

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 × mm	8 × 32	10 × 38	14 × 51	22 × 58	10 × 38	14 × 51	22 × 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					aM	
Rated voltages U_n	V AC	400	400 or 500					
Rated current I_n	A	2 ... 20	0.5 ... 32	4 ... 50	8 ... 100	0.5 ... 32	2 ... 50	10 ... 100
Rated breaking capacity								
• 500 V 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 × mm	8 × 32	10 × 38	14 × 51	22 × 58
Standards		IEC 60269-1, -2, -3; NF C 60-200, NF C 63-210, -211; NBN C 63269-2-1; CEI 32-4, -12; UL 4248-1			
Approvals	Acc. to UL Acc. to CSA	-- --	 	 --	-- --
Rated voltage U_n	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	400		3NW6007-1		1	20 units	1BM
		25			3NW6010-1		1	20 units	1BM
		32			3NW6012-1		1	20 units	1BM
	14 × 51	4	500		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	400		3NW6117-1		1	10 units	1BM
		50			3NW6120-1		1	10 units	1BM
	22 × 58	16	500		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	400		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	400		3NW8007-1		1	20 units	1BM
		25			3NW8010-1		1	20 units	1BM
		32			3NW8012-1		1	20 units	1BM
	14 × 51	2	500		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	400		3NW8112-1		1	10 units	1BM
		40			3NW8117-1		1	10 units	1BM
		50			3NW8120-1		1	10 units	1BM

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	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	500		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
		50			3NW8220-1		1	10 units	1BM
		63			3NW8222-1		1	10 units	1BM
	22 × 58	80	400		3NW8224-1		1	10 units	1BM
		100			3NW8230-1		1	10 units	1BM

	Number of poles	I_n	For fuse links of size	Mount- ing 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 infed 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 60mm 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 No. E171267	 UL File No. 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		AC-20B (switching without load)	--
Utilization category			
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	
	lb-in	13	
		PZ2	
• Terminal screws			

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 No. 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 No. 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 operating 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	--

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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 No. 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 operating 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 Systems

Cylindrical Fuse Systems

Fuse holders in size 10 x 38 mm and Class CC

Selection and ordering data

Number of poles	I_n	For fuse links of size	Mounting width	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 ^{UL}

3P 32 10 x 38 2.5
Without signal detector
With signal detector

3NW7033-1
3NW7034-1

1 1 unit 1BM
1 1 unit 1BM

Fuse holders Class CC ^{UL}

3P 30 Class CC 2.5
Without signal detector
With signal detector

3NW7533-1HG
3NW7534-1HG

1 1 unit 1DN
1 1 unit 1DN

Accessories

Auxiliary switches ^{UL}

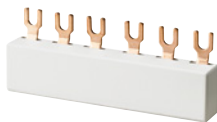
AC-12, 5 A, max. 250 V, 1 NO, 1 NC 2.5

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



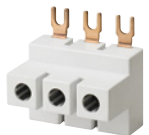
Busbars ^{UL}

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

5ST2601
5ST2602
5ST2603
5ST2604

1 10 units 1AD
1 10 units 1AD
1 10 units 1AD
1 10 units 1AD

Accessories



Terminals ^{UL}

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) ^{UL}

Size S00,
rated voltage 690 V AC,
rated current 25 A,
1 support rail (35 mm),
connecting cable AWG 12

200 45
260

8US1251-5DS10
8US1251-5DT10

1 1 unit 1CU
1 1 unit 1CU

Accessories



Mounting rails for busbar device adapter ^{UL}

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:

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		UL 4248-1; CSA C22.2
Approvals		UL 4248-1; UL File No. 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	W	3
• With cable, 10 mm ²	W	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	mm ²	1.5 ... 16
• AWG conductor cross-section, solid and stranded	AWG	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		
Characteristic		Slow	Quick	Slow, current limiting
Rated voltage	V AC	600	600	600
	V DC	--	--	150 (3 ... 15 A) 300 (< 3 A, > 15 A)
Rated breaking capacity	kA AC	200		

