

ESSQ2C Series Economic Type Dual Power Automatic Transfer Switch

Manual

CERTIFICATE

Product Model: ESSQ2C
Product Name: Auto Transfer Switch
Inspector: Inspector 1
Inspection Date: _____

This product is qualified after test, allowed to leave factory.

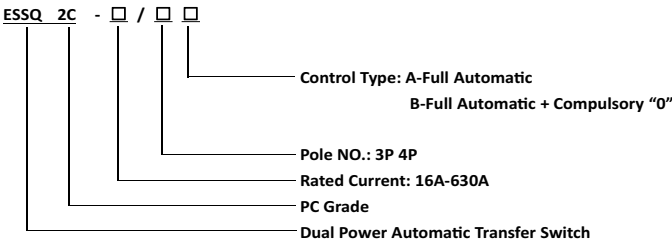
1. Application

ESSQ2C series new type dual power automatic transfer switch (ATS) integrating switch with logical control and realizing mechatronics, is mainly used in the industrial and enterprise distribution equipment of rated insulation voltage up to 1000V, rated frequency 50Hz, rated voltage up to 400V and conventional thermal current up to 630A to auto transfer between main power and backup power of distribution system or auto transfer and safely isolate between two load equipment, widely used in the important places that disallow power off, such as hospitals, markets, banks, high constructions, highway, airports, industrial assembly lines, and military facilities.

The switch rapidly connects, breaks and transfer the circuit through motor, which is controlled by kinds of logical demand from the control circuit board, to obviously realize safe isolation.

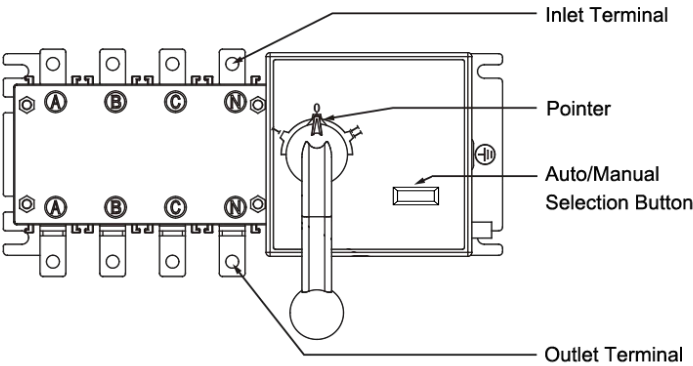
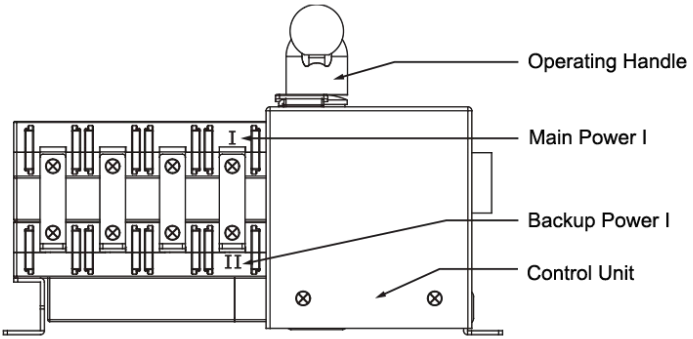
The switch has the operations of full automation compulsory "0", remote control and emergent manual. It is equipped with functions of generator (oil machine). It is the best choice among similar products.

2. Model Meaning



3. Structure

- Operating Handle: Under manual operation mode, rotating the handle to choose main power I or backup power II or both break 0
- Auto/Manual Selection Button: Select the Auto or Manual operation mode
- Pointer: "I"---main power connected
"II"---backup power connected
"0" -both powers break



4. Main Technical Parameter

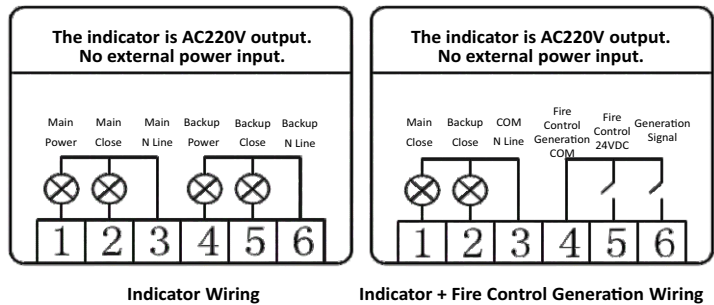
- Standards: IEC/EN 60947-6-1 GB/T 14048.11
- Rated Working Voltage (Ue): AC440V
- Rated Connecting Capacity (A Rms): 10Ie
- Rated Breaking Capacity (A Rms): 8Ie

Rated Thermal Current (A)		32	40	63	80	100	125	160	250	400	630	
Rated Insulation Voltage (V)		750V								1000V		
Rated Impulse Withstand Voltage		8kV								12kV		
Rated Working Current	AC-31	32	40	63	80	100	125	160	250	400	630	
	AC-35	32	40	63	80	100	125	160	250	400	630	
	AC-33	32	40	63	80	100	125	160	250	400	500	
Rated Short Time Withstand Current		7kV					9kV			13kV		
Rated Limit Short Circuit Current		70kV								100kV		
Operation Torque		12					19		26		39	
Motor	Start	300					325			355		
Power Loss	Normal	55					62			74		
Transfer Time (S)		0.45								0.6		
Mechanical Life		10000								5500		
Weight (kW)	3P	7.2					8		8.2		14	15
	4P	7.5					8.5		9		16	17

