RDH5D Series
Automatic transfer switch

Application

RDH5D series Automatic transfer switch equipment,integrates electrical and mechanical interlocking systems to guarantee safe transfer operation.It is applicable for the industry distribution device power supply system of AC50Hz,rated voltage AC400V, rated conventional current up to 3200A.It has detection, communication, electrical and mechanical interlocking functions.It can realize full-automatic and remote control,reset,manual control for emergency and other operations.This switch is applicable for two circuit power supplys, normal and standby power supply changeover automatically or the automatic changeover and safe disconnect between two sets of load equipments.

Model No.

RD H5D - □/□ □

- Control type:I type Automatic
  II type Automatic change +Forced recovery;
  III type Automatic+remote
- Pole:3P,4P
- Frame size current class: 100A-3200A
- design code
- Company code

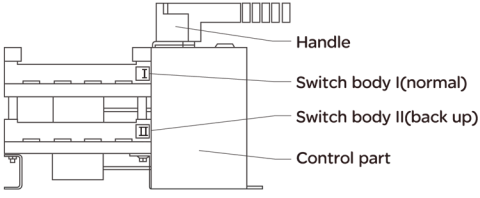
Switch structure

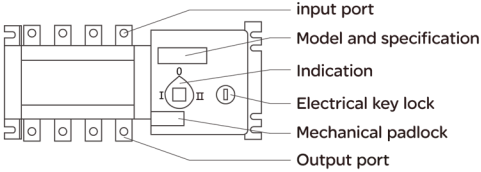
3.1 Electrical lock: control switch internal circuit power. when it is on, the switch can realize full-automatic, forced recovery and remote operation; when it is off, the switch only can be manual-operate.

3.2 Operation handle: The electrical lock should be off when the handle is used for manual operation.

3.3 Mechanism lock: using for detection. Firstly, turn switch to "0" position by using handle, then, pull the lock mechanism up and lock it, then taking detection.(pull up the lock, and the switch internal control power supply would be cut off, the switch can not automatic and manual operation.)

3.4 Position indication: indicate the working position(I,O,II).





Main technical parameter

4.1 Standard: IEC60947-6-1

4.2 Rated operation voltage(Ue):AC400V

4.3 Rated insulation voltage(Ue):AC690V

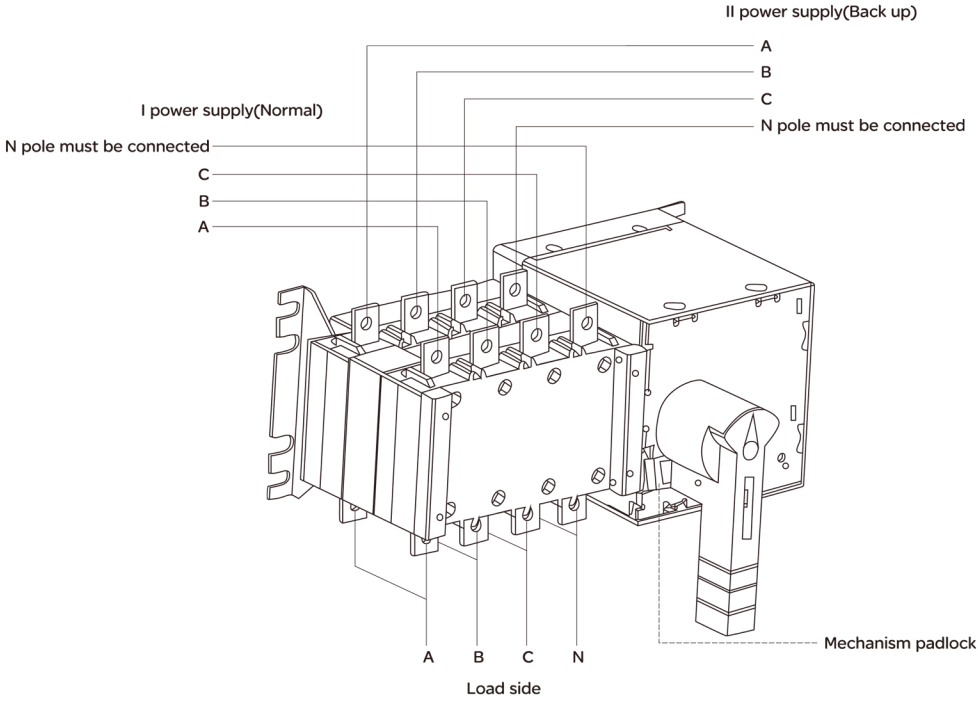
4.4 Rated operation current(Ie):10A-3200A

