Catalog LV 1 • 2007

low-voltage
CONTROLS AND DISTRIBUTION

SIRIUS
SENTRON
SIVACON

SIEMENS

Type		3NP	3K	3NJ4
SENTRON				
Rated uninterrupted current I_u				
At 35 °C ambient temperature	A	160 to 630	63 to 1000	160 to 1250
Rated operational voltage				
U_e	V	690	690	690
AC-21				
At 400 V		✓	✓	✓
At 500 V		✓	✓	✓
At 690 V		✓	✓	✓
AC-22				
At 400 V		✓	✓	✓
At 500 V		✓	✓	✓
At 690 V		✓	✓	✓
AC-23				
At 400 V		✓	✓	--
At 500 V		--	✓	--
At 690 V		--	✓	--
Switch versions				
Front mounting		--	✓	--
Floor mounting		✓	✓	--
Busbars				
• 40 mm		✓	--	--
• 60 mm		✓	✓	--
• 185 mm		--	--	✓
Molded-plastic enclosure		✓	✓	--
Switch accessories				
Auxiliary contacts				
• 1 NO + 1 NC		--	✓	--
• 1 CO		✓	✓	✓
Fuse monitoring				
• With circuit breakers		✓	✓	✓
• With electronics		✓	✓	✓

✓ Available

-- Not available

17

3NP Fuse Switch Disconnectors up to 630 A

General data

Design

The SENTRON 3NP4 and 3NP5 fuse switch disconnectors comprise a base and a removable fuse carrier with view and measuring window.

The base contains integral lyre-shaped contacts, arcing chambers and terminal fittings. The fuse links/isolating links are contained in the fuse carrier.

The fuse links can be replaced without tools.

The three conducting paths in the base and the fuse links in the fuse carrier are separated by partitions that overlap when opening and closing the device.

This type of failsafe protection is called "complete compartmentalization" and effectively prevents inter-phase arcing.

SENTRON 3NP5 fuse switch disconnectors are also equipped with locating springs, which are fitted to the side of the base. These enable the "high speed closing" of devices, regardless of the actuating speed of the operator.

LV HRC fuses of sizes LV HRC 000 to LV HRC 3 according to IEC 60269-2-1 and DIN VDE 43620 are used in the SENTRON 3NP4 and 3NP5 fuse switch disconnectors.
SITOR semiconductor fuses can continue to be used for a wide range of applications.

For more detailed information, please refer to the operating instructions for the SENTRON 3NP4 and 3NP5 fuse switch disconnectors.

Auxiliary switches

The SENTRON 3NP4 and 3NP5 fuse switch disconnectors can also be retrofitted with auxiliary switches for indicating the switch position of the fuse carrier.

One switch block (1 CO) can be mounted on size LV HRC 000 of the SENTRON 3NP4 fuse switch disconnector and two switch blocks (1 CO) can be mounted on sizes LV HRC 00 to LV HRC 3.

SENTRON 3NP5 fuse switch disconnectors can also be delivered with a 2-pole auxiliary switch (1 NO + 1 NC) if required. The version with fuse monitoring is fitted with this auxiliary switch as standard.

Function

Fuse monitoring by SIRIUS circuit breaker

For fuse monitoring, a SIRIUS circuit breaker is factory-fitted and hard-wired to the fuse carrier of the SENTRON 3NP4 and 3NP5 fuse switch disconnectors.

If the fuse carrier is closed, the three conducting paths of the SIRIUS circuit breaker are switched in parallel to the fuse links to be monitored. If the fuse carrier is open, all main current paths of the circuit breaker are off circuit.

The internal resistance of the circuit breaker is great enough not to impair the protective function of the monitored fuse links.

Failure of a fuse will trigger the circuit breaker. The auxiliary switch of the circuit breaker can be used for indication purposes or to disconnect the main circuit, e.g. through a contactor.

The signal cable for the SENTRON 3NP4 fuse switch disconnector size LV HRC 00 needs to be ordered separately. For sizes LV HRC 1 to LV HRC 3 the connection is via flat connectors.

Delivery of the SENTRON 3NP5 fuse switch disconnectors includes the signal cable, complete with connector.

SIRIUS circuit breakers cannot be used for fuse monitoring in branch circuits by circuit breakers where a fault may result in > 220 V DC feedback.

In the case of parallel cables and meshed systems, only a voltage difference of > 24 V at the switch will trigger the circuit breaker.

Electronic fuse monitors

For electronic fuse monitoring, the EF monitor is factory-fitted and hard-wired to the fuse carrier of SENTRON 3NP5 fuse switch disconnectors.

The EF monitor works independently of any loads. Failure of a fuse can be relayed to a control room through integrated auxiliary switches (2 NO + 1 NC) by means of a centralized fault indication or used to isolate the load through e.g. a contactor.

Actuation of the auxiliary switch depends on the EF monitor. Version "A" stands for "open-circuit principle", version "R" for closed-circuit principle" (see schematic circuit diagram on page 17/44).

If a fuse is tripped, a green LED signal flashes (general fault) and the location of the failed fuse is indicated by a red LED. Using more than one device facilitates identification of the affected branch circuit.

The EF monitor is automatically reset to the standby position once the faulty fuses are replaced. This state is indicated visually by the status display (green LED).

The EF monitor is also suitable for operation in industrial networks badly afflicted by harmonics.

Technical specifications

Standards		**IEC 60947-1, IEC 60947-3, VDE 0660 Part 107**				
Type		**3NP40 1**	**3NP40 7**	**3NP42 7**	**3NP43 7**	**3NP44 7**
Rated uninterrupted current I_u For fuse links according to DIN 43620	A Size	160[1)] 00C/000	160 00	250 1 and 0	400 2 and 1	630 3 and 2
Continuous thermal current I_{th}	A	160[1)]	160	250	400	630
Rated operational voltage U_e AC 50 Hz/60 Hz DC	 V V	 690 220 (3 conducting paths series-connected)		 690 440 (2 conducting paths series-connected)		
Rated insulation voltage U_i	V	690	690	800[3)]	800[3)]	800[3)]
Rated impulse voltage U_{imp}	kV	6	6	6	6	6
Rated conditional short-circuit current with fuses (for fast switch-on)						
With fuse links Rated current At 400 V AC (690 V)	 Size/A kA (rms value)	 000/100 (35) 50 (50)	 00/160 50	 1/250 50	 2/400 50	 3/630 50
Maximum permissible let-through I^2t value	kA^2s	56 (7.8)	158	551	1515	4340
Permissible let-through current of the fuse	kA (peak value)	11 (5)	15	25	35	55
Short-circuit strength with fuses (with closed switch)						
With fuse links Rated current At 690 V	 Size/A kA (rms value)	 000/100 100	 00/160 50	 1/250 50	 2/400 50	 3/630 50
Permissible let-through current of the fuse	kA (peak value)	15	15	25	35	55
Rated making and breaking capacity (infeed from top or bottom)						
At 400 V AC, with fuse links or isolating links	Size	000	00	1	2	3
Rated breaking current I_c (p.f.= 0.35)	A (rms value)	800 (p. f. = 0.45)	800	2000	3200	5040
Rated operational current I_e for AC-21B, AC-22B, AC-23B	 A A	 160 100	 160 100	 250 250	 400 400	 630 630
At 500 V AC, with fuse links or isolating links	Size	000	00	1	2	3
Rated breaking current I_c (p.f.= 0.35)	A (rms value)	320 (p. f. = 0.45)	320	750	1200	1890
Rated operational current I_e for AC-21B, AC-22B, AC-23B	 A A A	 160 100 40	 160 100 40	 250 250 --	 400 400 --	 630 630 --
At 690 V AC, with fuse links or isolating links	Size	000	00	1	2	3
Rated breaking current I_c (p.f.= 0.35)	A (rms value)	200/240 (p. f. = 0.45/0.95)	200/240 (p. f. = 0.45/0.95)	375	600	945
Rated operational current I_e for AC-21B, AC-22B, AC-23B	 A A A	 160 50 25	 160 50 25	 250 -- --	 400 -- --	 630 -- --
At 220 V/240 V DC, with fuse links[2)4)5)] or isolating links	Size	000	00	1	2	3
Rated operational current I_e at 220 V DC-23B/DC-21B 440 V DC-21B	 A A	 80/160 --	 80/160 --	 -- 250	 -- 400	 -- 630

