GEYA

GEYA

ZHEJIANG GEYA ELECTRICAL CO.,LTD



DUAL POWER SUPPLY

Product Selection Manual

ZHEJIANG GEYA ELECTRICAL CO.LTD.

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ZHEJIANG GEYA ELECTRICAL CO.,LTD

Company Profile

GEYA Electricalwas established in February 2007 and is located in Wenzhou City, China. lt is a scientific andtechnological private enterprise integrating R&D, production,sales and service, focusing on theindependent research and development of low-voltage electrical appliances and automation controlproducts.The company's product series involve a variety of low-voltage electrical appliances and automationcontrol products, including miniature circuit breakers, molded case circuit breakers, leakage circuitbreakers, isolating switches, contactors, relays, timers, distribution boxes and other products andrelated accessories . With a wide range of products and a wide range of applications, it is widelyrecognized and praised by customers at home and abroad.

At present, the four sales areas of the company's products cover six continents around the world, and more than 40 foreign companies have chosen and trusted Geya brand. Since its inception, Geya Electric has always adhered to the concept of "Geya is known, ADB is the world" and has continued to innovate and excel. Adhere to high standards, high quality product concept.The company has obtained a number of national invention patents, and the layout of the GEYA brand in most countries in the world. Global certification includes CCC, CE, SAA, SEMKO, TUV, CE and other EU authoritative certification certificates. The company's sales team has gradually introduced the GEYA brand to the global market.Geya Electric sincerely welcome customers at home and abroad, and Geya win-win, common development!



ZHEJIANG GEYA ELECTRICAL



GATS-GA
Isolated automatic transfer switch

Control mode: built-in relay, external controller Product structure: small size, large current, simple structure, ATS integration features: low failure rate, easy maintenance, reliable performance

Technical Specification

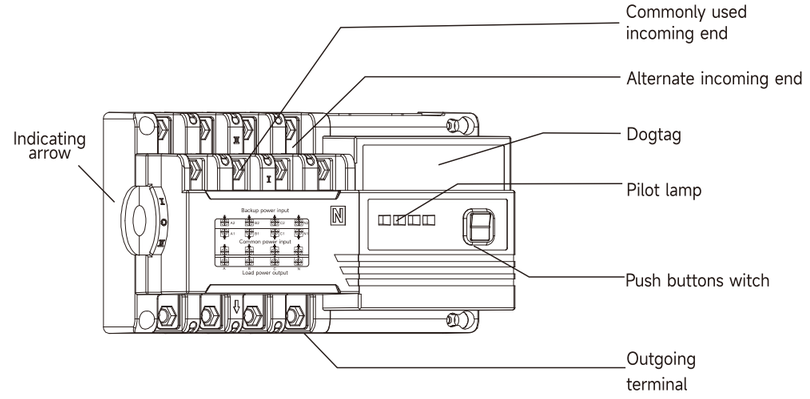
Dual power automatic transfer switch is a new type of automatic transfer switch that integrates switch and logic control in one and truly realizes mechatronics integration. It is suitable for rated insulation voltage to 1000V, rated frequency 50Hz, rated voltage to 400V, and agreed heating current to 800A power distribution equipment of industrial enterprises. The automatic conversion of the main power supply and the standby power supply used as a power supply system or the automatic conversion pole of two load devices are safely isolated; Widely used in hospitals, shopping malls, banks, high-rise buildings, coal mines, telecommunications, iron ore, highways, airports, industrial assembly lines and military facilities do not allow power outage important occasions.

GATS-GA	
Product shell	125 250 800
Product current	16 20 32 40 50 63 80 100 125 160 180 200 225 250 300 315 400 500 630 800A
Product classification	Load switch type
Product standard	GB/T14048.11-2016
ATSE	PC grade
Switch attachment	IEC947-6-1　GB14048.11
Rated operating voltage(Ue)	AC400V
Rated switching capacity(AEms)	10Ie
Rated Breaking capacity(AEms)	8Ie

Switch control type and corresponding function (automatic switching)

1).Basic type: self-recovery, I route priority, with starting generator signal;
2).Fire type: self-recovery, I priority,DC24V strong cutting, with start generator signal;
3).Intelligent type: split external wiring intelligent controller, with overvoltage, undervoltage, lack of phase, broken equal detection protection, can set I priority, II priority, no priority (self-throw not self-recovery) automatic fire 24V double, fire broken line double, fire feedback signal, start generator signal.
4).Self-recovery: when the usual power is off (or out of phase), the switch automatically switches to the standby power supply, and when the usual power supply returns to normal, the switch automatically returns to the usual power supply.
5).Fire double: In an emergency or equipment maintenance, start the fire power supply (constant voltage), the switch automatically switches to "0" to cut off the power:
6).With generator (oil engine): when the mains power supply is off (or out of phase), it sends a signal to start the oil engine, so that the oil engine automatically starts, such as normal power generation, the switch will automatically convert to the power supply and when the mains power supply returns to normal, the double power switch will automatically return to the mains power supply, and the generator signal will automatically turn off and start, the generator will stop generating power.

Switch structure description

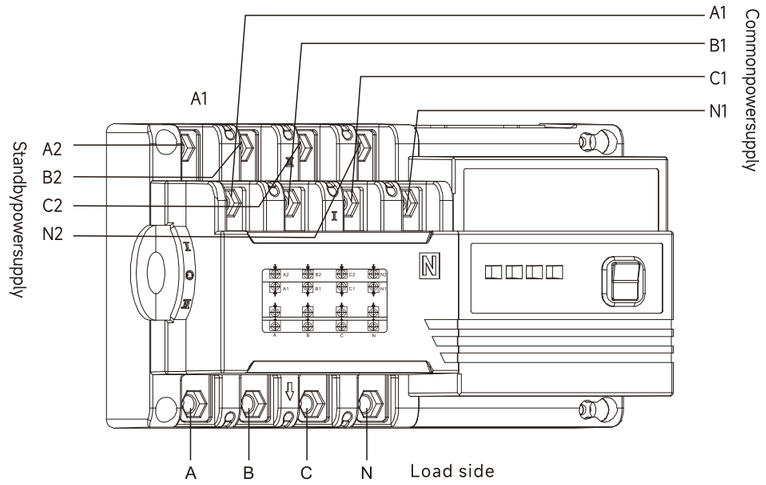


Electrical button switch: control switch internal control line power supply, button switch open, switch to achieve automatic conversion;
Operating handle: When manually operating with the operating handle, the button switch must be turned off first;
Indicator: Indicates the position of the three states (I, O, and II) of the arrow, indicating that the arrow pointing to "I" indicates that the switch I is on, indicating that the arrow pointing to "II" indicates that the switch II is on, indicating that the arrow pointing to "O" indicates that the switch I and the switch II are off (fire fighting).

Switch instruction

1、non-professionals, do not install; Do not open it without our permission to avoid damage.
2、Please read this manual carefully before installation to avoid improper use.
3、the rated voltage of the internal control power supply of the switch is 220V, from the C1.N1 of the common power supply and the C2.N2 of the standby power supply, within the rated control voltage range of 85%-110%, the switch can work normally.
4、the switch into the wire end power supply should have overvoltage protection, so as not to damage the internal circuit board control motor.
5、the switch outlet power supply should have short-circuit protection, so as not to short-circuit the current is too large and burn the switch body.
6、when using the installation, please turn off the electric button switch, and switch to: "0".
7、When wiring the switch, please measure and distinguish the A.B.C.N of the power input line and connect it to the corresponding pole of the switch.
8、before power use, please measure again whether the C.N voltage is within the rated control voltage range of 85%-110%, and then turn on the electrical button switch and formally put into work.

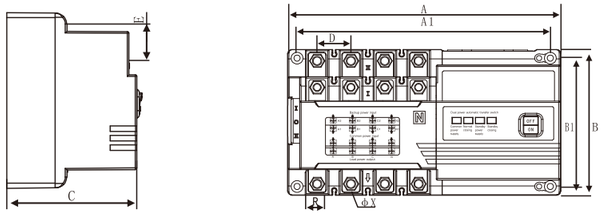
Switch connection method



Switch debugging instruction

1、use the operating handle, repeatedly operate the switch three times, the switch should operate flexibly
2、automatic debugging: according to the wiring diagram to connect the corresponding line, confirm and then open the button switch and switch on the dual power supply, the switch should be switched to "I" : then disconnect the common power supply, the switch should be switched to "II" : then switch on the common power supply, the switch should return to "I".
3、fire debugging: in any case, start the fire power button, the switch should be turned to "0" file
4、detection signal indicator: normal/standby power on/off, switch "I/I1" when the signal indicator should be given the corresponding indication.
5、after debugging, please turn off the power first, and then use the handle to switch to "0".