Selection and ordering data

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

	$I_n^{1)}$	SD	Characteristic: slow	Price per PU	PU (UNIT, SET, M)	PS	PG
	A	d	Article No. www.siemens.com/ product?Article No.				
	Class CC fuse links						
	0.6 (6/10) ¹⁾		3NW1006-0HG		1	10 units	1DN
	0.8 (8/10) ¹⁾		3NW1008-0HG		1	10 units	1DN
	1		3NW1010-0HG		1	10 units	1DN
	1.5 (1 ½) ¹⁾		3NW1015-0HG		1	10 units	1DN
	2		3NW1020-0HG		1	10 units	1DN
	2.5		3NW1025-0HG		1	10 units	1DN
	3		3NW1030-0HG		1	10 units	1DN
	4		3NW1040-0HG		1	10 units	1DN
	5		3NW1050-0HG		1	10 units	1DN
	6		3NW1060-0HG		1	10 units	1DN
	7.5		3NW1075-0HG		1	10 units	1DN
	8		3NW1080-0HG		1	10 units	1DN
	10		3NW1100-0HG		1	10 units	1DN
	12		---				
	15		3NW1150-0HG		1	10 units	1DN
	20		3NW1200-0HG		1	10 units	1DN
	25		3NW1250-0HG		1	10 units	1DN
	30		3NW1300-0HG		1	10 units	1DN

	$I_n^{1)}$	SD	Characteristic: quick	Price per PU	PU (UNIT, SET, M)	PS	PG
	A	d	Article No. www.siemens.com/ product?Article No.				
	Class CC fuse links						
	0.6 (6/10) ¹⁾		---				
	0.8 (8/10) ¹⁾		---				
	1		3NW2010-0HG		1	10 units	1DN
	1.5 (1 ½) ¹⁾		---				
	2		3NW2020-0HG		1	10 units	1DN
	2.5		---				
	3		3NW2030-0HG		1	10 units	1DN
	4		3NW2040-0HG		1	10 units	1DN
	5		3NW2050-0HG		1	10 units	1DN
	6		3NW2060-0HG		1	10 units	1DN
	7.5		---				
	8		3NW2080-0HG		1	10 units	1DN
	10		3NW2100-0HG		1	10 units	1DN
	12		3NW2120-0HG		1	10 units	1DN
	15		3NW2150-0HG		1	10 units	1DN
	20		3NW2200-0HG		1	10 units	1DN
	25		3NW2250-0HG		1	10 units	1DN
	30		3NW2300-0HG		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

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Overview

Class J fuse links are used for "branch circuit protection" and in the "feeder circuit". Two type series that each have six different sizes are available for the different applications: Characteristic: slow and characteristic: quick. Both type series have identical dimensions. The types from 3 A up to and including 60 A have a cylindrical design: contact is made via cylindrical contact caps. The other types have a design with contact pins that are used for making contact.

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.

We do not currently offer any fuse holders for the 500 A and 600 A fuse links. The fuse links can be optionally mounted directly on busbars.

Note:

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 C22.2 No.39-M1987, certificate no. 70029219, EAC					
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 AWG	0.75 ... 50 AWG 18 ... AWG 1	2.5 ... 50 AWG 14 ... AWG 1	1.5 ... 70 AWG 12 ... AWG 2/0	35 ... 150 AWG 2 ... MCM 300	16 ... 300 AWG 4 ... MCM 600	
Tightening torque		up to 1 mm²/>1 mm²:					
• Acc. to IEC/EN • Acc. to UL/CSA	Nm lb.in.	2.0 ... 2.5/3.5 ... 4.0 18 ... 22/31 ... 35	4.0 35	5 45	6 53	38 336	
Busbar devices							
Conductor cross-sections							
• Acc. to IEC/EN • Acc. to UL/CSA	mm² AWG	--	--	1.5 ... 70 AWG 12 ... AWG 2/0	35 ... 150 AWG 2 ... MCM 300	16 ... 300 AWG 4 ... MCM 600	
Tightening torque							
• Acc. to IEC/EN • Acc. to UL/CSA	Nm lb.in.	--	--	5 45	6 53	32 285	

