

Fuse Systems



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NEW

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

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Fuse Systems

Introduction

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 American standard and have UL and CSA approval, for customers exporting OEM products and mechanical engineers. 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	DIN EN 60439-1 (VDE 0660-500) UL 4248-1, E337131	✓ ✓ ✓

Fuse Systems**Introduction**

Devices	Page	Application	Standards	Used in
				Non-residential buildings Residential buildings Industry
3NA, 3ND LV HRC fuse systems				
	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	✓ ✓ ✓
	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.	--	✓ ✓ ✓
	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				
	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	-- -- ✓
	5/62	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	-- -- ✓
	5/65	NEOZED fuse links for 400 V AC and 250 V DC and DIAZED for 500 V AC and 500 V DC.	--	-- -- ✓
Photovoltaic fuses				
	5/68	Fuses with a rated voltage of 1000 V DC and gPV operational class for the protection of photovoltaic modules, their connecting cables and other components.	IEC 60269-6	✓ ✓ ✓
	5/70	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.	IEC 60269-6	✓ ✓ ✓

Fuse Systems

NEOZED Fuse Systems

Introduction

Overview

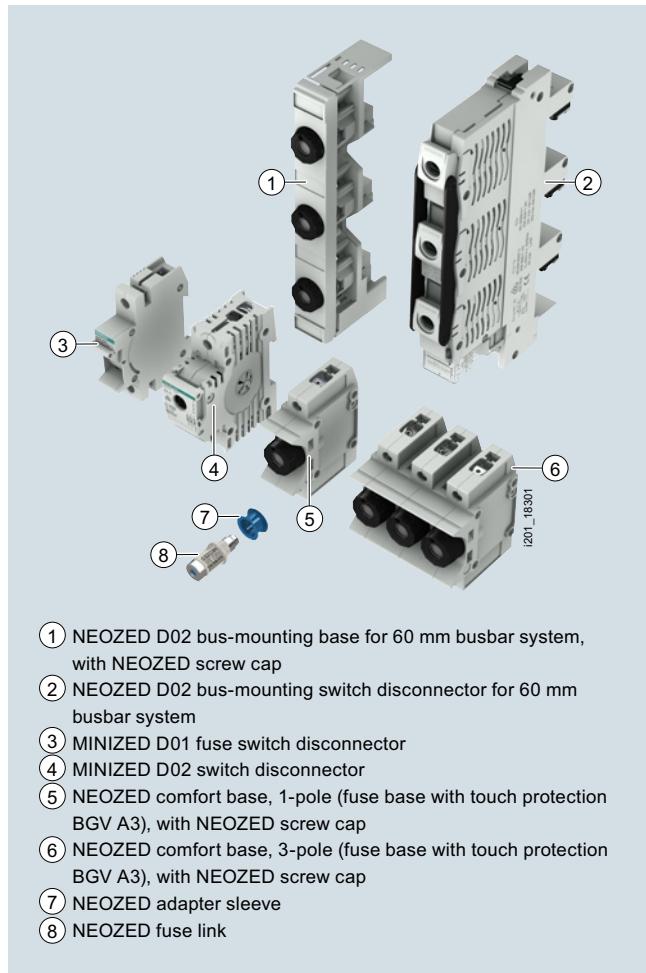
The NEOZED fuse system is primarily used in distribution technology and industrial switchboard assemblies. The system is easy to use and is also approved for domestic installation.

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



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 5SG71	D01 5SG76	D01 5SG15 5SG55	D02 5SG16 5SG56	D03 5SG18	D01/02 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	
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	--	--				
• -22 DC B	A	63	--	--				
Sealable when switched on	Yes	Yes, with sealable screw caps						
Mounting position	Any, but 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	--	--	B	K, S	K/S	--	--	
Conductor cross-sections								
• Solid and stranded	mm ²	1.5 ... 35	1.5 ... 16	1.5 ... 4	1.5 ... 25	10 ... 50	0.75 ... 35	
• Flexible, with end sleeve	mm ²	1.5 ... 35	1.5	1.5	1.5	10	--	
• Finely stranded, with end sleeve	mm ²	--	--	0.75 ... 25	--	--	--	
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 the applicable regulations with a straight test finger (from the front); the device must be mounted and equipped with a cover or other enclosure.

Fuse Systems

NEOZED Fuse Systems

Introduction

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	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
A									
NEOZED fuse links, rated voltage 400 V AC/250 V DC, operational class gG									
D01	2	Pink	►	5SE2302	1	10 units	017	0.006	
	4	Brown	►	5SE2304	1	10 units	017	0.008	
	6	Green	►	5SE2306	1	10/500 units	017	0.008	
	10	Red	►	5SE2310	1	10/500 units	017	0.006	
	13	Black	►	5SE2013-2A	1	10 units	017	0.007	
	16	Gray	►	5SE2316	1	10/500 units	017	0.005	
D02	20	Blue	►	5SE2320	1	10 units	017	0.013	
	25	Yellow	►	5SE2325	1	10 units	017	0.012	
	32	Violet	►	5SE2332	1	10 units	017	0.013	
	35	Black	►	5SE2335	1	10 units	017	0.013	
	40	Black	►	5SE2340	1	10 units	017	0.013	
	50	White	►	5SE2350	1	10 units	017	0.014	
	63	Copper	►	5SE2363	1	10 units	017	0.015	
D03	80	Blue	►	5SE2280	1	10 units	017	0.036	
	100	Red	►	5SE2300	1	10 units	017	0.040	



Fuse Systems

NEOZED Fuse Systems

MINIZED switch disconnectors and MINIZED fuse switch disconnectors

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. 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 unit	017	0.136	
	1P+N	63	3		5SG7153	1	1 unit	017	0.255	
	2P	63	3		5SG7123	1	1 unit	017	0.269	
	3P	63	4.5	►	5SG7133	1	1 unit	017	0.406	
	3P+N	63	6		5SG7163	1	1 unit	017	0.524	
Versions for Austria only, with permanently fitted adapter sleeves, incl. fuse link										
D02	3P	25	4.5		5SG7133-8BA25	1	1 unit	017	0.438	
		35			5SG7133-8BA35	1	1 unit	017	0.444	
		50			5SG7133-8BA50	1	1 unit	017	0.449	
Reducers										
	For fuse links D01 in MINIZED switch disconnectors D02				5SH5527	1	10/100 units	031	0.011	
Auxiliary switches (AS)										
	For MINIZED D02 switch disconnectors									
	1 NO + 1 NC		0.5	►	5ST3010	1	1 unit	020	0.055	
	2 NO				5ST3011	1	1 unit	020	0.066	
	2 NC				5ST3012	1	1 unit	020	0.067	
For 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	020	0.071	
	2 NO				5ST3011-2	1	1 unit	020	0.049	
	2 NC				5ST3012-2	1	1 unit	020	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⁾		5SG7611-0KK06	1	12 units	017	0.079	
		3P	6 ¹⁾		5SG7631-0KK06	1	4 units	017	0.230	
		1P	10		5SG7611-0KK10	1	12 units	017	0.077	
		3P	10		5SG7631-0KK10	1	4 units	017	0.237	
		1P	16		5SG7611-0KK16	1	12 units	017	0.077	
		1P+N	16		5SG7651-0KK16	1	6 units	017	0.153	
		2P	16		5SG7621-0KK16	1	6 units	017	0.153	
		3P	16		5SG7631-0KK16	1	4 units	017	0.226	
		3P+N	16		5SG7661-0KK16	1	3 units	017	0.317	

1) For 2 A, 4 A, 6 A fuses.

For busbars, see page 5/30 ff.

Fuse Systems

NEOZED Fuse Systems

NEOZED fuse bases and accessories

Selection and ordering data

Size	Number of poles	I_n	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 5SG1701	1	3 units	017	0.132	
	D02		63	--				1	3 units	017	0.116	
	D01	3P	16	--	4.5	►	5SG5301 5SG5701	1	1 unit	017	0.406	
	D02		63	--				1	1 unit	017	0.389	
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 units	017	0.074	
	D02		63	(A1)	1.5		5SG1730	1	6 units	017	0.088	
	D01	1P	16	A1	1.5		5SG1331	1	6 units	017	0.068	
	D02		63	A1	1.5		5SG1731	1	6 units	017	0.083	
	D01	3P	16		4.5		5SG5330	1	2 units	017	0.223	
	D02		63		4.5		5SG5730	1	2 units	017	0.268	
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 units	017	0.072
	D02		63	(A10)	SS	1.5	►	5SG1653	1	6 units	017	0.092
	D02		63	(A10)	KS	1.5	►	5SG1693	1	6 units	017	0.085
	D01	1P	16	A4, A8	BB	1.5		5SG1595	1	6 units	017	0.067
	D02		63	A10, A8	SS	1.5		5SG1655	1	6 units	017	0.085
	D02		63	A10, A8	KS	1.5		5SG1695	1	6 units	017	0.077
	D03		100	A6, A9	KS	2.5		5SG1812	1	10 units	017	0.204
	D01	3P	16		BB	4.5	►	5SG5553	1	2 units	017	0.216
	D02		63		SS	4.5	►	5SG5653	1	2 units	017	0.287
	D02		63		KS	4.5		5SG5693	1	2 units	017	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.

Fuse Systems

NEOZED Fuse Systems

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. kg
	A		MW							
NEOZED covers										
Made of molded plastic, plug-in, for fuse bases made of molded plastic										
	D01, D02	A1	1.5		5SH5244		1	15 units	017	0.007
	For fuse bases made of ceramic									
	D01	A4	1.5		5SH5251		1	15 units	017	0.009
	D02	A10	1.5		5SH5253		1	15 units	017	0.008
	Screw-on									
	D03	A6	2.5		5SH5233		1	20 units	017	0.021
NEOZED caps										
Made of molded plastic, plug-in										
	D01, D02	A8			5SH5235		1	5 units	017	0.026
	Screw-on				5SH5234		1	10 units	017	0.065

Fuse Systems

NEOZED Fuse Systems

NEOZED fuse bases and accessories

Size A	For fuse links	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 D02	A	►	5SH4116 5SH4163		1 1	10/1000 units 10/200 units	017 017	0.009 0.009
	Ceramic	D01, sealable D02, sealable D03	MW	►	5SH4316 5SH4363 5SH4100		1 1 1	20 units 20 units 10 units	017 017 017	0.016 0.022 0.074
	Ceramic, with inspection hole	D01 D02	MW	►	5SH4317 5SH4362		1 1	20 units 20 units	017 017	0.017 0.017
NEOZED adapter sleeves										
	D01	2 4 6 10/13	Pink Brown Green Red	►	5SH5002 5SH5004 5SH5006 5SH5010		1 1 1 1	50 units 50 units 50 units 50 units	017 017 017 017	0.001 0.002 0.001 0.001
	D02	20 25 32 NEW 35/40 50	Blue Yellow Violet Black White	►	5SH5020 5SH5025 5SH5032 5SH5035 5SH5050		1 1 1 1 1	50 units 50 units 50 units 50 units 50 units	017 017 017 017 017	0.004 0.002 0.003 0.003 0.002
	D03	80	Silver		5SH5080		1	25 units	017	0.002
	For fuse links D01 in base D02 and MINIZED D02 switch disconnectors									
	D02	2 4 6 10/13 16	Pink Brown Green Red Gray		5SH5402 5SH5404 5SH5406 5SH5410 5SH5416		1 1 1 1 1	10 units 10 units 10 units 10 units 10 units	017 017 017 017 017	0.002 0.002 0.002 0.002 0.002
	NEOZED adapter sleeve filters				5SH5100		1	1/10 units	017	0.020
	NEOZED retaining springs				5SH5400		1	25 units	017	0.002

Fuse Systems

DIAZED fuse systems

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.

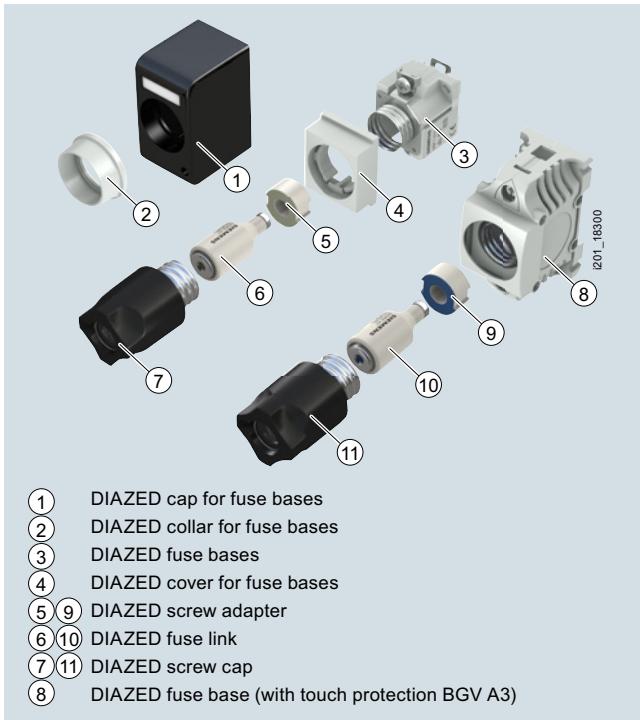
All DIAZED bases must be fed from the bottom to ensure an insulated threaded ring when the fuse link is being removed. Reliable contact of the fuse links is only ensured when used together with DIAZED screw adapters.

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 **D**iametral **A**gestuftes **Z**weiteiliges **S**icherungssystem mit **E**disongewinde (diametral two-step fuse system with Edison screw).

Benefits



Technical specifications

		5SA, 5SB, 5SC, 5SD, 5SF	
Standards		IEC 60269-3; DIN VDE 0635; DIN VDE 0636-3; CEE 16	
Operational class		gG	
Characteristic		Slow and quick	
Rated voltage U_n		V AC	500, 690, 750
		V DC	500, 600, 750
Rated current I_n		A	2 ... 100
Rated breaking capacity		kA AC	50, 40 at E16
		kA DC	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, but 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 the applicable regulations with a straight test finger (from the front); the device must be mounted and equipped with a cover or other enclosure.