4.5 Control power supply voltage: DC24V,AC230V,AC400V

Main specifications

Rated thermal current(A)		100	160	250	400	630	1000	1250	1600	2000	2500	3200
Rated insulation voltage		690V										
Rated impulse withstand voltage		5kV	8kV				12kV					
Rated operational current(A)	AC-31A	100	160	250	400	630	1000	1250	1600	2000	2500	3200
	AC-35A	100	160	250	400	630	1000	1250	1600	2000	2500	3200
	AC-33iB	100	160	250	400	630	1000	1250	1600	2000	2500	3200
Rated short-time withstand current		5kV	10kV		13kV			50kV				55kV
Rated limited short-circuit current		5kV	100kV		70kV		100kV	120kV		80kV		
Control power supply voltage			DC24C、AC230V、AC400V									
Change-over time(s)		0.5	1	1.1	1.2		1.25			24.5		

Wiring diagram



Usage Method

Switch function

6.1 Automatic function: when normal power supply is off, the switch transfers the circuit to Backup power supply; when normal power supply is recovery,the switch would transfer circuit to Normal power supply.

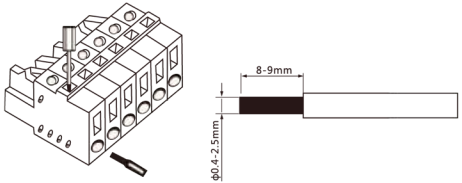
6.2 Forced recovery "0" function: start "0" button, the switch would cut two power supplys.

6.3 Remote control function: remote contol, push "I" button to start the normal power supply. Push "II" button to start back up power supply; Push "0" button to cut off two power supplys.

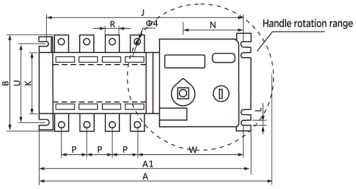
6.4 Please choose the switch function,and connect according to needs.

6.5 Please mention the model No., Specification and needed functions.

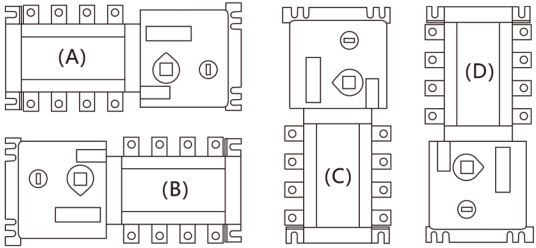
Terminal connection



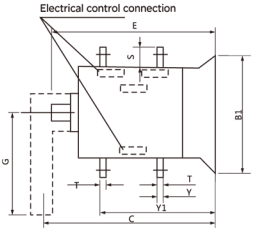
Appearance



Switch installation



The above A,B,C is corrected(A is best),D is not right.



Specification	Shape dimension and Installation dimension																			
In	A	A1	B	B1	C	E	G	J	K	L	N	P	R	S	T	U	W	ΦX	Y	Y1
100A/3	235	232	110	105	134	150	115	221	84	7	74.5	30	14	18	2.5	105	126	6	36	86
100A/4	247	244	110	105	134	150	115	232	84	7	74.5	30	14	18	2.5	105	126	6	36	86
160A/3	292	270	145	128	230	200	145	254	105	7	91	36	20	25	3.5	127	158	9	55	125
160A/4	322	303	145	128	230	200	145	285	105	7	91	36	20	25	3.5	127	158	6	55	125
250A/3	356	312	170	142	261	220	145	295	105	7	91	50	25	30	3.5	142	168	6	60	145
250A/4	406	365	170	142	261	220	145	345	105	7	91	50	25	30	3.5	142	168	6	60	145
400A/3	487	370	240	222	284	280	189	351	180	9	93	65	32	40	5	222	203	9	83	193
400A/4	552	437	240	222	284	280	189	422	180	9	93	65	32	40	5	222	203	9	83	193
630A/3	487	368	240	222	284	280	189	351	180	9	93	65	40	50	6	222	203	9	83	193
630A/4	552	437	240	222	284	280	189	422	180	9	93	65	40	50	6	222	209	9	83	193
800A/3	646	519	328	250	363	320	443	490	220	11	87	120	60	69	8	250	207	11	109	254
800A/4	760	630	328	250	363	320	443	610	220	11	87	120	60	69	8	250	207	11	109	254
1000A/3	646	519	328	250	363	320	443	490	220	11	87	120	60	69	8	250	207	11	109	254
1000A/4	760	630	328	250	363	320	443	610	220	11	87	120	60	69	8	250	207	11	109	254
1250A/3	646	519	335	250	363	320	443	490	220	11	87	120	80	69	8	250	207	11	110	255
1250A/4	760	630	335	250	363	320	443	610	220	11	87	120	80	69	8	250	207	11	110	255
1600A/3	646	519	335	250	363	351	443	499	220	11	87	120	80	69	10	250	207	12	110	255
1600A/4	760	634	335	250	363	351	443	617	220	11	87	120	80	69	10	250	207	12	110	255
2000A/3	800	535	423		542	560	447	490	220		84.5		80	120	10			12		169
2000A/4	800	633	423		542	560	447	617	220		84.5		80	125	15			12		174
2500A/3	800	535	423		542	560	447	490	220		84.5		80	130	20			12		179
2500A/4	800	633	423		542	560	447	617	220		84.5		80	120	10			12		169
3200A/3	800	535	423		542	560	447	490	220		84.5		80	125	15			12		174
3200A/4	800	650	423		542	560	447	617	220		84.5		80	130	20			12		179

