90	170
	20	5	52	94	140	250
	25	5,8	85	160	240	460
	35	8	190	310	500	1.000
	40	11	247	403	650	1.300
	50	16	290	520	760	1.500
	63	20	500	750	1.050	3.000
	80	25	1.000	1.550	2.200	5.300
	100	32	2.000	2.800	3.900	9.000
	125	40	3.100	4.300	6.000	16.000
	160	44	10.000	12.000	18.000	24.000
M1, S1	35	8	190	300	500	1.000
	50	16	290	520	750	1.500
	63	20	500	750	1.050	3.000
	80	25	1.000	1.500	2.200	5.300
	100	32	2.000	2.800	3.900	9.000
	125	40	3.100	4.300	6.000	16.000
	160	44	10.000	12.000	18.000	24.000
	200	58	17.000	22.000	31.000	40.000
	224	60	23.000	29.000	38.000	52.000
	250	63	29.000	37.000	44.500	65.000
M2, S2	80	25	1.000	1.500	2.200	5.300
	100	32	2.000	2.800	3.900	9.000
	125	40	3.100	4.300	6.000	16.000
	160	44	10.000	12.000	18.000	24.000
	200	58	17.000	22.000	31.000	40.000
	250	63	31.000	35.500	47.600	60.000
	280	75	51.600	59.100	79.300	100.000
	300	85	45.000	50.000	65.000	140.000
	315	95	48.000	55.000	75.000	175.000
	355	100	60.300	69.100	94.200	220.000
	400	105	85.000	101.000	140.000	270.000
M3, S3	250	63	31.000	35.000	47.000	60.000
	280	75	51.600	59.100	79.300	100.000
	315	95	48.000	55.000	75.000	175.000
	355	100	60.300	69.100	94.200	300.000
	400	105	90.000	115.000	160.000	441.700
	450	115	136.000	170.000	256.000	530.000
	500	130	160.000	200.000	300.000	620.000
	560	135	231.000	300.000	395.000	730.000
	630	140	270.000	348.000	460.000	850.000

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ01	**M**	**~690В**

Технические данные:

Стандарты:
DIN 43620
VDE 0636-201

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 690В

Характеристика:
aR

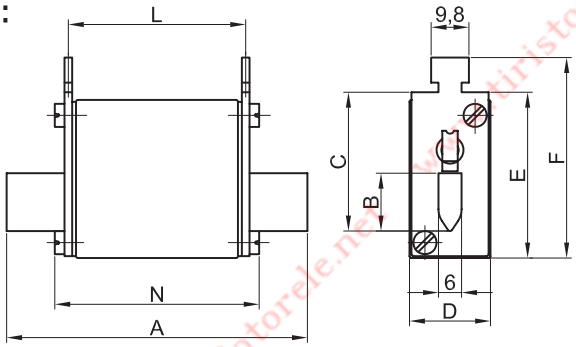
Способ установки:

Предохранители типа M устанавливаются в держателях предохранителей (например PK).

Размер	In (A)	Тип с визуальным индикатором и возможностью подключения сигнального контакта NVS 5	Код №	Рабочее I^2t-значение (A^2s)	Потери мощности (Вт)	Характ.	Упаковка (шт)	Вес (г)
00C	10	M00CUQ1/10A/690B	004341204	80	5,5	aR	3/60	150
	16	M00CUQ1/16A/690B	004341205	140	6	aR	3/60	150
	20	M00CUQ1/20A/690B	004341206	230	7	aR	3/60	150
	25	M00CUQ1/25A/690B	004341207	400	8	aR	3/60	150
	32	M00CUQ1/32A/690B	004341208	650	9	aR	3/60	150
	35	M00CUQ1/35A/690B	004341209	835	10	aR	3/60	150
	40	M00CUQ1/40A/690B	004341210	1.030	11	aR	3/60	150
	50	M00CUQ1/50A/690B	004341211	1.820	12	aR	3/60	150
	63	M00CUQ1/63A/690B	004341212	2.680	14,2	aR	3/60	150
	80	M00CUQ1/80A/690B	004341213	5.550	20,2	aR	3/60	150
	100	M00CUQ1/100A/690B	004341214	8.350	23,4	aR	3/60	150
	125	M00CUQ1/125A/690B	004341215	11.800	28	aR	3/60	150
	160	M00CUQ1/160A/690B	004341216	19.300	35	aR	3/60	150

M00CUQ1/50A/690B

Габариты:



Размер	A	B	C	D	E	F	L	N
00C	78	15	35	21	42	52	46	53

ГРУППА **NV-NH**

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ1	**M**	**~690В**

Технические данные:

Стандарты:
DIN 43620
VDE 0636-201

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 690В

Характеристика:
aR

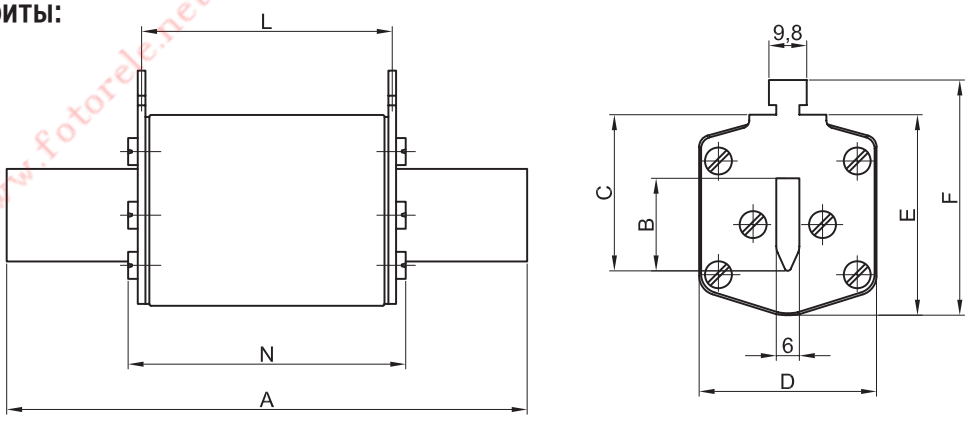
Способ установки:

Предохранители типа M устанавливаются в держателях предохранителей (например PK).

M2UQ1/400A/690B

Размер	In (A)	Тип с визуальным индикатором и возможностью подключения сигнального контакта NVS 5	Код №	Рабочее I^2t-значение (A^2s)	Потери мощности (Вт)	Характ.	Упаковка (шт)	Вес (г)
1	32	M1UQ1/32A/690B	004343208	650	7,3	aR	3	500
	40	M1UQ1/40A/690B	004343210	1.030	8,4	aR	3	500
	50	M1UQ1/50A/690B	004343211	1.820	10,6	aR	3	500
	63	M1UQ1/63A/690B	004343212	2.680	13	aR	3	500
	80	M1UQ1/80A/690B	004343213	5.550	15,2	aR	3	500
	100	M1UQ1/100A/690B	004343214	8.350	19,3	aR	3	500
	125	M1UQ1/125A/690B	004343215	11.800	22,3	aR	3	500
	160	M1UQ1/160A/690B	004343216	19.300	27,8	aR	3	500
	200	M1UQ1/200A/690B	004343217	27.800	36	aR	3	500
	250	M1UQ1/250A/690B	004343219	45.000	41,4	aR	3	500
2	160	M2UQ1/160A/690B	004344216	19.300	26,7	aR	3	650
	200	M2UQ1/200A/690B	004344217	27.800	31,3	aR	3	650
	250	M2UQ1/250A/690B	004344219	45.000	39,8	aR	3	650
	315	M2UQ1/315A/690B	004344221	85.600	42,8	aR	3	650
	400	M2UQ1/400A/690B	004344223	160.000	80,2	aR	3	650
3	315	M3UQ1/315A/690B	004345221	85.600	39,8	aR	3	850
	400	M3UQ1/400A/690B	004345223	160.000	50,6	aR	3	850
	500	M3UQ1/500A/690B	004345226	257.000	61,8	aR	3	850
	630	M3UQ1/630A/690B	004345228	407.000	78,6	aR	3	850

Габариты:



Размер	A	B	C	D	E	F	L	N
1	135	24	40	46	52	62	65	72
2	150	30	48	54	61	71	65	72
3	150	37	60	64	74	84	65	72

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ1	**S80mm**	**~690В**

Технические данные:

Стандарты:
DIN 43653
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 690В

Характеристика:
aR

Способ установки:

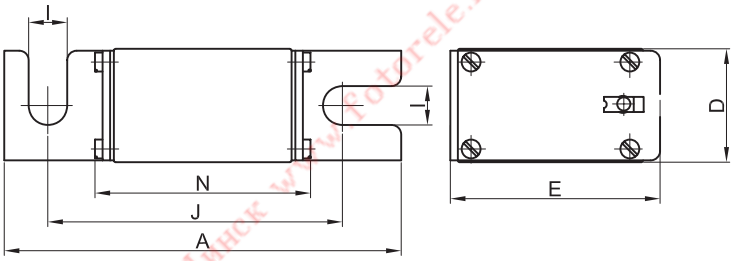
Предохранители типа S размеров 00C и 00 устанавливаются в держателях US00-1/80 и монтируются болтами на шину.

Размер	In (A)	Тип с визуальным индикатором и возможностью подключения сигнального контакта NVS 5	Код №	Рабочее I^2t-значение (A^2s)	Потери мощности (Вт)	Характ.	Упаковка (шт)	Вес (г)
00C	10	S00CUQ1/80/10A/690B	004341104	80	5,5	aR	3	150
	16	S00CUQ1/80/16A/690B	004341105	140	6	aR	3	150
	20	S00CUQ1/80/20A/690B	004341106	230	7	aR	3	150
	25	S00CUQ1/80/25A/690B	004341107	400	8	aR	3	150
	32	S00CUQ1/80/32A/690B	004341108	650	9	aR	3	150
	35	S00CUQ1/80/35A/690B	004341109	835	10	aR	3	150
	40	S00CUQ1/80/40A/690B	004341110	1.030	11	aR	3	150
	50	S00CUQ1/80/50A/690B	004341111	1.820	12	aR	3	150
	63	S00CUQ1/80/63A/690B	004341112	2.680	14,2	aR	3	150
	80	S00CUQ1/80/80A/690B	004341113	5.550	20,2	aR	3	150
	100	S00CUQ1/80/100A/690B	004341114	8.350	23,4	aR	3	150
	125	S00CUQ1/80/125A/690B	004341115	11.800	28	aR	3	150
	160	S00CUQ1/80/160A/690B	004341116	19.300	35	aR	3	150
00	200	S00UQ1/80/200A/690B	004341117	27.800	40	aR	3	150
	250	S00UQ1/80/250A/690B	004341119	45.000	49,7	aR	3	150
	315	S00UQ1/80/315A/690B	004341121	85.600	59,1	aR	3	150
	350	S00UQ1/80/350A/690B	004341122	118.000	65,4	aR	3	150
	400*	S00UQ1/80/400A/500B	004341123	160.000	80	aR	3	150

* 500В

S00CUQ1/80/50A/690B

Габариты:



Размер	A	D	E	I	J	N
00C	101	21	40	8.5	78	54
00	105	30	51	10.3	78	56

ГРУППА **NV/NH**

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ1	**S80mm**	**~690V**

Технические данные:

Стандарты:
DIN 43653
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 690В

Характеристика:
aR

Способ установки:

Предохранители типа S 80мм размеров 1, 2, 3 устанавливаются в универсальных держателях US1..3-1/80-110 и монтируются болтами на шину.

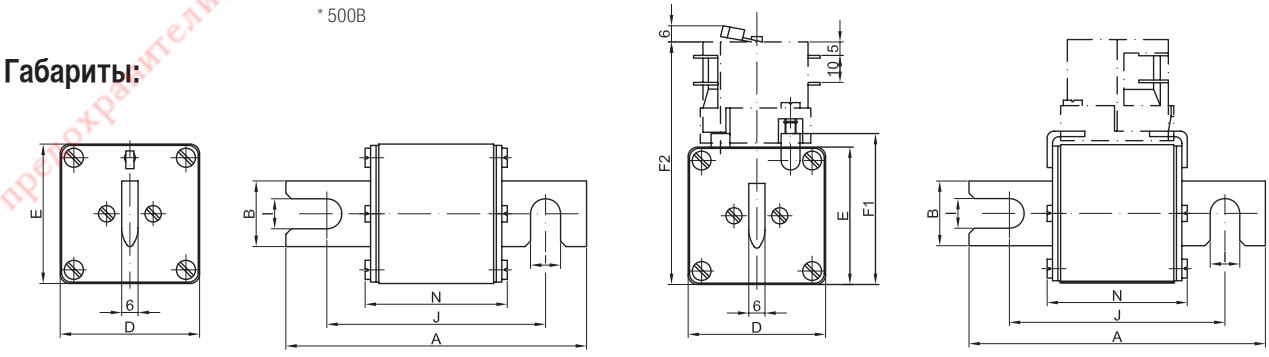
S1UQ1/80/100A/690B

S1MUQ1/80/100A/690B

Размер	In (A)	Тип с визуальным идикатором	Код №	Рабочее I²t значение (A²s)	Потери мощн. (Вт)	Тип с центр. бойковым индикатором и возможностью подключения сигнального контакта MK	Код №	Хар.	Уп. (шт)	Вес (г)
1	32	S1UQ1/80/32A/690B	004343108	650	7,3	S1MUQ1/80/32A/690B	004343708	aR	1	500
	35	S1UQ1/80/35A/690B	004343109	835	7,7	S1MUQ1/80/35A/690B	004343709	aR	1	500
	40	S1UQ1/80/40A/690B	004343110	1.030	8,4	S1MUQ1/80/40A/690B	004343710	aR	1	500
	50	S1UQ1/80/50A/690B	004343111	1.820	10,6	S1MUQ1/80/50A/690B	004343711	aR	1	500
	63	S1UQ1/80/63A/690B	004343112	2.680	13	S1MUQ1/80/63A/690B	004343712	aR	1	500
	80	S1UQ1/80/80A/690B	004343113	5.550	15,2	S1MUQ1/80/80A/690B	004343713	aR	1	500
	100	S1UQ1/80/100A/690B	004343114	8.350	19,3	S1MUQ1/80/100A/690B	004343714	aR	1	500
	125	S1UQ1/80/125A/690B	004343115	11.800	22,3	S1MUQ1/80/125A/690B	004343715	aR	1	500
	160	S1UQ1/80/160A/690B	004343116	19.300	27,8	S1MUQ1/80/160A/690B	004343716	aR	1	500
	200	S1UQ1/80/200A/690B	004343117	27.800	36	S1MUQ1/80/200A/690B	004343717	aR	1	500
	250	S1UQ1/80/250A/690B	004343119	45.000	41,4	S1MUQ1/80/250A/690B	004343719	aR	1	500
	315	S1UQ1/80/315A/690B	004343121	85.600	45,6	S1MUQ1/80/315A/690B	004343721	aR	1	500
	350	S1UQ1/80/350A/690B	004343122	118.000	48,4	S1MUQ1/80/350A/690B	004343722	aR	1	500
	400	S1UQ1/80/400A/690B	004343123	160.000	53,7	S1MUQ1/80/400A/690B	004343723	aR	1	500
2	160	S2UQ1/80/160A/690B	004344116	19.300	26,7	S2MUQ1/80/160A/690B	004344716	aR	1	650
	200	S2UQ1/80/200A/690B	004344117	27.800	31,3	S2MUQ1/80/200A/690B	004344717	aR	1	650
	250	S2UQ1/80/250A/690B	004344119	45.000	39,8	S2MUQ1/80/250A/690B	004344719	aR	1	650
	315	S2UQ1/80/315A/690B	004344121	85.600	42,8	S2MUQ1/80/315A/690B	004344721	aR	1	650
	350	S2UQ1/80/350A/690B	004344122	118.000	47,5	S2MUQ1/80/350A/690B	004344722	aR	1	650
	400	S2UQ1/80/400A/690B	004344123	160.000	52	S2MUQ1/80/400A/690B	004344723	aR	1	650
	450	S2UQ1/80/450A/690B	004344125	200.000	59,6	S2MUQ1/80/450A/690B	004344725	aR	1	650
	500	S2UQ1/80/500A/690B	004344126	257.000	66,5	S2MUQ1/80/500A/690B	004344726	aR	1	650
	630	S2UQ1/80/630A/690B	004344128	407.000	83,5	S2MUQ1/80/630A/690B	004344728	aR	1	650
3	315	S3UQ1/80/315A/690B	004345121	85.600	39,8	S3MUQ1/80/315A/690B	004345721	aR	1	850
	350	S3UQ1/80/350A/690B	004345122	118.000	44,9	S3MUQ1/80/350A/690B	004345722	aR	1	850
	400	S3UQ1/80/400A/690B	004345123	160.000	50,6	S3MUQ1/80/400A/690B	004345723	aR	1	850
	450	S3UQ1/80/450A/690B	004345125	200.000	57,5	S3MUQ1/80/450A/690B	004345725	aR	1	850
	500	S3UQ1/80/500A/690B	004345126	257.000	61,8	S3MUQ1/80/500A/690B	004345726	aR	1	850
	630	S3UQ1/80/630A/690B	004345128	407.000	78,6	S3MUQ1/80/630A/690B	004345728	aR	1	850
	710	S3UQ1/80/710A/690B	004345129	653.000	91,6	S3MUQ1/80/710A/690B	004345729	aR	1	850
	800	S3UQ1/80/800A/690B	004345130	835.000	104	S3MUQ1/80/800A/690B	004345730	aR	1	850
	1000	S3UQ1/80/1000A/690B	004345132	1.060.000	127	S3MUQ1/80/1000A/690B	004345732	aR	1	850
	1250*	S3UQ1/80/1250A/500B	004345133	1.500.000	165,3	S3MUQ1/80/1250A/500B	004345733	aR	1	850

* 500В

Габариты:



Размер	A	B	D	E	F1	F2	I	J	N
1	110	24	51	51	56	90	11	80	52
2	110	30	60	60	65	99	11	80	52
3	110	37	75	75	80	114	11	80	52

ULTRA QUICK

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ1	**S110mm**	**~690В**

Технические данные:

Стандарты:
DIN 43653
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 690В

Характеристика:
aR

Способ установки:

Предохранители типа S 110мм размеров 1, 2, 3 устанавливаются в универсальных держателях US1..3-1/80-110 и монтируются болтами на шину.

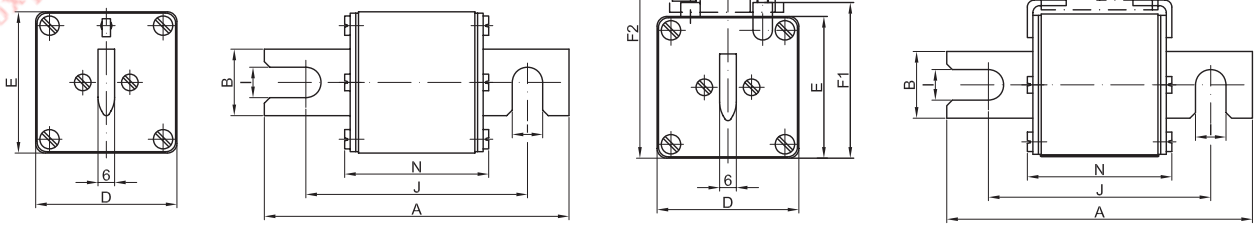
Размер	In (A)	Тип с визуальным идикатором	Код №	Рабочее I^2t значение (A^2s)	Потери мощн. (Вт)	Тип с центр. бойковым индикатором и возможностью подключения сигнального контакта МК	Код №	Хар.	Уп. (шт)	Вес (г)
1	32	S1UQ1/110/32A/690B	004353108	650	7,3	S1MUQ1/110/32A/690B	004353708	aR	1	500
	35	S1UQ1/110/35A/690B	004353109	835	7,7	S1MUQ1/110/35A/690B	004353709	aR	1	500
	40	S1UQ1/110/40A/690B	004353110	1.030	8,4	S1MUQ1/110/40A/690B	004353710	aR	1	500
	50	S1UQ1/110/50A/690B	004353111	1.820	10,6	S1MUQ1/110/50A/690B	004353711	aR	1	500
	63	S1UQ1/110/63A/690B	004353112	2.680	13	S1MUQ1/110/63A/690B	004353712	aR	1	500
	80	S1UQ1/110/80A/690B	004353113	5.550	15,2	S1MUQ1/110/80A/690B	004353713	aR	1	500
	100	S1UQ1/110/100A/690B	004353114	8.350	19,3	S1MUQ1/110/100A/690B	004353714	aR	1	500
	125	S1UQ1/110/125A/690B	004353115	11.800	22,3	S1MUQ1/110/125A/690B	004353715	aR	1	500
	160	S1UQ1/110/160A/690B	004353116	19.300	27,8	S1MUQ1/110/160A/690B	004353716	aR	1	500
	200	S1UQ1/110/200A/690B	004353117	27.800	36	S1MUQ1/110/200A/690B	004353717	aR	1	500
	250	S1UQ1/110/250A/690B	004353119	45.000	41,4	S1MUQ1/110/250A/690B	004353719	aR	1	500
	315	S1UQ1/110/315A/690B	004353121	85.600	45,6	S1MUQ1/110/315A/690B	004353721	aR	1	500
	350	S1UQ1/110/350A/690B	004353122	118.000	48,4	S1MUQ1/110/350A/690B	004353722	aR	1	500
	400	S1UQ1/110/400A/690B	004353123	160.000	53,7	S1MUQ1/110/400A/690B	004353723	aR	1	500
2	160	S2UQ1/110/160A/690B	004354116	19.300	26,7	S2MUQ1/110/160A/690B	004354716	aR	1	650
	200	S2UQ1/110/200A/690B	004354117	27.800	31,3	S2MUQ1/110/200A/690B	004354717	aR	1	650
	250	S2UQ1/110/250A/690B	004354119	45.000	39,8	S2MUQ1/110/250A/690B	004354719	aR	1	650
	315	S2UQ1/110/315A/690B	004354121	85.600	42,8	S2MUQ1/110/315A/690B	004354721	aR	1	650
	350	S2UQ1/110/350A/690B	004354122	118.000	47,5	S2MUQ1/110/350A/690B	004354722	aR	1	650
	400	S2UQ1/110/400A/690B	004354123	160.000	52	S2MUQ1/110/400A/690B	004354723	aR	1	650
	450	S2UQ1/110/450A/690B	004354125	200.000	59,6	S2MUQ1/110/450A/690B	004354725	aR	1	650
	500	S2UQ1/110/500A/690B	004354126	257.000	66,5	S2MUQ1/110/500A/690B	004354726	aR	1	650
	630	S2UQ1/110/630A/690B	004354128	407.000	83,5	S2MUQ1/110/630A/690B	004354728	aR	1	650
3	315	S3UQ1/110/315A/690B	004355121	85.600	39,8	S3MUQ1/110/315A/690B	004355721	aR	3	850
	350	S3UQ1/110/350A/690B	004355122	118.000	44,9	S3MUQ1/110/350A/690B	004355722	aR	3	850
	400	S3UQ1/110/400A/690B	004355123	160.000	50,6	S3MUQ1/110/400A/690B	004355723	aR	3	850
	450	S3UQ1/110/450A/690B	004355125	200.000	57,5	S3MUQ1/110/450A/690B	004355725	aR	3	850
	500	S3UQ1/110/500A/690B	004355126	257.000	61,8	S3MUQ1/110/500A/690B	004355726	aR	3	850
	630	S3UQ1/110/630A/690B	004355128	407.000	78,6	S3MUQ1/110/630A/690B	004355728	aR	3	850
	710	S3UQ1/110/710A/690B	004355129	653.000	91,6	S3MUQ1/110/710A/690B	004355729	aR	3	850
	800	S3UQ1/110/800A/690B	004355130	835.000	104	S3MUQ1/110/800A/690B	004355730	aR	3	850
	1000	S3UQ1/110/1000A/690B	004355132	1.060.000	127	S3MUQ1/110/1000A/690B	004355732	aR	3	850
	1250*	S3UQ1/110/1250A/500B	004355133	1.500.000	165,6	S3MUQ1/110/1250A/500B	004355733	aR	3	850

* 500В

S2UQ1/110/630A/690B

S1MUQ1/110/100A/690B

Габариты:



Размер	A	B	D	E	F1	F2	I	J	N
1	140	24	51	51	56	90	11	110	52
2	140	30	60	60	65	99	11	110	52
3	140	37	75	75	80	114	11	110	52

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ1	**G**	**~690В**

Технические данные:

Стандарты:
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 690В

Характеристика:
aR

Способ установки:

Предохранители типа G с резьбовыми контактами крепятся болтами на шину.

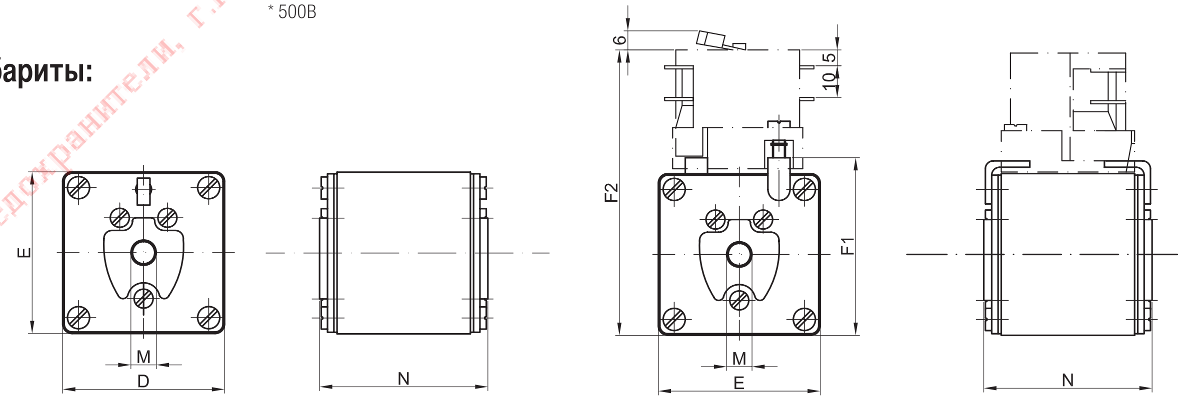
G1UQ1/400A/690B

G3MUQ1/1000A/690B

Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I²t значение (A²s)	Потери мощн. (Вт)	Тип с центр. бойковым индикатором и возможностью подключения сигнального контакта MK	Код №	Хар.	Упак (шт)	Вес (г)
1	32	G1UQ1/32A/690B	004343508	650	7,3	G1MUQ1/32A/690B	004343608	aR	2	500
	35	G1UQ1/35A/690B	004343509	835	7,7	G1MUQ1/35A/690B	004343609	aR	2	500
	40	G1UQ1/40A/690B	004343510	1.030	8,4	G1MUQ1/40A/690B	004343610	aR	2	500
	50	G1UQ1/50A/690B	004343511	1.820	10,6	G1MUQ1/50A/690B	004343611	aR	2	500
	63	G1UQ1/63A/690B	004343512	2.680	13	G1MUQ1/63A/690B	004343612	aR	2	500
	80	G1UQ1/80A/690B	004343513	5.550	15,2	G1MUQ1/80A/690B	004343613	aR	2	500
	100	G1UQ1/100A/690B	004343514	8.350	19,3	G1MUQ1/100A/690B	004343614	aR	2	500
	125	G1UQ1/125A/690B	004343515	11.800	22,3	G1MUQ1/125A/690B	004343615	aR	2	500
	160	G1UQ1/160A/690B	004343516	19.300	27,8	G1MUQ1/160A/690B	004343616	aR	2	500
	200	G1UQ1/200A/690B	004343517	27.800	36	G1MUQ1/200A/690B	004343617	aR	2	500
	250	G1UQ1/250A/690B	004343519	45.000	41,4	G1MUQ1/250A/690B	004343619	aR	2	500
	315	G1UQ1/315A/690B	004343521	85.600	45,6	G1MUQ1/315A/690B	004343621	aR	2	500
	350	G1UQ1/350A/690B	004343522	118.000	48,4	G1MUQ1/350A/690B	004343622	aR	2	500
	400	G1UQ1/400A/690B	004343523	160.000	53,7	G1MUQ1/400A/690B	004343623	aR	2	500
2	160	G2UQ1/160A/690B	004344516	19.300	26,7	G2MUQ1/160A/690B	004344616	aR	2	650
	200	G2UQ1/200A/690B	004344517	27.800	31,3	G2MUQ1/200A/690B	004344617	aR	2	650
	250	G2UQ1/250A/690B	004344519	45.000	39,8	G2MUQ1/250A/690B	004344619	aR	2	650
	315	G2UQ1/315A/690B	004344521	85.600	42,8	G2MUQ1/315A/690B	004344621	aR	2	650
	350	G2UQ1/350A/690B	004344522	118.000	47,5	G2MUQ1/350A/690B	004344622	aR	2	650
	400	G2UQ1/400A/690B	004344523	160.000	52	G2MUQ1/400A/690B	004344623	aR	2	650
	450	G2UQ1/450A/690B	004344525	200.000	59,6	G2MUQ1/450A/690B	004344625	aR	2	650
	500	G2UQ1/500A/690B	004344526	257.000	66,5	G2MUQ1/500A/690B	004344626	aR	2	650
	630	G2UQ1/630A/690B	004344528	407.000	83,5	G2MUQ1/630A/690B	004344628	aR	2	650
3	315	G3UQ1/315A/690B	004345521	85.600	39,8	G3MUQ1/315A/690B	004345621	aR	2	850
	350	G3UQ1/350A/690B	004345522	118.000	44,9	G3MUQ1/350A/690B	004345622	aR	2	850
	400	G3UQ1/400A/690B	004345523	160.000	50,6	G3MUQ1/400A/690B	004345623	aR	2	850
	450	G3UQ1/450A/690B	004345525	200.000	57,5	G3MUQ1/450A/690B	004345625	aR	2	850
	500	G3UQ1/500A/690B	004345526	257.000	61,8	G3MUQ1/500A/690B	004345626	aR	2	850
	630	G3UQ1/630A/690B	004345528	407.000	78,6	G3MUQ1/630A/690B	004345628	aR	2	850
	710	G3UQ1/710A/690B	004345529	653.000	91,6	G3MUQ1/710A/690B	004345629	aR	2	850
	800	G3UQ1/800A/690B	004345530	835.000	104	G3MUQ1/800A/690B	004345630	aR	2	850
	1000	G3UQ1/1000A/690B	004345532	1.060.000	127	G3MUQ1/1000A/690B	004345632	aR	2	850
	1250*	G3UQ1/1250A/500B	004345533	1.500.000	165,6	G3MUQ1/1250A/500B	004345633	aR	2	850

* 500В

Габариты:



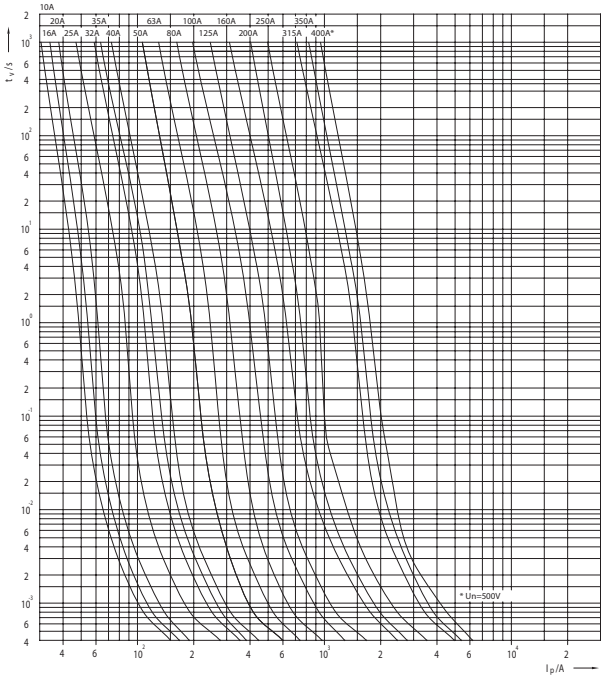
Размер	D	E	F1	F2	M	N
1	51	51	56	90	M8	53
2	60	60	65	99	M10	53
3	75	75	80	114	M12	53

ULTRA QUICK

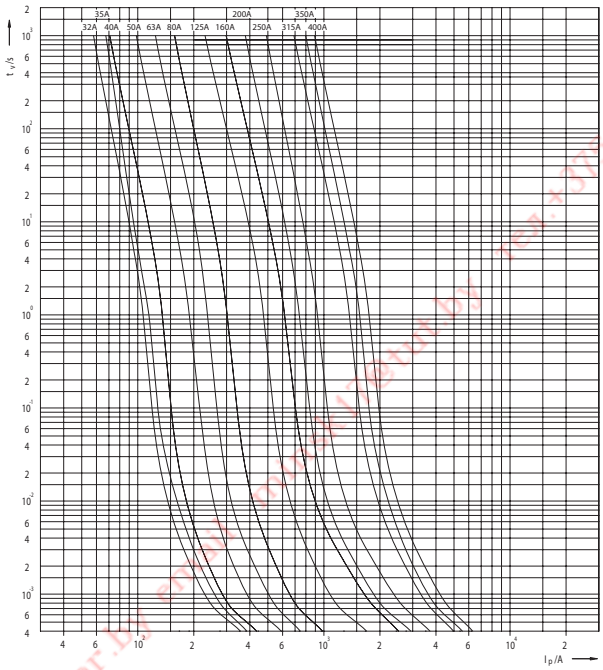
СЕРИЯ
UQ1

НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~690В

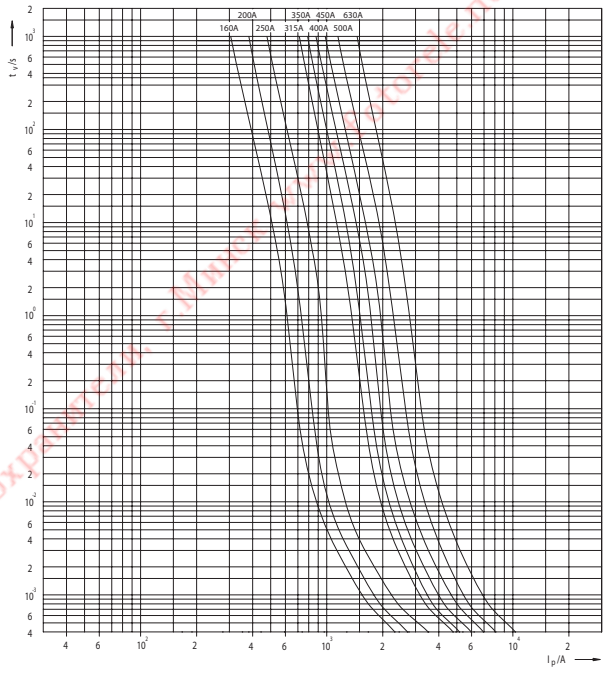
Токовременные характеристики предохранителей Ultra Quick MUQ1, SUQ1 - размеры 00C и 00



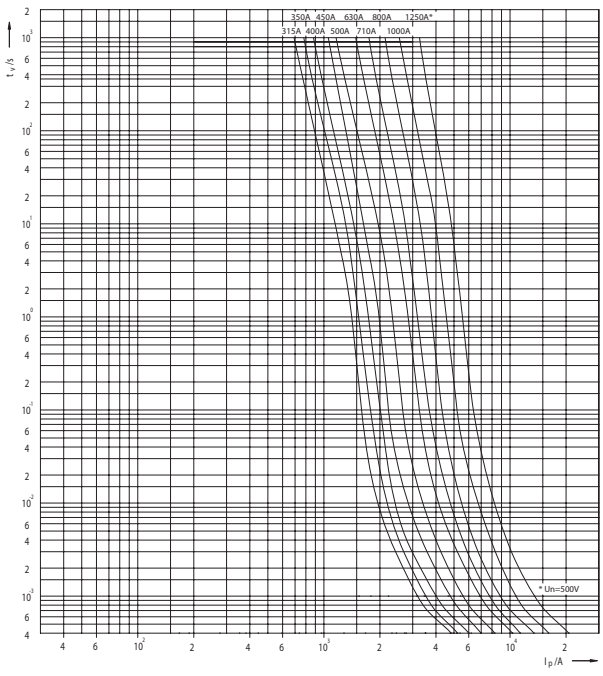
Токовременные характеристики предохранителей Ultra Quick MUQ1, SUQ1, GUQ1 - размеры 1



Токовременные характеристики предохранителей Ultra Quick MUQ1, SUQ1, GUQ1 - размеры 2

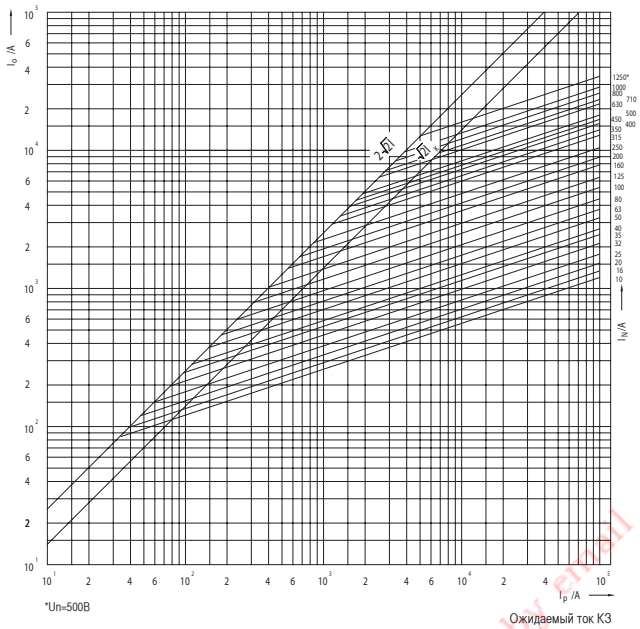


Токовременные характеристики предохранителей Ultra Quick MUQ1, SUQ1, GUQ1 - размеры 3



СЕРИЯ		НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ1		**~690V**

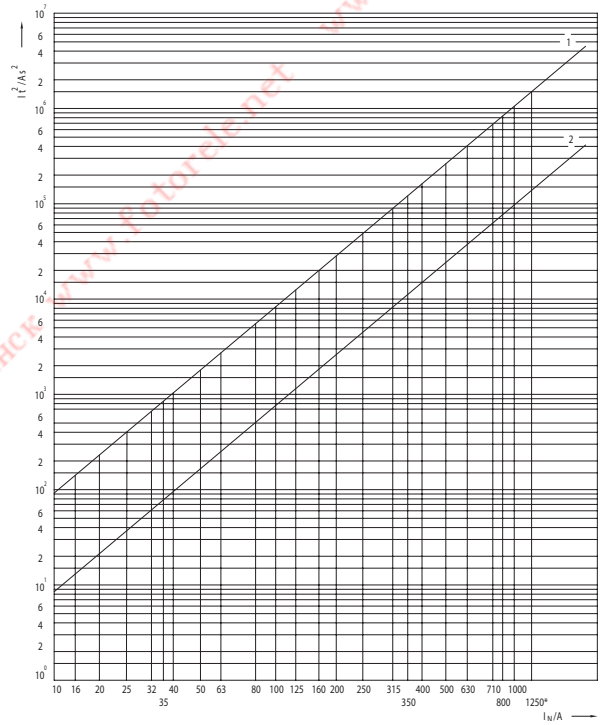
Характеристики предельного тока отключения для предохранителей Ultra Quick MUQ1, SUQ1, GUQ1 - размеры 00C, 00, 1, 2, 3



*Un=500В

Ожидаемый ток КЗ

Интеграл Джоуля (I^2t) для Ultra Quick MUQ1, SUQ1, GUQ1 - размер 00C, 00, 1, 2, 3



*Un=500В
1 - Рабочее значение I^2t при 690В
2 - Значение дуги I^2t

ХАРАКТЕРИСТИКИ

СЕРИЯ
UQ1

НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~690В

Потери мощности, энергия дуги и полная энергия для Ultra Quick

Размер	I_n	Потери мощности	Энергия дуги I^2t (1мс)	Полная энергия I^2t ~230В	Полная энергия I^2t ~400В	Полная энергия I^2t ~500В	Полная энергия I^2t ~690В
	A	Вт	A^2s	A^2s	A^2s	A^2s	A^2s
M00C, S00C, S00	10	5,50	8	32	48	57	80
	16	5,98	13	56	84	100	140
	20	6,99	22	92	138	170	230
	25	7,95	38	160	240	290	400
	32	8,94	61	260	390	480	650
	35	9,89	78	340	500	610	835
	40	11,06	96	415	615	760	1.030
	50	12,03	170	730	1.090	1.340	1.820
	63	14,22	250	1.080	1.600	1.970	2.680
	80	20,22	520	2.230	3.320	4.080	5.550
	100	23,38	780	3.350	5.000	6.140	8.350
	125	27,96	1.100	4.740	7.060	8.680	11.800
	160	34,97	1.800	7.760	11.500	14.200	19.300
	200	39,99	2.600	11.200	16.600	20.400	27.800
	250	49,73	4.200	18.100	27.000	33.100	45.000
	315	59,14	8.000	34.400	51.200	62.900	85.600
	350	65,39	11.000	47.400	70.600	86.800	118.000
	400*	79,97	15.000	64.300	95.700	117.600	160.000
M1, S1, G1	32	7,26	61	260	390	480	650
	35	7,71	78	340	500	610	835
	40	8,42	96	415	615	760	1.030
	50	10,62	170	730	1.090	1.340	1.820
	63	12,97	250	1.080	1.600	1.970	2.680
	80	15,23	520	2.230	3.320	4.080	5.550
	100	19,28	780	3.350	5.000	6.140	8.350
	125	22,28	1.100	4.740	7.060	8.680	11.800
	160	27,76	1.800	7.760	11.500	14.200	19.300
	200	36,02	2.600	11.200	16.600	20.400	27.800
	250	41,44	4.200	18.100	27.000	33.100	45.000
	315	45,62	8.000	34.400	51.200	62.900	85.600
	350	48,44	11.000	47.400	70.600	86.800	118.000
	400	53,76	15.000	64.300	95.700	117.600	160.000
M2, S2, G2	160	26,67	1.800	7.760	11.500	14.200	19.300
	200	31,31	2.600	11.200	16.600	20.400	27.800
	250	39,81	4.200	18.100	27.000	33.100	45.000
	315	42,79	8.000	34.400	51.200	62.900	85.600
	350	47,48	11.000	47.400	70.600	86.800	118.000
	400	80,23	15.000	64.300	95.700	117.600	160.000
	450	59,66	20.000	80.300	119.600	147.000	200.000
	500	66,47	24.000	103.300	153.700	189.000	257.000
	630	83,51	38.000	163.600	243.400	299.300	407.000
M3, S3, G3	315	39,81	8.000	34.400	51.200	62.900	85.600
	350	44,89	11.000	47.400	70.600	86.800	118.000
	400	50,62	15.000	64.300	95.700	117.600	160.000
	450	57,54	20.000	80.300	119.600	147.000	200.000
	500	61,84	24.000	103.300	153.700	189.000	257.000
	630	78,64	38.000	163.600	243.400	299.300	407.000
	710	91,57	61.000	262.000	390.000	480.000	653.000
	800	104,09	78.000	336.000	500.000	614.000	835.000
	1000	127,16	99.000	426.000	634.000	779.000	1.060.000
	1250*	165,63	140.000	603.000	897.000	1.100.000	1.500.000

*Un=500В

ГРУППА **NV/NH**

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ1	**M**	**~1000В**

Технические данные:

Стандарты:
DIN 43620
VDE 0636-201

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 1000В

Характеристика:
aR

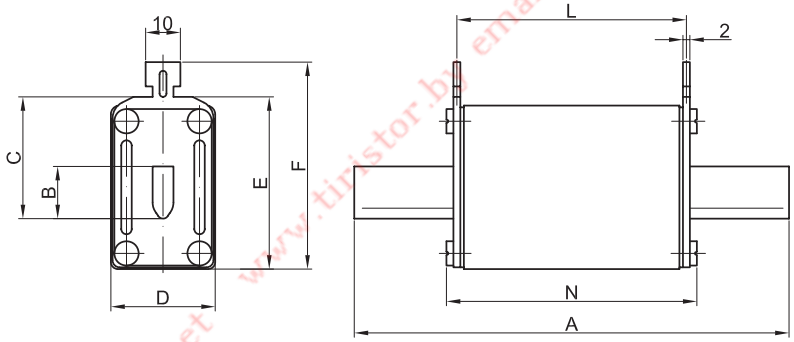
Способ установки:

Предохранители типа M устанавливаются в держателях (например PK).

M0UQ1/100A/1000B

Размер	In (A)	Тип с визуальным индикатором и возможностью подключения сигнального контакта NVS 5)	Код №	Рабочее I^2t значение (A^2s)	Потери мощн. (Вт)	Характ.	Упаковка (шт)	Вес (г)
0	32	M0UQ1/32A/1000B	004362208	480	12,5	aR	3	250
	40	M0UQ1/40A/1000B	004362210	840	14,4	aR	3	250
	50	M0UQ1/50A/1000B	004362211	1.300	19,3	aR	3	250
	63	M0UQ1/63A/1000B	004362212	2.320	22,3	aR	3	250
	80	M0UQ1/80A/1000B	004362213	3.900	28,8	aR	3	250
	100	M0UQ1/100A/1000B	004362214	8.000	31,5	aR	3	250
	125	M0UQ1/125A/1000B	004362215	18.300	34,3	aR	3	250
	160	M0UQ1/160A/1000B	004362216	35.300	40,5	aR	3	250

Габариты:



Размер	A	B	C	D	E	F	L	N
0	125	15	35	30	50	59.5	66	72

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ1	**S110mm**	**~1000В**

Технические данные:

Стандарты:
DIN 43653
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 1000В

Характеристика:
aR

Способ установки:

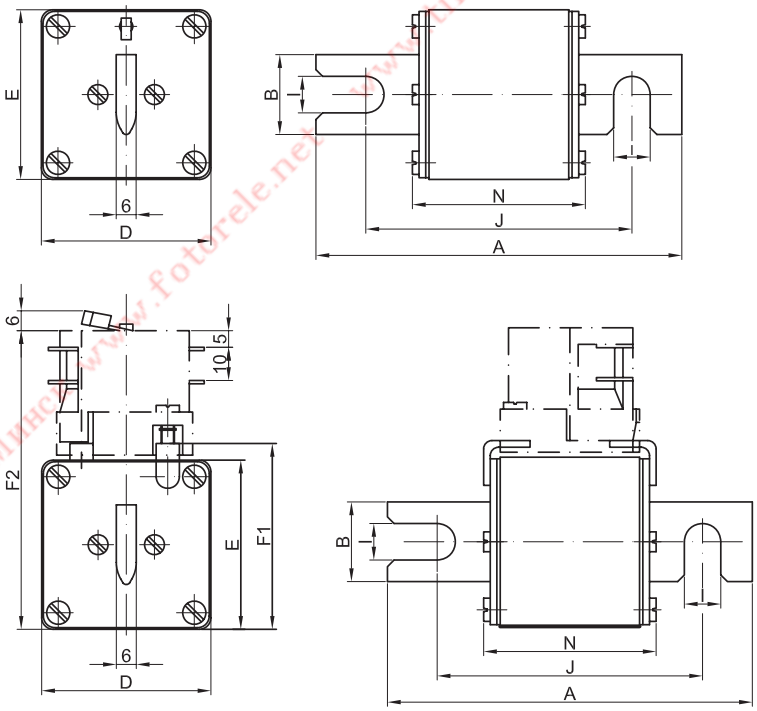
Предохранители типа S 110мм размеров 1, 2, 3 устанавливаются в универсальных держателях US1..3-1/80-110 и монтируются болтами на шину.

Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I²t-значение (A²s)	Потери мощн. (Вт)	Тип с центр. бойковым индикатором и возможностью подключения сигнального контакта МК	Код №	Хар.	Упак. (шт)	Вес (г)
1	100	S1UQ1/110/100A/1000B	004363114	6.600	26,7	S1MUQ1/110/100A/1000B	004363714	aR	1	500
	125	S1UQ1/110/125A/1000B	004363115	12.600	32,6	S1MUQ1/110/125A/1000B	004363715	aR	1	500
	160	S1UQ1/110/160A/1000B	004363116	21.100	37,5	S1MUQ1/110/160A/1000B	004363716	aR	1	500
	200	S1UQ1/110/200A/1000B	004363117	34.500	46,7	S1MUQ1/110/200A/1000B	004363717	aR	1	500
	250	S1UQ1/110/250A/1000B	004363119	55.700	57,1	S1MUQ1/110/250A/1000B	004363719	aR	1	500
	315	S1UQ1/110/315A/1000B	004363121	106.000	63,1	S1MUQ1/110/315A/1000B	004363721	aR	1	500
2	315	S2UQ1/110/315A/1000B	004364121	106.000	67	S2MUQ1/110/315A/1000B	004364721	aR	1	650
	350	S2UQ1/110/350A/1000B	004364122	132.000	74,9	S2MUQ1/110/350A/1000B	004364722	aR	1	650
	400	S2UQ1/110/400A/1000B	004364123	193.000	84,9	S2MUQ1/110/400A/1000B	004364723	aR	1	650
	450	S2UQ1/110/450A/1000B	004364125	262.000	89,8	S2MUQ1/110/450A/1000B	004364725	aR	1	650
	500	S2UQ1/110/500A/1000B	004364126	345.000	96,1	S2MUQ1/110/500A/1000B	004364726	aR	1	650
3	500	S3UQ1/110/500A/1000B	004365126	345.000	108	S3MUQ1/110/500A/1000B	004365726	aR	3	850
	630	S3UQ1/110/630A/1000B	004365128	497.000	117	S3MUQ1/110/630A/1000B	004365728	aR	3	850
	710	S3UQ1/110/710A/1000B	004365129	795.000	136	S3MUQ1/110/710A/1000B	004365729	aR	3	850
	800	S3UQ1/110/800A/1000B	004365130	928.000	150	S3MUQ1/110/800A/1000B	004365730	aR	3	850

S1UQ1/110/100A/1000B

S3MUQ1/110/800A/1000B

Габариты:



Размер	A	B	D	E	F1	F2	I	J	N
1	140	24	51	51	56	90	11	110	74
2	140	30	60	60	65	99	11	110	74
3	140	37	75	75	80	114	11	110	74

ГРУППА **NV/NH**

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ1	**G**	**~1000В**

Технические данные:

Стандарты:
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 1000В

Характеристика:
aR

Способ установки:

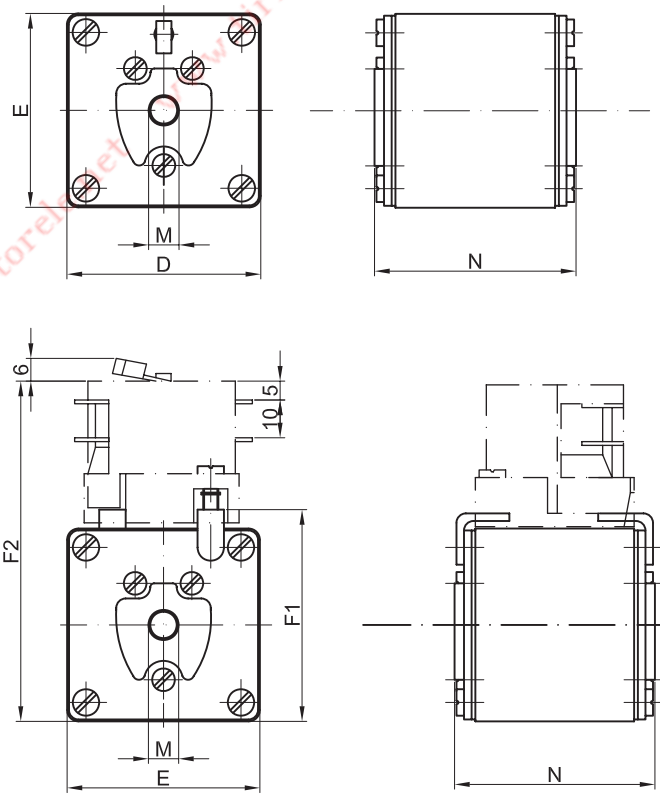
Предохранители типа G с резьбовыми контактами монтируются специальными болтами на шину.

G1UQ1/100A/1000B

G1MUQ1/100A/1000B

Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Тип с центр. бойковым индикатором и возможностью подключения сигнального контакта MK	Код №	Хар.	Упак. (шт)	Вес (г)
1	100	G1UQ1/100A/1000B	004363514	6.600	26,7	G1MUQ1/100A/1000B	004363614	aR	1	500
	125	G1UQ1/125A/1000B	004363515	12.600	32,6	G1MUQ1/125A/1000B	004363615	aR	1	500
	160	G1UQ1/160A/1000B	004363516	21.100	37,5	G1MUQ1/160A/1000B	004363616	aR	1	500
	200	G1UQ1/200A/1000B	004363517	34.500	46,7	G1MUQ1/200A/1000B	004363617	aR	1	500
	250	G1UQ1/250A/1000B	004363519	55.700	57,1	G1MUQ1/250A/1000B	004363619	aR	1	500
	315	G1UQ1/315A/1000B	004363521	106.000	63,1	G1MUQ1/315A/1000B	004363621	aR	1	500
2	315	G2UQ1/315A/1000B	004364521	106.000	67	G2MUQ1/315A/1000B	004364621	aR	2	650
	350	G2UQ1/350A/1000B	004364522	132.000	74,9	G2MUQ1/350A/1000B	004364622	aR	2	650
	400	G2UQ1/400A/1000B	004364523	193.000	84,9	G2MUQ1/400A/1000B	004364623	aR	2	650
	450	G2UQ1/450A/1000B	004364525	262.000	89,8	G2MUQ1/450A/1000B	004364625	aR	2	650
	500	G2UQ1/500A/1000B	004364526	345.000	96,1	G2MUQ1/500A/1000B	004364626	aR	2	650
3	500	G3UQ1/500A/1000B	004365526	345.000	108	G3MUQ1/500A/1000B	004365626	aR	2	850
	630	G3UQ1/630A/1000B	004365528	497.000	117	G3MUQ1/630A/1000B	004365628	aR	2	850
	710	G3UQ1/710A/1000B	004365529	795.000	136	G3MUQ1/710A/1000B	004365629	aR	2	850
	800	G3UQ1/800A/1000B	004365530	928.000	150	G3MUQ1/800A/1000B	004365630	aR	2	850

Габариты:

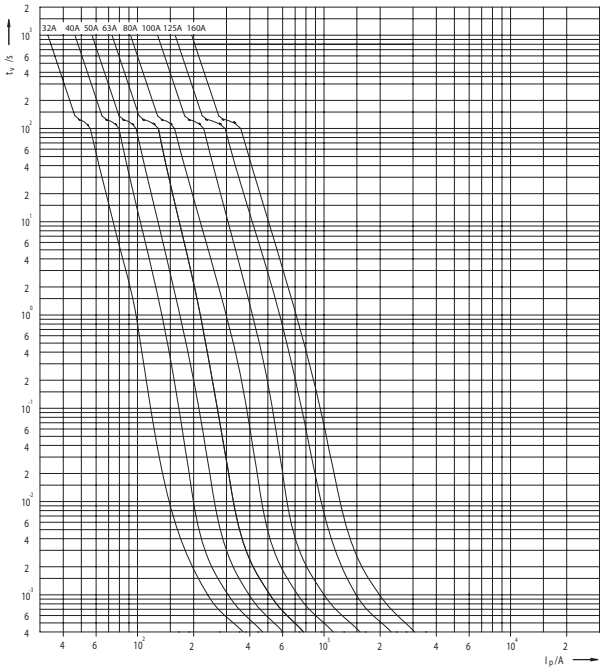


Размер	D	E	F1	F2	M	N
1	51	51	56	90	M8	75
2	60	60	65	99	M10	75
3	75	75	80	114	M12	75

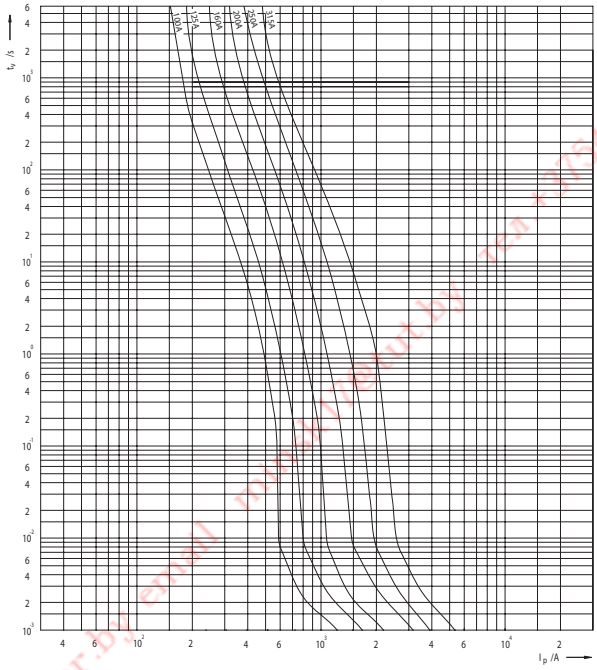
СЕРИЯ
UQ1

НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~1000В

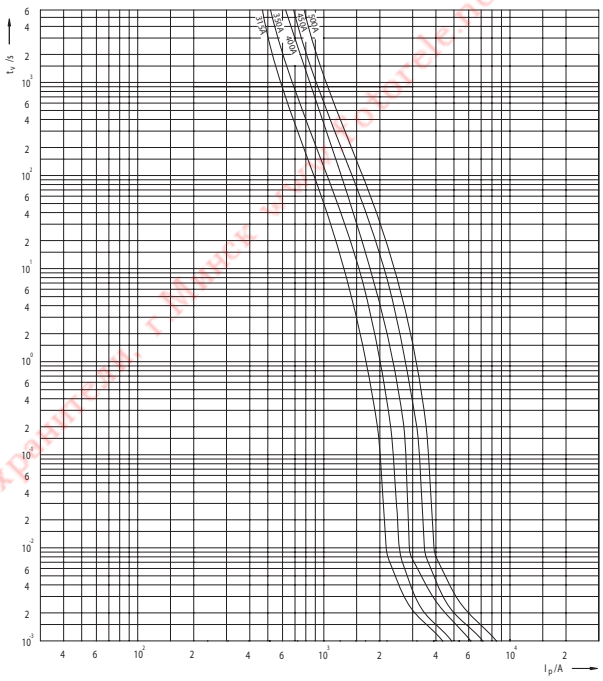
Токовременные характеристики предохранителей Ultra Quick MUQ1 - размеры 0



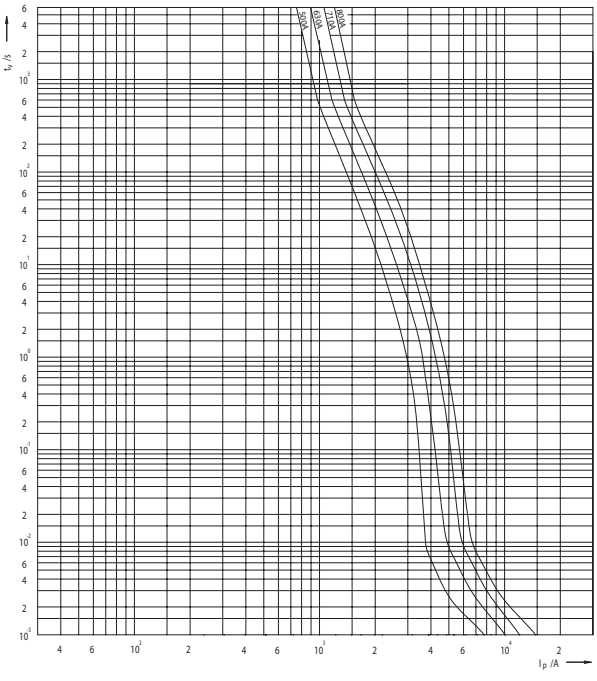
Токовременные характеристики предохранителей Ultra Quick SUQ1, GUQ1 - размеры 1



Токовременные характеристики предохранителей Ultra Quick SUQ1, GUQ1 - размеры 2



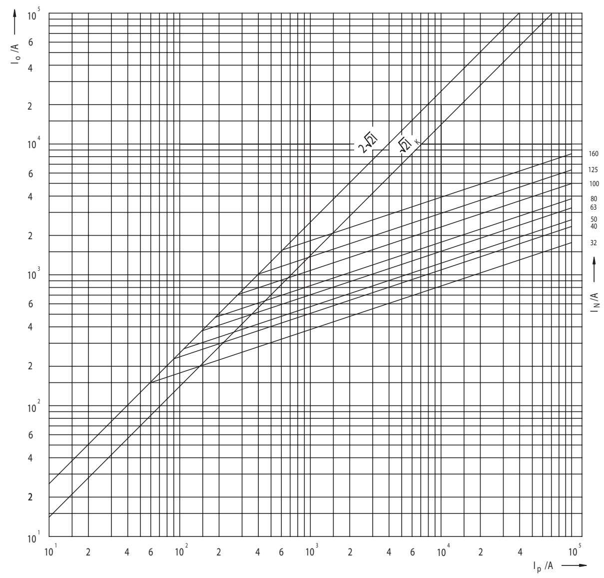
Токовременные характеристики предохранителей Ultra Quick SUQ1, GUQ1 - размеры 3



СЕРИЯ
UQ1

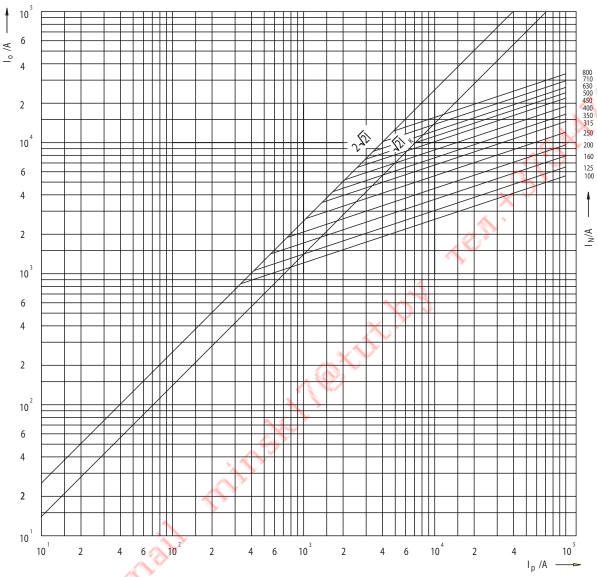
НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~1000В

Характеристики предельного тока отключения для предохранителей Ultra Quick MUQ1 - размеры 0



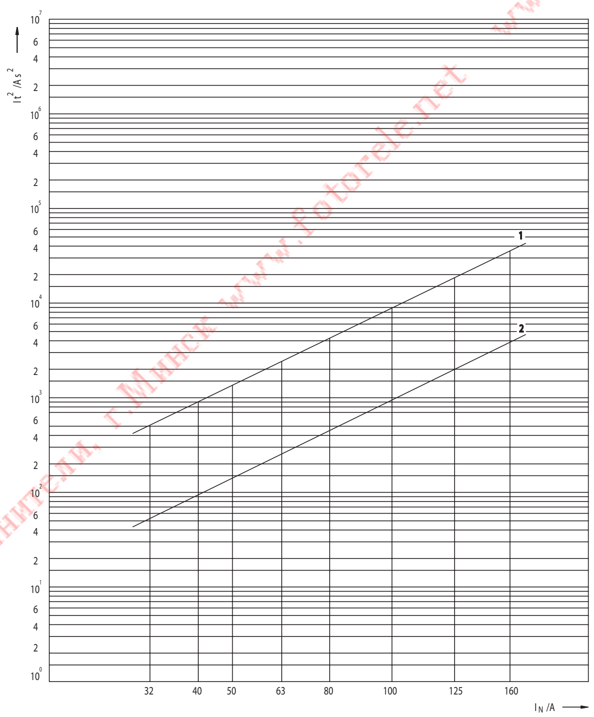
Ожидаемый ток КЗ

Характеристики предельного тока отключения для предохранителей Ultra Quick SUQ1, GUQ1 - размеры 1, 2, 3



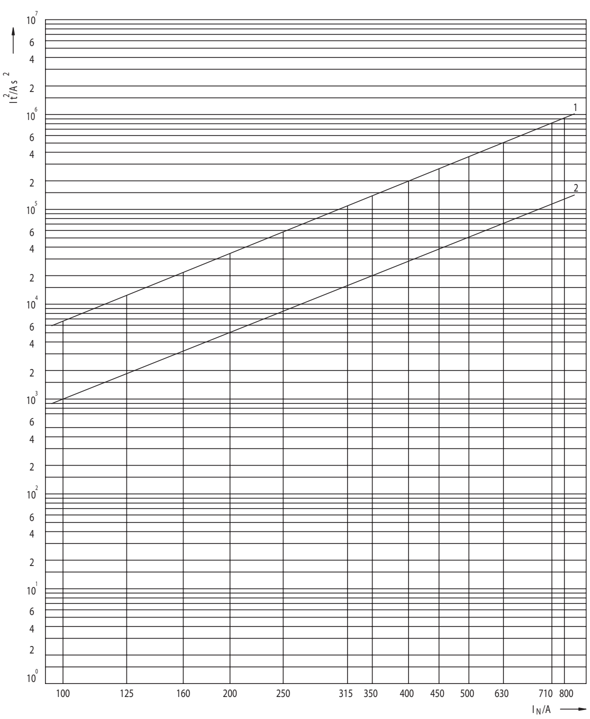
Ожидаемый ток КЗ

Интеграл Джоуля (I²t) для Ultra Quick MUQ1 - размер 0



1 - Рабочее значение I²t при 1000В
2 - Значение дуги I²t

Интеграл Джоуля (I²t) для Ultra Quick SUQ1, GUQ1 - размер 1, 2, 3



1 - Рабочее значение I²t при 1000В
2 - Значение дуги I²t

ULTRA QUICK

ХАРАКТЕРИСТИКИ

ГРУППА **NV-NH**

СЕРИЯ		НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ1		**~1000В**

Потери мощности, энергия дуги и полная энергия для Ultra Quick

Размер	I_N	Потери мощности	Энергия дуги I^2t (1мс)	Полная энергия I^2t ~230В	Полная энергия I^2t ~400В	Полная энергия I^2t ~500В	Полная энергия I^2t ~690В	Полная энергия I^2t ~1000В
	A	Вт	A^2s	A^2s	A^2s	A^2s	A^2s	A^2s
M0	32	12,5	51	140	210	255	350	480
	40	14,4	90	250	370	450	610	840
	50	19,3	140	380	570	700	950	1.300
	63	22,3	250	680	1.000	1.250	1.700	2.320
	80	28,8	420	1.150	1.700	2.100	2.850	3.900
	100	31,5	860	2.350	3.500	4.300	5.850	8.000
	125	34,3	1.970	5.380	8.000	9.800	13.400	18.300
	160	40,5	3.800	10.380	15.400	18.900	25.800	35.300
S1, G1	100	26,7	1.000	1.940	2.880	3.540	4.820	6.600
	125	32,6	1.900	3.700	5.500	6.800	9.200	12.600
	160	37,5	3.200	6.200	9.200	11.300	15.400	21.100
	200	46,7	5.200	10.100	15.000	18.500	25.200	34.500
	250	57,1	8.400	16.400	24.300	29.900	40.700	55.700
	315	63,1	16.000	31.200	46.200	56.900	77.400	106.000
S2, G2	315	67,0	16.000	31.200	46.200	56.900	77.400	106.000
	350	74,9	20.000	38.800	57.500	70.800	96.400	132.000
	400	84,9	29.100	56.700	84.100	103.500	141.000	193.000
	450	89,8	39.500	77.000	114.100	140.500	191.300	262.000
	500	96,1	52.000	101.400	150.300	185.000	252.000	345.000
S3, G3	500	108	52.000	101.400	150.300	185.000	252.000	345.000
	630	117	75.000	146.000	216.000	266.000	363.000	497.000
	710	136	120.000	233.000	346.000	426.000	581.000	795.000
	800	150	140.000	273.000	404.000	498.000	678.000	928.000

ГРУППА **NV/NH**

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ01	**M**	**~690В**

Технические данные:

Стандарты:
DIN 43620
VDE 0636-201

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 690В

Характеристика:
aR

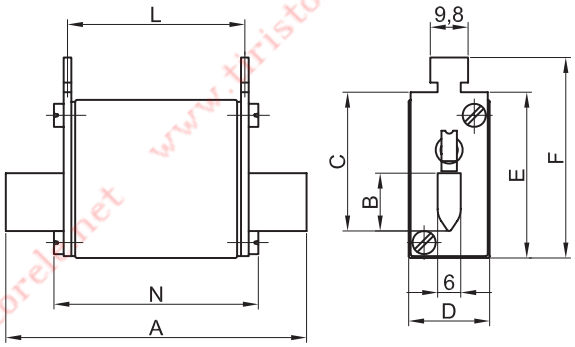
Способ установки:

Предохранители типа M устанавливаются в держателях (например PK).