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

DIAZED fuse systems

Selection and ordering data

	Size V AC/V DC	U_h	I_h A	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. kg
DIAZED fuse links												
Operational class gG												
	DII	500/500	2 4 6 10 16 20 25	Pink Brown Green Red Gray Blue Yellow	E27	►	5SB211 5SB221 5SB231 5SB251 5SB261 5SB271 5SB281		1 1 1 1 1 1 1	25 units 25 units 25 units 25 units 25 units 25 units 25 units	017 017 017 017 017 017 017	0.026 0.027 0.026 0.027 0.028 0.030 0.031
	DIII	500/500	32 35 50 63	Violet Black White Copper	E33		5SB4010 5SB411 5SB421 5SB431		1 1 1 1	25 units 25 units 25 units 25 units	017 017 017 017	0.049 0.049 0.051 0.054
	DIV	500/400	80 100	Silver Red	R1½"		5SC211 5SC221		1 1	3 units 3 units	017 017	0.130 0.117
Characteristic: Slow												
	TNDz	500/500	2 4 6 10 16 20 25	Pink Brown Green Red Gray Blue Yellow	E16		5SA211 5SA221 5SA231 5SA251 5SA261 5SA271 5SA281		1 1 1 1 1 1 1	10 units 10 units 10 units 10 units 10 units 10 units 10 units	017 017 017 017 017 017 017	0.009 0.011 0.011 0.010 0.013 0.014 0.012
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 4 6 10 16 20 25 35 50 63	Pink Brown Green Red Gray Blue yellow Black White Copper	E33		5SD8002 5SD8004 5SD8006 5SD8010 5SD8016 5SD8020 5SD8025 5SD8035 5SD8050 5SD8063		1 1 1 1 1 1 1 1 1 1	5 units 5 units 5 units 5 units 5 units 5 units 5 units 5 units 5 units 5 units	017 017 017 017 017 017 017 017 017 017	0.068 0.070 0.071 0.073 0.069 0.069 0.067 0.073 0.074 0.081

Fuse Systems

DIAZED fuse systems

Size	U_n	I_n	Identifi- cation 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 screw adapter DII												
	DIII	750/750	2 Pink 4 Brown 6 Green 10 Red 16 Gray 20 Blue 25 Yellow 35 Black 50 White 63 Copper	E33			5SD601 5SD602 5SD603 5SD604 5SD605 5SD606 5SD607 5SD608 5SD610 5SD611	1	5 units	017	0.068	
								1	5 units	017	0.074	
								1	5 units	017	0.067	
								1	5 units	017	0.069	
								1	5 units	017	0.069	
								1	5 units	017	0.074	
								1	5 units	017	0.078	
								1	5 units	017	0.075	
								1	5 units	017	0.080	
								1	5 units	017	0.083	
DIAZED fuse bases made of ceramic												
	NDz	500/500	25	E16	KK ²⁾		5SF1012	1	5 units	017	0.065	
	DII		25	E27	BB ²⁾	▶	5SF1005	1	5 units	017	0.097	
	DIII ¹⁾		63	E33	BS ²⁾	▶	5SF1205	1	1 unit	017	0.138	
	DIII ¹⁾		63	E33	SS ²⁾	▶	5SF1215	1	5 units	017	0.144	
	1P, for screw fixing											
	NDz	500/500	25	E16	KK ²⁾		5SF101	1	5 units	017	0.061	
	DII		25	E27	BB ²⁾	▶	5SF1024	1	5 units	017	0.098	
	DIII ¹⁾		63	E33	BS ²⁾	▶	5SF1224	1	5 units	017	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	3/108 units	017	0.154	
	DIII ¹⁾		63	E33	RR	▶	5SF1260	1	3/132 units	017	0.193	
	3P, for standard mounting rail or screw fixing											
	DII	500/500	25	E27	RR	▶	5SF5068	1	1/36 units	017	0.454	
	DIII ¹⁾		63	E33	RR	▶	5SF5268	1	1/44 units	017	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	017	0.081	
	DIII	500/500	63	E33	B ²⁾		5SF6205	1	5 units	017	0.127	

¹⁾ Also for 690 V AC/600 V DC. Overvoltage category, see page 5/12.

²⁾ For terminal versions, see page 5/17.

DIAZED fuse systems

	Size V AC/V DC	U_n	I_n A	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. kg
DIAZED components 750 V												
	DIII	750/750	63	E33S		KK ¹⁾	5SF4230	1	1 unit	017	0.515	
	DIII	750/750	63	E33S			5SH1161	1	5 units	017	0.119	
DIAZED screw caps												
	NDz	500/500	25	E16			5SH1112	1	20 units	017	0.012	
	DII		25	E27			5SH1221	1	5/200 units	017	0.021	
	DIII		63	E33			5SH1231	1	5/5000 units	017	0.037	
	Ceramic	DII	500/500	25	E27		5SH112	1	50/30000 units	017	0.035	
	DIII		63	E33			5SH113	1	30 units	017	0.060	
	Ceramic, with inspection hole, sealable	DII	500/500	25	E27		5SH122	1	50/5000 units	017	0.040	
	DIII		63	E33			5SH123	1	30/5000 units	017	0.066	
	Ceramic, extended version	DIII	690/600	63	E33		5SH1170	1	5 units	017	0.095	

¹⁾ For terminal versions, see page 5/17.

Fuse Systems

DIAZED fuse systems

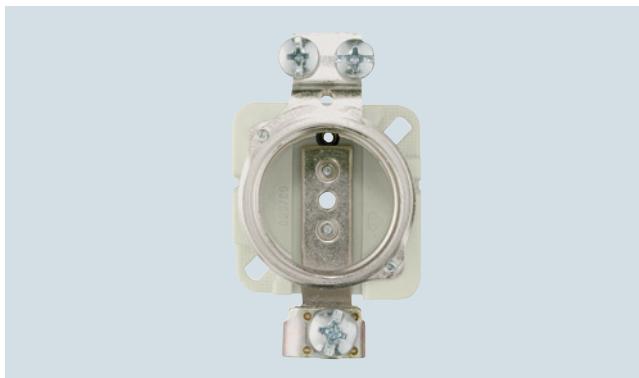
	Size	Thread	For fuse links	DT A	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
DIAZED screw adapters										
	NDz	E16	2 4 6 10 16		5SH328 5SH331 5SH305 5SH306 5SH307		1	20 units	017	0.003
	DII	E27	2 4 6 10 16 20 25	►	5SH310 5SH311 5SH312 5SH313 5SH314 5SH315 5SH316		1 1 1 1 1 1 1	25/1500 units 25/1500 units 25/1500 units 25/1500 units 25/1500 units 25/1500 units 25/1500 units	017 017 017 017 017 017 017	0.014 0.012 0.015 0.014 0.014 0.015 0.013
	DIII	NEW E33	32 35 50 63	►	5SH327 5SH317 5SH318 5SH320		1 1 1 1	25 units 25/850 units 25/850 units 25/850 units	017 017 017 017	0.024 0.024 0.022 0.020
DIAZED adapter sleeves for screw caps										
	For NDz/TNDz fuse links in base DII				5SH301		1	10 units	017	0.016
	For DII fuse links in DIII base				5SH302		1	10 units	017	0.012
DIAZED adapter sleeve fitters										
	DII/DIII				5SH3703		1	10 units	017	0.046
DIAZED caps made of molded plastic										
	NDz DII DIII	E16 E27 E33			5SH201 5SH202 5SH222		1 1 1	5 units 5 units 5 units	017 017 017	0.044 0.052 0.070

DIAZED fuse systems

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
DIAZEDcover rings								
Ceramic DII and DIII, also for EZR bus-mounting base								
DII	E27		5SH332		1	10 units	017	0.022
DIII	E33		5SH334		1	10 units	017	0.032
Made of molded plastic, also for EZR bus-mounting base								
DII	E27		5SH3401		1	5/60 units	017	0.013
DIII	E33		5SH3411		1	5/60 units	017	0.015



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

Fuse Systems

Cylindrical Fuse Systems

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 x mm	8 x 32	10 x 38	14 x 51	22 x 58	10 x 38	14 x 51
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
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, but preferably vertical					
	Cylindrical fuse holders						
	3NW73..	3NW70..	3NW71..	3NW72..			
Size	mm x mm	8 x 32	10 x 38	14 x 51	22 x 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 Acc. to UL/CSA	400 400	690 600				
Rated current I_n	A AC	20	32	50	100		
Rated breaking capacity	kA	20	100				
Breaking capacity		AC-20B (switching without load), DC-20B					
No-voltage changing of fuse links		Yes					
Sealable when installed		Yes					
Mounting position		Any, but 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 the applicable regulations with a straight test finger (from the front); the device must be mounted and equipped with a cover or other enclosure.

²⁾ Max. cross-section 10 mm² with K28 crimper from Klauke.

Fuse Systems

Cylindrical Fuse Systems

Cylindrical fuse links and cylindrical fuse holders

Selection and ordering data

	Size mm x mm	I_n A	U_n V AC	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
Cylindrical fuse links, operational class gG										
	8 x 32	2 4 6 10 16 20	400		3NW6302-1 3NW6304-1 3NW6301-1 3NW6303-1 3NW6305-1 3NW6307-1		1	10 units	017	0.004
	10 x 38	0.5 1 2 4 6 8 10 12 16 20 25 32	500		3NW6000-1 3NW6011-1 3NW6002-1 3NW6004-1 3NW6001-1 3NW6008-1 3NW6003-1 3NW6006-1 3NW6005-1 3NW6007-1 3NW6010-1 3NW6012-1		1 1 1 1 1 1 1 1 1 1 1 1	10 units 10 units 10 units 10 units 10 units 10 units 10 units 10 units 10 units 20 units 20 units 20 units	017 017 017 017 017 017 017 017 017 017 017 017	0.007 0.011 0.006 0.008 0.008 0.006 0.009 0.009 0.004 0.008 0.008 0.009
	14 x 51	4 6 8 10 12 16 20 25 32 40 50	500		3NW6104-1 3NW6101-1 3NW6108-1 3NW6103-1 3NW6106-1 3NW6105-1 3NW6107-1 3NW6110-1 3NW6112-1 3NW6117-1 3NW6120-1		1 1 1 1 1 1 1 1 1 1 1	10 units 10 units 10/100 units 10 units 10/100 units 10 units 10 units 10 units 10 units 10 units 10 units	017 017 017 017 017 017 017 017 017 017 017	0.018 0.012 0.018 0.021 0.017 0.021 0.021 0.021 0.022 0.022
	22 x 58	16 20 25 32 40 50 63 80 100	500		3NW6205-1 3NW6207-1 3NW6210-1 3NW6212-1 3NW6217-1 3NW6220-1 3NW6222-1 3NW6224-1 3NW6230-1		1 1 1 1 1 1 1 1 1	10 units 10 units 10 units 10 units 10 units 10 units 10 units 10 units 10 units	017 017 017 017 017 017 017 017 017	0.052 0.054 0.045 0.053 0.048 0.053 0.057 0.055 0.055
Cylindrical fuse links, operational class aM										
	10 x 38	0.5 1 2 4 6 8 10 12 16 20 25 32	500		3NW8000-1 3NW8011-1 3NW8002-1 3NW8004-1 3NW8001-1 3NW8008-1 3NW8003-1 3NW8006-1 3NW8005-1 3NW8007-1 3NW8010-1 3NW8012-1		1 1 1 1 1 1 1 1 1 1 1 1	10 units 10 units 10 units 10 units 10 units 10 units 10 units 10/100 units 20 units 20 units 20 units 20 units	017 017 017 017 017 017 017 017 017 017 017 017	0.006 0.008 0.007 0.008 0.010 0.011 0.008 0.007 0.011 0.006 0.006 0.008
	14 x 51	2 4 6 8 10 12 16 20 25 32 40 50	500		3NW8102-1 3NW8104-1 3NW8101-1 3NW8108-1 3NW8103-1 3NW8106-1 3NW8105-1 3NW8107-1 3NW8110-1 3NW8112-1 3NW8117-1 3NW8120-1		1 1 1 1 1 1 1 1 1 1 1 1	10/50 units 10 units 10/50 units 10/50 units 10 units 10/50 units 10 units 10 units 10 units 10 units 10 units 10 units	017 017 017 017 017 017 017 017 017 017 017 017	0.018 0.018 0.019 0.018 0.022 0.021 0.021 0.021 0.186 0.019 0.021 0.019

Fuse Systems

Cylindrical Fuse Systems

Cylindrical fuse links and cylindrical fuse holders

Size mm × mm	I_n A	U_n V AC	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	
22 × 58	16	500		3NW8205-1	1	10/50 units	017	0.045		
	20			3NW8207-1	1	10 units	017	0.053		
	25			3NW8210-1	1	10 units	017	0.055		
	32			3NW8212-1	1	10 units	017	0.054		
	40			3NW8217-1	1	10 units	017	0.049		
	50			3NW8220-1	1	10 units	017	0.054		
	63			3NW8222-1	1	10 units	017	0.046		
	80			3NW8224-1	1	10 units	017	0.056		
	100	400		3NW8230-1	1	10 units	017	0.050		
										
Number of poles	I_n A	For fuse links of size mm × mm	Mount- ing 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
Cylindrical fuse holders with signal detector										
1P										
	20	8 × 32	1		3NW7314	1	1 unit	017	0.067	
	32	10 × 38	1		3NW7014	1	1 unit	017	0.067	
	50	14 × 51	1.5		3NW7112	1	1 unit	017	0.101	
	100	22 × 58	2		3NW7212	1	1 unit	017	0.146	
1P+N										
	20	8 × 32	1		3NW7354	1	1 unit	017	0.092	
	32	10 × 38	1		3NW7054	1	1 unit	017	0.075	
	50	14 × 51	3		3NW7152	1	1 unit	017	0.215	
	100	22 × 58	4		3NW7252	1	1 unit	017	0.360	
2P										
	20	8 × 32	2		3NW7324	1	1 unit	017	0.141	
	32	10 × 38	2		3NW7024	1	1 unit	017	0.136	
	50	14 × 51	3		3NW7122	1	1 unit	017	0.234	
	100	22 × 58	4		3NW7222	1	1 unit	017	0.329	
3P										
	20	8 × 32	3		3NW7334	1	1 unit	017	0.208	
	32	10 × 38	3		3NW7034	1	1 unit	017	0.185	
	50	14 × 51	4.5		3NW7132	1	1 unit	017	0.327	
	100	22 × 58	6		3NW7232	1	1 unit	017	0.495	
3P+N										
	20	8 × 32	3		3NW7364	1	1 unit	017	0.218	
	32	10 × 38	3		3NW7064	1	1 unit	017	0.221	
	50	14 × 51	6		3NW7162	1	1 unit	017	0.439	
	100	22 × 58	8		3NW7262	1	1 unit	017	0.686	
Cylindrical fuse holders without signal detector										
1P										
	20	8 × 32	1		3NW7313	1	1 unit	017	0.053	
	32	10 × 38	1		3NW7013	1	1/12 units	017	0.055	
	50	14 × 51	1.5		3NW7111	1	1 unit	017	0.106	
	100	22 × 58	2		3NW7211	1	1 unit	017	0.154	
1P+N										
	20	8 × 32	1		3NW7353	1	1 unit	017	0.074	
	32	10 × 38	1		3NW7053	1	1 unit	017	0.079	
	50	14 × 51	3		3NW7151	1	1 unit	017	0.234	
	100	22 × 58	4		3NW7251	1	1 unit	017	0.365	
2P										
	20	8 × 32	2		3NW7323	1	1 unit	017	0.133	
	32	10 × 38	2		3NW7023	1	1/6 units	017	0.132	
	50	14 × 51	3		3NW7121	1	1 unit	017	0.214	
	100	22 × 58	4		3NW7221	1	1 unit	017	0.316	

Cylindrical fuse links and cylindrical fuse holders

Number of poles	I_{th} A	For fuse links of size mm × mm	Mount- ing 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
Cylindrical fuse holders without signal detector									
3P									
	20	8 × 32	3	3NW7333		1	1 unit	017	0.194
	32	10 × 38	3	3NW7033		1	1/4 units	017	0.185
	50	14 × 51	4.5	3NW7131		1	1 unit	017	0.306
	100	22 × 58	6	3NW7231		1	1 unit	017	0.503
3P+N									
	20	8 × 32	3	3NW7363		1	1 unit	017	0.210
	32	10 × 38	3	3NW7063		1	1 unit	017	0.196
	50	14 × 51	6	3NW7161		1	1 unit	017	0.434
	100	22 × 58	8	3NW7261		1	1 unit	017	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	017	0.051
	For fuse bases	22 × 58		3NW7902		1	1 unit	017	0.053
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 mm ² - 0.5 Nm									
	For fuse holders	10 × 38	0.5	3NW7903		1	1 unit	017	0.042

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.