Switch control type and relevent function

10.1 I type: Automatic type

10.2 II type: Automatic, Forced "O", remote control, With generator.

10.3 III type: Phase loss detection protection,automatic, Forced "O", remote control, With generator.

10.4 Automation: Self-throwing and self-reset, when normal power supply stops or defaults phase, switch transfers circuit to standby power supply.And when normal power recovers, switch transfers circuit return to normal power supply.

10.5 Forced "0":when there is an emergency or device detection, start Forced "0" self-lock button, switch turns to "0" position and cut two circuits.

10.6 Remote control: start "I" position button, then normal power supply starts working;start "II" position button, then standby power supply starts working.

10.7 With generator:when normal power supply stops or defaults phase,then it gives the signal to start generator. When the power is turned on, the switch will automatically switch to the power supply. And when normal power supply recovers, switch returns the circuit to normal power supply,and stops the generator.

10.8 Phase loss protection:detect and protect normal power supply phase-loss.

Using instruction

11.1 Nonprofessional installation and Unauthorized opening is forbidden;

11.2 Please read this instruction to avoid improper using.

11.3 Switch interior control power supply rated voltage is 220V, from c1 of normal power supply,N1and C2,N2of standby power supply .Only it is between 85% to 110% of rated control voltage, it could work normally.

11.4 Switch input terminal power supply should have overload protection for interior circuit board and control motor to avoid high voltage damage.

11.5 Switch output terminal should have short-circuit protection against high circuit damage.

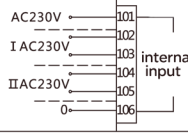
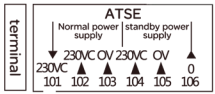
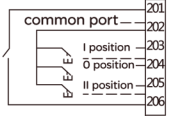
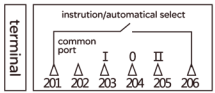
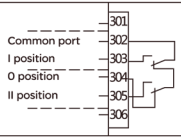
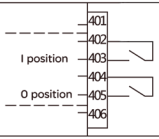
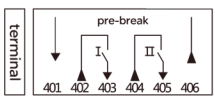
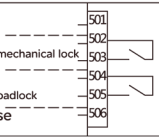
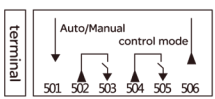
11.6 When installing, Please turn off Electrical key lock, and turn the switch to "0" position.

11.7 when connecting, please distinguish A, B, C, N of power supply input line, and connect to relative poles.

11.8 Before powering on, please check whether C.N voltage is in the 85% to 110% rated control voltage range, then turn on the electrical lock.

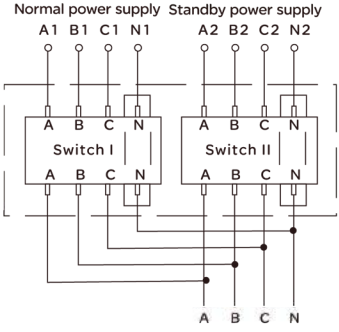
11.9 Please keep the electrical key and handle separately in case of accident.