1) 125/160 A only with 3NY1 236 feeder terminals and with 3NY1 822 (125 A) and 3NY1 824 (160 A) 21 mm wide fuse links; see accessories.

2) When switching without load (AC-20 B, DC-20 B), direct voltages up to 690 V DC can be applied.

3) For safety monitoring max. 690 V.

4) For degree of pollution 2, the switch disconnectors can be used up to 1000 V AC-20 B, DC-20 B (no-load switching).

5) Conducting paths in series: 3 for 3NP40; 2 for 3NP42, 3NP43 and 3NP44.

3NP Fuse Switch Disconnectors up to 630 A

General data

Standards		**IEC 60947-1, IEC 60947-3, VDE 0660 Part 107**				
Type		**3NP40 1**	**3NP40 7**	**3NP42 7**	**3NP43 7**	**3NP44 7**
Capacitor switching capacity						
At 400 V AC						
Capacitor rating	kvar	50	50	--	--	--
Rated current I_n	A	72	72	--	--	--
At 525 V AC						
Capacitor rating	kvar	50	50	--	--	--
Rated current I_n	A	55	55	--	--	--
Permissible ambient temperature	°C	-25 ... +55[1] for operation, -50 ... +80 when stored				
Mechanical endurance	Operating cycles	2000	2000	1600	1000	1000
Degree of protection (operator side)						
Without molded-plastic masking frame/cable lug cover		IP00 (3NP40 with box terminal and properly connected conductors: IP20)				
With molded-plastic masking frame/cable lug cover		IP30 (switch closed), IP20 (switch open)				
Power loss of the switch disconnector at I_{th} (plus power loss of the fuse links)						
Without busbar adapter	W	4.5 (at 100 A)	10	15	30	47
With busbar adapter	W	8.5 (at 100 A)	20	47	83	127
Main conductor connections						
Flat connector for cable lug, max. conductor cross-section (stranded)	mm^2	--	Up to 2 × 70 (M8)	Up to 150 (M10)	Up to 240 (M10)	Up to 2 × 240 (M12)
Box terminal/terminal (finely stranded with end sleeve)	mm^2	1.5 ... 50 (35)	2.5 ... 70 (50)	70 ... 150	120 ... 240	150 ... 300
Busbar (width × thickness)	mm	--	22 × 5	22 ... 30 × 5 ... 10	22 ... 30 × 5 ... 10	25 ... 40 × 5 ... 10
Louvered Cu strips, unperforated in terminals (width x thickness)	mm	8 × 8	Up to 9 × 8	Up to 16 × 8	Up to 20 × 10	Up to 24 × 10
Tightening torques for terminal screws						
For flat connector	Nm	--	10 ... 12	25	25	30
With SIGUT box terminal/terminal	Nm	3 ... 3.5	8 ... 10	6	8	8
Auxiliary switch 1 CO (accessories)						
3NY3 035 50 Hz/60 Hz up to 230 V AC Rated operational current I_e at AC-14	A	0.25 (I_{th} = 5 A), at 24 V DC: I_e = 0.45 A; flat terminations according to DIN 46244: A 2.8 × 0.5				
3NY3 030 50 Hz/60 Hz up to 230 V AC Rated operational current I_e at AC-13	A	0.1 (I_{th} = 0.1 A); plug-in sleeve according to DIN 46245: A 2.8 ... 1				
Permissible mounting positions		Vertical or horizontal installation (no reduction of specified switching capacity)				

[1] Only with isolating links; otherwise, please observe specifications of fuse manufacturer.

Standards		**IEC 60947-1, IEC 60947-3, VDE 0660 Part 107**						
Type		**3NP50**	**3NP52**		**3NP53**		**3NP54**	
Rated uninterrupted current I_u For fuse links according to DIN 43620 (when SITOR semiconductor fuse links are used, a reduction of rated current is necessary, see Catalog SITOR Configuration, Order No. E20001–A700–P302)	A Size	160 00	250 1 and 0		400 2 and 1		630 3 and 2	
Conventional free-air thermal current I_{th}	A	160	250		400		630	
Rated operational voltage U_e AC 50 Hz/60 Hz DC	V V	690 440 (3 conducting paths series-connected), 220 (2 conducting paths series-connected and with fuse monitoring through 3RV)						
Rated insulation voltage U_i	V	690[1]	690[1]		690[1]		690[1]	
Rated impulse voltage U_{imp}	kV	6	6		6		6	
Rated conditional short-circuit current with fuses (for fast switch-on)								
With fuse links Rated current At 500 V AC	Size/A kA (rms value)	00/160 50	1/250 50		2/400 50		3/630 50	
Permissible let-through current of the fuses	kA (peak value)	15	25		40		50	
Short-circuit strength with fuses (with closed switch) With fuse links Rated current At 500 V AC	 Size/A kA (rms value)	 00/160 100	 1/250 100		 2/400 50		 3/630 50	
Maximum permissible let-through I^2t value	kA^2s	223	780		2150		5400	
Permissible let-through current of the fuses	kA (peak value)	23	32		40		60	
Rated short-circuit making capacity with isolating links[2] At 500 V AC	Size kA (peak value)	00 6	1 17		2 17		3 17	
Rated making and breaking capacity[2] (infeed from top or bottom)[3]								
Size		00	1	0	2	1	3	2
At 400 V AC, with fuse links Breaking current I_c (p.f. = 0.35)	A (rms value)	1600	2500	1600	4000	2500	5040	4000
Rated operational current I_e at AC-21B, AC-22B, AC-23B	A	160	250	160	400	250	630	400
At 500 V AC, with fuse links Breaking current I_c (p.f. = 0.35)	A (rms value)	1300	2500	1600	4000	2500	5040	4000
Rated operational current I_e at AC-21B, AC-22B, AC-23B	A	160	250	160	400	250	630	400
At 690 V AC, with fuse links Breaking current I_c (p.f. = 0.35)	A (rms value)	800	1280	1000	2520	1600	3200	2520
Rated operational current I_e for AC-21B, AC-22B, AC-23B	 A A	 160 100	 250 160	 160 125	 400 315	 250 200	 630 400	 400 315
At 220 (440) V DC, with 2 (3) conducting paths series-connected and fuse links Breaking current I_c (L/R = 15 ms) Rated operational current I_e at DC-23B	 A A	 640 160	 1000 250	 640 160	 1600 250	 1600 250	 2520 630	 1600 400

[1] When observing degree of pollution 2 (instead of 3) operation is also possible up to U_i = 1000 V.

