

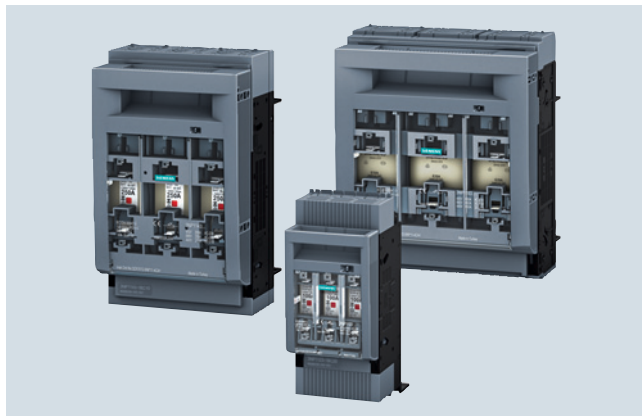
Switch Disconnectors

Fuse Switch Disconnectors

3NP1 Fuse Switch Disconnectors up to 630 A

Introduction

Overview

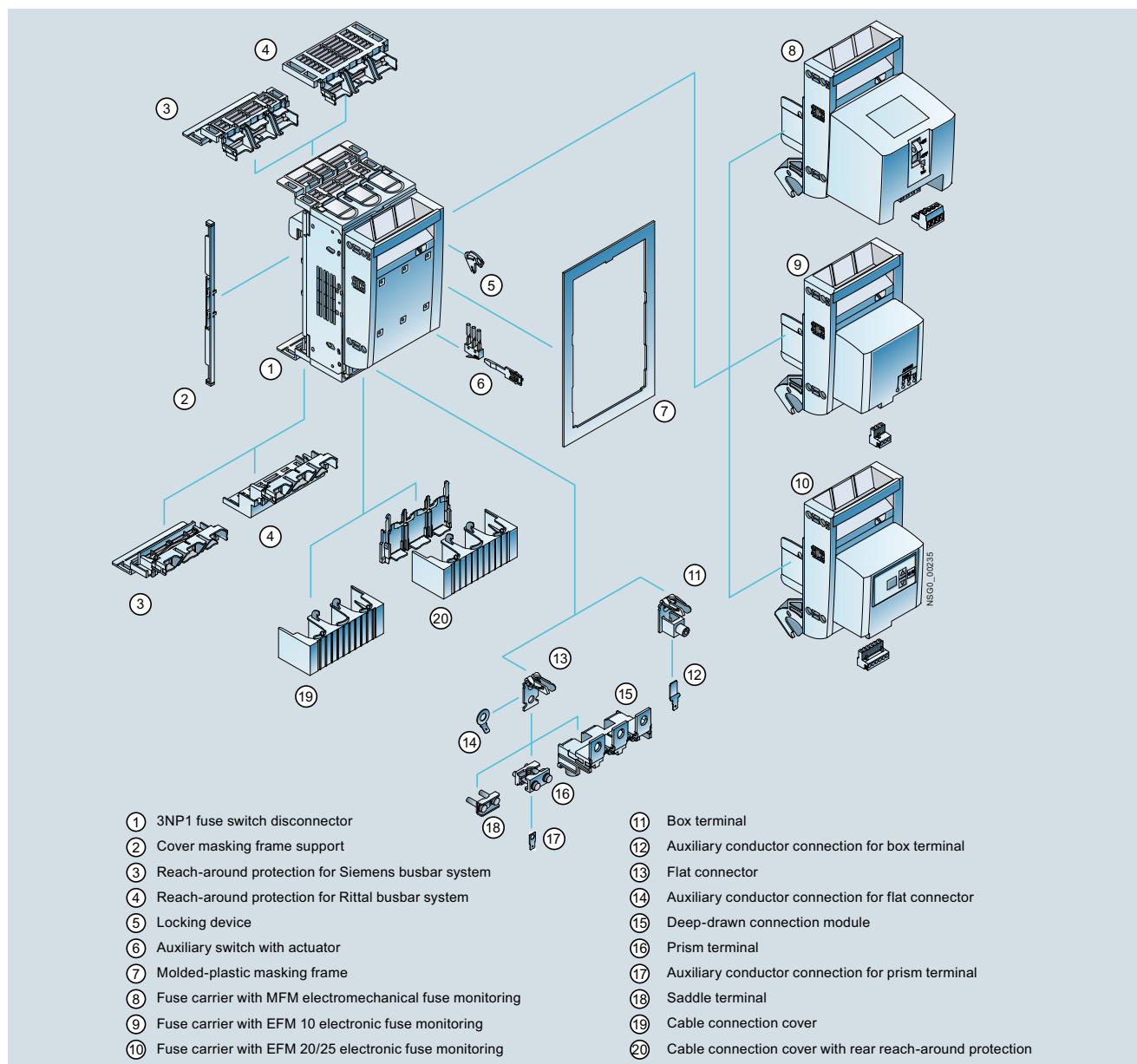


3NP1 fuse switch disconnectors

All key product features at a glance

- Box terminals available for all sizes
- Connection of circular conductors and laminated conductors
- Fuse monitoring possible throughout
- Busbar supports can be built over
- Conversion of 5/10 mm thick busbars without parts which can be lost or broken off
- Convertibility of cable feeder at top/bottom without intervention in the internal conducting paths
- Optimum integration in various system environments through cover levels and on busbar systems with/without base
- Touch protection also with rear incoming feeder
- Fuses are removed using a release shaft without the fuses being touched
- All units can be sealed and locked

Overview of all components and accessory parts



Benefits

Advantages during planning and configuration

- Low level of equipment variation due to easy convertibility of cable feeder at top/bottom (delivered from factory with cable feeder at bottom).
- Only one device variant for applications in industry and infrastructure thanks to touch and reach-around protection as a standard feature.
- Uniform grid sizes for easy configuration.

Advantages during operation and service

- The optional rear covers for the cable connections ensure optimum touch protection even for switchboard assemblies with rear access.
- Innovative design enables the highest safety for equipment and personnel.
- Fuses can be released and removed using a release shaft.
- Lockable and sealable design enables safe working and prevents unauthorized access.

Advantages during installation

- Only one device version is required for cable feeders at top/bottom and there is no need to intervene in the internal conducting paths.
- One device version with very high short-circuit values dispenses with having to order and install arc splitters to increase the electrical values.
- On all sizes it is possible to install 2 CO contacts for indicating the switching position.
- All devices feature all-round touch protection.
- Box terminals are available for all sizes and shorten the mounting time appreciably.
- Snapping on the sizes NH000 and NH00 shortens the mounting time greatly compared to fixing with screws.
- The screw-fixing method on sizes NH1, NH2 and NH3 provides for easy positioning and at the same time secure contacting of the larger and heavier device versions.
- Small space requirement through compact devices and busbar supports which can be built over.
- Device versions for busbar mounting can be converted to 5 mm or 10 mm thick busbars without parts which can be lost or broken off.