RDH5D Series
Automatic transfer switch

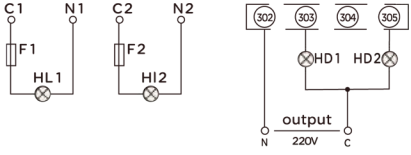
output connection	internal device	terminal instrution
	second power supply	
instrution/ automatical select 	control	
	position indicators	
	First pre-break auxiliary point	
″manual" contact open "automatic" contact close mechanical lock ″machanical padlock" contact open "Non machanical padlock" contact close padlock 		

Terminal connection diagram

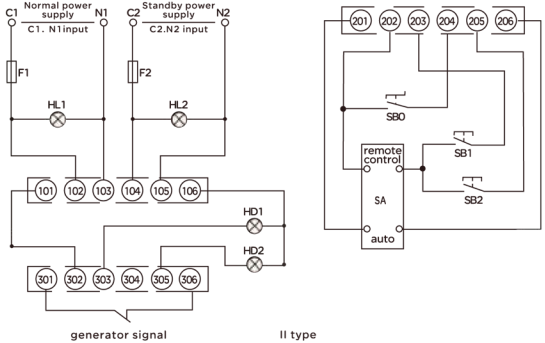
12.1 RDH5D series Main circuit connection diagram



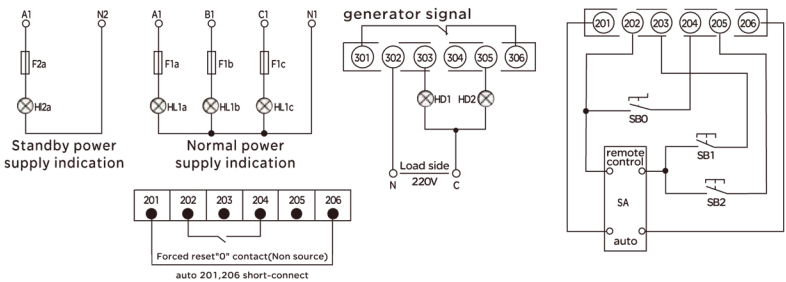
12.2 100A I type connection diagram



12.3 100A II type Automation+Remote control connection diagram



12.4 100A III type Automation+Remote control connection diagram

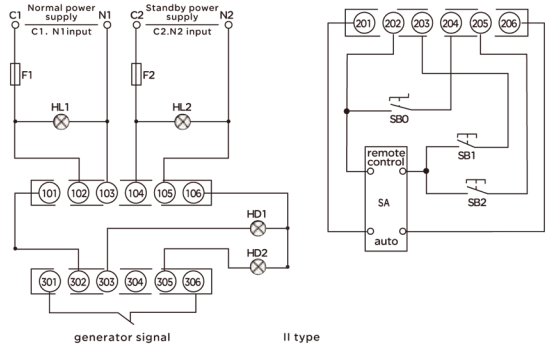


1. 100A and below only has I, II type switch
2. HD1-2, HL1-2 indication light can be connected according to needs.
3. Switch internal connects to Normal power supply C1.N1 and standby power supply C2,N2
4. I type (auto) switch internal, 201 and 206 terminal short-connects,so there is no 201-206 terminal.
5. II type switch 201-206 terminal can be connected according to relavent function
6. 301and 306 are the signal contacts of generator's starting.

1. 100A and below III type switch is special switch
2. III switch connects 3 phases,102 and 105 terminal can not connect power supply.
3. Switch power supply throwing instruts connect wiring according to the above fig.
4. 302 connects from load side N phase, signal light live line connects from load side C phase.
5. 301and 306 are the signal contacts of generator's starting.
6. Auto, remote control and II type are in same connection mode.

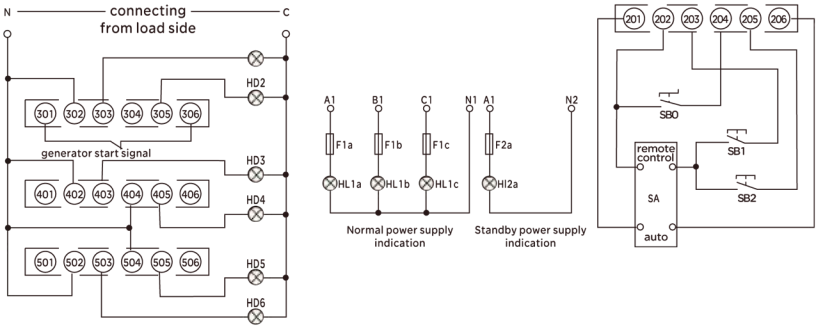
F1-2:(2A)Fuse
HL1: Normal power supply power indication
HL2: Standby power supply power indication
HD1: Normal power supply throwing indication
HD2: Standby power supply throwing indication
SA: Power transfer switch
SB0:Forced "0" selflock button
SB1:Normal power supply throwing button
SB2:Standby power supply throwing button