M00UQ01/160A/690B

Размер	In (A)	Тип с визуальным индикатором и возможностью подключения сигнального контакта NVS 5	Код №	Рабочее I^2t-значение (A^2s)	Потери мощности (Вт)	Хар.	Упаковка (шт)	Вес (г)
00	10	M00UQ01/10A/690B	004371204	23	3	aR	3	140
	16	M00UQ01/16A/690B	004371205	46	4	aR	3	140
	20	M00UQ01/20A/690B	004371206	95	5	aR	3	140
	25	M00UQ01/25A/690B	004371207	165	6	aR	3	140
	32	M00UQ01/32A/690B	004371208	290	7	aR	3	140
	35	M00UQ01/35A/690B	004371209	400	8	aR	3	140
	40	M00UQ01/40A/690B	004371210	640	9	aR	3	140
	50	M00UQ01/50A/690B	004371211	1.000	10	aR	3	140
	63	M00UQ01/63A/690B	004371212	1.800	12,3	aR	3	140
	80	M00UQ01/80A/690B	004371213	2.800	16,3	aR	3	140
	100	M00UQ01/100A/690B	004371214	4.600	20	aR	3	140
	125	M00UQ01/125A/690B	004371215	8.000	26,9	aR	3	140
	160	M00UQ01/160A/690B	004371216	16.500	31,6	aR	3	140

Габариты:



Размер	A	B	C	D	E	F	L	N
00	78	15	35	30	42	51	48	52

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ01	**S80mm**	**~690В**

Технические данные:

Стандарты:
DIN 43653
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 690В

Характеристика:
aR

Способ установки:

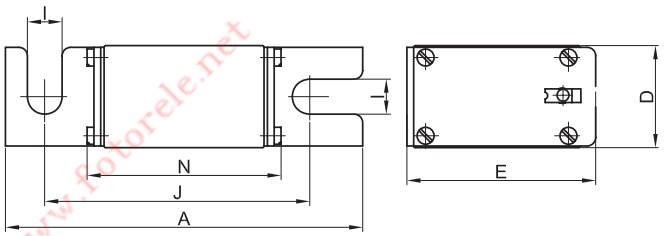
Предохранители типа S размера 00C и 00 устанавливаются в держателях US00-1/80 и монтируются болтами на шину

Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Характ.	Упаковка (шт)	Вес (г)
00C	10	S00CUQ01/80/10A/690B	004371104	23	3	aR	3	150
	16	S00CUQ01/80/16A/690B	004371105	46	4	aR	3	150
	20	S00CUQ01/80/20A/690B	004371106	95	5	aR	3	150
	25	S00CUQ01/80/25A/690B	004371107	165	6	aR	3	150
	32	S00CUQ01/80/32A/690B	004371108	290	7	aR	3	150
	35	S00CUQ01/80/35A/690B	004371109	400	8	aR	3	150
	40	S00CUQ01/80/40A/690B	004371110	640	9	aR	3	150
	50	S00CUQ01/80/50A/690B	004371111	1.000	10	aR	3	150
	63	S00CUQ01/80/63A/690B	004371112	1.800	12,3	aR	3	150
	80	S00CUQ01/80/80A/690B	004371113	2.800	16,3	aR	3	150
	100	S00CUQ01/80/100A/690B	004371114	4.600	20	aR	3	150
	125	S00CUQ01/80/125A/690B	004371115	8.000	26,9	aR	3	150
	160	S00CUQ01/80/160A/690B	004371116	16.500	31,6	aR	3	150
	200	S00CUQ01/80/200A/690B	004371117	23.000	38,7	aR	3	150
	250	S00CUQ01/80/250A/690B	004371119	46.000	43,8	aR	3	150
	315	S00CUQ01/80/315A/690B	004371121	80.000	54	aR	3	150
00	350	S00UQ01/80/350A/690B	004371122	100.000	60	aR	3	150
	400*	S00UQ01/80/400A/500B	004371123	120.000	70	aR	3	150

*500В

S00UQ01/80/350A/690B

Габариты:



Размер	A	D	E	I	J	N
00C	101	21	40	8.5	78	54
00	105	30	51	10.3	78	56

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ01	**S80mm**	**~690В**

Технические данные:

Стандарты:
DIN 43653
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 690В

Характеристика:
aR

Способ установки:

Предохранители типа S 80мм размера 1, 2, устанавливаются в универсальных держателях US1..3-1/80-110 и монтируются болтами на шину.

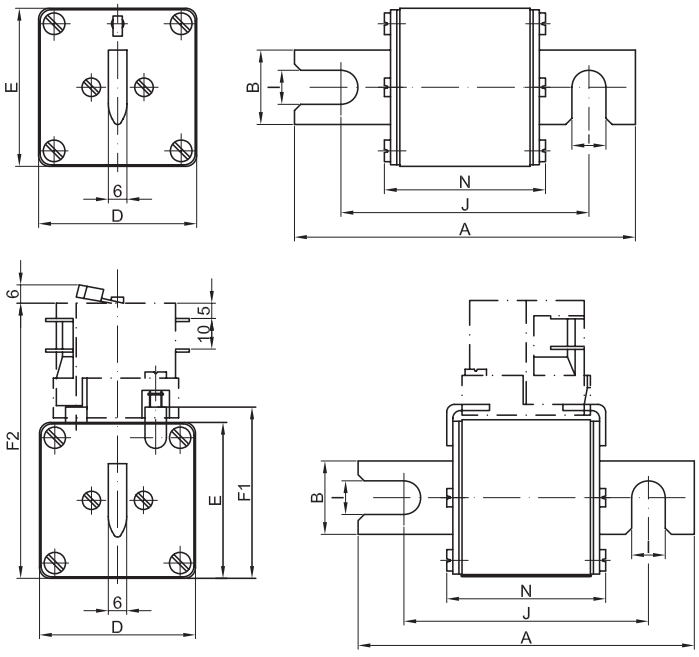
S1UQ01/80/350A/690B

S1MUQ01/80/350A/690B

Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Тип с центр. бойковым индикатором и возможностью подключения сигнального контакта МК	Код №	Хар.	Упак (шт)	Вес (г)
1	80	S1UQ01/80/80A/690B	004383113	2.300	15,6	S1MUQ01/80/80A/690B	004383713	aR	1	500
	100	S1UQ01/80/100A/690B	004383114	4.600	20	S1MUQ01/80/100A/690B	004383714	aR	1	500
	125	S1UQ01/80/125A/690B	004383115	6.600	25	S1MUQ01/80/125A/690B	004383715	aR	1	500
	160	S1UQ01/80/160A/690B	004383116	10.000	32,2	S1MUQ01/80/160A/690B	004383716	aR	1	500
	200	S1UQ01/80/200A/690B	004383117	18.000	39,4	S1MUQ01/80/200A/690B	004383717	aR	1	500
	250	S1UQ01/80/250A/690B	004383119	32.000	49,4	S1MUQ01/80/250A/690B	004383719	aR	1	500
	315	S1UQ01/80/315A/690B	004383121	58.000	60	S1MUQ01/80/315A/690B	004383721	aR	1	500
	350	S1UQ01/80/350A/690B	004383122	78.000	63	S1MUQ01/80/350A/690B	004383722	aR	1	500
	400	S1UQ01/80/400A/690B	004383123	110.000	66	S1MUQ01/80/400A/690B	004383723	aR	1	500
	450	S1UQ01/80/450A/690B	004383125	155.000	72	S1MUQ01/80/450A/690B	004383725	aR	1	500
	500	S1UQ01/80/500A/690B	004383126	200.000	73	S1MUQ01/80/500A/690B	004383726	aR	1	500
	630	S1UQ01/80/630A/690B	004383128	330.000	86	S1MUQ01/80/630A/690B	004383728	aR	1	500
2	400	S2UQ01/80/400A/690B	004384123	85.000	70	S2MUQ01/80/400A/690B	004384723	aR	1	650
	450	S2UQ01/80/450A/690B	004384125	125.000	76	S2MUQ01/80/450A/690B	004384725	aR	1	650
	500	S2UQ01/80/500A/690B	004384126	165.000	80	S2MUQ01/80/500A/690B	004384726	aR	1	650
	630	S2UQ01/80/630A/690B	004384128	310.000	85	S2MUQ01/80/630A/690B	004384728	aR	1	650
	710	S2UQ01/80/710A/690B	004384129	460.000	91	S2MUQ01/80/710A/690B	004384729	aR	1	650
	800	S2UQ01/80/800A/690B	004384130	720.000	95	S2MUQ01/80/800A/690B	004384730	aR	1	650
3	630	S3UQ01/80/630A/690B	004385128	260.000	102	S3MUQ01/80/630A/690B	004385728	aR	1	850
	710	S3UQ01/80/710A/690B	004385129	330.000	109	S3MUQ01/80/710A/690B	004385729	aR	1	850
	800	S3UQ01/80/800A/690B	004385130	500.000	117	S3MUQ01/80/800A/690B	004385730	aR	1	850
	1000	S3UQ01/80/1000A/690B	004385132	1.000.000	131	S3MUQ01/80/1000A/690B	004385732	aR	1	850
	1250*	S3UQ01/80/1250A/500B	004385133	2.300.000	152	S3MUQ01/80/1250A/500B	004385733	aR	1	850

* 500В

Габариты:



Размер	A	B	D	E	F1	F2	I	J	N
1	110	24	51	51	56	90	11	80	52
2	110	30	60	60	65	99	11	80	52
3	110	37	75	75	80	114	11	80	52

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ01	**S110mm**	**~690В**

Технические данные:			Способ установки:
Стандарты: **DIN 43653** **IEC 60269-4-1**	Отключающая способность: **~ 200кА** Номинальное напряжение: **~ 690В**	Характеристика: **aR**	Предохранители типа S 110мм размеров 1, 2, 3 устанавливаются в универсальных держателях US1..3-1/80-110 и монтируются болтами на шину.

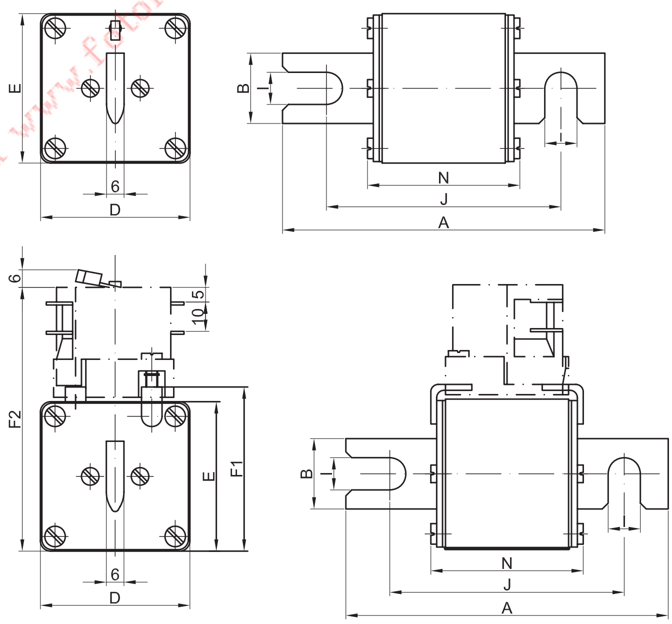
Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Тип с центр. бойковым индикатором и возможностью подключения сигнального контакта МК	Код №	Хар.	Упак (шт)	Вес (г)
1	80	S1UQ01/110/80A/690B	004393113	2.300	15,6	S1MUQ01/110/80A/690B	004393713	aR	1	500
	100	S1UQ01/110/100A/690B	004393114	4.600	20	S1MUQ01/110/100A/690B	004393714	aR	1	500
	125	S1UQ01/110/125A/690B	004393115	6.600	25	S1MUQ01/110/125A/690B	004393715	aR	1	500
	160	S1UQ01/110/160A/690B	004393116	10.000	32,2	S1MUQ01/110/160A/690B	004393716	aR	1	500
	200	S1UQ01/110/200A/690B	004393117	18.000	39,4	S1MUQ01/110/200A/690B	004393717	aR	1	500
	250	S1UQ01/110/250A/690B	004393119	32.000	49,4	S1MUQ01/110/250A/690B	004393719	aR	1	500
	315	S1UQ01/110/315A/690B	004393121	58.000	60	S1MUQ01/110/315A/690B	004393721	aR	1	500
	350	S1UQ01/110/350A/690B	004393122	78.000	63	S1MUQ01/110/350A/690B	004393722	aR	1	500
	400	S1UQ01/110/400A/690B	004393123	110.000	66	S1MUQ01/110/400A/690B	004393723	aR	1	500
	450	S1UQ01/110/450A/690B	004393125	155.000	72	S1MUQ01/110/450A/690B	004393725	aR	1	500
	500	S1UQ01/110/500A/690B	004393126	200.000	73	S1MUQ01/110/500A/690B	004393726	aR	1	500
	630	S1UQ01/110/630A/690B	004393128	330.000	86	S1MUQ01/110/630A/690B	004393728	aR	1	500
2	400	S2UQ01/110/400A/690B	004394123	85.000	70	S2MUQ01/110/400A/690B	004394723	aR	1	650
	450	S2UQ01/110/450A/690B	004394125	125.000	76	S2MUQ01/110/450A/690B	004394725	aR	1	650
	500	S2UQ01/110/500A/690B	004394126	165.000	80	S2MUQ01/110/500A/690B	004394726	aR	1	650
	630	S2UQ01/110/630A/690B	004394128	310.000	85	S2MUQ01/110/630A/690B	004394728	aR	1	650
	710	S2UQ01/110/710A/690B	004394129	460.000	91	S2MUQ01/110/710A/690B	004394729	aR	1	650
	800	S2UQ01/110/800A/690B	004394130	720.000	95	S2MUQ01/110/800A/690B	004394730	aR	1	650
3	630	S3UQ01/110/630A/690B	004395128	260.000	102	S3MUQ01/110/630A/690B	004395728	aR	3	850
	710	S3UQ01/110/710A/690B	004395129	330.000	109	S3MUQ01/110/710A/690B	004395729	aR	3	850
	800	S3UQ01/110/800A/690B	004395130	500.000	117	S3MUQ01/110/800A/690B	004395730	aR	3	850
	1000	S3UQ01/110/1000A/690B	004395132	1.000.000	131	S3MUQ01/110/1000A/690B	004395732	aR	3	850
	1250*	S3UQ01/110/1250A/500B	004395133	2.300.000	152	S3MUQ01/110/1250A/500B	004395733	aR	3	850

* 500В

S1UQ01/110/450A/690B

S1MUQ01/110/450A/690B

Габариты:



Размер	A	B	D	E	F1	F2	I	J	N
1	140	24	51	51	56	90	11	110	52
2	140	30	60	60	65	99	11	110	52
3	140	37	75	75	80	114	11	110	52

ULTRA QUICK

ГРУППА **NV/NH**

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ01	**G**	**~690В**

Технические данные:

Стандарты:
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 690В

Характеристика:
aR

Способ установки:

Предохранители типа G с резьбовыми контактами устанавливаются специальными болтами на шину

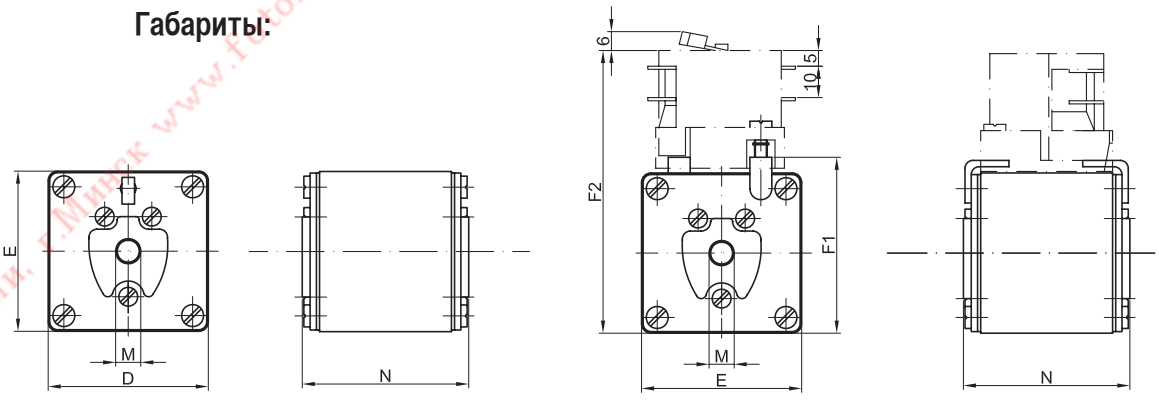
G1UQ01/630A/690B

G2MUQ01/630A/690B

Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Тип с центр. бойковым индикатором и возможностью подключения сигнального контакта МК	Код №	Хар.	Упак. (шт)	Вес (г)
1	80	G1UQ01/80A/690B	004373513	2.300	15,6	G1MUQ01/80A/690B	004373613	aR	2	500
	100	G1UQ01/100A/690B	004373514	4.600	20	G1MUQ01/100A/690B	004373614	aR	2	500
	125	G1UQ01/125A/690B	004373515	6.600	25	G1MUQ01/125A/690B	004373615	aR	2	500
	160	G1UQ01/160A/690B	004373516	10.000	32,2	G1MUQ01/160A/690B	004373616	aR	2	500
	200	G1UQ01/200A/690B	004373517	18.000	39,4	G1MUQ01/200A/690B	004373617	aR	2	500
	250	G1UQ01/250A/690B	004373519	32.000	49,4	G1MUQ01/250A/690B	004373619	aR	2	500
	315	G1UQ01/315A/690B	004373521	58.000	60	G1MUQ01/315A/690B	004373621	aR	2	500
	350	G1UQ01/350A/690B	004373522	78.000	63	G1MUQ01/350A/690B	004373622	aR	2	500
	400	G1UQ01/400A/690B	004373523	110.000	66	G1MUQ01/400A/690B	004373623	aR	2	500
	450	G1UQ01/450A/690B	004373525	155.000	72	G1MUQ01/450A/690B	004373625	aR	2	500
	500	G1UQ01/500A/690B	004373526	200.000	73	G1MUQ01/500A/690B	004373626	aR	2	500
	630	G1UQ01/630A/690B	004373528	330.000	86	G1MUQ01/630A/690B	004373628	aR	2	500
2	400	G2UQ01/400A/690B	004374523	85.000	70	G2MUQ01/400A/690B	004374623	aR	2	650
	450	G2UQ01/450A/690B	004374525	125.000	76	G2MUQ01/450A/690B	004374625	aR	2	650
	500	G2UQ01/500A/690B	004374526	165.000	80	G2MUQ01/500A/690B	004374626	aR	2	650
	630	G2UQ01/630A/690B	004374528	310.000	85	G2MUQ01/630A/690B	004374628	aR	2	650
	710	G2UQ01/710A/690B	004374529	460.000	91	G2MUQ01/710A/690B	004374629	aR	2	650
	800	G2UQ01/800A/690B	004374530	720.000	95	G2MUQ01/800A/690B	004374630	aR	2	650
3	630	G3UQ01/630A/690B	004375528	260.000	102	G3MUQ01/630A/690B	004375628	aR	2	850
	710	G3UQ01/710A/690B	004375529	330.000	109	G3MUQ01/710A/690B	004375629	aR	2	850
	800	G3UQ01/800A/690B	004375530	500.000	117	G3MUQ01/800A/690B	004375630	aR	2	850
	1000	G3UQ01/1000A/690B	004375532	1.000.000	131	G3MUQ01/1000A/690B	004375632	aR	2	850
	1250*	G3UQ01/1250A/500B	004375533	2.300.000	152	G3MUQ01/1250A/500B	004375633	aR	2	850

* 500В

Габариты:



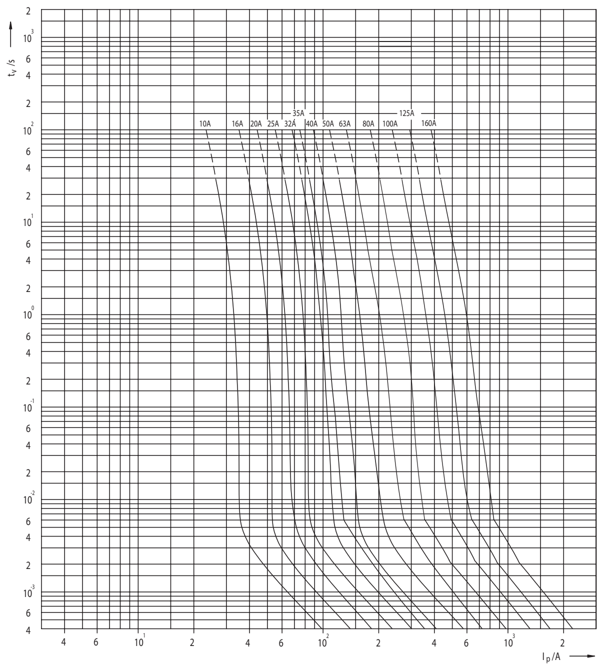
Размер	D	E	F1	F2	M	N
1	51	51	56	90	M8	53
2	60	60	65	99	M10	53
3	75	75	80	114	M12	53

ХАРАКТЕРИСТИКИ

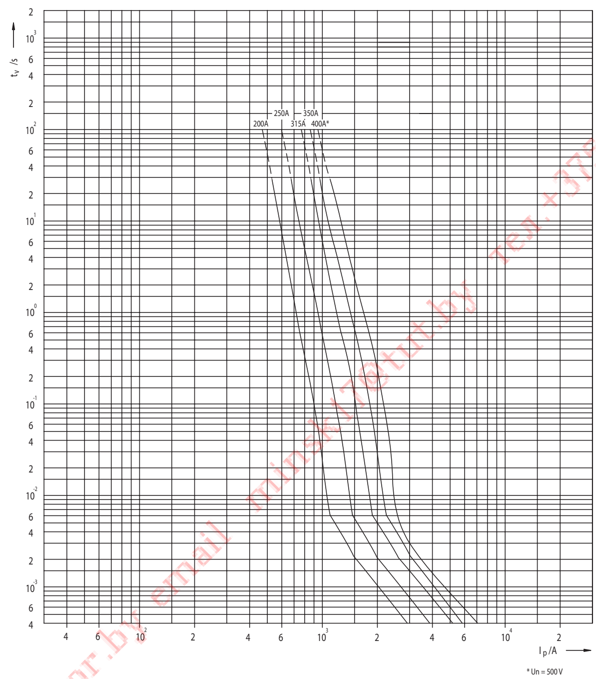
ГРУППА **NV-NH**

СЕРИЯ		НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ01		**~690В**

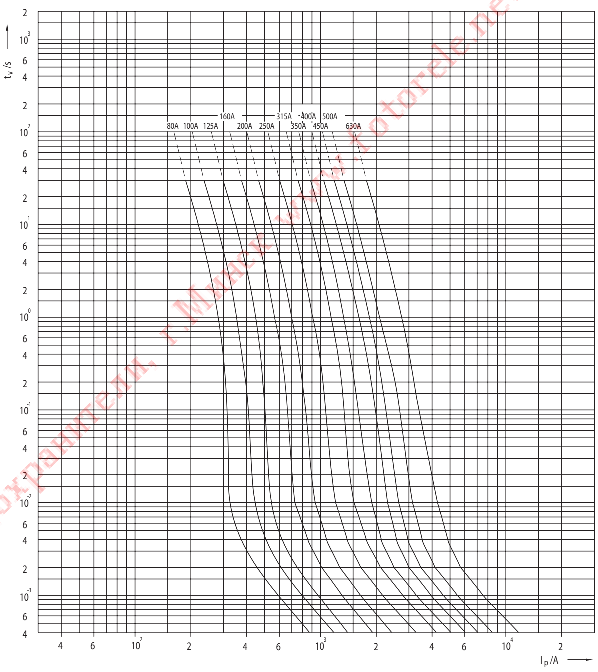
Токовременные характеристики предохранителей Ultra Quick MUQ01, SUQ01 - размеры 00C и 00, 10-160А



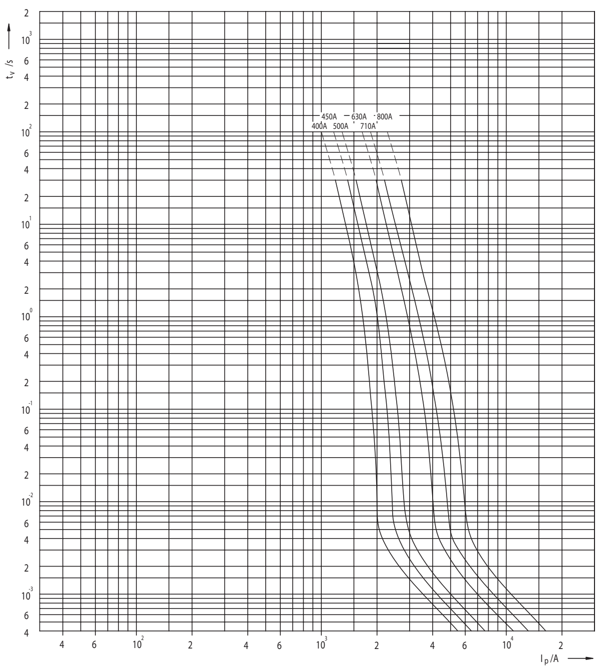
Токовременные характеристики предохранителей Ultra Quick SUQ01 - размеры 00C и 00, 200-400А



Токовременные характеристики предохранителей Ultra Quick SUQ01, GUQ01 - размеры 1



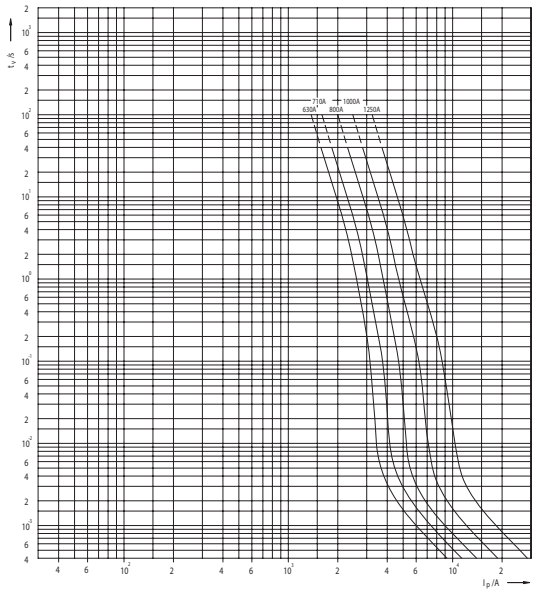
Токовременные характеристики предохранителей Ultra Quick SUQ01, GUQ01 - размеры 2



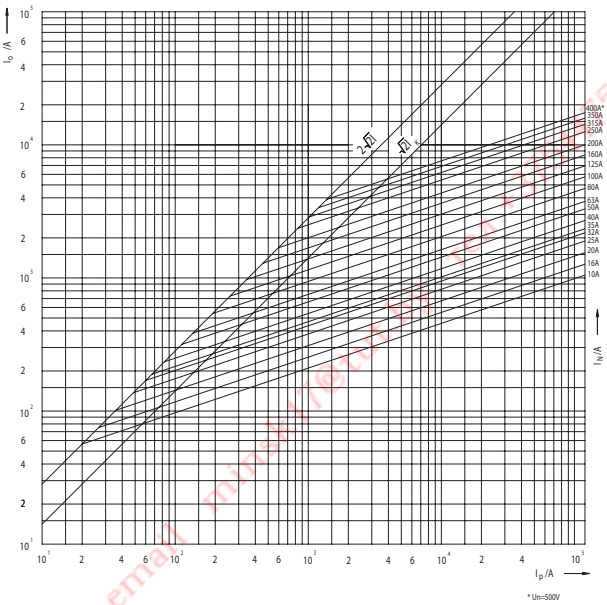
ULTRA QUICK

СЕРИЯ		НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ01		**~690В**

Токовременные характеристики предохранителей Ultra Quick SUQ01, GUQ01 - размеры 3

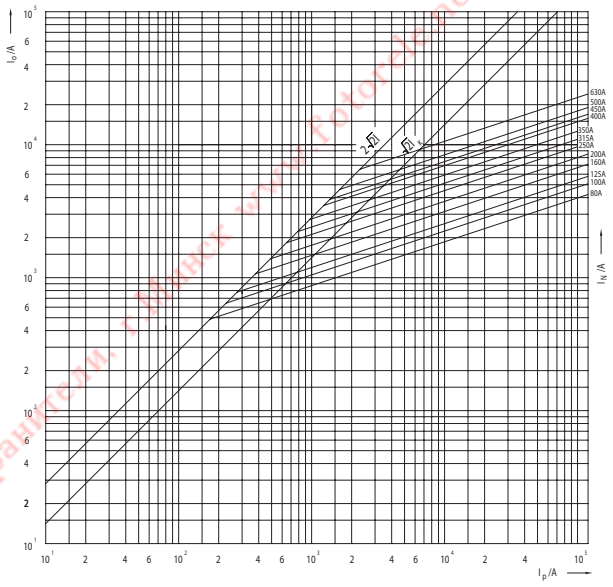


Характеристики предельного тока отключения для предохранителей Ultra Quick MUQ01 и SUQ01 - размеры 00C и 00



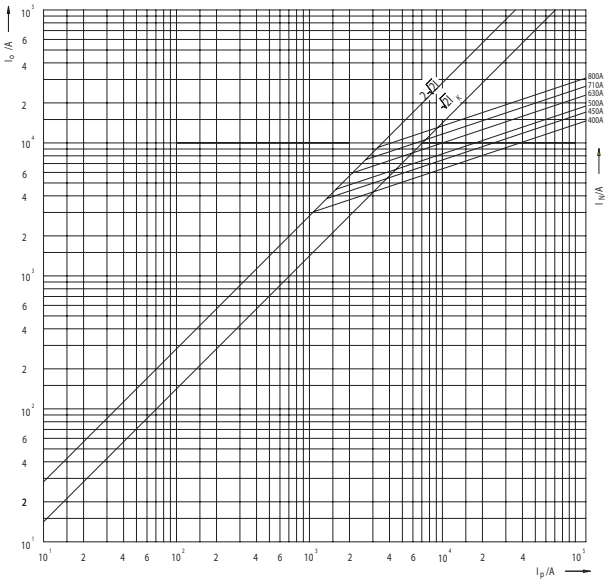
Ожидаемый ток КЗ

Характеристики предельного тока отключения для предохранителей Ultra Quick SUQ01, GUQ01 - размеры 1



Ожидаемый ток КЗ

Характеристики предельного тока отключения для предохранителей Ultra Quick SUQ01, GUQ01 - размеры 2



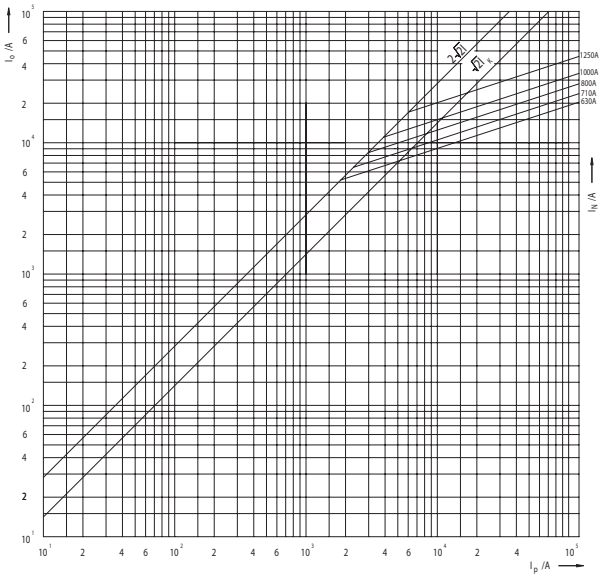
Ожидаемый ток КЗ

ХАРАКТЕРИСТИКИ

ГРУППА **NV-NH**

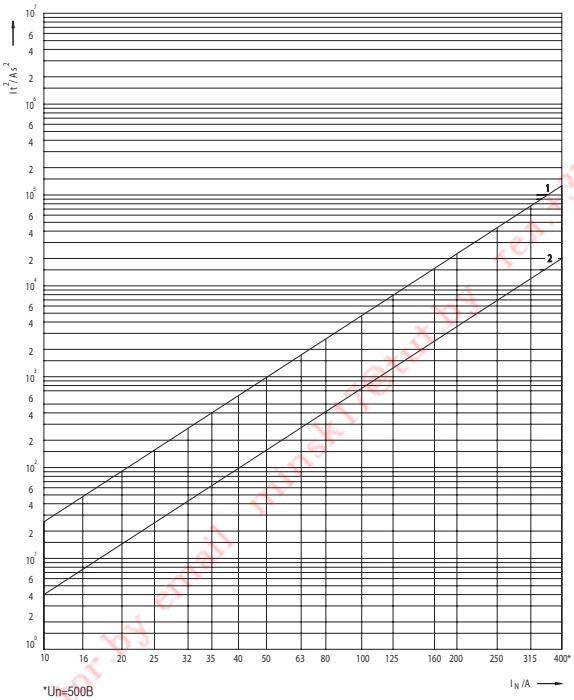
СЕРИЯ		НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ01		**~690В**

Токовременные характеристики предохранителей Ultra Quick SUQ01, GUQ01 - размеры 3



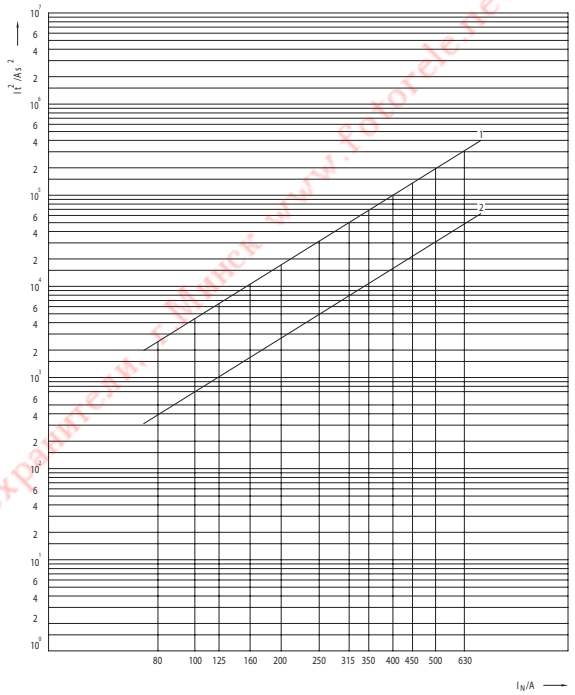
Ожидаемый ток КЗ

Интеграл Джоуля (I^2t) для Ultra Quick MUQ01 и SUQ01 - размер 00C и 00



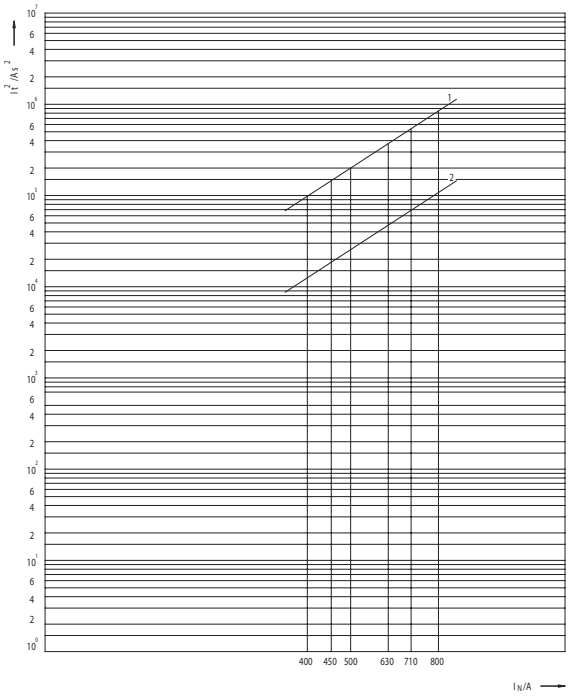
*Un=500В
1 - Рабочее значение I^2t при 690В
2 - Значение дуги I^2t

Интеграл Джоуля (I^2t) для Ultra Quick SUQ01, GUQ01 - размер 1



1 - Рабочее значение I^2t при 690В
2 - Значение дуги I^2t

Интеграл Джоуля (I^2t) для Ultra Quick SUQ01, GUQ01 - размер 2

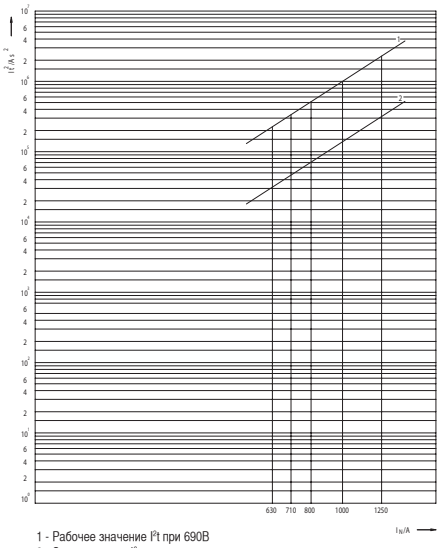


1 - Рабочее значение I^2t при 690В
2 - Значение дуги I^2t

СЕРИЯ
UQ01

НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~690В

Интеграл Джоуля (I^2t) для Ultra Quick SUQ01, GUQ01 - размер 3



1 - Рабочее значение I^2t при 690В
2 - Значение дуги I^2t

Потери мощности, энергия дуги и полная энергия для Ultra Quick

Размер	I_n	Потери мощности	Энергия дуги I^2t (1мс)	Полная энергия I^2t ~230В	Полная энергия I^2t ~400В	Полная энергия I^2t ~500В	Полная энергия I^2t ~690В
	A	Вт	A^2s	A^2s	A^2s	A^2s	A^2s
M00, S00C и S00	**10**	3,00	3	4	9	14	23
	16	4,00	8	18	28	37	46
	20	5,00	16	38	57	76	95
	25	6,00	26	66	99	132	165
	32	7,00	46	116	174	232	290
	35	8,00	64	160	240	320	400
	40	9,00	110	256	384	512	640
	50	10,00	165	400	600	800	1.000
	63	12,3	300	720	1.080	1.440	1.800
	80	16,3	440	1.120	1.680	2.240	2.800
	100	20,0	800	1.840	2.760	3.680	4.600
	125	26,9	1.400	3.200	4.800	6.400	8.000
	160	31,6	2.500	6.600	9.900	13.200	16.500
	200	38,7	4.000	9.200	13.800	18.400	23.000
	250	43,8	8.000	18.400	27.600	36.800	46.000
	315	54	14.000	32.000	48.000	64.000	80.000
	350	60	15.000	40.000	60.000	80.000	100.000
	400*	70	20.000	65.000	104.000	130.000	120.000
S1, G1	**80**	15,6	400	920	1.380	1.840	2.300
	100	20,0	660	1.840	2.760	3.680	4.600
	125	25,0	1.000	2.640	3.960	5.280	6.600
	160	32,2	1.650	4.000	6.000	8.000	10.000
	200	39,4	2.800	7.200	10.800	14.400	18.000
	250	49,4	4.600	12.800	19.200	25.600	32.000
	315	60	8.000	23.200	34.800	46.400	58.000
	350	63	11.000	31.200	46.800	62.400	78.000
	400	66	16.000	44.000	66.000	88.000	110.000
	450	72	22.000	62.000	93.000	124.000	155.000
	500	73	32.000	80.000	120.000	160.000	200.000
	630	86	52.000	132.000	198.000	264.000	330.000
S2, G2	**400**	70	11.000	34.000	51.000	68.000	85.000
	450	76	16.500	50.000	75.000	100.000	125.000
	500	80	22.000	66.000	99.000	132.000	165.000
	630	85	44.000	124.000	186.000	248.000	310.000
	710	91	64.000	184.000	276.000	368.000	460.000
	800	95	100.000	288.000	432.000	576.000	720.000
S3, G3	**630**	102	33.000	104.000	156.000	208.000	260.000
	710	109	46.000	132.000	198.000	264.000	330.000
	800	117	78.000	200.000	300.000	400.000	500.000
	1000	131	150.000	400.000	600.000	800.000	1.000.000
	1250	152	320.000	920.000	1.380.000	1.840.000	2.300.000

Un = 500В

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ01	**S80mm**	**~1000В**

Технические данные:

Стандарты:
DIN 43653
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 1000В

Характеристика:
aR

Способ установки:

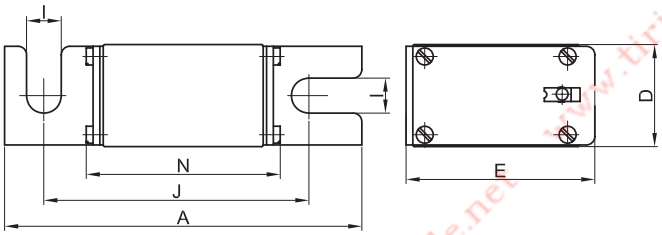
Предохранители типа S размеров 00C и 00 устанавливаются в держателях US00-1/80 и монтируются болтами на шину

Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Характ.	Упаковка (шт)	Вес (г)
00	32	S00UQ01/80/32A/1000B	004301108	200	15,1	aR	3	250
	40	S00UQ01/80/40A/1000B	004301110	330	18,1	aR	3	250
	50	S00UQ01/80/50A/1000B	004301111	670	20	aR	3	250
	63	S00UQ01/80/63A/1000B	004301112	1.300	24,3	aR	3	250
	80	S00UQ01/80/80A/1000B	004301113	2.400	27,4	aR	3	250
	100	S00UQ01/80/100A/1000B	004301114	4.700	30	aR	3	250
	125	S00UQ01/80/125A/1000B	004301115	10.000	38,2	aR	3	250
	160	S00UQ01/80/160A/1000B	004301116	16.000	47,2	aR	3	250
	200	S00UQ01/80/200A/1000B	004301117	30.000	57	aR	3	250
	250	S00UQ01/80/250A/1000B	004301119	58.000	67	aR	3	250
	315*	S00UQ01/80/315A/900B	004301121	110.000	78	aR	3	250

*900В

S00UQ01/80/200A/1000B

Габариты:



Размер	A	D	E	I	J	N
00	105	30	51	10	78	56

ГРУППА **NV/NH**

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ01	**S110mm**	**~1000В**

Технические данные:

Стандарты:
DIN 43653
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 1000В

Характеристика:
aR

Способ установки:

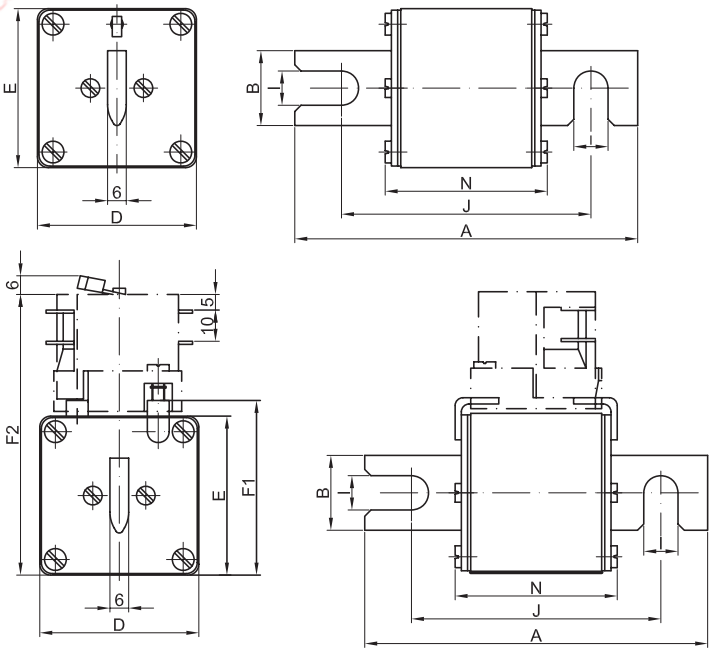
Предохранители типа S 110mm размеров 1, 2, 3 устанавливаются в универсальных держателях US1..3-1/80-110 и крепятся болтами на шину.

S1UQ01/110/400A/1000B

S1MUQ01/110/400A/1000B

Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Тип с центр. бойковым индикатором и возможностью подключения сигнального контакта MK	Код №	Хар.	Упак (шт)	Вес (г)
1	63	S1UQ01/110/63A/1000B	004303112	2.000	15,1	S1MUQ01/110/63A/1000B	004303712	aR	1	500
	80	S1UQ01/110/80A/1000B	004303113	3.400	20	S1MUQ01/110/80A/1000B	004303713	aR	1	500
	100	S1UQ01/110/100A/1000B	004303114	6.100	25	S1MUQ01/110/100A/1000B	004303714	aR	1	500
	125	S1UQ01/110/125A/1000B	004303115	11.000	30	S1MUQ01/110/125A/1000B	004303715	aR	1	500
	160	S1UQ01/110/160A/1000B	004303116	17.000	35	S1MUQ01/110/160A/1000B	004303716	aR	1	500
	200	S1UQ01/110/200A/1000B	004303117	31.000	45,3	S1MUQ01/110/200A/1000B	004303717	aR	1	500
	250	S1UQ01/110/250A/1000B	004303119	50.000	54	S1MUQ01/110/250A/1000B	004303719	aR	1	500
	315	S1UQ01/110/315A/1000B	004303121	110.000	60	S1MUQ01/110/315A/1000B	004303721	aR	1	500
	350	S1UQ01/110/350A/1000B	004303122	150.000	65	S1MUQ01/110/350A/1000B	004303722	aR	1	500
	400	S1UQ01/110/400A/1000B	004303123	200.000	70	S1MUQ01/110/400A/1000B	004303723	aR	1	500
	450	S1UQ01/110/450A/1000B	004303125	310.000	74	S1MUQ01/110/450A/1000B	004303725	aR	1	500
	500	S1UQ01/110/500A/1000B	004303126	400.000	80	S1MUQ01/110/500A/1000B	004303726	aR	1	500
2	315	S2UQ01/110/315A/1000B	004304121	85.000	66	S2MUQ01/110/315A/1000B	004304721	aR	1	650
	350	S2UQ01/110/350A/1000B	004304122	130.000	70	S2MUQ01/110/350A/1000B	004304722	aR	1	650
	400	S2UQ01/110/400A/1000B	004304123	170.000	80	S2MUQ01/110/400A/1000B	004304723	aR	1	650
	450	S2UQ01/110/450A/1000B	004304125	220.000	86	S2MUQ01/110/450A/1000B	004304725	aR	1	650
	500	S2UQ01/110/500A/1000B	004304126	320.000	90	S2MUQ01/110/500A/1000B	004304726	aR	1	650
	630	S2UQ01/110/630A/1000B	004304128	600.000	108	S2MUQ01/110/630A/1000B	004304728	aR	1	650
3	500	S3UQ01/110/500A/1000B	004305126	250.000	100	S3MUQ01/110/500A/1000B	004305726	aR	3	850
	630	S3UQ01/110/630A/1000B	004305128	500.000	110	S3MUQ01/110/630A/1000B	004305728	aR	3	850
	710	S3UQ01/110/710A/1000B	004305129	670.000	125	S3MUQ01/110/710A/1000B	004305729	aR	3	850
	800	S3UQ01/110/800A/1000B	004305130	870.000	136	S3MUQ01/110/800A/1000B	004305730	aR	3	850
	1000	S3UQ01/110/1000A/1000B	004305132	2.000.000	157	S3MUQ01/110/1000A/1000B	004305732	aR	3	850

Габариты:



Размер	A	B	D	E	F1	F2	I	J	N
1	140	24	51	51	56	90	11	110	74
2	140	30	60	60	65	99	11	110	74
3	140	37	75	75	80	114	11	110	74

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ01	**G**	**~1000В**

Технические данные:

Стандарты:
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 690В

Характеристика:
aR

Способ установки:

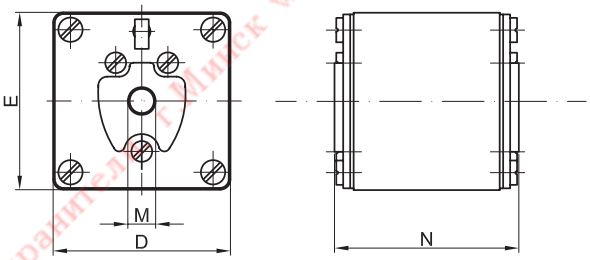
Предохранители типа G с резьбовыми контактами устанавливаются специальными болтами на шину.

