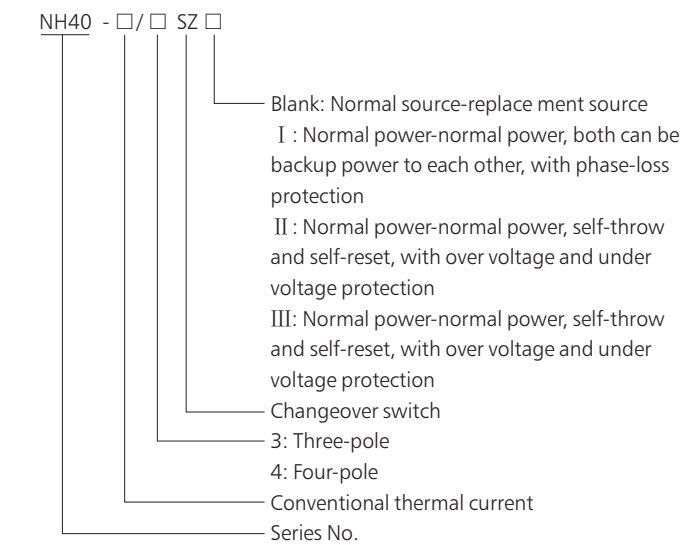


NH40SZ Automatic Changeover Switch

1. General

NH40SZ automatic changeover switch disconnecter integrates electrical and mechanical interlocking systems to guarantee safe transfer operation. It is applicable for the three-phase four-wire power supply system of AC 50Hz, rated voltage AC 690V and below, DC 440V and below, rated current up to 1600A. It can realize automatic and manual changeover between normal and back up power supply power, and stop power supplying to load when changeover process of power supply is carried out. The switch is applicable for two circuits power supply and in the condition which requires high quality power supply. Standard: IEC/EN 60947-3, 60947-6.