[2] Rated making and breaking current according to IEC 60947-3
Rated making current I = 10 × I_e (AC-23); 3 × I_e (AC-22); 1.5 × I_e (AC-21)
Rated breaking current I_e = 8 × I_e (AC-23); 3 × I_e (AC-22); 1.5 × I_e (AC-21)

[3] When using electronic fuse monitoring, infeed must be from the top.

3NP Fuse Switch Disconnectors up to 630 A

General data

Standards		**IEC 60947-1, IEC 60947-3, VDE 0660 Part 107**			
Type		**3NP50**	**3NP52**	**3NP53**	**3NP54**
Switching capacity with isolating links[1] (infeed from top or bottom)					
At 400 V AC, with isolating links	Size	00	1	2	3
Breaking current I_c (p.f. = 0.35)	A (rms value)	1600	2500	2500	4000
Rated operational current I_e for					
AC-21B, AC-22B,	A	160	250	400	630
AC-23B	A	160	250	315	500
At 500 V AC, with isolating links					
Breaking current I_c (p.f. = 0.35)	A (rms value)	1300	2500	2500	4000
Rated operational current I_e for					
AC-21B, AC-22B,	A	160	250	400	630
AC-23B	A	160	250	315	500
At 690 V AC, with isolating links					
Breaking current I_c (p.f. = 0.35)	A (rms value)	800	1280	1600	2520
Rated operational current I_e for					
AC-21B, AC-22B,	A	160	250	400	630
AC-23B	A	100	160	200	315
At 220 V DC, with isolating links					
Breaking current I_c (L/R = 15 ms)	A	640	1000	1600	1600
Rated operational current I_e at DC-23B	A	160	200	400	400
Switching capacity for horizontal installation Up to 690 V AC-22B		No reduction in specified switching capacity (values for AC-23B up to 690 V on request)			

[1] Insert silver-plated isolating links.

Standards		**IEC 60947-1, IEC 60947-3, VDE 0660 Part 107**			
Type		**3NP50**	**3NP52**	**3NP53**	**3NP54**
Capacitor switching capacity					
At 400 V AC					
Capacitor rating	kvar	80	90	150	250
Rated current I_n	A	116	130	216	361
At 525 V AC					
Capacitor rating	kvar	100	125	200	300
Rated current I_n	A	110	137	220	330
Permissible ambient temperature	°C	-25 ... +55 for operation[1], -50 ... +80 when stored			
Mechanical endurance	Operating cycles	1600			
Degree of protection					
Without molded-plastic masking frame		IP00[2]			
With molded-plastic masking frame and closed fuse carrier on the operator side		IP30			
with open fuse carrier		IP10			
Power loss of of the switch disconnector at I_{th} (plus power loss of the fuse links)					
Without busbar adapter	W	7.8 (16.3)[3]	7.5	15	39
Main conductor connections					
Cable lug, max. conductor cross-section (stranded)	mm^2	2.5 ... 120	6 ... 150	6 ... 240	6 ... 2 × 240
Busbar	mm	16 ... 22	22 ... 30	22 ... 30	22 ... 30
Terminal clamp	mm^2	2.5 ... 50	35 ... 120	--	--
Tightening torque					
With cable lug	Nm	18 ... 22	25 ... 30	25 ... 30	25 ... 30
With busbar	Nm	18 ... 22	25 ... 30	25 ... 30	25 ... 30
With terminal clamp	Nm	9 ... 11	5 ... 6	--	--
Terminal screws					
With cable lug		M8	M10	M10	M10
With busbar		M8	M10	M10	M10
With terminal clamp		M8	2 × M6	--	--
PE/ground terminals					
Cable lug according to DIN 46234	mm^2	--	2.5 ... 70	6 ... 2 × 70	6 ... 2 × 120
Busbar	mm	--	25	25	30
Terminal screws		--	M8	M10	M10
Auxiliary switch 1 NO + 1 NC (accessories) (the same voltage potential must be applied to both NO and NC contact)					
At 50 Hz/60 Hz up to 400 V AC, rated operational current I_e at AC-12/AC-15 A	A	16/6			
Flat connector (DIN 46244)		A 6.3 ... 0.8			
Permissible mounting positions		Vertical or horizontal (partially reduced switching capacity with horizontal mounting)			
Fuse monitoring with 3RV motor starter protectors		See circuit breaker			
Electronic fuse monitoring					
Rated voltage 50 Hz/60 Hz AC	V	400 -15% ... 500 V +10%, self-powered (infeed from top)			
Max. inrush current	A	20			
Uninterrupted current	A	5			
Breaking current	A	5			
Switching capacity	VA	1000			
Short-circuit strength (1 ms)	A	100			
Response time	s	< 1			
Temperature range (operation)	°C	-10 ... +75			
Plug-in connectors/connections		6-pole			
Minimum required potential difference between upper and lower switch connections (e.g. for use in meshed systems)	V	>10			
Signaling contact for electronic fuse monitoring		2 NO + 1 NC			
Rated operational current I_e					
At 250 V, DC-13	A	0.27			
At 240 V, AC-15	A	1.5			
Thermal free-air rated current I_{th}	A	5			

[1] When using isolating links. If using fuse links, please observe specifications of fuse manufacturer.

[2] For 3NP52 with terminal clamp connection, degree of protection IP10.

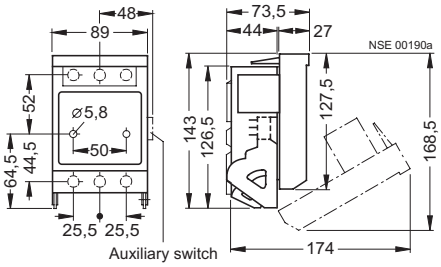
[3] With busbar adapter.

