

Dual Power Automatic Transfer Switch

RDS2 Series

Application



RDS2 Series Auto transfer switch mainly used for electric distribution network or motor network with rated voltage 380V, 50Hz, DC rated voltage 220V, rated current 16A to 3200A, change over between main power and backup power system ,power grid and genset. Meanwhile can be used as isolation of unfrequency making and breaking circuit.

It is widely used in the transmission and distribution system and automation system of the important place which not allow power cutoff such as fire-fighting,Hospital, Bank, high building etc.

RDS2 Series ATS accord to the following standard:

International:

IEC60947-1(2001) 《Low voltage switchgear and controlgear, part one: General Rules》

IEC60947-3(2005) 《Low voltage switchgear and controlgear, switch, isolator and combined fuse switch etc》

IEC60947-6-1 (2005) 《Low voltage switchgear and controlgear multi-function switch: auto transfer switch etc. 》

National:

GB/T14048.1-2006 《Low voltage switchgear and controlgear, part one: General Rules》

GB14048.3-2008 《Low voltage switchgear and controlgear, switch, isolator and combined fuse switch etc》

GB14048.11-2008 《Low voltage switchgear and controlgear multi-function switch: auto transfer switch etc. 》

Model Meanings

R DS 2 - □ / □
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 ① ② ③ ④ ⑤

①	Company code
②	Dual power ATS
③	Design code
④	Rated Current
⑤	Poles (3, 4)

Working Conditions

Ambient temperature: -20°C ~+40°C ; 24hours average not more than +35°C ;

Atmospheric conditions: humidity not more than 50% at max.+40°C , higher humidity is allowed at lower temperature, at most wet month, the average max humidity is 90% at the average min temperature +25°C , and have considered the condensation on the product surface due to temperature variation;

Altitude: Not more than 2000m;

Pollution Class: The installation site environment pollution Class 3.

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Main Technical Parameters

RDS2-100-3200A series Auto transfer switch electric properties and mechanical properties

Rated Thermal Current I _{th}	100A						250A				630A		1000A		1600A		2000A	2500A	3200A	
	16	20	40	63	80	100	125	160	200	250	400	630	800	1000	1250	1600	2000	2500	3200	
Rated Current I _n (A)	16	20	40	63	80	100	125	160	200	250	400	630	800	1000	1250	1600	2000	2500	3200	
Rated insulation voltage U _i (V)	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	1000	1000	1000	
Dielectric strength (V)	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	10000	10000	10000	10000	10000	10000	10000	
Rated impulse withstand voltage U _{imp} KV (installation category)	8	8	8	8	8	8	8	8	8	8	12	12	12	12	12	12	12	12	12	
Rated Working current I _e (A) AC-33iB	16	20	40	63	80	100	125	160	200	250	400	630	800	1000	1250	1600	2000	2500	3200	
Rated short time withstand current I _{cw} (kA Rms)0.1S/1S	9/5	9/5	9/5	9/5	9/5	9/5	12/25	12/25	12/25	12/25	40/20	50/25	90/50	90/50	90/50	90/50	50	50	55	
Rated Breaking capacity (A Rms) AC-33iB 380V	128	160	320	500	640	800	1000	1280	1600	2000	3200	5000	6400	8000	10000	12800	16000	20000	25600	
Rated Making capacity (A Rms) AC-33iB 380V	160	200	400	630	800	1000	1250	1600	2000	2500	4000	6300	8000	10000	12500	16000	20000	25000	32000	
Transfer Time	I-0-II	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	
	I-0-II (S)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	
	I-0 II-0(S)	0.3	0.3	0.3	0.3	0.3	0.3	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	1.6	1.6	1.6
Weight (kg)	3Poles	4.15	4.15	4.25	4.35	4.45	4.45	8.2	8.2	10.4	10.4	17.8	19	28	31	31	34	-	-	-
	4Poles	4.2	4.2	4.3	4.4	4.5	4.5	8.7	8.7	11.3	11.3	20.2	22	32	36	36	40	95	98	135
Use category	AC-33iB(PC)																			