Fuse Systems

Fuse Systems acc. to UL

Class J fuse systems

Selection and ordering data

Size (d x l)	I_n	SD	Characteristic: slow				PS	PG	SD	Characteristic: quick				PS	PG
			Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)					Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)			
A	d								d						
Class J fuse links NEW															
• Cylindrical design															
	21 mm x 57 mm	3	3NW4113-2HG		1	10 units	1DN			3NW4113-1HG		1	10 units	1DN	
		4	3NW4104-2HG		1	10 units	1DN			3NW4104-1HG		1	10 units	1DN	
		6	3NW4101-2HG		1	10 units	1DN			3NW4101-1HG		1	10 units	1DN	
		10	3NW4103-2HG		1	10 units	1DN			3NW4103-1HG		1	10 units	1DN	
		15	3NW4105-2HG		1	10 units	1DN			3NW4105-1HG		1	10 units	1DN	
		20	3NW4107-2HG		1	10 units	1DN			3NW4107-1HG		1	10 units	1DN	
		25	3NW4110-2HG		1	10 units	1DN			3NW4110-1HG		1	10 units	1DN	
		30	3NW4112-2HG		1	10 units	1DN			3NW4112-1HG		1	10 units	1DN	
	27 mm x 60 mm	35	3NW4214-2HG		1	10 units	1DN			3NW4214-1HG		1	10 units	1DN	
		40	3NW4217-2HG		1	10 units	1DN			3NW4217-1HG		1	10 units	1DN	
		45	3NW4218-2HG		1	10 units	1DN			3NW4218-1HG		1	10 units	1DN	
		50	3NW4220-2HG		1	10 units	1DN			3NW4220-1HG		1	10 units	1DN	
		60	3NW4221-2HG		1	10 units	1DN			3NW4221-1HG		1	10 units	1DN	
		70	3NW4323-2HG		1	1 unit	1DN			3NW4323-1HG		1	1 unit	1DN	
	28 mm x 118 mm	80	3NW4324-2HG		1	1 unit	1DN			3NW4324-1HG		1	1 unit	1DN	
		90	3NW4325-2HG		1	1 unit	1DN			3NW4325-1HG		1	1 unit	1DN	
		100	3NW4330-2HG		1	1 unit	1DN			3NW4330-1HG		1	1 unit	1DN	
	41 mm x 146 mm	110	3NW4431-2HG		1	1 unit	1DN			--					
		125	3NW4432-2HG		1	1 unit	1DN			--					
		150	3NW4434-2HG		1	1 unit	1DN			--					
		175	3NW4437-2HG		1	1 unit	1DN			--					
		200	3NW4440-2HG		1	1 unit	1DN			--					
	54 mm x 181 mm	250	3NW4544-2HG		1	1 unit	1DN			3NW4544-1HG		1	1 unit	1DN	
		300	3NW4550-2HG		1	1 unit	1DN			3NW4550-1HG		1	1 unit	1DN	
		350	3NW4554-2HG		1	1 unit	1DN			3NW4554-1HG		1	1 unit	1DN	
		400	3NW4560-2HG		1	1 unit	1DN			3NW4560-1HG		1	1 unit	1DN	
	66 mm x 203 mm	500	3NW4665-2HG		1	1 unit	1DN			3NW4665-1HG		1	1 unit	1DN	
		600	3NW4670-2HG		1	1 unit	1DN			3NW4670-1HG		1	1 unit	1DN	

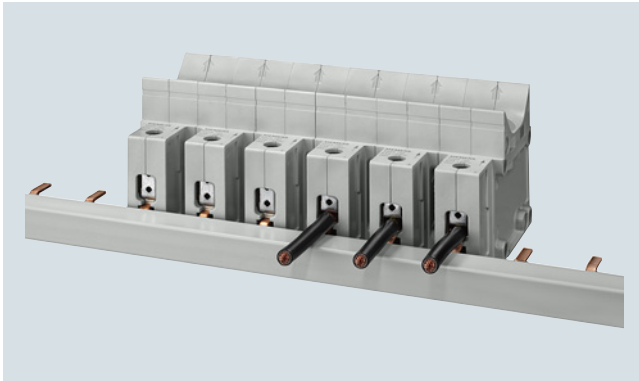
Number of poles	U_n	I_n	Mounting width	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
V	A		mm	d					
Class J fuse holders NEW									
• Modular devices for mounting on DIN mounting rail									
	1P	600	30	36 (2 MW)	3NW7511-3HG		1	6 units	1DN
	2P	600	30	72 (4 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 page 11/1									

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.