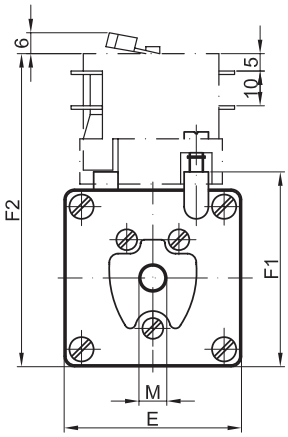
Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Тип с центр. бойковым индикатором и возможностью подключения сигнального контакта МК	Код №	Хар.	Упак (шт)	Вес (г)
1	63	G1UQ01/63A/1000B	004303512	2.000	15,1	G1MUQ01/63A/1000B	004303612	aR	1	500
	80	G1UQ01/80A/1000B	004303513	3.400	20	G1MUQ01/80A/1000B	004303613	aR	1	500
	100	G1UQ01/100A/1000B	004303514	6.100	25	G1MUQ01/100A/1000B	004303614	aR	1	500
	125	G1UQ01/125A/1000B	004303515	11.000	30	G1MUQ01/125A/1000B	004303615	aR	1	500
	160	G1UQ01/160A/1000B	004303516	17.000	35	G1MUQ01/160A/1000B	004303616	aR	1	500
	200	G1UQ01/200A/1000B	004303517	31.000	45,3	G1MUQ01/200A/1000B	004303617	aR	1	500
	250	G1UQ01/250A/1000B	004303519	50.000	54	G1MUQ01/250A/1000B	004303619	aR	1	500
	315	G1UQ01/315A/1000B	004303521	110.000	60	G1MUQ01/315A/1000B	004303621	aR	1	500
	350	G1UQ01/350A/1000B	004303522	150.000	65	G1MUQ01/350A/1000B	004303622	aR	1	500
	400	G1UQ01/400A/1000B	004303523	200.000	70	G1MUQ01/400A/1000B	004303623	aR	1	500
	450	G1UQ01/450A/1000B	004303525	310.000	74	G1MUQ01/450A/1000B	004303625	aR	1	500
	500	G1UQ01/500A/1000B	004303526	400.000	80	G1MUQ01/500A/1000B	004303626	aR	1	500
2	315	G2UQ01/315A/1000B	004304521	85.000	66	G2MUQ01/315A/1000B	004304621	aR	2	650
	350	G2UQ01/350A/1000B	004304522	130.000	70	G2MUQ01/350A/1000B	004304622	aR	2	650
	400	G2UQ01/400A/1000B	004304523	170.000	80	G2MUQ01/400A/1000B	004304623	aR	2	650
	450	G2UQ01/450A/1000B	004304525	220.000	86	G2MUQ01/450A/1000B	004304625	aR	2	650
	500	G2UQ01/500A/1000B	004304526	320.000	90	G2MUQ01/500A/1000B	004304626	aR	2	650
	630	G2UQ01/630A/1000B	004304528	600.000	108	G2MUQ01/630A/1000B	004304628	aR	2	650
3	500	G3UQ01/500A/1000B	004305526	250.000	100	G3MUQ01/500A/1000B	004305626	aR	2	850
	630	G3UQ01/630A/1000B	004305528	500.000	110	G3MUQ01/630A/1000B	004305628	aR	2	850
	710	G3UQ01/710A/1000B	004305529	670.000	125	G3MUQ01/710A/1000B	004305629	aR	2	850
	800	G3UQ01/800A/1000B	004305530	870.000	136	G3MUQ01/800A/1000B	004305630	aR	2	850
	1000	G3UQ01/1000A/1000B	004305532	2.000.000	157	G3MUQ01/1000A/1000B	004305632	aR	2	850

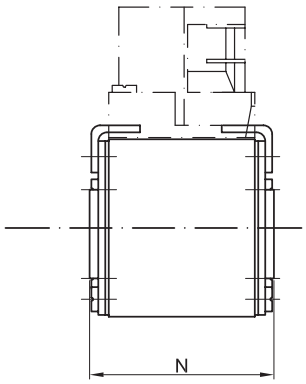
G3UQ01/800A/1000B

G1MUQ01/400A/1000B

Габариты:



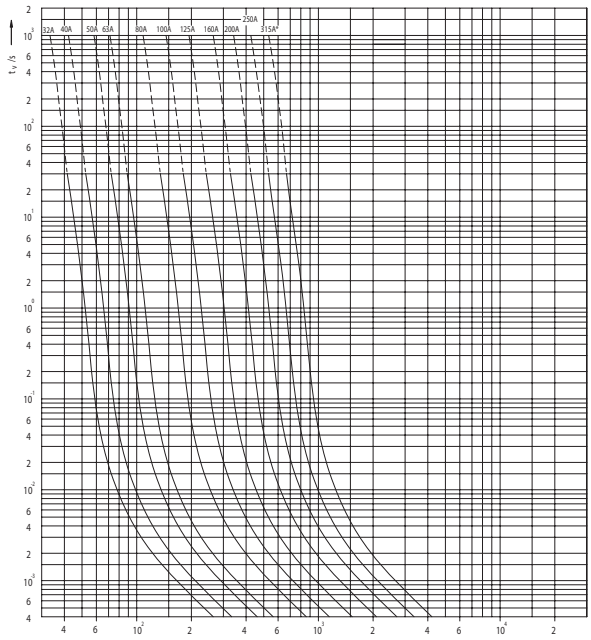




Размер	D	E	F1	F2	M	N
1	51	51	56	90	M8	75
2	60	60	65	99	M10	75
3	75	75	80	114	M12	75

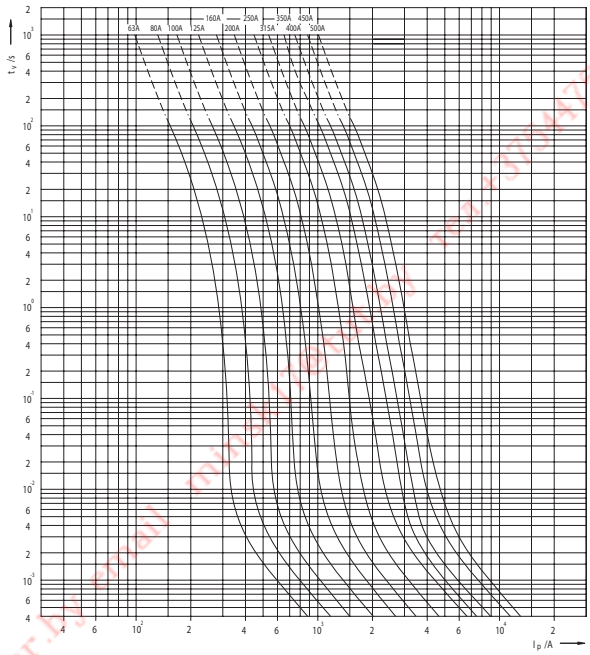
СЕРИЯ	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ01	**~1000В**

Токовременные характеристики предохранителей Ultra Quick SUQ01 - размеры 00

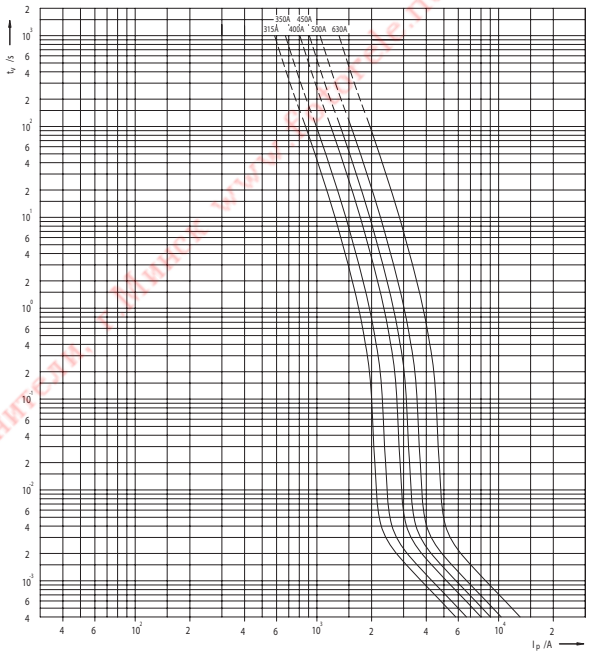


* Un=900В

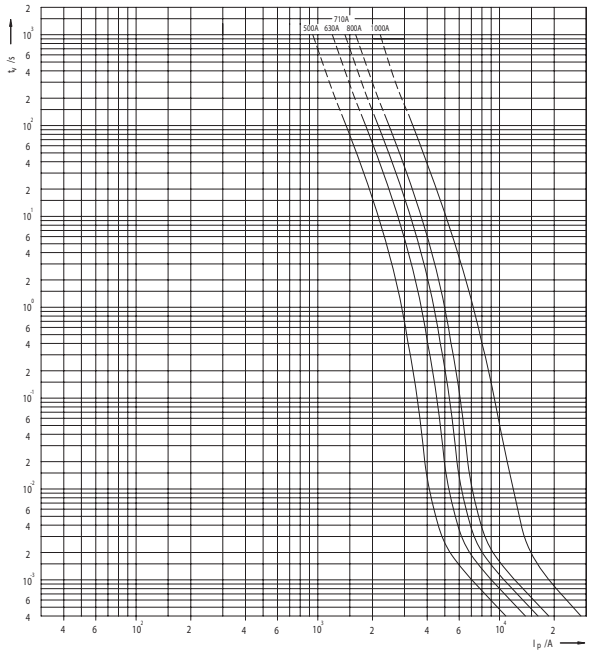
Токовременные характеристики предохранителей Ultra Quick SUQ01, GUQ01 - размеры 1



Токовременные характеристики предохранителей Ultra Quick SUQ01, GUQ01 - размеры 2



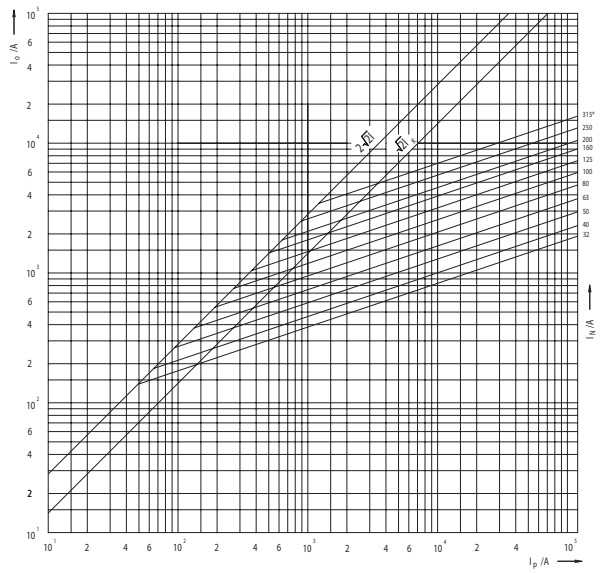
Токовременные характеристики предохранителей Ultra Quick SUQ01, GUQ01 - размеры 3



СЕРИЯ
UQ01

НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~1000В

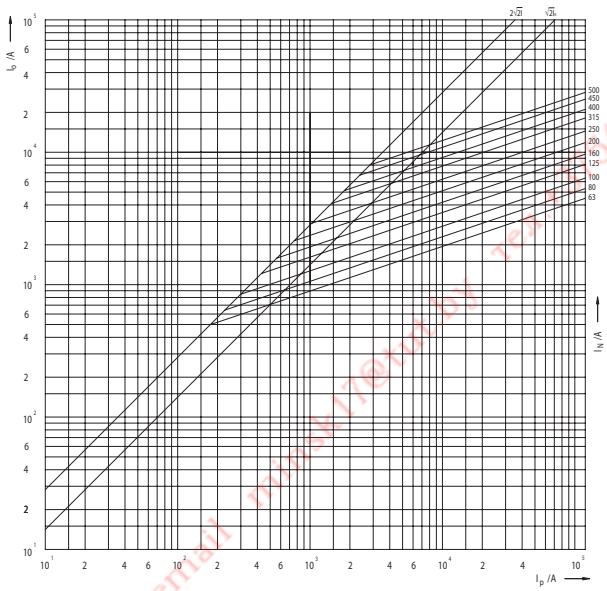
Характеристики предельного тока отключения для предохранителей Ultra Quick SUQ01 - размеры 00



* Un=900В

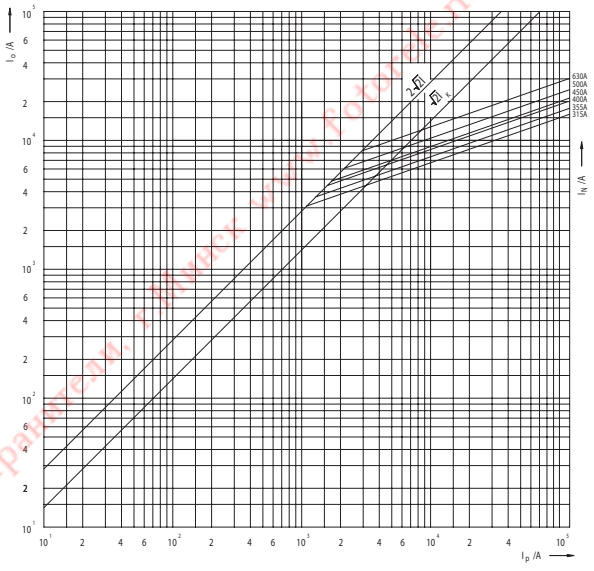
Ожидаемый ток КЗ

Характеристики предельного тока отключения для предохранителей Ultra Quick SUQ01, GUQ01 - размеры 1



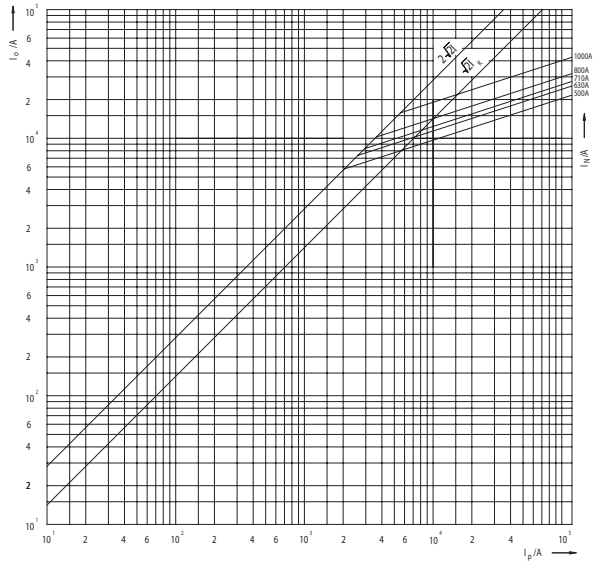
Ожидаемый ток КЗ

Характеристики предельного тока отключения для предохранителей Ultra Quick SUQ01, GUQ01 - размеры 2



Ожидаемый ток КЗ

Характеристики предельного тока отключения для предохранителей Ultra Quick SUQ01, GUQ01 - размеры 3

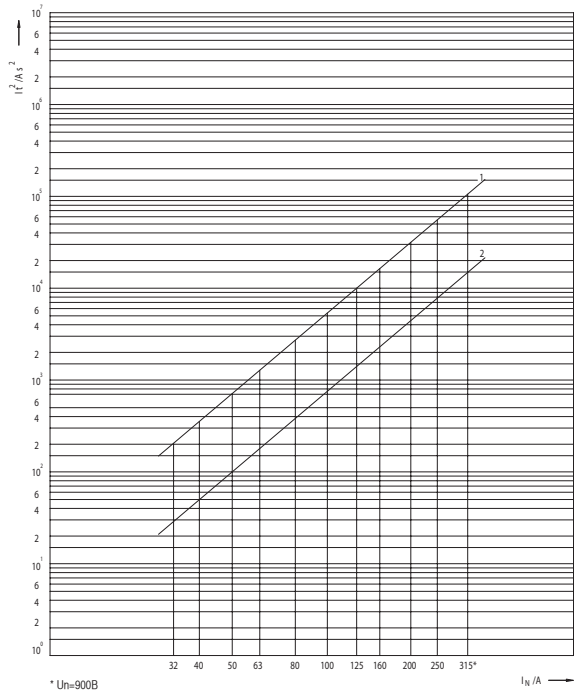


Ожидаемый ток КЗ

СЕРИЯ
UQ01

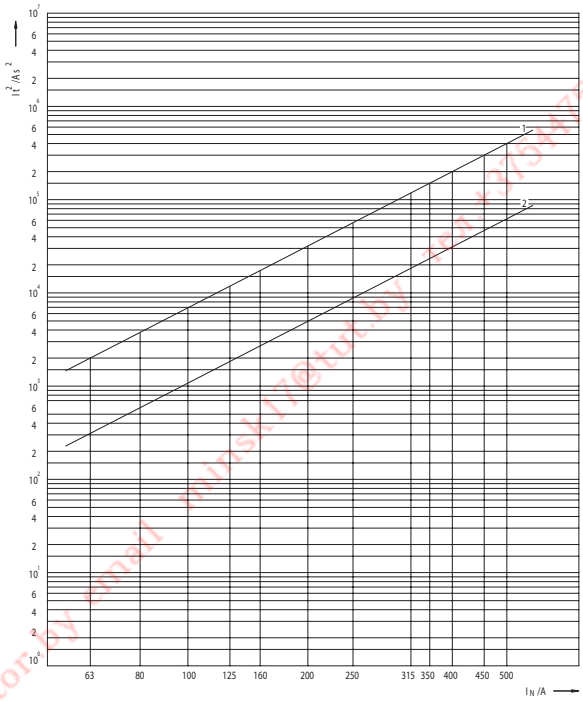
НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~1000В

Интеграл Джоуля (I^2t) для Ultra Quick SUQ01 - размер 00



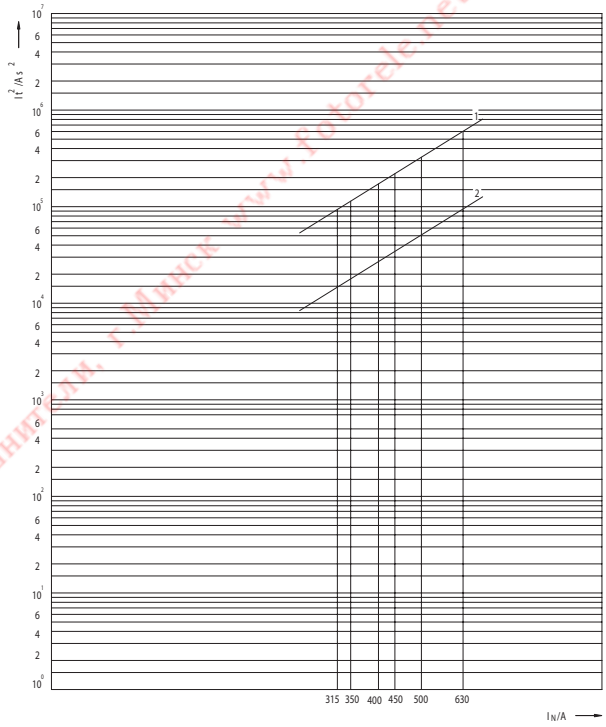
* Un=900В
1 - Рабочее значение I^2t при 1000В
2 - Значение дуги I^2t

Интеграл Джоуля (I^2t) для Ultra Quick SUQ01, GUQ01 - размер 1



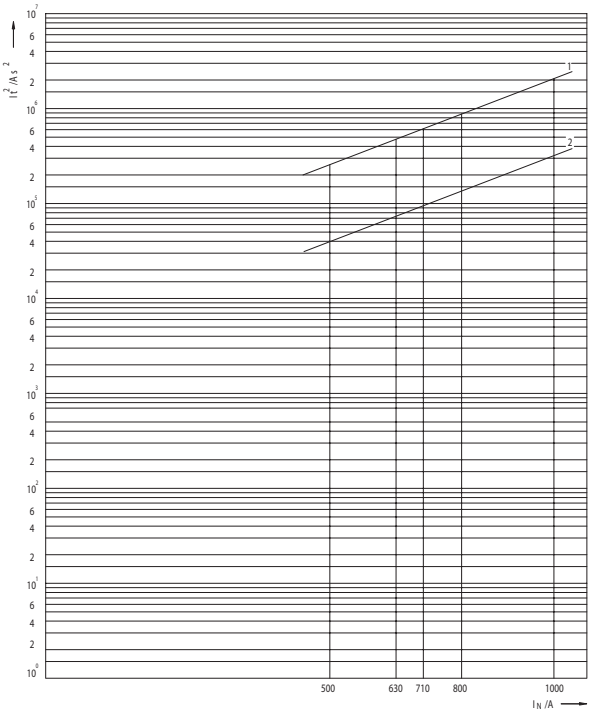
1 - Рабочее значение I^2t при 1000В
2 - Значение дуги I^2t

Интеграл Джоуля (I^2t) для Ultra Quick SUQ01, GUQ01 - размер 2



1 - Рабочее значение I^2t при 1000В
2 - Значение дуги I^2t

Интеграл Джоуля (I^2t) для Ultra Quick SUQ01, GUQ01 - размер 3



1 - Рабочее значение I^2t при 1000В
2 - Значение дуги I^2t

ХАРАКТЕРИСТИКИ

СЕРИЯ
UQ01

НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~1000В

Потери мощности, энергия дуги и полная энергия для Ultra Quick

Размер	I_N	Потери мощности	Энергия дуги I^2t (1мс)	Полная энергия I^2t ~230В	Полная энергия I^2t ~400В	Полная энергия I^2t ~500В	Полная энергия I^2t ~690В	Полная энергия I^2t ~1000В
	A	Вт	A^2s	A^2s	A^2s	A^2s	A^2s	A^2s
S00	32	15,1	26	63	98	116	150	200
	40	18,1	45	104	162	191	248	330
	50	20,0	100	211	328	389	503	670
	63	24,3	165	410	637	754	975	1.300
	80	27,4	330	756	1.176	1.392	1.800	2.400
	100	30,0	660	1.481	2.303	2.726	3.525	4.700
	125	38,2	1.500	3.150	4.900	5.800	7.500	10.000
	160	47,2	2.100	5.040	7.840	9.280	12.000	16.000
	200	57	4.000	9.450	14.700	17.400	22.500	30.000
	250	67	8.000	18.270	28.420	33.640	43.500	58.000
	315*	78	15.000	34.650	53.900	63.800	82.500	110.000
S1, G1	63	15,1	300	630	980	1.160	1.500	2.000
	80	20,0	600	1.071	1.666	1.972	2.550	3.400
	100	25,0	1.000	1.922	2.989	3.538	4.575	6.100
	125	30,0	1.650	3.465	5.390	6.380	8.250	11.000
	160	35,0	2.700	5.355	8.330	9.860	12.750	17.000
	200	45,3	4.800	9.765	15.190	17.980	23.250	31.000
	250	54	8.000	15.750	24.500	29.000	37.500	50.000
	315	60	16.500	34.650	53.900	63.800	82.500	110.000
	350	65	21.000	47.250	73.500	87.000	112.500	150.000
	400	70	32.000	63.000	98.000	116.000	150.000	200.000
	450	74	46.000	97.650	151.900	179.800	232.500	310.000
	500	80	64.000	126.000	196.000	232.000	300.000	400.000
S2, G2	315	66	15.000	26.775	41.650	49.300	63.750	85.000
	350	70	18.000	40.950	63.700	75.400	97.500	130.000
	400	80	28.000	53.550	83.300	98.600	127.500	170.000
	450	86	33.000	69.300	107.800	127.600	165.000	220.000
	500	90	55.000	100.800	156.800	185.600	240.000	320.000
	630	108	100.000	189.000	294.000	348.000	450.000	600.000
S3, G3	500	100	41.000	78.750	122.500	145.000	187.500	250.000
	630	110	80.000	157.500	245.000	290.000	375.000	500.000
	710	125	100.000	211.050	328.300	388.600	502.500	670.000
	800	136	150.000	274.050	426.300	504.600	652.500	870.000
	1000	157	310.000	630.000	980.000	1.160.000	1.500.000	2.000.000

* Un = 900В

ГРУППА **NV/NH**

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ2	**M**	**~500В**

Технические данные:

Стандарты:
DIN 43620
VDE 0636-201

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 500В

Характеристика:
gR

Способ установки:

Предохранители типа M устанавливаются в держателях (например PK).

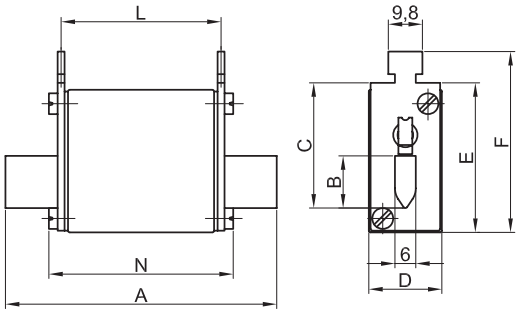
M00CUQ2/125A/500B

M1UQ2/200A/500B

Размер	In (A)	Тип с визуальным индикатором и возможностью подключения сигнального контакта NBS 5	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Характ.	Упаковка (шт)	Вес (г)
00C	6	M00CUQ2/6A/500B	004711203	45	7	gR	3/60	130
	10	M00CUQ2/10A/500B	004711204	60	8	gR	3/60	130
	16	M00CUQ2/16A/500B	004711205	86	9	gR	3/60	130
	20	M00CUQ2/20A/500B	004711206	165	10,9	gR	3/60	130
	25	M00CUQ2/25A/500B	004711207	300	13,4	gR	3/60	130
	32	M00CUQ2/32A/500B	004711208	450	14,3	gR	3/60	130
	35	M00CUQ2/35A/500B	004711209	670	15	gR	3/60	130
	40	M00CUQ2/40A/500B	004711210	1.000	16,2	gR	3/60	130
	50	M00CUQ2/50A/500B	004711211	1.500	17,5	gR	3/60	130
	63	M00CUQ2/63A/500B	004711212	2.200	20	gR	3/60	130
	80	M00CUQ2/80A/500B	004711213	3.300	23,1	gR	3/60	130
	100	M00CUQ2/100A/500B	004711214	7.200	26,4	gR	3/60	130
	125	M00CUQ2/125A/500B	004711215	10.000	34	gR	3/60	130
	160	M00CUQ2/160A/500B	004711216	21.000	40,1	gR	3/60	130
1	35	M1UQ2/35A/500B	004713209	670	15	gR	3	420
	40	M1UQ2/40A/500B	004713210	1.000	16,2	gR	3	420
	50	M1UQ2/50A/500B	004713211	1.500	17,5	gR	3	420
	63	M1UQ2/63A/500B	004713212	2.200	20	gR	3	420
	80	M1UQ2/80A/500B	004713213	3.300	23,1	gR	3	420
	100	M1UQ2/100A/500B	004713214	7.200	26,4	gR	3	420
	125	M1UQ2/125A/500B	004713215	10.000	34	gR	3	420
	160	M1UQ2/160A/500B	004713216	21.000	40,1	gR	3	420
	200	M1UQ2/200A/500B	004713217	30.000	43,8	gR	3	420
	224	M1UQ2/224A/500B	004713218	41.000	48,5	gR	3	420
	250	M1UQ2/250A/500B	004713219	52.000	53	gR	3	420
2	125	M2UQ2/125A/500B	004714215	10.000	34	gR	3	660
	160	M2UQ2/160A/500B	004714216	21.000	40,1	gR	3	660
	200	M2UQ2/200A/500B	004714217	30.000	43,8	gR	3	660
	224	M2UQ2/224A/500B	004714218	41.000	48,5	gR	3	660
	250	M2UQ2/250A/500B	004714219	52.000	53	gR	3	660
	315	M2UQ2/315A/500B	004714221	82.000	63	gR	3	660
	350	M2UQ2/350A/500B	004714222	110.000	66	gR	3	660
	400	M2UQ2/400A/500B	004714223	160.000	70	gR	3	660
3	250	M3UQ2/250A/500B	004715219	52.000	53	gR	3	870
	315	M3UQ2/315A/500B	004715221	82.000	63	gR	3	870
	350	M3UQ2/350A/500B	004715222	110.000	66	gR	3	870
	400	M3UQ2/400A/500B	004715223	160.000	70	gR	3	870
	425	M3UQ2/425A/500B	004715224	200.000	75	gR	3	870
	500	M3UQ2/500A/500B	004715226	260.000	96	gR	3	870
	630	M3UQ2/630A/500B	004715228	340.000	135	gR	3	870
4	800	S4UQ2/800A/500B	004716130	620.000	164	gR	1	2350
	1000	S4UQ2/1000A/500B	004716132	1.150.000	188	gR	1	2350
	1250	S4UQ2/1250A/500B	004716133	2.000.000	246	gR	1	2350
4a	800	M4aUQ2/800A/500B	004717230	620.000	164	gR	1	2700
	1000	M4aUQ2/1000A/500B	004717232	1.150.000	188	gR	1	2700
	1250	M4aUQ2/1250A/500B	004717233	2.000.000	246	gR	1	2700
	1500	M4aUQ2/1500A/500B	004717235	3.800.000	310	gR	1	2700

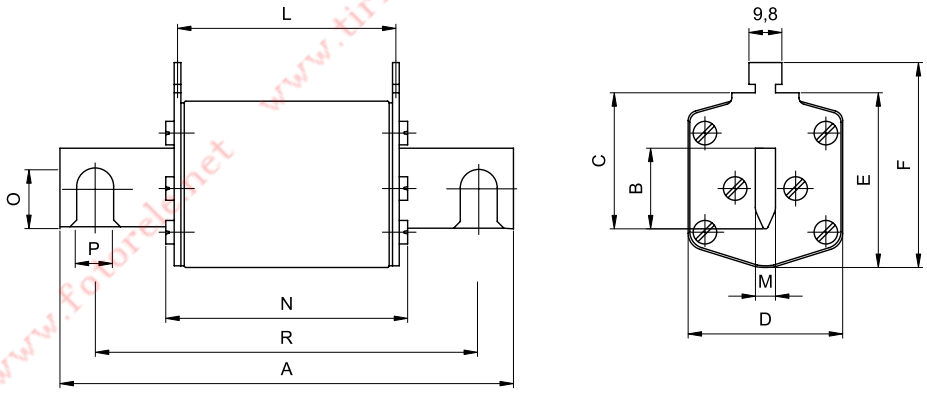
СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ2	**M**	**~500В**

Габариты:



Размер	A	B	C	D	E	F	L	N
00C	78	15	35	21	42	52	46	53

Габариты:



Размер	A	B	C	D	E	L	N	M	O	P	R
1	135	24	40	46	52	65	73	6	–	–	–
2	150	30	48	54	61	65	73	6	–	–	–
3	150	37	60	64	74	65	73	6	–	–	–
4	200	50	87	95	112	65	78	8	32	16	150
4a	200	50	85	95	112	87	97	6	–	–	–

ГРУППА **NV/NH**

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ2	**M**	**~500В**

Технические данные:

Стандарты:
DIN 43653
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 500В

Характеристика:
gR

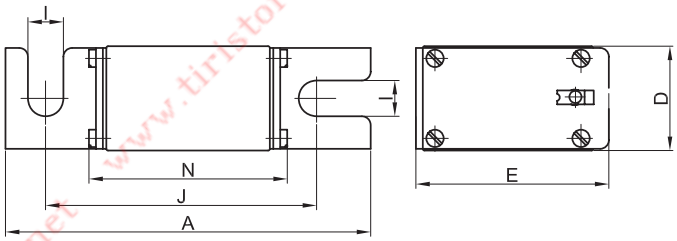
Способ установки:

Предохранители типа S размера 00C устанавливаются в держателях US00-1/80 и монтируются болтами на шину.

S00CUQ2/80/160A/500B

Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Характ.	Упаковка (шт)	Вес (г)
00C	16	S00CUQ2/80/16A/500B	004711105	86	9	gR	3	120
	20	S00CUQ2/80/20A/500B	004711106	165	10,9	gR	3	120
	25	S00CUQ2/80/25A/500B	004711107	300	13,4	gR	3	120
	32	S00CUQ2/80/32A/500B	004711108	450	14,3	gR	3	120
	35	S00CUQ2/80/35A/500B	004711109	670	15	gR	3	120
	40	S00CUQ2/80/40A/500B	004711110	1.000	16,2	gR	3	120
	50	S00CUQ2/80/50A/500B	004711111	1.500	17,5	gR	3	120
	63	S00CUQ2/80/63A/500B	004711112	2.200	20	gR	3	120
	80	S00CUQ2/80/80A/500B	004711113	3.300	23,1	gR	3	120
	100	S00CUQ2/80/100A/500B	004711114	7.200	26,4	gR	3	120
	125	S00CUQ2/80/125A/500B	004711115	10.000	34	gR	3	120
	160	S00CUQ2/80/160A/500B	004711116	21.000	40,1	gR	3	120

Габариты:



Размер	A	D	E	I	J	N
00C	101	21	40	8.5	78	54

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ2	**S110mm**	**~500В**

Технические данные:

Стандарты:
DIN 43653
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 500В

Характеристика:
gR

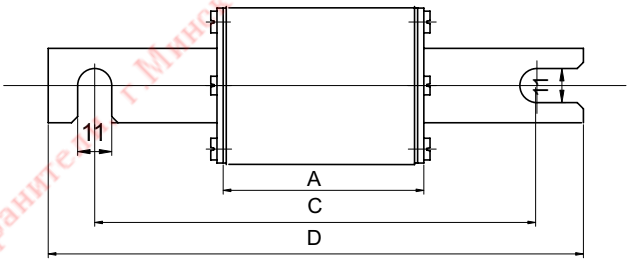
Способ установки:

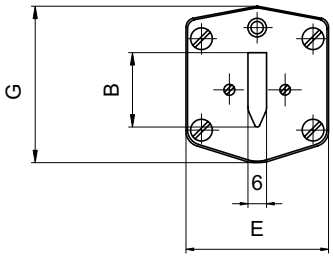
Предохранители типа S 110мм размеров 1, 2, 3 устанавливаются в универсальных держателях US1..3-1/80-110 и монтируются болтами на шину.

Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Характ.	Упаковка (шт)	Вес (г)
1	35	S1UQ2/110/35A/500B	004713109	670	15	gR	1	390
	40	S1UQ2/110/40A/500B	004713110	1.000	16,2	gR	1	390
	50	S1UQ2/110/50A/500B	004713111	1.500	17,5	gR	1	390
	63	S1UQ2/110/63A/500B	004713112	2.200	20	gR	1	390
	80	S1UQ2/110/80A/500B	004713113	3.300	23,1	gR	1	390
	100	S1UQ2/110/100A/500B	004713114	7.200	26,4	gR	1	390
	125	S1UQ2/110/125A/500B	004713115	10.000	34	gR	1	390
	160	S1UQ2/110/160A/500B	004713116	21.000	40,1	gR	1	390
	200	S1UQ2/110/200A/500B	004713117	30.000	43,8	gR	1	390
	224	S1UQ2/110/224A/500B	004713118	41.000	48,5	gR	1	390
	250	S1UQ2/110/250A/500B	004713119	52.000	53	gR	1	390
2	125	S2UQ2/110/125A/500B	004714115	10.000	34	gR	3	510
	160	S2UQ2/110/160A/500B	004714116	21.000	40,1	gR	3	510
	200	S2UQ2/110/200A/500B	004714117	30.000	43,8	gR	3	510
	224	S2UQ2/110/224A/500B	004714118	41.000	48,5	gR	3	510
	250	S2UQ2/110/250A/500B	004714119	52.000	53	gR	3	510
	315	S2UQ2/110/315A/500B	004714121	82.000	63	gR	3	510
	350	S2UQ2/110/350A/500B	004714122	110.000	66	gR	3	510
	400	S2UQ2/110/400A/500B	004714123	160.000	70	gR	3	510
3	250	S3UQ2/110/250A/500B	004715119	52.000	53	gR	3	830
	315	S3UQ2/110/315A/500B	004715121	82.000	63	gR	3	830
	350	S3UQ2/110/350A/500B	004715122	110.000	66	gR	3	830
	400	S3UQ2/110/400A/500B	004715123	160.000	70	gR	3	830
	425	S3UQ2/110/425A/500B	004715124	200.000	70	gR	3	830
	500	S3UQ2/110/500A/500B	004715126	260.000	96	gR	3	830
	630	S3UQ2/110/630A/500B	004715128	340.000	135	gR	3	830

S2UQ2/110/400A/500B

Габариты:





Размер	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

ГРУППА **NV/NH**

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ2	**G**	**~500В**

Технические данные:

Стандарты:
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 500В

Характеристика:
gR

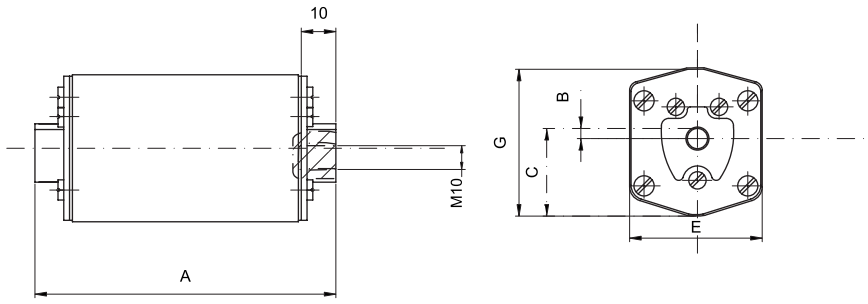
Способ установки:

Предохранители типа G с резьбовыми контактами устанавливаются специальными болтами на шину.

G2UQ2/350A/500B

Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Характ.	Упаковка (шт)	Вес (г)
1	35	G1UQ2/35A/500B	004713509	670	15	gR	1	360
	40	G1UQ2/40A/500B	004713510	1.000	16,2	gR	1	360
	50	G1UQ2/50A/500B	004713511	1.500	17,5	gR	1	360
	63	G1UQ2/63A/500B	004713512	2.200	20	gR	1	360
	80	G1UQ2/80A/500B	004713513	3.300	23,1	gR	1	360
	100	G1UQ2/100A/500B	004713514	7.200	26,4	gR	1	360
	125	G1UQ2/125A/500B	004713515	10.000	34	gR	1	360
	160	G1UQ2/160A/500B	004713516	21.000	40,1	gR	1	360
	200	G1UQ2/200A/500B	004713517	30.000	43,8	gR	1	360
	224	G1UQ2/224A/500B	004713518	41.000	48,5	gR	1	360
	250	G1UQ2/250A/500B	004713519	52.000	53	gR	1	360
2	125	G2UQ2/125A/500B	004714515	10.000	34	gR	1	520
	160	G2UQ2/160A/500B	004714516	21.000	40,1	gR	1	520
	200	G2UQ2/200A/500B	004714517	30.000	43,8	gR	1	520
	224	G2UQ2/224A/500B	004714518	41.000	48,5	gR	1	520
	250	G2UQ2/250A/500B	004714519	52.000	53	gR	1	520
	315	G2UQ2/315A/500B	004714521	82.000	63	gR	1	520
	350	G2UQ2/350A/500B	004714522	110.000	66	gR	1	520
	400	G2UQ2/400A/500B	004714523	160.000	70	gR	1	520
3	250	G3UQ2/250A/500B	004715519	52.000	53	gR	1	800
	315	G3UQ2/315A/500B	004715521	82.000	63	gR	1	800
	350	G3UQ2/350A/500B	004715522	110.000	66	gR	1	800
	400	G3UQ2/400A/500B	004715523	160.000	70	gR	1	800
	425	G3UQ2/425A/500B	004715524	200.000	70	gR	1	800
	500	G3UQ2/500A/500B	004715526	260.000	96	gR	1	800
	630	G3UQ2/630A/500B	004715528	340.000	135	gR	1	800

Габариты:



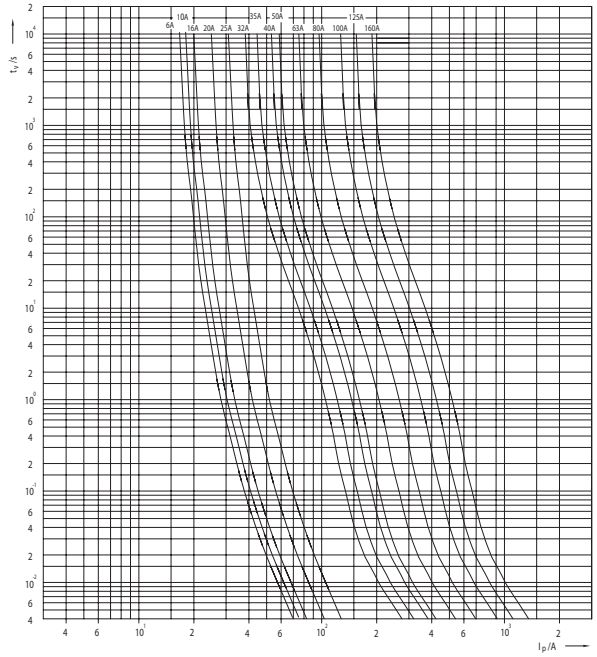
Размер	A	B	C	E	G
1	85	8.5	25	46	50
2	72	2	29.5	54	59
3	83	2	34	64	70

ХАРАКТЕРИСТИКИ

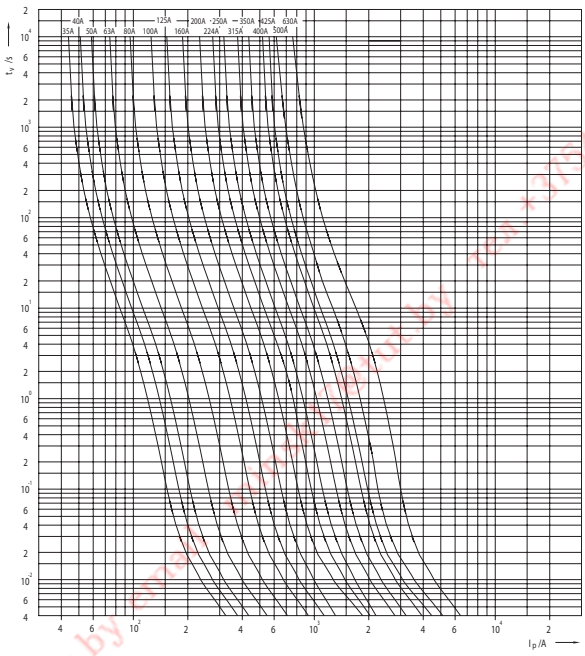
СЕРИЯ
UQ2

НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~500В

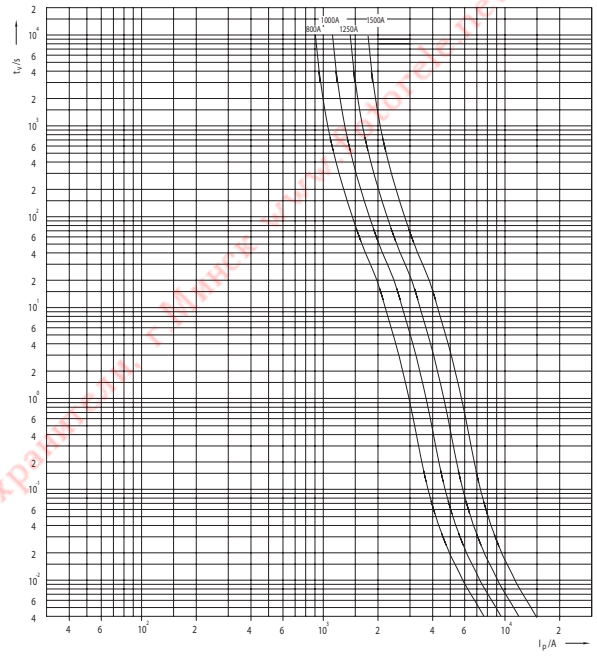
Токовременные характеристики предохранителей Ultra Quick MUQ2, SUQ2 - размеры 00C



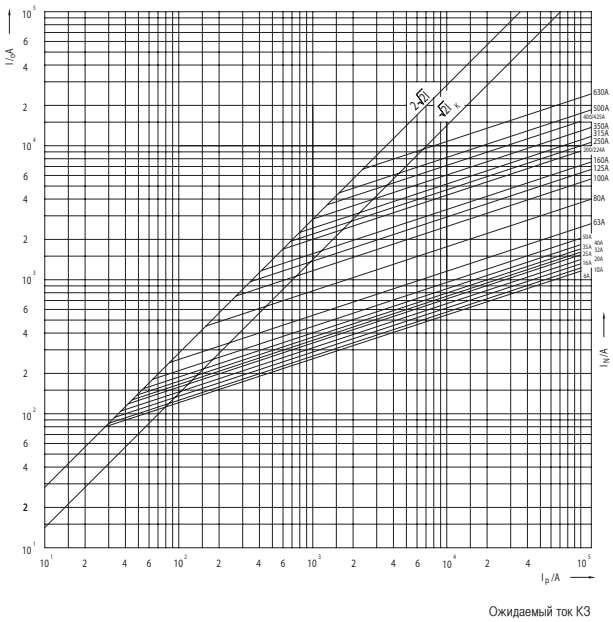
Токовременные характеристики предохранителей Ultra Quick MUQ2, SUQ2, GUQ2 - размеры 1, 2, 3



Токовременные характеристики предохранителей Ultra Quick MUQ2, SUQ2 - размеры 4 и 4a



Характеристики предельного тока отключения для предохранителей Ultra Quick MUQ2, SUQ2, GUQ2 - размеры 00C, 1, 2, 3

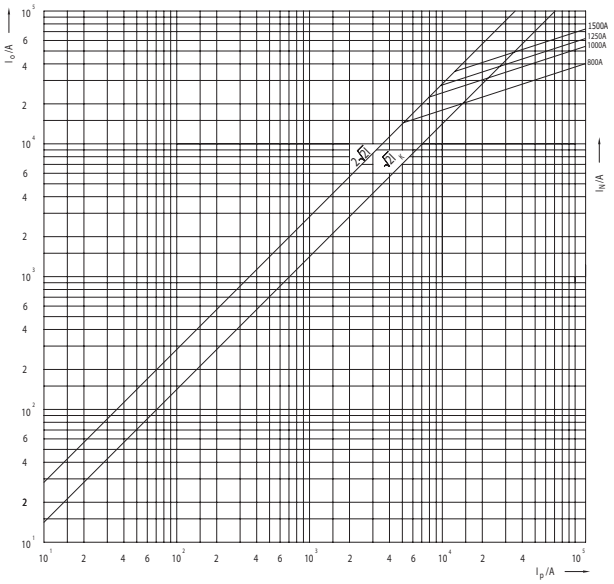


Ожидаемый ток КЗ

СЕРИЯ
UQ2

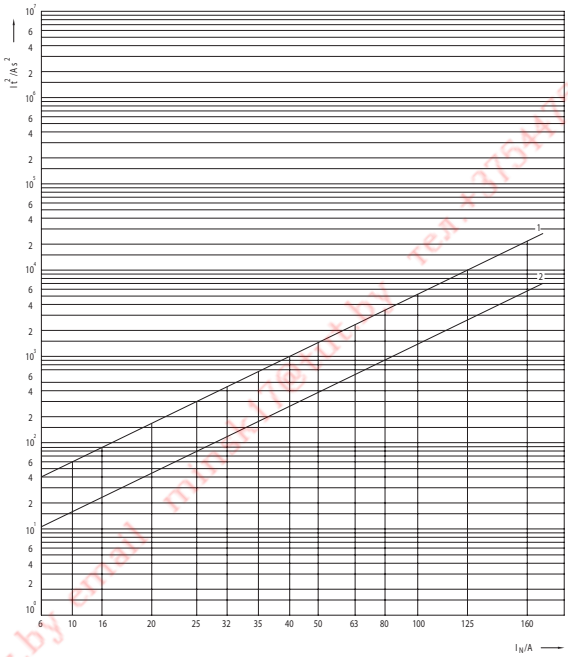
НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~500В

Характеристики предельного тока отключения для предохранителей Ultra Quick MUQ2, SUQ2 - размеры 4 и 4a



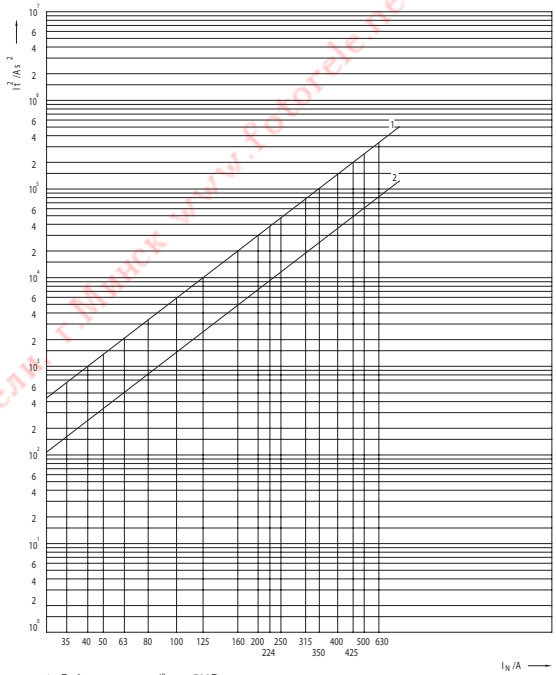
Ожидаемый ток КЗ

Интеграл Джоуля (I^2t) для Ultra Quick MUQ2, SUQ2 - размер 00C



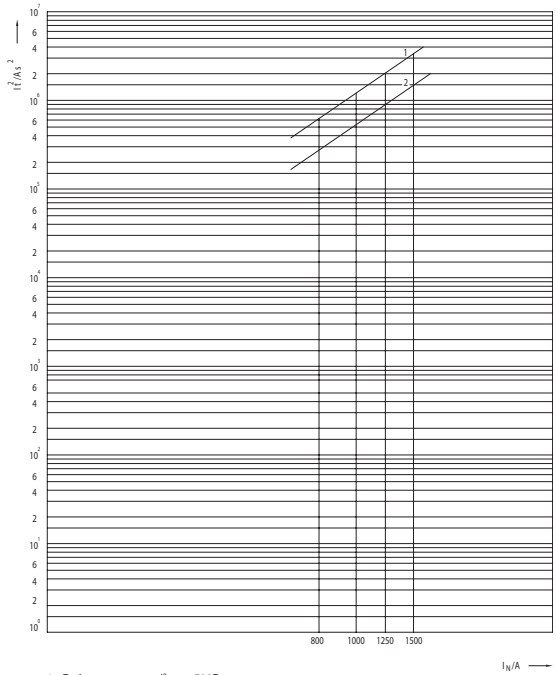
1 - Рабочее значение I^2t при 500В
2 - Значение дуги I^2t

Интеграл Джоуля (I^2t) для Ultra Quick MUQ2, SUQ2 - размер 1, 2, 3



1 - Рабочее значение I^2t при 500В
2 - Значение дуги I^2t

Интеграл Джоуля (I^2t) для Ultra Quick MUQ2, SUQ2 - размер 4 и 4a



1 - Рабочее значение I^2t при 500В
2 - Значение дуги I^2t

ХАРАКТЕРИСТИКИ

СЕРИЯ
UQ2

НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~500В

Потери мощности, энергия дуги и полная энергия для Ultra Quick

Размер	I_N	Потери мощности	Энергия дуги I^2t (1мс)	Полная энергия I^2t ~230В	Полная энергия I^2t ~400В	Полная энергия I^2t ~500В
	A	Вт	A^2s	A^2s	A^2s	A^2s
M00C, S00C	6	7,00	10	24	36	45
	10	8,00	15	32	48	60
	16	9,00	23	47	69	86
	20	10,9	44	91	132	165
	25	13,4	80	165	240	300
	32	14,3	120	248	360	450
	35	15,0	160	369	536	670
	40	16,2	250	550	800	1.000
	50	17,5	400	825	1.200	1.500
M1, S1, G1	63	20,0	600	1.210	1.760	2.200
	80	23,1	900	1.815	2.640	3.300
M2, S2, G2	100	26,4	1.500	3.960	5.760	7.200
	125	34,0	2.500	5.500	8.000	10.000
M3, S3, G3	160	40,1	6.000	11.550	16.800	21.000
	200	43,8	7.900	16.500	24.000	30.000
M4a, S4	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

ГРУППА **NV/NH**

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ2	**M**	**~690В**

Технические данные:

Стандарты:
DIN 43620
VDE 0636-201

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 690В

Характеристика:
gR

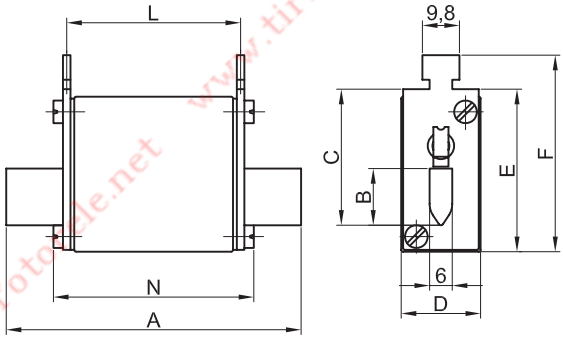
Способ установки:

Предохранители типа M устанавливаются в держателях (например PK).

M00CUQ2/125A/690B

Размер	In (A)	Тип с визуальным индикатором и возможностью подключения сигнального контакта NBS 5	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Характ.	Упаковка (шт)	Вес (г)
00C	10	M00CUQ2/10A/690B	004721204	100	6,5	gR	3/60	140
	16	M00CUQ2/16A/690B	004721205	220	8	gR	3/60	140
	20	M00CUQ2/20A/690B	004721206	320	9,5	gR	3/60	140
	25	M00CUQ2/25A/690B	004721207	600	11,8	gR	3/60	140
	32	M00CUQ2/32A/690B	004721208	920	12,5	gR	3/60	140
	35	M00CUQ2/35A/690B	004721209	920	13,1	gR	3/60	140
	40	M00CUQ2/40A/690B	004721210	1.400	14,1	gR	3/60	140
	50	M00CUQ2/50A/690B	004721211	2.250	15,6	gR	3/60	140
	63	M00CUQ2/63A/690B	004721212	3.600	17,8	gR	3/60	140
	80	M00CUQ2/80A/690B	004721213	6.200	20,6	gR	3/60	140
	100	M00CUQ2/100A/690B	004721214	10.000	23,7	gR	3/60	140
	125	M00CUQ2/125A/690B	004721215	13.000	30	gR	3/60	140
	160	M00CUQ2/160A/690B	004721216	23.000	35,9	gR	3/60	140

Габариты:



Размер	A	B	C	D	E	F	L	N
00C	78	15	35	21	42	52	46	53

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ2	**M**	**~690В**

Технические данные:

Стандарты:
DIN 43620
VDE 0636-201

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 690В

Характеристика:
gR

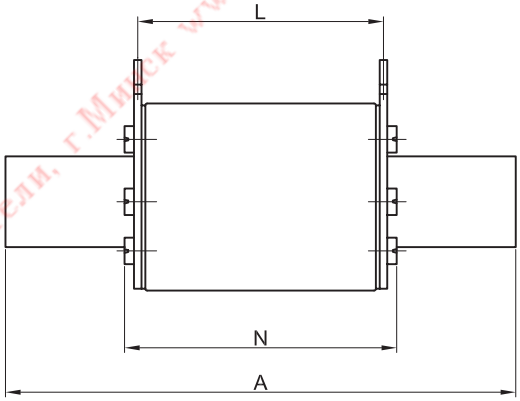
Способ установки:

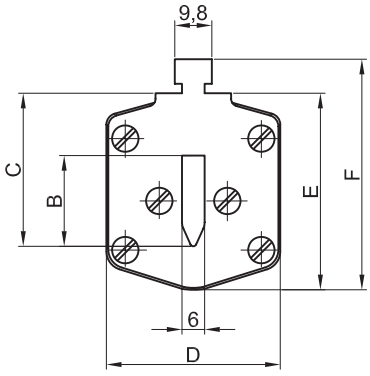
Предохранители типа M устанавливаются в держателях (например PK).

Размер	In (A)	Тип с визуальным индикатором и возможностью подключения сигнального контакта NBS 5	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Характ.	Упаковка (шт)	Вес (г)
1	35	M1UQ2/35A/690B	004723209	920	13,1	gR	3	420
	40	M1UQ2/40A/690B	004723210	1.400	14,1	gR	3	420
	50	M1UQ2/50A/690B	004723211	2.250	15,6	gR	3	420
	63	M1UQ2/63A/690B	004723212	3.600	17,8	gR	3	420
	80	M1UQ2/80A/690B	004723213	6.200	20,6	gR	3	420
	100	M1UQ2/100A/690B	004723214	10.000	23,7	gR	3	420
	125	M1UQ2/125A/690B	004723215	13.000	30	gR	3	420
	160	M1UQ2/160A/690B	004723216	23.000	35,9	gR	3	420
	200	M1UQ2/200A/690B	004723217	47.000	31,5	gR	3	420
	224	M1UQ2/224A/690B	004723218	60.000	36,8	gR	3	420
	250	M1UQ2/250A/690B	004723219	70.000	42,7	gR	3	420
2	125	M2UQ2/125A/690B	004724215	13.000	30	gR	3	660
	160	M2UQ2/160A/690B	004724216	23.000	35,9	gR	3	660
	200	M2UQ2/200A/690B	004724217	47.000	31,5	gR	3	660
	224	M2UQ2/224A/690B	004724218	60.000	36,8	gR	3	660
	250	M2UQ2/250A/690B	004724219	70.000	42,7	gR	3	660
	315	M2UQ2/315A/690B	004724221	110.000	57	gR	3	660
	350	M2UQ2/350A/690B	004724222	150.000	67	gR	3	660
	400	M2UQ2/400A/690B	004724223	170.000	76	gR	3	660
3	250	M3UQ2/250A/690B	004725219	70.000	42,7	gR	3	870
	315	M3UQ2/315A/690B	004725221	110.000	57	gR	3	870
	350	M3UQ2/350A/690B	004725222	150.000	67	gR	3	870
	400	M3UQ2/400A/690B	004725223	170.000	76	gR	3	870
	425	M3UQ2/425A/690B	004725224	200.000	84	gR	3	870
	500	M3UQ2/500A/690B	004725226	240.000	102	gR	3	870
	630	M3UQ2/630A/690B	004725228	400.000	138	gR	3	870

M2UQ2/250A/690B

Габариты:





Размер	A	B	C	D	E	F	L	N
1	135	24	40	46	52	62	65	73
2	150	30	48	54	61	71	65	73
3	150	37	60	64	74	84	65	73

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ2	**S80mm**	**~690В**

Технические данные:

Стандарты:
DIN 43653
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 690В

Характеристика:
gR

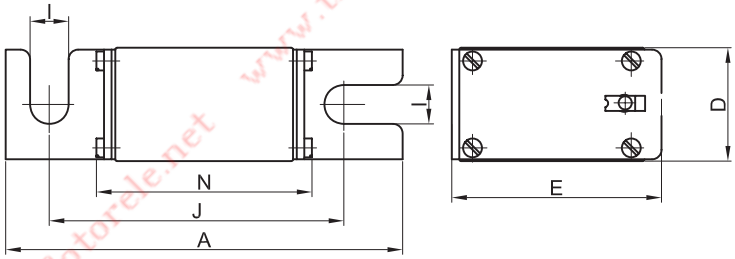
Способ установки:

Предохранители типа S размера 00C устанавливаются в держателях US00-1/80 и монтируются болтами на шину

S00CUQ2/80/125A/690B

Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Характ.	Упаковка (шт)	Вес (г)
00C	10	S00CUQ2/80/10A/690B	004721104	100	6,5	gR	3	140
	16	S00CUQ2/80/16A/690B	004721105	220	8	gR	3	140
	20	S00CUQ2/80/20A/690B	004721106	320	9,5	gR	3	140
	25	S00CUQ2/80/25A/690B	004721107	600	11,8	gR	3	140
	32	S00CUQ2/80/32A/690B	004721108	920	12,5	gR	3	140
	35	S00CUQ2/80/35A/690B	004721109	920	13,1	gR	3	140
	40	S00CUQ2/80/40A/690B	004721110	1.400	14,1	gR	3	140
	50	S00CUQ2/80/50A/690B	004721111	2.250	15,6	gR	3	140
	63	S00CUQ2/80/63A/690B	004721112	3.600	17,8	gR	3	140
	80	S00CUQ2/80/80A/690B	004721113	6.200	20,6	gR	3	140
	100	S00CUQ2/80/100A/690B	004721114	10.000	23,7	gR	3	140
	125	S00CUQ2/80/125A/690B	004721115	13.000	30	gR	3	140
	160	S00CUQ2/80/160A/690B	004721116	23.000	35,9	gR	3	140

Габариты:



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

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ2	**S110mm**	**~690В**

Технические данные:

Стандарты:
DIN 43653
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 690В

Характеристика:
gR

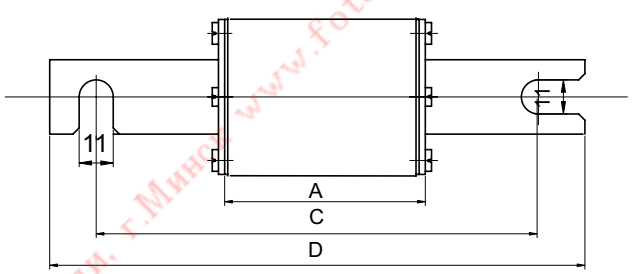
Способ установки:

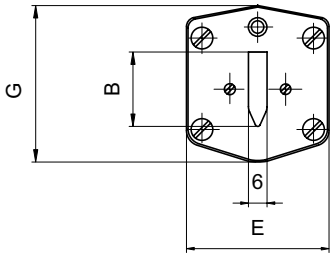
Предохранители типа S 110мм размеров 1, 2, 3 устанавливаются в универсальных держателях US1..3-1/80-110 и монтируются болтами на шину.

Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Характ.	Упаковка (шт)	Вес (г)
1	80	S1UQ2/110/80A/690B	004723113	6.200	9,5	gR	1	390
	100	S1UQ2/110/100A/690B	004723114	10.000	12,7	gR	1	390
	125	S1UQ2/110/125A/690B	004723115	13.000	17,6	gR	1	390
	160	S1UQ2/110/160A/690B	004723116	23.000	23,8	gR	1	390
	200	S1UQ2/110/200A/690B	004723117	47.000	31,5	gR	1	390
	224	S1UQ2/110/224A/690B	004723118	60.000	36,8	gR	1	390
	250	S1UQ2/110/250A/690B	004723119	70.000	42,7	gR	1	390
2	125	S2UQ2/110/125A/690B	004724115	13.000	17,6	gR	3	510
	160	S2UQ2/110/160A/690B	004724116	23.000	23,8	gR	3	510
	200	S2UQ2/110/200A/690B	004724117	47.000	31,5	gR	3	510
	224	S2UQ2/110/224A/690B	004724118	60.000	36,8	gR	3	510
	250	S2UQ2/110/250A/690B	004724119	70.000	42,7	gR	3	510
	315	S2UQ2/110/315A/690B	004724121	110.000	57	gR	3	510
	350	S2UQ2/110/350A/690B	004724122	150.000	67	gR	3	510
	400	S2UQ2/110/400A/690B	004724123	170.000	76	gR	3	510
3	250	S3UQ2/110/250A/690B	004725119	70.000	42,7	gR	3	830
	315	S3UQ2/110/315A/690B	004725121	110.000	57	gR	3	830
	350	S3UQ2/110/350A/690B	004725122	150.000	67	gR	3	830
	400	S3UQ2/110/400A/690B	004725123	170.000	76	gR	3	830
	425	S3UQ2/110/425A/690B	004725124	200.000	84	gR	3	830
	500	S3UQ2/110/500A/690B	004725126	240.000	102	gR	3	830
	630	S3UQ2/110/630A/690B	004725128	400.000	138	gR	3	830

S2UQ2/110/250A/690B

Габариты:





Размер	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

ГРУППА NV/NH

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ2	**G**	**~690В**

Технические данные:

Стандарты:
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 690В

Характеристика:
gR

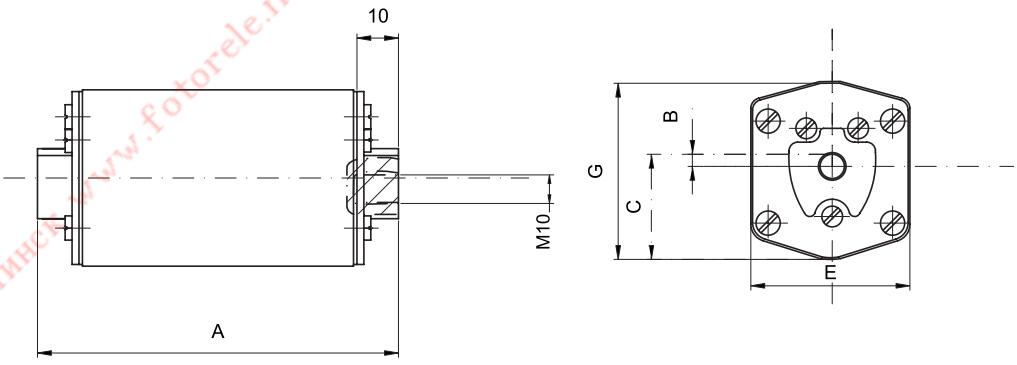
Способ установки:

Предохранители типа G с резьбовыми контактами устанавливаются специальными болтами на шину.