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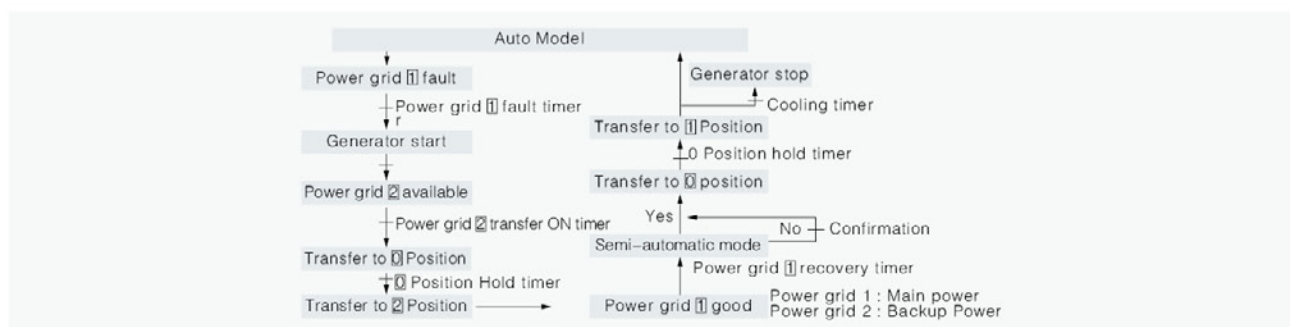
Performance And Characteristic

- It adopted double complex contact/ horizontal pulling mechanism/micro motor energy pre storage and micro-computer control technology, basically come to Zero arc (no arcing chamber);
- Adopted reliable mechanical interlock and electric interlock, executive unit adopt independent load disconnect switch, it makes more reliable and safety;
- Adopt "Zero Position" technology, it can force to set to Zero Position under emergency situation (cutoff two way power supply, meet the fire linkage requirements);
- Load disconnect switch change over adopt singleness motor drive, switch over smooth and reliable, no noise, little impact;
- The driving motor have instant current across only under the load disconnect switch change over, stable working status no need to provide the working current, outstanding energy saving;
- Executive load disconnect switch have mechanical interlock, make sure the Normal power and Reserve Power working reliable and no interference;
- Distinct ON and OFF position indicator, padlock function etc., make reliable and safe isolation between power supply and loading.
- High security, high automatization, high reliability, working life more than 8000 times;
- Electromechanical integration design, accuracy change over, flexible, smoothly, adopt international advanced logical control technology, high anti-interference ability, no interference outward.
- Have main power ON, backup power OFF; main power OFF, backup power ON; main and backup power OFF; three working mode (I-o-II);
- Easy installation, control circuit adopt plug type terminal connection;
- Four operating functions: Emergency manual, motor remote control, emergency OFF under auto control status, auto control operation.

Basic Type Switch Control Characteristic

- Suitable for two way main and backup power system, auto change auto recovery;
- Can expand functions by outer connection;
- Auto, Remote, Manual control functions;
- Delay 0.5s signal detect, avoid miss actuation;
- Under Auto control status have "O" position remote control;
- Key switch select the operating mode;
- Can with RS-485 communication port (optional), according to customer required.