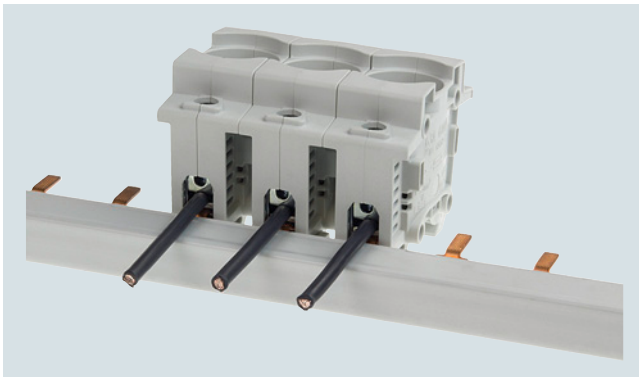
Benefits



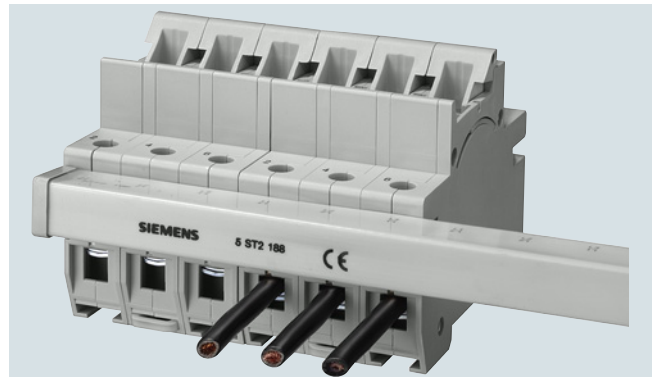
- Clear and visible conductor connection that can be easily checked when using the NEOZED D02 comfort base and which facilitates cable entry



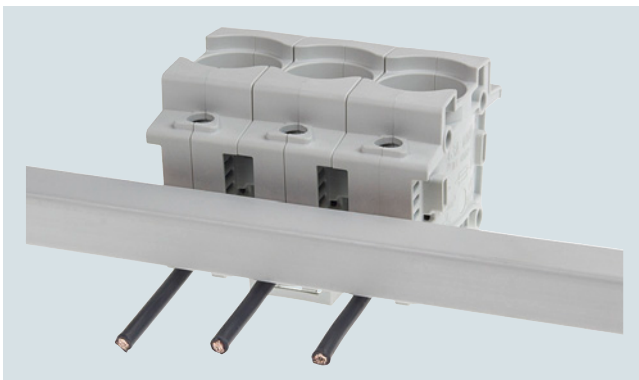
- Bus-mounting of NEOZED fuse bases made of ceramic on 3-phase busbar with fork plug, which can be cut to length



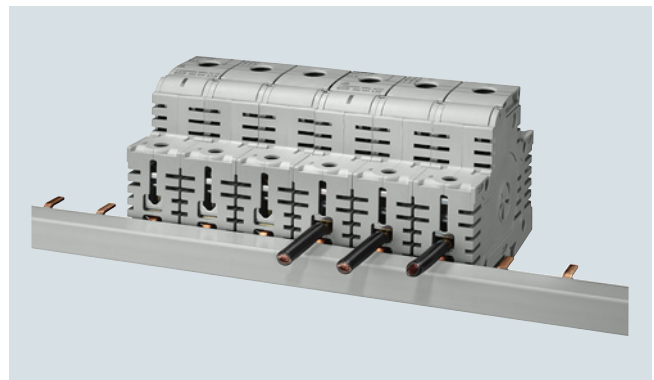
- Bus-mounting of the new NEOZED fuse base made of molded plastic on 3-phase busbar with pin-type connection which can be cut to length, busbar at top for easily visible conductor connection



- 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 3-phase busbar with pin-type connection which can be cut to length, busbar at bottom for maximum conductor connection

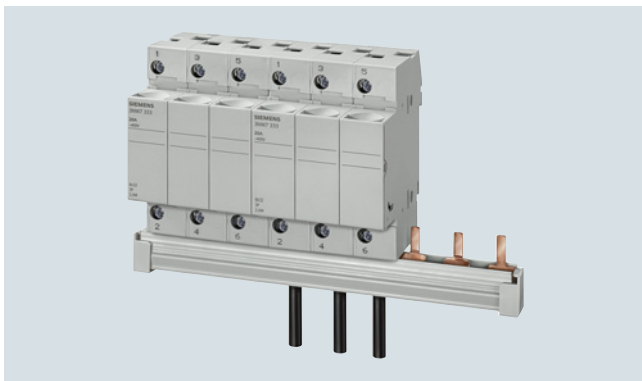


- Clear and visible conductor connection that can be easily checked when using MINIZED D02 switch disconnectors. This facilitates cable entry and saves time