G2UQ2/250A/690B

Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Характ.	Упаковка (шт)	Вес (г)
1	80	G1UQ2/80A/690B	004723513	6.200	9,5	gR	1	360
	100	G1UQ2/100A/690B	004723514	10.000	12,7	gR	1	360
	125	G1UQ2/125A/690B	004723515	13.000	17,6	gR	1	360
	160	G1UQ2/160A/690B	004723516	23.000	23,8	gR	1	360
	200	G1UQ2/200A/690B	004723517	47.000	31,5	gR	1	360
	224	G1UQ2/224A/690B	004723518	60.000	36,8	gR	1	360
	250	G1UQ2/250A/690B	004723519	70.000	42,7	gR	1	360
2	125	G2UQ2/125A/690B	004724515	13.000	17,6	gR	1	520
	160	G2UQ2/160A/690B	004724516	23.000	23,8	gR	1	520
	200	G2UQ2/200A/690B	004724517	47.000	31,5	gR	1	520
	224	G2UQ2/224A/690B	004724518	60.000	36,8	gR	1	520
	250	G2UQ2/250A/690B	004724519	70.000	42,7	gR	1	520
	315	G2UQ2/315A/690B	004724521	110.000	57	gR	1	520
	350	G2UQ2/350A/690B	004724522	150.000	67	gR	1	520
	400	G2UQ2/400A/690B	004724523	170.000	76	gR	1	520
3	250	G3UQ2/250A/690B	004725519	70.000	42,7	gR	1	800
	315	G3UQ2/315A/690B	004725521	110.000	57	gR	1	800
	350	G3UQ2/350A/690B	004725522	150.000	67	gR	1	800
	400	G3UQ2/400A/690B	004725523	170.000	76	gR	1	800
	425	G3UQ2/425A/690B	004725525	200.000	84	gR	1	800
	500	G3UQ2/500A/690B	004725526	240.000	102	gR	1	800
	630	G3UQ2/630A/690B	004725528	400.000	138	gR	1	800

Габариты:

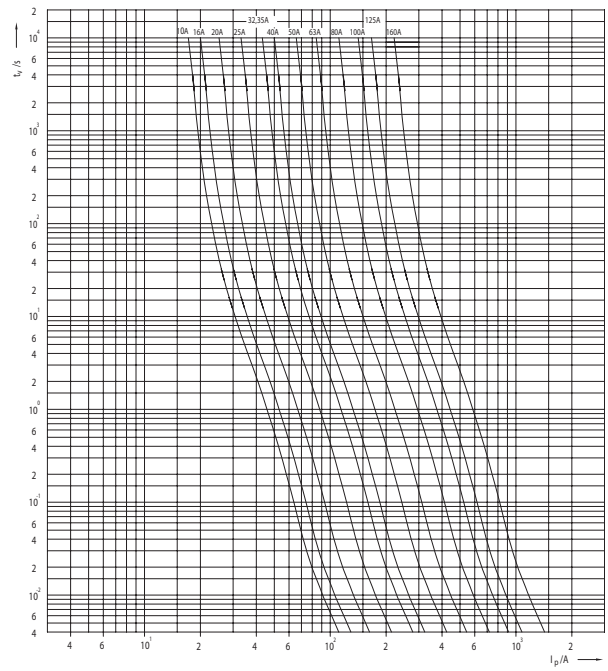


Размер	A	B	C	E	G
1	85	8.5	25	46	50
2	72	2	29.5	54	59
3	83	2	34	64	70

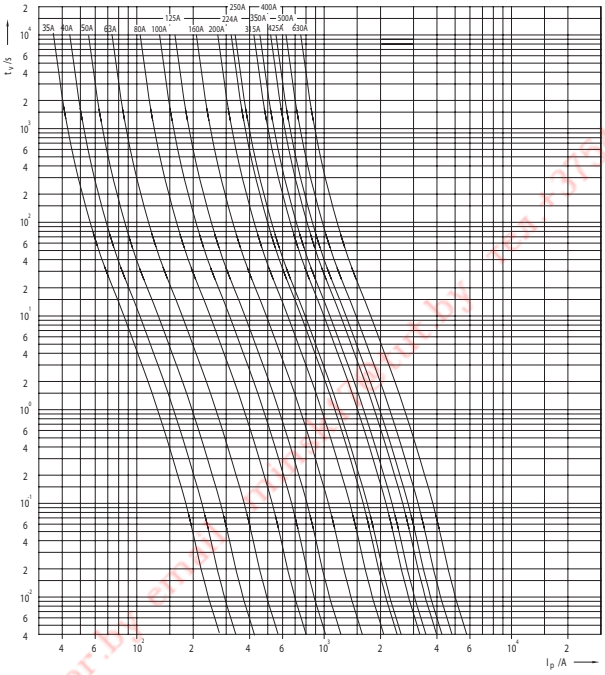
ХАРАКТЕРИСТИКИ

СЕРИЯ	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ2	**~690В**

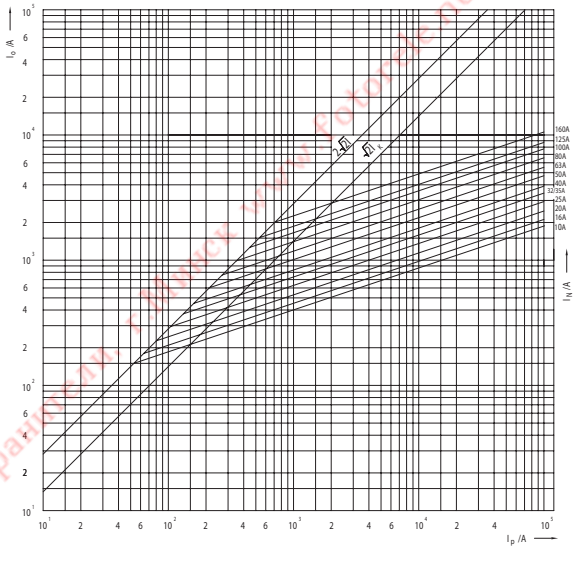
Токовременные характеристики предохранителей Ultra Quick MUQ2, SUQ2 - размеры 00C



Токовременные характеристики предохранителей Ultra Quick MUQ2, SUQ2, GUQ2 - размеры 1, 2, 3

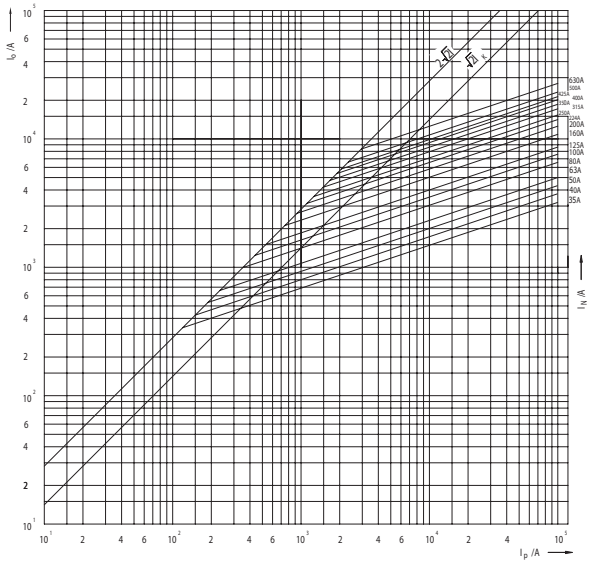


Характеристики предельного тока отключения для предохранителей Ultra Quick MUQ2, SUQ2 - размеры 00C



Ожидаемый ток КЗ

Характеристики предельного тока отключения для предохранителей Ultra Quick MUQ2, SUQ2, GUQ2 - размеры 1, 2, 3

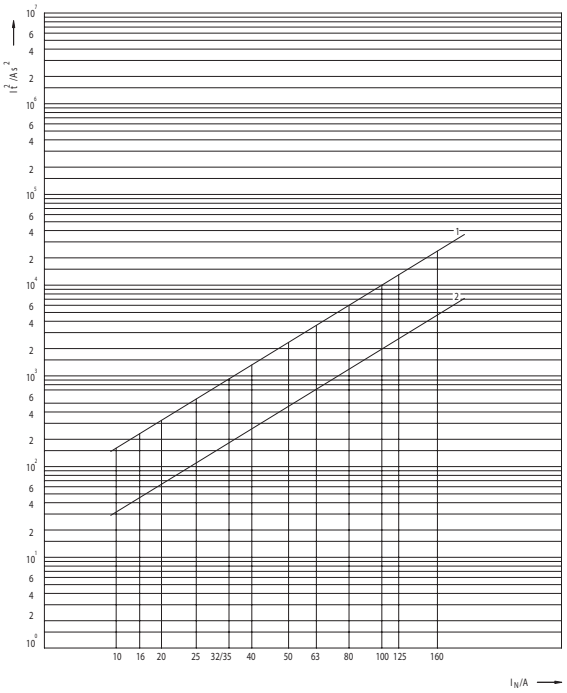


Ожидаемый ток КЗ

СЕРИЯ
UQ2

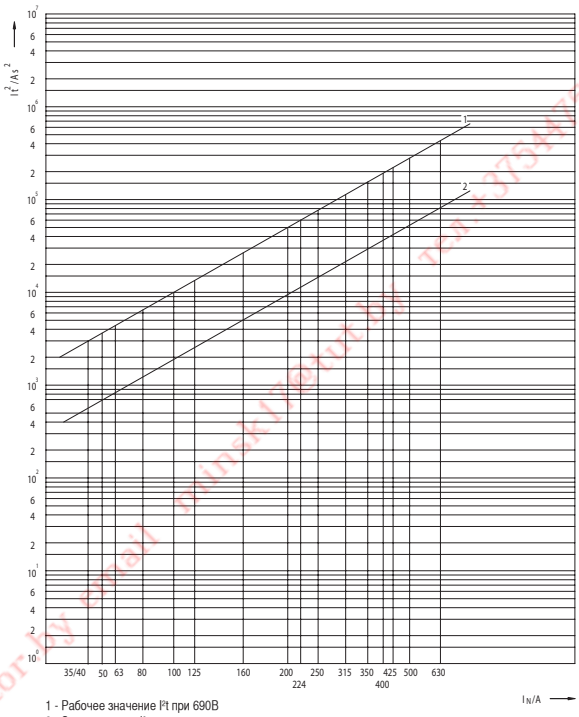
НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~690В

Интеграл Джоуля (I^2t) для Ultra Quick MUQ2, SUQ2 - размер 00C



1 - Рабочее значение I^2t при 690В
2 - Значение дуги I^2t

Интеграл Джоуля (I^2t) для Ultra Quick MUQ2, SUQ2, GUQ2 - размер 1, 2, 3



1 - Рабочее значение I^2t при 690В
2 - Значение дуги I^2t

Потери мощности, энергия дуги и полная энергия для Ultra Quick

Размер	I_N	Потери мощности	Энергия дуги I^2t (1мс)	Полная энергия I^2t ~230В	Полная энергия I^2t ~400В	Полная энергия I^2t ~500В	Полная энергия I^2t ~690В
	A	Вт	A^2s	A^2s	A^2s	A^2s	A^2s
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

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ2	**M**	**~1200В**

Технические данные:

Стандарты:
DIN 43620
VDE 0636-201

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 1200В

Характеристика:
aR

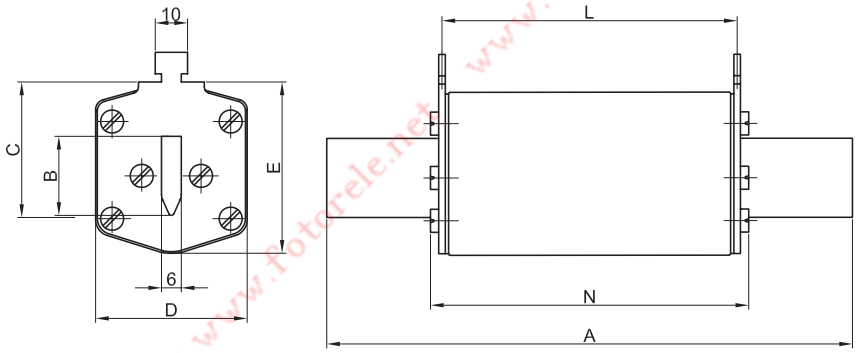
Способ установки:

Предохранители типа M устанавливаются в держателях (например PK).

Размер	In (A)	Тип с визуальным индикатором и возможностью подключения сигнального контакта NBS 5	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Характ.	Упаковка (шт)	Вес (г)
1	80	M1UQ2/80A/1200B	004733213	8.000	35	aR	1	700
	100	M1UQ2/100A/1200B	004733214	12.500	45,9	aR	1	700
	125	M1UQ2/125A/1200B	004733215	20.000	55	aR	1	700
	160	M1UQ2/160A/1200B	004733216	32.000	67	aR	1	700
	200	M1UQ2/200A/1200B	004733217	50.000	84	aR	1	700
	224	M1UQ2/224A/1200B	004733218	63.000	93	aR	1	700
	250	M1UQ2/250A/1200B	004733219	80.000	104	aR	1	700
2	315	M2UQ2/315A/1200B	004734221	120.000	125	aR	1	1050
	350	M2UQ2/350A/1200B	004734222	160.000	141	aR	1	1050
	400	M2UQ2/400A/1200B	004734223	200.000	159	aR	1	1050
3	425	M3UQ2/425A/1200B	004734224	230.000	172	aR	1	1360
	500	M3UQ2/500A/1200B	004734226	320.000	185	aR	1	1360
	630	M3UQ2/630A/1200B	004734228	500.000	198	aR	1	1360

M3UQ2/630A/1200B

Габариты:



Размер	A	B	C	D	E	L	N
1	194	20/24*	40	46	61.5	124	132
2	209	26/30*	48	54	71	124	132
3	209	32/37*	60	64	82	124	132

* Ширина ножа зависит от номинала.

ГРУППА **NV/NH**

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ2	**S170mm**	**~1200В**

Технические данные:

Стандарты:
DIN 43653
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 1200В

Характеристика:
aR

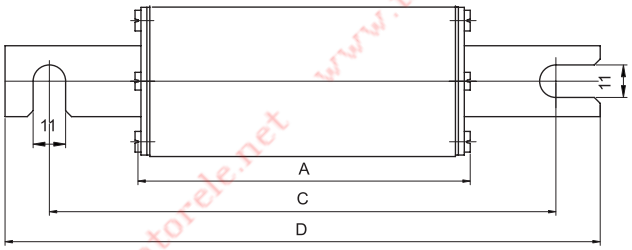
Способ установки:

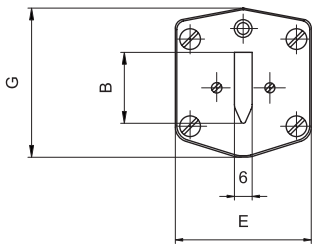
Предохранители типа S 170мм размеров 1, 2, 3 монтируются болтами на шину.

S1UQ2/170/200A/1200B

Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Характ.	Упаковка (шт)	Вес (г)
1	80	S1UQ2/170/80A/1200B	004733113	8.000	35	aR	1	770
	100	S1UQ2/170/100A/1200B	004733114	12.500	45,9	aR	1	770
	125	S1UQ2/170/125A/1200B	004733115	20.000	55	aR	1	770
	160	S1UQ2/170/160A/1200B	004733116	32.000	67	aR	1	770
	200	S1UQ2/170/200A/1200B	004733117	50.000	84	aR	1	770
	224	S1UQ2/170/224A/1200B	004733118	63.000	93	aR	1	770
	250	S1UQ2/170/250A/1200B	004733119	80.000	104	aR	1	770
2	315	S2UQ2/170/315A/1200B	004734121	120.000	125	aR	1	1060
	350	S2UQ2/170/350A/1200B	004734122	160.000	141	aR	1	1060
	400	S2UQ2/170/400A/1200B	004734123	200.000	159	aR	1	1060
3	425	S3UQ2/170/425A/1200B	004735124	230.000	172	aR	1	1380
	500	S3UQ2/170/500A/1200B	004735126	320.000	185	aR	1	1380
	630	S3UQ2/170/630A/1200B	004735128	500.000	198	aR	1	1380

Габариты:





Размер	A	B	C	D	E	G
1	132	25	170	200	46	50
2	132	30	170	200	54	59
3	132	37	170	200	64	70

СЕРИЯ	ТИП	НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
UQ2	**G**	**~1200В**

Технические данные:

Стандарты:
IEC 60269-4-1

Отключающая способность:
~ 200кА
Номинальное напряжение:
~ 1200В

Характеристика:
aR

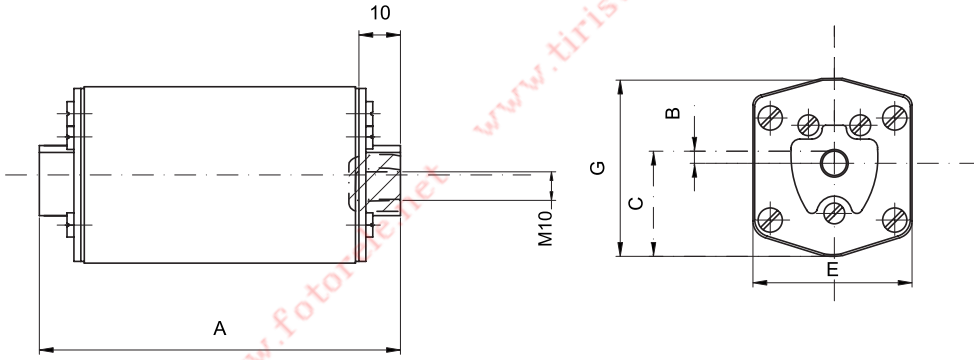
Способ установки:

Предохранители типа G с резьбовыми контактами монтируются специальными болтами на шину

Размер	In (A)	Тип с визуальным индикатором	Код №	Рабочее I^2t-значение (A^2s)	Потери мощн. (Вт)	Характ.	Упаковка (шт)	Вес (г)
1	80	G1UQ2/80A/1200B	004733513	8.000	35	aR	1	750
	100	G1UQ2/100A/1200B	004733514	12.500	45,9	aR	1	750
	125	G1UQ2/125A/1200B	004733515	20.000	55	aR	1	750
	160	G1UQ2/160A/1200B	004733516	32.000	67	aR	1	750
	200	G1UQ2/200A/1200B	004733517	50.000	84	aR	1	750
	224	G1UQ2/224A/1200B	004733518	63.000	93	aR	1	750
	250	G1UQ2/250A/1200B	004733519	80.000	104	aR	1	750
2	315	G2UQ2/315A/1200B	004734521	120.000	125	aR	1	1050
	350	G2UQ2/350A/1200B	004734522	160.000	141	aR	1	1050
	400	G2UQ2/400A/1200B	004734523	200.000	159	aR	1	1050
3	425	G3UQ2/425A/1200B	004735524	230.000	172	aR	1	1350
	500	G3UQ2/500A/1200B	004735526	320.000	185	aR	1	1350
	630	G3UQ2/630A/1200B	004735528	500.000	198	aR	1	1350

G1UQ2/200A/1200B

Габариты:

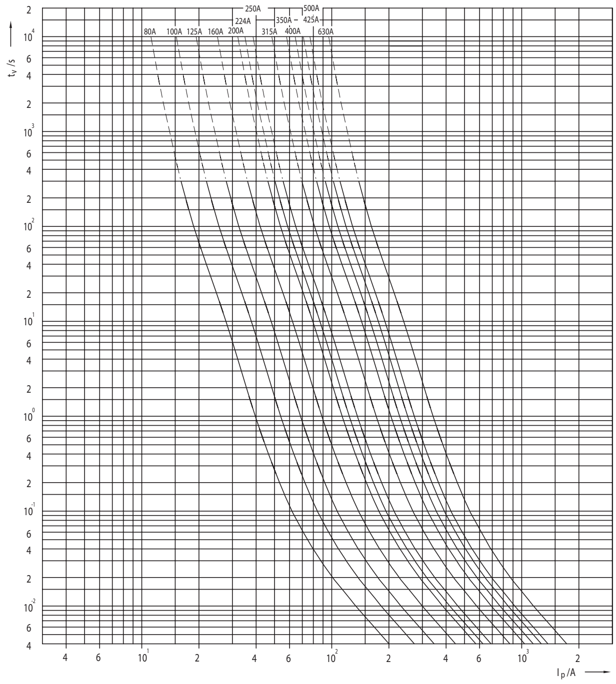


Размер	A	B	C	E	G
1	155	8.5	25	46	50
2	142	2	29.5	54	59
3	142	2	34	64	70

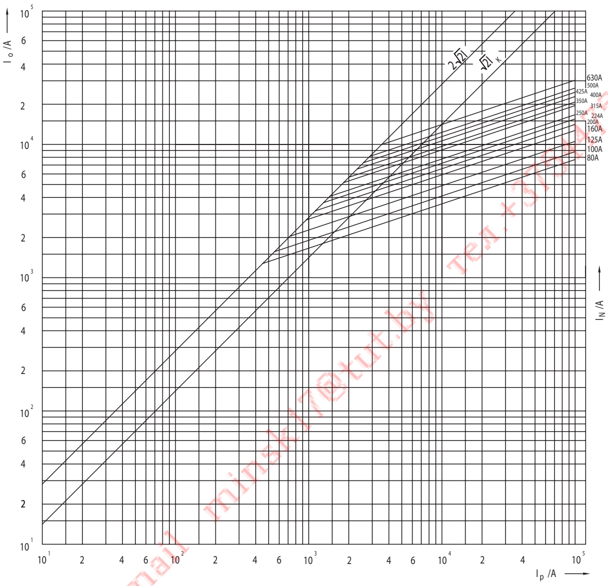
СЕРИЯ
UQ2

НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~1200В

Токовременные характеристики предохранителей Ultra Quick MUQ2, SUQ2, GUQ2 - размеры 1, 2, 3

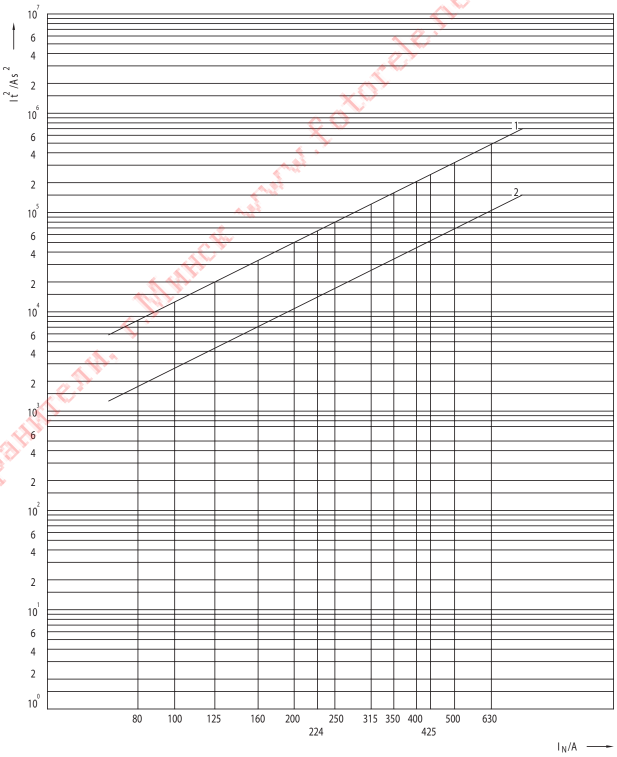


Характеристики предельного тока отключения для предохранителей Ultra Quick MUQ2, SUQ2, GUQ2 - размеры 1, 2, 3



Ожидаемый ток КЗ

Интеграл Джоуля (I²t) для Ultra Quick MUQ2, SUQ2, GUQ2 - размер 1, 2, 3



1 - Рабочее значение I²t при 1200В
2 - Значение дуги I²t

ULTRA QUICK

ХАРАКТЕРИСТИКИ

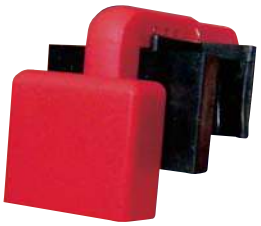
СЕРИЯ
UQ2

НОМИНАЛЬНОЕ НАПРЯЖЕНИЕ
~1200В

Потери мощности, энергия дуги и полная энергия для Ultra Quick

Размер	I_N	Потери мощности	Энергия дуги I^2t (1мс)	Полная энергия I^2t ~230В	Полная энергия I^2t ~400В	Полная энергия I^2t ~500В	Полная энергия I^2t ~690В	Полная энергия I^2t ~1000В	Полная энергия I^2t ~1200В
	A	Вт	A^2s	A^2s	A^2s	A^2s	A^2s	A^2s	A^2s
M1, S1, G1 M2, S2, G2, M3, S3, G3	80	35,0	1.650	3.440	4.240	5.200	6.000	7.200	8.000
	100	45,9	2.500	5.375	6.625	8.125	9.375	11.250	12.500
	125	55	4.200	8.600	10.600	13.000	15.000	18.000	20.000
	160	67	7.000	13.760	16.960	20.800	24.000	28.800	32.000
	200	84	11.000	21.500	26.500	32.500	37.500	45.000	50.000
	224	93	15.000	27.090	33.390	40.950	47.250	56.700	63.000
	250	104	17.000	34.400	42.400	52.000	60.000	72.000	80.000
	315	125	25.000	51.600	63.600	78.000	90.000	108.000	120.000
	350	141	32.000	68.800	84.800	104.000	120.000	144.000	160.000
	400	159	42.000	86.000	106.000	130.000	150.000	180.000	200.000
	425	172	58.000	98.900	121.900	149.500	172.500	207.000	230.000
	500	185	77.000	137.600	169.600	208.000	240.000	288.000	320.000
	630	198	110.000	215.000	265.000	325.000	375.000	450.000	500.000

АКСЕССУАРЫ



Сигнальный контакт NVS 5

Технические данные:	Способ установки:
Номинальный ток: **~ 5A** Номинальное напряжение: **~ 125В , ~250 В**	Сигнальный контакт NVS-5 устанавливается на предохранителях типа M.

In (A)	Тип	Код №	Упаковка (шт)	Вес (г)
5	NVS 5	004349004	10/340	11.5

Сигнальный контакт MK

Технические данные:	Способ установки:
Номинальный ток: **~ 6A** Номинальное напряжение: **~ 250 В**	Сигнальный контакт MK устанавливается в предохранителях типа S-M и G-M.

Сигнальный контакт MK	Адаптер AMK1 для предохранителей ~ 690В	Адапрер AMK2 для предохранителей ~ 1000В
 **Рис.05**	 **Рис.06**	 **Рис.07**

In (A)	Тип	Код №	Упаковка (шт)	Вес (г)
5	MK	004349003	1/1	10г
-	AMK1	004349001	1/1	15г
-	AMK2	004349002	1/1	23г

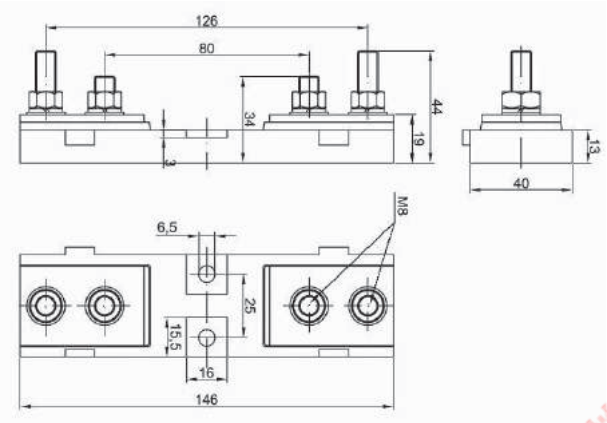
Сигнальный контакт MK + адаптер AMK 1 устанавливаются на предохранители типа S-M и G-M/ 690В.

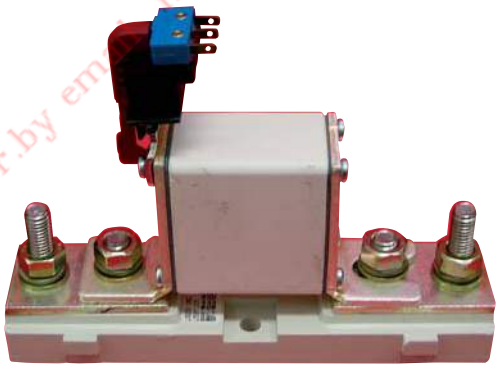
Сигнальный контакт MK + адаптер AMK 2 устанавливаются на предохранители типа S-M и G-M/ 1000В.

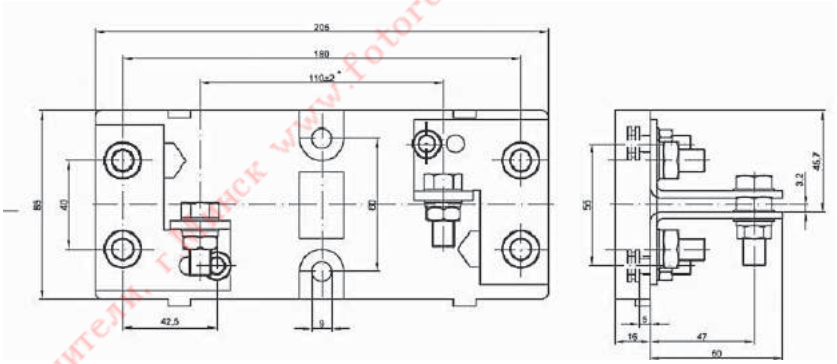
Держатели предохранителей US

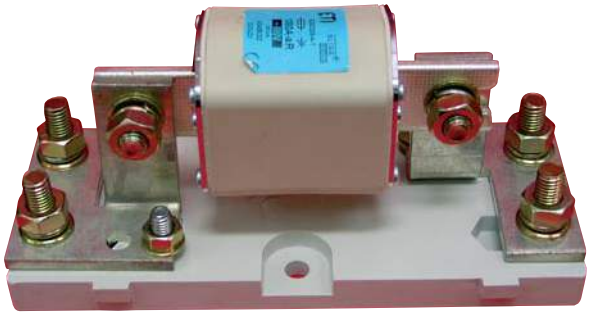
Технические данные:			Способ установки:
Номинальное напряжение: **~ 690В, ~1000В**	US00 Номинальный ток: **~ 160А , (~ 690В)** **~125А , (~ 1000В)**	US1..3 Номинальный ток: **~ 710А, (~ 690В)** **~500А, (~ 1000В)**	Используются для установки в них предохранителей Ultra Quick типа S.

Тип	Код №	Упаковка (шт)	Вес (г)
US00-1/80	004349005	1/1	185г
US1..3-1/80-110	004349006	1/1	950г









Для заметок:

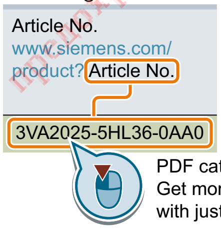
Для заметок:

Для заметок:

Fuse Systems

NEW

Direct reference to the products in the Industry Mall from the selection and ordering data tables:



Paper catalog:
To get more product information enter the Web address plus Article No.

PDF catalog:
Get more product information with just a mouse click.

For further technical product information:

Configuration Manual

Fuse Systems
Article No.: 3ZW1012-3NW10-0AC1

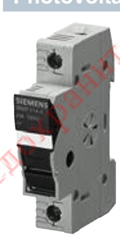
Siemens Industry Online Support:

www.siemens.com/lowvoltage/product-support

→ Entry type:
- Application example
- Certificate
- Characteristic
- Download
- FAQ
- Manual
- Product note
- Software archive
- Technical data

Overview

Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
	**NEOZED fuse systems**	5/4	MINIZED switch disconnectors, bases, fuse links from 2 A to 63 A of operational class gG and accessories. Everything you need for a complete system.	Fuse system: IEC 60269-3; DIN VDE 0636-3 Safety switching devices: IEC/EN 60947-3 DIN VDE 0638; EN 60947-3 (VDE 0660-107)	✓	✓	✓
	**DIAZED fuse systems**	5/12	Fuse links from 2 A to 100 A in various operational classes, base versions with classic screw base connections. A widely used fuse system.	IEC 60269-3; DIN VDE 0635; DIN VDE 0636-3; CEE 16	✓	✓	✓
Cylindrical fuse systems							
	**Cylindrical fuse links and cylindrical fuse holders**	5/18	Line protection or protection of switching devices. The fuse holders with touch protection ensure the safe "no-voltage" replacement of fuse links. Auxiliary switches can be retrofitted.	IEC 60269-1, -2, -3; NF C 60-200; NF C 63-210, -211; NBN C 63269-2, CEI 32-4, -12 Fuse holders: File No. E171267	✓	✓	✓
	**Fuse holders in size 10 x 38 mm and Class CC**	5/22	For installing fused loaded motor starter combinations.	IEC 60269-1,-2; IEC 60947-4; UL 4248-1, File No. E171267 CSA 250269, 6225-01 Auxiliary switches: UL 508, File No. E334003	✓	--	✓
	**Class CC fuse systems**	5/26	These comply with the American standard and have UL and CSA approval, for customers exporting OEM products and machine builders. Modern design with touch protection according to BGV A3 for use in "branch circuit protection".	Fuse holders: UL 4248-1, E171267 CSA 22.2 Fuse links: UL 248-4, File No. E258218, CSA 231237, 1422-02 and 1422-82	✓	✓	✓
	**Busbar systems**	5/28	Busbars for NEOZED fuse bases, NEOZED fuse disconnectors, MINIZED switch disconnectors, DIAZED fuse systems and for the cylindrical fuse systems. Compact cylindrical fuse holders for busbars	EN 60439-1 (VDE 0660-500) UL 4248-1, E337131	✓	✓	✓

Devices		Page	Application	Standards	Used in: Non-residential buildings	Used in: Residential buildings	Used in: Industry
3NA, 3ND LV HRC fuse systems							
	**LV HRC fuse links**	5/34	Fuse links from 2 A to 1250 A for selective line protection and system protection in non-residential buildings, industry and power utilities.	IEC 60269-1, -2; EN 60269-1; DIN VDE 0636-2; CSA 16325 - 1422-02	✓	✓	✓
	**LV HRC signal detectors**	5/43	Signal detectors for when a fuse is tripped on all LV HRC fuse links with combination or front indicators with non-insulated grip lugs. Plus the comprehensive accessory range required for LV HRC fuse systems.	--	✓	✓	✓
	**LV HRC fuse bases and accessories**	5/45	Fuse bases for screw or snap-on mounting onto standard mounting rails, available as 1-pole or 3-pole version.	IEC 60269-1, -2; EN 60269-1; DIN VDE 0636-2 UL 4248-1, File No. E171267-IZLT2 (only downstream from the branch protection) CSA C22.2 No. 4248.1-07	✓	✓	✓
SITOR semiconductor fuses							
	**LV HRC design**	5/53	Fuse links in LV HRC design and a huge variety of models support a wide range of applications from 500 V to 1500 V and 150 A to 1600 A. Fuses with slotted blade contacts, bolt-on links or female thread and special designs.	UL 4248-13, File No. E167357-JFHR2	--	--	✓
	**Cylindrical fuse design**	5/63	Fuse links, fuse holders – usable as fuse switch disconnectors and fuse bases up to 600/690 V AC and 400/700 V DC from 1 A to 100 A in the sizes 10 × 38 mm, 14 × 51 mm and 22 × 58 mm.	Fuse links: UL 4248-13, File No. E167357-JFHR2 CSA 248170, 1422-30 Fuse holders: UL 4248-1, File No. E171267- IZLT CSA 248170, 6225-01	--	--	✓
	**NEOZED, DIAZED design**	5/67	NEOZED fuse links for 400 V AC and 250 V DC and DIAZED for 500 V AC and 500 V DC.	--	--	--	✓
Photovoltaic fuses							
	**PV cylindrical fuses**	5/70	Fuses with a rated voltage of 1000 V DC and 1500 V and gPV operational class for the protection of photovoltaic modules, their connecting cables and other components.	IEC 60269-6	✓	✓	✓
	**PV cumulative fuses**	5/72	Fuses with a rated voltage of 1000 V and 1500 V DC, a rated current of 63 A to 630 A and operational class gPV for the protection of connecting cables and other components.	IEC60269-6	✓	✓	✓

Introduction

Overview

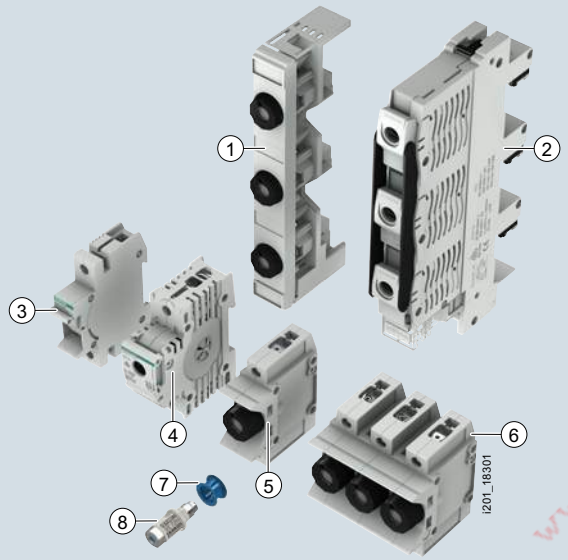
The NEOZED fuse system is primarily used in distribution technology and industrial switchboard assemblies. The system is easy to use and is also approved for domestic installation.

The MINIZED switch disconnectors are primarily used in switchboard assemblies and control engineering. They are approved for switching loads as well as for safe switching in the event of short circuits. The MINIZED D02 is also suitable for use upstream of the meter in household applications in compliance with the recommendations of the VDEW according to TAB.

Due to its compact design, the MINIZED D01 fuse switch disconnector is primarily used in control engineering.

The NEOZED fuse bases are the most cost-effective solution for using NEOZED fuses. All NEOZED bases must be fed from the bottom to ensure that the threaded ring is insulated during removal of the fuse link. The terminals of the NEOZED bases are available in different versions and designs to support the various installation methods.

Benefits



1. NEOZED D02 bus-mounting base for 60 mm busbar system, with NEOZED screw cap
2. NEOZED D02 bus-mounting switch disconnector for 60 mm busbar system
3. MINIZED D01 fuse switch disconnector
4. MINIZED D02 switch disconnector
5. NEOZED comfort base, 1-pole (fuse base with touch protection BGV A3), with NEOZED screw cap
6. NEOZED comfort base, 3-pole (fuse base with touch protection BGV A3), with NEOZED screw cap
7. NEOZED adapter sleeve
8. NEOZED fuse link

Compared to the older DIAZED fuse system, the NEOZED fuse system is significantly more modern:

- Much more compact which saves space in the distribution board
- Modern devices like the MINIZED switching devices, which combine the functions of a switch disconnector and a fuse base
- Wide range of accessories, such as busbars for one, two, or three-phase wiring
- Modern terminals for MINIZED D02 and NEOZED comfort bases: Visible, clear and controllable connection simplifies cable entry

Double terminal chambers permit connection of two wires of different cross-sections

- Lower power loss of the fuse links

Even when compared to the internationally prevalent cylindrical fuse system, the NEOZED fuse system has considerable advantages:

- Non-interchangeability – thanks to use of adapter sleeves (i.e. it is not possible to insert a fuse for larger currents). This is a requirement of numerous wiring regulations in Germany and other European countries.
- Switching devices with load switching characteristics allow the safe switching of load currents up to 63 A

Technical specifications

		NEOZED fuse links 5SE2
Standards		IEC 60269-3; DIN VDE 0636-3
Operational class		gG
Rated voltage U_n	V AC	400
	V DC	250
Rated current I_n	A	2 ... 100
Rated breaking capacity	kA AC	50
	kA DC	8
Non-interchangeability		Using adapter sleeves
Resistance to climate	°C	Up to 45 at 95 % rel. humidity
Ambient temperature	°C	-5 ... +40, humidity 90 % at 20

		MINIZED switch disconnectors	MINIZED fuse switch disconnectors	Fuse bases, made of ceramic			Comfort bases	Fuse bases
		D02	D01	D01	D02	D03	D01/02	
		5SG71	5SG76	5SG15 5SG55	5SG16 5SG56	5SG18	5SG1.01 5SG5.01	5SG1.30 5SG1.31 5SG5.30
Standards		DIN VDE 0638; EN 60947-3 (VDE 0660-107) IEC/EN 60947-3		IEC 60269-3; DIN VDE 0636-3				
Main switch characteristic EN 60204-1		Yes	--	--				
Insulation characteristic EN 60664-1		Yes	--	--				
Rated voltage U_n	V AC	230/400, 240/415		400				
• 1P	V DC	65	48	250				
• 2P in series	V DC	130	110	250				
Rated current I_n	A	63	16	16	63	100	16/63	16/63
Rated insulation voltage	V AC	500	690	--				
Rated impulse withstand voltage	kV AC	6	6	--				
Overvoltage category		IV	IV	--				
Utilization category acc. to VDE 0638								
• AC-22	A	63	16	--				
Utilization category acc. to EN 60947-3								
• AC-22 A	A	--	16	--				
• AC-22 B	A	63	--	--				
• AC-23 B	A	35	--	--				
• DC-22 B	A	63	--	--				
Sealable When switched on		Yes		Yes, with sealable screw caps				
Mounting position		Any, preferably vertical						
Reduction factor of I_n with 18 pole								
• Side-by-side mounting		0.9	--					
• On top of one another, with vertical standard mounting rail		0.87	--					
Degree of protection acc. to IEC 60529		IP20, with connected conductors[1)]						
Terminals With touch protection acc. to BGV A3		Yes		No			Yes	
Ambient temperature	°C	-5 ... +40, humidity 90 % at 20						
Terminal versions		Box terminals	Box terminal	B	K, S	K/S	Box terminal	Box terminal
Conductor cross-sections								
• Solid and stranded	mm^2	1.5 ... 35	1.5 ... 16	1.5 ... 4	2.5 ... 25	10 ... 50	0.75 ... 35	1.5 ... 35
• Flexible, with end sleeve	mm^2	1.5 ... 35	1.5 ... 10	1.5 ... 4	1.5 ... 16	10 ... 35	--	--
Tightening torque	Nm	2.5 ... 3	2.5	1.2	2	3.5/2.5	3.5	3

1) Degree of protection IP20 is tested according to regulations using a straight test finger (from the front), with the device mounted and equipped with a cover, housing or some other enclosure.

More information

Fuse bases D01 with terminal version BB

- Incoming feeders, clamp-type terminal B
- Outgoing feeders, clamp-type terminal B

Fuse bases D02, with terminal version KS

- Incoming feeders, screw head contact K
- Outgoing feeders, saddle terminal S

Fuse bases D02, with terminal version SS

- Incoming feeders, saddle terminal S
- Outgoing feeders, saddle terminal S

Selection and ordering data

	Size	I_n	Identification color	Mounting width	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A		MW							kg
	NEOZED fuse links, rated voltage 400 V AC/250 V DC, operational class gG										
	D01	2	Pink	--	▶	**5SE2302**		1	10/2000 units	1BM	0.006
		4	Brown		▶	**5SE2304**		1	10/2000 units	1BM	0.006
		6	Green			**5SE2306**		1	10/2000 units	1BM	0.007
		10	Red	--	▶	**5SE2310**		1	10/2000 units	1BM	0.007
		13	Black			**5SE2013-2A**		1	10 units	1BM	0.007
		16	Gray		▶	**5SE2316**		1	10/2000 units	1BM	0.007
	D02	20	Blue	--		**5SE2320**		1	10/1200 units	1BM	0.012
		25	Yellow		▶	**5SE2325**		1	10/1200 units	1BM	0.013
		32	Violet			**5SE2332**		1	10/1200 units	1BM	0.014
		35	Black	--		**5SE2335**		1	10/1200 units	1BM	0.014
		40	Black			**5SE2340**		1	10/1200 units	1BM	0.013
		50	White			**5SE2350**		1	10/1200 units	1BM	0.014
		63	Copper			**5SE2363**		1	10/1200 units	1BM	0.015
	D03	80	Blue	--		**5SE2280**		1	10 units	1BM	0.038
		100	Red			**5SE2300**		1	10 units	1BM	0.040

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* You can order this quantity or a multiple thereof.

Selection and ordering data

	Size	Number of poles	I_n	Mounting width	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
			A	MW							kg
	MINIZED switch disconnectors with fuses using draw-out technology with touch protection to BGV A3 (adapter sleeves not included in the scope of delivery)										
	D02	1P	63	1.5		**5SG7113**		1	1/78 units	1BM	0.135
		1P+N	63	3		**5SG7153**		1	1 unit	1BM	0.245
		2P	63	3		**5SG7123**		1	1 unit	1BM	0.277
		3P	63	4.5		**5SG7133**		1	1/24 units	1BM	0.409
		3P+N	63	6		**5SG7163**		1	1 unit	1BM	0.491
	Versions for Austria only, with permanently fitted adapter sleeves, incl. fuse link										
	D02	3P	25	4.5		**5SG7133-8BA25**		1	1 unit	1BM	0.446
			35			**5SG7133-8BA35**		1	1 unit	1BM	0.423
			50			**5SG7133-8BA50**		1	1 unit	1BM	0.425
	Reducers										
	For fuse links D01 in MINIZED switch disconnectors D02					**5SH5527**		1	10/100 units	1CU	0.001
	Auxiliary switches (AS)										
	For MINIZED D02 switch disconnectors										
	1 NO + 1 NC			0.5	►	**5ST3010**		1	1 unit	1AD	0.055
	2 NO					**5ST3011**		1	1/138 units	1AD	0.065
	2 NC					**5ST3012**		1	1/138 units	1AD	0.066
	Technical specifications see chapter "Miniature Circuit Breakers"–> Additional components"										
	Auxiliary switches (AS) with TEST button										
	For MINIZED D02 switch disconnectors										
	1 NO + 1 NC			0.5		**5ST3010-2**		1	1 unit	1AD	0.071
	2 NO					**5ST3011-2**		1	1 unit	1AD	0.068
	2 NC					**5ST3012-2**		1	1 unit	1AD	0.071
	For technical specifications see chapter "Miniature Circuit Breakers"–> Additional components"										
	MINIZED fuse switch disconnectors Using draw-out technology with touch protection acc. to BGV A3										
	D01	1P	6[1]	1		**5SG7611-0KK06**		1	12 units	1BM	0.079
		3P	6[1]	3		**5SG7631-0KK06**		1	4 units	1BM	0.238
		1P	10	1		**5SG7611-0KK10**		1	12 units	1BM	0.077
		3P	10	3		**5SG7631-0KK10**		1	4 units	1BM	0.237
		1P	16	1		**5SG7611-0KK16**		1	12 units	1BM	0.072
		1P+N	16	2		**5SG7651-0KK16**		1	6 units	1BM	0.154
		2P	16	2		**5SG7621-0KK16**		1	6 units	1BM	0.158
		3P	16	3		**5SG7631-0KK16**		1	4 units	1BM	0.216
		3P+N	16	4		**5SG7661-0KK16**		1	3 units	1BM	0.317

[1] For 2 A, 4 A, 6 A fuses.

For busbars, see page 5/30.

* You can order this quantity or a multiple thereof.

Selection and ordering data

	Size	Number of poles	I_n A	Matching cover[1]	Terminals[2]	Mounting width MW	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	NEOZED comfort bases made of molded plastic With touch protection according to BGV A3												
	D01	1P	16	--		1.5		5SG1301		1	3/72 units	1BM	0.134
	D02		63	--		1.5		5SG1701		1	3/72 units	1BM	0.131
	D01	3P	16	--		4.5		5SG5301		1	1 unit	1BM	0.401
	D02		63	--		4.5		5SG5701		1	1/30 units	1BM	0.397
	NEOZED fuse bases made of molded plastic												
	For snap-on mounting on standard mounting rails, with cover												
	D01	1P	16	(A1)		1.5		5SG1330		1	6/108 units	1BM	0.075
	D02		63	(A1)		1.5		5SG1730		1	6/108 units	1BM	0.089
	For snap-on mounting on standard mounting rails, without cover												
	D01	1P	16	A1		1.5		5SG1331		1	6/144 units	1BM	0.069
	D02		63	A1		1.5		5SG1731		1	6/144 units	1BM	0.083
	For snap-on mounting on standard mounting rails, with cover												
	D01	3P	16			4.5		5SG5330		1	2/108 units	1BM	0.226
	D02		63			4.5		5SG5730		1	2/108 units	1BM	0.269
	NEOZED fuse bases made of ceramic												
	For snap-on mounting on standard mounting rails, with cover												
	D01	1P	16	(A4)	BB	1.5		5SG1553		1	6/90 units	1BM	0.072
	D02		63	(A10)	SS	1.5		5SG1653		1	6/108 units	1BM	0.092
	D02		63	(A10)	KS	1.5		5SG1693		1	6/108 units	1BM	0.085
	For snap-on mounting on standard mounting rails, without cover												
	D01	1P	16	A4, A8	BB	1.5		5SG1595		1	6 units	1BM	0.064
	D02		63	A10, A8	SS	1.5		5SG1655		1	6 units	1BM	0.085
	D02		63	A10, A8	KS	1.5		5SG1695		1	6 units	1BM	0.077
	D03		100	A6, A9	KS	2.5		5SG1812		1	10 units	1BM	0.204
	For snap-on mounting on standard mounting rails, with cover												
	D01	3P	16		BB	4.5		5SG5553		1	2/40 units	1BM	0.212
	D02		63		SS	4.5		5SG5653		1	2/108 units	1BM	0.290
	D02		63		KS	4.5		5SG5693		1	2 units	1BM	0.265

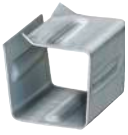
[1] Covers with brackets are part of the scope of delivery.
Covers without brackets are not part of the scope of delivery.

[2] For terminal versions, see page 5/6.

NEOZED fuse bases and accessories

	Size	I_n	Matching cover	Mounting width	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A		MW							kg
	NEOZED covers										
	Made of molded plastic, plug-in, for fuse bases made of molded plastic										
	D01, D02		A1	1.5		5SH5244		1	15 units	1BM	0.007
	For fuse bases made of ceramic										
	D01		A4	1.5		5SH5251		1	15 units	1BM	0.009
	D02		A10	1.5		5SH5253		1	15 units	1BM	0.009
	Screw-on										
	D03		A6	2.5		5SH5233		1	20 units	1BM	0.021
	NEOZED caps										
	Made of molded plastic, plug-in										
	D01, D02		A8			5SH5235		1	5 units	1BM	0.029
	Screw-on										
	D03		A9			5SH5234		1	10 units	1BM	0.065

* You can order this quantity or a multiple thereof.

	Size	For fuse links A	Identification color	Mounting width MW	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	NEOZED screw caps										
	Molded plastic, with inspection hole										
	D01					5SH4116		1	10/1000 units	1BM	0.009
	D02					5SH4163		1	10/200 units	1BM	0.011
	Ceramic										
	D01, sealable					5SH4316		1	20 units	1BM	0.017
	D02, sealable					5SH4363		1	20 units	1BM	0.019
	D03					5SH4100		1	10 units	1BM	0.089
	Ceramic, with inspection hole										
	D01					5SH4317		1	20 units	1BM	0.017
	D02					5SH4362		1	20/800 units	1BM	0.017
	NEOZED adapter sleeves										
	D01	2	Pink			5SH5002		1	50/2800 units	1BM	0.001
		4	Brown			5SH5004		1	50/2800 units	1BM	0.001
		6	Green			5SH5006		1	50/2800 units	1BM	0.001
		10/13	Red			5SH5010		1	50/2800 units	1BM	0.001
	D02	20	Blue			5SH5020		1	50/2800 units	1BM	0.001
		25	Yellow			5SH5025		1	50/2800 units	1BM	0.001
		32	Violet			5SH5032		1	50 units	1BM	0.002
		35/40	Black			5SH5035		1	50/2800 units	1BM	0.001
		50	White			5SH5050		1	50/2800 units	1BM	0.001
	D03	80	Silver			5SH5080		1	25 units	1BM	0.002
	For fuse links D01 in base D02 and MINIZED D02 switch disconnectors										
	D02	2	Pink			5SH5402		1	10/2800 units	1BM	0.002
		4	Brown			5SH5404		1	10/2800 units	1BM	0.002
		6	Green			5SH5406		1	10/2800 units	1BM	0.002
		10/13	Red			5SH5410		1	10/2800 units	1BM	0.002
		16	Gray			5SH5416		1	10/2800 units	1BM	0.002
	NEOZED adapter sleeve fitters										
						5SH5100		1	1/10 units	1BM	0.029
	NEOZED retaining springs										
	For fuse links D01 in screw caps										
	D02	2 ... 16				5SH5400		1	25/2800 units	1BM	0.002

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* You can order this quantity or a multiple thereof.

Overview

The DIAZED fuse system is one of the oldest fuse systems in the world. It was developed by Siemens as far back as 1906. It is still the standard fuse system in many countries to this day. It is particularly widely used in the harsh environments of industrial applications.

The series is available with rated voltages from 500 V to 750 V.

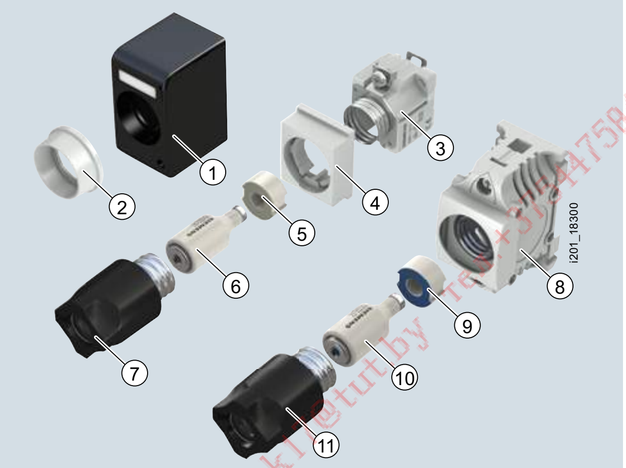
All DIAZED bases must be fed from the bottom to ensure an insulated threaded ring when the fuse link is being removed. Reliable contact of the fuse links is only ensured when used together with DIAZED screw adapters.

The terminals of the DIAZED bases are available in different versions and designs to support the various installation methods.

The high-performing EZR bus-mounting system for screw fixing is an outstanding feature. The busbars, which are particularly suited for bus-mounting bases, have a load capacity of up to 150 A with lateral infeed.

DIAZED stands for **Dia**metral gestuftes **z**weiteiliges Sicherungssystem mit **Ed**isongewinde (diametral two-step fuse system with Edison screw).

Benefits



(1) DIAZED cap for fuse bases
(2) DIAZED collar for fuse bases
(3) DIAZED fuse bases
(4) DIAZED cover for fuse bases
(5) (9) DIAZED screw adapter
(6) (10) DIAZED fuse link
(7) (11) DIAZED screw cap
(8) DIAZED fuse base (with touch protection BGV A3)

Technical specifications

			5SA, 5SB, 5SC, 5SD, 5SF
Standards			IEC 60269-3; DIN VDE 0635; DIN VDE 0636-3; CEE 16
Operational class	Acc. to IEC 60269; DIN VDE 0636		gG
Characteristic	Acc. to DIN VDE 0635		Slow and quick
Rated voltage U_n		V AC V DC	500, 690, 750 500, 600, 750
Rated current I_n		A	2 ... 100
Rated breaking capacity		kA AC kA DC	50, 40 at E16 8, 1.6 at E16
Overvoltage category			III II (DIAZED fuse bases made of molded plastic for use at 690 V AC / 600 V DC)
Mounting position			Any, preferably vertical
Non-interchangeability			Using screw adapter or adapter sleeves
Degree of protection	Acc. to IEC 60529		IP20, with connected conductors[1)]
Resistance to climate		°C	Up to 45, at 95 % rel. humidity
Ambient temperature		°C	-5 ... +40, humidity 90 % at 20

1) Degree of protection IP20 is tested according to regulations using a straight test finger (from the front), with the device mounted and equipped with a cover, housing or some other enclosure.

		Terminal version								
		B		K			S		R	
Size		DII	DIII	NDz	DII	DIII	DIII	DIV	DII	DIII
Conductor cross-sections										
• Rigid, min.	mm^2	1.5	2.5	1.0	1.5	2.5	2.5	10	1.5	1.5
• Rigid, max.	mm^2	10	25	6	10	25	25	50	35	35
• Flexible, with end sleeve	mm^2	10	25	6	10	25	25	50	35	35
Tightening torque										
• Screw M4	Nm	1.2							--	
• Screw M5	Nm	2.0							--	
• Screw M6	Nm	2.5							3.0	
• Screw M8	Nm	3.5							--	

Selection and ordering data

	Size	U_n	I_n	Identification color	Thread	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC/V DC	A									kg
	DIAZED fuse links											
	Operational class gG											
	DII	500/500	2	Pink	E27		5SB211		1	25/125 units	1BM	0.026
			4	Brown			5SB221		1	25/125 units	1BM	0.026
			6	Green			5SB231		1	25/125 units	1BM	0.026
			10	Red			5SB251		1	25/125 units	1BM	0.027
			16	Gray			5SB261		1	25/125 units	1BM	0.028
			20	Blue			5SB271		1	25/125 units	1BM	0.030
			25	Yellow			5SB281		1	25/125 units	1BM	0.032
	DIII	500/500	32	Violet	E33		5SB4010		1	25/400 units	1BM	0.049
			35	Black			5SB411		1	25/400 units	1BM	0.050
			50	White			5SB421		1	25/400 units	1BM	0.051
			63	Copper			5SB431		1	25/400 units	1BM	0.054
	DIV	500/400	80	Silver	R1¼"		5SC211		1	3 units	1BM	0.114
			100	Red			5SC221		1	3 units	1BM	0.116
	Characteristic: Slow											
	TNDz	500/500	2	Pink	E16		5SA211		1	10/200 units	1BM	0.011
			4	Brown			5SA221		1	10/200 units	1BM	0.011
			6	Green			5SA231		1	10/200 units	1BM	0.012
			10	Red			5SA251		1	10/200 units	1BM	0.012
			16	Gray			5SA261		1	10/200 units	1BM	0.014
			20	Blue			5SA271		1	10/200 units	1BM	0.015
			25	Yellow			5SA281		1	10/200 units	1BM	0.016
	For operational class gG, use 5SF1 and 5SF5 fuse base made of ceramic For 2 A ... 25 A, use screw adapter DII											
	DIII	690/600	2	Pink	E33		5SD8002		1	5 units	1BM	0.068
			4	Brown			5SD8004		1	5 units	1BM	0.070
			6	Green			5SD8006		1	5 units	1BM	0.069
			10	Red			5SD8010		1	5 units	1BM	0.069
			16	Gray			5SD8016		1	5 units	1BM	0.071
			20	Blue			5SD8020		1	5 units	1BM	0.071
			25	Yellow			5SD8025		1	5 units	1BM	0.074
			35	Black			5SD8035		1	5 units	1BM	0.076
			50	White			5SD8050		1	5 units	1BM	0.080
			63	Copper			5SD8063		1	5 units	1BM	0.081

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* You can order this quantity or a multiple thereof.

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	Size	U_n	I_n	Identification color	Thread	Terminals	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC/ V DC	A										kg
	DIAZED fuse links												
	Characteristic: Quick, also for direct current railway facilities For 2 A ... 25 A, use screw adapter DII												
	DIII	750/750	2	Pink	E33			5SD601		1	5 units	1BM	0.071
			4	Brown				5SD602		1	5 units	1BM	0.069
			6	Green				5SD603		1	5 units	1BM	0.070
			10	Red				5SD604		1	5 units	1BM	0.069
			16	Gray				5SD605		1	5 units	1BM	0.071
			20	Blue				5SD606		1	5 units	1BM	0.071
			25	Yellow				5SD607		1	5 units	1BM	0.077
			35	Black				5SD608		1	5 units	1BM	0.076
			50	White				5SD610		1	5 units	1BM	0.080
			63	Copper				5SD611		1	5 units	1BM	0.083
	DIAZED fuse bases made of ceramic												
	1P, for standard mounting rail												
	NDz	500/500	25		E16	KK[2]		5SF1012		1	5 units	1BM	0.065
	DII		25		E27	BB[2]		5SF1005		1	5/100 units	1BM	0.099
	DIII[1]		63		E33	BS[2]		5SF1205		1	5/70 units	1BM	0.148
	DIII[1]		63		E33	SS[2]		5SF1215		1	5 units	1BM	0.144
	1P, for screw fixing												
	NDz	500/500	25		E16	KK[2]		5SF101		1	5 units	1BM	0.062
	DII		25		E27	BB[2]		5SF1024		1	5/100 units	1BM	0.098
	DIII[1]		63		E33	BS[2]		5SF1224		1	5 units	1BM	0.143
	DIAZED fuse bases made of molded plastic With touch protection according to BGV A3												
	1P, for standard mounting rail or screw fixing												
	DII	500/500	25		E27	RR		5SF1060		1	3/36 units	1BM	0.154
	DIII[1]		63		E33	RR		5SF1260		1	3/132 units	1BM	0.193
	3P, for standard mounting rail or screw fixing												
	DII	500/500	25		E27	RR		5SF5068		1	1/36 units	1BM	0.454
	DIII[1]		63		E33	RR		5SF5268		1	1/44 units	1BM	0.580
	DIAZED EZR bus-mounting bases												
	1P, to snap onto EZR busbars for screw fixing												
	DII	500/500	25	E27		B[2]		5SF6005		1	5 units	1BM	0.084
	DIII	500/500	63	E33		B[2]		5SF6205		1	5 units	1BM	0.127

[1] Also for 690 V AC/600 V DC. For overvoltage category, see page 5/12.

[2] For terminal versions, see page 5/17.

* You can order this quantity or a multiple thereof.

	Size	U_n	I_n	Thread	Terminals	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC/V DC	A									kg
	DIAZED components 750 V											
	DIAZED fuse bases 1P, for screw fixing with fine thread and cap											
	DIII	750/750	63	E33S	KK[1]		5SF4230		1	1 unit	1BM	0.501
	DIAZED screw caps made of ceramic, with fine thread											
	DIII	750/750	63	E33S			5SH1161		1	5 units	1BM	0.116
	DIAZED screw caps											
	Molded plastic, with inspection hole, black, not for SILIZED fuse links											
	NDz	500/500	25	E16			5SH1112		1	20 units	1BM	0.012
	DII		25	E27			5SH1221		1	5/200 units	1BM	0.024
	DIII		63	E33			5SH1231		1	5/5000 units	1BM	0.033
	Ceramic											
	DII	500/500	25	E27			5SH112		1	50/200 units	1BM	0.036
	DIII		63	E33			5SH113		1	30 units	1BM	0.063
	Ceramic, with inspection hole, sealable											
	DII	500/500	25	E27			5SH122		1	50/5000 units	1BM	0.040
	DIII		63	E33			5SH123		1	30/5000 units	1BM	0.066
	Ceramic, extended version											
	DIII	690/600	63	E33			5SH1170		1	5 units	1BM	0.105

[1] For terminal versions, see page 5/17.

* You can order this quantity or a multiple thereof.