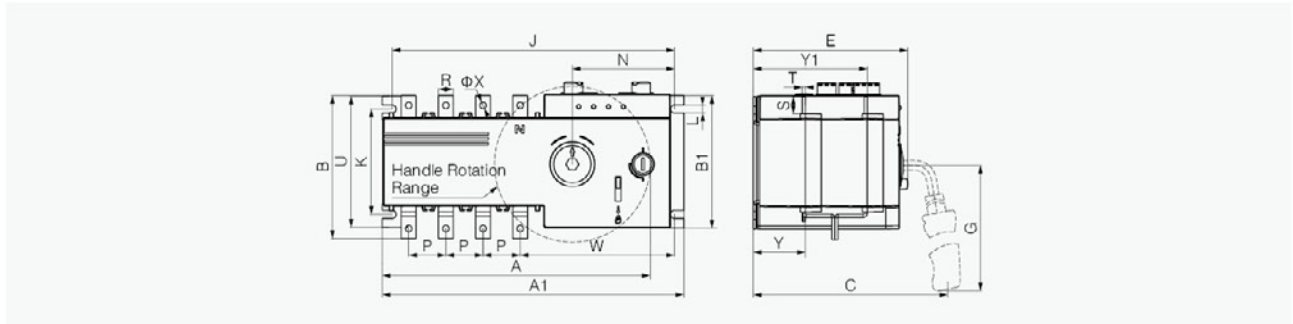
ATS Working Flow



RDS2 Series

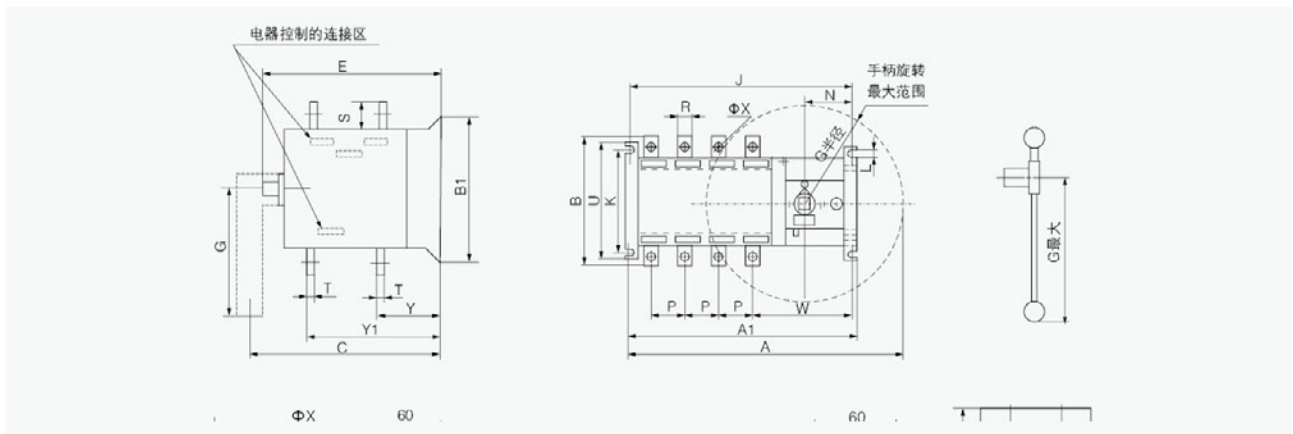
RDS2-100 - 1600A Auto Transfer Switch

- RDS2-16A~630A outline and mounting size



Specification	Outline and mounting size (mm)																			
In	A	A1	B	B1	C	E	G	J	K	L	N	P	R	S	T	U	W	ΦX	Y	Y1
100A	330	244	115	107	182	125	174	228	85	6.5	83	30	12	18	(2.5)5	99	125	5.2	42	92
250A	436	436	178	134	240	198	174	344	108	7	99	50	24	30	(3.5)7	148	173	11	72	157
630A	502	433	260	222	282	244	174	416	176	9	101	65	40	50	(5)10	222	185	12	83	193