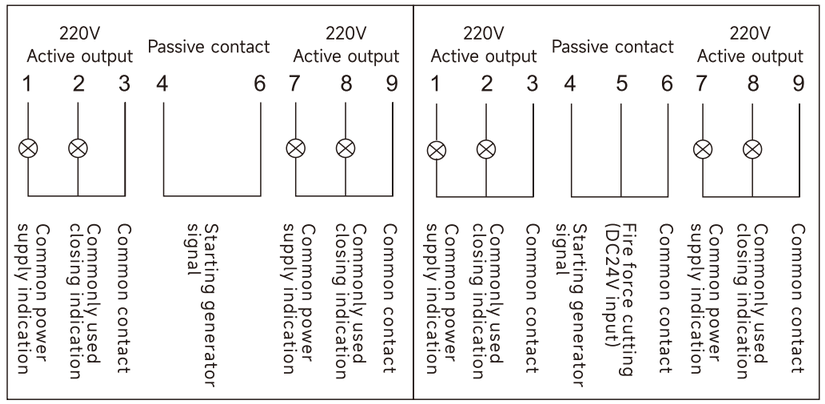
Outline Overall And Installing Dimensions



Mounting size table Unit (mm)

Type specification \ dimension	A	A1	B	B1	C	D	R	ϕX
125/4P	235	217	129	113	95	29	14	6
250/4P	310	291	176	150	131	46	25	8
630/4P	452	429	255	221	199	65	40	12

External terminal wiring diagram



Basic type Fire protection type

intelligent



GATS-G Automatic Transfer Switch

This product is a PC-class automatic transfer switch (hereinafter ATS). It is mainly used for AC 50Hz/60Hz, rated voltageof 400V and below, and rated working current of 1250A in a two-neutral grounded power supply system. Switch betweenthem to ensure the reliability and safety of power supply.The ATS has "normaly closed", "backup closed" and "two-way open" positions. it is widely used in automatic conversion ofcommon power supply and backup power supply of power supply system or automatic conversion and safety isolation oftwo load devices.The product is compiant with the standard of GB/T14048.14 " ow=voltage,switchgear and control eouipment - Part 6-1Multifunctional electrical transfer switch electrical appliances".

Product use precautions

1)This device can only be installed, tested and maintained by professionals.
2) Before installation, testing, setting and maintenance, the two power supplies of the device must be cut off
3) It must be checked with a voltmeter to confirm that the power supply has been disconnected.
4)The device must be grounded reliably as required.
5) Before the device is powered on, the cabinet door and arc extinguishing cover (sheet) should be reset.
6)Illegal operation may result in electric shock, burning or explosion.

Working conditions

- Ambient temperature: The ambient temperature is -5'°C~+40'c, and the average temperature should not exceed +35'cwithin 24 hours.
- Atmospheric humidity:When the maximum temperature is +40°C, the relative humidity should not exceed 50%, and themonthly maximum relative humidity is 90%. Higher relative humidity can be allowed at lower temperatures. Specialmeasures should be taken for the occasional condensation caused by temperature changes.
- installation height: The altitude of the installation site should not exceed 2000 meters.
- Pollution level: The environmental pollution level of the installation site is level 3.
- Usage category:The use category is: AC-33B.
- Electromagnetic environment: Applicable to environment A. The use of this product in environment 8 wil cause harmfulelectromagnetic interference, in which case the user needs to take appropriate protective measures.

Transportation and storage conditions

- The product shall not be affected by rain and snow during transportation.
- The storage environment temperature is between -25'°C~+55'°C, and the relative humidity should be lower than 95%(at 25°C).

Model and Meaning

G	ATS	—	G	□	□
Firm code	Product name				Poles number
GEYA ELECTRICAL	automatic transfer switch			A basic type (not shown) C basic type (with fire-fighting power generation) D basic type (with three-phase detection + fire-fighting power generation)	3P 4P

Product functions

Controller code	Features
type A	1.Common power indication and closing status indication 2.backup power indication and closing status indication 3.Single-phase(A-phase)phase loss detection
Type C	1.Common power indication and closing status indication 2.backup power indication and closing status indication 3.Single-phase(A-phase)phase loss detection 4.Fire-fighting linkage, power generation start and stop function
Type D	1.Common power indication and closing status indication 2.backup power indication and closing status indication 3.Fire protection linkage, power generation start and stop function, three-phase phase loss detection

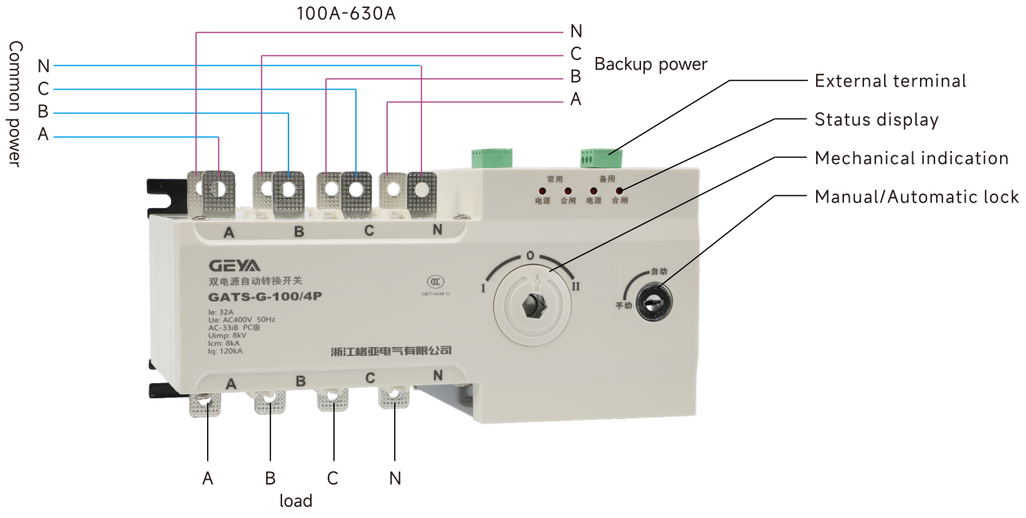
Function parameter sheet

Item \ Function code	Type A	Type C	Type D
Working power	AC230V 50/60Hz		
Auxiliary working voltage	AC230V		
Power consumption	≤10W		
Working positions	Three working positions		
Operation	Automatic, manual and manual remote control operation		
Working mode	automatic switching and automatic recovery/automatic switching without automatic recovery		
Display	Only the power supply and closing signal LED display integrated single-phase detection		
Installation	All-in-one		
Voltage monitoring	Single phase detection	Single phase detection	Three-phase phase loss detection
Generator control	--	√	
Fire-fighting linkage control	--	√ (Passive contact input)	

Technical Specification

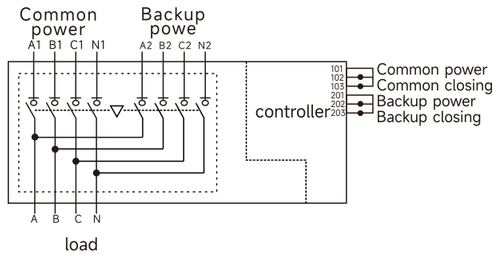
Frame current(A)	100	150	250	400	630	1000	1250
Rated insulation voltage	690V						
Rated impulse withstand voltage	8KV						
Rated working current(A)	16A,20A,25A,30A 32A,40A,50A,60A 63A,70A,75A,80A,100A	125A 140A 160A	200A 225A 250A	315A 350A 400A	500A 630A	800A 1000A	1250A
Rated short-circuit making capacity	8KA	17KA		26KA		50KA	
Rated limited short-circuit current	120KA						
Control voltage	AC230V						

Wiring diagram



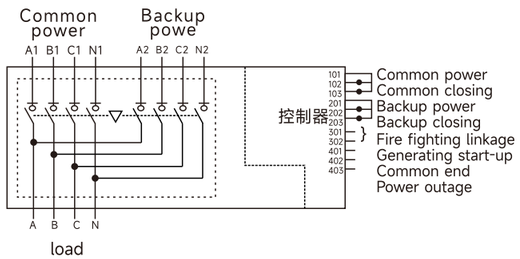
Terminal definition

100A~630A type A wiring diagram



101-103:Common powersupplyexternal status indicator signal output(active AC220V0.5A)
101---Common neutral line for signal light
102---Common power signal output
103---Common closing signal output
201-203:External status indicator signal output of backup power supply(active AC220V0.5A)
201---Common neutral line for signal light
202---Backup power signal output
203---Backup closing signal output

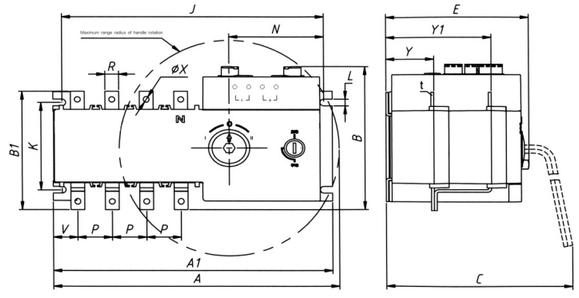
100A~630A type C/type D wiring diagram



301302:Fire linkage signal input passive short-circuit
1. When the load fire occurs, the 301 and 302 short-circuit control switch to zero and cut off the load power supply
401~403: The generator starts and stops the passive output of the control signal.
1. When the mains is faulty 402.401 closes, start the generator
2. When the mains returns to normal, 402.403 closes and the generator stops working.