DIAZED fuse systems

	Size	Thread	For fuse links A	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	DIAZED screw adapters									
	NDz	E16	2		5SH328		1	20 units	1BM	0.003
			4		5SH331		1	20 units	1BM	0.001
			6		5SH305		1	20 units	1BM	0.001
			10		5SH306		1	20 units	1BM	0.002
			16		5SH307		1	20 units	1BM	0.001
	Also for 5SF230 to 750 V									
	DII	E27	2		5SH310		1	25/1500 units	1BM	0.014
			4		5SH311		1	25/1500 units	1BM	0.014
			6		5SH312		1	25/1500 units	1BM	0.015
			10		5SH313		1	25/1500 units	1BM	0.014
			16		5SH314		1	25/1500 units	1BM	0.014
			20		5SH315		1	25/1500 units	1BM	0.014
			25		5SH316		1	25/1500 units	1BM	0.013
	Also for 5SF230 to 750 V									
	DIII	E33	32		5SH327		1	25 units	1BM	0.024
			35		5SH317		1	25/850 units	1BM	0.024
			50		5SH318		1	25/850 units	1BM	0.022
			63		5SH320		1	25/850 units	1BM	0.020
	DIAZED adapter sleeves for screw caps									
	For DII fuse links in DIII base				5SH302		1	10 units	1BM	0.011
	DIAZED adapter sleeve fitters									
	DII/DIII				5SH3703		1	10 units	1BM	0.046
	DIAZED caps made of molded plastic									
	NDz	E16			5SH201		1	5 units	1BM	0.044
	DII	E27			5SH202		1	5 units	1BM	0.052
	DIII	E33			5SH222		1	5 units	1BM	0.070

* You can order this quantity or a multiple thereof.

	Size	Thread	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	DIAZED cover rings								
	Ceramic DII and DIII, also for EZR bus-mounting base								
	DII	E27		5SH332		1	10 units	1BM	0.022
	DIII	E33		5SH334		1	10 units	1BM	0.037
	Made of molded plastic, also for EZR bus-mounting base								
	DII	E27		5SH3401		1	5/60 units	1BM	0.013
	DIII	E33		5SH3411		1	5/60 units	1BM	0.020

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More information

DIII fuse bases with terminal version BS
- Outgoing feeders (top), saddle terminal S
- Incoming feeders (bottom), clamp-type terminal B

NDZ fuse bases with terminal version KK
- Outgoing feeders (top), screw head contact K
- Incoming feeders (bottom), screw head contact K

DIII fuse bases with terminal version BB
- Outgoing feeders (top), clamp-type terminal B
- Incoming feeders (bottom), clamp-type terminal B

DIII fuse bases with terminal version SS
- Outgoing feeders (top), saddle terminal S
- Incoming feeders (bottom), saddle terminal S

* You can order this quantity or a multiple thereof.

Cylindrical fuse links and cylindrical fuse holders

Overview

Cylindrical fuses are standard in Europe. There are a range of different cylindrical fuse links and holders that comply with the standards IEC 60269-1, -2 and -3, and which are suitable for use in industrial applications. In South West Europe they are also approved for use in residential buildings.

The cylindrical fuse holders are also approved according to UL 512. The cylindrical fuse holders are tested and approved as fuse disconnectors according to the switching device standard IEC 60947-3. They are not suitable for switching loads.

Cylindrical fuse holders can be supplied with or without signal detectors. In the case of devices with signal detector, a small electronic device with LED is located behind an inspection window in the plug-in module. If the inserted fuse link is tripped, this is indicated by the LED flashing.

The switching state of the fuse holder can be signaled over a laterally retrofitted auxiliary switch, which enables the integration of the fuses in the automation process.

Benefits

- Devices with pole number 1P+N are available in a single modular width. This reduces the footprint by 50 %
- The sliding catch for type ranges 8 x 32 mm and 10 x 38 mm enables the removal of individual devices from the assembly
- Space for a spare fuse in the plug-in module enables the fast replacement of fuses. This saves time and money and increases system availability
- A flashing LED signals that a fuse link has been tripped. This enables fast detection during runtime

Technical specifications

			Cylindrical fuse links						
			3NW63..	**3NW60..**	**3NW61..**	**3NW62..**	**3NW80..**	**3NW81..**	**3NW82..**
Size		mm × mm	8 × 32	10 × 38	14 × 51	22 × 58	10 × 38	14 × 51	22 × 58
Standards			IEC 60269-1, -2, -3; NF C 60-200; NF C 63-210, -211; NBN C 63269-2, CEI 32-4, -12						
Operational class			gG				aM		
Rated voltages U_n		V AC	400	400 or 500					
Rated current I_n		A	2 ... 20	0.5 ... 32	4 ... 50	8 ... 100	0.5 ... 32	2 ... 50	10 ... 100
Rated breaking capacity									
• 500 V version		kA AC	--	120	100		120	100	
• 400 V version		kA AC	20	120	20		120	20	
Mounting position			Any, preferably vertical						

			Cylindrical fuse holders			
			3NW73..	**3NW70..**	**3NW71..**	**3NW72..**
Size		mm × mm	8 × 32	10 × 38	14 × 51	22 × 58
Standards			IEC 60269-1, -2, -3; NF C 60-200, NF C 63-210, -211; NBN C 63269-2-1; CEI 32-4, -12; UL 4248-1			
Approvals	Acc. to UL		--			--
	Acc. to CSA		--		--	--
Rated voltage U_n		V AC	400	690		
	Acc. to UL/CSA	V AC	400	600		
Rated current I_n		A AC	20	32	50	100
Rated breaking capacity		kA	20	100		
Breaking capacity • Utilization category			AC-20B (switching without load), DC-20B			
No-voltage changing of fuse links			Yes			
Sealable when installed			Yes			
Mounting position			Any, preferably vertical			
Degree of protection	Acc. to IEC 60529		IP20, with connected conductors[1]			
Terminals with touch protection according to BGV A3 at incoming and outgoing feeder			Yes			
Ambient temperature		°C	-5 ... +40, humidity 90 % at +20			
Conductor cross-sections						
• Rigid		mm^2	0.5 ... 10		2.5 ... 10	4 ... 10
• Stranded		mm^2	0.5 ... 10		2.5 ... 25	4 ... 50
• Finely stranded, with end sleeve		mm^2	0.5 ... 10[2]		2.5 ... 16	4 ... 35
• AWG (American Wire Gauge)		AWG	--	10 ... 20	6 ... 10	--
Tightening torque		Nm	1.2		2.0	2.5

1) Degree of protection IP20 is tested according to regulations using a straight test finger (from the front), with the device mounted and equipped with a cover, housing or some other enclosure.

2) Max. cross-section 10 mm^2 with K28 crimper from Klauke.

Selection and ordering data

	Size	I_n	U_n	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	mm × mm	A	V AC							kg
	Cylindrical fuse links, operational class gG									
	8 × 32	2	400		3NW6302-1		1	10 units	1BM	0.005
		4			3NW6304-1		1	10 units	1BM	0.005
		6			3NW6301-1		1	10 units	1BM	0.005
		10			3NW6303-1		1	10 units	1BM	0.005
		16			3NW6305-1		1	10 units	1BM	0.005
		20			3NW6307-1		1	10 units	1BM	0.005
	10 × 38	0.5	500		3NW6000-1		1	10 units	1BM	0.007
		1			3NW6011-1		1	10 units	1BM	0.008
		2			3NW6002-1		1	10/3000 units	1BM	0.008
		4			3NW6004-1		1	10/3000 units	1BM	0.008
		6			3NW6001-1		1	10/3000 units	1BM	0.008
		8			3NW6008-1		1	10 units	1BM	0.008
		10			3NW6003-1		1	10/3000 units	1BM	0.008
		12			3NW6006-1		1	10/100 units	1BM	0.008
		16			3NW6005-1		1	20/3000 units	1BM	0.009
		20			3NW6007-1		1	20/3000 units	1BM	0.009
		25			3NW6010-1		1	20/3000 units	1BM	0.009
		32	400		3NW6012-1		1	20/3000 units	1BM	0.009
	14 × 51	4	500		3NW6104-1		1	10 units	1BM	0.022
		6			3NW6101-1		1	10 units	1BM	0.021
		8			3NW6108-1		1	10/100 units	1BM	0.018
		10			3NW6103-1		1	10 units	1BM	0.021
		12			3NW6106-1		1	10/100 units	1BM	0.017
		16			3NW6105-1		1	10 units	1BM	0.021
		20			3NW6107-1		1	10 units	1BM	0.021
		25			3NW6110-1		1	10 units	1BM	0.020
		32			3NW6112-1		1	10 units	1BM	0.022
		40			3NW6117-1		1	10 units	1BM	0.022
		50	400		3NW6120-1		1	10 units	1BM	0.022
	22 × 58	16	500		3NW6205-1		1	10 units	1BM	0.050
		20			3NW6207-1		1	10 units	1BM	0.054
		25			3NW6210-1		1	10 units	1BM	0.045
		32			3NW6212-1		1	10 units	1BM	0.051
		40			3NW6217-1		1	10 units	1BM	0.048
		50			3NW6220-1		1	10 units	1BM	0.051
		63			3NW6222-1		1	10 units	1BM	0.055
		80			3NW6224-1		1	10 units	1BM	0.055
		100	400		3NW6230-1		1	10 units	1BM	0.055
	Cylindrical fuse links, operational class aM									
	10 × 38	0.5	500		3NW8000-1		1	10 units	1BM	0.008
		1			3NW8011-1		1	10/200 units	1BM	0.008
		2			3NW8002-1		1	10/200 units	1BM	0.008
		4			3NW8004-1		1	10/200 units	1BM	0.008
		6			3NW8001-1		1	10/200 units	1BM	0.008
		8			3NW8008-1		1	10 units	1BM	0.008
		10			3NW8003-1		1	10/200 units	1BM	0.007
		12			3NW8006-1		1	10/200 units	1BM	0.008
		16			3NW8005-1		1	20/200 units	1BM	0.009
		20	400		3NW8007-1		1	20 units	1BM	0.008
		25			3NW8010-1		1	20 units	1BM	0.009
		32			3NW8012-1		1	20 units	1BM	0.008
	14 × 51	2	500		3NW8102-1		1	10/50 units	1BM	0.018
		4			3NW8104-1		1	10 units	1BM	0.018
		6			3NW8101-1		1	10/50 units	1BM	0.019
		8			3NW8108-1		1	10/50 units	1BM	0.018
		10			3NW8103-1		1	10 units	1BM	0.021
		12			3NW8106-1		1	10/50 units	1BM	0.021
		16			3NW8105-1		1	10 units	1BM	0.021
		20			3NW8107-1		1	10 units	1BM	0.020
		25			3NW8110-1		1	10 units	1BM	0.022
		32			3NW8112-1		1	10 units	1BM	0.019
		40			3NW8117-1		1	10 units	1BM	0.021
		50	400		3NW8120-1		1	10 units	1BM	0.021

* You can order this quantity or a multiple thereof.

Cylindrical fuse links and cylindrical fuse holders

	Size	I_n	U_n	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	mm × mm	A	V AC							kg
	22 × 58	16	500		3NW8205-1		1	10/50 units	1BM	0.045
		20			3NW8207-1		1	10 units	1BM	0.054
		25			3NW8210-1		1	10 units	1BM	0.051
		32			3NW8212-1		1	10 units	1BM	0.054
		40			3NW8217-1		1	10 units	1BM	0.049
		50			3NW8220-1		1	10 units	1BM	0.054
		63			3NW8222-1		1	10 units	1BM	0.055
		80			3NW8224-1		1	10 units	1BM	0.056
		100	400		3NW8230-1		1	10 units	1BM	0.055

	Number of poles	I_n	For fuse links of size	Mounting width	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	mm × mm	MW							kg
	Cylindrical fuse holders with signal detector										
	1P										
		20	8 × 32	1		3NW7314		1	1 unit	1BM	0.069
		32	10 × 38	1		3NW7014		1	1/120 units	1BM	0.065
		50	14 × 51	1.5		3NW7112		1	1 unit	1BM	0.101
		100	22 × 58	2		3NW7212		1	1 unit	1BM	0.165
	1P+N										
		20	8 × 32	1		3NW7354		1	1 unit	1BM	0.092
		32	10 × 38	1		3NW7054		1	1 unit	1BM	0.082
		50	14 × 51	3		3NW7152		1	1 unit	1BM	0.231
		100	22 × 58	4		3NW7252		1	1 unit	1BM	0.360
	2P										
		20	8 × 32	2		3NW7324		1	1 unit	1BM	0.141
		32	10 × 38	2		3NW7024		1	1 unit	1BM	0.140
		50	14 × 51	3		3NW7122		1	1 unit	1BM	0.222
		100	22 × 58	4		3NW7222		1	1 unit	1BM	0.329
	3P										
		20	8 × 32	3		3NW7334		1	1 unit	1BM	0.203
		32	10 × 38	3		3NW7034		1	1 unit	1BM	0.196
		50	14 × 51	4.5		3NW7132		1	1 unit	1BM	0.315
		100	22 × 58	6		3NW7232		1	1 unit	1BM	0.495
	3P+N										
		20	8 × 32	3		3NW7364		1	1 unit	1BM	0.218
		32	10 × 38	3		3NW7064		1	1 unit	1BM	0.216
		50	14 × 51	6		3NW7162		1	1 unit	1BM	0.439
		100	22 × 58	8		3NW7262		1	1 unit	1BM	0.686
	Cylindrical fuse holders without signal detector										
	1P										
		20	8 × 32	1		3NW7313		1	1/120 units	1BM	0.067
		32	10 × 38	1		3NW7013		1	1/120 units	1BM	0.061
		50	14 × 51	1.5		3NW7111		1	1/73 units	1BM	0.106
		100	22 × 58	2		3NW7211		1	1 unit	1BM	0.167
	1P+N										
		20	8 × 32	1		3NW7353		1	1 unit	1BM	0.078
		32	10 × 38	1		3NW7053		1	1/120 units	1BM	0.079
		50	14 × 51	3		3NW7151		1	1 unit	1BM	0.234
		100	22 × 58	4		3NW7251		1	1 unit	1BM	0.365
	2P										
		20	8 × 32	2		3NW7323		1	1 unit	1BM	0.137
		32	10 × 38	2		3NW7023		1	1/60 units	1BM	0.123
		50	14 × 51	3		3NW7121		1	1 unit	1BM	0.214
		100	22 × 58	4		3NW7221		1	1 unit	1BM	0.316

* You can order this quantity or a multiple thereof.

	Number of poles	I_n	For fuse links of size	Mounting width	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	mm × mm	MW							kg
	Cylindrical fuse holders without signal detector										
	3P										
		20	8 × 32	3		3NW7333		1	1 unit	1BM	0.207
		32	10 × 38	3		3NW7033		1	1/60 units	1BM	0.187
		50	14 × 51	4.5		3NW7131		1	1/28 units	1BM	0.306
		100	22 × 58	6		3NW7231		1	1 unit	1BM	0.503
	3P+N										
		20	8 × 32	3		3NW7363		1	1 unit	1BM	0.210
		32	10 × 38	3		3NW7063		1	1/60 units	1BM	0.215
		50	14 × 51	6		3NW7161		1	1 unit	1BM	0.434
		100	22 × 58	8		3NW7261		1	1 unit	1BM	0.685
	Auxiliary switches										
	For indicating disconnection of the fuse link, solely for application of striker fuse links. For retrofitting using the factory-fitted brackets. Contact: 250 V AC, 5 A Minimum contact load: 12 V, 25 mA										
	For fuse bases		14 × 51	0.5		3NW7901		1	1 unit	1BM	0.053
	For fuse bases		22 × 58			3NW7902		1	1 unit	1BM	0.048
	For indicating the switching state of the fuse holder. For retrofitting using the factory-fitted brackets. Contact: 230 V AC, 6 A/110 V DC, 1 A Minimum contact load: 12 V, 25 mA Terminals 1.5 mm² - 0.5 Nm										
	For fuse holders		10 × 38	0.5		3NW7903		1	1 unit	1BM	0.051

More information

Mounting

Fuse holders, sizes 8 × 32 mm und 10 × 38 mm, have a sliding catch that enables the removal of individual devices from the assembly.

The infeed can be from the top or the bottom. Because the cylindrical fuse holders are fitted with the same anti-slip terminals at the top and the bottom, the devices can also be bus-mounted at the top or the bottom.

Auxiliary switches

Auxiliary switches are available for the cylindrical fuse holders. These are simply clipped onto the base using the factory-fitted brackets.

Sizes 8 × 32 mm und 10 × 38 mm:
The auxiliary switches support the remote display of the switching state ON or OFF of the fuse holder.

Sizes 14 × 51 mm und 22 × 58 mm:
The auxiliary switches support the remote display of fuse failure. However, fuse links with strikers are required for this function. When the fuse is tripped, a small striking pin – the striker – shoots out of the front of the fuse. Over an armature link in the auxiliary switch, the kinetic energy of this striker is used to switch a mini switch, which then initializes this signal over a floating contact.

* You can order this quantity or a multiple thereof.

Fuse holders in size 10 x 38 mm and Class CC

Overview

A key feature of our three-pole fuse holders is their ultra compact design. With a width of only 45 mm, they are ideal for use with fused motor starter combinations. Because the contactor and the fuse holder have the same 45 mm width, they are easy to mount on top of one another. The strong current-limiting fuses ensure a type 2 protection level (coordination according to IEC 60947-4, no damage protection) for the contactor.

The UL version has an SCCR value of 200 kA. The accessories are generally UL-certified.

Customers can mount an auxiliary switch which signals the switching state or prevents the fuse holder from switching off under load by interrupting the contactor control, thus increasing safety for the operator and process. Busbars and a matching three-phase feeder terminal complete the product range.

Benefits

- Compact design, especially for motor starter combinations
- For IEC fuses of size 10 x 38 mm up to 32 A and Class CC UL fuses up to 30 A
- Meets the requirements of UL 508 with regard to clearances
- UL-approved microswitches, busbars and adapters for 60 mm busbar systems
- Optical signal detector for fast fault locating

Compact fuse holder Class CC with signal detector and mounted auxiliary switch.

Installation configuration of a cylindrical fuse holder and a SIRIUS contactor on busbar device for the 60 mm busbar system.

Technical specifications

		Cylindrical fuse holders 3NW70..-1	Fuse holders 3NW75..-1HG
Size	mm × mm	10 × 38	Class CC
Standards		IEC 60269; UL4248-1; CSA	UL4248-1; CSA
Approvals • Acc. to UL • Acc. to CSA		 , UL File Number E171267 	 , UL File Number E171267
Rated voltage U_n	V AC	690	600
Rated current I_n	A AC	32	30
Rated short-circuit strength	kA	120 (at 500 V) 80 (at 690 V)	200
Breaking capacity • Utilization category		 AC-20B (switching without load)	 --
Rated impulse withstand voltage	kV	6	
Overvoltage category		III	
Pollution degree		2	
Max. power dissipation of the fuse link	W	3	
No-voltage changing of fuse links	°C	-5 ... +40, humidity 90 % at +20	
Sealable when installed		Yes	
Lockable with padlock		Yes	
Mounting position		Any, preferably vertical	
Current direction		Any	
Degree of protection Acc. to IEC 60529		IP20, with connected conductors[1)]	
Terminals with touch protection according to BGV A3 at incoming and outgoing feeder		Yes	
Ambient temperature	°C	-5 ... +40, humidity 90 % at +20	
Conductor cross-sections • Finely stranded, with end sleeve • AWG cables (American Wire Gauge)	 mm^2 AWG	 1 ... 4 18 ... 10	
Tightening torque • Terminal screws	Nm lbs/in.	1.5 13 PZ2	

1) Degree of protection IP20 is tested according to regulations using a straight test finger (from the front), with the device mounted and equipped with a cover, housing or some other enclosure.

		Auxiliary switches 3NW7903-1							
Standards		IEC 60947							
Approvals		, , UL 508, UL File Number E334003							
Utilization category		AC-12	DC-13			AC-15			Acc. to UL
Rated voltage U_n	V AC V DC	250 --	-- 24	-- 120	-- 240	24 --	120 --	240 --	240 --
Rated current I_n	A	5	2	0.5	0.25	4	3	1.5	5

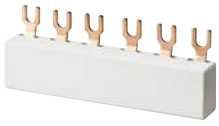
		Busbars 5ST260.	
For cylindrical fuse holders		3NW70..-1	3NW75..-1HG
Pin spacing	mm	15	
Standards		EN 60974-1 (VDE 0660-100), IEC 60947-1:2004, UL 508, CSA 22.2	
Approvals		, UL 4248-1, UL File Number E337131	
Busbar material		E-Cu 58 F25	
Partition material		PA66-V0	
Lamp wire resistance/1.5 mm^2	°C	960	
Insulation coordination		Overvoltage category III, degree of pollution 2	
Rated voltage U_n • Acc. to UL • Acc. to IEC	 V AC V AC	 -- 690	 600 --
Maximum busbar current I_n • Acc. to UL • Acc. to IEC	 A A	 -- 80	 65 --

Fuse holders in size 10 x 38 mm and Class CC

		Terminals 5ST2600	
For cylindrical fuse holders		3NW70..-1	3NW75..-1HG
Pin spacing	mm	15	
Standards		IEC 60999:2000, UL 508	
Approvals		UL, UL 4248-1, UL File Number E337131	
Enclosure/cover material		PA66-V0	
Lamp wire resistance/1 mm²	°C	960	
Temperature resistance PA66-V0, HDT B ISO 179, UL 94-V0/1.5	°C	200	
Insulation coordination		Overvoltage category III, degree of pollution 2	
Max. operational voltage U_{max}			
• Acc. to UL	V AC	--	600
• Acc. to IEC	V AC	690	--
Maximum electrical load I_{max}			
• Acc. to UL	A	--	65
• Acc. to IEC	A	80	--
Rated current I_n	A	63	
Conductor cross-sections			
• Solid/stranded	mm²	2.5 ... 35	
• Finely stranded, with end sleeve	mm²	2.5 ... 25	
Tightening torque of clamping screw	Nm	2.5 ... 3.5	

Selection and ordering data

	Number of poles	I_n	For fuse links of size	Mounting width	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	mm x mm	MW							kg
3NW7 cylindrical fuse holders											
	**Cylindrical fuse holders**										
	3P	32	10 x 38	2.5							
	Without signal detector					3NW7033-1		1	1 unit	1BM	0.188
	With signal detector					3NW7034-1		1	1 unit	1BM	0.194
	Fuse holders class CC										
	3P	30	Class CC	2.5							
	Without signal detector					3NW7533-1HG		1	1 unit	1DN	0.196
	With signal detector					3NW7534-1HG		1	1 unit	1DN	0.201
Accessories											
	Auxiliary switches										
	AC-12, 5 A, max. 250 V, 1 NO, 1 NC			2.5		3NW7903-1		1	1 unit	1BM	0.017

	Version	I_n	Pin spacing	Length	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	mm	mm							kg
5ST2 60. busbar system											
	**Busbars**										
	2 x 3P	63	15	45		5ST2601		1	10 units	1AD	0.038
	3 x 3P			90		5ST2602		1	10 units	1AD	0.061
	4 x 3P			135		5ST2603		1	10 units	1AD	0.084
	5 x 3P			180		5ST2604		1	10 units	1AD	0.107
Accessories											
	**Terminals**										
	For conductor cross-section 2.5 mm² ... 35 mm²					5ST2600		1	10 units	1AD	0.047

	Length of adapter	Width of adapter	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	mm	mm							kg
Device adapters									
	**Busbar device adapters[1] with connecting cables (above)**								
	Size S00, rated voltage 690 V AC, rated current 25 A, 1 support rail (35 mm), connection cable AWG 12								
	200	45		8US1251-5DS10		1	1 unit	1CU	0.285
	260			8US1251-5DT10		1	1 unit	1CU	0.312
Accessories									
	**Mounting rails for busbar device adapter**								
	For assembly of additional devices	45		8US1998-7CB45		1	10 units	1CU	0.015

[1] For further device adapters and accessories, see chapter "Busbar Systems".

* You can order this quantity or a multiple thereof.

Class CC fuse systems

Overview

Class CC fuses are used for "branch circuit protection".

The characteristic of the fuse links is designed and tested to comply with the US National Electrical Code NEC 210.20(A). This means that when subject to continuous operation, only 80 % of the rated current is permissible as operational current.

An operational current of 100 % of the rated current (30 A) is only permissible short-time.

The devices are prepared for the inscription labels of the ALPHA FIX terminal blocks 8WH8120-7AA15 and 8WH8120-7XA05.

There are three different series:

- Characteristic: Slow 3NW1...-0HG
  For the protection of control transformers, reactors, inductances. Significantly slower than the minimum requirements specified by UL for Class CC Fuses of 12 s at 2 × I_n.
- Characteristic: Quick 3NW2 ...-0HG
  For a wide range of applications, for the protection of lighting installations, heating, control systems.
- Characteristic: Slow, current-limiting, 3NW3...-0HG
  Slow for overloads and quick for short circuits. High current limitation for the protection of motor circuits.

Note:

For class CC compact fuse holders for motor starter combinations, see page 5/25.

Benefits

- For switchboard assemblies and machine manufacturers who export their systems to the USA or Canada
- Easier export due to UL and CSA approvals for typical applications
- Modern design with touch protection to BGV A3 ensures safe installation

Technical specifications

		Class CC fuse holders 3NW75.3-0HG
Standards **Approvals**		UL 4248-1; CSA C22.2 UL 4248-1; UL File Number E171267; CSA C22.2
Rated voltage U_n	V AC	600
Rated current I_n	A	30
Rated conditional short-circuit current	kA	200
Breaking capacity • Utilization category		AC-20B (switching without load)
Max. power dissipation of fuse links • With cable, 6 mm² • With cable, 10 mm²	 W W	 3 4.3
Rated impulse withstand voltage	kV	6
Overvoltage category		II
Pollution degree		2
No-voltage changing of fuse links		Yes
Sealable when installed		Yes
Mounting position		Any
Current direction		Any
Degree of protection acc. to IEC 60529		IP20[1)]
Terminals with touch protection according to BGV A3 at incoming and outgoing feeder		Yes
Ambient temperature	°C	45
Conductor cross-sections • Solid and stranded • AWG conductor cross-section, solid and stranded	 mm² AWG	 1.5 ... 16 15 ... 5
Tightening torque	Nm	2.5 (22 lbs/in.)

1) Degree of protection IP20 is tested according to regulations using a straight test finger (from the front), with the device mounted and equipped with a cover, housing or some other enclosure.

		Class CC fuse links		
		3NW1...-0HG	3NW2...-0HG	3NW3...-0HG
Standards **Approvals**		UL 248-4; CSA C22.2 UL 248-4; UL File Number E258218; CSA C22.2		
Characteristic		Slow	Quick	Slow, current limiting
Rated voltage	V AC	600	600	600
	V DC	--	--	150 (3 .... 15 A) 300 (< 3 A, > 15 A)
Rated breaking capacity	kA AC	200		

Selection and ordering data

	Number of poles	U_n	I_n	Mounting width	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V	A	MW							kg
	Class CC fuse holders										
	1P	600	30	1		3NW7513-0HG		1	12 units	1DN	0.054
	2P	600	30	2		3NW7523-0HG		1	6 units	1DN	0.103
	3P	600	30	3		3NW7533-0HG		1	4 units	1DN	0.155

	I_n [1]	DT	Characteristic: Slow Article No. www.siemens.com/product?Article No.	Price per PU	PG	DT	Characteristic: Quick Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A											kg
	Class CC fuse links											
	0.6 (6/10)		3NW1006-0HG		1DN		--					
	0.8 (8/10)		3NW1008-0HG		1DN		--					
	1		3NW1010-0HG		1DN		3NW2010-0HG		1	10 units	1DN	0.009
	1.5 (1 ½)		3NW1015-0HG		1DN		--					
	2		3NW1020-0HG		1DN		3NW2020-0HG		1	10 units	1DN	0.008
	2.5		3NW1025-0HG		1DN		--					
	3		3NW1030-0HG		1DN		3NW2030-0HG		1	10 units	1DN	0.008
	4		3NW1040-0HG		1DN		3NW2040-0HG		1	10 units	1DN	0.008
	5		3NW1050-0HG		1DN		3NW2050-0HG		1	10 units	1DN	0.009
	6		3NW1060-0HG		1DN		3NW2060-0HG		1	10 units	1DN	0.008
	7.5		3NW1075-0HG		1DN		--					
	8		3NW1080-0HG		1DN		3NW2080-0HG		1	10 units	1DN	0.008
	10		3NW1100-0HG		1DN		3NW2100-0HG		1	10/350 units	1DN	0.008
	12		--				3NW2120-0HG		1	10 units	1DN	0.008
	15		3NW1150-0HG		1DN		3NW2150-0HG		1	10/350 units	1DN	0.008
	20		3NW1200-0HG		1DN		3NW2200-0HG		1	10 units	1DN	0.008
	25		3NW1250-0HG		1DN		3NW2250-0HG		1	10 units	1DN	0.008
	30		3NW1300-0HG		1DN		3NW2300-0HG		1	10 units	1DN	0.008

[1] Values in brackets, American English wording.

	I_n	DT	Characteristic: slow, current-limiting Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A							kg
	Class CC fuse links							
	1		3NW3010-0HG		1	10 units	1DN	0.008
	2		3NW3020-0HG		1	10 units	1DN	0.008
	3		3NW3030-0HG		1	10 units	1DN	0.008
	4		3NW3040-0HG		1	10/350 units	1DN	0.008
	5		3NW3050-0HG		1	10 units	1DN	0.008
	6		3NW3060-0HG		1	10 units	1DN	0.008
	8		3NW3080-0HG		1	10 units	1DN	0.008
	10		3NW3100-0HG		1	10 units	1DN	0.008
	12		3NW3120-0HG		1	10 units	1DN	0.008
	15		3NW3150-0HG		1	10 units	1DN	0.008
	20		3NW3200-0HG		1	10 units	1DN	0.008
	25		3NW3250-0HG		1	10 units	1DN	0.008
	30		3NW3300-0HG		1	10 units	1DN	0.008

*** You can order this quantity or a multiple thereof.**

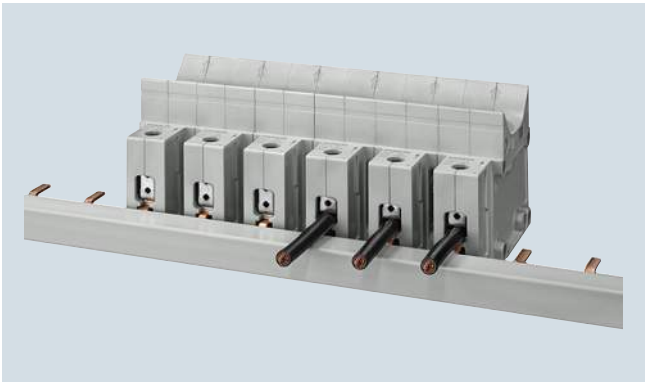
5

Overview

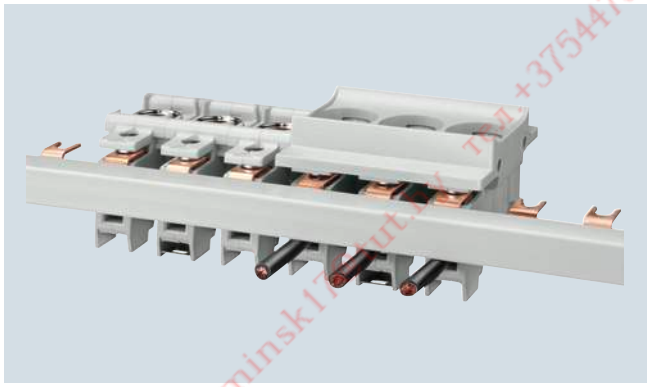
Busbars with pin-type connections can be used for NEOZED safety switching devices and fuse bases. Busbars in 10 mm^2 and 16 mm^2 versions are available.

Busbars with fork plugs are used for the most frequently used NEOZED fuse bases made of ceramic.

Benefits

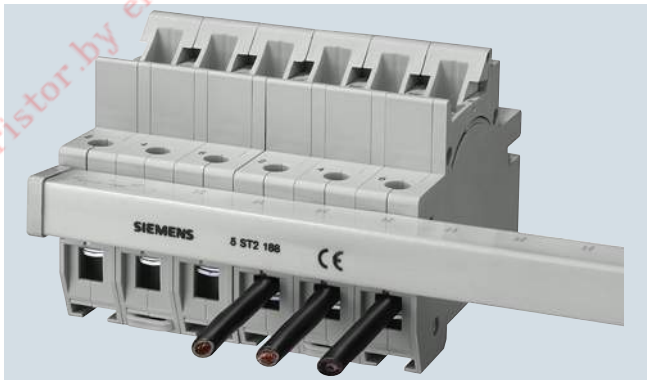


- Clear and visible conductor connection that can be easily checked when using the NEOZED D02 comfort base and which facilitates cable entry

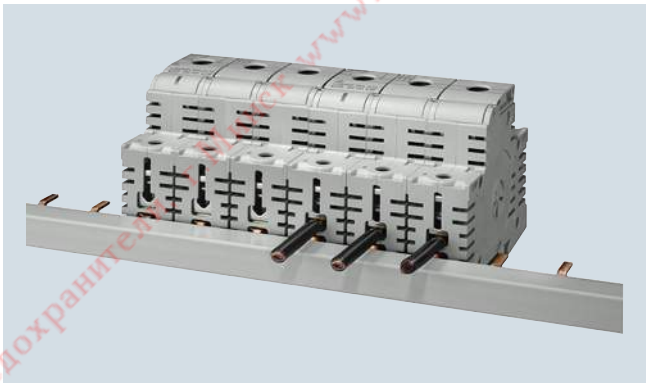


- Bus-mounting of NEOZED fuse bases made of molded plastic on 3-phase busbar with fork plug, which can be cut to length

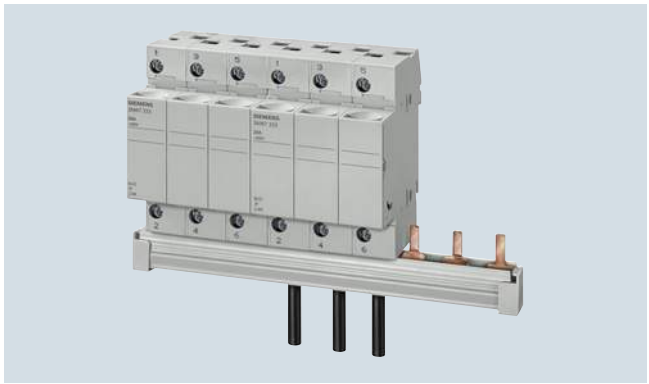
- Bus-mounting of NEOZED fuse bases made of ceramic on 3-phase busbar with fork plug, which can be cut to length



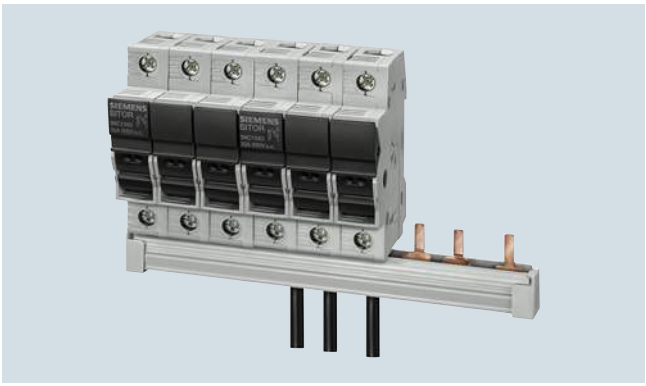
- Bus-mounting of MINIZED D01 fuse switch disconnectors on 3-phase busbar with fork plug, can be cut to length



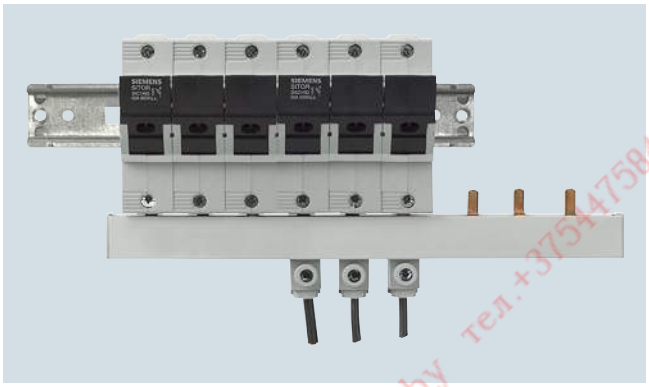
- Clear and visible conductor connection that can be easily checked when using MINIZED D02 switch disconnectors. This facilitates cable entry and saves time



- Bus-mounting of cylindrical fuse holders 8 × 32 mm and 10 × 38 mm with three-phase pin busbar which can be cut to length



- Bus-mounting of SITOR cylindrical fuse holders 10 mm x 38 mm with the same terminal connection as Class CC fuse holders with 3-phase pin busbar which can be cut to length



- Bus mounting with infeed through a connection terminal directly on the fuse holder up to a conductor cross-section of 25 mm²

Technical specifications

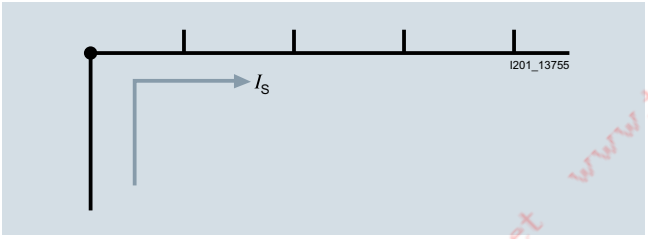
			5ST, 5SH
Standards			EN 60439-1 (VDE 0660-500): 2005-01
Busbar material			SF-Cu F 24
Partition material			Plastic, Cycoloy 3600, Heat-resistant over 90 °C, flame-retardant, self-extinguishing, dioxin and halogen-free
Rated operational voltage U_c		V AC	400
Rated current I_n			
• Cross-section 10 mm²		A	63
• Cross-section 16 mm²		A	80
Rated impulse withstand voltage U_{imp}		kV	4
Test pulse voltage (1.2/50)		kV	6.2
Rated conditional short-circuit current I_{cc}		kA	25
Resistance to climate			
• Constant atmosphere	Acc. to DIN 50015		23/83; 40/92; 55/20
• Humid heat	Acc. to IEC 60068-2-30		28 cycles
Insulation coordination			
• Overvoltage category			III
• Pollution degree			2
Maximum busbar current I_S/phase			
• Infeed at the start of the busbar			
- Cross-section 10 mm²		A	63
- Cross-section 16 mm²		A	80
• Infeed at the center of the busbar			
- Cross-section 10 mm²		A	100
- Cross-section 16 mm²		A	130

Busbar systems

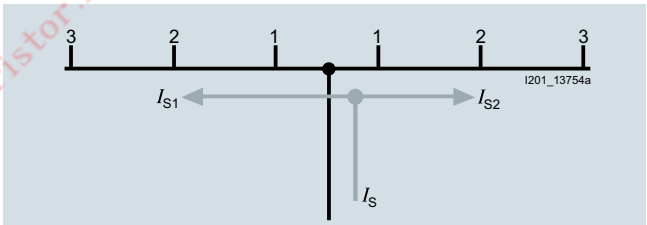
5ST37. . - . HG busbars acc. to UL 508

		5ST37. .-0HG	5ST37. .-2HG	5ST3770-0HG	5ST3770-1HG
Standards		UL 508, CSA C22.2 No. 14-M 95			
Approvals		UL 508 File No. E328403 CSA			
Operational voltage					
• Acc. to IEC	V AC	690			
• Acc. to UL 489	V AC	600			
Rated conditional short-circuit current	kA	10 (RMS symmetrical 600 V for three cycles)			
• Dielectric strength	kV/mm	25			
• Surge strength	kV	> 9.5			
Rated current	A	--	--	115	
Maximum busbar current I_S/phase					
• Infeed at the start of the busbar	A	80	100	--	--
• Infeed at the center of the busbar	A	160	200	--	--
Insulation coordination					
• Overvoltage category		III			
• Pollution degree		2			
Busbar cross-section	mm^2 Cu	18	25	--	--
Infeed		Any			
Conductor cross-sections	AWG	--	--	10 ... 1/0	14 ... 1
	mm^2	--	--	6 ... 35	1.5 ... 50
Terminals					
• Terminal tightening torque	Nm	--	--	5	3.5
	lbs/in.	--	--	50	35

Infeed at the start of the busbar



Infeed along the busbar or midpoint infeed

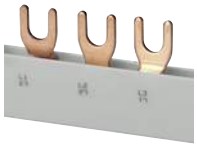


The sum of the output current per branch must not be greater than the busbar current $I_{S1.2}$ / phase.

Selection and ordering data

	Phases	Conductor cross-section	Load capacity up to	Pin spacing	Length	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm^2	A	MW	mm							kg
Busbars												
For MINIZED D02 switch disconnectors **For NEOZED D01/D02 comfort bases** made of molded plastic 5SG1301, 5SG1701, 5SG5301, 5SG5701 **For NEOZED D01/D02 fuse bases** made of ceramic terminal version S (saddle terminal) **For cylindrical fuse holder 14 × 51 mm** **For cylindrical fuse holder SITOR 14 × 51 mm** Can be cut to length, without end caps												
	Single-phase	16	130	1.5	1016	►	5ST3703		1	1 unit	1AD	0.185
	Three-phase	16	120	1.5	1016		5ST3714		1	1 unit	1AD	0.540

* You can order this quantity or a multiple thereof.

	Phases	Conductor cross-section	Load capacity up to	Pin spacing	Length	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm^2	A	MW	mm							kg
	For MINIZED D01 fuse switch disconnectors											
	Can be cut to length, without end caps											
	Single-phase	16	120	1	1000		5ST2190		1	1 unit	1AD	0.222
	Two-phase						5ST2191		1	1 unit	1AD	0.448
	Three-phase						5ST2192		1	1 unit	1AD	0.582
	Can be cut to length, with 2 end caps											
	Single-phase	16	120	1	220		5ST2186		1	1 unit	1AD	0.048
	Two-phase						5ST2187		1	1 unit	1AD	0.092
	Three-phase						5ST2188		1	1 unit	1AD	0.112
	For NEOZED D01/D02 fuse bases											
	• 5SG1.30, 5SG1.31, 5SG5.30 made of molded plastic • Made of ceramic, terminal version B and K (clamp-type terminal, screw head contact)											
	Non-insulated											
	Single-phase	36	168	1.5			5SH5322		1	1 unit	1BM	0.260
	Can be cut to length, without end caps											
	Single-phase	24	160	1.5	1000		5SH5517		1	1 unit	1BM	0.342
	Three-phase	16	120	1.5	1000		5SH5320		1	1 unit	1BM	0.562
	For cylindrical fuse holder 8 × 32 mm and 10 × 38 mm **For cylindrical fuse holder SITOR 10 × 38 mm** **For class CC fuse holder** [1]											
	Can be cut to length, without end caps											
	Single-phase	16	120	1	1016	►	5ST3701		1	1 unit	1AD	0.201
	Two-phase		120	1		►	5ST3705		1	1 unit	1AD	0.452
	Three-phase	16	120	1	1016	►	5ST3710		1	1 unit	1AD	0.610
	Can be cut to length, with end caps											
	Single-phase	16		1	214	►	5ST3700		1	1 unit	1AD	0.042
	Two-phase			1		►	5ST3704		1	1 unit	1AD	0.097
	Three-phase			1		►	5ST3708		1	1/125 units	1AD	0.116
	End caps for busbars											
	For single-phase 5ST2190 busbars						5ST2196		1	10 units	1AD	0.001
	For 2-phase 5ST2191 busbars and for 3-phase 5ST2192 busbars						5ST2197		1	10 units	1AD	0.001
	For single-phase 5ST37, 5SH55 busbars					►	5ST3748		1	10/5000 units	1AD	0.001
	For two-phase and three-phase 5ST37 and 5SH5320 busbars					►	5ST3750		1	10/2000 units	1AD	0.002

[1] For UL-approved busbars, see page 5/33.

	Phases	Conductor cross-section	Load capacity up to	Length	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm^2	A	mm							kg
	**Touch protection for free connection of pin busbars**										
	Yellow (RAL1004) 5 x 1 pin				►	5ST3655		1	10 units	1AD	0.009
	Terminals										
	For NEOZED fuse bases D01/D02 made of ceramic For DIAZED fuse bases DII/DIII made of ceramic										
	Terminal version S For con-ductors	2 ... 25				5SH5327		1	10/300 units	1BM	0.013
	Terminal versions B and K For con-ductors	6 ... 25				5SH5328		1	10/300 units	1BM	0.013
	For the infeed of fork-type or pin busbars For con-ductors	6 ... 35				5ST2157		1	5 units	1AD	0.030
	Busbars **For single-pole DIAZED fuse bases made of ceramic with terminal versions BB and BS**										
	Size DII, for 19 bases Single-phase	24	80	1000		5SH3500		1	1/25 units	1BM	0.120
	Size DIII, for 25 bases Single-phase	39	120	1000		5SH3501		1	1/25 units	1BM	0.200
	Bus-mounting terminals For DIAZED EZR bus-mounting bases										
	Non-insulated										
	For con-ductors	1.5 ... 16				8JH4122		1	10 units	1BR	0.010
	For con-ductors	10 ... 35				8JH4124		1	10 units	1BR	0.024

* You can order this quantity or a multiple thereof.

5ST37. . - . HG busbars acc. to UL 508

		Pin spacing	Length	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		MW	mm							kg
	5ST37..-.HG busbars acc. to UL 508, 18 mm², can be cut, without end caps									
	Single-phase									
	• For fuse holders 10 x 38 mm class CC (3NC1091, 3NW7513-0HG) or MCBs 1P (5SY)	1	1000		5ST3701-0HG		1	1 unit	1AE	0.320
	• For fuse holders 14 x 51 mm (3NC1491, 3NW7111) or MCBs 1P (5SY, 5SP) with AS or FC	1.5	1000		5ST3703-0HG		1	1 unit	1AE	0.277
	Two-phase									
	• For fuse holders 10 x 38mm/ class CC (3NC1092, 3NW7523-0HG) or MCBs 2P (5SY)	1	1000		5ST3705-0HG		1	1 unit	1AE	0.640
	Three-phase									
	• For fuse holders 10 x 38 mm/class CC (3NC1093, 3NW7533-0HG) or MCBs 3P (5SY)	1	1000		5ST3710-0HG		1	1 unit	1AE	0.820
	• For fuse holders 14 x 51 mm (3NC1493, 3NW7131) or MCBs 1P (5SY, 5SP) with AS or FC	1.5	1000		5ST3714-0HG		1	1 unit	1AE	0.780
	5ST37..-.HG busbars acc. to UL 508, 25 mm², can be cut, without end caps									
	Single-phase									
	• For fuse holders 14 x 51 mm (3NC1491, 3NW7111) or MCBs 1P (5SP)	1.5	1000		5ST3701-2HG		1	1 unit	1AE	0.340
	Two-phase									
	• For fuse holders 14 x 51 mm (3NC1492, 3NW7121) or MCBs 2P (5SP)	1.5	1000		5ST3705-2HG		1	1 unit	1AE	0.770
	Three-phase									
	• For fuse holders 14 x 51 mm (3NC1493, 3NW7131) or MCBs 3P (5SP)	1.5	1000		5ST3710-2HG		1	1 unit	1AE	1.090
	End caps for 5ST37..-.HG									
	• For single-phase busbars				5ST3748-0HG		1	10 units	1AE	0.001
	• For two- and three-phase busbars				5ST3750-0HG		1	10 units	1AE	0.002
	Terminals according to UL 508									
	Infeed to device									
	• 35 mm²				5ST3770-0HG		1	10 units	1AE	0.033
	Infeed to busbar									
	• 50 mm²				5ST3770-1HG		1	10 units	1AE	0.032
	Touch protection cover for busbars according to UL 508									
	• 5 x 1 pin				5ST3655-0HG		1	10 units	1AE	0.011

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* You can order this quantity or a multiple thereof.

Overview

LV HRC fuse systems (NH type) are used for installation systems in non-residential, commercial and industrial buildings as well as in switchboard assemblies of power utilities. They therefore protect essential building parts and systems.

LV HRC fuse systems (NH type) are fuse systems designed for operation by experts. There are no constructional requirements for non-interchangeability of rated current and touch protection.

The components and auxiliary equipment are designed in such a way as to ensure the safe replacement of LV HRC fuse systems or isolation of systems.

LV HRC fuse links are available in the sizes 000, 00, 0, 1, 2, 3, 4 and 4a.

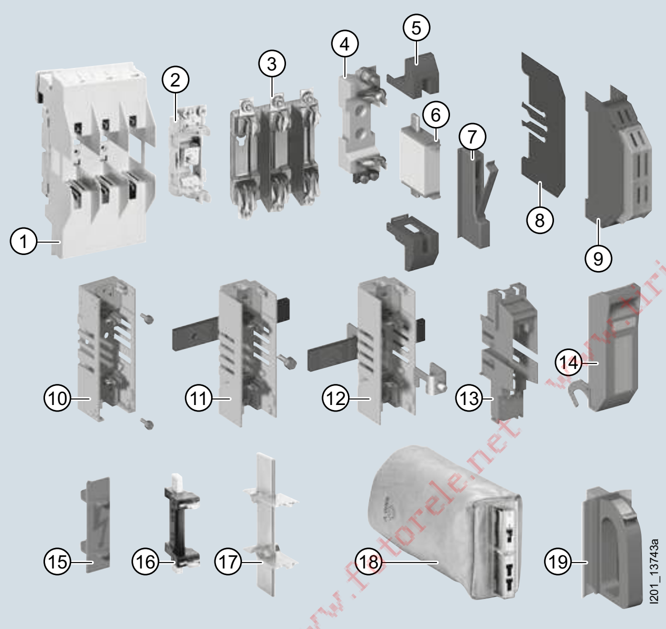
LV HRC fuse links are available in the following operational classes:

- gG for cable and line protection
- aM for short-circuit protection of switching devices in motor circuits
- gR or aR for protection of power semiconductors
- gS: The new gS operational class combines cable and line protection with semiconductor protection

LV HRC fuse links of size 000 can also be used in LV HRC fuse bases, LV HRC fuse switch disconnectors, LV HRC fuse strips as well as LV HRC in-line fuse switch disconnectors of size 00.

The fuse links 300 A, 355 A and 425 A comply with the standard but do not have the VDE mark.

LV HRC components:

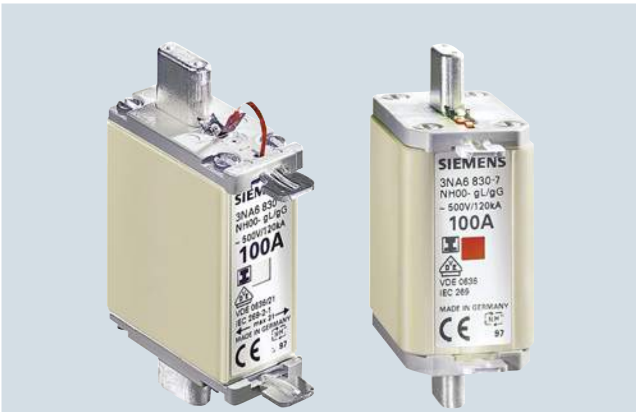


1. LV HRC fuse base from the SR60 busbar system
2. LV HRC fuse base for busbar mounting
3. LV HRC fuse base, 3-pole
4. LV HRC fuse base, 1-pole
5. LV HRC contact covers
6. LV HRC fuse link
7. LV HRC signal detector
8. LV HRC partition
9. LV HRC protective cover

LV HRC fuse bases with swivel mechanisms,

10. - for screw fixing on mounting plate
11. - for screw fixing on busbar system
12. - for claw fixing on busbar
13. LV HRC protective cover for LV HRC fuse bases with swivel mechanism
14. LV HRC swivel mechanism
15. LV HRC fuse base cover
16. LV HRC isolating blade with insulated grip lugs
17. LV HRC isolating blade with non-insulated grip lugs
18. LV HRC fuse puller with sleeve
19. LV HRC fuse puller

Benefits



Tripped Not tripped

Tripped Not tripped

- LV HRC fuse links with combination alarm signal the tripping of a fuse by a clear color change from red to white. This enables fast identification and replacement of the tripped fuse links. This increases system availability
- The insulated grip lugs made of metal are integrated in the top and bottom covers of the fuse link in molded plastic and provide greater safety during replacement. The mark shown below indicates that the grip lugs are insulated
- In the standard series with front indicator, the front-mounted red indicator signals the tripping of a fuse
- LV HRC fuse links are always equipped with silver-plated contact pins. This means that they are non-corroding and have less contact resistance. This ensures the long-term operational safety of the plant

Technical specifications

		LV HRC fuse links Operational class gG					Operational class aM
		3NA6...-4 3NA6...-4KK 3NA383.-8	3NA6... 3NA6...-7 3NA7... 3NA7...-7	3NA3... 3NA3...-7	3NA6...-6 3NA7...-6	3NA3...-6	3ND1 3ND2
Standards **Approvals**		IEC 60269-1, -2; EN 60269-1; DIN VDE 0636 DIN VDE 0636-2; CSA 22.2 No.106, File Number 016325_0_00 (CSA approval of fuses 500 V for 600 V)					
Rated voltage U_n							
• Sizes 000 and 00	V AC V DC	400 --	500 250	500 250	690[1)] 250	690[1)] 250	500 --
• Sizesn 1 and 2	V AC V DC	400 --	500 440	500 440	690[1)] 440	690[1)] 440	690 --
• Size 3	V AC V DC	-- --	-- --	500 440	-- --	690[1)] 440	690 --
• Sizes 4 and 4a (IEC design)	V AC V DC	-- --	-- --	500 440	-- --	-- --	-- --
Rated current I_n	A	10 ... 400	2 ... 400	2 ... 1250	2 ... 315	2 ... 500	6 ... 630
Rated breaking capacity	kA AC	120					
	kA DC	--	25				--
Contact pins		Non-corroding, silver-plated					
Resistance to climate	°C	-20 ... +50 at 95 % relative humidity					

1) Manufacturer's confirmation for 690 V +10 % rated voltage available on request.

Selection and ordering data

	Size	Mounting width	I_n	U_n	DT	Insulated grip lugs Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	A	V AC/V DC							kg
	LV HRC fuse links with combination alarm, operational class gG										
	000	21	10	400/--		3NA6803-4		1	3 units	1BM	0.130
			16			3NA6805-4		1	3 units	1BM	0.131
			20			3NA6807-4		1	3 units	1BM	0.131
			25			3NA6810-4		1	3 units	1BM	0.132
			32			3NA6812-4		1	3 units	1BM	0.131
			35			3NA6814-4		1	3 units	1BM	0.131
			40			3NA6817-4		1	3 units	1BM	0.132
			50			3NA6820-4		1	3 units	1BM	0.130
			63			3NA6822-4		1	3 units	1BM	0.131
			80			3NA6824-4		1	3 units	1BM	0.131
			100			3NA6830-4		1	3 units	1BM	0.132
	00	30	80	400/--		3NA6824-4KK		1	3 units	1BM	0.194
			100			3NA6830-4KK		1	3 units	1BM	0.204
			125			3NA6832-4		1	3 units	1BM	0.202
			160			3NA6836-4		1	3 units	1BM	0.203
	1	30	35	400/--		3NA6114-4		1	3 units	1BM	0.288
			40			3NA6117-4		1	3 units	1BM	0.274
			50			3NA6120-4		1	3 units	1BM	0.277
			63			3NA6122-4		1	3 units	1BM	0.284
			80			3NA6124-4		1	3 units	1BM	0.275
			100			3NA6130-4		1	3 units	1BM	0.291
			125			3NA6132-4		1	3 units	1BM	0.286
			160			3NA6136-4		1	3 units	1BM	0.287
		47.2	200			3NA6140-4		1	3 units	1BM	0.443
			224			3NA6142-4		1	3 units	1BM	0.449
			250			3NA6144-4		1	3 units	1BM	0.450
	2	47.2	50	400/--		3NA6220-4		1	3 units	1BM	0.460
			63			3NA6222-4		1	3 units	1BM	0.455
			80			3NA6224-4		1	3 units	1BM	0.449
			100			3NA6230-4		1	3 units	1BM	0.458
			125			3NA6232-4		1	3 units	1BM	0.467
			160			3NA6236-4		1	3 units	1BM	0.465
			200			3NA6240-4		1	3 units	1BM	0.458
			224			3NA6242-4		1	3 units	1BM	0.459
			250			3NA6244-4		1	3 units	1BM	0.464
		57.8	300			3NA6250-4		1	3 units	1BM	0.659
			315			3NA6252-4		1	3 units	1BM	0.663
			355			3NA6254-4		1	3 units	1BM	0.658
			400			3NA6260-4		1	3 units	1BM	0.655

* You can order this quantity or a multiple thereof.

	Size	Mounting width	I_n	U_n	DT	Non-insulated grip lugs Article No. www.siemens.com/product?Article No.	Price per PU	PG	DT	Insulated grip lugs Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	A	V AC/ V DC											kg
	LV HRC fuse links with combination alarm, operational class gG														
	000	21	2	500/ 250		3NA7802		1BM		3NA6802		1	3 units	1BM	0.131
			4			3NA7804		1BM		3NA6804		1	3 units	1BM	0.131
			6			3NA7801		1BM		3NA6801		1	3 units	1BM	0.131
			10			3NA7803		1BM		3NA6803		1	3 units	1BM	0.130
			16			3NA7805		1BM		3NA6805		1	3 units	1BM	0.128
			20			3NA7807		1BM		3NA6807		1	3 units	1BM	0.129
			25			3NA7810		1BM		3NA6810		1	3/126 units	1BM	0.132
			32			3NA7812		1BM		3NA6812		1	3 units	1BM	0.130
			35			3NA7814		1BM		3NA6814		1	3/126 units	1BM	0.131
			40			3NA7817		1BM		3NA6817		1	3 units	1BM	0.132
			50			3NA7820		1BM		3NA6820		1	3/126 units	1BM	0.131
			63			3NA7822		1BM		3NA6822		1	3/126 units	1BM	0.129
			80			3NA7824		1BM		3NA6824		1	3/126 units	1BM	0.131
			100			3NA7830		1BM		3NA6830		1	3/126 units	1BM	0.133
	00	30	80	500/ 250		3NA7824-7		1BM		3NA6824-7		1	3 units	1BM	0.202
			100			3NA7830-7		1BM		3NA6830-7		1	3 units	1BM	0.206
			125			3NA7832		1BM		3NA6832		1	3 units	1BM	0.202
			160			3NA7836		1BM		3NA6836		1	3 units	1BM	0.202
	1	30	16	500/ 440		3NA7105		1BM		3NA6105		1	3 units	1BM	0.278
			20			3NA7107		1BM		3NA6107		1	3 units	1BM	0.288
			25			3NA7110		1BM		3NA6110		1	3 units	1BM	0.282
			35			3NA7114		1BM		3NA6114		1	3 units	1BM	0.289
			40			3NA7117		1BM		3NA6117		1	3 units	1BM	0.284
			50			3NA7120		1BM		3NA6120		1	3 units	1BM	0.282
			63			3NA7122		1BM		3NA6122		1	3 units	1BM	0.287
			80			3NA7124		1BM		3NA6124		1	3 units	1BM	0.288
			100			3NA7130		1BM		3NA6130		1	3 units	1BM	0.290
			125			3NA7132		1BM		3NA6132		1	3 units	1BM	0.289
			160			3NA7136		1BM		3NA6136		1	3 units	1BM	0.287
		47.2	200			3NA7140		1BM		3NA6140		1	3 units	1BM	0.447
			224			3NA7142		1BM		3NA6142		1	3 units	1BM	0.443
			250			3NA7144		1BM		3NA6144		1	3 units	1BM	0.450
	2	47.2	35	500/ 440		3NA7214		1BM		3NA6214		1	3 units	1BM	0.463
			50			3NA7220		1BM		3NA6220		1	3 units	1BM	0.463
			63			3NA7222		1BM		3NA6222		1	3 units	1BM	0.465
			80			3NA7224		1BM		3NA6224		1	3 units	1BM	0.459
			100			3NA7230		1BM		3NA6230		1	3 units	1BM	0.462
			125			3NA7232		1BM		3NA6232		1	3 units	1BM	0.463
			160			3NA7236		1BM		3NA6236		1	3 units	1BM	0.464
			200			3NA7240		1BM		3NA6240		1	3 units	1BM	0.463
			224			3NA7242		1BM		3NA6242		1	3 units	1BM	0.464
			250			3NA7244		1BM		3NA6244		1	3/21 units	1BM	0.463
		57.8	300			--				3NA6250		1	3 units	1BM	0.658
			315			3NA7252		1BM		3NA6252		1	3 units	1BM	0.658
			355			--				3NA6254		1	3 units	1BM	0.664
			400			3NA7260		1BM		3NA6260		1	3 units	1BM	0.661

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*** You can order this quantity or a multiple thereof.**

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	Size	Mounting width	I_n	U_n	DT	Non-insulated grip lugs Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	A	V AC/V DC							kg
	LV HRC fuse links with front indicator, operational class gG										
	000	21	2	500/250		3NA3802		1	3 units	1BM	0.127
			4			3NA3804		1	3 units	1BM	0.130
			6			3NA3801		1	3/126 units	1BM	0.131
			10			3NA3803		1	3/126 units	1BM	0.128
			16			3NA3805		1	3/126 units	1BM	0.131
			20			3NA3807		1	3/126 units	1BM	0.130
			25			3NA3810		1	3/126 units	1BM	0.130
			32			3NA3812		1	3/126 units	1BM	0.128
			35			3NA3814		1	3/126 units	1BM	0.131
			40			3NA3817		1	3/126 units	1BM	0.130
			50			3NA3820		1	3/126 units	1BM	0.131
			63			3NA3822		1	3/126 units	1BM	0.131
			80			3NA3824		1	3/126 units	1BM	0.130
			100			3NA3830		1	3/126 units	1BM	0.131
			125	400/250		3NA3832-8		1	3/60 units	1BM	0.126
			160			3NA3836-8		1	3/60 units	1BM	0.125
	00	30	35	500/250		3NA3814-7		1	3 units	1BM	0.203
			50			3NA3820-7		1	3 units	1BM	0.204
			63			3NA3822-7		1	3 units	1BM	0.195
			80			3NA3824-7		1	3 units	1BM	0.205
			100			3NA3830-7		1	3 units	1BM	0.201
			125			3NA3832		1	3 units	1BM	0.206
			160			3NA3836		1	3 units	1BM	0.205
	0	30	6	500/440		3NA3001		1	3 units	1BM	0.268
			10			3NA3003		1	3 units	1BM	0.274
			16			3NA3005		1	3 units	1BM	0.270
			20			3NA3007		1	3 units	1BM	0.270
			25			3NA3010		1	3 units	1BM	0.255
			32			3NA3012		1	3 units	1BM	0.272
			35			3NA3014		1	3 units	1BM	0.270
			40			3NA3017		1	3 units	1BM	0.275
			50			3NA3020		1	3 units	1BM	0.273
			63			3NA3022		1	3 units	1BM	0.270
			80			3NA3024		1	3 units	1BM	0.270
			100			3NA3030		1	3 units	1BM	0.269
			125			3NA3032		1	3 units	1BM	0.270
			160			3NA3036		1	3 units	1BM	0.272
	1	30	16	500/440		3NA3105		1	3 units	1BM	0.264
			20			3NA3107		1	3 units	1BM	0.283
			25			3NA3110		1	3 units	1BM	0.281
			35			3NA3114		1	3 units	1BM	0.287
			40			3NA3117		1	3 units	1BM	0.280
			50			3NA3120		1	3 units	1BM	0.285
			63			3NA3122		1	3/48 units	1BM	0.290
			80			3NA3124		1	3/48 units	1BM	0.278
			100			3NA3130		1	3/48 units	1BM	0.278
			125			3NA3132		1	3/48 units	1BM	0.287
			160			3NA3136		1	3/48 units	1BM	0.283
		47.2	200			3NA3140		1	3 units	1BM	0.436
			224			3NA3142		1	3 units	1BM	0.448
			250			3NA3144		1	3 units	1BM	0.438

* You can order this quantity or a multiple thereof.

