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Low-Voltage Power Distribution and Electrical Installation Technology

Fuse Systems

Catalog
Extract
LV 10

Edition
04/2019

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 Devices, Switchboards and Distribution Systems

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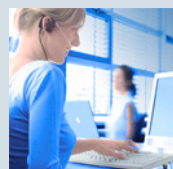


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Low-Voltage Power Distribution and Electrical Installation Technology

Protection, Switching, Measuring and Monitoring Devices, Switchboards and Distribution Systems

SENTRON · SIVACON · ALPHA



Catalog LV 10 · 04/2019

You can find the updated catalog valid from October 2019 in the Siemens Industry Online Support under www.siemens.com/lowvoltage/catalogs

Supersedes:
Catalog LV 10 · 10/2018

Refer to the Industry Mall for current prices:
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The products in this catalog can also be found in the Interactive Catalog CA 01:
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The products and systems listed in this catalog are developed and manufactured using a certified quality management system in accordance with EN ISO 9001:2008.

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Ordering special versions

When ordering products that differ from the standard versions listed in the catalog, "-Z" must be added to the Article No. indicated and the required features must be specified using alphanumeric order codes or plain text.

Ordering very small quantities

When very small orders are placed, the costs associated with order processing are greater than the order value. We therefore recommend that you combine several small orders. Where this is not possible, we regret that we are obliged to make a small processing charge: for orders with a net goods value of less than € 250 we charge a € 20 supplement to cover our order processing and invoicing costs.

Explanations of Selection and ordering data

Standard delivery time (SD)

- Preferred type Preferred types are device types that can be delivered immediately ex works, i.e. they are dispatched within 24 hours.

Price units (PU)

The price unit defines the number of units, sets or meters to which the specified price applies.

Packaging size (PS)

The packaging size defines the number of units, sets or meters, for example, for outer packaging. Only the quantity defined by the packaging size or a multiple thereof can be ordered.

Price group (PG)

Each product is allocated to a price group.

Example

5TT3400
SD: Preferred type
PG: 13C
Ordering quantity 1 unit or a multiple thereof

8US1923-5CA02
PG: 14O
Ordering quantity 10 units or a multiple thereof

8WH9000-1GA00
PG: 12X
Ordering quantity 50 units or a multiple thereof

SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
►	5TT3400		1	1 unit	1BK
	8US1923-5CA02		1	10 units	1CU
	8WH9000-1GA00		100	50 units	1BT

Note:

The article numbers shown here and the specifications regarding selection and ordering data are examples only. When ordering, always use the selection and ordering data in the product chapters.

Metal surcharges/export markings

To compensate fluctuating prices of raw materials (for example silver, copper, aluminum, lead, gold, dysprosium and neodymium), surcharges are calculated on a daily basis for products containing these raw materials using the metal factor. A surcharge for the particular raw material is added to the price of a product if the basic quotations for this raw material are exceeded.

Each product's metal factor dictates for which raw materials the metal surcharges are calculated, from which quotation and with which calculation method (weight or percentage method).

An exact explanation of the metal factor can be found at: www.siemens.com/automation/salesmaterial-as/catalog/en/terms_of_trade_en.pdf

A product's export markings/metal surcharges are updated daily at www.siemens.com/industrymall.

Fuse Systems



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For further technical product information:

[Configuration Manual](#)

[Fuse Systems](#)

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

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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 Fuse 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 and Class J fuse systems	5/26	Class CC and Class J comply with the American standard and have UL and CSA approval, for customers exporting OEM products and machine builders. Modern design with touch protection according to BGV A3 for use in "branch circuit protection".	Fuse holders: UL 4248-1, E171267 CSA 22.2 Fuse links: UL 248-4, File No. E258218, CSA 231237, 1422-02 and 1422-82	✓	✓	✓
 Busbar systems	5/31	Busbars for NEOZED fuse bases, NEOZED fuse disconnectors, MINIZED switch disconnectors, DIAZED fuse systems and for the cylindrical fuse systems. Compact cylindrical fuse holders for busbars	EN 60439-1 (VDE 0660-500) UL 4248-1, E337131	✓	✓	✓

Devices	Page	Application	Standards	Used in			
				Non-residential buildings	Residential buildings	Industry	
3NA, 3ND LV HRC fuse systems							
	LV HRC fuse links	5/37	Fuse links from 2 A to 1250 A for selective line protection and system protection in non-residential buildings, industry and power utilities.	IEC 60269-1, -2; EN 60269-1; DIN VDE 0636-2; CSA 16325 - 1422-02	✓	✓	✓
	LV HRC signal detectors	5/46	Signal detectors for when a fuse is tripped on all LV HRC fuse links with combination or front indicators with non-insulated grip lugs. Plus the comprehensive accessory range required for LV HRC fuse systems.	--	✓	✓	✓
	LV HRC fuse bases and accessories	5/48	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 branch circuit protection) CSA C22.2 No. 4248.1-07	✓	✓	✓
SITOR semiconductor fuses							
	LV HRC design	5/56	Fuse links in LV HRC design and a huge variety of models support a wide range of applications from 500 V to 1500 V and 150 A to 1600 A. Fuses with slotted blade contacts, bolt-on links or female thread and special designs.	UL 4248-13, File No. E167357-JFHR2	--	--	✓
	Cylindrical fuse design	5/66	Fuse links, fuse holders – usable as fuse switch disconnectors and fuse bases up to 600/690 V AC and 400/700 V DC from 1 A to 100 A in the sizes 10 × 38 mm, 14 × 51 mm and 22 × 58 mm.	Fuse links: UL 4248-13, File No. E167357-JFHR2 CSA 248170, 1422-30 Fuse holders: UL 4248-1, File No. E171267-IZLT CSA 248170, 6225-01	--	--	✓
	NEOZED, DIAZED design	5/70	NEOZED fuse links for 400 V AC and 250 V DC and DIAZED for 500 V AC and 500 V DC.	--	--	--	✓
Photovoltaic fuses							
	PV cylindrical fuses	5/73	Fuses with a rated voltage of 1000 V and 1500 V DC and gPV operational class for the protection of photovoltaic modules, their connecting cables and other components.	IEC 60269-6	✓	✓	✓
	PV cumulative fuses	5/75	Fuses with a rated voltage of 1000 V and 1500 V DC, a rated current of 63 A to 630 A and operational class gPV for the protection of connecting cables and other components.	IEC60269-6	✓	✓	✓

Fuse Systems

NEOZED Fuse Systems

Introduction

Overview

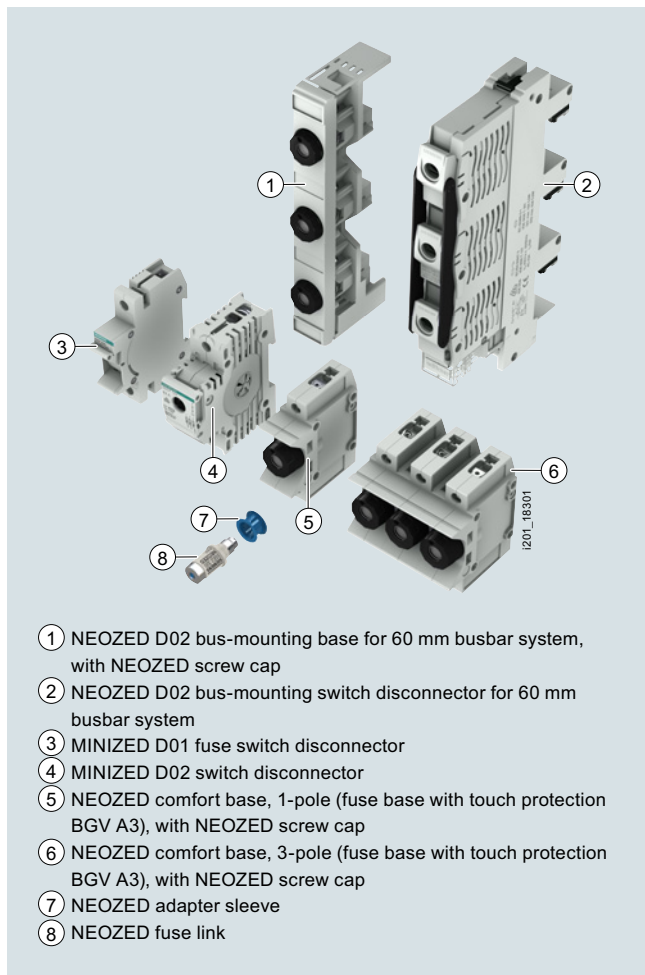
The NEOZED fuse system is primarily used in distribution technology and industrial switchboard assemblies. The system is easy to use and is also approved for domestic installation.

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°C, humidity 90% at 20°C													
		MINIZED switch disconnectors D02 5SG71		MINIZED fuse switch disconnectors D01 5SG76		Fuse bases, made of ceramic D01 5SG15 5SG55		D02 5SG16 5SG56	D03 5SG18	Comfort bases D01/02 5SG1301 5SG1701 5SG5301 5SG5701	Fuse bases D01/02 5SG1302 5SG1702 5SG5302 5SG5702				
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 • 1P • 2P in series	V AC	230/400, 240/415			400										
	V DC	65			48		250								
	V DC	130			110		250								
Rated current I_n	A	63		16		16		63		100		16/63	16/63		
Rated conditional short-circuit current		kA		50											
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 • AC-22 B • AC-23 B • DC-22 B		A A A A		-- 63 35 63		16 -- -- --		-- -- -- --							
Sealable when switched on		Yes		Yes, with sealable screw caps											
Mounting position		Any, preferably vertical													
Reduction factor of I_n with 18 pole • Side-by-side mounting • On top of one another, with vertical standard mounting rail		0.9 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°C, humidity 90% at 20°C											
Terminal versions		Box terminal		Box terminal		B		K, S		K/S		Box terminal	Box terminal		
Conductor cross-sections • Solid		mm ²										Input 1 ... 35, Output 1 ... 25			
• Solid and stranded		mm ²		1.5 ... 35		1.5 ... 16		1.5 ... 4		2.5 ... 25		10 ... 50		0.75 ... 35	Input 1.5 ... 25, Output 1 ... 25
• Flexible															Input 1.5 ... 25, Output 1 ... 25
• Flexible, with end sleeve		mm ²		1.5 ... 35		1.5 ... 10		1.5 ... 4		1.5 ... 16		10 ... 35		--	Input 0.75 ... 35 Output 1 ... 25
Tightening torque		Nm		2.5 ... 3		2		1.2		2		3.5/2.5		3.5	3

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

Fuse Systems

NEOZED Fuse Systems

Introduction

More information

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Fuse bases D01 with terminal version BB

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



Fuse bases D02, with terminal version KS

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



Fuse bases D02, with terminal version SS

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

Selection and ordering data

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

¹⁾ With tin-coated contacts

²⁾ With silver-plated contacts

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	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	A	MW	d					
	MINIZED switch disconnectors with fuses							
	Using draw-out technology with touch protection to BGV A3 (adapter sleeves not included in the scope of delivery) ²⁾							
	D02	1P	63	1.5	5SG7113	1	1 unit	1BM
		1P+N	63	3	5SG7153	1	1 unit	1BM
		2P	63	3	5SG7123	1	1 unit	1BM
		3P	63	4.5	5SG7133	1	1 unit	1BM
		3P+N	63	6	5SG7163	1	1 unit	1BM
	Versions for Austria only,							
	with permanently fitted adapter sleeves, incl. fuse link ²⁾							
	D02	3P	25 35 50	4.5	5SG7133-8BA25 5SG7133-8BA35 5SG7133-8BA50	1 1 1	1 unit 1 unit 1 unit	1BM 1BM 1BM
	Reducers							
	For fuse links D01 in MINIZED D02 switch disconnectors			5SH5527		1	10 units	1CU
	Auxiliary switches (AS)							
	For MINIZED D02 switch disconnectors							
	1 NO + 1 NC		0.5	5ST3010		1	1 unit	1AD
	2 NO			5ST3011		1	1 unit	1AD
	2 NC			5ST3012		1	1 unit	1AD
	Auxiliary switches (AS) with TEST button							
	For MINIZED D02 switch disconnectors							
	1 NO + 1 NC		0.5	5ST3010-2		1	1 unit	1AD
	2 NO			5ST3011-2		1	1 unit	1AD
	2 NC			5ST3012-2		1	1 unit	1AD
	MINIZED fuse switch disconnectors							
	Using draw-out technology with touch protection acc. to BGV A3							
	D01	1P	6 ¹⁾	1	5SG7611-0KK06	1	12 units	1BM
		3P	6 ¹⁾	3	5SG7631-0KK06	1	4 units	1BM
		1P	10	1	5SG7611-0KK10	1	12 units	1BM
		3P	10	3	5SG7631-0KK10	1	4 units	1BM
		1P	16	1	5SG7611-0KK16	1	12 units	1BM
		1P+N	16	2	5SG7651-0KK16	1	6 units	1BM
		2P	16	2	5SG7621-0KK16	1	6 units	1BM
		3P	16	3	5SG7631-0KK16	1	4 units	1BM
		3P+N	16	4	5SG7661-0KK16	1	3 units	1BM

¹⁾ For 2 A, 4 A, 6 A fuses.

²⁾ Do not use fuse links with nickel-plated contact caps.

For busbars, see page 5/33.

Selection and ordering data

Size	Number of poles	I_n	Terminals ¹⁾	Mounting width	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		A		MW	d					
NEOZED comfort bases made of molded plastic With touch protection according to BGV A3										
	D01	1P	16	--	1.5	5SG1301		1	3 units	1BM
	D02		63	--		5SG1701		1	3 units	1BM
	D01	3P	16	--	4.5	5SG5301		1	1 unit	1BM
	D02		63	--		5SG5701		1	1 unit	1BM
NEOZED fuse bases made of molded plastic With touch protection according to BGV A3										
	D01	1P	16	--	1.5	5SG1302		1	15 units	1BM
	D02		63	--	1.5	5SG1702		1	15 units	1BM
	D01	3P	16	--	4.5	5SG5302		1	5 units	1BM
	D02		63	--	4.5	5SG5702		1	5 units	1BM
With touch protection according to BGV A3, with LED signal detector ²⁾										
	D01	1P	16	--	1.5	5SG1302-1		1	15 units	1BM
	D02		63	--	1.5	5SG1702-1		1	15 units	1BM
	D01	3P	16	--	4.5	5SG5302-1		1	5 units	1BM
	D02		63	--	4.5	5SG5702-1		1	5 units	1BM
NEOZED fuse bases made of ceramic For snap-on mounting on standard mounting rails, with cover										
	D01	1P	16	BB	1.5	5SG1553		1	6 units	1BM
	D02		63	SS	1.5	5SG1653		1	6 units	1BM
	D02		63	KS	1.5	5SG1693		1	6 units	1BM
For snap-on mounting on standard mounting rails, without cover										
	D03		100	KS	2.5	5SG1812		1	10 units	1BM
For snap-on mounting on standard mounting rails, with cover										
	D01	3P	16	BB	4.5	5SG5553		1	2 units	1BM
	D02		63	SS	4.5	5SG5653		1	2 units	1BM
	D02		63	KS	4.5	5SG5693		1	2 units	1BM

¹⁾ For terminal versions, see page 5/6.

²⁾ At least 50 V AC/DC

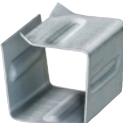
Fuse Systems

NEOZED Fuse Systems

NEOZED fuse bases and accessories

Size	Matching cover	Mounting width MW	SD d	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
NEOZED covers								
 D03	A6	2.5		5SH5233		1	20 units	1BM

NEOZED fuse bases and accessories

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

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 are available with rated voltages from 500 V to 750 V.

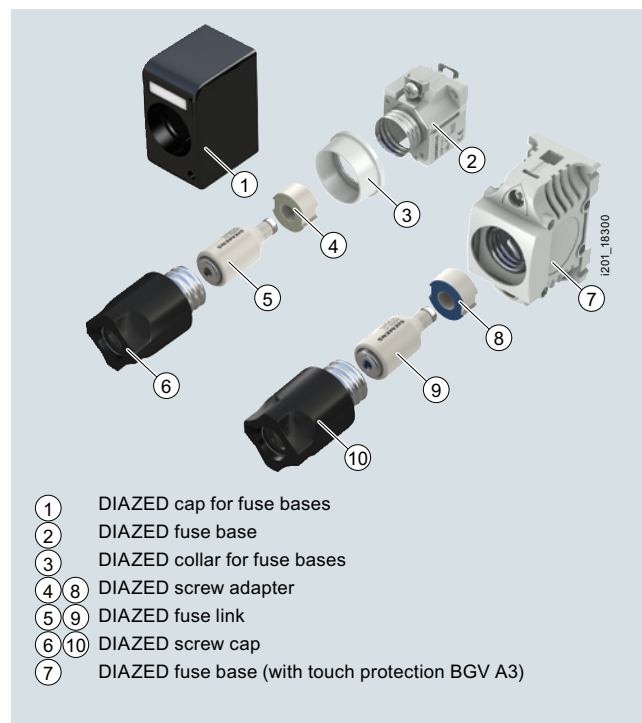
All DIAZED bases must be fed from the bottom to ensure an insulated threaded ring when the fuse link is being removed. Reliable contact of the fuse links is only ensured when used together with DIAZED screw adapters.