3NP Fuse Switch Disconnectors up to 630 A

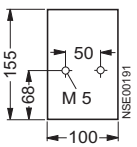
For power distribution

Dimensional drawings

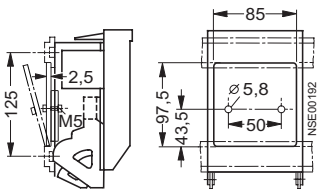
3NP40 10



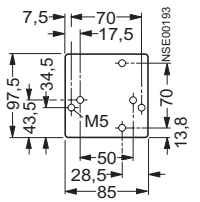
Cut-out for 3NP35 and 3NP40 10



3NP40 10
with 3NY1 995 quick retaining plate mounting rail center-to-center clearance 125 mm

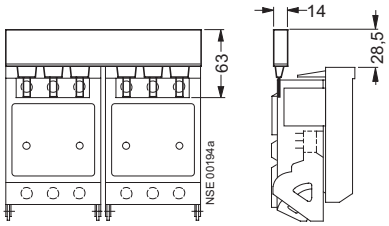


3NY1 995 quick retaining plate
for 3NP40 10 and 3NP40 70

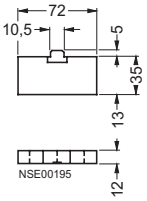


Top holes with a 50 mm intermediate dimension must be used for installation in STAB 8GD wall-mounting distribution boards.

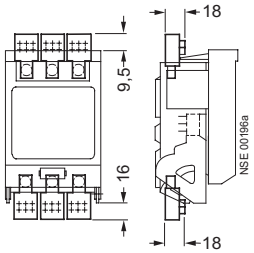
3NP40 10
with **3NY1 237** 3-phase busbar for 2 fuse switch disconnectors



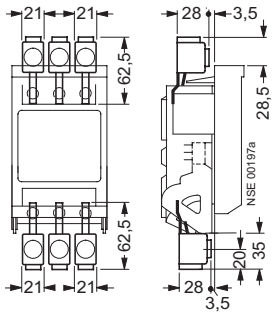
3NY1 265 covering cap
for 3NY1 238 3-phase busbar



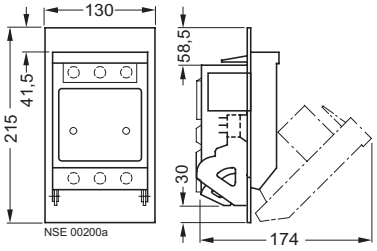
3NP40 10
with **3NY1 235** triple terminal



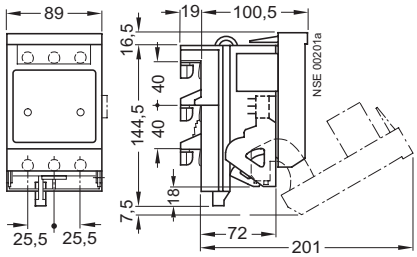
3NP40 10
with **3NY1 236** supply terminal



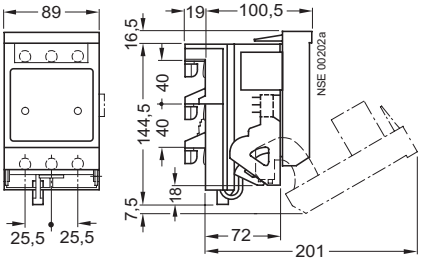
3NP40 10
with 3NY1 251 molded-plastic masking frames



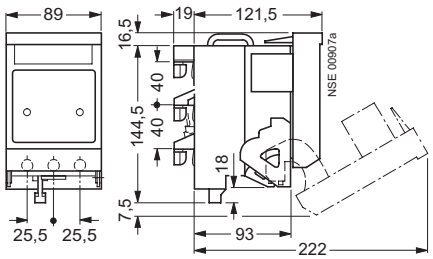
3NP40 15-1CJ01
with busbar adapter, flat, rails of width 12 mm or 15 mm and thickness 5 mm or 10 mm, bottom connection



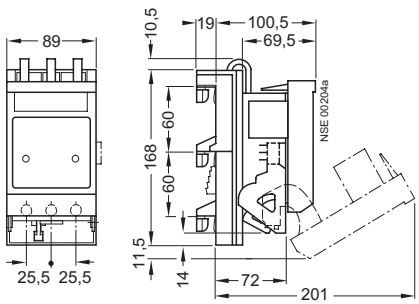
3NP40 15-1CK01
with busbar adapter, flat, rails of width 12 mm or 15 mm and thickness 5 mm or 10 mm, bottom connection



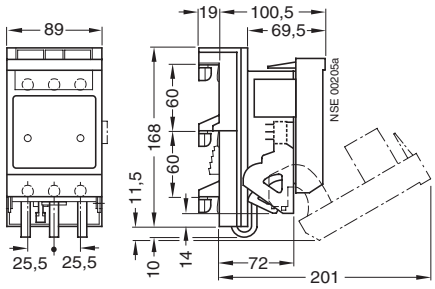
3NP40 15-0CJ01
with busbar adapter, deep, rails of width 12 mm or 15 mm and thickness 5 mm or 10 mm, bottom connection



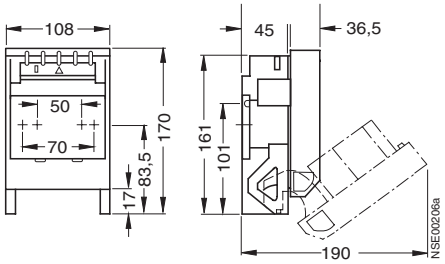
3NP40 16-1CJ01
with busbar adapter, rails of width 12, 15, 20 mm or 30 mm and thickness 5 mm or 10 mm, flat, T, double-T profiles and other renowned busbar systems, bottom connection



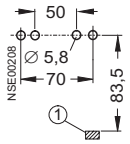
3NP40 16-1CK01
with busbar adapter, rails of width 12, 15, 20, 25 mm or 30 mm and thickness 5 mm or 10 mm, flat, T, double-T profiles and other renowned busbar systems, top connection



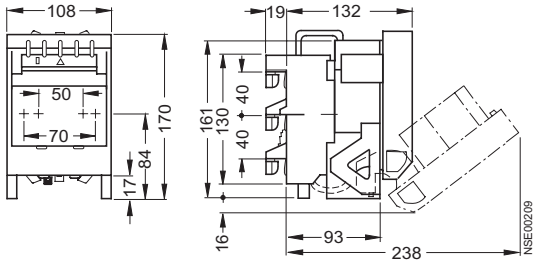
3NP40 70
for mounting



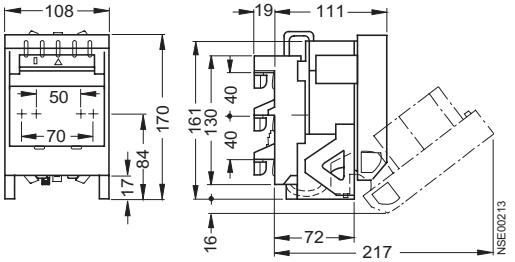
Drilling pattern for 3NP40 70



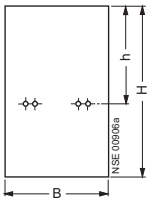
3NP40 75-0
with busbar adapter, deep,
rails of width 12 mm or 15 mm
and thickness 5 mm or 10 mm



3NP40 75-1
with busbar adapter, flat,
rails of width 12 mm or 15 mm
and thickness 5 mm or 10 mm