Application

Possible uses

3NP1 fuse switch disconnectors can be used for protecting and switching the most diverse electrical loads:

- Motor starter combinations
- In conjunction with SITOR semiconductor fuses for the protection of frequency converters and soft starters
- Fusing of compensation modules
- Cable feeders
- Group fusing of small loads

The devices are optimized for operation in all kinds of system environments:

- Low-voltage switchboard assemblies for power distribution and MCCs (e.g. main and sub-distribution boards)
- Distribution systems with cover levels of 32 and 70 mm or 45 and 70 mm
- Mechanical engineering
- Railway applications

Fuse monitoring

Fuse monitoring devices are used to detect, indicate and report faults:

- MFM – electromechanical fuse monitoring for AC/DC networks
- EFM 10 – electronic fuse monitoring for AC networks
- EFM 20 – electronic fuse monitoring with line monitoring for AC networks
- EFM 25 – electronic fuse monitoring with line monitoring for DC networks

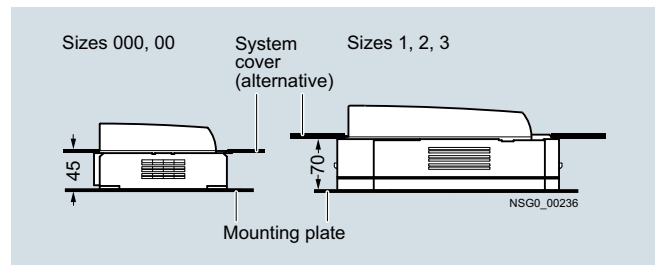
Standards and regulations

The 3NP1 fuse switch disconnectors are compliant with:

- IEC 60947-1, EN 60947-1
- IEC 60947-3, EN 60947-3

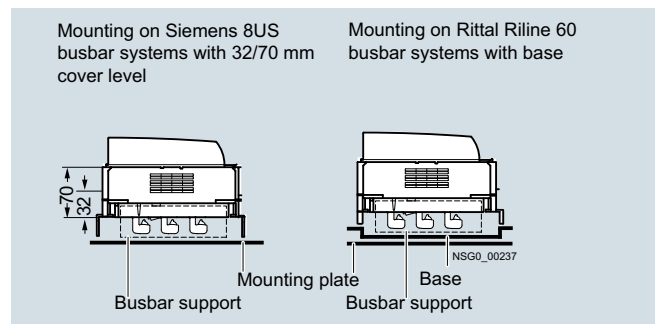
Mounting

Floor mounting



3NP1 fuse switch disconnector for floor mounting

Busbar mounting



3NP1 fuse switch disconnector for busbar mounting

Switch Disconnectors

Fuse Switch Disconnectors

3NP1 Fuse Switch Disconnectors up to 630 A

Introduction

Technical specifications

Standards		IEC / EN 60947-1, IEC / EN 60947-3, VDE 0660 Part 7				
Type		3NP1123...	3NP1133...	3NP1143...	3NP1153...	3NP1163...
Rated uninterrupted current I_u	A	160 ¹⁾	160	250	400	630
For fuse links acc. to IEC 60269-2	Size	000	00 and 000	1 and 0	2 and 1	3 and 2
Conventional free-air thermal current I_{th}	A	160	160	250	400	630
Rated operational voltage U_e						
• At 50 Hz/60 Hz AC	V	690	690	690	690	690
• At DC (3 conducting paths series-connected)	V	440	440	440	440	440
• At DC (2 conducting paths series-connected)	V	220/240	220/240	220/240	220/240	220/240
• For utilization category AC-20B or DC-20B	Max. V	1000	1000	1000	1000	1000
Rated insulation voltage U_i²⁾	V	1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp}	kV	8	8	8	8	8
Rated cond. short-circuit current with fuses (by fast switch on)	Size/A	000/160	00/160	1/250	2/400	3/630
• Rated current at 500 V/690 V AC	kA	80/50	80/50	80/50	80/50	80/50
• Permissible let-through current of the fuses, peak value	kA	10	15	25	40	50
Short-circuit strength with fuses (with closed disconnector)	Size/A	000/160	00/160	1/250	2/400	3/630
• Rated current at 500 V/690 V, rms value	kA	120/100	120/100	120/100	100/100	100/100
• Let-through I^2t value	kA ² s	56	158	780	2150	5400
• Permissible let-through current of the fuses, peak value	kA	15	23	32	40	60
Rated making capacity with isolating blades at 500 V AC	kA	2	6	17	17	17
Rated making and breaking capacity						
• At AC-21B, 22B, 23B	400 V AC A	160	160	250	400	630
• At AC-21B	500 V AC A	160	160	250	400	630
• At AC-22B	500 V AC A	125	160	250	400	630
• At AC-23B	500 V AC A	40	63	200	315	500
• At AC-21B	690 V AC A	160	160	250	400	630
• At AC-22B	690 V AC A	50	125	250	400	500
• At AC-23B	690 V AC A	25	35	100	125	200
• At DC-21B (2 conducting paths series-connected)	240 V DC A	160	160	250	400	630
• At DC-22B (2 conducting paths series-connected)	240 V DC A	100	160	250	400	630
• At DC-23B (2 conducting paths series-connected)	240 V DC A	80	100	200	250	400
• At DC-21B (3 conducting paths series-connected)	440 V DC A	100	160	250	400	630
• At DC-22B (3 conducting paths series-connected)	440 V DC A	50	125	200	315	500
• At DC-23B (3 conducting paths series-connected)	440 V DC A	25	63	100	160	250
Capacitor switching capacity						
At 400 V AC						
• Capacitor rating	kvar	50	50	50	50	50
• Rated current I_n	A	72	72	72	72	72
At 525 V AC						
• Capacitor rating	kvar	50	50	50	50	50
• Rated current I_n	A	55	55	55	55	55
Permissible ambient temperature³⁾	°C	-25 ... +55 for operation, -50 ... +80 during storage				
Mechanical endurance, operating cycles		2000	2000	1600	1000	1000
Degree of protection (operator side)						
Without molded-plastic masking frame/cable lug cover		IP30 (switch closed) / IP20 (switch open)				
With molded-plastic masking frame/cable lug cover		IP40 (switch closed) / IP20 (switch open)				
Power loss of switch at I_{th} (plus fuses)	W	9	12	23	34	48
Maximum power loss of the usable fuses (per fuse)⁴⁾	W	7.5 ⁵⁾	12	23	34	48
Max. conductor cross-section of main conductor connection						
Flat terminals	mm ²		Up to 95 (M8)	Up to 150 (M10)	Up to 240 (M10)	Up to 300 (M10)
Box terminal	mm ²	1.5 ... 50	6 ... 70	70 ... 185	120 ... 240	150 ... 300
Prism terminals	mm ²	--	35 ... 95	70 ... 150	120 ... 240	150 ... 300
Saddle terminals	mm ²	--	1.5 ... 70	70 ... 120	120 ... 240	150 ... 300
Laminated conductors in box terminal	mm	8 x 8	9 x 8	10 x 20	10 x 32	20 x 32
Rated operational current of auxiliary switch (at max. 250 V AC)						
3NP19...-1FA00 auxiliary switch	A	0.25 ($I_{th} = 5$ A)				
3NP19...-1FB00 auxiliary switch (solid-state compatible)	A	0.1 ($I_{th} = 0.1$ A)				
Permissible mounting position		Vertical and horizontal (no derating)				

¹⁾ 160 A available in combination with feeder terminal 3NP1923-1BD00, otherwise max. 100 A.