Outline Overall And Installing Dimensions

100A~630A



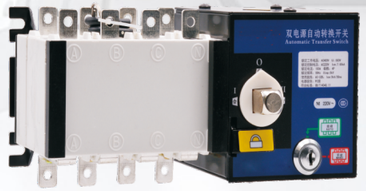
Specification	Product and Installation Dimension																
In	A	A1	B	B1	C	E	J	K	L	N	P	R	V	X	Y	Y1	t
100A/4P	330	244	142	123	165	125	228	85	6.5	83	30	14	21	6.5	41.5	91.5	2.5
160A/4P	374	301	175	140	200	166	285	102	7	94	36	20	32	8.5	55.5	125.5	3.5
250A/4P	436	373	175	178	250	198	350	108	6.5	105	50	24	37	11	72	157	3.5
630A/4P	502	433	260	260	295	244	416	180	9	101	65	40	47.5	12	83	193	5
1000A/4P	1050	636	365	355	373	320	612	220	11	83.5	120	60	71	13	109	241	8
1250A/4P	1050	636	375	366	373	320	612	220	11	83.5	120	80	71	13	109	241	8

Use and Maintenance

1、 Working voltage
The rated working voltage of this product is: AC230V 50/60Hz.

2、Wiring
When wiring the producl, it should be stricty in accordance with the wiring mark, and the neutral wire should be connected tothe neutral terminal for three-pole producls, Carry out the wiring of fire linkage and power generation control according to theactual situation. Finally, make sure that the product is well grounded.

3、Inspection and maintenance
During the use of the product, general inspection should be carried out regulary, and the power supply should be manually orautomatically converted once to check whether the product is running normally.
Regular maintenance to remove dust and maintain the insulating properties of the product

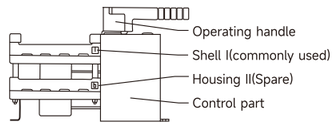


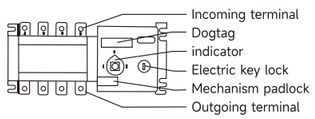
GATS-G
Automatic Transfer Switch

Automatic transfer switch (ATSE), is a set of switch and logic control in one, truly realize the mechanical and electrical integration of automatic transfer switch, it is suitable for AC 50Hz, rated voltage to 440V, agreed heating current to 1600A power distribution equipment, with voltage detection, communication interface, electrical and mechanical interlock and other functions

Switch structure description

1, electric key lock: control switch internal control line power supply, when the electric lock is opened, the switch can achieve automatic, operational control, strong "0" operation: when the electric lock is closed, the switch can only be manually operated.2. Operating handle: When manually operating with the operating handle, the electric lock must be closed first.3, the mechanism padlock: special maintenance, that is, first use the operating handle to make the switch in the "0" stop position, and then pick up the padlock mechanism and padlock, can be repaired (pick up the padlock will cut off the internal control power supply of the switch, the switch can not be automatic, and can not achieve manual).4, indicator: indicates the working status of the switch position (Ⅰ , 0, Ⅱ).





Usage method

(1) Switch function

1, automatic function: when the common power supply is cut off, the switch automatically switches to the standby power supply; When the usual power supply returns to normal, the switch automatically returns to the usual power supply.

2, strong "0" function: start the strong "0" button, the switch will cut off the dual power supply.

3, remote control function: that is, remote control, press the " Ⅰ " file button: the common power supply works; Press the " Ⅱ " button, the standby power supply works: press the "0" button, the dual power supply is cut off.4, please select the switch function according to the need, and wiring according to the corresponding function 5, please specify the switch model, current specifications and required functions when ordering

Letter and symbol description

1) C1 and N1 are the common power supply live line and neutral line respectively, C2 and N2 are the standby power supply live line and neutral line respectively. HL1 and HL2 are the common power supply and the standby power supply respectively. HD1, HD2, HD3 are the common power supply, standby power input indicator and fire (double) indicator respectively. FU1 and FU2 are 2A fuses.2) 101-106 and 201-206 are automatic conversion secondary terminals.3) 301-306 is the automatic switch external indicator terminal.

4) Automatic wiring mode 201, 206 must be short-circuited.

5) Forced "0" contact (passive) can also input DC24V power supply:

6) K1 is the output of the power generation signal (when commonly used out of power).

7) SA is the automatic/manual function selection switch, SB1 and SB2 are the common power supply respectively, and the standby power manual input button (passive contact).

Product Model Definition

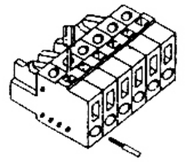
□	□	— □	□	□	□	□
Enterprise characteristic number	Product Name	Shell level	poles			
GEYA Electrical	Pc level isolated dual power automatic transfer switch		2P 3P 4P	The "F" indicates the fire protection type, which is a three-stage type: main power supply - double split and one backup power supply. No "F" indicates the two-stage type: main power supply and one backup power supply (there are fire protection and non fire protection types below 630A, and all above 800A are fire protection types)	"E" represents 2 in and 1 out, with the main and backup power supply links on the load side integrated, making it convenient for customers to install	"Z "represents intelligent, split type controller: Y701 controller - with functions such as overvoltage, undervoltage, phase loss, and starting the generator; Y702 controller - has functions such as overvoltage, undervoltage, phase loss, generator startup, 485 communication, etc.

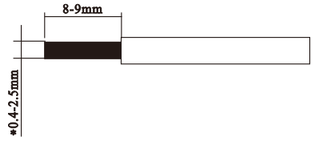
Main technical parameters

Rated heating current (A)		100	160	250	400	630	1000	1250	1600	2000	2500	3200
Rated insulation voltage		750V					1000V					
Rated impulse withstand voltage		8KV					12KV					
Rated working 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-33A	100	160	250	400	630	1000	1250	1600	2000	2500	3200
Rated short-time withstand current		7KA	9KA		13KA			50KA				55KA
Rated limit short-circuit current		100KA			70KA		100KA	120KA		80KA		
Control power supply voltage		DC24V、48V、110V AC220V										
Conversion time (S)		0.5	1	1.1	1.2		1.25			2.45		

1、Compliant with standard: GB/T14048.11
2、Rated working voltage (Ue)：AC440V
3、Rated Connection Capacity (Arms): 10Ie;
4. Rated breaking capacity (Arms): 8Ie;
5、Control power supply voltage:DC24V、48V、110V.AC 220V.

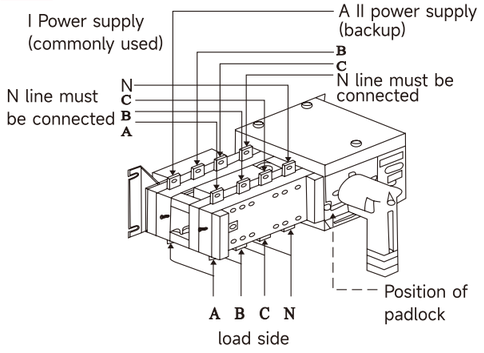
Terminal wiring operation method



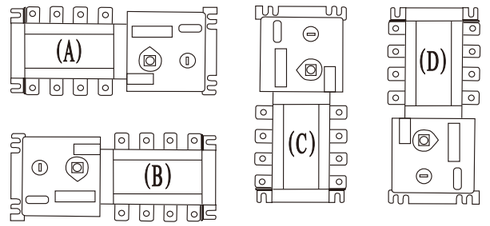


Use a small flathead screwdriver to apply downward force as shown in the diagram, and insert the wire as shown in the diagram

Wiring diagram



Correct installation method of switch

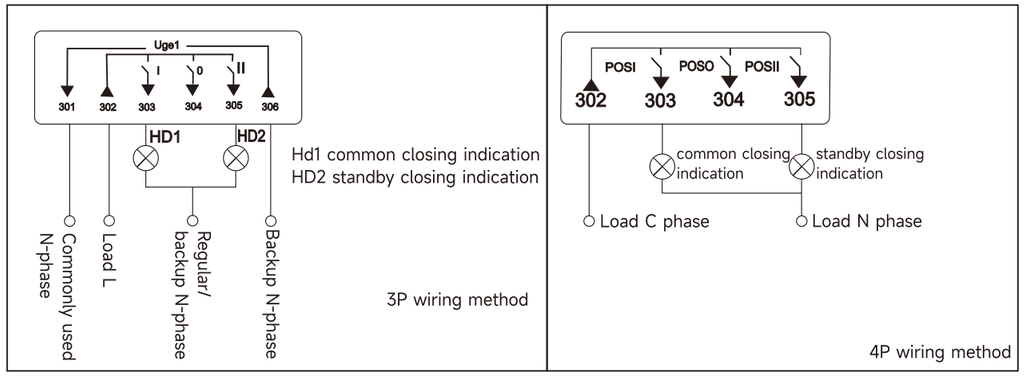


A. B. C is correct, D is incorrect

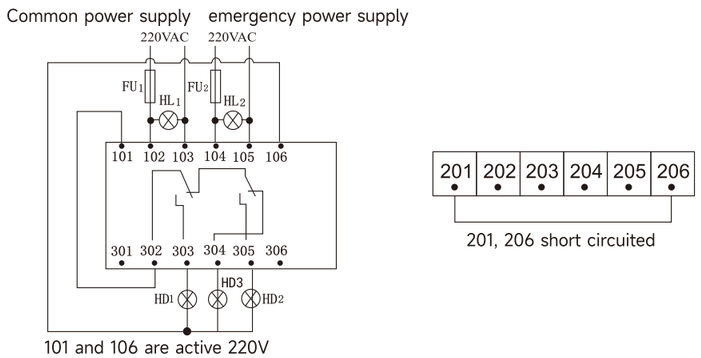
External terminal wiring diagram

1. Non fire type wiring method (3P and 4P):

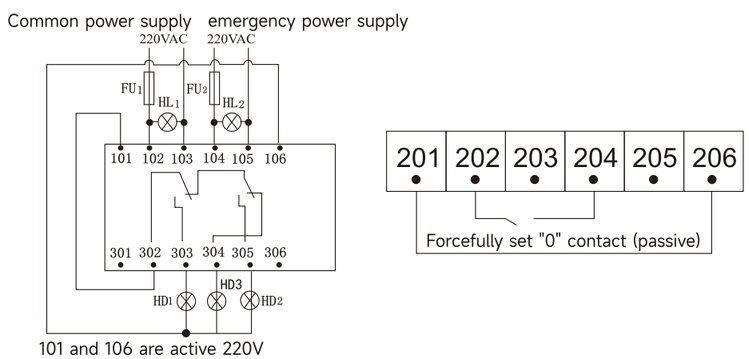
Below 630A (including 630A), there are two types: fire type and non fire type. Above 630A (excluding), all are fire type