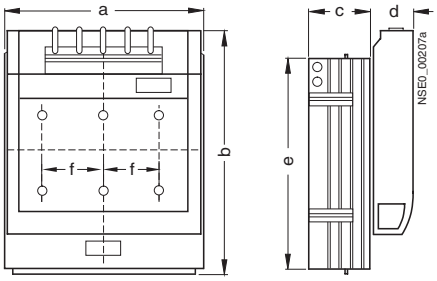
For metal frames
Cut-outs for 3NP4



Type	Cover between installation kit			Panel cut-out min.		
	Molded-plastic masking frame behind panel					
	Type	B	H	B	H	h[1]
3NP40 1	3NY1 251	130	215	100	180	100
3NP40 7	3NY7 200, 3NY7 201	130	215	118	195	110
3NP42 7	3NY7 220	220	375	210	275	157
3NP43 7	3NY7 230	245	375	235	315	174
3NP44 7	3NY7 240	290	375	280	325	178
	Molded-plastic masking frame in front of panel					
	Type	B	H	B	H	h[1]
3NP40 1	3NY1 251	130	215	100	155	87
3NP40 7	3NY7 200, 3NY7 201	130	215	118	195	110
3NP42 7	3NY7 220	220	375	198	275	157
3NP43 7	3NY7 230	245	375	224	315	174
3NP44 7	3NY7 240	290	375	270	325	178

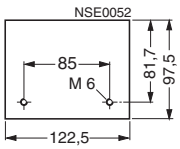
[1] h = distance from upper edge of panel cut-out to center of disconnector mounting.

3NP42 70, 3NP43 70, 3NP44 70
for mounting

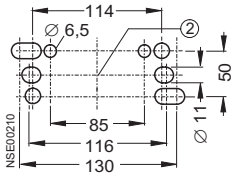


Type	a	b	c	d	e	f
3NP42 70	184	243	66	45.5	215	57
3NP43 70	210	288	80	48	255	65
3NP44 70	256	300	94.5	48	267	81

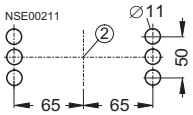
3NY73 22 quick retaining plate



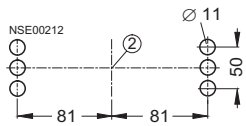
Drilling pattern for 3NP42 70



Drilling pattern for 3NP43 70

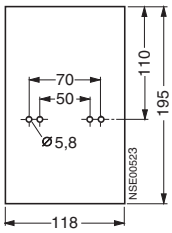


Drilling pattern for 3NP44

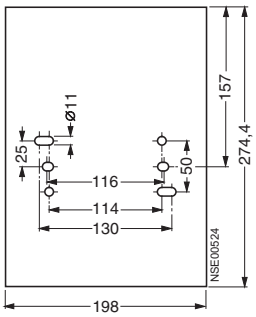


1 Bottom edge disconnector-base
2 Center disconnector-base

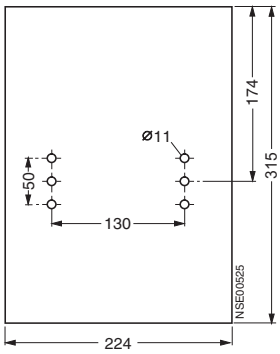
For plastic frames
Cut-outs[2]
for 3NP40 70



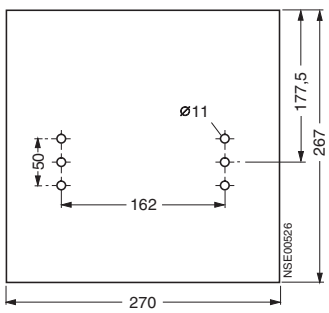
Cut-outs[2]
for 3NP42



Cut-outs[2]
for 3NP43



Cut-outs[2]
for 3NP44



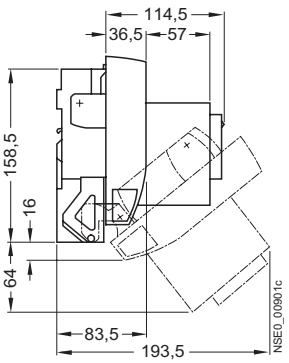
[2] Cover is placed open on the switchgear cabinet panel, for cover behind control cabinet panel: cut-out dimensions on request.

17

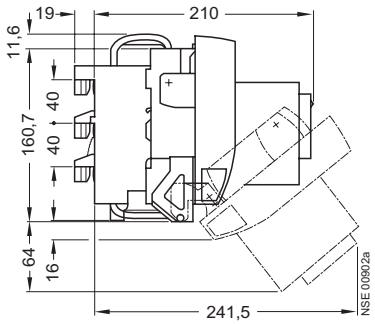
3NP Fuse Switch Disconnectors up to 630 A

For power distribution

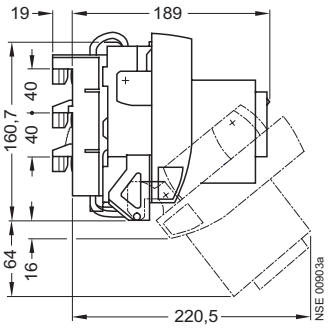
3NP40 70-0F
for mounting and installation



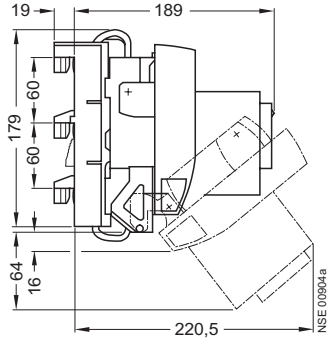
3NP40 75-0F
with busbar adapter, deep, 40 mm,
rails of width 12 mm or 15 mm
and thickness 5 mm or 10 mm



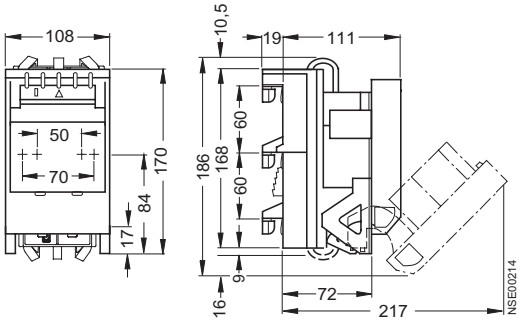
3NP40 75-1F
with busbar adapter, flat, 40 mm,
rails of width 12 mm or 15 mm
and thickness 5 mm or 10 mm



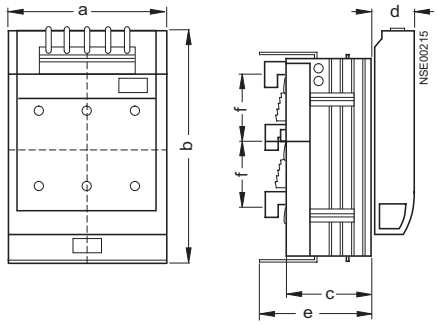
3NP40 76-0F
with busbar adapter, flat, 60 mm,
rails of width 12 mm or 30 mm
and thickness 5 mm or 10 mm



3NP40 76-1
with busbar adapter,
busbars with a width of 12 mm to 30 mm
and a thickness of 5 mm or 10 mm,
flat, T and double-T profiles



3NP42 75-1
3NP42 76-1
3NP43 76-1
3NP44 76-1
with busbar adapter,
busbars with a width of 12 mm to 30 mm
and a thickness of 5 mm or 10 mm,
flat, T and double-T profiles

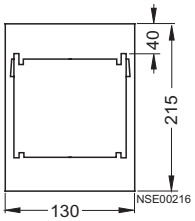


Type	a	b[1]	c	d	e	f
3NP42 75-1	184	243	83[2]	45.5	111	40
3NP42 76-1	184	243	83[2]	45.5	111	60
3NP43 76-1	210	288	97	48	125	60
3NP44 76-1	256	300	112	48	139	60

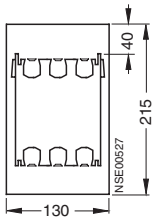
[1] For VBG4 plus dimension c of the cable lug covers (see page 17/41).