Fuse Systems

Cylindrical Fuse Systems

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 60mm 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.

Fuse holders in size 10 x 38 mm and Class CC

Technical specifications

		Cylindrical fuse holders 3NW70..-1	Fuse holders 3NW75..-1HG
Size	mm x mm	10 x 38	Class CC
Standards		IEC 60269; UL4248-1; CSA	UL4248-1; CSA
Approvals		• Acc. to UL • Acc. to CSA	• UL, UL File Number E171267 • CSA
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		AC-20B (switching without load)	--
• Utilization category			
Rated impulse withstand voltage	kV	6	
Oversupply 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, but 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	mm ²	1 ... 4	
• AWG cables (American Wire Gauge)	AWG	18 ... 10	
Tightening torque	Nm	1.5	
• Terminal screws	lb.in	13	
		PZ2	

1) Degree of protection IP20 is tested according to the applicable regulations with a straight test finger (from the front); the device must be mounted and equipped with a cover or other enclosure.

Auxiliary switches

3NW7903-1

Standards	IEC 60947							
Approvals	• UL, CSA, UL 508, UL File Number E334003							
Utilization category	AC-12 DC-13 AC-15 Acc. to UL							
Rated voltage U_n	V AC	250	--	--	24	120	240	240
	V DC	--	24	120	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 mm²	°C	960	
Insulation coordination	Oversupply category III, degree of pollution 2		
Rated voltage U_n	V AC	--	600
• Acc. to UL	V AC	690	--
• Acc. to IEC			
Maximum busbar current I_n	A	--	65
• Acc. to UL	A	80	--
• Acc. to IEC			

Fuse Systems

Cylindrical Fuse Systems

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		④, 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}	V AC	
• Acc. to UL	--	600
• Acc. to IEC	690	--
Maximum electrical load I_{max}	A	
• Acc. to UL	--	65
• Acc. to IEC	80	--
Rated current I_n	A	63
Conductor cross-sections		
• solid/stranded	mm ²	2.5 ... 35
• Finely stranded, with end sleeve	mm ²	2.5 ... 25
Tightening torque of clamping screw	Nm	2.5 ... 3.5

Fuse Systems

Cylindrical Fuse Systems

Fuse holders in size 10 x 38 mm and Class CC

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
Without signal detector
With signal detector

2.5

3NW7033-1
3NW7034-1

1 1 unit 017 0.188
1 1 unit 017 0.212

Fuse holders class CC

3P 30 Class CC
Without signal detector
With signal detector

2.5

3NW7533-1HG
3NW7534-1HG

1 1 unit 018 0.175
1 1 unit 018 0.201

Accessories

Auxiliary switches

AC-12, 5 A, max. 250 V, 1 NO, 1 NC

2.5

3NW7903-1

1 1 unit 017 0.017

5

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



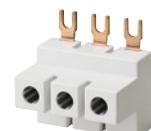
Busbars

2 x 3P 63 15 45
3 x 3P 90
4 x 3P 135
5 x 3P 180

5ST2601
5ST2602
5ST2603
5ST2604

1 10 units 020 0.450
1 10 units 020 0.061
1 10 units 020 0.084
1 10 units 020 0.107

Accessories



Terminals

For conductor cross-section
2.5 mm² ... 35 mm²

5ST2600

1 10 units 020 0.050

	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 adapters¹⁾ 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
260 45

► **8US1251-5DS10**
► **8US1251-5DT10**

1 1 unit 143 0.295
1 1 unit 143 0.332

Accessories



Mounting rails for busbar device adapter

For assembly of additional devices 45

8US1998-7CB45

1 10 units 143 0.014

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

Fuse Systems

Class CC fuse systems

Overview

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

The enclosed fuse holders are 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 $2 \times I_n$.

- 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		AC-20B (switching without load)
• Utilization category		
Max. power dissipation of fuse links		
• With cable, 6 mm ²	W	3
• With cable, 10 mm ²	W	4.3
Rated impulse withstand voltage	kV	6
Oversupply 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
Terminals with touch protection according to BGV A3 at incoming and outgoing feeder		Yes
Ambient temperature	°C	45
Conductor cross-sections		
• Solid and stranded	mm ²	1.5 ... 16
• AWG conductor cross-section, solid and stranded	AWG	15 ... 5
Tightening torque	Nm	2.5 (22 lb.in)

	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
	V DC	--	150 (3 ... 15 A) 300 (< 3 A, > 15 A)
Rated breaking capacity	kA AC	200	

Class CC fuse systems

Selection and ordering data

Number of poles	U_n V	I_n A	Mounting width MW	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/P. unit	PG	Weight per PU approx. kg
Class CC fuse holders									
1P	600	30	1	3NW7513-0HG	1	12 units	018	0.052	
2P	600	30	2	3NW7523-0HG	1	6 units	018	0.105	
3P	600	30	3	3NW7533-0HG	1	4 units	018	0.154	



5

I_n ¹⁾ A	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. kg	
Class CC fuse links												
0.6 (6/10)		3NW1006-0HG	018			--	--					
0.8 (8/10)		3NW1008-0HG	018			--	--					
1		3NW1010-0HG	018			3NW2010-0HG			1	10 units	018	0.006
1.5 (1 ½)		3NW1015-0HG	018			--	--					
2		3NW1020-0HG	018			3NW2020-0HG			1	10 units	018	0.005
2.5		3NW1025-0HG	018			--	--					
3		3NW1030-0HG	018			3NW2030-0HG			1	10 units	018	0.006
4		3NW1040-0HG	018			3NW2040-0HG			1	10 units	018	0.008
5		3NW1050-0HG	018			3NW2050-0HG			1	10 units	018	0.007
6		3NW1060-0HG	018			3NW2060-0HG			1	10 units	018	0.007
7.5		3NW1075-0HG	018			--	--					
8		3NW1080-0HG	018			3NW2080-0HG			1	10 units	018	0.011
10		3NW1100-0HG	018			3NW2100-0HG			1	10 units	018	0.008
12		--				3NW2120-0HG			1	10 units	018	0.004
15		3NW1150-0HG	018			3NW2150-0HG			1	10 units	018	0.008
20		3NW1200-0HG	018			3NW2200-0HG			1	10 units	018	0.010
25		3NW1250-0HG	018			3NW2250-0HG			1	10 units	018	0.012
30		3NW1300-0HG	018			3NW2300-0HG			1	10 units	018	0.009

1) Values in brackets, American English wording

I_n A	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. kg		
Class CC fuse links									
1		3NW3010-0HG				1	10 units	018	0.008
2		3NW3020-0HG				1	10 units	018	0.001
3		3NW3030-0HG				1	10 units	018	0.009
4		3NW3040-0HG				1	10 units	018	0.008
5		3NW3050-0HG				1	10 units	018	0.006
6		3NW3060-0HG				1	10 units	018	0.008
8		3NW3080-0HG				1	10 units	018	0.008
10		3NW3100-0HG				1	10 units	018	0.008
12		3NW3120-0HG				1	10 units	018	0.008
15		3NW3150-0HG				1	10 units	018	0.008
20		3NW3200-0HG				1	10 units	018	0.007
25		3NW3250-0HG				1	10 units	018	0.006
30		3NW3300-0HG				1	10 units	018	0.007



Fuse Systems

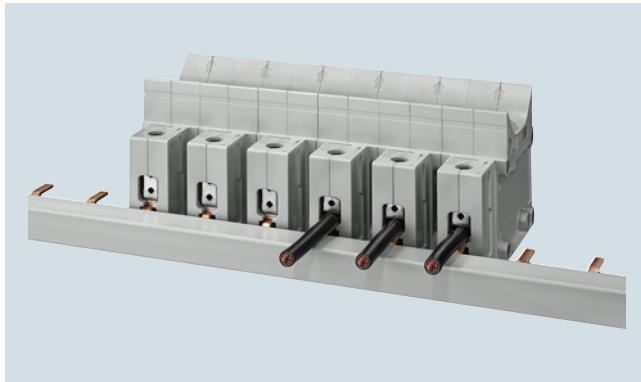
Busbar systems

Overview

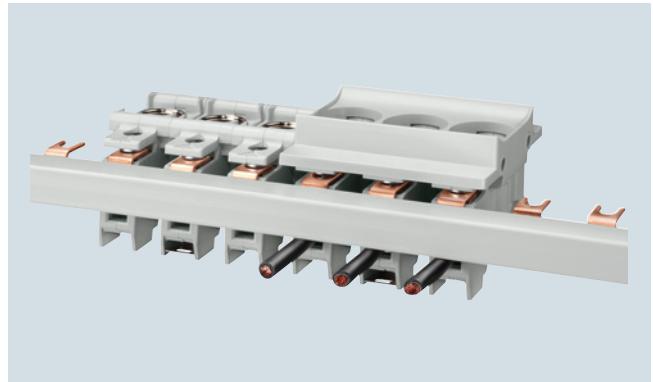
Busbars with pin-type connections can be used for NEOZED safety switching devices and fuse bases. Busbars in 10 mm² and 16 mm² versions are available.

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

Benefits



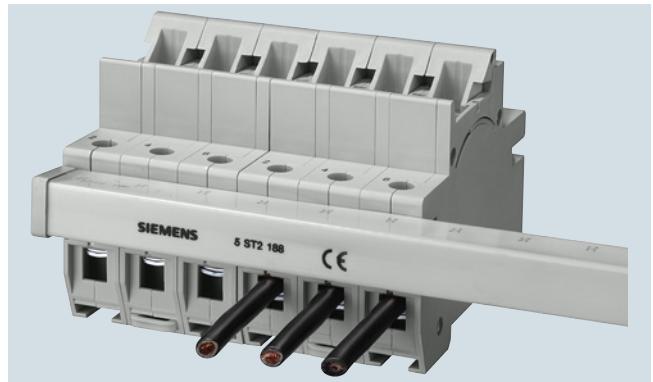
- Clear and visible conductor connection that can be easily checked when using the NEOZED D02 comfort base and which facilitates cable entry



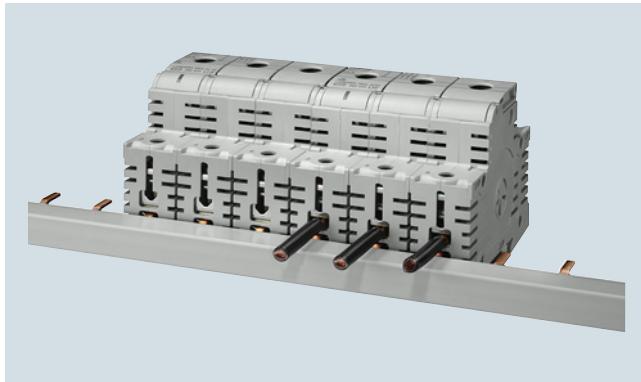
- Bus-mounting of NEOZED fuse bases made of molded plastic on 3-phase busbar with fork plug, which can be cut to length



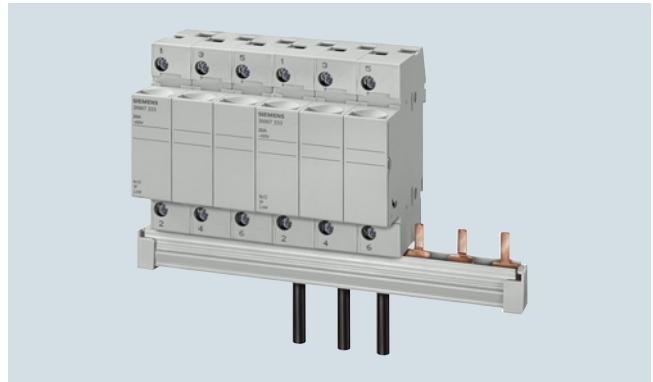
- Bus-mounting of NEOZED fuse bases made of ceramic on 3-phase busbar with fork plug, which can be cut to length



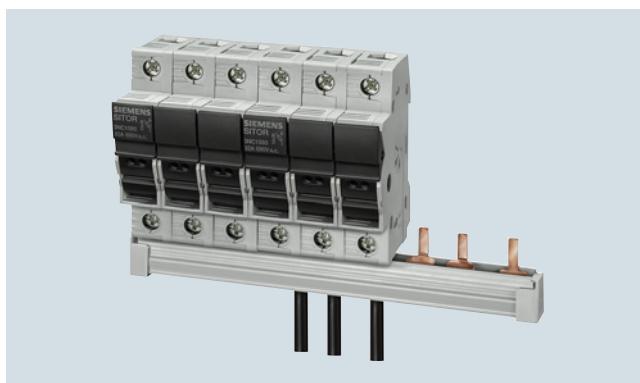
- Bus-mounting of MINIZED D01 fuse switch disconnectors on 3-phase busbar with fork plug, can be cut to length



- 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 x 32 mm and 10 x 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, Cyclooy 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

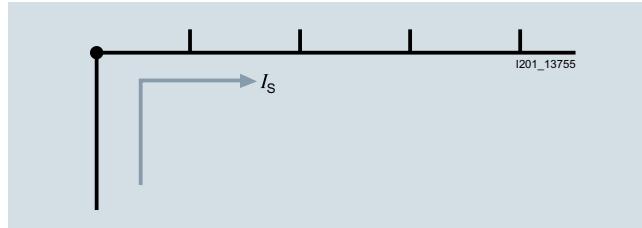
Fuse Systems

Busbar systems

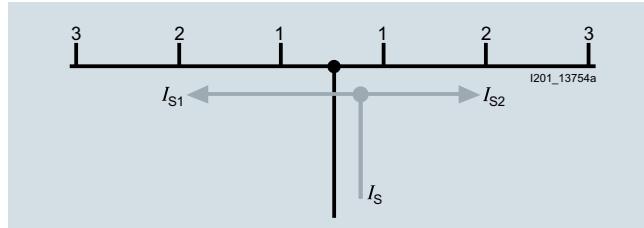
5ST37. . - HG busbars acc. to UL 508

	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 mm ²	--	--	10 ... 1/0 6 ... 35
Terminals				
• Terminal tightening torque	Nm lb.in	-- --	-- --	5 50 3.5 35

Infeed at the start of the busbar



Infeed along the busbar or midpoint infeed

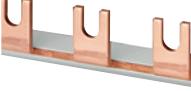
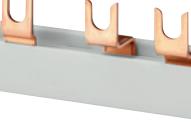
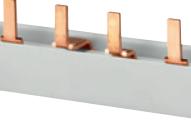


The sum of the output current per branch must not be greater than the busbar current $I_{S1,2}$ / phase.

Selection and ordering data

	Phases	Conductor cross-section mm ²	Load capacity up to A	Pin spacing MW	Length mm	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
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 x 51 mm												
For cylindrical fuse holder SITOR 14 x 51 mm												
Can be cut to length, without end caps												
Single-phase	16	130	1.5	1016	►	5ST3703			1	1 unit	020	0.185
Three-phase	16	120	1.5	1016	►	5ST3714			1	1 unit	020	0.540

* You can order this quantity or a multiple thereof.