²⁾ Up to pollution degree 2, above this $U_i = 690$ V.

³⁾ Only with isolating blades; otherwise, please observe specifications of fuse manufacturer.

⁴⁾ Values are valid when using LV HRC fuse systems with characteristic gG. If using fuses for semiconductor protection, please refer to the assignment table, see page 7/221.

⁵⁾ For operation up to 160 A, max. 9 W.

Switch Disconnectors

Fuse Switch Disconnectors

3NP1 Fuse Switch Disconnectors up to 630 A

Floor mounting

Selection and ordering data

	Rated current I_u	Size	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	A		d					
For 45 mm cover level								
	Basic units							
	Flat terminals							
	160	00	▶	3NP1133-1CA10		1	1 unit	1DL
	Box terminals							
	100 ¹⁾	000	▶	3NP1123-1CA20		1	1 unit	1DL
	160	00	▶	3NP1133-1CA20		1	1 unit	1DL
With MFM electromechanical fuse monitoring								
	Flat terminals							
	160	00		3NP1133-1CA11		1	1 unit	1DL
	Box terminals							
	160	00		3NP1133-1CA21		1	1 unit	1DL
With EFM 10 electronic fuse monitoring								
	Flat terminals							
	160	00		3NP1133-1CA12		1	1 unit	1DL
	Box terminals							
	100 ¹⁾	000		3NP1123-1CA22		1	1 unit	1DL
	160	00		3NP1133-1CA22		1	1 unit	1DL
With EFM 20 electronic fuse monitoring and line monitoring								
	Flat terminals							
	160	00		3NP1133-1CA13		1	1 unit	1DL
	Box terminals							
	100 ¹⁾	000		3NP1123-1CA23		1	1 unit	1DL
	160	00		3NP1133-1CA23		1	1 unit	1DL

¹⁾ 160 A available in combination with feeder terminal 3NP1923-1BD00.

Switch Disconnectors

Fuse Switch Disconnectors

3NP1 Fuse Switch Disconnectors up to 630 A

Floor mounting

	Rated current I_N	Size	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	A		d					
For 70 mm cover level								
 3NP1143-1DA20	Basic units							
	Flat terminals							
	250	1	►	3NP1143-1DA10		1	1 unit	1DL
	400	2	►	3NP1153-1DA10		1	1 unit	1DL
	630	3	►	3NP1163-1DA10		1	1 unit	1DL
	Box terminals							
	250	1		3NP1143-1DA20		1	1 unit	1DL
	400	2		3NP1153-1DA20		1	1 unit	1DL
	630	3		3NP1163-1DA20		1	1 unit	1DL
 3NP1143-1DA21	With MFM electromechanical fuse monitoring							
	Flat terminals							
	250	1		3NP1143-1DA11		1	1 unit	1DL
	400	2		3NP1153-1DA11		1	1 unit	1DL
	630	3		3NP1163-1DA11		1	1 unit	1DL
	Box terminals							
	250	1		3NP1143-1DA21		1	1 unit	1DL
	400	2		3NP1153-1DA21		1	1 unit	1DL
	630	3		3NP1163-1DA21		1	1 unit	1DL
 3NP1143-1DA22	With EFM 10 electronic fuse monitoring							
	Flat terminals							
	250	1		3NP1143-1DA12		1	1 unit	1DL
	400	2		3NP1153-1DA12		1	1 unit	1DL
	630	3		3NP1163-1DA12		1	1 unit	1DL
	Box terminals							
	250	1		3NP1143-1DA22		1	1 unit	1DL
	400	2		3NP1153-1DA22		1	1 unit	1DL
	630	3		3NP1163-1DA22		1	1 unit	1DL
 3NP1143-1DA23	With EFM 20 electronic fuse monitoring and line monitoring							
	Flat terminals							
	250	1		3NP1143-1DA13		1	1 unit	1DL
	400	2		3NP1153-1DA13		1	1 unit	1DL
	630	3		3NP1163-1DA13		1	1 unit	1DL
	Box terminals							
	250	1		3NP1143-1DA23		1	1 unit	1DL
	400	2		3NP1153-1DA23		1	1 unit	1DL
	630	3		3NP1163-1DA23		1	1 unit	1DL

Switch Disconnectors

Fuse Switch Disconnectors

3NP1 Fuse Switch Disconnectors up to 630 A

For 40 mm busbar system

Selection and ordering data

Rated current I_u	Size	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
A		d					
With reach-around protection suitable for Siemens 8US busbar system and Rittal 40 mm busbar system without base¹⁾							
Basic units							
Flat terminals							
160	00		3NP1133-1BB10		1	1 unit	1DL
Box terminals							
100 ²⁾	000		3NP1123-1BB20		1	1 unit	1DL
160	00		3NP1133-1BB20		1	1 unit	1DL
With MFM electromechanical fuse monitoring							
Flat terminals							
160	00		3NP1133-1BB11		1	1 unit	1DL
Box terminals							
160	00		3NP1133-1BB21		1	1 unit	1DL
With EFM 10 electronic fuse monitoring							
Flat terminals							
160	00		3NP1133-1BB12		1	1 unit	1DL
Box terminals							
100 ²⁾	000		3NP1123-1BB22		1	1 unit	1DL
160	00		3NP1133-1BB22		1	1 unit	1DL
With EFM 20 electronic fuse monitoring and line monitoring							
Flat terminals							
160	00		3NP1133-1BB13		1	1 unit	1DL
Box terminals							
100 ²⁾	000		3NP1123-1BB23		1	1 unit	1DL
160	00		3NP1133-1BB23		1	1 unit	1DL



3NP1133-1BB20



3NP1133-1BB21



3NP1133-1BB22



3NP1133-1BB23

¹⁾ Cannot be used with T profile rails.²⁾ 160 A available in combination with feeder terminal 3NP1923-1BD00.**Note:**

Delivered from factory with cable feeder at bottom and convertible by the customer.

Switch Disconnectors

Fuse Switch Disconnectors

3NP1 Fuse Switch Disconnectors up to 630 A

For 40 mm busbar system

	Rated current I_N	Size	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	A		d					
With reach-around protection suitable for Rittal 40 mm busbar system with base¹⁾								
	Basic units							
	Flat terminals							
	160	00		3NP1133-1JB10		1	1 unit	1DL
	Box terminals							
	100 ²⁾	000		3NP1123-1JB20		1	1 unit	1DL
	160	00		3NP1133-1JB20		1	1 unit	1DL
3NP1133-1JB20								
	With MFM electromechanical fuse monitoring							
	Flat terminals							
	160	00		3NP1133-1JB11		1	1 unit	1DL
	Box terminals							
	160	00		3NP1133-1JB21		1	1 unit	1DL
3NP1133-1JB21								
	With EFM 10 electronic fuse monitoring							
	Flat terminals							
	160	00		3NP1133-1JB12		1	1 unit	1DL
	Box terminals							
	100 ²⁾	000		3NP1123-1JB22		1	1 unit	1DL
	160	00		3NP1133-1JB22		1	1 unit	1DL
3NP1133-1JB22								
	With EFM 20 electronic fuse monitoring and line monitoring							
	Flat terminals							
	160	00		3NP1133-1JB13		1	1 unit	1DL
	Box terminals							
	100 ²⁾	000		3NP1123-1JB23		1	1 unit	1DL
	160	00		3NP1133-1JB23		1	1 unit	1DL
3NP1133-1JB23								

¹⁾ Cannot be used with T profile rails.