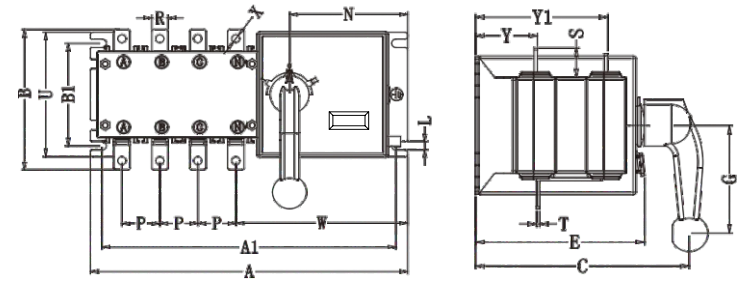
5. Functions

- Type A: Full Auto
- Type B: Full Auto, Compulsory “0” , Optional Generator Function
- Full Auto: Self Charge Self Recovery. When main power is powered off or phase loss, the switch will auto transfer to backup power; when main power recovers, the switch will auto back to main power.
- Compulsory “0” : When emergency or maintenance, motivate compulsory “0” self lock button, the switch will auto transfer to “0” to cut off the two powers.
- Generator (Oil Machine): When grid power is powered off or phase loss, a signal will be sent to auto start oil machine. When the generation is normal,the switch will auto transfer to generation power. When the grid power recovers, the switch will auto back to grid power, a signal will be sent to stop the oil machine.

8. External Terminal Wiring Diagram



9. Outline and Installation Dimensions



Spec.	Outline Dimension							Installation Dimension							Terminal			
	A	A1	B	B1	C	E	G	L	N	P	R	S	T	U	W	ΦX	Y	Y1
100/4	255	234	115	84	154	122	80	7	85	30	14	18	2.5	102	136	6	45	95
160/4	326	305	140	108	193	150	106	7	102	36	20	25	3	134	176	8	58	119
250/4	386	365	174	108	197	154	106	7	102	50	25	30	3	134	188	10	58	122
400/4	455	428	248	155	272	222	138	9	96	65	32	38	3	180	198	10	78	178
630/4	455	428	268	155	272	222	138	9	96	65	40	38	3	180	198	12	78	178

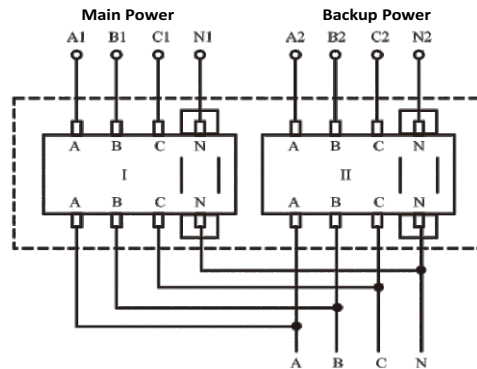
10. Debug Instruction

- Repeatedly operate handle to break and close for three times.
- Full Auto Debug: Connect the wire correctly according to wiring, start electric lock, connect two powers and the switch shall be at Position “I” ; Break the main power, the switch shall be at

6. Attention

- Only installed by professional person; No disassemble without allowed.
- Read the manual carefully before installation and usage.
- The rated voltage of internal control power is 220V from C1 and N1 of main power and C2 and N2 of backup power. The switch will work normally in the range of 85%-110% of rated control voltage.
- Over voltage protection shall be equipped on inlet terminal to avoid internal circuit board or control motor damages caused by over voltage
- Short circuit protection shall be equipped on outlet terminal to avoid product damage caused by over current when short circuit.
- Lock the electric key lock and turn the switch to Position “0” before installation
- When wiring, please correctly connect the A, B, C and N of power inlet wire to corresponding phase.
- Before power on, please ensure the voltage of C and N is in the range of 85%-110% of rated control voltage, then start electric key lock to work.
- When usage, please take down the electric key and handle, and keep them solely to avoid incident.

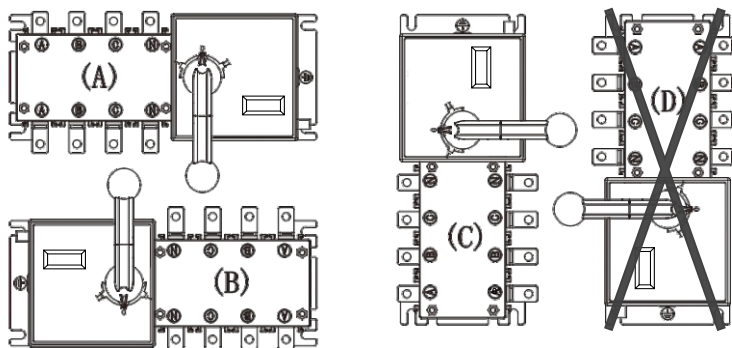
7. Main Circuit Wiring Diagram



Position “II” ; Connect main power again, the switch shall be at Position “I” .

- Compulsory “0” Debug: Under any circumstance, the switch shall be at Position “0” when press compulsory “0” self lock button.
- Remote Control Debug: Press Position “I” button, the switch shall transfer to “I” , Press Position “II” , and the switch shall transfer to “II” .
- Test Indicator: The indicator shall indicate correspondingly to the conditions of main /backup power is powered on/off, electric lock/padlock is locked/unlocked.

11. Installation



A, B, C Installation is correct (A is best), D is wrong

12. Order

Please specify the following items when ordering:

1) Control Type; 2) Pole NO.; 3) Rated Current; 4) Quantity

For example, dual power auto transfer switch 250A 4P full auto type