	Phases	Conductor cross-section mm ²	Load capacity up to A	Pin spacing MW	Length mm	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
For MINIZED D01 fuse switch disconnectors												
	Single-phase	16	120	1	1000		5ST2190 5ST2191 5ST2192	1	1 unit	020	0.222	
	Two-phase							1	1 unit	020	0.448	
	Three-phase							1	1 unit	020	0.582	
	Can be cut to length, with 2 end caps											
	Single-phase	16	120	1	220		5ST2186 5ST2187 5ST2188	1	1 unit	020	0.048	
	Two-phase							1	1 unit	020	0.092	
	Three-phase							1	1 unit	020	0.112	
For NEOZED D01/D02 fuse bases												
	Non-insulated						5SH5322	1	1 unit	017	0.260	
	Single-phase	36	168	1.5								
	Can be cut to length, without end caps											
	Single-phase	24	160	1.5	1000	►	5SH5517	1	1 unit	017	0.342	
	Three-phase	16	120	1.5	1000	►	5SH5320	1	1 unit	017	0.562	
For cylindrical fuse holder 8 x 32 mm and 10 x 38 mm												
	For cylindrical fuse holder SITOR 10 x 38 mm											
	For class CC fuse holder¹⁾											
	Can be cut to length, without end caps											
	Single-phase	16	120	1	1016	►	5ST3701 5ST3705	1	1 unit	020	0.190	
	Two-phase		120	1				1	1 unit	020	0.452	
	Three-phase	16	120	1	1016	►	5ST3710	1	1 unit	020	0.610	
	Cannot be cut to length, fully insulated											
	Single-phase	16		1	214	►	5ST3700 5ST3704 5ST3708	1	1 unit	020	0.042	
	Two-phase			1				1	1 unit	020	0.097	
	Three-phase			1				1	1 unit	020	0.116	
End caps for busbars												
	For single-phase 5ST2190 busbars						5ST2196	1	10 units	020	0.001	
	For 2-phase 5ST2191 busbars and for 3-phase 5ST2192 busbars						5ST2197	1	10 units	020	0.001	
	For single-phase 5ST37, 5SH55 busbars					►	5ST3748	1	10 units	020	0.004	
	For two-phase and three-phase 5ST37 and 5SH5320 busbars					►	5ST3750	1	10 units	020	0.002	

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

Fuse Systems

Busbar systems

Phases	Conductor cross-section mm ²	Load capacity up to A	Length mm	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
Touch protection for free connection of pin busbars										
	Yellow, (RAL1004) 5 x 1 pin			▶	5ST3655		1	10 units	020	0.008
Terminals										
	For NEOZED fuse bases D01/D02 made of ceramic For DIAZED fuse bases DII/DIII made of ceramic Terminal version S For 2 ... 25 conductors				5SH5327		1	10/300 units	017	0.012
	Terminal versions B and K For 6 ... 25 conductors				5SH5328		1	10/300 units	017	0.015
	For the infeed of fork-type or pin busbars For 6 ... 35 conductors				5ST2157		1	5 units	020	0.027
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	017	0.120
	Size DIII, for 25 bases Single-phase	39	120	1000	5SH3501		1	1/25 units	017	0.200
Bus-mounting terminals For DIAZED EZR bus-mounting bases Non-insulated										
	For 1.5 ... 16 conductors				8JH4122		1	10 units	046	0.010
	For 10 ... 35 conductors				8JH4124		1	10 units	046	0.024

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

	Pin spacing MW	Length mm	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
5ST37... HG busbars acc. to UL 508, 18 mm², can be cut, without end caps									
	Single-phase	1	1000	5ST3701-0HG	1	1 unit	005	0.330	
	• For fuse holders 10 x 38 mm class CC (3NC1091, 3NW7513-0HG) or MCBs 1P (5SY)	1.5	1000	5ST3703-0HG	1	1 unit	005	0.330	
	Two-phase	1	1000	5ST3705-0HG	1	1 unit	005	0.700	
	• For fuse holders 10 x 38 mm/class CC (3NC1092, 3NW7523-0HG) or MCBs 2P (5SY)	1	1000	5ST3710-0HG	1	1 unit	005	0.820	
	Three-phase	1.5	1000	5ST3714-0HG	1	1 unit	005	0.780	
5ST37... HG busbars acc. to UL 508, 25 mm², can be cut, without end caps									
	Single-phase	1.5	1000	5ST3701-2HG	1	1 unit	005	0.340	
	• For fuse holders 14 x 51 mm (3NC1491, 3NW7111) or MCBs 1P (5SP)	1.5	1000	5ST3705-2HG	1	1 unit	005	0.770	
	Three-phase	1.5	1000	5ST3710-2HG	1	1 unit	005	1.090	
End caps for 5ST37... HG									
	• For single-phase busbars			5ST3748-0HG	1	10 units	005	0.001	
	• For two- and three-phase busbars			5ST3750-0HG	1	10 units	005	0.002	
Terminals according to UL 508									
	Infeed to device	• 35 mm ²		5ST3770-0HG	1	10 units	005	0.033	
	Infeed to busbar	• 50 mm ²		5ST3770-1HG	1	10 units	005	0.033	
Touch protection cover for busbars according to UL 508									
	• 5 x 1 pin			5ST3655-0HG	1	10 units	005	0.009	

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse links

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.

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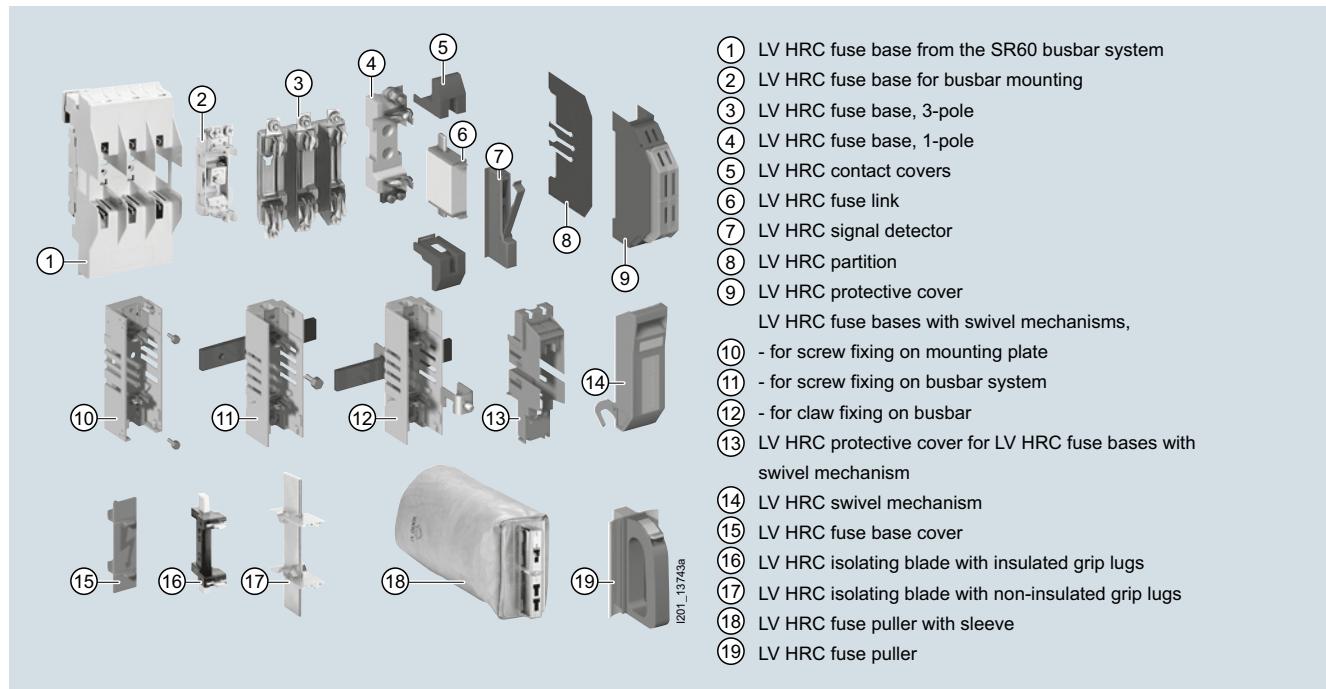
LV HRC fuse links are available in the following operational classes:

- 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:

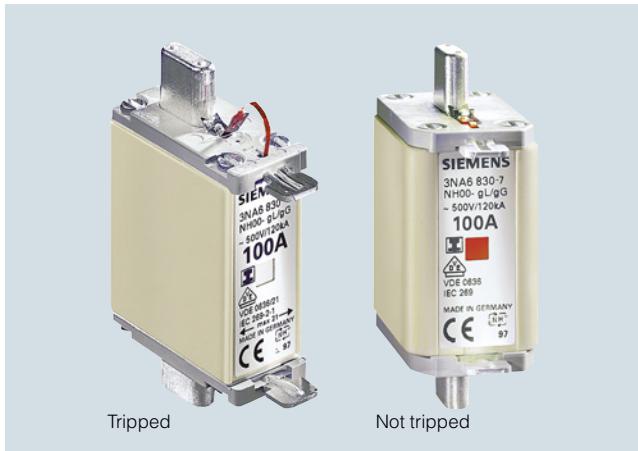


Fuse Systems

3NA, 3ND LV HRC Fuse Systems

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Benefits



- 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

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Technical specifications

	LV HRC fuse links						
	Operational class gG						Operational class aM
	3NA6...-4 3NA6...-4KK 3NA383-8	3NA6...-7 3NA6...-7 3NA7...-7 3NA7...-7	3NA3...-7 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	V AC V DC	400 --	500 250	500 250	690 ¹⁾ 250	690 ¹⁾ 250	500 --
• Sizes 000 and 00	V AC V DC	400 --	500 250	500 250	690 ¹⁾ 250	690 ¹⁾ 250	690 --
• Sizes 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	-- --	-- 440	500 440	-- --	690 ¹⁾ 440	690 --
• Sizes 4 and 4a (IEC design)	V AC V DC	-- --	-- 440	500 440	-- --	-- --	-- --
Rated current I_n	A	10 ... 400	2 ... 400	2 ... 1250	2 ... 315	2 ... 500	6 ... 630
Rated breaking capacity	kA AC kA DC	120 --					--
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.

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LV HRC fuse links**Selection and ordering data**

Size	Mounting width mm	I_n A	U_n V AC/V DC	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. kg
LV HRC fuse links with combination alarm, operational class gG										
	000	21	10 16 20 25 32 35 40 50 63 80 100	400/--	3NA6803-4 3NA6805-4 3NA6807-4 3NA6810-4 3NA6812-4 3NA6814-4 3NA6817-4 3NA6820-4 3NA6822-4 3NA6824-4 3NA6830-4		1	3 units	017	0.130
							1	3 units	017	0.140
							1	3 units	017	0.131
							1	3 units	017	0.119
							1	3 units	017	0.131
							1	3 units	017	0.114
							1	3 units	017	0.132
							1	3 units	017	0.119
							1	3 units	017	0.129
							1	3 units	017	0.131
							1	3 units	017	0.120
	00	30	80 100 125 160	400/--	3NA6824-4KK 3NA6830-4KK 3NA6832-4 3NA6836-4		1	3 units	017	0.194
							1	3 units	017	0.204
							1	3 units	017	0.202
							1	3 units	017	0.203
	1	30	35 40 50 63 80 100 125 160	400/--	3NA6114-4 3NA6117-4 3NA6120-4 3NA6122-4 3NA6124-4 3NA6130-4 3NA6132-4 3NA6136-4		1	3 units	017	0.288
							1	3 units	017	0.274
							1	3 units	017	0.277
							1	3 units	017	0.273
							1	3 units	017	0.275
							1	3 units	017	0.276
		47.2	200 224 250	400/--	3NA6140-4 3NA6142-4 3NA6144-4		1	3 units	017	0.443
							1	3 units	017	0.449
							1	3 units	017	0.450
	2	47.2	50 63 80 100 125 160 200 224 250	400/--	3NA6220-4 3NA6222-4 3NA6224-4 3NA6230-4 3NA6232-4 3NA6236-4 3NA6240-4 3NA6242-4 3NA6244-4		1	3 units	017	0.467
							1	3 units	017	0.455
							1	3 units	017	0.449
							1	3 units	017	0.458
							1	3 units	017	0.423
							1	3 units	017	0.465
							1	3 units	017	0.458
							1	3 units	017	0.459
							1	3 units	017	0.464
	57.8	300 315 355 400	300 315 355 400	400/--	3NA6250-4 3NA6252-4 3NA6254-4 3NA6260-4		1	3 units	017	0.659
							1	3 units	017	0.622
							1	3 units	017	0.658
							1	3 units	017	0.655

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Size	Mount- ing width	I_n	U_n	DT	Non-insulated grip lugs			Insulated grip lugs			PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
					Article No. www.siemens.com/ product?Article No.	Price per PU	PG	DT	Article No. www.siemens.com/ product?Article No.	Price per PU	PG			
LV HRC fuse links with combination alarm, operational class gG														
000	21	2	500/ 4 250		3NA7802	017		3NA6802			1	3 units	017	0.131
			6		3NA7804	017		3NA6804			1	3 units	017	0.125
			10		3NA7801	017		3NA6801			1	3 units	017	0.131
			16	►	3NA7803	017	►	3NA6803			1	3 units	017	0.117
			20	►	3NA7805	017	►	3NA6805			1	3 units	017	0.128
			25	►	3NA7807	017	►	3NA6807			1	3 units	017	0.129
			32		3NA7810	017	►	3NA6810			1	3 units	017	0.132
			35	►	3NA7812	017		3NA6812			1	3 units	017	0.130
			40		3NA7814	017	►	3NA6814			1	3 units	017	0.131
			50	►	3NA7817	017		3NA6817			1	3 units	017	0.132
			63	►	3NA7820	017	►	3NA6820			1	3 units	017	0.126
			80	►	3NA7822	017	►	3NA6822			1	3 units	017	0.129
			100	►	3NA7824	017	►	3NA6824			1	3 units	017	0.131
					3NA7830	017	►	3NA6830			1	3 units	017	0.133
00	30	80	500/ 100 250		3NA7824-7	017		3NA6824-7			1	3 units	017	0.193
			125	►	3NA7830-7	017		3NA6830-7			1	3 units	017	0.206
			160	►	3NA7832	017	►	3NA6832			1	3 units	017	0.202
					3NA7836	017		3NA6836			1	3 units	017	0.181
1	30	16	500/ 20 440		3NA7105	017		3NA6105			1	3 units	017	0.278
			25		3NA7107	017		3NA6107			1	3 units	017	0.288
			35		3NA7110	017		3NA6110			1	3 units	017	0.282
			40		3NA7114	017		3NA6114			1	3 units	017	0.289
			50		3NA7117	017		3NA6117			1	3 units	017	0.269
			63		3NA7120	017		3NA6120			1	3 units	017	0.294
			80		3NA7122	017		3NA6122			1	3 units	017	0.287
			100		3NA7124	017	►	3NA6124			1	3 units	017	0.288
			125	►	3NA7130	017	►	3NA6130			1	3 units	017	0.290
			160	►	3NA7132	017	►	3NA6132			1	3 units	017	0.289
					3NA7136	017	►	3NA6136			1	3 units	017	0.287
	47.2	200			3NA7140	017	►	3NA6140			1	3 units	017	0.447
		224			3NA7142	017		3NA6142			1	3 units	017	0.443
		250			3NA7144	017	►	3NA6144			1	3 units	017	0.408
2	47.2	35	500/ 50 440		3NA7214	017		3NA6214			1	3 units	017	0.463
			63		3NA7220	017		3NA6220			1	3 units	017	0.463
			80		3NA7222	017		3NA6222			1	3 units	017	0.465
			100		3NA7224	017		3NA6224			1	3 units	017	0.459
			125		3NA7230	017		3NA6230			1	3 units	017	0.462
			160	►	3NA7232	017		3NA6232			1	3 units	017	0.463
			200	►	3NA7236	017	►	3NA6236			1	3 units	017	0.464
			224	►	3NA7240	017	►	3NA6240			1	3 units	017	0.463
			250	►	3NA7242	017	►	3NA6242			1	3 units	017	0.464
	57.8	300			3NA7244	017	►	3NA6244			1	3 units	017	0.463
		315			3NA7252	017	►	3NA6252			1	3 units	017	0.658
		355			--			3NA6254			1	3 units	017	0.664
		400			3NA7260	017	►	3NA6260			1	3 units	017	0.661