²⁾ 160 A available in combination with feeder terminal 3NP1923-1BD00.

Note:

Delivered from factory with cable feeder at bottom and convertible by the customer.

Switch Disconnectors

Fuse Switch Disconnectors

3NP1 Fuse Switch Disconnectors up to 630 A

For 60 mm busbar system

Selection and ordering data

Rated current I_u	Size	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
A		d					
With reach-around protection suitable for Siemens 8US, Wöhner Classic, and Rittal RiLine60 busbar systems without base							
Basic units							
Flat terminals							
160	00	►	3NP1133-1BC10		1	1 unit	1DL
250	1	►	3NP1143-1BC10		1	1 unit	1DL
400	2		3NP1153-1BC10		1	1 unit	1DL
630	3		3NP1163-1BC10		1	1 unit	1DL
Box terminals							
100 ¹⁾	000	►	3NP1123-1BC20		1	1 unit	1DL
160	00	►	3NP1133-1BC20		1	1 unit	1DL
250	1	►	3NP1143-1BC20		1	1 unit	1DL
400	2		3NP1153-1BC20		1	1 unit	1DL
630	3		3NP1163-1BC20		1	1 unit	1DL
With MFM electromechanical fuse monitoring							
Flat terminals							
160	00		3NP1133-1BC11		1	1 unit	1DL
250	1		3NP1143-1BC11		1	1 unit	1DL
400	2		3NP1153-1BC11		1	1 unit	1DL
630	3		3NP1163-1BC11		1	1 unit	1DL
Box terminals							
160	00		3NP1133-1BC21		1	1 unit	1DL
250	1		3NP1143-1BC21		1	1 unit	1DL
400	2		3NP1153-1BC21		1	1 unit	1DL
630	3		3NP1163-1BC21		1	1 unit	1DL
With EFM 10 electronic fuse monitoring							
Flat terminals							
160	00		3NP1133-1BC12		1	1 unit	1DL
250	1		3NP1143-1BC12		1	1 unit	1DL
400	2		3NP1153-1BC12		1	1 unit	1DL
630	3		3NP1163-1BC12		1	1 unit	1DL
Box terminals							
100 ¹⁾	000		3NP1123-1BC22		1	1 unit	1DL
160	00		3NP1133-1BC22		1	1 unit	1DL
250	1		3NP1143-1BC22		1	1 unit	1DL
400	2		3NP1153-1BC22		1	1 unit	1DL
630	3		3NP1163-1BC22		1	1 unit	1DL
With EFM 20 electronic fuse monitoring and line monitoring							
Flat terminals							
160	00		3NP1133-1BC13		1	1 unit	1DL
250	1		3NP1143-1BC13		1	1 unit	1DL
400	2		3NP1153-1BC13		1	1 unit	1DL
630	3		3NP1163-1BC13		1	1 unit	1DL
Box terminals							
100 ¹⁾	000		3NP1123-1BC23		1	1 unit	1DL
160	00		3NP1133-1BC23		1	1 unit	1DL
250	1		3NP1143-1BC23		1	1 unit	1DL
400	2		3NP1153-1BC23		1	1 unit	1DL
630	3		3NP1163-1BC23		1	1 unit	1DL

¹⁾ 160 A available in combination with feeder terminal 3NP1923-1BD00.**Note:**

Delivered from factory with cable feeder at bottom and convertible by the customer.

Switch Disconnectors

Fuse Switch Disconnectors

3NP1 Fuse Switch Disconnectors up to 630 A

For 60 mm busbar system

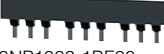
	Rated current I_N	Size	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	A		d					
With reach-around protection suitable for Rittal RiLine60 busbar system with base								
 3NP1133-1JC20	Basic units							
	Flat terminals							
	160	00		3NP1133-1JC10		1	1 unit	1DL
	250	1		3NP1143-1JC10		1	1 unit	1DL
	400	2		3NP1153-1JC10		1	1 unit	1DL
	630	3		3NP1163-1JC10		1	1 unit	1DL
	Box terminals							
	100 ¹⁾	000		3NP1123-1JC20		1	1 unit	1DL
	160	00		3NP1133-1JC20		1	1 unit	1DL
	250	1		3NP1143-1JC20		1	1 unit	1DL
	400	2		3NP1153-1JC20		1	1 unit	1DL
	630	3		3NP1163-1JC20		1	1 unit	1DL
	With MFM electromechanical fuse monitoring							
	Flat terminals							
	160	00		3NP1133-1JC11		1	1 unit	1DL
	250	1		3NP1143-1JC11		1	1 unit	1DL
	400	2		3NP1153-1JC11		1	1 unit	1DL
	630	3		3NP1163-1JC11		1	1 unit	1DL
	Box terminals							
	160	00		3NP1133-1JC21		1	1 unit	1DL
	250	1		3NP1143-1JC21		1	1 unit	1DL
	400	2		3NP1153-1JC21		1	1 unit	1DL
	630	3		3NP1163-1JC21		1	1 unit	1DL
 3NP1133-1JC21	With EFM 10 electronic fuse monitoring							
	Flat terminals							
	160	00		3NP1133-1JC12		1	1 unit	1DL
	250	1		3NP1143-1JC12		1	1 unit	1DL
	400	2		3NP1153-1JC12		1	1 unit	1DL
	630	3		3NP1163-1JC12		1	1 unit	1DL
	Box terminals							
	100 ¹⁾	000		3NP1123-1JC22		1	1 unit	1DL
	160	00		3NP1133-1JC22		1	1 unit	1DL
	250	1		3NP1143-1JC22		1	1 unit	1DL
	400	2		3NP1153-1JC22		1	1 unit	1DL
	630	3		3NP1163-1JC22		1	1 unit	1DL
	With EFM 20 electronic fuse monitoring and line monitoring							
	Flat terminals							
	160	00		3NP1133-1JC13		1	1 unit	1DL
	250	1		3NP1143-1JC13		1	1 unit	1DL
	400	2		3NP1153-1JC13		1	1 unit	1DL
	630	3		3NP1163-1JC13		1	1 unit	1DL
	Box terminals							
	100 ¹⁾	000		3NP1123-1JC23		1	1 unit	1DL
	160	00		3NP1133-1JC23		1	1 unit	1DL
	250	1		3NP1143-1JC23		1	1 unit	1DL
	400	2		3NP1153-1JC23		1	1 unit	1DL
	630	3		3NP1163-1JC23		1	1 unit	1DL

¹⁾ 160 A available in combination with feeder terminal 3NP1923-1BD00.

Note:

Delivered from factory with cable feeder at bottom and convertible by the customer.