	Size	Mounting width	I_n	U_n	DT	Non-insulated grip lugs Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	A	V AC/V DC							kg
	LV HRC fuse links with front indicator, operational class gG										
	2	47.2	35	500/440		3NA3214		1	3 units	1BM	0.462
			50			3NA3220		1	3 units	1BM	0.462
			63			3NA3222		1	3 units	1BM	0.449
			80			3NA3224		1	3 units	1BM	0.462
			100			3NA3230		1	3 units	1BM	0.450
			125			3NA3232		1	3/21 units	1BM	0.462
			160			3NA3236		1	3/21 units	1BM	0.465
			200			3NA3240		1	3/21 units	1BM	0.465
			224			3NA3242		1	3 units	1BM	0.460
			250			3NA3244		1	3/21 units	1BM	0.467
		57.8	300			3NA3250		1	3/18 units	1BM	0.655
			315			3NA3252		1	3/18 units	1BM	0.650
			355			3NA3254		1	3/18 units	1BM	0.665
			400			3NA3260		1	3/18 units	1BM	0.650
	3	57.8	200	500/440		3NA3340		1	3 units	1BM	0.654
			224			3NA3342		1	3 units	1BM	0.651
			250			3NA3344		1	3 units	1BM	0.656
			300			3NA3350		1	3 units	1BM	0.657
			315			3NA3352		1	3 units	1BM	0.657
			355			3NA3354		1	3 units	1BM	0.658
			400			3NA3360		1	3 units	1BM	0.660
		71.2	425			3NA3362		1	3 units	1BM	0.943
			500			3NA3365		1	3 units	1BM	0.943
			630			3NA3372		1	3 units	1BM	0.939
	Can only be used for 3NH3530 LV HRC fuse base										
	4 (IEC design)	101.8	630	500/440		3NA3472		1	1 unit	1BM	2.546
			800			3NA3475		1	1 unit	1BM	2.609
			1000			3NA3480		1	1 unit	1BM	2.561
			1250			3NA3482		1	1 unit	1BM	2.577
	Only for LV HRC base 3NH7520 or usable for fuse switch disconnectors with in-line design 3NJ5643-0BB00										
	4a	101.8	500	500/440		3NA3665		1	1 unit	1BM	2.604
			630			3NA3672		1	1 unit	1BM	2.674
			800			3NA3675		1	1 unit	1BM	2.661
			1000			3NA3680		1	1 unit	1BM	2.646
			1250			3NA3682		1	1 unit	1BM	2.659

*** You can order this quantity or a multiple thereof.**

LV HRC fuse links

	Size	Mounting width	I_n	U_n	DT	Non-insulated grip lugs Article No. www.siemens.com/product?Article No.	Price per PU	PG	DT	Insulated grip lugs Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	A	V AC/ V DC											kg
	LV HRC fuse links with combination alarm, operational class gG														
	000	21	2	690[1]/ 250		3NA7802-6		1BM		3NA6802-6		1	3 units	1BM	0.123
			4			3NA7804-6		1BM		3NA6804-6		1	3 units	1BM	0.132
			6			3NA7801-6		1BM		3NA6801-6		1	3 units	1BM	0.121
			10			3NA7803-6		1BM		3NA6803-6		1	3 units	1BM	0.133
			16			3NA7805-6		1BM		3NA6805-6		1	3 units	1BM	0.131
			20			3NA7807-6		1BM		3NA6807-6		1	3 units	1BM	0.127
			25			3NA7810-6		1BM		3NA6810-6		1	3 units	1BM	0.130
			32			3NA7812-6		1BM		3NA6812-6		1	3 units	1BM	0.130
			35			3NA7814-6		1BM		3NA6814-6		1	3 units	1BM	0.132
			40			3NA7817-6KJ		1BM		3NA6817-6KJ		1	3 units	1BM	0.131
			50			3NA7820-6KJ		1BM		3NA6820-6KJ		1	3 units	1BM	0.131
	00	30	40	690[1]/ 250		3NA7817-6		1BM		3NA6817-6		1	3 units	1BM	0.202
			50			3NA7820-6		1BM		3NA6820-6		1	3 units	1BM	0.199
			63			3NA7822-6		1BM		3NA6822-6		1	3 units	1BM	0.202
			80			3NA7824-6		1BM		3NA6824-6		1	3 units	1BM	0.200
			100			3NA7830-6		1BM		3NA6830-6		1	3 units	1BM	0.194
	1	30	50	690[1]/ 440		3NA7120-6		1BM		3NA6120-6		1	3 units	1BM	0.285
			63			3NA7122-6		1BM		3NA6122-6		1	3 units	1BM	0.284
			80			3NA7124-6		1BM		3NA6124-6		1	3 units	1BM	0.288
			100			3NA7130-6		1BM		3NA6130-6		1	3 units	1BM	0.286
			125			3NA7132-6		1BM		3NA6132-6		1	3 units	1BM	0.285
			160			3NA7136-6		1BM		3NA6136-6		1	3 units	1BM	0.288
		47.2	200			3NA7140-6		1BM		3NA6140-6		1	3 units	1BM	0.448
	2	47.2	80	690[1]/ 440		3NA7224-6		1BM		3NA6224-6		1	3 units	1BM	0.440
			100			3NA7230-6		1BM		3NA6230-6		1	3 units	1BM	0.464
			125			3NA7232-6		1BM		3NA6232-6		1	3 units	1BM	0.438
			160			3NA7236-6		1BM		3NA6236-6		1	3 units	1BM	0.457
			200			3NA7240-6		1BM		3NA6240-6		1	3 units	1BM	0.461
		57.8	224			3NA7242-6		1BM		3NA6242-6		1	3 units	1BM	0.655
			250			3NA7244-6		1BM		3NA6244-6		1	3 units	1BM	0.647
			300			3NA7250-6		1BM		3NA6250-6		1	3 units	1BM	0.655
			315			3NA7252-6		1BM		3NA6252-6		1	3 units	1BM	0.658

[1] Manufacturer's confirmation for 690 V +10 % rated voltage available on request.

* You can order this quantity or a multiple thereof.

	Size	Mounting width	I_n	U_n	DT	Non-insulated grip lugs Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	A	V AC/V DC							kg
	LV HRC fuse links with front indicator, operational class gG										
	000	21	2	690[1]/250		3NA3802-6		1	3 units	1BM	0.128
			4			3NA3804-6		1	3 units	1BM	0.129
			6			3NA3801-6		1	3 units	1BM	0.131
			10			3NA3803-6		1	3 units	1BM	0.132
			16			3NA3805-6		1	3 units	1BM	0.130
			20			3NA3807-6		1	3 units	1BM	0.129
			25			3NA3810-6		1	3 units	1BM	0.129
			32			3NA3812-6		1	3 units	1BM	0.130
			35			3NA3814-6		1	3 units	1BM	0.131
			40			3NA3817-6KJ		1	3 units	1BM	0.131
			50			3NA3820-6KJ		1	3 units	1BM	0.128
	00	30	40	690[1]/250		3NA3817-6		1	3 units	1BM	0.204
			50			3NA3820-6		1	3 units	1BM	0.207
			63			3NA3822-6		1	3 units	1BM	0.205
			80			3NA3824-6		1	3 units	1BM	0.204
			100			3NA3830-6		1	3 units	1BM	0.203
	1	30	50	690[1]/440		3NA3120-6		1	3 units	1BM	0.279
			63			3NA3122-6		1	3 units	1BM	0.289
			80			3NA3124-6		1	3 units	1BM	0.287
			100			3NA3130-6		1	3 units	1BM	0.291
			125			3NA3132-6		1	3 units	1BM	0.272
			160			3NA3136-6		1	3 units	1BM	0.290
		47.2	200			3NA3140-6		1	3 units	1BM	0.445
	2	47.2	80	690[1]/440		3NA3224-6		1	3 units	1BM	0.456
			100			3NA3230-6		1	3 units	1BM	0.468
			125			3NA3232-6		1	3 units	1BM	0.456
			160			3NA3236-6		1	3 units	1BM	0.463
			200			3NA3240-6		1	3 units	1BM	0.470
		57.8	224			3NA3242-6		1	3 units	1BM	0.615
			250			3NA3244-6		1	3 units	1BM	0.655
			300			3NA3250-6		1	3 units	1BM	0.657
			315			3NA3252-6		1	3 units	1BM	0.657
	3	57.8	250	690[1]/440		3NA3344-6		1	3 units	1BM	0.643
			315			3NA3352-6		1	3 units	1BM	0.651
		71.2	355			3NA3354-6		1	3 units	1BM	1.037
			400			3NA3360-6		1	3 units	1BM	1.038
			425			3NA3362-6		1	3 units	1BM	1.048
			500			3NA3365-6		1	3 units	1BM	0.982

[1] Manufacturer's confirmation for 690 V +10 % rated voltage available on request.

*** You can order this quantity or a multiple thereof.**

	Size	Mounting width	I_n	U_n	DT	Non-insulated grip lugs Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	A	V AC/V DC							kg
	LV HRC fuse links with front indicator, operational class aM										
	000	21	6	500/--		3ND1801		1	3 units	1BM	0.130
			10			3ND1803		1	3 units	1BM	0.130
			16			3ND1805		1	3 units	1BM	0.127
			20			3ND1807		1	3 units	1BM	0.129
			25			3ND1810		1	3 units	1BM	0.129
			32			3ND1812		1	3 units	1BM	0.131
			35			3ND1814		1	3 units	1BM	0.131
			40			3ND1817		1	3 units	1BM	0.131
			50			3ND1820		1	3 units	1BM	0.131
			63			3ND1822		1	3 units	1BM	0.130
			80			3ND1824		1	3 units	1BM	0.131
			100			3ND1830-8		1	3 units	1BM	0.132
	00	30	100	500/--		3ND1830		1	3 units	1BM	0.204
			125			3ND1832		1	3 units	1BM	0.204
			160			3ND1836		1	3 units	1BM	0.204
	1	30	63	690/--		3ND2122		1	3 units	1BM	0.281
			80			3ND2124		1	3 units	1BM	0.267
			100			3ND2130		1	3 units	1BM	0.286
		47.2	125			3ND2132		1	3 units	1BM	0.449
			160			3ND2136		1	3 units	1BM	0.447
			200			3ND2140		1	3 units	1BM	0.447
			250			3ND2144		1	3 units	1BM	0.443
	2	47.2	125	690/--		3ND2232		1	3 units	1BM	0.465
			160			3ND2236		1	3 units	1BM	0.464
			200			3ND2240		1	3 units	1BM	0.467
			250			3ND2244		1	3 units	1BM	0.416
		57.8	315			3ND2252		1	3 units	1BM	0.661
			355			3ND2254		1	3 units	1BM	0.663
			400			3ND2260		1	3 units	1BM	0.655
	3	57.8	315	690/--		3ND2352		1	3 units	1BM	0.597
			355			3ND2354		1	3 units	1BM	0.662
			400			3ND2360		1	3 units	1BM	0.659
		71.2	500			3ND1365		1	3 units	1BM	1.044
			630			3ND1372		1	3 units	1BM	1.036

* You can order this quantity or a multiple thereof.

Overview

LV HRC signal detectors are used for remotely indicating that the LV HRC fuse links have been tripped. Three different solutions are available:

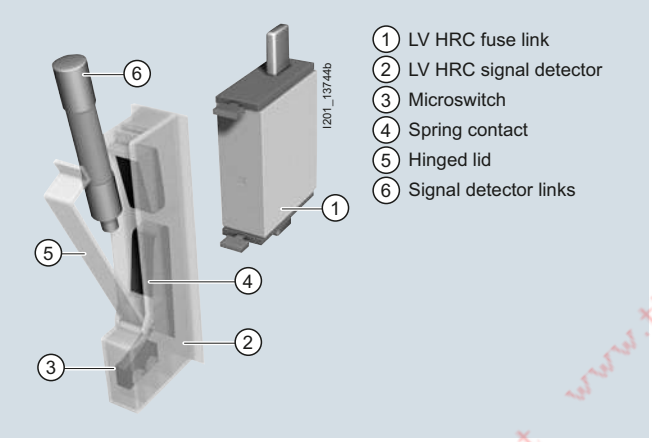
- 3NX1021 signal detectors with signal detector link
  The LV HRC signal detectors with signal detector link support monitoring of LV HRC fuse links with non-insulated grip lugs of sizes 000 to 4 at 10 A or more. The signal detector link is connected in parallel to the LV HRC fuse link. In the event of a fault, the LV HRC fuse links are released simultaneously with the LV HRC fuse detector link. A trip pin switches a floating microswitch.
- 3NX1024 signal detector top
  The signal detector top can be used with LV HRC fuse links, sizes 000, 00, 1 and 2, which are equipped with non-insulated grip lugs and have a front indicator or combination alarm. It is simply plugged into the grip lugs.
- 5TT3170 fuse monitor
  If a fuse is tripped, the front indicator springs open and switches a floating microswitch. This solution should not be used for safety-relevant systems. For this purpose, we recommend our electronic fuse monitors.

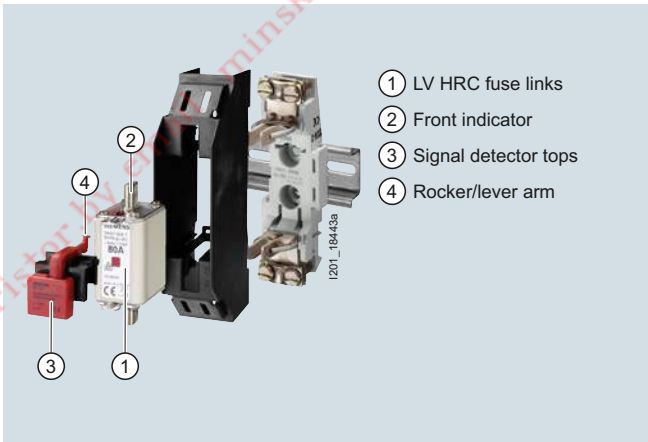
Benefits

Uniform solution for all sizes

LV HRC signal detectors reliably indicate when a fuse has tripped. Tripped fuses are quickly located. This saves time and increases system availability.

The LV HRC signal detector top is a cost-effective solution for the monitoring of Siemens LV HRC fuse links of sizes 000, 00, 1 and 2.





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Selection and ordering data

		Size	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
									kg
	**LV HRC signal detectors** Only for SIEMENS 3NA3, 3NA7, 3ND LV HRC fuse links with non-insulated grip lugs • Rated voltage up to 690 V AC/600 V DC • Contact: Microswitches 250 V AC, 6 A • Connection: Flat termination 2.3 mm	000 ... 4		3NX1021		1	1/150 units	1BM	0.039
	**Signal detector links** • Rated voltage up to 690 V AC/600 V DC								
	Response value > 9 V; 2.5 A; for standard applications	000 ... 4		3NX1022		1	3 units	1BM	0.016
	Response value > 2 V; 7 A; only for meshed networks			3NX1023		1	3 units	1BM	0.018
	**Signal detector tops** Only for SIEMENS 3NA3, 3NA7, 3ND LV HRC fuse links with non-insulated grip lugs • Rated voltage up to 690 V AC/600 V DC • Contact: Microswitch 230 V AC, 5 A, 1 CO • Connection: Flat termination 2.3 mm	000, 00, 1, 2		3NX1024		1	1 unit	1BM	0.027

	U_e	I_n	U_c	Mount-ing width	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V AC	A	V	MW							kg
	**Fuse monitors** For all low-voltage fuse systems. Can be used in asymmetric systems afflicted with harmonics and regenerative feedback motors. Signal also for disconnected loads.										
	230	4	380 ... 415 3 AC	2	►	5TT3170		1	1 unit	1BK	0.153

For more information on fuse monitors, see chapter "Monitoring Devices" —> "Monitoring devices for electrical values", see page 12/9.

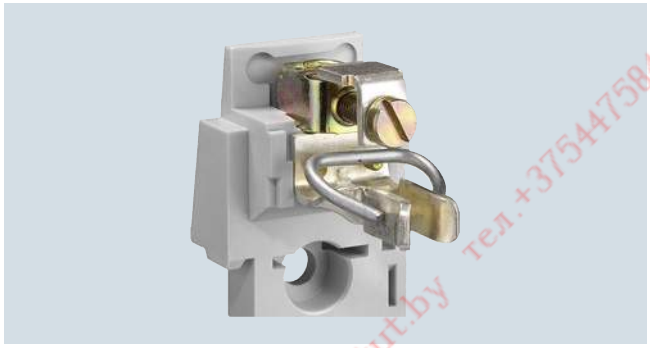
* You can order this quantity or a multiple thereof.

Overview

Terminals for all applications

Flat terminals with screws are suitable for connecting busbars or cable lugs. They have a torsion-proof screw connection with shim, spring washer and nut. When tightening the nut, always ensure compliance with the specified torque due to the considerable leverage effect.

The double busbar terminal differs from the flat terminal in that it supports connection of two busbars, one on the top and one at the bottom of the flat terminal.



The modern box terminal ensures efficient and reliable connection to the conductors. They support connection of conductors with or without end sleeves.

With the flat terminal with nut, terminal lug of the nut is torsion-proof. When tightening the nut, the torque must be observed because of the considerable leverage effect.

Up to three conductors can be clamped to the terminal strip.

The plug-in terminal is equipped for connecting two conductors.

One conductor can be clamped to the saddle-type terminal.

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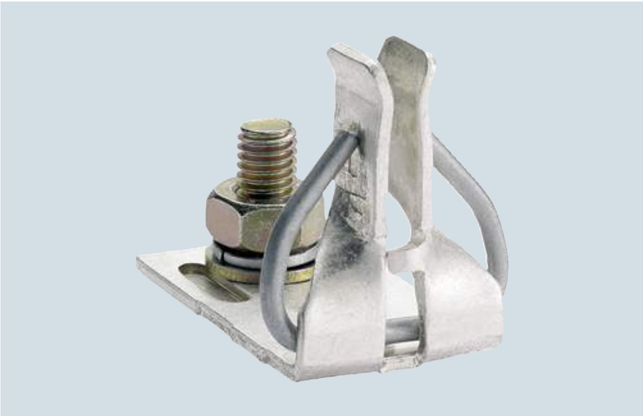
Benefits



- The silver-plated Lyra contact provides a large contact area for the pin of the LV HRC fuse link. This improves heat transmission and lowers the temperature. It also minimizes ageing of the fuse link in the maximum load range, in particular when using SITOR semiconductor fuses
- The large contact area also facilitates replacement of LV HRC fuse links
- The spring washer tensioning the contact is mechanically galvanized. This will prevent hydrogen embrittlement. The contact is resistant to aging and there will be no dreaded annealing of contacts, which considerably improves operating safety

Technical specifications

		LV HRC fuse bases, LV HRC bus-mounting bases					
Size		**000/00**	**0**	**1**	**2**	**3**	**4**
Standards		IEC 60269-1, -2; EN 60269-1; DIN VDE 0636-2, UL 4248-1 (only downstream from the branch protection)					
Approvals		KEMA, UL File No: E171267-IZLT2					
Rated current I_n	A	160	160	250	400	630	1250
Rated voltage U_n	V AC V DC	690[1] 250	690[1] 440				690 440
Rated short-circuit strength	kA AC kA DC	120 25					
Max. power dissipation of fuse links	W	12	25	32	45	60	90
Flat terminal							
Screw		M8		M10		M12	
Nut		M8	--				
Max. tightening torque	Nm	14		38			65
Plug-in terminal							
Conductor cross-section	mm²	2.5 ... 50		--			
Saddle-type terminal							
Conductor cross-section	mm²	6 ... 70	--				
Box terminal							
Conductor cross-section	mm²	2.5 ... 50					
Terminal strips							
Conductor cross-section, 3-wire	mm²	1.5 ... 16	--				
Max. torque for attachment of LV HRC fuse base	Nm	2		2.5			--

[1] Extended rated voltage up to 1000 V (except LV HRC bus-mounting bases).

		LV HRC fuse bases with swivel mechanism			
Size		**000/00**	**1**	**3**	**4a**
Rated voltage U_n	V AC V DC	690 440			
Max. power dissipation of fuse links	W	12	32	48	110
Flat terminal					
Screw		M8	M10	M12	M16
Nut		M8	--		
Max. tightening torque	Nm	14	38		65

Selection and ordering data

	Size	I_n	Version	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A								kg
	LV HRC fuse bases									
	Made of molded plastic, for standard rail mounting or screw fixing									
	**000/00**		1P							
		160	With flat terminals, screw		3NH3051		1	1/20 units	1BM	0.140
		125	With box terminals, up to 50 mm^2		3NH3053		1	1/10 units	1BM	0.120
	Made of ceramic for screw fixing									
	000/00	160	1P							
			With flat terminals, screw		3NH3030		1	3/30 units	1BM	0.216
			With plug-in terminals		3NH3031		1	3 units	1BM	0.271
			With saddle-type terminals		3NH3032		1	3 units	1BM	0.219
			3P (incl. two partitions)							
			With flat terminals		3NH4030		1	1/16 units	1BM	0.709
			With saddle-type terminals		3NH4032		1	1 unit	1BM	0.721
	Made of ceramic for screw fixing									
	0	160	1P							
			With flat terminals		3NH3120		1	3 units	1BM	0.423
	Made of ceramic for screw fixing									
	1	250	1P							
			With flat terminals		3NH3230		1	3 units	1BM	0.759
			With double busbar terminals		3NH3220		1	3 units	1BM	0.771
	Ceramic supports on base plate for screw fixing									
	1	250	3P (incl. two partitions)							
			With flat terminals		3NH4230		1	1 unit	1BM	2.069
	Made of ceramic for screw fixing									
	2	400	1P							
			With flat terminals		3NH3330		1	1 unit	1BM	0.803
			With double busbar terminals		3NH3320		1	1 unit	1BM	0.818
	Made of ceramic for screw fixing									
	3	630	1P							
			With flat terminals		3NH3430		1	1 unit	1BM	1.072
			With double busbar terminals		3NH3420		1	1 unit	1BM	1.091

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* You can order this quantity or a multiple thereof.

LV HRC fuse bases and accessories

	Size	I_n	Version	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A								kg
	LV HRC fuse bases									
	Ceramic supports on base plate for screw fixing (IEC design)									
	4	1250	1P With flat terminals		**3NH3530**		1	1 unit	1BM	3.259
	LV HRC fuse bases with swivel mechanism With flat terminals[1)]									
	**000/00**	160	1P With screw fixing for mounting plate		**3NH7030**		1	1 unit	1BM	0.412
	1	250	1P With screw fixing for mounting plate		**3NH7230**		1	1 unit	1BM	1.091
	Can also be used for fuse links of size 2									
	3	630	1P With screw fixing for mounting plate		**3NH7330**		1	1 unit	1BM	2.075

[1)] Size 000/00 with additionally enclosed saddle-type terminals

* You can order this quantity or a multiple thereof.

	Size	I_n	Version	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A							kg
	LV HRC fuse bases with swivel mechanism								
	**4a**	1250	1P With screw fixing for mounting plate	**3NH7520**		1	1 unit	1BM	5.171
	LV HRC protective covers for LV HRC fuse bases								
	As touch protection for contact pieces								
	000/00			**3NX3105**		1	2/20 units	1BM	0.016
	0			**3NX3114**		1	2/40 units	1BM	0.001
	1			**3NX3106**		1	2/20 units	1BM	0.022
	2			**3NX3107**		1	2/12 units	1BM	0.024
	3			**3NX3108**		1	2/10 units	1BM	0.029
	LV HRC partitions for LV HRC fuse bases								
	As intermediate phase and end barrier								
			Type						
	000/00		3NH30/3NH40	**3NX2023**		1	2/400 units	1BM	0.024
	0		3NH31	**3NX2030**		1	2 units	1BM	0.038
	1		3NH32	**3NX2024**		1	2 units	1BM	0.051
	2		3NH33	**3NX2025**		1	2 units	1BM	0.066
	3		3NH34	**3NX2026**		1	2 units	1BM	0.077
	LV HRC protective covers								
	**000/00**		1P and 3P	**3NX3115**		1	10 units	1BM	0.052
	**000/00**		When using fuse links with non-insulated grip lugs	**3NX3116**		1	10 units	1BM	0.022

*** You can order this quantity or a multiple thereof.**

LV HRC fuse bases and accessories

	Size	Version	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	**Fuse base covers**								
	For LV HRC fuse bases, red, with inscription "Isolating point"								
	000/00			**3NX1003**		1	3 units	1BM	0.037
	1, 2, 3			**3NX1004**		1	3 units	1BM	0.089
	**Fuse pullers**								
	000 ... 3	For LV HRC fuse links							
		Without sleeve		**3NX1013**		1	1 unit	1BM	0.309
		With sleeve		**3NX1014**		1	1 unit	1BM	0.534
	**Isolating blades For LV HRC fuse bases and fuse switch disconnectors**								
	With insulated grip lugs								
	000/00	Silver-plated		**3NG1002**		1	3/30 units	1BM	0.076
	0			**3NG1102**		1	1/10 units	1BM	0.121
	1			**3NG1202**		1	1/10 units	1BM	0.169
	2			**3NG1302**		1	1/5 units	1BM	0.229
	3			**3NG1402**		1	1/5 units	1BM	0.301
	With non-insulated grip lugs								
	4	Tinned		**3NG1503**		1	3 units	1BM	0.720
	4a	Nickel-plated		**3NG1505**		1	1/5 units	1BM	0.721

* You can order this quantity or a multiple thereof.

SITOR semiconductor fuses for 3NH bases: Assignment table

3NH bases are generally suitable for all LV HRC type fuses. LV HRC type fuses for SITOR semiconductor protection can also be used, although it must be noted that, compared to cable and line protection fuses, these get much hotter during operation. The following table contains the permissible load currents of the SITOR semiconductor fuses for installation in 3NH.

For installation in a base, it may therefore be necessary to operate the fuse under I_n (derating).

The values were determined using the conductor cross-sections specified in the table. If using smaller cross-sections, a considerably higher derating is required due to the lower heat dissipation.

SITOR semiconductor fuse data						**Permissible load currents of fuse when installed in: 3NH**		
Type[1]	Rated current I_n	Rated voltage U_n	Operational class	Size	Required conductor cross-section	Type	Size	Permissible load current[2]
--	A	V AC	--	--	mm² Cu	--	--	A
3NC2423-0C/3C	150	500	gR	3	70	3NH3430/20	3	150
3NC2425-0C/3C	200	500	gR	3	95	3NH3430/20	3	190
3NC2427-0C/3C	250	500	gR	3	120	3NH3430/20	3	240
3NC2428-0C/3C	300	500	gR	3	185	3NH3430/20	3	285
3NC2431-0C/3C	350	500	gR	3	240	3NH3430/20	3	330
3NC2432-0C/3C	400	500	aR	3	240	3NH3430/20	3	400
3NC3336-1U	630	1000	aR	3	2 x (40 x 5)	3NH3430/20	3	560
3NC3337-1U	710	1000	aR	3	2 x (50 x 5)	3NH3430/20	3	600
3NC3338-1U	800	1000	aR	3	2 x (40 x 8)	3NH3430/20	3	660
3NC3340-1U	900	1000	aR	3	2 x (40 x 8)	3NH3430/20	3	750
3NC3341-1U	1000	1000	aR	3	2 x (50 x 8)	3NH3430/20	3	850
3NC3342-1U	1100	800	aR	3	2 x (50 x 8)	3NH3430/20	3	900
3NC3343-1U	1250	800	aR	3	2 x (50 x 8)	3NH3430/20	3	950
3NC3430-1U	315	1250	aR	3	2 x 95	3NH3430/20	3	310
3NC3432-1U	400	1250	aR	3	2 x 120	3NH3430/20	3	390
3NC3434-1U	500	1250	aR	3	2 x 150	3NH3430/20	3	460
3NC3436-1U	630	1250	aR	3	2 x (40 x 5)	3NH3430/20	3	560
3NC3438-1U	800	1100	aR	3	2 x (40 x 8)	3NH3430/20	3	690
3NC8423-0C/3C	150	690	gR	3	70	3NH3430/20	3	135
3NC8425-0C/3C	200	690	gR	3	95	3NH3430/20	3	180
3NC8427-0C/3C	250	690	gR	3	120	3NH3430/20	3	250
3NC8431-0C/3C	350	690	gR	3	240	3NH3430/20	3	315
3NC8434-0C/3C	500	690	gR	3	2 x 150	3NH3430/20	3	450
3NC8444-3C	1000	600	aR	3	2 x (60 x 6)	3NH3430/20	3	800
3NE1020-2	80	690	gR	00	25	3NH3030/4030	00	80
3NE1021-0	100	690	gS	00	35	3NH3030/4030	00	100
3NE1021-2	100	690	gR	00	35	3NH3030/4030	00	100
3NE1022-0	125	690	gS	00	50	3NH3030/4030	00	125
3NE1022-2	125	690	gR	00	50	3NH3030/4030	00	125
3NE1224-0	160	690	gS	1	70	3NH3230/4230	1	160
3NE1224-2/-3	160	690	gR	1	70	3NH3230/4230	1	160
3NE1225-0	200	690	gS	1	95	3NH3230/4230	1	200
3NE1225-2/-3	200	690	gR	1	95	3NH3230/4230	1	200/190
3NE1227-0	250	690	gS	1	120	3NH3230/4230	1	250
3NE1227-2/-3	250	690	gR	1	120	3NH3230/4230	1	250/235
3NE1230-0	315	690	gS	1	2 x 70	3NH3330/20	2	315
3NE1230-2/-3	315	690	gR	1	2 x 70	3NH3330/20	2	315
3NE1331-0	350	690	gS	2	2 x 95	3NH3330/20	2	350
3NE1331-2/-3	350	690	gR	2	2 x 95	3NH3330/20	2	350
3NE1332-0	400	690	gS	2	2 x 95	3NH3330/20	2	400
3NE1332-2/-3	400	690	gR	2	2 x 95	3NH3330/20	2	400
3NE1333-0	450	690	gS	2	2 x 120	3NH3430/20	3	450
3NE1333-2/-3	450	690	gR	2	2 x 120	3NH3430/20	3	450
3NE1334-0	500	690	gS	2	2 x 120	3NH3430/20	3	500
3NE1334-2/-3	500	690	gR	2	2 x 120	3NH3430/20	3	500
3NE1435-0	560	690	gS	3	2 x 150	3NH3430/20	3	560
3NE1435-2/-3	560	690	gR	3	2 x 150	3NH3430/20	3	560
3NE1436-0	630	690	gS	3	2 x 185	3NH3430/20	3	630
3NE1436-2/-3	630	690	gR	3	2 x 185	3NH3430/20	3	630
3NE1437-0	710	690	gS	3	2 x (40 x 5)	3NH3430/20	3	710
3NE1437-1	710	600	gR	3	2 x (40 x 5)	3NH3430/20	3	690
3NE1437-2/-3	710	690	gR	3	2 x (40 x 5)	3NH3430/20	3	710
3NE1438-0	800	690	gS	3	2 x (50 x 5)	3NH3430/20	3	800
3NE1438-1	800	600	gR	3	2 x (50 x 5)	3NH3430/20	3	750
3NE1438-2/-3	800	690	gR	3	2 x (50 x 5)	3NH3430/20	3	800
3NE1447-2/-3	670	690	gR	3	2 x (40 x 5)	3NH3430/20	3	670
3NE1448-2/-3	850	690	gR	3	2 x (40 x 8)	3NH3430/20	3	850
3NE1802-0	40	690	gS	000	10	3NH3030/4030	00	40
3NE1803-0	35	690	gS	000	6	3NH3030/4030	00	35
3NE1813-0	16	690	gS	000	1.5	3NH3030/4030	00	16
3NE1814-0	20	690	gS	000	2.5	3NH3030/4030	00	20

[1] For permissible load currents for 3NE8…-0MK, see Configuration Manual "Fuse Systems" or on request.

[2] In the case of cyclic loads, the currents may have to be further reduced (precise values on request).

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SITOR semiconductor fuse data						Permissible load currents of fuse when installed in: 3NH		
Type[1]	Rated current I_n	Rated voltage U_n	Operational class	Size	Required conductor cross-section	Type	Size	Permissible load current[2]
--	A	V AC	--	--	mm² Cu	--	--	A
3NE1815-0	25	690	gS	000	4	3NH3030/4030	00	25
3NE1817-0	50	690	gS	000	10	3NH3030/4030	00	50
3NE1818-0	63	690	gS	000	16	3NH3030/4030	00	63
3NE1820-0	80	690	gS	000	25	3NH3030/4030	00	80
3NE3221	100	1000	aR	1	35	3NH3230/4230	1	100
3NE3222	125	1000	aR	1	50	3NH3230/4230	1	125
3NE3224	160	1000	aR	1	70	3NH3230/4230	1	160
3NE3225	200	1000	aR	1	95	3NH3230/4230	1	200
3NE3227	250	1000	aR	1	120	3NH3230/4230	1	250
3NE3230-0B	315	1000	aR	1	185	3NH3330/20	2	305
3NE3231	350	1000	aR	1	240	3NH3330/20	2	335
3NE3232-0B	400	1000	aR	1	240	3NH3330/20	2	380
3NE3233	450	1000	aR	1	2 x 150	3NH3330/20	2	425
3NE3332-0B	400	1000	aR	2	240	3NH3430/20	3	400
3NE3333	450	1000	aR	2	2 x 150	3NH3430/20	3	450
3NE3334-0B	500	1000	aR	2	2 x 150	3NH3430/20	3	500
3NE3335	560	1000	aR	2	2 x 185	3NH3430/20	3	560
3NE3336	630	1000	aR	2	2 x 185	3NH3430/20	3	630
3NE3337-8	710	900	aR	2	2 x (40 x 5)	3NH3430/20	3	680
3NE3338-8	800	800	aR	2	2 x 240	3NH3430/20	3	700
3NE3340-8	900	690	aR	2	2 x (40 x 8)	3NH3430/20	3	750
3NE4101	32	1000	gR	0	6	3NH3120/4230	0/1	32
3NE4102	40	1000	gR	0	10	3NH3120/4230	0/1	40
3NE4117	50	1000	gR	0	10	3NH3120/4230	0/1	50
3NE4118	63	1000	aR	0	16	3NH3120/4230	0/1	63
3NE4120	80	1000	aR	0	25	3NH3120/4230	0/1	80
3NE4121	100	1000	aR	0	35	3NH3120/4230	0/1	100
3NE4122	125	1000	aR	0	50	3NH3120/4230	0/1	125
3NE4124	160	1000	aR	0	70	3NH3120/4230	0/1	160
3NE4327-0B	250	800	aR	2	150	3NH3330/20	2	240
3NE4330-0B	315	800	aR	2	240	3NH3330/20	2	300
3NE4333-0B	450	800	aR	2	2 x (30 x 5)	3NH3430/20	3	425
3NE4334-0B	500	800	aR	2	2 x (30 x 5)	3NH3430/20	3	475
3NE4337	710	800	aR	2	2 x (50 x 5)	3NH3430/20	3	630
3NE8015-1	25	690	gR	00	4	3NH3030/4030	00	25
3NE8003-1	35	690	gR	00	6	3NH3030/4030	00	35
3NE8017-1	50	690	gR	00	10	3NH3030/4030	00	50
3NE8018-1	63	690	gR	00	16	3NH3030/4030	00	63
3NE8020-1	80	690	aR	00	25	3NH3030/4030	00	80
3NE8021-1	100	690	aR	00	35	3NH3030/4030	00	100
3NE8022-1	125	690	aR	00	50	3NH3030/4030	00	125
3NE8024-1	160	690	aR	00	70	3NH3030/4030	00	160

[1] For permissible load currents for 3NE8…-0MK, see Configuration Manual "Fuse Systems" or on request.

[2] In the case of cyclic loads, the currents may have to be further reduced (precise values on request).

Overview

SITOR semiconductor fuses protect power semiconductors from the effects of short circuits because the super quick-response disconnect characteristic is far quicker than with conventional LV HRC fuses. They protect high-quality devices and system components, such as converters with fuses in the input and the DC link, UPS systems and soft starters for motors.

Panel mounting requirements have given rise to various connection versions and designs.

The fuses with blade contacts comply with IEC 60269-2 and are suitable for installation in 3NH LV HRC fuse bases, in LV HRC fuse switch disconnectors and switch disconnectors with fuses. They also include fuses with slotted blade contacts for screw fixing with 110 mm mounting dimension, whose sizes are according to IEC 60269-4.

Fuses with slotted blade contacts for screw fixing with 80 mm or 110 mm mounting dimension are often screwed directly onto busbars for optimum heat dissipation. Even better heat transmission is provided by the compact fuses with M10 or M12 female thread, which are also mounted directly onto busbars.

Bolt-on links with 80 mm mounting dimension are another panel-mounting version for direct busbar mounting.

The fuses for SITOR thyristor sets, railway rectifiers or electrolysis systems were developed specially for these applications.

3NH LV HRC fuse bases suitable for use with SITOR semiconductor fuses and safety switching devices can also be found in this chapter, see page 5/45 ff.

Fuse characteristics, configuration notes and the assignments of SITOR semiconductor fuses to the fuse bases and 3NP and 3KL safety switching devices can be found in the Configuration Manual, "Fuse Systems" at:
www.siemens.com/lowvoltage/manuals.

The new size 3 type ranges have a round ceramic body instead of a square one. These series are characterized by small I^2t values with low power dissipation and high capability under alternating load. The dimensions and functional values correspond to the current standards IEC 60269-4/EN 60269-4.

Note:

The ordering data of the fuses are listed in ascending order of the rated voltage in the selection tables.

Benefits

- SITOR semiconductor fuses have a high varying load factor, which ensures a high level of operational safety and plant availability – even when subject to constant load change
- The use of SITOR semiconductor fuses in 3NH LV HRC fuse bases or Siemens switch disconnectors has been tested with regard to heat dissipation and maximum current loading. This makes planning and dimensioning easier and prevents consequential damage
- Our high standard of quality ensures good compliance with the characteristic curve and accuracy. This ensures long-term protection of devices

Operational classes

Fuses are categorized according to function and operational classes. SITOR semiconductor fuses, in LV HRC design, are available in the following operational classes:

- aR: For the short-circuit protection of power semiconductors (partial range protection)
- gR: For the protection of power semiconductors (full range protection)
- gS: The gS operational class combines cable and line protection with semiconductor protection (full range protection)

Parallel-connected fuses

Parallel-connected fuses offer maximum current and energy limiting that is clearly better than in the case of comparable single fuses. They also fulfill the special requirements for UL-certified fuses according to which fuses must be connected in parallel at the factory. Here is the original wording of the NEC document: *240.8 Fuses and circuit breakers shall be permitted to be connected in parallel where they are factory assembled in parallel and listed as a unit. Individual fuses, circuit breakers, or combinations thereof shall not otherwise be connected in parallel.*

Selection and ordering data

Size	I_n	U_n	Operational class	Breaking I^2t value	Power loss	Varying load factor *WL*	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	V AC/ V DC		A^2s	W								kg
LV HRC design													
With slotted blade contacts with 2 oblong slots for M10 screw fixing, mounting dimension: 110 mm, or for installation in 3NA3 LV HRC fuse bases or switch disconnectors													
3	150	500	gR	33000	35	0.85		3NC2423-0C		1	3 units	1DM	0.979
	200			64000	40	0.85		3NC2425-0C		1	3 units	1DM	1.044
	250			99000	50	0.85		3NC2427-0C		1	3 units	1DM	0.981
	300			132000	65	0.85		3NC2428-0C		1	3 units	1DM	1.210
	350			249000	60	0.85		3NC2431-0C		1	3 units	1DM	0.981
	400		aR	390000	50	0.85		3NC2432-0C		1	3 units	1DM	0.986
With slotted blade contacts for M10 screw fixing, mounting dimension: 110 mm, or for installation in 3NA3 LV HRC fuse bases or switch disconnectors													
3	150	500	gR	33000	35	0.85		3NC2423-3C		1	3 units	1DM	0.969
	200			64000	40	0.85		3NC2425-3C		1	3 units	1DM	0.992
	250			99000	50	0.85		3NC2427-3C		1	3 units	1DM	0.999
	300			132000	65	0.85		3NC2428-3C		1	3 units	1DM	0.971
	350			249000	60	0.85		3NC2431-3C		1	3 units	1DM	1.046
	400		aR	390000	50	0.85		3NC2432-3C		1	3 units	1DM	0.968
1	160	690	gR	18600	32	1.0		3NE1224-3		1	3 units	1DM	0.605
	200			51800	35	1.0		3NE1225-3		1	3 units	1DM	0.587
	250			80900	37	1.0		3NE1227-3		1	3 units	1DM	0.610
	315			168000	40	1.0		3NE1230-3		1	3 units	1DM	0.601
2	350	690	gR	177000	43	1.0		3NE1331-3		1	3 units	1DM	0.751
	400			224000	50	1.0		3NE1332-3		1	3 units	1DM	0.680
	450			276500	58	1.0		3NE1333-3		1	3/12 units	1DM	0.755
	500			398000	64	1.0		3NE1334-3		1	3 units	1DM	0.745
3	150	690	gR	17600	40	0.85		3NC8423-3C		1	3 units	1DM	1.001
	200			38400	55	0.85		3NC8425-3C		1	3 units	1DM	1.000
	250			70400	72	0.85		3NC8427-3C		1	3 units	1DM	1.063
	350			176000	95	0.85		3NC8431-3C		1	3 units	1DM	1.003
	500			448000	130	0.85		3NC8434-3C		1	3 units	1DM	0.994
	1000	600	aR	2480000	140	0.95		3NC8444-3C		1	3 units	1DM	1.011
With slotted blade contacts for M12 screw fixing, mounting dimension: 110 mm, or for installation in 3NA3 LV HRC fuse bases or switch disconnectors													
3	560	690	gR	890000	60	1.0		3NE1435-3		1	3 units	1DM	1.094
	630			1390000	60	1.0		3NE1436-3		1	3 units	1DM	1.144
	670			1640000	64	1.0		3NE1447-3		1	3 units	1DM	1.088
	710			1818000	72	1.0		3NE1437-3		1	3 units	1DM	1.093
	800			2475000	84	1.0		3NE1438-3		1	3 units	1DM	0.001
	850			3640000	76	1.0		3NE1448-3		1	3 units	1DM	1.100
With M8 bolt-on links, mounting dimension: 80 mm, for screwing onto busbars or onto 3NH5423 fuse base NEW													
1	100	690/ 440	aR	3200	25	On req.		3NE8221-3MK		1	3 units	1DM	0.410
	125			6000	28	On req.		3NE8222-3MK		1	3 units	1DM	0.410
	160			10500	35	On req.		3NE8224-3MK		1	3 units	1DM	0.412
	200			17500	42	On req.		3NE8225-3MK		1	3 units	1DM	0.412
	250			28500	53.5	On req.		3NE8227-3MK		1	3 units	1DM	0.412
	315			53500	61	On req.		3NE8230-3MK		1	3 units	1DM	0.413
	350			66000	69	On req.		3NE8231-3MK		1	3 units	1DM	0.411
	400			110000	70.5	On req.		3NE8232-3MK		1	3 units	1DM	0.412
	450			180000	71	On req.		3NE8233-3MK		1	3 units	1DM	0.411
	500			215000	84	On req.		3NE8234-3MK		1	3 units	1DM	0.413
	550			290000	87	On req.		3NE8235-3MK		1	3 units	1DM	0.412
	630			440000	96	On req.		3NE8236-3MK		1	3 units	1DM	0.412

* You can order this quantity or a multiple thereof.

	Size	I_n	U_n	Operational class	Breaking I^2t value	Power loss	Varying load factor *WL*	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC		A^2s	W								kg
	LV HRC design													
	With slotted blade contacts for M12 screw fixing, mounting dimension: 80 mm													
	3	630	690	aR	244000	120	0.85		3NC3236-1U		1	3 units	1DM	0.810
		710			346000	130	0.85		3NC3237-1U		1	3 units	1DM	0.813
		800			498000	135	0.9		3NC3238-1U		1	3 units	1DM	0.811
		900			677000	145	0.9		3NC3240-1U		1	3 units	1DM	0.808
		1 000			975000	155	0.95		3NC3241-1U		1	3 units	1DM	0.811
		1 100			1382000	165	0.95		3NC3242-1U		1	3 units	1DM	0.808
		1 250			1990000	175	0.95		3NC3243-1U		1	3 units	1DM	0.813
		1 400	500		2100000	200	0.95		3NC3244-1U		1	3 units	1DM	0.815
		1 600			2860000	240	0.9		3NC3245-1U		1	3 units	1DM	0.811
	With slotted blade contacts with 2 oblong slots for M10 screw fixing, mounting dimension: 110 mm, or for installation in 3NA3 LV HRC fuse bases or switch disconnectors													
	3	150	690	gR	17600	40	0.85		3NC8423-0C		1	3 units	1DM	0.998
		200			38400	55	0.85		3NC8425-0C		1	3 units	1DM	1.007
		250			70400	72	0.85		3NC8427-0C		1	3 units	1DM	1.006
		350			176000	95	0.85		3NC8431-0C		1	3 units	1DM	1.001
		500			448000	130	0.85		3NC8434-0C		1	3 units	1DM	1.069
	With blade contacts for mounting in 3NA3 LV HRC fuse bases or switch disconnectors													
	3	710	600	gR	2460000	65	1.0		3NE1437-1		1	3 units	1DM	1.088
		800			3350000	72	1.0		3NE1438-1		1	3 units	1DM	1.152
	000	16	690	gS	200	4.0	1.0		3NE1813-0		1	3/120 units	1DM	0.134
		20			430	5.0	1.0		3NE1814-0		1	3/120 units	1DM	0.132
		25			780	5.0	1.0		3NE1815-0		1	3/120 units	1DM	0.129
		35			1700	3.5	1.0		3NE1803-0		1	3/120 units	1DM	0.134
		40			3000	3.0	1.0		3NE1802-0		1	3 units	1DM	0.136
		50			4400	6.0	1.0		3NE1817-0		1	3/120 units	1DM	0.130
		63			9000	7.0	1.0		3NE1818-0		1	3/120 units	1DM	0.133
		80			18000	8.0	1.0		3NE1820-0		1	3/120 units	1DM	0.135
	00	100	690	gS	33000	10	1.0		3NE1021-0		1	3/72 units	1DM	0.201
		125			63000	11	1.0		3NE1022-0		1	3/72 units	1DM	0.202
	1	160	690	gS	60000	24	1.0		3NE1224-0		1	3 units	1DM	0.578
		200			100000	27	1.0		3NE1225-0		1	3 units	1DM	0.582
		250			200000	30	1.0		3NE1227-0		1	3 units	1DM	0.589
		315			310000	38	1.0		3NE1230-0		1	3 units	1DM	0.577
	2	350	690	gS	430000	42	1.0		3NE1331-0		1	3 units	1DM	0.800
		400			590000	45	1.0		3NE1332-0		1	3 units	1DM	0.800
		450			750000	53	1.0		3NE1333-0		1	3 units	1DM	0.814
		500			950000	56	1.0		3NE1334-0		1	3/12 units	1DM	0.759
	3	560	690	gS	1700000	50	1.0		3NE1435-0		1	3 units	1DM	1.084
		630			2350000	55	1.0		3NE1436-0		1	3 units	1DM	1.140
		710			3400000	58	1.0		3NE1437-0		1	3 units	1DM	1.156
		800			5000000	58	1.0		3NE1438-0		1	3 units	1DM	1.124

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* You can order this quantity or a multiple thereof.

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Size	I_n	U_n	Operational class	Breaking I^2t value	Power loss	Varying load factor *WL*	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	V AC/V DC		A^2s	W								kg
LV HRC design													
With blade contacts for mounting in 3NH3 LV HRC fuse bases or switch disconnectors NEW													
000	6	690/ 440	gR	37	2.7	On req.		3NE8810-0MK		1	3 units	1DM	0.138
	10			50	4.5	On req.		3NE8812-0MK		1	3 units	1DM	0.139
	16			73	6.7	On req.		3NE8813-0MK		1	3 units	1DM	0.133
	20			90	8	On req.		3NE8814-0MK		1	3 units	1DM	0.138
	25			150	8.1	On req.		3NE8815-0MK		1	3 units	1DM	0.139
	32			350	10.5	On req.		3NE8801-0MK		1	3 units	1DM	0.139
	40			480	12	On req.		3NE8802-0MK		1	3 units	1DM	0.139
	50			1050	14.5	On req.		3NE8817-0MK		1	3 units	1DM	0.137
	63			1960	23	On req.		3NE8818-0MK		1	3 units	1DM	0.135
	80		aR	2200	23.3	On req.		3NE8820-0MK		1	3 units	1DM	0.140
	100			3650	27	On req.		3NE8821-0MK		1	3 units	1DM	0.140
	125			7800	30	On req.		3NE8822-0MK		1	3 units	1DM	0.140
	160	500/ 440		14000	34	On req.		3NE8824-0MK		1	3 units	1DM	0.139
With blade contacts for mounting in 3NA3 LV HRC fuse bases or switch disconnectors													
00	25	690	gR	180	7	0.95		3NE8015-1		1	3 units	1DM	0.205
	35			400	9	0.95		3NE8003-1		1	3/72 units	1DM	0.203
	50			700	14	0.90		3NE8017-1		1	3/72 units	1DM	0.206
	63			1400	16	0.95		3NE8018-1		1	3/72 units	1DM	0.205
	80			5800	10.5	1.0		3NE1020-2		1	3 units	1DM	0.204
	100			11000	12	1.0		3NE1021-2		1	3 units	1DM	0.199
	125			23000	13.5	1.0		3NE1022-2		1	3 units	1DM	0.210
	80		aR	2400	19	0.95		3NE8020-1		1	3/72 units	1DM	0.203
	100			4200	22	0.95		3NE8021-1		1	3/72 units	1DM	0.203
	125			6500	28	0.95		3NE8022-1		1	3/72 units	1DM	0.210
	160			13000	38	0.95		3NE8024-1		1	3/72 units	1DM	0.205
1	100	690/ 440	aR NEW	6050	25.5	On req.		3NE8221-0MK		1	3 units	1DM	0.476
	125			8900	28.5	On req.		3NE8222-0MK		1	3 units	1DM	0.475
	160			16200	37	On req.		3NE8224-0MK		1	3 units	1DM	0.480
	200			26000	49	On req.		3NE8225-0MK		1	3 units	1DM	0.478
	250			59000	52	On req.		3NE8227-0MK		1	3 units	1DM	0.477
	315			120000	68	On req.		3NE8230-0MK		1	3 units	1DM	0.478
	160	690	gR	18600	32	1.0		3NE1224-2		1	3/12 units	1DM	0.601
	200			51800	35	1.0		3NE1225-2		1	3/12 units	1DM	0.608
	250			80900	37	1.0		3NE1227-2		1	3/12 units	1DM	0.606
	315			168000	40	1.0		3NE1230-2		1	3 units	1DM	0.604
2	350	690/ 440	aR NEW	83500	68.6	On req.		3NE8331-0MK		1	3 units	1DM	0.623
	400			136000	72.8	On req.		3NE8332-0MK		1	3 units	1DM	0.625
	450			207000	80.1	On req.		3NE8333-0MK		1	3 units	1DM	0.625
	500			318000	77.5	On req.		3NE8334-0MK		1	3 units	1DM	0.599
	550			399000	86.4	On req.		3NE8335-0MK		1	3 units	1DM	0.601
	630			740000	90.7	On req.		3NE8336-0MK		1	3 units	1DM	0.603
	350	690	gR	177000	43	1.0		3NE1331-2		1	3/12 units	1DM	0.822
	400			224000	50	1.0		3NE1332-2		1	3 units	1DM	0.764
	450			276500	58	1.0		3NE1333-2		1	3/12 units	1DM	0.818
	500			398000	64	1.0		3NE1334-2		1	3 units	1DM	0.831
3	560	690	gR	890000	60	1.0		3NE1435-2		1	3 units	1DM	1.191
	630			1390000	60	1.0		3NE1436-2		1	3 units	1DM	1.201
	670			1640000	64	1.0		3NE1447-2		1	3 units	1DM	1.192
	710			1818000	72	1.0		3NE1437-2		1	3 units	1DM	1.189
	800			2475000	84	1.0		3NE1438-2		1	3 units	1DM	1.186
	850			3640000	76	1.0		3NE1448-2		1	3 units	1DM	1.188
0	32	1 000	gR	280	12	0.9		3NE4101		1	3 units	1DM	0.277
	40			500	13	0.9		3NE4102		1	3 units	1DM	0.269
	50			800	16	0.9		3NE4117		1	3 units	1DM	0.271
	63		aR	1500	20	0.9		3NE4118		1	3 units	1DM	0.269
	80			3000	22	0.9		3NE4120		1	3 units	1DM	0.270
	100			6000	24	0.9		3NE4121		1	3 units	1DM	0.268
	125			14000	30	0.9		3NE4122		1	3 units	1DM	0.276
	160			29000	35	0.9		3NE4124		1	3 units	1DM	0.275

* You can order this quantity or a multiple thereof.

	Size	I_n	U_n	Operational classes	Breaking I^2t value	Power loss	Varying load factor *WL*	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC/ V DC		A^2s	W								kg
		LV HRC design												
		With M8 bolt-on links, mounting dimension: 80 mm, for screwing onto busbars												
	000	20	690/ 700[1]	gR	83	7	0.9		3NE8714-1		1	10 units	1DM	0.139
		25			140	9	0.9		3NE8715-1		1	10 units	1DM	0.143
		32			285	10	0.9		3NE8701-1		1	10 units	1DM	0.143
		40			490	12	0.9		3NE8702-1		1	10 units	1DM	0.139
		50			815	15	0.9		3NE8717-1		1	10 units	1DM	0.138
		63		aR	1550	16	0.95		3NE8718-1		1	10 units	1DM	0.144
		80			2700	18	0.9		3NE8720-1		1	10 units	1DM	0.138
		100			4950	19	0.95		3NE8721-1		1	10 units	1DM	0.138
		125			9100	23	0.95		3NE8722-1		1	10 units	1DM	0.142
		160			17000	31	0.9		3NE8724-1		1	10 units	1DM	0.146
		200			30000	36	0.9		3NE8725-1		1	10 units	1DM	0.139
		250			55000	42	0.9		3NE8727-1		1	10 units	1DM	0.134
		315			85500	54	0.85		3NE8731-1		1	10/70 units	1DM	0.141
		With M10 bolt-on links, mounting dimension: 80 mm, for screwing onto busbars or onto 3NH5323 fuse base NEW												
	00	80	690/ 440	gR	3200	23.0	On req.		3NE8020-3MK		1	3 units	1DM	0.205
		100			5200	29.0	On req.		3NE8021-3MK		1	3 units	1DM	0.205
		350		aR	135000	58.8	On req.		3NE8031-3MK		1	3 units	1DM	0.209
		400			170000	74.5	On req.		3NE8032-3MK		1	3 units	1DM	0.211

[1] DC voltage acc. to UL.

	Size	I_n	U_n	Operational classes	Breaking I^2t value	Power loss	Varying load factor *WL*	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC/ V DC		A^2s	W								kg
		LV HRC design												
		Parallel-connected fuses with slotted blade contacts for M12 screw fixing, mounting dimension: 110 mm (lateral 90 mm)												
	2 x 3	1000	690	gR	1400 000	138	1.0		3NB3350-1KK26		1	1 unit	1DM	2.475
		1100			3000 000	110			3NB3351-1KK26		1	1 unit	1DM	2.475
	2 x 3	1250			4100 000	104	1.0		3NB3352-1KK26		1	1 unit	1DM	2.480
		1350			4800 000	126			3NB3354-1KK26		1	1 unit	1DM	2.290
		1400			5200 000	127			3NB3355-1KK26		1	1 unit	1DM	2.480
	2 x 3	1600			6900 000	152	1.0		3NB3357-1KK26		1	1 unit	1DM	2.468
		1700			10000 000	143			3NB3358-1KK26		1	1 unit	1DM	2.486
	3 x 3	1700			6400000	179	1.0		3NB3358-1KK27		1	1 unit	1DM	3.460
		1900			8200 000	196			3NB3362-1KK27		1	1 unit	1DM	3.460
		With slotted blade contacts for M10 screw fixing, mounting dimension: 110 mm, or for installation in 3NA3 LV HRC fuse bases or switch disconnectors												
	2	250	800	aR	29700	105	0.85		3NE4327-0B		1	3 units	1DM	0.779
		315			60700	120	0.85		3NE4330-0B		1	3 units	1DM	0.811
		450			191000	140	0.85		3NE4333-0B		1	3 units	1DM	0.810
		500			276000	155	0.85		3NE4334-0B		1	3 units	1DM	0.774
		710			923000	155	0.95		3NE4337		1	3 units	1DM	0.768

*** You can order this quantity or a multiple thereof.**

LV HRC design

Size	I_n	U_n	Operational classes	Breaking I^2t value	Power loss	Varying load factor *WL*	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	V AC/ V DC		A^2s	W								kg
With slotted blade contacts for screw fixing M10, 110 mm mounting dimension, or for installation in 3NH3 LV HRC fuse bases or fuse switch disconnectors or on 3NH5463 fuse base													
1	32[1]	1000/ 600	gR NEW	4500	9	On req.		3NE3201-0MK		1	3 units	1DM	0.595
	40[1]			6000	13	On req.		3NE3202-0MK		1	3 units	1DM	0.589
	50[1]			8000	18	On req.		3NE3217-0MK		1	3 units	1DM	0.581
	63[1]			9000	25	On req.		3NE3218-0MK		1	3 units	1DM	0.577
	100	1000	aR	4800	28	0.95		3NE3221		1	3 units	1DM	0.571
	125			7200	36	0.95		3NE3222		1	3 units	1DM	0.571
	160			13000	42	1.0		3NE3224		1	3 units	1DM	0.576
	200			30000	42	1.0		3NE3225		1	3 units	1DM	0.591
	250			48000	50	1.0		3NE3227		1	3 units	1DM	0.572
	315			80000	60	0.95		3NE3230-0B		1	3 units	1DM	0.589
	350			100000	75	0.95		3NE3231		1	3 units	1DM	0.596
	400			135000	85	0.9		3NE3232-0B		1	3 units	1DM	0.581
	450			175000	95	0.9		3NE3233		1	3 units	1DM	0.590
	500[1]	1000/ 600	NEW	500000	105	On req.		3NE3234-0MK08		1	3 units	1DM	0.593
	550[1]		NEW	700000	110	On req.		3NE3235-0MK08		1	3 units	1DM	0.593
	630[1]		NEW	850000	127	On req.		3NE3236-0MK08		1	3 units	1DM	0.596
[1] No grip lugs and therefore not suitable for mounting in 3NH3 LV HRC fuse bases or switch disconnectors													
2	400	1 000	aR	135000	80	1.0		3NE3332-0B		1	3 units	1DM	0.738
	450			175000	90	1.0		3NE3333		1	3 units	1DM	0.801
	500			260000	90	1.0		3NE3334-0B		1	3 units	1DM	0.797
	560			360000	95	1.0		3NE3335		1	3 units	1DM	0.799
	630			600000	100	1.0		3NE3336		1	3 units	1DM	0.803
	710	900	aR	800000	105	1.0		3NE3337-8		1	3 units	1DM	0.807
	800	800		850000	130	0.95		3NE3338-8		1	3 units	1DM	0.810
	900	690		920000	165	0.95		3NE3340-8		1	3 units	1DM	0.806
With slotted blade contacts for M10 screw fixing, mounting dimension: 130 mm													
3	100	1000	aR	13500	25	1.0		3NE3421-0C		1	3 units	1DM	1.223
	224			54000	85	1.0		3NE3626-0C		1	3 units	1DM	1.223
	315			218000	80	1.0		3NE3430-0C		1	3 units	1DM	1.224
	400			364000	110	1.0		3NE3432-0C		1	3 units	1DM	1.192
	450			488000	110	1.0		3NE3635-0C		1	3 units	1DM	1.198
	500			870000	95	1.0		3NE3434-0C		1	3 units	1DM	1.226
	630			1280000	132	1.0		3NE3636-0C		1	3 units	1DM	1.216
	710			1950000	145	1.0		3NE3637-0C		1	3 units	1DM	1.237
With slotted blade contacts for M12 screw fixing, mounting dimension: 140 mm													
3	710	1000	aR	1950000	145	1.0		3NE3637-1C		1	3 units	1DM	1.246
With slotted blade contacts for M12 screw fixing, mounting dimension: 110 mm, or for installation in 3NA3 LV HRC fuse bases or switch disconnectors													
3	630	1000	aR	418000	145	0.85		3NC3336-1U		1	3 units	1DM	1.081
	710			569000	150	0.85		3NC3337-1U		1	3 units	1DM	1.020
	800			819000	155	0.85		3NC3338-1U		1	3 units	1DM	0.961
	900			1160000	165	0.9		3NC3340-1U		1	3 units	1DM	1.039
	1000			1670000	170	0.9		3NC3341-1U		1	3 units	1DM	0.959
	1100	800		1910000	185	0.9		3NC3342-1U		1	3 units	1DM	1.077
	1250			2600000	210	0.9		3NC3343-1U		1	3 units	1DM	0.958
3	315	1250	aR	72500	80	0.95		3NC3430-1U		1	3 units	1DM	1.070
	400			163000	95	0.95		3NC3432-1U		1	3 units	1DM	1.022
	500			290000	115	0.90		3NC3434-1U		1	3 units	1DM	0.956
	630			650000	120	0.95		3NC3436-1U		1	3 units	1DM	1.027
	800	1100		985000	145	0.90		3NC3438-1U		1	3 units	1DM	1.020

* You can order this quantity or a multiple thereof.