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse links

Size	Mounting width mm	I_n A	U_n V AC/V DC	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. kg
LV HRC fuse links with front indicator, operational class gG										
					3NA3802	1	3 units	017	0.127	
		2	500/250	►	3NA3804	1	3 units	017	0.127	
		4		►	3NA3801	1	3 units	017	0.128	
		6		►	3NA3803	1	3 units	017	0.128	
		10		►	3NA3805	1	3 units	017	0.126	
		16		►	3NA3807	1	3 units	017	0.120	
		20		►	3NA3810	1	3 units	017	0.130	
		25		►	3NA3812	1	3 units	017	0.130	
		32		►	3NA3814	1	3/90 units	017	0.131	
		35		►	3NA3817	1	3 units	017	0.130	
		40		►	3NA3820	1	3/90 units	017	0.131	
		50		►	3NA3822	1	3/90 units	017	0.131	
		63		►	3NA3824	1	3/90 units	017	0.131	
		80		►	3NA3826	1	3/90 units	017	0.132	
		100		►	3NA3828-8	1	3/60 units	017	0.126	
		125	400/250	►	3NA3832-8	1	3/60 units	017	0.122	
		160		►	3NA3836-8					
					3NA3814-7	1	3 units	017	0.182	
		35	500/250		3NA3820-7	1	3 units	017	0.201	
		50			3NA3822-7	1	3 units	017	0.195	
		63			3NA3824-7	1	3 units	017	0.205	
		80			3NA3830-7	1	3 units	017	0.201	
		100			3NA3832	1	3 units	017	0.206	
		125			3NA3836	1	3 units	017	0.205	
		160								
					3NA3001	1	3 units	017	0.268	
		6	500/440		3NA3003	1	3 units	017	0.274	
		10			3NA3005	1	3 units	017	0.262	
		16			3NA3007	1	3 units	017	0.270	
		20			3NA3010	1	3 units	017	0.255	
		25			3NA3012	1	3 units	017	0.272	
		32			3NA3014	1	3 units	017	0.264	
		35			3NA3017	1	3 units	017	0.252	
		40			3NA3020	1	3 units	017	0.273	
		50			3NA3022	1	3 units	017	0.270	
		63			3NA3024	1	3 units	017	0.265	
		80			3NA3030	1	3 units	017	0.242	
		100			3NA3032	1	3 units	017	0.270	
		125			3NA3036	1	3 units	017	0.272	
		160								
					3NA3105	1	3 units	017	0.264	
		16	500/440		3NA3107	1	3 units	017	0.283	
		20			3NA3110	1	3 units	017	0.279	
		25			3NA3114	1	3 units	017	0.287	
		35			3NA3117	1	3 units	017	0.270	
		40			3NA3120	1	3 units	017	0.285	
		50			3NA3122	1	3 units	017	0.290	
		63			3NA3124	1	3 units	017	0.278	
		80			3NA3130	1	3 units	017	0.278	
		100			3NA3132	1	3 units	017	0.287	
		125			3NA3136	1	3 units	017	0.289	
	47.2	200			3NA3140	1	3 units	017	0.452	
		224			3NA3142	1	3 units	017	0.448	
		250			3NA3144	1	3 units	017	0.448	

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse links

Size	Mounting width mm	I_n A	U_n V AC/V DC	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. kg	
LV HRC fuse links with front indicator, operational class gG											
					3NA3214			1 3 units	017	0.462	
		35	500/440		3NA3220			1 3 units	017	0.462	
		50			3NA3222			1 3 units	017	0.465	
		63			3NA3224			1 3 units	017	0.462	
		80			3NA3230			1 3 units	017	0.464	
		100			3NA3232			1 3 units	017	0.462	
		125			3NA3236			1 3 units	017	0.465	
		160		▶	3NA3240			1 3 units	017	0.465	
		200		▶	3NA3242			1 3 units	017	0.460	
		224		▶	3NA3244			1 3 units	017	0.467	
		250		▶	3NA3250			1 3 units	017	0.655	
	2	47.2	300	▶	3NA3252			1 3 units	017	0.662	
		315		▶	3NA3254			1 3 units	017	0.665	
		355		▶	3NA3260			1 3 units	017	0.661	
		400									
	3	57.8	200	500/440	3NA3340			1 3 units	017	0.654	
		224			3NA3342			1 3 units	017	0.651	
		250			3NA3344			1 3 units	017	0.656	
		300			3NA3350			1 3 units	017	0.657	
		315		▶	3NA3352			1 3 units	017	0.657	
		355			3NA3354			1 3 units	017	0.658	
		400		▶	3NA3360			1 3 units	017	0.660	
		71.2	425		3NA3362			1 3 units	017	0.941	
		500		▶	3NA3365			1 3 units	017	0.944	
		630		▶	3NA3372			1 3 units	017	0.939	
	Can only be used for 3NH3530 LV HRC fuse base										
	4	101.8 (IEC design)	630	500/440	3NA3472			1 1 unit	017	2.546	
		800			3NA3475			1 1 unit	017	2.535	
		1000			3NA3480			1 1 unit	017	2.566	
		1250			3NA3482			1 1 unit	017	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	017	2.604	
		630			3NA3672			1 1 unit	017	2.674	
		800			3NA3675			1 1 unit	017	2.661	
		1000			3NA3680			1 1 unit	017	2.646	
		1250			3NA3682			1 1 unit	017	2.659	

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse links

Size	Mount- ing width	I_n	U_n	DT	Non-insulated grip lugs		Insulated grip lugs		PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
					Article No. www.siemens.com/ product?Article No.	Price per PU	PG	DT				
LV HRC fuse links with combination alarm, operational class gG												
000	21	2	690 ^{1)/}		3NA7802-6	017		3NA6802-6			1	3 units
		4	250		3NA7804-6	017		3NA6804-6			1	3 units
		6			3NA7801-6	017		3NA6801-6			1	3 units
		10			3NA7803-6	017		3NA6803-6			1	3 units
		16			3NA7805-6	017		3NA6805-6			1	3 units
		20			3NA7807-6	017		3NA6807-6			1	3 units
		25			3NA7810-6	017		3NA6810-6			1	3 units
		32			3NA7812-6	017		3NA6812-6			1	3 units
		35			3NA7814-6	017		3NA6814-6			1	3 units
		40		►	3NA7817-6KJ	017	►	3NA6817-6KJ			1	3 units
		50		►	3NA7820-6KJ	017	►	3NA6820-6KJ			1	3 units
00	30	40	690 ^{1)/}		3NA7817-6	017		3NA6817-6			1	3 units
		50	250		3NA7820-6	017		3NA6820-6			1	3 units
		63			3NA7822-6	017		3NA6822-6			1	3 units
		80			3NA7824-6	017		3NA6824-6			1	3 units
		100			3NA7830-6	017		3NA6830-6			1	3 units
1	30	50	690 ^{1)/}		3NA7120-6	017		3NA6120-6			1	3 units
		63	440		3NA7122-6	017		3NA6122-6			1	3 units
		80			3NA7124-6	017		3NA6124-6			1	3 units
		100			3NA7130-6	017		3NA6130-6			1	3 units
		125			3NA7132-6	017		3NA6132-6			1	3 units
		160			3NA7136-6	017		3NA6136-6			1	3 units
	47.2	200			3NA7140-6	017		3NA6140-6			1	3 units
2	47.2	80	690 ^{1)/}		3NA7224-6	017		3NA6224-6			1	3 units
		100	440		3NA7230-6	017		3NA6230-6			1	3 units
		125			3NA7232-6	017		3NA6232-6			1	3 units
		160			3NA7236-6	017		3NA6236-6			1	3 units
		200			3NA7240-6	017		3NA6240-6			1	3 units
	57.8	224			3NA7242-6	017		3NA6242-6			1	3 units
		250			3NA7244-6	017		3NA6244-6			1	3 units
		300			3NA7250-6	017		3NA6250-6			1	3 units
		315			3NA7252-6	017		3NA6252-6			1	3 units

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

Fuse Systems

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LV HRC fuse links

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Size	Mounting width mm	I_n A	U_n V AC/V DC	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. kg
LV HRC fuse links with front indicator, operational class gG										
	000	21	2 4 6 10 16 20 25 32 35 40 50	690 ¹⁾ /250	► 3NA3802-6 ► 3NA3804-6 ► 3NA3801-6 ► 3NA3803-6 ► 3NA3805-6 ► 3NA3807-6 ► 3NA3810-6 ► 3NA3812-6 ► 3NA3814-6 ► 3NA3817-6KJ ► 3NA3820-6KJ	1 3 units 1 3 units	017 017 017 017 017 017 017 017 017 017 017	0.128 0.129 0.112 0.123 0.122 0.130 0.122 0.111 0.123 0.129 0.129		
	00	30	40 50 63 80 100	690 ¹⁾ /250	► 3NA3817-6 ► 3NA3820-6 ► 3NA3822-6 ► 3NA3824-6 ► 3NA3830-6	1 3 units 1 3 units 1 3 units 1 3 units 1 3 units	017 017 017 017 017	0.177 0.207 0.205 0.189 0.190		
	1	30	50 63 80 100 125 160	690 ¹⁾ /440	► 3NA3120-6 ► 3NA3122-6 ► 3NA3124-6 ► 3NA3130-6 ► 3NA3132-6 ► 3NA3136-6 ► 3NA3140-6	1 3 units 1 3 units 1 3 units 1 3 units 1 3 units 1 3 units	017 017 017 017 017 017	0.279 0.286 0.275 0.291 0.272 0.291		
	2	47.2	80 100 125 160 200 224 250 300 315	690 ¹⁾ /440	► 3NA3224-6 ► 3NA3230-6 ► 3NA3232-6 ► 3NA3236-6 ► 3NA3240-6 ► 3NA3242-6 ► 3NA3244-6 ► 3NA3250-6 ► 3NA3252-6	1 3 units 1 3 units	017 017 017 017 017 017 017 017 017	0.456 0.468 0.463 0.463 0.460 0.615 0.655 0.657 0.657		
	3	57.8	250 315 355 400 425 500	690 ¹⁾ /440	► 3NA3344-6 ► 3NA3352-6 ► 3NA3354-6 ► 3NA3360-6 ► 3NA3362-6 ► 3NA3365-6	1 3 units 1 3 units 1 3 units 1 3 units 1 3 units 1 3 units	017 017 017 017 017 017	0.643 0.651 1.035 1.038 1.060 0.982		

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

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse links

Size	Mounting width mm	I_n A	U_n V AC/V DC	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. kg
LV HRC fuse links with front indicator, operational class aM											
	000	21	6 10 16 20 25 32 35 40 50 63 80 100	500/--		3ND1801 3ND1803 3ND1805 3ND1807 3ND1810 3ND1812 3ND1814 3ND1817 3ND1820 3ND1822 3ND1824 3ND1830-8		1	3 units	017	0.130
								1	3 units	017	0.119
								1	3 units	017	0.127
								1	3 units	017	0.118
								1	3 units	017	0.124
								1	3 units	017	0.131
								1	3 units	017	0.128
								1	3 units	017	0.117
								1	3 units	017	0.128
								1	3 units	017	0.111
								1	3 units	017	0.123
								1	3 units	017	0.127
	00	30	100 125 160	500/--		3ND1830 3ND1832 3ND1836		1	3 units	017	0.183
								1	3 units	017	0.204
								1	3 units	017	0.181
	1	30	63 80 100	690/--		3ND2122 3ND2124 3ND2130 3ND2132 3ND2136 3ND2140 3ND2144		1	3 units	017	0.281
								1	3 units	017	0.029
								1	3 units	017	0.286
		47.2	125 160					1	3 units	017	0.449
								1	3 units	017	0.447
			200 250					1	3 units	017	0.447
								1	3 units	017	0.409
	2	47.2	125 160	690/--		3ND2232 3ND2236 3ND2240 3ND2244 3ND2252 3ND2254 3ND2260		1	3 units	017	0.465
								1	3 units	017	0.464
			200 250					1	3 units	017	0.467
		57.8	315 355 400					1	3 units	017	0.416
								1	3 units	017	0.661
								1	3 units	017	0.663
								1	3 units	017	0.655
	3	57.8	315 355 400	690/--		3ND2352 3ND2354 3ND2360 3ND1365 3ND1372		1	3 units	017	0.597
								1	3 units	017	0.662
								1	3 units	017	0.661
		71.2	500 630					1	3 units	017	1.038
								1	3 units	017	1.036

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.

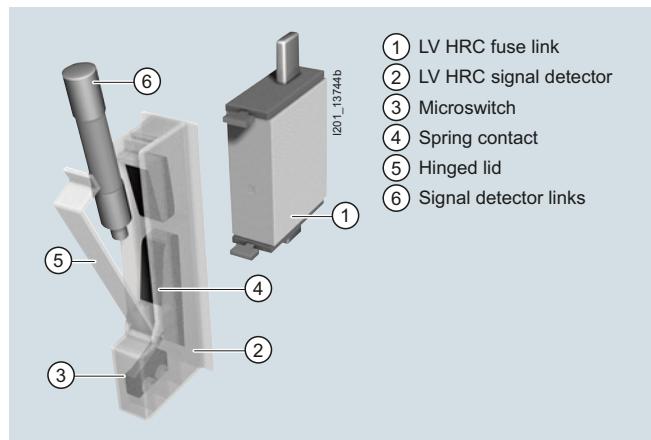
- 3NX1024 signal detector top
The signal detector top can be used with LV HRC fuse links, sizes 000, 00, 1 and 2, which are equipped with non-insulated grip lugs and have a front indicator or combination alarm. It is simply plugged into the grip lugs.

- 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.