- DS2-800A-1600A outline and mounting size



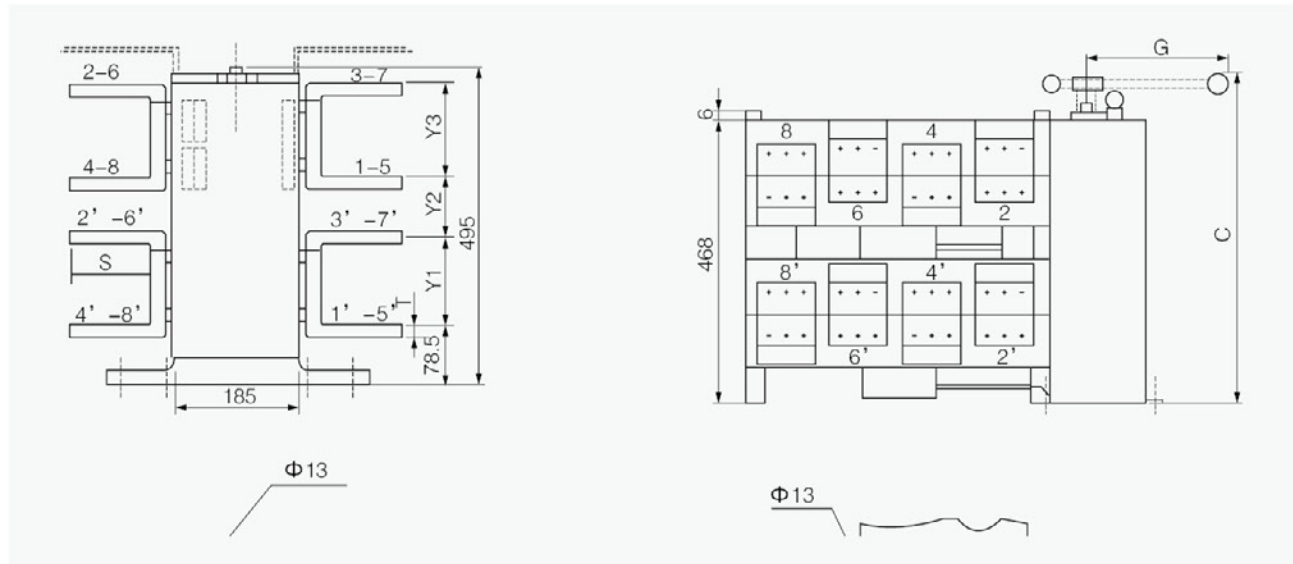
Specification	Outline and mounting size (mm)																			
In	A	A1	B	B1	C	E	G	J	K	L	N	P	R	S	T	U	W	ΦX	Y	Y1
800A/3	871.5	524	340	250	387	319.5	448	499	212	11	88	120	60	69	8	250	198.5	12.5	84	252
800A/4	975.5	637.5	340	250	387	319.5	448	612.5	212	13	88	120	60	69	8	250	207	12.5	107	252
1000A/3	871.5	524	340	250	387	319.5	448	499	212	13	88	120	60	69	8	250	198.5	12.5	107	252
1000A/4	975.5	637.5	340	250	387	319.5	448	612.5	212	13	88	120	60	69	8	250	207	12.5	107	252
1250A/3	871.5	524	369	250	387	319.5	448	499	212	13	88	120	60	69	8	250	198.5	13	107	252
1250A/4	975.5	637.5	369	250	387	319.5	448	612.5	212	13	88	120	60	69	8	250	207	13	107	252
1600A/3	871.5	524	376	250	387	319.5	448	499	212	13	88	120	60	69	10	250	198.5	13	109	253.5
1600A/4	975.5	637.5	376	250	387	319.5	448	612.5	212	13	88	120	60	69	10	250	207	13	109	253.5