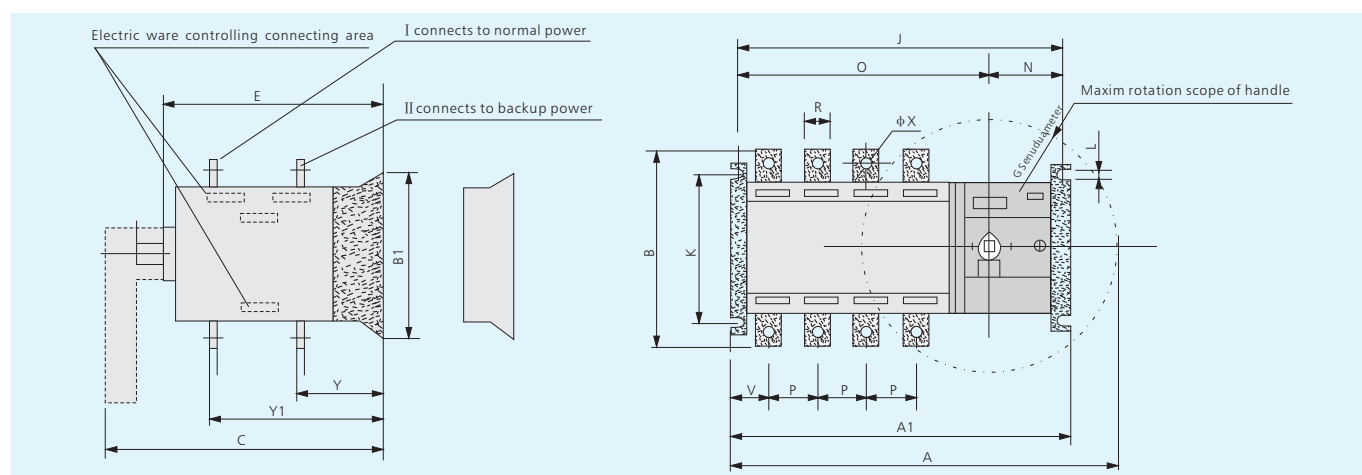
2. Switch-disconnector



3. Povrameter

Conventional thermal current (A)		16	32	40	63	80	100	125	160	200	250	315	400	630	1000	1250	1600
Rated current of fuse (A)		16	32	40	63	80	100	125	160	200	250	315	400	630	1000	1250	2×800
Rated insulation voltage (V)		800															
Rated current(V)	400V AC21	16	32	40	63	80	100	125	160	200	250	315	400	630	1000	1250	1600
	400V AC22	16	32	40	63	80	100	125	160	200	250	315	400	630	-	-	-
	690V AC20	16	32	40	63	80	100	125	160	200	250	315	400	630	1000	1250	1600
	690V AC21	16	32	40	63	80	100	100	100	160	200	315	315	500	-	-	-
	230V DC21	16	32	40	63	80	100	125	160	200	250	315	400	630	1000	1250	1600
	230V DC22	16	32	40	63	80	100	125	160	200	250	315	400	630	-	-	-
	440V DC20	16	32	40	63	80	100	125	160	200	250	315	400	630	1000	1250	1600
	440V DC21	16	32	40	63	80	100	100	100	160	200	315	315	500	-	-	-
Operation force (N)		30~50				40~60				65~100			75~120		200~300		

4. Mounting dimension of NH40SZ automatic changeover switch disconnecter



Specification	NH40SZ Mounting dimensions													
lth/Poles	A	A1	B	C	J	K	L	N	P	R	V	φX	Y	Y1
16A/4~100A/4	380	245	106	170	234	84	7	75	30	14	105	9	36	86
125A/3	405	270	135	240	255	95/110	7	87	36	20	20	9	58	135
160A/3	405	270	135	240	255	95/110	7	87	36	20	20	9	58	135
125A/4	435	300	135	240	285	95/110	7	87	36	20	20	9	58	135
160A/4	435	300	135	240	285	95/110	7	87	36	20	20	9	58	135
200A/3	416	310	170	240	293	95/110	7	87	50	25	27	11	60	140
250A/3	416	310	170	240	293	95/110	7	87	50	25	27	11	60	140
200A/4	466	360	170	240	343	95/110	7	87	50	25	27	11	60	140
250A/4	466	360	170	240	343	95/110	7	87	50	25	27	11	60	140
315A/3	465	375	240	315	355	180	11	95	65	32	37.5	11	84	195
400A/3	465	375	240	315	355	180	11	95	65	32	37.5	11	84	195
630A/3	465	375	260	315	355	180	11	95	65	40	37.5	13	84	195
315A/4	525	435	240	315	415	180	11	95	65	32	37.5	11	84	195
400A/4	525	435	240	315	415	180	11	95	65	32	37.5	11	84	195
630A/4	525	435	260	315	415	180	11	95	65	40	37.5	13	84	195
1000A/3	887	515	310	368	490	490	13	88	120	60	198	13	108	252
1250A/3	887	515	360	368	490	490	13	88	120	80	198	13	108	252
1600A/3	887	515	360	368	490	490	13	88	120	80	198	13	108	252
1000A/4	1007	635	310	368	610	610	13	88	120	60	198	13	108	252
1250A/4	1007	635	360	368	610	610	13	88	120	80	198	13	108	252
1600A/4	1007	635	360	368	610	610	13	88	120	80	198	13	108	252

5. Features

3-pole and 4-pole (3P+N) switches are available

Four control types(B, I , II , III)

B: Main power supply-backup power supply, self-changeover and self-reset.

I : Normal power-normal-power, self-changeover and self-reset, with phase-loss testing.
 II : Normal power-normal-power, self-changeover and self-reset, with over-voltage and under-voltage testing.
 III : Normal power-generator, self-changeover and self-reset, with over-voltage, under-voltage and frequency testing.
 It can select the operation mode by key switch, and keep position state by padlock

B type switch control feature:

1. The switch is applicable for self-changeover and self-reset of primary power-backup power supply system.

I type switch control feature:

1. The switch is applicable for self-changeover and self-reset of normal power-normal power primary and backup power system, when primary power changeover to backup power, time-delay continuously adjustable time is 1-16s, when backup power changeover to primary power, time-delay continuously adjustable time is 1-250s.
 2. With phase-loss testing function.
 3. Select preferential switch by connecting terminals.