Selection and ordering data

Version	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
For size 000						
 3NP1923-1BD00	Connection methods					
	Feeder terminals , 16 ... 95 mm ² (1 set = 3 units) - For 3NP1123 with box terminal for use up to 160 A - For infeed when using the three-phase busbar - For connection of copper conductors		3NP1923-1BD00	1	1 unit	1DL
	Three-tier terminals , 3 x 2.5 ... 16 mm ² (1 set = 3 units) - For 3NP1123 with box terminal - For connection of copper conductors		3NP1923-1BE20	1	1 unit	1DL
 3NP1923-1BE20	Covering caps For 1 blank space on a three-phase busbar (1 set = 20 units)		3NP1923-1BF10	1	1 unit	1DL
 3NP1923-1BF10	Three-phase busbar $I_u = \text{max. } 225 \text{ A}$ - For 2x NH000 - For 3x NH000 - For 4x NH000		3NP1923-1BF20	1	1 unit	1DL
 3NP1933-1BF30			3NP1923-1BF30	1	1 unit	1DL
			3NP1923-1BF40	1	1 unit	1DL
	Link rail , $I_u = \text{max. } 225 \text{ A}$ For three-phase busbars		3NP1923-1BF50	1	1 unit	1DL
 3NP1933-1BF50	Auxiliary conductor connections For flat tab sleeve 6.3 x 0.8 mm, max. 5 A (1 set = 3 units) For 3NP1123 with box terminal		3NP1923-1BG40	1	1 unit	1DL
 3NP1933-1BG40						

Switch Disconnectors

Fuse Switch Disconnectors

3NP1 Fuse Switch Disconnectors up to 630 A

Accessories

	Version	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG	
			d					
For size 000 (continued)								
 3NP1923-1CA10			Device covers, auxiliary switches Reach-around protection for busbar mounting 1x top, 1x bottom Spare part, included in scope of delivery of the 3NP1, can also be used for retrofitting to a different busbar system • For Siemens 8US system • For Rittal system Cable connection covers Only for busbar systems 40 mm / 60 mm, top and bottom		 3NP1923-1CB00			
 3NP1923-1CF00			Masking frame supports (1 set = 2 units)		3NP1923-1CF00			1 1 unit 1DL
 3NP1923-1DA00			Covers External dimensions (H x W) 215 x 130 mm		3NP1923-1DA00			1 1 unit 1DL
 3NP1923-1EA00			Fixing kits For 1 standard mounting rail		▶ 3NP1923-1EA00			1 1 unit 1DL
 3NP1920-1FA00			Auxiliary switches 1 CO 1 CO contact, solid-state compatible		▶ 3NP1920-1FA00 3NP1920-1FB00			1 1 unit 1DL 1 1 unit 1DL
 3NP1923-1GA00			Fuse carriers Spare part, included in scope of delivery of the 3NP1, fuse monitoring can be retrofitted by replacing the fuse carrier • Standard • With EFM 10 electronic fuse monitoring • With EFM 20 electronic fuse monitoring and line monitoring • With EFM 25 electronic fuse monitoring and line monitoring		3NP1923-1GA00 3NP1923-1GA00 3NP1923-1GB20 3NP1923-1GB30 3NP1923-1GB50			1 1 unit 1DL 1 1 unit 1DL 1 1 unit 1DL 1 1 unit 1DL 1 1 unit 1DL
 3NP1900-1HA00			Locking devices (1 set = 10 units)		3NP1900-1HA00			1 1 unit 1DL

Switch Disconnectors

Fuse Switch Disconnectors

3NP1 Fuse Switch Disconnectors up to 630 A

Accessories

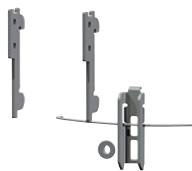
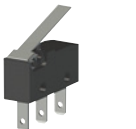
Version	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	d					
For size 00						
 3NP1933-1BA00  3NP1933-1BB10  3NP1933-1BC00  3NP1933-1BE10  3NP1923-1BE20  3NP1933-1BG10  3NP1933-1BG30  3NP1933-1BG40	Connection methods Saddle terminals , 1.5 ... 70 mm ² (1 set = 3 units) • For 3NP1133 with flat terminal • For connection of copper conductors					
	Prism terminals single, 35... 95 mm ² (1 set = 3 units) • For 3NP1133 with flat terminal • For connection of copper or aluminum conductors					
	Terminal modules , 6 ... 70 mm ² For 32-mm cover level with box terminal • For 3NP1133 with flat terminal • For connection of copper conductors					
	Three-tier terminals , 3 x 2.5 ... 16 mm ² (1 set = 3 units) • For 3NP1133 with flat terminal • For connection of copper conductors					
	Three-tier terminals , 3 x 2.5 ... 16 mm ² (1 set = 3 units) • For 3NP1133 with box terminal • For connection of copper conductors					
	Auxiliary conductor connections For flat tab sleeve 6.3 x 0.8 mm, max. 5 A For flat terminal (1 set = 3 units)					
	Auxiliary conductor connections For flat tab sleeve 6.3 x 0.8 mm, max. 5 A For prism terminal (1 set = 3 units)					
	Auxiliary conductor connections For flat tab sleeve 6.3 x 0.8 mm, max. 5 A For box terminal (1 set = 3 units)					

Switch Disconnectors

Fuse Switch Disconnectors

3NP1 Fuse Switch Disconnectors up to 630 A

Accessories

Version	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
For size 00 (continued)						
Device covers, auxiliary switches						
Reach-around protection for busbar mounting						
 3NP1933-1CA10	1x top, 1x bottom Spare part, included in scope of delivery of the 3NP1, can also be used for retrofitting to a different busbar system					
	- For Siemens 8US system - For Rittal system					
		3NP1933-1CA10		1	1 unit	1DL
		3NP1933-1CA20		1	1 unit	1DL
Cable connection covers (at top and bottom)						
 3NP1933-1CB00		For flat terminal		1	1 unit	1DL
Cable connection covers with rear reach-around protection in case of busbar mounting (at top and bottom)						
 3NP1933-1CC00		For flat terminal		1	1 unit	1DL
Cable connection covers with rear reach-around protection in case of floor mounting (at top and bottom)						
 3NP1933-1CD00		For flat terminal		1	1 unit	1DL
		3NP1933-1CD00		1	1 unit	1DL
		3NP1933-1CF00		1	1 unit	1DL
Masking frame supports						
(1 set = 2 units)						
		3NP1933-1DA00		1	1 unit	1DL
Covers						
 3NP1933-1DA00		External dimensions (H x W) 215 x 130 mm		1	1 unit	1DL
Fixing kits						
 3NP1933-1EB00		For 2 standard mounting rails 125/150 mm		1	1 unit	1DL
Auxiliary switches						
 3NP1930-1FB00		1 CO contact		1	1 unit	1DL
		1 CO contact, solid-state compatible		1	1 unit	1DL
Fuse carriers						
 3NP1933-1GB10		Spare part, included in scope of delivery of the 3NP1, fuse monitoring can be retrofitted by replacing the fuse carrier				
		- Standard - With MFM electromechanical fuse monitoring - With EFM 10 electronic fuse monitoring - With EFM 20 electronic fuse monitoring and line monitoring - With EFM 25 electronic fuse monitoring and line monitoring				
		3NP1933-1GA00		1	1 unit	1DL
		3NP1933-1GB10		1	1 unit	1DL
		3NP1933-1GB20		1	1 unit	1DL
		3NP1933-1GB30		1	1 unit	1DL
		3NP1933-1GB50		1	1 unit	1DL
Locking devices						
(1 set = 10 units)						
		3NP1900-1HA00		1	1 unit	1DL