[2] The 3NY7 820 molded-plastic masking frame is used for depth compensation (below) when installed together with size 000 or size 00 in STAB/SIKUS distribution boards.

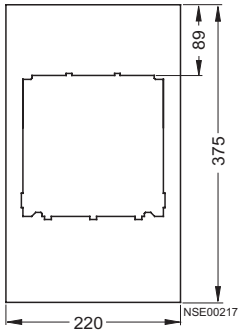
3NY7 200 molded-plastic masking frame
for 3NP40 7
for installation in any distribution board



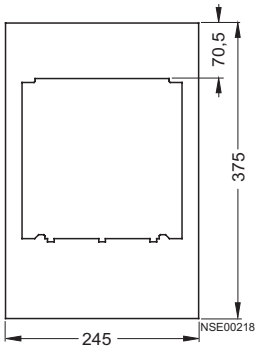
3NY7 201 molded-plastic masking frame
for 3NP40 7.-
for 3NP40 7.-CA01



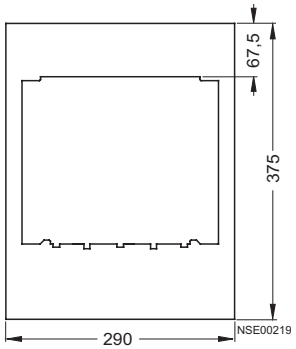
3NY7 220 molded-plastic masking frame
for 3NP42
for installation in any distribution board



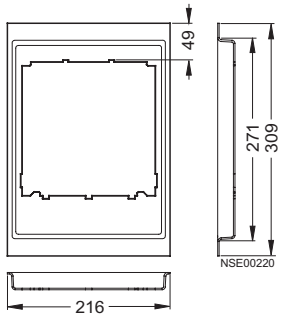
3NY7 230 molded-plastic masking frame
for 3NP43
for installation in any distribution board



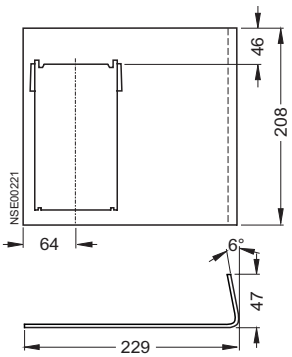
3NY7 240 molded-plastic masking frame
for 3NP44
for installation in any distribution board



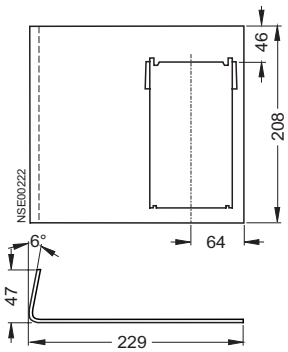
3NY7 820 molded-plastic masking frame
for one 3NP42 70 switch disconnector
for installation in STAB/SIKUS distribution boards



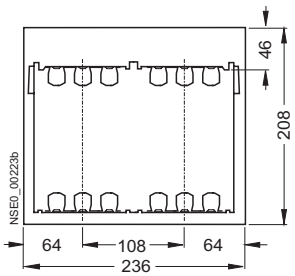
3NY7 500 molded-plastic masking frame
for one 3NP40 switch disconnector, left,
for installation in SIKUS 3200, STAB 160 and 400 and SIKUS 630 distribution boards



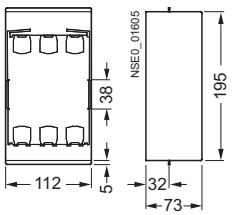
3NY7 501 molded-plastic masking frame
for one 3NP40 switch disconnector, right,
for installation in SIKUS 3200, STAB 160 and 400 and SIKUS 630 distribution boards



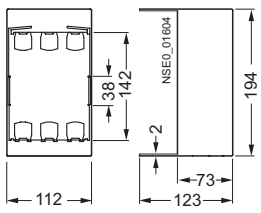
3NY7 502 molded-plastic masking frame
for two 3NP40 switch disconnectors
for installation in SIKUS 3200, STAB 160 and 400 and SIKUS 630 distribution boards



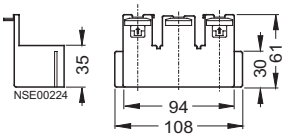
3NY7 600 touch protection cover
for installation in ALPHA distribution boards
for 3NP40 76 switch disconnectors



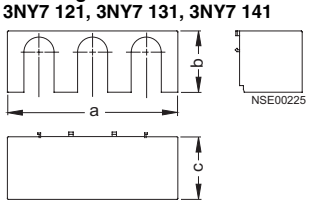
3NY7 601 touch protection cover
for 3NP40 75, 3NP40 76
switch disconnectors



Cable lug cover for 3NP40 7 with flat connector, 3NY7 101



Cable lug cover for 3NP42 to 3NP44, 3NY7 121, 3NY7 131, 3NY7 141



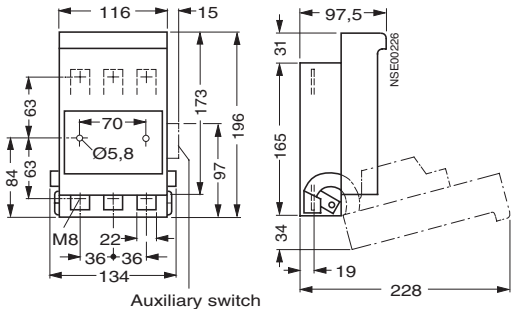
Type	a	b	c
3NY7 121	181	65	67
3NY7 131	207	79	50
3NY7 141	253	94	47