II type switch controlling feature:

1. The switch is applicable for self-changeover and self-reset of normal power-normal power supply system, When primary power changeover to reserved power, time-delay continuously adjustable time is 1-16s, When reserved power changeover to primary power, time-delay continuously adjustable time is 1-250s.
 2. Select preferential switch by connecting terminals.

III type switch controlling feature:

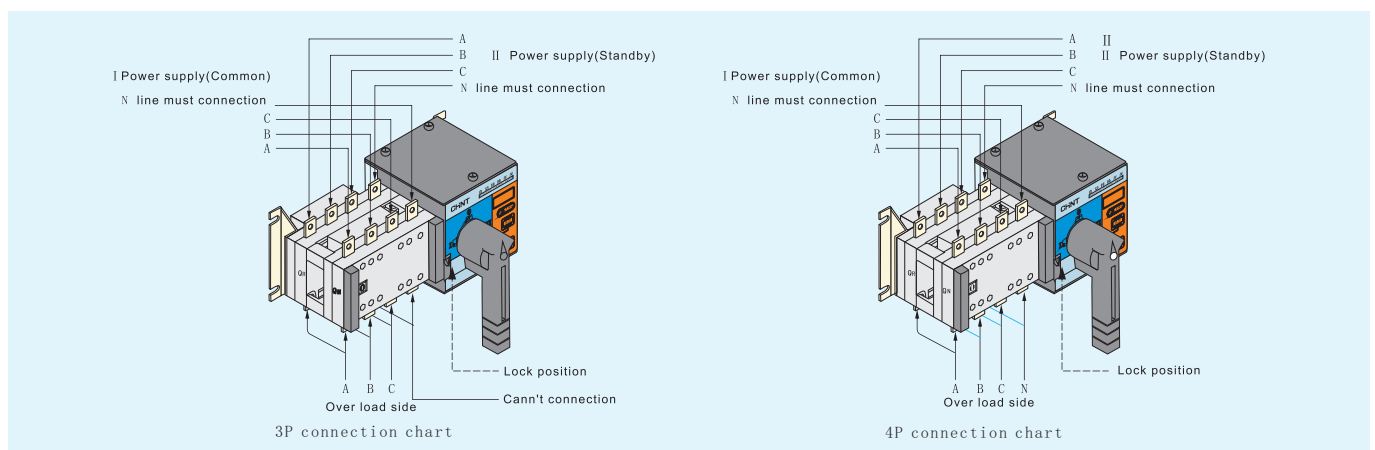
1. The switch is applicable for self-changeover and self-reset of normal power-generator power supply system, when normal power changeover to generator power supply system, the switch will make a generator starting signal first, it has generator voltage, frequency, starting time-delay 8s heating time-delay (continuous adjustable 0-250s) functions. When generator power supply system changeover to normal power supply system, it has backing time-delay (continuous adjustable 0-250s) function, and closed it with cooling time-delay (continuous adjustable 0-250s).
 2. With over-voltage, under-voltage, generator frequency testing functions.

The above mentioned 4 types switches have the following functions:

- 1) With automatic, remote and manual control function.
- 2) Checking signal with 0.5s time-delay, and prevent it from error operation.
- 3) Automatic state has remote controlling position "0"
- 4) Select the operation mode by key switch.
- 5) It can assemble RS-485 telecommunication port according to the requirement of the user.