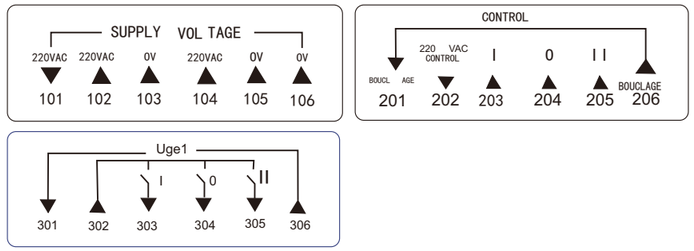
2、100A (fire protection type)~3200A automatic conversion wiring method (all applicable to 3P and 4P)



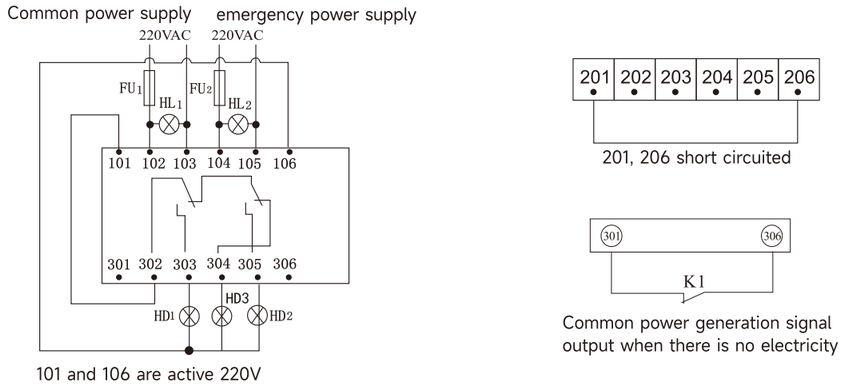
3、100A (fire protection type)~3200A fully automatic+forced "0" (both power sources are disconnected) wiring method:



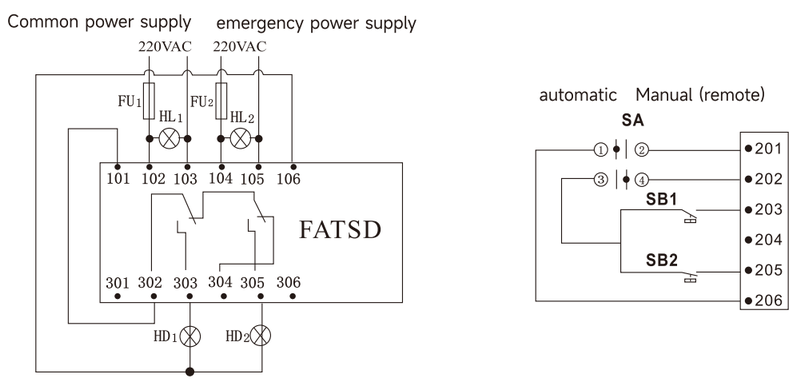
4、100A (fire protection type) -3200A wiring terminal diagram:



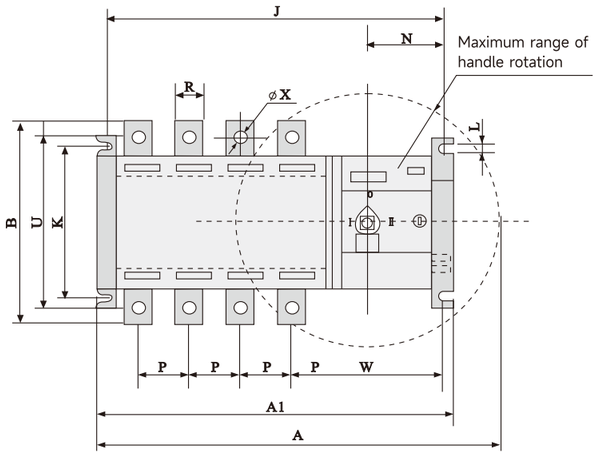
100~3200 fully automatic+generator signal output wiring method

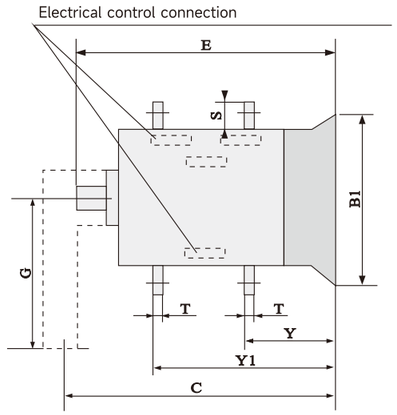


Fully automatic+manual (remote control) wiring method

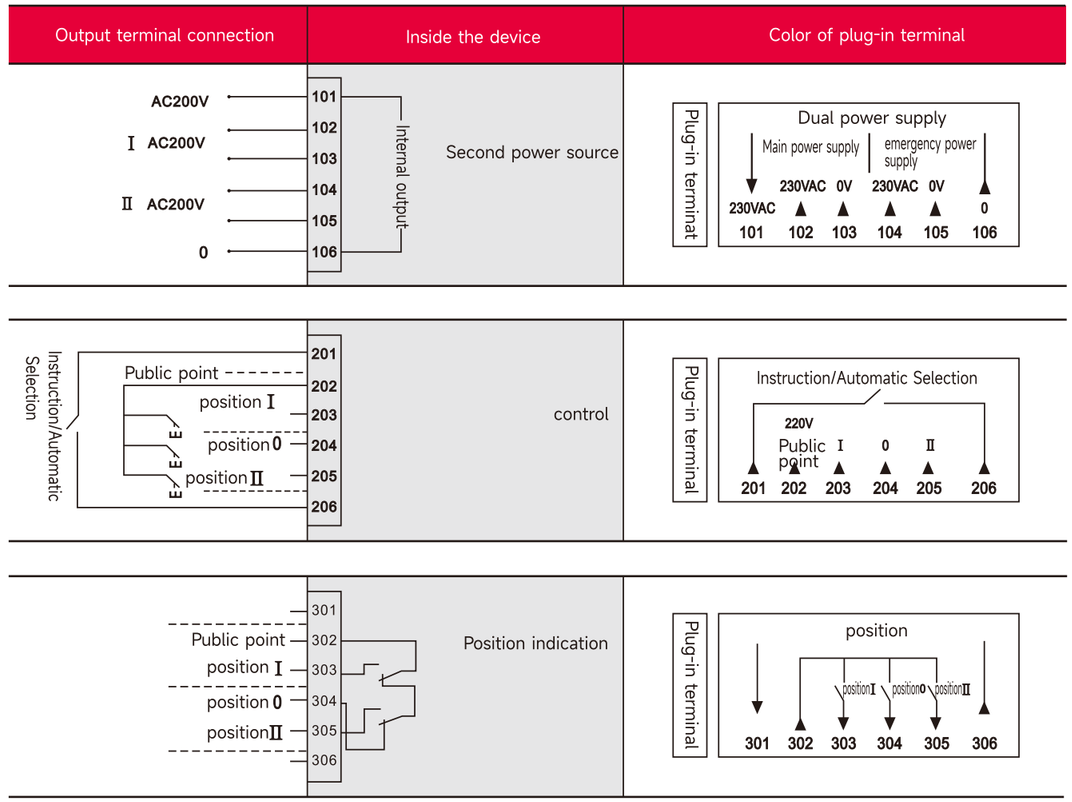


Appearance and installation dimensions





specifications	Installation size																					
In	A	A1	B	B1	C	E	G	H	J	K	L	N	O	P	R	S	T	U	V	ϕX	Y	Y1	Z
100A/3	235	232	106	105	150	140	115	19	222	84	7	83	142.5	30	14	18	2.5	103	13	6	41.5	93	2
100A/4	280	244	107	105	150	140	115	19	226	84	7	83	142.5	30	14	18	2.5	103	13	6	41.5	93	2
160A/3	292	270	140	142	213	200	145	10	254	117	7	93	192	36	20	25	3.5	127	21	9	55.5	127	4
160A/4	360	303	140	142	213	200	145	10	285	117	7	93	192	36	20	25	3.5	127	21	9	55.5	127	4
250A/3	356	312	170	142	216	208	145	6	293	103	7	93	250	50	25	28	3.5	141	29	11	58	131	9
250A/4	420	362	180	142	216	208	145	6	343	103	7	93	250	50	25	28	3.5	141	29	11	58	131	9
400A/3	530	370	270	222	286	275	245	20	365	179	9	97	268	65	32	37	5	222	38	11	83	193	6
400A/4	590	440	270	222	286	275	245	20	425	179	9	97	328	65	32	37	5	222	38	11	83	193	6
630A/3	530	370	270	222	286	275	245	20	365	179	9	97	268	65	40	45	6	222	38	11	83	193	14
630A/4	590	440	270	222	286	275	245	20	425	179	9	97	328	65	40	45	6	222	38	11	83	193	14
800~1000A 3P	785	520	380	250	351	340	360	20	503	220	11	88	415	120	60	64	8	250	59	13	109	254	39
800~1000A 4P	1080	634	380	250	351	340	540	20	613	220	11	88	529	120	60	64	8	250	59	13	109	254	39
1250~1600A 3P	785	520	380	250	351	340	360	20	503	220	11	88	415	120	80	68	8	250	59	13	110	255	43
1250~1600A 4P	1080	634	380	250	351	340	540	20	617	220	11	88	529	120	80	68	8	250	59	13	110	255	43
2000A/3	785	535	423		560		360		408				490		80	81	10		30			113	
2000A/4	1080	650	423		560		540		523				605		80	81	10		30			113	
2500A/3	785	535	433		560		360		408				490		80	81	15		30			118	
2500A/4	1080	650	433		560		540		523				605		80	81	15		30			118	
3200A/3	785	535	443		560		360		408				490		80	81	20		30			123	
3200A/4	1080	650	433		560		540		523				605		80	81	20		30			123	