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

Benefits



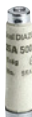
Technical specifications

			5SA, 5SB, 5SC, 5SD, 5SF
Standards			IEC 60269-3; DIN VDE 0635; DIN VDE 0636-3; CEE 16
Operational class			gG
Characteristic			Acc. to DIN VDE 0635 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, 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°C, humidity 90% at 20°C

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

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

Selection and ordering data

	Size	U_n	I_n	Identification color	Thread	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		V AC/ V DC	A			d					
	DIAZED fuse links										
	Operational class gG										
	DII	500/500	2	Pink	E27	5SB211		1	25 units	1BM	
			4	Brown		5SB221		1	25 units	1BM	
			6	Green		5SB231		1	25 units	1BM	
			10	Red		5SB251		1	25 units	1BM	
			16	Gray		5SB261		1	25 units	1BM	
			20	Blue		5SB271		1	25 units	1BM	
			25	Yellow		5SB281		1	25 units	1BM	
	DIII	500/500	32	Violet	E33	5SB4010		1	25 units	1BM	
			35	Black		5SB411		1	25 units	1BM	
			50	White		5SB421		1	25 units	1BM	
			63	Copper		5SB431		1	25 units	1BM	
	DIV	500/400	80	Silver	R1¼"	5SC211		1	3 units	1BM	
			100	Red		5SC221		1	3 units	1BM	
	Characteristic: slow										
	TNDz	500/500	2	Pink	E16	5SA211		1	10 units	1BM	
			4	Brown		5SA221		1	10 units	1BM	
			6	Green		5SA231		1	10 units	1BM	
			10	Red		5SA251		1	10 units	1BM	
			16	Gray		5SA261		1	10 units	1BM	
			20	Blue		5SA271		1	10 units	1BM	
			25	Yellow		5SA281		1	10 units	1BM	
	For operational class gG, use 5SF1 and 5SF5 fuse base made of ceramic										
	For 2 A ... 25 A, use screw adapter DII										
	DIII	690/600	2	Pink	E33	5SD8002		1	5 units	1BM	
			4	Brown		5SD8004		1	5 units	1BM	
			6	Green		5SD8006		1	5 units	1BM	
			10	Red		5SD8010		1	5 units	1BM	
			16	Gray		5SD8016		1	5 units	1BM	
			20	Blue		5SD8020		1	5 units	1BM	
			25	Yellow		5SD8025		1	5 units	1BM	
			35	Black		5SD8035		1	5 units	1BM	
			50	White		5SD8050		1	5 units	1BM	
			63	Copper		5SD8063		1	5 units	1BM	

Fuse Systems

DIAZED fuse systems

	Size	U_n	I_n	Identification color	Thread	Terminals	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		V AC/ V DC	A				d					
	DIAZED fuse links											
	Characteristic: quick, also for direct current railway facilities											
	For 2 A ... 25 A, use screw adapter DII											
	DIII	750/750	2	Pink	E33			5SD601		1	5 units	1BM
			4	Brown				5SD602		1	5 units	1BM
			6	Green				5SD603		1	5 units	1BM
			10	Red				5SD604		1	5 units	1BM
			16	Gray				5SD605		1	5 units	1BM
			20	Blue				5SD606		1	5 units	1BM
			25	Yellow				5SD607		1	5 units	1BM
			35	Black				5SD608		1	5 units	1BM
			50	White				5SD610		1	5 units	1BM
			63	Copper				5SD611		1	5 units	1BM
	DIAZED fuse bases made of ceramic											
	1P, for standard mounting rail											
	DII	500/500	25		E27		BB ²⁾	5SF1005		1	5 units	1BM
	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 units	1BM
	DIII ¹⁾		63		E33		RR	5SF1260		1	3 units	1BM
	3P, for standard mounting rail or screw fixing											
	DII	500/500	25		E27		RR	5SF5068		1	1 unit	1BM
	DIII ¹⁾		63		E33		RR	5SF5268		1	1 unit	1BM

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

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

DIAZED fuse systems

	Size	U_n	I_n	Thread	Terminals	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		V AC/ V DC	A			d					
DIAZED components 750 V											
	DIAZED fuse bases 1P, for screw fixing With fine thread and cap										
	DIII	750/750	63	E33S	KK ¹⁾		5SF4230		1	1 unit	1BM
	DIAZED screw caps Made of ceramic, with fine thread										
	DIII	750/750	63	E33S			5SH1161		1	5 units	1BM
DIAZED screw caps											
	Molded plastic, with inspection hole, black, not for SILIZED fuse links										
	NDz	500/500	25	E16			5SH1112		1	20 units	1BM
	DII		25	E27			5SH1221		1	5 units	1BM
	DIII		63	E33			5SH1231		1	5 units	1BM
	Ceramic										
	DII	500/500	25	E27			5SH112		1	50 units	1BM
	DIII		63	E33			5SH113		1	30 units	1BM
	Ceramic, with inspection hole, sealable										
	DII	500/500	25	E27			5SH122		1	50 units	1BM
	DIII		63	E33			5SH123		1	30 units	1BM
	Ceramic, extended version										
	DIII	690/600	63	E33			5SH1170		1	5 units	1BM

¹⁾ Terminal version KK: Screw head contact at incoming and outgoing feeder.

Fuse Systems

DIAZED fuse systems

	Size	Thread	For fuse links	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG		
			A	d							
	DIAZED screw adapters Also for 5SF230 to 750 V										
	DII	E27	2		5SH310		1	25 units	1BM		
			4		5SH311		1	25 units	1BM		
			6		5SH312		1	25 units	1BM		
			10		5SH313		1	25 units	1BM		
			16		5SH314		1	25 units	1BM		
			20		5SH315		1	25 units	1BM		
			25		5SH316		1	25 units	1BM		
	Also for 5SF230 to 750 V										
	DIII	E33	32		5SH327		1	25 units	1BM		
			35		5SH317		1	25 units	1BM		
			50		5SH318		1	25 units	1BM		
			63		5SH320		1	25 units	1BM		
	DIAZED adapter sleeves for screw caps For DII fuse links in DIII base				5SH302		1	10 units	1BM		
		DIAZED adapter sleeve fitters DII/DIII				5SH3703		1	10 units	1BM	
			DIAZED caps Molded plastic								
			DII	E27			5SH202		1	5 units	1BM
		DIII	E33			5SH222		1	5 units	1BM	
		Size	Thread		SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	
					d						
			DIAZED cover rings Molded plastic								
			DII	E27			5SH3401		1	5 units	1BM
			DIII	E33			5SH3411		1	5 units	1BM

More information

DIII fuse bases with terminal version BS

- Outgoing feeders (top), saddle terminal S
- Incoming feeders (bottom), clamp-type terminal B



DII fuse bases with terminal version BB

- Outgoing feeders (top), clamp-type terminal B
- Incoming feeders (bottom), clamp-type terminal B

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

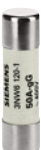
		Cylindrical fuse links						
		3NW63..	3NW60..	3NW61..	3NW62..	3NW80..	3NW81..	3NW82..
Size	mm x mm	8 x 32	10 x 38	14 x 51	22 x 58	10 x 38	14 x 51	22 x 58
Standards		IEC 60269-1, -2; NF C 60-200; NF C 63-210, -211; NBN C 63269-2, CEI 32-4, -12						
Operational class		gG						
Rated voltages U_n	V AC	400, 500, 690						
Rated current I_n	A	2 ... 20	0.5 ... 32	4 ... 50	8 ... 100	0.5 ... 32	2 ... 50	10 ... 100
Rated breaking capacity								
• 690 V versions	kA AC	--	120 (32 A: 100)	120		--	120	
• 500 V versions	kA AC	--	120	100		120	100	
• 400 V versions	kA AC	20	120	20		120	20	
Mounting position		Any, 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	Acc. to UL/CSA	V AC V AC	400 400	690 600	
Rated current I_n	A AC	20	32	50	100
Rated breaking capacity	kA	20	100		
Breaking capacity					
• Utilization category		AC-20B (switching without load), DC-20B			
No-voltage changing of fuse links		Yes			
Sealable when installed		Yes			
Mounting position		Any, preferably vertical			
Degree of protection	Acc. to IEC 60529	IP20, with connected conductors ¹⁾			
Terminals with touch protection according to BGV A3 at incoming and outgoing feeder		Yes			
Ambient temperature	°C	-5 ... +40°C, humidity 90% at +20°C			
Conductor cross-sections					
• Rigid	mm ²	0.5 ... 10		2.5 ... 10	4 ... 10
• Stranded	mm ²	0.5 ... 10		2.5 ... 25	4 ... 50
• Finely stranded, with end sleeve	mm ²	0.5 ... 10 ²⁾		2.5 ... 16	4 ... 35
• AWG (American Wire Gauge)	AWG	--	10 ... 20	6 ... 10	--
Tightening torque	Nm	1.2		2.0	2.5

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

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

Selection and ordering data

	Size	I_n	U_n	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG					
	mm × mm	A	V AC	d										
	Cylindrical fuse links, operational class gG 8 × 32	2	400		3NW6302-1		1	10 units	1BM					
		4			3NW6304-1		1	10 units	1BM					
		6			3NW6301-1		1	10 units	1BM					
		10			3NW6303-1		1	10 units	1BM					
		16			3NW6305-1		1	10 units	1BM					
		20			3NW6307-1		1	10 units	1BM					
		10 × 38	0.5	500		3NW6000-1		1	10 units	1BM				
			1			3NW6011-1		1	10 units	1BM				
			2			3NW6002-1		1	10 units	1BM				
			4			3NW6004-1		1	10 units	1BM				
			6			3NW6001-1		1	10 units	1BM				
			8			3NW6008-1		1	10 units	1BM				
			10			3NW6003-1		1	10 units	1BM				
			12			3NW6006-1		1	10 units	1BM				
			16			3NW6005-1		1	20 units	1BM				
			20			3NW6007-1		1	20 units	1BM				
			25			3NW6010-1		1	20 units	1BM				
			32			3NW6012-1		1	20 units	1BM				
						14 × 51	4	690		3NW6104-1		1	10 units	1BM
							6			3NW6101-1		1	10 units	1BM
8	3NW6108-1			1	10 units		1BM							
10	3NW6103-1			1	10 units		1BM							
12	3NW6106-1			1	10 units		1BM							
16	3NW6105-1			1	10 units		1BM							
20	3NW6107-1			1	10 units		1BM							
25	3NW6110-1			1	10 units		1BM							
32	3NW6112-1			1	10 units		1BM							
40	3NW6117-1			1	10 units		1BM							
50	3NW6120-1			1	10 units		1BM							
	22 × 58	16		690			3NW6205-1				1	10 units	1BM	
		20					3NW6207-1				1	10 units	1BM	
		25					3NW6210-1				1	10 units	1BM	
		32	3NW6212-1				1	10 units	1BM					
		40	3NW6217-1				1	10 units	1BM					
		50	3NW6220-1				1	10 units	1BM					
		63	3NW6222-1				1	10 units	1BM					
		80	3NW6224-1				1	10 units	1BM					
		100	3NW6230-1				1	10 units	1BM					
			Cylindrical fuse links, operational class aM 10 × 38			0.5	500		3NW8000-1		1	10 units	1BM	
						1			3NW8011-1		1	10 units	1BM	
						2			3NW8002-1		1	10 units	1BM	
						4			3NW8004-1		1	10 units	1BM	
						6			3NW8001-1		1	10 units	1BM	
8	3NW8008-1				1	10 units			1BM					
10	3NW8003-1				1	10 units			1BM					
12	3NW8006-1				1	10 units			1BM					
16	3NW8005-1				1	20 units			1BM					
20	3NW8007-1				1	20 units			1BM					
25	3NW8010-1				1	20 units			1BM					
32	3NW8012-1				1	20 units			1BM					
	14 × 51		2	690		3NW8102-1		1	10 units	1BM				
			4			3NW8104-1		1	10 units	1BM				
			6			3NW8101-1		1	10 units	1BM				
			8			3NW8108-1		1	10 units	1BM				
			10			3NW8103-1		1	10 units	1BM				
			12			3NW8106-1		1	10 units	1BM				
			16			3NW8105-1		1	10 units	1BM				
			20			3NW8107-1		1	10 units	1BM				
		25	3NW8110-1				1	10 units	1BM					
		32	3NW8112-1				1	10 units	1BM					
		40	3NW8117-1				1	10 units	1BM					
		50	3NW8120-1				1	10 units	1BM					

Fuse Systems

Cylindrical Fuse Systems

Cylindrical fuse links and cylindrical fuse holders

	Size	I_n	U_n	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	mm × mm	A	V AC	d					
	22 × 58	16	690		3NW8205-1		1	10 units	1BM
		20			3NW8207-1		1	10 units	1BM
		25			3NW8210-1		1	10 units	1BM
		32			3NW8212-1		1	10 units	1BM
		40			3NW8217-1		1	10 units	1BM
	22 × 58	50	500		3NW8220-1		1	10 units	1BM
		63			3NW8222-1		1	10 units	1BM
		80			3NW8224-1		1	10 units	1BM
		100			3NW8230-1		1	10 units	1BM

	Number of poles	I_n	For fuse links of size	Mounting width	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		A	mm × mm	MW	d					
	Cylindrical fuse holders with signal detector¹⁾									
	1P	20	8 × 32	1		3NW7314		1	1 unit	1BM
		32	10 × 38	1		3NW7014		1	1 unit	1BM
		50	14 × 51	1.5		3NW7112		1	1 unit	1BM
		100	22 × 58	2		3NW7212		1	1 unit	1BM
	1P+N	20	8 × 32	1		3NW7354		1	1 unit	1BM
		32	10 × 38	1		3NW7054		1	1 unit	1BM
		50	14 × 51	3		3NW7152		1	1 unit	1BM
		100	22 × 58	4		3NW7252		1	1 unit	1BM
	2P	20	8 × 32	2		3NW7324		1	1 unit	1BM
		32	10 × 38	2		3NW7024		1	1 unit	1BM
		50	14 × 51	3		3NW7122		1	1 unit	1BM
		100	22 × 58	4		3NW7222		1	1 unit	1BM
	3P	20	8 × 32	3		3NW7334		1	1 unit	1BM
		32	10 × 38	3		3NW7034		1	1 unit	1BM
		50	14 × 51	4.5		3NW7132		1	1 unit	1BM
		100	22 × 58	6		3NW7232		1	1 unit	1BM
	3P+N	20	8 × 32	3		3NW7364		1	1 unit	1BM
		32	10 × 38	3		3NW7064		1	1 unit	1BM
		50	14 × 51	6		3NW7162		1	1 unit	1BM
		100	22 × 58	8		3NW7262		1	1 unit	1BM
	Cylindrical fuse holders without signal detector									
	1P	20	8 × 32	1		3NW7313		1	1 unit	1BM
		32	10 × 38	1		3NW7013		1	1 unit	1BM
		50	14 × 51	1.5		3NW7111		1	1 unit	1BM
		100	22 × 58	2		3NW7211		1	1 unit	1BM
	1P+N	20	8 × 32	1		3NW7353		1	1 unit	1BM
		32	10 × 38	1		3NW7053		1	1 unit	1BM
		50	14 × 51	3		3NW7151		1	1 unit	1BM
		100	22 × 58	4		3NW7251		1	1 unit	1BM
	2P	20	8 × 32	2		3NW7323		1	1 unit	1BM
		32	10 × 38	2		3NW7023		1	1 unit	1BM
		50	14 × 51	3		3NW7121		1	1 unit	1BM
		100	22 × 58	4		3NW7221		1	1 unit	1BM

¹⁾ Min. voltage of the signal detector: 48 V AC/DC

Cylindrical fuse links and cylindrical fuse holders

	Number of poles	I_n	For fuse links of size	Mounting width	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		A	mm x mm	MW	d					
	Cylindrical fuse holders without signal detector									
	3P	20	8 x 32	3		3NW7333		1	1 unit	1BM
		32	10 x 38	3		3NW7033		1	1 unit	1BM
		50	14 x 51	4.5		3NW7131		1	1 unit	1BM
		100	22 x 58	6		3NW7231		1	1 unit	1BM
	3P+N	20	8 x 32	3		3NW7363		1	1 unit	1BM
		32	10 x 38	3		3NW7063		1	1 unit	1BM
		50	14 x 51	6		3NW7161		1	1 unit	1BM
		100	22 x 58	8		3NW7261		1	1 unit	1BM
	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 x 51	0.5		3NW7901		1	1 unit	1BM
	For fuse bases		22 x 58			3NW7902		1	1 unit	1BM
	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 x 38 and 8 x 32	0.5		3NW7903		1	1 unit	1BM

More information

Mounting

Fuse holders, sizes 8 x 32 mm and 10 x 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 x 32 mm and 10 x 38 mm:

The auxiliary switches support the remote display of the switching state ON or OFF of the fuse holder.