12.5 160A to 630A II Type Auto.+manual(remote control) connection diagram



II type

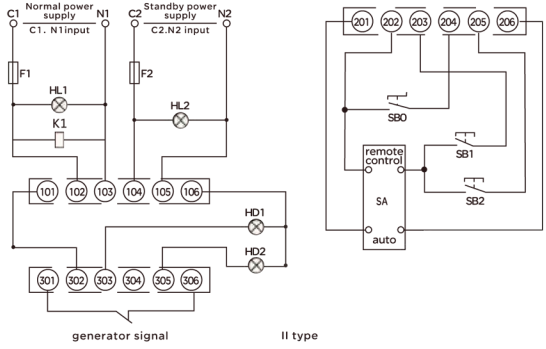
12.6 160A to 630A III Type Auto.+manual(remote control) connection diagram



F1-2:(2A)fuse
HL1: Normal power supply power indicator
HL2: Standby power supply power indicator
1.HD1-6,HD1-2 indicator connects according to needs.
2.Only 400A and above have 401-406,501-506 terminals.
3.101 and 106 are switch output indicator power supplys, 106 is live line.
4. I type switch do not make 125A and above,only II type and III type
5. II type and III type 201-206 terminals can be connected according to relevant functions.
6. III Type connects 3 phases,102-105 do not need power,only 3poles switch 103 needs to connect the normal power supply N1,105 connects to Standby power N2.

HD1:Normal power supply throwing indication
HD2:Standby power supply throwing indication
HD3:Normal power supply pre-breaking indication
HD4:Standby power supply pre-breaking indication
HD5:Mechanical padlock on/off indication
HD6:Electrical lock on/off indication
AS:Function transfer switch
SB0:Forced reset "O" self-lock button
SB1:Normal power supply throwing button
SB2:Standby power supply throwing button

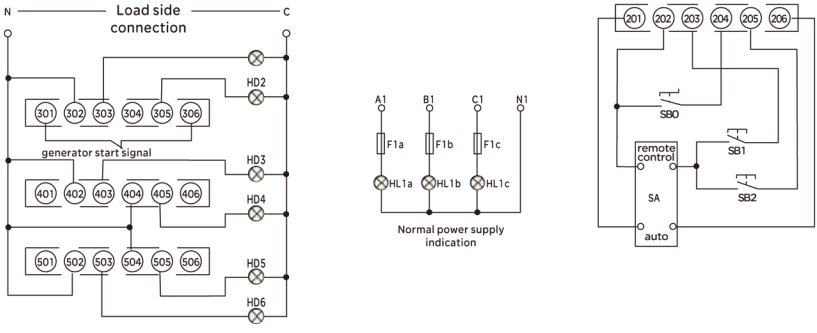
12.7 1000A to 3200A II type auto+manual connection diagram



F1-2:(2A)Fuse
HL1: Normal power supply power indication
HL2: Standby power supply power indication
HD1: Normal power supply throwing indication
HD2: Standby power supply throwing indication
HD3:Normal power supply pre-breaking indication
HD4:Standby power supply pre-breaking indication
HD5:Mechanical padlock on/off indication
HD6:Electrical lock on/off indication
K1: Middle relay

SA: Power transfer switch
SB0:Forced "0" selflock button
SB1:Normal power supply throwing button
SB2:Standby power supply throwing button
1.Only II type and III type have 1000A and above production.
2.HD1-6,HL1-2 indicator can be connected according needs.
3.101 and 106 are switch output indicator power supplys, 106 is live line
4.201-206 terminal can be connected according to relevant functions.
5.K1 relay only can be used at full-automation.

12.8 1000A to 3200A III type auto+manual connection diagram



(III type)

Note:
1.III type switch connects to 3 phase power supply,102-105 do not connect to power supply.
only in the 3 poles switch, 103 connects Normal power supply N1,105 connects to Standby power supply.
2.Other connection mode refer to 125A to 630A type.