3NP Fuse Switch Disconnectors up to 630 A

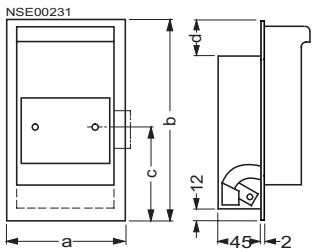
For extended technical requirements

Dimensional drawings

3NP50 60, 160 A
for mounting

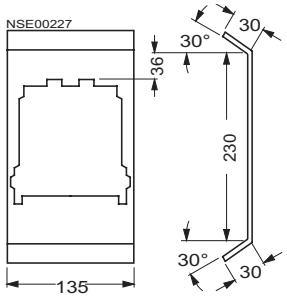


3NP50 60, 160 A
with molded-plastic masking frame
for any type of installation

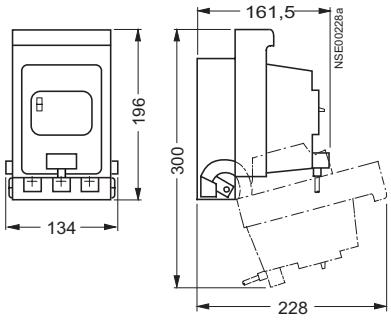


Type	a	b	c	d
3NY1 105	135	215	95.5	38
3NY1 115	135	215	95.5	38
3NY1 106	135	290	144.5	64
3NY1 108	135	290	144.5	64
3NY1 208	149	250	115	53.5

3NY1 107 molded-plastic masking frame

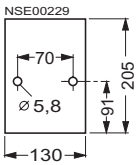


3NP50 60, 160 A
with fuse monitoring by 3RV1 motor starter protector,
with plug-in connection

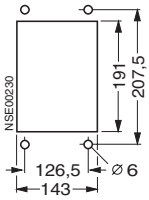


For plastic frames

Cut-out
for 3NP50 60, with and
without auxiliary switch

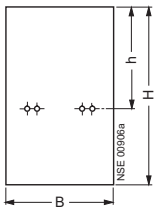


Cut-out
for 3NY1 208 mounting kit



For metal frames

Cut-outs for 3NP5



Type		Cover between installation kit		Panel cut-out min.		
		Molded-plastic masking frame behind panel				
	Type	B	H	B	H	h[1]
3NP50 6	3NY1 105[2]	135	215	130	206	115
3NP50 6	3NY1 125					
3NP52 6	3NY1 210	222	300	210	293	146
3NP53 6	3NY1 211	245	300	235	293	146
3NP54 6	3NY1 212	290	300	280	293	146
	Molded-plastic masking frame in front of panel					
	Type	B	H	B	H	h[1]
3NP50 6	3NY1 105	135	215	130	205	115
3NP50 6	3NY1 208	149	250	143	191	--
3NP52 6	3NY1 210	220	300	210	262	132
3NP53 6	3NY1 211	245	300	234	262	132
3NP54 6	3NY1 212	290	300	279	262	132

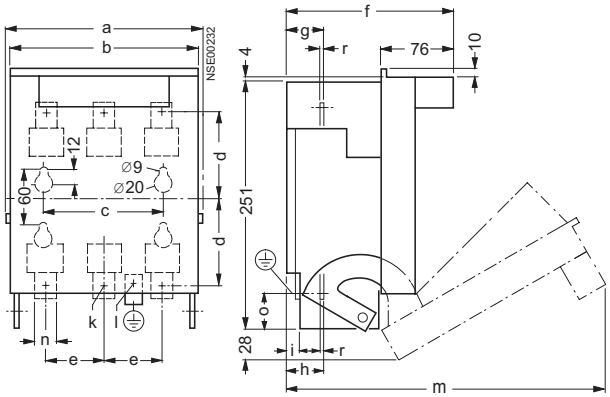
[1] h = distance from upper edge of panel cut-out to center of disconnector mounting.

[2] With standard molded-plastic masking frame behind the control panel and corresponding control panel cut-out, the specified switching capacity is reduced to the following AC 23B values: at 400 V I_e 160 A, at 500 V from I_e 160 A to 125 A and at 690 V from I_e 100 A to 50 A.

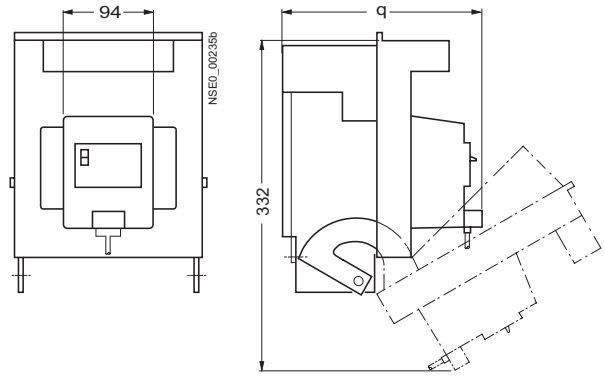
3NP Fuse Switch Disconnectors up to 630 A

For extended technical requirements

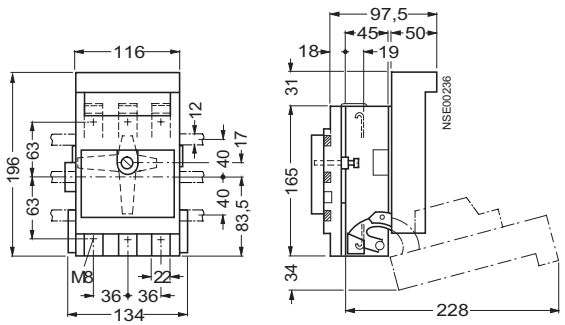
3NP5. 60, 250 to 630 A
for mounting



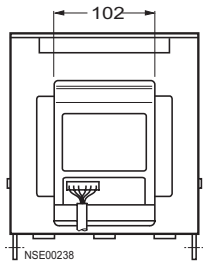
3NP5. 60, 250 to 630 A with fuse monitoring
by 3RV motor starter protector, with plug-in connection



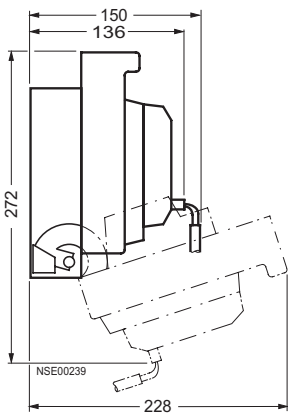
3NP50 65, 160 A with busbar adapter,
rails of width 12 mm and thickness 5 mm or 10 mm



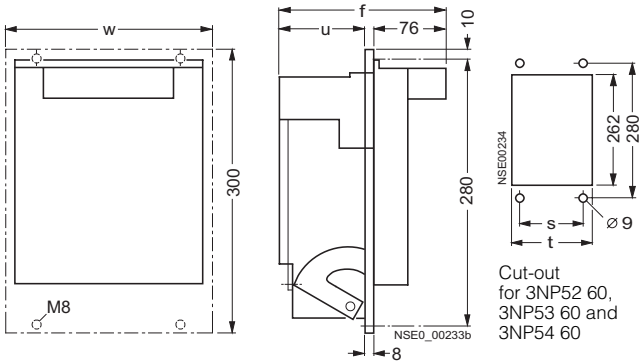
3NP5. 60, 160 to 630 A
with electronic fuse monitoring,
with plug-in connection and
control cable



3NP50 60, 160 A
with electronic fuse monitoring,
with plug-in connection and
control cable