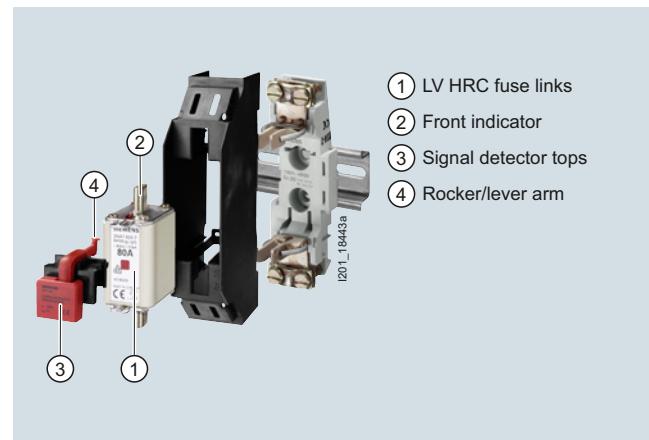
Benefits

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.



Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC signal detectors

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 unit	017	0.032	
	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	017	0.014	
	Response value > 2 V; 7 A; only for meshed networks			3NX1023		1	3 units	017	0.017	
	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	017	0.021	
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. kg
V AC	A	V	MW							
230	4	380 ... 415 3 AC	2	►	5TT3170		1	1 unit	027	0.145

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

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.

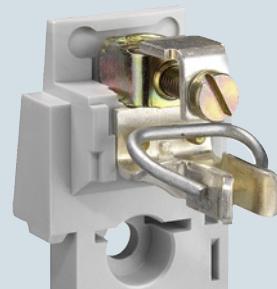
The double busbar terminal differs from the flat terminal in that it supports connection of two busbars, one on the top and one at the bottom of the flat terminal.



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.



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



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



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



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

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse bases and accessories

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.

5

Technical specifications

Size		LV HRC fuse bases, LV HRC bus-mounting bases					
		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	690 ¹⁾	690 ¹⁾			690	
	V DC	250	440			440	
Rated short-circuit strength	kA AC	120					
	kA DC	25					
Max. power dissipation of fuse links	W	12	25	32	45	60	90
Flat terminal							
Screw		M8					
Nut		M8	--				
Max. tightening torque	Nm	14		38			65
Plug-in terminal							
Conductor cross-section	mm ²	2.5 ... 50		--			
Saddle-type terminal							
Conductor cross-section	mm ²	6 ... 70	--				
Box terminals							
Conductor cross-section	mm ²	2.5 ... 50					
Terminal strips							
Conductor cross-section, 3-wire	mm ²	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).

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

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse bases and accessories

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. kg
	A									
LV HRC fuse bases										
Made of molded plastic, for standard rail mounting or screw fixing										
	000/00	160	1P		3NH3051 3NH3052 3NH3053		1	1/10 units	017	0.132
		With flat terminals, screw		▶			1	1/10 units	017	0.120
		With saddle-type terminals		▶			1	1/10 units	017	0.120
		125	With box terminals, up to 50 mm ²	▶			1	1/10 units	017	0.120
	000/00	160	1P		3NH3030 3NH3031 3NH3032 3NH3035 3NH3038 3NH3050		1	3 units	017	0.218
		With flat terminals, screw		▶			1	3 units	017	0.260
		With plug-in terminals		▶			1	3 units	017	0.204
		With saddle-type terminals		▶			1	3 units	017	0.223
		With flat terminals and terminal strip		▶			1	3 units	017	0.185
		With flat terminals, nut		▶			1	3 units	017	0.213
		With flat and saddle-type terminals		▶			1	3 units	017	0.709
		3P (incl. two partitions)		▶	3NH4030 3NH4031 3NH4032 3NH4035		1	1 unit	017	0.898
		With flat terminals		▶			1	1 unit	017	0.721
		With plug-in terminals		▶			1	1 unit	017	0.736
		With saddle-type terminals		▶			1	1 unit	017	0.736
	0	160	1P		3NH3120 3NH3122		1	3 units	017	0.423
		With flat terminals		▶			1	3 units	017	0.479
	1	250	1P		3NH3230 3NH3220		1	3 units	017	0.761
		With flat terminals		▶			1	3 units	017	0.771
	1	250	3P (incl. two partitions)		3NH4230		1	1 unit	017	2.069
		With flat terminals		▶			1	1 unit	017	2.069
	2	400	1P		3NH3330 3NH3320		1	1 unit	017	0.812
		With flat terminals		▶			1	1 unit	017	0.797
	3	630	1P		3NH3430 3NH3420		1	1 unit	017	1.079
		With double busbar terminals		▶			1	1 unit	017	1.091
		With double busbar terminals		▶			1	1 unit	017	1.091

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

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. kg
A									
LV HRC fuse bases									
Ceramic supports on base plate for screw fixing (IEC design)									
	4	1250 1P With flat terminals		3NH3530		1	1 unit	017	3.132
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	017	0.390
	1	250 1P With screw fixing for mounting plate		3NH7230		1	1 unit	017	1.083
Can also be used for fuse links of size 2									
	3	630 1P With screw fixing for mounting plate		3NH7330		1	1 unit	017	2.075

¹⁾ Size 000/00 with additionally included saddle-type terminals.

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse bases and accessories

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. kg
A								
LV HRC fuse bases with swivel mechanism								
4a	1250	1P With screw fixing for mounting plate	3NH7520		1	1 unit	017	5.171
LV HRC protective covers for LV HRC fuse bases								
As touch protection for contact pieces								
000/00			► 3NX3105		1	2/20 units	017	0.016
0			► 3NX3114		1	2/40 units	017	0.001
1			► 3NX3106		1	2/20 units	017	0.022
2			► 3NX3107		1	2/12 units	017	0.024
3			► 3NX3108		1	2/10 units	017	0.029
LV HRC partitions for LV HRC fuse bases								
As intermediate phase and end barrier								
Type								
000/00	3NH30/3NH4 0		► 3NX2023		1	2 units	017	0.024
0	3NH31		► 3NX2030		1	2 units	017	0.042
1	3NH32		► 3NX2024		1	2 units	017	0.049
2	3NH33		► 3NX2025		1	2 units	017	0.063
3	3NH34		► 3NX2026		1	2 units	017	0.076
LV HRC protective covers								
000/00	1P and 3P		3NX3115		1	10 units	017	0.052
000/00	When using fuse links with non-insulated grip lugs		3NX3116		1	10 units	017	0.022

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

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 1, 2, 3		3NX1003 3NX1004		1 1	3 units 3 units	017 017	0.013 0.095
								
	Fuse pullers 000 ... 3 For LV HRC fuse links Without sleeve With sleeve	▶	3NX1013 3NX1014		1 1	1 unit 1 unit	017 017	0.309 0.558
								
	Isolating blades For LV HRC fuse bases and fuse switch disconnectors With insulated grip lugs 000/00 Silver-plated 0	▶	3NG1002 3NG1102		1 1	3/30 units 1/10 units	017 017	0.076 0.094
	1	▶	3NG1202		1	1/10 units	017	0.169
	2	▶	3NG1302		1	1/5 units	017	0.229
	3	▶	3NG1402		1	1/5 units	017	0.267
	With non-insulated grip lugs 4 Tinned 4a Nickel-plated	▶	3NG1503 3NG1505		1 1	3 units 1/5 units	017 017	0.689 0.721

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse bases and accessories

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	Rated current I_n -- A	Rated voltage U_n V AC	Operational class	Size --	Required conductor cross-section mm ² Cu	Type	Size --	Permissible load current ¹⁾ 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

¹⁾ In the case of cyclic loads, the currents may have to be further reduced (precise values on request).

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse bases and accessories

SITOR semiconductor fuse data						Permissible load currents of fuse when installed in: 3NH		
Type	Rated current I_n A	Rated voltage U_n V AC	Operational class	Size	Required conductor cross-section mm ² Cu	Type	Size	Permissible load current ¹⁾ A
--	--	--	--	--	--	--	--	--
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
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⁾ 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 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.

LV HRC bases suitable for use with SITOR semiconductor fuses and safety switching devices can be found on [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 (VDE 0636-4).

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 LV HRC 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.*

Fuse Systems

SITOR Semiconductor Fuses

LV HRC design**Selection and ordering data**

	Size A	I_n V AC	U_n	Operational class	Breaking I^2t value A^2s	Power loss W	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. kg
LV HRC design														
	3	150	500 gR		33 000 35	0.85			3NC2423-0C		1	3 units	016	1.210
	200				64 000 40	0.85			3NC2425-0C		1	3 units	016	0.980
	250				99 000 50	0.85			3NC2427-0C		1	3 units	016	1.210
	300				132 000 65	0.85			3NC2428-0C		1	3 units	016	1.210
	350				249 000 60	0.85			3NC2431-0C		1	3 units	016	0.981
	400		aR		390 000 50	0.85			3NC2432-0C		1	3 units	016	0.986
	3	150	500 gR		33 000 35	0.85			3NC2423-3C		1	3 units	016	1.210
	200				64 000 40	0.85			3NC2425-3C		1	3 units	016	0.992
	250				99 000 50	0.85			3NC2427-3C		1	3 units	016	0.999
	300				132 000 65	0.85			3NC2428-3C		1	3 units	016	0.971
	350				249 000 60	0.85			3NC2431-3C		1	3 units	016	0.981
	400		aR		390 000 50	0.85			3NC2432-3C		1	3 units	016	0.968
	1	160	690 gR		18 600 32	1.0			3NE1224-3		1	3 units	016	0.605
	200				51 800 35	1.0			3NE1225-3		1	3 units	016	0.587
	250				80 900 37	1.0			3NE1227-3		1	3 units	016	0.610
	315				168 000 40	1.0			3NE1230-3		1	3 units	016	0.601
	2	350	690 gR		177 000 43	1.0			3NE1331-3		1	3 units	016	0.751
	400				224 000 50	1.0			3NE1332-3		1	3 units	016	0.680
	450				276 500 58	1.0			3NE1333-3		1	3 units	016	0.755
	500				398 000 64	1.0			3NE1334-3		1	3 units	016	0.745
	3	150	690 gR		17 600 40	0.85			3NC8423-3C		1	3 units	016	1.001
	200				38 400 55	0.85			3NC8425-3C		1	3 units	016	1.000
	250				70 400 72	0.85			3NC8427-3C		1	3 units	016	0.999
	350				176 000 95	0.85			3NC8431-3C		1	3 units	016	1.003
	500				448 000 130	0.85			3NC8434-3C		1	3 units	016	0.994
	1000	600	aR		2 480 000 140	0.95			3NC8444-3C		1	3 units	016	1.011
	3	560	690 gR		890 000 60	1.0			3NE1435-3		1	3 units	016	1.094
	630				1 390 000 60	1.0			3NE1436-3		1	3 units	016	1.077
	670				1 640 000 64	1.0			3NE1447-3		1	3 units	016	0.690
	710				1 818 000 72	1.0			3NE1437-3		1	3 units	016	0.690
	800				2 475 000 84	1.0			3NE1438-3		1	3 units	016	0.001
	850				3 640 000 76	1.0			3NE1448-3		1	3 units	016	1.100

Fuse Systems

SITOR Semiconductor Fuses

LV HRC design

	Size	I_n A	U_n V AC	Operational class	Breaking I^2t value A^2s	Power loss W	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. kg
LV HRC design														
	3	630 710 800 900 1 000 1 100 1 250 1 400 1 600	690	aR	244 000 346 000 498 000 677 000 975 000 1 382 000 1 990 000 2 100 000 2 860 000	120 130 135 145 155 165 175 200 240	0.85 0.85 0.9 0.9 0.95 0.95 0.95 0.95 0.9		3NC3236-1 3NC3237-1 3NC3238-1 3NC3240-1 3NC3241-1 3NC3242-1 3NC3243-1 3NC3244-1 3NC3245-1	1 3 units 1 3 units	016 016 016 016 016 016 016 016 016	0.772 1.200 0.778 1.200 0.796 1.200 0.819 0.809 1.200		
	3	150 200 250 350 500	690	gR	17 600 38 400 70 400 176 000 448 000	40 55 72 95 130	0.85 0.85 0.85 0.85 0.85		3NC8423-0C 3NC8425-0C 3NC8427-0C 3NC8431-0C 3NC8434-0C	1 3 units 1 3 units 1 3 units 1 3 units 1 3 units	016 016 016 016 016	0.998 0.916 1.006 1.001 1.007		
	3	710 800	600	gR	2 460 000 3 350 000	65 72	1.0 1.0		3NE1437-1 3NE1438-1	1 3 units 1 3 units	016 016	1.088 1.088		
	000	16 20 25 35 40 50 63 80	690	gS	200 430 780 1 700 3 000 4 400 9 000 18 000	4.0 5.0 5.0 3.5 3.0 6.0 7.0 8.0	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	►	3NE1813-0 3NE1814-0 3NE1815-0 3NE1803-0 3NE1802-0 3NE1817-0 3NE1818-0 3NE1820-0	1 3 units 1 3 units	016 016 016 016 016 016 016 016	0.130 0.128 0.135 0.134 0.129 0.128 0.135 0.119		
	00	100 125	690	gS	33 000 63 000	10 11	1.0 1.0	►	3NE1021-0 3NE1022-0	1 3 units 1 3 units	016 016	0.192 0.200		
	1	160 200 250 315	690	gS	60 000 100 000 200 000 310 000	24 27 30 38	1.0 1.0 1.0 1.0	►	3NE1224-0 3NE1225-0 3NE1227-0 3NE1230-0	1 3 units 1 3 units 1 3 units 1 3 units	016 016 016 016	0.585 0.572 0.573 0.582		
	2	350 400 450 500	690	gS	430 000 590 000 750 000 950 000	42 45 53 56	1.0 1.0 1.0 1.0	►	3NE1331-0 3NE1332-0 3NE1333-0 3NE1334-0	1 3 units 1 3 units 1 3 units 1 3 units	016 016 016 016	0.743 0.753 0.756 0.759		
	3	560 630 710 800	690	gS	1 700 000 2 350 000 3 400 000 5 000 000	50 55 58 58	1.0 1.0 1.0 1.0		3NE1435-0 3NE1436-0 3NE1437-0 3NE1438-0	1 3 units 1 3 units 1 3 units 1 3 units	016 016 016 016	1.084 1.081 1.086 1.090		