Sizes 14 x 51 mm and 22 x 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 contactors.

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

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

Benefits

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

5



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 adapter for the 60 mm busbar system.

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		 UL File Number E171267	 UL File Number E171267
Rated voltage U_n	V AC	690	600
Rated current I_n	A AC	32	30
Rated short-circuit strength	kA	120 (at 500 V) 80 (at 690 V)	200
Breaking capacity			
• Utilization category		AC-20B (switching without load)	--
Rated impulse withstand voltage	kV	6	
Overvoltage category		III	
Pollution degree		2	
Max. power dissipation of the fuse link	W	3	
No-voltage changing of fuse links	°C	-5 ... +40°C, humidity 90% at +20°C	
Sealable when installed		Yes	
Lockable with padlock		Yes	
Mounting position		Any, preferably vertical	
Current direction		Any	
Degree of protection	Acc. to IEC 60529	IP20, with connected conductors ¹⁾	
Terminals with touch protection according to BGV A3 at incoming and outgoing feeder		Yes	
Ambient temperature	°C	-5 ... +40°C, humidity 90% at +20°C	
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 regulations using a straight test finger (from the front), with the device mounted and equipped with a cover, housing or some other enclosure.

		Auxiliary switches 3NW7903-1							
Standards		IEC 60947							
Approvals		  UL 508, UL File Number E334003							
Utilization category		AC-12	DC-13			AC-15			Acc. to UL
Rated voltage U_n	V AC	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 mm ²	°C	960	
Insulation coordination		Overvoltage category III, degree of pollution 2	
Rated operational voltage U_n			
• Acc. to UL	V AC	--	600
• Acc. to IEC	V AC	690	--
Maximum busbar current I_n			
• Acc. to UL	A	--	65
• Acc. to IEC	A	80	--

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		® , UL 4248-1, UL File Number E337131	
Enclosure/cover material		PA66-V0	
Lamp wire resistance/1 mm ²	°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	
Maximum operational voltage $U_{\max}$			
• Acc. to UL	V AC	--	600
• Acc. to IEC	V AC	690	--
Maximum electrical load $I_{\max}$			
• Acc. to UL	A	--	65
• Acc. to IEC	A	80	--
Rated current I_n	A	63	
Conductor cross-sections			
• Solid/stranded	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 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	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		A	mm x mm	MW	d					
3NW7 cylindrical fuse holders										
	Cylindrical fuse holders 									
	3P	32	10 x 38	2.5		3NW7033-1 3NW7034-1		1	1 unit	1BM
	Without signal detector							1	1 unit	1BM
	With signal detector									
	Fuse holders Class CC 									
	3P	30	Class CC	2.5		3NW7533-1HG 3NW7534-1HG		1	1 unit	1DN
	Without signal detector							1	1 unit	1DN
	With signal detector									

Accessories
Auxiliary switches

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

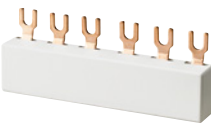
2.5

3NW7903-1

1

1 unit

1BM

	Version	I_n	Pin spacing	Length	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		A	mm	mm	d					
5ST2 60. busbar system										
	Busbars 									
	2 x 3P	63	15	45		5ST2601 5ST2602 5ST2603 5ST2604		1	10 units	1AD
	3 x 3P			90				1	10 units	1AD
	4 x 3P			135				1	10 units	1AD
	5 x 3P			180				1	10 units	1AD

Accessories
Terminals
For conductor cross-sections
2.5 mm² ... 35 mm²**5ST2600**

1

10 units

1AD

		Length of adapter	Width of adapter	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		mm	mm	d					
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), connecting cable AWG 12	200 260	45		8US1251-5DS10 8US1251-5DT10		1	1 unit	1CU
							1	1 unit	1CU

Accessories
Mounting rails for busbar device adapter

For assembly of additional devices

45

8US1998-7CB45

1

10 units

1CU

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

Fuse Systems

Fuse Systems acc. to UL

Class CC fuse systems

Overview

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

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

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

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

There are three different series:

- Characteristic: Slow 3NW1...-0HG
For the protection of control transformers, reactors, inductances. Significantly slower than the minimum requirements specified by UL for Class CC fuses of 12 s at $2 \times I_n$
- 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:

The products comply with the European Low Voltage Directive (LVD) and bear the CE mark. National wiring regulations must be observed for use in European installations.

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 / DC: 300
Rated current I_n	A	30
Rated conditional short-circuit current	kA	200
Breaking capacity • Utilization category		AC-20B (switching without load)
Max. power dissipation of the fuse link • With cable, 6 mm ² • With cable, 10 mm ²	W W	3 4.3
Rated impulse withstand voltage	kV	6
Overvoltage category		II
Pollution degree		2
No-voltage changing of fuse links		Yes
Sealable when installed		Yes
Mounting position		Any
Current direction		Any
Degree of protection acc. to IEC 60529		IP20 ¹⁾
Terminals with touch protection according to BGV A3 at incoming and outgoing feeder		Yes
Ambient temperature	°C	45 -> from -5 to +40
Conductor cross-sections • Solid and stranded • AWG conductor cross-section, solid and stranded	mm ² AWG	1.5 ... 16 15 ... 5
Tightening torque	Nm	2.5 (22 lb.in)

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

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

Selection and ordering data

	Number of poles	U_n V	I_n A	Mounting width MW	SD d	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	Class CC fuse holders					3NW7513-0HG 3NW7523-0HG 3NW7533-0HG		1	12 units	1DN
	1P	600	30	1	1			6 units	1DN	
	2P	600	30	2	1			4 units	1DN	
	3P	600	30	3	1			4 units	1DN	
	$I_n^{1)}$				SD d	Characteristic: slow Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	A				d					
	Class CC fuse links					3NW1006-0HG 3NW1008-0HG 3NW1010-0HG 3NW1015-0HG 3NW1020-0HG 3NW1025-0HG 3NW1030-0HG 3NW1040-0HG 3NW1050-0HG 3NW1060-0HG 3NW1075-0HG 3NW1080-0HG 3NW1100-0HG -- 3NW1150-0HG 3NW1200-0HG 3NW1250-0HG 3NW1300-0HG		1	10 units	1DN
	0.6 (6/10) ¹⁾				1			10 units	1DN	
	0.8 (8/10) ¹⁾				1			10 units	1DN	
	1				1			10 units	1DN	
	1.5 (1 ½) ¹⁾				1			10 units	1DN	
	2				1			10 units	1DN	
	2.5				1			10 units	1DN	
	3				1			10 units	1DN	
	4				1			10 units	1DN	
	5				1			10 units	1DN	
	6				1			10 units	1DN	
	7.5				1			10 units	1DN	
	8				1			10 units	1DN	
	10				1			10 units	1DN	
	12				1			10 units	1DN	
	15				1			10 units	1DN	
	20				1			10 units	1DN	
	25				1			10 units	1DN	
	30				1			10 units	1DN	
	$I_n^{1)}$				SD d	Characteristic: quick Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	A				d					
	Class CC fuse links					-- -- 3NW2010-0HG -- 3NW2020-0HG -- 3NW2030-0HG 3NW2040-0HG 3NW2050-0HG 3NW2060-0HG -- 3NW2080-0HG 3NW2100-0HG 3NW2120-0HG 3NW2150-0HG 3NW2200-0HG 3NW2250-0HG 3NW2300-0HG		1	10 units	1DN
	0.6 (6/10) ¹⁾				1			10 units	1DN	
	0.8 (8/10) ¹⁾				1			10 units	1DN	
	1				1			10 units	1DN	
	1.5 (1 ½) ¹⁾				1			10 units	1DN	
	2				1			10 units	1DN	
	2.5				1			10 units	1DN	
	3				1			10 units	1DN	
	4				1			10 units	1DN	
	5				1			10 units	1DN	
	6				1			10 units	1DN	
	7.5				1			10 units	1DN	
	8				1			10 units	1DN	
	10				1			10 units	1DN	
	12				1			10 units	1DN	
	15				1			10 units	1DN	
	20				1			10 units	1DN	
	25				1			10 units	1DN	
	30				1			10 units	1DN	

¹⁾ Values in brackets, American English wording.

Fuse Systems

Fuse Systems acc. to UL

Class CC fuse systems

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

5

Overview

The 30 A and 60 A fuse holders are modular installation devices for mounting on a DIN rail (standard mounting rail). These devices can also be mounted on the 60 mm busbar system using busbar adapters of appropriate width. The 100 A, 200 A and 400 A fuse holders are available as versions either for screwing onto a mounting plate or for directly mounting on the 60 mm busbar system

Note:

The products comply with the European Low Voltage Directive (LVD) and bear the CE mark. National wiring regulations must be observed for use in European installations.

For more information, see chapter "Busbar Systems".

Benefits

- For switchboard assemblies and machine manufacturers who export their switchboards to the USA or Canada
- Easier export due to UL and CSA approvals
- Modern fuse holder design with touch protection to BGV A3 ensures safe installation
- Fuse holders up to 200 A enable fuses to be changed in de-energized condition
- Efficient power distribution thanks to mounting the devices on 60 mm busbar system.

Technical specifications

		Class J fuse holders 3NW75.3-0HG				
Standards		UL 4248-1 Ed.1, UL 4248-8 Ed.1, UL File No. E171267 CSA File number 233322, Class number 6225-01				
Approvals		 		c  US		  c  US (busbar device)
Rated current I_n	A	30	60	100	200	400
Rated voltage U_n acc. to UL	V AC	600				
	V DC	600				
Conditional rated current (SCCR withstand rating)		200				200 65 (busbar device)
Switching capacity		AC-20B (switching without load)				
Utilization category		DC-20B (switching without load)				
Rated impulse withstand voltage	kV	No information as the devices are only tested and certified to UL/CSA and not to IEC				
Overvoltage category						
Pollution degree						
No-voltage changing of fuse links		Yes				No
Sealable when installed		Yes				
Mounting position		Any, preferably vertical				
Current direction		For surface mounting devices: any, for busbar devices: output via terminals				
Degree of protection acc. to IEC 60529		IP20				
Ambient temperature		-5 ... +40 °C				
Plastics		Self-extinguishing acc. to UL 94, tracking resistance min. CTI 200, halogen-free				
Temperature resistance		up to 125°C		up to 120°C		up to 125°C
Conductor cross-sections						
• Acc. to IEC/EN • Acc. to UL/CSA	mm²	0.75 ... 50	2.5 ... 50	1.5 ... 70	35 ... 150	16 ... 300
	AWG	AWG 18 ... AWG 1	AWG 14 ... AWG 1	AWG 12 ... AWG 2/0	AWG 2 ... MCM 300	AWG 4 ... MCM 600
Tightening torque		up to 1 mm²/>1 mm²:				
• Acc. to IEC/EN • Acc. to UL/CSA	Nm	2.0 ... 2.5/3.5 ... 4.0	4.0	5	6	38
	lb.in.	18 ... 22/31 ... 35	35	45	53	336
Busbar devices						
Conductor cross-sections						
• Acc. to IEC/EN • Acc. to UL/CSA	mm²	--	--	1.5 ... 70	35 ... 150	16 ... 300
	AWG	--	--	AWG 12 ... AWG 2/0	AWG 2 ... MCM 300	AWG 4 ... MCM 600
Tightening torque						
• Acc. to IEC/EN • Acc. to UL/CSA	Nm	--	--	5	6	32
	lb.in.	--	--	45	53	285

Fuse Systems

Fuse Systems acc. to UL

Class J fuse systems

Selection and ordering data

Number of poles	U_n	I_n	Mounting width	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	V	A	mm	d					
Class J fuse holders									
• Modular devices for mounting on DIN mounting rail									
	1P	600	30	36 (2 MW)	3NW7511-3HG		1	6 units	1DN
	2P	600	30	72 (4 MW)	3NW7521-3HG		1	3 units	1DN
	3P	600	30	108 (6 MW)	3NW7531-3HG		1	2 units	1DN
	1P	600	60	40	3NW7511-5HG		1	6 units	1DN
	2P	600	60	80	3NW7521-5HG		1	3 units	1DN
	3P	600	60	120	3NW7531-5HG		1	2 units	1DN
• For screwing onto mounting plate ¹⁾									
	3P	600	100	106	3NW7531-6HG		1	1 unit	1DN
	3P	600	200	184	3NW7531-7HG		1	1 unit	1DN
	3P	600	400	256	3NW7531-8HG		1	1 unit	1DN

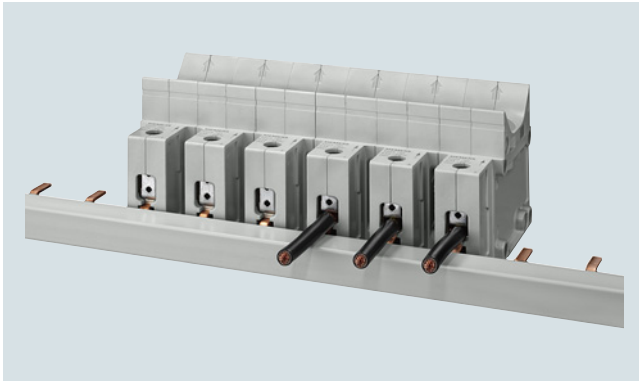
¹⁾ For versions for direct mounting on 60 mm busbar system, see chapter "Busbar Systems"
--> 8US 60 mm busbar systems up to 1600 A --> Built-in components

Overview

Busbars with pin-type connections can be used for NEOZED fuse 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.

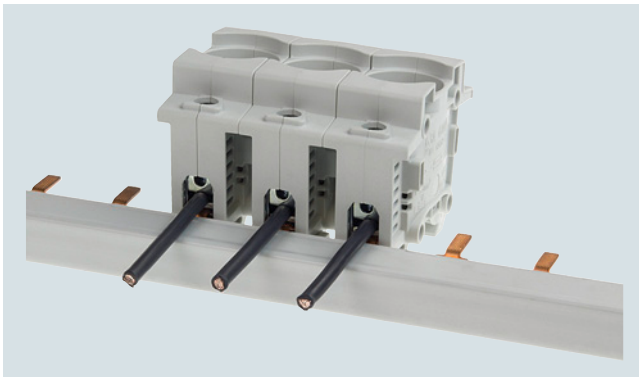
Benefits



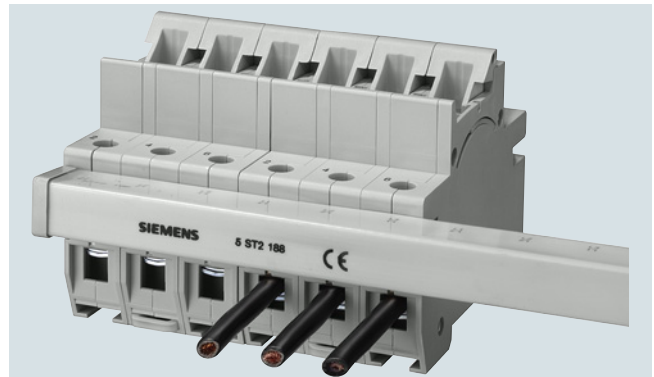
- Clear and visible conductor connection that can be easily checked when using the NEOZED D02 comfort base and which facilitates cable entry



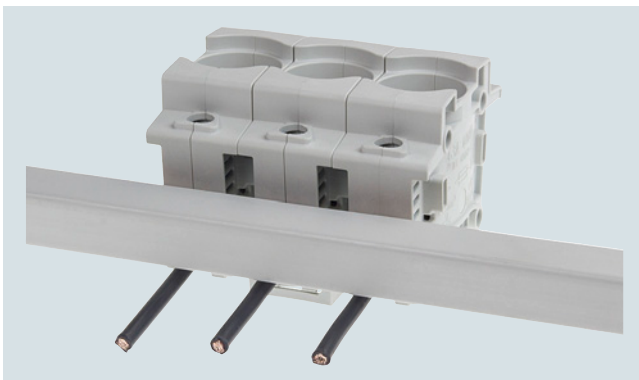
- Bus-mounting of NEOZED fuse bases made of ceramic on three-phase busbar with fork plug, which can be cut to length