Switch Disconnectors

Fuse Switch Disconnectors

3NP1 Fuse Switch Disconnectors up to 630 A

Accessories

Version	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
For size 1						
 3NP1943-1BA00	Connection methods					
	Saddle terminals , 70 ... 120 mm ² (1 set = 3 units) • For 3NP1143 with flat terminal • For connection of copper conductors		3NP1943-1BA00	1	1 unit	1DL
	Prism terminals single, 70 ... 150 mm ² (1 set = 3 units) • For 3NP1143 with flat terminal • For connection of copper or aluminum conductors		3NP1943-1BB10	1	1 unit	1DL
	Prism terminals double, 2 x 35 ... 70 mm ² (1 set = 3 units) • For 3NP1143 with flat terminal • For connection of copper or aluminum conductors		3NP1943-1BB20	1	1 unit	1DL
	Auxiliary conductor connections For flat tab sleeve 6.3 x 0.8 mm, max. 5 A For flat terminal (1 set = 3 units)		3NP1943-1BG10	1	1 unit	1DL
 3NP1943-1BG10	Auxiliary conductor connections For flat tab sleeve 6.3 x 0.8 mm; max. 5 A For saddle-type or prism terminals (1 set = 3 units)		3NP1943-1BG30	1	1 unit	1DL
 3NP1943-1BG30	Auxiliary conductor connections For flat tab sleeve 6.3 x 0.8 mm; max. 5 A For box terminal (1 set = 3 units)		3NP1943-1BG40	1	1 unit	1DL
 3NP1943-1BG40						

Switch Disconnectors

Fuse Switch Disconnectors

3NP1 Fuse Switch Disconnectors up to 630 A

Accessories

Version	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
d						
For size 1 (continued)						
Device covers, auxiliary switches						
 3NP1943-1CA10	Reach-around protection for busbar mounting 1x top, 1x bottom Spare part, included in scope of delivery of the 3NP1, can also be used for retrofitting to a different busbar system • For Siemens 8US system • For Rittal system					
	3NP1943-1CA10			1	1 unit	1DL
 3NP1943-1CB00	Cable connection covers (at top and bottom) ▶					
	3NP1943-1CB00			1	1 unit	1DL
 3NP1943-1CD00	Cable connection covers ▶ With rear reach-around protection (at top and bottom)					
	3NP1943-1CD00			1	1 unit	1DL
 3NP1943-1CF00	Masking frame supports (1 set = 2 units)					
	3NP1943-1CF00			1	1 unit	1DL
 3NP1943-1DA00	Covers External dimensions (H x W) 375 x 220 mm					
	3NP1943-1DA00			1	1 unit	1DL
 3NP1943-1EB00	Fixing kits For 2 standard mounting rails 125/150 mm					
	3NP1943-1EB00			1	1 unit	1DL
 3NP1940-1FA00	Auxiliary switches ▶ 1 CO contact 1 CO contact, solid-state compatible					
	3NP1940-1FA00 3NP1940-1FB00			1 1	1 unit 1 unit	1DL 1DL
 3NP1943-1GB20	Fuse carriers Spare part, included in scope of delivery of the 3NP1, fuse monitoring can be retrofitted by replacing the fuse carrier • Standard • With MFM electromechanical fuse monitoring • With EFM 10 electronic fuse monitoring • With EFM 20 electronic fuse monitoring and line monitoring • With EFM 25 electronic fuse monitoring and line monitoring					
	3NP1943-1GA00			1	1 unit	1DL
	3NP1943-1GB10			1	1 unit	1DL
	3NP1943-1GB20			1	1 unit	1DL
	3NP1943-1GB30			1	1 unit	1DL
	3NP1943-1GB50			1	1 unit	1DL
 3NP1900-1HA00	Locking devices (1 set = 10 units)					
	3NP1900-1HA00			1	1 unit	1DL

Switch Disconnectors

Fuse Switch Disconnectors

3NP1 Fuse Switch Disconnectors up to 630 A

Accessories

Version	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
d						
For size 2						
 3NP1953-1BA00  3NP1953-1BB10  3NP1953-1BB20  3NP1943-1BG10  3NP1953-1BG30  3NP1953-1BG40	Connection methods Saddle terminals , 120 ... 240 mm ² (1 set = 3 units) • For 3NP1153 with flat terminal • For connection of copper conductors Prism terminals single, 120 ... 240 mm ² (1 set = 3 units) • For 3NP1153 with flat terminal • For connection of copper or aluminum conductors Prism terminals double, 2 x 70 ... 120 mm ² (1 set = 3 units) • For 3NP1153 with flat terminal • For connection of copper or aluminum conductors Auxiliary conductor connections For flat tab sleeve 6.3 x 0.8 mm, max. 5 A For flat terminal (1 set = 3 units) Auxiliary conductor connections For flat tab sleeve 6.3 x 0.8 mm; max. 5 A For saddle-type or prism terminals (1 set = 3 units) Auxiliary conductor connections For flat tab sleeve 6.3 x 0.8 mm; max. 5 A For box terminal (1 set = 3 units)					
	3NP1953-1BA00					
	3NP1953-1BB10					
	3NP1953-1BB20					
	3NP1943-1BG10					
	3NP1953-1BG30					
	3NP1953-1BG40					
	Device covers, auxiliary switches Reach-around protection for busbar mounting 1x top, 1x bottom Spare part, included in scope of delivery of the 3NP1, can also be used for retrofitting to a different busbar system • For Siemens 8US system • For Rittal system Cable connection covers (at top and bottom) ▶ Cable connection covers ▶ With rear reach-around protection (at top and bottom) Masking frame supports (1 set = 2 units) Covers External dimensions (H x W) 375 x 245 mm Auxiliary switches 1 CO contact ▶ 1 CO contact, solid-state compatible					
	3NP1953-1CA10					
	3NP1953-1CB00					
 3NP1943-1CF00  3NP1953-1CB00  3NP1943-1CF00  3NP1953-1CB00  3NP1943-1CF00  3NP1953-1CB00	Masking frame supports (1 set = 2 units) Covers External dimensions (H x W) 375 x 245 mm Auxiliary switches 1 CO contact ▶ 1 CO contact, solid-state compatible					
	3NP1943-1CF00					
	3NP1953-1DA00					
	3NP1940-1FA00					
	3NP1940-1FB00					
	Fuse carriers Spare part, included in scope of delivery of the 3NP1, fuse monitoring can be retrofitted by replacing the fuse carrier • Standard • With MFM electromechanical fuse monitoring • With EFM 10 electronic fuse monitoring • With EFM 20 electronic fuse monitoring and line monitoring • With EFM 25 electronic fuse monitoring and line monitoring Locking devices (1 set = 10 units)					
	3NP1953-1GA00					
	3NP1953-1GB10					
	3NP1953-1GB20					
	3NP1953-1GB30					
	3NP1953-1GB50					
	3NP1900-1HA00					