Size	I_n	U_n	Operational class	Breaking I^2t value	Power loss	Varying load factor *WL*	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	V AC/V DC		A^2s	W								kg

LV HRC design

With slotted blade contacts for M10 screw fixing, mounting dimension: 210 mm

Size	I_n	U_n	Operational class	Breaking I^2t value	Power loss	WL	DT	Article No.	Price per PU	PU	PS*/ P. unit	PG	Weight
3	160	1500	aR	54000	56	1.0		3NE5424-0C		1	2 units	1DM	1.995
	224			138000	80	1.0		3NE5426-0C		1	2 units	1DM	1.986
	315			311000	115	1.0		3NE5430-0C		1	2 units	1DM	1.260
	350			428000	135	1.0		3NE5431-0C		1	2 units	1DM	1.987
	450			870000	145	0.95		3NE5433-0C		1	2 units	1DM	2.001

With slotted blade contacts for M12 screw fixing, mounting dimension: 210 mm

Size	I_n	U_n	Operational class	Breaking I^2t value	Power loss	WL	DT	Article No.	Price per PU	PU	PS*/ P. unit	PG	Weight
	450	1500	aR	870000	145	0.95		3NE5433-1C		1	2 units	1DM	1.991

With slotted blade contacts for M10 screw fixing, mounting dimension: 170 mm

Size	I_n	U_n	Operational class	Breaking I^2t value	Power loss	WL	DT	Article No.	Price per PU	PU	PS*/ P. unit	PG	Weight
3	250	1500	aR	84000	130	1.0		3NE5627-0C		1	3 units	1DM	1.576
	450			590000	160	1.0		3NE5633-0C		1	3 units	1DM	1.595
	600			1950000	145	1.0		3NE5643-0C		1	3 units	1DM	1.606

With slotted blade contacts for screw fixing M10, 170 mm mounting dimension, for bolting onto busbars or onto 3NH5473 fuse base *NEW*

Size	I_n	U_n	Operational class	Breaking I^2t value	Power loss	WL	DT	Article No.	Price per PU	PU	PS*/ P. unit	PG	Weight
2	40	1500/ 1000	gR	900	26	On req.		3NE5302-0MK06		1	1 unit	1DM	1.242
	50			1800	27	On req.		3NE5317-0MK06		1	1 unit	1DM	1.233
	63			3100	34	On req.		3NE5318-0MK06		1	1 unit	1DM	1.238
	80		aR	3900	42	On req.		3NE5320-0MK06		1	1 unit	1DM	1.243
	100			8700	45	On req.		3NE5321-0MK06		1	1 unit	1DM	1.226
	125			11800	59	On req.		3NE5322-0MK06		1	1 unit	1DM	1.243
	160			37000	54	On req.		3NE5324-0MK06		1	1 unit	1DM	1.240
	200			70000	56	On req.		3NE5325-0MK06		1	1 unit	1DM	1.240
	250			165000	59	On req.		3NE5327-0MK06		1	1 unit	1DM	1.248
	315			250000	76	On req.		3NE5330-0MK06		1	1 unit	1DM	1.242
	400	1 500/ 1 000		470000	89	On req.		3NE5332-0MK06		1	1 unit	1DM	1.239
	500			800000	109	On req.		3NE5334-0MK06		1	1 unit	1DM	1.249
	630			1100000	163	On req.		3NE5336-0MK06		1	1 unit	1DM	1.257
2*	630	1 500/ 1000	aR	1100000	163	On req.		3NE5336-0MK66		1	1 unit	1DM	1.316

* Special version with extended contacts, 190 mm mounting dimension, with fastening holes

With slotted blade contacts for M10 screw fixing, mounting dimension: 210 mm

Size	I_n	U_n	Operational class	Breaking I^2t value	Power loss	WL	DT	Article No.	Price per PU	PU	PS*/ P. unit	PG	Weight
3	200	2 000	aR	138000	75	1.0		3NE7425-0U		1	2 units	1DM	2.156
	250			218000	110	1.0		3NE7427-0U		1	2 units	1DM	2.685
	350			555000	120	1.0		3NE7431-0U		1	2 units	1DM	2.175
	400			870000	150	1.0		3NE7432-0U		1	2 units	1DM	2.178
	450			960000	160	1.0		3NE7633-0U		1	2 units	1DM	2.173
	630			1 950000	220	1.0		3NE7636-0U		1	2 units	1DM	2.184

With slotted blade contacts for M12 screw fixing, mounting dimension: 210 mm

Size	I_n	U_n	Operational class	Breaking I^2t value	Power loss	WL	DT	Article No.	Price per PU	PU	PS*/ P. unit	PG	Weight
3	450	2 000	aR	960000	160	1.0		3NE7633-1U		1	2 units	1DM	2.142
	525			1120000	210	1.0		3NE7648-1U		1	2 units	1DM	2.151
	630			1950000	220	1.0		3NE7636-1U		1	2 units	1DM	2.191
	710			3110000	275	1.0		3NE7637-1U		1	2 units	1DM	2.158

With slotted blade contacts for M12 screw fixing, mounting dimension: 260 mm

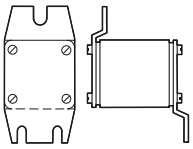
Size	I_n	U_n	Operational class	Breaking I^2t value	Power loss	WL	DT	Article No.	Price per PU	PU	PS*/ P. unit	PG	Weight
3	125	2 500	aR	34500	78	1.0		3NE9622-1C		1	1 unit	1DM	2.506
	400			620000	205	1.0		3NE9632-1C		1	1 unit	1DM	2.439
	500			1270000	235	1.0		3NE9634-1C		1	1 unit	1DM	2.350
	630			2800000	275	1.0		3NE9636-1C		1	1 unit	1DM	2.566
2	315	--/ 3 000	aR *NEW*	300000	245	On req.		3NE9330-0MK07		1	1 unit	1DM	2.489

* You can order this quantity or a multiple thereof.

LV HRC design

	Size	I_n	U_n	Operational class	Breaking I^2t value	Power loss	Varying load factor *WL*	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC		A^2s	W								kg
	LV HRC design													
	With M12 female thread at both ends for direct busbar mounting, flange dimensions 52 mm													
	3	630	690	aR	244000	125	0.9		3NC3236-6U		1	3 units	1DM	0.736
		710			346000	130	0.9		3NC3237-6U		1	3 units	1DM	0.787
		800			498000	135	0.95		3NC3238-6U		1	3 units	1DM	0.789
		900			677000	140	0.95		3NC3240-6U		1	3 units	1DM	0.795
		1 000			975000	145	1.0		3NC3241-6U		1	3 units	1DM	0.791
		1 100			1382000	150	1.0		3NC3242-6U		1	3 units	1DM	0.799
		1 250			1990000	155	1.0		3NC3243-6U		1	3 units	1DM	0.741
		1 400	500		2100000	175	1.0		3NC3244-6U		1	3 units	1DM	0.802
		1 600			2860000	195	0.95		3NC3245-6U		1	3 units	1DM	0.805
	With M10 female thread at both ends for direct busbar mounting, flange dimensions 109 mm													
	3	450	1 000	aR	488000	110	1.0		3NE3635-6		1	3 units	1DM	1.234
	With M12 female thread at both ends for direct busbar mounting, flange dimensions 73 mm													
	3	630	1 000	aR	418000	130	0.90		3NC3336-6U		1	3 units	1DM	0.892
		710			569000	140	0.90		3NC3337-6U		1	3 units	1DM	0.897
		800			819000	150	0.90		3NC3338-6U		1	3 units	1DM	0.995
		900			1160000	160	0.95		3NC3340-6U		1	3 units	1DM	0.900
		1 000			1670000	165	0.95		3NC3341-6U		1	3 units	1DM	0.956
		1 100	800		1910000	175	0.95		3NC3342-6U		1	3 units	1DM	0.897
		1 250			2600000	185	0.95		3NC3343-6U		1	3 units	1DM	0.903
	3	315	1 250	aR	72500	80	0.95		3NC3430-6U		1	3 units	1DM	0.896
		400			163000	95	0.95		3NC3432-6U		1	3 units	1DM	0.899
		500			290000	115	0.90		3NC3434-6U		1	3 units	1DM	0.886
		630			650000	120	0.95		3NC3436-6U		1	3 units	1DM	1.003
		800	1100		985000	145	0.95		3NC3438-6U		1	3 units	1DM	0.945

* You can order this quantity or a multiple thereof.

	Size	I_n	U_n	Operational classes	Breaking I^2t value	Power loss	Varying load factor *WL*	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC		A^2s	W								kg
	Fuses for special applications													
	For screwing onto water-cooled busbars, for rectifiers in electrolysis systems													
	--[1]	350	800	aR	260000	80	0.9		3NC5531		1	3 units	1DM	0.632
		600	1000		888000	150	0.9		3NC5840		1	3 units	1DM	1.372
		630	800		888000	145	0.9		3NC5841		1	3 units	1DM	1.170
		800	1000		1728000	170	0.9		3NC5838		1	3 units	1DM	1.175
		710	900		620000	150	0.9		3NE6437-7		1	3 units	1DM	1.155
		1250	600		2480000	210	0.9		3NE9450-7		1	3 units	1DM	1.148
	With M10 female thread at both ends for direct busbar mounting, flange dimensions 89 (99)[2] mm, for air-cooled rectifiers in electrolysis systems													
	--[1]	710	900	aR	620000	150	0.9		3NE6437		1	3 units	1DM	0.982
		850	600	gR	2480000	85	1.0		3NE9440-6		1	3 units	1DM	0.995
		900	900	aR	1920000	170	0.9		3NE6444		1	3 units	1DM	1.153
		1250	600	aR	2480000	210	0.9		3NE9450		1	3 units	1DM	1.055
	Fuses with installation holder for SITOR 6QG10 thyristor sets													
	--[1]	200	1000	aR	44000	50	0.85		3NE3525-5		1	2 units	1DM	0.700
		450			395000	90	0.85		3NE3535-5		1	2 units	1DM	0.735
	Fuses with installation holder for SITOR 6QG11 thyristor sets													
	--[1]	50	1000	gR	1100	20	0.85		3NE4117-5		1	2 units	1DM	0.302
		100		aR	7400	35	0.85		3NE4121-5		1	2 units	1DM	0.305
		170		aR	60500	43	0.85		3NE4146-5		1	2 units	1DM	0.292
	Fuses for special applications													
	With female thread at both ends for SITOR 6QG12 thyristor sets, flange dimensions 77 mm													
	--[1]	250	800	aR	29700	105	0.85		3NE4327-6B		1	3 units	1DM	0.691
		315			60700	120	0.85		3NE4330-6B		1	3 units	1DM	0.690
		450			191000	140	0.85		3NE4333-6B		1	3 units	1DM	0.684
		500			276000	155	0.85		3NE4334-6B		1	3 units	1DM	0.678
		710			923000	155	0.95		3NE4337-6		1	3 units	1DM	0.687
	Special design for mounting directly in the railway supply rectifier													
	--[1]	250	680	aR	635000	25	0.9		3NC7327-2		1	3 units	1DM	0.729
		350			1430000	32	0.9		3NC7331-2		1	3 units	1DM	0.696

[1] Special design.

[2] Flange dimensions 99 mm only for 3NE6444.

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	Size	I_n	U_n	Operational classes	Breaking I^2t value	P_v Power loss	Varying load factor *WL*	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V DC		A^2s	W								kg
	Fuses for special applications													
	DC fuses with slotted blade contacts for M12 screw fixing													
	2L	400	900	gR	240000[1]	75	--		3NB1234-3KK20		1	2 units	1DM	0.991
	1L	200	1250	aR	39000[2]	50	--		3NB1126-4KK11		1	2 units	1DM	0.900
		250			80500[2]	51	--		3NB1128-4KK11		1	2 units	1DM	0.899
	2L	315			129000[2]	63	--		3NB1231-4KK11		1	2 units	1DM	0.990
		400			290000[2]	68	--		3NB1234-4KK11		1	2 units	1DM	1.000
	3L	500			600000[2]	89	--		3NB1337-4KK11		1	2 units	1DM	1.868
		800			1910000[2]	135	--		3NB1345-4KK11		1	2 units	1DM	1.887
	Parallel-connected DC fuses with slotted blade contacts for M12 screw fixing													
	2 x 3L	800	1250	aR	1150000[2]	160	--		3NB2345-4KK16		1	1 unit	1DM	3.540
		1000			2250000[2]	195	--		3NB2350-4KK16		1	1 unit	1DM	3.839
		1400			5100000[2]	250	--		3NB2355-4KK16		1	1 unit	1DM	3.540
		1600			7450000[2]	275	--		3NB2357-4KK16		1	1 unit	1DM	3.855
	3 x 3L	2100			1195000[2]	365	--		3NB2364-4KK17		1	1 unit	1DM	5.440
		2400			18100000[2]	445	--		3NB2366-4KK17		1	1 unit	1DM	5.440

[1] I^2t at U_{VSI} 1400 V, I^2t at U_n 900 V is 180000 A^2s

[2] I^2t at U_{VSI} 1500 V; I^2t at U_n 1250 V is reduced by the factor k = 0.79.

Note:

VSI is the abbreviation for Voltage Sourced Inverter. The VSI voltage U_{VSI} is a DC test voltage defined in IEC 60269-4 specially for use in applications with energy stores. The extremely steep current rise in the event of a fault is characteristic of such applications.

For SITOR 3NB1 and 3NB2 semiconductor fuses, the VSI voltage and the applicable I^2t value are specified in the "Technical specifications" table; for all other SITOR semiconductor fuses, these values are available on request.

	Version	For fuse series	I_n	U_n	Connection bolt	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	mm		A	V DC								kg
	**Fuse bases for SITOR fuses** • With bolt-on links or slotted blade contacts • 1-pole				NEW							
	75	3NC18	50	690	M5		3NH5723		1	3 units	1BM	0.187
	80	3NE87, 3NC26	315	690	M8		3NH5023		1	3 units	1BM	0.304
		3NE80..-3MK	400	690	M10		3NH5323		1	3 units	1BM	0.350
		3NC32..-1U, 3NE82..-3MK	1600	690	M10		3NH5423		1	3 units	1BM	0.546
	110	3NC24, 3NC33..-1U, 3NC34..-1U, 3NC84, 3NE1…-3, 3NE32, 3NE33, 3NE34	1250	1250	M10		3NH5463		1	3 units	1BM	0.587
	170	3NE53, 3NE56	630	1800	M10		3NH5473		1	3 units	1BM	0.700

* You can order this quantity or a multiple thereof.

Overview

SITOR cylindrical fuses protect power semiconductors from the effects of short-circuits because the super quick-response disconnect characteristic is far quicker than that of conventional fuses. They protect high-quality devices and system components such as semiconductor contactors, electronic relays (solid state), converters with fuses in the input and in the DC link, UPS systems and soft starters for motors up to 100 A.

The cylindrical design is approved for industrial applications. The cylindrical fuse links comply with IEC 60269.

Cylindrical fuse holders also comply with IEC 60269 and UL 512. The cylindrical fuse holders for 10 x 38 mm and 14 x 51 mm have been tested and approved as fuse switch disconnectors and the cylindrical fuse holders for 22 x 58 mm as fuse disconnectors according to the switching device standard IEC 60947-3. The utilization category and the tested current and voltage values are specified in the Table "Technical Specifications".

The cylindrical fuse holders have been specially developed for the application of SITOR fuse links with regard to heat tolerance and heat dissipation and are therefore not recommended for standard applications.

Cylindrical fuse bases do not offer the same comprehensive touch protection as the fuse holders, but have better heat dissipation. The single-pole cylindrical fuse bases for 14 × 51 mm and 22 × 58 mm allow modular expansion to multi-pole bases.

Benefits

- Cylindrical fuses have an extremely compact design and a correspondingly small footprint
- The cylindrical fuses have IEC and UL approval and are suitable for universal use worldwide
- The use of SITOR cylindrical fuses in the cylindrical fuse holders and bases has been tested with regard to heat dissipation and maximum current loading. This makes planning and dimensioning easier and prevents consequential damage
- The use of fuse holders as switch disconnectors expands the area of application of these devices and increases operating safety

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Technical specifications

		Cylindrical fuse holders		
		3NC10	**3NC14**	**3NC22**
Size	mm × mm	10 × 38	14 × 51	22 × 58
Standards		UL 4248-1; CSA C22.2; IEC 60269-2, IEC 60947-3		
Approvals		UL 4248-1; UL File Number E171267; CSA C22.2 No. 39-M		
Rated voltage U_n	V AC	690; 600 acc. to UL/CSA		
Rated current I_n	A AC	32 30 acc. to UL/CSA	50 50 acc. to UL 40 acc. to CSA	100 80 acc. to UL/CSA
Rated conditional short-circuit current	kA	50	50 (100 at 400 V)	50 (100 at 500 V)
Breaking capacity • Utilization category		AC-22B (400 V)	AC-22B (400 V)	AC-20B (690 V)
Max. power dissipation of fuse links (conductor cross-section used)	W	3 (6 mm^2) 4.3 (10 mm^2)	5 (10 mm^2) 6.5 (25 mm^2)	9.5 (35 mm^2) 11 (50 mm^2)
Rated impulse withstand voltage	kV	6		
Overvoltage category		II		
Pollution degree		2		
No-voltage changing of fuse links		Yes		
Sealable when installed		Yes		
Mounting position		Any		
Current direction		Any		
Degree of protection acc. to IEC 60529		IP20, with connected conductors[1)]		
Terminals with touch protection according to BGV A3 at incoming and outgoing feeder		Yes		
Ambient temperature	°C	45		
Conductor cross-sections • Finely stranded, with end sleeve • AWG (American Wire Gauge)	mm^2 AWG	1.5 ... 16 15 ... 5	1.5 ... 35 14 ... 2	4 ... 50 10 ... 1/0
Tightening torque	Nm lbs/in.	2.5 22	2.5 ... 3 22 ... 26	3.5 ... 4 31 ... 35

1) Degree of protection IP20 is tested according to regulations using a straight test finger (from the front), with the device mounted and equipped with a cover, housing or some other enclosure.

Selection and ordering data

	Size	I_n	U_n	Breaking I^2t value	P_v Power loss	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	mm × mm	A	V AC/ V DC	A^2s	W							kg
	**Cylindrical fuse links, operational class gR** NEW											
	10 × 38	6	690/440	6.5	2.5		3NC1006-0MK		1	20 units	1DM	0.009
		10		18	3.3		3NC1010-0MK		1	20 units	1DM	0.009
		12		35	4		3NC1012-0MK		1	20 units	1DM	0.009
		16		45	6		3NC1016-0MK		1	20 units	1DM	0.009
		20	690/250	110	7.8		3NC1020-0MK		1	20 units	1DM	0.009
		25		140	8.7		3NC1025-0MK		1	20 units	1DM	0.009
		32		450	12		3NC1032-0MK		1	20 units	1DM	0.009
	14 × 51	6	690/700	3.5	3.1		3NC1406-0MK		1	10 units	1DM	0.024
		10		15	4.6		3NC1410-0MK		1	10 units	1DM	0.024
		16	690/600	32	6.7		3NC1416-0MK		1	10 units	1DM	0.024
		20		68	7.4		3NC1420-0MK		1	10 units	1DM	0.024
		25		108	8.4		3NC1425-0MK		1	10 units	1DM	0.024
		32		175	12.3		3NC1432-0MK		1	10 units	1DM	0.024
		40	690/440	470	11.7		3NC1440-0MK		1	10 units	1DM	0.024
		50	690/250	830	16.3		3NC1450-0MK		1	10 units	1DM	0.024
	22 × 58	25	690/700	180	8.1		3NC2225-0MK		1	10 units	1DM	0.060
		32	690/600	420	9		3NC2232-0MK		1	10 units	1DM	0.060
		40	690/440	700	12.5		3NC2240-0MK		1	10 units	1DM	0.060
		50	690/250	1250	15.2		3NC2250-0MK		1	10 units	1DM	0.061
		63		2400	17.5		3NC2263-0MK		1	10 units	1DM	0.060
		80		4400	23		3NC2280-0MK		1	10 units	1DM	0.060
		100		11500	28.7		3NC2200-0MK		1	10 units	1DM	0.060
	**Cylindrical fuse links, operational class aR**											
	10 × 38[2]	3	600/700[1]	8	1.2		3NC1003		1	10 units	1DM	0.009
		6		20	1.5		3NC1006		1	10 units	1DM	0.009
		8		30	2		3NC1008		1	10 units	1DM	0.009
		10		60	2.5		3NC1010		1	10/3000 units	1DM	0.009
		12		110	3		3NC1012		1	10 units	1DM	0.009
		16		150	3.5		3NC1016		1	10/3000 units	1DM	0.009
		20		200	4.8		3NC1020		1	10/3000 units	1DM	0.009
		25		250	6		3NC1025		1	10/3000 units	1DM	0.009
		32	600/--	500	7.5		3NC1032		1	10/3000 units	1DM	0.009
	14 × 51	1	660/--	1.2	5		3NC1401		1	10 units	1DM	0.021
		2		10	3		3NC1402		1	10 units	1DM	0.020
		3		15	2.5		3NC1403		1	10 units	1DM	0.021
		4		25	3		3NC1404		1	10 units	1DM	0.017
		5	690/800[1]	11	1.5		3NC1405		1	10 units	1DM	0.022
		6		11	1.5		3NC1406		1	10 units	1DM	0.020
		10		22	4		3NC1410		1	10 units	1DM	0.020
		15		70	5.5		3NC1415		1	10 units	1DM	0.020
		20		100	6		3NC1420		1	10 units	1DM	0.020
		25		320	7		3NC1425		1	10 units	1DM	0.021
		30		400	9		3NC1430		1	10 units	1DM	0.020
		32		600	7.6		3NC1432		1	10 units	1DM	0.021
		40		750	8		3NC1440		1	10 units	1DM	0.020
		50		1800	9		3NC1450		1	10/1350 units	1DM	0.020
	NEW	63	690/250	2100	16.7		3NC1463-0MK		1	10 units	1DM	0.024
	22 × 58	20	690/700[1]	220	4.6		3NC2220		1	5 units	1DM	0.056
		25		300	5.6		3NC2225		1	5 units	1DM	0.057
		32		450	7		3NC2232		1	5 units	1DM	0.056
		40		700	8.5		3NC2240		1	5 units	1DM	0.056
		50		1350	9.5		3NC2250		1	5 units	1DM	0.052
		63		2600	11		3NC2263		1	5 units	1DM	0.054
		80		5500	13.5		3NC2280		1	5 units	1DM	0.057
		100		8000	16		3NC2200		1	5 units	1DM	0.057
	NEW	125	690/250	29000	35.3		3NC2211-0MK		1	10 units	1DM	0.060

[1] DC voltage acc. to UL.
[2] CCC approval in preparation

* You can order this quantity or a multiple thereof.

	Size	I_n	U_n	Breaking I^2t value	P_v Power loss	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	mm × mm	A	V AC/ V DC	A^2s	W							kg
	Cylindrical fuse links with striking pin, operational class aR											
	14 × 51	10	690/600[1]	32	4		3NC1410-5		1	10 units	1DM	0.023
		15		63	5.5		3NC1415-5		1	10 units	1DM	0.022
		20		234	6		3NC1420-5		1	10 units	1DM	0.024
		25		378	7		3NC1425-5		1	10 units	1DM	0.023
		30		466	9		3NC1430-5		1	10 units	1DM	0.022
		32		600	7.6		3NC1432-5		1	10 units	1DM	0.023
		40		750	8		3NC1440-5		1	10 units	1DM	0.023
		50		1800	9		3NC1450-5		1	10 units	1DM	0.023
	22 × 58	20	690/500[1]	240	5		3NC2220-5		1	5 units	1DM	0.039
		25		350	6		3NC2225-5		1	5 units	1DM	0.041
		32		500	8		3NC2232-5		1	5 units	1DM	0.066
		40		800	9		3NC2240-5		1	5 units	1DM	0.064
		50		1500	9.5		3NC2250-5		1	5 units	1DM	0.064
		63		3000	11		3NC2263-5		1	5 units	1DM	0.061
		80		6000	13.5		3NC2280-5		1	5 units	1DM	0.061
	22 × 58	100	600/500[1]	8500	16		3NC2200-5		1	5 units	1DM	0.061
	Cylindrical fuse links NEW											
	Operational class gS											
	22 × 127	1	1500/ 1000	2	2		3NC2301-0MK		1	5 units	1DM	0.110
		2		4.4	2.5		3NC2302-0MK		1	5 units	1DM	0.110
		4		55	5.3		3NC2304-0MK		1	5 units	1DM	0.104
		6		150	6.4		3NC2306-0MK		1	5 units	1DM	0.102
		10		540	3.1		3NC2310-0MK		1	5 units	1DM	0.111
		16		1120	4.7		3NC2316-0MK		1	5 units	1DM	0.104
		20		2850	5.4		3NC2320-0MK		1	5 units	1DM	0.104
		25		3300	6.9		3NC2325-0MK		1	5 units	1DM	0.112
		32		9050	6.7		3NC2332-0MK		1	5 units	1DM	0.105
	Operational class gR											
	22 × 127	40	1500/ 1000	18500	9.4		3NC2340-0MK		1	5 units	1DM	0.112
	Operational class aR											
	22 × 127	50	1500/ 1000	26000	11.6		3NC2350-0MK		1	5 units	1DM	0.112
	Cylindrical fuse links, with M8 bolt-on links NEW											
	With bolt-on links: mounting dimension 75 mm, for screwing onto busbars or onto 5SH5723 fuse base											
	Operational class gR											
	18 x 88	10	690/ 440	17	4.3		3NC1810-0MK		1	3 units	1DM	0.042
		16		52	4.4		3NC1816-0MK		1	3 units	1DM	0.042
		20		90	6.5		3NC1820-0MK		1	3 units	1DM	0.043
		25		160	8.5		3NC1825-0MK		1	3 units	1DM	0.043
		32		400	8.9		3NC1832-0MK		1	3 units	1DM	0.057
		40		600	11		3NC1840-0MK		1	3 units	1DM	0.043
		50		1250	13.8		3NC1850-0MK		1	3 units	1DM	0.043
	With bolt-on links: mounting dimension 80 mm, for screwing onto busbars or onto 5SH5023 fuse base											
	Operational class gR											
	26 x 103	25	690/ 440	120	9.5		3NC2625-0MK		1	3 units	1DM	0.099
		32		220	12.3		3NC2632-0MK		1	3 units	1DM	0.099
		40		400	14.8		3NC2640-0MK		1	3 units	1DM	0.099
		50		980	17.5		3NC2650-0MK		1	3 units	1DM	0.099
		63		2050	18.8		3NC2663-0MK		1	3 units	1DM	0.099
	Operational class aR											
		80		3500	22.5		3NC2680-0MK		1	3 units	1DM	0.099
		100		5400	31.5		3NC2600-0MK		1	3 units	1DM	0.099
		125		11800	39		3NC2611-0MK		1	3 units	1DM	0.100

[1] DC voltage acc. to UL.

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Cylindrical fuse design

	Version*	For fuse series	I_n	U_n	Connection bolt	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	mm		A	V DC								kg
	**Fuse bases for SITOR fuses** With bolt-on links or slotted blade contacts, 1-pole				NEW							
	75	3NC18	50	690	M5		**3NH5723**		1	3 units	1BM	0.187
	80	3NE87, 3NC26	315	690	M8		**3NH5023**		1	3 units	1BM	0.304

	Size	Version	Rated voltage	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	mm × mm		V AC/V DC							kg
	**Cylindrical fuse holders** Can be used as fuse switch disconnectors[1]									
	10 × 38	1P	690/--		**3NC1091**		1	12 units	1DM	0.052
		2P			**3NC1092**		1	6 units	1DM	0.104
		3P			**3NC1093**		1	4 units	1DM	0.156
	14 × 51	1P			**3NC1491**		1	6 units	1DM	0.105
		2P			**3NC1492**		1	3 units	1DM	0.228
		3P			**3NC1493**		1	2 units	1DM	0.319
	22 × 58	1P			**3NC2291**		1	1 unit	1DM	0.192
		2P			**3NC2292**		1	3 units	1DM	0.317
		3P			**3NC2293**		1	2 units	1DM	0.471
	22 × 127 NEW	1P	1500/1000		**3NC2391-0MK**		1	4 units	1DM	0.488
		2P			**3NC2392-0MK**		1	2 units	1DM	0.981
		3P			**3NC2393-0MK**		1	1 unit	1DM	1.488
	**Cylindrical fuse holders** Can be used as fuse switch disconnectors, with signaling switches for fuse links with striking pin[1]									
	14 × 51	1P	690/--		**3NC1491-5**		1	6 units	1DM	0.121
	22 × 58	1P			**3NC2291-5**		1	6 units	1DM	0.149
	**Cylindrical fuse bases**									
	10 × 38	1P	600/--		**3NC1038-1**		1	10 units	1DM	0.041
		2P			**3NC1038-2**		1	8 units	1DM	0.071
		3P			**3NC1038-3**		1	6 units	1DM	0.103
	**Fuse tongs**									
	10 × 38, 14 × 51, 22 × 58				**3NC1000**		1	1 unit	1DM	0.071

[1] Please note the utilization category and current/voltage values; see "Technical specifications", page 5/67.

* You can order this quantity or a multiple thereof.

Overview

SILIZED is the brand name for NEOZED fuses (D0 fuses) and DIAZED fuses (D fuses) with super quick-response characteristic for semiconductor protection. The fuses are used in combination with fuse bases, fuse screw caps and accessory parts of the standard fuse system.

SILIZED semiconductor fuses protect power semiconductors from the effects of short circuits because the super quick disconnect characteristic is far quicker than that of conventional fuses. They protect high-quality devices and system components, such as semiconductor contactors, static relays, converters with fuses in the input and in the DC link, UPS systems and soft starters for motors up to 100 A.

When using fuse bases and fuse screw caps made of molded plastic, always heed the maximum permissible power loss values due to the high power loss (power dissipation) of the SILIZED fuses.
When using these components, the following maximum permissible power loss applies:
- NEOZED D02: 5.5 W
- DIAZED DII: 4.5 W
- DIAZED DIII: 7.0 W

This enables a partial thermal permanent load of only 50 %.

The DIAZED screw adapter DII for 25 A is used for the 30 A fuse link.

Benefits

- SILIZED semiconductor fuses have an extremely compact design. This means they have a very small footprint – particularly the NEOZED version
- The rugged and well-known DIAZED design complies with IEC 60269-3. It is globally renowned and can be used in many countries
- A wide range of fuse bases and accessories is available for the NEOZED and DIAZED versions of the SILIZED semiconductor fuses. This increases the application options in many devices

Technical specifications

		5SE13 NEOZED design fuse links	5SD4 DIAZED design fuse links
Standards		DIN VDE 0636-3; IEC 60269-3; EN 60269-4 (VDE 0636-4); IEC 60269-4	
Operational class		gR	
Characteristic		Quick-acting	
Rated voltage U_n	V AC V DC	400 250	500 500
Rated current I_n	A	10 ... 63	16 ... 100
Rated breaking capacity	kA AC kA DC	50 8	
Mounting position		Any, preferably vertical	
Non-interchangeability		Using adapter sleeves	Using screw adapter or adapter sleeves
Resistance to climate	°C	Up to 45 at 95 % rel. humidity	
Ambient temperature	°C	-5 ... +40, humidity 90 % at 20	

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Selection and ordering data

	Size	I_e	U_e	Breaking I^2t value	Power loss	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC/ V DC	A^2s	W							kg
	SILIZED fuse links, operational class gR											
	D01	10	400/250	73	6.9		5SE1310		1	10/1500 units	1DM	0.007
		16		120	6.2		5SE1316		1	10/1500 units	1DM	0.007
	D02	20		190	8.1		5SE1320		1	10 units	1DM	0.013
		25		215	8.2		5SE1325		1	10 units	1DM	0.011
		35		470	16.7		5SE1335		1	10 units	1DM	0.014
		50		1960	12.0		5SE1350		1	10 units	1DM	0.014
		63		4230	15.5		5SE1363		1	10 units	1DM	0.013
	DII	16	500/500	60	12.1		5SD420		1	5 units	1DM	0.029
		20		139	12.3		5SD430		1	5 units	1DM	0.030
		25		205	12.5		5SD440		1	5 units	1DM	0.032
		30		310	13.5		5SD480		1	5 units	1DM	0.031
	DIII	35		539	14.8		5SD450		1	5 units	1DM	0.051
		50		1250	18.5		5SD460		1	5 units	1DM	0.051
		63		1890	28		5SD470		1	5 units	1DM	0.055
	DIV	80		4200	34.3		5SD510		1	3 units	1DM	0.117
		100		8450	41.5		5SD520		1	3 units	1DM	0.114

* You can order this quantity or a multiple thereof.

Overview

Special demands are made on fuses for application in photovoltaic systems. These fuses have a high DC rated voltage and a tripping characteristic specially designed to protect PV modules and their connecting cables (the newly defined operational class gPV). It is also crucial that the PV fuses do not age in spite of strongly alternating load currents, in order to ensure high plant availability throughout the service life of the PV system. The fuses must also be able to withstand high temperature fluctuations without damage. These requirements were only incorporated into an international standard in recent years and have now been published as IEC 60269-6.
All Siemens photovoltaic fuse systems comply with this new standard. Furthermore, they also already comply with the recently agreed corrections to the characteristic curves, which will be incorporated in the next standard update.

The IEC cylindrical fuses used as phase fuses also correspond to the characteristic curves specified in UL standard UL 2579. The non-fusing current I_{nf} and fusing current I_f test currents are crucial to the shape of the characteristic curves.

Standard	I_{nf}	I_f
Current IEC standard	1.13 x I_n	1.45 x I_n
UL standard	1.0 x I_n	1.35 x I_n
Future IEC standard	1.05 x I_n	1.35 x I_n
Siemens fuses	1.13 x I_n	1.35 x I_n

These test currents of gPV phase fuses to 32 A apply for a conventional test duration of one hour; at I_{nf}, the fuse must not trip within an hour, at I_f, it must trip within an hour.

The PV cylindrical fuses of size 10 mm x 38 mm offer an especially space-saving solution for the protection of the strings.

The fuse holders of size 10 x 38 mm can be supplied in single-pole and two-pole versions with and without signal detectors. In the case of devices with signal detector, a small electronic device with LED is located behind an inspection window in the plug-in module. If the inserted fuse link is tripped, this is indicated by the LED flashing. The devices have a sliding catch that enables removal of individual devices from the assembly. The infeed can be from the top or the bottom. Because the cylindrical fuse holders are fitted with the same anti-slip terminals at the top and the bottom, the devices can also be bus-mounted at the top or the bottom.

The PV fuses in LV HRC design are usually used as cumulative fuses upstream of the inverter. In addition, they can also be used for protecting groups (PV subarrays). For the PV cumulative fuses of size 1, standard LV HRC fuse bases are available. For PV cumulative fuses of size 1L, 1XL, 2L, 2XL and 3L, we have developed a special 3NH7...-4 fuse base with a swiveling mechanism which combines maximum touch protection with maximum user-friendliness. This makes it possible to change fuses safely and without the need for any tools, such as a fuse handle. This provides safe and fast access even in an emergency.

Our cylindrical fuse holders and fuse bases with swiveling mechanism comply with the IEC 60269-2 standard and are considered fuse disconnectors as defined in the IEC 60947 switchgear and controlgear standard. Under no circumstances are they suitable for switching loads.

To ensure that PV fuses are correctly selected and dimensioned, the specific operating conditions and the PV module data must be taken into account when calculating voltage and current ratings.

Benefits

- Protection of the modules and their connecting cables in the event of reverse currents
- Safe tripping in case of fault currents reduces the risk of fire due to DC electric arcs
- Safe separation when the fuse holder/fuse base is open

PV cylindrical fuse system, 3NW70..-4, 3NW60..-4

PV LV HRC fuse systems, 3NH73..-4, 3NE13..-4D

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Technical specifications

		Cylindrical fuse links		Cylindrical fuse holders	
		3NW60..-4	3NW66..-4	3NW70..-4	3NW76..-4
Size	mm x mm	10 x 38	10 x 85		
Standards		IEC 60269-6		IEC 60269, IEC 60269-2, IEC 60947, UL 4248-1, -18	IEC 60269, IEC 60269-2, IEC 60947, UL 4248-1, -18
Approvals		UL 248-13, waiver certification for China (2 to 16 A)	(File No. E469670)	(File No. E355487), (variants without signal detector)	(E355487)
Operational class		gPV			
Rated voltage U_n	V DC	1000	1500 (20 A: 1200 V)	1000	1500
Rated current I_n	A DC	2 to 20	4 to 20	30	32
Rated short-circuit strength	kA	--		30	
Rated breaking capacity	kA DC	30	10	--	
Breaking capacity • Utilization category		--		AC-20B, DC-20B	
Max. power dissipation of the fuse link	W	--		4	6
Rated impulse withstand voltage	kV	--		6	--
Overvoltage category		--		II	--
Pollution degree		--		2	--
No-voltage changing of fuse links		--		Yes	
Sealable when installed		--		Yes	
Mounting position		Any, preferably vertical			
Current direction		--		Any (signal detector with antiparallel LED)	
Degree of protection acc. to IEC 60529		--		IP20, with connected conductors[1]	
Terminals with touch protection according to BGV A3 at incoming and outgoing feeder		--		Yes	
Ambient temperature	°C	-25 ... +55, humidity 90 % at +20			
Conductor cross-sections • Finely stranded, with end sleeve • AWG (American Wire Gauge)	 mm^2 AWG	 -- --		 0.75 ... 25 18 ... 4	
Tightening torque	Nm	--		2.5	

1) Degree of protection IP20 is tested according to regulations using a straight test finger (from the front), with the device mounted and equipped with a cover, housing or some other enclosure.

Selection and ordering data

	Size	I_n	U_n	P_v	P_v at 70 %[1]	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	mm x mm	A DC	V DC	W	W							kg
	Cylindrical fuse links operational class gPV											
 3NW6004-4	10 x 38	2	1000	1.4	0.6	▶	3NW6002-4		1	20 units	1DN	0.008
		4		1.6	0.7		3NW6004-4		1	20 units	1DN	0.009
		6		1.7	0.7		3NW6001-4		1	20 units	1DN	0.009
		8		1.9	0.8		3NW6008-4		1	20 units	1DN	0.009
		10		2.3	1.0		3NW6003-4		1	20 units	1DN	0.008
		12		2.7	1.1		3NW6006-4		1	20 units	1DN	0.009
		16		3.2	1.3		3NW6005-4		1	20 units	1DN	0.009
		20		3.4	1.4		3NW6007-4		1	20 units	1DN	0.009
 3NW6604-4	10 x 85	4	1500	2.7	1.1		3NW6604-4		1	10 units	1DN	0.016
		6		3.0	1.2		3NW6601-4		1	10 units	1DN	0.016
		8		3.6	1.5		3NW6608-4		1	10 units	1DN	0.016
		10		3.7	1.6		3NW6603-4		1	10 units	1DN	0.016
		12		3.3	1.4		3NW6606-4		1	10 units	1DN	0.016
		16		3.7	1.6		3NW6605-4		1	10 units	1DN	0.018
		20	1200	4.0	1.7		3NW6607-4		1	10 units	1DN	0.016

1) Tested in the fuse holder 3NW7013-4 or 3NW7613-4.

* You can order this quantity or a multiple thereof.

	Number of poles	I_n	For fuse links of size	Width	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A DC	mm x mm	MW							kg
 3NW7014-4	**Cylindrical fuse holders, 1000 V with signal detector**										
	1P	30	10 x 38	1		**3NW7014-4**		1	12 units	1DN	0.062
	2P	30	10 x 38	2		**3NW7024-4**		1	6 units	1DN	0.123
	Without signal detector										
	1P	30	10 x 38	1		**3NW7013-4**		1	12 units	1DN	0.064
	2P	30	10 x 38	2		**3NW7023-4**		1	6 units	1DN	0.122
 3NW7613-4	**Cylindrical fuse holders, 1500 V**										
	1P	32	10 x 85	1.3		**3NW7613-4**		1	5 units	1DN	0.102

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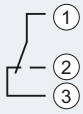
Technical specifications

		Fuse links 3NE1...-4 / -4D / -4E / -5E						Fuse bases 3NH7...-4					
Size		1	1L	2L	3L	1XL	2XL	1	1L	2L	3L	1XL	2XL
Standards		IEC 60269-6						IEC 60269, IEC 60269-2, IEC 60947					
Operational class		gPV											
Rated voltage U_n	V DC	1000 at time constant (L/R) 3 ms 1500 at time constant (L/R) 3 ms						1000				1500	
Rated current I_n	A DC	63 ... 160	200/250	315/400	500/630	63 ... 200	250/315	160	250	400	630	250	400
Rated short-circuit strength	kA	--						30					
Rated breaking capacity	kA DC	30						--					
Breaking capacity • Utilization category		--						AC-20B, DC-20B (switching without load)					
Max. power dissipation of the fuse link	W	--						40	90	110	130	90	110
No-voltage changing of fuse links		--						Yes					
Sealable when installed		--						Yes					
Mounting position		Any, preferably vertical											
Current direction		--						Any					
Ambient temperature	°C	-25 ... +55, humidity 90 % at +20											
Tightening torque	Nm	--						20					
Microswitch for Tripped signaling 5 A/250 V AC, 0.2 A/250 V DC		In the "fuse not blown" state, contacts 1 and 3 are closed. 											

Selection and ordering data


3NE1330-4D

Size	I_n	U_n	P_v at U_n DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A DC	V DC	W						kg
Fuse links operational class gPV									
1	63	1000	19	3NE1218-4		1	2 units	1DN	0.607
	80		20	3NE1220-4		1	2 units	1DN	0.607
	100		24	3NE1221-4		1	2 units	1DN	0.615
	125		26	3NE1222-4		1	2 units	1DN	0.580
	160		32	3NE1224-4		1	2 units	1DN	0.621
1L	200		51	3NE1225-4D		1	2 units	1DN	0.819
	250		54	3NE1227-4D		1	2 units	1DN	0.750
2L	315		73	3NE1330-4D		1	2 units	1DN	1.081
	400		82	3NE1332-4D		1	2 units	1DN	1.097
3L	500		100	3NE1434-4E		1	2 units	1DN	1.701
	630		110	3NE1436-4E		1	2 units	1DN	1.684
1XL	63	1500	20	3NE1218-5E		1	2 units	1DN	1.011
	80		25	3NE1220-5E		1	2 units	1DN	0.994
	100		30	3NE1221-5E		1	2 units	1DN	1.003
	125		29	3NE1222-5E		1	2 units	1DN	1.001
	160		34	3NE1224-5E		1	2 units	1DN	0.998
	200		41	3NE1225-5E		1	2 units	1DN	1.002
2XL	250		53	3NE1327-5E		1	2 units	1DN	1.262
	315		63	3NE1330-5E		1	2 units	1DN	1.263

* You can order this quantity or a multiple thereof.

	For fuse links of size	I_n	U_n	DT	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A DC								kg
	Fuse bases with flat terminal									
	Standard ceramic fuse base [1]									
 3NH3230	1	250	1000		3NH3230		1	3 units	1BM	0.759
	Fuse bases with swiveling mechanism									
 3NH7360-4	1L	250	1000		3NH7260-4		1	1 unit	1DN	1.306
	2L	400	1000		3NH7360-4		1	1 unit	1DN	1.724
	3L	630	1000/1500		3NH7460-4		1	1 unit	1DN	2.224
	1XL	250	1500		3NH7261-4		1	1 unit	1DN	1.337
	2XL	400	1500		3NH7361-4		1	1 unit	1DN	1.729
	Fuse bases with swiveling mechanism and microswitches for tripped signaling of the fuse[2]									
	1	250	1000		3NH7262-4KK01		1	1 unit	1DN	1.205
	2L	400	1000		3NH7360-4KK01		1	1 unit	1DN	1.781
Accessories										
	Terminal covers for PV fuse bases with swiveling mechanism									
 3NX3121	1, 1L, 1XL				3NX3121		1	1 unit	1DN	0.067
	2L, 2XL				3NX3122		1	1 unit	1DN	0.129
	3L				3NX3123		1	1 unit	1DN	0.167

[1] For further information, see Catalog LV 11.

[2] Fuse must be inserted upside down.

Notes

Special Purpose Fuses

- Multimeter fuses
- Metering Fuses
- Telecom fuses NH 80V
- Fuses for DC voltage applications
- NH aM 1000V a.c.
- NH gG 1200V a.c.
- Safe work fuses SWF
- Fuses for protection of forklift batteries TRB
- Surge suppression fuses SRF
- Fuses for high voltage switchgear

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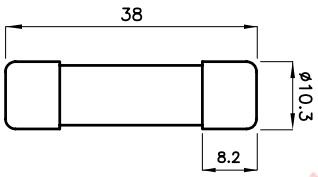
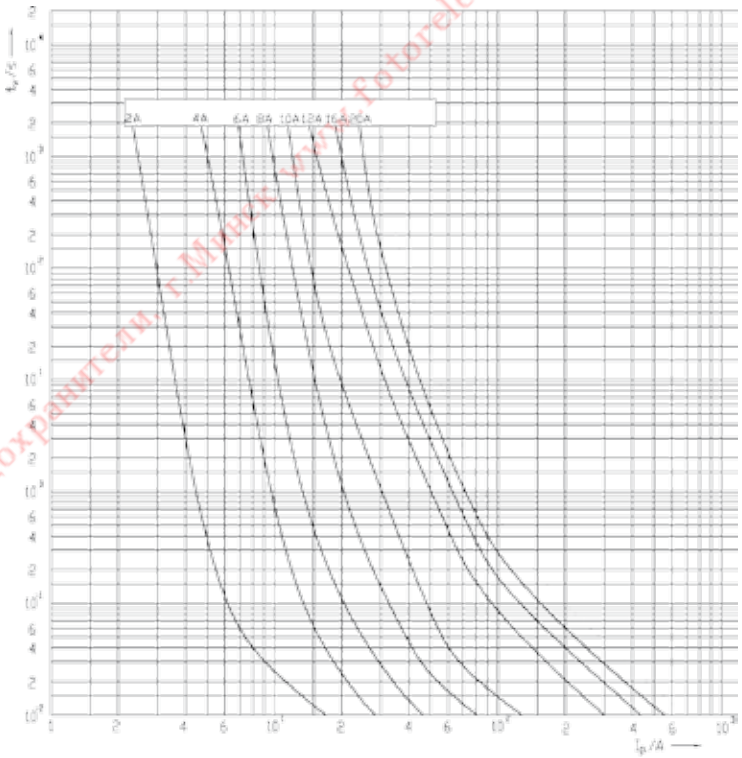
MULTIMETER Fuse Links

General characteristics	
Rated voltage	1000V a.c./d.c.
Breaking capacity	30kA a.c./d.c.
Characteristics	gR
Standards	IEC 60269-4, UL 248-1,UL 248-13
UL certificate	Nr. E331260
Application	Multimeter fused

CH10 MULTI

Size	I_n [A]	Code No. standard indicator	Power dissipation [W]	Packaging [pcs]	Weight [g]
10x38	2	002625400	0,9	10/500	10
	4	002625401	1,2		
	6	002625402	1,6		
	8	002625403	1,8		
	10	002625404	2,1		
	12	002625405	1,7		
	16	002625406	2,3		
	20	002625407	3,15		





Metering Fuse Link gG NV/NH 400V a.c.

General characteristics	
Rated voltage	400V a.c.
Breaking capacity	50kA a.c.
Standards	IEC EN 60269-1
Characteristic	gG
Aplication	As metering fuse with strip fuse switch disconnector and fuse switch disconnetor

NV/NH 400V a.c.

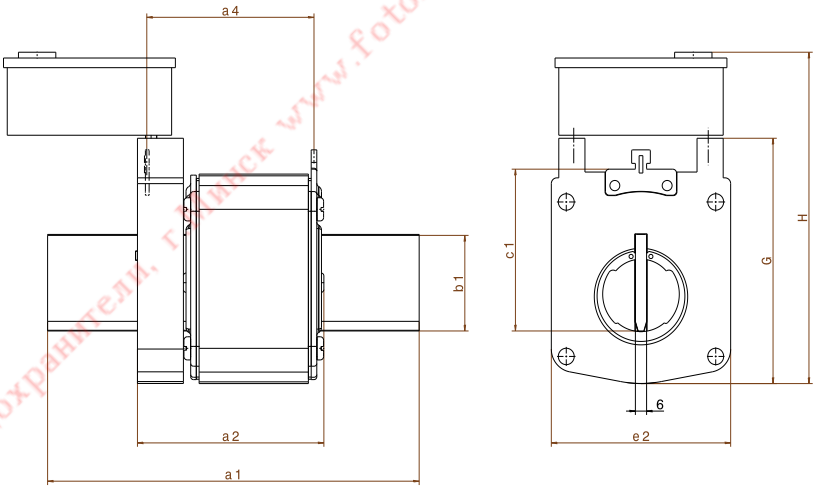
Size	I_n [A]	standard indicator	Power dissipation [W]	Packaging [pcs]	Weight [g]
1	80	004113835	5,2	1/26	500
	100	004113836	6,2		
	125	004113837	7,9		
	160	004113838	9		
	200	004113839	12		
	250	004113840	17		
2	80	004113842	5,2	1/16	600
	100	004113843	6,2		
	125	004113844	7,9		
	160	004113845	9		
	200	004113846	12		
	250	004113847	17		
	315	004113848	20		
	400	004113849	24		
3	200	004113851	12	1/9	1000
	250	004113852	17		
	315	004113853	20		
	400	004113854	24		
	500	004113855	27		
	630	004113856	32		
4a	630	004113858	51	1	2000
	800	004113859	61		
	1000	004113860	72		
	1250	004113861	90		

Metering Fuse Link gTr NV/NH 400V a.c.

General characteristics	
Rated voltage	400V a.c.
Breaking capacity	25kA a.c.
Standards	IEC EN 60269-1
Characteristic	gTr
Aplication	As metering fuse with strip fuse switch disconnector and fuse switch disconnector

NV/NH 400V a.c.

Size		I_n [A]	standard indicator	Power dissipation [W]	Packaging [pcs]	Weight [g]
1	100	144	004113865	11	1/26	500
	125	180	004113866	13		
	160	231	004113867	17		
2	100	144	004113872	11	1/16	600
	125	180	004113873	13		
	160	231	004113874	17		
	200	289	004113875	20		
	250	361	004113876	25		
3	125	180	004113881	13	1/9	1000
	160	231	004113882	17		
	200	289	004113883	20		
	250	361	004113884	25		
	315	455	004113885	32		
	400	577	004113886	40		
4a	250	361	004113890	25	1	2000
	315	455	004113891	32		
	400	577	004113892	40		
	500	722	004113893	54		
	630	909	004113894	71		
	800	1155	004113895	91		
	1000	1443	004113896	110		



Size	dimensions [mm]							
	a1	b1	c1	e1	G	H	a2	a4
1	135	24	40	52	67	112	75	65
2	150	30	48	60	74	119	75	65
3	150	32	60	74	89	134	75	65
4a	200	50	85	96	127	200	100	87

Telecom Fuses

FUSES FOR BATTERY AND UPS PROTECTION

Why to protect a battery?

In case of a short circuit in the battery circuit or Uninterruptible Power Systems (UPS) DC systems, the short circuit could be fed by the battery with its full energy content.
If the battery is not protected by an appropriate fuse or circuit breaker, this energy flow will not be interrupted in a short enough time. The typical result is a fire at the point of short circuit, or the battery will burn due to heavy overload.

How to protect a battery?

In practice there are two ways to protect a battery or UPS. First is to use special battery fuses with an instantaneous trip - those fuses will be presented in this article. Second possibility is to use a special DC-circuit breaker. The voltage and current ratings as well as the characteristics of these components depend on the system configuration.
The following parameters have to be considered when choosing the FUSES for protection:

- Maximum battery current when in battery operation
- Maximum short circuit current of the battery - ageing of the battery has to be considered
- Length and cross-section of cables between the battery and the UPS module (positive and negative cables have to be summed together for the correct length)
- Protection device design depends on current (battery voltage dependent over time, maximum current with a discharged battery) and on current flow time
- Fast acting fuses have to be used (DZ, gF...). General purpose fuses (aM, gG...) are for most part not suitable
- The fuses have to be resistant to ageing in order to prevent premature operation under rated conditions
- Fuses must be replaced by others of the same type and size. For the most part, no current rating exists for the battery fuses. Fuse types vary by the manufacturer.

If a mlniature circuit breaker (MCB) is used, the following additional parameters have to be considered:

- Use a DC DC circuit breaker With DC protection capability and DC trip unit
- Compare the needed trip characteristics
- Do not forget to set the trip current at the circuit breaker. Usually, the manufacturer sets the trip current to maximum. Therefore it must be adjusted correctly on site.

Why have a battery-disconnect switch?

It is very helpful to have an additional dlsconnect switch when using a fuse without disconnect posslbility. There are two reasons for a disconnect possibility:

- To have a different point of intersection between battery and UPS
- To isolate the battery during service and maintenance work

Guideline, due to experience

Many damage events that happened in the last few years demand some design reviews of existing installations. The reasons for these reviews turned out to be:

- Use of AC circuit breakers
- Use of AC circuit breakers with DC switching capability, but with an AC trip unit
- Not adjusted trip setting
- Battery short circuit current was lower than possible trip setting

Due to this experience all UPS systems have been designed with special battery fuses (supplier ETI). This fuse is usually selected by the battery or fuse supplier.

Conclusion

- Always use a special fuse which is designed for the selected battery and system configuration
- Always ask battery and fuse supplier for advice

ETI solution for TELECOM Power Supply Circuits

ETI d.d. developed specially designed fuse-links for short circuit protection of d.c. telecom power supplies. They are typically installed into rectifier outputs, battery feeders or d.c.power distribution for protection of the load circuits.

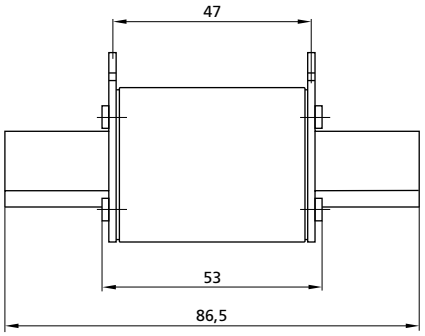
All their characteristics are optimized to correspond to the operating conditions of telecom power supply equipment. Power dissipations and switching voltage provide optimal function and protection of telecom power supplies. The ETI TELECOM NH00 fuse-link is a high breaking capacity current limiting fuse-link with pure silver, age-resistant melting element.

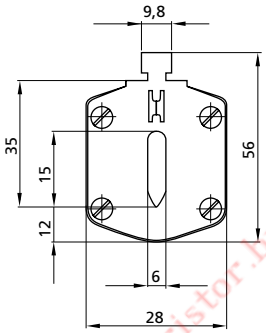
NH DC 80 V - Telecom fuse

General characteristics	
Rated voltage	80 V d.c. (L/R = 20 ms)
Breaking capacity	25 kA d.c.
Standards	IEC 60269-1
Application	Fuse-link for battery and UPS protection.

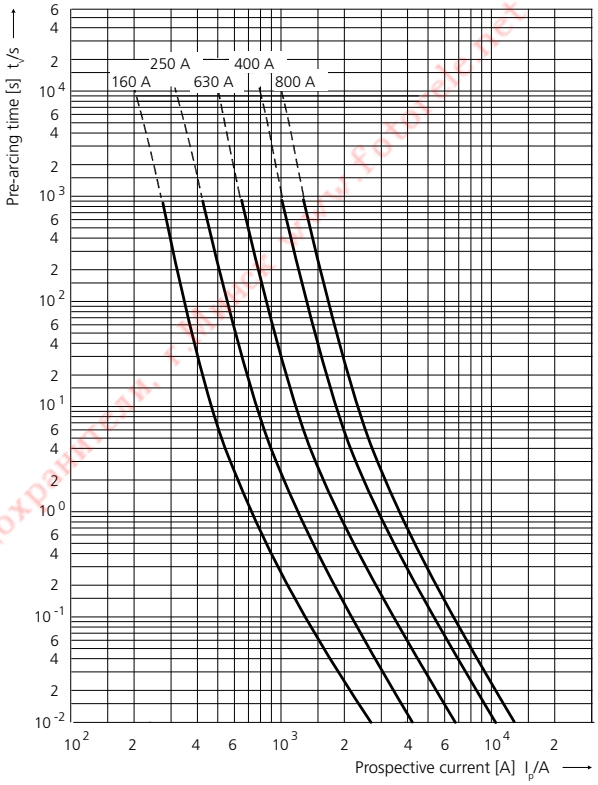
NH DC 80 V - Telecom fuse

Size	I_n [A]	Code No. standard indicator	Code No. striker indicator	Power dissipation [W]	Packaging [pcs]	Weight [g]
00	160	004110106	004110101	9,0	3/90	173
	200	004110120	-	10,5		
	250	004110107	004110102	12,5		
	400	004110108	004110103	17,5		
	630	004110109	004110104	28,0		
	800	004110110	004110105	37,5		





Time-current characteristics

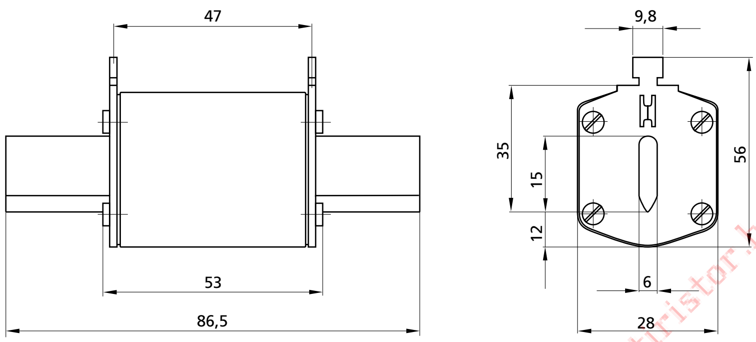


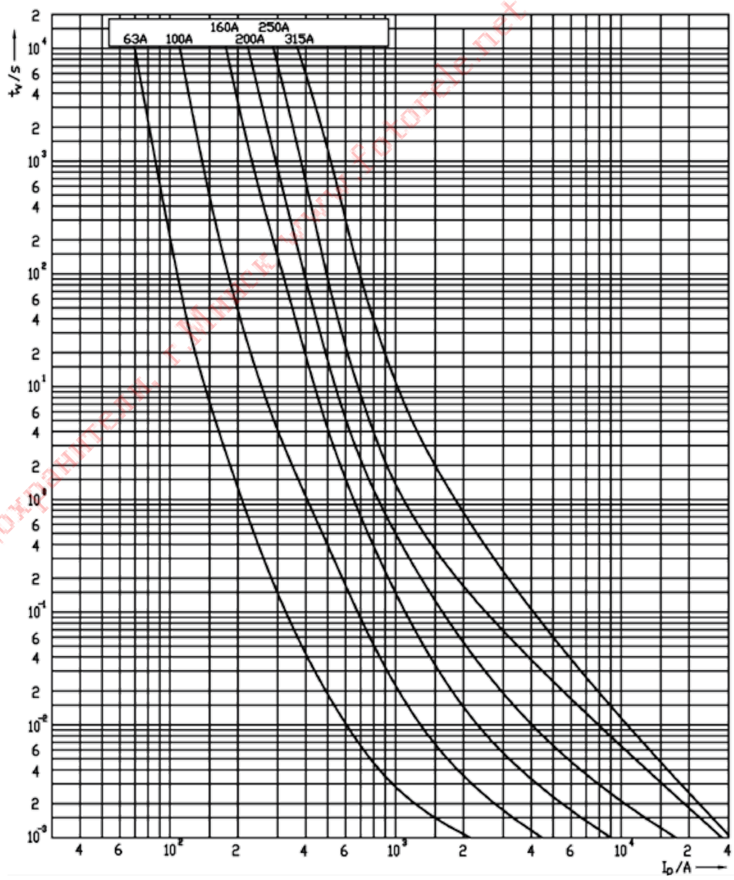
NH DC 250 V

General characteristics	
Rated voltage	250 V d.c. (L/R = 20 ms)
Breaking capacity	25 kA d.c.
Standards	IEC 60269-2
Application	Fuse-link for DC application.