GATS-N
Automatic Transfer Switch

PC-class dual-supply automatically switch (hereinafter ATSE) is the latest company Technology development of high-tech products. It is in line with GB/T14048.1, GB/T14048. 11 superscript. And also with "high-rise buildings fire norms" and "Architectural Design fire norms".Пemergency Lighting Design Guide, "" civil electrical design specifications. " Product components, parts after martial law Screening of the aging grid, finished a continuous 168 hours of electricity a dry run, the final pass through the test load Before the factory. This is to ensure the produet's reliability and security.

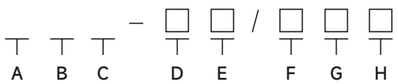
working conditions

- Ambient air temperature:Ambient air temperature of -5 °C to +40 °C, and a 24-hour average temperature does not exceed +35 °C, Around +40°C air temperature is above or below -5 °C users should consult with the manufacturers.
- Atmospheric humidity: The maximum temperature of +40 °C the relative humidity of not more than 50 percent, the largest of 90 % relative humidity, ability Humid air by the impact of the sea, at a lower temperature may allow a higher relative humidity,Occasionally the temperature under Congeal Dew should take special measures.
- Installation Altitude: Locations of not more than 2,000 meters above sea level. For a higher altitude, taking into account the air Xinhua strength and cooling down, in consultation with the manufacturer.
- Pollution levels: Installation on grade III
- Installation sort: Installation sort IV type
- Installed tilt: Products in the cabinet fixed installation, the largest inclination to ±22.5°
- Flash Arc-distance: In AC 380 V-arc distance of 80 mm. ACat 660 V-arc distance of 100 mm. Under 125Ainstallation can't consider flash arc.
- use category400A and the following is the AC-33B, 630A and above for the AC-33B

Products structure

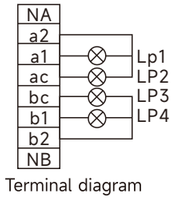
- ATSE by the switch body and controller two major components. Switch body with electrical and mechanical Lock, closing instructions as the isolation of the indicators used.
- Products using electromagnetic drive, M-type, Q-single-coil DC pulse operation, C-, N-type.T-type, NA - adopt Dual-coil DC pulse operation, transfer controller work power using the main power,backup power line voltage 220V AC, without add controller .

Products Model and classify



Serial number	name	Sequence number specification
A	Corporate code	
B	Product category	Pc class dual source automatic transfer switch
C	Design sequence number	1
D	Frame grade	32,125,250,400,630
E	Product code	C,N
F	Number of poles	2P(limited to products below 125A),3P,4P
G	Rated working current	16,20,25,32,50,40,63,80,100,125,160,180,200,250,315.350.400A
H	Working mode	R(self-injection and self-recovery)(default).S(self-injection and non-self-recovery) F(power-generation)(controller generator start-stop function)

NC Type (32A-125A)



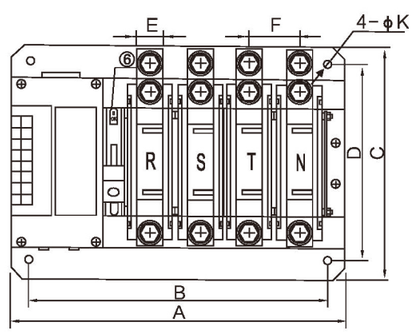
Terminal diagram

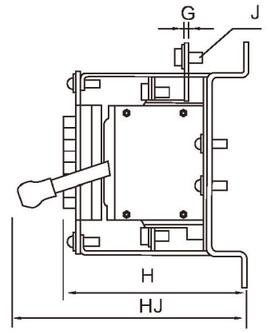


LP2.LP3: indicates the standby power supply
IP1.LP4: Common standby closing indication
NA.NB: 3-pole dedicated power supply connected to the zero terminal

NC type dual power supply is for the user installation and wiring convenience, our company will simplify the product, eliminating the external control part, the user only needs to connect the product working power supply and copper bar, you can achieve the self-casting self-recovery function use (common priority), to solve the user caused by wiring unnecessary trouble.

NC type (32A-125A) product appearance and installation size



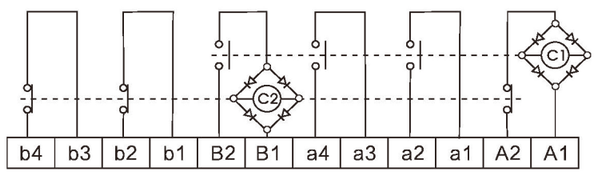


dimension / Model number	A			B			C	D	E	F	G	H	HJ	J	K
	2P	3P	4P	2P	3P	4P									
32NC	170	197	224	150	177	204	184	167	12	27	3	110	155	5	9
125NC	191	228	265	171	208	245	184	167	20	37	3	110	155	8	9

Technical characteristics of Type NC (32A-125A)

Rated operating current (A)		16	20	25	32	40	50	63	80	100	125
Rated control supply voltage (V)		Ac220V									
Rated control supply current (A)		3.5									
Rated short-time withstand current (KA)		10									
Service life	machine	20000									
	electric	6000									
Operation cycle (seconds/time)		10									

N-type product body electrical schematic diagram



Note: Do not use without a dedicated ATS controller. The two power supplies of the controller loop cannot be powered on at the same time.

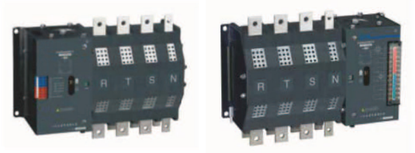
Type N (32A-125A connection type)

Available controller:
L-801 and L-700 controllers are available for N/T models. For details about the wiring and functions of the controllers, see the controller description.

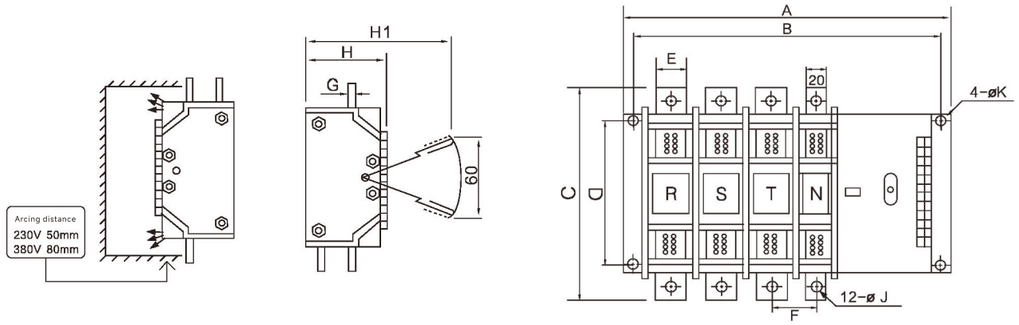


Type N (160A-630A)

Available controller:
N/T type products can choose L-801, L-700 two kinds of controller, the specific wiring and controller function see the controller description.



N-type (160A-630A) product appearance and mounting dimensions



dimension / Model number	A		B		C	D	E	F	G	H	H1	J	K
	3P	4P	3P	4P									
250A	322	372	302	352	294	200	20	49	5	146	295	8	10
400A	352	402	332	382	294	200	30	59	6	146	295	10	10
630A	352	412	332	392	294	200	35	59	6	146	295	12	10

Technical features of Type N (160A-630A)ATS

Rated operating current (A)		160A	180A	200A	225A	250A	315A	350A	400A	500A	630A
Rated control supply voltage (V)		Ac220V									
Rated control supply current (A)		7									
Rated short-time withstand current (KA)		10									
Service life	machine	17000									
	electric	6000									
Operation cycle (seconds/time)											

Product installation and wiring

The installation and debugging of the product should be carried out by professionals and personnel who are familiar with the switchgear. Corresponding protection and preventive measures must be considered during the work. The wiring method of the main circuit of the switch must ensure that the leads are not subjected to any pressure or strong force.

Before installation and debugging, the switch should be checked for any damage or other harmful environmental effects, and at the same time, the loose wire ends caused by transportation should be checked; Remove dirt, especially on the surface of insulation components. When connecting the primary circuit, ensure that the phase sequence of the main and backup power supplies is consistent. When connecting the secondary control circuit, strictly follow the wiring diagram listed in this manual. At the same time, pay attention to the voltage level of the control power supply. The switch must be well grounded during installation.