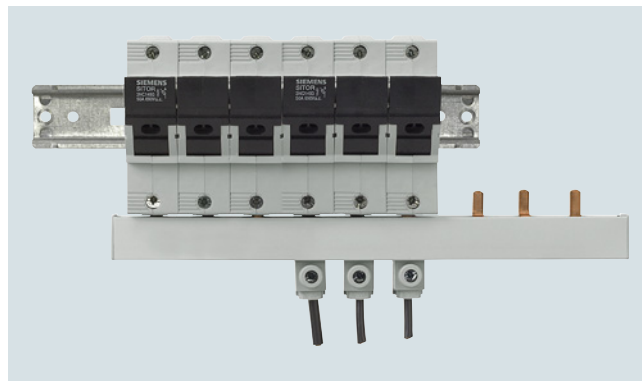
Fuse Systems

Busbar systems

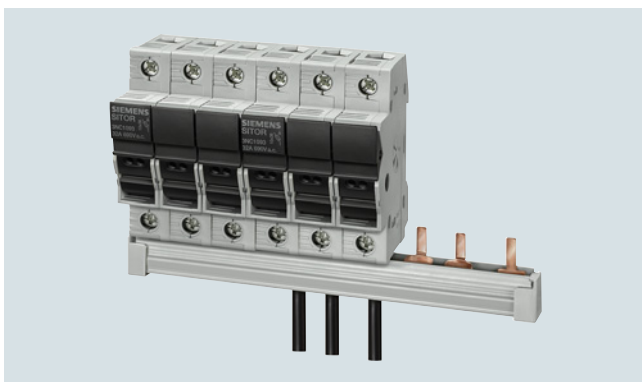
5



- Bus-mounting of cylindrical fuse holders 8 × 32 mm and 10 × 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



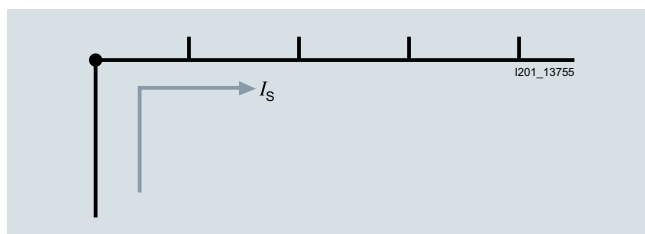
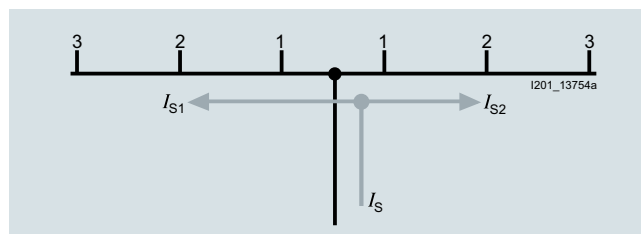
- Bus-mounting of SITOR cylindrical fuse holders 10 × 38 mm with the same terminal connection as Class CC fuse holders with 3-phase pin busbar that can be cut to length

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 operating 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	--	--	10 ... 1/0	14 ... 1
	mm ²	--	--	6 ... 35	1.5 ... 50
Terminals					
• Terminal tightening torque	Nm	--	--	5	3.5
	lb-in	--	--	50	35

Infeed at the start of the busbar**Infeed along the busbar or midpoint infeed**

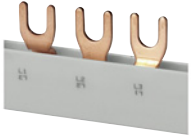
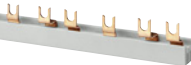
The sum of the output currents per branch must not be greater than the busbar current $I_{S1,2}$ /phase.

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 switch disconnectors For NEOZED D01/D02 comfort bases made of molded plastic 5SG1301, 5SG1701, 5SG5301, 5SG5701 For NEOZED D01/D02 fuse bases made of ceramic terminal version S (saddle terminal) For cylindrical fuse holder 14 × 51 mm For cylindrical fuse holder SITOR 14 × 51 mm Can be cut to length, without end caps						▶	5ST3703	1	1 unit	1AD
	Single-phase	16	130	1.5	1016						
	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 × 32 mm and 10 × 38 mm											
For cylindrical fuse holder SITOP 10 × 38 mm											
For class CC fuse holder ¹⁾											
	Can be cut to length, without end caps										
	Single-phase	16	120	1	1016	▶	5ST3701		1	1 unit	1AD
	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

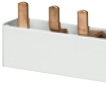
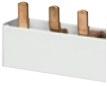
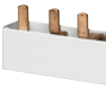
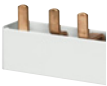
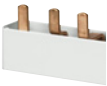
¹⁾ For UL-approved busbars, see page 5/36.

	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					▶ 5ST3655		1	10 units	1AD
	Yellow (RAL 1004) 5 x 1 pin									
  	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 infeed 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					8JH4122 8JH4124		1	10 units	1BR
	For conductors 1.5 ... 16 For conductors 10 ... 35							1	10 units	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 38mm/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			5ST3748-0HG		1	10 units	1AE
	• For two- and three-phase busbars			5ST3750-0HG		1	10 units	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