NH DC 250 V

Size	I_n [A]	Code No. standard indicator	Code No. striker indicator	Power dissipation [W]	Packaging [pcs]	Weight [g]
00	63	004110130	004110135	7,5	3	654
	100	004110131	004110136	8,6		
	160	004110132	004110137	13,8		
	200	004110140	004110138	18,5		
	250	004110133	004110139	21,2		
	315	004110134	004110141	24,0		



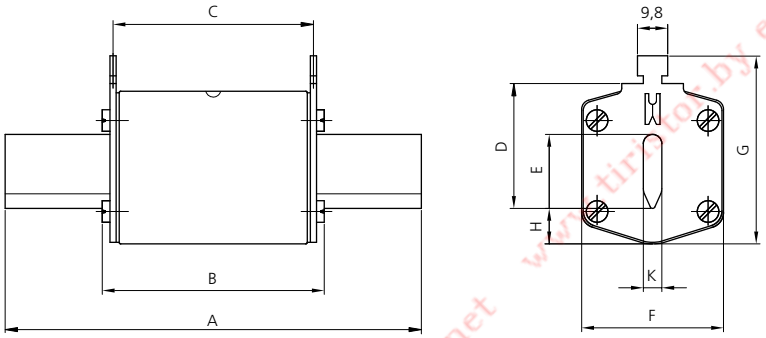


NH DC 440 V

General characteristics	
Rated voltage	440 V d.c. (L/R = 20 ms)
Breaking capacity	50 kA d.c.
Standards	IEC 60269-2
Application	Fuse-link for DC application.

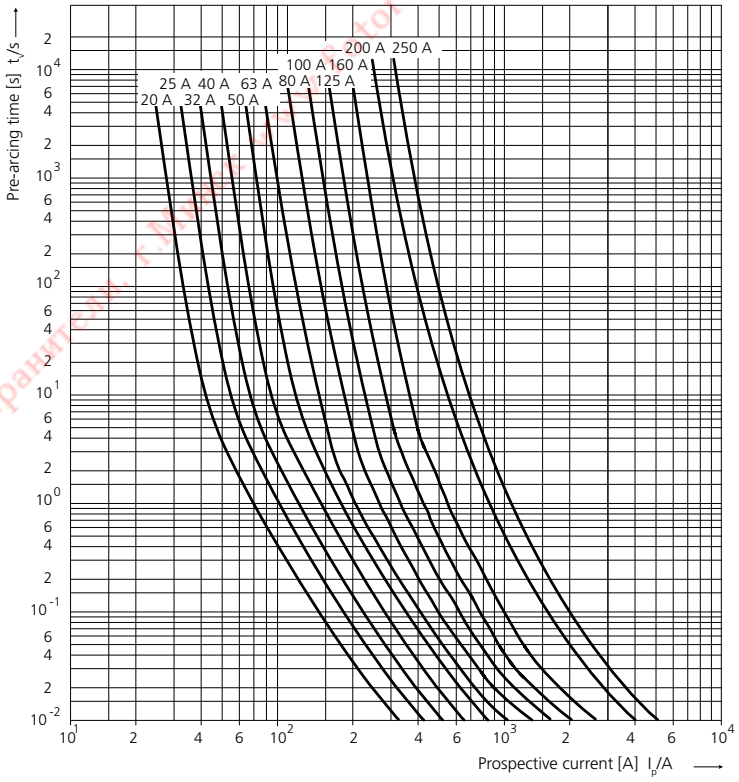
NH DC 440 V

I_n [A]	Code No. 00 C	00	1 C	1	Size	Max. power dissipation [W]	Packaging [pcs]	Weight [g]
20	004110200		004110220		00 C	7,2	3/120	125
25	004110201		004110221		00	15,1	3/90	173
32	004110202		004110222		1 C	21,9	3/45	233
40	004110203		004110223		1	31,3	3/24	430
50	004110204		004110224					
63		004110210	004110225					
80		004110211	004110226					
100		004110212	004110227					
125		004110213	004110228					
160		004110214	004110229					
200				004110230				
250				004110231				



type	dimensions [mm]								
	A	B	C	D	E	F	G	H	K
00 C	79	53	47	35	15	21	52	7,5	6
00	79	53	47	35	15	28	56	12	6
1 C	135	68	65	40	15	28	61	12	6
1	135	72	65	40	20	46	65	14	6

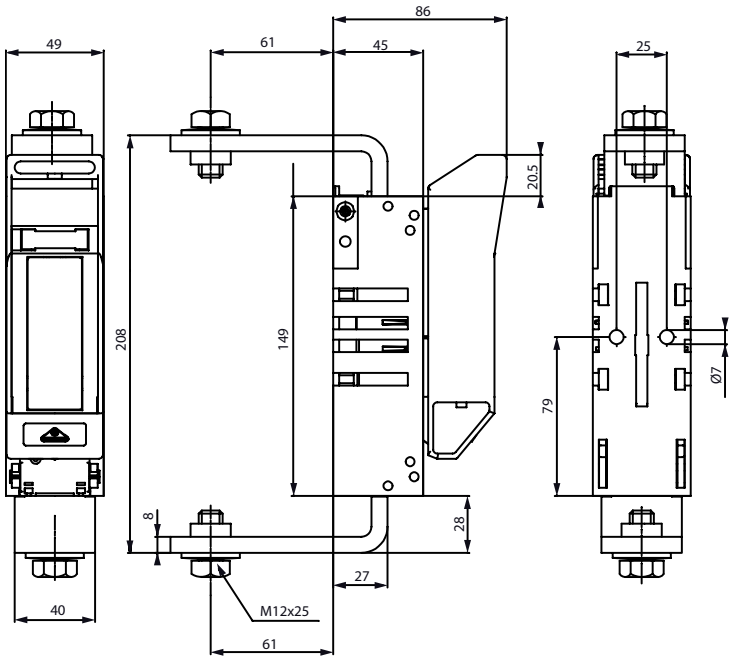
Time-current characteristics

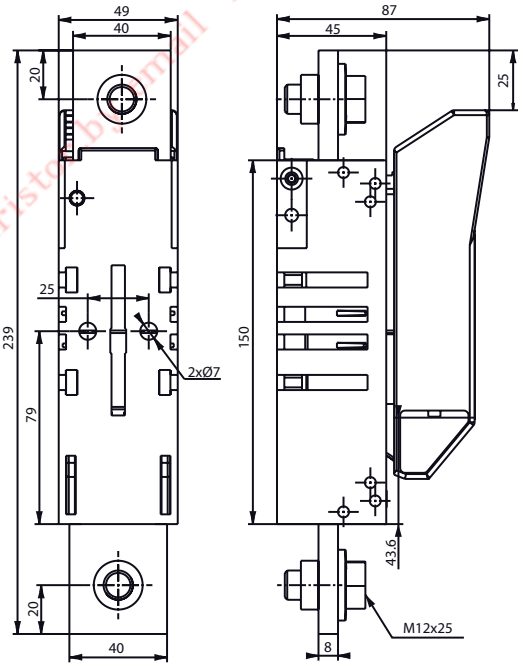


NV Telecom fuse disconnectors

NV Telecom fuse disconnectors	
type	**Code No.**
HVL 00 Telecom 1P M12-M12, front connection, for striker	001692660
HVL 00 Telecom 1P M12-M12, rear connection, for striker	001692661
HVL 00 Telecom 1P M12-M12, front connection	001692662
HVL 00 Telecom 1P M12-M12, rear connection	001692663

Technical data for NV Telecom fuse disconnectors				
Technical Specifications				**HVL 00**
Electrical Characteristics				
Rated conditional short-circuit current		-	kA_{eff}	50
Utilization category		I_e	A	DC 20-B/800 A
Rated impulse withstand voltage		U_{imp}	kV	8
Operating cycles with current		-	-	100
Total power loss at I_{th} (without TM)		O_v	W	44
Fuse links				
Size to DIN 43620		-	-	00
Max. rated current (gG)		I_n	A	800
Mechanical characteristics				
Operating cycles without current		-	-	500
Weight		-	kg	0,75
Cable connection				
Flat terminal	Bolt diameter	-	-	s. drawings
	Cable lug (DIN 43620)	-	mm^2	240
	Flat bar	-	mm	30x10
	Tightening torque	M_a	Nm	30-35
Type of protection				
Front side	Operational state	-	-	IP 20
Device fitted	Front cover open	-	-	IP 10
Operating conditions				
Ambient temperature		T_u	°C	-25 to +55
Rated operating mode		-	-	Continuous operation
Actuation		-	-	dependent manual operation
Mounting position		-	-	vertical, horizontal
Altitude		-	m	up to 2000
Pollution degree		-	-	3
Overvoltage category		-		III





Fuse base U1-3 1200V

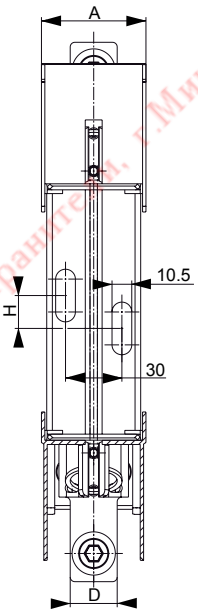
General characteristics							
Type			U1-1/1200		U2-1/1200		U3-1/1200
Rated voltage			1200V d.c. / a.c.				
Rated current			250A		400A		630A
Conv. free air thermal current with fuse-links			200A		315A		630A
Conv. free air thermal current with solid links			325A		520A		1000A
Max. permis. power dissipation per fuse-link			35W		46W		70W
Cable terminal	Flat terminal	Screw	M10		M10		M10
		Cable lug (DIN 46235)	25-150mm²		25-240mm²		25-300mm²
		Flat termination	30x10mmx-mm		30x10mmx-mm		40x10mmx-mm
		Rated torque	30-35Nm		30-35Nm		30-35Nm
	Terminal	Clamping cross-section	KM2G	25-300mm²	KM2G	25-300mm²	
		Rated torque		32Nm		32Nm	
Degree of protection - Front side, device fitted			IP00		IP00		IP00
Operating conditions	Ambient temperature*		-25°C to +55°C				
	Rated operating mode		Continuous operation				
	Actuation		-				
	Mounting position		Vertical, horizontal				
	Altitude		Up to 2000m				
	Pollution degree		3				
	Overvoltage category		III				
Insulation class			C-VDE 0110				
Standards			EN 60269, IEC 60269, DIN VDE 0636, DIN 43620, DIN 43623				

Fuse base U1-3 1200V

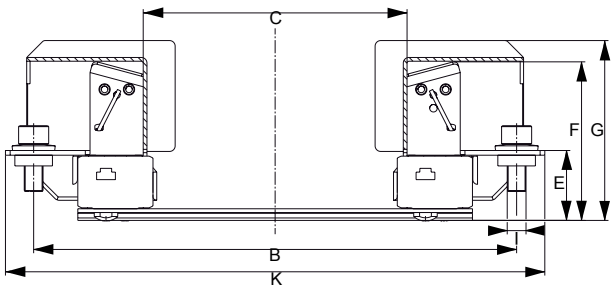
Type	I_n [A]	Code No.	Max. connection [mm²]	Mechanical fuse monitor	Weight [g]	Packaging [pcs]
U1-232/1200/H	250	004122034	150	without	500	2
U1-1/1200/H	250	004122027	150	without	550	
U1-1/1200/H/K	250	004122028	150	with	600	
U2-1/1200/H	400	004122029	240	without	930	1
U2-1/1200/H/K	400	004122030	240	with	1000	
U3-1/1200	630	004122031	300	without	1200	
U3-1/1200/K	630	004122032	300	with	1250	

* size 3 without insulating contact (H)

** type designation H means version with insulating contacts



Type	Dimensions [mm]									
	A	B	C	D	E	F	G	H	I	K
U1-232/1200/H	56	232	140	25	37	84,5	96	17,5	M10	262
U1-1/1200/H	56	257	140	25	37	84,5	96	17,5	M10	287
U2-1/1200/H	64	257	140	30	37	100	103	17,5	M10	287
U3-1/1200	68	270	140	40	38	103	-	25	M12	307

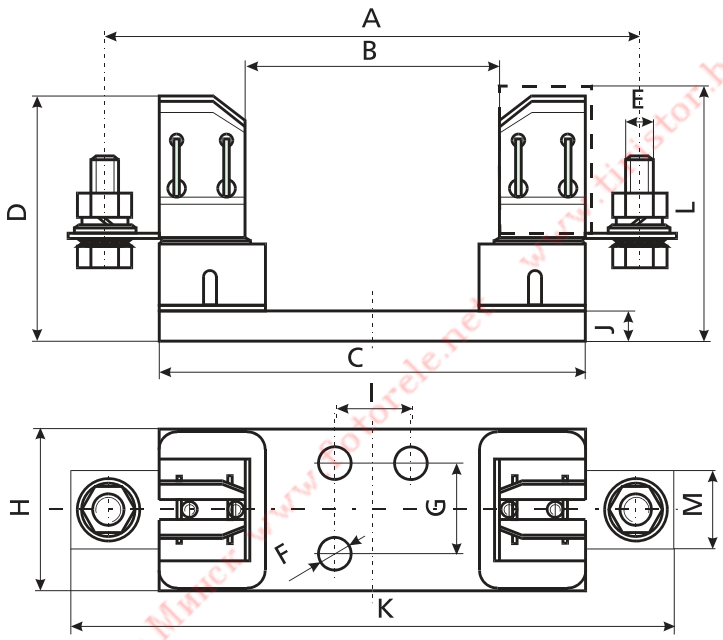


Fuse base PK1

General characteristics	
Rated voltage	1000V d.c.
Rated current	250A
Insulation class	C-VDE 0110
Standards	EN 60269, IEC 60269, DIN VDE 0636, DIN 43620, DIN 43623

Fuse base PK1

Type	I_n [A]	Code No.	Weight [g]	Packaging [pcs]
PK1 DC	250	004122025	598	3/42
PK1 160 DC	250	004122026	665	3/30



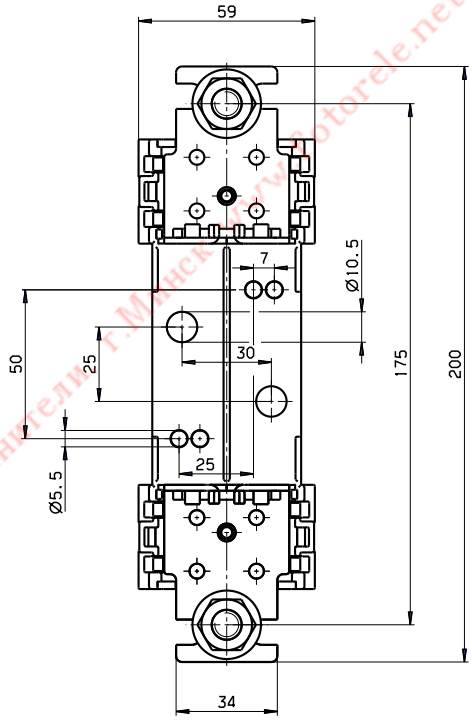
Type	Dimensions [mm]											
	A	B	C	D	E	F	G	H	I	J	K	M
PK1 DC	175	80	141	81	M10	Ø10,5	30	55	25	10	200	26
PK1 160 DC	193	100	160	81	M10	Ø10,5	30	55	25	10	220	26

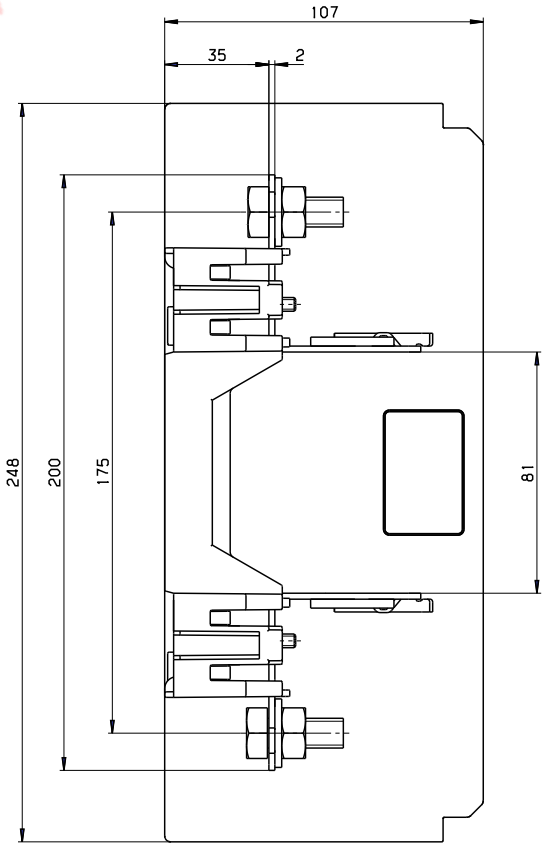
Fuse base U1-1 1000V

General characteristics		
Rated voltage		1000V d.c.
Rated current		160A
Conv. free air thermal current with fuse-links		160A
Conv. free air thermal current with solid links		325A
Max. permis. power dissipation per fuse-link		31W
Cable terminal - Flat terminal	Screw	M10
	Cable lug (DIN 46235)	25-150 mm^2
	Flat termination	30x10 mmx-mm
	Rated torque	30-35 Nm

Fuse base U1-1 1000V

Type	I_n [A]	Code No.	Max. Connection (mm^2)	Weight [g]	Packaging [pcs]
U1-1 1000V	160	004122035	150	387	1





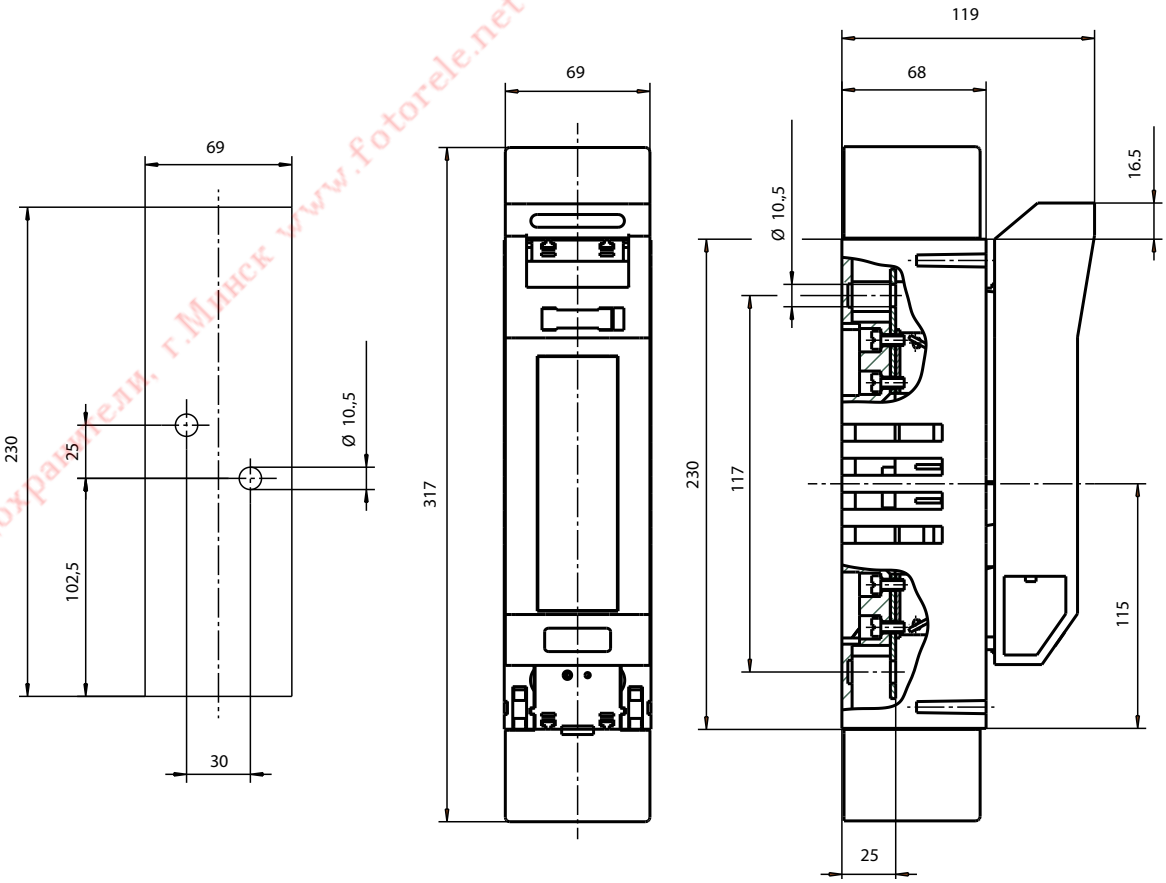
Fuse disconnector TL1-1/9/1000V

General characteristics		
Number of poles		1
Rated voltage		1000V d.c.
Rated current		160A
Conv. free air thermal current with fuse-links		160A
Utilization category		DC-20B
Fuse-links	Size to DIN 43620	1
	Max. rated current (gL/gG)	160A
	Max. permis. power loss per fuse-link	25W
Cable terminal - Flat terminal	Screw	M10
	Cable lug (DIN 46235)	25-240 mm^2
	Flat termination	30x10 mm
	Rated torque	30-35 Nm
Type of protection - front side, device fitted		IP20, IP10
Operating conditions	Ambient temperature*	-25 to +55
	Rated operating mode	Cont. operation
	Actuation	Dependent manual actuation
	Mounting position	Vertical, horizontal
	Altitude	up to 2000 m
	Pollution degree	3
	Overvoltage category	III

*35^{0}C normal temperature, 55^{0}C with reduced operating current

Fuse disconnector TL1-1/9/1000V

Type	I_n [A]	Code No.	Max. Connection (mm^2)	Terminal	Weight [g]	Packaging [pcs]
TL1-1/9/1000V	160	004122038	150	M10	1070	1

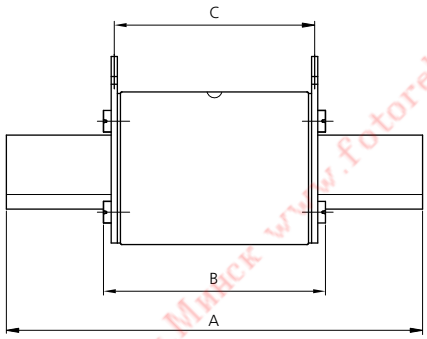


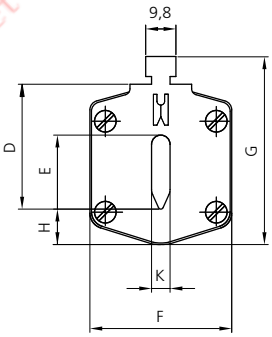
Fuse-link aM NV/NH 1000V a.c.

General characteristics	
Rated voltage	1000V a.c.
Breaking capacity	25kA a.c.
Standards	VDE 0636-2011
Characteristic	aM
Application	For equipment protection in mining industry. For relays, contactors and motors protection in case of short-circuit.

1000V a.c. aM

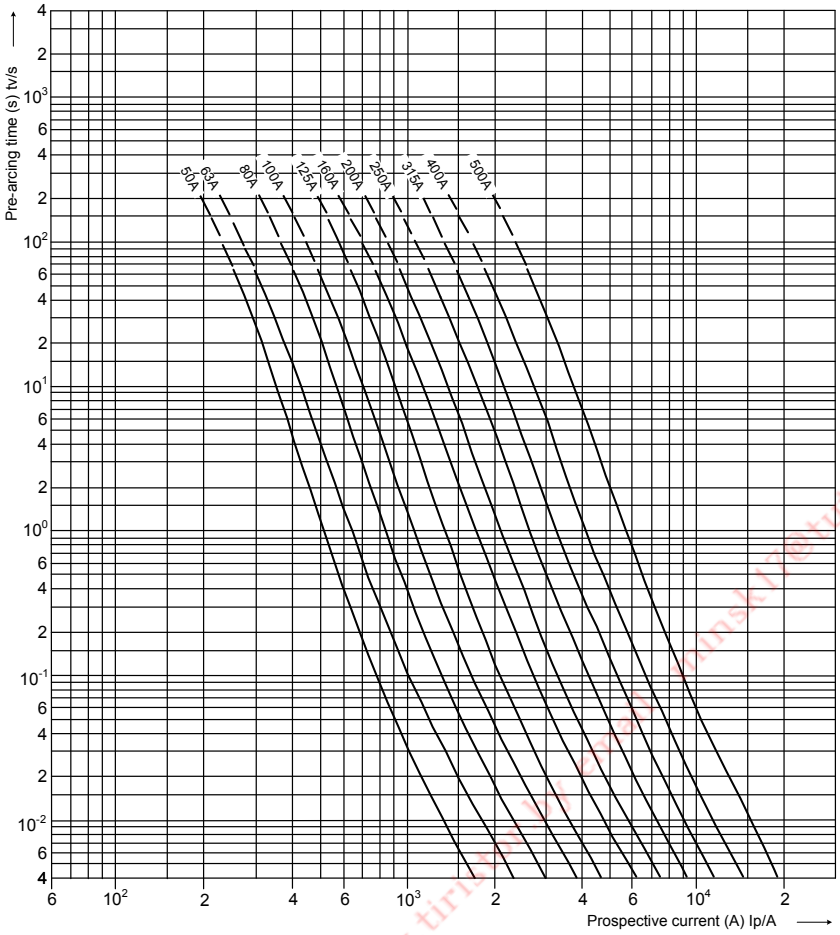
Size	I_n [A]	Standard indicator	Pre-arcing Joule integral [A^2s]	Operating Joule integral [A^2s] at 635V	Operating Joule integral [A^2s] at 1100V	Power dissipation [W]	Weight [g]	Packaging [pcs]
1	50	004184432	7.000	23.000	40.000	13	530	1/8
	63	004184433	11.000	40.000	60.000	15		
	80	004184434	17.000	63.000	100.000	17		
	100	004184435	32.000	110.000	170.000	19		
	125	004184436	45.000	150.000	230.000	21		
	160	004184437	65.000	230.000	400.000	25		
	200	004184438	110.000	400.000	600.000	28		
3	200	004186434	110.000	400.000	600.000	28	1000	1/8
	250	004186435	180.000	650.000	1.000.000	31		
	315	004186436	340.000	1.400.000	2.000.000	41		
	400	004186437	500.000	2.000.000	3.000.000	50		
	425	004186438	550.000	2.150.000	3.300.000	53		
	500	004186439	700.000	2.500.000	4.000.000	60		



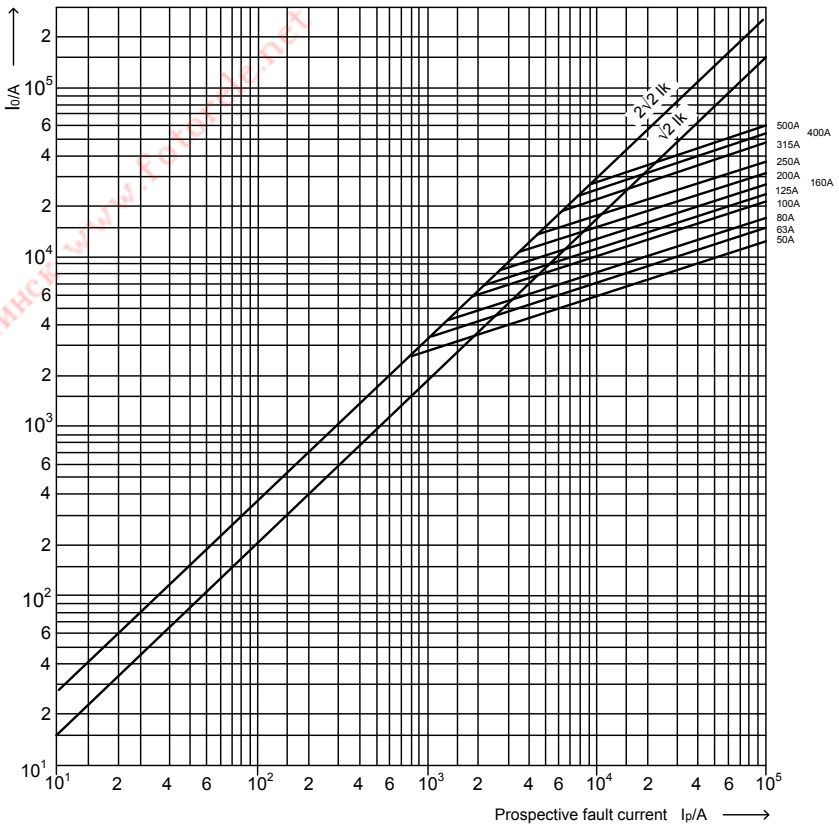


Size	Dimensions [mm]								
	A	B	C	D	E	F	G	H	K
1	155	91	85	40	24	46	61	12	6
3	170	91	85	60	32	64	84	13	6

Time-current characteristics



Cut-off characteristics



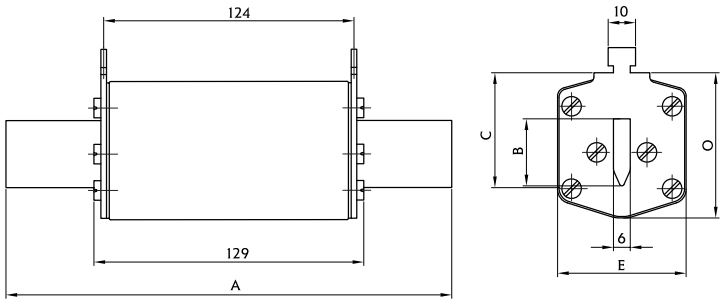
Fuse-link gG NV/NH 1200 V a.c.

General characteristics	
Rated voltage	1200V a.c.
Breaking capacity	50 kA a.c.
Standards	IEC 60269
Characteristic	gG

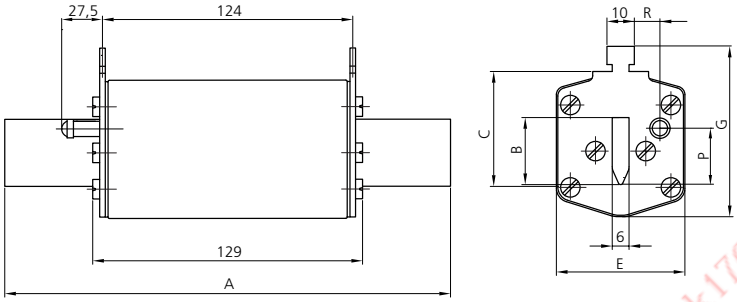
1200V a.c. gG

Size	I_n [A]	Standard indicator (pic.1)	Striker indicator - K (pic.2)	Power dissipation [W]	Weight [g]	Packaging [pcs]
1XL	6	004113721	004113796	3,2	750	1
	10	004113722	004113797	3,7		
	16	004113723	004113798	4,1		
	20	004113724	004113799	5,0		
	25	004113725	004113800	5,0		
	32	004113726	004113801	5,8		
	35	004113727	004113802	6,1		
	40	004113728	004113803	8,1		
	50	004113729	004113804	8,8		
	63	004113730	004113805	10,2		
	80	004113731	004113806	11,0		
	100	004113732	004113807	12,0		
	125	004113733	004113808	16,0		
	160	004113734	004113809	19,0		
	200	004113735	004113810	25,0		
2XL	32	004113736	004113811	5,8	1050	1
	35	004113737	004113812	6,1		
	40	004113738	004113813	8,1		
	50	004113739	004113814	8,8		
	63	004113740	004113815	10,2		
	80	004113741	004113816	11,0		
	100	004113742	004113817	12,0		
	125	004113743	004113818	16,0		
	160	004113744	004113819	19,0		
	200	004113745	004113820	25,0		
	250	004113746	004113821	30,0		
	315	004113747	004113822	35,0		
3L	80	004113748	004113823	11,0	1360	1
	100	004113749	004113824	12,0		
	125	004113750	004113825	16,0		
	160	004113751	004113826	19,0		
	200	004113752	004113827	25,0		
	250	004113791	004113828	30,0		
	315	004113792	004113829	35,0		
	355	004113790	-	37,0		
	400	004113793	004113830	40,0		
	500	004113794	004113831	50,0		
	630	004113795	004113832	70,0		

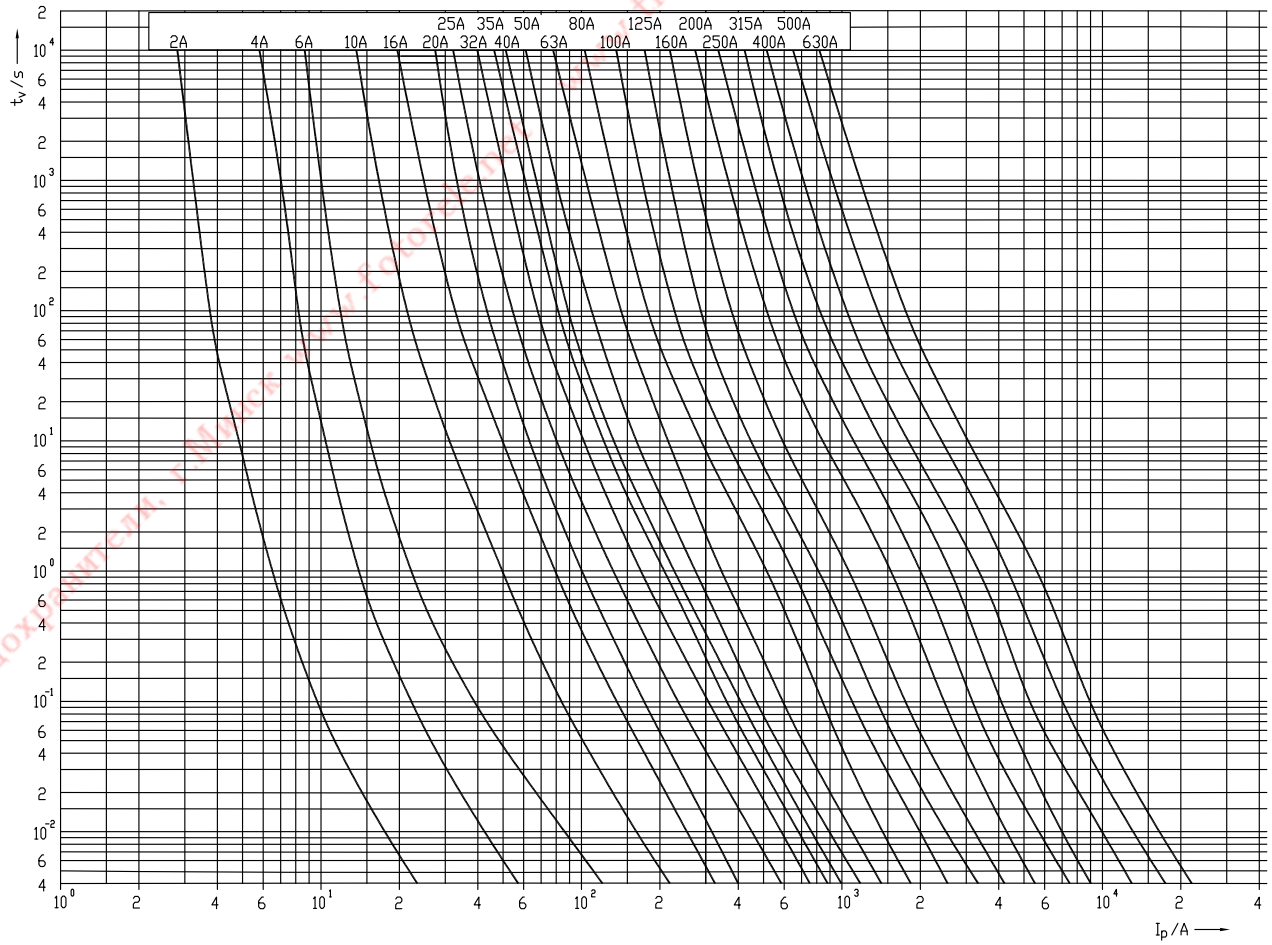
Picture 1



Picture 2



Size	Dimensions [mm]								
	A	B	C	E	G	P	R	M	O
1XL	194	24	40	46	61,5	20,5	13,7	50	52
2XL	209	30	48	54	71	27,3	16,2	59	61
3L	209	37	60	64	82	35,6	17,0	70	74



NV 1200V a.c. gG I/t characteristics

Safe work fuses

Fuse links SWF

ETI offer fuse links type SWF for protection against arc.
Characteristics of SWF fuse links:
- current limiting
- short operating time
- available in size 000,1,2,3 acc. standard DIN 43620
- marking like "SWF fuse link"
- standard with top indicator

By replacing NH fuse link with a characteristic gG acc. to VDE 0636-21 with faster fuse link type SWF acc. to VDE 0636-23, we can safeguard persons against electrical arc.

Because of higher power dissipation, we can use SWF fuse link only between maintaince under voltage. After that , we must replace it with a gG fuse link.

Damaged SWF fuse links must necessarily be replaced with new SWF fuse links.

Arc energy

$E_T \infty I_{RMS}^2 \times t$

E_T (protection with SWF fuse link)		E_T (protection with gG fuse link)
1	∞	30

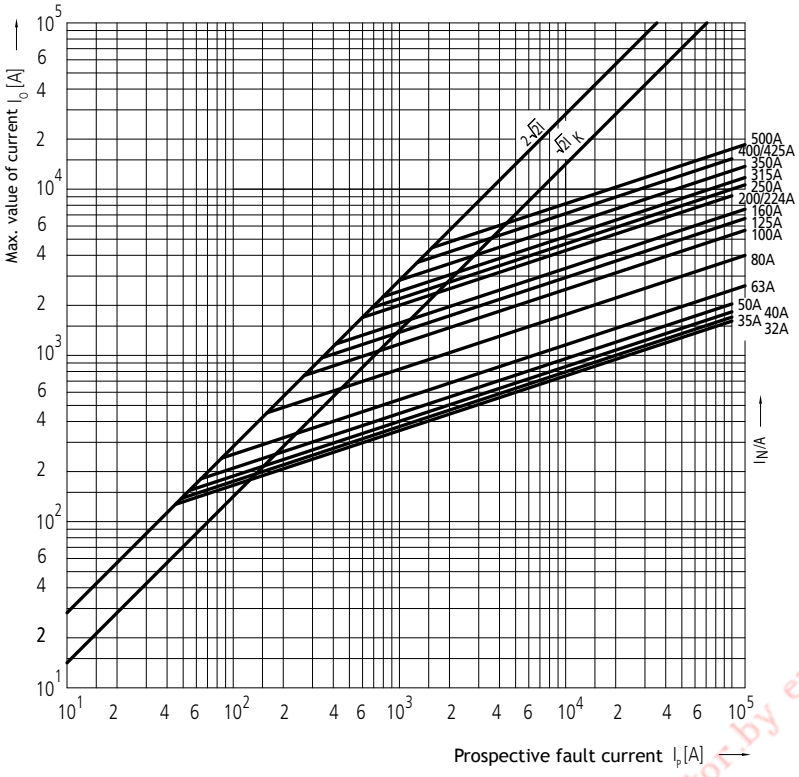
Selection nominal current of SWF fuse link:
I_n (SWF) = I_n (gG)

SWF fuse links

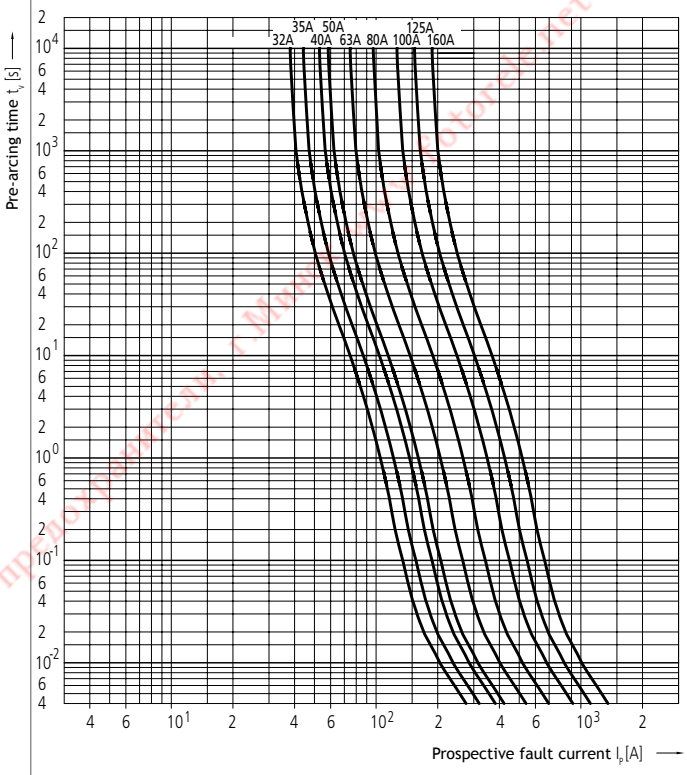
Size	I [A]	Type	Code Nr.	Packaging [pcs]	Weight [g]
00 C	32	M00C/SWF/32A/500V	004711220	3	130
	35	M00C/SWF/35A/500V	004711221		
	40	M00C/SWF/40A/500V	004711222		
	50	M00C/SWF/50A/500V	004711223		
	63	M00C/SWF/63A/500V	004711224		
	80	M00C/SWF/80A/500V	004711225		
	100	M00C/SWF/100A/500V	004711226		
	125	M00C/SWF/125A/500V	004711227		
	160	M00C/SWF/160A/500V	004711228		
1	63	M1/SWF/63A/500V	004713220	3	420
	80	M1/SWF/80A/500V	004713221		
	100	M1/SWF/100A/500V	004713222		
	125	M1/SWF/125A/500V	004713223		
	160	M1/SWF/160A/500V	004713224		
	200	M1/SWF/200A/500V	004713225		
	224	M1/SWF/224A/500V	004713226		
	250	M1/SWF/250A/500V	004713227		
2	125	M2/SWF/125A/500V	004714225	3	660
	160	M2/SWF/160A/500V	004714226		
	200	M2/SWF/200A/500V	004714227		
	224	M2/SWF/224A/500V	004714228		
	250	M2/SWF/250A/500V	004714229		
	315	M2/SWF/315A/500V	004714230		
	350	M2/SWF/350A/500V	004714231		
	400	M2/SWF/400A/500V	004714232		
3	250	M3/SWF/250A/500V	004715230	3	870
	315	M3/SWF/315A/500V	004715231		
	350	M3/SWF/350A/500V	004715232		
	400	M3/SWF/400A/500V	004715233		
	425	M3/SWF/425A/500V	004715234		
	500	M3/SWF/500A/500V	004715235		

Dimensions according to IEC 60269-2, see also ETI general catalogue

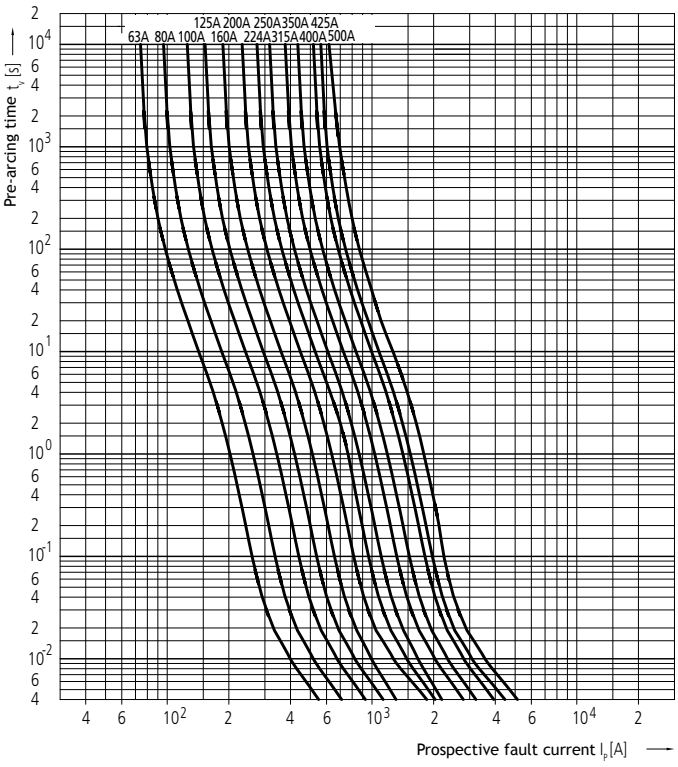
Cut-off characteristics SWF fuse links-size 00C,1,2,3



Time/current characteristics of fuse link type SWF-size 00C



Time/current characteristics of fuse link type SWF-size 1,2,3



Fuses for protection of forklift batteries TRB

General characteristics	
Rated voltage	80V d.c.
Standards	DIN 43560/1
Application	TRB fuse-links are used to protect the forklift battery

TRB				
I_n [A]	Type	Code Nr.	Weight [g]	Packaging [pcs]
35	TRB 35A/80V	004341020	10	20
50	TRB 50A/80V	004341021		
63	TRB 63A/80V	004341022		
80	TRB 80A/80V	004341023		
100	TRB 100A/80V	004341024		
125	TRB 125A/80V	004341025		
160	TRB 160A/80V	004341026		
200	TRB 200A/80V	004341027		
250	TRB 250A/80V	004341028		
300	TRB 300A/80V	004341029		
355	TRB 355A/80V	004341030		
425	TRB 425A/80V	004341031		

Fuses for TVSS products protection

SRF Series Surge Fuse

Through the past few years, the transient voltage surge suppresion (TVSS) industry has grown to one of the fastest-growing segments among power protection products. Newness from ETI is series of fuses named SRF (Surge Rated Fuses), intended for the protection of TVSS products. The SRF Series has been designed to survive 8/20 µs lighting surge pulses without operating, allowing the TVSS system to react to the surge. All surge fuses have 8/20 µs ratings, not a continuous current rating.
These fuses are intended to be installed in series with the TVSS devices and do not normally carry current, except for the periodic random surges caused by TVSS breakdown during normal operation. Under AC short circuit conditions these SRF surge suppression fuses have extremely high capability for current limitation.

Features / Benefits

- Rated voltage 600V a.c.,
- Breaking capacity 200 kA,
- Available in Surge Ratings from 10 kA to 40 kA (8/20 µs),
- Designed to meet UL1449 Second Edition requirements,
- Comply with the applicable requirements in UL 248-1 Low Voltage Fuses – Part 1, General Requirements.

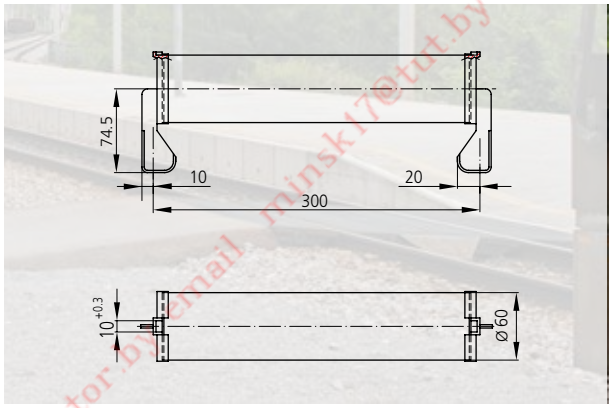
Approvals

Recognized under the components program of Underwriters Laboratories for Special Purpose Fuses, File number UL E310767.

Technical data

Type	Code No.	8x20 µsec Surge rating [A]	Size	Melting I^2t [A^2s]	Total I^2t [A^2s]	I_{PEAK} at 130 kA
SRF10	002636004	10.000	14x51	2.360	10.370	8.320
SRF20	002636005	20.000		5.490	17.700	10.430
SRF30	002636006	30.000		16.750	39.880	13.540
SRF40	002636007	40.000		33.680	72.800	17.480
SRF60	002646006	60.000	22x58	133.630	247.180	21.260

Fuses for high-voltage switchgear



Fuses for high-voltage switchgear DB, S_{368} Series

For the protection of hight-voltage switchgear ETI offers a complete range of high-voltage fuses. The series-connected fuses provide failsafe surge protection for the downstream equipment in every situation. This is true for short circuits and also for overcurents exceeding five times the value of the nominal current ($5xI_n$).

DB, S_{368} series fuses are main fuses designed for nominal currents of 7,5 A to 125 A.

DB, S_{368} series fuses are available for the following voltage ratings:
- 1 kV AC and 1 kV DC
- 1,5 kV AC and 1,5 kV DC
- 3 kV AC and 3 kV DC
- 5 kV DC

This range of fuses covers all existing train line voltages of the European railway sistems.

Features

- Compact design
- 4 different sizes
- Fuses designed for 5 kV DC
- Standards: UIC 550, EN 50163 and IEC 60077-5.

Applications

- Main fuses for power supplies od rail vehicles, e.g. electric equipment and heating system
- Distribution fuses for branch circuits

Size	U_n [V]	I_n [A]	Code No.	Packaging [pcs]	Weight [g]
DB 1	1000	7,5	004735555	4	270
		10	004735556		
		16	004735557		
		20	004735558		
		25	004735559		
		30	004735560		
		35	004735561		
		40	004735562		

Size	U_n [V]	I_n [A]	Code No.	Packaging [pcs]	Weight [g]
DB 2	1000	50	004735564	4	450

Size	U_n [V]	I_n [A]	Code No.	Packaging [pcs]	Weight [g]
DB 3	1000	60	004735566	2	690
	1500	7,5	004735567		
		20	004735568		

Size	U_n [V]	I_n [A]	Code No.	Packaging [pcs]	Weight [g]
DB 4	1000	70	004735571	2	1000

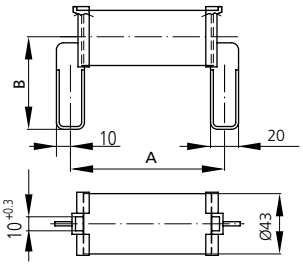
Size	U_n [V]	I_n [A]	Code No.	Packaging [pcs]	Weight [g]
DB 5	1500	40	004735573	2	994
		60	004735575		
	3000	10	004735576		
		15	004735577		
		20	004735578		
		30	004735580		
		50	004735581		

Size	U_n [V]	I_n [A]	Code No.	Packaging [pcs]	Weight [g]
DB 6	1000	100	004735583	2	2050
		125	004735584		
	3000	10	004735585		
		20	004735586		
		30	004735587		
		40	004735588		
		50	004735589		
		60	004735590		
		70	004735591		

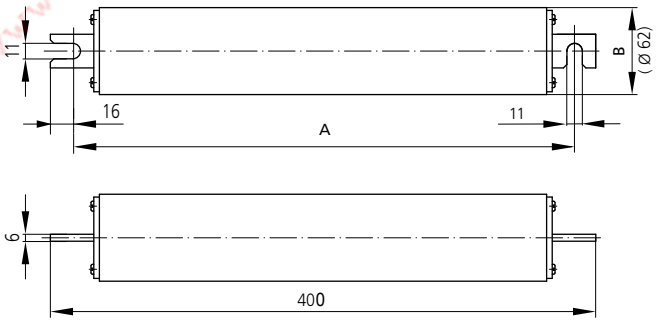
Size	U_n [V]	I_n [A]	Code No.	Packaging [pcs]	Weight [g]
DB 7	3000	100	004735593	1	2250

Size	U_n [V]	I_n [A]	Code No.	Packaging [pcs]	Weight [g]
S_{368}	5000	20	004735594	1	3000
		30	004735595		
		40	004735596		
		50	004735597		
		60	004735598		
		70	004735599		
		100	004735600		

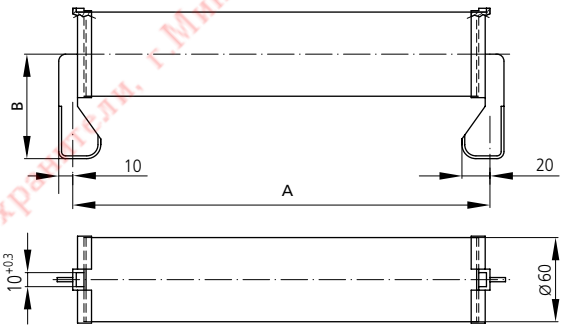
Size 1, 2, 3 and 5: Main fuses DB 1/2/3/5



Size 8: Main fuses S_{368}

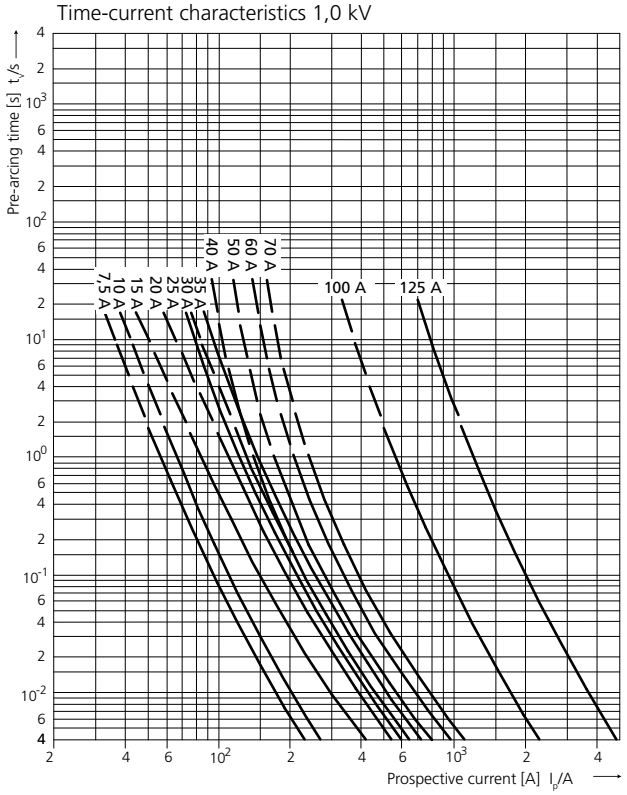


Size 4, 6 and 7: Main fuses DB 4/6/7

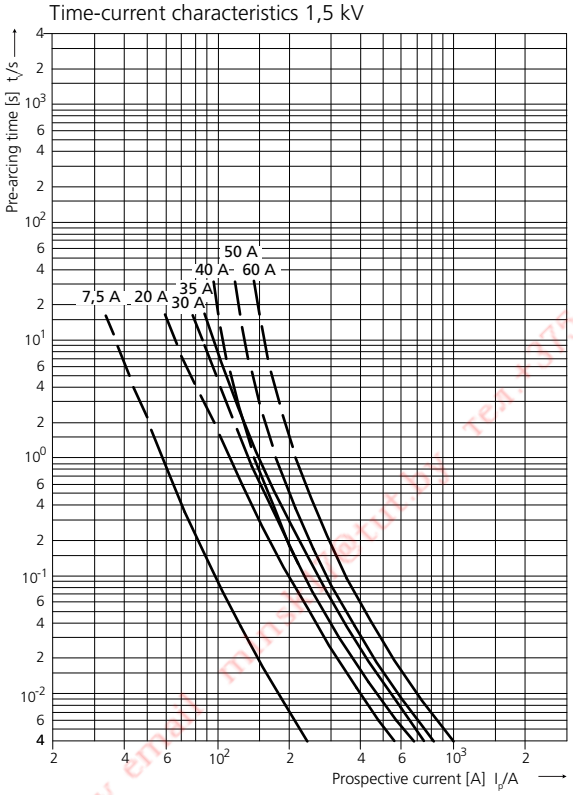


size	dimensions [mm]	
	A	B
DB 1	110	61,0
DB 2	110	61,0
DB 3	170	66,0
DB 4	170	74,5
DB 5	260	66,0
DB 6	300	74,5
DB 7	350	74,5
S_{368}	368	62,0

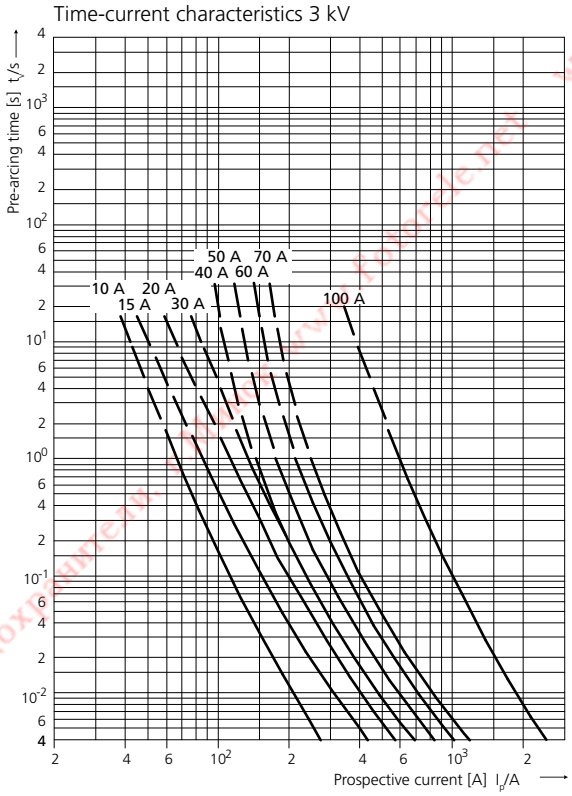
DB series 1.0 kV



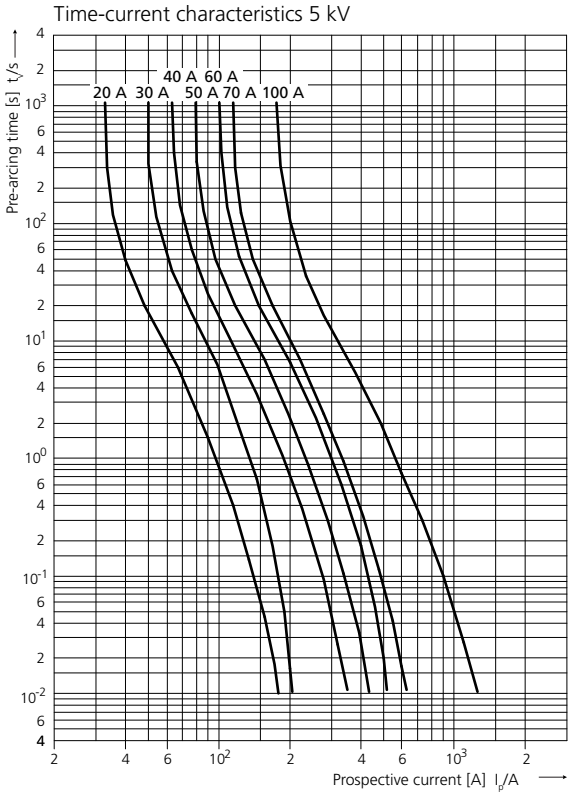
DB series 1.5 kV



DB series 3.0 kV



S_{368} series 5 kV



Notes

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October 2012

вставки плавкие предохранители импорт стекло керамика продажа вп fuse d01 d02 d1 d2 d3 nv nh bussmann/hawker brush/dorman ferraz shawmut eti m schneider siemens siba weber bals lawson broadway lindner moeller ifo aei/aed littelfuse

gec-ee/ge, mem, fluvent , reyrolle, ind accs emp old/gec schneider elco sieger jung j.muller беларусь

продажа, вставки, плавкие, предохранитель импорт,предохранитель стекло, керамика, вп, d01, предохранитель d02,предохранитель d1, предохранитель d2,предохранитель d3,предохранитель nv,

предохранитель nh,fuse, bussmann, hawker, brush, dorman, ferraz shawmut, eti, m schneider, siemens, siba, weber bals , lawson, broadway, lindner, moeller, ifo, aei, aed,

gec-ee/ge, mem,fluvent, reyrolle/ind, accs ,emp, old/gec ,schneider, elco ,sieger jung, muller, littelfuse

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