Commissioning before product operation

Considering personal safety and the speed of switch switching, the debugging handle is only used for debugging purposes. Users should not operate the debugging handle under load. It is not allowed to operate with load without installing the arc extinguishing device properly. During debugging, use the debugging handle to operate the switch and observe the closure of the main contact. If there are no abnormalities, power on and observe the operation of the switch. After there are no abnormalities, proceed with formal operation.

After the mechanical parts of the controller and electrical components have been adjusted correctly, the controller and electrical components can be powered on for debugging. It is prohibited to carry loads during the debugging process.

Turn on the main power supply and turn on the normal indicator light for the common power supply on the panel. Then turn on the backup power supply in sequence. The normal indicator light for the backup power supply on the panel is on, and the automatic/manual button in the middle of the panel is set to the manual position. Clicking on the commonly used closing product will quickly switch the device to the commonly used power supply, and the commonly used closing and corresponding external indicator lights will light up simultaneously. Then, clicking on the backup power supply closing product will quickly switch the device to the backup power supply, and the backup closing and corresponding external indicator lights will light up simultaneously.

The automatic/manual button in the middle of the control panel is placed in the automatic position, and the common delay and backup delay are adjusted to appropriate values. First, the common power supply is disconnected, and the common power closing delay indicator light flashes. When the delay setting is reached, the product will quickly switch to the backup power supply, and the backup closing and corresponding external indicator lights will light up at the same time. Then, the common power supply is turned on, and the backup closing delay indicator light flashes. When the delay setting is reached, the product switch will quickly return to the common power supply, and the common closing and corresponding external indicator lights will light up at the same time (this project is not applicable to the self switching and non self resetting mode).

Product usage

During normal use, the controller should be set to the "automatic" position in automatic control mode, and the product controller should monitor both the main and backup power sources and display the product's operating status. When there is a power outage, undervoltage, overvoltage, or phase loss fault in the main power supply, the product will automatically switch the load from the main power supply to the backup power supply after a "backup power delay" time; If the main power supply returns to normal, the load will automatically return from the backup power supply to the main power supply after a "main power delay" time (adjustable from 0-30s) (for self switching non self resetting products, when the backup power supply is normal, even if the main power supply returns to normal, the product will keep the load connected to the backup power supply and will not return the load from the backup power supply to the main power supply. Only when the backup power supply is abnormal, will the load be returned from the backup power supply to the main power supply). The controller panel is equipped with LED indicator switches and power status.

If you do not want the switch to automatically switch or need to perform other manual operations, you should set the controller to the "manual" position. When manually operated, the switch no longer performs automatic conversion but is converted through manual operation.

When the product is switched from "manual" to "automatic", if both the main power supply and the backup power supply are normal, both self switching and non self switching products prioritize connecting the main power supply to the load.

The product is installed on the wiring

When the product does not move or moves abnormally, first check the following points:
a. Is the switch body and controller connected properly and free from looseness? Is the connection correct?
b. Is the power on?
c. Is the controller in manual mode?
d. Is the voltage normal?
e. Is the main and backup power input of the switch body opposite to that of the controller?
f. Is the fuse intact?
g. Is the testing line too long during testing? Is the wire diameter too thin?
h. Is the neutral wire N distinguished from the phase wire and PE grounding wire during debugging?

Introduction to Intelligent Controller

Our company has developed multiple models of product controllers based on market demand. The N/C series products can be equipped with two types of controllers, L-801-L-700. For the functions and wiring methods of the controllers, please refer to the controller manual.



GATS-W
Dual power automatic transfer switch

This product has a reasonable structure, small size, beautiful appearance, and is equipped with a protective cover for safer and more reliable power supply. It has complete protection functions, such as short circuit, overload, phase loss, undervoltage, etc. It is also compatible with EPS fire power supply interface and can reliably split DC12-24V over long distances; No noise movement, energy-saving and easy installation, simple operation, reliable and stable performance.

work environment

- The upper limit of the surrounding air temperature shall not exceed+40 °C, the lower limit shall not be lower than -5 °C, and the average value over 24 hours shall not exceed+35 °C.
- The altitude of the installation site shall not exceed 200m.
- The relative humidity of the atmosphere does not exceed 50% when the ambient air temperature is+40 °C. At lower temperatures, higher temperatures can be achieved: when the average lowest temperature of the wettest month is+25 °C, the average maximum relative humidity is 90%. Special measures should be taken to account for the condensation that may occur on the surface of the product due to humidity changes.
- The pollution level is level III.
- The operating location has no strong vibrations or impacts, no corrosive or harmful gases that damage insulation, no severe dust, no conductive particles or explosive hazardous substances, and no strong electromagnetic interference.

note

- Non professionals are prohibited from installing, operating, or disassembling this product;
- The load capacity cannot exceed the rated capacity of the switch, otherwise it will cause the switch to drag or be damaged;
- It is not allowed to mistakenly connect the neutral line N to the phase line. The output phase sequence of the two power supplies should be consistent, otherwise the product will be burned. When selecting a 3P product, the neutral wire N of the normal and backup power supplies should be connected to the corresponding terminals, otherwise the dual power supplies will not work properly;
- It is not suitable to install it directly outdoors for work, otherwise it will shorten the service life or cause adverse reactions:
- It is not suitable to install it directly outdoors for work, otherwise it will shorten the service life or cause adverse reactions:

Model and meaning

□	□	—	□	/	□	□	□
Enterprise code	Product Category		Shell level	Number of product poles			Rated working current
	Micro break dual power conversion switch			2P、3P、4P	F - Equipped with fire protection (dual point) function, no need to label it		6~63A

GEYA®

performance

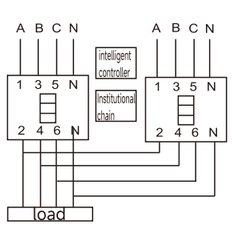
1. The transfer switch is a complete set of two miniature circuit breakers, an electric motor, and a mechanical rotating device, which are detected by a controller for two power sources. When an abnormal circuit occurs, the controller makes a logical judgment on the detection result and drives the operating mechanism to open or close according to the controller's instructions, thereby ensuring safe and reliable power supply to the load.
2. Connection and disconnection capability

Usage category	Connection and segmentation capability conditions					
	I/Ie	U/Ue	Cos4	Power on time(S)	Cycle period(min)	Number of operation cycles
AC-33iB	6.0	1.05	0.5	0.05	I/Ie	I/Ie
Note: AC-33i8 motor load or mixed load containing motor and resistor load under infrequent operation						

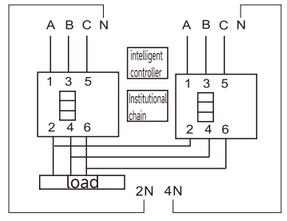
3. Rated short-circuit breaking capacity: 5KA
4. Rated short-circuit connection capacity: 7.65KA
5. Conversion time: 3 seconds
6. The control voltage of the conversion switch is AC230V
7. The mechanical life (common and backup conversion) of the transfer switch is 3000 times, and the electrical life is 1500 times
8. Rated insulation voltage: U=500V
9. Rated working current: 10A/16A/20A/25A/32A/40A/63A
10. In general, the transfer switch has a self switching and self resetting function, and the principle of prioritizing commonly used power sources. If a special occasion requires the use of a self switching and non self resetting function, users can contact the manufacturer for customization.

Operation and Installation

According to the actual needs of the circuit design, connect the input and output lines, as well as the neutral line, of the common and backup power sources. Connect the output terminals of the two circuit breakers in parallel, but with the same phase sequence (see wiring diagram)



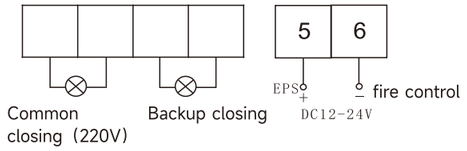
4-pole wiring diagram



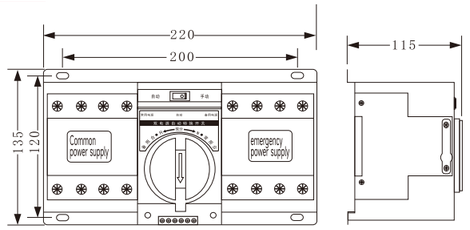
3-pole wiring diagram

External power closing indication and wiring diagram for fire power supply:

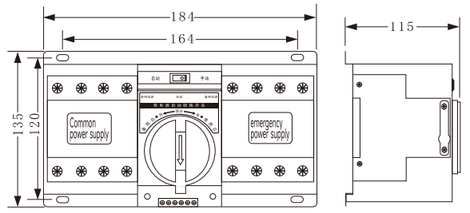
When the switch needs to be manually operated, the button switch should be placed in the manual position first. At this time, the handle can be turned for long-term or backup conversion.