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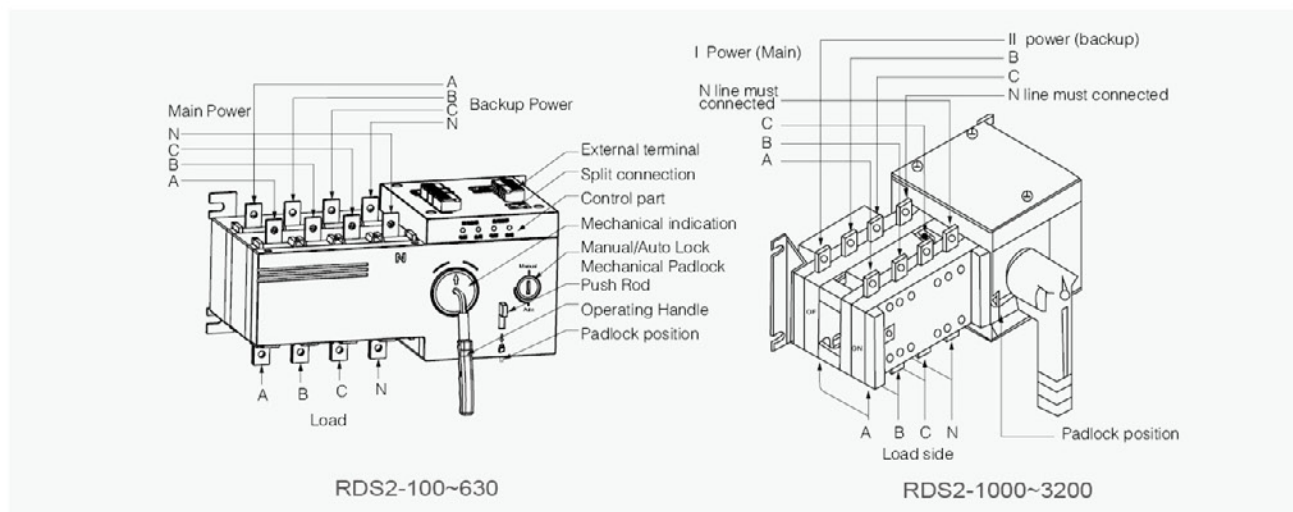
RDS2-2000-3200A Outline And Installation Size

- RDS2-2000-3200A outline and installation size



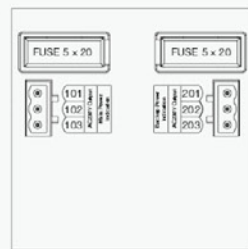
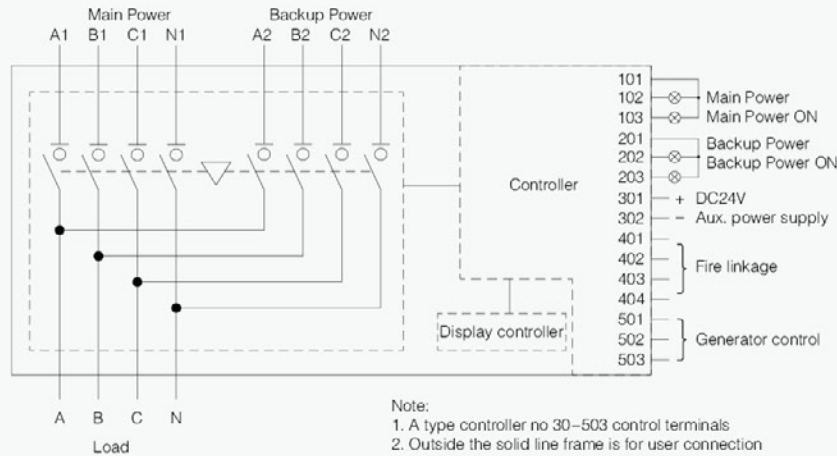
Spec	Size					Switch Installation							Terminal								
	A	A1	B	C	E	G	H	J	K	L	N	O	P	R	S	T	U	V	Y	Y1	Y3
2000A	1007	633	455	562	495	470	53	467	220	11	84.5	524	120	80	80	10	250	33	147	84	147
2500A	1007	633	455	562	495	470	28	467	220	11	84.5	524	120	80	100	10	250	13	152	79	152
3200A	1007	633	505	562	495	470	28	467	220	11	84.5	524	120	100	100	14	250	13	152	79	152

Wiring Instruction

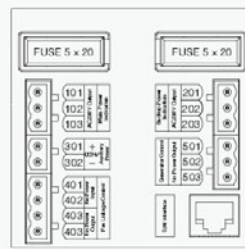


RDS2 Series

RDS2-100-630A Auto Transfer Switch Control And Operation (Suitable For Rated Current 16A~630A)



A type Controller



B Type Controller

101~103 : main power external indicator signal (Active AC230V/0.5A)

101- Indicator common null line 102- Main power indicator signal output 103- Main power ON signal output

201~203 : Backup power external indicator signal (Active AC230V/0.5A)

201- Indicator common null line 202- Backup power indicator signal output 203- Backup power ON signal output

301~302 : DC 24V aux. power input for generator start

301- DC24V positive input 302-DC24V negative input

401,404 : Fire linkage control signal input and feedback signal output

401,402 : Fire linkage control signal passive input, if the signal from fire-fighting equipment is an active signal, must first connect to a small relay, then connect the relay NO point to 401,402, after NO contact closed ATS transfer to OFF position.

