

Fuse Switch Disconnectors

SENTRON 3NP Fuse Switch Disconnectors up to 630 A

3NP1 for industrial applications,
power distribution – General data

More information

Standards			IEC/EN 60439-1				
Type			3NP1 123...	3NP1 133...	3NP1 143...	3NP1 153...	3NP1 163...
Rated uninterrupted current I_u	A		160	160	250	400	630
For fuse links acc. to IEC 60269-1	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							
AC 50 Hz/60 Hz	V		690	690	690	690	690
DC (3 conducting paths series-connected)	V		440	440	440	440	440
DC (2 conducting paths series-connected)	V		220/240	220/240	220/240	220/240	220/240
Rated insulation voltage $U_i^{1)}$	V		1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp}	kV		8	8	8	8	8
Rated conditional short-circuit current with fuses	Size/A		000 / 160	00 / 160	1 / 250	2 / 400	3 / 630
Rated current at 500 V / 690 V AC	kA		80	80	80	80	50
Permissible let-through current of the fuses, peak value	kA		10	15	25	40	50
Short-circuit strength with fuses	Size/A		000 / 160	00 / 160	1 / 250	2 / 400	3 / 630
Rated current at 500 V / 690 V, rms value	kA		120	120	120	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 switching capacity 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-21 B	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	240 V DC	A	160	160	250	400	630
• At DC-22B	240 V DC	A	100	160	250	400	630
• At DC-23B	240 V DC	A	80	100	200	250	400
• At DC-21B	440 V DC	A	100	160	250	400	630
• At DC-22B	440 V DC	A	50	125	200	315	500
• At DC-23B	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 temperature²⁾	°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 the switch at I_{th} (plus fuses)	W		9	12	23	34	48
Max. conductor cross-section of main conductor connection							
Flat connectors	mm ²	--	--	Up to 95 (M8)	Up to 150 (M10)	Up to 240 (M10)	Up to 300 (M10)
Box terminals	mm ²	1.5 ... 50	1.5 ... 50	6 ... 70	70 ... 185	120 ... 240	150 ... 300
Prism terminal	mm ²	--	--	16 ... 95	70 ... 150	120 ... 240	150 ... 300
Saddle terminal	mm ²	--	--	1.5 ... 70	70 ... 150	120 ... 240	150 ... 300
Laminated conductors in box terminal	mm	8 x 8	8 x 8	9 x 8	10 x 20	10 x 32	10 x 32
Rated operational current of auxiliary switch							
3NP19.3-1FA00 auxiliary switch	A		0.25 ($I_{th} = 5$ A)				
3NP19.3-1FB00 auxiliary switch	A		0.1 ($I_{th} = 0.1$ A)				
Permissible mounting positions			Vertical and horizontal (no derating)				

¹⁾ Up to degree of pollution 2, above this $U_i = 690$ V

²⁾ Only with isolating links; otherwise, please observe specifications of fuse manufacturer.