Switch Disconnectors

Fuse Switch Disconnectors

3NP1 Fuse Switch Disconnectors up to 630 A

Accessories

	Version	SD	Article No. www.siemens.com/ product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		d					
For size 3							
Connection methods							
	Saddle terminals , 150 ... 300 mm ² (1 set = 3 units) • For 3NP1163 with flat terminal • For connection of copper conductors		3NP1963-1BA00		1	1 unit	1DL
	Prism terminals single, 150 ... 300 mm ² (1 set = 3 units) • For 3NP1163 with flat terminal • For connection of copper or aluminum conductors		3NP1963-1BB10		1	1 unit	1DL
	Prism terminals double, 2 x 150 ... 185 mm ² (1 set = 3 units) • For 3NP1163 with flat terminal • For connection of copper or aluminum conductors		3NP1963-1BB20		1	1 unit	1DL
	Auxiliary conductor connections For flat tab sleeve 6.3 x 0.8 mm, max. 5 A For flat terminal (1 set = 3 units)		3NP1943-1BG10		1	1 unit	1DL
	Auxiliary conductor connections For flat tab sleeve 6.3 x 0.8 mm, max. 5 A For saddle-type or prism terminal (1 set = 3 units)		3NP1953-1BG30		1	1 unit	1DL
	Auxiliary conductor connections For flat tab sleeve 6.3 x 0.8 mm, max. 5 A For box terminal (1 set = 3 units)		3NP1953-1BG40		1	1 unit	1DL
Device covers, auxiliary switches							
	Reach-around protection for busbar mounting 1x top, 1x bottom Spare part, included in scope of delivery of the 3NP1, can also be used for retrofitting to a different busbar system • For Siemens 8US system • For Rittal system		3NP1963-1CA10 3NP1963-1CA20		1 1	1 unit 1 unit	1DL 1DL
	Cable connection covers (at top and bottom)	►	3NP1963-1CB00		1	1 unit	1DL
	Cable connection cover With rear reach-around protection (at top and bottom)	►	3NP1963-1CD00		1	1 unit	1DL
Masking frame supports (1 set = 2 units)							
	Covers External dimensions (H x W) 375 x 290 mm		3NP1963-1DA00		1	1 unit	1DL
	Auxiliary switches 1 CO contact 1 CO contact, solid-state compatible	►	3NP1940-1FA00 3NP1940-1FB00		1 1	1 unit 1 unit	1DL 1DL
Fuse carriers							
	Spare part, included in scope of delivery of the 3NP1, fuse monitoring can be retrofitted by replacing the fuse carrier • Standard • With MFM electromechanical fuse monitoring • With EFM 10 electronic fuse monitoring • With EFM 20 electronic fuse monitoring and line monitoring • With EFM 25 electronic fuse monitoring and line monitoring		3NP1963-1GA00 3NP1963-1GB10 3NP1963-1GB20 3NP1963-1GB30 3NP1963-1GB50		1 1 1 1 1	1 unit 1 unit 1 unit 1 unit 1 unit	1DL 1DL 1DL 1DL 1DL
Locking devices (1 set = 10 units)							
			3NP1900-1HA00		1	1 unit	1DL

Switch Disconnectors

Fuse Switch Disconnectors

3NP1 Fuse Switch Disconnectors up to 630 A

Fuses

Overview

The 3NP1 fuse switch disconnectors are suitable for all fuses in LV HRC design, see chapter "Fuse Systems".

SITOR semiconductor fuses in LV HRC design can also be used, although it must be noted that, compared to cable and line protection fuses, these get much hotter during operation. For this reason, the fuse must be operated below the rated current I_n of the device (derating) when installed in a closed switching device.

The following table shows the permissible load currents of the SITOR semiconductor fuses for installation in 3NP1. The values were determined using the conductor cross-sections specified in the table.

Note

If using smaller cross-sections, a considerably higher derating is required due to the lower heat dissipation.

SITOR semiconductor fuses for 3NP1 fuse switch disconnectors: Assignment table

SITOR semiconductor fuse data						Permissible load currents of fuse when installed in:					
Type ^{1) 2)}	Rated current I_n	Rated voltage ³⁾ V AC	Operational class	Size	Required conductor cross-section Cu mm ²	3NP1 for floor mounting			3NP1 for busbar mounting		
						Type	Size	Permissible load current ⁴⁾ A	Type	Size	Permissible load current ^{4) 5)} A
3NC23..	150	500	gR	3	70	3NP1163	3	140	3NP1163	3	150
3NC2425..	200	500	gR	3	95	3NP1163	3	175	3NP1163	3	190
3NC2427..	250	500	gR	3	120	3NP1163	3	220	3NP1163	3	237
3NC2428..	300	500	gR	3	185	3NP1163	3	250	3NP1163	3	285
3NC2431..	350	500	gR	3	240	3NP1163	3	320	3NP1163	3	332
3NC2432..	400	500	aR	3	240	3NP1163	3	370	3NP1163	3	380
3NC3336-1	630	1000	aR	3	2x (40x5)	3NP1163	3	500	3NP1163	3	500
3NC3430-1	315	1250	aR	3	2x95	3NP1163	3	280	3NP1163	3	285
3NC3432-1	400	1250	aR	3	2x120	3NP1163	3	340	3NP1163	3	340
3NC3434-1	500	1250	aR	3	2x150	3NP1163	3	400	3NP1163	3	425
3NC3436-1	630	1250	aR	3	2x (40x5)	3NP1163	3	460	3NP1163	3	535
3NC8423..	150	660	gR	3	70	3NP1163	3	120	3NP1163	3	140
3NC8425..	200	660	gR	3	95	3NP1163	3	160	3NP1163	3	190
3NC8427..	250	660	gR	3	120	3NP1163	3	200	3NP1163	3	240
3NC8431..	350	660	gR	3	240	3NP1163	3	270	3NP1163	3	300
3NC8434..	500	660	gR	3	2x 150	3NP1163	3	385	3NP1163	3	385
3NE1020-2	80	690	gR	00	25	3NP1133	00	80	3NP1133	00	80
3NE1021-0	100	690	gS	00	35	3NP1133	00	100	3NP1133	00	100
3NE1021-2	100	690	gR	00	35	3NP1133	00	95	3NP1133	00	95
3NE1022-0	125	690	gS	00	50	3NP1133	00	120	3NP1133	00	120
3NE1022-2	125	690	gR	00	50	3NP1133	00	115	3NP1133	00	115
3NE1224-0	160	690	gS	1	70	3NP1143	1	160	3NP1143	1	160
						3NP1153	2	160	3NP1153	2	160
3NE1224-2/-3	160	690	gR	1	70	3NP1143	1	150	3NP1143	1	152
						3NP1153	2	200	3NP1153	2	200
3NE1224-2/-3	160	690	gR	1	70	3NP1143	1	150	3NP1143	1	152
						3NP1153	2	160	3NP1153	2	160
3NE1225-2/-3	200	690	gR	1	95	3NP1143	1	180	3NP1143	1	180
						3NP1153	2	190	3NP1153	2	190
3NE1227-0	250	690	gS	1	120	3NP1143	1	235	3NP1143	1	238
						3NP1153	2	250	3NP1153	2	250
3NE1227-2/-3	250	690	gR	1	120	3NP1143	1	220	3NP1143	1	213
						3NP1153	2	235	3NP1153	2	235
3NE1230-0	315	690	gS	1	2x 70	3NP1153	2	290	3NP1153	2	315
3NE1230-2/-3	315	690	gR	1	2x 70	3NP1153	2	278	3NP1153	2	315
						3NP1163	3	380	3NP1163	3	400
3NE1331-0	350	690	gS	2	2x 95	3NP1153	2	315	3NP1153	2	350
						3NP1163	3	340	3NP1163	3	350
3NE1331-2/-3	350	690	gR	2	2x 95	3NP1153	2	300	3NP1153	2	330
						3NP1163	3	330	3NP1163	3	350
3NE1332-0	400	690	gS	2	2x 95	3NP1153	2	340	3NP1153	2	380
3NE1332-2/-3	400	690	gR	2	2x 95	3NP1153	2	328	3NP1153	2	360
						3NP1163	3	370	3NP1163	3	400
3NE1333-0	450	690	gS	2	2x 120	3NP1163	3	450	3NP1163	3	430
3NE1333-2/-3	450	690	gR	2	2x 120	3NP1163	3	430	3NP1163	3	420

Minimum order quantity (PS) or a multiple thereof can be ordered.