6. Connection diagram

6.1 NH40-16~100



6.2 NH40-125~3150/SZ

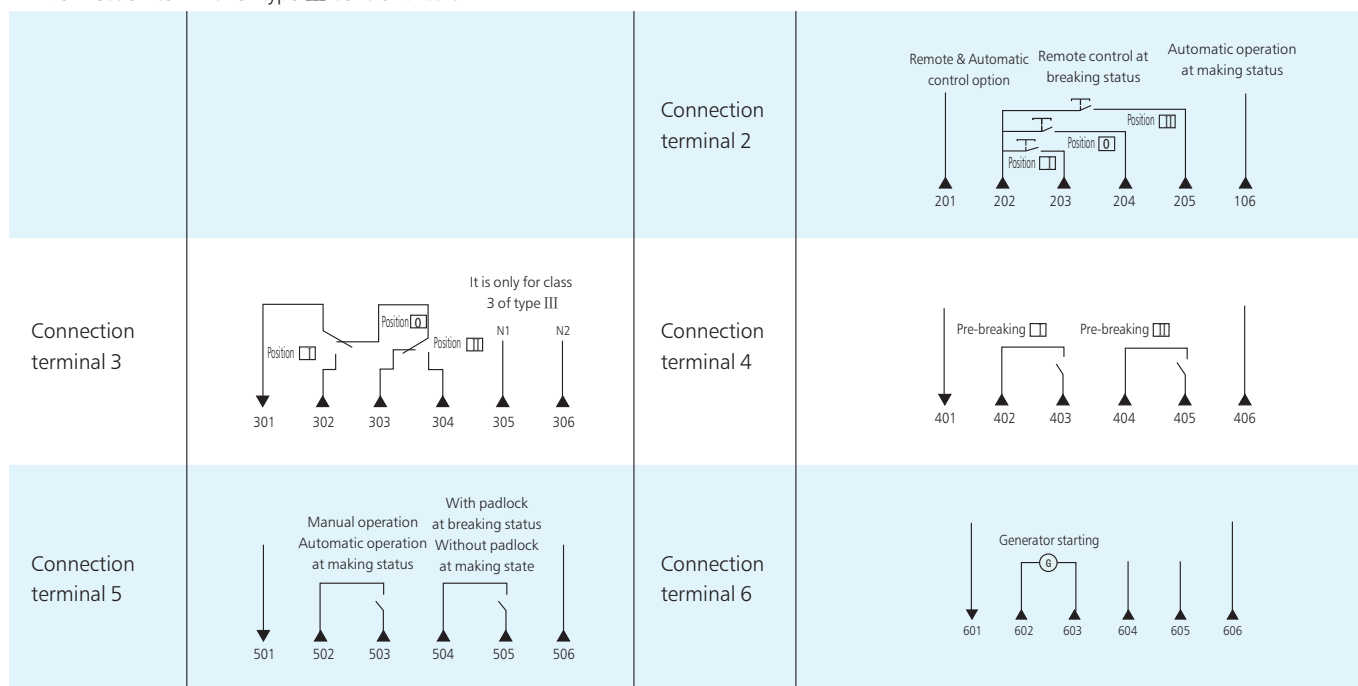
B connection terminal of B type control circuit

Connection terminal 1		Connection terminal 2	
Connection terminal 3		Connection terminal 4	
Connection terminal 5			

Connection terminal of I and II type control circuit

Connection terminal 1		Connection terminal 2	
Connection terminal 3		Connection terminal 4	
Connection terminal 5			

Connection terminal of type III control circuit



Terminal 1 for main options

101, 106-AC220V output terminals of engine (only for type "B")

102, 103-Power control terminal of circuit I (only for type "B")

104, 105-Power control terminal of circuit II (only for type "B")

102, 103-Prefering option switch K, It is used for setting primary power from any power circuit, and certainly, the other be the backup power, switch I has preferring option when K breaks, switch II has preferring option when K closed.

Terminal 2 remote control

201, 206-Terminal K of remote controlling, automatic controlling functions, Remote control at breaking status and automatic control at making status.

202, 203-Making switch I.

202, 204-At "0" position K, both switches breaks.(include preferring position "0")

202, 205-Making switch II.

305-Switch I controls zero-line "N1" of circuit of type I and type II, switch I controls zero-line "N" of circuit of type III (only for three-pole).

306-Switch II controls zero-line "N2" of circuit of type I and type II, switch II controls zero-line "N(G)" of circuit of type III (only for three-pole).

Terminal 4 Pre-breaking auxiliary contact

402, 403-Pre-breaking position of indication switch I.

404, 405-Pre-breaking position of indication switch II.

Terminal 5 Manual and automatic operation mode and whether locking the switch

502, 503-Automatic and manual control indication

504, 505-Indcation of whether locking the switch

Terminal 6 Start-up terminals for diesel generator

602, 603-Generator starting terminal.(Only for type III). Two zero-lines of 3-poles switch should be connected to the terminal 305, 306 at right side switch.