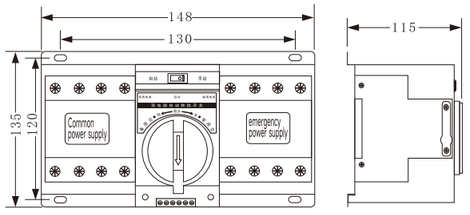
Appearance and installation dimensions



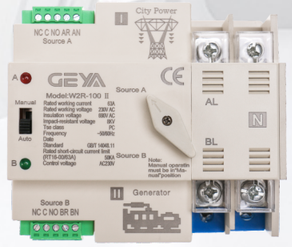
4-pole outline drawing



3-pole outline drawing



2-pole outline drawing

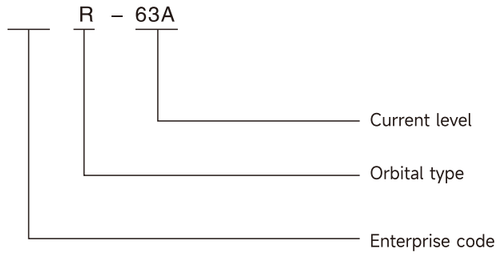


W2R
Dual power automatic transfer switch

The dual power automatic transfer switch is a newly developed miniature household power transfer switch. This switch is mainly used to test whether the main or backup power supply is working properly. When the normal power supply is abnormal, the backup power supply will immediately start working to ensure the continuity, reliability, and safety of power supply. This product is designed specifically for household rail installation and is specifically used for PZ30 distribution boxes.

According to GB/t14048.11, Part 6-1: Multifunctional Equipment and Switchgear specifies that ATSE is the most compliant low-voltage switchgear and control device.

Product Model and Classification



Normal operating time and installation conditions

- Surrounding air temperature: The highest temperature shall not exceed 40 **℃**, the lowest shall not be lower than -5 **℃**, and the average temperature within 24 hours shall not exceed 35 **℃**
- Altitude: The sea level at the installation site should not exceed 2000m
- Atmospheric conditions: When the highest temperature reaches 40 °C, the relative humidity of the installation site should not exceed 50%; When the temperature reaches the lowest temperature of -5 °C and the relative humidity is high, for example, when the temperature is 25 °C, the relative humidity is 90%. Due to temperature changes, special measures should be taken to address occasional condensation on the surface of the product.
- Pollution level: TSE pollution level meets the specified level 3 of GB/t14048.11
- Installation category: The installation type of TSE complies with the specified category in GB/t14048.11
- Installation conditions: TSE can be vertically installed in control cabinets or distribution cabinets. Ensure that the installation distance meets the requirements in Figure 1.

Installation and wiring

- Please check the integrity of TSE before installation. Then use the joystick to turn on and off TSE, check the flexibility of the transmission device, and detect the generation and disconnection conditions of the load at each stage of the normal and backup power supply
- Control voltage detection: AC50HZAC220V. The coil in the control circuit should not be too long. The cross-sectional area of copper wire should not exceed2.0mm^2
- According to the installation requirements of the power distribution system, please equip appropriate circuit breakers to ensure the safety of personnel and equipment.

Basic information

model	W2R-63A
Rated current Ie A	16 20 25 | 32 40 50 63
Insulation voltage Ui	AC 690V,50Hz
Rated voltage Ue	AC 400V,50Hz
level	PC level: capable of manufacturing and withstanding without generating short-circuit current
Usage category	AC-33iB | AC-31B
Measuring rod	2P | 3P | 4P
Weight (kg)	1.7 | 2.1 | 2.6
Electrical lifespan	2000 times: manual operation: 5000 times
Rated short-circuit current Iq	50kA
Short circuit protection device (fuse)	RT16-00-63A
Rated impulse withstand voltage	8kV
control circuit	Rated control voltage Us: AC220V, 50Hz Normal working conditions: 85% Us -110% Us
Auxiliary circuit	2 relays, each with two sets of contact converter contact capacity: AC220V 50Hz Ie=5y
Contactor conversion time	<50ms
Operation conversion time	<50ms
Return conversion time	<50ms
Power off time	<50ms

note

- Manual/Automatic Operation

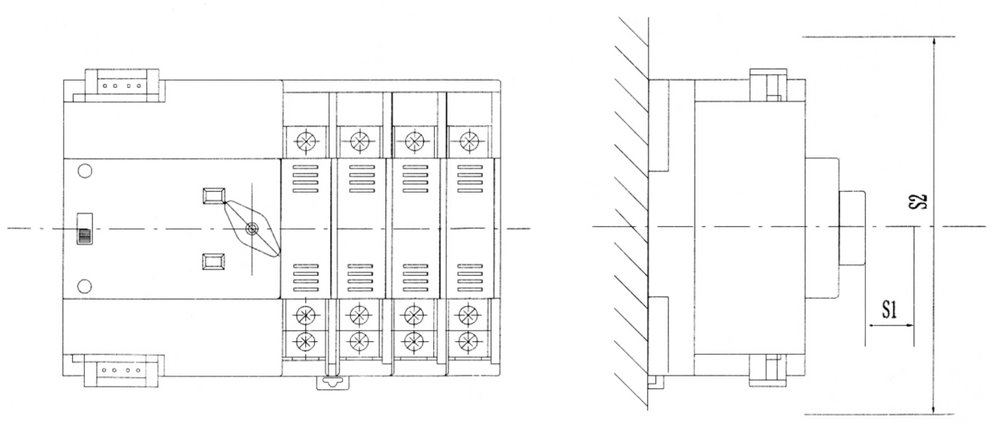
SE can ensure the performance of power generation and power-off in circuit operation, but TSE cannot guarantee the above performance for manual operation due to differences in power generation and power-off speed or operator. Excessive silver alloy loss may occur during manual power generation and power outages. Therefore, when all power is cut off to check and maintain the operating system and contacts, simply pull the

- selection switch to the manual position. Generally, please turn the selection switch to the automatic position. When operating manually, pull the selection switch to the manual position. After completing the manual operation, pull the selection switch from the manual position to the automatic position.

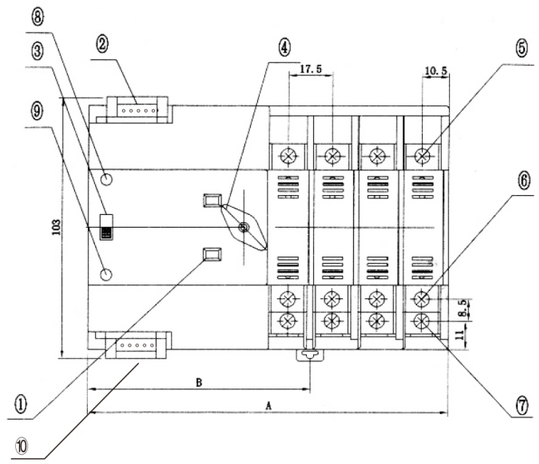
control circuit

SE will instantly become active. After the conversion is completed, the coils in the control circuit will be disconnected by the internal converter. At rated voltage of 80% to 110%, the coil can operate normally. Low voltage can cause the coil to heat up or even self ignite.

Correct installation instructions



Appearance and installation dimensions

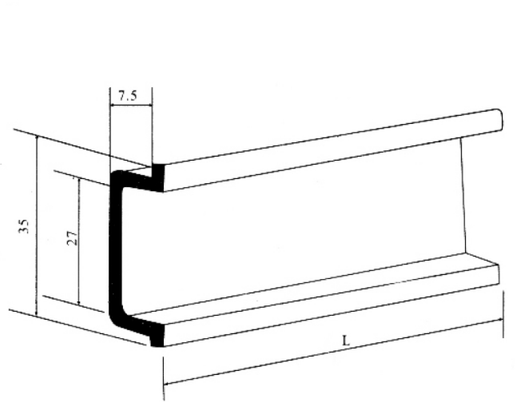


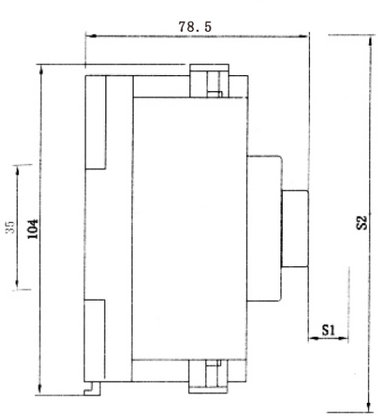
① On/off indicator light
② Common wiring terminals (AC220V)
③ Select switch (manual/automatic)
④ Manual knob
⑤ Common power supply side main terminal block
⑥ Main wiring terminal on the backup power supply side
⑦ Main wiring terminal on the load wiring side
⑧ Power A indicator light
⑨ Power B indicator light
⑩ Backup wiring terminal (AC220V)