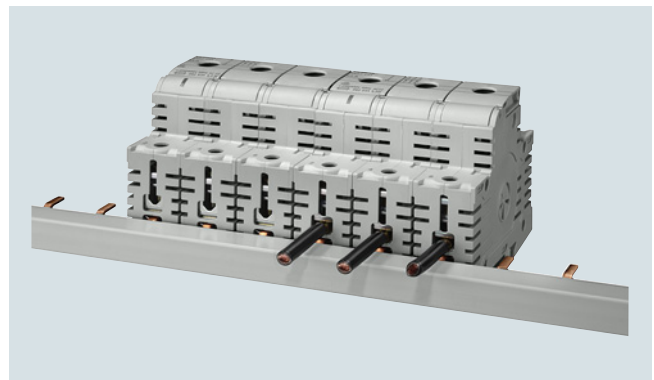
- Bus-mounting of the new NEOZED fuse base made of molded plastic on three-phase busbar with pin-type connection which can be cut to length, busbar at top for easily visible conductor connection



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



- Bus-mounting of the new NEOZED fuse base made of molded plastic on three-phase busbar with pin-type connection which can be cut to length, busbar at bottom for maximum conductor connection

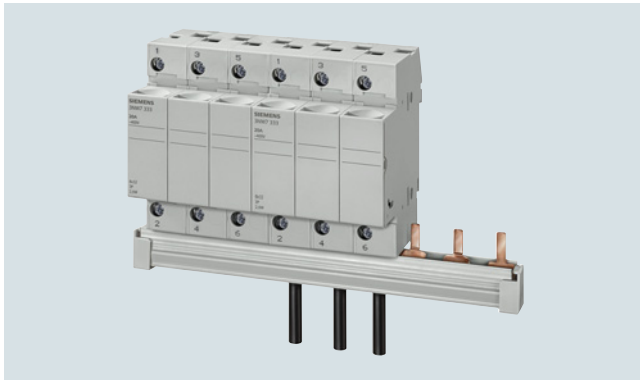


- Clear and visible conductor connection that can be easily checked when using MINIZED D02 switch disconnectors. This facilitates cable entry and saves time

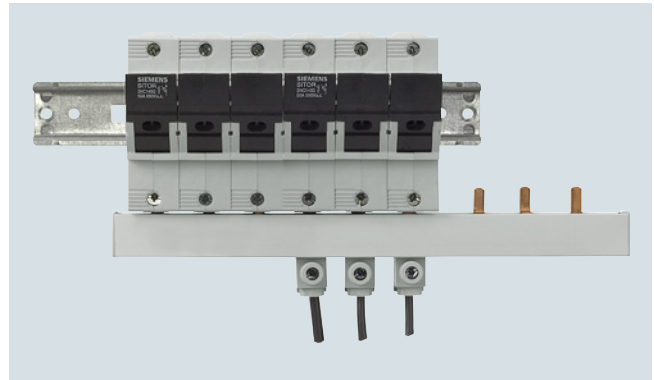
Fuse Systems

Busbar systems

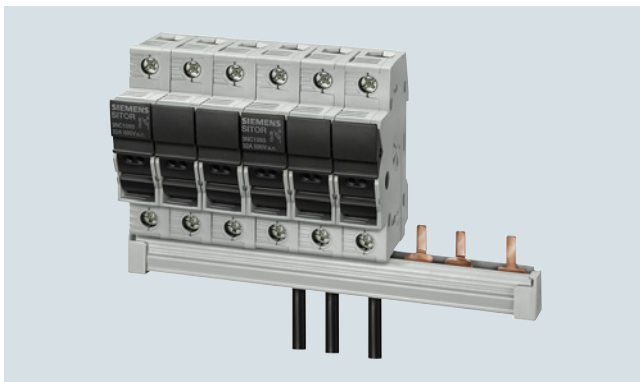
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- Bus-mounting of cylindrical fuse holders 8 x 32 mm and 10 x 38 mm with three-phase pin busbar that can be cut to length



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



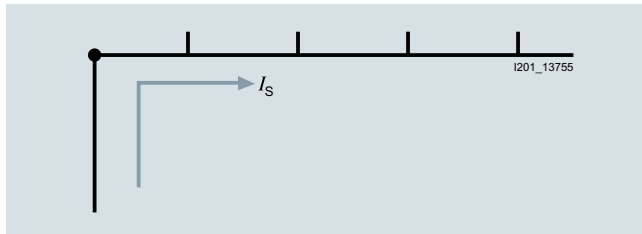
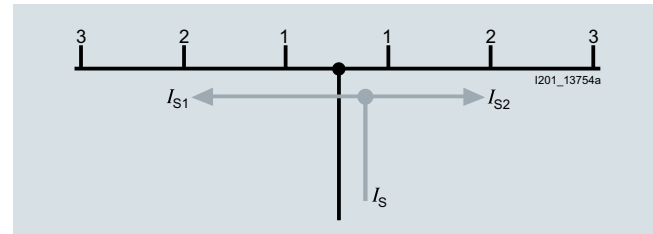
- Bus-mounting of SITOR cylindrical fuse holders 10 x 38 mm with the same terminal connection as Class CC fuse holders with three-phase pin busbar that can be cut to length

Technical specifications

			5ST, 5SH
Standards			EN 60439-1 (VDE 0660-500): 2005-01
Busbar material			SF-Cu F 24
Partition material			Plastic, Cycloy 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 mm ²		A	63
• Cross-section 16 mm ²		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 per phase			
• Infeed at the start of the busbar			
- Cross-section 10 mm ²		A	63
- Cross-section 16 mm ²		A	80
• Infeed at the center of the busbar			
- Cross-section 10 mm ²		A	100
- Cross-section 16 mm ²		A	130

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 per 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	14 ... 1 1.5 ... 50
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**

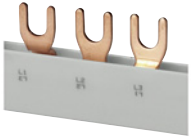
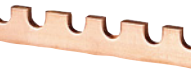
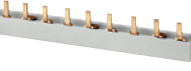
The sum of the output currents per branch must not be greater than the busbar current $I_{S1,2}$ /phase.

Selection and ordering data

	Phases	Conductor cross-section	Load capacity up to	Pin spacing	Length	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		mm ²	A	MW	mm	d					
Busbars											
	For MINIZED D02 5SG71.3 switch disconnectors For NEOZED D01/D02 fuse bases made of molded plastic 5SG1301, 5SG1701, 5SG5301, 5SG5701, 5SG1302, 5SG1702, 5SG5302, 5SG5702 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 SITOP 14 x 51 mm Can be cut to length, without end caps										
	Single-phase	16	130	1.5	1016	►	5ST3703		1	1 unit	1AD
	Three-phase	16	120	1.5	1016		5ST3714		1	1 unit	1AD

Fuse Systems

Busbar systems

	Phases	Conductor cross-section mm ²	Load capacity up to A	Pin spacing MW	Length mm	SD d	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
For MINIZED D01 fuse switch disconnectors											
	Can be cut to length, without end caps										
	Single-phase	16	120	1	1000		5ST2190		1	1 unit	1AD
	Two-phase						5ST2191		1	1 unit	1AD
	Three-phase						5ST2192		1	1 unit	1AD
	Can be cut to length, with 2 end caps										
	Single-phase	16	120	1	220		5ST2186		1	1 unit	1AD
	Two-phase						5ST2187		1	1 unit	1AD
	Three-phase						5ST2188		1	1 unit	1AD
For NEOZED D01/D02 fuse bases											
	• 5SG1.30, 5SG1.31, 5SG5.30 made of molded plastic • Made of ceramic, terminal version B and K (clamp-type terminal, screw head contact)										
	Non-insulated										
	Single-phase	36	168	1.5			5SH5322		1	1 unit	1BM
	Can be cut to length, without end caps										
	Single-phase	24	160	1.5	1000		5SH5517		1	1 unit	1BM
	Three-phase	16	120	1.5	1000		5SH5320		1	1 unit	1BM
For cylindrical fuse holder 8 x 32 mm and 10 x 38 mm											
For cylindrical fuse holder SITOP 10 x 38 mm											
For class CC fuse holder ¹⁾											
	Can be cut to length, without end caps										
	Single-phase	16	120	1	1016	▶	5ST3701		1	1 unit	1AD
	Two-phase		120	1		▶	5ST3705		1	1 unit	1AD
	Three-phase	16	120	1	1016	▶	5ST3710		1	1 unit	1AD
	Can be cut to length, with end caps										
	Single-phase	16		1	214	▶	5ST3700		1	1 unit	1AD
	Two-phase			1		▶	5ST3704		1	1 unit	1AD
	Three-phase			1		▶	5ST3708		1	1 unit	1AD
End caps for busbars											
	For single-phase 5ST2190 busbars						5ST2196		1	10 units	1AD
	For two-phase 5ST2191 busbars and for three-phase 5ST2192 busbars						5ST2197		1	10 units	1AD
	For single-phase 5ST37, 5SH55 busbars						5ST3748		1	10 units	1AD
	For two-phase and three-phase 5ST37 and 5SH5320 busbars						5ST3750		1	10 units	1AD

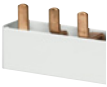
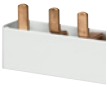
¹⁾ For UL-approved busbars, see page 5/36.

Phases	Conductor cross-section mm ²	Load capacity up to A	Length mm	SD d	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	Touch protection for free connection of pin busbars Yellow (RAL 1004) 5 x 1 pin				5ST3655		1	10 units	1AD
	Terminals For NEOZED fuse bases D01/D02 made of ceramic For DIAZED fuse bases DII/DIII made of ceramic Terminal version S For conductors 2 ... 25				5SH5327		1	10 units	1BM
	Terminal versions B and K For conductors 6 ... 25				5SH5328		1	10 units	1BM
	For the infixed of fork-type or pin busbars For conductors 6 ... 35				5ST2157		1	5 units	1AD
	Bus-mounting terminals For DIAZED EZR bus-mounting bases Non-insulated For conductors 1.5 ... 16 For conductors 10 ... 35				8JH4122 8JH4124		1 1	10 units 10 units	1BR 1BR

Fuse Systems

Busbar systems

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

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

Overview

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

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

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

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

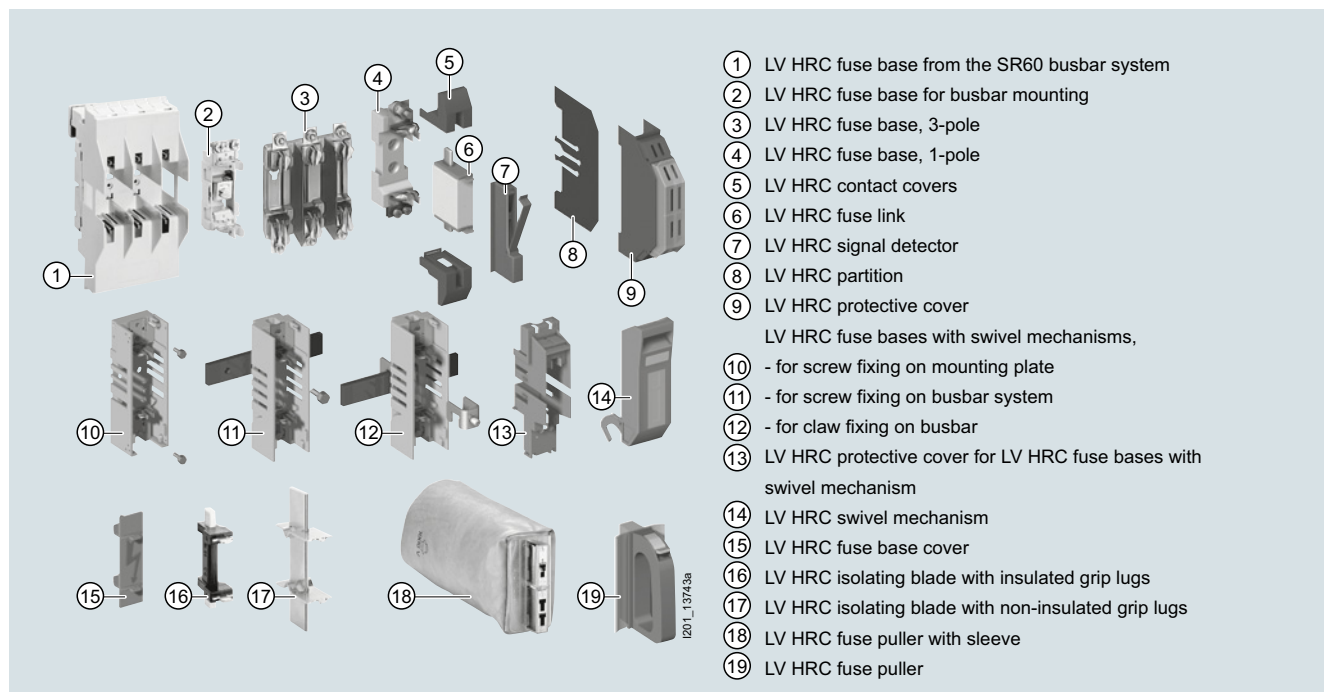
LV HRC fuse links are available in the following operational classes:

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

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

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

LV HRC components



Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse links

Benefits



Tripped



Not tripped



Tripped



Not tripped

- LV HRC fuse links with combination alarm signal the tripping of a fuse by a clear color change from red to white. This enables fast identification and replacement of the tripped fuse links. This increases system availability
- The insulated grip lugs made of metal are integrated in the top and bottom covers of the fuse link in molded plastic and provide greater safety during replacement. The following mark indicates that the grip lugs are insulated **I**

- In the standard series with front indicator, the front-mounted red indicator signals the tripping of a fuse
- LV HRC fuse links are always equipped with silver-plated contact pins. This means that they are non-corroding and have less contact resistance. This ensures the long-term operational safety of the plant

Technical specifications

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

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

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse links

Selection and ordering data

Size	Mounting width	I_n	U_n	SD	Insulated grip lugs	Price per PU	PU (UNIT, SET, M)	PS	PG					
	mm	A	V AC/ V DC	d	Article No. www.siemens.com/ product?Article No.									
LV HRC fuse links with combination alarm, operational class gG														
	000	21	10	400/--	3NA6803-4		1	3 units	1BM					
			16		3NA6805-4		1	3 units	1BM					
			20		3NA6807-4		1	3 units	1BM					
			25		3NA6810-4		1	3 units	1BM					
			32		3NA6812-4		1	3 units	1BM					
			35		3NA6814-4		1	3 units	1BM					
			40		3NA6817-4		1	3 units	1BM					
			50		3NA6820-4		1	3 units	1BM					
			63		3NA6822-4		1	3 units	1BM					
			80		3NA6824-4		1	3 units	1BM					
	00	30	80	400/--	3NA6824-4KK		1	3 units	1BM					
			100		3NA6830-4KK		1	3 units	1BM					
			125		3NA6832-4		1	3 units	1BM					
			160		3NA6836-4		1	3 units	1BM					
					1		30	35	400/--	3NA6114-4		1	3 units	1BM
								40		3NA6117-4		1	3 units	1BM
								50		3NA6120-4		1	3 units	1BM
								63		3NA6122-4		1	3 units	1BM
								80		3NA6124-4		1	3 units	1BM
								100		3NA6130-4		1	3 units	1BM
125	3NA6132-4	1		3 units		1BM								
160	3NA6136-4	1		3 units		1BM								
200	3NA6140-4	1		3 units		1BM								
224	3NA6142-4	1		3 units		1BM								
	2	47.2	50	400/--	3NA6220-4		1	3 units	1BM					
			63		3NA6222-4		1	3 units	1BM					
			80		3NA6224-4		1	3 units	1BM					
			100		3NA6230-4		1	3 units	1BM					
			125		3NA6232-4		1	3 units	1BM					
		160	3NA6236-4		1		3 units	1BM						
		57.8	200		3NA6240-4		1	3 units	1BM					
			224		3NA6242-4		1	3 units	1BM					
			250		3NA6244-4		1	3 units	1BM					
			300		3NA6250-4		1	3 units	1BM					
315	3NA6252-4		1	3 units	1BM									
	355	3NA6254-4	1	3 units	1BM									
	400	3NA6260-4	1	3 units	1BM									



Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse links

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

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse links

Size	Mounting width	I_n	U_n	SD	Non-insulated grip lugs	Price per PU	PU (UNIT, SET, M)	PS	PG				
	mm	A	V AC/ V DC	d	Article No. www.siemens.com/ product?Article No.								
	LV HRC fuse links with front indicator, operational class gG												
	000	21	2	500/250						3NA3802	1	3 units	1BM
			4							3NA3804	1	3 units	1BM
			6							3NA3801	1	3 units	1BM
			10							3NA3803	1	3 units	1BM
			16							3NA3805	1	3 units	1BM
			20							3NA3807	1	3 units	1BM
			25							3NA3810	1	3 units	1BM
			32							3NA3812	1	3 units	1BM
			35							3NA3814	1	3 units	1BM
			40							3NA3817	1	3 units	1BM
			50							3NA3820	1	3 units	1BM
			63							3NA3822	1	3 units	1BM
			80							3NA3824	1	3 units	1BM
			100							3NA3830	1	3 units	1BM
			125							400/250	3NA3832-8	1	3 units
160	3NA3836-8	1	3 units	1BM									
00	30	35	500/250	3NA3814-7	1	3 units	1BM						
		50		3NA3820-7	1	3 units	1BM						
		63		3NA3822-7	1	3 units	1BM						
		80		3NA3824-7	1	3 units	1BM						
		100		3NA3830-7	1	3 units	1BM						
		125		3NA3832	1	3 units	1BM						
		160		3NA3836	1	3 units	1BM						
0	30	6	500/440	3NA3001	1	3 units	1BM						
		10		3NA3003	1	3 units	1BM						
		16		3NA3005	1	3 units	1BM						
		20		3NA3007	1	3 units	1BM						
		25		3NA3010	1	3 units	1BM						
		32		3NA3012	1	3 units	1BM						
		35		3NA3014	1	3 units	1BM						
		40		3NA3017	1	3 units	1BM						
		50		3NA3020	1	3 units	1BM						
		63		3NA3022	1	3 units	1BM						
		80		3NA3024	1	3 units	1BM						
		100		3NA3030	1	3 units	1BM						
		125		3NA3032	1	3 units	1BM						
		160		3NA3036	1	3 units	1BM						
		1		30	16	500/440	3NA3105	1	3 units	1BM			
20	3NA3107		1		3 units		1BM						
25	3NA3110		1		3 units		1BM						
35	3NA3114		1		3 units		1BM						
40	3NA3117		1		3 units		1BM						
50	3NA3120		1		3 units		1BM						
63	3NA3122		1		3 units		1BM						
80	3NA3124		1		3 units		1BM						
100	3NA3130		1		3 units		1BM						
125	3NA3132		1		3 units		1BM						
160	3NA3136		1		3 units		1BM						
47.2	200		3NA3140		1		3 units	1BM					
	224		3NA3142		1		3 units	1BM					
	250		3NA3144		1		3 units	1BM					

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse links

Size	Mounting width	I_n	U_n	SD	Non-insulated grip lugs	Price per PU	PU (UNIT, SET, M)	PS	PG				
	mm	A	V AC/ V DC	d	Article No. www.siemens.com/ product?Article No.								
LV HRC fuse links with front indicator, operational class gG													
	2	47.2	35	500/440	3NA3214		1	3 units	1BM				
			50		3NA3220		1	3 units	1BM				
			63		3NA3222		1	3 units	1BM				
			80		3NA3224		1	3 units	1BM				
			100		3NA3230		1	3 units	1BM				
			125		3NA3232		1	3 units	1BM				
			160		3NA3236		1	3 units	1BM				
			200		3NA3240		1	3 units	1BM				
			224		3NA3242		1	3 units	1BM				
			250		3NA3244		1	3 units	1BM				
		57.8	300		3NA3250		1	3 units	1BM				
			315		3NA3252		1	3 units	1BM				
			355		3NA3254		1	3 units	1BM				
			400		3NA3260		1	3 units	1BM				
	3	57.8	200	500/440	3NA3340		1	3 units	1BM				
			224		3NA3342		1	3 units	1BM				
			250		3NA3344		1	3 units	1BM				
			300		3NA3350		1	3 units	1BM				
			315		3NA3352		1	3 units	1BM				
			355		3NA3354		1	3 units	1BM				
			400		3NA3360		1	3 units	1BM				
		71.2	425		3NA3362		1	3 units	1BM				
			500		3NA3365		1	3 units	1BM				
			630		3NA3372		1	3 units	1BM				
			Can only be used for 3NH3530 LV HRC fuse base										
			4 (IEC design)		101.8		630	500/440	3NA3472		1	1 unit	1BM
							800		3NA3475		1	1 unit	1BM
							1000		3NA3480		1	1 unit	1BM
1250	3NA3482	1		1 unit		1BM							
Only for 3NH7520 LV HRC fuse base or usable for 3NJ5643-0BB00 fuse switch disconnectors with in-line design													
	4a	101.8	500	500/440	3NA3665		1	1 unit	1BM				
			630		3NA3672		1	1 unit	1BM				
			800		3NA3675		1	1 unit	1BM				
			1000		3NA3680		1	1 unit	1BM				
			1250		3NA3682		1	1 unit	1BM				

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse links

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

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	I_n	U_n	SD	Non-insulated grip lugs	Price per PU	PU (UNIT, SET, M)	PS	PG	
	mm	A	V AC/ V DC	d	Article No. www.siemens.com/ product?Article No.					
LV HRC fuse links with front indicator, operational class gG										
	000	21	250	690 ¹⁾	3NA3802-6		1	3 units	1BM	
					3NA3804-6		1	3 units	1BM	
					3NA3801-6		1	3 units	1BM	
					3NA3803-6		1	3 units	1BM	
					3NA3805-6		1	3 units	1BM	
					3NA3807-6		1	3 units	1BM	
					3NA3810-6		1	3 units	1BM	
					3NA3812-6		1	3 units	1BM	
					3NA3814-6		1	3 units	1BM	
					3NA3817-6KJ		1	3 units	1BM	
					3NA3820-6KJ		1	3 units	1BM	
	00	30	250	690 ¹⁾	3NA3817-6		1	3 units	1BM	
					3NA3820-6		1	3 units	1BM	
					3NA3822-6		1	3 units	1BM	
					3NA3824-6		1	3 units	1BM	
					3NA3830-6		1	3 units	1BM	
	1	30	440	690 ¹⁾	3NA3120-6		1	3 units	1BM	
					3NA3122-6		1	3 units	1BM	
					3NA3124-6		1	3 units	1BM	
					3NA3130-6		1	3 units	1BM	
					3NA3132-6		1	3 units	1BM	
		47.2			3NA3136-6		1	3 units	1BM	
					3NA3140-6		1	3 units	1BM	
					3NA3144-6		1	3 units	1BM	
	2	47.2	440	690 ¹⁾	3NA3224-6		1	3 units	1BM	
					3NA3230-6		1	3 units	1BM	
					3NA3232-6		1	3 units	1BM	
					3NA3236-6		1	3 units	1BM	
					3NA3240-6		1	3 units	1BM	
		57.8			3NA3242-6		1	3 units	1BM	
					3NA3244-6		1	3 units	1BM	
					3NA3250-6		1	3 units	1BM	
					3NA3252-6		1	3 units	1BM	
	3	57.8	440	690 ¹⁾	3NA3344-6		1	3 units	1BM	
					3NA3352-6		1	3 units	1BM	
		71.2			3NA3354-6		1	3 units	1BM	
					3NA3360-6		1	3 units	1BM	
					3NA3362-6		1	3 units	1BM	
					3NA3365-6		1	3 units	1BM	

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	I_n	U_n	SD	Non-insulated grip lugs	Price per PU	PU (UNIT, SET, M)	PS	PG									
	mm	A	V AC/ V DC	d	Article No. www.siemens.com/ product?Article No.													
LV HRC fuse links with front indicator, operational class aM																		
	000	21	6	500/--			1	3 units	1BM									
			10															
			16															
			20															
			25															
			32															
			35															
			40															
			50															
			63															
			80															
			100															
	00	30	100	500/--			1	3 units	1BM									
			125															
			160															
	1	30	63	690/--			1	3 units	1BM									
			80															
			100															
		47.2	125															
			160															
			200															
	2	47.2	125	690/--			1	3 units	1BM									
			160															
			200															
		57.8	250															
			315															
			355															
			400															
										3	57.8	315	690/--			1	3 units	1BM
												355						
												400						
71.2	500																	
	630																	

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC signal detectors

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.

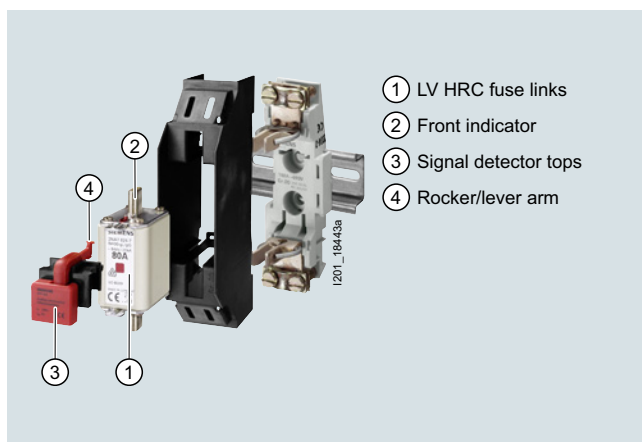
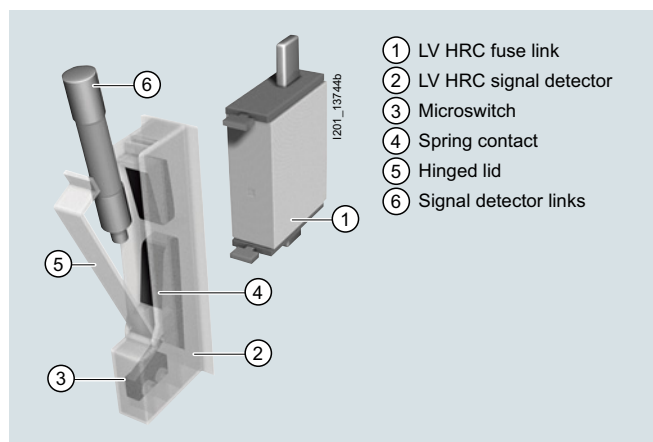
- 3NX1024 signal detector top
The signal detector top can be used with LV HRC fuse links, sizes 000, 00, 1 and 2, which are equipped with non-insulated grip lugs and have a front indicator or combination alarm. It is simply plugged into the grip lugs.
- 5TT3170 fuse monitor
If a fuse is tripped, the 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	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		d					
	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 connector 2.3 mm	000 ... 4	3NX1021		1	1 unit	1BM
	Signal detector links • Rated voltage up to 690 V AC/600 V DC Response value > 9 V; 2.5 A; for standard applications Response value > 2 V; 7 A; only for meshed networks	000 ... 4	3NX1022 3NX1023		1 1	3 units 3 units	1BM 1BM
	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 connector 2.3 mm	000, 00, 1, 2	3NX1024		1	1 unit	1BM

U_e	I_n	U_c	Mounting width	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG	
V AC	A	V	MW	d						
	Fuse monitors For all low-voltage fuse systems. Can be used in asymmetric systems afflicted with harmonics and regenerative feedback motors. Signal also for disconnected loads.	230	4	380 ... 415 3 AC	2	▶	5TT3170	1	1 unit	1BK
	Electronic fuse monitoring for remote display of tripped fuses: 3KF9010-1AA00, see chapter "Switch Disconnectors" .									

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse bases and accessories

Overview

Terminals for all applications

5

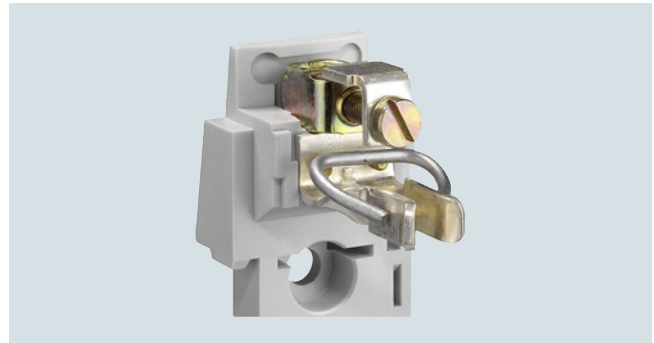


Flat terminals with screws are suitable for connecting busbars or cable lugs. They have a torsion-proof screw connection with shim, spring washer and nut. When tightening the nut, always ensure compliance with the specified torque due to the considerable leverage effect.

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



The 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.

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 aging 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

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Technical specifications

		LV HRC fuse bases					
Size		000/00	0	1	2	3	4
Standards		IEC 60269-1, -2; EN 60269-1; DIN VDE 0636-2, UL 4248-1 (only downstream from the branch protection)					
Approvals		KEMA, UL File No. E171267-IZLT2					
Rated current I_n	A	160	160	250	400	630	1250
Rated voltage U_n	V AC	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		M10		M12	
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 terminal							
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	8		15			--

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

		LV HRC fuse bases with swivel mechanism			
Size		000/00	1	3	4a
Rated voltage U_n	V AC	690			
	V DC	440			
Rated conditional short-circuit current	kA	--			80
Rated short-time withstand current / 1s	kA	--			35
Max. power dissipation of fuse links	W	12	32	48	110
Flat terminal					
Screw		M8	M10	M12	M16
Nut		M8	--		
Max. tightening torque	Nm	14	38		65

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse bases and accessories

Selection and ordering data

Size	I_n	Version	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
A			d					
LV HRC fuse bases								
Made of molded plastic, for standard rail mounting or screw fixing								
	000/00	160	1P With flat terminals, screw	3NH3051		1	1 unit	1BM
Made of ceramic for screw fixing								
	000/00	160	1P With flat terminals, screw With plug-in terminals With saddle-type terminals	3NH3030 3NH3031 3NH3032		1 1 1	3 units 3 units 3 units	1BM 1BM 1BM
			3P (incl. two partitions) With flat terminals With saddle-type terminals	3NH4030 3NH4032		1 1	1 unit 1 unit	1BM 1BM
Made of ceramic for screw fixing								
	0	160	1P With flat terminals	3NH3120		1	3 units	1BM
Made of ceramic for screw fixing								
	1	250	1P With flat terminals With double busbar terminals	3NH3230 3NH3220		1 1	3 units 3 units	1BM 1BM
Ceramic supports on base plate for screw fixing								
	1	250	3P (incl. two partitions) With flat terminals	3NH4230		1	1 unit	1BM
Made of ceramic for screw fixing								
	2	400	1P With flat terminals With double busbar terminals	3NH3330 3NH3320		1 1	1 unit 1 unit	1BM 1BM
Made of ceramic for screw fixing								
	3	630	1P With flat terminals With double busbar terminals	3NH3430 3NH3420		1 1	1 unit 1 unit	1BM 1BM

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse bases and accessories

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

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

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse bases and accessories

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

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse bases and accessories

Size	Version	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
d							
	Fuse base covers For LV HRC fuse bases, red, with inscription "Isolating point" 000/00 1¹⁾, 2, 3 1) Note: Restriction: Observe width 60 mm of the blank insert when using for LV HRC fuse bases or LV HRC fuse switching devices of size 1!		3NX1003 3NX1004		1 1	3 units 3 units	1BM 1BM
 	Fuse pullers 000 to 3 For LV HRC fuse links Without sleeve With sleeve		3NX1013 3NX1014		1 1	1 unit 1 unit	1BM 1BM
 	Isolating blades For LV HRC fuse bases and fuse switch disconnectors With insulated grip lugs 000/00 Silver-plated 0 1 2 3 With non-insulated grip lugs 4 Tin-coated 4a Nickel-plated		3NG1002 3NG1102 3NG1202 3NG1302 3NG1402 3NG1503 3NG1505		1 1 1 1 1 1 1	3 units 1 unit 1 unit 1 unit 1 unit 3 units 1 unit	1BM 1BM 1BM 1BM 1BM 1BM 1BM

Fuse Systems

3NA, 3ND LV HRC Fuse Systems

LV HRC fuse bases and accessories

SITOR semiconductor fuses for 3NH bases: Derating table

3NH bases are generally suitable for all LV HRC type fuses. LV HRC type fuses for SITOR semiconductor protection can also be used, although it must be noted that, compared to cable and line protection fuses, these get much hotter during operation. The following table contains the permissible load currents of the SITOR semiconductor fuses for installation in 3NH. For installation in a base, it may therefore be necessary to operate the fuse under I_n (derating).

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

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

¹⁾ For permissible load currents for 3NE8...-OMK, see Configuration Manual "Fuse Systems" in SIOS or on request.

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

SITOR semiconductor fuse data

Permissible load currents of fuse when installed in: 3NH

Type ¹⁾	Rated current I_n	Rated voltage U_n	Operational class	Size	Required conductor cross-section	Type	Size	Permissible load current ²⁾
--	A	V AC	--	--	mm ² Cu	--	--	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-OB	315	1000	aR	1	185	3NH3330/20	2	305
3NE3231	350	1000	aR	1	240	3NH3330/20	2	335
3NE3232-OB	400	1000	aR	1	240	3NH3330/20	2	380
3NE3233	450	1000	aR	1	2 x 150	3NH3330/20	2	425
3NE3332-OB	400	1000	aR	2	240	3NH3430/20	3	400
3NE3333	450	1000	aR	2	2 x 150	3NH3430/20	3	450
3NE3334-OB	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-OB	250	800	aR	2	150	3NH3330/20	2	240
3NE4330-OB	315	800	aR	2	240	3NH3330/20	2	300
3NE4333-OB	450	800	aR	2	2 x (30 x 5)	3NH3430/20	3	425
3NE4334-OB	500	800	aR	2	2 x (30 x 5)	3NH3430/20	3	475
3NE4337	710	800	aR	2	2 x (50 x 5)	3NH3430/20	3	630
3NE8015-1	25	690	gR	00	4	3NH3030/4030	00	25
3NE8003-1	35	690	gR	00	6	3NH3030/4030	00	35
3NE8017-1	50	690	gR	00	10	3NH3030/4030	00	50
3NE8018-1	63	690	gR	00	16	3NH3030/4030	00	63
3NE8020-1	80	690	aR	00	25	3NH3030/4030	00	80
3NE8021-1	100	690	aR	00	35	3NH3030/4030	00	100
3NE8022-1	125	690	aR	00	50	3NH3030/4030	00	125
3NE8024-1	160	690	aR	00	70	3NH3030/4030	00	160

¹⁾ For permissible load currents for 3NE8...-OMK, see [Configuration Manual "Fuse Systems"](#) in SIOS or on request.