3NP5. 60, 250 to 630 A
with molded-plastic masking frame, for installation

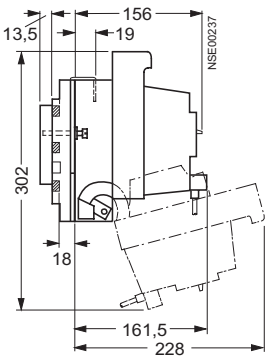


Cut-out
for 3NP52 60,
3NP53 60 and
3NP54 60

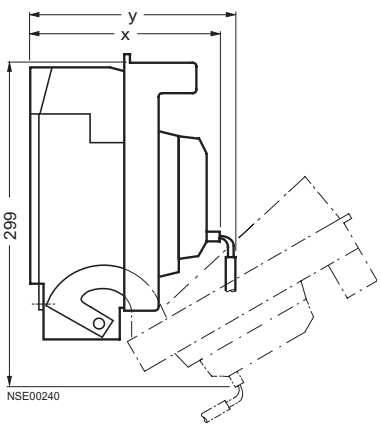
Type	a	b	c	d	e	f	g	h	l
3NP52 60	207	202	130	93	62	176	38	41	11.5
3NP53 60	231	226	130	106	70	192	39	39	11.5
3NP54 60	276	271	200	111	85	207	40.5	40.5	11.5
	k[1]	l[1]	m	N	o	q	r	s	t
3NP52 60	M10	M8	336	25	32	212	3.6	156	210
3NP53 60	M10	M10	352	25	25	228	4.4	180	234
3NP54 60	M10	M10	367	30	25	243	6	225	279
	u	w	x	y					
3NP52 60	89.5	220	186.5	200.5					
3NP53 60	105.5	245	202.5	216.5					
3NP54 60	120.5	290	217.5	231.5					

[1] Through hole for screw

3NP50 65, 160 A with busbar adapter,
with fuse monitoring by 3RV motor starter protector,
with plug-in connector



3NP5. 60, 250 to 630 A
with electronic fuse monitoring,
with plug-in connection and
control cable



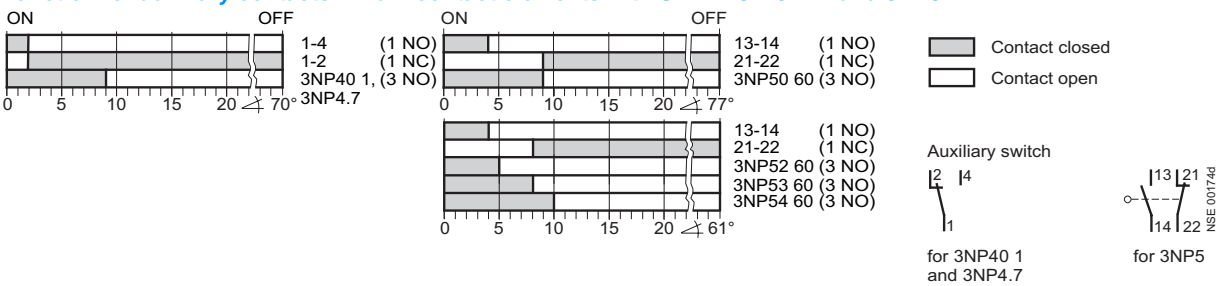
17

3NP Fuse Switch Disconnectors up to 630 A

For extended technical requirements

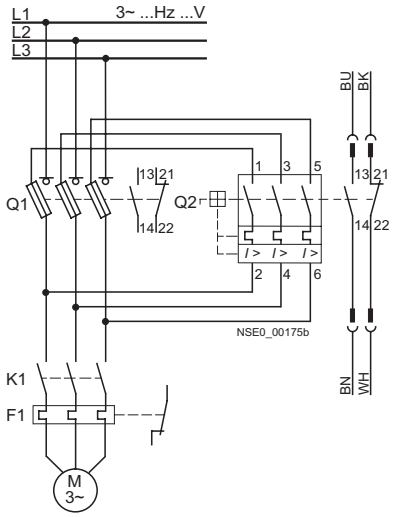
Schematics

Function for auxiliary contacts – main contact elements with SENTRON 3NP4 and 3NP5

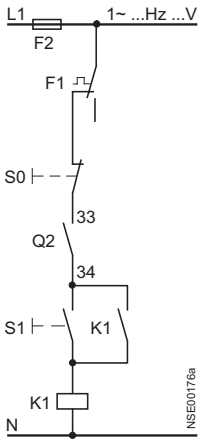


SENTRON 3NP fuse switch disconnector with fuse monitoring (with 3RV1 motor starter protector, with auxiliary switch 1 NO + 1 NC)

Circuit diagram of main circuit



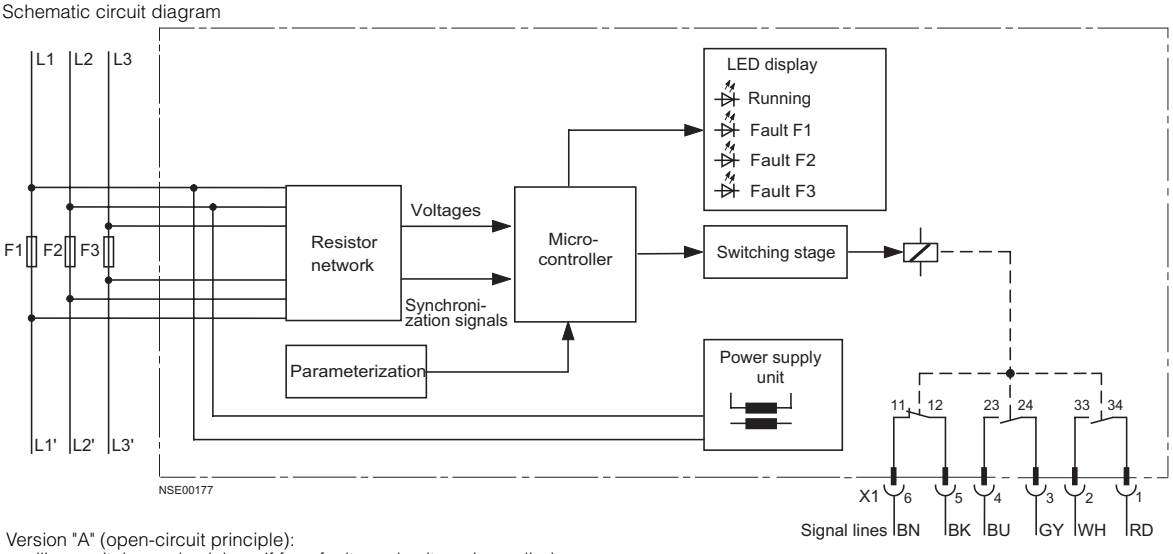
Circuit diagram of auxiliary circuit



Q1 = Fuse switch disconnector
Q2 = Motor starter protector
K1 = Contactor
S1 = ON button
S0 = OFF pushbutton
F1 = Overload relay
F2 = Control-circuit fuse

SENTRON 3NP5 fuse switch disconnector with electronic fuse monitoring

Schematic circuit diagram



Version "A" (open-circuit principle):
auxiliary switches only pick up if fuse faulty and voltage is applied.
Version "R" (closed-circuit principle):
auxiliary contacts pick up as soon as voltage is applied and as long as fuses are intact.

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