403,404 : Feedback signal for ATS transfer to OFF position cutoff the load power supply

Notes: when the fire linkage function is active, the ATS will stop working, if want the ATS to working again, must first clear up the fire-fighting signal and then switching the Auto/Manual control switch one time, the ATS will recovery normal working

501~503 : Generator start control signal output

When the backup power is Auto start generator, users can connecting the 501~503 terminals to the generator controller to achieve the generator auto start function, inside 501~503 terminal, is a set of passive relay contact point, 502 is the relay common terminal, 503 is relay NC point, 501 is relay NO point; when main power normal, 501 and 502 is closed, 503 and 501 open, if main power failure 501 and 502 open, meanwhile 503 and 502 closed, to send generator start signal.

Dual Power Automatic Transfer Switch

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RDS2-1000-1600A Auto Transfer Switch Control And Operation (Suitable For Rated Current 800A ~1600A)

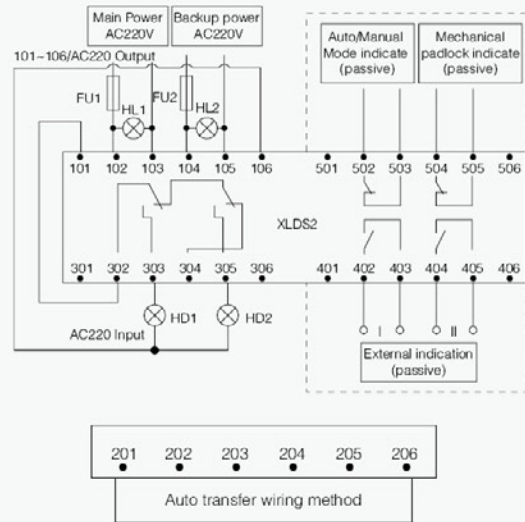
- Basic type terminals

Output connection	Interior	Connector terminal color
AC200V 101 I AC200V 102 103 104 II Ac200 105 106 0	Interior output Second power	
Common Point 201 202 Position I 203 Position 0 204 205 Position II 206	Command /Auto selection Control	
Common point 301 302 Position I 303 Position 0 304 305 Position II 306	Position indicate	
401 402 403 Position I 404 405 Position II 406	The 1 break Aux. contact	
Manual contact open 501 *Auto* contact closed 502 *Padlock* contact open 503 *No padlock* contact closed 504 Mode 505 Padlock 506	Indicate Auto/Manual Mode and padlock	
Main power ON 601 Contact open 602 Main power fault 603 contact closed 604 Genset start 605 606	(Special use for genset) Control	

RDS2 Series

Automatic Wiring Method (Suitable For Rated Current 800~3200A)

- HL1 Main power good indication;
- HL2 Backup power good indication;
- HD1 Main Power ON indication;
- HD2 Backup power ON indication;
- FU1/U2 is 2A fuse.
- 101-106, 201-206, 301-306 is RDS2 switch terminal.
- 401-406, 501-506 optional switch terminal for up 630A rating.



Auto+Forced Change "0" Position (For Rated Current 800~3200A) (Fire-Fighting Dual Power Source Off) Wiring Drawing

- HL1 Main power good indication;
- HL2 Backup power good indication;
- HD1 Main Power ON indication;
- HD2 Backup power ON indication;
- FU1/U2 is 2A fuse.
- 101-106, 201-206, 301-306 is RDS2 switch terminal.
- 401-406, 501-506 optional switch terminal for up 630A rating.