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

Fuse Systems

SITOR Semiconductor Fuses

LV HRC design

Overview

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

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

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

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

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

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

Information about 3NH LV HRC fuse bases suitable for use with SITOR semiconductor fuses can also be found in this chapter, see page 5/48 onwards.

Note:

For detailed information about 3KF and 3NP switch disconnectors, see chapter "Switch Disconnectors", sections "Switch Disconnectors with Fuses"/"Fuse Switch Disconnectors". Please note that the newly developed 3KF SITOR switch disconnectors have been specially provided with heat sinks to accommodate the higher temperatures of the SITOR fuses.

Fuse characteristics, configuration notes and the assignments of SITOR semiconductor fuses to the fuse bases and 3NP fuse switch disconnectors and 3KF switch disconnectors with fuses can be found in the Configuration Manual "Fuse Systems" in SIOS 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 3NH LV HRC fuse bases or Siemens switch disconnectors has been tested with regard to heat dissipation and maximum current loading. The use of gR fuses > 63 A as an overload protection device in switch disconnectors with fuses is not permitted due to the risk of overheating (with the exception of 3NE1).
- 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 general applications (e.g. cable and line protection) and for the protection of power semiconductors, optimized for low I^2t values (full range protection)
- gS: For general applications (e.g. cable and line protection) and for the protection of power semiconductors, optimized for low power loss (full range protection)

Parallel-connected fuses

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

Selection and ordering data

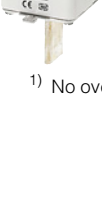
Size	I_n	U_n	Operational class	Breaking I^2t value	Power loss	Varying load factor WL	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
A		V AC/ V DC		A ² s	W		d					
LV HRC design												
With slotted blade contacts with 2 oblong slots for M10 screw fixing, mounting dimension: 110 mm, or for installation in 3NH3 LV HRC fuse bases or switch disconnectors (see page 5/56)												
3	150	500	gR ¹⁾	33000	35	0.85		3NC2423-0C		1	3 units	1DM
	200			64000	40	0.85		3NC2425-0C		1	3 units	1DM
	250			99000	50	0.85		3NC2427-0C		1	3 units	1DM
	300			132000	65	0.85		3NC2428-0C		1	3 units	1DM
	350			249000	60	0.85		3NC2431-0C		1	3 units	1DM
	400	aR		390000	50	0.85		3NC2432-0C		1	3 units	1DM
With slotted blade contacts for M10 screw fixing, mounting dimension: 110 mm, or for installation in 3NH3 LV HRC fuse bases or switch disconnectors (see page 5/56)												
3	150	500	gR ¹⁾	33000	35	0.85		3NC2423-3C		1	3 units	1DM
	200			64000	40	0.85		3NC2425-3C		1	3 units	1DM
	250			99000	50	0.85		3NC2427-3C		1	3 units	1DM
	300			132000	65	0.85		3NC2428-3C		1	3 units	1DM
	350			249000	60	0.85		3NC2431-3C		1	3 units	1DM
	400	aR		390000	50	0.85		3NC2432-3C		1	3 units	1DM
1	160	690	gR ¹⁾	18600	32	1.0		3NE1224-3		1	3 units	1DM
	200			51 800	35	1.0		3NE1225-3		1	3 units	1DM
	250			80 900	37	1.0		3NE1227-3		1	3 units	1DM
	315			168 000	40	1.0		3NE1230-3		1	3 units	1DM
2	350	690	gR	177000	43	1.0		3NE1331-3		1	3 units	1DM
	400			224000	50	1.0		3NE1332-3		1	3 units	1DM
	450			276500	58	1.0		3NE1333-3		1	3 units	1DM
	500			398000	64	1.0		3NE1334-3		1	3 units	1DM
3	150	690	gR ¹⁾	17600	40	0.85		3NC8423-3C		1	3 units	1DM
	200			38400	55	0.85		3NC8425-3C		1	3 units	1DM
	250			70400	72	0.85		3NC8427-3C		1	3 units	1DM
	350			176000	95	0.85		3NC8431-3C		1	3 units	1DM
	500			448000	130	0.85		3NC8434-3C		1	3 units	1DM
	1000	600	aR	2480000	140	0.95		3NC8444-3C		1	3 units	1DM
With slotted blade contacts for M12 screw fixing, mounting dimension: 110 mm, or for installation in 3NH3 LV HRC fuse bases or switch disconnectors (see page 5/56)												
3	560	690	gR	890000	60	1.0		3NE1435-3		1	3 units	1DM
	630			1390000	60	1.0		3NE1436-3		1	3 units	1DM
	670			1640000	64	1.0		3NE1447-3		1	3 units	1DM
	710			1818000	72	1.0		3NE1437-3		1	3 units	1DM
	800			2475000	84	1.0		3NE1438-3		1	3 units	1DM
	850			3640000	76	1.0		3NE1448-3		1	3 units	1DM
With M8 bolt-on links, mounting dimension: 80 mm, for screwing onto busbars or onto 3NH5423 fuse base												
1	100	690/	aR	3200	25	On req.		3NE8221-3MK		1	3 units	1DM
	125	440		6000	28	On req.		3NE8222-3MK		1	3 units	1DM
	160			10500	35	On req.		3NE8224-3MK		1	3 units	1DM
	200			17500	42	On req.		3NE8225-3MK		1	3 units	1DM
	250			28500	53.5	On req.		3NE8227-3MK		1	3 units	1DM
	315			53500	61	On req.		3NE8230-3MK		1	3 units	1DM
	350			66000	69	On req.		3NE8231-3MK		1	3 units	1DM
	400			110000	70.5	On req.		3NE8232-3MK		1	3 units	1DM
	450			180000	71	On req.		3NE8233-3MK		1	3 units	1DM
	500			215000	84	On req.		3NE8234-3MK		1	3 units	1DM
	550			290000	87	On req.		3NE8235-3MK		1	3 units	1DM
	630			440000	96	On req.		3NE8236-3MK		1	3 units	1DM

¹⁾ No overload protection when used in switch disconnectors

Fuse Systems

SITOR Semiconductor Fuses

LV HRC design

	Size	I_n	U_n	Operational class	Breaking I^2t value	Power loss	Varying load factor W/L	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	A		V AC		A ² s	W		d					
LV HRC design													
With slotted blade contacts for M12 screw fixing, mounting dimension: 80 mm													
	3	630	690	aR	244000	120	0.85		3NC3236-1U		1	3 units	1DM
		710			346000	130	0.85		3NC3237-1U		1	3 units	1DM
		800			498000	135	0.9		3NC3238-1U		1	3 units	1DM
		900			677000	145	0.9		3NC3240-1U		1	3 units	1DM
		1000			975000	155	0.95		3NC3241-1U		1	3 units	1DM
		1100			1382000	165	0.95		3NC3242-1U		1	3 units	1DM
		1250			1990000	175	0.95		3NC3243-1U		1	3 units	1DM
		1400	500		2100000	200	0.95		3NC3244-1U		1	3 units	1DM
		1600			2860000	240	0.9		3NC3245-1U		1	3 units	1DM
With slotted blade contacts with 2 oblong slots for M10 screw fixing, mounting dimension: 110 mm, or for installation in 3NH3 LV HRC fuse bases or switch disconnectors (see page 5/56)													
	3	150	690	gR ¹⁾	17600	40	0.85		3NC8423-0C		1	3 units	1DM
		200			38400	55	0.85		3NC8425-0C		1	3 units	1DM
		250			70400	72	0.85		3NC8427-0C		1	3 units	1DM
		350			176000	95	0.85		3NC8431-0C		1	3 units	1DM
		500			448000	130	0.85		3NC8434-0C		1	3 units	1DM
	3	710	600	gR ¹⁾	2460000	65	1.0		3NE1437-1		1	3 units	1DM
		800			3350000	72	1.0		3NE1438-1		1	3 units	1DM
	000	16	690	gS	200	4.0	1.0		3NE1813-0		1	3 units	1DM
		20			430	5.0	1.0		3NE1814-0		1	3 units	1DM
		25			780	5.0	1.0		3NE1815-0		1	3 units	1DM
		35			1700	3.5	1.0		3NE1803-0		1	3 units	1DM
		40			3000	3.0	1.0		3NE1802-0		1	3 units	1DM
		50			4400	6.0	1.0		3NE1817-0		1	3 units	1DM
		63			9000	7.0	1.0		3NE1818-0		1	3 units	1DM
		80			18000	8.0	1.0		3NE1820-0		1	3 units	1DM
	00	100	690	gS	33000	10	1.0		3NE1021-0		1	3 units	1DM
		125			63000	11	1.0		3NE1022-0		1	3 units	1DM
	1	160	690	gS	60000	24	1.0		3NE1224-0		1	3 units	1DM
		200			100000	27	1.0		3NE1225-0		1	3 units	1DM
		250			200000	30	1.0		3NE1227-0		1	3 units	1DM
		315			310000	38	1.0		3NE1230-0		1	3 units	1DM
	2	350	690	gS	430000	42	1.0		3NE1331-0		1	3 units	1DM
		400			590000	45	1.0		3NE1332-0		1	3 units	1DM
		450			750000	53	1.0		3NE1333-0		1	3 units	1DM
		500			950000	56	1.0		3NE1334-0		1	3 units	1DM
	3	560	690	gS	1700000	50	1.0		3NE1435-0		1	3 units	1DM
		630			2350000	55	1.0		3NE1436-0		1	3 units	1DM
		710			3400000	58	1.0		3NE1437-0		1	3 units	1DM
		800			5000000	58	1.0		3NE1438-0		1	3 units	1DM

¹⁾ No overload protection when used in switch disconnectors

Size	I_n	U_n	Operational class	Breaking I^2t value	Power loss	Varying load factor WL	SD	Article No. www.siemens.com/product?Article.No.	Price per PU	PU (UNIT, SET, M)	PS	PG
A		V AC/ V DC		A ² s	W		d					
LV HRC design												
With blade contacts for mounting in 3NH3 LV HRC fuse bases or switch disconnectors (see chapter "Switch Disconnectors", sections "Switch Disconnectors with Fuses" and "Fuse Switch Disconnectors")												
	000	6	690/	gR	37	2.7	On req.	3NE8810-0MK		1	3 units	1DM
		10	440		50	4.5	On req.	3NE8812-0MK		1	3 units	1DM
		16			73	6.7	On req.	3NE8813-0MK		1	3 units	1DM
		20			90	8	On req.	3NE8814-0MK		1	3 units	1DM
		25			150	8.1	On req.	3NE8815-0MK		1	3 units	1DM
		32			350	10.5	On req.	3NE8801-0MK		1	3 units	1DM
		40			480	12	On req.	3NE8802-0MK		1	3 units	1DM
		50			1050	14.5	On req.	3NE8817-0MK		1	3 units	1DM
		63			1960	23	On req.	3NE8818-0MK		1	3 units	1DM
		80	aR		2200	23.3	On req.	3NE8820-0MK		1	3 units	1DM
		100			3650	27	On req.	3NE8821-0MK		1	3 units	1DM
		125			7800	30	On req.	3NE8822-0MK		1	3 units	1DM
		160	500/		14000	34	On req.	3NE8824-0MK		1	3 units	1DM
			440									
	With blade contacts for mounting in 3NH3 LV HRC fuse bases or switch disconnectors (see page 5/56)											
	00	25	690	gR	180	7	0.95	3NE8015-1		1	3 units	1DM
		35			400	9	0.95	3NE8003-1		1	3 units	1DM
		50			700	14	0.90	3NE8017-1		1	3 units	1DM
		63			1400	16	0.95	3NE8018-1		1	3 units	1DM
		80			5800	10.5	1.0	3NE1020-2		1	3 units	1DM
		100			11000	12	1.0	3NE1021-2		1	3 units	1DM
		125			23000	13.5	1.0	3NE1022-2		1	3 units	1DM
		80	aR		2400	19	0.95	3NE8020-1		1	3 units	1DM
		100			4200	22	0.95	3NE8021-1		1	3 units	1DM
		125			6500	28	0.95	3NE8022-1		1	3 units	1DM
		160			13000	38	0.95	3NE8024-1		1	3 units	1DM
	1	100	690/	aR	6050	25.5	On req.	3NE8221-0MK		1	3 units	1DM
		125	440		8900	28.5	On req.	3NE8222-0MK		1	3 units	1DM
		160			16200	37	On req.	3NE8224-0MK		1	3 units	1DM
		200			26000	49	On req.	3NE8225-0MK		1	3 units	1DM
		250			59000	52	On req.	3NE8227-0MK		1	3 units	1DM
		315			120000	68	On req.	3NE8230-0MK		1	3 units	1DM
		160	690	gR	18600	32	1.0	3NE1224-2		1	3 units	1DM
		200			51800	35	1.0	3NE1225-2		1	3 units	1DM
		250			80900	37	1.0	3NE1227-2		1	3 units	1DM
		315			168000	40	1.0	3NE1230-2		1	3 units	1DM
	2	350	690/	aR	83500	68.6	On req.	3NE8331-0MK		1	3 units	1DM
		400	440		136000	72.8	On req.	3NE8332-0MK		1	3 units	1DM
		450			207000	80.1	On req.	3NE8333-0MK		1	3 units	1DM
		500			318000	77.5	On req.	3NE8334-0MK		1	3 units	1DM
		550			399000	86.4	On req.	3NE8335-0MK		1	3 units	1DM
		630			740000	90.7	On req.	3NE8336-0MK		1	3 units	1DM
		350	690	gR	177000	43	1.0	3NE1331-2		1	3 units	1DM
		400			224000	50	1.0	3NE1332-2		1	3 units	1DM
		450			276500	58	1.0	3NE1333-2		1	3 units	1DM
		500			398000	64	1.0	3NE1334-2		1	3 units	1DM
	3	560	690	gR	890000	60	1.0	3NE1435-2		1	3 units	1DM
		630			1390000	60	1.0	3NE1436-2		1	3 units	1DM
		670			1640000	64	1.0	3NE1447-2		1	3 units	1DM
		710			1818000	72	1.0	3NE1437-2		1	3 units	1DM
		800			2475000	84	1.0	3NE1438-2		1	3 units	1DM
		850			3640000	76	1.0	3NE1448-2		1	3 units	1DM
	0	32	1000	gR	280	12	0.9	3NE4101		1	3 units	1DM
		40			500	13	0.9	3NE4102		1	3 units	1DM
		50			800	16	0.9	3NE4117		1	3 units	1DM
		63			1500	20	0.9	3NE4118		1	3 units	1DM
		80	aR		3000	22	0.9	3NE4120		1	3 units	1DM
		100			6000	24	0.9	3NE4121		1	3 units	1DM
		125			14000	30	0.9	3NE4122		1	3 units	1DM
		160			29000	35	0.9	3NE4124		1	3 units	1DM

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	SD	Article No. www.siemens.com/product?ArticleNo.	Price per PU	PU (UNIT, SET, M)	PS	PG
	A		V AC/ V DC		A ² s	W		d					
	LV HRC design With M8 bolt-on links, mounting dimension: 80 mm, for screwing onto busbars												
	000	20	690/	gR	83	7	0.9		3NE8714-1		1	10 units	1DM
		25	700 ¹⁾		140	9	0.9		3NE8715-1		1	10 units	1DM
		32			285	10	0.9		3NE8701-1		1	10 units	1DM
		40			490	12	0.9		3NE8702-1		1	10 units	1DM
		50		aR	815	15	0.9		3NE8717-1		1	10 units	1DM
		63			1550	16	0.95		3NE8718-1		1	10 units	1DM
		80			2700	18	0.9		3NE8720-1		1	10 units	1DM
		100			4950	19	0.95		3NE8721-1		1	10 units	1DM
		125			9100	23	0.95		3NE8722-1		1	10 units	1DM
		160			17000	31	0.9		3NE8724-1		1	10 units	1DM
		200			30000	36	0.9		3NE8725-1		1	10 units	1DM
		250			55000	42	0.9		3NE8727-1		1	10 units	1DM
		315			85500	54	0.85		3NE8731-1		1	10 units	1DM
	With M10 bolt-on links, mounting dimension: 80 mm, for screwing onto busbars or onto 3NH5323 fuse base												
	00	80	690/	gR	3200	23.0	On req.		3NE8020-3MK		1	3 units	1DM
		100	440		5200	29.0	On req.		3NE8021-3MK		1	3 units	1DM
		350		aR	135000	58.8	On req.		3NE8031-3MK		1	3 units	1DM
		400			170000	74.5	On req.		3NE8032-3MK		1	3 units	1DM

¹⁾ Observe DC voltage acc. to UL, time constant and minimum breaking current MBC (see "Technical specifications").