Fuse Systems

SITOR Semiconductor Fuses

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 ² s	W								kg
LV HRC design														
With blade contacts for mounting in LV HRC fuse bases or switch disconnectors														
	00	25	690 gR		180 7	0.95		►	3NE8015-1		1	3 units	016	0.202
		35			400 9	0.95		►	3NE8003-1		1	3 units	016	0.199
		50			700 14	0.90		►	3NE8017-1		1	3 units	016	0.203
		63			1400 16	0.95		►	3NE8018-1		1	3 units	016	0.203
		80			5800 10.5	1.0		►	3NE1020-2		1	3 units	016	0.199
		100			11000 12	1.0		►	3NE1021-2		1	3 units	016	0.196
		125			23000 13.5	1.0		►	3NE1022-2		1	3 units	016	0.190
		80	aR		2400 19	0.95		►	3NE8020-1		1	3 units	016	0.197
		100			4200 22	0.95		►	3NE8021-1		1	3 units	016	0.203
		125			6500 28	0.95		►	3NE8022-1		1	3 units	016	0.199
		160			13000 38	0.95		►	3NE8024-1		1	3 units	016	0.203
	1	160	690 gR		18600 32	1.0		►	3NE1224-2		1	3 units	016	0.601
		200			51800 35	1.0		►	3NE1225-2		1	3 units	016	0.608
		250			80900 37	1.0		►	3NE1227-2		1	3 units	016	0.606
		315			168000 40	1.0		►	3NE1230-2		1	3 units	016	0.604
	2	350	690 gR		177000 43	1.0		►	3NE1331-2		1	3 units	016	0.778
		400			224000 50	1.0		►	3NE1332-2		1	3 units	016	0.764
		450			276500 58	1.0		►	3NE1333-2		1	3 units	016	0.780
		500			398000 64	1.0		►	3NE1334-2		1	3 units	016	0.769
	3	560	690 gR		890000 60	1.0		►	3NE1435-2		1	3 units	016	1.144
		630			1390000 60	1.0		►	3NE1436-2		1	3 units	016	1.134
		670			1640000 64	1.0		►	3NE1447-2		1	3 units	016	1.130
		710			1818000 72	1.0		►	3NE1437-2		1	3 units	016	1.130
		800			2475000 84	1.0		►	3NE1438-2		1	3 units	016	1.125
		850			3640000 76	1.0		►	3NE1448-2		1	3 units	016	1.136
	0	32	1000 gR		280 12	0.9		►	3NE4101		1	3 units	016	0.277
		40			500 13	0.9		►	3NE4102		1	3 units	016	0.269
		50			800 16	0.9		►	3NE4117		1	3 units	016	0.263
		63	aR		1500 20	0.9		►	3NE4118		1	3 units	016	0.276
		80			3000 22	0.9		►	3NE4120		1	3 units	016	0.270
		100			6000 24	0.9		►	3NE4121		1	3 units	016	0.277
		125			14000 30	0.9		►	3NE4122		1	3 units	016	0.276
		160			29000 35	0.9		►	3NE4124		1	3 units	016	0.275

	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 ² s	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	016	0.135
		25			140 9	0.9		►	3NE8715-1		1	10 units	016	0.132
		32			285 10	0.9		►	3NE8701-1		1	10 units	016	0.136
		40			490 12	0.9		►	3NE8702-1		1	10 units	016	0.134
		50			815 15	0.9		►	3NE8717-1		1	10 units	016	0.136
		63			1550 16	0.95		►	3NE8718-1		1	10 units	016	0.133
		80	aR		2700 18	0.9		►	3NE8720-1		1	10 units	016	0.136
		100			4950 19	0.95		►	3NE8721-1		1	10 units	016	0.138
		125			9100 23	0.95		►	3NE8722-1		1	10 units	016	0.135
		160			17000 31	0.9		►	3NE8724-1		1	10 units	016	0.122
		200			30000 36	0.9		►	3NE8725-1		1	10 units	016	0.145
		250			55000 42	0.9		►	3NE8727-1		1	10 units	016	0.134
		315			85500 54	0.85		►	3NE8731-1		1	10 units	016	0.136

¹⁾ DC voltage acc. to UL.

Fuse Systems

SITOR Semiconductor Fuses

LV HRC design

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	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 ² s	W									kg
LV HRC design														
Parallel-connected fuses with slotted blade contacts NEW for M12 screw fixing, mounting dimension: 110 mm (lateral 90 mm)														
	2 x 3	1000 1100	690 gR		1 400 000 3 000 000	138 110	1.0		3NB3350-1KK26 3NB3351-1KK26		1 1	1 unit 1 unit	016 016	2.290 2.290
	2 x 3	1250 1350 1400			4 100 000 4 800 000 5 200 000	104 126 127	1.0		3NB3352-1KK26 3NB3354-1KK26 3NB3355-1KK26		1 1 1	1 unit 1 unit 1 unit	016 016 016	2.290 2.290 2.290
	2 x 3	1600 1700			6 900 000 10 000 000	152 143	1.0		3NB3357-1KK26 3NB3358-1KK26		1 1	1 unit 1 unit	016 016	2.290 2.290
	3 x 3	1700 1900			6 400 000 8 200 000	179 196	1.0		3NB3358-1KK27 3NB3362-1KK27		1 1	1 unit 1 unit	016 016	3.460 3.460
With slotted blade contacts for M10 screw fixing, mounting dimension: 110 mm, or for installation in LV HRC fuse bases or switch disconnectors														
	2	250 315 450 500 710	800 aR		29 700 60 700 191 000 276 000 923 000	105 120 140 155 155	0.85 0.85 0.85 0.85 0.95	►	3NE4327-0B 3NE4330-0B 3NE4333-0B 3NE4334-0B 3NE4337		1 1 1 1 1	3 units 3 units 3 units 3 units 3 units	016 016 016 016 016	0.751 0.760 0.756 0.774 0.768
	1	100 125 160 200 250 315 350 400 450	1 000 aR		4 800 7 200 13 000 30 000 48 000 80 000 100 000 135 000 175 000	28 36 42 42 50 60 75 85 95	0.95 0.95 1.0 1.0 1.0 0.95 0.95 0.9 0.9	►	3NE3221 3NE3222 3NE3224 3NE3225 3NE3227 3NE3230-0B 3NE3231 3NE3232-0B 3NE3233		1 1 1 1 1 1 1 1 1	3 units 3 units 3 units 3 units 3 units 3 units 3 units 3 units 3 units	016 016 016 016 016 016 016 016 016	0.571 0.572 0.575 0.571 0.504 0.573 0.572 0.581 0.589
	2	400 450 500 560 630 710 800 900	1 000 aR		135 000 175 000 260 000 360 000 600 000 800 000 850 000 920 000	80 90 90 95 100 105 130 165	1.0 1.0 1.0 1.0 1.0 1.0 0.95 0.95	►	3NE3332-0B 3NE3333 3NE3334-0B 3NE3335 3NE3336 3NE3337-8 3NE3338-8 3NE3340-8		1 1 1 1 1 1 1 1	3 units 3 units 3 units 3 units 3 units 3 units 3 units 3 units	016 016 016 016 016 016 016 016	0.738 0.741 0.745 0.745 0.742 0.746 0.742 0.753
	3	100 224 315 400 450 500 630 710	1 000 aR		13 500 54 000 218 000 364 000 488 000 870 000 1 280 000 1 950 000	25 85 80 110 110 95 132 145	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0		3NE3421-0C 3NE3626-0C 3NE3430-0C 3NE3432-0C 3NE3635-0C 3NE3434-0C 3NE3636-0C 3NE3637-0C		1 1 1 1 1 1 1 1	3 units 3 units 3 units 3 units 3 units 3 units 3 units 3 units	016 016 016 016 016 016 016 016	1.120 1.184 1.182 1.192 1.198 1.144 1.216 1.120
With slotted blade contacts for M10 screw fixing, mounting dimension: 130 mm														
	3	710	1 000 aR		1 950 000	145	1.0		3NE3637-1C		1	3 units	016	1.120
With slotted blade contacts for M12 screw fixing, mounting dimension: 140 mm														
	3	630 710 800 900 1000 1100 1250	1 000 aR		418 000 569 000 819 000 1 160 000 1 670 000 1 910 000 2 600 000	145 150 155 165 170 185 210	0.85 0.85 0.85 0.9 0.9 0.9 0.9		3NC3336-1U 3NC3337-1U 3NC3338-1U 3NC3340-1U 3NC3341-1U 3NC3342-1U 3NC3343-1U		1 1 1 1 1 1 1	3 units 3 units 3 units 3 units 3 units 3 units 3 units	016 016 016 016 016 016 016	1.000 1.220 1.037 1.039 1.016 1.220 1.220
	3	315 400 500 630 800	1 250 aR		72 500 163 000 290 000 650 000 985 000	80 95 115 120 145	0.95 0.95 0.90 0.95 0.90		3NC3430-1U 3NC3432-1U 3NC3434-1U 3NC3436-1U 3NC3438-1U		1 1 1 1 1	3 units 3 units 3 units 3 units 3 units	016 016 016 016 016	1.220 1.022 1.020 1.027 1.220

* You can order this quantity or a multiple thereof.

Fuse Systems

SITOR Semiconductor Fuses

LV HRC design

	Size A	I_n V AC	U_n	Operational class	Breaking I^2t value A^2s	Power loss W	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. kg
LV HRC design														
	3	160	1500	aR	54 000	56	1.0		3NE5424-0C	1	2 units	016	1.260	
		224			138 000	80	1.0		3NE5426-0C	1	2 units	016	0.990	
		315			311 000	115	1.0		3NE5430-0C	1	2 units	016	1.260	
		350			428 000	135	1.0		3NE5431-0C	1	2 units	016	1.987	
		450			870 000	145	0.95		3NE5433-0C	1	2 units	016	2.001	
With slotted blade contacts for M12 screw fixing, mounting dimension: 210 mm														
	450	1500	aR		870 000	145	0.95		3NE5433-1C	1	2 units	016	1.260	
With slotted blade contacts for M10 screw fixing, mounting dimension: 170 mm														
	3	250	1500	aR	84 000	130	1.0		3NE5627-0C	1	3 units	016	1.576	
		450			590 000	160	1.0		3NE5633-0C	1	3 units	016	1.595	
		600			1 950 000	145	1.0		3NE5643-0C	1	3 units	016	1.606	
With slotted blade contacts for M10 screw fixing, mounting dimension: 210 mm														
	3	200	2000	aR	138 000	75	1.0		3NE7425-0C	1	2 units	016	1.260	
		250			218 000	110	1.0		3NE7427-0C	1	2 units	016	1.220	
		350			555 000	120	1.0		3NE7431-0C	1	2 units	016	1.991	
		400			870 000	150	1.0		3NE7432-0C	1	2 units	016	1.260	
		450			960 000	160	1.0		3NE7633-0C	1	2 units	016	2.021	
		630			1 950 000	220	1.0		3NE7636-0C	1	2 units	016	2.028	
With slotted blade contacts for M12 screw fixing, mounting dimension: 210 mm														
	3	450	2000	aR	960 000	160	1.0		3NE7633-1C	1	2 units	016	1.990	
		525			1 120 000	210	1.0		3NE7648-1C	1	2 units	016	1.220	
		630			1 950 000	220	1.0		3NE7636-1C	1	2 units	016	2.017	
		710			3 110 000	275	1.0		3NE7637-1C	1	2 units	016	2.033	
With slotted blade contacts for M12 screw fixing, mounting dimension: 260 mm														
	3	125	2500	aR	34 500	78	1.0		3NE9622-1C	1	1 unit	016	2.506	
		400			620 000	205	1.0		3NE9632-1C	1	1 unit	016	2.439	
		500			1 270 000	235	1.0		3NE9634-1C	1	1 unit	016	2.350	
		630			2 800 000	275	1.0		3NE9636-1C	1	1 unit	016	2.566	

Fuse Systems

SITOR Semiconductor Fuses

LV HRC design

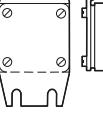
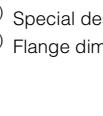
Size A	I_n V AC	U_n V AC	Operational class	Breaking I^2t value A^2s	Power loss W	Varying load factor WL	DT	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
LV HRC design													
With M12 female thread at both ends for direct busbar mounting, flange dimensions 52 mm													
3	630	690	aR	244 000	125	0.9		3NC3236-6		1	3 units	016	0.767
	710			346 000	130	0.9		3NC3237-6		1	3 units	016	1.160
	800			498 000	135	0.95		3NC3238-6		1	3 units	016	0.785
	900			677 000	140	0.95		3NC3240-6		1	3 units	016	1.160
	1 000			975 000	145	1.0		3NC3241-6		1	3 units	016	0.778
	1 100			1 382 000	150	1.0		3NC3242-6		1	3 units	016	1.160
	1 250			1 990 000	155	1.0		3NC3243-6		1	3 units	016	0.790
	1 400	500		2 100 000	175	1.0		3NC3244-6		1	3 units	016	0.793
	1 600			2 860 000	195	0.95		3NC3245-6		1	3 units	016	0.808
With M10 female thread at both ends for direct busbar mounting, flange dimensions 109 mm													
3	450	1 000	aR	488 000	110	1.0		3NE3635-6		1	3 units	016	1.184
With M12 female thread at both ends for direct busbar mounting, flange dimensions 73 mm													
3	630	1 000	aR	418 000	130	0.90		3NC3336-6U		1	3 units	016	1.004
	710			569 000	140	0.90		3NC3337-6U		1	3 units	016	1.012
	800			819 000	150	0.90		3NC3338-6U		1	3 units	016	0.992
	900			1 160 000	160	0.95		3NC3340-6U		1	3 units	016	1.006
	1 000			1 670 000	165	0.95		3NC3341-6U		1	3 units	016	1.006
	1 100	800		1 910 000	175	0.95		3NC3342-6U		1	3 units	016	1.160
	1 250			2 600 000	185	0.95		3NC3343-6U		1	3 units	016	1.012
3	315	1 250	aR	72 500	80	0.95		3NC3430-6U		1	3 units	016	1.160
	400			163 000	95	0.95		3NC3432-6U		1	3 units	016	1.160
	500			290 000	115	0.90		3NC3434-6U		1	3 units	016	1.160
	630			650 000	120	0.95		3NC3436-6U		1	3 units	016	1.003
	800	1 100		985 000	145	0.95		3NC3438-6U		1	3 units	016	0.995



Fuse Systems

SITOR Semiconductor Fuses

LV HRC design

	Size A	I_n V AC	U_n	Operational classes	Breaking I^2t value A^2s	Power loss W	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.	
											kg				
Fuses for special applications															
	-- ¹⁾	350	800	aR	260 000	80	0.9		3NC5531		1	3 units	016	0.671	
		600	1000		888 000	150	0.9		3NC5840		1	3 units	016	1.372	
		630	800		888 000	145	0.9		3NC5841		1	3 units	016	1.102	
		800	1000		1 728 000	170	0.9		3NC5838		1	3 units	016	1.175	
	-- ¹⁾	710	900		620 000	150	0.9		3NE6437-7		1	3 units	016	1.049	
		1250	600		2 480 000	210	0.9		3NE9450-7		1	3 units	016	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	620 000	150	0.9		3NE6437		1	3 units	016	1.007	
		850	600	gR	2 480 000	85	1.0		3NE9440-6		1	3 units	016	0.960	
	-- ¹⁾	900	900	aR	1 920 000	170	0.9		3NE6444		1	3 units	016	1.153	
		1250	600	aR	2 480 000	210	0.9		3NE9450		1	3 units	016	1.055	
Fuses with installation holder for SITOR 6QG10 thyristor sets															
	-- ¹⁾	200	1000	aR	44 000	50	0.85		3NE3525-5		1	2 units	016	0.700	
		450			395 000	90	0.85		3NE3535-5		1	2 units	016	0.735	
Fuses with installation holder for SITOR 6QG11 thyristor sets															
	-- ¹⁾	50	1000	gR	1 100	20	0.85		3NE4117-5		1	2 units	016	0.285	
		100		aR	7 400	35	0.85		3NE4121-5		1	2 units	016	0.275	
		170		aR	60 500	43	0.85		3NE4146-5		1	2 units	016	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	29 700	105	0.85	►	3NE4327-6B		1	3 units	016	0.691
		315			60 700	120	0.85	►	3NE4330-6B		1	3 units	016	0.690	
	-- ¹⁾	450			191 000	140	0.85	►	3NE4333-6B		1	3 units	016	0.684	
		500			276 000	155	0.85	►	3NE4334-6B		1	3 units	016	0.678	
		710			923 000	155	0.95	►	3NE4337-6		1	3 units	016	0.687	
Special design for mounting directly in the railway supply rectifier															
	-- ¹⁾	250	680	aR	635 000	25	0.9		3NC7327-2		1	3 units	016	0.670	
		350			1 430 000	32	0.9		3NC7331-2		1	3 units	016	0.696	

¹⁾ Special design²⁾ Flange dimensions 99 mm only for 3NE6444.