Switch Disconnectors

Fuse Switch Disconnectors

3NP1 Fuse Switch Disconnectors up to 630 A

Fuses

SITOR semiconductor fuse data						Permissible load currents of fuse when installed in:					
Type ^{1) 2)}	Rated current I_n	Rated voltage ³⁾ V AC	Operational class	Size	Required conductor cross-section Cu mm ²	3NP1 for floor mounting			3NP1 for busbar mounting		
						Type	Size	Permissible load current ⁴⁾ A	Type	Size	Permissible load current ^{4) 5)} A
3NE1334-0	500	690	gS	2	2x 120	3NP1163	3	500	3NP1163	3	450
3NE1334-2/-3	500	690	gR	2	2x 120	3NP1163	3	475	3NP1163	3	450
3NE1435-0	560	690	gS	3	2x 150	3NP1163	3	560	3NP1163	3	520
3NE1435-2/-3	560	690	gR	3	2x 150	3NP1163	3	555	3NP1163	3	510
3NE1436-0	630	690	gS	3	2x 185	3NP1163	3	630	3NP1163	3	585
3NE1436-2/-3	630	690	gR	3	2x 185	3NP1163	3	620	3NP1163	3	570
3NE1437-0	710	690	gS	3	2x (40x5)	--	--	--	3NP1163	3	605
3NE1437-1	710	600	gR	3	2x (40x5)	--	--	--	3NP1163	3	590
3NE1437-2/-3	710	690	gR	3	2x (40x5)	--	--	--	3NP1163	3	580
3NE1438-0	800	690	gS	3	2x (50x5)	--	--	--	3NP1163	3	630
3NE1438-1	800	600	gR	3	2x (50x5)	--	--	--	3NP1163	3	610
3NE1438-2/-3	800	690	gR	3	2x (50x5)	--	--	--	3NP1163	3	600
3NE1447-2/-3	670	690	gR	3	2x (40x5)	--	--	--	3NP1163	3	575
3NE1448-2/-3	850	690	gR	3	2x (40x8)	--	--	--	3NP1163	3	630
3NE1802-0	40	690	gS	000	10	3NP1123	000	40	3NP1123	000	40
						3NP1133	00	40	3NP1133	00	40
3NE1803-0	35	690	gS	000	6	3NP1123	000	35	3NP1123	000	35
						3NP1133	00	35	3NP1133	00	35
3NE1813-0	16	690	gS	000	1.5	3NP1123	000	16	3NP1123	000	16
						3NP1133	00	16	3NP1133	00	16
3NE1814-0	20	690	gS	000	2.5	3NP1123	000	20	3NP1123	000	20
						3NP1133	00	20	3NP1133	00	20
3NE1815-0	25	690	gS	000	4	3NP1123	000	25	3NP1123	000	25
						3NP1133	00	25	3NP1133	00	25
3NE1817-0	50	690	gS	000	10	3NP1123	000	50	3NP1123	000	50
						3NP1133	00	50	3NP1133	00	50
3NE1818-0	63	690	gS	000	16	3NP1123	000	63	3NP1123	000	63
						3NP1133	00	63	3NP1133	00	63
3NE1820-0	80	690	gS	000	25	3NP1123	000	80	3NP1123	000	80
						3NP1133	00	80	3NP1133	00	80
3NE3221	100	1000	aR	1	35	3NP1143	1	88	3NP1143	1	95
						3NP1153	2	95	3NP1153	2	100
3NE3222	125	1000	aR	1	50	3NP1143	1	102	3NP1143	1	113
						3NP1153	2	110	3NP1153	2	125
3NE3224	160	1000	aR	1	70	3NP1143	1	130	3NP1143	1	140
						3NP1153	2	140	3NP1153	2	150
3NE3225	200	1000	aR	1	95	3NP1143	1	163	3NP1143	1	170
						3NP1153	2	175	3NP1153	2	180
3NE3227	250	1000	aR	1	120	3NP1143	1	195	3NP1143	1	200
						3NP1153	2	210	3NP1153	2	215
3NE3230-0B	315	1000	aR	1	185	3NP1153	2	270	3NP1153	2	265
3NE3231	350	1000	aR	1	240	3NP1153	2	290	3NP1153	2	280
3NE3232-0B	400	1000	aR	1	240	3NP1153	2	320	3NP1153	2	310
3NE3233	450	1000	aR	1	2x 150	3NP1153	2	360	3NP1153	2	330
3NE3332-0B	400	1000	aR	2	240	3NP1153	2	330	3NP1163	3	360
						3NP1163	3	360	--	--	--
3NE3333	450	1000	aR	2	2x 150	3NP1163	3	375	3NP1163	3	390
3NE3334-0B	500	1000	aR	2	2x 150	3NP1163	3	420	3NP1163	3	415
3NE3335	560	1000	aR	2	2x 185	3NP1163	3	475	3NP1163	3	460
3NE3336	630	1000	aR	2	2x 185	3NP1163	3	540	3NP1163	3	500
3NE3337-8	710	900	aR	2	2x (40x5)	3NP1163	3	580	3NP1163	3	500
3NE3338-8	800	800	aR	2	2x 240	3NP1163	3	605	3NP1163	3	500
3NE3340-8	900	690	aR	2	2x (40x8)	3NP1163	3	630	3NP1163	3	500
3NE4101	32	1000	gR	0	6	3NP1143	1	30	3NP1143	1	32
3NE4102	40	1000	gR	0	10	3NP1143	1	35	3NP1143	1	40
3NE4117	50	1000	gR	0	10	3NP1143	1	42	3NP1143	1	50
3NE4118	63	1000	aR	0	16	3NP1143	1	55	3NP1143	1	60
3NE4120	80	1000	aR	0	25	3NP1143	1	71	3NP1143	1	76
3NE4121	100	1000	aR	0	35	3NP1143	1	84	3NP1143	1	93
3NE4122	125	1000	aR	0	50	3NP1143	1	107	3NP1143	1	115
3NE4124	160	1000	aR	0	70	3NP1143	1	134	3NP1143	1	144
3NE4327-0B	250	800	aR	2	150	3NP1153	2	195	3NP1163	3	220
						3NP1163	3	215	3NP1163	3	220