	Size	I_n	U_n	Operational class	Breaking I^2t value	Power loss	Varying load factor WL	SD	Article No. www.siemens.com/product?ArticleNo.	Price per PU	PU (UNIT, SET, M)	PS	PG
	A		V AC/ V DC		A ² s	W		d					
	LV HRC design Parallel-connected fuses with slotted blade contacts for M12 screw fixing, mounting dimension: 110 mm (lateral 90 mm)												
	2 x 3	1000	690	gR	1400 000	138	1.0		3NB3350-1KK26		1	1 unit	1DM
		1100			3000 000	110			3NB3351-1KK26		1	1 unit	1DM
	2 x 3	1250			4100 000	104	1.0		3NB3352-1KK26		1	1 unit	1DM
		1350			4800 000	126			3NB3354-1KK26		1	1 unit	1DM
		1400			5200 000	127			3NB3355-1KK26		1	1 unit	1DM
	2 x 3	1600			6900 000	152	1.0		3NB3357-1KK26		1	1 unit	1DM
		1700			10000 000	143			3NB3358-1KK26		1	1 unit	1DM
	3 x 3	1700			6400 000	179	1.0		3NB3358-1KK27		1	1 unit	1DM
		1900			8200 000	196			3NB3362-1KK27		1	1 unit	1DM
	With slotted blade contacts for M10 screw fixing, mounting dimension: 110 mm, or for installation in 3NH3 LV HRC fuse bases or switch disconnectors (see page 5/56)												
	2	250	800	aR	29700	105	0.85		3NE4327-0B		1	3 units	1DM
		315			60700	120	0.85		3NE4330-0B		1	3 units	1DM
		450			191000	140	0.85		3NE4333-0B		1	3 units	1DM
		500			276000	155	0.85		3NE4334-0B		1	3 units	1DM
		710			923000	155	0.95		3NE4337		1	3 units	1DM

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	SD	Article No. www.siemens.com/ product?Article.No.	Price per PU	PU (UNIT, SET, M)	PS	PG
A		V AC/ V DC		A ² s	W		d					
With slotted blade contacts for M10 screw fixing, 110 mm mounting dimension, or for installation in 3NH3 LV HRC fuse bases or fuse switch disconnectors or on 3NH5463 fuse base												
1	32 ¹⁾	1000/	gR	4500	9	On req.		3NE3201-0MK		1	3 units	1DM
	40 ¹⁾	600		6000	13	On req.		3NE3202-0MK		1	3 units	1DM
	50 ¹⁾			8000	18	On req.		3NE3217-0MK		1	3 units	1DM
	63 ¹⁾			9000	25	On req.		3NE3218-0MK		1	3 units	1DM
	100	1000	aR	4800	28	0.95		3NE3221		1	3 units	1DM
	125			7200	36	0.95		3NE3222		1	3 units	1DM
	160			13000	42	1.0		3NE3224		1	3 units	1DM
	200			30000	42	1.0		3NE3225		1	3 units	1DM
	250			48000	50	1.0		3NE3227		1	3 units	1DM
	315			80000	60	0.95		3NE3230-0B		1	3 units	1DM
	350			100000	75	0.95		3NE3231		1	3 units	1DM
	400			135000	85	0.9		3NE3232-0B		1	3 units	1DM
	450			175000	95	0.9		3NE3233		1	3 units	1DM
	500 ¹⁾	1000/		500000	105	On req.		3NE3234-0MK08		1	3 units	1DM
	550 ¹⁾	600		700000	110	On req.		3NE3235-0MK08		1	3 units	1DM
	630 ¹⁾			850000	127	On req.		3NE3236-0MK08		1	3 units	1DM
¹⁾ No grip lugs and therefore not suitable for mounting in 3NH3 LV HRC fuse bases or switch disconnectors (see page 5/56)												
2	400	1000	aR	135000	80	1.0		3NE3332-0B		1	3 units	1DM
	450			175000	90	1.0		3NE3333		1	3 units	1DM
	500			260000	90	1.0		3NE3334-0B		1	3 units	1DM
	560			360000	95	1.0		3NE3335		1	3 units	1DM
	630			600000	100	1.0		3NE3336		1	3 units	1DM
	710	900	aR	800000	105	1.0		3NE3337-8		1	3 units	1DM
	800	800		850000	130	0.95		3NE3338-8		1	3 units	1DM
	900	690		920000	165	0.95		3NE3340-8		1	3 units	1DM
With slotted blade contacts for M10 screw fixing, mounting dimension: 130 mm												
3	100	1000	aR	13500	25	1.0		3NE3421-0C		1	3 units	1DM
	224			54000	85	1.0		3NE3626-0C		1	3 units	1DM
	315			218000	80	1.0		3NE3430-0C		1	3 units	1DM
	400			364000	110	1.0		3NE3432-0C		1	3 units	1DM
	450			488000	110	1.0		3NE3635-0C		1	3 units	1DM
	500			870000	95	1.0		3NE3434-0C		1	3 units	1DM
	630			1280000	132	1.0		3NE3636-0C		1	3 units	1DM
	710			1950000	145	1.0		3NE3637-0C		1	3 units	1DM
With slotted blade contacts for M12 screw fixing, mounting dimension: 140 mm												
3	710	1000	aR	1950000	145	1.0		3NE3637-1C		1	3 units	1DM
With slotted blade contacts for M12 screw fixing, mounting dimension: 110 mm, or for installation in 3NH3 LV HRC fuse bases or switch disconnectors (see page 5/56)												
3	630	1000	aR	418000	145	0.85		3NC3336-1U		1	3 units	1DM
	710			569000	150	0.85		3NC3337-1U		1	3 units	1DM
	800			819000	155	0.85		3NC3338-1U		1	3 units	1DM
	900			1160000	165	0.9		3NC3340-1U		1	3 units	1DM
	1000			1670000	170	0.9		3NC3341-1U		1	3 units	1DM
	1100	800		1910000	185	0.9		3NC3342-1U		1	3 units	1DM
	1250			2600000	210	0.9		3NC3343-1U		1	3 units	1DM
3	315	1250	aR	72500	80	0.95		3NC3430-1U		1	3 units	1DM
	400			163000	95	0.95		3NC3432-1U		1	3 units	1DM
	500			290000	115	0.90		3NC3434-1U		1	3 units	1DM
	630			650000	120	0.95		3NC3436-1U		1	3 units	1DM
	800	1100		985000	145	0.90		3NC3438-1U		1	3 units	1DM

Fuse Systems

SITOR Semiconductor Fuses

LV HRC design

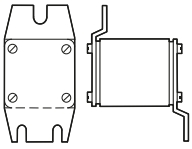
Size	I_n	U_n	Operational class	Breaking value	Power loss	Varying load factor WL	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
A		V AC/ V DC		A ² s	W		d					
LV HRC design												
With slotted blade contacts for M10 screw fixing, mounting dimension: 210 mm												
3	160	1500	aR	54000	56	1.0		3NE5424-0C		1	2 units	1DM
	224			138000	80	1.0		3NE5426-0C		1	2 units	1DM
	315			311000	115	1.0		3NE5430-0C		1	2 units	1DM
	350			428000	135	1.0		3NE5431-0C		1	2 units	1DM
	450			870000	145	0.95		3NE5433-0C		1	2 units	1DM
With slotted blade contacts for M12 screw fixing, mounting dimension: 210 mm												
	450	1500	aR	870000	145	0.95		3NE5433-1C		1	2 units	1DM
With slotted blade contacts for M10 screw fixing, mounting dimension: 170 mm												
3	250	1500	aR	84000	130	1.0		3NE5627-0C		1	3 units	1DM
	450			590000	160	1.0		3NE5633-0C		1	3 units	1DM
	600			1950000	145	1.0		3NE5643-0C		1	3 units	1DM
With slotted blade contacts for M10 screw fixing, 170 mm mounting dimension, for bolting onto busbars or onto 3NH5473 fuse base												
2	40	1500/	gR	900	26	On req.		3NE5302-0MK06		1	1 unit	1DM
	50	1000		1800	27	On req.		3NE5317-0MK06		1	1 unit	1DM
	63			3100	34	On req.		3NE5318-0MK06		1	1 unit	1DM
	80		aR	3900	42	On req.		3NE5320-0MK06		1	1 unit	1DM
	100			8700	45	On req.		3NE5321-0MK06		1	1 unit	1DM
	125			11800	59	On req.		3NE5322-0MK06		1	1 unit	1DM
	160			37000	54	On req.		3NE5324-0MK06		1	1 unit	1DM
	200			70000	56	On req.		3NE5325-0MK06		1	1 unit	1DM
	250			165000	59	On req.		3NE5327-0MK06		1	1 unit	1DM
	315			250000	76	On req.		3NE5330-0MK06		1	1 unit	1DM
	400	1500/		470000	89	On req.		3NE5332-0MK06		1	1 unit	1DM
	500	1000		800000	109	On req.		3NE5334-0MK06		1	1 unit	1DM
	630			1100000	163	On req.		3NE5336-0MK06		1	1 unit	1DM
2*	630	1500/	aR	1100000	163	On req.		3NE5336-0MK66		1	1 unit	1DM
* Special version with extended contacts, 190 mm mounting dimension, with fastening holes												
With slotted blade contacts for M10 screw fixing, mounting dimension: 210 mm												
3	200	2000	aR	138000	75	1.0		3NE7425-0U		1	2 units	1DM
	250			218000	110	1.0		3NE7427-0U		1	2 units	1DM
	350			555000	120	1.0		3NE7431-0U		1	2 units	1DM
	400			870000	150	1.0		3NE7432-0U		1	2 units	1DM
	450			960000	160	1.0		3NE7633-0U		1	2 units	1DM
	630			1950000	220	1.0		3NE7636-0U		1	2 units	1DM
With slotted blade contacts for M12 screw fixing, mounting dimension: 210 mm												
3	450	2000	aR	960000	160	1.0		3NE7633-1U		1	2 units	1DM
	525			1120000	210	1.0		3NE7648-1U		1	2 units	1DM
	630			1950000	220	1.0		3NE7636-1U		1	2 units	1DM
	710			3110000	275	1.0		3NE7637-1U		1	2 units	1DM
With slotted blade contacts for M12 screw fixing, mounting dimension: 260 mm												
3	125	2500	aR	34500	78	1.0		3NE9622-1C		1	1 unit	1DM
	400			620000	205	1.0		3NE9632-1C		1	1 unit	1DM
	500			1270000	235	1.0		3NE9634-1C		1	1 unit	1DM
	630			2800000	275	1.0		3NE9636-1C		1	1 unit	1DM
2	315	--/	aR	300000	245	On req.		3NE9330-0MK07		1	1 unit	1DM
		3000										

Size	I_n	U_n	Operational class	Breaking I^2t value	Power loss	Varying load factor WL	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
A	V AC			A ² s	W		d					
LV HRC design												
With M12 female thread at both ends for direct busbar mounting, flange dimensions 52 mm												
	3	630	690 aR	244000	125	0.9		3NC3236-6U		1	3 units	1DM
		710		346000	130	0.9		3NC3237-6U		1	3 units	1DM
		800		498000	135	0.95		3NC3238-6U		1	3 units	1DM
		900		677000	140	0.95		3NC3240-6U		1	3 units	1DM
		1000		975000	145	1.0		3NC3241-6U		1	3 units	1DM
		1100		1382000	150	1.0		3NC3242-6U		1	3 units	1DM
		1250		1990000	155	1.0		3NC3243-6U		1	3 units	1DM
		1400	500	2100000	175	1.0		3NC3244-6U		1	3 units	1DM
		1600		2860000	195	0.95		3NC3245-6U		1	3 units	1DM
With M10 female thread at both ends for direct busbar mounting, flange dimensions 109 mm												
	3	450	1000 aR	488000	110	1.0		3NE3635-6		1	3 units	1DM
With M12 female thread at both ends for direct busbar mounting, flange dimensions 73 mm												
	3	630	1000 aR	418000	130	0.90		3NC3336-6U		1	3 units	1DM
		710		569000	140	0.90		3NC3337-6U		1	3 units	1DM
		800		819000	150	0.90		3NC3338-6U		1	3 units	1DM
		900		1160000	160	0.95		3NC3340-6U		1	3 units	1DM
		1000		1670000	165	0.95		3NC3341-6U		1	3 units	1DM
		1100	800	1910000	175	0.95		3NC3342-6U		1	3 units	1DM
		1250		2600000	185	0.95		3NC3343-6U		1	3 units	1DM
	3	315	1250 aR	72500	80	0.95		3NC3430-6U		1	3 units	1DM
		400		163000	95	0.95		3NC3432-6U		1	3 units	1DM
		500		290000	115	0.90		3NC3434-6U		1	3 units	1DM
		630		650000	120	0.95		3NC3436-6U		1	3 units	1DM
		800	1100	985000	145	0.95		3NC3438-6U		1	3 units	1DM

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	SD	Article No. www.siemens.com/product?ArticleNo.	Price per PU	PU (UNIT, SET, M)	PS	PG
	A		V AC		A ² s	W		d					
Fuses for special applications													
For screwing onto water-cooled busbars, for rectifiers in electrolysis systems													
	-- ¹⁾	350	800	aR	260000	80	0.9		3NC5531		1	3 units	1DM
		600	1000		888000	150	0.9		3NC5840		1	3 units	1DM
		630	800		888000	145	0.9		3NC5841		1	3 units	1DM
		800	1000		1728000	170	0.9		3NC5838		1	3 units	1DM
		710	900		620000	150	0.9		3NE6437-7		1	3 units	1DM
		1250	600		2480000	210	0.9		3NE9450-7		1	3 units	1DM
With M10 female thread at both ends for direct busbar mounting, flange dimensions 89 (99) ²⁾ mm, for air-cooled rectifiers in electrolysis systems													
	-- ¹⁾	710	900	aR	620000	150	0.9		3NE6437		1	3 units	1DM
		850	600	gR	2480000	85	1.0		3NE9440-6		1	3 units	1DM
		900	900	aR	1920000	170	0.9		3NE6444		1	3 units	1DM
		1250	600	aR	2480000	210	0.9		3NE9450		1	3 units	1DM
Fuses with installation holder for SITOR 6QG10 thyristor sets													
	-- ¹⁾	200	1000	aR	44000	50	0.85		3NE3525-5		1	2 units	1DM
		450			395000	90	0.85		3NE3535-5		1	2 units	1DM
Fuses with installation holder for SITOR 6QG11 thyristor sets													
	-- ¹⁾	50	1000	gR	1100	20	0.85		3NE4117-5		1	2 units	1DM
		100		aR	7400	35	0.85		3NE4121-5		1	2 units	1DM
		170		aR	60500	43	0.85		3NE4146-5		1	2 units	1DM
Fuses for special applications													
With female thread at both ends for SITOR 6QG12 thyristor sets, flange dimensions 77 mm													
	-- ¹⁾	250	800	aR	29700	105	0.85		3NE4327-6B		1	3 units	1DM
		315			60700	120	0.85		3NE4330-6B		1	3 units	1DM
		450			191000	140	0.85		3NE4333-6B		1	3 units	1DM
		500			276000	155	0.85		3NE4334-6B		1	3 units	1DM
		710			923000	155	0.95		3NE4337-6		1	3 units	1DM
Special design for mounting directly in the railway supply rectifier													
	-- ¹⁾	250	680	aR	635000	25	0.9		3NC7327-2		1	3 units	1DM
		350			1430000	32	0.9		3NC7331-2		1	3 units	1DM

¹⁾ Special design.

²⁾ Flange dimensions 99 mm only for 3NE6444.

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

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

2) I^2t at U_{VSI} 1500 V; I^2t at U_n 1250 V is reduced with factor $k = 0.79$.