Fuse Systems

SITOR Semiconductor Fuses

LV HRC design

5

Size	I_n	U_h	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 ² s	W								kg
Fuses for special applications NEW													
DC fuses with slotted blade contacts for M12 screw fixing													
2L	400	900	gR	240 000 ¹⁾	75	--		3NB1234-3KK20		1	2 units	016	1.097
1L	200	1250	aR	39 000 ²⁾	50	--		3NB1126-4KK11		1	2 units	016	0.750
	250			80 500 ²⁾	51	--		3NB1128-4KK11		1	2 units	016	0.750
2L	315			129 000 ²⁾	63	--		3NB1231-4KK11		1	2 units	016	0.990
	400			290 000 ²⁾	68	--		3NB1234-4KK11		1	2 units	016	0.990
3L	500			600 000 ²⁾	89	--		3NB1337-4KK11		1	2 units	016	1.640
	800			1910 000 ²⁾	135	--		3NB1345-4KK11		1	2 units	016	1.640
Parallel-connected DC fuses with slotted blade contacts for M12 screw fixing													
2 x 3L	800	1250	aR	1150 000 ²⁾	160	--		3NB2345-4KK16		1	1 unit	016	3.540
	1000			2250 000 ²⁾	195	--		3NB2350-4KK16		1	1 unit	016	3.540
	1400			5100 000 ²⁾	250	--		3NB2355-4KK16		1	1 unit	016	3.540
	1600			7450 000 ²⁾	275	--		3NB2357-4KK16		1	1 unit	016	3.540
3 x 3L	2100			11950 000 ²⁾	365	--		3NB2364-4KK17		1	1 unit	016	5.440
	2400			18100 000 ²⁾	445	--		3NB2366-4KK17		1	1 unit	016	5.440

¹⁾ I^2t at U_{VSI} 1400 V, I^2t at U_h 900 V is 180000 A²s

²⁾ I^2t at U_{VSI} 1500 V; I^2t at U_h 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 specifically 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.

Fuse Systems

SITOR Semiconductor Fuses

Cylindrical fuse design

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 x 51 mm and 22 x 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.

Technical specifications

	Cylindrical fuse holders		
	3NC10	3NC14	3NC22
Size	mm x mm 10 x 38	14 x 51	22 x 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)
Switching 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		
Oversupply 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		
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	mm ² 1.5 ... 16	1.5 ... 35	4 ... 50
• AWG (American Wire Gauge)	AWG 15 ... 5	14 ... 2	10 ... 1/0
Tightening torque	Nm lb.in 2.5 22	2.5 ... 3 22 ... 26	3.5 ... 4 31 ... 35

Fuse Systems

SITOR Semiconductor Fuses

Cylindrical fuse design

Selection and ordering data

Size mm x mm	I_n A	U_n V AC/ V DC	Breaking I^2t value A ² s	Power loss W	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
Cylindrical fuse links, operational class aR¹⁾											
10 x 38	3 6 8	600/700	8 20 30	1.2 1.5 2	►	3NC1003 3NC1006 3NC1008	1	10 units	016	0.009	
	10 12 16		60 110 150	2.5 3 3.5	►	3NC1010 3NC1012 3NC1016	1	10 units	016	0.007	
	20 25 32	600/-	200 250 500	4.8 6 7.5	►	3NC1020 3NC1025 3NC1032	1	10 units	016	0.091	
14 x 51	1 2 3 4 5 6	660/- 690/800	1.2 10 15 25 11 11	5 3 2.5 3 1.5 1.5	►	3NC1401 3NC1402 3NC1403 3NC1404 3NC1405 3NC1406	1	10 units	016	0.023	
	10 15 20 25 30 32 40 50		22 70 100 320 400 600 750 1800	4 5.5 6 7 9 7.6 8 9	►	3NC1410 3NC1415 3NC1420 3NC1425 3NC1430 3NC1432 3NC1440 3NC1450	1	10 units	016	0.021	
22 x 58	20 25 32 40 50 63 80 100	690/700	220 300 450 700 1350 2600 5500 8000	4.6 5.6 7 8.5 9.5 11 13.5 16	►	3NC2220 3NC2225 3NC2232 3NC2240 3NC2250 3NC2263 3NC2280 3NC2200	1 1 1 1 1 1 1 1	5 units 5 units 5 units 5 units 5 units 5 units 5 units 5 units	016 016 016 016 016 016 016 016	0.050 0.056 0.049 0.056 0.052 0.054 0.056 0.057	
Cylindrical fuse links with striking pin, operational class aR¹⁾											
14 x 51	10 15 20 25 30 32 40 50	690/600	32 63 234 378 466 600 750 1800	4 5.5 6 7 9 7.6 8 9	►	3NC1410-5 3NC1415-5 3NC1420-5 3NC1425-5 3NC1430-5 3NC1432-5 3NC1440-5 3NC1450-5	1 1 1 1 1 1 1 1	10 units 10 units 10 units 10 units 10 units 10 units 10 units 10 units	016 016 016 016 016 016 016 016	0.023 0.023 0.019 0.023 0.019 0.023 0.023 0.026	
22 x 58	20 25 32 40 50 63 80	690/500	240 350 500 800 1500 3000 6000	5 6 8 9 9.5 11 13.5	►	3NC2220-5 3NC2225-5 3NC2232-5 3NC2240-5 3NC2250-5 3NC2263-5 3NC2280-5 3NC2200-5	1 1 1 1 1 1 1 1	10 units 5 units 5 units 5 units 5 units 5 units 5 units 5 units	016 016 016 016 016 016 016 016	0.039 0.041 0.066 0.039 0.064 0.061 0.061 0.042	
22 x 58	100	600/500	8500	16	►	3NC2200-5	1	5 units	016	0.042	

¹⁾ DC voltage acc. to UL.

Fuse Systems

SITOR Semiconductor Fuses

Cylindrical fuse design

Size mm × mm	Version	Rated voltage V AC	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
Cylindrical fuse holders Can be used as fuse switch disconnectors ¹⁾									
									
10 × 38	1P 2P 3P	690	►	3NC1091 3NC1092 3NC1093	1 1 1	12 units 6 units 4 units	016 016 016	0.052 0.123 0.155	
14 × 51	1P 2P 3P	690	►	3NC1491 3NC1492 3NC1493	1 1 1	6 units 3 units 2 units	016 016 016	0.113 0.216 0.319	
22 × 58	1P 2P 3P	690	►	3NC2291 3NC2292 3NC2293	1 1 1	1 unit 3 units 2 units	016 016 016	0.192 0.330 0.494	
Cylindrical fuse holders Can be used as fuse switch disconnectors, with signalling switches for fuse links with striking pin ¹⁾									
									
14 × 51	1P	690		3NC1491-5	1	6 units	016	0.121	
22 × 58	1P	690		3NC2291-5	1	6 units	016	0.149	
Cylindrical fuse bases									
									
10 × 38	1P 2P 3P	600		3NC1038-1 3NC1038-2 3NC1038-3	1 1 1	10 units 8 units 6 units	016 016 016	0.041 0.071 0.103	
Fuse tongs									
									
10 × 38, 14 × 51, 22 × 58				3NC1000	1	1 unit	016	0.071	

¹⁾ Please note the utilization category and current/voltage values, see "Technical specifications"

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.

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, but preferably vertical		
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	

Fuse Systems

SITOR Semiconductor Fuses

NEOZED, DIAZED design**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 ² s	W								kg
SILIZED fuse links, operational class gR												
	D01	10 16	400/250	73 120	6.9 6.2		5SE1310 5SE1316		1 1	10 units 10 units	016 016	0.003 0.007
	D02	20 25 35 50 63		190 215 470 1960 4230	8.1 8.2 16.7 12.0 15.5		5SE1320 5SE1325 5SE1335 5SE1350 5SE1363		1 1 1 1 1	10 units 10 units 10 units 10 units 10 units	016 016 016 016 016	0.013 0.011 0.008 0.014 0.013
	DII	16 20 25 30	500/500	60	12.1		5SD420 5SD430 5SD440 5SD480		1 1 1 1	5 units 5 units 5 units 5 units	016 016 016 016	0.027 0.030 0.032 0.032
	DIII	35 50 63		539 1250 1890	14.8 18.5 28		5SD450 5SD460 5SD470		1 1 1	5 units 5 units 5 units	016 016 016	0.051 0.051 0.057
	DIV	80 100		4200 8450	34.3 41.5		5SD510 5SD520		1 1	3 units 3 units	016 016	0.107 0.127

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	$1.13 \times I_n$	$1.45 \times I_n$
UL standard	$1.0 \times I_n$	$1.35 \times I_n$
Future IEC standard	$1.05 \times I_n$	$1.35 \times I_n$
Siemens fuses	$1.13 \times I_n$	$1.35 \times I_n$

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.



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

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

Fuse Systems

Photovoltaic Fuses

PV cylindrical fuses

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)	UL (File No. E469670)	UL (File No. E355487), CCC, (variants without signal detector)	UL (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 16	4 to 20	30	32
Rated short-circuit strength	kA	--		30	
Rated breaking capacity	kA DC	30	10	--	
Breaking capacity				AC-20B, DC-20B	
• Utilization category		--			
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	
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	mm ²	--		0.75 ... 25	
• AWG (American Wire Gauge)	AWG	--		18 ... 4	
Tightening torque	Nm	--		2.5	

Selection and ordering data

	Size	I_n	U_n	P_v	$P_{v\text{ at }70\%}$	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
	mm x mm	A DC	V DC	W	W							
Cylindrical fuse links operational class gPV												
3NW6004-4	10 x 38	2	1000	1.3	--	►	3NW6002-4 3NW6004-4 3NW6001-4 3NW6008-4 3NW6003-4 3NW6006-4 3NW6005-4	1	20 units	016	0.008	
		4		1.6	--			1	20 units	016	0.009	
		6		1.7	--			1	20 units	016	0.008	
		8		1.9	--			1	20 units	016	0.009	
		10		2.2	--			1	20 units	016	0.010	
		12		2.7	--			1	20 units	016	0.010	
		16		3.2	--			1	20 units	016	0.010	
3NW6604-4	10 x 85 NEW	4	1500	2.7	1.1		3NW6604-4 3NW6601-4 3NW6608-4 3NW6603-4 3NW6606-4 3NW6605-4 3NW6607-4	1	10 units	016	0.016	
		6		3.0	1.2			1	10 units	016	0.016	
		8		3.6	1.5			1	10 units	016	0.016	
		10		3.7	1.6			1	10 units	016	0.016	
		12		3.3	1.4			1	10 units	016	0.016	
		16		3.7	1.6			1	10 units	016	0.016	
		20	1200	4.0	1.7			1	10 units	016	0.016	

3NW6604-4

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

Fuse Systems

Photovoltaic Fuses

PV cylindrical fuses

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
Cylindrical fuse holders, 1000 V with signal detector										
1P	30	10 x 38		1	3NW7014-4		1	12 units	016	0.062
2P	30	10 x 38		2	3NW7024-4		1	6 units	016	0.123
Without signal detector										
1P	30	10 x 38		1	3NW7013-4		1	12 units	016	0.064
2P	30	10 x 38		2	3NW7023-4		1	6 units	016	0.122
3NW7014-4										
Cylindrical fuse holders, 1500 V NEW										
1P	32	10 x 85		1.3	3NW7613-4		1	5 units	016	0.500
3NW7613-4										

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Fuse Systems

Photovoltaic Fuses

PV cumulative fuses

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	250	400	630	250	400		
Rated short-circuit strength	kA	--						30						
Rated breaking capacity	kA DC	30						--						
Breaking capacity							AC-20B, DC-20B (switching without load)							
• Utilization category	--													
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, but 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

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.	kg
Fuse links operational class gPV											
3NE1330-4D	1	63	1000	19	3NE1218-4			1	2 units	016	0.607
		80		20	3NE1220-4			1	2 units	016	0.533
		100		24	3NE1221-4			1	2 units	016	0.539
		125		26	3NE1222-4			1	2 units	016	0.580
		160		32	3NE1224-4			1	2 units	016	0.621
	1L	200		51	3NE1225-4D			1	2 units	016	0.749
		250		54	3NE1227-4D			1	2 units	016	0.750
	2L	315		73	3NE1330-4D			1	2 units	016	1.081
		400		82	3NE1332-4D			1	2 units	016	1.097
	3L	500		100	3NE1434-4E			1	2 units	016	1.690
		630		110	3NE1436-4E			1	2 units	016	1.684
	1XL	63	1500	20	3NE1218-5E			1	2 units	016	1.011
		80		25	3NE1220-5E			1	2 units	016	1.013
		100		30	3NE1221-5E			1	2 units	016	1.003
		125		29	3NE1222-5E			1	2 units	016	1.005
		160		34	3NE1224-5E			1	2 units	016	0.998
		200		41	3NE1225-5E			1	2 units	016	1.002
	2XL	250		53	3NE1327-5E			1	2 units	016	1.262
		315		63	3NE1330-5E			1	2 units	016	1.270

Fuse Systems

Photovoltaic Fuses

PV cumulative fuses

	For fuse links of size	I_h	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. kg
A DC										
Fuse bases with flat terminal										
Standard ceramic fuse base ¹⁾										
	1	250	1000	▶	3NH3230		1	3 units	017	0.761
Fuse bases with swiveling mechanism										
	1L	250	1000		3NH7260-4		1	1 unit	016	1.306
	2L	400	1000		3NH7360-4		1	1 unit	016	1.724
	3L	630	1000/1500		3NH7460-4		1	1 unit	016	2.224
	1XL	250	1500		3NH7261-4		1	1 unit	016	1.337
	2XL	400	1500		3NH7361-4		1	1 unit	016	1.729
Fuse bases with swiveling mechanism and microswitches for tripped signaling of the fuse²⁾ NEW										
	1	250	1000		3NH7262-4KK01		1	1 unit	016	1.300
	2L	400	1000		3NH7360-4KK01		1	1 unit	016	1.725
Accessories										
	Terminal covers for PV fuse bases with swiveling mechanism NEW				3NX3121		1	1 unit	016	0.070
	1, 1L, 1XL				3NX3122		1	1 unit	016	0.136
	2L, 2XL				3NX3123		1	1 unit	016	0.167

¹⁾ For further information, see Catalog LV 11.

²⁾ Fuse must be inserted upside down.

Fuse Systems

Notes

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