Product size

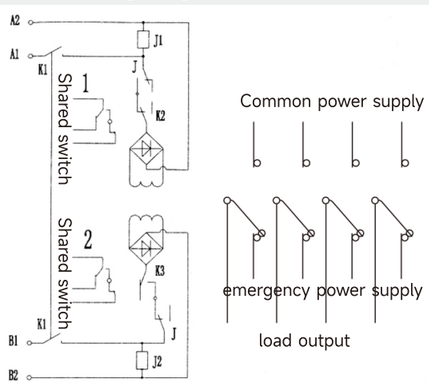
size / Side pole number	A	B
2P	107.5	72
3P	125	78
4P	142.5	88

safe distance: S1≥30mm S2≥203mm

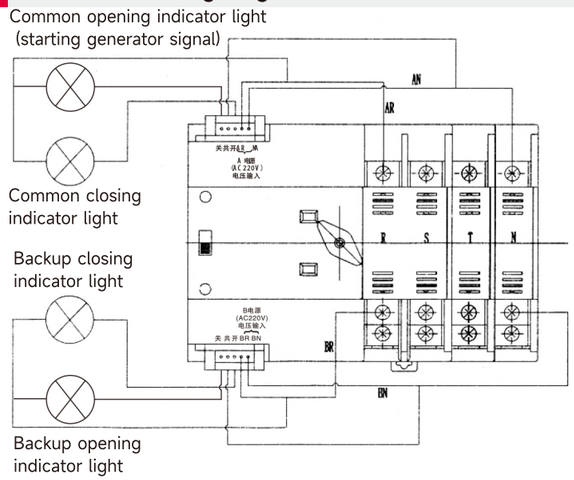




Internal wiring diagram



Controller wiring diagram



Maintenance, inspection, and storage

- Maintenance and inspection should be carried out by professional personnel, and all power sources should be cut off in advance.
- To ensure the good performance of TSE, the first maintenance and inspection should be carried out within 6 months after use, and at least once a year. In harsh installation conditions, maintenance and inspection frequency should be increased.
- TSE should be stored in an environment equivalent to normal working conditions, with dust, moisture, and anti-collision measures.
- Maintenance and inspection items
  a. Please remove dust and dirt when a malfunction occurs.
  b. Please check if the electrical contact parts are deformed or damaged, and remove any burnt metal particles attached to the surface and surroundings.
  c. Rust, acidification, and dust on the contact surface may cause poor contact. Please manually operate multiple times and measure the contact resistance if necessary.
  d. Due to prolonged exposure to moisture and being in a suspended state, please dry the TSE before use. After removing dust and dirt, use a 500V megohmmeter to measure the insulation resistance between the normal supply, alternating supply, load side pole, including the insulation resistance between live parts and metal plates. And the insulation resistance should not be less than 10M Ω.



G2R
Automatic transfer switch

G2R-63 automatic transfer switch is a PC class infrequent change-over switch, with two-station design (commonly used for A and standby for B) suitable for AC systems with AC 50-60hz and rated current 6A-63A. The main function of the automatic transfer switch is when the main power (common power supply A) fails, the ATS will automatically switch to the backup power (Backup power supply B) to continue working (switching speed <50 milliseconds), which can effectively solve the troubles caused by power outages.

Product model and meaning

G	2	R	— 63	□	□
Company code	Product Category	Installation method	Case grade	Pole	
	PC class automatic transfer switch (two stations)	Din-rail installation	63	2P/4P	Rated working voltage AC220V，AC110V Rated working current 6A/10A/16A/20A 25A/32A/40A 50A/63A

Working Conditions

The operating environment temperature range is -5 °C~+40 °C, and the average temperature value within 24 hours does not exceed+35 °C. The storage environment temperature range is -25 °C~+55 °C, and can reach+70 °C in a short period of time (within 24 hours).
The altitude of the installation site shall not exceed 2000.
The relative temperature of the air at the installation site should not exceed 50% when the surrounding air temperature is+40 °C, and there can be higher relative humidity at lower temperatures. For example, when the average lowest temperature in the wettest month is+20 °C, the average highest relative humidity in that month can reach 90%. Appropriate measures should be taken to prevent condensation caused by temperature changes.
Pollution level 3 (with conductive pollution, or dry non-conductive pollution turned into conductive due to condensation). ATS can be installed vertically or horizontally inside the cabinet. If there are special installation requirements, please contact our company.
The protection level of the product shell is IP30.
Overvoltage category: Main circuit class III; Control and auxiliary circuits Class II.

note

Manual/automatic operation can ensure the on/off performance of electrical operation, but in manual operation, it cannot be guaranteed due to the different on/off speeds of the operator. Excessive loss of silver alloy may occur during manual operation. Therefore, the selector switch can only be pulled to the manual position after cutting off all power sources to check and maintain the operating system and contact information. Usually, please pull the selector switch to the electric position. When manual operation is required, pull the selector switch to the manual position. After completing the manual operation, pull the selector switch from the manual position to the automatic position.
The control circuit TSE is immediately excited. After the conversion is completed, the internal switch will damage the coils in the control circuit, which can operate normally at 85% -110% of the rated working voltage. Low input voltage may cause the coil to heat up and burn out.

install

Before installation and wiring, please ensure that professionals have read this manual.
Before installation, please check the integrity of ATS. Then turn on the ATS with an operating handle, check the flexibility of the operating mechanism, and check the on and off status of each phase as well as the load of the normal and backup power sources.
Please equip ATS with suitable circuit breakers according to the installation requirements of the power distribution system to ensure the safety of personnel and equipment.

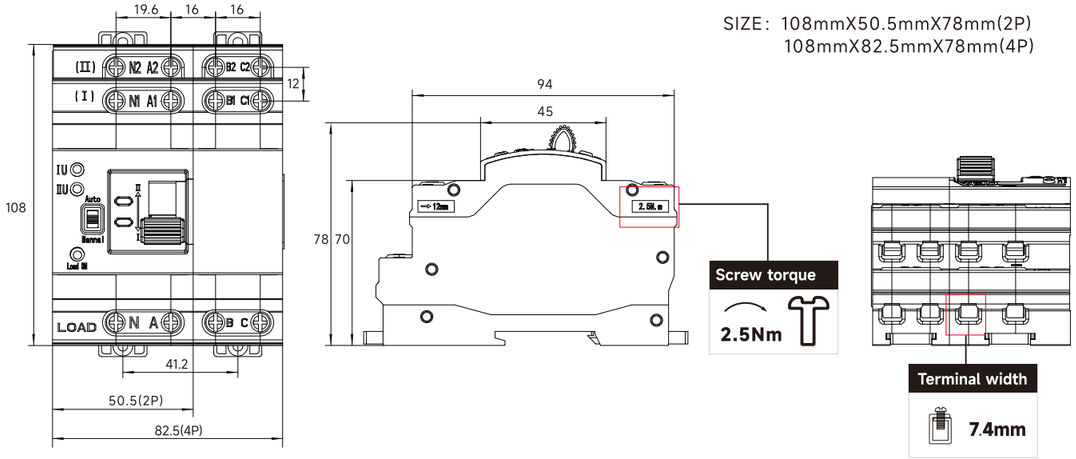
maintenance

Maintenance and inspection should be carried out by professionals. Before cutting off all power sources. To ensure the good performance of ATS, the first maintenance and inspection should be carried out within 6 months after use. Then maintain and inspect at least once a year. Under harsh installation conditions, the frequency of maintenance and inspection should be increased.
If maintenance and inspection projects fail, please remove dust. b: Please check if the electrical contact components are deformed or damaged, and clean the surface. c: And the surrounding metal particles and scorch. Rust, acidification, and dust on the contact surface may cause poor contact, so please perform some manual operations and measure the necessary contact resistance.
d: If the ATS is damp or has been idle for a long time, please dry it before turning on the power. After removing dust, use a 500V megohmmeter to measure the insulation resistance of the normal power supply and AC power supply. When using live parts and metal plates, the insulation resistance of the load side and two poles, including insulation resistance, should not be less than 10MQ.
Amphetamine type stimulants should be stored in the same environment as normal working conditions, and dust, moisture, and collision prevention measures should be taken.

Technical Specification

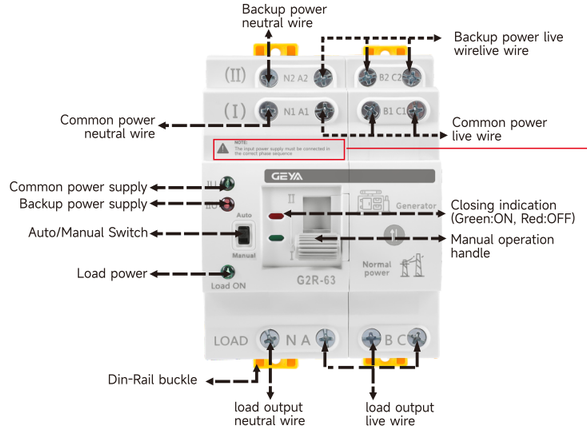
	63								
Rated operating current Ie(A)	06A	10A	16A	20A	25A	32A	40A	50A	63A
Rated insulation voltage Ul	690V								
Rated impulse withstand voltage Uimp	8kV								
Rated working voltage Ue	AC220V/AC110V								
Rated frequency	50/60Hz								
Class	PC class: can be switched on and loaded without generating short-circuit current								
Pole number	2P					4P			
Rated short-circuit current Iq	5kA								
Short circuit protection device (fuse)	RT16-00-63A								
Rated impulse withstand voltage	8kV								
Control circuit	Rated control voltage Us: AC220V/110V, 50/60Hz Normal working conditions: 85%Us-110%Us								
Auxiliary circuit	AC220V/110V 50/60Hz Ie=5A								
Overvoltage/undervoltage protection range	220V/50Hz undervoltage value: 175V Recovery value: 195V Overvoltage value: 260V Recovery value: 240V (± 5V) 110V/50Hz undervoltage value: 85V Recovery value: 95V Overvoltage value: 145V Recovery value: 130 (± 5V)								
Mechanical life	≥8000 times								
Electrical life	≥1500 times								
Usage category	AC-31B								

size



SIZE: 108mmX50.5mmX78mm(2P)
108mmX82.5mmX78mm(4P)

Wiring Instructions



NOTE:
The input power supply must be connected in the correct phase sequence

Common power supply

When the power supply is abnormal (under voltage or over voltage state) Flashing indicator light

Backup power supply

When the power supply is abnormal (under voltage or over voltage state) Flashing indicator light