Note:

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

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

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

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

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 general applications (e.g. cable and line protection) and for the protection of power semiconductors, optimized for low I^2t values (full range protection)
- gS: For general applications (e.g. cable and line protection) and for the protection of power semiconductors, optimized for low power loss (full range protection)

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		
Certifications		UL, CC, E	UL, CC, E	UL, E
Approvals		UL 4248-1; UL File No. E171267; CSA C22.2 No. 39-M		
Rated voltage U_n	V AC V DC	690; 600 acc. to UL/CSA 800		
Rated current I_n	A AC	32 30 acc. to UL/CSA	50 50 acc. to UL 40 acc. to CSA	100 80 acc. to UL/CSA
Rated conditional short-circuit current	kA	50	50 (100 at 400 V)	50 (100 at 500 V)
Breaking capacity		AC-22B (400 V)		
• Utilization category		AC-22B (400 V)		
Max. power dissipation of fuse links (conductor cross-section used)	W	3 (6 mm ²) 4.3 (10 mm ²)	5 (10 mm ²) 6.5 (25 mm ²)	9.5 (35 mm ²) 11 (50 mm ²)
Rated impulse withstand voltage	kV	6		
Overvoltage category		II		
Pollution degree		2		
No-voltage changing of fuse links		Yes		
Sealable when installed		Yes		
Mounting position		Any		
Current direction		Any		
Degree of protection acc. to IEC 60529		IP20, with connected conductors ¹⁾		
Terminals with touch protection according to BGV A3 at incoming and outgoing feeder		Yes		
Ambient temperature	°C	45		
Conductor cross-sections				
• Finely stranded, with end sleeve	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 lbs/in.	2.5 22	2.5 ... 3 22 ... 26	3.5 ... 4 31 ... 35

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

Selection and ordering data

	Size	I_n	U_n	Breaking I^2t value	P_V power loss	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	mm × mm	A	V AC/ V DC	A ² s	W	d					
	Cylindrical fuse links, operational class gR										
	10 × 38	6	690/440	6.5	2.5		3NC1006-OMK		1	20 units	1DM
		10		18	3.3		3NC1010-OMK		1	20 units	1DM
		12		35	4		3NC1012-OMK		1	20 units	1DM
		16		45	6		3NC1016-OMK		1	20 units	1DM
		20	690/250	110	7.8		3NC1020-OMK		1	20 units	1DM
		25		140	8.7		3NC1025-OMK		1	20 units	1DM
	32	450		12		3NC1032-OMK		1	20 units	1DM	
	14 × 51	6	690/700	3.5	3.1		3NC1406-OMK		1	10 units	1DM
		10		15	4.6		3NC1410-OMK		1	10 units	1DM
		16	690/600	32	6.7		3NC1416-OMK		1	10 units	1DM
		20		68	7.4		3NC1420-OMK		1	10 units	1DM
		25		108	8.4		3NC1425-OMK		1	10 units	1DM
		32		175	12.3		3NC1432-OMK		1	10 units	1DM
		40	690/440	470	11.7		3NC1440-OMK		1	10 units	1DM
		50	690/250	830	16.3		3NC1450-OMK		1	10 units	1DM
		22 × 58	25	690/700	180	8.1		3NC2225-OMK		1	10 units
	32		690/600	420	9		3NC2232-OMK		1	10 units	1DM
	40		690/440	700	12.5		3NC2240-OMK		1	10 units	1DM
	50		690/250	1250	15.2		3NC2250-OMK		1	10 units	1DM
	63			2400	17.5		3NC2263-OMK		1	10 units	1DM
	80			4400	23		3NC2280-OMK		1	10 units	1DM
	100			11500	28.7		3NC2200-OMK		1	10 units	1DM
	Cylindrical fuse links, operational class aR										
	10 × 38 ²⁾	3	600/700 ¹⁾	8	1.2		3NC1003		1	10 units	1DM
		6		20	1.5		3NC1006		1	10 units	1DM
		8		30	2		3NC1008		1	10 units	1DM
		10		60	2.5		3NC1010		1	10 units	1DM
		12		110	3		3NC1012		1	10 units	1DM
		16		150	3.5		3NC1016		1	10 units	1DM
		20		200	4.8		3NC1020		1	10 units	1DM
		25		250	6		3NC1025		1	10 units	1DM
		32	600/--	500	7.5		3NC1032		1	10 units	1DM
	14 × 51	1	660/--	1.2	5		3NC1401		1	10 units	1DM
		2		10	3		3NC1402		1	10 units	1DM
		3		15	2.5		3NC1403		1	10 units	1DM
		4		25	3		3NC1404		1	10 units	1DM
		5	690/700 ¹⁾	11	1.5		3NC1405		1	10 units	1DM
		6		11	1.5		3NC1406		1	10 units	1DM
		10		22	4		3NC1410		1	10 units	1DM
		15		70	5.5		3NC1415		1	10 units	1DM
		20		100	6		3NC1420		1	10 units	1DM
		25		320	7		3NC1425		1	10 units	1DM
		30		400	9		3NC1430		1	10 units	1DM
		32		600	7.6		3NC1432		1	10 units	1DM
		40		750	8		3NC1440		1	10 units	1DM
		50		1800	9		3NC1450		1	10 units	1DM
		63	690/250	2100	16.7		3NC1463-OMK		1	10 units	1DM
	22 × 58	20	690/700 ¹⁾	220	4.6		3NC2220		1	5 units	1DM
		25		300	5.6		3NC2225		1	5 units	1DM
		32		450	7		3NC2232		1	5 units	1DM
		40		700	8.5		3NC2240		1	5 units	1DM
		50		1350	9.5		3NC2250		1	5 units	1DM
		63		2600	11		3NC2263		1	5 units	1DM
		80		5500	13.5		3NC2280		1	5 units	1DM
		100		8000	16		3NC2200		1	5 units	1DM
		125	690/250	29000	35.3		3NC2211-OMK		1	10 units	1DM
¹⁾ Observe DC voltage acc. to UL, time constants and minimum breaking current MBC (see "Technical specifications").											
²⁾ CCC approval											

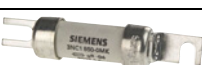
¹⁾ Observe DC voltage acc. to UL, time constants and minimum breaking current MBC (see "Technical specifications").

²⁾ CCC approval

Fuse Systems

SITOR Semiconductor Fuses

Cylindrical fuse design

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

¹⁾ DC voltage acc. to UL.

Fuse Systems

SITOR Semiconductor Fuses

Cylindrical fuse design

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

	Size	Version	Rated voltage	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	mm × mm		V AC / V DC	d					
	Cylindrical fuse holders Can be used as fuse switch disconnectors ¹⁾								
	10 × 38	1P	690/800		3NC1091		1	12 units	1DM
		2P			3NC1092		1	6 units	1DM
		3P			3NC1093		1	4 units	1DM
	14 × 51	1P			3NC1491		1	6 units	1DM
		2P			3NC1492		1	3 units	1DM
		3P			3NC1493		1	2 units	1DM
	22 × 58	1P			3NC2291		1	1 unit	1DM
		2P			3NC2292		1	3 units	1DM
		3P			3NC2293		1	2 units	1DM
	22 × 127	1P	1500/1000		3NC2391-0MK		1	4 units	1DM
		2P			3NC2392-0MK		1	2 units	1DM
		3P			3NC2393-0MK		1	1 unit	1DM

	Cylindrical fuse holders Can be used as fuse switch disconnectors ¹⁾ With signaling switches for fuse links with striking pin ²⁾								
	14 × 51	1P	690/800		3NC1491-5		1	6 units	1DM
	22 × 58	1P			3NC2291-5		1	6 units	1DM

	Cylindrical fuse bases								
	10 × 38	1P	600/--		3NC1038-1		1	10 units	1DM
		2P			3NC1038-2		1	8 units	1DM
		3P			3NC1038-3		1	6 units	1DM

	Fuse tongs								
	10 × 38, 14 × 51, 22 × 58				3NC1000		1	1 unit	1DM

¹⁾ Please note the utilization category and current/voltage values;
see "Technical specifications", page 5/70.

²⁾ Microswitch 5 A, 250 V AC

Fuse Systems

SITOR Semiconductor Fuses

NEOZED, DIAZED design

Overview

SILIZED is the brand name for NEOZED fuses (D0 fuses) and DIAZED fuses (D fuses) with super-quick-acting 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-acting characteristic is far quicker than that of conventional fuses. They protect high-quality devices and system components, such as semiconductor contactors, static relays, converters with fuses in the input and in the DC link, UPS systems and soft starters for motors up to 100 A.

When using fuse bases and fuse screw caps made of molded plastic, always heed the maximum permissible power loss values due to the high power loss (power dissipation) of the SILIZED fuses.

When using these components, the following maximum permissible power loss applies:

- NEOZED D02: 5.5 W
- DIAZED DII: 4.5 W
- DIAZED DIII: 7.0 W

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

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

Benefits

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

Technical specifications

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

Selection and ordering data

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

Fuse Systems

Photovoltaic Fuses

Introduction

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.

The latest standardization effort was published as a draft standard in 2017 and is expected to be available in the form of Amendment A1 to IEC 60269-6 in the middle of 2018; several months later than EN. It should be noted that renewed changes in low and high test currents, as well as in conventional times, i.e. current-time characteristic curves, have been incorporated into this latest version. A distinction is now made between fuses for the protection of the strings and fuses for the protection of the array or subarray. This satisfies the different requirements in the PV panel (protection against reverse currents) and in the area downstream (viewed from the infeed direction) of the generator terminal boxes (essentially short-circuit protection).

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

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

The PV fuses in LV HRC design are usually used as cumulative fuses upstream of the inverter. In addition, they can also be used for protecting groups (PV subarrays). For the PV cumulative fuses of size 1, the 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 as fuse disconnectors as defined in the IEC 60947 switchgear and controlgear standard. Under no circumstances are they suitable for switching loads.

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

Benefits

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



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



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

Technical specifications

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

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

Selection and ordering data

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

3NW6604-4

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

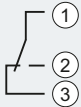
Fuse Systems

Photovoltaic Fuses

PV cylindrical fuses

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

Technical specifications

	Fuse links 3NE1...-4 / -4D / -4E / -5E						Fuse bases 3NH7...-4						
Size	1	1L	2L	3L	1XL	2XL	1	1L	2L	3L	1XL	2XL	
Standards	IEC 60269-6						IEC 60269, IEC 60269-2, IEC 60947						
Operational class	gPV												
Rated voltage U_n	V DC	1000 at time constant (L/R) 3 ms 1500 at time constant (L/R) 3 ms					1000			1500			
Rated current I_n	A DC	63 ... 160	200/250	315/400	500/630	63 ... 200	250/315	160	250	400	630	250 400	
Rated short-circuit strength	kA	--						30					
Rated breaking capacity	kA DC	30						--					
Breaking capacity • Utilization category		--						AC-20B, DC-20B (switching without load)					
Max. power dissipation of the fuse link	W	--						40	90	110	130	90 110	
No-voltage changing of fuse links		--						Yes					
Sealable when installed		--						Yes					
Mounting position		Any, preferably vertical											
Current direction		--						Any					
Ambient temperature	°C	-25 ... +55°C, humidity 90% at +20°C											
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	SD	Article No. www.siemens.com/ product?ArticleNo.	Price per PU	PU (UNIT, SET, M)	PS	PG
		A DC	V DC	W	d					
Fuse links operational class gPV										
 3NE1330-4D	1	63	1000	19		3NE1218-4		1	2 units	1DN
		80		20		3NE1220-4		1	2 units	1DN
		100		24		3NE1221-4		1	2 units	1DN
		125		26		3NE1222-4		1	2 units	1DN
		160		32		3NE1224-4		1	2 units	1DN
	1L	200		51		3NE1225-4D		1	2 units	1DN
		250		54		3NE1227-4D		1	2 units	1DN
	2L	315		73		3NE1330-4D		1	2 units	1DN
		400		82		3NE1332-4D		1	2 units	1DN
	3L	500		100		3NE1434-4E		1	2 units	1DN
		630		110		3NE1436-4E		1	2 units	1DN
	1XL	63	1500	20		3NE1218-5E		1	2 units	1DN
		80		25		3NE1220-5E		1	2 units	1DN
		100		30		3NE1221-5E		1	2 units	1DN
		125		29		3NE1222-5E		1	2 units	1DN
		160		34		3NE1224-5E		1	2 units	1DN
		200		41		3NE1225-5E		1	2 units	1DN
	2XL	250		53		3NE1327-5E		1	2 units	1DN
		315		63		3NE1330-5E		1	2 units	1DN

Fuse Systems

Photovoltaic Fuses

PV cumulative fuses

	For fuse links of size	I_n	U_n	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	A DC			d					
	Fuse bases with flat terminal				3NH3230		1	3 units	1BM
	Standard ceramic fuse base								
	1	250	1000						
	Fuse bases with swiveling mechanism				3NH7260-4 3NH7360-4 3NH7460-4 3NH7261-4 3NH7361-4		1	1 unit	1DN
	1L	250	1000						
	2L	400	1000						
	3L	630	1000/1500						
	1XL	250	1500						
	2XL	400	1500						
	Fuse bases with swiveling mechanism and microswitch for tripped signaling of the fuse¹⁾				3NH7262-4KK01 3NH7360-4KK01		1	1 unit	1DN
	1	250	1000						
	2L	400	1000						
Accessories									
	Terminal covers for PV fuse bases with swiveling mechanism				3NX3121 3NX3122 3NX3123		1	1 unit	1DN
	1, 1L, 1XL								
	2L, 2XL								
	3L								

¹⁾ Fuse must be inserted upside down.

1. General standards

By using this catalog you can acquire hardware and software products described therein from Siemens AG subject to these conditions of sale and delivery (hereinafter: CSD). Please note: the scope, the quality and the conditions for supplies and services, including software products, by any Siemens group or Regional Company having a registered office outside of Germany, shall be subject exclusively to the General Terms and Conditions of the respective Siemens entity. These CSD apply exclusively for orders placed with Siemens AG, Germany.

1.1 For customers with a seat or registered office in Germany

For customers with a seat or registered office in Germany, the following shall be subordinate to these CSD

- for installation, the "Standard Terms and Conditions for Installation –Germany" and
- for Plant Analytics Services the "Standard Terms and Conditions for Plant Analytics Services – for Customers in Germany"¹⁾ and
- for standalone software products and software products that are part of another product or project, the "General License Conditions for Software Products for Automation and Drives for Customers with a Seat or Registered Office in Germany"¹⁾ and
- for other supplies and services, the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry"¹⁾.
In the event that such other supplies and services include open-source software, the conditions of which override the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry"¹⁾, the product will be supplied with a notice detailing the special conditions that apply for the relevant open-source software. This applies accordingly in the case of a reference to other third-party software components.

1.2 For customers with a seat or registered office outside of Germany

For customers with a seat or registered office outside of Germany, the following shall be subordinate to these CSD

- for Plant Analytics Services the "Standard Terms and Conditions for Plant Analytics Services"¹⁾ (only available in English) and
- for services, the "International Terms & Conditions for Services"¹⁾ supplemented by the "Software Licensing Conditions"¹⁾ and
- for the supply of other hardware and software the "International Terms & Conditions for Products"¹⁾ supplemented by the "Software Licensing Conditions"¹⁾.

1.3 For customers with framework agreements

To the extent that our products and services are covered by an existing framework agreement, the conditions there apply instead of this CSD.

2. Prices

The prices are in € (euros) ex works, excluding packaging.

The sales tax (value added tax) is not included in the prices. It shall be debited separately at the respective rate according to the applicable legal regulations.

Prices are subject to change without prior notice. We will debit the prices valid at the time of delivery.

To compensate fluctuating prices of raw materials (for example silver, copper, aluminum, lead, gold, dysprosium and neodymium), surcharges are calculated on a daily basis for products containing these raw materials using the metal factor. A surcharge for the particular raw material is added to the price of a product if the basic quotations for this raw material are exceeded.

Each product's metal factor dictates for which raw materials the metal surcharges are calculated, from which quotation and with which calculation method (weight or percentage method).

An exact explanation of the metal factor can be found at: www.siemens.com/automation/salesmaterial-as/catalog/en/terms_of_trade_en.pdf

The surcharge will be calculated (except in the case of dysprosium and neodymium) on the basis of the official price on the day prior to receipt of the order or prior to the release order for calculation of the surcharge.

In the event of placement of an order, the relevant three-month average price from the quarter prior to order receipt or the release order shall be used with a one-month buffer to calculate the dysprosium and neodymium surcharge ("rare earths") (you will find details in the aforementioned explanation of the metal factor).

3. Additional terms and conditions

All dimensions are in mm. In Germany, according to the German law on units in metrology, data in inches only apply to devices for export.

Illustrations are not binding.

Insofar as there are no remarks on the corresponding pages of this catalog - especially with regard to data, dimensions and weights given - these are subject to change without prior notice.

¹⁾ You can download the text of the Siemens AG terms and conditions of trade at www.siemens.com/automation/salesmaterial-as/catalog/en/terms_of_trade_en.pdf

Appendix

Conditions of sale and delivery

4. Export regulations

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Exporting may be subject to authorization. In delivery information, we label authorization obligations according to German, European and US export lists.

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If required to conduct export control checks, you, at our request, shall promptly provide us with all information pertaining to particular end customers, destination and intended use of goods, works and services provided by us, as well as any relevant export control restrictions.

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